

**STANDARD-ESSENTIAL PATENT DISPUTES AND
ANTITRUST LAW**

HEARING

BEFORE THE

SUBCOMMITTEE ON ANTITRUST,
COMPETITION POLICY AND CONSUMER RIGHTS
OF THE

COMMITTEE ON THE JUDICIARY
UNITED STATES SENATE

ONE HUNDRED THIRTEENTH CONGRESS

FIRST SESSION

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TUESDAY, JULY 30, 2013
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STANDARD-ESSENTIAL PATENT DISPUTES AND ANTITRUST LAW

TUESDAY, JULY 30, 2013,

U.S. SENATE, SUBCOMMITTEE ON ANTITRUST,
COMPETITION POLICY, AND CONSUMER RIGHTS,,
COMMITTEE ON THE JUDICIARY,,
Washington, DC.

The Subcommittee met, pursuant to notice, at 10:01 a.m., in Room SD-226, Dirksen Senate Office Building, Hon. Amy Klobuchar, Chairman of the Subcommittee, presiding.

Present: Senators Klobuchar, Schumer, Coons, Hirono, Lee, and Grassley.

OPENING STATEMENT OF HON. AMY KLOBUCHAR, A U.S. SENATOR FROM THE STATE OF MINNESOTA

Chairman KLOBUCHAR. Good morning, and welcome to today's hearing about standard-essential patents and antitrust law, or as we like to say, "Why can't we be FRANDs?" That is just a little patent joke to start things out.

[Laughter.]

Chairman KLOBUCHAR. We are going to have a vote supposedly at 10:15, and so Senator Lee and I will take turns chairing, and we may have to recess for just a few minutes, but I thought it was more important to get the hearing going.

This hearing follows one that we had last week that was also about the intersection of intellectual property and antitrust. That was in the context of pay-for-delay agreements to settle pharmaceutical patent litigation. Today we will be examining standard-essential patents, patents that are necessary components to cell phones, laptops, and other devices that have become indispensable to our everyday lives.

We have heard concerns that consumers can face higher prices for these products when disputes occur about what the fair, reasonable, and non-discriminatory, or FRAND, rates should be to license these unique patents.

Now, this may seem like a dry and technical subject for a hearing, but we will try to keep things interesting. What this hearing really boils down to is that antitrust and competition issues are increasingly at the center of the so-called patent wars, and we are trying to figure out whether standard-essential patent holders and implementers, instead of being at war, can be "FRANDs."

Last summer, Chairman Leahy held an oversight hearing where the DOJ and FTC testified about the harm to competition from the use of International Trade Commission exclusion orders to enforce

standard-essential patents. Since then, we have continued to hear concerns about how the market power conveyed by standard-essential patents and the ability to seek injunctions and exclusion orders can distort competition and harm consumers.

Our hearing is particularly relevant this week because the administration is expected to complete its review of a dispute over standard-essential patents between Apple and Samsung at the International Trade Commission.

We approach this hearing from the premise that industry standards are a valuable public good that foster invention and innovation. For example, standards ensures that our cell phones and smartphones can connect to each other, cellular networks, and Wi-Fi. Once standards are set, they enable competition between the businesses that implement the standards into their consumer products. That is the reason we have a wide variety of competitors selling electronics such as smartphones, game consoles, and computers, to name a few.

But any joint endeavor between potential competitors raises anti-trust red flags. Standard setting involves competitors deciding what technology will become an industry standard, and in doing so they convey significant market power to whoever holds patents that are necessary to implement the standard.

To counter this market power, standards organizations typically encourage participants to agree prior to setting a standard to license any patents that are ultimately included in a standard on FRAND terms. Consequently, competition can be distorted if a standard-essential patent owner reneges on its FRAND commitment by demanding higher royalty rates or more costly licensing terms after a standard is adopted than they could have before the standard was chosen.

On the other hand, standard-essential patent owners say that sometimes their good-faith FRAND offers are rejected, perhaps in part because the potential licensees know the patent holder has already committed to licensing their technology.

So we will examine these dynamics and ask important questions about how we can better protect consumers. Should the ability to get injunctions and exclusion orders be limited in cases when the promise was made to license patents on FRAND terms? Should FRAND commitments travel with a patent if it is transferred to another owner? And how can unwilling licenses be identified and willing licensees be identified and forced to the bargaining table? These are just a few of the issues that we are going to explore today.

Cooperative standard setting has a long history in a variety of different industries, from the standard railroad track gauge and the aviation technology to nuts and bolts and every electronic device that we use today. But we need to make sure that safeguards are in place to ensure that standard setting continues to provide consumers with the most innovative products and that antitrust principles make sure consumers get them at the best prices.

With that, I will turn it over to our Ranking Member, Senator Lee.

**OPENING STATEMENT OF HON. MIKE LEE, A U.S. SENATOR
FROM THE STATE OF UTAH**

Senator LEE. Thank you, Madam Chair. Our hearing today focuses on standard-essential patents. Everyone who is participating in or watching this hearing can agree that cooperative industry standards are good for consumers, producers, and for the economy as a whole.

By enabling interoperability and interconnectivity, standards have played a vital role in the development of many extraordinary technologies that we now take for granted, including wireless networks and cell phones.

We like standards, and we need them. Everyone here I think likewise agrees that our patent system benefits consumers and is itself essential to our country's continued economic progress. By incentivizing the investment that leads to research, development, and innovation, the government's recognition and protection of intellectual property provides an environment in which Americans can take risks, invent new products, and advance our standard of living in this country.

Consumers thus rely on both a robust system of standard setting and dependable protection of intellectual property. Any conflict between these two important elements of our economy necessarily affects consumers and is a matter of real concern for this Subcommittee.

Companies and individuals that use patents increasingly complain of what is called the "hold-up," the scenario in which a holder of a standard-essential patent refuses to grant a license to use its patent or threatens to refuse to grant a license unless the user agrees to pay an excessive royalty. The holder of a standard-essential patent has a powerful leverage point due to the potentially prohibitive switching costs for companies who are already using the standard to make their product.

To avoid such a hold-up, standard-setting organizations often require patent holders whose intellectual property has been included in a standard to agree to license their patent on fair, reasonable, and non-discriminatory terms, also known as FRAND terms. But a breakdown in bilateral negotiations over what constitutes FRAND may leave in place insufficient safeguards to prevent a patent holder from seeking an injunction in federal court or an exclusion order from the International Trade Commission.

The result, some argue, is a situation in which holders of standard-essential patents can obtain excessive fees due to the very threat of a hold-up. Others argue that there is no hold-up problem. They point out that standard-setting organizations generally do not include terms in their agreements prohibiting patent holders from seeking injunctions or exclusion order, and for good reason. Injunction provide patent holds necessary leverage in negotiations to avoid litigation.

Absent the ability to obtain an injunction or to obtain an exclusion order, holders of standard-essential patents will be forced to internalize the costs of litigating for damages against each potential licensee that refuses to pay reasonable licensing fees. Companies that have invested heavily in the development of intellectual property thus assert that, if anything, reverse hold-up is the real

threat, and any policy that discourages injunctions will devalue standard-essential patents and thus reduce the ability and the incentive of innovators to invest in future research and development.

Although these arguments appear to pit innovators against implementers, consumers have a real interest at stake here. Any policy that reduces participation in standards or that raises the cost of patent licenses will ultimately affect consumers, potentially limiting their access to new products or raising prices that they pay for those products.

No one is suggesting that patent protection should be limited or that deception by holders of standard-essential patents should be tolerated. These issues are complex, and any potential solution must be carefully considered and weighed to take into account that complexity.

The Federal Government should not intervene where free market forces are sufficient to remedy harmful conduct. At the same time, where existing laws and regulations create unfair incentives that damage our economy or that tend to harm consumers, Congress and government enforcers must be willing to address the situation.

In the event the evidence points to increased and unjustified costs for consumers as a result of a patent hold-up, our Subcommittee should seriously consider taking steps to discourage such behavior.

Throughout our consideration of these issues, we must keep our focus on protecting competition and not insulating competitors. As Robert Bork forcefully demonstrated more than two decades ago in “The Antitrust Paradox,” the proper focus of our antitrust laws is to maximize consumer welfare. By carefully evaluating the evidence and applying rigorous economic analysis, we can continue to ensure that competition and free market forces allocate resources to their most valuable use.

I look forward to hearing from all of our witnesses today. I thank them for coming and welcome you to the hearing.

Chairman KLOBUCHAR. Thank you very much, Senator Lee.

Senator Grassley, the Ranking Member of the Judiciary Committee, we are pleased to have you here. Do you want to say a few words?

**OPENING STATEMENT OF HON. CHUCK GRASSLEY, A U.S.
SENATOR FROM THE STATE OF IOWA**

Senator GRASSLEY. Just a few. In addition to a few words, when we have this vote at 10:15, I will have to go to the Budget Committee, and I do not know whether I will get back here. And if I do not, I will have some questions for answer in writing.

Chairman KLOBUCHAR. Very good.

Senator GRASSLEY. Thank you for this privilege of addressing the Subcommittee and our audience and, more importantly, for holding this hearing on standard-essential patents.

Industry standards are critical to innovation and new technologies, products, and services. Standards are also important to allowing different electronic and mobile devices to interface and connect with each other. Consumers like competition, interoperability, and choice with respect to their devices. When companies agree to make their patents an industry standard, they commit to

make those patents available on fair, reasonable, and non-discriminatory licensing terms. So companies that have incorporated standard-essential patents into their products expect to be able to negotiate reasonable royalties with the patent holder.

So these are questions that I will be looking for answers for. What are the obligations of companies that believe that their patents are being infringed or they are not getting a fair and reasonable royalty fee? Is it always anticompetitive or anticonsumer when standard-essential patent holders exclude or seek injunctive relief against companies that have implemented their standards? How extensive is the hold-up problem? How extensive is the hold-out problem? And how do these problems impact innovation and competition?

I am looking forward to hearing from the witnesses today about the standard-setting process and whether it is being abused as well as how companies negotiate standard-essential patents. I am also looking forward to hearing what is happening in the courts with respect to standard-essential patent issues.

We have seen an increase in lawsuits over the way that standard-essential patents are used and enforced, so continued oversight by this Committee, as you are doing today, is important in this area.

Thank you.

Chairman KLOBUCHAR. Thank you very much, Senator Grassley. Senator Hirono, do you want to give us a few words?

**OPENING STATEMENT OF HON. MAZIE HIRONO, A U.S.
SENATOR FROM THE STATE OF HAWAII**

Senator HIRONO. Just very briefly. I know how important this morning's hearing topic is for our technology sector, and it raises issues that I think most people are not aware of, and so I am here to listen to our panelists, and thank you very much.

Chairman KLOBUCHAR. Thank you very much.

I am going to introduce our witnesses. Our first witness will be Suzanne Munck, who I will note is seven months' pregnant with twins. And I know this hearing will calm the twins down, unless something really exciting happens. She is the Chief Counsel for Intellectual Property and Deputy Director of the Federal Trade Commission's Office of Policy Planning. Before joining the FTC, she was an antitrust and IP litigator in Los Angeles, and I would like to point out that she received her J.D. from the University of Minnesota Law School.

We also have with us Mr. Douglas Melamed. He is the senior vice president and general counsel for Intel. Mr. Melamed was previously a partner at Wilmer Hale. He also served in the Department of Justice as Acting Assistant Attorney General in charge of the Antitrust Division and as Principal Deputy Assistant Attorney General.

Our third witness will be Mr. Donald Rosenberg. He is the executive vice president, general counsel, and corporate secretary of Qualcomm. He has also served as senior vice president, general counsel, and corporate secretary for Apple and has held numerous positions at IBM, including senior vice president and general counsel.

Our final witness to testify will be Mr. John Kulick. Mr. Kulick is the Chair of the Standards Association Board of the Institute of Electrical and Electronics Engineers and a senior consultant for technical regulation and standardization in corporate research for Siemens Corporation.

With that, I ask all our witnesses to stand and raise your right hand. Do you affirm that the testimony you are about to give before the Committee will be the truth, the whole truth, and nothing but the truth, so help you God?

Mr. MELAMED. I do.

Mr. ROSENBERG. I do.

Ms. MUNCK. I do.

Mr. KULICK. I do.

Chairman KLOBUCHAR. Thank you. Why don't we begin with Ms. Munck.

STATEMENT OF SUZANNE MUNCK, CHIEF COUNSEL FOR INTELLECTUAL PROPERTY, AND DEPUTY DIRECTOR, OFFICE OF POLICY PLANNING, FEDERAL TRADE COMMISSION, WASHINGTON, D.C.

Ms. MUNCK. Thank you very much. Chairman Klobuchar, Ranking Member Lee, and Members of the Subcommittee, thank you for the opportunity to testify this morning. The written statement submitted with my testimony represents the views of the Federal Trade Commission. My oral presentation and responses to questions are my own and do not necessarily reflect the views of the Commission or any Commissioner.

My testimony focuses on SEPs that a patent holder has committed to license on reasonable and non-discriminatory, or RAND, terms. In this context, hold-up describes the potential that a SEP holder can use the leverage it may acquire as a result of the standard-setting process to negotiate higher royalty rates or other more favorable terms after the standard is adopted than it could have credibly demanded beforehand.

As outlined in the written statement, the Commission recognizes that America's economic growth and competitiveness depends on its capacity to innovate. It also recognizes that intellectual property and competition laws share the fundamental goals of promoting innovation and consumer welfare.

Collaborative standard setting plays a valuable and pro-competitive role in promoting innovation. Firms in the IT and telecommunications industries frequently face the problem that hundreds, thousands, and sometimes hundreds of thousands of different inventions need to work together. They often solve this interoperability problem through voluntary consensus-based standard-setting organizations, or SSOs. SSOs create technical standards to ensure that devices will work together in predictable ways. Such standards can create enormous value for consumers by increasing competition, innovation, product quality, and choice.

Many standards, particularly in the high-tech sector, include a large number of patented technologies. This can benefit consumers. However, incorporating patented technologies into standards also has the potential to distort competition by enabling SEP holders to engage in patent hold-up.

The threat of patent hold-up arises as a result of the standard-setting process. Before a standard is adopted, multiple technologies may compete for selection into the standard. Once a standard is adopted, an entire industry begins to make investments tied to the standard. At that time, companies may not be able to avoid the standardized technology unless all or most other participants in the industry agree to do so in compatible ways.

Because all of these participants may face substantial switching costs in abandoning initial designs and substituting a different technology, an entire industry may become locked into practicing the standard. In this situation, a SEP holder can demand royalty payments and other favorable licensing terms based not only on the market value of the patented invention before it was included in the standard, but also on the costs and delays of switching away from the standardized technology.

Hold-up and the threat of hold-up involving RAND-encumbered SEPs can deter innovation by increasing costs and uncertainty for other industry participants. It can discourage adoption of standards and reduce the value of standard setting, depriving consumers of the substantial pro-competitive benefits of standardized technology. It can also harm consumers when excess costs are passed on to them.

Market-based factors may mitigate the risk of hold-up. Frequent participants in standard-setting activities may avoid engaging in patent hold-up to preserve their reputation. Patent holders who manufacture technology may find it more profitable to offer attractive licensing terms and promote the adoption of the standard, increasing demand rather than extracting hold-up royalties.

Nevertheless, SSOs commonly seek to mitigate the threat of patent hold-up by seeking commitments from participants to license SEPs on RAND terms, often as a quid pro quo for the inclusion of the patents in the standard. A RAND commitment can make it easier to adopt a standard, but the potential for hold-up remains if the RAND commitment is later disregarded.

I would like to close by reinforcing the important point that competition and intellectual property laws work together to promote innovation. Voluntary consensus-based standard setting facilitates this purpose; however, including patented technology in a standard creates the potential for patent hold-up. As outlined in the written statement, the Commission will continue to advocate before the federal courts and the ITC for policies that mitigate the potential for patent hold-up and will bring enforcement actions where appropriate.

Thank you very much. I am happy to answer any questions that you have.

[The prepared statement of Ms. Munck appears as a submission for the record.]

Chairman KLOBUCHAR. Thank you very much, Ms. Munck.
Mr. Melamed.

STATEMENT OF A. DOUGLAS MELAMED, SENIOR VICE PRESIDENT AND GENERAL COUNSEL, INTEL CORPORATION, SANTA CLARA, CALIFORNIA

Mr. MELAMED. Chairman Klobuchar, Ranking Member Lee, and distinguished Members, thank you for convening today's hearing on abuses of standard-essential patents, or SEPs.

Intel Corporation is the world's largest semiconductor company, and it is a major exporter and manufacturer that employs approximately 50,000 people in the United States. Intel is also a leading innovator. Last year, Intel spent more than \$10 billion on R&D, more than any other publicly traded company in the United States. Intel invented, among many other universally used technologies, the first dynamic random access memory, or DRAM, the first microprocessor, and the universal service bus, or USB. Intel holds nearly 40,000 patents and has been a top-10 recipient of U.S. patents for eight of the last 10 years. Intel has been instrumental in developing countless industry standards, including Wi-Fi standards. Intel cares deeply both about protecting legitimate patent interests and about ensuring the robust, pro-competitive development and implementation of industry standards.

The high-tech industry is being threatened by the increasingly frequent anticompetitive behavior of a few. Some patent owners who commit to license their patents for use in industry standards on fair, reasonable, and non-discriminatory, or FRAND, terms are reneging on those commitments after their patents have been incorporated into the standards. FRAND abuse has threatened significant harm to competition, innovation, and consumer welfare.

In the standard-setting process, patent holders compete to have their patented technologies included in the standard. After the standard is adopted and gains commercial acceptance, however, this competition is eliminated because to comply with the standard, manufacturers must use the SEPs embodied in the standard, and using an alternative technology that was available before the standard's adoption is no longer feasible.

As a result, if unchecked, the SEP holder can have enormous market power which derives not from the SEPs themselves, which are often insignificant, but from their inclusion in the standard.

To prevent this, standard-setting organizations require those whose technologies are included in the standards to commit to license their SEPs to everyone on FRAND terms. These FRAND commitments are, in effect, a bargain. In exchange for vastly increasing the number of users of the patented technology and, thus, the licensing opportunities available to those technologies, the SEP holder voluntarily agrees to forgo the market power created by the inclusion of its patent in the standard. This bargain preserves the competitive benefits that existed before the standard was adopted and ensures that the royalty reflects the value of that competition.

Recently an alarming trend has emerged where some companies are reneging on their FRAND commitments and seeking to exercise the market power that they previously agreed to relinquish. In Intel's written submission, I point out six abuses of FRAND commitments. This morning I will briefly address two of particular importance.

First, although companies that make FRAND commitments have promised to license every willing implementer, some SEP holders refuse to license component manufacturers like Intel. They insist instead that it is okay for them just to license our customers, manufacturers of PCs and other end products. Aside from the obvious breach of a contractual commitment to license everyone, these refusals to license chip makers inflicts substantial harm.

SEP holders refuse to license chip makers so that they can seek excessive royalties. In one recent case in which we were involved in litigation, a SEP holder sought a 50-cent royalty on a \$2 chip. It admitted at trial that it did so because it believed it could get larger royalties by going after the PC manufacturer than by going after the chip maker. It believed that the jury would reject as excessive a 50-cent royalty charged on a \$2 chip that consumed the entire technology but would not reject a 50-cent royalty as excessive in a \$700 computer. This company has only 50—about three percent of the SEPs in the standard, and there are about 250 standards in a PC. So the 50-cent royalty it sought implies an aggregate royalty burden of more than \$4,000 for a \$700 computer.

The second critical FRAND abuse occurs when SEP holders threaten injunctions against a willing licensee. They do so not to prevent copying of their products but, rather, to gain leverage with which to extract from the users of their products excessive royalties greater than the reasonable royalties they promised to accept.

FRAND abuse is a serious and growing problem. Intel appreciates the Subcommittee's interest in this issue, and I thank you for the opportunity to participate in this hearing.

[The prepared statement of Mr. Melamed appears as a submission for the record.]

Chairman KLOBUCHAR. Thank you very much.

We are going to recess briefly when I go to vote, and Senator Lee will take it up, and I will be back shortly. So thank you, everyone. You can have some water or do whatever you need to do to get through the hearing. Thank you very much.

[Recess at 10:26 a.m. to 10:35 a.m.]

Senator LEE. [Presiding.] Okay. Why don't we go back in now. Chairman Klobuchar should be back in a moment, but we will resume.

Why don't we hear from Mr. Rosenberg? Go ahead, sir.

STATEMENT OF DONALD J. ROSENBERG, EXECUTIVE VICE PRESIDENT, GENERAL COUNSEL, AND CORPORATE SECRETARY, QUALCOMM INCORPORATED, SAN DIEGO, CALIFORNIA

Mr. ROSENBERG. Thank you, Ranking Member Lee, for the opportunity to testify today. My name is Don Rosenberg, and I am executive vice president and general counsel for Qualcomm, headquartered in San Diego. Qualcomm is a leading developer of wireless communication technologies and the largest producer of chip sets for wireless devices. Since our founding in 1985 by seven engineers and academics, we have produced and commercialized ground-breaking mobile innovations that have transformed modern communications. Today we employ more than 27,000 people, more

than two-thirds of whom are engineers and scientists, with a majority based in the United States.

Since our founding, Qualcomm has invested more than \$25 billion in research and development, and our annual investments in R&D exceed 20 percent of our revenues.

Qualcomm is active in more than 100 standard-setting organizations around the world, and we broadly license our standard-essential patents on FRAND terms. Despite what you may have heard, FRAND works well. It balances the rights of technology innovators on the one hand with those of implementers on the other. And it encourages all participants to choose collaboration over litigation.

Qualcomm licenses virtually our entire portfolio of 3G and 4G patents to nearly 250 companies, including all major mobile device manufacturers. Qualcomm's R&D investments and licensing program have lowered barriers to entry, promoted competition on prices and features, and significantly enhanced consumer choice and welfare.

Qualcomm's technologies have allowed newcomers to enter the mobile industry and compete with great success without having made R&D investments of their own in core wireless technologies.

The mobile device in your purse or pocket would not function as the powerful, always connected handheld computer without Qualcomm's contributions to wireless standards and our decision to make our technologies widely available.

Contrast that with the many companies who develop or acquire proprietary technology solely for their own competitive advantage. For companies that rely on technology developed by others, patent royalties are a cost of doing business. But for wireless pioneers, patents provide economic incentives to encourage risky, long-term investments in innovation.

Qualcomm is both a product company and an R&D institution, and we appreciate both perspectives. Yet we firmly believe that patents are critical to this country's long-term economic future and global competitiveness. We are deeply concerned that certain policy proposals would devalue patented contributions to standards and strip patent owners of important property rights, contrary to long-established SSO policies.

Bear in mind, product makers that implement standardized technology are already protected against inappropriate threats of an injunction or exclusion order. In the United States, an exclusionary remedy will not be granted until an infringer's FRAND defense is adjudicated. This is a high bar, leaving only unwilling licensees subject to injunctive or exclusionary relief.

As you evaluate the merits of proposed changes to patent rights or standards policies, I ask you to consider three important questions.

First, what do the facts tell us about the role of patents and standards in today's innovation economy? By all objective economic measures, the mobile industry is an incredibly dynamic and a competitive ecosystem facilitated by literally thousands of licenses, cross-licenses, and other kinds of partnerships. Disputes among competitors are to be expected in a vibrant marketplace. Patent

litigation is common in periods of intense technological development and does not signify a breakdown in competition.

Second, would proposed policy changes balance the interests of product makers and inventors? FRAND policies serve complementary goals of access to patented technologies and fair compensation for innovators. Policy changes that unfairly tip the balance to infringers would decrease incentives to invest in R&D and to contribute to standards. The recent joint USPTO-DOJ statement on SEPs explicitly rejects one-size-fits-all rules and recognizes the importance of balance and a case-specific approach to FRAND disputes.

Third, and finally, will the proposed policy changes encourage respect for U.S. patented technologies abroad? The United States has historically pressed foreign governments to respect patent rights, to respect the freedom of contract and voluntary consensus-based standards. A backward shift in U.S. patent policies could encourage foreign governments to adopt measures that devalue American technologies through royalty rate regulation and compulsory licensing.

In closing, I urge the Subcommittee to recognize that the creation of complex, game-changing technologies requires many billions of dollars of R&D investments over a period of several years, if not decades. This risk and reward dynamic depends on a strong U.S. patent system.

I thank you, and I look forward to your questions.

[The prepared statement of Mr. Rosenberg appears as a submission for the record.]

Senator LEE. Thank you, Mr. Rosenberg.

Dr. Kulick, let us hear from you.

STATEMENT OF JOHN D. KULICK, PH.D., CHAIR, STANDARDS BOARD, THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS STANDARDS ASSOCIATION, NEW YORK, NEW YORK

Mr. KULICK. Good morning. My name is John Kulick. I am the Chair of the Standards Board of the IEEE Standards Association, known as IEEE-SA. I am also an employee of Siemens, but I am here solely in my IEEE-SA capacity.

I would like to extend my thanks to Chairman Klobuchar, Ranking Member Lee, and the rest of the Committee for the opportunity to present testimony to the Subcommittee.

We appreciate the foresight of the Subcommittee in looking into this important issue. IEEE-SA is a global leader in standards development. For example, probably everyone in this room has a laptop or tablet computer with wireless connectivity. That functionality is based on the 802.11 standard, one of the most well-known standards developed by IEEE.

IEEE-SA is the standards development arm of IEEE. IEEE is the leading global organization for engineers, scientists, and other professionals whose technical interests are rooted in electrical and computer sciences, engineering, and related arts and sciences. IEEE is a New York 501(c)(3) public charity whose mission is the advancement of technology for the benefit of humanity. IEEE has more than 425,000 members in over 160 countries.

We believe that the intersection of patents with standards is becoming a real issue. Therefore, the work of the Subcommittee is very timely and may be an inflection point in the global efforts to find long-term solutions to the growing challenge of patent quality.

IEEE fully realizes the importance of a comprehensive patent policy and has put in place a balanced framework with detailed rules and procedures that defined how patented technology should be taken into account within IEEE standards. A detailed description of the IEEE standards development process is provided in the written submission to the Subcommittee.

The strength of the IEEE-SA's patent policies can be measured by whether the outcome of the standardization process is universally available, that is, broadly affordable to anyone and anybody. The success of a standard should be determined by the market. A proliferation of strategic standards coupled with a concentration of SEPs in the hands of a few corporations, individuals, or interest groups has the potential to block this governing principle.

IEEE-SA was the first SDO to realize that the problems cannot be tackled anymore by merely applying downstream measures, essentially in the form of an SDO's patent-related rules and procedures, no matter how good those procedures may be. The exponentially increasing number, the decreasing quality, and the ongoing concentration of patents, particularly in certain fields, in the hands of a few companies are not natural phenomena but, rather, the results of a systemic problem at the interface of the patent world and the standardization system.

IEEE has taken the lead in influencing the international debate regarding the critical interplay between the patent and standardization systems. In 2010, IEEE-SA signed a strategic MOU with the European Patent Office, the first ever between an SDO and a regulatory authority. This cooperation has helped the EPO to improve the quality of its prior art searching and, thus, of the patents granted in the standardization domain of IEEE and beyond.

Due to the global nature of many ICT standards, a similar cooperation between USPTO and IEEE, as well as among other leading SDOs, patent offices, and regulators, is necessary. As a matter of fact, a paradigm shift is necessary. The governance of the process must start with improved self-regulation of patenting behavior during the early phases of the standardization process through a close collaboration between patent offices and SDOs, rather than focusing exclusively on how patented technologies should be included into standards that are nearing the completion of their development or, as some have suggested, the increased regulation of SDOs.

Simply put, for the standards implementer, it is easier to deal with one patent based on an original idea than with many more "me too" inspirations based on information from within standards development communities.

IEEE-SA's patents policies are well established and responsive to ongoing developments. In the forum IEEE has created, we strive to adhere to recognized principles of standards development through due process, broad consensus building across a range of interests, transparency of information and records, balance without dominance, and openness to all interested parties.

In closing, I want to reiterate my thanks to Senator Klobuchar and Senator Lee for the chance to present testimony to the Subcommittee today. We appreciate the opportunity and look forward to further dialogue.

Thank you.

[The prepared statement of Mr. Kulick appears as a submission for the record.]

Chairman KLOBUCHAR. [Presiding.] Very good. Thank you very much. I think I will start with you, Dr. Kulick, as you sort of—I like the drama about the juncture in time and how it is that our Committee really has an obligation for competition’s sake to get involved in this. And you talked about a paradigm shift because of the fact that we need standards, that would be correct, we would start with that, we need standards. But you—and I do not want to paraphrase this exactly, but you feel that with the concentration of the patents holders and some of the demands and things that are happening, the process is getting messed up, and you think we need a paradigm shift. You suggested self-regulation. What other ideas would you have to try to solve this problem?

Mr. KULICK. Thank you for the question. Yes, I think what else could be done, I think, is important. I think the example that we have already established with the EPO and trying to work more closely with the Patent Office to provide more information to make prior art searches more complete so that when patent applications are being evaluated, they can be done more thoroughly with information that they may not have ordinarily had access to. And so in the granting of the patents, they can do a more thorough and complete examination.

Chairman KLOBUCHAR. Very good. Mr. Melamed, do you want to comment on the solutions here? You talked about the serious implications for competition. You heard from Mr. Rosenberg who talked about how reasonableness is the currency of standard setting and does not see patent hold-up as a problem. Do you want to respond to that and talk about what you see as the solutions?

Mr. MELAMED. Thank you, Chairman Klobuchar. Let me begin on a point that Mr. Rosenberg made. He said it was critically important that we respect patents and that we respect contracts and that we set an international standard in doing so. So I would start right there and say it is critically important that we respect the bargain that is made by a SEP holder when it says that in exchange for the vastly increased opportunity to license my patent when my technology is included in the standard, I commit to license on fair and reasonable terms.

I think it is critically important that we have a wide understanding that is enforced in the courts, that is enforced by the anti-trust agencies where antitrust violations are found, that holds SEP holders to their bargains and gives meaning to the FRAND commitment.

I think in addition to that, we might focus on specific remedies that will deal with the problem of hold-out that Senator Lee referred to and that I know Mr. Rosenberg referred to in his written statement, namely, the notion that there might be people who are using a standard and try to avoid having to pay for a license. One way we do that is by making meaningful the treble damage remedy

for willful infringement. Another way might be by fee-shifting legislation, which has been proposed elsewhere in the Congress, legislation that would make it more costly and less attractive to engage in frivolous litigation on either the plaintiff side or the defense side.

Those would be two measures that could deal with the problem, and that is a problem, by the way, that I would be glad to address at greater length later in this hearing.

I want to comment again, briefly, as you invited, on Mr. Rosenberg's statement that there really is not much of a problem because there is robust competition. Yes, there is robust competition in most information technology spaces. But there is, nevertheless, a very serious problem. The problem is the excessive and increasingly frequently excessive taxes imposed by SEP holders on innocent implementers of public standards.

We see that not so much in the occasional litigated case that a company like Intel or Microsoft can afford to undertake. But we see that in the settlements, the licenses that are entered into by parties that say, "I cannot pay millions of dollars to litigate. I am going to have to enter into a settlement agreement."

Now, those are not ordinarily public, but when you go through trials such as our trials, a SEP holder says, "Look at all the agreements that parties have entered into. That shows the value of my patent." But the agreements do not show that. They show the coercive power of a threat of an injunction, of a threat of excessive royalties, of a threat of an exclusion order.

Chairman KLOBUCHAR. Mr. Melamed, could you talk a little bit about how, in your view, this would then affect consumers? We know the strong testimony here from you about how it can affect competitors, and your point is not just ones the size of Intel but also smaller competitors. How does it affect consumers?

Mr. MELAMED. It affects consumers, I think, in two ways. The most immediate way is the traditional antitrust way in which a party that exercises market power it should not have can hurt consumers, namely, by raising prices, which, of course, restricts output and transfers wealth from consumers to SEP holders.

In the long run, perhaps the more insidious harm is that this is a tax on the industry and on innovation. It reduces the incentives of parties to continue to innovate and to improve. And while to be sure, as Mr. Rosenberg said, there has been a lot of innovation, what we do not know is how much more innovation there could be if the FRAND commitments are widely complied with and how much less there will be if this growing problem of renegeing on FRAND commitments continues.

Chairman KLOBUCHAR. So what you are saying is, you know, you acknowledge there is competition, but once the standards are set and someone is fortunate enough to have their patent included in a standard, then you see lessening competition, which has an effect on prices for consumers and competition going forward.

Mr. MELAMED. Prices and incentives to innovate, yes.

Chairman KLOBUCHAR. Right. Mr. Rosenberg, do you want to respond to that?

Mr. ROSENBERG. Yes. Thank you, Chairman Klobuchar. Let me start by saying there have been a lot of words and discussion

today, mostly about things like hold-up as potential problems or the fear of hold-up or the possibility of hold-up. And what I ask is that the Committee, the Subcommittee, look at the record, look at the facts, the history, the empirical data. Look at all the lawsuits.

Mr. Melamed describes a lawsuit. We can all come up with some fringe problems in any number of areas, but those fringe—that margin is not where legislation should be focused. If there are problems with the patent system, if we want to make the patent system more efficient, I absolutely agree with that. But that is where we should start.

And there is also confusion, I think, caused by some commercial interests about what standard-essential patents are and what they are not. And I cannot take too much of your time to explain the process, but the process is a collaborative one from beginning to end, and it involves multiple engineers collaborating on all kinds of questions about which technology is best.

What we hear is concerns about what may happen. The fact of the matter is the mobile communication industry, as I said earlier, is healthy and dynamic. This is the second time I have heard in a discussion like this that things might have been better. Well, I cannot respond to that. There is no way I know what might have been. What I do know is that the success of this industry is well documented. Prices have fallen. Technology has advanced. The phone that you have, as I said earlier, in your pocket would not be there if there was not a dynamic, competitive industry. There have been multiple examples of new entry. How does one enter a market that is the subject of things like hold-up and royalty stacking?

There are multiple examples of entry. There are multiple examples of successful companies, and consumers have benefited dramatically, to answer your question, because of the technological advances and the falling prices.

Chairman KLOBUCHAR. Okay. With that, I am going to turn over to Senator Lee, and I will be back for a follow-up on that. Thank you.

Senator LEE. Thank you, Madam Chair.

I think I would like to start with Ms. Munck. Ms. Munck, first of all, I should tell you you are in good company. Both I and Senator Coons are the fathers of twins.

Ms. MUNCK. Congratulations.

Senator LEE. Mine are 18 and his are 14. Mine at least love standard-essential patents.

[Laughter.]

Senator LEE. In the small town of Alpine, Utah, where I live, we speak of little else.

[Laughter.]

Senator LEE. They do, of course, benefit from these, as all of us do every single day, whether we regard ourselves directly as the beneficiaries of the patent, of the intellectual property itself or not.

So in your testimony, you argue that the patent holders' failure to abide by the FRAND commitment can be anticompetitive. You note that a hold-up can have some potential to raise prices for consumers and to distort and blunt some of the incentives to innovate.

I feel the need to ask: Is it always anticompetitive for a holder of an SEP to see an injunction or an exclusion order? And if not, in what circumstances might it not be anticompetitive?

Ms. MUNCK. Thank you, Senator Lee. I think that there are certain circumstances where the Commission in the past has said that it is, you know, generally okay to seek an injunction or an exclusion order. Those are situations where you have someone who is an unwilling licensee, where you have someone who is refusing to pay a rate that has been negotiated, where you have someone that is outside the jurisdiction of the U.S., and that is important because that would implicate the ITC's jurisdiction; and then where you have someone who is unable to pay.

Senator LEE. So certainly in those circumstances it would have that. Now, do you think—is it your sense that either the federal courts or the ITC failing properly to weigh the public interest factors in making these decisions with regard to whether or not to issue an injunction or to issue an exclusion order?

Ms. MUNCK. Sure. So speaking personally, I think there are a number of different situations where the courts are looking into these issues, and without sort of drawing a broad conclusion, I think that it is very important for the courts under the eBay analysis to consider whether once someone has made a FRAND commitment—and, actually to take a step back, there is no requirement of making a FRAND commitment, and so in most instances, if you are not dealing with a FRAND-encumbered SEP, the patent laws are set up to promote sort of exclusive use, and that is why you have *eBay* not really weighing one way or the other. It is meant to be fairly neutral.

But once someone makes a FRAND commitment, you know, what I personally think they are saying is, “I am willing to license broadly; I am willing to accept monetary remedies for any use of my technology.” And so I think that once you have made that commitment, under *eBay* it is very difficult to show that monetary remedies would be inadequate.

Senator LEE. So it does not always follow from the fact that one has a standard-essential patent, it does not always follow from that that you necessarily make the FRAND commitment. But once that commitment is made, you have got to stick with it.

Ms. MUNCK. I think that is right. One of the very interesting things about this area is the variety among SSO policies. So some standard-setting organizations require a FRAND commitment. Some ask that you license your intellectual property on a royalty-free basis. So I think that, you know, as with all of these issues, it is fairly fact specific. But once one company says, “I would like to include my technology in the standard, I would like to compete for inclusion, I know I am going to receive benefits as a result of being included, and I am going to make that FRAND commitment,” then that needs to be taken into consideration by the district courts when considering whether an injunction should issue.

Senator LEE. Okay. Thank you.

Mr. ROSENBERG. Senator, may I?

Senator LEE. Yes, sure. Go ahead.

Mr. ROSENBERG. All true, but, again, I think what constantly gets lost in the discussion is the fact that a FRAND commitment

is a contractual commitment. And for a contract and a bargain, you need two sides. The FRAND commitment made by the standard-essential patent holder—and we make FRAND commitments every day—is one side of that bargain. The other side of that bargain is the beneficiary of that contract—which is the contract between the standard-essential patent owner and the standard body. So the third-party beneficiary is the implementer. The implementer has to be, as Ms. Munck said, a willing licensee. If you do not have a willing licensee on the other side, who has obligations as well, then it is impossible for the standard-essential patent owner to have a bargain and a contract.

And Intel, I think, is going farther even than the FTC or the DOJ in terms of opposing injunctive relief at all, or at least opposing the request for injunctive relief. I think both agencies agree that there are situations where injunctive relief may be appropriate. There is the unwilling licensee. Those of who have been in the industry know that there are times when the other side is simply saying, “Sue me. I am not going to pay. And if you win, if you happen to sue me and you spend a lot of money on litigation and you happen to win, and I happen to lose the appeal, then at that point I will pay you your royalty.” Well, that is years down the road.

There has to be some ability to say, no, you cannot just say, I am unwilling to license on any terms, let alone fair, reasonable, and non-discriminatory terms.

Senator LEE. Do you want to respond to that, Mr. Melamed?

Mr. MELAMED. Just briefly, if I may clarify. Mr. Rosenberg, I think, misunderstood or perhaps I failed to articulate clearly Intel’s position. Intel agrees that injunctions might be appropriate where the implementer of the standard is not willing to pay a FRAND royalty. But we do think that where the implementer is willing to pay and to negotiate in good faith over a FRAND royalty, the injunction, the threat of an injunction, and an ITC exclusion order should be off the table.

Senator LEE. Okay. Will the increasing consensus within the federal courts, Mr. Melamed, increasing consensus to the effect that injunctions should not issue in cases involving SEPs, would that reduce the prevalence of patent hold-up situations?

Mr. MELAMED. Yes, it is certainly a movement in the right direction. I do not know that the law is quite as clear on the principle that Ms. Munck and I are articulating as one would like. But certainly since *eBay*, the law in the federal courts has moved in the direction that reduces the risk of hold-up from the threat of district court injunctions. But there remains the risk of hold-up from the threat of an ITC exclusion order, and increasingly SEP holders are using the ITC as their forum of choice precisely because of the availability of that remedy. And there is a risk of hold-up from other strategies that are employed by SEP holders such as refusing to license at the chip level and in general seeking excessive royalties.

Senator LEE. Okay. My time has expired. Mr. Rosenberg wants to respond on that point, if that is okay. And we will let him do that.

Mr. ROSENBERG. Again, I want to try to respond with some facts. There is a lot of discussion about standard-essential patents that gets conflated with the discussion about patents generally, about litigation and related issues, and you should focus on the following: The vast majority of the district court cases that are referred to commonly as “smartphone cases” do not involve standard-essential patents. They primarily involve nonstandard-essential patents.

There is not one example of an ITC exclusion order involving a standard-essential patent, including the recent ruling in the *Apple-Samsung* case in which the Commission never definitively resolved the question of essentiality of Samsung’s patent but did find that Samsung’s offer to license the patent at issue was consistent with FRAND. I am aware of one court ruling that involved a standard-essential patent, but it wasn’t in the 3G, 4G area of technology. And the defendant in that case, as the record shows, was clearly an unwilling licensee, I think, under anyone’s definition.

So we talk a lot about this problem. As I said earlier, words are thrown around, fears are thrown around, hypotheticals are thrown around, the use of hold-up, the use of royalty stacking, even this, talking about litigation as if it is common or as if there are injunctions happening every day involving standard-essential patents, when the facts are absolutely clear, documented, and can be checked. It is just not happening.

Senator LEE. Thank you. I see my time has expired. I hope to get back with some of you on the next round. Thank you.

Chairman KLOBUCHAR. Very good. Senator Hirono.

Senator HIRONO. Thank you very much.

I understand that these FRAND commitments are essentially contractual, and so there is a question that I have. Perhaps you can all respond, but I would like to hear Ms. Munck’s comments on this. Is there a role for us, for the Federal Government, in this arena? Mr. Rosenberg, you seem to indicate that things are going pretty well as far as you are concerned.

Ms. MUNCK. Thank you very much. So speaking for the FTC and also speaking personally, I think that there has been a role for the FTC to play here. We have taken, I would say, three series of actions.

One is that SSOs often ask us to monitor their IPR policies or their IPR meetings, and we have been very grateful to be included in that. I think that is very important, because it is difficult for me personally as a person in our Policy Office to advise on policy without actually knowing what is happening on the ground. So I also frequently meet with members of standard-setting organizations and members of the technical community to understand what is happening here. So I think that is one role that you can play. And I usually classify that as outreach.

The second role that can be played is advocacy. Examples of advocacy are in our written statement. One would be the statements that the FTC made last June to the ITC, and the second would be the amicus brief that the FTC filed with the Federal Circuit in Judge Posner’s decision in the *Apple v. Motorola* case.

And then the third would be our enforcement tools.

Senator HIRONO. Do any of the other panelists wish to comment briefly?

Mr. ROSENBERG. Senator Hirono, thank you. I know I, to some extent, as you say, sound like I am saying it is not broken so do not fix it. And that is largely what I am saying. But I am not suggesting that there are not problems, as they say, at the margins that appear. But they are all being handled in the way that these systems are built to handle them. Both our courts and other agencies are involved in helping to deal with the marginal problems.

So, again, I want to emphasize that they are marginal problems, and, frankly, I believe in the free market system. I believe in the process of bilateral negotiations. What I hear here is we need oversight, we need competition law oversight over the enforcement of intellectual property rights.

I have spent over 35 years at what people call the intersection of intellectual property and antitrust law, and they are complementary, and they can co-exist, and they both can foster consumer welfare. We do not need one holding sway over the other. We see all over the world. There are over 100 competition authorities in the world. They are all trying to best each other on what is the right way to regulate.

There are already laws in some of those countries which very much focus in their antitrust laws about controlling intellectual property rights. That is not some place where I want to see us go. I think the systems are working well. I think the courts are handling these marginal cases. I think the Federal Circuit is doing a good job of defining the law as it is developing. And I would urge that we allow that to continue.

Senator HIRONO. And yet at the same time, though, these contractual agreements are supposed to be based on a standard of reasonableness and fairness, and it often is within the negotiating power of the people who are negotiating these kinds of FRAND commitments. So it is a moving target, a moving ball. Is there any kind of a standard for what constitutes fair and reasonable in FRAND agreements?

Mr. ROSENBERG. Well, standards bodies have for years, if not decades, debated the question of whether FRAND and RAND should be a flexible standard or one that is very much defined with very precise borders, and they have unanimously decided that they want a flexible standard. They want, as I said, the bilateral give-and-take of a negotiation to determine what the right terms are.

By the way, we often talk about FRAND as just royalties, but it is terms, fair, reasonable, and non-discriminatory terms. There are extensive terms in a lot of these licensing agreements that go well beyond the question of what the royalty payment is. There are cross-licensing provisions, for example, as well as others.

So, again, I would say, yes, you have an obligation when you make a representation to negotiate on fair, reasonable, and non-discriminatory terms. The other side has an obligation to also negotiate on fair, reasonable, and non-discriminatory terms.

Senator HIRONO. Ms. Munck, representing the Federal Government and FTC is focused also on consumer benefits, so in your advocacy and your monitoring, is that a framework from which you operate that the consumer should be benefited from these agreements, these discussions that are occurring in the private sector?

Ms. MUNCK. Yes, absolutely, and I think it is fair to say that a large number of FRAND negotiations are working. I think that is true. I think that you see disputes in particular instances. And I think that even if you have flexible FRAND terms, you still need a means to determine what is going to happen when there is a FRAND dispute.

And so if you look at some of the proposals, there is a recognition that you need to have dispute resolution mechanisms, that the IPR policies themselves are thinking, that the SSOs themselves are thinking of, and that is one way of dealing with it.

But, yes, to get back to your question, you want to look at the impact on consumers, and that can be the pass-through of hold-up rates; that can be a degradation of faith in the standard-setting process. And I think to that second point, that would be a problem because you have heard everyone on the panel talk about the importance of standard setting, so you would not want to have a situation where you have the degradation of that process.

Senator HIRONO. Did you want to add something?

Mr. MELAMED. Yes, Senator Hirono, thank you. I do want to comment on a couple of ideas.

I believe there is room for the government to improve the situation, and I want to start by something Mr. Rosenberg said. He said: This really has not been much of a problem. There have been only a handful of litigated judgments involving some of the issues that we are talking about today.

I think that is focusing on the wrong question. What really is happening is that the threat of onerous provisions extracted by the holders of SEPs have enabled them to enter into bargains, license agreements, or settlements of litigation and to extract in those settlements and in those bargains consideration far in excess of and far more onerous than that to which they committed with the FRAND commitment.

For example, a SEP is simply a patent that a patent holder claims reads on the standard. In fact, Intel has been sued three times on some SEPs in Germany. Not one of them was found to be valid and infringed.

In Texas, we were sued recently on five SEPs. Two of them were found not to be valid or infringed. None of those patents was an SEP.

In the *KMotorola-Microsoft* case, a great number of the patents that were asserted by the SEP holder there were found not, in fact, to be valid and infringed.

One party to a major onslaught of SEP litigation reports that less than 20 percent of the patents asserted against it were found in litigation to be SEPs.

So you have parties asserting patents that they claim are SEPs, claiming the right to injunctions, claiming the right to excessive royalties, refusing to license at the chip level, and extracting from them onerous settlements and licensing agreements. That is where the problem comes from.

So we cannot rely on the courts. We have to rely on a clear understanding of what the ground rules are to inform the negotiations in the settlements.

Senator HIRONO. Thank you. My time is up. Perhaps somebody else will ask what would be your suggested remedies.

Thank you.

Chairman KLOBUCHAR. Thanks. We are going to turn over to Senator Schumer, and we are going to do a second round here if you are interested, Senator Hirono. Thank you very much.

Senator Schumer.

Senator SCHUMER. Well, thank you. First, I want to thank you, Senator Klobuchar, for holding this important hearing. I want to thank all the witnesses for being here.

The issue of how patents are being used and abused to inhibit competition and stifle innovation is a critical one for us to explore. There is a real problem. It is growing every day. The only good news is that our awareness of the problem and commitment to solving it is also growing every day. And this hearing is focused on one important aspect of the issue: standard-essential patent disputes.

There is certainly a problem in this area, and I am glad we are taking a closer look at it. But it is not the only problem by far.

Now, I spend a lot of time talking to high-tech entrepreneurs in New York. These folks are an economic engine driving growth throughout our city and State. In fact, for every high-tech job they create, 4.3 non-tech jobs are created. Last year, in terms of venture capital into high tech, New York City placed second after San Francisco—no one is here from Massachusetts—replacing Boston. Take that, Red Sox.

[Laughter.]

Senator SCHUMER. Since they are about seven games ahead of the Yankees, we take what we can get.

Chairman KLOBUCHAR. That is what we always say about the Twins.

Senator SCHUMER. And when I talk to them about the challenges facing their businesses, they invariably mention two problems: first, immigration and the ability to get high-tech workers. We are obviously working on that one. And the second one that all of them mention is patent trolls. I have talked to businesses which have had to stop hiring or, worse, fold up entirely as a result of patent troll suits. Technology is becoming the engine of New York's economy, and trolls are trying to pour sugar in the gas tank. They must be stopped.

This problem extends well beyond the tech community. We hear from retailers, grocery stores, advertisers, basically every kind of business you can imagine, who are getting with patent lawsuits for having things like Wi-Fi in their stores or using scanners.

It is clear there is a problem. It is clear we need to solve it.

Now, I have a bill that will help clear out poor-quality business method patents. Several of my other colleagues have bills they are working on. And Senator Klobuchar is making sure we are focused on regulatory and antitrust aspects. All of these solutions go hand in hand. This problem is big enough that we need all of the tools in our toolbox.

So I want to commend the Chair for having this hearing and convening it, and I have a few questions for the witnesses.

First, Ms. Munck, as I mentioned, we are hearing more and more stories about negative effects patent trolls are having on small businesses. In many of these cases, the trolls leveled a lack of transparency in patent ownership and the cost of litigation against small businesses who do not have armies of lawyers on their side and cannot afford to litigate out a dispute, even when they know they have not infringed.

What do you plan to do to protect the ability of small businesses to compete in the marketplace?

Ms. MUNCK. Thank you very much, Senator Schumer. I think that there are a number of tools available to protect small businesses and other entities that are dealing with “patent trolls,” as you call them, or as I have been sort of indoctrinated to call them, “patent assertion entities,” which I hope is okay.

Senator SCHUMER. Patent what?

Ms. MUNCK. Patent assertion entities. Forgive me. I have to say it.

So I think that there are several tools—

Senator SCHUMER. That sounds worse.

[Laughter.]

Chairman KLOBUCHAR. That is quite obvious, Senator Schumer.

Ms. MUNCK. So I think that the FTC has several tools available to deal with this issue. One is, as you mentioned, where you have a situation of someone suing large numbers of small entities who may not be sophisticated in understanding sort of what is happening. And I think that in certain situations, the FTC’s UDAP authority, or unfair or deceptive acts or practices authority, can step in there. I think if you have a situation where you have someone who is claiming infringement for intellectual property that they do not have the right to enforce, or they are claiming infringement of intellectual property that is expired, or if they are threatening to sue to get the costs that you are talking about, to get that settlement, but they do not actually have any intention to sue, I think that all of those categories would be under our Section 5 authority.

But I also agree completely with you that this is an issue where multiple solutions are needed, both from Congress, from the courts, from the agencies.

Senator SCHUMER. Okay. Well, I certainly encourage the FTC to be vigilant here, because you have on the most ridiculous of claims people being put out of business, you know, just, “We can out-lawyer you.” And for a big company, they can do that over a small company.

Now, we heard Mr. Melamed and Mr. Rosenberg say that these are marginal problems. Have you found them to be marginal problems? I certainly have not. Talk to a company that has gone out of business.

Ms. MUNCK. Sure. So if you do not mind, I think that if I—I do not want to mischaracterize your testimony, but I believe that they may—

Senator SCHUMER. I will give them a chance.

Ms. MUNCK. Okay. They may have been talking about standard-essential patents, and the PAE issue, I agree with you, it is a very important issue. It is the reason why the FTC together with the DOJ held a workshop last December, because we recognized that

we did not have a good understanding of what was happening in this area. And so we wanted to bring together folks who were being affected by PAE activity, the economists looking at the harms and the efficiencies of the model, and also to understand what antitrust remedies are possible. But I agree with you, this is a very important issue.

Senator SCHUMER. Yes, Mr. Rosenberg.

Mr. ROSENBERG. Thank you, Senator. And, by the way, before I moved to San Diego, I spent the rest of my life in New York, where I was general counsel at IBM, and I spent 31 years there.

Senator SCHUMER. Very nice.

Mr. ROSENBERG. And I say that for two reasons. I have spent a lot of my career—I managed litigation there for about 15 years—dealing with patent litigation, mostly as a defendant, well before people were talking about standard-essential patents, or SEPS, and even before people were talking about trolls or PAEs. And there is no question that the threat from non-practicing entities is a difficult one to deal with, not only for the small companies that you talk about, but for large companies as well. And I was happy that Ms. Munck added that bit of clarification. When you walked in, I was talking about standard-essential patents, and I would love to go back to that at some point, if you would like, talking about the marginal cases.

You talked about there is a problem, and you said there is certainly a problem with SEPs, but there is a bigger problem, or at least the problem you are focused on, with trolls. I would like to tell you that the so-called problem with SEPs is more one perceived than real, and I have waxed on this a while here, so I will not go back to that at this point.

On trolls or PAEs, look, there is no question that something ought to be done. What I am asking is that you be very careful to operate with a scalpel and not a cleaver. There is a tendency—and you know better than I—for sometimes good-intentioned legislation to paint with—I am using a lot of metaphors here—a broader brush than it was intended to.

And so, for example, I just want to be careful that there are legitimate companies that license technology, such as Qualcomm, who also produce enormous benefits and designs and products, who should not be painted with a legislative brush that talks about non-practicing entities or trolls. And so I would ask just for that kind of careful consideration.

Senator SCHUMER. I appreciate that. My time is up. And I mischaracterized Mr. Melamed. He said there are serious problems, so you do not have to rebut yourself. All I can tell you, to continue your metaphor, patent trolls do not paint a pretty picture.

[Laughter.]

Chairman KLOBUCHAR. Okay. Very good.

Senator Coons.

Senator COONS. Thank you, Senator Klobuchar. Thank you for convening this hearing. Thank you to the panel for your hard work and your engaging testimony so far. And to Senator Lee, I do not know, your twins might be SEP fans. My twins were having a fight the other day about whether it is RAND or FRAND. I had to break that up, go to both corners of the rec room.

[Laughter.]

Senator COONS. But to the extent that Wi-Fi and video compression has literally changed our lives, or at least our gaming platforms, I wanted to go to Dr. Kulick, if I could, just because bringing SSOs into the conversation, IEEE, AST, and others, I think, is an important piece of the structure of this hearing.

I wondered, Dr. Kulick, if you would, whether the IEEE has a position about whether a no-injunction commitment should be inferred from the RAND commitment in existing standard-setting contracts and whether you have any plans to include a no-injunction policy in future standard-setting contracts.

Mr. KULICK. Thank you very much. With respect to an injunction, when a patent holder submits a letter of assurance to the IEEE stating that it will license it for FRAND conditions, then the patent holder has actually stated that it is willing to accept a reasonable royalty. However, the Standards Association has not expressly at this time adopted a policy that actually speaks to whether there are circumstances when an injunction would be available.

However, the Standards Association recently started a process to consider potential revisions to our patent policy. That process is currently underway right now, and certainly one of the topics that is being discussed for consideration here is this topic of injunctions. But at the present time, the Committee has not reached its conclusion, and I do not want to prejudge what the outcome might be at this particular time.

Senator COONS. One of the things that has made the whole practice of standard setting, in my view, so successful is that it is a repeat game, that you see lots of cross-licensing in the market historically. What are the SSOs thinking about the issue of hold-up by NPEs? Do you see this as an increasing threat? Is there something being done by SSOs to specifically guard against hold-up?

Mr. KULICK. With respect to hold-up, the SSOs—I mean, as a neutral body, we try to avoid taking a position whether any particular royalty rate or licensing term is reasonable. However, it still can be said that at least within our membership and our stakeholders, there is a perception of or a potential for potential patent hold-up, and I believe that that was the reason that—was a factor in many of the stakeholders back in 2005 when we went through our last revision of our patent policy, caused them to consider these types of conditions and terms.

So we do not have a position with respect to the individual, you know, royalty question because we are neutral body. It is always a potential for a problem.

Senator COONS. Well, if I might, Mr. Rosenberg, I would just be interested—I know you have a rejoinder to that, if you would, but also I would be interested in hearing something about what is the incentive structure for companies to invest in technologies that really are advancing standards-oriented technologies as opposed to sort of more substantive or performance-based? How does this uncertainty or how does this current marketplace setting give signals about innovation and the potential consequences for investing in purely standard-setting technology?

Mr. ROSENBERG. Well, I will address that one first and then go back, if I can recall.

The motivation for invention, lots of people can discuss that, but clearly our system has been built around incentives to invest the enormous amount of research and development funds that companies like Qualcomm invest. And it is not done with the expectation of excessive reward, but it is done with the expectation that there will be reasonable compensation.

As you know, Senator Coons, when you invest enormous amounts of dollars in R&D, you do not know where they are going to lead. And more often than not, they lead down a blind alley. So it is the successful ones that once you hit that mark, you want to be able to make sure that you have been compensated for the expense and the research and development costs and also some fair return; but you also, as we have done, want to be able to then use that as a virtuous cycle, put those funds back into the R&D process. And as I said earlier, we do that to the tune of over 20 percent of our revenues every year.

So that is the incentive, and that is the incentive system—at least that is one of the incentive systems that I am most concerned about when you look at patent problems and conclude that the problems are more serious than we think they are, or at least you get confused. There has been a discussion here already today about PAEs and trolls and SEPs. It is confusing. I live with this every day. I cannot imagine how you can follow this. But what I said earlier and I want to repeat is that we have to be very careful about not allowing problems in one area to allow you to assume that there are greater problems in another area.

