

Basics of Standard Essential Patents and Licensing Them

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Abstract

Technology for various devices and for each component in these devices must work together, even when many different manufacturers produce similar technology. For example, in the field of smart phones, all manufacturers, such as Samsung, Apple, Oppo, LG, etc. all must operate on common cellular networks, Wi-Fi networks, and, typically, additionally operate using Bluetooth technology for peripherals such as ear buds and printers. To be marketable, these devices must comply with “standards” that allow these devices to communicate and/or interact with each other to obtain the desired functionality. The standards may involve many hundreds of patents or more that cover the individual technologies.

Basics of Standard Essential Patents and Licensing Them

Introduction

Setting standards in any industry is important for all stakeholders (e.g., industry members such as equipment manufacturers, resource suppliers, users of that equipment) in order to achieve viable products and grow the industry. This is typically accomplished through a standards setting organization (SSO) comprised of stakeholders in a particular industry. However, should one or more of those stakeholders obtain patents on any particular device, apparatus or method that is essential for other stakeholders to meet the standard (known as a “standard essential patent, SEP”), the patent holder can demand significant licensing fees, which can stifle or discourage participation in the industry standard. Thus, there is a tension that needs to be balanced between protecting the intellectual property (IP) of innovating stakeholders while at the same time establishing standards for which stakeholders can routinely comply, without undue burden. In many instances this can be accomplished through fair and reasonable and non-discriminatory (FRAND) (also referred to as “reasonable and non-discriminatory” (RAND)) licensing offered by the patent holder(s) to standards’ users.

IT’S A BALANCING ACT

To foster the establishment of industry-wide standards, particularly, interoperability standards (as opposed to *safety* standards)¹, that may be used without undue burden by stakeholders in the industry, the tension between interoperability standards and patent rights must be recognized. Interoperability standards involve sharing technology among

“implementers” (the parties who adopt standards in their products). Patent rights involve “innovators” and their ability to exclude implementers from using the patented technology of their standard essential patents (SEPs).

If innovators are favored, *i.e.*, allowing innovators to exercise their patent rights by demanding payment of whatever royalties the innovators specify, implementers will most likely be subject to “patent hold-up” and “royalty-stacking.”² Patent hold-up means that the innovators could halt the progress of standardization by demanding that implementers pay significant royalties. Until there is agreement to pay those royalties, innovators can simply “hold-up” the quest to standardization. This situation is exacerbated when many or even just several patents of different innovators are needed to practice the standard and implementers have to pay a “stack of royalties” to a myriad of innovators. Moreover, in some situations, implementers can stonewall the quest for standardization on their end by “holding-out” on paying the demanded royalties, knowing that innovators do not have the wherewithal to resist for too long. This is known as “patent hold-out”.

If implementers are favored, *i.e.*, allowing implementers to practice the standard covered by various patents on a royalty-free basis, the SSO may end up adopting an inferior standard because an innovator having a patent on a superior technology will refuse to make that patent available on a royalty-free basis. Knowing that they cannot adopt a superior technology as the standard, the SSO may be forced to adopt a standard based on an inferior technology which may not be widely-adopted. Thus, royalty-free based standards tend to stifle innovation.

Thus, if no balance to this tension is struck, the end result is an inferior, or no, industry-wide standard as implementers seek to avoid the patented technology using potentially inferior and possibly non-uniform technology alternatives.

Therefore, to strike this balance, the SSO will specify terms for innovators holding patents essential to implementing the superior technology to license their SEPs to implementers on a fair, reasonable and non-discriminatory basis, *i.e.*, on a FRAND basis. Under FRAND licensing terms, all implementers agree to pay the royalty fee established under FRAND licensing terms and thereby “patent hold-up” and “patent hold-out” are avoided. Furthermore, under such a FRAND system, an innovator has an incentive to compete for the adoption of its (often patented) standard. This competition in the standard setting process leads to innovation and adoption of the optimal standard among the various options in the market. Unlike innovation-stifling royalty-free based systems, if an SSO has a FRAND policy, participants are encouraged to

¹ Dahl, Cynthia, “When Standards Collide with Intellectual Property: Standard Setting Organizations, Technology, and Microsoft v. Motorola,” *Voluntary Codes and Standards*, University of Pennsylvania Law School, January 2018, p. 1; www.codes-and-standards.org.

