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## Methodologies For Calculating FRAND Damages: Part 1

Law360, New York (October 08, 2014, 10:26 AM ET) -- Several federal district courts have ruled on the appropriate methodology for calculating either a reasonable royalty rate or reasonable royalty damages on a standard-essential patent encumbered by a commitment to license on fair, reasonable and nondiscriminatory terms. Included in these decisions are determinations about hold-up, royalty stacking, the incremental value rule, the use of comparable licenses, and the appropriate base for royalty calculations. These issues have received a lot of attention, not just in the patent law community but also by foreign antitrust regulators in China and India, which have been pursuing theories based on alleged "excessive" or "unreasonable" prices based on a patent holder's practice of charging royalties as a percentage of the end-user product as opposed to a component product such as the chipset.



Koren Wong-Ervin

While the additional clarity the U.S. decisions provide on the appropriate method for calculating FRAND royalties is welcome, likely to benefit industry stakeholders and consumers alike, we are still in the early days and the decisions are far from providing a consensus on FRAND licensing. Decisions to date include:

- Judge Richard Posner in *Apple Inc. v. Motorola Mobility LLC*;
- Judge James Robart in *Microsoft Corp. v. Motorola*;
- Judge James Holderman in *In re Innovatio IP Ventures LLC*;
- Judge Leonard Davis in *Ericsson Inc. v. D-Link Corp.*, *Wi-LAN Inc. v. Alcatel-Lucent SA*, and *CSIRO v. Cisco Systems Inc.*;
- Judge Ronald Whyte in *Realtek Semiconductor Corp. v. LSI Corp.*;
- Judge Lucy Koh in *GPNE Corp. v. Apple*; and
- Magistrate Judge Paul Grewal in *Golden Bridge Tech. Inc v. Apple*.

These rulings exhibit a number of differences, as we discuss, but some common principles have emerged as well:

- FRAND royalties must provide the patent holder with reasonable compensation;
- FRAND royalties should limit the patent holder to a reasonable royalty on the economic value of the patented technology itself, apart from the value associated with the patent's incorporation into an industry standard; and

- In determining a FRAND royalty rate, courts should consider comparable licenses.

The primary disputed and open issues include questions regarding:

- Whether methodologies for determining FRAND royalty rates or damages must take into account concerns about patent hold-up and royalty stacking or whether implementers must provide proof of actual hold-up or royalty stacking;
- Whether courts should apply the incremental value rule in determining FRAND rates and damages;
- What constitutes a “comparable license” for benchmarking purposes; and
- Whether the appropriate royalty base is limited to the “smallest salable patent practicing unit,” and what that actually means (i.e., whether a patent is fully implemented by the end-user device such as the handset or a component part, such as the chipset).

In this three-part series, we focus on these issues of FRAND royalty rates and damages in the context of patent infringement or contract litigation within the United States. We review the case law to date and discuss its implications. In this first installment, we focus on two of the most prominent debates over FRAND: the potential for market power abuses that lead to hold-up and royalty stacking. In part 2, we turn to appropriate benchmarks and methods for determining FRAND terms. Finally, in part 3, we analyze an issue that permeates the spectrum of FRAND issues: the appropriate base for royalty calculations.

## **Key Antitrust Concerns: Market Power Abuse in Royalty Rates**

At the heart of most antitrust accusations leveled against SEP holders is the allegation that the SEP holder has abused market power that it gained through its patents’ inclusion in the standard. Chief among the specific allegations are patent hold-up and, hold-up’s big sister, royalty stacking.

“Patent hold-up” refers to the potential problem that arises when a SEP holder has made a commitment to license on FRAND terms but then seeks to use standard-lock-in to obtain an unjustifiably higher royalty than would have been possible *ex ante*, before the patent(s) were included in the standard.[1] The royalty stacking theory, which is based on the Cournot complements problem, maintains that patent holders will set their royalty rates without regard to the other strictly complementary patent holders, potentially leading to a cumulative royalty payment for the good’s producer that is so high that it cripples the product market, or at a minimum severely restricts output.[2]

### ***Court Rulings to Date***

Thus far, courts have taken conflicting approaches to whether a proper FRAND assessment must take into account concerns about patent hold-up and royalty stacking without requiring proof of actual hold-up or royalty stacking. According to Judge Robart and Judge Holderman, a proper FRAND determination must both seek to mitigate the risk of patent hold-up and address the risk of royalty stacking by considering the aggregate royalties that would apply if other SEP holders made royalty demands of the implementer.[3]

Accordingly, both Judge Robart and Judge Holderman addressed the risk of royalty stacking by considering the aggregate royalties that would apply if other SEP holders made similar royalty demands of the implementer, without requiring the implementers to show what royalties they were currently paying. Judge Robart rejected Motorola's argument that potential royalty stacking concerns had not, to date, impeded widespread adoption of the relevant standards, stating that the "argument is misplaced."<sup>[4]</sup> The court reasoned that, "[w]hether other SEP holders have complied with their RAND obligations says nothing as to whether Motorola has met its own . . . . Thus, the court must determine a reasonable royalty rate for Motorola's SEPs based on the principles underlying the RAND commitment, one of which is the concern of royalty stacking."<sup>[5]</sup>

In contrast, Judge Davis, in *Ericsson v. D-Link*, refused to reduce the FRAND royalty rate determined by the jury based on theoretical concerns about hold-up and royalty stacking. Judge Davis found that the defendants "failed to present any evidence of actual hold-up or royalty stacking," noting that the defendants' experts "never even attempted to determine the actual amount of royalties Defendants currently pay for the [relevant] patents."<sup>[6]</sup> Judge Davis noted that the defendants' experts failed to calculate an actual royalty stack on the accused products or the relevant standard, stating that "[a]ll of Defendants concerns about royalty stacking were just that — concerns. . . . Further, Ericsson presented evidence that it considered royalty stacking issues when it established its royalty rates. Accordingly, Ericsson's FRAND rate did not fail to account for hold-up or royalty stacking."<sup>[7]</sup>

Similarly, in *In the Matter of Certain Wireless Devices with 3G and/or 4G Capabilities and Components Thereof*, U.S. International Trade Commission Administrative Law Judge Theodore Essex stated in dicta that he would require proof of actual hold-up when considering whether to grant an exclusion order on a FRAND-encumbered SEP.<sup>[8]</sup> ALJ Essex further noted that patent hold-out (which refers to the situation where an implementer delays good faith negotiations of a FRAND license) may allow implementers to "exert a pressure on the negotiations with the IP rights holder to try to make the agreement in the lower range of FRAND, or perhaps even lower than a reasonable FRAND rate."<sup>[9]</sup>