And if I can just take a couple more seconds, on the SDOs, of course, Dr. Kulick is here, but there are other standards bodies all over the world. ETSI is one of the big ones. The whole 3G PP standards area, which is the one that we live in, which is the connectivity, the 3G, the 4G, the thing that allows your phone to be connected all over the world, they have looked at these issues as well.

Multiple standards bodies have said while the theory of hold-up is there, we have not seen it. We have not seen it actually occur. We have not seen it interfere with the acceptance of a standard or interfere with new technology. And ETSI has said that, ANSI has said it, and they have said it in testimony.

And, in fact, as you look at some of these lawsuits that Mr. Melamed has talked about, even the economists there, while they talk about the theory of hold-up, none of them can come up with any real-life examples of how hold-up has actually stopped a standard or injured technological advancement.

So we can talk about negotiations that go on and threats, as Mr. Melamed did, which, you know, I cannot respond to because I am not sure what precisely he is talking about. But negotiations happen all the time, and people have leverage and other sides use their leverage as well.

Senator COONS. Thank you, Mr. Rosenberg.

Would the Chair indulge Mr. Melamed for a response?

Mr. MELAMED. Thank you. I appreciate that, Senator Coons. I will try to be brief. I want to respond to two of the points in the recent colloquy.

First, as to the incentives to invest in standards, yes, there are enormous incentives. These standards are a part of the growing economy. But I can tell you, as a company that invests tens of billions of dollars in standards-compliant products, we look at the costs and the risks associated with intellectual property in deciding how much to invest and what to invest. Excessive royalties imposed by those SEP holders that renege on their FRAND commitments at the margin reduce and distort investment in these technologies.

Second, with respect to the question of the position of the standard-setting bodies, I think you have to look at it this way: First, a standard-setting body is an industry-wide organization. Ordinarily the antitrust laws would be very skeptical of agreements by bodies of that nature, but they are allowed to have industry-wide standards because there are lots of benefits from standards, to the extent that they act in the public interest. So what those standard-setting bodies do needs to be constrained by and interpreted in light of the public interest.

The standard-setting bodies agreed on these FRAND requirements many years ago. Now we learn about the abuses that were not fully anticipated—the threats of injunctions, the resulting negotiated excessive royalties and so forth.

If you go back to the standard-setting body now and say, “What is your position on injunctions? What are you going to do about this problem?” what you find is that these are consensus bodies, and the SEP holders who are taking advantage of the ambiguities or the apparent ambiguities are preventing a consensus cure.

It is as if you had a contract that was written 10 years ago, and then you are in court today litigating what it means, and someone said, “We ought to let the parties decide what does it mean.” They are litigating it because they do not agree on what it means. And the standard-setting bodies’ decision making is constrained by the parties who disagree and cannot be relied upon as to the final answer.

Chairman KLOBUCHAR. All right. Very good.

I am going to focus on you here, Ms. Munck, because I know we could go back and forth here between Mr. Melamed and Mr. Rosenberg, and I think it is important to make the point that this is more than just a price dispute, more than just a lawsuit between companies, that this is also about consumers.

Could you talk about how these disputes implicate antitrust laws, how they affect consumers, and particularly what are the potential harms to competition and consumers if a holder of FRAND-encumbered SEPs reneges on a FRAND commitment? What is the harm to consumers? Ms. Munck.

Ms. MUNCK. Thank you very much, Senator Klobuchar. I think that, you know, if you do take a step back, you are looking at a situation where you have several competitors who are coming together. And Mr. Melamed said, that is something that you would generally look at under the antitrust laws. But because these competitors are coming together in, you know, generally pro-competitive ways that lead to all the interoperability we have been talking about today, my iPhone on the T-Mobile network can call your

Samsung phone on the Verizon network, et cetera, et cetera. Those are very significantly pro-competitive.

But I think that you also need to take the potential for anti-competitive harm into account, and as we have been talking about today, that is the situation where you have numerous competitors seeking to be included in the standard. One of them is ultimately chosen. Then, when you are implementing that standard, you then need to use that particular technology. You no longer have the choice among technologies if you want to be standard essential.

So that is where you lead to the situation of lock-in and the situation where you have someone who is holding that SEP has the potential to charge higher costs, higher rates, as a result of having the competitors come together in the first place. So I think that is the category of antitrust harm that you are concerned about.

Chairman KLOBUCHAR. Exactly, and Senator Schumer came in and talked about patent trolls or, as you like to call them, “patent assertion entities.” Is that correct?

Ms. MUNCK. Yes.

Chairman KLOBUCHAR. All right. I clearly understand the difference between them, but I do want to understand the intersection, and I know that Chairwoman Ramirez has called on the Commission to undertake the 6(b) study to investigate the potentially harmful effects of competition of patent trolls. And I wrote a letter to the full Commission actually urging them to promptly approve such a study.

Are the concerns about patent trolls and competition any different or worse when the patents at issue are standard-essential patents?

Ms. MUNCK. That is a very good question that many people have been thinking about, and to sort of go back to Senator Coons’ question as well, I think that you see that some of the SSOs are looking at transfer obligations. What happens when one person, you know, develops the standard—or develops the technology, pardon me, patents it, makes the FRAND commitment, and then later transfers that intellectual property to a third party? And ETSI, for example, has recently tightened their rules regarding transfer. I think that is an important point because it shows that the SSOs themselves are trying to deal with these issues. And I think that robust transfer agreements, speaking personally, will carry over to the PAE issue, because if you have an implementer who has made a FRAND commitment and then transfers that intellectual property to a third party, be it a PAE, another implementer, et cetera, if that FRAND commitment transfers, then you are binding the PAE to that original commitment. And I think that that is very important.

Chairman KLOBUCHAR. One note on that 6(b) study. I think it is critically important. That is why I wrote the letter. And I do not want to wait two or three years for this study, so can you provide some kind of update on the status of the Commission’s review of the proposed study and give us any sense of how long it will take?

Ms. MUNCK. Certainly. I do not have any update from what the Chairwoman said last week, but I can sort of direct you to studies that we have done in the past. For example, we had a generic drug study that took place in 2000. It took about two years to complete from beginning to end. And that is because it went through the

OMB process and we needed to—there are a lot of technical issues that I will not go into, but that is a good example, I think.

Chairman KLOBUCHAR. Okay. Very good.

We also have the issue that has been raised here several times today about the recent ITC decision to grant its first exclusion order related to a FRAND-encumbered SEP in the Samsung-Apple case. A decision by the President whether to veto or let the exclusion order stand is due any day now.

Last year, the FTC weighed in with the ITC in a similar case and unanimously said that exclusion orders should not be granted on FRAND-encumbered standard-essential patents.

What was the FTC's basis? And why are exclusion orders based on SEPs unique?

Ms. MUNCK. Sure, and if it is okay, I would like to talk about our basis last June because the current Commission has not addressed this issue.

What we were talking about last June was the importance of a flexible public interest analysis, and we were talking about the existing authority that the ITC has under 337. As you know, if they find infringement and they are going to issue an exclusion order, they need to consider the impact on the public interest. And one of the factors that they must consider is the impact on U.S. consumers and competition.

And so what we were saying last June was that when they are conducting that analysis, it is important to consider whether the intellectual property at issue has been committed on FRAND terms.

Chairman KLOBUCHAR. Last year, in a case now on appeal before the Federal Circuit, Judge Posner in the Seventh Circuit, who was one of my professors in law school at the University of Chicago, someone that Senator Lee also knows, issued an opinion holding that injunctive relief is not available to holders of FRAND-encumbered patents. Many have claimed that Judge Posner's opinion goes beyond the Supreme Court precedent in *eBay* and the antitrust agencies' enforcement actions and guidance. What are your views of the opinion? And are there circumstances in which a SEP holder should rightfully have the ability to seek an injunction?

Ms. MUNCK. Sure. So speaking personally, I was part of the group that wrote the amicus brief to the Federal Circuit, and we supported Judge Posner's analysis that when you make a FRAND commitment, it will be difficult to show that monetary remedies are inadequate. And I think that is because of the broad commitment that you are making to license to multiple folks on multiple terms.

As I mentioned earlier, that is different from a situation where someone, you know, gets a patent and decides to use it for their own exclusive use. So I think you do need to compare those two situations.

Chairman KLOBUCHAR. Very good. I am turning it over to Senator Lee. Thank you.

Senator LEE. Thank you, and I would like to pick things up with Ms. Munck. There are those who say that this is more of a theoretical problem than a real one. Do you want to just sort of respond to that? Do you think this is just a theoretical problem? To the ex-

tent it is theoretical, does that still have ramifications that we ought to be concerned about?

Ms. MUNCK. Absolutely. So I do not believe it is only a theoretical problem, and my sort of basis for that would be the *Google* and *Bosch* decisions that the Commission dealt with earlier this year and late last year. I do think, however, there is a strong theoretical basis for the idea of hold-up, and, you know, one of my favorite cases is from the late 1800s. It is cited in a case called *Hynix v. Rambus*, and it talks about a situation where—I believe it was the city of Pittsburgh laid down patented streets, and then someone came along and said, “Well, I want an injunction because you are using my technology.” Now, this is not in the SEP context. And the court said, listen, you know, you can charge an exorbitant value for the use of this technology because you are not going to pull up those streets. You are already locked in. You are already using that technology.

And so I think that there is a strong theoretical basis and a strong basis in the literature for the idea that once an entire industry decides to practice a standard, that does create leverage for the patent holder, and that that is the leverage that is intended to be mitigated by the FRAND commitment.

Senator LEE. Are there ways of keeping that leverage in check? For each leverage point, is there a counterpoint?

Ms. MUNCK. Absolutely. I think that one situation that you can have is, you know, where you have a situation where there is a dispute over a FRAND term—because that is something that we are seeing recently, right? That has not really been an issue in the past, but it is coming up. You can go to a third party to decide if someone is willing, if the rate is within FRAND, et cetera. I think there are mechanisms for dealing with this issue.

Senator LEE. Okay. Thank you.

Mr. Rosenberg, if you had a standard-setting organization that decided to adopt rules specifically prohibiting the holders of a standard-essential patent from seeking injunctions with regard to those patents, either in federal district court or an exclusion order from the ITC, what impact might that have on Qualcomm? And what impact might that have specifically on Qualcomm’s inclination to participate in standard setting with that organization?

Mr. ROSENBERG. Well, I would answer it this way: Certainly that particular act, perhaps combined with other attempts to limit the ability of a standard-essential patent owner from actually being able to enforce its patent, would probably cause companies like Qualcomm—and not just Qualcomm—to think hard about whether it is best to, in fact, continue to contribute to standards bodies or whether one should act in a proprietary nature, such as companies that we all know and are quite popular who do not contribute to standards bodies.

Mr. Melamed talked about the fact that Intel has contributed a lot to standards bodies and has a lot of standards. Not in our area. There are a couple of handfuls of patents on the Intel side in the important—what I talked about as 3GPP, the telecommunications, important radio frequency, the thing that allows what Ms. Munck described as the handing off to different carriers throughout the world. That is what we do. And we have done that for the entire

existence of our company. And we want to continue to do that because we think there are a lot of benefits. People have talked about them, including the interoperability benefit.

But if the risk, if what you pay, the price you pay in contributing your technology to the standards body is not that you use leverage to—I disagree—or so-called market power, as Mr. Melamed has said, to extract higher royalties, but, in fact, what they want is for you to collect lower royalties, they want you not to be able to enforce your patents at all, it seems to me it stands on its head when you take the critical technology—and that is what this is—that is determined by this collaborative body to be key to a standard, and then say now that critical technology is less valuable than it was before or less valuable than patents that are held as proprietary patents, there is something wrong with that logic.

And so anything that, as I said, limits our ability to enforce, limits our ability to get returns on the investments that we have made, would have to be considered very carefully, if we were to continue in the standards.

Senator LEE. Okay. Mr. Melamed, did you want to respond to that?

Mr. MELAMED. Yes. The statement that Mr. Rosenberg made, which I think I can quote correctly, is, “They want you not to enforce your patents at all.” That is simply wrong. That is not our position. We are strong believers in the enforceability of patents. What we do not want is for people to be able to use devices to get more for their patents than they are truly worth.

Senator LEE. More than they could otherwise get precisely because of the fact that they have been folded into the standard, right? I mean, once it is in there, a little bit analogous to the road material that is already on the road.

Mr. MELAMED. Right.

Senator LEE. Okay.

Mr. MELAMED. Yes, Senator Lee.

Mr. ROSENBERG. May I?

Senator LEE. My time is up, but if you will be brief—

Mr. ROSENBERG. I will try. You can shut me off if I—

Senator LEE. Go ahead.

Mr. ROSENBERG. The interesting thing—and I want to go back to something Senator Klobuchar asked before about the *Apple v. Samsung* case, and it fits in with all this. And Mr. Melamed said before that he has been accused of infringing standard-essential patents that turned out not to be standard essential. This is a very important point. People declare patents as potentially standard essential. The complicated process that I have tried to describe a little bit of in the standards bodies means that at some point a technology is adopted, and you are required as part of your membership in that standard, if you have contributed technology or if you know of technology that is covered by a patent, to say, “I have potentially patents that read on this standard,” because nobody really knows.

And so until something like this gets litigated, that is how it is ultimately decided, because in the litigation process you look at the product and see how it is performing and you look at the patent claims and see whether there is infringement. And no one knows

until then whether it was actually essential to that. But you take your best guess.

So it is another point of confusion that, I think, gets discussed here—not just here but in this whole debate about standard-essential patents. There is not a clear-cut instance where everybody knows this is a standard-essential patent. We only know that it is potentially a standard-essential patent. And that is a big difference.

Senator LEE. And so it requires you to take your best guess, your best guess involving not only whether in the abstract the patent right at issue is going to be upheld, but also how much it is going to cost you to litigate it, how likely the other party is to sue.

Mr. ROSENBERG. Very much like other patents. That is just what the process is. We used to joke all the time. You get an issued patent, but you do not really know if it is a good patent until it has been litigated in a court and a court has decided that.

Senator LEE. Right. But under current law, that rather diminishes the efficacy, I suppose, of the treble damages provision in that you have got to show that it was a willful, knowing violation of the patent, and even then there is discretion in the judge.

Mr. ROSENBERG. That is a very good point. And, you know, obviously litigators will try to show that, well, since you assume it is a standard-essential patent, then you must have known what you were doing because you were practicing that patent—assuming they can prevail on the question of whether there has been infringement.

By the way, the patent that we are all talking about is an SEP in the *Apple-Samsung* ITC case. The Commission never concluded that it was a standard-essential patent. The lawyers did not get to the point where the Commission had to decide that. They said that specifically. They did not have to decide that it was a standard-essential patent.

So it is another example that I am trying to say that we have to be careful about allowing others, mostly people who have legitimate commercial interests but their own commercial interests, to try to conflate all these things into problems when, in fact, we have to carefully define what the so-called problems are or are not.

Senator LEE. Okay. Thank you very much.

Chairman KLOBUCHAR. Very good.

Just one last thing. Dr. Kulick, you have been sitting quietly here at the end, I am sure working on your standards and—

[Laughter.]

Chairman KLOBUCHAR. But did you want to add anything to what you have heard today in terms of the work that you will be doing?

Mr. KULICK. Yes, thank you, Senator, for the opportunity to comment. Clearly there has been a lot of interest and information shared here today. I did want to set a couple of points out, though, that I think actually read on what has been talked about today to some extent.

We mentioned during our testimony about the need for perhaps higher-quality patents, and I think there is an opportunity there to try to help make some progress there. Better scrutiny on the quality of patents that are issued may help eliminate many of these

causes of concern or confusion and perhaps inappropriate claims regarding those patents in various litigation cases.

So to the extent that SSOs can help facilitate that process by providing information available to patent offices and allowing them to do more thorough and perhaps more exhaustive searches as part of their application process, we certainly would stand ready and willing to cooperate in that respect.

There was a brief mention—I think just a couple of comments here in general—about the importance of transferability of commitment. That is extremely important. And, in fact, the current IEEE-SA patent policy actually has a clause in it that commitments, once they are made to the IEEE-SA, they are irrevocable. So if your patents happen to get transferred by another means to another owner, the same commitment still binds the new owner to the commitments that were made.

Chairman KLOBUCHAR. I know Chairwoman Ramirez has expressed interest in this, and I think referred to it as “privateering” in some of the work that, if you keep going, I thought that was important, too, yes.

Mr. KULICK. Yes, that is very important.

And then the last comment—well, two last comments, I guess. One was with respect to the current revision that we are doing with our patent policy, as I mentioned, we have an ad hoc committee that is considering the various issues, going to be making proposals. When that comes back, our process is open to all stakeholders. The Patent Committee will hold a series of open meetings where any interested stakeholder is able to attend, and all the views that will be considered by the committee will be those views that are brought forward by the stakeholders that attend. So, again, it is not necessarily a closed circle of people that are going to help develop any revisions to the policy.

Then, finally, we have to consider very carefully as part of that process what the implications could be for what the new policy will then say to potential participants. And as Senator Lee mentioned at the very beginning, I think, in his testimony, any actions that potentially limit participation in a standards development organization could be detrimental to consumers. So we always keep that in mind as we are developing our policy to make sure that we are not going to end up doing something that is going to end up being detrimental to humanity or to the consumers.

Thank you very much.

Chairman KLOBUCHAR. Thank you very much, Dr. Kulick. I appreciate you ending on that note, and that is one of the questions I was so focused on with Ms. Munck, and that is this idea that in the end our job up here is to make sure there is competition, but it is to make sure there is competition so it is good for the people of this country and good for consumers.

We have had a spirited debate. I do want to assure everyone up here that the record will remain open for two weeks, so you can respond to each other many times over that time. Maybe you could do like a round-robin by email. But we would welcome anything people want to submit as well as, I am sure, some of the Senators may have some additional questions on the record.

To me, there are clearly some legitimate antitrust concerns here. To me, the risk to consumers is clear. Ideally standards organizations, Dr. Kulick, and their members will voluntarily take steps to address these concerns by adopting best practices or updating their intellectual property rights policies.

From the testimony we have heard today, it is evident that some standard-setting organizations are taking these concerns seriously. But if the standard-setting organizations are unable to address these issues, then we need to ask ourselves: When do we reach this tipping point when the DOJ and the FTC and others should step in with their enforcement role in standard setting? And that is what we are focusing on Ms. Munck with. Or when might Congress need to legislate?

These are the questions that we are going to be considering. I can tell you that I am looking at potential legislation to address some of the competition issues in the patent world. We have heard a lot of discussion today about the appropriateness of injunctions and exclusion orders at the ITC. One reform I am considering would be to clarify the right standard for getting this kind of relief. I am also looking at possible legislation with respect to the FTC's role in the patent troll debate and the impact on competition and consumers. I think we also know that Senator Leahy is working on this, our Chairman, and as has been mentioned, Senator Schumer, Senator Cornyn, and a number of other people are interested in this issue, in addition to Senator Lee and myself.

And so I think this testimony has been very helpful. The debate has been helpful. But in the end, I know that our job is to look out for the consumers, and once we are reaching a tipping point where we think that Congress needs to be involved or we need to up the role of enforcement agencies and have that work complementary to the work of the standard-setting agencies or standard-setting entities doing their work, I think that time may have come.

So, with that, do you want to add anything, Senator Lee?

Senator LEE. Thank you, Madam Chair, for scheduling this, and thanks to all of you for coming and providing such insightful and in-depth testimony. I appreciate it.

Chairman KLOBUCHAR. Very good. With that, the record will be open for two weeks, and the hearing is adjourned. Thank you, everyone.

[Whereupon, at 11:50 a.m., the Subcommittee was adjourned.]

[Submissions for the record follow.]

APPENDIX

ADDITIONAL MATERIAL SUBMITTED FOR THE RECORD

WITNESS LIST

Witness List

Hearing before the
Senate Committee on the Judiciary
Subcommittee on Antitrust, Competition Policy and Consumer Rights

On

“Standard Essential Patent Disputes and Antitrust Law”

Tuesday, July 30, 2013
Dirksen Senate Office Building, Room 226
10:00 a.m.

A. Douglas Melamed
Senior Vice President and General Counsel
Intel Corp
Santa Clara, CA

Donald J. Rosenberg
Executive Vice President, General Counsel and Corporate Secretary
Qualcomm Incorporated
San Diego, CA

Suzanne Munck
Chief Counsel for Intellectual Property
Deputy Director, Office of Policy Planning
Federal Trade Commission
Washington, DC

John D. Kulick, Ph.D.
Chair, Standards Association Board
The Institute of Electrical and Electronics Engineers
New York, NY

PREPARED STATEMENTS OF HON. PATRICK LEAHY

**Statement Of Senator Patrick Leahy (D-Vt.),
Chairman, Senate Judiciary Committee,
Subcommittee Hearing, "Standard Essential Patent Disputes and Antitrust Law"
July 30, 2013**

When inventors and developers are willing to license their technologies to one another at reasonable rates, the exchange of ideas benefits us all. That principle is especially true in the standard-setting environment, in which innovators come together to agree on a set of standards so that their products can interoperate. The development of industry standards have brought us sophisticated mobile devices and shaped our modern communications networks. The cross-licensing of technology is increasingly important in today's interconnected world.

Unfortunately, in recent years we have seen an escalation in disputes concerning patents that patent holders have agreed to contribute for use in standardized technology, so-called "standard-essential patents." In some cases, companies that agreed to contribute their invention to a standard are using others' reliance on that standard as leverage to negotiate higher royalty rates or exclude competitors. Such "patent hold-up" harms consumers by limiting competition and driving up the price of new technologies. It also undermines the standard-setting process, which often relies on a mutual commitment that all participants contributing to the standard will license their contribution to other users on fair, reasonable, and non-discriminatory terms.

In recent years, this Committee has taken steps to increase its oversight on this consumer and competition issue. Last March, I wrote to the administration to express concern that exclusion orders issued by the U.S. International Trade Commission (ITC) may be misused to exclude rival technologies when the holder of a standard-essential patent subject to licensing commitments fails to reach agreement on licensing terms. Other Senators, on both sides of the aisle, also raised concerns about this issue. I convened a full Committee hearing in July last year to address this matter with the Federal Trade Commission (FTC) and Department of Justice (DOJ).

The ITC has a statutory mechanism to consult with the antitrust authorities in appropriate cases to ensure that exclusion orders are not being used in a manner that poses a threat to competition and innovation. I am pleased that, since our conversations, the FTC and Department of Justice have filed advisory comments with the ITC on this issue both generally and in specific cases. The ITC has the authority under its public interest test to limit the use of exclusion orders when they would negatively impact competition. I continue to urge the ITC to use this authority in appropriate circumstances to ensure that the ITC's enforcement mechanism is not being misused in a manner that stifles competition.

The federal antitrust authorities have also considered licensing practices related to standard-essential patents in recent antitrust investigations, including the potential anticompetitive effects when holders of standard-essential patents seek to enforce those patents through injunctive relief instead of negotiating licenses with other users. I welcome this oversight by the antitrust authorities and encourage their continued vigilance on this matter.

This issue forms part of a larger puzzle as we seek to promote a strong, effective, and efficient patent system that fosters innovation and promotes economic growth. Last Congress, this

Committee reported and saw enacted the greatest changes to our patent system in decades. The Leahy-Smith America Invents Act made much-needed improvements to bring our patent system into the 21st century, but there is still more to be done, especially to address the growing problem of patent trolls that are plaguing so many businesses. I am continuing to work on a bipartisan, bicameral basis to develop legislation that will target the abuse of patent trolling, while ensuring that high-quality patents are protected and can be enforced.

Oversight of the enforcement of standard-essential patents will also help to ensure that our patent system remains fair and effective, so that it can be used to promote innovation and appropriate collaboration. I am pleased that the Subcommittee is continuing this oversight and thank the witnesses for their testimony.

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PREPARED STATEMENT OF SUZANNE MUNCK, CHIEF COUNSEL FOR INTELLECTUAL
PROPERTY, AND DEPUTY DIRECTOR, OFFICE OF POLICY PLANNING, FEDERAL TRADE
COMMISSION, WASHINGTON, D.C.

Prepared Statement of
The Federal Trade Commission

Before the
United States Senate Committee on the Judiciary
Subcommittee on Antitrust, Competition Policy and Consumer Rights

Concerning
"Standard Essential Patent Disputes and Antitrust Law"

Washington, D.C.
July 30, 2013

Chairman Klobuchar, Ranking Member Lee and members of the Subcommittee, thank you for the opportunity to appear before you today. I am Suzanne Munck, Chief Counsel for Intellectual Property for the Federal Trade Commission (FTC) and Deputy Director of the Commission's Office of Policy Planning. I am pleased to testify on behalf of the FTC to discuss the impact of patent hold-up on competition and related issues involving standard-essential patents (SEPs).¹

The testimony focuses on SEPs that a patent holder has committed to license on reasonable and non-discriminatory (RAND) terms.² In this context, hold-up describes the potential that a SEP holder can use the leverage it may acquire as a result of the standard setting process to negotiate higher royalty rates or other favorable terms after the standard is adopted than it could have credibly demanded beforehand.³

To further discuss hold-up in this context, the statement: (1) outlines the dual roles that antitrust and intellectual property laws play in promoting innovation and enhancing consumer welfare; (2) addresses the competitive concerns associated with hold-up in the standard setting

¹ The written statement represents the views of the Federal Trade Commission. My oral presentation and responses to questions are my own and do not necessarily reflect the views of the Commission or any Commissioner.

² The written statement uses the term RAND, but the analysis applies equally to intellectual property that a patent holder has committed to license on fair, reasonable, and non-discriminatory (FRAND) terms.

³ See Prepared Statement of the Fed. Trade Comm'n Before the U.S. Comm. on the Judiciary Concerning "Oversight of the Impact of Competition of Exclusion Orders to Enforce Standard-Essential Patents," at 1 (July 11, 2012) ("2012 Commission Testimony"), available at <http://www.ftc.gov/speeches/ramirez/120711sep-stmtofftc.pdf>, and Third Party United States Fed. Trade Comm'n's Statement on the Public Interest filed on June 6, 2012 in *In re Certain Wireless Communication Devices, Portable Music & Data Processing Devices, Computers and Components Thereof*, Inv. No. 337-TA-745, available at www.ftc.gov/os/2012/06/1206ftcwirelesscom.pdf and in *In re Certain Gaming and Entertainment Consoles, Related Software, and Components Thereof*, Inv. No. 337-TA-752, available at <http://www.ftc.gov/os/2012/06/1206ftcgamingconsole.pdf>.

context; and (3) highlights steps that the Commission has taken to address the threat of patent hold-up and its potential to harm innovation, U.S. consumers, and the standard setting process.

I. Antitrust and Intellectual Property Laws Promote Innovation and Enhance Consumer Welfare

America's economic growth and competitiveness depends on its capacity to innovate. Innovation improves consumer welfare by bringing "greater income, higher quality jobs and improved health and quality of life to all U.S. citizens."⁴ Intellectual property and competition laws share the fundamental goals of promoting innovation and consumer welfare. Patents incentivize innovation by protecting the patent holder's ability to earn returns on its investments.⁵ Because the patent system requires public disclosure, it also promotes innovation by publishing scientific and technical information that might otherwise remain secret. At the same time, competition can stimulate innovation by creating incentives for firms to design new or better products and processes. Companies may compete to be the first on the market with a new technology, or they may invent improved or lower-cost ways to challenge existing technologies. Modern understanding of these two bodies of law recognizes that intellectual property and competition law can work together to bring new and better products, technologies, and services to consumers more efficiently and at lower prices.

The FTC has engaged with the Antitrust Division of the United States Department of Justice (Antitrust Division), the U.S. Patent and Trademark Office (USPTO), and others to explore how antitrust and intellectual property laws can best work together to promote

⁴ See, e.g., Presidential Strategy for American Innovation: Securing Our Economic Growth and Prosperity (Feb. 4, 2011), available at <http://www.whitehouse.gov/innovation/strategy>.

⁵ Fed. Trade Comm'n & U.S. Dep't of Justice, *Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition 2* (2007), available at <http://www.ftc.gov/reports/innovation/P040101PromotingInnovationandCompetitionrpt0704.pdf> ("2007 FTC/DOJ Report").

innovation and enhance consumer welfare. For example, in 2007 the FTC and the Antitrust Division jointly issued a report emphasizing the need to account properly for the pro-competitive benefits of patent rights in antitrust analysis and enforcement policy.⁶ In 2010, the FTC, Antitrust Division, and USPTO jointly sponsored a hearing addressing the role of competition policy and patent policy in promoting innovation, and in 2011 the FTC issued a report based, in part, on this hearing.⁷ Consistent with its policy role, the FTC continues to monitor how competition and intellectual property laws can promote innovation essential to a modern economy.

II. Standard Setting Organizations and the Potential for Hold-Up

The Commission recognizes the valuable and pro-competitive role that collaborative standard setting can play in promoting innovation.⁸ Firms in the information technology and telecommunications industries frequently face the problem that hundreds, thousands, and sometimes hundreds of thousands of different claimed inventions need to work together in a single device and in multiple devices operating within a network. They solve this “interoperability” problem through voluntary consensus-based standard setting organizations (SSOs). SSOs create technical standards to ensure that devices will work together in predictable ways. Such standards can create enormous value for consumers by increasing competition, innovation, product quality, and choice. Standards lower costs by increasing manufacturing

⁶ See 2007 FTC/DOJ Report.

⁷ Fed. Trade Comm’n, *The Evolving IP Marketplace: Aligning Patent Notice and Remedies with Competition* (“2011 Report”), available at <http://www.ftc.gov/os/2011/03/110307patentreport.pdf>. The 2011 Report recommends, among other things, mechanisms that district courts and the International Trade Commission (ITC) can use to mitigate hold-up when resolving disputes involving RAND-encumbered SEPs. *Id.*

⁸ See 2007 FTC/DOJ Report at 6 (“Industry standards are widely acknowledged to be one of the engines of the modern economy.”), and at 35-36, *see also* Guidelines on the Applicability of Article 101 of the Treaty on the Functioning of the European Union to Horizontal Co-operation Agreements. 2001 OJ C 11/1, Chapter 7 (2010), available at <http://ec.europa.eu/competition/antitrust/legislation/horizontal.html>.

volume, and they increase competition by eliminating switching costs for consumers who want to switch between products manufactured by different companies.⁹

Many standards, particularly in the high-tech sector, include a large number of patented technologies. For example, recent litigation between Microsoft and Motorola disclosed that complex industry standards such as the H.264 video coding standard or the 802.11 WiFi standard can require the use of hundreds or thousands of SEPs held by dozens of patent holders.¹⁰ Inclusion of patented technologies in a standard can benefit consumers because it allows SSOs and their members to choose from a broader set of available technologies. Industry participants also can obtain significant advantages when an SSO chooses to adopt their technology.¹¹ However, incorporating patented technologies into standards also has the potential to distort competition by enabling SEP holders to use the leverage that they may acquire as a result of the standard setting process to negotiate higher royalty rates or other favorable terms after the standard is adopted than they could have credibly demanded beforehand. This is one form of “patent hold-up.”¹²

The threat of patent hold-up arises from changes in the relative costs of technologies as a result of the standard setting process.¹³ Before a standard is adopted, multiple technologies, with

⁹ See 2007 FTC/DOJ Report at 33-34.

¹⁰ *Microsoft Corp.*, 2013 WL 211217 at *11; see also David J. Goodman & Robert A. Meyers, *3G Cellular Standards and Patents*, IEEE Wireless Com (2005) (finding that over 7500 patents and patent applications were declared essential to standards for 3G cellular technology), available at <http://eeweb.poly.edu/dgoodman/wirelesscom2005.pdf>.

¹¹ These benefits are separate from the royalty revenue that the participant can collect from licensing its patented technology. Such non-royalty benefits “can include increased demand for participants’ products, advantages flowing from familiarity with the contributed technology, potentially leading to shorter development lead times, and improved compatibility with proprietary products using the standard.” See *Microsoft Corp.*, 2013 WL 211217, at *5.

¹² See 2007 FTC/DOJ Report at 34-35.

¹³ See 2007 FTC/DOJ Report at 35-36; see also Joseph Farrell et al., *Standard Setting, Patents and Hold-Up*, 74 ANTITRUST L.J. 603, 607-08 (2007); *Broadcom Corp. v. Qualcomm Inc.*, 501 F.3d 297, 310-14

similar attributes, may compete for selection into the standard. Once a standard is adopted, an entire industry begins to make investments tied to the standard. At that time, it may not be feasible to deviate from the standard unless all or most other participants in the industry agree to do so in compatible ways. Because all of these participants may face substantial switching costs in abandoning initial designs and substituting a different technology, an entire industry may become locked into practicing a standardized technology. In this situation, a firm with a patent essential to the standard has the ability to demand royalty payments, and other favorable licensing terms, based not only on the market value of the patented invention before it was included in the standard, but also on the costs and delays of switching away from the standardized technology. In other words, as Judge Posner noted, “once a patent becomes essential to a standard, the patentee’s bargaining power surges because a prospective licensee has no alternative to licensing the patent; he is at the patentee’s mercy.”¹⁴

Hold-up and the threat of hold-up can deter innovation by increasing costs and uncertainty for other industry participants, including other patent holders.¹⁵ It may also discourage adoption of standards and reduce the value of standard setting, leading firms to rely less on the standard setting process and depriving consumers of the substantial pro-competitive benefits of standardized technology. Hold-up can also harm consumers when excess costs are passed on to them. Similarly, as Judge Robart recently noted, “Hold-up by one SEP holder also harms other firms that hold SEPs relating to the same standard because it jeopardizes further

(3d Cir. 2007); *Microsoft Corp.*, 2013 WL 2111217, at *10 (“The threat of hold-up increases as the standard becomes more widely implemented and firms make sunk cost investments that cannot be recovered if they are forced to forego implementation of the standard or the standard is changed.”).

¹⁴ *Apple, Inc. v. Motorola, Inc.*, 869 F. Supp. 2d 901, 913 (N.D. Ill. 2012).

¹⁵ See 2011 Report at 234, 2007 FTC/DOJ Report at 36.

adoption of the standard and limits the ability of those other holders to obtain appropriate royalties on their technology.”¹⁶

Several market-based factors may mitigate the risk of hold-up.¹⁷ For example, patent holders that are frequent participants in standard-setting activities may incur reputational and business costs that could be sufficiently large to deter fraudulent behavior. Patent holders may also enjoy a first-mover advantage if its technology is adopted as the standard. As a result, patent holders who manufacture products using the standardized technology “may find it more profitable to offer attractive licensing terms in order to promote the adoption of the product using the standard, increasing demand for its product rather than extracting high royalties.”¹⁸ Finally, patent holders that have broad cross-licensing agreements with the SEP-owner may be protected from hold-up.¹⁹

¹⁶ *Microsoft Corp.*, 2013 WL 2111217, at *10-11. Although the potential for hold-up by an SEP-holder has been the primary focus of concern, the conduct of licensees may also raise issues, such as the elimination of competition among potential licensees for the patented technology. *See, e.g.*, *Allied Tube & Conduit Corp. v. Indian Head, Inc.*, 486 U.S. 492, 500 (1988) (noting that standard-setting organizations by their nature involve discussions among competitors about potential competitive issues); *Sony Electronics v. Soundview Technologies*, 157 F. Supp. 2d 180 (D. Conn. 2001) (denying motion to dismiss where plaintiff alleged conspiracy to fix price of patent license); *Golden Bridge Technology v. Nokia Inc.*, 416 F. Supp. 2d 525 (E.D. Tex. 2006) (alleged per se violation of Sherman Act arising from a boycott ousting a patented technology from an industry standard); 2007 FTC/DOJ Report at 52-53. In addition, so-called “reverse hold-up” can occur where a firm using the SEP delays good faith negotiation of a RAND license. *See, e.g.*, Reply Submission of the Office of Unfair Import Investigations on Remedy and the Public Interest, In re Certain Wireless Communications Devices, Portable Music and Data Processing Devices, Computers and Components Thereof, Inv. No. 337-TA-745, at 12 n.3 (Int’l Trade Comm’n July 18, 2012) (citation omitted) (addressing “the possibility of a reverse hold-up, whereby the patent-holder is forced to license the patents at less than fair market value”).

¹⁷ 2007 FTC/DOJ Report at 40-41.

¹⁸ *Id.* at 41 (“As one panelist put it, ‘if you in fact have your technology accepted as a standard you have a tremendous competitive advantage . . . because you are the first mover, you are the most competent.’”) (citation omitted).

¹⁹ *Id.* This protection, however, is not available to firms who have little IP to offer in cross-licensing deals. *Id.*

Nevertheless, SSOs themselves commonly seek to mitigate the threat of patent hold-up by seeking commitments from participants to license SEPs on RAND terms, often as a *quid pro quo* for the inclusion of the patent(s) in the standard.²⁰ A RAND commitment can make it easier to adopt a standard, but the potential for hold-up remains if the RAND commitment is later disregarded, because the royalty rate often is negotiated after the standard is adopted.²¹

Commenters have noted that a RAND commitment does not provide clear guidance on the parameters of a reasonable and nondiscriminatory license.²² In the event that a RAND-encumbered SEP holder and an implementer are unable to negotiate royalty rate and other licensing terms, the SEP holder sometimes seeks an injunction from a district court, or an

²⁰ 2007 Report at 46-47; *see also Microsoft Corp.*, 2013 WL 2111217, at *6 (“In order to reduce the likelihood that owners of [standard] essential patents will abuse their market power, many standard setting organizations, including the IEEE and ITU, have adopted rules relating to the disclosure and licensing of essential patents. The policies often require or encourage members of the standards setting organizations to identify patents that are essential to a proposed standard and to agree to license their essential patents on reasonable and non-discriminatory (“RAND”) terms to anyone who requests a license. Such rules help to ensure that standards do not allow essential patent owners to extort their competitors or prevent competitors from entering the marketplace.”), *see also* *Broadcom Corp. v. Qualcomm Inc.*, 501 F.3d 297, 313-14 (3d Cir. 2007) (citing Daniel G. Swanson & William J. Baumol, *Reasonable and Nondiscriminatory (RAND) Royalties, Standards Selection, and Control of Market Power*, 73 ANTITRUST L.J. 1, 5, 10-11 (2005)) (commenting that lock-in creates the potential for anticompetitive effects and that “[i]t is in such circumstances that measures such as [R]AND commitments become important safeguards against monopoly power.”).

²¹ Some SSOs have clarified their IP rights policies to bind successors-in-interest to RAND commitments made by prior owners of RAND-encumbered SEPs. *See, e.g.*, ETSI Rules of Procedure 6.1bis, “Transfer of ownership of ESSENTIAL IPR,” *available at* http://portal.etsi.org/directives/31_directives_apr_2013.pdf;

²² *See* 2007 FTC/DOJ Report at 47 (citing some panelists attribution of the “potential inadequacy of a RAND commitment to the difficulty of defining the terms ‘reasonable’ and ‘nondiscriminatory.’ Few SSOs give ‘much explanation of what those terms mean or how licensing disputes [are to] be resolved,’ and courts may be reluctant to determine what is a ‘reasonable’ price. The meaning of ‘nondiscriminatory’ may be similarly unclear.” (citations omitted). In addition, Commissioners Ohlhausen and Wright believe it is well-documented that RAND commitments often are ambiguous or undefined. Unclear commitments of this kind generally should not be interpreted or implied to prohibit the pursuit of injunctive relief by a SEP holder, including any conduct reasonably ancillary to pursuing such relief, unless the prohibition is expressly provided for in a RAND commitment or clearly acknowledged by a SEP holder. Certain circumstances calling for a prohibition on a SEP holder’s conduct may exist where the SEP holder’s conduct otherwise violates the antitrust or competition laws and falls within an established exception to Constitutional, patent law or other legal protection.

exclusion order from the ITC for infringement of the RAND-encumbered SEP.²³ An injunction or exclusion order could put a substantial portion of the implementers' business at risk. As a result, the threat of an injunction or exclusion order, combined with high switching costs, could allow a patent holder to obtain unreasonable licensing terms that reflect the hold-up value of its patent despite its RAND commitment.²⁴ As mentioned above, this can raise prices to consumers, distort incentives to innovate, and undermine the standard setting process. Of course, the hold-up value that the threat of an injunction or exclusion order can create depends on a number of factors,²⁵ including the likelihood that litigation will be successful and an injunction will issue, relative litigation costs for the parties, as well as the cost of an injunction to the implementer.²⁶

III. The FTC's Recent Advocacy to Mitigate the Potential for Patent Hold-Up

The FTC has advocated for remedies in district courts and at the ITC to mitigate the potential for patent hold-up. Consistent with the proper role of the patent system, remedies that reduce the chance of patent hold-up can encourage innovation by protecting firms investing in

²³ *Apple, Inc. v. Motorola Mobility, Inc.*, 2012 WL 5416941, at *15 (W.D. Wis. Oct. 29, 2012) (agreeing, "that from a policy and economic standpoint, it makes sense that in most situations owners of declared-essential patents that have made licensing commitments to standards-setting organizations should be precluded from obtaining an injunction or exclusionary order that would bar a company from practicing the patents," however, the ETSI and IEEE policies at issue did not preclude a RAND-encumbered SEP holder from "pursuing an injunction or other relief as a remedy for infringement.")

²⁴ *See Apple, Inc.*, 869 F. Supp. 2d at 914 (endorsing the FTC's explanation of the potential economic and competitive impact of injunctive relief on disputes involving SEPs).

²⁵ *See generally* Mark Lemley & Carl Shapiro, *Patent Hold-Up and Royalty Stacking*, 85 *Tex. L. Rev.* 1991 (2007).

²⁶ Commissioners Wright and Ohlhausen believe it is important to recognize that a predictable threat of injunction can create a significant deterrent to infringement and can promote licensing that allows the SEP holder to obtain the full market value for the patent without costly litigation. *See e.g.*, 2011 Report at 143-44, 224-25. Removing the threat of injunction therefore potentially can undermine the incentives to innovate and to commercialize innovation provided by the patent system, impair investments in R&D, and result in fewer new products and services for consumers. Moreover, private licensing agreements are generally preferable to court fashioned rates because the parties will have better information about the appropriate terms of a license than would a court, and more flexibility in fashioning efficient agreements. *See id.* at 225.

standards-compliant products and complementary technologies. Reducing the risk of hold-up also better aligns the reward from innovation with its true value to consumers.

Last December, the Commission submitted an amicus brief to the Federal Circuit supporting a district court’s denial of injunctive relief to a RAND-encumbered SEP holder.²⁷ The Commission took the position that, “[*eBay v. MercExchange LLC*] provides a framework that courts can use to mitigate the risk of patent hold-up.”²⁸

In June 2012, the Commission expressed its view that the ITC could interpret its governing statute to limit the incidence of hold-up generated by an exclusion order based on the infringement of a SEP and the harm to consumers that may result from such orders.²⁹ Section 337’s “public interest standard” directs the ITC to consider, among other things, “competitive conditions in the United States economy” and “United States consumers” in deciding whether to grant an exclusion order.³⁰ Noting that the ITC has a range of options available that allow it to

²⁷ Brief for Fed. Trade Comm’n as Amicus Curiae Supporting Neither Party, *Apple Inc. and NeXT Software, Inc. v. Motorola, Inc. and Motorola Mobility, Inc.*, Nos. 2012-1548, 2012-1549 at 7 (Fed. Cir. Dec. 4, 2012) (herein FTC Amicus Brief), available at <http://www.ftc.gov/os/2012/12/121205apple-motorolaamicusbrief.pdf>. Commissioner Ohlhausen did not vote in favor of submitting the brief. Commissioner Wright was not a member of the Commission when the brief was filed.

²⁸ FTC Amicus Brief at 7. Until 2006, permanent injunctive relief was virtually automatic following a district court’s finding of infringement. Courts followed a general rule, established by the Federal Circuit, in favor of granting injunctions based on a presumption of irreparable harm. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1246-47 (Fed. Cir. 1989) (citations omitted). In a 2006 decision, *eBay v. MercExchange, L.L.C.*, a unanimous Supreme Court rejected the presumption of irreparable harm and other categorical approaches in favor of a case-by-case application of “traditional equitable principles,” including requiring proof of the patent holder’s irreparable harm and the inadequacy of money damages. *eBay v. MercExchange, L.L.C.*, 547 U.S. 388 (2006).

²⁹ Third Party United States Fed. Trade Comm’n’s Statement on the Public Interest filed on June 6, 2012 in *In re Certain Wireless Communication Devices, Portable Music & Data Processing Devices, Computers and Components Thereof*, Inv. No. 337-TA-745, available at www.ftc.gov/os/2012/06/1206ftcwirelesscom.pdf and in *In re Certain Gaming and Entertainment Consoles, Related Software, and Components Thereof*, Inv. No. 337-TA-752, available at <http://www.ftc.gov/os/2012/06/1206ftcgamingconsole.pdf>. Commissioner Wright was not a member of the Commission when the statement was filed.

³⁰ 19 U.S.C. § 1337(d)(1). The defendant in a 337 action may make affirmative defenses relying in part on the representations of the SEP holder to an SSO regarding its RAND commitment. *See, e.g.*, Commission

consider competitive conditions and to refrain from imposing Section 337 remedies in conflict with the public interest, the Commission stated that, for example, the ITC could find that Section 337's public interest factors support denial of an exclusion order unless the holder of the RAND-encumbered SEP has made a reasonable royalty offer. The Commission has also stated that if the ITC "finds that its public interest authority is not flexible enough to prevent hold-up, then Congress should consider whether legislation is necessary."³¹

IV. Recent FTC Enforcement Actions Address the Threat of Patent Hold-Up

The FTC has pursued enforcement actions related to standard setting activity.³² Recently, the Commission has focused on patent holders who seek injunctive relief or exclusion orders for alleged infringement of their RAND-encumbered SEPs.

In *In the Matter of Motorola Mobility, LLC*, the Commission alleged that "Motorola breached its [RAND obligations by seeking to enjoin and exclude implementers of its SEPs, including some of its competitors, from marketing products compliant with some or all of the [relevant standards], and "Google continued Motorola's exclusionary campaign after acquiring Motorola."³³ The Commission further alleged that this conduct constituted an unfair method of competition in violation of Section 5 of the F.T.C. Act.³⁴ As a remedy, the Commission issued a

Opinion, *In re Certain Wireless Communications Devices, Portable Music and Data Processing Devices, and Tablet Computers*, Inv. No. 337-TA-794 (Int'l Trade Comm'n July 5, 2013), at 41.

³¹ 2012 Commission Testimony at 2.

³² See *Dell Computer Corp.*, 128 F.T.C. 151 (1999), available at <http://www.ftc.gov/os/1999/08/9823563c3888dell.htm>, *Union Oil Co. of Cal.*, 140 F.T.C. 123 (2005), available at <http://www.ftc.gov/os/adjpro/d9305/index.shtml>, *Rambus Inc.*, 2007 F.T.C. LEXIS 13 (2007), available at <http://www.ftc.gov/os/adjpro/d9302/070205finalorder.pdf>, and *Rambus Inc. v. F.T.C.*, 522 F.3d 456 (D.C.Cir. 2008), and *Negotiated Data Solutions LLC*, 2008 F.T.C. LEXIS 120 (2008), available at <http://www.ftc.gov/os/caselist/0510094/080923ndsdo.pdf>.

³³ Complaint, *In the Matter of Motorola Mobility LLC and Google Inc.*, F.T.C. File No. 121-0120 (July 22, 2013) at 5, available at <http://ftc.gov/os/caselist/1210120/130724googlemotorolacmpt.pdf>. Commissioner Ohlhausen dissented, and Commissioner Wright was recused.

³⁴ *Id.* at 6.

Final Order³⁵ that, among other things: (1) prohibits Google from “revoking or rescinding any [R]AND commitment,” except in very limited circumstances including that all RAND patents covered by the RAND commitment are expired or unenforceable; (2) outlines specific negotiation and dispute resolution procedures intended to protect the interests of potential willing licensees; and (3) allows Google to seek injunctive relief or exclusion orders only in narrowly-defined circumstances.³⁶

Similarly, in *In the Matter of Robert Bosch GmbH* the Commission alleged that, before its acquisition by Bosch, SPX reneged on voluntary commitments to two SSOs to license its SEPs on RAND terms, by continuing injunction actions against competitors using those patents.³⁷ As in *Motorola Mobility*, the Commission found reason to believe that SPX’s suit for injunctive relief against implementers of the standard constituted a failure to abide by the terms of its RAND commitments, and was an unfair method of competition under Section 5 of the F.T.C. Act.

³⁵ Decision and Order, *In the Matter of Motorola Mobility LLC and Google Inc.*, F.T.C. File No. 121-0120 (July 22, 2013), available at <http://ftc.gov/os/caselist/1210120/130724googlemotorolado.pdf>. Commissioner Ohlhausen also voted against accepting the proposed consent agreement. Dissenting Statement of Commissioner Maureen K. Ohlhausen, *In the Matter of Motorola Mobility LLC and Google Inc.*, F.T.C. File No. 121-0120 (January 3, 2013), available at <http://www.ftc.gov/os/caselist/1210120/130103googlemotorolaohlhausenstmt.pdf>.

³⁶ These circumstances are: “(1) when the potential licensee is not subject to United States jurisdiction; (2) the potential licensee has stated in writing or in sworn testimony that it will not accept a license for Google’s [R]AND-encumbered SEPs on any terms; (3) the potential licensee refuses to enter a license agreement for Google’s [R]AND-encumbered SEPs on terms set for the parties by a court or through binding arbitration; or (4) the potential licensee fails to assure Google that it is willing to accept a license on [R]AND terms.” Analysis of Proposed Consent Order to Aid Public Comment, *In the Matter of Motorola Mobility LLC and Google Inc.*, F.T.C. File No. 121-0120 7 (January 3, 2013), available at <http://www.ftc.gov/os/caselist/1210120/130103googlemotorolaanalysis.pdf>.

³⁷ Commissioner Ohlhausen voted against accepting the proposed consent agreement. Dissenting Statement of Commissioner Maureen K. Ohlhausen, *In the Matter of Robert Bosch GmbH*, F.T.C. File No. 121-0081 (Nov. 26, 2012), available at <http://www.ftc.gov/os/caselist/1210081/121126boschohlhausenstatement.pdf>. Commissioner Wright was not a member of the Commission when the matter was decided.

In conclusion, the Commission believes that competition and intellectual property laws work together to promote innovation. Voluntary consensus based standard setting facilitates this purpose; however, including patented technology in a standard creates the potential for patent hold-up. The Commission will continue to advocate before the federal courts and the ITC for policies that mitigate the potential for patent hold-up, and will bring enforcement actions where appropriate.

Thank you for this opportunity to share the Commission's views. We look forward to working with you on this important issue.

PREPARED STATEMENT OF A. DOUGLAS MELAMED, SENIOR VICE PRESIDENT AND
GENERAL COUNSEL, INTEL CORPORATION, SANTA CLARA, CALIFORNIA



**PREPARED STATEMENT FOR THE RECORD OF
INTEL CORPORATION**

For the

**SENATE COMMITTEE ON THE JUDICIARY
SUBCOMMITTEE ON ANTITRUST, COMPETITION POLICY
AND CONSUMER RIGHTS**

On

STANDARD ESSENTIAL PATENT DISPUTES AND ANTITRUST LAW

**A. Douglas Melamed
Senior Vice President and General Counsel
Intel Corporation**

July 30, 2013

Prepared Statement of Douglas Melamed

Chairman Klobuchar, Ranking Member Lee, and distinguished members of the Subcommittee, thank you for the opportunity to testify on behalf of Intel Corporation. I am particularly grateful for the Subcommittee's interest in the role that antitrust law should play in the abuse of standard-essential patents ("SEPs"). The Subcommittee's interest in this topic reflects its strong commitment to maintaining competitive markets and ensuring that public policy meets public need in the context of our innovation industries.

The issue before this Subcommittee is of enormous importance to the technology industry, a business sector in which the United States is an undisputed world leader. This industry's ability to continue to innovate, create high-paying U.S. jobs, and give consumers better products at lower prices is now impeded—even threatened—by patent owners who commit to license their patents used in industry standards on fair, reasonable, and nondiscriminatory ("FRAND") terms but then renege on those commitments once their patented technology is incorporated into the standard.¹ In addressing the important antitrust issues presented by these patent abuses, I bring to bear not only the perspective of a general counsel of a leading technology company but also that of an antitrust lawyer who practiced in the private sector for nearly four decades and who was privileged to serve as the Acting Assistant Attorney General in charge of the Justice Department's Antitrust Division and, before that, as the Principle Deputy Assistant Attorney General in the Antitrust Division.

Abuses of FRAND commitments pose a significant risk to competition, innovation, and consumer welfare. Cooperative standard-setting has played a vital role in promoting innovation in the high-technology industry. Companies that make standard-compliant products, however,

¹ The term "FRAND" is identical in meaning to "RAND," which is used by some standards organizations.

must be able rely on patent holders' commitments to license their SEPs (i.e., patents that must be practiced in order to comply with an industry standard) on FRAND terms. The continued success of the standard-setting system is threatened by some companies that have decided to flout their FRAND commitments in order to exploit the need of standard implementers to practice their SEPs.

When the participants in a standard-setting organization choose among different technologies that are available, and that compete, for inclusion within standards, they rely on the voluntary commitments of the patent owners to license their SEPs on FRAND terms. Standard-setting organizations developed the FRAND commitment to maintain the benefits of the competition among different patent holders for inclusion of their technologies in a standard even after the standard is adopted and the patented technologies that are chosen no longer face competition. When SEP holders renege on their FRAND commitments, they acquire through exclusionary conduct the monopoly power that they voluntarily relinquished when they made their FRAND commitments. Such acquisition of monopoly power injures consumers through higher prices, reduces incentives to invest in the development, manufacture and technological improvement of standard-compliant products and, as a result, harms the innovation that has given U.S. industry an undisputed leadership role in the technology field.

This submission discusses six different types of abuses by owners of FRAND-encumbered SEPs that harm competition and consumers: (1) selective, strategic refusals to license; (2) charging unreasonable royalties; (3) imposing royalties for SEPs that are used only by components, such as Wi-Fi chips, on complete systems, such as PCs, that incorporate such components; (4) seeking or threatening injunctions against willing licensees; (5) requiring

licensees to take licenses to patents that are not SEPs; and (6) transferring SEPs to entities that renounce the FRAND commitment made by the transferring SEP holder.

I. Intel and Innovation

Innovation has been a hallmark of Intel, which is the world's largest semiconductor company, ever since its founding 45 years ago. A quote from Robert Noyce, Intel's co-founder and the co-inventor of the integrated circuit, marks the entrance to Intel's global headquarters today: "Innovation is everything." That belief has defined the company's attitude for decades and has driven Intel to become a global technology leader. Intel's track record of product innovations includes, among others, the world's first commercial dynamic random access memory (DRAM) chips, first microprocessor (sometimes called a CPU), first electrically programmable read-only memory (EPROM) chips, the creation of the universal serial bus (USB), and many other products vital to the digital economy.

Although it is a global leader, with more than three-fourths of its revenues coming from outside the United States, Intel is a committed American manufacturer and makes roughly three-fourths of its microprocessors in its cutting-edge manufacturing facilities in Oregon, Arizona, New Mexico, and Massachusetts.² Intel invests billions of dollars every year in R&D to maintain its technical and manufacturing leadership; last year Intel spent more than \$10 billion in R&D, more than any other publicly traded U.S. company.³ A significant number of Intel's more than 50,000 employees in the United States are directly involved in designing new

² Patrick Thibodeau, *Intel's \$7 billion "Made in the USA" Investment*, ComputerWorld (Feb. 10, 2009), available at http://www.computerworld.com/s/article/9127745/Intel_s_7_billion_Made_in_the_USA_investment.

³ Scott Thurm, *Behind the Big Profits: A Research Tax Break*, Wall Street Journal (June 13, 2013), available at <http://online.wsj.com/article/SB10001424127887324049504578543324262064306.html>.

semiconductor products, creating software, and advancing Intel's leading-edge manufacturing processes. Intel's innovation focus also prompted it to sponsor the Intel Science Talent Search, a national competition in which 1,700 seniors in American high schools compete for more than \$1.25 million in awards and scholarships based on innovation in science, technology, engineering, and math.⁴ That same focus has driven Intel to become the fifth largest capital investor in the United States.⁵

As a result of Intel's long-standing dedication to innovation, Intel holds nearly 40,000 global patents today. Intel has been a top ten recipient of U.S. patents for eight of the past ten years. When TIME named Andrew Grove, Intel's CEO at the time, as the 1997 Man of the Year, it cited Intel's "microchips [as] hav[ing] changed the world."⁶ Intel's focus on using technology to change the world remains strong.⁷ Importantly, for Intel, it is not so much about the products we make as it is about what our products make possible in the world. Intel's declared mission statement is to create and extend computing technology to connect and enrich the lives of every person on earth in this decade.⁸

⁴ *Inspiring Innovators of Tomorrow: Intel Science Talent Search 2013*, <http://www.intel.com/content/www/us/en/education/competitions/science-talent-search.html>.

⁵ Diana Carew and Michael Mandel, *Investment Heroes: Who's Betting on America's Future*, (July 11, 2012), available at <http://www.progressivepolicy.org/2012/07/investment-heroes-who%E2%80%99s-betting-on-america%E2%80%99s-future/>.

⁶ Andrew Grove: Man of the Year, *Time* (Dec. 29, 1997), available at <http://www.time.com/time/magazine/article/0,9171,987587,00.html>.

⁷ Kyle Vanheme, *Intel Reader Offers High Tech Help for Dyslexics and Visually Impaired*, (Jan. 20, 2010), <http://gizmodo.com/5453173/intel-reader-offers-high-tech-help-for-dyslexics-and-visually-impaired>.