² Lemley, Mark A. and Shapiro, Mark, “Patent Holdup and Royalty Stacking,” *Texas Law Review*, Vol. 85, 2007, p. 1993.

innovate before and during the standard setting process. FRAND licenses allow for the creation of the best possible standard by doing the following: welcoming superior technology that may be unavailable on a royalty-free basis, promoting maximum adoption of the standard, and spreading the benefits of licensing revenue to both large and small implementers involved in the process. Thus, a FRAND-based system encourages cooperation among competitors and the development of technology standards while still allowing for reasonable patent licensing revenue.

However, it should be noted that that “patent hold-up” hurdles and “patent hold-out” hurdles are not equal and there is more of a danger where implementers, as a group, hold-out. Patent holders take more of a risk because they have invested in obtaining the patents before royalty rates are set under a FRAND basis, and that is assuming that their patent(s) are selected as SEPs. Implementers on the other hand await the royalty rate setting with little or no risk.³

What is Meant by “Standard Essential Patents” (SEPs)?

When we talk about a patent or patent application being “essential” to the standard, that term has come to mean that the patent or patent application discloses technology that either is (1) mandatory or (2) optional to the standard. “Mandatory” technology means implementations that are described using “shall” or “must” in the standard. “Optional” technology is described using “may” or “it is recommended.” Thus, a participant in the standard, or a company that is contemplating becoming a member and is deciding to disclose its patents and its pending patent applications, also needs to consider if its patents/pending patent applications are mandatory, optional or not essential to the standard. If the patents and/or patent applications are determined not to be essential, then there is no need to disclose these to the SSO.

Patent Disclosure Requirements for Standards’ Members

In order for FRAND licenses to work, all members participating in the standard must disclose all patents and any pending patent applications that may serve as SEPs when the standards are being adopted by the SSO. Failure to comply with this requirement will result in the denial of patent enforcement by the patent holders should these patents or pending applications be adopted by the SSOs as SEPs. [9] – [11]. However, when a member of the standard does comply with the requirement to disclose all of its patents and pending patent applications that are determined to be SEPs, failure of an implementer to agree on the royalty will not prevent the patent holder from enforcing the patent against the implementer. [12].

It should also be remembered that SSOs are voluntary working bodies and, as such, they cannot compel standards members to comply with the terms as the members can decide not to participate. But members that “walk” are on notice that should their products utilize the technology of the standards, they can face assertions of patent infringement by individual patent holders of the technology covered by SEPs.

Furthermore, because of the voluntary nature of these types of SSOs, these working bodies are not regulatory agencies that promulgate laws. Thus, if there are disputes with SSO terms, the disputing parties may have a breach of contract issue, rather than a regulation violation.

What does “Fair, Reasonable and Non-Discriminatory” (FRAND) Mean?

The concept of implementing FRAND terms is “to encourage widespread adoption of the standard.” (Order 20, item 51, *Microsoft Corp. vs. Motorola, Inc.*, No. 10-CV-1823 (W.D. Wash. 2013). [13].

One would think that the definition of FRAND would be part of any set of SSO guidelines, but in the above-cited litigation, it was established that the IP policies of the two standards involved, *viz.*, H.264, advanced video coding technology of the International Telecommunication Union (ITU) and the 802.11 wireless local area network standard of the Institute of Electrical and Electronics Engineers (IEEE), nor their pertinent SSOs, even defined what is meant by FRAND!

As also explained above, the thrust of implementing FRAND terms is to prevent patent hold-up and royalty stacking (as well as patent hold-out), *i.e.*, it should be fair and reasonable. Furthermore, the offer of the FRAND terms should not vary based on the adopter, *i.e.*, the terms should not discriminate based on who adopts the standard; rather, the rate should be non-discriminatory.

To further complicate the situation, according to Professor Dahl⁴, SSOs do not establish the FRAND rate; rather, the SSO relies on licensors and licensees to “negotiate the FRAND rates themselves.” The concern is that if the SSO sets the rate, this could be seen as an anti-trust violation “as a coordinated effort among competitors [*i.e.*, competitors acting as members of the SSO].”

As such, if not defined in the IP policies of the standards, such a definition will then be left up to the courts to resolve.

FRAND Royalty Determination

The actual calculation of a FRAND royalty can be very complicated. In fact, the first time that a U.S. federal court actually made such a determination was in *Microsoft v. Motorola, id.*, back in April 2013 by Judge James Robart. As mentioned above, this case involved the FRAND royalty rates pertaining to the ITU’s H.264 advanced video coding

³ Delrahim, Makan, “Assistant Attorney General Makan Delrahim Delivers Remarks at the USC Gould School of Law’s Center for Transnational Law and Business Conference,” *Justice News*, November 10, 2017, www.justice.gov/opa/speech/assistant-attorney-general-makan-delrahim-delivers-remarks-usc-gould-school-laws-center.