In a case involving proof of an actual patent hold-up attempt, Judge Koh, in *GPNE v. Apple*, excluded a patent holder's damages model that sought to factor in a higher royalty rate based on the hold-up value the patent obtained by allegedly covering a cellular standard without the patent being subject to a FRAND obligation.<sup>[10]</sup> The court reasoned that, among other things, GPNE's expert failed to properly apportion value to the specific patent's technological contribution, and instead sought to "cloak" his "arbitrary" royalty rate on "broad statements about the general value of cellular connectivity."<sup>[11]</sup>

### **Commentary**

As the case review above makes clear, hold-up arguments refer regularly to notions of ex ante and ex post. Competition among different technology solutions that may occur ex ante is contrasted to lock-in and switching costs that may be present ex post, after one of the competing options has been chosen. Indeed, these notions are key elements in assessing whether or not particular terms are FRAND, but it is important to understand that any ex ante/ex post divide, alone, does not define hold-up. In particular, the actual practice of hold-up requires two elements: opportunity and action.<sup>[12]</sup>

Consider first opportunity. Simply having a patent that has been declared as potentially essential to a standard development organization does not automatically endow that patent holder with a credible threat of hold-up — either during negotiations before any lawsuit is filed or in the midst of a lawsuit in relation to settlement proposals or calculated FRAND rates submitted to the trier of fact. Implementers can and regularly do challenge the essentiality of patents declared at SDOs, so a declared essential patent may be found to be not essential during the course of a trial.

Even if the patent is indeed found to be essential, or if essentiality is never tested in court, patents are not created equal — a point on which all of the court decisions agree. This means that for SEPs bound by FRAND commitments, the value of the patented technology drives the

rate determination, not the essentiality. Seeking fees beyond the value contributed by the patented technology is a risky strategy — as GPNE found in its case against Apple.

Consider next the action prong of hold-up. The mere fact that a license agreement was signed after the patent(s) were included in a standard is not enough to establish that the patent holder is practicing hold-up. A host of practical and commercial reasons lead most SEP licensing negotiations to occur after the relevant standard has been codified; *ex ante* license agreements are not unheard of, but they are relatively rare. Nonetheless, the vast majority of SEP licenses are concluded in arm's length, bilateral negotiations with no allegations of hold-up or opportunistic behavior. This follows because market mechanisms impose a number of constraints that militate against acting on the opportunity for hold-up.

For example, standards evolve over time (e.g., mobile standards are commercializing the fourth generation now, with 5G on the drawing boards) — repeat play provides strong behavior incentives. The risk of getting sued for breach of FRAND is another. As a result, most candidate agreements for comparable licenses (which we discuss in greater detail in part 2 of this article series) will be signed *ex post*. To rule these licenses out as FRAND benchmarks — at least on the basis of alleged hold-up — an expert has to establish that the terms and conditions in the agreement generate payments that exceed the value conveyed by the patented technology to the licensor that signed the agreement. In other words, the evidence should establish that the SEP holder acted on the opportunity for hold-up; pointing to the *ex post* date of the agreement is insufficient.

These same considerations have important implications for royalty stacking assessments as well. Because patents are not created equal and FRAND rates should reflect the value of the SEPs at issue, it does not make sense to estimate the aggregate rate for a standard by assuming that all SEP holders would charge the same rate as the one being challenged in the current lawsuit.

A numeric example illustrates how this approach can go horribly wrong. Suppose that a standard is defined by five SEPs, with one patent each held by five patent holders. The value the set of five patents contribute to the standard (as embodied in the downstream product) is known to be 10 per unit. Patent 1 accounts for 50 percent of the value of the standard, patent 2 accounts for 20 percent of the value, while patents 3, 4 and 5 each account for 10 percent.

Each patent is a perfect complement; each is thus essential, but the values are not equal. FRAND would dictate that patent 1 can command a per-unit royalty of five, patent 2 can command two, and patents 3, 4 and 5 can command one each. Patent holder 1 is the first to seek a license and asks for five per unit. The downstream manufacturer then accuses that patent holder of hold-up.

Suppose the judge knows the aggregate value of the five patents (10), but does not properly investigate the value contributed by patent 1 to the standard. Were the judge to calculate the aggregate royalty by multiplying the offered rate of five by the five patent holders, she would conclude that that rate was 25, two and a half times larger than the known value contributed by all five patents together. She would then, wrongly, conclude that patent holder 1 was attempting hold-up and creating or contributing to a royalty stack.

Suppose instead that SEP holder 5 is the first to seek licenses and it sets its offer at two. The judge multiplying this rate by the five essential patents would conclude, again wrongly, that this rate was FRAND as the aggregate rate of 10 exactly equals the known value of the five patents — even though SEP holder 5 was asking for twice the value that its patent contributes to the standard. This equal-patent approach does not offer any information on the existence of a royalty stack — even as a check on other calculations (as suggested by Judge Holderman) — because it risks both false positives and false negatives.

Thus, we believe that royalty stacking allegations should be backed by evidence. Especially for products embodying well-established standards, like Wi-Fi and mobile, manufacturers should be able to present data on the aggregate rates that they actually pay, supplemented (when appropriate) by credible evidence on additional patent holders that are realistically expected to

seek royalties.

More fundamentally, a FRAND assessment focused on the value to the standard and products embodying the standard that the SEP portfolio at issue has contributed will necessarily avoid hold-up and royalty stacking. This is the topic of our next installment.

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[1] The notion of ex ante and ex post is relative: The period during the development of a standard is ex ante to standard codification and commercialization, but that same period is also ex post to the innovation investments that yield the technologies comprising the standard.

[2] The Cournot complements problem holds that when different entities supply complementary inputs necessary for the creation of a single good, both will add their own profit margins to the pricing of those inputs without fully accounting for the pricing of other inputs.

[3] *Microsoft v. Motorola*, (W.D. Wash. Apr. 25, 2013); *In re Innovatio IP Ventures LLC Patent Litig.*, (N.D. Ill. Oct. 3, 2013).

[4] *Microsoft*.

[5] *Id.*

[6] *Ericsson v. D-Link*, (E.D. Tex. Aug. 6, 2013).

[7] *Id.*

[8] *In the Matter of Certain Wireless Devices with 3G and/or 4G Capabilities and Components Thereof*, ITC Inv. No. 337-TA-868 at 123-24 (June 13, 2014), available at <http://www.essentialpatentblog.com/wp-content/uploads/sites/234/2014/07/2014.06.26-Initial-Determination-on-Violation-PUBLIC-337-TA-868smMRC.pdf>.

[9] *Id.* at 114.

[10] *GPNE Corp. v. Apple Inc.*, (N.D.Cal. Apr. 16, 2014).