⁸ See <http://www.intel.com/content/www/us/en/company-overview/company-facts.html>.

II. Intel's Interest in Industry Standards

Industry standards play a vital role in the technology industry, and virtually every electronic product in use today incorporates multiple industry standards. The standard-setting process permits companies to work together under the auspices of industry-wide standard-setting organizations to develop common standards that can be implemented by all industry members at a reasonable cost to ensure interoperability among products. For example, standards enable individuals using notebook computers from different manufacturers to connect to the Internet through Wi-Fi virtually wherever they go, as is evident to anyone who walks into a coffee shop these days. They also enable users to connect a host of devices, from printers to cameras to music players, to their computers with ease through standardized USB connections.

By making it possible for consumers to choose from a vast array of products that interoperate seamlessly, standards eliminate the costs of switching between different manufacturers' products, promote competition among manufacturers, and foster further innovation. Standards also accelerate the adoption of new technologies by reducing the risk for both technology companies and their customers that new technologies in which they invest may become obsolete. The opposite is true when a common standard does not exist. The adoption of a high definition replacement for the DVD, for example, was stalled for years because consumers were reluctant to buy, and companies were reluctant to invest in, products and technologies for which a uniform standard did not exist and whose future was therefore uncertain. When the industry finally settled on the Blu-ray format, manufacturing increased, consumer sales skyrocketed, and prices dropped. With a common standard and interoperability assured, companies could innovate beyond the standard, providing new features and services to distinguish their products from those of others.

As a leading innovator, Intel plays a prominent role in the development of technical standards. Intel participates in hundreds of standard-setting organizations across a range of technologies, including communications, security, graphics/video, and many others. The Wi-Fi standard, which is used for wireless networking, is one of many standards to which Intel has made significant contributions. Intel has spent nearly \$2 billion in R&D in connection with the Wi-Fi standard. Before Wi-Fi gained commercial acceptance, Intel spent hundreds of millions of dollars subsidizing and promoting the creation of wireless hotspots at airports, hotels, restaurants, and coffee shops around the world to drive the adoption of the Wi-Fi standard.⁹ It was not until Intel introduced its Centrino mobile technology that Wi-Fi became standard in laptops and developed into the success it has become today. Intel's Centrino technology has been called "one of the great technology inflection points" that "drove us from a largely wired computer world to a [wireless] one."¹⁰ Today, of course, the Wi-Fi technology has spread to tablets, cellular phones, printers, cameras, medical devices, home appliances, and many other electronic devices.

Because of Intel's leadership role in the development of technologies that are used in industry standards, Intel owns numerous SEPs. Like many others in the industry, Intel has made commitments to standard-setting organizations to license Intel's SEPs under FRAND terms. As both the owner of numerous SEPs and a manufacturer of standard-compliant products, Intel favors a balanced approach to SEPs that respects intellectual property rights while preventing

⁹ Tom Foremski, *Intel's Centrino And How It Sparked the WiFi HotSpot Revolution*, (Apr. 5, 2011), http://www.siliconvalleywatcher.com/mt/archives/2011/04/intels_centрино.php ("WiFi was struggling in the market because it was relatively hard to set up, unreliable and little understood. It took Intel and a massive push behind Centrino to address these shortcomings and make it into the standard it has become today. . . . Every great technology advancement had an event tied to it that caused it to spread widely. For color it was Walt Disney's 'Wonderful World of Color.' For WiFi it was Intel's Centrino.").

¹⁰ *Id.*

SEP holders from improperly using standards to harm end users and manufacturers that implement the standards.

III. SEPs and the Hold-Up Problem

Although the standard-setting system as a whole greatly benefits competition and innovation, it has one vulnerability that can be exploited to the great detriment of consumers, manufacturers, competition, and innovation. Before the adoption of a standard, alternative technological solutions generally exist for solving the technical problems for which the standard-setting process seeks a uniform market-wide solution.¹¹ Consequently, those who hold patents that they believe cover these alternative solutions compete for the inclusion of their preferred technical solutions into each standard. Once a technology is selected for inclusion, the widespread adoption of a standard has the potential to confer enormous market power upon SEP holders. That power does not derive from the intrinsic merits of the patented technology that is included within a standard, which is sometimes no better than the alternatives. Instead, the market power reflects the fact that, after the standard is adopted, the patented technology that is incorporated in the standard must be used by every company that wants its product to comply with and be compatible with the standard. At that point and thereafter, the SEP faces no competition from the alternative technologies with respect to that standard.

The incorporation of a patent into a standard that achieves commercial acceptance thus has an enormous potential to inflate the patent's value. Because a SEP must be practiced by any company that wants to make standard-compliant products, a SEP holder, unless otherwise constrained, can thereafter demand supracompetitive royalties that reflect, not the technological

¹¹ As the IEEE recently explained, "before a standard's adoption, a participating patent-holder typically faces competition from other available technologies (both patented and non-patented)." Amicus Curiae Br. of the IEEE in Support of No Party, *Apple, Inc. v. Motorola, Inc.*, at 19, Nos. 2012-1548, 2012-1549 (Fed. Cir. Dec. 19, 2012).

merit of the patent, but rather the standard's elimination of competing technologies. As a result, even a holder of a single, inconsequential SEP has the power to hold up every standard implementer and extract excessive royalties by threatening to enjoin the implementer's products. This is why the term "hold-up" is used by antitrust enforcers and academics alike to describe this problem.¹² This "hold-up" problem is greatly compounded by the fact that a single consumer product can incorporate hundreds of standards, and each individual standard can involve hundreds and even thousands of SEPs.¹³ For example, a typical notebook computer incorporates more than 250 different standards.¹⁴ An average smartphone incorporates an estimated 250,000 patents.¹⁵

Cognizant of the potential for such exploitation of unearned market power, standard-setting organizations require participants in standard-setting activities to license their SEPs on FRAND terms. And they require them to license their SEPs to all who wish to implement the standard. These organizations typically incorporate these requirements in rules that prohibit the inclusion of patented technologies in the standards unless the patent holder commits to license their SEPs on those terms.

Patent holders are not obligated to give FRAND commitments. FRAND commitments are entirely voluntary, and patent holders need give such commitments only if they wish to have

¹² See, e.g., U.S. Department of Justice and U.S. Patent & Trademark Office, *Policy Statement on Remedies for Standards-Essential Patents Subject to Voluntary F/RAND Commitments* 4 (Jan. 8, 2013), available at <http://www.justice.gov/atr/public/guidelines/290994.pdf> (DOJ-PTO Statement"); Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 *Tex. L. Rev.* 1991 (2005) (Lemley and Shapiro").

¹³ Lemley and Shapiro at 1992.

¹⁴ Brad Biddle et al., *How Many Standards in a Laptop? (And Other Empirical Questions)* (2010), available at http://www.standardslaw.org/How_Many_Standards.pdf.

¹⁵ See, e.g., *RPX Corporation*, Amendment No. 3 to Form S-1, Apr. 11, 2011, at 59, available at <http://www.sec.gov/Archives/edgar/data/1509432/000119312511101007/ds1a.htm>.

their patented technologies included in the standard. In deciding whether to make a FRAND commitment, each company must determine for itself whether the benefit of having its technologies included in a specific standard is worth the tradeoff of restricting its ability to prevent others from using those technologies to implement the standard.

Most companies choose to make FRAND commitments because of the substantial benefit they get from having their patented technologies incorporated into the standard and thus converting their patents from ordinary patents to SEPs. When a standard is widely used, its technologies are widely used; and the SEP holders thus have vast commercial opportunities to license their patents, which otherwise might never be used by anyone. Wi-Fi SEP holders, for example, can collect royalties on billions of Wi-Fi chips, which are used in a variety of products, including notebook PCs, smartphones, printers, cameras, televisions, medical devices, home appliances, and a host of others.

The FRAND commitment is intended to ensure that the royalties collected by SEP holders are based on the value of the patented technology and not the value of the standard itself. As Judge Richard Posner has noted, “[t]he purpose of the FRAND requirements is to confine the patentee’s royalty demand to the value conferred by the patent itself as distinct from the additional value—the hold-up value—conferred by the patent’s being designated as standard-essential.”¹⁶ Without the protection afforded by FRAND commitments, SEP holders could behave in anti-competitive ways to hold-up multiple industries with excessive royalty demands, thereby undermining the entire goal of standard-setting organizations to promulgate affordable industry-wide standards.

¹⁶ *Apple, Inc. v. Motorola, Inc.*, 869 F. Supp. 2d 901, 913 (N.D. Ill. June 22, 2012), *appeal pending*, Nos. 2012-1548, 2012-1549 (Fed. Cir.).

IV. The Competitive Harms Resulting from Breaches of FRAND Commitments

Both standards organizations and standard implementers have relied on commitments by standard-setting participants to license their SEPs on FRAND terms. Their reliance is entirely reasonable. Courts have held that FRAND commitments are binding contractual obligations toward every standard implementer.¹⁷ The ability to rely on FRAND commitments has spurred large investments in standard-compliant products and has benefitted consumers greatly.

Recently, however, some SEP holders have reneged on their FRAND commitments and sought to exploit the power over locked-in implementers that they had agreed to forgo before the standard was finalized. This exercise of market power that the SEP holders had agreed to relinquish, and on which standard implementers relied in investing in standard-compliant products, has significant antitrust and public policy ramifications, as some courts and enforcement agencies have recognized.¹⁸

This is not an academic issue for Intel and other companies that make standard-compliant products. In some cases, these abuses are giving rise to litigation. In one recent case, for example, the royalty demanded by a SEP holder for its FRAND-encumbered Wi-Fi SEPs was 100 times the royalty level that the court ultimately determined to be reasonable.¹⁹ In another

¹⁷ See, e.g., *Microsoft Corp. v. Motorola, Inc.*, 696 F.3d 872 (9th Cir. 2012).

¹⁸ See, e.g., *Broadcom Corp. v. Qualcomm Inc.*, 501 F.3d 297 (3d Cir. 2007); *Dell Corp.*, 121 FTC 616 (1996).

¹⁹ *Microsoft Corp. v. Motorola, Inc.*, No. C10-1823JLR, 2013 U.S. Dist. LEXIS 60233 (W.D. Wash., Apr. 25, 2013) (Microsoft F/RAND Rate Decision). There Motorola sought a royalty of \$3.00–\$4.50 per unit, *id.* at *212, but the court determined that the F/RAND rate was \$0.03471 per unit, *id.* at *303.

case, the holder of only two FRAND-encumbered Wi-Fi SEPs demanded “a royalty that exceeds the selling price of [the chipmaker’s] products.”²⁰

Intel has experienced such patent hold-ups first hand. We have had a SEP holder refuse to license us to its alleged Wi-Fi SEPs despite having made a commitment to “grant a license to an unrestricted number of applicants on a worldwide, non-discriminatory basis and on reasonable terms and conditions.” The SEP holder claimed that it was obligated to license only manufacturers of complete computer systems and not chipmakers like Intel—even though the patented technology was included entirely and only within the Wi-Fi chip.

The SEP holder admitted that it refused to license chipmakers so that it can extract higher royalties from downstream computer manufacturers, by basing royalties on the higher value of the end products in which the Wi-Fi chips were used. The SEP holder justified its demand for a 50-cent per unit royalty by referencing the price of PCs, which runs in the hundreds of dollars, rather than the price of the allegedly infringing chips, which sell for as little as \$1-2. The SEP holder’s asserted SEPs accounted for only 3% of all Wi-Fi SEPs, and testimony showed that they could have been easily replaced by other technologies at the time of the standard-setting.

The implication of this 50-cent royalty demand cannot be understated: If all other SEP holders were to follow suit, the cumulative royalty for Wi-Fi SEPs would be \$16.50, or 1,650% of the price of the lowest priced Wi-Fi chips. With 250 standards in a notebook computer, the implications of a \$16.50 for a single standard’s SEPs are enormous. Imagine if the royalty burden for every standard was \$16.50. The SEP burden on a \$300 notebook computer that incorporates 250 standards would then amount to over \$4,000. Even if we assume an aggregate SEP royalty burden of only a quarter of that, it would still amount to over \$1,000.

²⁰ *Realtek Semiconductor Corp. v. LSI Corp.*, 2012 WL 4845628 at *2 (N.D. Cal. May 20, 2013).

These attempted hold-ups are publicly known because they became the subject of litigation. But many hold-ups are completed before litigation begins, often because the standard implementer cannot afford the risk of the fight. Because standard implementers are locked into a standard, SEP holders have the ability to threaten an injunction or an ITC exclusion order against a standard implementer that would effectively extract all of the profits from selling a standard-compliant product. The result often is a settlement at an inflated royalty level that reflects, not the value of the SEP, but rather the implementer's risk that it would be barred from selling its standard-compliant products. Instances of successful hold-up—where a standard implementer caves to demands for extortionate royalties because of that risk—go unreported. The financial terms of license agreements are seldom publicly disclosed.

Although companies like Intel have the financial means to defend themselves against FRAND violators, the costs of doing so are substantial, running in the millions of dollars for each case. Smaller standard implementers often do not have the resources to wage such a fight and thus are left with the choice between paying excessive royalties or ceasing to make their standard-compliant products. To make things worse, SEP holders that breach their FRAND commitments use the existence of licenses extracted from smaller entities that lack the means to challenge the SEP holders' FRAND violations as benchmarks and claim that they must charge the same extortionate rate to everyone else because FRAND requires them to license on nondiscriminatory terms.

If SEP holders are not effectively constrained by their FRAND commitments, at least some of them will continue impose a very substantial and increasing tax on the use of technologies incorporated into standards; and that will slow down or possibly even halt the longstanding pattern of ever declining prices for technology products. Manufacturers will be

forced to pass on increased royalty costs to consumers, and product innovators will face shrinking markets for their standardized products and face a far less favorable climate for making future investments in developing such products and further innovations based on them.

This is where antitrust law has an important role to play. This hold-up behavior reflects the acquisition of monopoly power by companies that had made a commitment to divest themselves of such power and that won the placement of their patented technologies within standards only by making such commitments. SEP holders that breach FRAND commitments acquire monopoly power through anticompetitive means. In effect, these SEP holders make a voluntary bargain to give up some licensing options they might otherwise have in exchange for the prospect of a vastly larger number of devices for which they can collect royalties; and, afterward, they continue to enjoy the benefits of the bargain while refusing to keep their end of the bargain. If such opportunistic behavior is allowed to continue, it is only natural to expect that the impact caused by a limited number of abusers today will expand as more SEP holders begin to employ such practices.

V. Six Solutions to Mitigate the Anticompetitive Effects of the SEP Hold-Up Problem

Breaches of FRAND commitments must be recognized for what they are: an abuse of an industry-wide collaboration by those seeking to maximize private profit at the expense of the public. Standard-setting organizations created FRAND commitments to prevent such abuses, but it falls to the courts and antitrust authorities to ensure that such commitments are vigorously enforced. There are six core elements of a FRAND commitment—elements that standard implementers have relied on and that must be enforced for the commitment to achieve its pro-competitive and innovation-enhancing purposes. These elements are:

1. A FRAND commitment is a commitment to license *everyone* who implements the standard.

A commitment to “grant a license to an unrestricted number of applicants” who wish to implement the standard means exactly that.²¹ It does not mean “grant a license to computer manufacturers but not to chipmakers because I can get a larger royalty from the computer manufacturers” or “grant a license that does not allow a manufacturer to sell to *all* of its customers.” As a Federal Court of Appeals has held, this language of the ITU’s FRAND declaration “admits of no limitations as to who or how many applicants could receive a license” to the SEPs.²² The same is true for formulations used by other standards organizations.

Companies breach their FRAND commitments by refusing to license companies that manufacture components that implement the standard. There is no mystery as to why some SEP holders prefer to selectively license only downstream entities in the supply chain—even though doing so requires them to seek licenses from many more entities and thus increases their licensing costs. Their selective refusals are designed to skirt the FRAND requirement of a reasonable royalty by enabling them to impose a royalty on the more expensive downstream system, such as a notebook computer, instead of the much cheaper component, such as a Wi-Fi chip, that actually practices the inventions claimed by the SEPs. Perhaps they believe that juries that would reject a 50-cent royalty on a \$1 chip as extortionate will fail to see its excessiveness when compared to a \$700 computer.

²¹ This language, which is typical of the requirements of many standard-setting organizations, is used in the FRAND commitments of the IEEE and the International Telecommunications Union. See IEEE-SA Standards Board Bylaws § 6.2(b), available at http://standards.ieee.org/develop/policies/bylaws/sb_bylaws.pdf; ITU, General Patent Statement and Licensing Declaration Form, available at http://www.itu.int/dms_pub/itu-t/oth/04/04/T04040000030003MSWE.docx.

²² *Microsoft Corp. v. Motorola, Inc.*, 696 F.3d 872, 874 (9th Cir. 2012).

Refusals to license SEPs that are subject to FRAND commitments have a significant antitrust dimension. They are instruments of patent hold-up that enable SEP holders to exercise the monopoly power that they agreed to relinquish when they made their FRAND commitments.

2. The commitment to charge reasonable royalties must be enforced.

Modern technology products incorporate numerous patented technologies. Any assessment of a reasonable royalty must recognize the overall royalty burden that is inherent in the SEP holder's royalty demand. The imposition of excessive royalty burdens undermines the goal of cooperative standard-setting, which is to produce viable standards that will be widely adopted.

Before a patent is incorporated into a standard, its owner realistically can expect to obtain only a royalty that reflects the incremental value of its patent over the next best technology then available, which is often referred to as the *ex ante* value.²³ The IEEE, through which the Wi-Fi standard was developed, has stated that it requires standard-setting participants to make FRAND commitments as "part of an effort to preserve the competitive benefits of *ex ante* technology competition."²⁴ Accordingly, a royalty that reflects the competitive benefits of *ex ante* competition is all the SEP holder should be able to obtain after its patent becomes a SEP. As long as alternatives existed before the standard's adoption, as is generally the case, a SEP holder's breach of its FRAND commitment should have antitrust consequences.

²³ See Joseph Farrell, John Hayes, Carl Shapiro & Theresa Sullivan, *Standard Setting, Patents, and Hold-Up*, 74 Antitrust L.J. 603 (2007); Federal Trade Commission, *The Evolving IP Marketplace: Aligning Patent Notice And Remedies With Competition*, at 194 (Mar. 7, 2011), available at <http://www.ftc.gov/os/2011/03/110307patentreport.pdf> ("FTC Evolving IP Marketplace").

²⁴ Amicus Curiae Br. of the IEEE, VITA, OASIS Open, The Open Group, and PC Indus. Computer Mfrs. Group In Support of Neither Party, *Broadcom Corp. v. Qualcomm Inc.*, at 10, No. 06-4292 (3d Cir. 19 Dec. 2006).

3. Royalties may be imposed only on the basis of the smallest saleable component.

SEP holders are entitled to a royalty based only on the value of the smallest saleable component that infringes their patent, and not on the numerous other innovations that are incorporated into a larger system. When a Wi-Fi SEP holder imposes a royalty based on the value of a computer system as a whole, it is both appropriating value that is properly attributable to other components and imposing a tax on those components—the microprocessor, memory technology, storage technology (hard drive), video technology, power management technology, and numerous other technologies that reside within a computer, technologies to which its patents make no contribution.

It is only common sense that the royalty on a \$1 or \$2 chip that practices a set of SEPs should be calculated by reference to the price of that chip and not the \$700 computer in which the chip is used. This is the position endorsed by the Federal Trade Commission, which has advocated that the royalty base should be the “smallest priceable component that incorporates the inventive feature.”²⁵ Even outside the SEP area, the Federal Circuit has held that “in any case involving multi-component products, patentees may not calculate damages based on sales of the entire product, as opposed to the smallest salable patent-practicing unit, without showing that the demand for the entire product is attributable to the patented feature.”²⁶

Some holders of FRAND-encumbered SEPs nevertheless persist in demanding royalties based on the value of the final product that incorporate the component that actually uses the SEPs. By basing royalties on the final product—the product with the highest number of other patented and non-patented technologies included in it—SEP holders know they are more likely

²⁵ FTC Evolving IP Marketplace at 212.

²⁶ *LaserDynamics, Inc. v. Quanta Computer, Inc.*, 694 F.3d 51, 67 (Fed. Cir. 2012).

to obtain royalties that capture value attributable to those other technologies and not to their SEP(s). This end run around FRAND commitments is another way of improperly exercising market power that the SEP holder agreed to relinquish.

4. Holders of FRAND-encumbered SEPs may not seek or enforce injunctions or exclusion orders except in special circumstances.

SEP holders wield the threat of a judicial injunction or an International Trade Commission exclusion order to extract excessive royalties, knowing that companies threatened with the exclusion of their products from the market are more likely to succumb to unreasonable royalty demands than companies that are free to litigate the incompatibility of such demands with a FRAND commitment without facing that threat of exclusion. It is for this reason that the Justice Department's Antitrust Division and the Patent and Trademark Office have taken the position that "[a] decision maker could conclude" that use of an ITC exclusion order, which is the equivalent of an injunction for this purpose, is designed "to pressure an implementer of a standard to accept more onerous licensing terms than the patent holder would be entitled to receive consistent with the F/RAND commitment."²⁷ Similarly, the Federal Trade Commission has concluded that the threat of injunctions against willing licensees is incompatible with a FRAND commitment.²⁸

There is no reason to allow SEP holders to wield the injunction weapon against willing licensees. A key purpose of an injunction, the prevention of copying, is wholly inapplicable in the FRAND context. The very purpose of the FRAND commitment is to facilitate the use of standards and, by necessity, the FRAND-encumbered SEPs. Moreover, by agreeing to license patents on FRAND terms, a SEP holder commits to license its SEPs to any standard implementer

²⁷ DOJ/PTO Statement at 4.

²⁸ See *Motorola Mobility LLC*, Analysis of Proposed Consent Order to Aid Public Comment, available at <http://ftc.gov/os/caselist/1210120/130103googlemotorolaanalysis.pdf>.

who is willing to pay a FRAND-compliant royalty, and thereby acknowledges that monetary remuneration will constitute adequate compensation for its SEPs.²⁹ It therefore relinquishes its right to exclude willing prospective licensees from practicing its SEPs.

There may be circumstances in which seeking an injunction is appropriate. If a standard implementer is either unwilling or unable to pay a judicially-determined FRAND royalty, or is outside the court's jurisdiction such that monetary relief could not be enforced, monetary compensation may not be an adequate remedy, in which case an injunction should be available. Whenever the SEP holder is able to secure monetary compensation, however, the threat of injunctive relief serves no purpose other than to give the SEP holders leverage—market power—to extract royalties above the FRAND levels that they contractually agreed to accept.

5. Holders of FRAND-encumbered SEPs may not require prospective licensees to take licenses to patents that are not SEPs.

SEP holders and licensees will often find it in their mutual interest to enter into licenses that cover both SEPs and non-SEPs, and they should be free to do so. But SEP holders should not be permitted to *require* potential licensees to agree to a “package license” that includes non-SEPs, because such a requirement can be used to circumvent the FRAND commitment when the SEP holder demands excessive royalties for the non-SEPs. It is all too easy to demand an unreasonable 50-cent royalty on a \$1 product by tying some non-SEPs to the FRAND-encumbered SEPs and then demanding a large royalty for the package license, even though the non-SEPs might have little or no value to the licensee and are included in the package principally in order to disguise excessive royalty demands for the SEPs.

²⁹ *Microsoft Corp. v. Motorola Inc.*, 2012 WL 1669676, at *10 (W.D. Wash. May 14, 2012), *aff'd*, 696 F.3d 872 (9th Cir. 2012).

6. A FRAND commitment may not be circumvented by transferring a SEP.

It would seem elementary that a company that makes a FRAND commitment should not be able to avoid its contractual obligation by transferring the SEPs to another entity. If companies could circumvent the commitment so easily, they will find it profitable to do so because an acquirer of their SEPs would be all too happy to pay handsomely for the ability to exploit locked-in standard implementers by exercising monopoly power over them without the encumbrance of the FRAND commitment.

VI. Conclusion

Companies that abuse the standards process by asserting SEPs in contravention of their FRAND commitments argue that there is no need for government intervention because standard-setting organizations can handle all of the FRAND-related problems by revising their rules as necessary. This claim is wrong factually and mistaken as a matter of policy.

Standards organizations are large, industry-wide, consensus-based organizations. Their membership includes a broad cross-section of companies, including companies that profit greatly by exploiting locked-in standard implementers. In our experience, these companies will oppose any meaningful attempt to resolve alleged ambiguities in the rules that they have exploited to evade their FRAND obligations. These companies aggressively seek to thwart standard-setting organizations efforts to prevent patent holders from flouting even rules that are crystal clear, such as the requirement to license every willing implementer of the standard.

Sound public policy requires government intervention where the public interest is being harmed and private organizations and market competition cannot be counted on to solve the problem. The harm to the public from SEP abuse is not just theoretical. What is at stake is the threat of serious injury to the system of cooperative standard-setting, a system that has produced

enormous benefits to consumers and has been vital to the great innovations that the technology sector has produced in recent decades.

For this reason, it is important to require companies that make FRAND commitments to adhere to the six principles of FRAND licensing that I discussed earlier. The point of government intervention is not to displace the standard-setting organizations or to take from them their responsibility to the public. If a standards organization comes up with an effective way to solve the problem of hold-up and opportunism by SEP holders, such as by adopting different rules regarding patents or meaningful penalties for those who renege on their FRAND commitments, its solution should be welcomed, and the organization should be free to implement it, subject of course to otherwise applicable legal requirements. The purpose of government intervention is not to prevent private solutions to this serious problem. It is instead to establish a default baseline that protects the public and prevents inappropriate opportunism by SEP holders if, as experience shows is overwhelmingly likely, the standard setting organizations do not themselves solve the problem.

Intel thanks the Committee for holding today's hearing, which is an important milestone on the road to a healthier patent system that appropriately rewards and encourages innovation while preventing abuses in the standard-setting process that can create competitive harm. Intel is grateful for the opportunity to participate in this hearing.

SUPPLEMENTAL PREPARED STATEMENT OF A. DOUGLAS MELAMED, SENIOR VICE
PRESIDENT AND GENERAL COUNSEL, INTEL CORPORATION, SANTA CLARA, CALIFORNIA



**SUPPLEMENTAL STATEMENT FOR THE RECORD OF
INTEL CORPORATION**

For The

**SENATE COMMITTEE ON THE JUDICIARY
SUBCOMMITTEE ON ANTITRUST, COMPETITION POLICY
AND CONSUMER RIGHTS**

On

**STANDARD ESSENTIAL PATENT DISPUTES AND ANTITRUST
LAW**

**A. Douglas Melamed
Senior Vice President and General Counsel
Intel Corporation**

August 13, 2013

This Supplemental Statement addresses an important topic that was briefly mentioned at the July 30, 2013 hearing, but that Intel did not have an opportunity to discuss. The topic concerns the possibility of so-called “hold out” by those who implement standards or use products that implement standards, all of which for simplicity are referred to herein as “implementers.”

Some SEP holders have argued that the threat of an injunction or exclusion order is necessary to bring implementers to the bargaining table. According to these SEP holders, absent the leverage inherent in such a threat, implementers will know that the worst that can happen to them is a court order to pay reasonable royalties, and some will therefore choose to make the SEP holders sue them—to “hold out”—instead of willingly negotiating a reasonable royalty. Because such a hold-out strategy would cause large implementers to wind up paying both a reasonable royalty and the high costs of patent litigation, it is not a prudent strategy for, and is unlikely to be used by, those entities. Small implementers might choose this strategy, however, in the expectation that, at some point, the cost to the SEP holder of seeking them out and litigating will exceed the benefits.

In its Prepared Statement and in oral testimony at the hearing, Intel explained that the threat of an injunction enables a SEP holder to “hold up” implementers—both large and small—by inducing them to pay excessive royalties to avoid the risk that an injunction could take from them the entire value of their products. The Federal Trade Commission submitted a written statement and oral testimony to the same effect. In his August 3, 2013 letter to the Chairman of the International Trade Commission, the United States Trade Representative expressed the same concern.

The policy question is whether the potential risk of “hold out” is more serious than the demonstrated likelihood of “hold up” and thus warrants permitting SEP holders to obtain injunctions from implementers that have not entered into license arrangements satisfactory to the SEP holder. Intel believes that the risk of “hold out” does not justify permitting a SEP holder to continue to use the threat of injunctions to “hold up” implementers for excessive royalties.

In essence, some SEP holders are arguing that they should have the ability to induce countless implementers to pay excessive royalties in order to guard against the risk that a few implementers will play hard-to-get. That is an extraordinary argument which, if accepted, would be rare and unprecedented in U.S. law. Injunctions are used to protect a property owner’s right to prevent others from using that property. But where, as here, the property owner has voluntarily relinquished that right and committed to license its patents on reasonable terms, damages are the appropriate remedy. If the implementer behaves improperly, the damages remedy can be supplemented by sanctions imposed on the wrongdoer. The prospect that a few implementers might engage in wrongdoing does not warrant enabling the SEP holder to extract excessive royalties from nearly all implementers.

The availability of injunctive remedies is especially inappropriate in this context, for several reasons.

First, some SEP holders want to have their cake and eat it too. They made a bargain: They traded the licensing freedom they would otherwise have had in exchange for the vastly increased use of their patented technologies made possible by inclusion of those technologies in the standard. Then, after the fact, they want to keep the benefit of the bargain—the millions of locked-in users of their patented technologies—but walk away from their promise not to hold up implementers with unreasonable demands. The “hold out” argument is their way of saying they want to back out of the bargain once they have the benefits of the bargain (i.e., large numbers of locked-in implementers) without having to give up anything in return.

Second, and even worse, the potential “hold out” problem is often of the SEP holder’s own making. SEP holders can assert their patents against any party that they believe is infringing their patented technologies. They are usually able to choose among multiple implementers in the supply chain, from component manufacturers to device manufacturers to end users. SEP holders can minimize the risk of hold out by licensing at the earliest point in the chain in which they believe the patented technologies are used and can thereby often collect royalties on all uses of their SEPs with just a few licenses.

SEP holders, however, often go to great lengths to avoid licensing upstream component (e.g., chip) manufacturers and choose instead to license their patents downstream, at for example the device (e.g., computer) level. As Intel’s Prepared Statement explains, they do so because they believe, and experience shows, that they are more likely to obtain excessive royalties when they license downstream. While licensing downstream is a profitable strategy for SEP holders, it does increase the number of unlicensed implementers and, thus, the risk of hold out. But that risk is created by the SEP holders’ own strategy. Having created the potential problem, the SEP holders are hardly in a position to argue that the risk justifies giving them a weapon that can be used to extract excessive royalties from nearly all implementers.

Third, the “hold out” argument would deny implementers fundamental rights under the patent laws. The SEP holders would like the Subcommittee to believe that their patents give them a property right that implementers are flouting. To the contrary, the fact that a patent has been declared by the patent holder to be a SEP does not mean that it is a SEP or that the patent holder is entitled to royalties. That declaration does not eliminate what are often critical issues that go to the threshold question of whether the implementer actually has infringed a property right of the SEP holder. These issues include: (i) is the patented technology in fact essential to the standard; (ii) is the patent valid; and (iii) did the implementer in fact infringe it. These are not just theoretical questions. One SEP holder, for example, recently brought four different lawsuits against Intel or its customers in which it alleged infringement of ten different SEPs, but only three of the asserted patents were found to be valid and infringed. As another example, Apple has disclosed publicly that fewer than 20 percent of the more than thirty alleged

SEPs that have been asserted in various smartphone patent litigations to which it has been a party have been found to be valid and infringed.

It is fundamental to the patent laws that implementers be permitted to have questions of infringement and validity resolved by a court. What SEP holders call “hold out” is usually no more than implementers exercising those fundamental rights. Yet despite having voluntarily committed to accept reasonable royalties for their patented technologies, SEP holders want to hold the threat of an injunction over implementers in order to induce them to give up those fundamental rights and to agree to excessive royalties instead.

Fourth, some SEP holders seek to abuse a critical aspect of patent law that makes patents unlike ordinary property. Ordinary property rights protect the owner’s right to use and enjoy his or her property and do not generally limit what others do on their property. Thus, for example, homeowners can get orders prohibiting others from trespassing on their property. Unlike ordinary property rights, however, patents enable the holder to reach out to third parties and to prevent them from using technology covered by the patents or to tax them for doing so. Notably, patents give the holder that right even if the third party did not copy the technology and even if the third party does not know that the technology it is using is claimed by someone else’s patent. In this respect, patents are government-granted tools that enable patent holders to tax unknowing third parties and interfere with their commercial freedom under some circumstances.

The government grants these tools in order to create appropriate incentives for innovation and invention. But as explained in Intel’s Prepared Statement, if those tools are abused or patent royalties are excessive, patents can both undermine innovation by imposing excess taxes on innovators and create perverse rent-seeking incentives to accumulate patents in order, not to promote innovation, but to tax others and to raise revenues. Those would be the consequences if SEP holders were permitted to wield the threat of an injunction against all implementers.

Fifth, the injunction threat is not necessary to deal with any “hold out” problem. For one thing, it is not clear that there is a “hold out” problem—that, in other words, what some SEP holders call “hold out” is anything more than implementers exercising their statutory right to challenge the validity and scope of a claimed SEP. Nor is it clear that the threat of injunctions would have much effect on any such problem. SEP holders will not have a credible threat of injunction against implementers that are too small to justify the costs of litigation, and the SEP holders will have ample incentive to seek royalties from the large implementers even without an injunction threat. It is unlikely that many implementers fall into the sweet spot in the middle.

Moreover, there are several alternative ways to deal with individual implementers that take advantage of SEP holders without exposing all implementers to a coercive threat of an injunction. As explained in Intel’s Prepared Statement, while injunctions should not be available to SEP holders in general, they should be available where the implementer is not willing to pay a reasonable royalty; and if an implementer is beyond

the reach of U.S. courts for damage remedies, an ITC exclusion order might be appropriate. Further, where an implementer is willfully infringing a valid patent—and is not merely exercising in good faith its rights under the patent laws—existing law permits a patent holder to obtain up to three times the reasonable royalty as a remedy for willful infringement. *See* 35 U.S.C. § 284. And if additional remedies are needed, the patent laws could be amended to provide for “fee shifting” so that the prevailing party in patent litigation can recover its attorney fees and costs from the losing party. Fee shifting is common in patent cases outside the U.S., and would make it both more costly for implementers to engage in hold out and significantly less costly for SEP holders to pursue implementers that do hold out. Fee shifting would also reduce the incentive of patent holders to assert invalid patents or to assert patents against parties that do not actually use the patented technologies.

* * *

In sum, the availability of an injunction remedy enables SEP holders to coerce excessive royalties and litigation settlements from nearly all implementers. The theoretical concern about “hold out” by some implementers does not justify that result because the “hold out” problem is less serious than alleged and is often caused by the SEP holder itself and because other remedies are available for actual instances of hold out.

PREPARED STATEMENT OF DONALD J. ROSENBERG, EXECUTIVE VICE PRESIDENT, GENERAL COUNSEL, AND CORPORATE SECRETARY, QUALCOMM INCORPORATED, SAN DIEGO, CALIFORNIA

Testimony of

Donald J. Rosenberg
Executive Vice President, General Counsel, and Corporate Secretary
Qualcomm Incorporated

Prepared for the hearing on

“Standard Essential Patent Disputes and Antitrust Law”

Before the

Antitrust, Competition Policy and Consumer Rights Subcommittee of
The Senate Committee on the Judiciary

July 30, 2013

10:00 a.m., 226 Dirksen

Donald J. Rosenberg respectfully submits this testimony to the Senate Judiciary Committee's Subcommittee on Antitrust, Competition Policy and Consumer Rights (the "Subcommittee") on behalf of Qualcomm Incorporated ("Qualcomm") for its hearing.

I. SUMMARY

As a leading innovator and implementer of standardized technologies in the telecommunications field, and as a longstanding participant in various standards-setting organizations ("SSOs"), Qualcomm Incorporated ("Qualcomm") is well qualified to comment on the competitive benefits of standards-setting. For the reasons stated below, Qualcomm respectfully submits to the Subcommittee that consensus-driven standards-setting has proven immensely successful, as demonstrated by the wireless communications industry, and should not be altered or overridden.

The wireless communications industry, even more so than other high-technology industries, relies heavily on industry-wide standards that ensure interoperability between wireless devices (*e.g.*, cell phones, laptops, tablets) and networks. The standards-setting process more generally brings many procompetitive benefits, including interoperability, economies of scale, and increased economic efficiency.

These standards are developed through a collaborative and consensus-driven process that balances the varied interests of industry participants. The process and trade-offs involved in standards-setting ensure that those that contribute technologies to standards are adequately rewarded for their technical contributions, while ensuring that all standards implementers can receive the licenses necessary for them to practice the standard and have access to any technology incorporated therein.

The experience of the wireless communications industry confirms the procompetitive objectives of standards-setting, and their realization in practice. The wireless communications industry is among the most innovative and dynamic industries ever. New devices are continually introduced in the market in rapid succession, with ever-increasing functionality, based upon expanding technological capabilities and performance, yet at lower cost. New entrants appear frequently, from all parts of the globe. And the claims of "hold up" that one regularly hears from companies that have

not contributed significantly to the standards-based foundation of the industry are not supported by evidence.

For these reasons, there is no reason for legislative action to disturb the careful balance already extant in the industry, and, in fact, legislative action in this area risks unintended consequences that could be damaging to the inventive spirit that has long set the United States apart from many other countries. Both patent law and antitrust law are designed to promote competition; a statutory or regulatory change to the scope or substance of contractually binding commitments to license essential patents on “fair, reasonable, and non-discriminatory” (“FRAND”) terms, in the absence of convincing evidence of harm to competition, is unwarranted under either of these laws, could disrupt the balance between them, and could lead to a harmful decrease in incentives to innovate.

II. STATEMENT OF INTEREST

Qualcomm was founded in San Diego, California, in July 1985 as a small start-up, by a group of engineers seeking to adapt for commercial applications a promising wireless technology, CDMA, that they believed could change for the better the lives of consumers. Specifically, when Qualcomm was founded, limits on the capacity of wireless spectrum rendered wireless service unaffordable for most, and plagued the performance of users able to afford it. Qualcomm’s founders believed these limits could be overcome through the development of sophisticated technical solutions. But the challenges were great. A physics professor at Stanford University famously stated that Qualcomm’s vision for CDMA “defied the laws of physics”. Yet the patent system allowed Qualcomm to raise the capital for the necessary research and development (“R&D”). Specifically, Qualcomm and its investors knew that if Qualcomm was successful, the patent system would reward them with market-based compensation for the risks they were taking in investing labor and capital to develop a promising yet complicated technology.

As its founders had hoped, Qualcomm’s patented innovations greatly expanded the capacity of wireless spectrum, radically reducing unit costs—and hence prices—for wireless service, equipment and devices such as phones. It is no coincidence that the explosion in wireless service accompanied Qualcomm’s innovations.

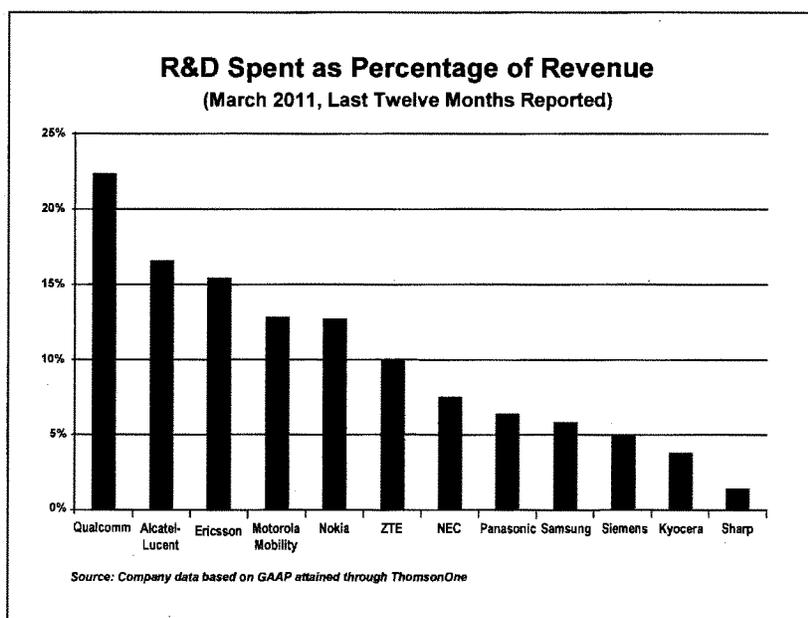
Qualcomm has not stopped innovating. Businesses and consumers have continually demanded even greater performance and capabilities in their wireless service and devices, and placed even greater demands on wireless spectrum. In the several decades since it first enabled the commercialization of CDMA, Qualcomm has contributed a wealth of technology to every stage of the successive Second Generation (“2G”), Third Generation (“3G”), and Fourth Generation Long Term Evolution (“4G LTE”) wireless communications technologies. Again, the patent system allowed Qualcomm to raise the capital necessary to fund the R&D making these contributions possible. Qualcomm licenses essentially its entire portfolio to more than 240 licensees worldwide—virtually every major manufacturer of 3G and 4G LTE wireless devices.

Qualcomm is also a leading developer and supplier of semiconductors (*i.e.*, chips) to manufacturers of wireless devices. Year after year, Qualcomm’s chips have grown more powerful and enabled new features; they currently serve as the engine that powers many of today’s most sophisticated and sought-after mobile devices.

Because industry standards are prevalent for wireless communications protocols, as well as for cellular devices, infrastructure equipment and other communications products, Qualcomm is a longstanding active participant in numerous SSOs, including the European Telecommunication Standards Institute (“ETSI”), the Institute of Electrical and Electronics Engineers (“IEEE”), the Telecommunications Industry Association (“TIA”), the Alliance for Telecommunications Industry Solutions (“ATIS”), and others. Qualcomm has actively participated over the years in deliberations within these and other SSOs concerning policies regarding FRAND commitments and licensing of standards-essential patents (“SEPs”).

Qualcomm’s investment in the development of successive generations of groundbreaking technologies is predicated on the robust protections inventors enjoy under the patent system. To stay at the forefront of innovation, Qualcomm makes enormous financial investments in fundamental and risky R&D. Qualcomm employs more than 20,000 engineers, and invested \$3.9 billion in R&D in 2012 alone—rising from \$3.0 billion in

2011 and \$2.5 billion in 2010. As the chart below illustrates, historically Qualcomm's investment in R&D has far outstripped that of other major industry participants:



Undertaking such large and continuing investment in R&D means taking substantial risks. Many technologies do not pan out.¹ Some technologies are innovative, but cannot be monetized and do not bring in revenue. Other innovations promise revenue that can only be realized far into the future. These basic risks inherent in R&D are compounded when the technologies are contributed to an industry standard (particularly when there is no competing standard, as is the case with the 4G LTE standard), because not only must the R&D result in a technology that works as a technical matter, it must also be “the technology” selected for inclusion in the standard by all relevant industry participants.

Qualcomm's business model relies on managing the risk that accompanies its substantial investments in R&D. In no small part, Qualcomm's ability to sustain its pace of innovation is due to the revenue stream it earns from licensing those technologies that have panned out. In most instances Qualcomm's licensees receive rights to Qualcomm's

entire portfolio of inventions essential to implement a standard—present and future—and, with a few exclusions, its entire current portfolio of non-essential patents in return for a single royalty fee. A large proportion of this revenue stream—nearly half of all Qualcomm’s licensing revenue—is recirculated into more R&D. Qualcomm could not rely on revenues sufficient to recoup its R&D expenditures absent the protections of the patent laws. For example, Qualcomm’s valuable portfolio of patents essential or related to CDMA technology allowed Qualcomm to earn substantial licensing revenue from the commercial success of this technology. Without that revenue, Qualcomm quite possibly would not have been able to develop subsequent inventions that are now at the heart of modern 3G and 4G LTE wireless standards. Conversely, *because* the patent laws allowed Qualcomm to reap that revenue, Qualcomm is looking past 4G LTE and working on the *next* generation of wireless technologies. Qualcomm’s experience is a perfect example of why our founding fathers viewed incentives and protections for intellectual property as so important that they included this directive in the first Article of our Constitution: “to promote the progress of science and useful arts”, Congress shall have the power to provide patent protection.²

At the same time, because Qualcomm is also a supplier of chips for incorporation into devices that implement standardized technologies, Qualcomm’s business success depends not only on its ability to monetize its own technologies, but also on access to others’ patented technologies—including SEPs and non-SEPs. Qualcomm is therefore particularly well situated to provide balanced commentary on the issues before the Subcommittee. Qualcomm appreciates the Subcommittee’s consideration of these comments.

III. STANDARDS ARE THE FOUNDATION OF CUTTING-EDGE INDUSTRIES.

A. Standards-Setting is a Collaborative, Technical, and Consensus-Based Process.

Standards-setting organizations bring together a wide variety of participants from every part of the industry, and from all across the world. For example, the Third Generation Partnership Project (“3GPP”) has more than 200 members, and ETSI has more than 700

hundred members.³ These range from manufacturers to consultants to network operators to small and medium-sized businesses to universities and more.⁴ A huge range of interests are represented; members are both large and small, some focusing on a broad segment of the industry while others focus on highly specialized niches.

The work of these organizations is determined by the members themselves, and they generally operate by consensus. SSOs, and the various sub-groups through which they operate, hold regular meetings that are attended by engineers. During these meetings, the engineers discuss and submit reports on the technical merits of the technologies under consideration; the point in doing so is to ensure that every submission and every technology is subject to peer review, so that the standard ultimately adopted will be technically sound and will enjoy broad industry support. Most of these participants never contribute technology to the standard, but instead use the adopted standard, and further iterations thereof, as many standards continuously evolve.

Industry support is critically important. A standard's success in the wireless telecommunications industry depends on its ultimate adoption by the industry. Industry adoption, in turn, depends critically on the value of the standard, particularly as compared to other standards or proprietary solutions. To enable the creation of successful standards, an SSO's membership must therefore implement rules that balance the many varying interests of its members by: (i) attracting participation in the work of the SSO by players at every level of value creation to ensure that the most technically advanced solutions are contributed; (ii) ensuring that standardized technologies will be available to implementers on reasonable terms; and (iii) allowing a return on investment sufficient to compensate inventors and their investors for undertaking costly and risky R&D that will yield cutting-edge technologies.

As just one example, the rules of 3GPP and ETSI⁵ do just that. The balance struck in the ETSI IPR policy offers an important example of how a successful SSO reconciles the interests of its stakeholders and continues to attract investment and participation by inventors of valuable technologies in successive rounds of standardization. The ETSI IPR Policy states *explicitly* that a "balance" between "the needs of standardization for

public use” and “the rights of the owners of IPRs”⁶ is precisely what its membership agreed to in formulating an IPR policy. To obtain this balance, the main objectives of this Policy are stated as:

- “creat[ing] STANDARDS and TECHNICAL SPECIFICATIONS that are based on solutions which best meet [] technical objectives”;⁷
- “reduc[ing] the risk . . . that investment in the preparation, adoption and application of STANDARDS could be wasted as a result of an ESSENTIAL IPR . . . being unavailable”;⁸ and
- ensuring that IPR holders are “adequately and fairly rewarded for the use of their IPRs” included in standards.⁹

The ETSI IPR Policy, like the IPR policies of other SSOs, also defines the fundamental bargain patent-holders accept in exchange for consideration of their technology for standardization, and subsequently for the inclusion of their technology in its standards. At its most basic level, this involves an obligation by patent-holders participating in 3GPP and ETSI to disclose the existence of any intellectual property rights that they are aware “might be essential” to a proposed standard,¹⁰ and to make actually essential IPR available to all who desire to make or sell standard-compliant products and services.¹¹ This simple bargain, discussed further below, has been at the heart of successive—and successful—generations of standards used in the cellular industry and enabled numerous stakeholders to develop and commercialize increasingly sophisticated wireless products that are highly valued by customers.

Finally, one important result of SSOs’ structure and processes is that reputation matters greatly in standards-setting. The need to build and maintain consensus, combined with the regularity of the meetings, ensures that no member can afford to act obstinately, impeding progress through frivolous objections. Nor can any member afford to “burn bridges” with other companies, as the process is a repeating one, and members will work together in the future as standards evolve. In short, reasonableness is the currency of standards-setting, and without it a member can have no impact.¹² This moderating effect also ensures that no member can expect to exert undue leverage.

B. The Centerpiece of the Standards-Setting Process is the FRAND Contract.

All members of SSOs recognize that once a standard is set, access to the essential technologies may be necessary to implement the standard. All major SSOs in the industry have IPR policies and procedures designed to facilitate the availability of essential patents through FRAND commitments. This is not to say that the IPR policies and procedures of all SSOs are the same. Each SSO establishes its own policies and procedures, which may result in different FRAND commitments, as explained more fully below.

A common requirement for these SSOs is that a member provide notice to all other members of any IPR that it owns that may be essential to practicing a standard, and also make a commitment to license any patents that actually are essential on fair, reasonable, and non-discriminatory terms—the FRAND commitment. ETSI, for example, requires its members to declare publicly their ownership of any IPR that “might be essential”,¹³ given that whether IPR actually is essential can only be determined after the standard is finally adopted, and that a member making the declaration inform the membership of whether that member will commit to licensing any patents that actually are essential on fair, reasonable, and non-discriminatory terms.¹⁴ Otherwise, the SSO may seek to design the standard around such member’s IPR.

By now it is widely accepted that a FRAND commitment is a contractual commitment between the SSO, on the one hand, and the patentee, on the other, to which standards implementers are third-party beneficiaries.¹⁵ The SEP-holder agrees to make licenses available to those who wish to manufacture or sell standards-compliant devices on terms consistent with the FRAND commitment. This is a significant concession, in which the patent owner gives up its legal right to be the sole implementer of a patented technology. It does so only with the understanding that this concession is limited to licensees willing to accept FRAND terms, who in turn enjoy the benefits of being able to obtain a license and practice the standard free from claims of infringement.

It naturally follows from the fact that a FRAND commitment is a contract that the meaning of each SSO's FRAND commitment should be found by applying the basic law of contract interpretation. This means first looking to the language of the agreement—the SSO's IPR Policy and the FRAND commitment. Where ambiguity exists, the next step is to look at the intent of the parties, as shown through the history of the deliberations and negotiations leading to the agreement. Efforts to legislatively dictate the terms of SEP licensing can give rise to unintended consequences—perhaps most regrettably, the loss of the voluntary, contractual nature of IP contributions and the benefits they can bring to consumers today and in the future. The importance of a voluntary, negotiated approach to technology standards cannot be overstated; indeed, as described below, such regimes are efficient, more nimble, and able to adapt more quickly to fast-changing technologies than any legislative alternative.

With respect to the details of each individual licensing agreement, the language of the leading SSOs' IPR Policies is quite clear: once a FRAND commitment is made, licensing is left to bilateral negotiations between the parties, with judicial enforcement of the commitment available as a last resort in the event, historically rare, that negotiations are unsuccessful. The ETSI Guide on Intellectual Property Rights, for example, provides that "Specific licensing terms and negotiations are commercial issues between the companies and shall not be addressed within ETSI".¹⁶ The same is true of the ITU.¹⁷ This is the result of a considered effort on the part of these SSOs, which recognize that although licenses to SEPs must be meaningfully available, it would not be desirable for the SSO to attempt to regulate the agreements that are reached by the parties, especially given the great variation in parties, uses, and technologies at issue in any contemplated license; rather, market-based negotiations and licenses are preferable.

But that is not to imply that potential licensees have less leverage in negotiating SEP licenses subject to FRAND commitments. In fact, licensees have substantial leverage. Any licensee who believes that a patentee is not engaging in negotiations consistent with the patentee's FRAND commitment can apply to a court to enforce the FRAND commitment.¹⁸ Unlike a patent owner, a potential licensee can bring an action in contract to enforce a FRAND commitment, whereas an SEP owner only has recourse to a patent

infringement suit or ITC action against an infringer unwilling to accept a license on FRAND terms. Even so, if an SEP-holder makes a request for injunctive relief from a court or exclusionary relief from the ITC, U.S. courts and the ITC will not rule on that request until they have adjudicated the licensee's FRAND defense. And even if the court finds that a FRAND offer was made, the court must *also* consider all of the traditional factors relating to injunctive relief, including the "public interest".¹⁹ Similarly, in an action for an exclusion order, according to the direction of Congress, the ITC must consider numerous factors relating to competition and the public interest before granting exclusionary relief.²⁰ These are high bars, leaving only truly "unwilling licensees" subject to injunctive or exclusionary relief. In short, there is no reason to believe that SEP owners have undue leverage over potential licensees in license negotiations, or that FRAND commitments do not achieve the balance in interests between SEP owners and potential licensees that they were designed to address. In fact, the enormous number of FRAND licenses that have been negotiated over the several decades in which FRAND commitments have been made underscores the success of the existing FRAND regime and that "FRAND is not broken".

C. Standards-Setting is Procompetitive.

The structure and processes of standards-setting are designed to involve give and take by industry participants in order to reach a consensus, which benefits the industry and competition alike. The procompetitive potential of standardization activity is obvious in practice and otherwise well understood as a matter of economic theory and legal principle. For example, as a means of protecting the beneficial, procompetitive potential of standardization activity, Congress enacted legislation in 2004 limiting the risk of antitrust liability for SSOs to ensure that such risk did not unduly chill their important work.²¹ The benefits of standardization have also been recognized by U.S. courts, which have noted that SSOs play a role in "facilitating economies of scale in the market for complementary goods, reducing consumer search costs, and increasing economic efficiency".²² Commentators have likewise recognized the benefits that flow from the almost universal decisions of SSOs to leave licensing negotiations to the parties to the license. Chief among them is that it avoids the costs to society from litigation, and it is

also often value-creating, as negotiations reveal new and creative ways for the parties to cooperate.²³

IV. STANDARDS-SETTING HAS AN OUTSTANDING RECORD OF REAL-WORLD SUCCESS, AND THERE IS NO REASON TO ALTER THE POLICIES AND PROCESSES RESPONSIBLE FOR THIS SUCCESS.

A. Standardization Has Facilitated Rapid Innovation in the Wireless Communications Industry.

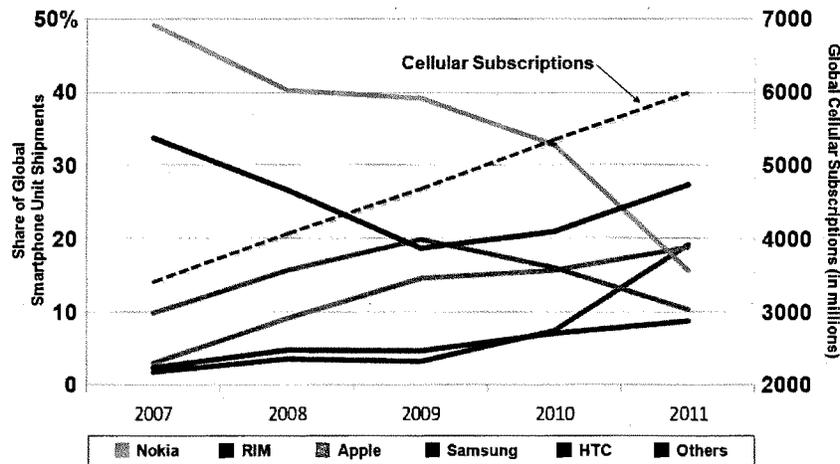
The wireless communications industry is a powerful real-world case study on the positive impact of standards-setting. The technologies relied on by the cellular industry have evolved at a breathtaking pace over the past twenty years. The first 2G cellular standards allowed voice-only communications. These were followed by the add-on of high-speed data capability introduced by 3G standards, which placed email, streaming video, and app-enabled functionalities in the palms of users' hands. Now the industry is in the midst of another giant leap forward, propelled by the ten-fold increase in data transfer speeds promised by the 4G LTE networks currently being rolled out across the world.

Unsurprisingly, every indicator relating to the wireless industry shows explosive growth: network carriers offer ever growing and faster bandwidth; services and content unimaginable a few years ago are now widespread on wireless devices, from streaming video and audio, to location-based services, to apps capable of seemingly limitless functionality. In fact, the number of wireless subscriber connections (*i.e.*, number of active devices) in the United States has just surpassed the population, as increasing numbers of people use multiple cellular-connected devices,²⁴ a remarkable sign of growth that shows no sign of abating. With the significant demand for data, continued growth is expected, as is demand for further R&D to find technical solutions to address this demand.

The basic practices of standardization have remained essentially unchanged throughout the progression from 2G to the present, while the number of wireless industry players has grown dramatically and competition has reached intense levels. On the network side, large national carriers and smaller regional players compete in offering their customers 3G and 4G LTE services and the technologies and functionalities enabled by them. On

the wireless-device side, established device manufacturers—some of whom have been active in wireless since its infancy—have been challenged by disruptive new entrants, who correctly identified an opportunity for commercial success as 2G became 3G and then 4G LTE. The growth and competitive characteristics of the wireless communications industry is vividly illustrated in the table below, which shows that no position in the industry is safe:

Global Shares of Leading Smartphone Industry Participants and Global Cellular Subscribers



Sources: Bloomberg Finance LP and ITU Statistics (<http://www.itu.int/ict/statistics>)

The health of the wireless communications industry and the vitality of the standards enabling it have never been stronger. In Qualcomm's experience, it is the longstanding practices of SSOs—backstopped by robust intellectual property rights—that have fostered successive rounds of evolution in wireless communications, transforming it from a luxury accessible only to a select few to an affordable and ubiquitous aspect of everyday life, enjoyed by more than 6 billion subscribers (and more than 1 billion smartphone users) worldwide. Notable among these industry practices is the prevalence of FRAND-based licensing, which supplies *the* mechanism through which industry participants have gained and are assured access to standardized technology. FRAND

licensing is a fundamental link in the chain connecting innovation with standardization and implementation. In sum, claims that FRAND licensing “is broken” and in need of substantial change simply ignore the real-world record, and are widely driven by narrow and short-term economic interests of those who wish to free-ride on the investment in technology contributed by owners of SEPs.