⁴ Dahl at p. 4.

technology standard and the IEEE's 802.11 wireless local area network standard.

There are two well-known ways of calculating SEP royalties under FRAND: (1) top-down approach and (2) bottom-up approach.⁵

A top-down (TD) approach involves determining an aggregate royalty that should be paid for all SEPs covering a particular standard and then allocating an appropriate portion of the total to the asserted SEPs. TD approaches to determining FRAND royalty rates tend to be used by European and Japanese courts.

A bottom-up (BU) approach involves analyzing the value of SEPs by themselves using comparable license agreements without reference to other patents covering the same standard. Most U.S. courts tend to utilize a BU approach when determining a FRAND royalty rate, using comparable licenses in their determinations. [8].

In *Microsoft vs. Motorola*, Judge Robart, using a BU approach, decided to start with guidelines used in patent license disputes between parties not involving any standards.

The landmark case of *Georgia Pacific v. United States Plywood Corp.* 318 F. Supp. 1116 (SDNY 1970) sets forth 15 factors to consider in determining reasonable royalty damages in patent infringement cases. However, in *Microsoft v. Motorola*, Judge Robart realized that not all fifteen factors were relevant in this breach of contract case and so these factors would need to be "adapted" for the situation. He, therefore, modified nine of them and discarded three of them to meet the SEP and FRAND licensing environment.

Factors for Contemplating Establishing Interoperability Standards in an Industry

In view of the foregoing, stakeholders in an industry setting one or more new standards (e.g., an industry such as 3D printing) should consider the following:

- identifying all SEPs relative to the new industry, both those considered mandatory and those considered optional;

- making certain that the SSO establishes guidelines that require all participants in the new industry standard to disclose any and all patents or pending patent applications that may be considered either mandatory or optional to the standard and to have them do so as soon as possible;

- establishing a dispute resolution mechanism so that participants in the standard can resolve any disputes related to the SSO guidelines while remaining members of the standard; in other words, discourage participants from "walking away"; and

- establishing what the definition or characteristics of "fair, reasonable and non-discriminatory" are to mean for the standard.

References

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- [9] *Stambler v. Diebold*, 878 F.2d 1445 (Fed. Cir. 1989).
- [10] *Wang Laboratories, Inc. v. Mitsubishi Electronics America, Inc.*, 103 F.3d 1571 (Fed. Cir. 1997).
- [11] *Rambus, Inc. v. Infineon Technologies AG.*, 164 F. Supp. 2d 743 (E.D. Va. 2001).
- [12] *Townsend v. Rockwell International Corp.*, 55 USPQ2d 1011 (N.D. CA 2000).
- [13] *Microsoft Corp. vs. Motorola, Inc.*, No. 10-CV-1823 (W.D. Wash. 2013).
- [14] *TCL Communication v. Ericsson, Inc.*, Case 8:14-cv-00341-JVS-DFM (CD CA 2017).

⁵ Contreras, Jorge L., "TCL v. Ericsson: The First Major U.S. Top-Down FRAND Royalty Decision," *Patently-O*, December 27, 2017.

Author Biographies

Scott Slomowitz is an intellectual property attorney with over 20 years of experience in all aspects of IP which includes patents, copyrights, trademarks and trade secrets. He represents large corporations and small businesses, as well as sole inventors in counseling them on how best to protect their IP. He holds an electrical engineering degree from the University of Delaware and worked as a flight controls engineer at Boeing Helicopters for several years. His industry experience, as well as being a patent holder of several inventions himself, places him in the unique role of being a well-seasoned IP attorney and inventor.

Gary Greene is experienced in handling matters in all aspects of intellectual property law, including licensing, litigation, and U.S. and foreign patent and trademark prosecution. He has particular experience in mechanical and electro-mechanical technologies. Mr. Greene is registered to practice before the United States Patent and Trademark Office and is also a licensed professional engineer. Mr. Greene is admitted to practice law in U.S. federal and state courts, as well as at the U.S. Patent and Trademark Office. Mr. Greene obtained a Bachelor of Mechanical Engineering and Master of Laws at Villanova University, and a Juris Doctor at Widener University.