[11] *Id.*

[12] See F. Scott Kieff and Anne Layne-Farrar, "Incentive Effects From Different Approaches To Holdup Mitigation Surrounding Patent Remedies And Standard-Setting Organizations," *J. of Competition Law & Econ.* 0(0), 1-33 (2013).

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## Methodologies For Calculating FRAND Damages: Part 2

Law360, New York (October 09, 2014, 10:18 AM ET) -- In the first installment of this series, we discussed the primary concerns underlying FRAND licensing rate and damages assessments, namely patent hold-up and royalty stacking. We concluded part 1 by observing that a FRAND rate assessment focused on the value to the standard and products embodying the standard to which the standard-essential patent portfolio at issue has contributed will necessarily avoid hold-up and royalty stacking.

In part 2, we turn to the methodologies proposed to and relied on by courts for linking FRAND royalties and damages to the SEP portfolio value contributed to the standard and to products embodying that standard. We first consider the court rulings to date, organizing our discussion by the methodologies adopted by the courts, which include the "hypothetical negotiation" approach and the other 14 Georgia-Pacific factors, so-called "ex ante" benchmarks, the "incremental value" rule, and comparable licenses. With these various methods in mind, we conclude with our commentary.



Anne Layne-Farrar

### Competing Methodologies for FRAND Determinations

#### *Court Rulings to Date*

##### *Hypothetical Negotiations and the Georgia-Pacific Factors*

Thus far, courts have favored modified versions of the Georgia-Pacific factors to recreate a hypothetical negotiation between the parties as the best starting point for FRAND assessments. The rulings to date include those by Judge James Robart in *Microsoft Corp. v. Motorola Mobility LLC*, Judge James Holderman in *Innovatio IP Ventures LLC*, and Judge Leonard Davis in *CSIRO v. Cisco Systems Inc.*<sup>[1]</sup> In addition, several juries (e.g., in *Realtek v LSI* and *Ericsson v. D-Link*) have made FRAND royalty rate or damages determinations based on instructions to apply a modified version of the Georgia-Pacific factors.

As patent attorneys are aware, in *Georgia-Pacific* the District Court for the Southern District of New York compiled a nonexhaustive list of 15 factors relevant to a reasonable royalty calculation in the context of damages in a patent infringement suit, the last of which was a "hypothetical negotiation." Judge Holderman explained the approach as follows:

The purpose of conducting such a hypothetical negotiation is 'to ascertain the royalty upon which the parties would have agreed had they successfully negotiated an agreement just before infringement began.' Accordingly, the court must try, 'as best as possible, to recreate the ex ante licensing negotiation scenario and to describe the

resulting agreement.’[2]

Given the courts’ familiarity with Georgia-Pacific factors in traditional patent infringement cases, their extension to FRAND determination is not surprising.[3]

As for when that hypothetical negotiation should be set, the courts have generally held that the exercise must reconstruct the negotiation that would have taken place between the parties prior to the date on which the patented invention was adopted as a part of the industry standard.[4] In *Innovatio*, the parties agreed that the appropriate date for the hypothetical negotiation was “around the time of the initial adoption of the 802.11 standard, and therefore approximately the time when the manufacturers began selling 802.11 compliant products.” As a consequence, the negotiating parties would have negotiated a single license covering all subsequently obtained 802.11 SEPs.[5]

The hypothetical negotiation is just one of 15 Georgia-Pacific factors — what of the other 14? And what, exactly, does it mean to modify those factors to account for FRAND commitments? On April 19, 2013, U.S. District Judge James Robart became the first U.S. judge to opine on these questions.

In *Microsoft v. Motorola*, Judge Robart determined a FRAND royalty rate and range for standard-essential patents in a contract dispute between Microsoft and Motorola over SEP portfolios relevant to two industry standards, Wi-Fi and H.264 (for video coding).[6] Judge Robart modified the traditional Georgia-Pacific factors so that they might better reflect the obligations embodied in a FRAND commitment:

Factor 1: The royalties received by the patentee for the licensing of the patent-in-suit in other circumstances comparable to FRAND-licensing circumstances.

Factor 2: The rates paid by the licensee for the use of other patents comparable to the patent-in-suit.

Factor 3: The nature and scope of the license.

Factors 4-5: Do not apply in the FRAND context at all; both were dropped. (Factor 4 relates to the licensor’s policy and marketing program; Factor 5 relates to the commercial relationship between the licensor and licensee.)

Factor 6: The effect of the patented invention in promoting sales of other products of the licensee and the licensor, taking into account only the value of the patented technology and not the value associated with incorporating the patented technology into the standard.

Factor 7: In the FRAND context, the analysis of this factor (related to the duration of the patent and the term of the license) is greatly simplified because the term of the license would be co-extensive with the duration of the patent.

Factor 8: The established profitability of the product made under the patent, its commercial success, and its current popularity, taking into account only the value of the patented technology and not the value associated with incorporating the patented technology into the standard.

Factor 9: The utility and advantages of the patent property over alternatives that could have been written into the standard instead of the patented technology in the period before the standard was adopted.

Factors 10–11: The contribution of the patent to the technical capabilities of the standard and also the contribution of those relevant technical capabilities to the licensee and the licensee’s products, taking into account only the value of the patented technology and not the value associated with incorporating the patented technology into the standard.

Factor 12: The portion of the profit or of the selling price that may be customary in the particular business or in comparable businesses to allow for the use of the invention or analogous inventions that are also covered by FRAND-committed patents.

Factor 13: The portion of the realizable profit that should be credited to the invention as distinguished from non-patented elements, the manufacturing process, business risks, significant features or improvements added by the infringer, or the value of the patent's incorporation into the standard.

Factor 14: The opinion testimony of qualified experts.

Factor 15: The amount that a licensor and a licensee would have agreed upon (at the time the infringement began) if both were considering the FRAND commitment and its purposes, and had been reasonably and voluntarily trying to reach an agreement.

Shortly after Judge Robart issued his opinion, Judge Holderman (on Oct. 3, 2013) adopted the hypothetical negotiation approach in *In re Innovatio IP Ventures LLC Patent Litig.*, although with revisions to match the different circumstances of the *Innovatio* case.[7] The jury in *Innovatio* found that three of Ericsson's 802.11n (Wi-Fi) SEPs were infringed and awarded lump sum damages, which the court then translated into a per-unit FRAND rate for ongoing future royalty payments. According to Judge Holderman, "[a]s a practical matter," Judge Robart's analysis proceeded in three steps, "which provide a framework for any court attempting to determine a FRAND licensing rate for a given patent portfolio." [8]

First, a court should consider the importance of the patent portfolio to the standard, considering both the proportion of all patents essential to the standard that are in the portfolio, and also the technical contribution of the patent portfolio as a whole to the standard.