B. Concerns of “Hold Up” are Unfounded.

Notwithstanding the tremendous success of the wireless communications industry, the Committee will no doubt hear that one byproduct of standardization is “hold up”—or perhaps the Committee will hear yet more vaguely about the “*threat*” of “hold up”. The claim here is that after a standard is adopted, SEP owners will extract unfair and unreasonable royalties that they could not have obtained pre-standardization. In short, the claim is one of “excessive bargaining power” stemming from the fact that anyone wanting to make a standardized product *must* practice SEPs and obtain licenses to those SEPs.

Although “hold up” might be a catchy phrase, this claim does not withstand examination. All of the available evidence is that claims of “hold up” are baseless. Putting aside the fact that, as described above, the wireless communications industry is healthy, highly innovative, and highly competitive, SSOs themselves consistently report that they have experienced no problems with “hold up”.²⁵ Academics also have criticized the hold-up theory as simplistic and have identified free-market mechanisms that may explain why real-world examples of hold-up by SEP-owners are never found, including pre-standardization knowledge of licensing terms, pre-standardization licensing negotiations, and reputational constraints discouraging short-term opportunistic behavior.²⁶ Not surprisingly, then, when put on the stand to testify about hold-up theory in the recent FRAND trial between Microsoft (who pursued claims of hold-up) and Motorola in the Western District of Washington, even Microsoft’s experts could not identify a single license that had been affected by hold-up, and instead they admitted that the existence of hold-up by SEP-owners in the real world “is an open question”.²⁷ Indeed, no proponent of hold-up theory has identified a single instance in which IPR has defeated or delayed the adoption or implementation of a standard.

Beyond this, there is no indication that IPR costs are impeding industry success, harming competition or consumer welfare. In the wireless communications industry, in fact, it is quite the opposite: the functionality and features of handsets have grown significantly over time while prices generally have remained stable or declined and the industry has become more diverse and innovative, both in terms of participants and technologies.²⁸ And during all of this, vast numbers of licenses to SEPs have been negotiated and entered into, every one of which brings with it a healthy dose of “patent peace”.²⁹

Given the emerging consensus that there is no “hold up” problem in the intensely competitive cellular industry, at some point, claims of “hold up” will have to stop.³⁰ Until then, they should simply be ignored.

C. Voluntary Industry Commitments Should Not be Disrupted.

The Committee may also hear that the content of FRAND commitments needs to be “clarified”. In particular, the Committee may hear that changes are needed with respect to the availability of injunctions (or exclusion orders from the ITC) on SEPs. Typically these changes are urged as “necessary” because of the illusory “hold up” phenomenon described above. But putting aside the non-existence of any documented hold-up problem, there are several additional reasons why these calls should be rejected.

As a starting point, it is important to note that the meaning of FRAND cannot be reduced to any single, unitary rule or set of terms. Nothing about licensing is “one size fits all”; every negotiation involves the consideration of many different factors, not the least of which is the overall strength and value of the portfolio(s) at issue, and also many different ways of exchanging—and indeed *creating*—value, including but not limited to royalty rates, cross-licenses, fixed or lump-sum payments, joint development or marketing arrangements, and termination rights. Commonly, freely negotiated license agreements are long, complex, and multi-faceted. The flexible nature of the FRAND commitment is its strength.³¹ Indeed, the Department of Justice and U.S. Patent and Trademark Office have recognized as much by stating that “the United States continues to encourage systems that support voluntary F/RAND licensing—both domestically and abroad—rather than the imposition of one-size-fits-all mandates for royalty-free or below-market

licensing, which would undermine the effectiveness of the standardization process and incentives for innovation”.³²

This is the context within which the debate about the availability of injunctive or exclusionary relief should be seen. Looking more specifically at the argument that a FRAND commitment waives all rights to an injunction, it is clear that this argument has no support. There is no basis for this argument in the text of the ETSI or ITU IPR Policies and Licensing Declarations—or in the text of any other IPR Policies and Declarations of which we are aware (which form the contract between the SSO and the licensor as to the FRAND commitment). In addition, the history of the ETSI IPR Policy is well documented, and it shows that the ETSI membership expressly *rejected* a proposed categorical waiver of injunctive relief. Language providing for a waiver of all rights to injunctive relief was debated and briefly included in an IPR policy adopted in 1993.³³ Yet when the current policy was adopted in 1994, that provision was *removed*.³⁴ The *only* reasonable inference from this sequence is that the ETSI membership turned their minds to the question of waiver of injunctions and affirmatively decided to *exclude* any such waiver from the content of the FRAND commitment. To “force fit” such a waiver on the members and SEP-owners of ETSI or any SSO would quite simply be unfair, and would ignore the fact that SSO members are debating the conditions upon which injunctions are available under their respective IPR Policies even as this testimony is being made.³⁵

A “waiver of injunctions” rule also would not make sense as a matter of public policy. Altering the backdrop availability of ordinary patent remedies against “unwilling licensees” (*e.g.*, entities that have refused to commit to take a license that has already been adjudicated to be FRAND) would devalue SEPs by encouraging infringement and obstinate refusals to pay royalties by making litigation preferable to privately negotiated licenses. This not only would lead to more, not less, litigation, but also would *discourage* investment in technologies related to standardization.³⁶

Not surprisingly, courts³⁷, the ITC,³⁸ and other executive entities, such as the Department of Justice and U.S. Patent and Trademark Office,³⁹ are rejecting the argument that a

FRAND commitment waives all rights to an injunction or exclusion order, acknowledging the bad incentives that would be created by such a rule.⁴⁰ There is no need for the Committee to disrupt this growing consensus. Indeed, given that patent law and antitrust law are both enacted for the purpose of promoting competition, it would be particularly unwise to take action based on the antitrust laws regarding the exercise of patent rights in the absence of any evidence of competitive harm.

V. CONCLUSION

The tremendous success of the wireless communications industry shows that SSOs' IPR Policies are working and neither antitrust intervention nor new legislation is warranted. FRAND commitments are having their desired effect. Licenses are available on FRAND terms to industry participants, through private negotiations that promote patent peace, and the vast majority of industry participants enter into needed licenses voluntarily. A few, unfortunately, have refused to enter into and pay for needed licenses, instead hoping to persuade courts, regulators, or legislators to grant them the license rights they need at costs that no one could seriously contend provide the compensation necessary to ensure continued investment in R&D to current and future standards. Lowering costs in the short term is an understandable motive, but it is bad policy. Intellectual innovation is so important to this nation that its encouragement and protection is embodied in our Constitution, and yet there is a very high risk that well-intentioned but misplaced legislative intervention will actually stifle that innovation. On the other hand, the FRAND licensing system, as it currently stands, established by industry participants through SSOs, has a proven record of motivating investment in R&D, while delivering ever-better technology to ever-increasing numbers of consumers at ever-decreasing prices.

In light of this, Congress should take several steps to ensure continued competition and innovation. *First*, Congress should continue to promote a strong and balanced system of patent rights, including by signaling to foreign regulators, particularly in emerging markets, that U.S. patent laws will continue to serve as the gold standard for the rest of the world, and that the U.S. will not stand by as foreign regulators seek to devalue U.S. patents. *Second*, Congress should take no action to disrupt or overturn SSO policies that

preserve the freedom to negotiate enforceable licenses on market-driven terms, including by recognizing the historic role of bilateral licensing and voluntary, consensus-based standards in driving competition and innovation. *Third*, Congress should endorse and encourage adherence to the policy statement issued by the DOJ and USPTO on SEPs and remedies.

At the same time, Congress should refrain from adopting any laws or policies that will have the unintended, but real, consequence of devaluing American patents and American technology, including by foreign regulators. Qualcomm believes that balanced hearings of the type now being conducted by the Committee provide a helpful forum to discuss these important issues, especially because so many uninformed and unsubstantiated claims of patent abuse have been raised, but caution is warranted to avoid chilling and disincentivizing innovation. Given the success of the cellular industry, SSOs and courts should be left to appropriately address, as they have, the relevant issues, without legislation.

¹ Sony's BetaMax technology, which for a time competed with VHS but ultimately lost favor, is the most obvious example of a technology in which substantial investment was made, but which did not yield a substantial return on that investment. Another example is AT&T's Videophone technology.

² U.S. Const., art. I, § 8, cl. 8.

³ ETSI is the SSO that developed the 2G GSM standards. After these standards were developed, 3GPP was formed to create global specifications for future generations of standards, including 3G and 4G LTE specifications, and ETSI is now considered an Organizational Partner of 3GPP. In this role ETSI adapts 3GPP specifications into standards for use in Europe, while other Organizational Partners adapt 3GPP specifications into standards for use in other parts of the world.

⁴ See ETSI website, Current Members, available at www.etsi.org/membership/current-members.

⁵ See ETSI Rules of Procedure, 20 March 2013, Annex 6, ETSI Intellectual Property Rights Policy [hereinafter "ETSI IPR Policy"], www.etsi.org/images/files/IPR/etsi-ipr-policy.pdf. Because 3GPP is related to ETSI, but was created after ETSI, see *supra* note 2, 3GPP uses the rules and IPR Policy of ETSI.

⁶ *Id.* at § 3.1.

⁷ *Id.*

⁸ *Id.*

⁹ *Id.* at § 3.2.

¹⁰ *Id.* at §§ 4.1–4.3.

¹¹ *Id.* at § 6.1.

¹² See Roger G. Brooks, *Patent “Hold-Up,” Standards-Setting Organizations, and the FTC’s Campaign Against Innovators*, 39 AIPLA Q.J. 435, 454, 462 (2011).

¹³ ETSI IPR Policy § 4.1 (“[A] MEMBER submitting a technical proposal for a STANDARD or TECHNICAL SPECIFICATION shall, on a bona fide basis, draw the attention of ETSI to any of that MEMBER’s IPR which might be ESSENTIAL if that proposal is adopted.”).

¹⁴ See *id.* at Appendix A (“[T]he Declarant hereby irrevocably declares that . . . it and its AFFILIATES are prepared to grant irrevocable licenses under its/their IPR(s) on terms and conditions which are in accordance with Clause 6.1 of the ETSI IPR Policy, in respect of the STANDARD(S), TECHNICAL SPECIFICATION(S), or the ETSI Project(s), as identified above, to the extent that the IPR(s) are or become, and remain ESSENTIAL to practice that/those STANDARD(S) or TECHNICAL SPECIFICATION(S). . . .” (emphasis added)) (IPR Licensing Declaration forms).

¹⁵ See, e.g., *Microsoft Corp. v. Motorola, Inc.*, 854 F. Supp. 2d 993, 999 (W.D. Wash. 2012) (holding that “through Motorola’s letters to both the IEEE and ITU, Motorola has entered into binding contractual commitments to license its essential patents on RAND terms”); *Apple, Inc. v. Motorola Mobility, Inc.*, No. 11-cv-178, 2012 WL 3289835, at *19 (W.D. Wis. Aug. 10, 2012) (holding that “Motorola’s assurances that it would license its essential patents on fair, reasonable and nondiscriminatory terms constitute contractual agreements”); *Research in Motion Ltd. v. Motorola, Inc.*, 644 F. Supp. 2d 788, 797 (N.D. Tex. 2008) (declining to dismiss breach of contract claims based on alleged broken promise to license on FRAND terms); *Ericsson Inc. v. Samsung Elecs. Co., Ltd.*, No. 2:06-CV-63, 2007 WL 1202728, at *2-3 (E.D. Tex. Apr. 20, 2007) (recognizing that a dispute on FRAND terms is a contractual dispute and separate from questions of patent law).

¹⁶ See ETSI Guide on Intellectual Property Rights, § 4.1, 30 November 2011, www.etsi.org/images/files/IPR/etsi-guide-on-ipr.pdf. This Guide “is intended to help ETSI Members and any other party involved in ETSI’s standardization activities . . . to understand and implement the Institute’s IPR Policy”. *Id.* at Foreword.

¹⁷ The ITU Common Patent Policy states: “The detailed arrangements arising from [essential] patents (licensing, royalties, etc.) are left to the parties concerned, as these arrangements might differ from case to case.” Common Patent Policy for ITU-T/ITU-R/ISO/IEC, www.itu.int/en/ITU-T/ipr/Pages/policy.aspx; see also *id.* at §§ 2.1, 2.2 (stating that licensing “negotiations are left to the parties concerned and are performed outside ITU-T/ITU-R/ISO/IEC”). The ITU’s Guidelines for Implementation of the Common Patent Policy go further: the ITU “should not be involved in evaluating patent relevance or essentiality . . . , interfere with licensing negotiations, or engage in settling disputes on Patents; this should be left—as in the past—to the parties concerned.” ITU Guidelines for Implementation of the Common Patent Policy, § 1 (stating the “Purpose” of the Guidelines) (emphasis added), available at www.itu.int/dms_pub/itu-t/oth/04/04/T04040000010003PDFE.pdf.

¹⁸ See, e.g., *Microsoft Corp.*, 854 F. Supp. 2d 993 (W.D. Wash. 2012).

¹⁹ See *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 391 (2006).

²⁰ See 19 U.S.C. § 1337(d) (providing that, before granting exclusionary relief against an infringing product, the ITC should consider “the effect of such exclusion upon the public health and welfare, competitive conditions in the United States economy, the production of like or directly competitive articles in the United States, and United States consumers”); *Bally/Midway Mfg. Co. v. U.S. Int’l Trade Comm’n*, 714 F.2d 1117, 1122 (Fed. Cir. 1983) (stating that 19 U.S.C. § 1337(d) “requires the [ITC] to consider the effect of the exclusion of imports upon the public health and welfare”) (internal quotation marks and brackets omitted).

²¹ See Standards Development Organization Advancement Act of 2004, Pub. L. 108-237, 118 Stat. 661 (2004).

²² *Golden Bridge Tech., Inc. v. Motorola, Inc.*, 547 F.3d 266, 273.

²³ See Richard A. Epstein, F. Scott Kieff & Daniel F. Spulber, *The FTC, IP, and SSOs: Government Hold-Up Replacing Private Coordination*, 8 J. COMPETITION L. & ECON. 1, 28-29 (2012) [hereinafter “Epstein, *Government Hold-Up*”].

²⁴ See CTIA—The Wireless Association Website, *Wireless Quick Facts*, available at www.ctia.org/advocacy/research/index.cfm/aid/10323.

²⁵ See Richard S. Taffet, *The Federal Trade Commission’s Evolving IP Marketplace Report’s Challenge to Inventiveness, Innovation, and Competitiveness*, THE ANTITRUST SOURCE (February 2012) at 12 (noting statements by ANSI and major SSOs, such as ATIS, that they have not experienced “hold up”), www.americanbar.org/content/dam/aba/publishing/antitrust_source/feb12_taffet_2_27f.authcheckdam.pdf.

²⁶ See Epstein, *Government Hold-Up*, at 15-22; see also Hearing Transcript at 174-77, *Microsoft Corp. v. Motorola Inc.*, No. 10-cv-1823 (W.D. Wash. Nov. 19, 2012) (Testimony of Richard Schmalensee) (testifying, in response to questions from the court, that any potential for hold-up is mitigated by the fact that parties to licensing agreements are repeat players and have to interact with each other regularly on commercial matters well beyond a single license).

²⁷ Hearing Transcript at 180, *Microsoft Corp. v. Motorola Inc.*, No. 10-cv-1823 (W.D. Wash. Nov. 13, 2012) (Testimony of Kevin Murphy); see also *id.* at 201-02 (admitting that “hold-up has not necessarily been a problem”); *id.* at 183 (testifying that Motorola’s licenses merely “could” contain hold-up); Hearing Transcript at 67, *Microsoft Corp. v. Motorola, Inc.*, No. 10-cv-1823 (W.D. Wash. Nov. 16, 2012) (Testimony of Timothy Simcoe) (acknowledging that he has “no evidence that the dispute between Motorola and Microsoft in this case is in fact based on hold-up” and that he “can’t nail down any particular license from any company as an example of hold-up”); *id.* at 135-36 (Testimony of Matthew Lynde) (acknowledging that “I have no basis from economic evidence to conclude whether or not patent hold-up is a real problem”).

²⁸ See Keith Mallinson, WiseHarbor, *A Compendium of Industry and Market Analysis Articles on Intellectual Property in Mobile Communications Standards* (June 12, 2011) at 9, 12-17, available at www.ftc.gov/os/comments/patentstandardsworkshop/00007-60459.pdf.

²⁹ The so-called “patent wars” are really simply a marginal aspect of a larger contest: a small number of participants in a highly competitive industry, locked in a ferocious battle to establish market positions for competing operating systems. This uptick in litigation between a modest number of industry participants is *not* a symptom of any widespread, long-term, systemic, or otherwise serious problem. Once these cases end, as they inevitably will, the current fervor will subside and “business as usual” will resume for those companies and continue for others. See, e.g., Sindhu Sundar, *Apple, Samsung Reportedly Negotiating Deal to End IP Wars*, Law360.com (July 19, 2013), available at www.law360.com/articles/458780/apple-samsung-reportedly-negotiating-deal-to-end-ip-wars.

As David Kappos stated to the House Judiciary committee in May 2012, while he was serving as the Director of the USPTO: “I do not believe that [the patent wars are] a sign that there’s anything at all wrong with the innovation environment in the U.S. In fact, I think [they are] a byproduct of a very healthy overall innovation environment. These things happen. They sort themselves out.” See Kenneth Corbin, *Technology Patent Wars Sign of Robust Innovation*, CIO (May 17, 2012) available at www.cio.com/article/706589/Technology_Patent_Wars_Sign_of_Robust_Innovation.

³⁰ Indeed, if anything, it is “reverse hold-up”—*i.e.*, the opportunistic attempt by a potential licensee to obtain leverage over an SEP-holder by refusing to take a license on market terms—that is becoming a problem. See *Certain Elec. Devices, Including Wireless Communication Devices, Portable Music and Data Processing Devices, and Tablet Computers*, Inv. No. 337-TA-794, at 62-63 (July 5, 2013) [hereinafter “ITC Inv. No. 337-TA-794 Decision”] (recognizing that the conduct of the potential licensee illustrates the problem of “reverse hold-up”).

³¹ See Epstein, *Government Hold-Up*, at 20-21.

³² U.S. Dep't of Justice & U.S. Patent & Trademark Office, Policy Statement on Remedies for Standards-Essential Patents Subject to Voluntary F/RAND Commitments, at 5-6 (Jan. 8, 2013) [hereinafter "DOJ/USPTO Policy Statement"].

³³ See, e.g., Roger G. Brooks and Damien Geradin, *Taking Contracts Seriously: The Meaning of the Voluntary Commitment to License Essential Patents on 'Fair and Reasonable' Terms* in Intellectual Property and Competition Law 406-07 (Steven Anderman and Ariel Ezrachi eds., Oxford University Press, 2011).

³⁴ *Id.*

³⁵ See Press Release, European Telecommunications Standards Institute, IPR dialogue continues at ETSI (May 6, 2013) ("The meeting was attended by a large number of ETSI Members, as well as representatives of the European Commission, the US Department of Justice, and the US Federal Trade Commission. . . . Regarding reciprocity, FRAND, and Injunctive Relief the Committee is continuing to analyze various proposals."); Int'l Telecomms. Union website, TSB Director's Ad Hoc Group on IPR (noting meetings on "Patent Policy and its guidelines for implementation"), available at www.itu.int/en/ITU-T/ipr/Pages/adhoc.aspx.

³⁶ See Epstein, *Government Hold-Up* at 4-5.

³⁷ See *Apple, Inc.*, 2012 WL 5416941 at *15 ("There is no language in either the ETSI or IEEE contracts suggesting that Motorola and the standards-setting organizations intended or agreed to prohibit Motorola from seeking injunctive relief."). The recent district court decision in *Apple, Inc., v. Motorola, Inc.*, No. 11-CV-08540, 2012 WL 2376664 (N.D. Ill. June 22, 2012) (Posner, J.), neither refers to nor takes into account this history, *id.* at *12-22, and therefore is of little persuasive value on the question of whether a FRAND undertaking pursuant to the ETSI IPR Policy precludes the availability of injunctive relief. As the Court in the Western District of Wisconsin observed, Judge Posner "never refer[red] to the ETSI or IEEE policies as 'contracts'", and cited only "policy and economic arguments, not contract provisions" when addressing the availability of injunctive relief after making a FRAND commitment. *Apple*, 2012 WL 5416941, at *14.

³⁸ See ITC Inv. No. 337-TA-794 Decision at 46-48.

³⁹ See DOJ/USPTO Policy Statement at 7 (noting that exclusionary relief would "be an appropriate remedy in some circumstances, such as where the putative licensee is unable or refuses to take a F/RAND license and is acting outside the scope of the patent holder's commitment to license on F/RAND terms").

⁴⁰ See *id.* at 7 n.15 ("We recognize that the risk of a refusal to license decreases where the putative licensee perceives a cost associated with delay and increases where the putative licensee believes its worst-case outcome after litigation is to pay the same amount it would have paid earlier for a license.").

SUPPLEMENTAL PREPARED STATEMENT OF DONALD J. ROSENBERG, EXECUTIVE VICE
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Additional statement of

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Qualcomm Incorporated

Prepared in response to the July 30, 2013 hearing on

“Standard Essential Patent Disputes and Antitrust Law”

Before the

Antitrust, Competition Policy and Consumer Rights Subcommittee of
The Senate Committee on the Judiciary

Submitted September 3, 2013

I. OVERVIEW.

Thank you again for the opportunity to testify before the Subcommittee on July 30, 2013 and to submit this additional statement for the hearing record. The submitted testimony of the Federal Trade Commission¹ (“FTC”), the Institute of Electrical and Electronics Engineers² (“IEEE”), and Qualcomm Incorporated³ (“Qualcomm”) have accurately painted a picture of the long-standing mechanisms of standardization and the licensing of standards-essential patents (“SEP(s)”—mechanisms that are voluntary, nuanced, and governed by evolving industry-developed rules and procedures. The testimony received also accurately demonstrates that “FRAND” commitments to license SEPs are legally binding, and that when disputes arise (as they will under any legal regime) courts and International Trade Commission are able to adjudicate these disputes to give effect to FRAND commitments and protect the rights of affected parties. The record demonstrates that industries that are highly standardized and subject to large numbers of SEPs⁴ have been, objectively, extremely successful from any point of view, characterized by massive investment, rapid innovation, job creation and maintenance, enhanced consumer choice and benefits, and intense competition.

The FTC has also provided testimony that reflects the delicate balance that characterizes the present, privately developed mechanisms of SEP licensing. The FTC on the one hand posits the possibility of opportunistic “hold-up”, and on the other acknowledges the existence of multiple “market-based factors” that may mitigate the risk of (and may account for the lack of empirical evidence of) hold-up.⁵ Again, the FTC on

¹ See Prepared Statement of the Federal Trade Commission Before the United States Senate Committee on the Judiciary Subcommittee on Antitrust, Competition Policy and Consumer Rights Concerning “Standard Essential Patent Disputes and Antitrust Law” (July 30, 2013) (*hereinafter* “FTC Statement”).

² See Written Testimony of the Institute of Electrical and Electronics Engineers, Incorporated (IEEE) Standards Association before the Subcommittee on Antitrust, Competition Policy and Consumer Rights of the Senate Committee on the Judiciary entitled “Standards Essential Patent Disputes and Antitrust Law” (July 30, 2013) (*hereinafter* “IEEE Statement”).

³ See Testimony of Donald J. Rosenberg, Executive Vice President, General Counsel, and Corporate Secretary Qualcomm Incorporated Prepared for the hearing on “Standard Essential Patent Disputes and Antitrust Law” Before the Antitrust, Competition Policy and Consumer Rights Subcommittee of The Senate Committee on the Judiciary (July 30, 2013) (*hereinafter* “Qualcomm Statement”).

⁴ Intel Corporation (“Intel”) identifies cellular telephones and laptop computers as leading examples of products incorporating large numbers of standards and patents. See Prepared Statement for the Record of Intel Corporation for the Senate Committee on the Judiciary Subcommittee on Antitrust, Competition Policy and Consumer Rights on Standard Essential Patent Disputes and Antitrust Law (July 30, 2013) at 5-6 (*hereinafter* “Intel Statement”). These are industries which, under existing licensing rules and practices, have been characterized by both rapid innovation and intense competition.

⁵ FTC Statement at 6.

the one hand notes concerns about excessive bargaining power that might be created by the issuance of injunctions against infringers of SEPs in certain circumstances, and on the other hand recognizes the importance of protecting incentives to invest in innovation, and the value of the threat of injunctive relief to motivate private negotiation of licenses “without costly litigation”.⁶

Qualcomm strongly opposes attempts to force a government-dictated SEP-licensing regime on industry, in place of the mechanisms developed and successfully used by private industry over many decades. The record before the Subcommittee points to no facts that should motivate Congress or antitrust enforcement agencies to disrupt long-established practices in this area. Indeed, some of the policy changes that Intel, for example,⁷ recommends in its testimony would discourage investment in the R&D that is essential to the continued preeminence of the United States in technology innovation.

⁶ FTC Statement at 7-8 and n. 26.

⁷ Curiously, Intel’s recent testimony to the Subcommittee stands in stark contrast to a submission by Intel made to the FTC in August 2011 in connection with a request for comments for a workshop entitled “Tools to Prevent Patent Hold-Up: IP Rights in Standard Setting”. See Intel Corporation’s Response to the Commission’s Request for Comments in Connection with its Patent Standards Workshop, Project No. P11-1204 (Aug. 5, 2011) available at <http://www.ftc.gov/os/comments/patentstandardsworkshop/00042-80174.pdf>. In those comments, Intel stated that it “strongly believes” reports about the possibility of patent hold-up are “overblown”, that “government efforts to regulate or provide prescriptive guidance on . . . licensing—however well-intended—are likely to be counterproductive”, and that “the evidence shows that standard-setting processes generally work well”. *Id.* at 1. In particular, Intel observed that “broadly applicable government regulations are unlikely to be flexible enough to adapt to the nuances and practicalities of different contexts” and instead that “the far better course is to allow occasional instances of abuse to be addressed by enforcement of existing law in contract, fraud, antitrust, and other applicable areas”. *Id.* at 2 (emphasis added).

II. NO REAL-WORLD PROBLEM JUSTIFIES ABRUPT CHANGES TO THE EXISTING AND WELL-FUNCTIONING SYSTEM OF STANDARDIZATION AND LICENSING.

It is precisely the existing privately developed structures governing SEP licensing that have enabled the investment and innovation that have “given U.S. industry an undisputed leadership role in the technology field.”⁸ Assertions that this leadership is “threatened” by the very licensing systems that created it are not supported by any facts. After several years of study and taking of evidence, the FTC still speaks only of the *possibility* or threat of hold-up by SEP owners; it does not identify any concrete evidence of real-world harm or disruption to any industry caused by hold-up by SEP owners,⁹ and it recognizes that market forces may provide substantial protection against the possibility of such hold-up.¹⁰

Meanwhile, Intel relies largely on rhetoric or citations to academic speculation to create an impression that there is a systemic hold-up problem.¹¹ Where Intel points to actual litigations and purported real-world situations, these examples prove just the opposite. The particular litigations cited by Intel, such as *Microsoft v. Motorola*, *Apple v. Motorola*, and *Realtek Semiconductor v. LSI Corp.*, demonstrate that FRAND commitments are genuinely meaningful and enforceable under present law and that an implementer that believes that it is not being offered FRAND terms can go to court and get relief if it can prove its allegations.¹² As to Intel’s reference to “Instances of

⁸ Intel Statement at 2.

⁹ The FTC refers to two enforcement actions in which the FTC *alleged* that SEP holders had violated FRAND commitments by *seeking* injunctions against competitors and implementers using SEPs. See FTC Statement at 10-11. Neither of these episodes should be mistaken for reliable evidence of “hold-up”. Both actions ended in consent decrees—*i.e.*, were settled—and the factual and legal sufficiency of the FTC’s allegations was never tested in any adjudicative proceeding. Although the proposed consent decrees were open to public comment, the FTC provided neither a transparent disclosure of the factual analysis underlying its claims, nor rigorous legal analysis supporting its broad allegations. See Qualcomm Inc.’s Response to the Commission’s Request for Comments on the Proposed Agreement Containing Consent Orders, *In the Matter of Robert Bosch GMBH*, F.T.C. File No. 121-0081 (Jan. 9, 2013) available at <http://ftc.gov/os/comments/rboschgmbh/00014-85362.pdf>; Qualcomm Inc.’s Response to the Commission’s Request for Comments on the Proposed Agreement Containing Consent Orders, *In the Matter of Motorola Mobility LLC and Google Inc.*, F.T.C. File No. 121-0120 (Feb. 22, 2013) available at <http://ftc.gov/os/comments/motorolagoogle/563708-00022-85574.pdf>.

¹⁰ FTC Statement at 6.

¹¹ See Intel Statement at 8.

¹² Importantly in the *Microsoft v. Motorola* case referred to by Intel, plaintiff Microsoft pursued claims of hold-up but its own expert witnesses were unable to identify hold-up in the real world. See Qualcomm Statement at 17 and n. 27.

successful hold-up . . . [that] go unreported”,¹³ it is not possible to respond to—and would not be wise to launch a radical legislative intervention based on—undocumented anecdotal behavior. Finally, Intel recounts a negotiation in which an unidentified WiFi patentee demanded a royalty of 50 cents per unit, which Intel contends was unreasonable for the particular patents at issue. But even if this offer was unreasonable—on which Qualcomm ventures no opinion—negotiations often begin with “aggressive” demands. Intel does *not* say that this patentee *succeeded* in forcing Intel to pay 50 cents per unit, or that the patentee was able to obtain an injunction against Intel if Intel refused to pay that price.¹⁴ In short, there is nothing in this story to suggest that the current system of privately developed, contractually enforceable FRAND obligations is not well able to prevent the sort of “extreme royalty” scenarios that Intel paints as being frequent or pervasive.

III. SEVERAL SPECIFIC POLICY RECOMMENDATIONS WOULD BE HARMFUL TO INVESTMENT, INNOVATION, INDUSTRY, AND CONSUMERS.

A. A Categorical Redefinition of a FRAND Commitment to Require Licensing of Component-Makers Would Be Inconsistent With SSO Requirements and Industry Practice in Some Industries, and Severely Disruptive.

In its testimony, Intel proposes that a FRAND commitment should be interpreted to require the patentee to license semiconductor and other component providers, not merely manufacturers of consumer devices or other end products that fully embody and practice the relevant standard. Intel is attempting to persuade the Committee to adopt a construction of the FRAND commitment that was firmly rejected in a recent court decision, after full consideration of expert testimony and the relevant policy language.¹⁵ Intel’s novel requirement is inconsistent with what leading SSO policies actually say; it would be inconsistent with widely accepted industry practice in at least some important industries; and it would be highly disruptive and injurious generally to the value of patents and thus to incentives to invest in R&D.

First, at least in the 3G/4G wireless communications sector, it is and has long been the industry norm for substantial patent holders to license at the level of complete standard-compliant devices, not parts and components. For both the 3G UMTS (also known as WCDMA) standard *and* the 4G-LTE standard, a wide range of leading owners of *potentially* essential patents disclosed (well in advance of widespread

¹³ Intel Statement at 12.

¹⁴ See Intel Statement at 11.

¹⁵ See *Ericsson Inc., et al. v. D-Link Systems, Inc., et al.*, No. 6:10-CV-473, Dkt. 615 slip op. at 46-47 (E. D. Tex. Aug. 6, 2013).

commercial implementation of the standard) the maximum royalty rates they would charge for a portfolio license *based on the selling price of standard-compliant devices*.¹⁶ It would be neither fair nor wise to force a change to this practice.

Second, the IEEE policy which Intel references does *not* require a commitment to license manufacturers of parts and components of standardized devices. Instead, the patentee only commits to license “a *compliant implementation* of the standard”.¹⁷ Similarly, the ETSI IPR Policy requests a commitment to grant licenses only for “any system, or device fully conforming to a STANDARD”, not for the manufacture or sale of parts or components.¹⁸

Third, the reason for this widespread industry practice is not hard to identify. In industries characterized by complex technology and large numbers of patents (such as the wireless communications sector), negotiating licenses for individual patents (so-called “per-patent licenses”) would be utterly impractical, and not surprisingly holders of significant portfolios routinely license—and implementers regularly seek licenses—on a portfolio basis. Those portfolios often contain patents covering a broad range of technological innovations; some patents that read on the physical details of discrete components, others that read only on the finished device in operation, and others that read on the physical details or operations at various stages in between. In some cases, components may be useful only for incorporation into standard-compliant devices; in other cases, components may be useful in both standardized devices and in non-standardized devices as to which there is no FRAND obligation at all. If one were to attempt to license multiple manufacturers of individual parts or sub-assemblies, there would be endless complications and grounds for dispute involved in determining who requires licenses to what, with the added complexity of widely varying royalty rates and licensing terms. By contrast, licensing the entire portfolio only at the level of the completed product radically simplifies the negotiation, licensing, royalty collection, and auditing process, to the ultimate benefit of the entire industry.

Intel recounts an example in which a patentee supposedly refused to license a Wi-Fi patent to Intel as chipmaker, “even though the patented technology was included entirely and only within the Wi-Fi chip”.¹⁹ Qualcomm ventures no view as to whether Intel’s chip in fact represented “a compliant implementation of the standard” (to borrow the IEEE policy language) or merely one *component* of a fully compliant device,

¹⁶ See Eric Stasik, *Royalty Rates and Licensing Strategies for Essential Patents on LTE (4G) Telecommunication Standards*, les Nouvelles, (September 2010).

¹⁷ See IEEE SA Standards Board Bylaws § 6.2 (emphasis added).

¹⁸ See ETSI Rules of Procedure, Annex 6, March 20, 2013, §6.1 and definitions of “MANUFACTURE” AND “EQUIPMENT”.

¹⁹ Intel Statement at 11.

and Qualcomm likewise ventures no view as to whether the demand of that patentee was “fair and reasonable” within the economics and accepted industry practice of that industry. The point is that the right answer may differ from industry to industry, and depending on particular facts. These issues can all be raised and decided in the context of a contractual claim alleging failure to offer FRAND terms and conditions. There could be no justification for a *categorical* legislative or regulatory “override” requiring all SSOs to require patentees to license makers of parts and components rather than only providers of complete standards-compliant devices.

B. The Proposal to Require SEP Royalties to Be Assessed Against the “Smallest Saleable Component” is Misguided.

Intel’s “smallest saleable component”²⁰ argument suffers essentially the same flaws as its argument that SEP holders should be required to license component-makers. To begin, a rigid rule prohibiting a royalty base other than the sale price of individual components is inherently arbitrary and in many instances could radically understate the contribution and value of patented technology, thereby devaluing SEPs and reducing incentives to innovate. Commonly used definitions of royalty base vary across industries with good reason; no prominent SSO SEP licensing policy requires that royalties be set by reference to a “smallest saleable component”, and there is no reason that royalty bases should be forced into a common mold by legislative or agency dictate.

In the case of licenses covering large and diverse portfolios,²¹ royalties calculations based on the actual sale price of consumer devices or end products may be far easier to define (and audit) than royalties based on the “smallest priceable component that incorporates the inventive feature”,²² since in many cases the “smallest priceable component” is not actually priced, and what component or assembly actually embodies “the inventive feature” will vary from patent to patent across the portfolio. Obviously, in the case of large portfolios and complex products, pricing a portfolio royalty in this way would quickly become utterly impossible and inefficient.

Again, industry practice has been and should continue to be the guide as to what is “fair and reasonable” in particular circumstances. This can and should be considered on an appropriately fact-specific basis in the course of litigating “breach of FRAND” claims or defenses, and this approach provides ample protection against outrageous demands from opportunistic non-practicing entities.

²⁰ See Intel Statement at 16-17.

²¹ See *supra* § III.A.

²² Intel Statement at 16 (internal quotation marks omitted).

C. **The Proposal that an SEP holder “May Not Seek or Enforce Injunctions” Except in “Special Circumstances” Is Unclear.**

None of the witnesses at the hearing contended that an injunction or exclusion order should issue against an infringer that is willing to take a license on terms that have been adjudicated to be FRAND. The *eBay*²³ decision has provided ample room for courts to reach this result under existing law, and Qualcomm agrees with the statement of the FTC that the ITC’s existing statutory authority likewise gives it room to deny an exclusion order against an infringer that is genuinely willing to pay a FRAND royalty.²⁴

However, Intel’s assertion that “the threat of injunctive relief serves no purpose other than to give SEP holders leverage . . . to extract royalties above . . . FRAND levels” is incorrect.²⁵ All licenses are taken because one will not be permitted to use the intellectual property without a license, just as all leases are signed because one will not be permitted to live in the apartment unless one signs the lease. The ability to exclude is at the very heart of property rights, just as the risk of exclusion is inherent in any negotiations over property rights. Thus, there is nothing “improper” about the leverage provided by the “threat of injunction”, nor does that threat in any way imply royalties “above . . . FRAND levels”. As noted above, the FTC in its testimony rightly describes the economic *efficiencies* that may be provided by clear property rights and the “threat of injunction”.²⁶

D. **“Incremental Value” Is Not a Useful or Appropriate Measure Of Reasonable Royalties.**

Intel argues that FRAND commitments should be read to include a rigid requirement that “reasonable” royalties after standardization be limited to the “incremental value” of a technology over the next best alternative technology prior to standardization.²⁷ But “incremental value” is a theoretical construct inapplicable to any real world setting.

First, an “incremental value” definition or limit on value finds no basis whatsoever in any real-world market, nor in the policies or practices of *any* SSO of which

²³ See *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388 (2006).

²⁴ See FTC Statement at 9-10.

²⁵ Intel Statement at 18.

²⁶ See FTC Statement at 8 and n. 26.

²⁷ See Intel Statement at 15.

Qualcomm is aware.²⁸ Importantly, Intel offers no evidence that SSO members intended that contributors of technology to standards would limit themselves to any measure of “incremental value” as compensation for the use of their technologies, rather than a rate set by market negotiations. To the contrary, many successful SSOs expect instead that royalty rates will be determined by the market on the basis of arm’s length negotiation.²⁹

Second, even as a theoretical construct, “incremental value” is not useful. Simply stated, there can be no singular and fixed value that can be attributed to a technology either *ex ante* or *ex post* standardization that could supply the objective criteria on which an “incremental value” analysis would depend. To the contrary, it is basic economics that the value of a technology may differ from one user of a technology to another and may increase or decrease independently *ex ante* or *ex post* standardization based on market conditions separate and apart from the effect, if any, of inclusion in a standard.³⁰ This fundamental insight renders any purported “incremental value” analysis far too speculative and inaccurate to be of any real-world utility.

Third, and most problematically, the abstract logic of “incremental value” invariably steers towards outcomes that risk severely devaluing SEPs, undercompensating innovators, and vitiates the incentive scheme embodied in patent law. To cite a contemporary example of how “incremental value” works this mischief, in the *Microsoft v. Motorola* litigation the district court encountered evidence that incremental value may dictate that “If a component had multiple alternatives before the standard was settled, its incremental contribution, properly measured, may be close or equal to zero”.³¹ The consequences of a world in which technologies could end up being valued at “close or equal to zero” by virtue of having been deemed by a consensus of engineering experts sufficiently superior to be included in an industry standard are predictable. The owners of valuable technologies would reconsider or possibly avoid participation in standardization and instead pursue proprietary solutions or divert their resources to different endeavors entirely; the quality, attractiveness, and social benefits of industry standards would suffer. It is perhaps then unsurprising that SSO memberships have conspicuously avoided adopting such artificial and value-destroying abstractions and have chosen instead to rely upon proven market mechanisms and accumulated industry experience to determine the value of standardized technologies. Legislators and antitrust enforcement authorities should heed this insight and approach the question of reasonable

²⁸ See also *Microsoft Corp. v. Motorola, Inc.*, No. C10-1823, 2013 WL 2111217, at *13 (W.D. Wash. Apr. 25, 2013) (observing that “Neither the IEEE nor the [International Telecommunications Union] specifies that RAND terms must be determined using an incremental value approach.”).

²⁹ See Qualcomm Statement at 10.

³⁰ See Richard A. Epstein, F. Scott Kieff & Daniel F. Spulber, *The FTC, IP, and SSOs: Government Hold-Up Replacing Private Coordination*, 8 J. COMPETITION L. & ECON. 1, 37-40 (2012).

³¹ *Microsoft Corp.*, 2013 WL 2111217, at *14.

royalties with the same light touch by declining to impose on SSOs rigid and unworkable rules that industry participants have wisely rejected.

IV. CONCLUSION.

The record before the Subcommittee supports the conclusion that existing voluntary standardization activities—including FRAND-based licensing practices—are working well and have enabled some of the world’s most technologically advanced industries to flourish. Other positive benefits include robust and competitive markets for advanced technologies and services, enhanced consumer choice and welfare, job creation and maintenance, and important contributions to American technological leadership and economic competitiveness.

Licensing disputes involving SEPs that occur on the margins can be adjudicated by courts applying existing law to give effect to FRAND commitments. There is therefore no demonstrated basis for displacing the flexible licensing practices voluntarily adopted by standards bodies with rigid and uniform rules that will be ill-suited to at least some industries. Indeed, as shown, some suggestions put forth as proposed “reforms” have no basis in real-world practice, risk destroying the value of SEPs, undermine incentives to innovate, and have been rejected by members of standardized industries and courts adjudicating licensing disputes. Nothing in the record of success presented to the Subcommittee points to a need for legislative or regulatory intervention. The health of standardized industries and ultimately consumer welfare are better served by preserving the ability of industry participants to develop practices and mechanisms suited to the real-world needs of their industries such as those that have enabled the astounding success of wireless communications and other cutting edge industries.

PREPARED STATEMENT OF JOHN D. KULICK, PH.D., CHAIR, STANDARDS BOARD, THE
INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS STANDARDS ASSOCIATION,
NEW YORK, NEW YORK



Oral Testimony of John D. Kulick, Ph.D., Chair of the Standards Board,
The Institute of Electrical and Electronics Engineers, Incorporated (IEEE)
Standards Association (IEEE-SA)
before the
Subcommittee on Antitrust, Competition Policy and Consumer Rights of the Senate
Committee on the Judiciary entitled "Standards Essential Patent Disputes and
Antitrust Law"
Tuesday, July 30, 2013
Room 226, Dirksen Senate Office Building

Good morning. My name is John Kulick. I am the Chair of the Standards Board of the IEEE Standards Association, known as IEEE-SA. I am also an employee of Siemens, but I am here solely in my IEEE-SA capacity.

IEEE-SA is a global leader in standards development. For example, probably all of the Senators and Senate staff members in this room have a laptop or tablet computer with wireless connectivity. That functionality is based on the 802.11 standard, one of the most well-known standards developed within IEEE.

IEEE-SA is the standards development arm of IEEE. IEEE is the leading global organization for engineers, scientists, and other professionals whose technical interests are rooted in electrical and computer sciences, engineering, and related arts and sciences. IEEE is a New York not-for-profit corporation, a 501(c)(3) public charity, whose mission is the advancement of technology for the benefit of humanity. IEEE has more than 425,000 members in over 160 countries.

We believe that the intersection of patents with standards is becoming a real issue and tensions will grow, despite current assertions by some that there are no problems and that courts will eventually solve whatever litigation may emerge. Therefore, the work of the Subcommittee is very timely and may be an inflection point in the global efforts to find long-term solutions.

IEEE fully realizes the importance of a comprehensive patent policy and has put in place a balanced framework with detailed rules and procedures that define how patented technologies should be taken into account within IEEE standards. A detailed description of the IEEE standards development process is provided in the written submission to the Subcommittee.

However, beyond its specific rules and procedures, IEEE-SA is one of the very few standards development organizations, SDOs, that have explicitly expressed an overarching governing principle, which informs its patent policy. It can be summarized through the term: "Universal Availability," meaning broadly available and affordable. This is best described by the OpenStand Initiative as follows:

“Standards specifications are made accessible to all for implementation and deployment. Affirming standards organizations have defined procedures to develop specifications that can be implemented under fair terms. Given market diversity, fair terms may vary from royalty-free to fair, reasonable, and non-discriminatory terms (FRAND).”

Thus, the strength of IEEE-SA’s patent policies can be measured by whether the outcome of the standardization process is universally available, that is, broadly affordable to anyone and any body. The success of a standard should be determined by the market. A proliferation of strategic standards coupled with a concentration of SEPs in the hands of a few corporations, individuals or interest groups has the potential to block this governing principle.

IEEE-SA was the first SDO to realize that the problems cannot be tackled any more by merely applying “downstream” measures, essentially in the form of an SDO’s patent-related rules and procedures, no matter how good they may be. The exponentially increasing number, the decreasing quality, and the ongoing concentration of patents, particularly in certain fields, in the hands of a few companies are not natural phenomena, but rather the results of a systemic problem at the interface of the patent world and the standardization system.

IEEE has taken the lead in influencing the international debate regarding the critical interplay between the patent and standardization systems. In 2010, IEEE-SA signed a strategic MoU with the European Patent Office, the first ever between an SDO and a patent regulatory authority. This cooperation has helped the EPO to improve the quality of its prior art searching and thus of its patents granted in the standardization domain of IEEE and beyond.

Due to the global nature of many ICT standards, a similar cooperation between USPTO and IEEE, as well as among other leading SDOs, major patent offices, and other regulators, is necessary. As a matter of fact, a paradigm shift is necessary: the governance of the process must start with improved self-regulation of patenting behavior during the early phases of the standardization process through a close collaboration between patent offices and SDOs, rather than focusing exclusively on how patented technologies should be included into standards that are nearing the completion of their development or, as some have suggested, the increased regulation of SDOs. Simply put, for a standards implementer, it is easier to deal with one patent based on an original idea than with many more me-too inspirations based on information from within standards development committee environments.

IEEE-SA’s patent policies are well established and responsive to ongoing developments. In the forum IEEE has created, we strive to adhere to recognized principles of standards development through due process, broad consensus-building across a range of interests, transparency of information and records, balance without dominance, and openness to all interested parties. Without being able to anticipate the final outcome of the current consultations within our Patent Committee, we can nevertheless inform the Subcommittee that we are examining various ideas and concepts, including the DoJ suggestions, with the objective of improving our rules and making them more specific and binding.

Appendix I

Letter of Assurance for Essential Patent Claims

Appendix I

LETTER OF ASSURANCE FOR ESSENTIAL PATENT CLAIMS

Please return via mail, e-mail (as a PDF), or fax: PatCom Administrator, IEEE-SA Standards Board Patent Committee
 Institute of Electrical and Electronics Engineers, Inc.
 445 Hoes Lane
 Piscataway, NJ 08854 USA
 FAX (+1 732-875-0524) e-mail: patcom@ieee.org

No license is implied by submission of this Letter of Assurance

A. SUBMITTER:

Legal Name: ("Submitter")

B. SUBMITTER'S CONTACT INFORMATION (for the purpose of licensing information):

Contact Name/Title:
 Department:
 Address:

Telephone: Fax: E-mail:
 URL:

Note: The IEEE does not endorse the content, or confirm the accuracy or consistency of any contact information or web site listed above.

C. IEEE STANDARD OR PROJECT (e.g., AMENDMENT, CORRIGENDA, OR REVISION):

In accordance with Clause 6.3.5 of the *IEEE-SA Standards Board Operations Manual*, this licensing position is limited to the following:

Standard/Project Number:
 Title:

D. SUBMITTER'S POSITION REGARDING LICENSING OF ESSENTIAL PATENT CLAIMS:

In accordance with Clause 6 of the *IEEE-SA Standards Board Bylaws*, the Submitter hereby declares the following (*Check box 1 or box 2 below*):

Note: Nothing in this Letter of Assurance shall be interpreted as giving rise to a duty to conduct a patent search. The IEEE takes no position with respect to the validity or essentiality of Patent Claims or the reasonableness of rates, terms, and conditions provided in connection with submission of a Letter of Assurance, if any, or in any license agreements offered by the Submitter. To the extent there are inconsistencies between the Letter of Assurance Form and any sample licenses, material licensing terms, or not to exceed rates provided in connection with 1.a. or 1.b. below, the terms of the Letter of Assurance Form shall control.

1. The Submitter may own, control, or have the ability to license Patent Claims that might be or become Essential Patent Claims. With respect to such Essential Patent Claims, the Submitter's licensing position is as follows (*must check a, b, c, or d and any applicable subordinate boxes*):
- a. The Submitter will grant a license without compensation to an unrestricted number of applicants on a worldwide basis with reasonable terms and conditions that are demonstrably free-of unfair discrimination.
- (Optional) A sample of such a license (or material licensing terms) that is substantially similar to what the Submitter would offer is attached.

- b. The Submitter will grant a license under reasonable rates to an unrestricted number of applicants on a worldwide basis with reasonable terms and conditions that are demonstrably free of unfair discrimination.
 - (Optional) These reasonable rates will not exceed _____ (e.g., percent of product price, flat fee, per unit).
 - (Optional) A sample of such a license (or material licensing terms) that is substantially similar to what the Submitter would offer is attached.
- c. The Submitter without conditions will not enforce any present or future Essential Patent Claims against any person or entity making, using, selling, offering to sell, importing, distributing, or implementing such a compliant implementation.
- d. The Submitter is unwilling or unable to grant licenses according to the provisions of either a or b above or to agree that it will not enforce its Essential Patent Claims as described in c above.
- 2. After a Reasonable and Good Faith Inquiry, the Submitter is not aware of any Patent Claims that the Submitter may own, control, or have the ability to license that might be or become Essential Patent Claims.

E. SCOPE OF ASSURANCE:

Note: The Submitter must complete this section if box 1 in part D above is checked.

The Submitter may, but is not required to, identify one or more of its Patent Claims that it believes might be or become Essential Patent Claims. *(Submitter must check box 1 or box 2 below)*

- 1. When checked, this Letter of Assurance only applies to the Patent Claims identified below that are or become Essential Patent Claims. (If no Patent Claim is identified below, then this Letter of Assurance applies to all Essential Patent Claims supported by the disclosure in the patent or patent applications listed below.)

Patent/Application/Docket Number:

Description/Title (optional):

Claim (optional):

Patent/Application/Docket Number:

Description/Title (optional):

Claim (optional):

Patent/Application/Docket Number:

Description/Title (optional):

Claim (optional):

For additional patents, use additional pages as necessary.

- 2. When checked, this Letter of Assurance is a Blanket Letter of Assurance. As such, all Essential Patent Claims that the Submitter may currently or in the future have the ability to license shall be available under the terms as indicated above in part D.1; however, a Blanket Assurance shall not supersede any pre-existing or simultaneously submitted specific assurance identifying potential Essential Patent Claims.

F. APPLICATION TO AFFILIATES:

With respect to any Essential Patent Claims that an Affiliate has the ability to license, the Submitter agrees that (i) the licensing positions described in parts C and D above apply to any Essential Patent Claims within the scope of the assurance described in part E; and (ii) the terms of this assurance are binding on each such Affiliate; provided, however, that such representations and commitments shall not apply to Affiliates identified below:

Organization's Name	Organization's Name
Address	Address
Contact person	Contact person

For additional Affiliates, use additional pages as necessary.

G. SIGNATURE:

By signing this Letter of Assurance, you represent that you have the authority to bind the Submitter and all Affiliates (other than those Affiliates excluded above) to the representations and commitments provided in this LOA and acknowledge that users and implementers of the [Proposed] IEEE Standard identified in part C above are relying or will rely upon and may seek enforcement of the terms of this LOA. The Submitter and all Affiliates (other than those Affiliates excluded above) agree not to sell or otherwise transfer any rights in any Essential Patent Claims that they hold, control, or have the ability to license with the intent of circumventing or negating any of the representations and commitments made in this LOA.

The Submitter agrees (a) to provide notice of a Letter of Assurance either through a Statement of Encumbrance or by binding any assignee or transferee to the terms of such Letter of Assurance; and (b) to require its assignee or transferee to (i) agree to similarly provide such notice and (ii) to bind its assignees or transferees to agree to provide such notice as described in (a) and (b).

If, as described in Clause 6 of the *IEEE-SA Standards Board Bylaws*, the Submitter becomes aware of additional Patent Claims not already covered by an existing Letter of Assurance that are owned, controlled, or licensable by the Submitter that may be or become Essential Patent Claims with respect to the standard identified in C above, the Submitter agrees to submit a Letter of Assurance stating its position regarding enforcement or licensing of such Patent Claims.

Print name of authorized person:

Title of authorized person:

Signature of authorized person: _____ Date:

Address:

Phone:

E-mail:

Note: This assurance applies from the date of the standard's approval to the date of the standard's transfer to inactive status and is irrevocable upon acceptance by the IEEE-SA.

The IEEE Patent Policy and the procedures used to execute that policy are documented in the IEEE-SA Standards Board Bylaws and the IEEE-SA Standards Board Operations Manual, available at <http://standards.ieee.org/develop/policies/>. The terms and definitions set forth in the IEEE Patent Policy, IEEE-SA Standards Board Bylaws, and IEEE-SA Standards Board Operations Manual in effect as of the date of this Letter of Assurance are incorporated herein.

DEFINITIONS

The following terms, when capitalized, have the following meanings:

“*Accepted Letter of Assurance*” and “*Accepted LOA*” shall mean a Letter of Assurance that the IEEE-SA has determined is complete in all material respects and has been posted to the IEEE-SA web site.

“*Affiliate*” shall mean an entity that directly or indirectly, through one or more intermediaries, controls the Submitter, is controlled by the Submitter, or is under common control with the Submitter. For the purposes of this definition, the term “control” and its derivatives, with respect to for-profit entities, means the legal, beneficial or equitable ownership, directly or indirectly, of more than fifty percent (50%) of the capital stock (or other ownership interest, if not a corporation) of an entity ordinarily having voting rights. “Control” and its derivatives, with respect to nonprofit entities, means the power to elect or appoint more than fifty percent (50%) of the Board of Directors of an entity.

“*Blanket Letter of Assurance*” shall mean a Letter of Assurance that applies to all Essential Patent Claims for which a Submitter may currently or in the future (except as otherwise provided for in these Bylaws and in the *IEEE-SA Standards Board Operations Manual*) have the ability to license.

“*Enabling Technology*” shall mean any technology that may be necessary to make or use any product or portion thereof that complies with the [Proposed] IEEE Standard but is neither explicitly required by nor expressly set forth in the [Proposed] IEEE Standard (e.g., semiconductor manufacturing technology, compiler technology, object-oriented technology, basic operating system technology, and the like).

“*Essential Patent Claim*” shall mean any Patent Claim the use of which was necessary to create a compliant implementation of either mandatory or optional portions of the normative clauses of the [Proposed] IEEE Standard when, at the time of the [Proposed] IEEE Standard’s approval, there was no commercially and technically feasible non-infringing alternative. An Essential Patent Claim does not include any Patent Claim that was essential only for Enabling Technology or any claim other than that set forth above even if contained in the same patent as the Essential Patent Claim.

“*Letter of Assurance*” and “*LOA*” shall mean a document, including any attachments, stating the Submitter’s position regarding ownership, enforcement, or licensing of Essential Patent Claims for a specifically referenced IEEE Standard, submitted in a form acceptable to the IEEE-SA.

“*Patent Claim(s)*” shall mean one or more claims in issued patent(s) or pending patent application(s).

“*Reasonable and Good Faith Inquiry*” includes, but is not limited to, a Submitter using reasonable efforts to identify and contact those individuals who are from, employed by, or otherwise represent the Submitter and who are known to the Submitter to be current or past participants in the development process of the [Proposed] IEEE Standard identified in a Letter of Assurance, including, but not limited to, participation in a Sponsor Ballot or Working Group. If the Submitter did not or does not have any participants, then a Reasonable and Good Faith Inquiry may include, but is not limited to, the Submitter using reasonable efforts to contact individuals who are from, employed by, or represent the Submitter and who the Submitter believes are most likely to have knowledge about the technology covered by the [Proposed] IEEE Standard.

“*Statement of Encumbrance*” shall mean a specific reference to an Accepted LOA or a general statement in the transfer or assignment agreement that the Patent Claim(s) being transferred or assigned are subject to any encumbrances that may exist as of the effective date of such agreement. An Accepted LOA is an encumbrance.

“*Submitter*” when used in reference to a Letter of Assurance shall mean an individual or an organization that provides a completed Letter of Assurance. A Submitter may or may not hold Essential Patent Claims.

Should any discrepancy exist between the definitions above and the definitions in the IEEE-SA Standards Board Bylaws clause 6.1, the definitions contained in the Bylaws shall control.

Appendix II-A
Guidelines for IEEE-SA Meetings

Guidelines for IEEE-SA Meetings

- All IEEE-SA standards meetings shall be conducted in compliance with all applicable laws, including antitrust and competition laws.
- Don't discuss the interpretation, validity, or essentiality of patents/patent claims.
- Don't discuss specific license rates, terms, or conditions.
 - Relative costs, including licensing costs of essential patent claims, of different technical approaches may be discussed in standards development meetings.
 - Technical considerations remain primary focus
- Don't discuss or engage in the fixing of product prices, allocation of customers, or division of sales markets.
- Don't discuss the status or substance of ongoing or threatened litigation.
- Don't be silent if inappropriate topics are discussed... do formally object.

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If you have questions, contact the IEEE-SA Standards Board Patent Committee Administrator at patcom@ieee.org or visit <http://standards.ieee.org/about/sasb/patcom/index.html>

See *IEEE-SA Standards Board Operations Manual*, clause 5.3.10 and "Promoting Competition and Innovation: What You Need to Know about the IEEE Standards Association's Antitrust and Competition Policy" for more details.

This slide set is available
at <https://development.standards.ieee.org/myproject/Public/mytools/mob/slideset.ppt>



25 Mar 2008

IEEE-SA Patent Policy

Introduction and guide to IEEE-SA
patent policy effective 1 May 2007



Inclusion of Potential Essential Patent Claims

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1 May 2007 [Updated January 2012]

Inclusion of Essential Patent Claims in standard

IEEE standards may be drafted in terms that include the use of Essential Patent Claims. If the IEEE receives notice that a [Proposed] IEEE Standard may require the use of a potential Essential Patent Claim, the IEEE shall request licensing assurance, on the IEEE Standards Board approved Letter of Assurance form, from the patent holder or patent applicant. The IEEE shall request this assurance without coercion.

IEEE-SA Standards Board Bylaws Subclause 6.2, Para 1

“Essential Patent Claim” shall mean any Patent Claim the use of which was necessary to create a compliant implementation of either mandatory or optional portions of the normative clauses of the [Proposed] IEEE Standard when, at the time of the [Proposed] IEEE Standard’s approval, there was no commercially and technically feasible non-infringing alternative. An Essential Patent Claim does not include any Patent Claim that was essential only for Enabling Technology or any claim other than that set forth above even if contained in the same patent as the Essential Patent Claim.

IEEE-SA Standards Board Bylaws Subclause 6.1, Para 6

“Patent Claim(s)” shall mean one or more claims in issued patent(s) or pending patent application(s).

IEEE-SA Standards Board Bylaws Subclause 6.1, Para 8

Inclusion of Essential Patent Claims in standard

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- Essential Patent Claim
 - In issued or pending patent applications
 - Either mandatory or optional portions of standard
 - Determined as of time of the standards approval
 - Necessary to create compliant implementation
 - No commercially and technically feasible non-infringing alternative
 - Doesn't include Enabling Technology
 - Unless functionally necessary or a normative requirement of the standard
 - Patent claims related to C language compiler are an example
- Assurance only applies to Essential Patent Claims
 - Some claims in a patent may be essential, some not
- Potential Essential Patent Claims can be included
 - But **DO NOT** discuss
 - Interpretation, validity, or essentiality of patents/patent claims
 - For these purposes, essentiality is based on assertion of holder
- Letter of Assurance form is the only acceptable template
 - Modified Letter of Assurance form will not be accepted
 - Filing in the form is not considered a modification
 - 'Free form' letters will no longer be accepted



Call for patents

The chair or the chair's delegate of an IEEE standards-developing working group or the chair of an IEEE standards Sponsor shall be responsible for informing the participants at a meeting that if any individual believes that Patent Claims might be Essential Patent Claims, that fact should be made known to the entire working group and duly recorded in the minutes of the working group meeting. This request shall occur at every standards-developing meeting once the PAR is approved by the IEEE-SA Standards Board.

The chair or the chair's delegate shall ask any patent holder or patent applicant of a Patent Claim that might be or become an Essential Patent Claim to complete and submit a Letter of Assurance in accordance with Clause 6 of the *IEEE-SA Standards Board Bylaws*. Information about the draft standard will be made available upon request.

IEEE-SA Standards Board Operations Manual Subclause 6.3.2

- Call shall be made at **every** standards-development meeting
 - Working Group, Task Force, Task Group, Ad Hoc, conference calls
 - Working Group chair or designee makes the call
 - State that if an individual believes a patent claim might be an Essential Patent Claim, such individual should make the Working Group aware of this
 - Record in minutes that call for patents was made
 - Record in minutes any response
- When informed, Working Group chair shall contact holder requesting an LOA
 - Sample letter provided at <http://standards.ieee.org/about/sasb/patcom/index.html>
 - [https://development.standards.ieee.org/myproject/Public/mytools/mob/cover_letter.doc]



Duty on participants

In order for IEEE's patent policy to function efficiently, individuals participating in the standards development process: (a) shall inform the IEEE (or cause the IEEE to be informed) of the holder of any potential Essential Patent Claims of which they are personally aware and that are not already the subject of an existing Letter of Assurance, owned or controlled by the participant or the entity the participant is from, employed by, or otherwise represents; ...

IEEE-SA Standards Board Bylaws Subclause 6.2, Para 14

- If you personally know of a potential Essential Patent Claim that is not covered by an existing LOA
 - Then if the potential Essential Patent Claim is owned by you or the entity you are affiliated with, you have a duty to ensure that the IEEE is informed of the holder
 - See *IEEE-SA Standards Board Operation Manual* subclause 5.3.3.1 'Disclosure of affiliation' from more on the definition of Affiliation
 - This includes corporate affiliates



Third party claims

In order for IEEE's patent policy to function efficiently, individuals participating in the standards development process: ... (b) should inform the IEEE (or cause the IEEE to be informed) of any other holders of such potential Essential Patent Claims that are not already the subject of an existing Letter of Assurance.

IEEE-SA Standards Board Bylaws Subclause 6.2, Para 14

- If you personally know of a potential Essential Patent Claim that is not covered by an existing LOA:
 - Participants are not required to notify the IEEE that they are aware of any potential Essential Patent Claims held by a third party. Participants may make such disclosure at their own discretion.
 - Although there is no obligation to notify the IEEE of third party patent holders, the IEEE encourages participants to do so.
 - This encouragement is particularly strong as the third party may not be a participant in the standards process.
- To inform the IEEE of the holder you could for example
 - Inform the Working Group chair
 - Ensure that IEEE receives an LOA

Timing

If the patent holder or patent applicant provides an assurance, it should do so as soon as reasonably feasible in the standards development process once the PAR is approved by the IEEE-SA Standards Board. This assurance should be provided prior to the Standards Board's approval of the standard.

IEEE-SA Standards Board Bylaws Subclause 6.2, Para 2

- Early assurance is encouraged and expected
 - The more information the better when selecting between proposals
- Identification can be made at any time
 - Just inform the Working Group chair
 - Whether in the meeting or otherwise
- Delivery of assurance
 - Prior to Standards Board approval of standard preferred

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What if an LOA cannot be obtained

An asserted potential Essential Patent Claim for which an assurance cannot be obtained (e.g., a Letter of Assurance is not provided or the Letter of Assurance indicates that assurance is not being provided) shall be referred to the Patent Committee.

IEEE-SA Standards Board Bylaws Subclause 6.2, Para 2

- If there is no LOA for an asserted potential Essential Patent Claim:
 - Inform IEEE-SA Standards Board Patent Committee (PatCom)
 - PatCom will consider
 - May make recommendation to IEEE-SA Standards Board
 - Ultimately IEEE-SA Standards Board will decide

Distribution of LOAs

Copies of an Accepted LOA may be provided to the working group, but shall not be discussed, at any standards working group meeting.

IEEE-SA Standards Board Bylaws Subclause 6.2, Para 6

Upon written request, the IEEE will make available copies of any Accepted Letter of Assurance and its attachments. Letters received after 31 December 2006 shall be posted on the IEEE-SA website.

IEEE-SA Standards Board Operations manual Subclause 6.3, Para 3

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- Accepted LOA can be distributed in meetings
 - But remember:
 - Don't discuss interpretation, validity, or essentiality of patents/patent claims
 - Don't discuss specific license rates, terms, or conditions
 - LOAs received after 31 Dec 2006 will be made available on web
 - Existing LOAs available by contacting PatCom Administrator
 - Activity underway to add these to web as well

Legal compliance and other issues

5.3.10 Legal compliance and other issues

5.3.10.1 Compliance with laws

All IEEE-SA standards meetings shall be conducted in compliance with all applicable laws, including antitrust and competition laws. In the course of IEEE standards development, participants shall not engage in fixing product prices, allocating customers, dividing sales markets, or other conduct that violates antitrust or competition laws.

5.3.10.2 Discussion of litigation, patents and licensing

No discussions or other communications regarding the following topics shall occur during IEEE-SA working group standards-development meetings or other duly authorized IEEE-SA standards-development technical activities:

- The status or substance of ongoing or threatened litigation
- The essentiality, interpretation, or validity of patent claims
- Specific patent license terms or other intellectual property rights, other than the distribution of Accepted Letters of Assurance as permitted under the IEEE-SA patent policy (see section 6.2 of *IEEE-SA Standards Board Bylaws*)

5.3.10.3 Discussion of relative cost/benefit analyses

When comparing different technical approaches in IEEE-SA standards development technical activities, participants may discuss the relative costs (in terms, for example, of percentage increases or decreases) of different proposed technical approaches in comparison with the relative technical performance increases or decreases of those proposals. The relative costs may include any potentially Essential Patent Claims, but not the price at which compliant products may or will be sold. Technical considerations should be the main focus of discussions in IEEE-SA standards development technical activities.

IEEE-SA Standards Board Operations Manual Subclause 5.3.10

Legal compliance and other issues

- All IEEE-SA standards meetings shall be conducted in compliance with all applicable laws, including antitrust and competition laws
- Don't discuss fixing product prices, allocation of customers, or dividing sales markets
- Don't discuss the status or substance of ongoing or threatened litigation
- Don't discuss specific license rates, terms, or conditions
- Don't be silent if inappropriate topics are discussed... do formally object
- Relative costs of different technical approaches may be discussed in standards development meetings.
 - May include licensing costs of Essential Patent Claims, but only on a relative basis
 - This shall not be used to coerce those patent holders who have chosen not to disclose maximum licensing fees into disclosing such information
 - A comparison, however, may state that costs of a particular technology approach are not known
 - Technical considerations remain primary focus
 - For more information see "*Promoting Competition and Innovation: What You Need to Know about the IEEE Standards Association's Antitrust and Competition Policy*"

Assurance



Letters of assurance

A Letter of Assurance shall be either:

- a) A general disclaimer to the effect that the Submitter without conditions will not enforce any present or future Essential Patent Claims against any person or entity making, using, selling, offering to sell, importing, distributing, or implementing a compliant implementation of the standard; or
- b) A statement that a license for a compliant implementation of the standard will be made available to an unrestricted number of applicants on a worldwide basis without compensation or under reasonable rates, with reasonable terms and conditions that are demonstrably free of any unfair discrimination. At its sole option, the Submitter may provide with its assurance any of the following: (i) a not-to-exceed license fee or rate commitment, (ii) a sample license agreement, or (iii) one or more material licensing terms.

IEEE-SA Standards Board Bylaws Subclause 6.2, Para 3, 4 & 5

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- **Shall be one of the following:**
 - Assurance that Essential Patent Claims will not be enforced
 - Assurance that Essential Patent Claims will be licensed
 - Reasonable and nondiscriminatory
 - With or without monetary compensation
 - At its sole option, Submitter may include
 - Not-to-exceed rates
 - Sample license agreement
 - Material licensing terms
 - A statement that Submitter is unable or unwilling to grant license



Assurance of non-awareness

The Submitter of the Letter of Assurance may, after Reasonable and Good Faith Inquiry, indicate it is not aware of any Patent Claims that the Submitter may own, control, or have the ability to license that might be or become Essential Patent Claims.⁷

IEEE-SA Standards Board Bylaws Subclause 6.2, Para 2

"Reasonable and Good Faith Inquiry" includes, but is not limited to, a Submitter using reasonable efforts to identify and contact those individuals who are from, employed by, or otherwise represent the Submitter and who are known to the Submitter to be current or past participants in the development process of the [Proposed] IEEE Standard identified in a Letter of Assurance, including, but not limited to, participation in a Sponsor Ballot or Working Group. If the Submitter did not or does not have any participants, then a Reasonable and Good Faith Inquiry may include, but is not limited to, the Submitter using reasonable efforts to contact individuals who are from, employed by, or represent the Submitter and who the Submitter believes are most likely to have knowledge about the technology covered by the [Proposed] IEEE Standard.

IEEE-SA Standards Board Bylaws Subclause 6.1, Para 9



Assurance of non-awareness

- Submitter may state in LOA that it is not aware of any Patent Claims that might be or become Essential Patent Claims.
- After 'Reasonable and Good Faith Inquiry'
 - For example, reasonable efforts to identify and contact
 - If Submitter has participants in project identified in the LOA
 - Current and past participants
 - » This includes, but is not limited to, WG and Sponsor ballots
 - If the Submitter doesn't have participants in project identified in the LOA
 - Those of its employees that the Submitter believes likely to have knowledge of the technology

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Affiliates

The Submitter and all Affiliates (other than those Affiliates excluded in a Letter of Assurance) shall not assign or otherwise transfer any rights in any Essential Patent Claims that are the subject of such Letter of Assurance that they hold, control, or have the ability to license with the intent of circumventing or negating any of the representations and commitments made in such Letter of Assurance.

IEEE-SA Standards Board Bylaws Subclause 6.2, Para 7

This assurance shall apply to the Submitter and its Affiliates except those Affiliates the Submitter specifically excludes on the relevant Letter of Assurance.

IEEE-SA Standards Board Bylaws Subclause 6.2, Para 9

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- Assurance shall not intentionally be circumvented through sale or transfer
 - Assurance shall apply to Affiliates unless explicitly excluded
 - Those excluded may be contacted by the IEEE with a request for LOA

Durability of assurance

The Submitter of a Letter of Assurance shall agree (a) to provide notice of a Letter of Assurance either through a Statement of Encumbrance or by binding any assignee or transferee to the terms of such Letter of Assurance; and (b) to require its assignee or transferee to (i) agree to similarly provide such notice and (ii) to bind its assignees or transferees to agree to provide such notice as described in (a) and (b).

IEEE-SA Standards Board Bylaws Subclause 6.2, Para 8

“Statement of Encumbrance” shall mean a specific reference to an Accepted LOA or a general statement in the transfer or assignment agreement that the Patent Claim(s) being transferred or assigned are subject to any encumbrances that may exist as of the effective date of such agreement. An Accepted LOA is an encumbrance.

IEEE-SA Standards Board Bylaws Subclause 6.1, Para 10

- Submitter agrees to:
 - Notify assignees/transferees of the existence of assurance
 - Either through stating in the agreement to assign/transfer
 - The existence of a specific LOA
 - Or by a general statement
 - Or binding assignees/transferees to LOA
 - Require the assignee/transferee to agree to similarly provide notice to subsequent assignee/transferee
 - Sets up a cascading notice requirement

Duty to update assurance

If, after providing a Letter of Assurance to the IEEE, the Submitter becomes aware of additional Patent Claim(s) not already covered by an existing Letter of Assurance that are owned, controlled, or licensable by the Submitter that may be or become Essential Patent Claim(s) for the same IEEE Standard but are not the subject of an existing Letter of Assurance, then such Submitter shall submit a Letter of Assurance stating its position regarding enforcement or licensing of such Patent Claims. For the purposes of this commitment, the Submitter is deemed to be aware if any of the following individuals who are from, employed by, or otherwise represent the Submitter have personal knowledge of additional potential Essential Patent Claims, owned or controlled by the Submitter, related to a [Proposed] IEEE Standard and not already the subject of a previously submitted Letter of Assurance: (a) past or present participants in the development of the [Proposed] IEEE Standard, or (b) the individual executing the previously submitted Letter of Assurance.

IEEE-SA Standards Board Bylaws Subclause 6.2, Para 10

- If after submitting an LOA the Submitter becomes aware of other Patent Claims, the first LOA commits the Submitter to submit a new LOA
 - Aware is either (a) past or present participants or (b) the individual executing the previously submitted Letter of Assurance

Acceptance and validity of LOA

The assurance is irrevocable once submitted and accepted and shall apply, at a minimum, from the date of the standard's approval to the date of the standard's transfer to inactive status.

IEEE-SA Standards Board Bylaws Subclause 6.2, Para 11

“Accepted Letter of Assurance” and “Accepted LOA” shall mean a Letter of Assurance that the IEEE-SA has determined is complete in all material respects and has been posted to the IEEE-SA web site.

IEEE-SA Standards Board Bylaws Subclause 6.1, Para 2

Letters of Assurance are to be e-mailed, faxed, or mailed to the IEEE Standards Association (to the attention of the PatCom Administrator). The PatCom Administrator shall accept each Letter of Assurance that is complete and is received from an individual within the issuing organization whose title suggests authority for intellectual property and legal matters. The PatCom Administrator's duties with regard to Letters of Assurance shall be purely ministerial (i.e., without regard to or exercise of the PatCom Administrator's discretion regarding the content of the Letters of Assurance received). For each Accepted Letter of Assurance, the PatCom Administrator shall record the date on the signed Letter of Assurance and the date upon which the IEEE accepted such.

IEEE-SA Standards Board Operations Manual Subclause 6.3, Para 2

Acceptance and validity of LOA

- LOA irrevocable once submitted and accepted
 - Accepted by PatCom Administrator
 - Accepted when
 - IEEE-SA determines LOA form is complete in all material respects
 - And LOA has been posted to web site
<http://standards.ieee.org/about/sasb/patcom/patents.html>
- LOA must be signed by person with clear authority
 - If not, Submitter will be contacted for confirmation
- LOA applies at a minimum from Standards approval to transfer to inactive status

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IEEE Public Notice Disclaimer

The IEEE is not responsible for identifying Essential Patent Claims for which a license may be required, for conducting inquiries into the legal validity or scope of those Patent Claims, or for determining whether any licensing terms or conditions provided in connection with submission of a Letter of Assurance, if any, or in any licensing agreements are reasonable or non-discriminatory.

IEEE-SA Standards Board Bylaws Subclause 6.2, Para 12

- IEEE-SASB Operations Manual subclause 6.3.1 'Public notice'
 - The working group is not responsible for the above



Patent searches and no licenses by LOA

Nothing in this policy shall be interpreted as giving rise to a duty to conduct a patent search. No license is implied by the submission of a Letter of Assurance.

IEEE-SA Standards Board Bylaws Subclause 6.2, Para 13

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- No duty
 - But nothing prevents somebody from doing a search if they want to
- No license is granted by submitting an LOA



Understanding Patent Issues During IEEE Standards Development

Understanding Patent Issues During IEEE Standards Development**Patented Technology in IEEE standards**

This guide offers information concerning the IEEE Standards Association and its patent policies but does not state the patent policy. Definitive statements of the IEEE Standard Association's policies and procedures concerning patents can be found in the *IEEE-SA Standards Board Bylaws* and the *IEEE-SA Standards Board Operations Manual*.

A complete package of patent-related materials is available at <http://standards.ieee.org/about/sasb/patcom/materials.html>. This package includes all the documentation you need to comply with the IEEE Standards Association policy concerning essential patents. A [flowchart](#) with additional guidance on the methodologies used by the *IEEE-SA Standards Board Patent Committee* is part of this package. If you include patented technology in your standard, then you may have incorporated an essential patent.

1. *What is an Essential Patent Claim?*

An **Essential Patent Claim** means any **Patent Claim** [including claims in issued patent(s) or pending patent application(s)] the use of which was necessary to create a compliant implementation of either mandatory or optional portions of the normative clauses of the [Proposed] IEEE Standard when, at the time of the [Proposed] IEEE Standard's approval, there was no commercially and technically feasible non-infringing alternative. An Essential Patent Claim does not include any Patent Claim that was essential only for Enabling Technology or any claim other than that set forth above even if contained in the same patent as the Essential Patent Claim. See [clause 6.1](#) of the IEEE-SA Standards Board Bylaws at <http://standards.ieee.org/develop/policies/bylaws/sect6-7.html#6.1>.

2. *Does the IEEE determine whether a patent is essential when seeking a Letter of Assurance?*

No.

Call for Essential Patents Claims at IEEE Standards Developing Meetings3. *What is a call for patents?*

IEEE Standards Association | 445 Hoes Lane | Piscataway NJ 08854 USA
Phone: +1 732 981 0060 | Fax: +1 732 562 1571 | standards.ieee.org

Understanding Patent Issues During IEEE Standards Development

A call for patents is a reminder made by the chair, or the chair's designee, at an IEEE standards developing meeting. The chair or the chair's designee informs the participants that if any individual believes that Patent Claims might be Essential Patent Claims, that fact should be made known to the entire working group and duly recorded in the minutes of the working group meeting.

4. *How often should a Working Group Chair issue a call for potential Essential Patent Claims?*

A Working Group Chair or his or her designee shall issue the call at every Working Group meeting. If the Working Group does not meet face to face or telephonically, the Working Group should be issued a call via e-mail or letter on a regular basis. It is strongly recommended that the IEEE Patent Committee-developed slide set be used. Note that a call for patents shall be made at every standards developing meeting. This includes, but is not limited to, working group and task force meetings.

4a. *Should a Call for Patents be issued at a Study Group or other pre-PAR meeting?*

No. However, it is recommended that the 'Patent Slides for pre-PAR Meetings' be used in these meetings.

5. *Our group gathers for several days during a single week. Does the chair have to announce the policy every day?*

The Working Group Chair or his or her designee shall issue the call at every Working Group meeting. If a group is "meeting" for consecutive days and the attendance is substantially the same for each day of the gathering, the policy only needs to be read once. If the chair plans not to read or display the policy each day, then the chair must either (a) ensure that the policy or a URL for it has been sent out to all attendees prior to the meeting (and is available in the registration packet for any on-site registrants), or (b) announce each day that the meeting is subject to the patent policy as read or displayed on the first day. Note, though, that this rule applies separately to each "group" that is "meeting" during the week. For example, if a working group holds a meeting during the same week as its task group and/or task force, the chair of each of those groups must read or display the policy at the beginning of that group's first day of "meeting."

5a. *How does the chair determine that the participation in a group that is 'meeting' for consecutive days is substantially the same?*

Understanding Patent Issues During IEEE Standards Development

The chair has to use his/her judgment to determine this. It could for example be done based on the attendance numbers each day. The default action is to read the patent policy.

6. *What if a group meets telephonically?*

If the Working Group meets telephonically, you can send the slides in an email to the participants in advance of the call, or include a link in the meeting announcement. The chair must then ask at the start of the call whether there is anybody participating that has not read the policy. If someone says they have not, then the chair must either (a) read the policy aloud, or (b) send the policy or URL electronically and pause the call until all participants have read the policy.

7. *What if the group does not meet either in person or by telephone – for example, the group “meets” only through email or chat rooms?*

If the group does not meet face-to-face or telephonically, the chair of the group should issue the call for patents via e-mail or letter on a regular basis.

Letter of Assurance

8. *What is a Letter of Assurance?*

In general, a letter of assurance is a document stating a Submitter’s position with respect to ownership, enforcement, or licensing an Essential Patent Claim that may be incorporated into a specifically referenced IEEE Standard. The specific requirements for an IEEE Letter of Assurance are defined in clause 6.1 of the *IEEE-SA Standards Board Bylaws* at <http://standards.ieee.org/develop/policies/bylaws/sect6-7.html#6.1>.

9. *When does the IEEE send out a request for a Letter of Assurance?*

The Working Group Chair or, where appropriate, the Sponsor Chair will send out a request for a Letter of Assurance whenever the Chair is notified, at any time and by any means, that the [Proposed] IEEE Standard may require the use of a potential Essential Patent Claim.

10. *How will a participant know if the IEEE has accepted a Letter of Assurance?*

Accepted Letters of Assurance can be found on the IEEE-SA’s web site at <http://standards.ieee.org/about/sasb/patcom/patents.html>.

11. *What happens if the IEEE has not received assurances regarding all potential Essential Patent Claims incorporated in a [Proposed] IEEE Standard?*

Understanding Patent Issues During IEEE Standards Development

If the IEEE is aware of a potential Essential Patent Claim and no corresponding Letter of Assurance has been received, the matter will be referred to the IEEE-SA Standards Board Patent Committee through the PatCom Administrator. The IEEE-SA Standards Board Patent Committee will review the circumstances and make a recommendation to the IEEE-SA Standards Board.

12. *How should Working Groups handle existing Letters of Assurance provided to IEEE when developing an amendment, corrigendum, edition, or revision of the particular standard referenced in the Letter of Assurance?*

An Accepted Letter of Assurance referencing an existing standard, amendment, corrigendum, edition, or revision will remain in force for the application of the Essential Patent Claim(s) to the technology specified in another amendment, corrigendum, edition, or revision of the same IEEE Standard but only if (a) the application of the technology required by the amendment, corrigendum, edition, or revision of the same IEEE Standard has not changed from its previous usage and (b) the same Essential Patent Claims covered by the prior Accepted Letter of Assurance remain Essential Patent Claims in the same IEEE Standard or revision thereof. The Working Group Chair shall initiate a request for a new Letter of Assurance from a known Submitter when re-using portions of or technologies specified in an existing [Proposed] IEEE Standard, amendment, corrigendum, edition, or revision referenced in an Accepted Letter of Assurance in a different [Proposed] IEEE Standard.

- 12a. *How should Working Groups handle Letters of Assurance when re-using portions of a non-IEEE standard in a [Proposed] IEEE Standard?*

The Working Group Chair shall initiate a request for a Letter of Assurance from holders of potential Essential Patent Claims when re-using portions of an existing non-IEEE standard in a [Proposed] IEEE Standard. Any patent letters of assurance (or patent declarations) given to the developer of the non-IEEE standard cannot be stated to also apply to the [Proposed] IEEE Standard. In addition, there are specific requirements that must be incorporated into an IEEE Letter of Assurance in order for it to have the possibility of becoming an Accepted IEEE Letter of Assurance.

Participants and Notification to IEEE of Essential Patent Claims

13. *What obligation do individual participants have to notify the IEEE if they own or their employer owns potential Essential Patent Claims incorporated in a [Proposed] IEEE Standard? What if they are uncertain whether a Patent Claim they own or their employer owns is essential?*

Understanding Patent Issues During IEEE Standards Development

Individual participants of a call for patents are required to notify the IEEE of the identity of a holder of any potential Essential Patent Claims (but not the identity of the Essential Patent Claim) where (1) the individual participant is personally aware that the holder may have a potential Essential Patent Claim; (2) the holder is the participant or an entity the participant is from, employed by, or otherwise represents; and (3) the potential Essential Patent Claim is not already the subject of any existing Letter of Assurance. If such a participant is uncertain whether the patent is essential, the participant still shall notify the IEEE (or cause the IEEE to be notified) of the possibility because they are personally aware of a claim that is a *potential* Essential Patent Claim.

13a. When is a potential Essential Patent Claim considered to be the subject of an existing Letter of Assurance?

A potential Essential Patent Claim is the subject of an existing Letter of Assurance for a particular standard (a) if there is an Accepted Letter of Assurance for the potential Essential Patent Claim or related potential Essential Patent, (b) if there is an Accepted Blanket Letter of Assurance from the holder of the potential Essential Patent Claim, or (c) an Accepted Letter of Assurance for the potential Essential Patent Claim exists under the conditions defined in IEEE-SA Standards Board Operations Manual subclause 6.3.5 'Applicability of Letters of Assurance to Amendments, Corrigenda, Editions, or Revisions' (see FAQ12).

14. How do I find out if a particular company has submitted a Letter of Assurance?

Accepted Letters of Assurance are listed on the IEEE-SA's web site at <http://standards.ieee.org/about/sasb/patcom/patents.html>. Letters of Assurance accepted after 31 December 2006 will be posted on the website as they are received and Letters of Assurance received prior to that date will be posted over time.

15. What are example means by which an individual participant can notify the IEEE (or cause the IEEE to be notified) that his or her employer is the holder of a potential Essential Patent Claim incorporated in a [Proposed] IEEE Standard? Does the individual participant need to identify the Essential Patent Claim specifically?

An individual participant could fulfill his or her duty to the IEEE by telling the Working Group Chair that his or her employer is the holder of a potential Essential Patent Claim. Alternatively, the participant could request that his or her employer submit a Letter of Assurance or otherwise notify the IEEE that it is the holder of a potential Essential Patent Claim. In the latter case, the participant fulfills his or her duty to the IEEE only if his or her employer submits

Understanding Patent Issues During IEEE Standards Development

a Letter of Assurance or otherwise notifies the IEEE that it is the holder of a potential Essential Patent Claim. If the employer declines to submit a Letter of Assurance or otherwise notify the IEEE, the participant will have to tell the Working Group Chair that his or her employer may be the holder of a potential Essential Patent Claim. In all cases, the duty on the participant is only to inform the IEEE of the identity of the holder of a potential Essential Patent Claim and not the patent, application, or particular claim itself. The response to the call for patents only needs to be made if the response relates to a potential Essential Patent Claim that is not already the subject of any existing Letter of Assurance or request for a Letter of Assurance.

- 15a. *Can a response to the call for patents be made via email in advance or subsequent to a meeting?*

The duty on the participant is to inform the IEEE of the identity of the holder of a potential Essential Patent Claim. The Chair can be notified at any time (in advance or subsequent to a meeting is acceptable). The declaration must be made in a recordable manner.

16. *Do participants have to notify IEEE of third party patent holders? For these purposes, "third party" means a person other than the participant or an entity the participant is from, employed by, or otherwise represents.*

Participants are not required to notify the IEEE that they are aware of any potential Essential Patent Claims held by a third party. Participants may make such disclosure at their own discretion. Although there is no obligation to notify the IEEE of third party patent holders, the IEEE encourages participants to do so. This encouragement is particularly strong as the third party may not be a participant in the standards process.

17. *What duty does an individual participant have to the IEEE if a participant's employer owns a potential Essential Patent Claim but the individual participant doesn't have personal knowledge of such claim?*

As noted in the answer to question 13, a participant only needs to notify the IEEE of a potential Essential Patent Claim if such participant is "personally aware" that his or her employer has a potential Essential Patent Claim. There is no duty for that employee (or anyone else in his or her organization) to conduct a patent search, but the IEEE-SA does expect that participants will conduct themselves in good faith. This expectation arises both from the IEEE Code of Ethics and from the background legal rules. The IEEE Code of Ethics makes clear, for example, that participants "accept responsibility in making decisions consistent with the safety, health and welfare of the public." Similarly, the U.S. Supreme Court stated in the Allied Tube case that SDOs operate based on "the

Understanding Patent Issues During IEEE Standards Development

merits of objective expert judgments" using "procedures that prevent the standard-setting process from being biased by members with economic interests in stifling product competition." Consequently, while (again) the policy does not require a patent search, the IEEE does encourage each participant to make sufficient inquiry to satisfy him or herself that s/he is not being deliberately shielded from relevant knowledge and that the employer does not have any potential Essential Patent Claim.

18. *Can an individual participate in standards development activities if his or her employer is unwilling to submit a Letter of Assurance once requested or provide the assurance indicated in the patent policy in a Letter of Assurance?*

Yes. As long as the participant complies with the requirement that he or she notify the IEEE that his or her employer is the holder of a potential Essential Patent Claim if the participant is personally aware that his or her employer is such a holder, the individual can continue to participate in standards development activities. See also question 15.

19. *Does the IEEE patent policy require participants or their employers to make an assurance or submit a Letter of Assurance?*

No. Submission of a Letter of Assurance is not a precondition to participation. Participants do have a duty to inform the IEEE if they or an entity they are from, employed by, or otherwise represents holds potential Essential Patent Claims. See questions 13, 16, and 18 for more information.

20. *Is the IEEE's patent policy a "disclosure" policy?*

No. The IEEE's patent policy is a policy of assurance as further described in these frequently asked questions, not a policy of disclosure.

21. *What does a participant's employer need to do to determine whether it has any potential Essential Patent Claims when it receives a request from the IEEE for a Letter of Assurance? Specifically,*

- (a) *Does the employer need to do a patent search?*

No. The policy expressly states that there is no duty to conduct a patent search; but the employer may do so if it wishes.

- (b) *Does the employer need to talk to every person they have sent to the Working Group?*

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When the employer receives the request for a Letter of Assurance, the employer can state its licensing position with respect to any Patent Claims that might be or become Essential Patent Claims relating to the particular standard referenced in the Letter of Assurance. In the alternative, the employer can indicate that it is not aware of any Patent Claims that the employer may own, control, or have the ability to license that might be or become Essential Patent Claims, but **only if** the employer does a Reasonable and Good Faith Inquiry to determine the existence of any such Patent Claims. As described in clause 6.1 of the Bylaws, a "Reasonable and Good Faith Inquiry" includes, but is not limited to, the employer using reasonable efforts to identify and contact those individuals who are from, employed by, or otherwise represent the employer and who are known to the employer to be current or past participants in the development process of the [Proposed] IEEE Standard identified in the Letter of Assurance, including, but not limited to, participation in a Sponsor Ballot or Working Group. If the Submitter did not or does not have any participants, then a "Reasonable and Good Faith Inquiry" may include, but is not limited to, the Submitter using reasonable efforts to contact individuals who are from, employed by, or represent the Submitter **and** who the Submitter believes are most likely to have knowledge about the technology covered by the [Proposed] IEEE Standard. As described above, the employer only needs to engage in a Reasonable and Good Faith Inquiry if it wants to avoid providing an assurance based on its assertion that it is not aware of any Patent Claims that the employer may own, control, or have the ability to license that might be or become Essential Patent Claims.

Submitting a Letter of Assurance

22. *Do the terms "potential Essential Patent Claims" and "Patent Claims that the Submitter may own, control, or have the ability to license . . ." include claims described in patent applications?*

Yes. The definition of Patent Claims includes pending patent applications.

23. *At what point should the Letter of Assurance be submitted?*

The IEEE encourages the submission of a Letter of Assurance as soon as reasonably feasible in the standards development process once the PAR has been approved by the IEEE-SA Standards Board.

24. *Who should submit a Letter of Assurance?*

The IEEE will request licensing assurance on the IEEE-SA Standards Board approved Letter of Assurance form from any person upon being notified that a [Proposed] IEEE Standard may require the use of a potential Essential Patent Claim. Although the IEEE encourages any person receiving a request for

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assurance to submit the Letter of Assurance, the IEEE may not use any coercion in requesting the assurance. This means the IEEE cannot require that a person submit a Letter of Assurance or provide a particular assurance with respect to ownership, enforcement, or licensing of an Essential Patent Claim in order to participate in an IEEE standards development activity.

Additionally, a Submitter of a Letter of Assurance is required to submit a Letter of Assurance if, after providing a Letter of Assurance to the IEEE, the Submitter of the Letter of Assurance becomes aware of additional Patent Claim(s) not already covered by an existing Letter of Assurance as further described in the answer to question 26. Any person or entity that believes that it holds a potential Essential Patent Claim is encouraged to submit a Letter of Assurance, even if not specifically requested to do so.

25. Who should sign a Letter of Assurance?

Only a person who is authorized to sign and bind the Submitter and its covered Affiliates to the assurance shall sign the Letter of Assurance. Unless the Letter of Assurance is received from an individual who has clear authority for intellectual property and legal matters, the IEEE-SA Standards Board Patent Committee Administrator will take follow-up action.

26. What duty does a Submitter have to provide an additional assurance if it becomes aware of additional Essential Patent Claims not already covered by an existing Letter of Assurance?

As further described in Section 6.2 of the Bylaws, the Submitter of a Letter of Assurance is required to submit a Letter of Assurance if, after providing a Letter of Assurance to the IEEE, the Submitter of the Letter of Assurance becomes aware of additional Patent Claim(s) that are not already covered by an existing Letter of Assurance and that are owned, controlled, or licensable by the Submitter that may be or may become Essential Patent Claim(s) for the same IEEE Standard. The Submitter is deemed to be "aware" of such additional potential Essential Patent Claims if any of the following individuals who are from, employed by, or otherwise represent the Submitter have personal knowledge of such claims: (a) past or present participants in the development of the [Proposed] IEEE Standard; or (b) the individual executing the previously submitted Letter of Assurance.

27. Can the Letter of Assurance form be modified? No. Use of the Letter of Assurance form is now mandatory. Completing the form is not considered a modification.

28. What happens when a Letter of Assurance is not accepted?

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The Submitter will be informed by the PatCom Administrator that the Letter of Assurance was not accepted and why it was not accepted.

29. *Are attachments part of the Accepted Letter of Assurance?*

Yes. See also question 38 and 39.

30. *Who can enforce the Accepted Letter of Assurance?*

Users and implementers may seek to enforce the terms of any Accepted Letter of Assurance. In certain circumstances and at its sole discretion, the IEEE may also seek to enforce the terms of an Accepted Letter of Assurance.

Affiliates

31. *Who is an Affiliate?*

An Affiliate is an entity that directly or indirectly, through one or more intermediaries, controls the Submitter, is controlled by the Submitter, or is under common control with the Submitter. For the purposes of this definition, the term "control" and its derivatives, with respect to for-profit entities, means the legal, beneficial, or equitable ownership, directly or indirectly, or more than fifty percent (50%) of the capital stock (or other ownership interest, if not a corporation) of an entity ordinarily having voting rights. "Control" and its derivatives, with respect to nonprofit entities, means the power to elect or appoint more than fifty percent (50%) of the Board of Directors of an entity. See clause 6.1 of the *IEEE-SA Standards Board Bylaws* available at <http://standards.ieee.org/develop/policies/bylaws/sect6-7.html#6.1>. For example, the parent corporation of a Submitter, any brother or sister corporation of the Submitter, and any Submitter subsidiary in which the Submitter owns more than 50% are considered Affiliates.

32. *Does the Letter of Assurance bind Affiliates?*

Yes, other than those Affiliates explicitly excluded in a Letter of Assurance.

Application of LOA to Successors of Essential Patent Claims Covered by LOA

33. *What does the Submitter of a Letter of Assurance have to do if the Submitter transfers one or more Essential Patent Claims covered by the Letter of Assurance to a third party?*

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The Submitter of a Letter of Assurance is required to provide notice of the Letter of Assurance to any assignee or transferee of any Essential Patent Claims covered by the Letter of Assurance. That notice can be provided by notifying the assignee or transferee that the Essential Patent Claims are subject to an Accepted Letter of Assurance or by a general statement in the transfer or assignment agreement that the Essential Patent Claims being transferred or assigned are subject to any encumbrances that may exist as of the effective date or such agreement. For example, a Submitter could include a provision like the following in its purchase agreement:

“One or more of the assets being transferred are subject to encumbrances that may exist as of the Effective Date of the Purchase Agreement.”

In addition, the Submitter shall require that the assignee or transferee agree to provide the same notice to any subsequent assignees or transferees and require its subsequent assignees or transferees to do the same.

Hypothetical. Company A submits a Letter of Assurance for an Essential Patent Claim for IEEE Standard X which is accepted by the IEEE-SA. Two years after submitting the Letter of Assurance, Company A sells all of its assets to Company B, including the Essential Patent Claim. Three years later, Company B sells the Essential Patent Claim to Company C. Subsequently, Company C sells the Essential Patent Claim to Company D but does not provide the required notice to Company D.

(a) Company A's Obligations

Company A can fulfill its obligations to the IEEE-SA in one of two ways:

- ✓ Company A can notify Company B that the Essential Patent Claim is subject to an Accepted Letter of Assurance; or
- ✓ Company A can provide a statement in its purchase agreement with Company B that one or more of the assets being transferred may be subject to any encumbrances that may exist as of the effective date of such agreement.

Regardless of which path it takes, Company A also must require that Company B agree to provide the same notice to its assignees or transferees and to bind those assignees or transferees to provide the same notice.

(b) Company B's Obligations

Company B can fulfill its obligations to the IEEE-SA one of two ways:

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- ✓ Company B can notify Company C that the Essential Patent Claim is subject to an Accepted Letter of Assurance; or
- ✓ Company B can provide a statement in its purchase agreement with Company C that one or more of the assets being transferred may be subject to any encumbrances that may exist as of the effective date of such agreement.

Regardless of which path it takes, Company B also must require that Company C agree to provide the same notice to its assignees or transferees and to bind those assignees or transferees to provide the same notice.

(c) Company C's Obligations

Company C must agree to provide the same notice to its assignees or transferees and to bind those assignees or transferees to provide the same notice as described in (a) and (b) above. In this case, Company C did not provide the required notice to Company D in breach of its agreement with Company B. However, as long as Company B required that Company C provide the required notice to Company D, Company B has fulfilled its commitment under the Letter of Assurance. Although Company B may decide not seek to enforce its agreement with Company C, users and implementers could themselves seek to enforce Company C's agreement to provide required notice to Company D.

34. *If a Submitter transfers one or more Essential Patent Claims that may be covered by a Letter of Assurance, what commitment does it need to get from the transferee regarding the Letter of Assurance?*

See answer to question 33.

35. *Does the Submitter have any responsibility to ensure that its assignees and transferees provide notice of the Letter of Assurance to subsequent transferees?*

No. As long as the Submitter provides the required notice to its assignees and transferees and requires that its assignees and transferees agree to provide the required notice and bind its assignees and transferees to the same, the Submitter is not responsible for the actions of any downstream assignees and transferees.

Licensing Terms Provided with Letters of Assurance

36. *A Submitter of a Letter of Assurance is permitted to provide a not-to-exceed license fee or rate commitment. What is the purpose of permitting a Submitter to provide a not-to-exceed license fee or rate commitment?*

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The purpose of the policy is to facilitate the development of standards that will serve the interests of industry, government, and the public. Relative costs of implementation for different proposed technical approaches in comparison with the relative technical performance increases or decreases of those proposals is a legitimate topic for discussion and a legitimate basis for decision-making in the standards development process. The new policy attempts to provide participants with greater certainty and precision in their understanding of relative costs.

37. *Is a Submitter of a Letter of Assurance **required** to provide a not-to-exceed license fee or rate commitment?*

No. The IEEE-SA permits, but does not require, the Submitter to provide not-to-exceed royalty rates or other terms.

38. *Does the IEEE make a judgment about whether any terms provided with the Letter of Assurance are reasonable or non-discriminatory?*

No. The IEEE is not responsible for identifying Essential Patent Claims for which a license may be required, for conducting inquiries into the legal validity or scope of those Essential Patent Claims, or for determining whether any licensing terms or conditions provided in connection with submission of a Letter of Assurance, if any, or in any licensing agreements are reasonable or non-discriminatory. Acceptance of a Letter of Assurance does not imply that the IEEE has made any determination of the reasonableness of the foregoing.

39. *What is the meaning of "reasonable rates" and "reasonable terms and conditions"?*

As noted in the answer to question 38, the IEEE-SA takes no position on, and has no responsibility for determining, the reasonableness of disclosed royalty rates or other licensing terms and conditions. The IEEE-SA's acceptance of a Letter of Assurance does not imply any finding that the disclosed not-to-exceed terms are or are not reasonable. The IEEE-SA's approval of a standard does not imply any finding (in the case of a standard for which not-to-exceed terms have been disclosed) that such terms are or are not reasonable or any finding (in the case of a standard for which not-to-exceed terms were not disclosed) that reasonable terms would be greater or less than the disclosed maximum terms (if any) for any other technology.

40. *The policy says that "copies of an Accepted Letter of Assurance may be provided to the Working Group, but shall not be discussed, at any standards Working Group meeting."*

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a) *Can copies of Accepted Letters of Assurance be handed out at a standards development meeting?*

Yes. A participant may provide an Accepted Letter of Assurance to other participants by handing out paper copies of an Accepted Letter of Assurance (including a copy of the accepted license or material licensing terms, if provided as part of the Letter of Assurance) or a data file with an image of the Accepted Letter of Assurance as it resides on the IEEE website.

b) *Can the link to the IEEE website for an accepted Letter of Assurance be provided?*

Providing or displaying the IEEE URL for an Accepted Letter of Assurance is also acceptable.

c) *Can the actual Accepted Letter of Assurance be displayed on a screen?*

Yes, but it is not recommended. The Letter of Assurance consists of three pages of often very small type. Therefore, the display is not going to be legible except in the smallest of rooms. The lack of legibility may lead to impermissible questions or discussion. Nevertheless, displaying the Accepted Letter of Assurance as it resides on the IEEE website is not a violation of the patent policy provided a participant does not read aloud, present, or answer questions about the displayed Letter of Assurance.

d) *Can a participant make a presentation or answer questions about the not-to-exceed license fee or rate, material licensing terms, sample license agreement?*

No, except that using one or more not-to-exceed rates as components in a presentation comparing relative costs is acceptable. Further information can be found in "What You Need to Know about the IEEE Standards Association's Antitrust and Competition Policy."

e) *What can standards development groups discuss about Letters of Assurance or submitted license terms?*

Nothing, other than distribution of the Letter of Assurance as described in FAQ 40(a) above. In addition, using one or more not-to-exceed rates as components in a presentation comparing relative costs is acceptable. Further information can be found in "Promoting Competition and Innovation: What You Need to Know about the IEEE Standards Association's Antitrust and Competition Policy".

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f) *Doesn't it make sense to discuss license terms as part of an overall evaluation of a proposed technology?*

IEEE-SA standards development meetings consist primarily of engineers who are there primarily to discuss the technical merits of competing solutions. Some knowledge of relative cost is entirely appropriate, and the policy provides for exactly that. But licensing issues can be complex and involve not just technical issues but legal and business issues as well, and those discussions can require a different set of people than are present for the technical meetings.

g) *What do I do if the standards development group launches into a discussion of patent licensing terms?*

A participant should object to, and a Working Group Chair shall close down, any discussion that is not permitted under IEEE-SA policies.

h) *What should the chair do if a participant wants to modify the terms of an Accepted Letter of Assurance during the meeting?*

An Accepted Letter of Assurance cannot be modified, either in the meeting or elsewhere. Anyone who wishes to submit an additional Letter of Assurance may do so (although any previous Accepted Letters of Assurance will continue to be available). The chair should instruct the individual to submit a new Letter of Assurance as provided in the IEEE-SA Standards Board Operations Manual. See also response to question 43.

i) *What about conversations in the hallway? Can participants discuss the particulars of license terms there?*

The IEEE-SA regulates what goes on in forums that the IEEE-SA provides, such as meeting rooms and email reflectors. The IEEE-SA has no ability to regulate purely private conduct of its participants. There are some topics that participants should not discuss regardless of where they are (such as prices that each of them as competitors will charge for compliant products). There are other topics that participants shall not discuss in IEEE-SA forums and shall not discuss in immediately adjacent spaces that might reasonably lead outside observers to believe it is just a continuation of the formal meeting. Further information can be found in "Promoting Competition and Innovation: What You Need to Know about the IEEE Standards Association's Antitrust and Competition Policy".

j) *If a Letter of Assurance is submitted without the Submitter's having exercised the option of providing a not-to-exceed license fee or rate commitment or other*

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license terms, is it okay for a Working Group participant to request or encourage the Submitter to file an additional Letter of Assurance to provide that information?

No. Although relative cost comparisons can certainly note the absence of cost information, participants shall not request license fees, terms, or conditions during technical standards-development meetings or in other IEEE-SA forums for technical discussions (such as email reflectors).

k) What can be discussed about patents in a standards development group meeting or in an IEEE-SA email reflector?

You can discuss the technical merits of using the technology included even if it is included within a potential Essential Patent Claim. You can discuss and compare the relative costs of technology claimed in potential Essential Patent Claims. You must not discuss subjects such as how a patent should be licensed, or essentiality, validity, or interpretation of a patent claim. These are not appropriate topics for discussion in a standards developing committee. Further information can be found in "What You Need to Know About IEEE Standards and the Law".

41. Can someone submit a different Letter of Assurance for different Essential Patent Claims within the same standard?

Yes. A Submitter may submit separate Letters of Assurance providing different licensing positions for different potential Essential Patent Claims.

42. If a person submits a Letter of Assurance but doesn't identify a specific Essential Patent Claim covered by the Letter of Assurance, are the assurances binding on all of the Essential Patent Claims owned by the Submitter's company?

Yes.

43. Can a Submitter change the terms of the assurance it has given after it has been accepted by the IEEE? For example, what if the Submitter decided to lower the not-to-exceed price it would offer to license for an Essential Patent Claim?

A Letter of Assurance is irrevocable once submitted and accepted and shall apply, at a minimum, from the date of the standard's approval to the date of the standard's transfer to inactive status. Thus, a Submitter cannot change the terms of the Letter of Assurance for a particular Essential Patent Claim once it is accepted. However, over time, a Submitter may provide multiple assurances for a given Essential Patent Claim by submitting multiple Letters of Assurance for

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such claim, each of which shall be binding on the Submitter. Each potential licensee may choose to invoke the terms of any applicable Letter of Assurance accepted by the IEEE. Thus, the Submitter desiring to lower the not-to-exceed price the Submitter would offer to license for an Essential Patent Claim can submit an additional Letter of Assurance with the revised not-to-exceed price and each potential licensee may choose to invoke the terms of either Letter of Assurance.

Blanket Letter of Assurance

44. *What is a "Blanket Letter of Assurance"?*

A Blanket Letter of Assurance is a Letter of Assurance referencing a standard or project that applies to all Essential Patent Claims for which a Submitter may currently or in the future (except as otherwise provided for in the IEEE-SA Standards Board Bylaws and in the IEEE-SA Standards Board Operations Manual) have the ability to license. This is defined in clause 6.1 of the IEEE-SA Standards Board Bylaws available at <http://standards.ieee.org/develop/policies/bylaws/sect6-7.html#6.1>.

45. *What happens if the Submitter submits a Blanket Letter of Assurance after previously offering a specific Letter of Assurance?*

If a Submitter has signed and submitted a Letter of Assurance specifically identifying an Essential Patent Claim before or concurrently with signing and submitting a Blanket Letter of Assurance, the Blanket Letter of Assurance cannot be invoked as to the specified Patent Claim.

46. *Does a Blanket Letter of Assurance apply to Essential Patent Claims that my company acquires after submitting the Letter of Assurance?*

Yes, unless the acquired entity or the prior holder of the acquired Essential Patent Claim has submitted a Letter of Assurance before the acquisition. Any Blanket Letter of Assurance submitted by the acquired entity or the prior holder of the acquired Essential Patent Claim before the acquisition shall continue to apply to acquired Essential Patent Claims covered by such assurance (but not to the acquirer's Essential Patent Claims). An acquiring party can ask a seller of an acquired Essential Patent Claim or an acquired entity to submit additional Letters of Assurance before closing of the acquisition.

Implementation of new policy

47. *What is the effective date of the new patent policy?*

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The effective date of the new patent policy set forth in the IEEE-SA Standards Board Bylaws and IEEE-SA Standards Board Operations Manual is 1 May 2007.

48. *Will the new policy apply to existing standards development projects currently underway as well as new standards development projects?*

As has long been the practice for all IEEE-SA Standards Board Bylaws and IEEE SA Standards Board Operations Manual changes, changes to policy will go into effect for all Working Groups at the same time. This is usually 1 January of each year, but the IEEE-SA Board of Governors set the effective date of these changes to be 1 May 2007. Of course, any Letters of Assurance for a Standard/Project received before 1 May 2007 will be honored (i.e., there is no need for a Working Group Chair to request a Letter of Assurance on the new form from a holder of a potential Essential Patent Claim if the holder has already submitted an Accepted Letter of Assurance).

49. *Can a participant provide a not-to-exceed license fee or rate commitment after 1 May 2007 for a Letter of Assurance that was submitted to the IEEE-SA prior to 1 May 2007?*

Letters of Assurance are irrevocable once submitted and accepted. However, after 1 May 2007, a holder that has already submitted an Accepted Letter of Assurance may submit a subsequent letter on the new Letter of Assurance form if it wants to update the information on the previously submitted Letter of Assurance. In such a case, a potential licensee would have the right to invoke the terms of either Letter of Assurance. See also answer to question 43.

Ballot resolution regarding Essential Patent Claims

50. *During ballot resolution, what should be the response to a comment regarding the lack of an LOA?*

If an LOA has not been requested from the indicated holder of a potential Essential Patent Claim, the process for requesting an LOA should be followed (See 6.3.2 'Call for patents' in the IEEE-SA Standards Board Operations Manual).

Further, the comment response should state that the IEEE is not responsible:

- For identifying Essential Patent Claims for which a license may be required
- For conducting inquiries into the legal validity or scope of Patent Claims

(Taken from the subclause 6.3.1 'Public notice' of the IEEE-SA Standards Board Operations Manual)

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and that no discussions or other communications regarding the

- Essentiality of patent claims
- Interpretation of patent claims
- Validity of patent claims

shall occur during IEEE-SA working group standards-development meetings or other duly authorized IEEE-SA standards-development technical activities.

(Note: This is not a complete list of the items for non-discussion. Adapted from 5.3.10.2 'Discussion of litigation, patents, and licensing' of the IEEE-SA Standards Board Operations Manual).



**Written Testimony of The Institute of Electrical and Electronics Engineers, Incorporated
(IEEE) Standards Association
before the
Subcommittee on Antitrust, Competition Policy and Consumer Rights of the
Senate Committee on the Judiciary
entitled "Standards Essential Patent Disputes and Antitrust Law"
Tuesday, July 30, 2013
Room 226, Dirksen Senate Office Building**

Standards Development Organizations (SDOs) develop standards to address issues ranging from product compatibility to consumer safety and health. Standards also simplify product development and reduce costs that do not add value, thereby increasing a user's ability to compare competing products. Standards also are fundamental building blocks for international trade. Only through the use of standards can the requirements of interconnectivity and interoperability be assured and the credibility of new products and new markets verified, thereby enabling the rapid implementation of new technologies. Hundreds of nonprofit standards organizations throughout the U.S. have developed tens of thousands of standards.

Each SDO is governed by its own distinct set of rules and policies aimed at ensuring fair and open standards development processes. Some SDOs are free-standing entities, while others (like the IEEE Standards Association) operate as part of a larger organization with a broader mission. Some SDOs operate as industry groups, and others (like the IEEE Standards Association) operate as nonprofits with a broader mission.

IEEE and IEEE-SA

IEEE is a New York not-for-profit corporation, a 501 (c)(3) public charity, whose mission is to advance electrical engineering, electronics, and computer science, and the allied branches of

engineering and related arts and sciences for the benefit of humanity. It has more than 425,000 members in over 160 countries who are engineers, scientists, and other professionals whose technical interests are rooted in electrical and computer sciences, engineering, and related disciplines. It publishes nearly a third of the world's technical literature in the field, including more than 148 journals and magazines. IEEE also sponsors more than 1,300 technical conferences per year which are attended by over 400,000 professionals.

The IEEE Standards Association, known as IEEE-SA, is the standards development unit of IEEE. IEEE-SA has more than 1,400 standards and projects under development, including the prominent 802 standards for wireless networking. IEEE-SA is a central source of standardization in both traditional and emerging fields, particularly telecommunications, information technology, and power generation. The Standards Association conducts over 200 standards ballots every year through which proposed standards are voted upon for technical accuracy, soundness, and acceptance. It thrives because of the technical diversity of its 20,000+ participants, consisting of technology experts and interested parties from around the globe, and includes individuals affiliated with corporations, universities, government agencies, and other organizations.

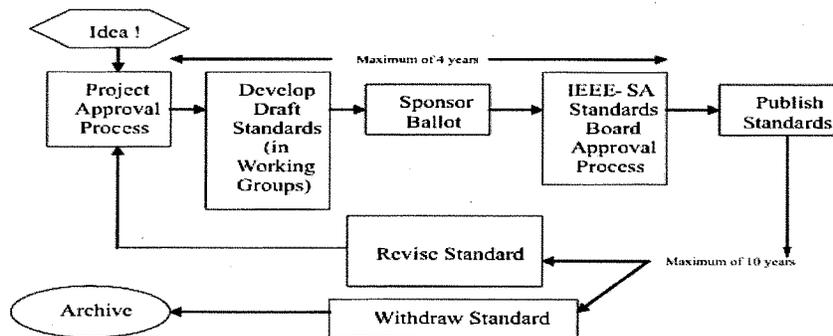
I. Standards Development in IEEE

There are two standards development processes within IEEE-SA, the individual process and the entity process.¹ Participants in the individual process act based on their qualifications and experience. Entity representative participants are appointed by an entity to represent it and act on its behalf. All participants, both individuals and entity representatives, are required to act in

¹ A given standard will be developed under only one of these two processes. For example, the 802.11 standard (indeed, the entire family of 802 standards) has been developed under the individual method. The 1901-2010 *Standard for Broadband over Power Line Networks: Medium Access Control and Physical Layer Specifications* has been developed under the entity method.

accordance with the IEEE Code of Ethics, which includes making decisions consistent with the safety, health and welfare of the public and disclosing real or perceived conflicts of interest. The standards development process is not to be dominated by any single interest category, individual, or organization. All meetings involving standards development are open to all interested parties. Any participant in a standards activity or meeting must disclose his or her affiliation. Given that IEEE is a neutral forum within which the standards development process is to take place, evidence of dominance is subject to corrective action on several levels. Individual participation in the standards development process operates on the principle of one person/one vote. Similarly, entity participation provides for one entity/one vote. IEEE owns the copyright in all compilations or collective work of its standards development process, such as any draft standard or final approved standard. Participants are responsible for determining whether disclosure of any of their contributions require prior consent of other parties and, if so, must obtain it.

IEEE standards follow a well-defined path from concept to completion, guided by a set of five basic principles: due process, openness, consensus, balance, and right of appeal.² The process is visually summarized in this chart:



² Material in this section is largely drawn from *Develop Standards*, available on the IEEE website at <http://standards.ieee.org/develop/overview.html>.

A. Authorization of a Standard Development Project

Standards projects are commenced when there is a need for an idea or concept to be standardized. The idea or concept can be broad or very specific. However, no standard is developed by one person alone; development of a standard requires group collaboration and consensus, which in turn require a process and neutral supervision.