Second, a court should consider the importance of the patent portfolio as a whole to the alleged infringer's accused products.

Third, a court should examine other licenses for comparable patents to determine a FRAND rate to license the patent portfolio, using its conclusions about the importance of the portfolio to the standard and to the alleged infringer's products to determine whether a given license or set of licenses is comparable.[9]

Judge Holderman made two important modifications to Judge Robart's approach. First, Judge Holderman refused to adjust the license rate for SEPs whose essentiality was questionable prior to the court's adjudication. He acknowledged that such adjustment "may seem reasonable" given that "[t]he hypothetical negotiation tries ... to recreate the ex ante licensing negotiation scenario and to describe the resulting agreement." [10] Yet, he explained that, at the time a court is evaluating damages in a patent infringement suit, it has determined whether the patent is valid and infringed, "foreclosing the hypothetical negotiator from benefiting from any uncertainty as to future court rulings." Thus, "it would be inappropriate to adjust the FRAND rate based upon pre-litigation uncertainty." [11]

Second, Judge Holderman found that his determination that the appropriate royalty base is the Wi-Fi chip "effectively merge[d]" steps one and two of Judge Robart's methodology, explaining that "[b]ecause the purpose of a Wi-Fi chip is, by definition, to provide 802.11 functionality, determining the importance of *Innovatio*'s patents to the 802.11 standard also determines the importance of those patents to the Wi-Fi chip." [12]

In *CSIRO v. Cisco*, Judge Davis used the Georgia-Pacific factors stating that "the RAND commitment will be considered where appropriate throughout the analysis." [13] Judge Davis concluded that the evidence before the court indicated that a "reasonable royalty based on hypothetical negotiations between *CSIRO* and *Cisco* would have resulted in a flat rate assessed per infringing end product unit sold with an increasing discount based on total volume of products sold." [14]

Several juries have also determined FRAND royalty rates or damages based on instructions to



apply a modified-version of the Georgia-Pacific test. In *Realtek v LSI*, the jury awarded percentage royalties per Wi-Fi chip for the two SEPs at issue.[15] In *Ericsson v. D-Link*, the jury awarded lump sum damages to compensate Ericsson for the defendants' past infringement based on jury instructions that modified the Georgia-Pacific factors to include Ericsson's obligation to license its patents on FRAND terms.[16] That court refused to determine a FRAND rate, however, stating that the "Defendants cannot ask the Court to determine a FRAND rate but refuse to be bound by it." [17]

### *"Ex Ante" Benchmarking*

In contrast to the judges and juries discussed so far, Judge Richard Posner refused to apply the Georgia-Pacific factors (modified or not) in *Apple v. Motorola*, noting the ambiguity in the factors (e.g., "how many additional factors may be lurking somewhere?") and questioning whether "a judge or a jury [could] really balance 15 or more factors and come up with anything resembling an objective assessment?" [18] Ultimately, Judge Posner decided that he could refuse to apply the factors without reaching these issues on the grounds that Apple failed to present admissible evidence that the Georgia-Pacific factors supported its damages claim.[19]

According to Judge Posner, "[t]he proper methodology of computing a FRAND royalty starts with what the cost to the licensee would have been of obtaining, just before the patented invention was declared essential to compliance with the industry standard, a license for the function performed by the patent. That cost would be a measure of the value of the patent qua patent. ... The 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." [20]

### *The Incremental Value Rule*

Somewhat akin to an ex ante benchmark, some have recommended a method first put forward in the literature by economists extending a price theory for traditional physical products known as the incremental value rule, which holds that courts should recognize that the incremental value of the patented technology over the next-best alternative establishes the maximum amount that a willing licensee would pay in a hypothetical negotiation, and thus should not award reasonable royalty damages higher than this amount.

In *Microsoft v. Motorola*, Judge Robart rejected in part an "incremental value" approach on the grounds that it lacks "real-world applicability" given that "explicit multilateral ex ante negotiations cannot be conducted under the auspices of many SSOs," and is impractical with respect to implementation by courts:

In practice, approaches linking the value of a patent to its incremental contribution to a standard are hard to implement. Calculating incremental value for multipatent standards gets very complicated, because when you take one patent out of a standard and put another one in you may make other changes, the performance of the standard is multidimensional, different people value different aspects.' [21]

Judge Robart went on to say that "[n]evertheless, a reasonable royalty rate for an SEP committed to a FRAND obligation must value the patented technology itself, which necessarily requires considering the importance and contribution of the patent to the standard. If alternatives available to the patented technology would have provided the same or similar technical contribution to the standard, the actual value provided by the patented technology is its incremental contribution. Thus, comparison of the patented technology to the alternatives that the SSO could have written into the standard is a consideration in determining a FRAND royalty." [22]

Ultimately, Judge Robart concluded that the incremental value approach is "realized, in part" through Factor 9 of Georgia-Pacific, which considers the utility and advantages of the patent property over the old modes or devices, if any, that had been used for working out similar results.[23]

In *Innovatio*, Judge Holderman rejected the manufacturers' "bottom up" approach for calculating a FRAND royalty, which shared a number of commonalities with the incremental value rule. (The bottom-up approach suggests determining the costs of implementing reasonable alternatives to the patents at issue that could have been adopted into the standard, and dividing that cost by the total number of infringing units to determine the maximum per unit royalty.) Holderman noted that the approach is based on the theory that a hypothetical licensee would not pay more for patents than the amount necessary to adopt an alternative.[24]

The court found that there were no alternatives to *Innovatio's* patents that would provide all of the functionality with respect to the 802.11 standard, and pointed to Judge Robart's rejection of an incremental value approach. Instead, Judge Holderman adopted a "top down" approach, which starts with the average price of a WiFi chip and then calculates the average profit that a chipmaker earns on the sale of each chip, as a means of isolating the portion of the income from the sale of the chip available to the chipmaker to pay royalties on intellectual property. The available profit on a chip was then multiplied by a fraction calculated as a number of the SEPs at issue, divided by the total number of SEP in the standard.[25]

### *Comparable Licenses*

The final approach seen in rulings thus far focuses on just two of the Georgia-Pacific factors, factors 1 and 2 on comparable licenses. In determining a FRAND royalty rate or damages, courts have generally considered royalties received by the patentee for the licensing of the patent-in-suit in other circumstances comparable to FRAND-licensing circumstances.

In *Microsoft*, Judge Robart expanded the set of potential comparable licenses beyond prior agreements for the patents-in-suit and similar agreements the defendant had entered into: he added patent pool rates to the list. Although the court agreed "as a general matter that patent pools tend to produce lower rates than those that could be achieved through bilateral negotiation," Judge Robart nevertheless found that rates offered by patent pools (the MPEG LA H.264 pool and the Via Licensing 802.11 pool) "served as good indicators of a FRAND royalty rate" for Motorola's SEPs.[26] The basic foundation for Judge Robart's view is the fact that modern patent pools are largely bundles of SEPs related to particular standards, and as such, Judge Robart reasoned that they offer comparable value for strictly complementary patents.

In contrast, in *Innovatio*, Judge Holderman found that the Via Licensing 802.11 pool was "not an appropriate comparable license," distinguishing Judge Robart's decision on the grounds that Judge Robart determined that Motorola's 802.11 patents were not important to the 802.11 standard, whereas *Innovatio's* patent portfolio is of "moderate to moderate-high importance to the 802.11 standard." [27]

Judge Holderman identified numerous additional problems with using the Via pool rate as a comparable, including the fact that the pool has not been successful (the pool had only five licensors, 35 patents, and 11 licensees); does not include high value patents; does not distinguish between patents in the pool on the basis of technical merit, but rather gives the exact same royalty to all patents in the pool; and does not consider the importance of the patents to the implementer's products. Judge Holderman further noted that, because the Via patent pool does not allocate royalties among SEP holders based on relative merit, patent holders with valuable patents will not contribute their technology to the pool, but will instead seek to license those patents bilaterally. "As a result, the pool rates may be considerably depressed." [28]

Judge Holderman did not make any general statements on whether non-RAND licenses can ever be useful in determining a FRAND rate. He did conclude, however, that because the evidence in the record was "insufficient for the court to determine the relative merit of the patented technology in each of those licenses compared with the technology in *Innovatio's* patents, the court rejects the use of non-RAND licenses and finds that they are "unreliable indicators in this case of the appropriate FRAND rate." [29]

Judge Holderman also rejected Innovatio's other proposed comparable licenses on various grounds, including that the rates: were "adopted under the duress of litigation"; were determined only as part of a package deal involving a larger patent; were based on large patent portfolios, such that the rate would not be appropriate for an agreement including a significantly smaller number of patents; were based on different standards; or failed to provide any indication of how valuable the patents were compared to other patents in the portfolio.[30]

In *SK Hynix Inc. v. Rambus Inc.*, a case in which the court set a FRAND rate as a sanction against Rambus for spoliation, Judge Ronald Whyte followed Judge Robart, concluding that "a monetary sanction that takes into account the royalty rates negotiated and paid by SK Hynix's primary competitors is ... [an] appropriate and straightforward way to mitigate the prejudice to SK Hynix caused by Rambus's spoliation." [31] Thus, the court based its FRAND rate determination on other Rambus licenses, based on the effective, not stated, rates.

In *Golden Bridge Techn. v. Apple Inc.*, Magistrate Judge Paul Grewal excluded Golden Bridge's expert's FRAND royalty calculation based in large part on portfolio licenses Apple signed with Ericsson and Nokia. Magistrate Judge Grewal's rationale was that, "under established Federal Circuit law, an expert may not rely on broad licenses that cover technologies far beyond the patents-in-suit without accounting for the differences in his calculations," which the expert failed to do.[32]

The court pointed to several significant flaws in the expert's report, including improperly and sub silentio allocating the entire value of Apple's portfolio license with Ericsson and Nokia "to a tiny subset of a subset of a subset of a subset of the patents and standards in those portfolios" and failing to allocate any value to the nonlicense terms of the Ericsson and Nokia agreements. According to the court, the expert's assumption that the "entire dollar value of the Apple-Ericsson and Apple-Nokia agreements stemmed entirely from the actually essential (not just declared essential) WCMDA patents (not those related to other active standards) relating to terminal devices is an implausible assumption to begin with. ... Each of the other errors identified by Apple then compound this basic error." [33]

### **Commentary**

While the discussion above ranges across five methods, the courts have not been as scattered in their approaches as might at first appear. Importantly, three of the five approaches fit well with each other. Namely, the hypothetical negotiation is frequently informed by the other 14 Georgia-Pacific factors and comparable licenses, as Factors 1 and 2, have been the bread and butter of reasonable royalty determinations outside of FRAND contexts for many decades.

Judge Posner certainly raises valid complaints regarding the 15 Georgia-Pacific factors — they are a bit vague, it would be dangerous to let them form some sort of mandatory checklist as each factor will not always apply in every case, and they can be abused by unscrupulous damages experts who place the various factors on an arbitrary scale for weighing against one another.

That being said, the factors also cover a number of legitimate elements that any fact-based, data-driven assessment of royalties (in or out of FRAND contexts) should take into consideration (even if it is to determine that a particular factor does not apply in the instant case). For example, the nature and scope of the license (Factor 3) is typically important to valuation: Broader rights (more relevant jurisdictions covered or more standards included, for instance) provide more value to the licensee and hence can command higher rates. And other licenses covering the SEPs at issue (Factor 1) can provide market-based data points for how parties actually operating in the industry value the patents-in-suit.

In our view, modifying the factors to reflect FRAND commitments — including comparable licenses and working everything into a hypothetical negotiation framework — is a reasonable approach. Plus, the courts are largely familiar with it, having over 40 years of Georgia-Pacific experience in traditional patent infringement suits. Nevertheless, this overall approach is one whose application should continue to be policed by judges in their role as gatekeepers. Merely invoking the name "Georgia Pacific" is not enough for a pass: the factors should be used with

available data, the comparability of licenses should be defended, and all calculations should be explained.

Moreover, it is not clear how Judge Posner's suggestion that ex ante values should determine FRAND rates could be implemented without such expedients as comparable licenses and some reference to the likely factors underlying how the parties would negotiate. That is, when no ex ante licenses for the SEPs at issue exist (which would themselves fall into the comparable license category), how exactly would courts go about determining the ex ante value of SEPs?

Standards-development organization working group documents (where technology choices are hashed out) may be able to shed light on any tradeoffs involved in an ex ante competition over technologies to include in a standard, but using those technical debates to set an actual license rate will be difficult at best. Most likely, courts will need to rely on comparable licenses from other time periods, consider the value contributed by the SEPs to the standard and products compliant with it, and put all of that evidence into context via a hypothetical negotiation framework.

The above endorsement of comparable licenses has intentionally left open the question of patent pools, as these deserve a discussion of their own. Given the difficulty of finding arm's-length, market-based benchmarks for FRAND rates and terms, it seems profligate to dismiss patent pools out of hand. However, Judge Holderman's discussion of the pitfalls that the use of patent pools can entail is important. Specifically, patent pools covering SEPs for a standard may be either "too high" (exceeding a FRAND range) or "too low" (falling below a FRAND range). If the pool was formed, say, by vertically integrated firms most interested in downstream profits and in holding royalty expenses for those products to a minimum, then there is a risk that the pool rates those firms set will fall below a FRAND range. If, on the other hand, the pool was formed by firms with marginal SEPs — technically essential but of low value contributed to the standard — then there is a risk that the pool rates will exceed a FRAND range.