Within the standards development work at IEEE, a sub-unit of IEEE (known as a “Sponsor”) assumes responsibility for a particular standards idea. The Sponsor provides technical oversight for the standard and determines the scope and nature of the technical content. Sponsors for IEEE Standards are traditionally IEEE Societies and Committees, each of which specializes in a specific technology, industry sector, or other related interest. Projects can also be sponsored by Standards Coordinating Committees (SCCs, which are typically created when more than one Society is interested in the subject matter), or the IEEE-SA Corporate Advisory Group.

A standards project does not formally exist until the IEEE-SA Standards Board, known as the SASB, approves a Project Authorization Request (PAR). A PAR is a concise, structured, and highly detailed document that essentially states the reason why the project exists and what it intends to do. Often the members of a potential Working Group, that is, a standards developing group within a Sponsor, will have gathered to work on a PAR and to gain the support of their potential Sponsor. This type of gathering, known as a study group, can exist for up to six months before a PAR needs to be submitted. (New PARs can also be developed by existing Working Groups as additional projects.)

When presented with a PAR, the SASB determines whether the proposed standard development project falls within the technical scope of IEEE and the assigned Sponsor, whether the project

appears to fulfill a technical and/or market need, and whether the project is likely to attract enough volunteers to develop the standard.

B. Working Group

With PAR approval, the study group or other proposer that requested the project authorization forms a Working Group. Working Groups are open to participation by anyone.³ Overall, Working Groups strive for broad representation of all interested parties and encourage global participation.

Working Groups must operate in compliance with the IEEE-SA requirements,⁴ the Sponsor's Policy & Procedures (P&P), and the Working Group's own P&P. Some Sponsors allow each Working Group to develop its own P&P, which are subject to Sponsor review and approval and are subject to audit by the SASB. Other Sponsors develop a single Working Group P&P for each project type (individual or entity) that each Working Group of that type must adopt and follow. The IEEE-SA provides baseline P&Ps for Sponsors and Working Groups.⁵

A Working Group usually has a hierarchy of officers (typically a chair, a vice-chair, and a secretary) to ensure that the work proceeds smoothly. The chair's role is to provide leadership and guidance during the standards development process, helping move a draft standard towards completion. The chair will plan the meetings and organize the work. Agendas for Working Group meetings are distributed beforehand, and the results of the group's deliberations are publicly available, usually through meeting minutes.

³ In standards projects based on the individual method, participation does not require membership in IEEE or IEEE-SA. In entity-based projects, the entity participant must be a member of IEEE-SA.

⁴ These are generally set forth in the IEEE-SA Standards Board Bylaws and the IEEE-SA Standards Board Operations Manual.

⁵ Baseline procedures are available at <http://standards.ieee.org/about/sasb/audcom/bops.html>.

The Working Group does the detailed work of writing the draft standard. Typically, the group will identify the different sections that the draft standard will require. First, a scope and purpose statement is prepared based on the PAR information. Next, an outline is created. Often, this outline will serve as the structure for the standard as well, with the subjects in the outline becoming the clauses and subclauses in the document. Then the Working Group splits up the drafting work among the Working Group members. Draft sections are primarily written outside the formal Working Group meetings and are then brought back to the Working Group to resolve problematic areas. The Working Group will have a technical editor who compiles the group's work into a single document.

Not everyone in a Working Group will agree on the best method for accomplishing an objective within a standard. Sometimes Working Group members will disagree on technical issues or on phrasing, but sometimes they will disagree on fundamental technology approaches. At a minimum, consensus means that a majority must agree on an issue. The Working Group's and/or the Sponsor's P&P will define the levels of approval (e.g., simple majority or supermajority) that are required for approval of a draft standard within a Working Group.

A draft standard can go through multiple drafts within the Working Group before it is ready to proceed to the next stage. With each draft, the Working Group tries to narrow the differences among its members, through technical persuasion and compromise. Voting can be conducted at meetings or through "Working Group ballots" (not to be confused with the "Sponsor ballots" discussed in the next section). In a Working Group ballot, Working Group members can vote *Approve*, *Do Not Approve*, or *Abstain*. Members can also offer comments on the draft and

propose changes to address their comments, indicating whether resolution of the comment is necessary to change the member's vote.⁶

C. Sponsor Balloting

Formal consensus balloting begins when the Sponsor decides that the draft of the developing standard (written by the Working Group) is stable. The Sponsor forms a balloting group of persons interested in the standard. While anyone can contribute comments, the only votes that count towards approval are those of the eligible members of the balloting group. IEEE-SA's rules require that a balloting group be balanced among interest categories. Balloters usually fall into one of several classes (e.g., manufacturers, users, academic, government, or general interest). No interest category can comprise over one-third of the balloting group.

A standard will not pass unless at least 75 percent of all ballots from a balloting group are returned and at least 75 percent of the returned ballots (excluding Abstentions) bear an "Approve" vote. Reaching consensus also includes receiving and resolving comments. The ballot resolution group responds to all comments received within the balloting period, whether submitted from within or outside of the balloting group.⁷

D. SASB Review

The SASB approves or disapproves standards based on the recommendation of its Standards Review Committee (RevCom). This committee oversees Sponsors' compliance with all procedures and guiding principles in drafting and balloting a standard. As with PARs, completed draft standards come before the SASB seven times a year. After approval, the standard is edited

⁶ Procedures can vary by Sponsor and by Working Group within a Sponsor.

⁷ Once the ballot resolution group has examined and dealt with all comments, the Sponsor must recirculate the ballot if there is a need for that (for example, because new technical changes were introduced into the document).

by an IEEE-SA staff editor, given a final review by the members of the Working Group, and published.

II. Inclusion of Patented Technology

IEEE-SA seeks to produce standards that any willing implementer can use and that will become widely adopted. IEEE-SA's patent policy permits the inclusion of patented technology, because the best technological approach that the standards development participants select is or may be covered by a patent. Inclusion of patented technology without the patent holder's commitment that it will grant licenses to implementers on reasonable and non-discriminatory terms, however, could jeopardize the goal of widespread adoption. Consequently, IEEE-SA (like most SDOs) has adopted a patent policy intended to deal with this barrier.

IEEE standards may be drafted in terms that include the use of essential patent claims. Participants in IEEE-SA's standards development process are obligated to disclose the name of potential essential patent holders of which they have knowledge. A call for such information is made at every standards development meeting and the response to such request is recorded in the minutes. When a patent holder is identified, the working group chair (or a designee) then contacts the holder of such patent and asks for a Letter of Assurance.

The IEEE-SA Letter of Assurance is a specific form of agreement designed by IEEE on which the patent holder agrees to one of several options: 1) that a license will be granted without compensation to an unrestricted number of applicants on a worldwide basis with reasonable terms and conditions that are demonstrably free of unfair discrimination; 2) such license will be granted at reasonable rates and, at the patent holder's option, an indication of the ceiling for a reasonable royalty rate may be disclosed (in both cases a sample license agreement may be

attached); 3) no enforcement action will be taken by the essential patent holder; or 4) the patent holder discloses that it is unwilling or unable to grant licenses or agree not to enforce its essential patent claims. Finally, the patent holder, following a reasonable and good faith inquiry, may indicate that it is not aware of any essential or potentially essential patent claims to which the standard in question may give rise. The signatory to a Letter of Assurance agrees to bind its transferees and assigns to its terms or to provide notice of the Letter of Assurance through a Statement of Encumbrance. If the specific licensing terms (rather than a sample agreement) to which the patent holder would agree are submitted, such document will be appended to the Letter of Assurance. A copy of IEEE-SA's Letter of Assurance is attached as Appendix I.

Under its rules, IEEE-SA cannot require a patent holder to complete a Letter of Assurance. Moreover, if the patent holder is not in some sense a participant in IEEE-SA itself or in its standards development activity, the non-participating patent holder would claim that IEEE-SA's rules do not bind it. If a patent holder does not submit a Letter of Assurance or, alternatively, indicates that it will not grant a license, IEEE and its standards developers may consider the actions of such patent holder in determining whether to approve a standard as drafted.

A. Essential Patent Claims

The SASB Bylaws define "Essential Patent Claim" as "any Patent Claim the use of which was necessary to create a compliant implementation of either mandatory or optional portions of the normative clauses of the [Proposed] IEEE Standard when, at the time of the [Proposed] IEEE Standard's approval, there was no commercially and technically feasible non-infringing alternative." In other words, if it is not possible to implement the standard without infringing a patent, then the patent is essential.

B. Identification of Holders of Essential Patent Claims

The first step in IEEE-SA's policies relating to patents is to identify the potential assertion of "essential" patent claims. As noted above, IEEE-SA asks every participant in a standards development project, at every standards development meeting, to identify any holders of potential essential patent claims of which the participant is personally aware, and to do so as early as possible in the standards development process. IEEE-SA expects that Working Group participants will act in good faith and will identify any persons who might hold potentially essential patents (and disclose any known patents that might prove essential).⁸ IEEE-SA goes to great lengths to ensure that standards development participants are aware of IEEE's patent policy. The SASB's Patent Committee (PatCom) has developed a set of instructional materials that are available to all participants and other stakeholders (and to the general public). These include a slide set that can be used to explain the policy at Working Group and other standards development meetings; a tutorial on the patent policy; and a set of FAQs, entitled "Understanding Patent Issues During IEEE Standards Development." These instructional materials are attached as Appendix II A - C.

C. Seeking Patent Commitments

Once the holders of potentially Essential Patents are identified, IEEE-SA (through the Working Group Chair or his designee) asks any person or entity so identified to state its licensing intentions through completion and submission of the IEEE Letter of Assurance form. As noted above, the Letter of Assurance form asks the patent holder to state its licensing intentions and

⁸ An inherent limitation is that no set of written rules can hope to cover all conceivable circumstances. While the written rules provide participants with substantial guidance, the cooperative nature of standards development means that an SDO's written rules should not be interpreted with strict literalism. See *Understanding Patent Issues During IEEE Standards Development Patented Technology in IEEE Standards* at ¶ 17 ("the IEEE-SA does expect that participants will conduct themselves in good faith"), available at <http://standards.ieee.org/faqs/patents.pdf>.

provides a number of alternatives from which to choose. In one key option, for example, the holder can state that it is willing “to grant a license under reasonable rates to an unrestricted number of applicants on a worldwide basis with reasonable terms and conditions that are demonstrably free of unfair discrimination.” While the IEEE-SA cannot compel a patent holder to mark the Letter of Assurance form to agree to such option (or even compel the patent holder to submit the Letter of Assurance form at all), as stated above, the absence of a Letter of Assurance (or the submission of a Letter of Assurance that indicates an unwillingness to provide any kind of assurance) is a factor that the IEEE-SA may consider when deciding whether to approve the draft standard.

D. Discussion of Costs

A standard often will take one technical course from among multiple possible approaches. Different technical approaches may have different benefits, and a sensible comparison may involve an understanding of whether or not the technical differences would justify the cost differential (if known). Nevertheless, as a matter of policy, IEEE-SA prefers that meetings of technical experts remain just that – technical meetings. While technical meetings should remain focused on the complexity, performance, and quality implications of proposals, they should also permit sufficient discussion to enable participants to understand the *relative* cost differentials (or to be able to take information back to their respective companies to have that kind of discussion and analysis internally). With regard to the costs of inputs used in implementing a standard, the only permitted discussion is the degree to which such costs may differ.⁹

⁹ See IEEE-SA, *Promoting Competition and Innovation: What You Need to Know about the IEEE Standards Association's Antitrust and Competition Policy* (Approved 22 March 2007 (Updated 24 August 2010)), available at <http://standards.ieee.org/develop/policies/antitrust.pdf>.

IEEE-SA does not permit discussion at its standards development gatherings of: 1) the status or substance of ongoing or threatened litigation; 2) the essentiality, interpretation, or validity of patent claims; or 3) specific patent license terms or any other intellectual property right, other than what may have been disclosed on an Accepted Letter of Assurance.

III. Protecting the Value and Integrity of Patent Commitments

Patent commitments play a critical role in the standards development process. IEEE-SA has therefore taken steps to protect the value and integrity of the patent commitments made to IEEE-SA in Letters of Assurance.

A. Patent Commitments Protect Against Potential Hold-up

Patent commitments like the IEEE Letter of Assurance help protect implementers of a standard against patent hold-up. Hold-up can be defined as the ability of the owner of patented technology to extract higher royalties “after its technology has been chosen by the SDO as a standard and others have incurred sunk costs which effectively increase the relative cost of switching to an alternative standard.”¹⁰ Consequently, IEEE uses the Letter of Assurance process to ask patent holders if they are willing to grant licenses on Reasonable and Non-Discriminatory (“RAND”) terms. IEEE asks that the identity of potential essential patent holders be disclosed, and Letters of Assurance submitted, as soon as reasonably feasible in the standards

¹⁰ U.S. DEPARTMENT OF JUSTICE AND FEDERAL TRADE COMMISSION, ANTITRUST ENFORCEMENT AND INTELLECTUAL PROPERTY RIGHTS: PROMOTING INNOVATION AND COMPETITION at 35 (2007), available at <http://www.justice.gov/atr/public/hearings/ip/222655.pdf>. See also Gerald F. Masoudi, Deputy Assistant Attorney General, Antitrust Division, U.S. Department of Justice, *Antitrust Enforcement and Standard Setting: The Vita And IEEE Letters And The "Ip2" Report* (May 10, 2007), available at <http://www.justice.gov/atr/public/speeches/223363.htm> (“Patent hold up can be defined to involve a situation where all the following conditions exist: [1] after the standard is set, the holder of a patent essential to that standard identifies a patent, or attempts to impose licensing terms, that SDO members could not reasonably have anticipated; [2] it is not a commercially reasonable option to abandon the standard and attempt to create an alternative, due to the cost of the standard setting process itself or the cost of developing products incorporating the alternative standard; and - most importantly - [3] if the other SDO members had anticipated the patent holder's demands, those SDO members could have chosen a different technology that avoided this patent.”).

development process once the standards development project has been approved (and certainly before the IEEE-SA Standards Board determines whether to approve the proposed standard for publication).

The term “reasonable,” however, is inherently vague, and the ability of patent commitments to protect against hold-up is thus imperfect. Sometimes this vagueness (and the consequent inability of parties to agree on a negotiated, “reasonable” license) will lead to expensive litigation whose cost and risk can impede the adoption of a socially valuable standard. Even without litigation, the ex post negotiation of license terms (that is, negotiations occurring after a technology’s inclusion in a standard has increased the patent holder’s market power, potentially to the point of monopoly) can lead to higher royalty payments and ultimately higher prices to consumers.

In 2007, IEEE-SA adopted a provision to facilitate understanding of a patent holder’s licensing position. IEEE-SA’s current patent policy expressly permits (but does not require) the submitter of a patent commitment to provide with its commitment (i) a not-to-exceed license fee or rate commitment, (ii) a sample license agreement, or (iii) one or more material licensing terms. Other approaches (such as VITA Standards Organization’s policy for mandatory disclosure of maximum rates) are also possible.

B. Patent Commitments Are Irrevocable

A patent commitment must be durable for the standards development process to function. If a patent holder could withdraw a commitment, then a standards development group could not rely on it. Years of joint effort would be wasted if the standards development effort had to be reversed. Alternatively, if the standard had already been adopted, the renegeing patent holder would be able to extract monopoly profits from all implementers because there would be no

competing and non-infringing alternative for compliance with the standard: by definition the committed patent is “essential” for a compliant implementation of the standard. Thus, under the IEEE-SA rules, a patent commitment “is irrevocable once submitted and accepted.”

C. Patent Commitments Are Binding on Successors and Assignees

The patent commitment needs to be durable even if the underlying patent is transferred. From the perspective of IEEE-SA (and other SDOs) and would-be implementers of the standard, what matters is not the identity of the patent holder, but the continuing validity of the commitment after transfer. Permitting a commitment to evaporate upon transfer would mean that the commitment is not worth much. “Patent laundering” would confer on the successor the ability to extract supra-competitive royalties. The original holder would have an incentive to create that ability and to split the value with a successor. Consequently, the appropriate rule is simple and clear: a successor to a Letter of Assurance should be bound by the same commitments as its transferor. Thus, IEEE-SA policy requires that the original provider of the commitment bind its successor to honor the commitment (who then needs to bind its successor to honor the commitment, and so on).

Conclusion

IEEE fully appreciates the importance of a comprehensive patent policy and, as explained above, has realized on such understanding through a balanced framework with detailed rules and procedures that define how patented technologies should be taken into account within IEEE standards. However, the current issues cannot be addressed by applying “downstream” measures, (that is, essentially in the form of an SDO’s patent-related rules and procedures, no matter how good they may be) or, as some have suggested, the imposition of governmental

regulations on SDOs. Due to the global nature of many ICT standards, cooperation between USPTO and IEEE, as well as among other leading SDOs, major patent offices, and other regulators, is necessary. The governance of the process must start with improved self-regulation of patenting behavior during the early phases of the standardization process, rather than focusing exclusively on how patented technologies should be included into standards that are nearing the completion of their development. As we have indicated above, and in the IEEE-SA testimony before the Subcommittee, IEEE-SA's patent policies are well established and IEEE-SA is responding to these ongoing developments.

IEEE would like to thank the Subcommittee for the opportunity to offer this written submission and hopes that it has provided an explanation of the standards development process and, in particular, insight into the workings of IEEE-SA. We would look forward to further cooperation and collaboration on this important set of issues and would welcome the occasion to provide further consultation as we, in keeping with the IEEE mission, continue to examine effective means of supporting innovation in the advancement of technology for humanity.

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QUESTIONS SUBMITTED BY SENATOR GRASSLEY FOR SUZANNE MUNCK

**Senator Grassley's Written Questions for Judiciary Antitrust Committee Hearing
"Standard Essential Patent Disputes and Antitrust Law," July 30, 2013**

Questions for Ms. Munck

1. In a recent speech on patent assertion entities (PAEs) at the American Antitrust Institute, Chairwoman Ramirez stated that PAE patent demands can raise antitrust issues, "especially if the PAE is effectively acting as a clandestine surrogate for competitors." She also stated that "this emerging strategy allows operating companies to exploit the lack of transparency in patent ownership to win a tactical advantage in the marketplace that could not be gained with a direct attack." Do you share the Chairwoman's concerns about privateering, and would you expect the FTC to look more closely at privateering and its impact on licensing commitments? What further can the FTC do to curb the actions of patent trolls?
2. How do you ensure that FTC enforcement activities with respect to standard essential patents steer clear of price setting? How does the FTC avoid using its enforcement authority to favor one business model over another, or avoid picking winners and losers among standards?

QUESTIONS SUBMITTED BY SENATOR GRASSLEY FOR A. DOUGLAS MELAMED

**Senator Grassley's Written Questions for Judiciary Antitrust Committee Hearing
"Standard Essential Patent Disputes and Antitrust Law," July 30, 2013*****Questions for Mr. Melamed***

1. How pervasive is the problem of patent hold-up? What evidence do you have to support your response? What about the problem of patent hold-out? How pervasive is that problem, and what evidence do you have to support your answer?
2. How do hold-up and hold-out impact innovation and competition?
3. Do you believe that exclusionary orders should always be prohibited in standard essential patent disputes where the standard essential patent holder has committed to license on RAND terms? Or should the particular factual circumstances be considered on a case-by-case basis? Why or why not?
4. Some are concerned that a broad denial of remedies in disputes involving standard essential patents in Section 337 proceedings would produce adverse and unintended consequences. Do you agree? Why or why not?
5. In your opinion, does the International Trade Commission have sufficient statutory authority to stay the imposition of an exclusion order contingent on an infringing party's commitment to abide by an arbitrator's determination of the fair value of a license? If it does, do you believe that the International Trade Commission is using that authority appropriately?
6. Do you believe monetary damages are generally a sufficient remedy in standard essential patent cases? Should standard essential patent cases primarily be adjudicated by federal district courts, which can award monetary damages?
7. Exclusion orders are important to U.S. innovators whose standard essential patents are being infringed by foreign manufacturers with no legally sufficient presence in the U.S. to warrant federal court jurisdiction. Why shouldn't standard essential patent holders be able to seek exclusionary relief against foreign infringers? Would we be weakening important trade enforcement remedies? What are your thoughts on this?
8. Do you believe that exclusion orders in standard essential patent cases can pose a potential barrier to entry for new market participants? If companies are concerned about the possibility of patent hold up, will they be hesitant

to enter new markets, particularly technology markets in which a single device can implement thousands of standard essential patents?

9. In considering the public interest factors in a 337 case, should the International Trade Commission look only at the public interest ramifications of the exclusion order at issue, or should it consider broader long-term public interest effects? For example, in a case involving a standard essential patent, should the International Trade Commission consider whether an exclusion order will enable patent hold up and undermine the standards setting process?

QUESTIONS SUBMITTED BY SENATOR GRASSLEY FOR DONALD J. ROSENBERG

**Senator Grassley's Written Questions for Judiciary Antitrust Committee Hearing
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2. How do hold-up and hold-out impact innovation and competition?
3. Do you believe that exclusionary orders should always be prohibited in standard essential patent disputes where the standard essential patent holder has committed to license on RAND terms? Or should the particular factual circumstances be considered on a case-by-case basis? Why or why not?
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QUESTIONS SUBMITTED BY SENATOR GRASSLEY FOR JOHN D. KULICK, PH.D.

**Senator Grassley's Written Questions for Judiciary Antitrust Committee Hearing
"Standard Essential Patent Disputes and Antitrust Law," July 30, 2013**

Questions for Mr. Kulick

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QUESTIONS SUBMITTED BY SENATOR KLOBUCHAR FOR SUZANNE MUNCK

**Senator Klobuchar's Questions for the Record
"Standard Essential Patent Disputes and Antitrust Law"**

For Ms. Munck:

- 1) Some observers in the industry have suggested that standard setting organizations' IP policies should mandate some form of alternative dispute resolution for FRAND disputes, such as mandatory binding arbitration, before an injunction or an exclusion order can be sought. In other words, injunctions and exclusions orders should be reserved only for a truly unwilling licensee and, in the case of an exclusion order, for a party that can't be reached through the U.S. court system. What are your views on this suggestion?
- 2) At the hearing, we discussed the patent holdup problem in context with individual SEP holders. I have heard concerns from a Minnesota company about similar patent holdup problems in the context of patent pools where FRAND commitments were made. Would this type of patent holdup raise antitrust concerns? Has the FTC reviewed current activities of patent pools and how they affect competition?

QUESTIONS SUBMITTED BY SENATOR KLOBUCHAR FOR A. DOUGLAS MELAMED

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For Mr. Melamed:

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- 2) Do you think that IEEE will be able to make changes to its intellectual property rights policies to address any real or potential problems concerning patent holdup? What do you think is a realistic timeline in which we could see this kind of change happen?

RESPONSES BY SUZANNE MUNCK TO QUESTIONS SUBMITTED BY SENATORS GRASSLEY
AND KLOBUCHAR

**Senator Klobuchar's Questions for the Record
"Standard Essential Patent Disputes and Antitrust Law"**

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I agree that a process that outlines independent third-party resolution of FRAND disputes, before an injunction or an exclusion order can be sought, is a useful tool to mitigate patent hold-up. The Commission outlined a similar process in the recent *In re Matter of Motorola Mobility, LLC* consent. There, the consent only allowed Google to seek injunctive relief or exclusion orders in the following narrowly defined circumstances: "(1) when the potential licensee is not subject to United States jurisdiction; (2) the potential licensee has stated in writing or in sworn testimony that it will not accept a license for Google's [FRAND-encumbered SEPs on any terms; (3) the potential licensee refuses to enter a license agreement for Google's [FRAND-encumbered SEPs on terms set for the parties by a court or through binding arbitration; or (4) the potential licensee fails to assure Google that it is willing to accept a license on [FRAND terms."¹

- 2) At the hearing, we discussed the patent holdup problem in context with individual SEP holders. I have heard concerns from a Minnesota company about similar patent holdup problems in the context of patent pools where FRAND commitments were made. Would this type of patent holdup raise antitrust concerns? Has the FTC reviewed current activities of patent pools and how they affect competition?

Patent pools are often formed when multiple patented technologies are needed to produce a standard product. As the FTC and DOJ recognized in our joint 2007 Report, patent pools can be an efficient way to minimize transaction costs for patent licenses.² Patent pools can also raise competitive concerns. For example, pools composed of pure substitute patents, (*i.e.* patents covering technologies that compete with each other) are more likely to harm consumers than pools composed of complementary patents (*i.e.* non-competing patents that cover separate

¹ Analysis of Proposed Consent Order to Aid Public Comment, *In the Matter of Motorola Mobility LLC and Google Inc.*, F.T.C. File No. 121-01207 (January 3, 2013), available at <http://www.ftc.gov/os/caselist/1210120/130103googlemotorolaanalysis.pdf>.

² Fed. Trade Comm'n & U.S. Dep't of Justice, *Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition* 64-66 (2007), available at <http://www.ftc.gov/reports/innovation/P040101PromotingInnovationandCompetitionrpt0704.pdf>

aspects of a given technology).³ I would be concerned if a patentee engaged in hold-up with respect to FRAND-encumbered patents in a patent pool because this behavior could undermine the pro-competitive value of patent pools. However, the antitrust risks associated with conduct by pool participants necessarily depend on the facts at issue, including the presence or absence of market power.

I believe that the Commission will continue to analyze competitive issues involving patent pools with these efficiencies and harms in mind.

³ *Id.* at 66.

**Senator Grassley's Written Questions for Judiciary Antitrust Committee Hearing
"Standard Essential Patent Disputes and Antitrust Law," July 30, 2013**

Questions for Ms. Munck

1. In a recent speech on patent assertion entities (PAEs) at the American Antitrust Institute, Chairwoman Ramirez stated that PAE patent demands can raise antitrust issues, "especially if the PAE is effectively acting as a clandestine surrogate for competitors." She also stated that "this emerging strategy allows operating companies to exploit the lack of transparency in patent ownership to win a tactical advantage in the marketplace that could not be gained with a direct attack." Do you share the Chairwoman's concerns about privateering, and would you expect the FTC to look more closely at privateering and its impact on licensing commitments? What further can the FTC do to curb the actions of patent trolls?

Yes, I believe that the FTC will continue to monitor Patent Assertion Entity activity, including potential privateering activity. When appropriate, the FTC will use its competition and consumer protection enforcement authority to address harmful PAE activity.

In addition, PAE activity is a suitable focus for Commission policy studies and competition advocacy. For example, patent system issues related to notice and remedies may facilitate PAE harms. The FTC will continue to recommend improvements to patent notice and remedies, together with other appropriate patent system reform, to address these issues going forward.

2. How do you ensure that FTC enforcement activities with respect to standard essential patents steer clear of price setting? How does the FTC avoid using its enforcement authority to favor one business model over another, or avoid picking winners and losers among standards?

The FTC uses its enforcement authority only when a majority of the Commission finds reason to believe there has been a violation of a law that the FTC enforces, and where an enforcement action is in the public interest. An enforcement action is in the public interest when there has been harm to competition or harm to consumers. By encouraging standard-setting organizations and firms to establish

independent third-party means to resolve FRAND disputes, the Commission can steer clear of price setting or favoring one competitor over another.

RESPONSES BY A. DOUGLAS MELAMED TO QUESTIONS SUBMITTED BY SENATORS
GRASSLEY AND KLOBUCHAR



**RESPONSES TO WRITTEN QUESTIONS
FROM SUBCOMMITTEE MEMBERS
ON BEHALF OF INTEL CORPORATION**

For The

**SENATE COMMITTEE ON THE JUDICIARY
SUBCOMMITTEE ON ANTITRUST, COMPETITION POLICY
AND CONSUMER RIGHTS**

On

**STANDARD ESSENTIAL PATENT DISPUTES
AND ANTITRUST LAW**

**A. Douglas Melamed
Senior Vice President and General Counsel
Intel Corporation**

September 2, 2013

(July 30, 2013 Subcommittee Hearing)

Response to Senator Klobuchar's Written Question for the Record

1. Some observers in the industry have suggested that standard setting organizations' IP policies should mandate some form of alternative dispute resolution for FRAND disputes, such as mandatory binding arbitration, before an injunction or an exclusion order can be sought. In other words, injunctions and exclusions orders should be reserved only for a truly unwilling licensee and, in the case of an exclusion order, for a party that can't be reached through the U.S. court system. What are your views on this suggestion?

A. Intel agrees that injunctions and exclusions orders should be reserved for truly unwilling licensees for at least two reasons. First, that conclusion follows directly from the FRAND commitment itself. A SEP holder that has voluntarily committed to license its SEPs to any standard implementer willing to enter into a FRAND-compliant license has expressly agreed that monetary remuneration is adequate compensation for its SEPs and should therefore be prevented from pursuing other remedies against willing licensees.¹ Second, public policy also strongly supports the use of injunctions and exclusion orders against only unwilling licensees in this context. The primary justification for such exclusionary remedies—to ensure that a patent holder has the right to prevent others from using its patented technology—is not present in cases of FRAND-encumbered SEPs because the SEP holder has already given up that right in exchange for a commitment to offer a FRAND license to all implementers. Reserving exclusionary remedies for only those that are unwilling or unable to pay a judicially-determined FRAND royalty, or that are outside the court's jurisdiction to award monetary relief, is appropriate because it prevents the use of those remedies to extract unreasonable hold-up royalties from standard implementers and protects the pro-consumer, pro-competition benefits of standard-setting activities, while still balancing the need for SEP holders to obtain appropriate relief where monetary compensation is unavailable.

Intel does not believe, however, that an SSO policy mandating binding arbitration for FRAND disputes is an appropriate vehicle to ensure that injunctions and exclusion orders are available only against an unwilling, unable, or unreachable licensee. In fact, as explained below, Intel believes that such a policy is neither feasible nor advisable.

With respect to feasibility, based on Intel's extensive history and experience with SSOs, Intel believes that SSOs are very unlikely to adopt rules requiring mandatory arbitration. Amendment of the rules governing SSOs is typically governed by the relevant by-laws, membership agreements, and/or constitutions of such organizations. SSOs tend to include a broad cross-section of industry participants in their membership, including companies that have an economic interest in the status quo. In the past, such companies have attempted to block efforts to clarify SSO rules to remove the alleged ambiguities on which they have relied to justify hold-up behavior. Thus, widespread adoption of a policy requiring alternative dispute resolution

¹ Some FRAND commitments require both payment of a royalty and agreement to certain other licensing terms. For the purposes of this submission, Intel treats a willing licensee or willing implementer as one who is willing to satisfy both the FRAND royalty and other FRAND licensing terms.

for FRAND disputes as a prerequisite to seeking an injunction or an exclusion order is unlikely any time in the near future.

Even if SSO adoption of mandatory binding arbitration were feasible, Intel believes it is unlikely to strike the right balance between public and private interests. Although Intel supports restricting the availability of exclusionary remedies to those limited cases where such relief is warranted, Intel does not support foreclosing access to the federal courts—which have historically been the primary arbitrators of patent issues. Federal district courts have plenary jurisdiction over patent infringement actions and can award monetary damages. The federal courts also have the equitable power to impose injunctive relief where monetary relief is truly inadequate or unavailable, but in order to do so, a party seeking injunctive relief “must demonstrate . . . that remedies available at law, such as monetary damages, are inadequate to compensate for [its] injury.” *eBay Inc. v. MercExchange*, 547 U.S. 388, 391 (2006). Through appropriate legislation, the ITC could be required to apply the *eBay* criteria before issuing an exclusion order.

Federal courts are better equipped to handle complex, multi-pronged issues of validity, enforceability, infringement, and royalties and to deal with procedural issues such as evidence and confidentiality. Also, given the strong public and private interests at stake in these disputes, relevant orders should be subject to appellate review by the U.S. Court of Appeals for the Federal Circuit, which has jurisdiction over appeals arising under the patent laws. Further, court proceedings generally have greater public access—court opinions are either published or, at a minimum, available electronically, and amicus parties can provide additional input in appropriate cases—whereas arbitration proceedings, by contrast, have extremely limited (if any) public access or published opinions. Any interested party should be able to rely on, cite, distinguish, or offer positions concerning court-made law, rather than having all FRAND determinations made behind closed doors in arbitration. In light of the strong public interests involved, Intel believes FRAND disputes will benefit from more—not less—transparency.

For all of these reasons, Intel believes that judicial, regulatory, and legislative institutions are better positioned to address the important issues at stake in FRAND disputes and to ensure that injunctions and exclusion orders are available only against those potential licensees that are unwilling or unable to pay FRAND royalties, or unreachable through the federal district courts.

Responses to Senator Grassley's Written Questions for the Record

1. How pervasive is the problem of patent hold-up? What evidence do you have to support your response? What about the problem of patent hold-out? How pervasive is that problem, and what evidence do you have to support your answer?

A. Hold-up: Patent hold-up is an important and commonly occurring problem. It is far more pervasive than the handful of recent litigated FRAND cases suggests, because most licensing activity occurs out of public sight and the terms of individual licenses are rarely disclosed.

The fundamental problem is that implementers of standards usually cannot risk even a low probability of losing in litigation and thus settle patent disputes at excessive royalty rates. Market players that are eager to introduce standard-compliant products into a given market thus often conclude that bringing litigation to challenge a SEP holder's royalty demands or proposed licensing terms, particularly where the potential implementer is not well-funded, is costlier and riskier than simply paying an unreasonable royalty. In a recent article, Professors Fiona Scott Morton and Carl Shapiro, each of whom served as Chief Economist at the Justice Department's Antitrust Division, analyzed the dynamics of negotiations with a SEP holder that breaches its FRAND commitment. They concluded that a rational standard implementer would be willing to settle for more than three times the royalty level that the court deemed reasonable in *Microsoft Corp. v. Motorola* in order to avoid a mere 1.2% chance of losing in court.²

Several recent cases illustrate the magnitude of the hold-up problem. In one case, for example, the holder of only two FRAND-encumbered Wi-Fi SEPs demanded "a royalty that exceeds the selling price of [the chipmaker's] products."³ In *Microsoft Corp. v. Motorola, Inc.*, the royalty demanded by the SEP holder for its FRAND-encumbered Wi-Fi SEPs was 100 times the royalty level that the court ultimately determined to be reasonable.⁴

In the past decade, Intel has had numerous direct experiences with patent hold-up. In a recent case in which Intel was involved, a self-proclaimed SEP holder with patents that it claimed were essential to Wi-Fi technology had a policy of not licensing chipmakers, despite the fact that it had made a F/RAND commitment to "grant a license to an unrestricted number of applicants on a worldwide, non-discriminatory basis and on reasonable terms and conditions," and despite the fact that the accused technology was included entirely and only within the Wi-Fi chip. That policy facilitated the extraction of higher royalties from downstream computer manufacturers. The alleged SEP holder demanded a 50-cent per unit royalty based on licenses largely directed at end products in which the Wi-Fi chips were used, such as notebook PCs,

² Fiona Scott Morton and Carl Shapiro, *Strategic Patent Acquisitions* at 5-6 (2013), available at <http://faculty.haas.berkeley.edu/shapiro/pae.pdf> (referring to *Microsoft Corp. v. Motorola, Inc.*, 2013 U.S. Dist. LEXIS 60233 (W.D. Wash., Apr. 25, 2013)).

³ *Realtek Semiconductor Corp. v. LSI Corp.*, 2012 WL 4845628 at *2 (N.D. Cal. May 20, 2013).

⁴ *Microsoft Corp.*, 2013 U.S. Dist. LEXIS 60233, at *212, *303. Motorola sought a royalty of \$3.00–\$4.50 per unit, *id.* at *212, but the court determined that the FRAND rate was \$0.03471 per unit, *id.* at *303.

which cost hundreds of dollars, rather than the price of the allegedly infringing chips, which can sell for as little as \$1-3.

The ramifications of this 50-cent royalty demand cannot be overstated. In that case, the alleged SEP holder's asserted SEPs likely accounted for fewer than 3% of all Wi-Fi SEPs. Thus, if all other SEP holders were to charge similar royalties, the cumulative royalty for Wi-Fi SEPs would be at least \$16.50, or 1,650% of the price of the lowest priced Wi-Fi chips. With at least 250 standards in a notebook computer, the implications of a \$16.50 royalty for a single standard's SEPs are enormous. If the SEP royalty burden for every standard was \$16.50, the SEP burden on a \$300 notebook computer that incorporates 250 standards would amount to over \$4,000. And this does not even account for other patented technologies that are not covered by SEPs or technologies that are not patented. In another case, a different Wi-Fi SEP holder initially demanded \$4 per unit for a single alleged Wi-Fi SEP. Unreasonable royalty demands such as these have led to settlements at excessive royalties and widespread litigation, and Intel is aware of over fifteen lawsuits since 2001 involving just the Wi-Fi standards.

Certain advocates for SEP holders question the severity of the hold-up problem.⁵ For example, some argue that hold-up of standards-implementers by SEP holders may be avoided if it is foreseeable. They further argue that hold-up is foreseeable based on existing market information—including the identities of existing major long term players from whom it is evident, even before a standard is adopted, that licenses would be needed.⁶ In reality, however, the SEP landscape is anything but transparent, and few if any implementers have actually succeeded in avoiding holdup except by costly litigation. Many SEP holders obfuscate their SEP holdings by hiding their alleged SEPs in disclosures identifying hundreds or thousands of patents, a fraction of which are actually believed to be SEPs. Similarly, many of these companies go to great lengths to keep their licensing practices and royalty rates confidential. In the overwhelming majority of situations where a standard setting organization votes to adopt a particular technical proposal, there is no evidence that the full extent of the hold-up problem was foreseeable to the organization. Indeed, many of these companies have blocked attempts to clarify SSO rules to remove the alleged ambiguities on which they have relied to justify hold-up behavior.

The same advocates argue that SEP holders will find it unprofitable to engage in hold-up because hold-up will result in less investment by the potential victim and thereby presumably shrink the available market for SEPs.⁷ However, there is no empirical evidence to support the argument that hold-up is unprofitable, and the available evidence indicates that the opposite conclusion is true.⁸ And once a given standard has gained substantial commercial acceptance, the short-term financial benefits of hold-up behavior are self-evident.

⁵ Roger G. Brooks, *Patent "Hold-Up", Standard-Setting Organizations, and the FTC's Campaign Against Innovators*, 39 AIPLA Q.J. 435, 446, 453 (2011) ("Brooks").

⁶ Brooks, at 443-444, 453.

⁷ Brooks, at 443.

⁸ See, e.g., *Microsoft Corp.*, 2013 U.S. Dist. LEXIS 60233, at *202-06.

Skeptics of the hold-up problem also cite market participants' roles as "repeat players" as evidence that hold-up does not exist, arguing that reputational considerations will sufficiently restrain such SEP holders from holding up standard implementers.⁹ But again, the real-world evidence is to the contrary—repeat player status has not deterred SEP holders from seeking injunctions in pursuit of greater-than-FRAND royalties. Moreover, not every SSO participant is a repeat player, and even repeat players' business strategies sometimes evolve from a focus on product innovation to a focus on SEP monetization as their product businesses decline.

Nor is it persuasive to argue that SSO rules will discourage hold-up.¹⁰ Such rules, to the extent they are in place, will do so only if they are enforced, and to date the burden of enforcement has fallen on individual parties subject to hold-up and on regulatory agencies and courts from whom they have sought assistance.

Finally, critics point to ongoing investment in technology from both new and existing market participants and declining prices for technology products as evidence that the FRAND system is not threatened.¹¹ These observations ignore the fact that SEP hold-up based on injunction threats is a relatively new phenomenon that had little if any effect on past investments in standard-compliant technologies. Moreover, these comments assume, without evidence, that current and future investment is not being inhibited. These parties also argue that there are very few reported cases of an injunction being granted for infringement of a SEP.¹² This overlooks the widely acknowledged coercive effect of even the threat of an injunction.¹³

So-called "hold-out": In contrast to the hold-up problem, the alleged hold-out (or "reverse hold-up") problem—where potential implementers do not seek licenses to SEPs until threatened with injunctive or exclusionary relief—is neither widespread nor supported by credible evidence. In fact, every reported incident of any real "hold-up" involves hold-up by a SEP holder, and not hold-out by a SEP implementer. And often, conduct that is perceived as hold-out is nothing more than an implementer's exercise of its rights to challenge the validity and/or infringement of a claimed SEP, and not the result of a calculated decision to defy the patent laws.¹⁴

⁹ Brooks, at 462.

¹⁰ Brooks, at 456-62.

¹¹ Brooks, at 454.

¹² Brooks, at 472-73.

¹³ See, e.g., Prepared Statement of the Fed. Trade Comm'n Before the U.S. Senate Comm. on the Judiciary Concerning "Oversight of the Impact on Competition of Exclusion Orders to Enforce Standard-Essential Patents," at 11-12 (July 11, 2012), available at <http://www.ftc.gov/os/testimony/120711standardpatents.pdf> ("FTC Statement") (A "royalty negotiation [that] occurs under threat of an injunction or an exclusion order may be weighted heavily in favor of the patent holder in a way that is in tension with the RAND commitment.")

¹⁴ See Colleen V. Chien & Mark A. Lemley, *Patent Holdup, The ITC, And The Public Interest* at 138 (2012) (noting that "the evidence suggests that virtually all defendants in patent cases are innocent infringers, not copiers") (citation omitted), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2022168.

Proponents of the alleged “hold-out” problem nonetheless argue that SEP holders are subject to their own “hold-up” by potential licensees because their technology development costs are sunk.¹⁵ But every technological competition requires investment in, and the potential for the loss of, research and development sunk costs. And there is no evidence to suggest that the FRAND trade-off made by SEP holders—forgoing the right to charge excessive royalties in exchange for the ability to earn royalties from an entire industry for the use of patents that otherwise might not have been used—has resulted in inadequate compensation.

In theory, either large or small implementers might engage in hold-out, but only implementers that manufacture or sell a high volume of standard-compliant products are likely to be targets of litigation by SEP holders (given the amounts at stake). Assuming that this is the case, a hold-out strategy by such implementers would be both imprudent and therefore unlikely, because it ultimately would result in the payment of both a reasonable royalty and the high costs of patent litigation.

Moreover, Intel’s own experience shows that the hold-out problem, if real, is vastly overstated. Consider that the Wi-Fi SEP holder that refused to license Intel and other chipmakers could have obtained royalties on virtually every Wi-Fi-enabled device by licensing half a dozen chipmakers. Instead, it chose to sue downstream customers of the chipmakers in a piecemeal fashion in both US and European courts. Given that there are thousands of downstream customers and a handful of chipmakers, a SEP holder that is truly concerned about hold-outs would choose to license the chipmakers. This real world experience—what economists call a natural experiment—demonstrates that SEP holders have much more to gain from hold-up than to lose from hold-outs.

2. How do hold-up and hold-out impact innovation and competition?

A. Hold-up both decreases the incentive for innovation and harms competition. Specifically, when the participants in a standard-setting organization choose among different available technologies that compete for inclusion in a standard, they rely on the voluntary commitments of the patent holders to license their SEPs on FRAND terms. Standard-setting organizations developed the FRAND commitment to maintain the benefits of the competition among different patent holders for inclusion of their technologies in a standard even after the standard is adopted and the patented technologies that have been chosen no longer face competition.

Once a technology is selected for inclusion in a standard, widespread adoption of that standard has the potential to confer enormous market power upon SEP holders, unless they are constrained by FRAND commitments. That power does not derive from the intrinsic merit of the patented technology that is included within the standard, which is sometimes no better than the alternatives. Instead, the market power reflects the fact that, after the standard is adopted, the patented technology that is incorporated in the standard must be used by every company that wants its product to be compatible with the standard. The SEP faces no competition from

¹⁵ See Brooks, at 442-43.

alternative technologies with respect to that standard, because adoption of the standard has effectively foreclosed competition.

The incorporation of a patent into a standard that achieves commercial acceptance thus has an enormous potential to inflate the patent's value. Because a SEP must be practiced by any company that wants to make standard-compliant products, a SEP holder, unless constrained by a FRAND commitment, can thereafter demand supracompetitive royalties and terms that reflect, not the technological merit of the patent, but rather the standard's elimination of competing technologies. Coupled with the threat of an injunction, even a holder of a single, inconsequential SEP has the power to hold up every standard implementer and extract excessive royalties.

Such conduct injures consumers through higher prices and reduces incentives to invest in the development, manufacture and technological improvement of standard-compliant products by raising the cost of doing so and, as a result, harms innovation.¹⁶ This is especially true where a potential implementer may believe that it has a valid defense to a claim of infringement, such as invalidity, but lacks the resources to mount a defense to an infringement action or concludes that the rational path is, as Professors Scott Morton and Shapiro have shown, to pay an inflated royalty. In such cases, innovation is undermined because potential implementers could be forced to scale back their development efforts or worse, forgo the manufacture of standard-compliant technologies altogether.

By contrast, hold-out does not present the same threat to competition or innovation. There is no empirical evidence to suggest that SEP holders have declined to participate in SSOs because of the supposed threat of hold-out. Nor is there evidence to suggest that SEP holders have been deterred from innovating in any way because of the possibility that they may have to initiate litigation to secure payment of FRAND royalties from certain market players.

Moreover, hold-out can largely be prevented by SEP holders simply by licensing at the earliest point in the manufacturing chain in which they believe their SEPS are implemented—*e.g.*, at the component level—thereby collecting the majority of their royalties from a smaller number of implementers, as opposed to trying to collect from a larger number of downstream manufacturers using such technologies.

3. Do you believe that exclusionary orders should always be prohibited in standard essential patent disputes where the standard essential patent holder has committed to license on RAND terms? Or should the particular factual circumstances be considered on a case-by-case basis? Why or why not?

A. There may be circumstances in which the seeking of an injunction or an ITC exclusion order is appropriate. Specifically, where a standard implementer is either unwilling or unable to pay a judicially-determined FRAND royalty, or is outside the court's jurisdiction such that monetary relief could not be enforced, monetary compensation may not be an adequate

¹⁶ See *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 391-92 (2006) (Kennedy, J., concurring) (noting that when patentees use the threat of an injunction as "a bargaining tool" to charge exorbitant royalties, it becomes a tax that can significantly impede innovation.).

remedy, in which case an injunction or exclusion order should be available. But absent these unique circumstances, injunctions and exclusion orders should not be available.

Injunctions and exclusion orders are intended to enable patent holders to exclude others from practicing the patented technology. In the FRAND context, however, the SEP holder, by virtue of its FRAND commitment, already has voluntarily given its written consent for all implementers of the standard to practice the patented technology subject only to the payment of a FRAND royalty and compliance with any other FRAND terms. As explained in Intel's written statement, that binding agreement—the FRAND commitment—is given by patent holders for the very deliberate purpose *of encouraging the widespread adoption of their patented technology* into a standard.¹⁷ Thus, the primary justification for injunctions and exclusion orders—the protection of the patent holder's right to exclude practice of its patented technology—is absent in cases of FRAND-encumbered SEPs.

A rule that permits injunctions and exclusion orders against unwilling, unable, or judicially unreachable prospective licensees but denies them against willing, able prospective licensees that are subject to courts with monetary enforcement powers strikes the appropriate balance between protecting the public interest in standard-setting activities while ensuring that patent holders are able to obtain reasonable monetary compensation for their valid and essential SEPs. This ensures that SEPs do not become weapons for extracting unreasonable royalties from all standards-implementers. It is also consistent with the equitable principle that injunctive relief generally should be available only where monetary relief—which a SEP holder agrees to accept when it makes a FRAND commitment—cannot remedy the injury for which relief is sought. Whenever a potential licensee is willing and able to pay a FRAND-compliant license, the threat of an injunction or an exclusion order serves no purpose other than to give the SEP holders undue leverage—market power—to extract royalties above the FRAND levels that they have contractually agreed to accept.

4. Some are concerned that a broad denial of remedies in disputes involving standard essential patents in Section 337 proceedings would produce adverse and unintended consequences. Do you agree? Why or why not?

A. No. As long as the alleged infringer is willing and able to pay a FRAND royalty as adjudicated by a court, the denial of exclusionary relief to holders of FRAND-encumbered SEPs in Section 337 cases is highly unlikely to produce adverse consequences. It is important to bear in mind that SEP holders make FRAND commitments voluntarily. In so doing, they elect to forgo exercising some of the property rights associated with their patent ownership in return for the benefit of influencing standards development, promoting the use of their patents in standards, and expanding the number of users of their patented technology. When a SEP holder makes that election, the public interest is served by permitting standard-compliant products to enter the

¹⁷ See Prepared Statement for the Record of Intel Corporation for the U.S. Senate Comm. on the Judiciary Concerning "Standard Essential Patent Disputes and Antitrust Law," at 17 (July 30, 2013), available at <http://www.judiciary.senate.gov/pdf/7-30-13MelamedTestimony.pdf> ("Intel's Prepared Statement").

market, and the SEP holder's need for relief from infringement of its SEPs is addressed by the imposition and collection of a FRAND royalty in the proper tribunal.

5. In your opinion, does the International Trade Commission have sufficient statutory authority to stay the imposition of an exclusion order contingent on an infringing party's commitment to abide by an arbitrator's determination of the fair value of a license? If it does, do you believe that the International Trade Commission is using that authority appropriately?

A. Intel is not aware of any statutory authority for the issuance of such a stay, and on its face 19 U.S.C. § 1337 does not appear to contemplate such relief in cases in which an exclusion order has been deemed appropriate by the ITC.¹⁸ Moreover, for the reasons set forth in Intel's response to Senator Klobuchar's Written Question for the Record, there are compelling policy reasons for opposing a mandatory arbitration regime. By contrast, the ITC should be understood to have the power (and obligation, in appropriate cases) to refuse to issue an exclusion order relating to FRAND-encumbered SEPs because no exclusion order may be issued when it would harm the public interest.¹⁹ As part of its public-interest analysis, the ITC must evaluate "the effect of such exclusion upon the public health and welfare, competitive conditions in the United States economy, the production of like or directly competitive articles in the United States, and United States consumers."²⁰

In the past, the ITC has refused to enter exclusion orders that would cause serious harm to the public interest. That harm often took the form of depriving the public of products necessary for consumer welfare.²¹ An exclusion order in a proceeding involving FRAND-encumbered SEPs would result in a different, but equally severe, public-interest harm: the exploitation of market power (which was created by an industry standard, not by the individual SEPs) to deny producers and consumers the benefits of industry standard-setting, after the patent holder publicly and voluntarily waived its right to exclude prospective FRAND licensees from practicing the SEPs in exchange for a FRAND-compliant license. Exclusion orders with respect to FRAND-encumbered SEPs create a risk of coerced windfall settlements that would distort competition, inhibit innovation, undermine the standard-setting process, and injure consumers—the very sort of harm that Section 337's public-interest inquiry was designed to prevent. Indeed, because SEPs are incorporated into a variety of products (e.g., the Wi-Fi standard used in laptops, tablets, mobile phones, printers, medical devices, home security, network equipment,

¹⁸ However, there is some precedent for the stay of an exclusion order where the public interest dictates. See, e.g., *Certain Personal Data and Mobile Communications Devices and Related Software*, Inv. No. 337-TA-710, USITC Pub. 4331, at 81, 83 (July 15, 2011) (Final) (Commission Opinion) (tailoring exclusion order to allow for a transition period during which replacement products could be produced and provided to consumers where the "immediate exclusion of HTC [devices] would have a substantial impact on T-Mobile's competitiveness").

¹⁹ 19 U.S.C.A. § 1337(d)(1) (2013).

²⁰ *Id.*; see also *id.* § 1337(f)(1) (same factors considered in evaluating cease-and-desist order).

²¹ See, e.g., *Certain Fluidized Supporting Apparatus & Components Thereof*, Inv. No. 337-TA-182/188, USITC Pub. 1667 (Oct. 5, 1984); *Inclined-Field Acceleration Tubes & Components Thereof*, Inv. No. 337-TA-67, USITC Pub. 1119 (Dec. 29, 1980).

televisions), granting an exclusion order for a FRAND-encumbered SEP could enable a party to effectively shut down multiple U.S. industries or subject them to a windfall tax that is attributable more to the ubiquity of the standard than to any individual SEP. Such market distortion and harm to the standard-setting process and consumers is precisely what Congress intended the ITC to prevent by means of the public interest factors.

6. Do you believe monetary damages are generally a sufficient remedy in standard essential patent cases? Should standard essential patent cases primarily be adjudicated by federal district courts, which can award monetary damages?

A. When a SEP holder voluntarily commits to license its SEPs to any standard implementer that is willing to pay a FRAND-compliant royalty, it in essence acknowledges that monetary remuneration constitutes adequate compensation for its SEPs. Thus, Intel believes that monetary damages are generally a sufficient remedy in FRAND-encumbered SEP cases, except in the limited circumstances in which a standard implementer is either unwilling or unable to pay a judicially-determined FRAND royalty or is beyond the court's jurisdiction such that monetary relief could not be enforced.

Federal district courts have plenary jurisdiction over patent infringement actions and can award monetary damages. These courts also have the equitable power to impose injunctive relief where monetary relief is truly inadequate or unavailable. For these reasons, and because of the legal expertise of such courts on related legal issues in these cases, they are appropriate venues in which to resolve disputes concerning SEPs and, in particular, disagreements relating to the reasonableness of royalties on FRAND-encumbered SEPs.

To date, the federal courts have addressed only a limited set of FRAND-related issues, and some issues, unfortunately, remain unsettled. For example, while several recent federal district court opinions have indicated that holders of FRAND-encumbered SEPs are not entitled to injunctive relief against implementers that are willing and able to pay FRAND royalties,²² that issue continues to be litigated as a result of lack of appellate guidance. Moreover, the ITC has issued an exclusion order based on infringement of FRAND-encumbered SEPs. Although the United States Trade Representative Ambassador Michael B. G. Froman, citing policy considerations related to competition, among other factors, disapproved the ITC's exclusion order in that case, parties continue to expend substantial resources on litigating such unsettled issues. Ambassador Froman expressed optimism as to the development of appellate jurisprudence on this issue; in the meantime, however, the lack of clear, uniform resolution of these issues suggests that legislation and/or regulatory action may be appropriate to provide guidance to courts and administrative bodies in future proceedings.

7. Exclusion orders are important to U.S. innovators whose standard essential patents are being infringed by foreign manufacturers with no legally sufficient presence in the U.S. to warrant federal court jurisdiction. Why shouldn't standard essential patent holders be

²² See *Microsoft Corp. v. Motorola, Inc.*, 696 F.3d 872, 877 (9th Cir. 2012); *Apple, Inc. v. Motorola, Inc.*, 869 F. Supp. 2d 901, 913 (N.D. Ill. June 22, 2012), appeal pending, Nos. 2012-1548, 2012-1549 (Fed. Cir.).

able to seek exclusionary relief against foreign infringers? Would we be weakening important trade enforcement remedies? What are your thoughts on this?

A. Intel does not oppose the availability of injunctive relief or exclusion orders in favor of a SEP holder where a standard implementer is outside the U.S. federal courts' jurisdiction such that monetary relief cannot be enforced. In such limited circumstances, the goals of promoting innovation by U.S. companies and fostering competition are served by the use of such trade enforcement remedies where the statutory criteria are satisfied.

Nor are such remedies weakened by restricting their use to situations in which monetary relief cannot be enforced for infringement of FRAND-encumbered SEPs. To the contrary, these remedies are strengthened because they are tailored to complement, rather than conflict with, the actions of federal courts and the policies of the current administration.

The reality, however, is that the ITC's exclusion remedy is being invoked frequently against *U.S.* innovators. Indeed, the exclusion order that Ambassador Froman recently disapproved was against a domestic innovator—Apple. Microsoft has similarly been threatened with an ITC exclusion order. These exclusion orders cannot be defended on the ground that they are tailored to protect domestic innovators from foreign copycats. Increasingly, exclusion orders are being sought against domestic innovators that must use SEPs in order to comply with industry standards.

8. Do you believe that exclusion orders in standard essential patent cases can pose a potential barrier to entry for new market participants? If companies are concerned about the possibility of patent hold up, will they be hesitant to enter new markets, particularly technology markets in which a single device can implement thousands of standard essential patents?

A. There is no question that new market participants—especially small participants—may be deterred, or prevented, from entering markets due to the hold-up potential created by the ability of SEP holders to seek injunctions and exclusion orders against willing and able licensees. Patent hold-up, backed by the threat of a possible injunction or exclusion order, places such potential new entrants in an untenable position from the outset—they must either pay unreasonable royalties and hobble their ability to compete with more established participants, or forgo compliance with the standard (and be excluded from relevant technology markets as a result). This threat is exacerbated by the existence of thousands or tens of thousands of SEPs that may be implemented in a single device—resulting in literally thousands of opportunities for hold-up. As a result, hold-up behavior by even a fraction of all SEP holders can result in an overall royalty burden that exceeds the price of a given end product, a daunting hurdle to all market participants but especially to those potential new entrants who are not already invested in the market.

9. In considering the public interest factors in a 337 case, should the International Trade Commission look only at the public interest ramifications of the exclusion order at issue, or should it consider broader long-term public interest effects? For example, in a case involving a standard essential patent, should the International Trade Commission

consider whether an exclusion order will enable patent hold up and undermine the standards setting process?

A. For all Section 337 cases, including those FRAND cases that are appropriately before the ITC (*e.g.*, where a prospective licensee is unwilling to pay an adjudicated FRAND license or is not subject to the jurisdiction of federal district courts), Section 337 of the Tariff Act requires the ITC to consider the effect of a possible exclusion order on the public interest. Specifically, the statute requires considering the impact of such an order on “public health and welfare, competitive conditions in the United States economy, the domestic production of like or directly competitive articles in the United States, and United States consumers.”²³ As the ITC itself has observed, these public interest factors “are not meant to be given mere lip service,” but rather “public health and welfare and the assurance of competitive conditions in the United States economy must be the overriding considerations in the administration of this statute.”²⁴ This all-encompassing language mandates that all relevant aspects of the public interest be examined and, certainly, hold-up and its impact on standard-setting activities fall within the scope of this mandate.