Looking at the commercial success of the pool, from both the licensor and licensee side, can guard against the use of such pools as benchmarks. So, before a pool's rates and terms are used as FRAND benchmarks, the following questions should be asked: (1) Has the pool signed up a significant number of SEP contributors and do those entities represent the key technology holders? If so, this gives comfort that the pool's rates and terms are sufficiently high to fairly and reasonably compensate the SEP holders. (2) Has the pool signed up a significant number of licensors and do these entities represent key standard implementers? If so, this gives comfort that the pool's rates and terms are sufficiently low to be fair and reasonable from implementers' perspectives. If the answer to either question is no, then that pool should not be used, or if it is due to a dearth of other useful benchmarks, then it should be used with great caution and with full disclosure that it is an upper or lower bound on FRAND (as the case may be).

Finally, as for the incremental value rule approach, the underlying theory is a sound one, rooted in decades of pricing theory for physical goods. The problems arise, though, when that theory is applied to intangible intellectual property, particularly in the context of cooperative interoperability standard setting. First are the many practical difficulties in measuring what incremental value really is — as Judge Robart observed, two flaws in the approach are "its lack of real-world applicability" and "its impracticability with respect to implementation by courts." On a more general level, however, technology selection within standard setting often involves multidimension tradeoffs. In other words, the technologies cannot be rank ordered best to worst; different parties can have vastly different rankings. That makes any discussion of alternatives not only messy, but subjective.[34]

Taken as a whole, then, it strikes us that the courts are off to a reasonably good start in terms of establishing solid methods and approaches for determining FRAND rates and damages. The devil is in the detail, though, and some of the specific rate calculations have ignored the guidelines set within the decision itself while others are built on shaky assumptions, as we will discuss further in our third and final installment, which focuses on choosing an appropriate base for FRAND determinations.

—By Anne Layne-Farrar, Charles River Associates, and Koren W. Wong-Ervin, Federal Trade Commission Office of International Affairs

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[1] In *CSIRO v. Cisco*, although Judge Davis stated that specific adjustments to the overall Georgia-Pacific framework were unnecessary given the small percentage of total products at issue attributable to patents subject to a FRAND commitment, he went on to state that he would consider the RAND commitment throughout the analysis.

[2] In *re Innovatio IP Ventures LLC Patent Litig.*, 2013 WL 5593609 at \*5 (N.D. Ill. Oct. 3, 2013).

[3] This approach was suggested in the literature prior to the first ruling by Judge Robart in *Microsoft v. Motorola*. See Anne Layne-Farrar, Jorge Padilla, and Richard Schmalensee, "Pricing Patents For Licensing In Standard Setting Organizations: Making Sense Of FRAND Commitments," 74 *Antitrust Law Journal* No. 3 (2007).

[4] See, e.g., *Microsoft Corp. v. Motorola Inc.*, 904 F.Supp.2d 1109, 1121 (W.D.Wash. Oct. 22, 2012).

[5] *Innovatio*.

[6] (W.D. Wash. April 19, 2013). The case involved a claim that Motorola breached its FRAND contract obligation and the court determined that, without a clear understanding of what FRAND means, it would be difficult or impossible to determine whether Motorola breached its obligation to license its patents on FRAND terms.

[7] *Innovatio*.

[8] *Id.*, though note that Motorola has appealed Judge Robart's decision (<http://cdn.ca9.uscourts.gov/datastore/opinions/2012/10/04/12-35352.pdf>).

[9] *Innovatio*.

[10] *Id.*

[11] *Id.*

[12] *Id.*

[13] (E.D.Tex. July 23, 2014).

[14] *Id.*

[15] Jury Instructions, *Realtek v. LSI*, Case No. 5:12-cv-03451 Instruction Nos. 12-15 (Feb. 23, 2014), available at <http://www.essentialpatentblog.com/wp-content/uploads/sites/234/2014/02/2014.02.23-298-Jury-Instructions.pdf>; Jury Verdict Form, *Realtek v LSI*, Case No. 5:12-cv-03451 (N.D. Cal. Feb. 26, 2014), available at <http://www.essentialpatentblog.com/wp-content/uploads/sites/234/2014/02/2014.02.27-324-Verdict.pdf>. Following the jury award, Judge Whyte entered final judgment in favor of Realtek in the amount of \$3.8 million in contractual damages consistent with the jury's special verdict. The court also granted Realtek's

request for a declaratory judgment that, to be in compliance with its FRAND commitment, LSI must offer Realtek licenses consistent with the jury's award. Case No. 5:12-cv-03451 (N.D. Cal. June 16, 2014), available at <http://assets.law360news.com/0548000/548585/Order%202.pdf>. [16] Ericsson Inc. v. D-Link Sys, Inc., (E.D.Tex. Aug. 2013); see also Final Jury Verdict, Ericsson Inc. v. D-Link Sys., Inc., Case No. 6:10-cv-00473 (E.D. Tex June 13, 2013), available at <http://www.essentialpatentblog.com/wp-content/uploads/sites/234/2013/06/Ericsson-v-D-Link-Jury-Verdict.pdf>.

[17] Ericsson, 2013 WL 4046225 at \*22.

[18] Apple Inc. v. Motorola Inc., 869 F.Supp.2d 901, 911 (N.D. Ill. 2012).

[19] Unlike in Microsoft v. Motorola and Innovatio, where the courts were making rate determinations, Judge Posner was called upon to rule on a damages claim for alleged past infringement. As such, a lump sum payment could be determined, without needing to be specific on any percentage or per-unit rate. Judge Posner's ruling has been appealed (<http://cafc.uscourts.gov/images/stories/opinions-orders/12-1548.Opinion.4-23-2014.1.PDF>) and a number of industry players filed amicus briefs, including the FTC (<http://www.essentialpatentblog.com/wp-content/uploads/sites/234/2013/01/12.12.14-Doc.-104-FTC-Amicus-Brief-Supporting-Neither-Party.pdf>), Qualcomm (<http://www.essentialpatentblog.com/wp-content/uploads/sites/234/2013/12/2013.11.12-61-Qualcomms-Brief-of-Amicus-Curiae.pdf>) and Ericsson (<http://www.essentialpatentblog.com/wp-content/uploads/sites/234/2013/12/2013.12.03-65-Amicus-Brief-of-Ericsson-in-Support-for-Motorola.pdf>), and others (see the discussion at <http://www.essentialpatentblog.com/2013/01/various-amici-weigh-in-on-sep-related-issues-in-apple-motorola-federal-circuit-appeal/>).

[20] Apple, 869 F.Supp.2d at 913.

[21] Microsoft.

[22] Id.

[23] Id.

[24] Innovatio.

[25] Id.

[26] Microsoft.

[27] Innovatio.

[28] Id.

[29] Id.

[30] Id.

[31] Id.

[32] Order RE: Apple's Second Motion to Exclude Karl Schulze and Motions in Limine, Case No. 5:12-cv-04882, at 3 (June 1, 2014), available at <http://www.essentialpatentblog.com/wp-content/uploads/sites/234/2014/06/2014.06.01-494-Order-Re-Apple%E2%80%99s-Second-Motion-to-Exclude.pdf> (internal citation omitted).

[33] Id.

[34] See Anne Layne-Farrar and Gerard Llobet, "Moving Beyond Simple Examples: Assessing the Incremental Value Rule within Standards," International Journal of Industrial Organization,

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## Methodologies For Calculating FRAND Damages: Part 3

Law360, New York (October 10, 2014, 10:12 AM ET) -- This is our third, and final, installment on FRAND royalty methodologies. In the first installment, we focused on two of the most prominent debates over FRAND: the potential for market power abuses that lead to hold-up and royalty stacking. In part 2, we discussed the appropriate benchmarks and methods for determining FRAND terms. Here, we analyze an issue that permeates the spectrum of FRAND issues: the appropriate base for royalty calculations.



Koren Wong-Ervin

### Choosing an Appropriate Base for FRAND Royalty Determinations

#### *Court Rulings to Date*

The debate over an appropriate base for FRAND royalty determinations pits components versus end products. The "smallest salable patent practicing unit" (SSPPU) approach has received a lot of attention recently, including being among the grounds for recent antitrust investigations in China (against Qualcomm Inc.) and India (against Ericsson Inc.). Both countries' competition agencies are currently investigating whether a company's practice of charging royalties based on the end-user product prices, as opposed to the component part such as the chipset, amounts to "excessive" or "unreasonable" pricing.

The U.S. Supreme Court long ago held that a patentee "must in every case give evidence tending to separate or apportion the defendant's profits and the patentee's damages between the patented feature and the unpatented features."<sup>[1]</sup> In the alternative, a patentee can show "that the profits and damages are to be calculated on the whole machine, for the reason that the entire value of the whole machine, as a marketable article, is properly and legally attributable to the patented feature."<sup>[2]</sup>

The Federal Circuit recently affirmed its holding that "[a] patentee may assess damages based on the entire market value of the accused product only where the patented feature creates the basis for customer demand or substantially creates the value of the component parts."<sup>[3]</sup> In *LaserDynamic Inc. v. Quanta Computer USA Inc.*, the Federal Circuit held that, "[w]here small elements of multi-component products are accused of infringement, calculating a royalty on the entire product carries a considerable risk that the patentee will be improperly compensated for non-infringing components of that product. Thus, it is generally required that royalties be based not on the entire product, but instead on the 'smallest salable patent-practicing unit.'"<sup>[4]</sup>

The court went on to explain that "[t]he entire market value rule is a narrow exception to this general rule. If it can be shown that the patented feature drives the demand for an entire multi-component product, a patentee may be awarded damages as a percentage of revenues or profits attributable to the entire product."<sup>[5]</sup> In the FRAND context, disputes over the



appropriate base have generally centered around what constitutes the SSPPU.

In *Innovatio*, *Innovatio* argued that the SSPPU is the system including all of the end-product devices, not the Wi-Fi chip. According to *Innovatio*, it is not possible to provide Wi-Fi functionality with a Wi-Fi chip; instead, one must have at least an access point with a control processor, a central processor, antenna, and an RF Radio. On the other side, the manufacturers argued that the SSPPU is the Wi-Fi chip, reasoning that *Innovatio* did not invent access points, radios, or antennas, but instead only a method for using those devices, the instructions for which are contained on the Wi-Fi chip. Moreover, according to the manufacturers, using end-products as the royalty base would include value far beyond the patented features of the 802.11 standard.

The court decided that it need not resolve the parties' dispute about the application of the SSPPU, however, concluding that *Innovatio's* application of its approach "did not credibly apportion the value of the end-products down to the patented features, so the "court has no choice based on the record but to calculate a royalty based on the Wi-Fi chip." [6]

In *GPNE Corp. v. Apple Inc.*, Judge Lucy Koh found that the baseband processor chip was the proper SSPPU. [7] In so holding, the court rejected *GPNE's* arguments that *Apple's* experts' testimonies should be excluded because: (1) the SSPPU must be an item that is sold by *Apple* and (2) the patent claims are directed to the entire device, not just the chip, meaning that the baseband processor chips cannot practice the entire patent claim.

The court reasoned that interpreting the SSPPU doctrine to require that the accused infringer make or sell the SSPPU "would, in circumstances where the accused infringer makes a multicomponent end product and the component manufacturer is not joined, render the smallest salable patent-practicing unit doctrine ineffective. A patentee should not be able to opt in or out of the smallest salable patent-practicing unit doctrine based on its decision of whom to sue." [8]

With respect to *GPNE's* second argument, the court noted that the asserted claims recite a "node in a data network," which *GPNE* alleges is an iPhone or an iPad, and "a memory," which *GPNE* alleges is a generic random access memory for storage, or "RAM," in addition to the baseband processor, which directly implements the patented invention. The court concluded that "[t]his cursory recitation of the entire device in the asserted claims does not foreclose the component that directly implements the invention from being the smallest salable patent-practicing unit for reasonable royalty purposes." [9]

In *Golden Bridge Tech. Inc. v. Apple*, Magistrate Judge Paul Grewal held that, "[e]ven if the accused products were the smallest saleable unit, this court has previously explained that, under the [Ninth] Circuit's case law, relying on the smallest saleable unit does not relieve a patentee of the burden of apportioning the base." [10] Additionally, the Federal Circuit's decision in *LaserDynamics* "affirms that the smallest salable unit must be closely tied to the patent to suffice." [11]

Based on this conclusion, the magistrate excluded the testimony of *Golden Bridge's* damages expert, finding that in calculating the royalty base the expert "did not even try to link demand for the accused product to the patented feature, and failed to apportion value between the patented feature and the vast number of non-patented features in the accused products." [12] According to the court, the expert "had no basis to ignore the fundamental teaching of the entire market value rule, which permits a royalty based on the entire market value of an accused product only where 'the patent-related feature is the basis for customer demand.'" [13]