Given the crucial role of FRAND commitments in promoting interoperability of products that are essential to modern life and in preserving competition, the ITC must consider the larger policy implications of whether a particular exclusion order will enable patent hold-up and undermine the standard setting process. This principle is supported by testimony of both the DOJ and the FTC, before this Committee, that “[i]n an era where competition thrives on interconnected, interoperable network platforms, these [public interest] considerations merit special attention.”²⁵ Thus, under “its public interest obligations,”²⁶ the ITC “should be certain to (1) to examine thoroughly and carefully on its own initiative the public interest issues presented both at the outset of its proceeding and when determining whether a particular remedy is in the public interest and (2) seek proactively to have the parties develop a comprehensive factual record related to these issues.”²⁷ This detailed scrutiny is particularly appropriate in the case of modern complex products that incorporate hundreds of standards—each of which can itself include thousands of SEPs—because of the vast opportunities for hold-up presented by such products.²⁸ Notably, in the parallel context of injunctive relief requests, Justice Kennedy has

²³ 19 U.S.C.A. § 1337(d)(1).

²⁴ *Certain Inclined Field Acceleration Tubes and Components Thereof*, Inv. No. 337-TA-67, USITC Pub. 1119, Comm’n Op., at 21-22 (Dec. 1980) (citation omitted).

²⁵ Statement Of Joseph F. Wayland, Acting Asst. Attorney Gen., Antitrust Div., Dep’t of Justice, Before the Comm. on the Judiciary, U.S. Senate, Regarding Oversight of the Impact on Competition of Exclusion Orders to Enforce Standards-Essential Patents, at 11 (July 11, 2012), available at <http://www.justice.gov/atr/public/testimony/284982.pdf> (“Wayland Testimony”).

²⁶ FTC Statement, at 1-2 (July 11, 2012).

²⁷ Letter from U.S. Trade Rep. Ambassador Michael B. G. Froman to The Hon. Irving A. Williamson, Chairman U.S. Int’l Trade Comm’n, at 3 (Aug. 3, 2013), available at http://www.ustr.gov/sites/default/files/08032013%20Letter_I.PDF.

²⁸ *See, e.g.*, Wayland Testimony, at 10 (The ITC may appropriately find that “an exclusion order is not in the public interest even where infringement is found because the value or importance of the infringed patent to the assembled good is dwarfed by the overall value of the assembled good

observed that, “when the patented invention is but a small component of the product the companies seek to produce and the threat of an injunction is employed simply for undue leverage in negotiations, ... an injunction *may not serve the public interest*.”²⁹

The broader long term impact on public interest must be a *principal* consideration under the public interest standard because the failure to give full effect to FRAND commitments weakens the “competitive conditions in the United States economy” and diminishes the welfare of “United States consumers” by permitting hold-up.³⁰ Allowing an SEP holder to obtain an injunction or exclusion order against a party willing to pay FRAND royalties would empower SEP holders to extract a disproportionate share of the value of accused products, making an unreasonably high settlement the only plausible outcome, and thereby raising prices to consumers. An exclusion order would thus force implementers to choose between withdrawing products from the market or paying far more than a FRAND royalty, and competition and consumers would be harmed in either event. Moreover, if SEP holders can unfairly exploit a standard-derived market power through exclusion orders, companies might become reluctant to participate in SSOs, to agree on standards, and to incorporate them into their products. This in turn will adversely affect U.S. innovation, economic growth, and consumer welfare.

or the patented aspect is not important to the operation of the good, and a broad exclusion order would be tantamount to denying the public the assembled good for a period of time.”).

²⁹ *eBay*, 547 U.S. at 396 (emphasis added).

³⁰ 19 U.S.C.A. § 1337(d)(1).

RESPONSES BY DONALD J. ROSENBERG TO QUESTIONS SUBMITTED BY SENATORS
GRASSLEY AND KLOBUCHAR

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Responses to Questions for the Record for
Donald J. Rosenberg, Qualcomm Inc.

July 30, 2013 Hearing on "Standard Essential Patent Disputes and Antitrust Law"

Before the U.S. Senate Committee on the Judiciary
Subcommittee on Antitrust, Competition Policy and Consumer Rights

Responses to Senator Klobuchar's Questions for the Record:

Question: Some observers in the industry have suggested that standard setting organizations' IP policies should mandate some form of alternative dispute resolution for FRAND disputes, such as mandatory binding arbitration, before an injunction or an exclusion order can be sought. In other words, injunctions and exclusions orders should be reserved only for a *truly unwilling* licensee and, in the case of an exclusion order, for a party that can't be reached through the U.S. court system. What are your views on this suggestion?

Response:

As a practical matter, and as set forth in my written testimony, the existing processes for adjudicating FRAND disputes are well-equipped to address all relevant issues in one proceeding, including whether exclusionary relief is appropriate under the specific circumstances, for example where a potential licensee refuses expressly or constructively to accept a license offer on FRAND terms. There is no need to mandate a separate form of alternative dispute resolution (ADR) for such disputes, but the parties in any such dispute, of course, can always voluntarily agree to utilize ADR. In the mobile wireless industry, recent calls for SSOs to implement ADR to resolve FRAND disputes have received a tepid response. Similarly, even in those instances where an SSO has adopted a voluntary form of ADR to resolve FRAND disputes, to our knowledge their use is infrequent at best. There are several reasons for this, including that ADR often proves to be no less expensive, time consuming, or disruptive than going to court, disputes may include claims regarding non-essential patents not subject to FRAND commitments or other commercial issues, and the limited availability of appeals. Economic literature also suggests that arbitration can lead to biased results, which may cause an imbalance among the various stakeholder interests in the standard-setting environment. (*See, e.g.*, D. Wittman, "Final Offer Arbitration," *Management Science*, Vol. 32.12 (1986); S.J. Brams & S. Merrill III, "Equilibrium Strategies for Final Offer Arbitration: There Is No Median Convergence," *Management Science*, Vol. 29.8, 927-941 (1991).)

A great deal of empirical research and analysis needs to be done prior to taking action that might have long-term and unintended consequences. When contemplating the various proposals by companies whose business models depend on the aggregation of standardized technologies developed by others, it is important to recognize the commercial motives for proposed changes to SSO patent policies, whether mandatory ADR or otherwise. These standards implementers are seeking policy changes that would effectively reduce the cost of

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valuable third-party technologies to which they did not contribute, and to extract a greater share of industry revenues than they already receive today. These commercial motives, while understandable, are not a sound rationale for policy changes that could unfairly disadvantage Qualcomm and other wireless innovators that have invested many billions of dollars in core standardized technologies over a period of years if not decades. Many of the most vocal proponents of mandatory ADR and other SSO policy changes are relative newcomers to a mobile sector that would not exist but for decades of contributions to standards and voluntary commitments to license patented contributions broadly on FRAND terms. These newcomers may be innovators in their own right but they have made few if any contributions to the standardized mobile technologies that they now seek to devalue.

Moreover, there is no evidence that existing SSO policies are driving excessive or abusive litigation. The number of court cases and ITC investigations involving FRAND-encumbered SEPs is a tiny fraction of all patent cases filed in the United States and of the successful license negotiations involving FRAND-encumbered SEPs. Testimony elicited at the Hearing broadly supports the conclusion that FRAND commitments work in the vast majority of cases. Courts and the ITC can and do hear and resolve cases involving FRAND-encumbered SEPs. There is no epidemic of cases involving SEPs that would require such a sweeping mandate for all voluntary SSOs, and the suggestion by “industry observers” in favor of mandatory ADR is not widely supported by actual SSO members.

Similarly, Qualcomm would advise against any policy change that would require the owner of an SEP to seek an injunction in federal district court before pursuing an exclusionary remedy at the ITC. The purpose of such a proposal – also advocated by some implementers of standardized technologies that are not significant innovators of such technology – is to delay for commercial gain the necessity of having to accept a license and begin paying license fees on FRAND terms as consideration of practicing the SEP. Concerns over enabling infringers to delay payment of license fees and the resulting harm to innovators were noted in the joint DOJ/USPTO Policy Statement. (*See* “Policy Statement on Remedies for Standards-Essential Patents Subject to Voluntary F/Rand Commitments”, fn. 8, January 8, 2013.) We are also concerned that delayed payments by unlicensed implementers will distort competition among licensees, placing those licensees in good standing at a competitive disadvantage because their infringing competitors forego the costs of entering and paying for a license to implement the SEP. Contrary to the goals of FRAND policies, this proposal could reward infringement to the detriment of willing licensees that negotiate and take a license in good faith.

Responses to Senator Grassley’s Questions for the Record for Mr. Rosenberg:

Question 1. How pervasive is the problem of patent hold-up? What evidence do you have to support your response? What about the problem of patent hold-out? How pervasive is that problem, and what evidence do you have to support your answer?

Response:

This is a great question, and I am thankful it has been asked recognizing the need for empirical evidence. With all the furor over the theoretical concerns of hold-up, the Committee members might get the impression that hold-up is rampant in many industries. But in fact it is

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not. Proponents of the hold-up theory have been unable to identify any evidence that SEP-based hold-up is a problem in the real world; no one has identified even one instance where the implementation of a standard was defeated or delayed by the assertion of SEPs.

Dr. Michael Walker, until recently the Chairman of the Board of ETSI (an SSO), testified in the recent ITC investigation 337-TA-794 (on behalf of Apple) that patent hold-up has never been a problem at ETSI at any time from 1988 to the present, and he was not aware of any situation in which an ETSI standard had been blocked by an essential patent or in which a patent owner had refused to license on FRAND terms. (*See In the Matter of Certain Electronic Devices, Including Wireless Communications Devices, Portable Music and Data Processing Devices, and Tablet Computers, Investigation 337-TA-794, Case Hearing June 8, 2012, Transcript at 1440:21-1442:5.*)

Similar observations were made at the 2011 FTC Patent Standards Workshop by among others, ANSI, ATIS, TIA, Association for Competitive Technology, AIPLA, US Chamber of Commerce, and a number of academics and companies. (*See Public Comments filed in FTC Issues Agenda for Workshop to Explore the Role of Patented Technology in Collaborative Industry Standards, FTC Project No. P111204, available at: <http://www.ftc.gov/os/comments/patentstandardsworkshop/>.*)

Similarly, Microsoft's experts who sponsored the hold-up theory during the recent trial before Judge Robart in the Western District of Washington were unable, on cross-examination, to identify even a single SEP license that they believed reflected hold-up driven terms. (Hearing Transcript at 180, *Microsoft Corp. v. Motorola Inc.*, No. 10-cv-1823 (W.D. Wash. Nov. 13, 2012) (Testimony of Kevin Murphy) (acknowledging that the existence of hold-up "is an open question); *see also id.* at 201-02 (admitting that "hold-up has not necessarily been a problem"); *Microsoft Corp. v. Motorola, Inc.*, No. 10-cv-1823 (W.D. Wash. Nov. 16, 2012) (Testimony of Timothy Simcoe) (acknowledging that he has "no evidence that the dispute between Motorola and Microsoft in this case is in fact based on hold-up" and that he "can't nail down any particular license from any company as an example of hold-up"); *id.* at 135-36 (Testimony of Matthew Lynde) (acknowledging that "I have no basis from economic evidence to conclude whether or not patent hold-up is a real problem").)

If hold-up was as pervasive as some commentators suggest, there would be clear economic indicators in industries impacted by such hold-up, such as a decline in market entry. Instead in the mobile wireless industry experts observe just the opposite: repeated examples of late and successful downstream new standards implementer entrants displacing incumbent competitors. (*See Keith Mallinson, "No Evidence of Stifled Innovation in Smartphone Patent Battlefield", December 24, 2012, available at: <http://ipfinance.blogspot.co.uk/2012/12/no-evidence-of-stifled-innovation-in.html>.*) This churn in the mobile sector is illustrated by the entry of firms such as RIM, Samsung and LG, and later Apple and HTC, at the expense of handset suppliers such as Nokia, Motorola and Ericsson, and we now see the next wave with RIM's fortunes waning and the heated battle of other competitors.

Similarly, if hold-up was pervasive, the mobile industry would experience reduced consumer choices and increasing prices. In contrast, the mobile wireless industry is the most

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quickly-changing industry of our time. Consumers have unparalleled choices for cell phones, smartphones and tablets, and the prices of similarly featured devices consistently falls year-over-year. In fact, the impact of patent royalties on the total cost to consumers of cell phone ownership has been found to be nominal. (See Keith Mallinson, “A Compendium of Industry and Market Analysis Articles on Intellectual Property in Mobile Communications Standards, Response to FTC Request for Comments on the Practical and Legal Issues Arising from Incorporation of Patented Technologies in Collaborative Standards”, Patent Standards Workshop, Project No. P11-1204, Submitted June 12, 2011, available at: <http://www.wisefharbor.com/pdfs/Mallinson-WiseHarbor-FTC-IP-in-standards-submission-12June2011.pdf>.)

The absence of objectively observable “hold up” is not surprising from the perspective of long-term industry participants that contribute technology to standards. In most cases, owners of SEPs are also licensees of other companies’ SEPs. As a result, there are reputational constraints on SEP owners to avoid engaging in “hold up” and to negotiate FRAND terms with licensees. Otherwise the SEP owner may be subjected to retribution when it seeks licenses for others’ SEPs. In addition, many SSOs develop standards by consensus among their members. Owners of patented technologies seeking to have their technology incorporated into a standard understand that standardization is a “repeat process”, and if an SEP owner attempts to hold up implementers in connection with one standard or a particular version of a standard, the community may be disinclined to include that SEP owner’s patented technology in other or later versions of the standard.

Absent empirical or other objective evidence of hold-up, implementers and some theoretical economists have pointed to the desire of innovators to maximize their profits as the basis for assuming the existence of hold-up. This assumption is not evidence, and ignores the corresponding incentives of implementers to maximize their profits through measures that would delay or lower their payment of fees for others’ patented technology (including SEPs). Others, including another witness at the Hearing, contend that hold up exists in all existing SEP licenses, and therefore such licenses should not be used as yardsticks for quantifying FRAND because the existing licenses capture the value of standards rather than just that of the SEPs subject to the license. This position is also premised on no more than theory, unsupported by any fact. Moreover it ignores the reality that the terms of existing SEP licenses vary from licensor to licensor – making the prospect of ubiquitous hold-up impossible.

Each of these theoretical hypotheses has a common goal: to reduce the value of SEPs. This is “reverse hold-up” or “hold-out,” and presents a strong threat to innovation resulting from standardization, and generally. These efforts would diminish the value of SEPs, including as argued by some to close to zero, and thereby strongly dis-incentivize both investment into new innovation and the contribution of patented technology to the standards process. In the latter instance, resulting in increased non-standardized technologies, no FRAND obligations will attach and the constraints inherent in FRAND, as explained will not exist. In short, there is no reason that the contribution of patented technology for standardization should reduce the value of the SEP, as compared to the value it otherwise would have if withheld from standardization. Such a result is paradoxical, given the procompetitive nature of licensing generally, FRAND-licensing in particular, and the fact that standards are selected on the basis of technological merit.

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Question 2. How do hold-up and hold-out impact innovation and competition?

Response:

The proponents of the hold-up theory postulate that hold-up leads to reduced market entry, reduced consumer choice and higher prices. As noted earlier, for the mobile wireless industry hold-up has not been demonstrated and the objective economic indicators are to the contrary, showing increased consumer choices and prices for the same feature set reducing with time. Proponents of hold-up argue that the follow-on technical or product innovation for features such as the design or “look-and-feel” and user interfaces of standards-compliant devices, such as smartphones, is retarded by concerns of hold-up. They argue that investment in the development of proprietary technologies for those devices – technology that those companies are not obligated to share and often refuse to share – is threatened by alleged hold-up by owners of FRAND-encumbered SEPs. But as noted above in my response to Senator Grassley’s first question, this simply does not occur. Instead experts observe late and successful new downstream standards implementer entrants in the wireless industry. (See “The Impact of the Acquisition and Use of Patents on the Smartphone Industry,” Report by Center on Law and Information Policy at Fordham Law School Prepared for WIPO, p.42, December 13, 2013 (“The picture that emerges from this study is that the market has experienced dramatic growth in patents while maintaining fluidity in participant entry and exit and fluidity in product popularity.”).) This type of disruptive entry is a strong indicator of robust competition, which is the key driver of innovation at all levels - technology, product, design, etc.

On the other hand, reverse hold-up can lead to pernicious effects on the innovation of new technologies for open, voluntary standards. Unlike much of the follow-on innovation done by standards implementers, standardized technology is often fundamental to the operation of a device, as is the case in the mobile telecommunications industry. Without the standardized technology, much of the follow-on innovation could not occur. In effect, the development of a fundamental standardized technology creates a pathway for follow-on innovation. A concrete example of this is the development of core technology that enabled efficient high-data rate transfers in 3G cellular communications networks. Prior to the standardization of that core technology, cell phones had limited internet browsing capabilities and could not support consumer applications that required the high-speed transfer of large amounts of data between cell phones and the network. But following the development and standardization of the core technology, the number of new, follow-on cell phone applications or “apps” that could leverage the technology increased rapidly. Very quickly, cell phones have given way to “smartphones” having capabilities most consumers previously associated more closely with personal computers. And this phenomenon is now repeating itself as a newer generation of cellular communications technology known as 4G is being standardized.

The value of open, voluntary standards is determined by the SSO’s ability to attract valuable technology contributions. Developing those technologies often requires substantial investments in risky R&D, with no guarantees that an investment will lead to an acceptable solution. If Congress were to pass legislation that requires courts or agencies to deny returns that adequately compensate innovators for their investment in developing standardized technology and the risks they have incurred, innovators will not be nearly as motivated to contribute

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technology to standards or to invest in the research and development of technology that is best utilized in a standard. As Qualcomm's founder Dr. Irwin Jacobs once said: "Without such incentives, we will measure the cost by the bells that don't ring, the cures that are not developed and the technologies that are not invented. In the long run, society will be the poorer for it."

Question 3. Do you believe that exclusionary orders should always be prohibited in standard essential patent disputes where the standard essential patent holder has committed to license on RAND terms? Or should the particular factual circumstances be considered on a case-by-case basis? Why or why not?

Response:

There seems to be a consensus, including among the witnesses at the Hearing, that a FRAND commitment does not absolutely preclude an owner of a SEP from seeking or obtaining an exclusion order. The January 2013 DOJ/USPTO Policy Statement expressly recognized the inappropriateness of a categorical rule, identifying a non-exhaustive list of instances where an injunction/exclusion order may be appropriate. Simply, a FRAND commitment is at its heart a contractual commitment and not an abstract or unitary rule, and disputes involving such commitments require fact-specific inquiries.

A fact-specific inquiry is particularly important because a FRAND commitment requires the parties to negotiate licenses for SEPs in good faith on FRAND terms. Any potential licensee who believes that a patentee is not engaging in negotiations consistent with the patentee's obligation can apply to a court to enforce the FRAND commitment. Unlike a patent owner, a potential licensee can bring an action in contract to enforce a FRAND commitment, whereas a SEP owner only has recourse to a patent infringement suit or ITC action against an infringer expressly or constructively unwilling to accept a license on FRAND terms. Even so, if a SEP-holder makes a request for injunctive relief from a court or exclusionary relief from the ITC, U.S. courts and the ITC have demonstrated that they will not rule on that request until they have adjudicated the licensee's FRAND defense. And even if the ITC or court finds that a FRAND offer was made, it must also consider all of the traditional factors relating to exclusion orders/injunctive relief, including for the ITC the statutory "public interest" factors, and for a court, the *eBay* factors.

Question 4. Some are concerned that a broad denial of remedies in disputes involving standard essential patents in Section 337 proceedings would produce adverse and unintended consequences. Do you agree? Why or why not?

Response:

Qualcomm agrees. There are certain forms of relief that are available only in the ITC and are not available through federal district courts: for example, the ability to broadly stop imports of an infringing device at the border under a limited or general exclusion order, which in some cases may be the only way to stop infringing imports by a party not subject to the jurisdiction of a District Court. In addition, a broad denial of remedies for SEPs subject to FRAND commitments in the ITC based on competitiveness concerns is likely to have ripple effects abroad. The United States – which not coincidentally has the strongest presence in the global

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technology sector and has benefited the most from having an innovation-based economy – has been the undeniable world leader in advocating for strong intellectual property rights systems, including the enforcement of intellectual property rights. A broad denial of remedies for SEPs in the ITC would send a message to other nations' antitrust agencies and courts that is flatly inconsistent with America's strong support for recognizing and protecting intellectual property rights. And the distinction between SEPs and other valuable intellectual property allegedly needed to compete may not dissuade foreign agencies from seeking to justify application of those principles more broadly. Additional statements challenging the enforcement of patent rights by U.S. courts, regulators and legislators will, regrettably, encourage or at least lend support to efforts by foreign governments to devalue U.S. intellectual property.

Question 5. In your opinion, does the International Trade Commission have sufficient statutory authority to stay the imposition of an exclusion order contingent on an infringing party's commitment to abide by an arbitrator's determination of the fair value of a license? If it does, do you believe that the International Trade Commission is using that authority appropriately?

Response:

The ITC has broad authority to tailor the imposition of exclusionary relief in accordance with the factual circumstances in any case. For example, in several investigations the ITC has delayed the imposition of an exclusion order to allow an infringer to develop a design-around for the infringed patent. Similarly, Qualcomm believes the ITC could delay the imposition of an exclusion order in the event the parties to an investigation were engaged in arbitration that would moot the decision of the ITC. And ITC precedent has established that it will stay investigations in cases in which it finds an applicable arbitration agreement governs a dispute. However, Qualcomm is unaware of any case in which this specific factual context, involving a FRAND determination, has ever been presented to the ITC, and therefore we cannot comment on whether the ITC is using that authority appropriately.

Question 6. Do you believe monetary damages are generally a sufficient remedy in standard essential patent cases? Should standard essential patent cases primarily be adjudicated by federal district courts, which can award monetary damages?

Response:

In general, monetary damages are not a sufficient remedy in SEP lawsuits, particularly in cases involving significant contributors to standardized technologies who license their valuable patents on a portfolio basis. This is a critically important point that underscores the pitfalls of one-size-fits-all rules that would preclude appropriate remedies for SEPs.

In industries characterized by complex technology and large numbers of patents, such as the mobile wireless industry, negotiating so-called "per-patent" licenses (as distinct from licenses covering a portfolio of multiple patents) is impractical. Not surprisingly, holders of significant SEP portfolios routinely license on a portfolio basis. In contrast, the enforcement of these SEP rights is on a per-patent basis. For reasons of practicality, any single patent litigation typically involves a handful of patents that represent a small subset of a SEP owner's overall portfolio. To

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cover a significant number of SEPs in a large portfolio requires a SEP owner to file several lawsuits, each typically costing millions of dollars to prosecute. Monetary damages awards in that context often cannot provide a recovery to a SEP owner that reflects the value of the SEP owner's entire portfolio. The problem is heightened with well-capitalized but recalcitrant infringers, who force SEP owners to engage serial litigation, typically on a worldwide basis, introducing years of delay before any damages can be obtained, much less damages representative of the value of a SEP owner's full portfolio, and with enormous lost opportunity costs.

Moreover, as previously stated, there is no basis for any finding that any or all SEP owners that have made FRAND commitments intended or understood that they were waiving their right to seek injunctive relief. In fact, as stated earlier, a FRAND commitment is a contract with terms based upon the relevant SSO's IPR policy, which in the vast majority of cases do not seek or suggest that a SEP owner is waiving any such rights by making a FRAND commitment. More fundamentally, an absolute prohibition on injunctive relief against infringement of SEPs subject to FRAND commitments would eliminate any incentive on the part of infringers to seek and negotiate licenses in good faith. Stated differently, a blanket rule against injunctive relief would foster reverse hold-up because implementers would be emboldened to infringe and litigate (for as long as possible), rather than negotiate and enter into licenses, as they would be no worse off should they be found in litigation to have infringed the SEPs, and indeed they could benefit from delaying the payment of license fees as long as possible. This would be inconsistent with the policies of most SSOs, which encourage the establishment of license terms through good faith, bilateral negotiations, and with public policy favoring voluntary dispute resolution over litigation. Further such refusals to license and delaying tactics by recalcitrant implementers would put such infringers at an unfair competitive advantage against those implementers who have entered into FRAND licenses and are paying reasonable royalties to SEP holders.

In light of these reasons, and my previous responses regarding the ability of the ITC to also adjudicate disputes involving SEPs, Qualcomm does not believe that SEP cases should be adjudicated "primarily" by federal district courts. Such a rule would needlessly undermine the statutory authority of the ITC to exercise its powers with respect to a particular subset of patents – to the detriment of technology innovators who have engaged in, or in the future would otherwise be motivated to engage in, the costly and risky development of standards-based technologies. Moreover, in practice that rule would be difficult to apply. For example, a patent must be litigated in order to determine whether it is a SEP, and infringers typically raise the affirmative defense that an alleged SEP is not in fact a SEP. How would a rule favoring district courts over the ITC apply before a patent is determined to be essential to a particular standard? Even more difficult is the situation where a patent is not alleged as essential by its owner or expressly declared as potentially essential to an SSO, and yet an infringer raises the defense that the patent is in fact a SEP and subject to a FRAND commitment. For all of these reasons, Qualcomm does not believe it would be wise to establish a general rule that SEP cases primarily be adjudicated by federal district courts.

Question 7. Exclusion orders are important to U.S. innovators whose standard essential patents are being infringed by foreign manufacturers with no legally sufficient presence in the U.S. to warrant federal court jurisdiction. Why shouldn't standard essential patent

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holders be able to seek exclusionary relief against foreign infringers? Would we be weakening important trade enforcement remedies? What are your thoughts on this?

Response:

Qualcomm agrees that exclusion orders are important to U.S. innovators whose SEPs are being infringed by foreign manufacturers with no legally sufficient presence in the U.S. to warrant federal court jurisdiction. Even the proponents of weakening the ITC's ability to adjudicate cases involving FRAND-encumbered SEPs recognize that it is important to maintain the ITC's jurisdiction over those cases. But the role of the ITC in resolving disputes involving the import of foreign-made goods remains important for many more reasons than in just that narrow circumstance.

The ITC serves a critical role as a highly effective, efficient, and competent forum against infringing, foreign-made products – one of the purposes for which it was created by Congress. ITC patent cases typically reach resolution faster than similar district court cases, making it an attractive forum for curbing infringement of goods with short life-cycles. The ITC is also a highly-sophisticated forum for adjudicating patent issues owing to the relative specialization in these types of cases compared to district courts, many of which do not see a high percentage of patent cases.” Moreover, unlike federal district courts, the ITC's *in rem* jurisdiction gives it the power to issue a general exclusion order to stop the importation of infringing articles imported by numerous infringers, regardless of whether any single infringer is subject to *in personam* jurisdiction. Even in cases where a foreign infringer is subject to the jurisdiction of a federal district court, the collection of damages for infringement can be nearly impossible. Cunning foreign infringers can strategically structure their operations to avoid the impact of a district court damages award. In those situations, the ITC's authority to stop infringing imports through U.S. Customs is a far better remedy than can be obtained from U.S. district courts.

For the reasons addressed in my previous responses, SEP holders should be able to seek exclusionary relief against foreign and other infringers in these and other circumstances based on the Commission's consideration of the applicable public interest factors. If FRAND-encumbered SEP owners were precluded from doing so, the effect would be to unnecessarily and unwisely risk weakening important trade enforcement remedies.

Question 8. Do you believe that exclusion orders in standard essential patent cases can pose a potential barrier to entry for new market participants? If companies are concerned about the possibility of patent hold up, will they be hesitant to enter new markets, particularly technology markets in which a single device can implement thousands of standard essential patents?

Response:

Based upon our experience and familiarity with competitive issues involving mobile devices, Qualcomm does not believe that the availability of exclusion orders in SEP cases have posed or will pose a potential barrier to entry for new market participants, or that companies have refused or will refuse to enter new markets where standards are prevalent. As an initial point, the Committee members should exercise caution when interpreting how the assertion of

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alleged SEPs factors into the highly publicized litigation between large smartphone industry competitors, particularly when such disputes involve more non-essential patents than SEPs and seem to be motivated by non-patent related commercial objectives. In addition, standards inherently are pro-competitive and encourage market entrance. In the mobile wireless industry that is exactly what industry experts observe, as noted in my previous responses.

If hold-up was as pervasive as theorized, there are clear economic indicators -- such as a drop in market entry -- that experts would observe in industries impacted by hold-up. Instead, experts observe just the opposite: repeated examples of late and successful new downstream standards implementer entrants in the wireless industry. (See, Keith Mallinson, "No Evidence of Stifled Innovation in Smartphone Patent Battlefield", December 24, 2012, available at: <http://ipfinance.blogspot.co.uk/2012/12/no-evidence-of-stifled-innovation-in.html>.) Likewise, one independent study of the smartphone industry has found, "that the market has experienced dramatic growth in patents while maintaining fluidity in participant entry and exit and fluidity in product popularity." (See "The Impact of the Acquisition and Use of Patents on the Smartphone Industry," Report by Center on Law and Information Policy at Fordham Law School Prepared for WIPO, p.42, December 13, 2013.)

Question 9. In considering the public interest factors in a 337 case, should the International Trade Commission look only at the public interest ramifications of the exclusion order at issue, or should it consider broader long-term public interest effects? For example, in a case involving a standard essential patent, should the International Trade Commission consider whether an exclusion order will enable patent hold up and undermine the standards setting process?

Response:

When considering the public interest factors in a 337 case, Qualcomm believes that ITC should look only at the public interest ramifications of the exclusion order at issue based on the facts presented in the specific case. The public interest inquiry has to our knowledge been historically limited to the facts of the specific case being decided, because the charge of the Commission in the remedy phase of an investigation is to decide whether the public interest would preclude an exclusion order given the facts of the case. But that is not to say that the Commission should avoid considering whether broader policy arguments apply under the facts being examined. As an example, Qualcomm believes the Commission properly declined to base its decision in the recent Investigation No. 337-TA-794 on broad policy grounds involving SEPs, because there had been no predicate finding that the infringed patent was in fact a SEP.

As to the second question presented (in a case involving a SEP should the ITC consider whether an exclusion order will enable patent hold up as to such SEP and thereby undermine the standards setting process), Qualcomm believes that the ITC should be free to make such findings when such effects are alleged and as noted above, the ITC will consider and rule on any FRAND defense raised by the accused infringer before granting an exclusion order. Indeed, the ITC has taken the initiative to do so, most recently in the 337-TA-794 investigation, where it expressly found that the complainant Samsung, had not engaged in hold-up because it had licensed the infringed patent to more than thirty other parties and had complied with its FRAND commitment (if the patent were a SEP) in its efforts to license the patent to Apple. We have no doubt that if

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the ITC had instead found in that case that the patent was a SEP and that Samsung had *not* fulfilled its FRAND commitment in attempting to license Apple, the ITC would *not* have granted an exclusion order. In light of this, it is difficult to see how the grant of an exclusion order by the ITC – after it has found that the patent is a SEP, that the patent holder has offered a FRAND license, and that the infringer has rejected it – could enable patent hold-up. Indeed, until very recently the ITC's ability to decide cases and grant exclusion orders based on SEPs was not questioned, and yet (as discussed above) there is no evidence of patent hold-up in the mobile wireless industry to date.

RESPONSES BY JOHN D. KULICK TO QUESTIONS SUBMITTED BY SENATORS GRASSLEY
AND KLOBUCHAR

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the ITC had instead found in that case that the patent was a SEP and that Samsung had *not* fulfilled its FRAND commitment in attempting to license Apple, the ITC would *not* have granted an exclusion order. In light of this, it is difficult to see how the grant of an exclusion order by the ITC – after it has found that the patent is a SEP, that the patent holder has offered a FRAND license, and that the infringer has rejected it – could enable patent hold-up. Indeed, until very recently the ITC's ability to decide cases and grant exclusion orders based on SEPs was not questioned, and yet (as discussed above) there is no evidence of patent hold-up in the mobile wireless industry to date.



**Responses to Questions for the Record of Senators Klobuchar and Grassley
 regarding the
 Testimony of John D. Kulick, Ph.D., Chair of the Standards Board,
 The Institute of Electrical and Electronics Engineers, Incorporated (IEEE)
 Standards Association (IEEE-SA)
 before the
 Subcommittee on Antitrust, Competition Policy and Consumer Rights of the Senate
 Committee on the Judiciary entitled "Standards Essential Patent Disputes and Antitrust
 Law"
 Tuesday, July 30, 2013
 Room 226, Dirksen Senate Office Building**

I. Responses to Questions of Senator Klobuchar

1. *Some observers in the industry have suggested that standard setting organizations' IP policies should mandate some form of alternative dispute resolution for FRAND disputes, such as mandatory binding arbitration, before an injunction or an exclusion order can be sought. In other words, injunctions and exclusions orders should be reserved only for a truly unwilling licensee and, in the case of an exclusion order, for a party that can't be reached through the U.S. court system. What are your views on this suggestion?*

This question asks about two topics that are not necessarily related.

Mandatory ADR. A key issue in license negotiations for standards essential patents (SEPs) is the royalty rate. If that rate is not set (or at least capped) before a standard's adoption, the SEP holder and the implementer may not be able to reach agreement on the royalty amount (and other terms) that is reasonable in the circumstances. Some Standards Development Organizations (SDOs) require that their members submit such disputes to arbitration. That obligation can bind only the organization's members and any other persons who voluntarily submit to its rules. IEEE does not require arbitration of such disputes. Thus far, there has not been a significant demand among IEEE stakeholders to introduce such a requirement. Opinions vary on whether arbitration is in fact the most appropriate way to resolve disputes over licensing terms.

Availability of Injunctions and Exclusion Orders. IEEE's patent policy does not currently address this issue expressly. IEEE has begun a review of its patent policy. The IEEE Standards Association Standards Board's Patent Committee has established an Ad Hoc Committee to develop specific revisions and clarifications to the current policy. The PatCom Ad Hoc Committee has released a draft set of proposed changes. One of the proposals is to prohibit

SEP holders from seeking injunctions or exclusion orders, subject to certain exceptions (e.g., for persons who decline to participate in litigation to resolve the licensing dispute). Please see the response to Question 2 with respect to the IEEE-SA decision-making process in connection with this proposal.

2. *Do you think that IEEE will be able to make changes to its intellectual property rights policies to address any real or potential problems concerning patent holdup? What do you think is a realistic timeline in which we could see this kind of change happen?*

As I stated at the hearing, IEEE has already begun a process of updating its Patent Policy to address potential concerns about patent hold-up. There is no prescribed end-date for that process. Adoption of proposed changes would require approval from the IEEE-SA Standards Board and, for some changes, from the IEEE-SA Board of Governors. The Standards Board will meet on December 11, 2013 and on March 27, 2014. The Board of Governors will meet on March 1, 2014 and again on May 31, 2014. The earliest date on which IEEE will complete its policy review and adopt any changes is therefore March 1, 2014.

The IEEE-SA Standards Board PatCom Ad Hoc has released a draft for public comment. The draft is available at http://grouper.ieee.org/groups/pp-dialog/drafts_comments/index.html. The comment period closes on September 20, 2013. In addition to the formal comment submission process, the Patent Committee held an open meeting on August 21 to discuss the draft as well as the process for commenting. Approximately 30 stakeholders attended that meeting.

The PatCom Ad Hoc Committee expects to release a second draft in late October 2013, although the date will depend on the volume and nature of the comments received. The second draft will also be made available for a review and comment period, likely to be another 30 days. The PatCom Ad Hoc Committee then expects to provide a further draft for consideration at the December 9, 2013 meeting of the IEEE-SA Standards Board Patent Committee. If the Patent Committee votes to recommend adoption of the draft at that time, then the Standards Board could consider it at the same December meeting series. Those portions that require Board of Governors approval, however, are unlikely to be considered before the Board of Governors meeting on March 1, 2014.

II. Responses to Questions of Senator Grassley

1. *How pervasive is the problem of patent hold-up? What evidence do you have to support your response? What about the problem of patent hold-out? How pervasive is that problem, and what evidence do you have to support your answer?*

As a neutral body, IEEE-SA avoids taking a position on whether any particular royalty rate or other license term is reasonable. Consequently, IEEE does not point to particular cases as examples of either patent hold-up or patent hold-out. (We assume that you use "hold-out" to refer to an implementer of a standard who unreasonably delays negotiating or accepting a license from an SEP holder.) Nevertheless, IEEE-SA can state that a perception of the existence of, or potential for, patent hold-up was one factor that apparently motivated certain stakeholders to

propose revisions to IEEE-SA's patent policy in 2005. The existence of that same concern among IEEE stakeholders appears to be a driver in the current policy review as well. Some stakeholders in the current policy review have also identified the possibility of patent hold-out as a consideration.

There is certainly a potential for patent hold-up. "Pervasiveness" may refer to the number of cases in which hold-up occurs, but it is at least as important to consider not just the number of cases in which it occurs, but the dramatic effects when it does occur. Moreover, most such cases are eventually "resolved" out of court in nonpublic settlements. Therefore, information about extracted royalty rates (much less the reasonableness of such rates) is rare.

2. How do hold-up and hold-out impact innovation and competition?

IEEE's interest is in the development of high-quality standards that address market needs and that are widely and rapidly adopted. Hold-up, if it occurs, may result in the imposition of a substantial and unreasonable cost on implementation of a standard. Particularly for a standard that is designed to permit interoperability, hold-up can delay the widespread adoption of the standard and thus discourage development of competing products that implement the standard. In addition, the prospect of hold-up can deter the development of a standard in the first place, because it reduces the rewards that standards developers can expect from their investment in developing the standard.

3. Do you believe that exclusionary orders should always be prohibited in standard essential patent disputes where the standard essential patent holder has committed to license on RAND terms? Or should the particular factual circumstances be considered on a case-by-case basis? Why or why not?

IEEE's patent policy does not currently address this issue expressly. IEEE has begun a review of its patent policy. The IEEE Standards Association Standards Board's Patent Committee has established an Ad Hoc Committee to develop specific revisions and clarifications to the current policy. The PatCom Ad Hoc Committee has released a draft set of proposed changes. One of the proposals is to prohibit SEP holders from seeking injunctions or exclusion orders, subject to certain exceptions (e.g., for persons who decline to participate in litigation to resolve the licensing dispute). For information on the IEEE-SA decision-making process for this proposal, please see the response to Question 2 of Senator Klobuchar's questions.

4. Some are concerned that a broad denial of remedies in disputes involving standard essential patents in Section 337 proceedings would produce adverse and unintended consequences. Do you agree? Why or why not?

We can only answer this question in the context of IEEE's own patent policy review. IEEE's current policy review does include consideration of exclusion orders. The draft language that the PatCom Ad Hoc released for review addresses the specific issue of exclusion orders and prohibits an SEP holder from seeking an exclusion order, except in certain circumstances. IEEE certainly wants to understand any implications that others might see in this policy language, but a generalized concern that the policy or the specific language might have adverse or unintended consequences is too vague to provide a productive basis for our constructive dialogue and

potential. IEEE stakeholders who believe that the draft language might have such consequences are invited to submit detailed comments on the draft language.

5. *In your opinion, does the International Trade Commission have sufficient statutory authority to stay the imposition of an exclusion order contingent on an infringing party's commitment to abide by an arbitrator's determination of the fair value of a license? If it does, do you believe that the International Trade Commission is using that authority appropriately?*

IEEE takes no position on whether the ITC has the statutory authority to stay the imposition of exclusion orders. As a neutral body, IEEE takes no position on whether the ITC has exercised its authority appropriately in any particular case.

MISCELLANEOUS SUBMISSIONS FOR THE RECORD

TESTIMONY OF ERICSSON
BEFORE THE U.S. SENATE COMMITTEE ON THE JUDICIARY
SUBCOMMITTEE ON ANTITRUST, COMPETITION POLICY AND CONSUMER RIGHTS

HEARING ON "STANDARD ESSENTIAL PATENT DISPUTES AND ANTITRUST LAW"
DIRKSEN SENATE OFFICE BUILDING, ROOM 226
JULY 30, 2013

Madam Chairman and Members of the Subcommittee:

Ericsson Inc. and its related companies ("Ericsson") appreciate the opportunity to provide written comments to the committee for the record of the hearing entitled "Standard Essential Patent Disputes and Antitrust Law" held on July 30, 2013.

1. Statement of interest & relevant expertise: Ericsson invests heavily in research and development for open standards and is experienced in F/RAND licensing

Established in 1876, Ericsson employs more than 100,000 employees who have pioneered the development of the modern cellular network. Over 1,000 networks in more than 180 countries use Ericsson equipment. In the United States, Ericsson employs more than 10,000 people and supplies standards-compliant network equipment and/or services to every major U.S. telecommunications operator from offices in California, Colorado, Georgia, Illinois, Kansas, New Jersey, New York, Texas, and Washington, among others.

Ericsson has been a major contributor to the development of global standards enabling mobile telecommunications over the last 25 years, such as GSM, WCDMA/HSPA and LTE, and has invested billions of dollars in this effort. Looking to the future, Ericsson sees an even more connected world, in which there will be more than fifty billion connected devices, all of which will require better networks and greater capacity. To meet that need, Ericsson currently devotes more than 20,000 employees and almost 15% of its net sales to research and development, much of which is focused on creating open standards for the information and communications technology industry. Ericsson's contributions to open standards are widely recognized,

including awards in 2010 and 2011 for its contributions to the 4G LTE standards by Informa Telecoms & Media.

Ericsson's strong commitment to research and development has been rewarded with 33,000 issued patents worldwide. Ericsson has successfully licensed its patent portfolio through more than 100 patent license agreements, which frequently cross-license technology from other patent holders needed to manufacture Ericsson's products. Ericsson uses the associated royalties to fund its continued contribution to the development of tomorrow's telecommunications standards.

2. Standards and patents promote competition and innovation

Standard-essential patents ("SEPs") play an important role in the formation of open global standards that encourage competition and innovation. Many talented entities contribute cutting-edge technology to standard-setting organizations. The resultant standards promote competition and consumer welfare by lowering barriers to entry, assuring interoperability, and enabling new products and services that better serve the end-user customers. Thanks to standards, new entrants to the market can build exciting and innovative products that take advantage of the standards with minimal impediments to entering the market, especially in the case of telecommunications where open standards provide complete "blueprints" for a product. Companies that contribute to the standards receive reasonable licensing fees that enable them to continue to invest in R &D, and continue to make cutting-edge contributions to future standards. Consumers reap the benefits of the competitive landscape that relies on this balance, by enjoying a multitude of interoperable innovative products, offered at competitive prices.

3. The F/RAND ecosystem safeguards competition through balancing the interests of patent holders and implementers

Commitments to license SEPs under Fair, Reasonable and Non-Discriminatory ("F/RAND") terms have been used by collaborative standards development organizations for many years as a mechanism that safeguards competition while balancing the rights and interests of implementers and patent holders. On the one hand, F/RAND commitments ensure that companies holding patents reading on a technology that has been incorporated into a standard do

not use them to exclude new products from the market or to extract overcompensation for them. On the other hand, they secure a fair and reasonable return on the patent holders' investment in R&D, allowing such holders to continue making these investments.

Like the dual objectives of a F/RAND policy, licensors' and licensees' conduct within a F/RAND licensing system is also a "two-way street." It requires both the licensor and the licensee to be fair and reasonable. Thus, both the licensor and the licensee are under obligation to negotiate and earnestly seek and conclude a license on F/RAND terms.¹

In other words, the F/RAND eco-system is in place to safeguard against the potential for both "hold-up" through asserting the patent to exclude a competitor's product from the market or obtain a higher price for its use and "reverse hold-up", e.g. through the potential licensee's constructive refusal to negotiate in an attempt to avoid paying due royalties to the patent holder.² It is wrong to focus only on one type of hold-up. A disproportionate focus on the former type of hold-up is disconnected from market realities because not only is "reverse hold-up" equally problematic, but it also appears to be the more prevalent phenomenon of the two.

4. The F/RAND ecosystem continues to work well

Overall, the F/RAND balancing ecosystem, with the possibility of using injunctive relief to protect a SEP holder's basic right to prevent others from using its patented inventions,³ has worked well for many years, and continues to work well today. The success of the telecoms sector, and its vibrant, dynamic and competitive landscape, are clear evidence that the existing F/RAND ecosystem represents a well-balanced approach that fosters innovation, competition and growth. Fiercely competitive landscapes and dynamic emerging markets are often

¹ *Ericsson Inc. v. D-Link Systems, Inc.*, No. 6:10-CV-473, 2013 U.S. Dist. LEXIS 110585 (E.D. Tex. Aug. 6, 2013) (memorandum opinion and order), also available at <http://essentialpatentblog.com/wp-content/uploads/2013/08/13.08.06-Dkt-615-Ericsson-v.-D-Link-Order-on-Post-Trial-Motions.pdf>, at 50-51.

² This balance is recognized in the U.S. Dep't of Justice and U.S. Patent & Trademark office "POLICY STATEMENT ON REMEDIES FOR STANDARD-ESSENTIAL PATENTS SUBJECT TO VOLUNTARY F/RAND COMMITMENTS" available at <http://www.justice.gov/atr/public/guidelines/290994.pdf>.

³ Under the WTO TRIPs agreement, to which the U.S. is a signatory, a patent shall confer on its owner the basic right to exclude third parties from using it without having the owner's consent, see WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (Apr. 15, 1994) Article 28 (1), available at http://www.wto.org/english/tratop_e/trips_e/t_agm3c_e.htm#5.

characterized by power struggle between competitors, and some of the litigation we are witnessing merely reflects these dynamic competitive forces. Consumers are the beneficiaries of fierce competition, as it results in better and more innovative product offerings at competitive prices.

5. Ericsson's position on the availability of injunctive relief for SEPs

As a company that regularly finds itself as both a licensor and a licensee of SEPs, Ericsson is committed to ensuring a balanced ecosystem that supports open standards and a robust and unfettered competitive process. Ericsson therefore believes that SEPs should continue to be eligible for entry of injunctions or exclusion order as long as the patent owner has not failed to abide by its commitment to offer a license on F/RAND terms. Ericsson advocates this policy as an optimal middle ground between the more extreme positions advocated by others. Entirely ignoring a patent owner's commitment to license on F/RAND terms will disserve the public interest because SEP owners could engage in hold-up. But a policy that entirely precludes injunctive relief with respect to SEPs (or imposes overly restrictive conditions on its availability to SEP owners) serves the public interest no better. Without an established and effective means to enforce SEPs against unwilling licensees, potential licensees would be encouraged to engage in reverse hold-up, and patent holders' incentives to innovate and contribute technology to standards would be diminished, to the detriment of consumers.⁴

6. Worldwide patent litigation on a country-by country basis is unfeasible in our global world

Standardization does not involve a standard-setting organization merely adopting an existing standard at a single moment in time. Rather, the standardization process is an ongoing process among industry players to find the best solutions to the technical challenges underlying the standards, such as increased data rates, reliability, and security. The standardization process never stops. For example, as we enjoy the new high-speed 4G LTE cellular networks in the

⁴ See also FED. TRADE COMM'N, THE EVOLVING IP MARKETPLACE: ALIGNING PATENT NOTICE AND REMEDIES WITH COMPETITION, at 224 ("an injunction preserves the exclusivity that provides the foundation of the patent system's incentives to innovate. Altering that exclusivity must be undertaken with significant care not to undermine those incentives") available at <http://www.ftc.gov/os/2011/03/110307patentreport.pdf>.

United States and around the world, standardization bodies continue to improve the 4G LTE standard and have already defined the details of LTE-Advanced, which will be the next generation of mobile broadband technology. For this reason, most contributors to open standards have large and dynamic portfolios of essential patents that exist in countries all around the world.

For this reason, injunctive relief can be a necessary remedy against infringers that are unwilling to negotiate a F/RAND license in a timely fashion. Absent injunctive relief (or by imposing overly restrictive conditions on its availability with respect to SEPs), a SEP owner would be left with separate lawsuits in separate countries on separate patents and the corresponding court-awarded damages as the only remedy for infringement of its SEPs. Litigating for damages only, on a country-by-country and patent-by-patent basis, is not a workable solution, however, since it would take years and impose very high litigation costs on SEP holders and potential licensees alike, all of which would be passed through to end-consumers. In addition, the litigation effort will still result in sub-F/RAND rates in many jurisdictions, such as those that do not provide for discovery into the licensee's sales or those that do not provide for compensatory damages.

7. Changing the existing legal framework may discourage incentives to participate in standard-setting and undermine open standards

Unless a SEP holder is ensured a fair return on its R&D investment, there will be no real incentive to continue to invest in open standards. Diminished return on R&D investments would result in fewer such investments as well as disincentives to share cutting edge technologies into standards – both resulting in reduced innovation and weaker standards, to the detriment of consumers. The need for any reform of the F/RAND system must therefore be carefully considered so as to avoid chilling out incentives to standardize or encourage patent holders to keep supreme technologies outside open standards.

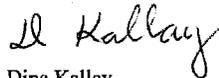
The companies advocating to eliminate injunctive relief for SEPs altogether appear to disregard the important need to maintain sufficient incentives for furthering the development of telecoms standards. These companies, who often have not contributed significantly, or at all, to telecoms standards, prefer their short term commercial interests over the long term interests of consumers and the industry as a whole. A breakdown of the open standards system will undermine interoperability while promoting multiple proprietary solutions, a result that will reduce efficiency, hamper innovation and lower consumer welfare.

Conclusion

SEP licensing on F/RAND terms play an important role in the formation of open global standards. Through the balancing F/RAND eco-system, open global standards tremendously promote competition, efficiency and consumer welfare by lowering barriers to entry, assuring interoperability, and enabling new products and services that better serve consumers. Overall, the current F/RAND eco-system continues to work well.⁵ Any changes to it, let alone where there is no evidence that it is faltering, need to be very carefully considered, for the reasons described in this testimony.

Ericsson is grateful for this opportunity to share its experience and views, and would be happy to answer any follow up questions.

Sincerely,



Dina Kallay

Director, Intellectual Property & Competition
Ericsson Inc.

⁵ Evidence of this notion is also reflected in multiple submissions to the FTC's June 21, 2011 Workshop to Explore the Role of Patented Technology in Collaborative Industry Standards, *available at* <http://www.ftc.gov/os/comments/patentstandardsworkshop/>. For example, Intel's submission stated that "the evidence shows that standard-setting processes generally work well. Thousands of standards are developed every year, generally without incident, and they are normally followed by significant price drops year after year in almost all industry sectors where standards are used. Intel is unaware of any systemic problems of patentees misleading standard-setting organizations or refusing to abide by previous licensing commitments made to those organizations, including commitments to license on reasonable and nondiscriminatory ("RAND") terms"; the American IP Law Association (AIPLA) submission stated that: "the current voluntary consensus-based system is and has continued to be successful due to its ability to adapt and respond to market needs"; the American National Standards Institute ("ANSI") submission stated that the "ANSI Patent Policy...has proven over time to be a flexible and effective means of addressing the incorporation of patented technology into standards. Indeed, out of the approximately 10,000 current ANSs, for only a relatively small number have questions ever been formally raised regarding the ANSI Patent policy."



The Honorable Amy Klobuchar
Chairman
Senate Judiciary Subcommittee on Antitrust,
Competition Policy and Consumer Rights
302 Hart Senate Office Building
Washington, DC 20510

The Honorable Michael Lee
Ranking Member
Senate Judiciary Subcommittee on Antitrust,
Competition Policy and Consumer Rights
316 Hart Senate Office Building
Washington, DC 20510

Dear Chairman Klobuchar and Ranking Member Lee:

On behalf of BSA | The Software Alliance, I write to express our strong support and gratitude for your work in the Antitrust, Competition Policy and Consumer Rights subcommittee around the recent hearing on "Standard Essential Patent Disputes and Antitrust Law."

BSA is the leading global advocate for the software industry. It is an association of world-class companies that invest billions of dollars annually to create software solutions that spark the economy and improve modern life. BSA members include software and computer companies that collectively hold hundreds of thousands of patents around the world. Our members invest billions of dollars in research and development every year and are very active in standard settings bodies. Every one of our companies relies on intellectual property protection for the viability of its business.

The issues discussed in this hearing, therefore, are very important to BSA members, and we would appreciate it if you would please submit into the hearing's record the attached Public Comments we filed in a recent International Trade Commission Investigation on the Standard Essential Patents issue.

Sincerely,

A handwritten signature in black ink, appearing to read 'Tim Molino', is written over a horizontal line.

Timothy Molino
Director, Government Relations

Attachment: BSA | The Software Alliance's Response to the Commission's Request for Additional Written Submissions on Remedy and the Public Interest.

UNITED STATES INTERNATIONAL TRADE COMMISSION
WASHINGTON, DC 20436

In the Matter of

CERTAIN ELECTRONIC DEVICES,
INCLUDING WIRELESS
COMMUNICATION DEVICES, PORTABLE
MUSIC AND DATA PROCESSING
DEVICES, AND TABLET COMPUTERS

Investigation No. 337-TA-794

**BSA | THE SOFTWARE ALLIANCE'S RESPONSE TO THE
COMMISSION'S REQUEST FOR ADDITIONAL WRITTEN SUBMISSIONS ON
REMEDY AND THE PUBLIC INTEREST**

April 3, 2013

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Counsel for BSA | The Software Alliance

INTRODUCTION

Pursuant to the International Trade Commission's ("Commission") March 13, 2013, Request for Additional Written Submissions on Remedy and the Public Interest, the BSA | The Software Alliance ("BSA")¹ respectfully submits the following comments in response to Questions 1 and 3.

Although the Commission has requested that submitters avoid discussing issues related to standard-setting when addressing how an exclusion order would affect the public interest as identified in 19 U.S.C. §§ 1337(d)(1) and (f)(1), BSA believes that, in the context of the above-captioned Investigation, the impact of an exclusion order cannot be properly evaluated without discussing standard-setting issues. There is no dispute that the complainant made an irrevocable commitment to license U.S. Patent No. 7,706,348 ("348 patent") on Fair, Reasonable, and Non-Discriminatory ("FRAND") terms. The complainant's FRAND obligation has consequences and cannot be ignored. Accordingly, BSA respectfully submits that the Commission cannot fully and fairly address the public interest impact of an exclusion order without consideration of the complainant's FRAND obligation.

Before issuing an exclusion order, the Commission is mandated to consider whether such an order will help or harm the public interest.² Should the Commission ultimately find a violation of Section 337, BSA believes that it is in the public's interest that an exclusion order not be issued in this case or in other cases with similar facts and circumstances.

BSA believes all patentees should be free to exercise their intellectual property rights as they see fit. It should be their choice, for example, whether or not to submit their patented

¹ The members of the BSA include Adobe, Apple, Autodesk, Bentley Systems, CA Technologies, CNC/Mastercam, Dell, Intel, Intuit, McAfee, Microsoft, Minitab, Oracle, PTC, Rosetta Stone, Siemens PLM, Symantec, TechSmith, and The MathWorks.

² 19 U.S.C. § 1337(d)(1), (f)(1)

technologies to become part of internationally recognized standards. But if they make the choice to participate in creating such a standard and in the process commit to licensing their technologies on FRAND terms, then they should not be allowed to circumvent their original commitment by using the Commission to obtain an exclusion order which could result in extracting unreasonable royalties. Internationally recognized technical standards play a critically important role in today's technology-driven society. Allowing patentees who commit to FRAND licensing and to renege on such commitments would have a chilling effect on competition, and it would harm consumers.

BACKGROUND

BSA is the leading global advocate for the software industry. It is an association of more than 70 world-class companies whose technology solutions spark the economy and improve modern life. Our members invest billions of dollars a year in research and development. Those investments depend on intellectual property protections and internationally recognized standards-setting systems that are predictable, transparent, and fair. When these core values are compromised, BSA members cannot innovate, produce new products, or conduct business in an ecosystem that adds value and provides choices for consumers.

BSA members hold hundreds of thousands of patents around the world, and they have adopted corporate policies that respect others' intellectual property rights. BSA members also participate widely in standards-setting organizations.

WHY STANDARDS ARE IMPORTANT FOR INNOVATORS AND CONSUMERS

Internationally recognized standards are part of the foundation of today's competitive technology marketplace. They allow firms to develop competing, but compatible, products and

technologies. Promoting standards does not mean that all products will contain the same features, functions, or performance standards. Quite the opposite.

Consider, for example, the case of two international standards that are built on a foundation of standards-essential patents: Wi-Fi and the Universal Serial Bus, or USB. Because of these two standards, technology companies have had predictable platforms on which to create new and innovative products that give consumers a dazzling variety of choice. The Wi-Fi standard lets consumers connect a range of wireless devices to the same wireless router — from laptops and printers to smartphones, wireless medical devices and much more. Similarly, consumers can connect many of those same devices using cables and standards-enabled USB ports. The creation and adoption of these and other standards have given rise to tremendous diversity and richness in today's marketplace. The benefits are immeasurable, as would be the consequences of undermining them. Without standards, innovation would slow, the market would balkanize, and consumers would be stuck in a world of incompatible technologies — a different port or router for every device — creating less value at greater cost.