Similarly, in *Wi-Lan v. Alcatel-Lucent*, Judge Leonard Davis held that, in the absence of evidence that the patented functionality is the source of the demand for the entire product, damages must be based on the SSPPU. [14] Based on this conclusion, the court granted in part a *Daubert* motion to exclude portions of *Wi-Lan's* expert testimony and report that included the revenue of the entire base station without offering evidence that the patented feature drives the demand for the entire multicomponent product. The court noted that *Wi-Lan's* expert recognized in his report that to implement the accused HSPA functionality the defendant's base

stations only require an optional software upgrade and a compatible modem card. Thus, the court concluded that, to the extent that Wi-Lan's expert's analysis "relies on calculations involving the value of the entire base station, instead of the smallest saleable patent-practicing unit, to arrive at a lump-sum damages award, it is a violation of the Entire Market Value Rule." [15]

In contrast, in *CSIRO v. Cisco Systems Inc.*, Judge Davis rejected Cisco's damages model basing royalties on chip prices, reasoning that, although it was largely undisputed that the inventive aspect of CSIRO's patent is carried out in the PHY layer of the wireless chip, "the chip itself is not the invention." [16] Instead, CSIRO's patent "is a combination of techniques that largely solved the multipath problem for indoor wireless data communication. The benefit of the patent lies in the idea, not in the small amount of silicon that happens to be where that idea is physically implemented." Thus, concluded the court:

It is simply illogical to attempt to value the contributions of the [CSIRO patent] based on wireless chip prices that were artificially deflated because of pervasive infringement. Basing a royalty solely on chip price is like valuing a copyrighted book based only on the costs of the binding, paper, and ink needed to actually produce the physical product. While such a calculation captures the cost of the physical product, it provides no indication of its actual value. [17]

On Sept. 17, 2014, in *Virnetx Inc. v. Cisco Sys.*, the Federal Circuit provided further guidance on the use of the SSPPU approach, holding that, "[w]here the smallest salable unit is, in fact, a multi-component product containing several non-infringing features with no relation to the patented feature ... , the patentee must do more to estimate what portion of the value of that product is attributable to the patented technology." [18] The court explained that "the smallest salable unit approach was intended to produce a royalty base much more closely tied to the claimed invention than the entire market value of the accused products." But, "the requirement that a patentee identify damages associated with the smallest salable patent-practicing unit is simply a step toward meeting the requirement of apportionment." [19]

### **Commentary**

As the above review makes clear, Judge Davis appears to be in the minority. Each court is working to determine the overall value of the product that is attributable to the patented technology in the context of the related standard, but how best to do that in the selection of the royalty base is under dispute.

The SSPPU approach was designed as a step toward mitigating the risk of holdup. However, for some technology, using the SSPPU as the royalty base may undervalue the technology. For example, although some technology may technically be implemented by a single component part, that technology may have more value than the component itself and thus using the end-user product as the royalty base may help to internalize such externalities. Moreover, the value of a given SEP portfolio as realized by a licensee may also vary depending on the final product the licensee is focused on. For example, we would expect a given LTE SEP portfolio to deliver very different value to a mobile infrastructure manufacturer as compared to a handset maker as compared to a network operator.

This implies that courts need to be careful in the automatic application of component-based royalties, instead taking the particular circumstances for the instant case into account. For multicomponent products, calculating royalties on the entire product carries a risk that the patentee will be improperly compensated for non-infringing components of that product. On the other hand, if a small component does not adequately capture the value of the patented technology, but neither is the patented technology the sole "driver" of end product demand, then the SEP holder could be caught in a Catch-22: Using a small component will undercompensate the SEP holder unless a very large percentage rate is applied (something not yet seen) but using the end product as the base runs the very real risk of being thrown out as an attempt at holdup.

As a matter of economics, it is the overall value assigned to the license that matters, and not

its expression. Hence, a 1 percent rate applied to a \$100 end product yields the same royalty payment as a 10 percent rate applied to a \$10 component of that product. That being said, juries can be swayed by a relatively large end-product price and may view small percentage rates as “unfair,” but bench trials are likely to be well equipped to handle the pure mathematics. As a result, in our view the royalty base should not be the key point in bench trials — in fact, it may even be informative to determine what percentage rate the SSPPU approach would apply for the corresponding entire market value approach, so that the two could be used in a checks-and-balances fashion.

Furthermore, as a practical matter, most licenses in many high-tech markets, including smartphones, are negotiated on a patent portfolio basis using the end-user device as the royalty base. As a result, the strict application of the SSPPU method creates a tension between real-world practice and court decisions.[20] It also renders most would-be comparable licenses noncomparable, or at least more difficult to translate.

We therefore believe that courts should identify the appropriate royalty base as the one the parties most likely would have chosen in the hypothetical negotiation. This is necessarily a highly fact-specific issue that should be determined on a case-by-case basis.

## Concluding Remarks

As we noted at the outset of this series, even though we now have a number of district court decisions providing guidance on the proper methodology for calculating FRAND royalty rates and damages, we are still in the early days. And a number of the decisions discussed above are currently on appeal, including Judge Robart’s decision in *Microsoft Corp. v. Motorola Mobility LLC* and Judge Davis’ decision in *Ericsson v. D-Link*. Key issues to watch in these appeals include whether and how FRAND royalty rates should take into consideration concerns about hold-up and royalty stacking, the use of the incremental value approach or patent pools as comparable licenses, and the use of the SSPPU to determine the appropriate royalty base.

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[1] *Garretson v. Clark*, 111 U.S. 120, 121 (1884).

[2] *Id.*

[3] *Versata Software Inc. v. SAP Am. Inc.*, 717 F.3d 1255, 1268 (Fed. Cir. 2013).

[4] 694 F.3d 51, 67 (Fed. Cir. 2012).

[5] *Id.*

[6] *In re Innovatio IP Ventures LLC Patent Litig.*, (N.D. Ill. Oct. 3, 2013).

[7] *GPNE Corp. v. Apple Inc.*, (N.D.Cal. April 16, 2014).

[8] *Id.*

[9] *Id.*

[10] Golden Bridge Technology v. Apple Inc., (N.D.Cal. May 18, 2014).

[11] Id.

[12] Id.

[13] Id.

[14] Case No. 6:10-cv-00521 at 5 (E.D. Tex. June 28, 2013), available at <http://www.essentialpatentblog.com/wp-content/uploads/sites/234/2013/07/13.06.28-Wi-LAN-v.-Alcatel-Lucent-Daubert-Order.pdf>.

[15] Id. at 6.

[16] CSIRO v. Cisco. (E.D. Tex. July 23, 2014).

[17] Id.

[18] Case No. 2013-1489 at 29 (Fed. Circ. Sept. 17, 2014), available at <http://www.cafc.uscourts.gov/images/stories/opinions-orders/13-1489.Opinion.9-12-2014.1.PDF>.

[19] Id.

[20] The tension between portfolio licensing in practice and individual SEP licensing in some courts is yet another problem area.

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