In order for companies to commit resources to creating and adopting standards, they must trust that their commercial efforts will not be put in peril by a patentee attempting to exclude them from the market. This is precisely why standards-setting bodies require that participants in the process commit to licensing their patents under FRAND terms before they are included in a standard. For example, the European Telecommunications Standards Institute (“ETSI”) — the standards body responsible for promulgating the wireless standard to which the complainant claims its '348 patent to be essential — requires parties submitting ideas to the organization for possible adoption to commit to making their intellectual property available under FRAND terms. The ETSI policy states:

When an ESSENTIAL IPR [Intellectual Property Right] relating to a particular STANDARD or TECHNICAL SPECIFICATION is brought to the attention of ETSI, the Director-General of ETSI shall immediately request the owner to give within three months an irrevocable undertaking in writing that it is prepared to grant irrevocable licenses *on fair, reasonable and non-discriminatory terms* and conditions under such IPR to at least the following extent:

- MANUFACTURE, including the right to make or have made customized components and sub-systems to the licensee's own design for use in MANUFACTURE;
- sell, lease, or otherwise dispose of EQUIPMENT so MANUFACTURED;
- repair, use, or operate EQUIPMENT; and
- use METHODS.³

These commitments give companies the confidence they need to invest the millions of dollars it takes to develop technology using a standard. Without such commitments, standards would not be developed, or, if somehow developed, they would not be widely adopted.

PUBLIC INTEREST POSITIONS

Granting Exclusion Orders for Standards-Essential Patents Would Have a Chilling Effect on Competition

If companies cannot trust FRAND commitments made during the standards-setting process, they will have little incentive to participate and competition will suffer. Fewer standards will be developed, and they will not be as widely implemented. Rather than sharing their technologies through standards organizations, companies will hoard innovations and create a variety of proprietary platforms. Firms might still enter into one-on-one agreements to cross-license and develop compatible products, but such small-scale developments have higher transaction costs. These increased costs — and the additional costs of having to individually

³ ETSI's IPR Policy (Nov. 30, 2011) (emphases added). Other prominent standards-setting organizations also have similar requirements, e.g., IEEE, ITU, ANSI, JEDEC. In fact, a 2002 study found that 29 of the 36 standards-setting bodies studied that had written intellectual property policies required participants to license under FRAND terms. Mark A. Lemley, *Intellectual Property Rights and Standard-Setting Organizations*, 90 Cal. L. Rev. 1889, 1906 (2002).

negotiate licenses for intellectual property (where no FRAND commitment was made) — will create entry barriers that most new competitors will be unable to overcome. All of these negative consequences will have a chilling effect on today's robust and competitive technology industry.

Exclusion Orders for Standards-Essential Patents Would Harm Consumers

Without question, consumers benefit immensely from the creation and use of internationally recognized standards. These standards allow consumers to have advanced technology broadly implemented in a variety of devices that work together. This is why, for example, consumers have a plethora of choices when they shop for a printer to use with their computers. It is also one of the main reasons why consumers' transition costs are low when switching or upgrading a device: they can be sure the new device will work with rest of their personal technology, and the rest of their technology can be upgraded or replaced independently.

If holders of standards-essential patents are able to seek exclusion orders (despite promises to the contrary), then companies likely will respond by forgoing the development or adoption of new standards. Companies will instead produce redundant technology, and the market will become balkanized. This will mean that fewer companies will invest in the market and the pace of innovation will severely slow down. Reduced competition will drive prices up and diminish value for consumers.

CONCLUSION

For the reasons set forth above, it is not possible to discuss the public impact of an exclusion order without giving full and fair consideration to the commitments that follow from a patent holder's FRAND obligation. Where, as here, a patentee makes a commitment to license its technology for FRAND terms during a standard-setting process if that technology is made

part of the standard, the patentee should be held to its promise. Allowing companies to circumvent their promises by using the Commission's sole remedy of an exclusion order would have a detrimental effect on internationally recognized standards systems. The ultimate result of a less robust standards system will be fewer choices for consumers, higher prices, and diminished innovation. Thus, the public's interest will be best served if an exclusion order is not issued in this investigation or any other investigation resting on similar facts and circumstances.

Dated: April 3, 2013

Respectfully Submitted,

/s/ Timothy A Molino
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Counsel for BSA | The Software Alliance

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Statement for the Record by

The Reverend Jeffrey D. Thiemann
President and Chief Executive Officer

Portico Benefit Services, a ministry of the Evangelical Lutheran Church in America
800 Marquette Avenue, Suite 1050
Minneapolis, MN 55402-2892

Before the United States Senate
Committee on the Judiciary
Subcommittee on Antitrust, Competition Policy and Consumer Rights

on

Pay-For-Delay Deals: Limiting Competition and Costing Consumers

Washington, DC

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Chairman Klobuchar, Ranking Member Lee, and Members of the Subcommittee, my name is Jeffrey Thiemann and I am the President and Chief Executive Officer of Portico Benefit Services, a ministry of the Evangelical Lutheran Church in America. I lead a nonprofit corporation based in Minnesota, providing retirement, health and related benefits and services to enhance the well-being of over 50,000 pastors, rostered laypersons, employees and their families. Portico Benefit Services serves nearly 10,000 congregations, synods, seminaries, churchwide units and ELCA-affiliated social ministry organizations to administer the ELCA benefits program. My testimony is intended to demonstrate the clear and compelling need for Congressional passage of S. 214, the Preserve Access to Affordable Generics Act, introduced by Senators Klobuchar, Grassley, Durbin, Franken, and Johnson (of South Dakota).

For more than a decade, manufacturers of brand-name drugs have used so-called “pay-for-delay” patent dispute settlement agreements to extend their monopoly profits on certain drugs. A pay-for-delay agreement is essentially one in which the brand-name drug manufacturer pays a potential generic competitor to delay introducing cheaper generic products. As Justice Breyer wrote earlier this year in the Supreme Court’s decision in *FTC v. Actavis, Inc.*, “settlement on the terms said by the FTC to be at issue here—payment in return for staying out of the market—simply keeps prices at patentee-set levels, potentially producing the full patent-related ... monopoly return while dividing that return between the challenged patentee and the patent challenger. The patentee and the challenger gain; the consumer loses.”

Since 1998 when the first of these anti-competitive, anti-consumer deals between a branded drug company and a potential generic competitor occurred, there has been an explosion of “pay-for-delay” agreements. And since 2003, when Congress directed the Federal Trade Commission (FTC) to provide annual reports on these sweetheart deals, the FTC calculates they have extended the market exclusivity for 165 medicines by an average of 17 additional months.

We believe the real result of pay-for-delay agreements has been an illegal and immoral tax on the sick and on the payers of pharmacy benefit plans -- imposed through the collusion of branded drug and generic drug companies. We appreciate the FTC’s tenacity to fight this injustice all the way to the Supreme Court.

Pay-for-delay deals financially hurt taxpayers, patients and providers of pharmacy benefit plans, such as Portico. According to studies by the FTC, millions of Americans rely on affordable generic medicines since generics are typically much less expensive than brand name drugs. With their lower prices, generics also help reduce government spending on Medicare and Medicaid. For our participants and the religious organizations sponsoring pharmacy benefits, the savings from generic drugs are extensive and extremely important.

In its fiscal year 2012 report to Congress, the FTC found the number of potentially anticompetitive patent dispute settlements between branded and generic drug companies increased to 40 from 28 in the prior year—a 43% jump. The number of these pay-for-delay deals in 2012 is the highest of any year since the FTC began collecting data in 2003. The 2012 agreements covered 31 different brand-name drugs with combined annual U.S. sales of more than \$8.3 billion.

Let's pause for a moment and think about what that means for health costs. The Food and Drug Administration reports that, on average, the cost of a generic drug is 80 to 85 percent lower than the brand name product. So, just the 2012 pay-for-delay agreements could be costing Americans some \$6.6 billion per year extra for prescription drugs. That's about \$21 for every person in the United States, and significantly more for each user of the drugs covered by the pay-for-delay agreements. Translating that \$21 per person average to the people we serve means that every year, we estimate that about \$1 million that could be going into the ministry of thousands of congregations impacting communities across the country is instead wrongly sucked out of local communities into the profit line of branded and generic drug companies that act as monopolies.

Because the parties to pay-for-delay deals understandably try to keep the exact terms hidden from public, it has been difficult for payers and consumers to know exactly how much these deals are taking from their pockets. But, a new report just published this month by Community Catalyst and MASSPIRG sheds significant light. The report looks at the top 20 drugs subject to pay-for-delay deals. For these 20 drugs, the agreements delayed generic drugs by an average of five years and allowed the brand-name companies to reap an additional \$98 billion of profits while the generics were delayed. Data from this report tells us that countless plans and consumers, including Portico's benefit plans and participants, have been forced to pay excessive amounts for hundreds of thousands of prescriptions in this top 20 pay-for-delay list. According to the study, plans and consumers incurred some \$187 of excess cost for every Lipitor prescription during the 1.7 year period the generic was delayed – a delay that apparently generated some \$13 billion of additional sales for the brand manufacturer. We estimate that during just one six-month part of the time covered by the Lipitor pay-for-delay agreement, our benefit plans and participants incurred approximately \$300,000 of excess costs for Lipitor prescriptions. And for Nexium, where the generic has been delayed until 2014, the brand manufacturer will apparently reap an additional \$34 billion of sales during the 6.1 years generics will have been delayed. If Congress wants to do something meaningful about constraining health care costs, it must certainly prohibit anti-competitive pay-for-delay deals.

In its decision in *FTC v. Actavis, Inc.*, the Supreme Court confirmed that the FTC has the ability to challenge pharmaceutical pay-for-delay deals as antitrust violations. This decision was extremely important because it rejected outrageous drug company arguments that pay-for-delay deals are immune from antitrust challenge. However, the court's decision left open a significant potential loophole for colluding brand and generic drug companies.

The Supreme Court declined the FTC's urging to declare pay-for-delay agreements presumptively invalid. Instead, the court said the FTC could challenge each pay-for-delay agreement based on its individual facts. We believe this gives the drug companies too much leeway. With the huge potential profits they can share from pay-for-delay deals, brand and generic drug companies can afford to out-lawyer the FTC in litigation. If all of the parties to the 40 pay-for-delay deals done in just 2012 were to decide to litigate the validity of their agreements, the FTC simply wouldn't have the resources to fight them. In the face of an industry-wide decision to fight pay-for-delay challenges to the bitter end, the FTC would have to let significant numbers of egregious deals escape. The FTC and the Supreme Court have done their work and now Congress needs to act.

While there might have been a question in the minds of Supreme Court justices as to whether pay-for-delay agreements are presumptively invalid under current antitrust laws, there can be no question as to the authority of Congress to clarify and reform the antitrust laws. S. 214 would generally presume pay-for-delay agreements to have anticompetitive effects and to be unlawful. However, under the bill, this presumption would not apply if the parties to the agreement demonstrate by clear and convincing evidence that the procompetitive benefits of the agreement outweigh the anticompetitive effects. S. 214 would also provide meaningful penalties to discourage violations of the new rules.

We believe S. 214 provides an appropriate path forward. With billions of dollars in excess prescription drug costs at stake each year for the Federal government, private employers, health plans, and consumers, S. 214 should be enacted without delay. Payers and patients alike are calling for action now to further support the FTC's efforts in policing the pharmaceutical sector. S. 214 is an essential step in achieving the principle of fair competition and in protecting Americans from shady deals that benefit the few.

Congress stands at the door opened by the FTC and the Supreme Court, ready to stop what we believe is anti-competitive, anti-consumer collusion that burdens Americans with costs that run into the billions of dollars. Ultimately, you have the power to lift this unfair burden from Americans across the country and restore fairness to the prescription drug marketplace. We urge you to support S. 214.

**Standards Essential Patent Disputes and Antitrust Law:
Evaluating Patent Hold-up (and Hold-out) Theories**

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Testimony Submitted to:
Senate Judiciary Committee's Antitrust Subcommittee on standard setting organizations, standard essential patents, and the competition issues

I. Introduction

This statement will explore the standard-setting process and consider if it works well enough in contexts where standard essential patents are implicated. In particular, it will explore whether there are realistic concerns that the safeguards put in place by standard setting organizations to guard against patent "hold-up" (in which patent owners somehow extract in royalties more than their fair share of the benefits from patented technology) are adequate and can be improved upon by so called "ex ante" approaches to patent valuation.

I have a particular interest in policies that enhance technological innovation and economic growth. This has been the heart of my scholarly research for more than 30 years. I am concerned that large (incumbent) firms that infringe the intellectual property of others opportunistically appeal to patent "hold-up" theories to claim harms to themselves and to the innovation process. I am concerned that complaints of abuse of the system by infringers are little more than thinly disguised efforts to deny patent owners their fair return on their invention(s). I will review both the theories and evidence on patent hold-up and hold-out issues and review whether the frameworks and actions of the standard-setting organization are adequate for the issues at hand.

II. Employing advanced technology in the standard-setting process

Few commentators have a solid understanding of how standards get started and how licensing contracts are negotiated and structured. Closer examination of emerging issues shows a standard-setting system that works well for society. While there are disputes around patent licensing, much is inevitable given the number of holders of relevant patents; the number of implementers making standards-compliant products; the fact that patents are not "self-enforcing" and that patent holders cannot physically withhold their patented technologies from others, but may have to resort to the legal system to induce others to pay for their use of patented technology; and the importance of standards and intellectual property ("IP") licensing in the information and communications industries. The level of actual litigation is quite small relative to the number of potential disputes. The domains in which these disputes occur are also characterized by extremely high levels of technological change, dynamic competition, and market growth, implying a lot of money at stake.

Standards provide benefits to developers, manufacturers, and consumers of products and services. In network industries such as telecommunications and computers, it is crucial that products from different manufacturers interconnect in networks and interoperate with products from other manufacturers. It is also important that standards, especially for "next-generation" products, incorporate the best cutting-edge technology, which (not surprisingly) is often patented. (Imagine how outdated standards for cutting-edge products would be if they had to rely only on older public-domain technology.)

Mobile handsets from one manufacturer must also connect to mobile networks and work together with handsets and cellular base stations made by other manufacturers. Memory chips must work in computers, cell phones, and tablets from various manufacturers; and printers must work with multiple computers. Compatibility standards allow this interconnection and interoperability to occur. Moreover, standard functionality must be the best-value proposition available for the consumer, and not simply that which is consistent with the lowest royalty burden.

Formal standard setting at standards setting organizations (SSOs, such as the ITU-T, ETSI, IEEE, or ANSI) is a cooperative, consensus-based process aimed at developing technical standards for next-generation products in the relevant technical field (e.g., in the case of the ITU-T, the field of telecommunications, including wired and wireless communications). The process involves the cooperative efforts of numerous stakeholders interested in positive outcomes for the user. Stakeholders can have different interests, different business models, and different beliefs. Nevertheless, well-chosen common standards will benefit multiple parties

¹ I am also chairman of the Berkeley Research Group and have provided expert testimony in numerous patent cases for patent inventors, owners, and patent users. I have also consulted for many innovative companies in the United States and abroad. The views herein are my own and don't reflect the views of the University of California or any other organization I belong to or have been associated with.

Because standards are being set for the next generation of products, it is not surprising and standard-setting organizations (SSOs) and standards determining organizations (SDO's) adopt cutting-edge technology into their standards. That technology first has to be developed; that development involves significant cost, and (not surprisingly) firms seek to patent their innovations—for both “defensive” and “offensive” reasons.

The range of standards-compliant products can vary dramatically, and often dozens if not hundreds of firms make thousands of standards-compliant products. As such, the scope for commercial disagreements between patent holders and those wanting to make, use, or sell standards-compliant products is considerable.

Claims are sometimes made that the patent system as a whole does not work well, particularly complaints that the U.S. Trade and Patent Office grant too many unwarranted patents, raising concerns about “patent thickets,” “royalty stacking,” and “the tragedy of the anti-commons.” Whatever the merits of such claims, they are directed to the patent system as a whole, not to how well (or poorly) the system of “reasonable and non-discriminatory” (“RAND”) licensing works. They are not something that SSOs can do much, if anything, about. Competition authorities frequently claim that royalties are too high. These agencies often have political agendas. With representative democracy, there is a tendency to favor the interests of today’s consumers. Couple that with the antitrust employment of static models (that focus on the here and now and not the future) and there is a “baked in” bias against innovation emanating from Washington.

III. Business model difference amongst participants

One obvious difference between firms is the extent to which they have intellectual property rights (notably, issued patents and pending patent applications, which each raise different issues) that may be incorporated into a proposed standard. Many different business models are at work in today’s economy. Some firms “wear three hats.” As patent holders, they out-license their patented technology to others in order to make standards-compliant products, and as such are “sellers” in the technology market. As manufacturers, they are sellers in the product market. And also as manufacturers, they need to have access to others’ standards-essential patented technology, and thus are “buyers” in the technology markets.

Other firms do not fit this mold. In particular, pure-play technology firms are sellers in the technology market but do not participate in the product market. Manufacturers that have no patented technology of their own to contribute or “barter” for cross-licenses are sellers in the product market and buyers (but not sellers) in the technology market. This heterogeneity creates competitive richness. It also sometimes creates a bewildering array of licensing situations that require understanding.

The economic system needs to reward investors who develop commercially valuable technology. Unfortunately, our antitrust agencies (the FTC and DOJ) are frequently not the champions of innovation, although they claim otherwise. From a societal perspective, royalty payments for the use of patented technology are transfer payments: the licensee pays royalties and thus has less money, but the patent holder receives royalties and thus has more money. To a good first approximation (ignoring the economic costs of rent-seeking behavior and assuming royalties do not materially affect final product demand), royalty payments might be seen as cancelling each other out. From a societal perspective, the money largely transfers from one group to another, as with tax revenues and tax receipts.

Of course, the effect is not neutral. From the perspective of particular firms, which naturally are concerned about their own private costs/benefits, royalty payments are a quite real private cost. A royalty payment is a private cost to the firm paying the royalties, and a private benefit to the patent holder that receives the royalties. The level of royalty payments may not be neutral from a societal point of view either, since it affects the returns to technology development and the incentives for further innovation. Very low royalty rates likely provide miniscule returns to technology developers.

It is unlikely that this can be fully compensated for by “first-mover” advantages in the product market. In particular, the technology developer may not operate in the product market. Moreover, higher unit sales of licensed standardized products might not materialize (i.e., one cannot be sure that a low royalty rate will be made up for by volume). Conversely, a licensor might be disadvantaged in the product market by high costs, especially if it bears costs that its rivals do not. Consumers are best served when streams of new products are being developed and are available at competitive prices.

Royalty levels should represent a balance of interests for the technology developer, implementer, and consumer. This balance is at the core of SSO IPR policies and the RAND commitment. Because the standard-setting process is voluntary, firms can elect not to participate if they believe that their interests are not protected. This “participation constraint” implies that care must be taken to adopt IP policies that strike a “balance” between the interests of different stakeholders. The consensus-based nature of the standard-setting process allows SDOs to take account of this need for balance.

There is a fundamental difference between intangible assets such as standards-essential patent rights that can be used as inputs into the production of standards-compliant products and tangible inputs (e.g., cellular chipsets) that are also inputs into the production of standards-compliant products (e.g., cellular handsets). Once a patent has issued, it is a public document; the patent holder cannot physically withhold from others the ability to use the patented technology and has to resort to the legal system (and litigation) to seek to compel others either to pay fair compensation for that use or to cease infringing. By contrast, the supplier of a tangible input can refuse to supply the input to those who do not pay for it.

Some argue that there is another difference: intangible inputs are (physically) non-“rival” in use. The fact that one person uses some patented technology to make and sell my products does not restrict another’s ability to use the same patented technology to make and sell products (though there clearly is a sense in which the patent holder and its licensees may compete for customers, and their use of the patented technology is “rival” in an economic sense).

This is fundamentally different from tangible inputs such as computer chips, which are rival in use in the physical sense: namely, you and I cannot incorporate the same physical chip into both of our products. This fundamental asymmetry between intangible and tangible inputs is a key factor affecting the need for owners of intangible patented technology to rely on the legal system, rather than on “self-help” mechanisms such as the refusal to deliver tangible goods to those who do not pay for them. This difference needs to be taken into account when one is asked whether there is “too much” patent litigation.

Put another way, patent rights are not self-enforcing. Parties can and do genuinely disagree whether one firm uses patented technology belonging to another. Patents may be seen as invalid, as not infringed, or both. There is only some (positive) probability that, if such disputes were litigated, the patent holder would prevail against a putative infringer on validity and infringement grounds. Given the large number of patents declared as being “essential” to some standard—and given the large number of firms making, using, or selling standards-compliant products—there is bound to be some level of disagreement on such issues. This factor has no analog in the context of physical inputs to the production process, where issues of ownership of inputs are rarely disputed. This factor, too, needs to be taken into account when assessing whether there is “too much” standards-related patent litigation.

Because the patented technology already exists (and the cost of developing it is a “sunk cost”) by the time manufacturers and designers get around to using it to make and sell standards-compliant products, some argue that one should pay more attention to the interests of manufacturers than of patent holders. Others disagree, contending that it is important to respect both of their interests.

Empirical studies of the private and social returns to innovation demonstrate that inventors generally are undercompensated for others’ use of their patented innovations.² Accordingly, it is important to avoid favoring users of patented technology at the expense of the developers of that technology. Incentives to invest in research and development (R&D) will be jeopardized along with incentives to participate in standard setting itself. Each is potentially damaging to society. Advocates, especially those who focus on the possibility of “hold-up” by patent holders (and who frequently pay little attention to the converse possibility of “reverse hold-up”) are usually deaf to such concerns—a natural consequence of their employment of intellectual frameworks that are inherently static. Hence, it is most important that competitors’ policy advocates be challenged to explain why their positions are not simply tantamount to favoring today over tomorrow. It is “deficit spending” in a different guise. The result is the same. Future generations of consumers are paralyzed tomorrow (through lower rates of innovation) to support consumption today.

IV. Policies of standard-setting organizations

SSOs face many policy issues. One is whether to incorporate technologies in standards where those technologies may be covered by patents. The issue is complicated by the fact that it might not be known that a technology included on a standard is or likely to be patented (because there may be many thousands of potentially relevant patents, and it would be burdening to do a full search, which SSOs typically do not require). The “metes and bounds” of patent rights are often unclear and disputed, and there are time lags between patent application and the grant of patents.

Almost all standard-setting bodies³ have determined that it is desirable to allow the use of patented technologies in standards—so long as patent owners, whether members of SSOs or not, agree to make licenses to their patents available to potential implementers of the standard on RAND terms. To do otherwise would of course deprive society of the benefits of patented technology. Such benefits are often considerable. Not surprisingly, practically all SSOs embrace patents, so long as RAND licenses are available.

Empirical studies confirm that RAND licensing is the rule.⁴ However, relatively few SSOs give much explanation of what those terms mean or how licensing disputes would be resolved. SSOs quite properly leave licensing terms to negotiations among the parties.

That lack of specificity as to what RAND means persists in the IP policies studied more recently by Bekkers and Updegrave,⁵ who say that “none of the policies attempts to even define what ‘fair’ or ‘reasonable’ fees are intended to mean in context. Nor do they state that at minimum, such fees must bear a reasonable relationship to the economic value of the IPR ...” Bekkers and Updegrave go on to say, “Likewise, ‘non-discriminatory’ also is left the parties involved to agree upon (or to the courts, if they cannot. Nor are the policies of the study set unusual, as this absence of definitions is normative across virtually all IPR policies.” That is, despite a decade of study, commentary, and controversy, there has been little change in the fundamental issues of what RAND means or how it is to be interpreted. Clearly, SSOs have come to see ambiguity as a benefit, as it allows flexibility and adaptation to particular circumstances.

Some economists associated with the competition policy agencies have endeavored to articulate what an IP policy “should” include. For instance, Fiona Scott Morton (2012), formerly of the Antitrust Division of the U.S. Department of Justice, has suggested:

² Mansfield, E., 1991, “Social Returns from R&D: Findings, Methods and Limitations”, *AAAS Science and Technology Policy Yearbook 24*, p.24-27.

³ There are a handful of examples, primarily in the Internet space (such as the World Wide Web Consortium), of SSOs that reject the use of known-patented technology unless the patent holder agrees to license its patents on a royalty-free basis.

⁴ See Mark Lemley, “Intellectual Property Rights and Standard-Setting Organizations,” *90 Calif. L. Rev.* 1889–1980 (2002).

⁵ Rudi Bekkers and Andrew Updegrave, “A Study of IPR Policies and Practices of a Representative Group of Standards Setting Organizations Worldwide” (September 2012), accessed September 5, 2013, at http://sites.nationalacademies.org/xpedito/groups/pgasite/documents/webpage/pga_072197.pdf

- (1) “IPR policies should create as strong a commitment as possible to bind future owners of the IPR to any F/RAND commitments made to the SSO”
- (2) “A F/RAND commitment should include a commitment to a process that is faster and lower cost [than litigation] for determining a F/RAND rate or adjudicating disputes over FRAND,” which “might include arbitration, alternative dispute resolution within the SSO, an allowed range for a royalty rate, and specification of the base to which a royalty should apply”
- (3) “The F/RAND dispute resolution process should require that the licensor specify a cash price for its SEPs to aid in evaluation of the proposed license terms by the third party”
- (4) “The F/RAND commitment should include a dispute resolution process preceding any action for injunction or an exclusion order”⁶

I understand that the U.S. Federal Trade Commission (FTC) and European Commission DG Competition (DG Comp), the European antitrust authority, have made similar suggestions as to how SSO rules “should” be amended to address various competition-policy concerns.

I note that none of the SSOs that Bekkers and Updegrave studied—nor, indeed, any other SSO that I am familiar with—have adopted anything like the range of Dr. Scott Morton’s proposals as to what IP policies “should” look like. All her suggestions would involve changes from the current system, and in some cases very significant changes in procedures. Bekkers and Updegrave found some SSO policies that address the transfer of patents encumbered with licensing obligations, but they found that treatments were often unclear, possibly inconsistent, and applied only to some SSOs. They note that some SSOs address transfer issues but struggle to define workable policies, and believe that “transfer of patents... has not yet been satisfactorily addressed in most IPR policies.” Beyond this, they do not report any SSO policy procedures aimed to (a) speed dispute resolution, (b) specify cash royalties, or (c) specify a dispute-resolution process preceding any action for injunction, in the ways Dr. Scott Morton proposes.

It is clear that SSOs eschew the suggestions from the competition agencies. This is no surprise. SSOs are committed to setting standards, and one-sided approaches (that favor licensees over licensors, or vice versa) impair the process and deny members and society the benefit of standards and the competitive opportunities that result. SSOs seem to believe that the proposals of academic economists at competition agencies are untried, untested, and impractical. As Nobel Laureate, economist Ronald Coase has observed, it is often necessary to “save the economy from the economists,”⁷ as economists are prone to ignore history, institutions, and innovation.

Many observers fail to understand that the issues at hand are clearly very nuanced. In a 2003 article on “Standards Setting and Antitrust” a coauthor and I wrote that:

“There is no reason why a ‘one size fits all’ mandatory-type approach is appropriate. ... [W]e believe that the antitrust authorities are likely to give too little weight to the fact that SSOs, as voluntary organizations, must often walk a fine line between competing interests. In our view, ex post intervention runs the serious risk of failing to recognize the ex ante balancing of competing interests.”⁸

We would go further. It is one thing to propose that certain rules “should” be adopted on a going-forward basis, to govern future RAND commitments and disputes over them. It is quite another to argue that proposed rules “should” be applied, retroactively, to previously adopted standards and previously made commitments (and disputes about them). Many current proposals for “clarifying” SSO rules are effectively of the latter, retroactive, sort.

V. The meaning of RAND

From an economic perspective, a RAND commitment⁹ by a patent owner is an important commitment. It involves restrictions on the activities of the patentee. It has four main implications:

- (1) The patent holder must make licenses available. It cannot keep its technology to itself and refuse to make licenses available (which, absent the RAND commitment, it would otherwise be entitled to do). This locks the patent owner into a licensing business model with respect to the technologies issue.
- (2) The patent holder must make licenses widely available to anyone who wishes to make standards-compliant products. It cannot “pick and choose,” agreeing to license some (e.g., business allies) and refusing to license others (e.g., rivals). And it cannot make just a limited number of licenses available, “auctioning off” to the “highest bidders.”
- (3) The patent holder must make licenses available on “reasonable terms and conditions,” which may include terms and conditions other than royalty rates.
- (4) The patent holder must make licenses available on a “non-discriminatory” basis.

Many commentators have focused on the third (“fair and reasonable,” or “FR”) and fourth (“non-discrimination,” or “ND”) aspects of a RAND commitment, largely glossing over the first two requirements (that the patent holder must make licenses available to all interested parties), which significantly limits what the patent holder would otherwise be free to do with its patented technology. Yet many SSOs make it clear that the requirement that licenses be made available lies at the core of a

⁶ See Fiona Scott-Morton, “Standard Setting Organizations can Help Solve the Standard Essential Patents Licensing Problem”, *CPI Antitrust Chronicle*, Competition Policy International, Inc, (March 2013), pp.4.

⁷ Coase, R, “Saving Economics from Economists”, *Harvard Business Review*, (December 2012).

⁸ David Teece and Ed Sherry, “Standards Setting and Antitrust”, *Minnesota Law Review*, (June 2003), pp. 1966-1987.

⁹ The term “RAND” is more commonly used by U.S.-based SSOs; the term “fair, reasonable, and non-discriminatory” (“FRAND”) is more commonly used by European-based SSOs. I am not aware of any suggestion that FRAND differs from RAND in any significant way, and the terms are used interchangeably in the literature. In this paper, I use the RAND acronym.

RAND regime. That requirement ensures that holders of standards-essential patents (“SEPs”) cannot block others from making and selling standards-compliant products and thus cannot block the development of competitive markets for standards-compliant products. Conflicts over the ND and (especially) the FR aspects of RAND, by contrast, are at their core commercial disputes over licensing terms. They are examined below.

a. Reasonable

As noted, most SSOs provide little or nothing in the way of guidance as to what “reasonable terms and conditions” (including what “reasonable” royalty terms) means. The ITU-T patent policy, for example, says that the ITU-T will not get involved in disputes over such “terms and conditions,” saying that they are “left to the parties concerned.”

For many years, some commentators have claimed that the meaning of RAND lacks clarity.¹⁰ Some academics and other scholars have called on SSOs to provide additional details, have provided their own interpretations of what RAND “should” mean in order to achieve certain goals, or have made proposals for “clarification” as to what RAND means.

To take one example, in November 2011 a number of firms (including Apple) made submissions to the European Telecommunications Standards Institute (ETSI) as to how RAND “should” be interpreted, each offering differing interpretations.¹¹

Following Sherry and Teece (2003), some commentators have noted that “reasonable” can be interpreted in two different senses: what is reasonable *ex ante*, before the standard has been adopted; and what is reasonable *ex post*, after the standard has been adopted. Like the policies of many SSOs, the ITU-T patent policy is silent on this issue, merely saying that “negotiations are left to the parties concerned and are performed outside ITU-T/ITU-R/ISO/IEC,” and that the ITU-T does not get involved in resolving disputes between the parties over licensing terms and conditions.

Because such negotiations are almost always conducted *ex post*, one might interpret the ITU-T patent policy as (tacitly) endorsing an *ex post* interpretation of what “reasonable” means; certainly, nothing in the current ITU-T patent policy (or, for that matter, of any other SSO of which I am aware) explicitly endorses an *ex ante* approach to determining what is “reasonable.”

In addition, in some (though not all) cases, no licenses specific to a particular standards-related patents will be negotiated on an *ex ante* basis. That is not surprising, as until the standard is formally adopted, the parties will not know precisely what patents will be incorporated in the standard, or the exact value of being able to use the patented technology in connection with standards-compliant products. But this fact makes it difficult to implement an *ex ante* approach to assess the “reasonableness” of royalty rates by appealing to real-world *ex ante* licensing terms.¹² And almost by definition, patent litigation over standards-compliant products occurs *ex post*, after the standard has been adopted and after firms begin to make standards-compliant products. Most SSOs¹³ do not require the patent holder to announce its proposed license terms in advance of adopting the standard, but merely require a statement that the patent holder is willing to license on (unspecified) “reasonable and non-discriminatory” terms. Instead, royalty rates are left to the parties for negotiation.

SSOs likely avoid addressing the reasonableness of licensing terms for four reasons. First, determining whether a particular rate is “reasonable” often goes beyond the competence and/or expertise of the SSO or its participants. The “reasonableness” of royalty rates is an economic or business issue, not a technical one. The SSO representatives, generally chosen for their technical knowledge of the technology being standardized, frequently have little or no experience or expertise in negotiating royalty rates or determining what an appropriate rate should be.

Second, trying to determine an appropriate royalty rate is often difficult when technology changes rapidly, as is often the case in the context of standards for the next generation of products. From an economic standpoint, patent holders are naturally reluctant to quote a royalty rate for their patents in advance. This is especially true because of the asymmetric (one-way) nature of the commitment. Asking the patent holder to commit to a royalty rate prior to the standard’s adoption would, presumably, bind the patent holder, in the sense that the patent holder could not increase the rate, though it could always agree to accept a lower royalty. But the rate would not be binding on the prospective licensees. They would have made no commitment to take a license to agree to pay royalties. Not surprisingly, patent holders are reluctant to constrain their future negotiating position in such an asymmetric fashion.

Third, potential antitrust issues might arise if the SSO (or its members, as potential licensees of the patent) were to try to determine whether a proposed rate was “reasonable.” Antitrust issues clearly would arise if the SSO explicitly conditioned its acceptance (or rejection) of a proposed standard implicating a patent on the asked-for royalty rates. Indeed, even asking the patent holder to announce its proposed rates in advance, and then having the SSO determine whether or not to adopt the standard in light of the announced rates, may be problematic from an antitrust standpoint.

¹⁰See, e.g., Lemley, “Intellectual Property Rights and Standards Setting Organizations” (2002).

¹¹Jorge L. Contreras, “Guest Post: The February of FRAND,” *PatentlyO* blog (March 6, 2012), accessed at: <http://www.patentlyo.com/patent/2012/03/february-of-frand.html>

¹²Before patent applications have been resolved (in terms of the patent office granting or denying a patent application), there are likely to be such disparities in value perception between potential licensors and licensees that *ex ante* licensing of SEPs as a practical matter is a near impossibility.

¹³I am aware of only one SSO—VESA (the Video Local Bus Association)—that requires holders of essential patents to disclose their “not to exceed” royalty rates and other licensing terms. The IEEE allows, but does not require, patent holders to disclose their “not to exceed” terms.

Fourth, SSOs know the issue of royalty rates pits the interests of some participants (patent holders) against those of other participants (prospective licensees), and SSOs do not want to “take sides” in such matters. Doing so could jeopardize the standard fielding process, which has enough protections built into it anyway.

Concerns or disputes about what “reasonable” means in practice have faced SSOs since at least the 1970s, when SSO IPR policies began to be adopted. We know of no reason why the current situation raises any “new issues” that were not anticipated long ago. The assertion in a recent ITU-T press release that “the definition of what constitutes ‘reasonable’... is now emerging as a major point of contention” strikes me as incorrect. Legal systems rely on “reasonableness” standards when addressing complex and various relationships in which any more “precise” a formula or rule of thumb would inevitably fit in some cases and not others.

Moreover, the “point of contention” has been there all along, and both the ITU-T and other SSOs have maintained their current policies in place for many years, presumably because many SSOs operate by consensus, and there never was “consensus” over a need to change the RAND-based IP policy rules nor how to “clarify” them without undermining the flexibility inherent in the “reasonable” portion of the RAND commitment against those of other participants. Sometimes a degree of ambiguity (or a lack of clarity) is needed in order to achieve consensus and socially desirable outcomes. Henry Kissinger coined the term “constructive ambiguity” to refer to the deliberate use of ambiguous language in order to advance negotiation and agreement. Ambiguity also allows learning.¹⁴

To be clear, however, proposals to “clarify” the existing SSO IPR or RAND policies by “reading into” existing RAND declarations requirements not already agreed to do not, in our opinion, amount to a “clarification” so much as to a substantive rewriting of the rules. This affects the respective positions of patent holders and manufacturers of standards-compliant products. In particular, issues surrounding *ex ante* and *ex post* reasonable are discussed in section IV below.

b. Non-discriminatory

Just as with the (“fair and) reasonable” aspect of RAND, most SSOs provide little or no guidance as to how they interpret the “non-discrimination” aspect of RAND. From economic and public-policy perspectives, one can think of the non-discrimination aspect of RAND as having two different facets, which I will term the “process focus” and the “outcome focus,” respectively, in what follows.

Both focuses take as their starting point the proposition that a licensor should treat “similarly situated” licensees (or prospective licensees) similarly. But “similarly” does not necessarily mean “identically.” And the determination of whether two prospective licensees are “similarly situated” raises a host of complicated issues, especially since a patented technology can be used in very different ways at different levels of the overall “value chain.”

The “process focus” acknowledges that the licensing process generally involves negotiations back and forth between the prospective licensor and the prospective licensee, in which the parties make tradeoffs among various considerations (e.g., the scope of the license (whether restricted to certain products or fields of use or unrestricted), patents covered, duration of the license, form of payment (whether running royalty or lump sum), other differences (including the geographic distribution of the licensee’s production and sales of licensed products), extent of any cross-license, and a host of other tradeoffs that can vary across different prospective licensees and over time depending on market conditions).

Prospective licensees may be concerned that the patent holder is “discriminating” against them during the negotiation process, treating some licensees more or less favorably when negotiating different terms that satisfy the licensee’s particular preferences. A non-discriminatory licensing process would require that the patent holder respond similarly to different prospective licensees, while still allowing licensees to negotiate terms that suit their particular needs.

By contrast, the “outcome focus” looks at the outcomes of the licensing process, whether in the form of the initial licensing offers or (more commonly) the terms of the agreed-upon licenses. Using an outcome focus approach, there could be (some degree of) “discrimination” if different licensees paid different royalties for similar license rights.

By way of illustration, suppose two licensees received otherwise-identical license grants (same patents, same geographic territories, same fields of use, etc.), but one licensee paid a 4-percent royalty while another paid a 5-percent royalty. Looking only at the final *outcome*, one might argue that the result involved “discrimination.” But from a process perspective, the process leading up to the different license terms might not have been discriminatory. For example, it is a commonplace in countries in which bargaining or haggling is the norm for different buyers to pay different prices for “the same good” as a result of differences in their bargaining abilities or relative bargaining positions. There may have been no “discrimination” in the negotiation process—each party to the negotiation sought to achieve the best deal it could, with offers and counteroffers, and during the back-and-forth negotiation process, it can transpire that some buyers are just “better bargainers” than others. By way of contrast, if the seller resolves that it will treat certain types of buyers differently (e.g., by treating rivals differently than non-rivals) during the negotiation process, then from a “process focus” perspective the negotiation may be “discriminatory” even if the *outcomes* of two negotiations might turn out to be the same.

I draw this distinction between an “outcome” and “process” focus view of RAND because it reflects two somewhat different, though in many ways complementary, ways of understanding and interpreting what a RAND assurance requires. In my opinion, the two approaches should be used in combination when determining whether a prospective licensee complied with its RAND assurance.

¹⁴ Stefan T. Trautmann, and Richard J. Zeckhauser, “Shunning Uncertainty: The Neglect of Learning Opportunities,” 79 *Games and Economic Behavior*, 44–55 (May 2013).

I note that *some* sorts of price-setting mechanisms involve situations that clearly are non-discriminatory from both outcome and process focus perspectives. The best known is the Western practice for many mass-market products and services, whereby a seller posts a price for a given commodity with fixed features, sells the commodity at that price to anyone that wishes to purchase at that price, and does not negotiate terms with anyone. Such a “take it or leave it” approach to pricing is common in Western societies, as anyone who has shopped in a supermarket can attest.

But such an approach is much less realistic when the non-price “terms and conditions” of the sale vary depending on customers’ needs. Using a simple “take it or leave it, fixed terms” negotiation approach can be entirely impracticable when some prospective licensees want paid-up licenses, others want percentage-based running royalties, and still others want cents-per-unit running royalties—or when some prospective licensees are willing to accept narrower license grants (e.g., only to the licensor’s existing portfolio of “essential” patents, or to a subset of that portfolio), and other prospective licensees want broader license grants (e.g., to include after-acquired patents or non-essential patents).

Because of these differences, it is not uncommon for different licensees to negotiate licenses with different scope and different licensing terms.

More, overemphasis on an “apples-to-apples”-type outcome-focus comparison of licensing terms is complicated when license terms or conditions vary. When determining whether two licenses that call for the licensees to pay different running royalties are “discriminatory” in the “outcome focus” sense, there is no clear way to go about weighing in to balance the fact that the other, *non-royalty* terms of those licenses, or the conditions under which the licenses were entered into, may be or may have been different.

I do not mean to suggest that a “uniform” licensing policy, in which all licensees selling comparable products receive the same non-monetary terms and pay the same running royalties (whether percentage- or cents-per-unit based) would be inconsistent with a RAND assurance. By way of analogy, there does not appear to me to be any “discrimination” when a supermarket posts its prices (e.g., \$2.59 per box for Cheerios) and charges all customers that same price. But in my opinion, such uniformity is not required, even on an outcome-focus basis, in order to comply with a RAND assurance.

It is worth pursuing the supermarket analogy a bit further. It is commonplace that retailers put items “on sale.” Cereal that sold last week for \$2.59 per box is now on sale for \$1.99 per box for a limited time. After the sale is over, the price will go back up to \$2.59 per box. A disgruntled customer who wants to buy when the cereal is *not* “on sale” might argue that he/she is being “discriminated against” because another customer, who bought the cereal while it *was* on sale, paid a lower price for what is otherwise “the same” cereal.

There clearly is a sense in which such limited-time sales are arbitrary. Why should a customer who buys at 10 minutes *before* the sale starts pay a different price than a customer who buys the same product 10 minutes *after* the sale starts? But a strong argument can be made that there is no “unfair discrimination” here. Both customers have the opportunity to buy the item at the then-prevailing price. The fact that the then-prevailing price *changes* over time does not mean that there is any “unfair discrimination.”

In particular, a patent holder may give more favorable licensing terms to early licensees in an effort to induce others to take licenses and “validate” its licensing program, as firms are naturally reluctant to take licenses (and pay royalties) when their competitors are not paying. In our view, such a situation is not “discriminatory” in any economically meaningful sense.

VI. *Ex ante* and *ex post* reasonable royalties: Patent “hold-up” and “reverse hold-up”

a. Introduction

“Hold-up” concerns are central to many current proposals for restrictions on RAND licensing. These concerns are usually advanced along with arguments that the return to the patent owner for the use of its technology should be limited to the “inherent” contribution of the technology and its “incremental value” compared to alternatives, prior to the adoption of the standard, with no allowance for the value derived from the adoption of the standard itself. In other words, it is argued that RAND royalties should not benefit from any *ex post* “hold-up” advantage derived from essentiality and the implied switching costs.

Reverse “hold-up” or “hold-out” occurs when infringers fail to take licenses and claim the price is too high. In the absence of a court ordered injunction, this behavior can continue for long periods of time. There may or may not be genuine issues of fair or unfair royalties at issue.

The theoretical possibility of “hold-up” is the main basis for arguments to limit the availability of injunctions for SEP owners as a means of applying this market power, and for *ex ante* royalty rates based on the incremental value of the technology compared to the next best alternative, such as in *ex ante* licensing auctions. The issues of hold-up and appropriate royalty rates may be aggravated by royalty stacking, though the issues of cumulative royalties for complementary IP inputs are conceptually separate and may best be treated independently.

Yet the bases for these interpretations of hold-up are by no means clear and in many cases may not bear close economic analysis. The definitions are often vague and not clearly distinguished from the exclusionary power that is part of the patent grant for any patent, SEP or non-SEP. The typical definition of hold-up applied to SEPs is “excessive” royalty demands by a patent holder, made possible by opportunistic licensing by patent holders that may occur if firms exploit market power they may have gained through their technology’s inclusion in a standard. In particular, if the holder of patents on key technologies for a given standard refuses to license those patents on reasonable terms, SSO members can face significant switching costs in redefining or abandoning the standard. This is a standard hold-up problem as described in Farrell et al. (Farrell, Hayes, Shapiro & Sullivan, 2007)¹⁵, Lemley and Shapiro (Lemley & Shapiro, 2013)¹⁶.

¹⁵ Farrell, Hayes, Shapiro & Sullivan, “Standard Setting, Patents, and Hold-Up,” *Antitrust Law Journal* 74:3 (Fall 2007): 603-670.

The key distinction is that for SEPs, switching costs of not using the standards essential technology may be greater than for a “stand-alone” technology, since the licensee would need to give up the benefits of producing standards-compatible products, as well as “writing-off” other standards- or patent-specific investments it has made. As far as is possible to tell from the various representations of hold-up, the key complaint of the proponents of *ex ante* licensing is that allowing an SEP owner to benefit from the standard would be economically inefficient because the return that can be claimed is greater than the contribution of the technology to the final product.

Farrell, Hayes, Shapiro & Sullivan and Lemley & Shapiro claim that this contribution should be limited to the “inherent” improvement of the technology compared to the status quo, or in some cases the next-best alternative technology. There would be no allowance for the value of the standard itself, even though this may have been enabled by the technology in question. I note that, from a public policy perspective, there is no *a priori* reason why patent holders, who participate in the collaborative standardization process, should not receive some portion of the “gains from trade” associated with that standardization, in the form of royalty rates that exceed the “inherent” *ex ante* value of their patented technology. Otherwise, all “gains from trade” flow to implementers or end users.

From an economic viewpoint, appropriate royalties may be measured against a backdrop of economic efficiency. The amount paid for access to the technology should reflect the contribution of the technology. This is essentially the measure adopted by Farrell, Hayes, Shapiro & Sullivan and subsequent commentators. However, the interpretation of this measure, and in particular what should count as the total contribution of the technology in question, may lead to different views on appropriate royalties. At one extreme, for Farrell, Hayes, Shapiro & Sullivan, it may lead to blanket assertions that any monopoly premium pricing due to standards essentiality is barred.

However, appropriate incentives for both innovation and application of technology are necessary, and patent holder should be able to claim a return that is consistent with the total contribution of the technology to the value of products incorporating the technology. This is how the patent system works: the inventor has an opportunity to earn a reward in the marketplace. This may not be directly linked to the invention and R&D effort, since the return must allow for unpredictability of innovation and for the funding of failed projects and dry wells. But overall, to cover the often high costs of R&D, the return in technology market supply and demand should equate on average the return to R&D should be sufficient to ensure further investment and should reflect the value created in the product market. This is not only how the patent system works; it is also how economists expect competitive markets to work in the long term—suppliers earn a return consistent with their contribution to the product.

Critically, the contribution includes some of the value generated by the standardization process itself. This is necessary to correctly align the incentives for participation in the development as well as the implementation of new technology and standards. I also note that the alleged theoretical problems of hold-up do not appear to be borne out in practice, based on the lack of evidence of actual cases of hold-up in the industry.¹⁷ From a practical and theoretical viewpoint in ICT industries, this value is best identified in bilateral portfolio licensing negotiations normally carried out *ex post*, once the standard and products are established. Moreover, the problem of reverse hold-up or simple “holding-out” (i.e. infringing) ought to be of symmetric concern. After all, the patent owner has a lot at risk too... often years of sunk investment in R&D.

More generally, I also believe that greater stress should be given to the total welfare benefits of innovation and standardization. Any potential allocated inefficiencies associated with the share of rents to developer and implementer, which in practice are likely to be of a “second order” compared to the total economic impact of the new standard, must be balanced against the potentially much greater harm to dynamic efficiencies and competition and the social costs of delay in the development and introduction of new technology. The bulk of the benefits of innovation and standardization are likely to go to consumers in the form of lower prices and higher quality products. Potential damage to the timely development of technology and introduction of new standards is likely to have a greater negative impact on total welfare than potential issues about the allocation of rents in licensing negotiations. Competition analysis may be expected or required to assess competition by including rule of reason or public interest tests. This last is missing from most discussions of hold-up and competition.

b. Origins of “hold-up” theories in economics

As noted, recent debate has discussed whether “reasonable” royalties should be determined on an *ex ante* or *ex post* basis. This is a complex issue. In order to determine what is correct, some background is first necessary.

My U.C. Berkeley colleague, Nobel Laureate economist Oliver Williamson, was the first to introduce the concept of “hold-up” into the scholarly literature.¹⁸ The concept derives from what he called a “simple contracting schema” in which special purpose technology is needed to perform an economic task, and it requires investment in transaction specific durable assets. Williamson notes that when transactions require investment in special purpose technology, “productive value would be sacrificed if transactions of this kind were to be prematurely terminated.”

Moreover, in case the purchasing party engages in *ex post* opportunism, Williamson saw the need for “safeguards.” The protective safeguards to which he refers:

¹⁶ Lemley & Shapiro, “A Simple Approach to Setting Reasonable Royalties for Standards-Essential Patents”, *Berkeley Technology Law Journal*, (March 30, 2013)

¹⁷ See Damien Geradin, Anne Layne-Farrar, and Jorge Padilla, “The Complements Problem within Standard Setting: Assessing the Evidence on Royalty Stacking”, *Boston University Journal of Science and Technology*, Vol. 14, No. 2, (2008).

¹⁸ Williamson, however, attributes it further back to Alfred Marshall (see footnote 10, p. 52, Williamson (1985)).

“... normally take on one of more of three forms. The first is to realign incentives, which commonly includes some type of severance payment or penalty for premature termination. A second is to create and employ a specialized governance structure to which to refer and resolve disputes. The use of arbitration, rather than litigation in the courts, is thus characterization of node C governance. A third is to introduce trading regulating that support and signal continuity intentions. Expanding a trading relationship from unilateral to bilateral exchange... through the concerted use, for example, of reciprocity... thereby to effectuate equilibrium of trading hazards is an example of the last. This simple contracting scheme applies to a wide variety of contracting issues” (Williamson, 1985, pp. 33–34).¹⁹

The premature contractual termination to which Williamson refers is due not to force majeure and acts of God but to opportunism by the party that has not made specific (irreversible) investments to support the transaction. However, Williamson does “not insist that every individual is continuously or even largely given to opportunism” (p. 64). He merely assumes that “some individuals are opportunistic some of the time” (p. 64). Williamson is also quick to point out that “absent the hazard of opportunism, the difficulty would vanish” (p. 63). Williamson defined “opportunism” as “self-interest seeking with guile.” Guile involves some degree of trickery or underhanded behavior. However, Williamson did not see this as a problem that required regulatory intervention. Rather, “*ex ante* screening efforts are made and *ex post* safeguards are created. Otherwise, those who are least principled (most opportunistic) will be able to exploit egregiously those who are more principled” (p.64).

While Williamson has identified a class of phenomenon of great theoretical interest, he is quick to recognize that it only comes into play in very limited circumstances. Specifically, “it is when incomplete contracts are confronted by unanticipated disturbances that interesting choices among alternative modes of contracting... are posed” (Williamson, 1999)²⁰. This leads inexorably to his statement that “my position, then and now, is that simple hold-up is rare and that the central problem of economic organization is adaptation” (Williamson, 1999, p. 34).

Moreover, in Williamson’s pioneering framework, the risks of hold-up, however small, can be managed through “safeguards.” In the context of patents and the licensing of SEPs, RAND provides the necessary safeguards for those rare instances in which “hold-up” is a problem. Another form of safeguard is what he calls the “exchange of hostages”, represented in the patent context by cross licensing.

Some scholars, purportedly relying on the Williamson framework, attempt to justify what can be referred to (at least in theory) as an *ex ante* approach to royalties. According to certain scholars, royalties are to be set for SEPs, somehow, before the standard is agreed. This doctrine has serious problems, from both theoretical and practical positions. These can be disaggregated into the following:

a. Temporal problem

When exactly is the *ex ante* period? When does the *ex post* period begin?

b. Extreme fuzzy boundary problems

How does one actually determine the boundaries, claims, and value of a patent, often long before it is issued or before one has market evidence of the commercial success of the technology? Calculating the value of property rights not yet existing when there is also great uncertainty as to its likely metes and bounds, and the commercially available substitutes, is a herculean task.

c. Distributional issue

When the patents at issue help shape the standard and improve its attractiveness, what portion (if any) of the values conferred by standard adoption should be shared with the patent owner? What portion should ensure to the benefit of the licensees? This needs to be looked at from social and private welfare perspectives.

Some of these issues are discussed in more detail below. Consider first the temporal issue. In order to understand the economic implications of patent licensing, it is useful to review the temporal perspective one should utilize for determining a royalty rate consistent with a RAND commitment. Simplistic distinctions between *ex ante* and *ex post* are, from an economic perspective, not useful for specifying a framework to determine royalty rates consistent with a RAND commitment. Serious problems would be encountered in endeavouring to implement and operationalize an *ex ante* framework. An *ex ante* approach would almost certainly lead to a series of disputes that would make the approach impossible to implement in almost all circumstances. These disputes would, among other things, encompass appropriate timing, information to be considered, and relevance and feasibility of purported alternatives.

Most scholars and the courts purpose is utilizing the construct of a hypothetical negotiation to set the rate that would have been set if the infringer had taken a licence. To use this construct, one must determine the appropriate date of the hypothetical negotiation. Consideration of the proper date is important because perceptions of the value for any specific unit of IP may change over time. For those that advocate an *ex ante* approach, there is no consensus as regards an *ex ante* date of negotiation for FRAND royalties. For these advocates, it could not be the date of first infringement, as that would be *ex post* (i.e., after adoption of the standard). Should it be before the first meeting of the relevant standards committees? Is it to be the date the specific IP at issue is first discussed by the SSO (assuming such a date can be identified with any precision)? The date or dates on which one or more competing IP proposals were rejected? The date the draft standard first incorporates the chosen IP? Or any one of a myriad of other possible dates? Clearly, an *ex ante* approach is fraught with hazards and is non-robust as to time period.

¹⁹ Williamson, O., *The Economic Institutions of Capitalism*, (Free Press, 1985).

²⁰ Williamson, O., “Strategy Research: Governance and Competence Perspectives,” *Strategic Management Journal*, December 1999, 20, pp. 1087-1108.

As noted, one obvious problem with a rigid valuation approach focused on the period prior to elimination of any technical alternatives during the standard-setting process is that many of the patents that will become SEPs may not have even been issued at that time. In such cases, neither the ultimate existence of a patent nor the scope of that patent would be clear to either the owner or the prospective user.

This points to another practical problem in implementing an *ex ante* approach: the fact that on the date set for any hypothetical negotiation, there may have been no actual negotiations for the IP in question, because no patent may have existed at all. It seems unlikely that IP owners could be adequately compensated for their IP before a patent has even issued, as prospective buyers might dispute whether a patent would ever be issued and, if it was, dispute the likely scope of any claims associated with any possible patent.

Even aside from this significant problem, unlike many reasonable royalty cases, there may be no actual negotiations that could be used (either for the technology in question or presumed "alternative" or even "comparable"²¹ technologies) to provide guidance as to value at the chosen hypothetical negotiation date. Add likely disputes about the perceived value of the technology at issue as at the chosen date and other problems, and one can understand why the supposedly simple framework articulated by *ex ante* advocates would generally be difficult to put into practice, even if there were a consensus that it would be preferred.

The situation becomes even more complex once one recognizes that SEPs are virtually always licensed as portfolios, so there may be a different date associated with each of the patents in the SEP portfolio of the IP owner.²² Moreover, the relative usefulness of, or potential alternatives to, a particular technology may be different depending on the date chosen. Further, one would need to assess the alternatives available at some hypothetical negotiation date for each SEP in the portfolio.

I. By way of summary:

- a. A RAND commitment is fundamentally one that requires an appropriate balance between the needs of IP owners and IP users.
- b. Owners of SEP's should not capture value that is not implicit in the technology they contribute; nor should they be denied the value associated with their contribution to the standard. A balancing of interests between technology developers and users is required.
- c. There are fundamental problems in trying to implement an (*ex ante*) approach that asserts that all patents must be valued at a specific point in time, prior to their adoption in the standard. This scenario is likely to predate the availability of knowledge about the contribution of the technology to the standard.
- d. Information on patent values changes over time. Newly available information can indicate technology is more or less valuable than its perceived value at prior points in time (when less information was available).
- e. The standard-setting process plays an important role in disseminating information about technology (both the selected technology and any technical substitutes). SSO working groups generally attempt to incorporate what they believe to be the best technology given the circumstances and objectives. Consequently, the SSO process itself helps inform participants about the value of the technology they adopt (and its value in relation to any alternatives that might be proposed).
- f. Ultimately, the most efficient and effective manner to achieve the objectives of a RAND commitment would be to: (i) recognize the constraints that a RAND commitment imposes on IP owners; (ii) incorporate the information on value that, among other sources of information, the SSO process provides; and (iii) engage in commercial negotiations to achieve a mutually satisfactory IP license.
- g. However, I recognize that it is not always possible for IP owners and users to achieve this result in commercial negotiations despite their best efforts to do so; or, in some cases, simply because one or other of the parties is not negotiating in good faith and/or is an unwilling licensor or licensee. In those cases, my view is that the parties should resolve their differences through a judicial process, or possibly through a quasi-judicial process such as arbitration.

My view is (a) that patent hold-up is rare and that (b) patent hold-up or hold-out is as serious issue and (c) RAND commitments, from an economic perspective, are contractual commitments that readily lend themselves to resolution (assuming both parties are willing buyers/sellers) in a forum designed to resolve contractual disputes. Endeavouring to introduce *ex ante* valuation concepts, as if *ex poste* opportunism is a serious problem, will simply encourage more infringement and clutter the courts with disputes that could otherwise be resolved in the marketplace so long as balancing of interests is the leitmotif of all parties to the transactions in question.

²¹ There would likely be disputes in many cases as to what constituted "alternative" or "comparable" technologies.

²² Fixing a separate *ex ante* date for each SEP in a portfolio would likely both complicate the negotiation process to such an extent that agreement might never be possible and substantially increase transaction costs.