

26 No. 6 Intell. Prop. & Tech. L.J. 3

Intellectual Property & Technology Law Journal

June, 2014

ALTERNATIVE DISPUTE RESOLUTION PROCESSES THAT CAN RESOLVE
FRAND DISPUTES BETTER THAN DISTRICT COURT LITIGATIONM. Scott Donahey, David L. Newman^{al}

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Last year brought two ground breaking decisions from district courts in the area of FRAND (fair, reasonable, and nondiscriminatory) calculations. While these decisions from the Western District of Washington and the Northern District of Illinois made great strides analyzing the extremely complex world of Standard Essential Patents (SEPs), the *Motorola* decision over extended the use of patent pool data as comparables and the *Innovatio* decision failed to account for non-SEPs in its “top down” calculation, respectively. This article discusses the high level of complexity involved in analyzing SEPs and potential misconceptions of SEP damage calculations.

Background of SEP Requirement for FRAND Terms

Technical interoperability standards play a significant role in today's technology. Mostly, every mobile telephone, laptop computer, and networking device depends on standards to provide interoperability, so products manufactured by different companies can communicate with each other. Most of these standards are developed collaboratively by market players in industry standard development organizations (SDOs). SDO participation typically is voluntary and open to all interested parties, including technology developers, product manufacturers, and consumers.¹

SDOs have developed a variety of rules to reduce the potential for abuse (sometimes referred to as patent “hold-up”) by owners of patents covering standardized technologies.² Specifically, SDOs typically require their participants to: (1) disclose standards-essential patents to the SDO, and/or (2) commit to license standards-essential patents to implementers, either on a royalty-free basis or at rates (and on other terms) that are “fair, reasonable and nondiscriminatory.”³ The patents covered by FRAND commitments typically are those that are identified by patent holders as “essential” to use or implement the standardized technology in a product.⁴ FRAND commitments are widely used by SDOs based in the United States and Europe⁵ and are required of all SDOs accredited by the American National Standards Institute (ANSI).⁶

Although use of a FRAND commitment is at the core of the SDO rules, a consistent and widely accepted definition of FRAND does not exist.⁷ Virtually, no SDO provides a precise means of determining what FRAND means. Also, many SDOs affirmatively disclaim any role in establishing, interpreting, or adjudicating FRAND licensing terms.⁸ As a result, there has been much litigation regarding scope of FRAND commitments.⁹ Some cases involve whether demanded royalty rates would be considered “reasonable” under a FRAND commitment.¹⁰ Some recent cases resolve whether patents are “essential” to a standard and thus subject to FRAND requirements.¹¹ Other recent cases question the ability of a patent holder to obtain

injunctive relief against an infringer when the patent holder is subject to a FRAND commitment.¹² Some recent lawsuits involve antitrust liability of patent holders who fail to comply with their FRAND commitments.¹³

The Georgia-Pacific Factors and the Hypothetical Negotiation

The starting point for many reasonable royalty calculations is the case of *Georgia-Pacific Corp. v. United States Plywood Corp.*¹⁴ The trial court listed 15 factors generally relevant to the determination *4 of a reasonable royalty in a patent license resulting from a finding of infringement in litigation. Those factors represented some of the general factors to be found in “a conspectus of the leading cases” “generally more pertinent” to the determination of a reasonable royalty under the facts before it.¹⁵

The factors were first used by the Southern District of New York to aid it in the calculation of damages in a patent infringement action.¹⁶ This case, which provides the factors that the Federal Circuit later endorsed, has a lengthy and interesting history. The original case was filed by Georgia-Pacific as a declaratory relief action, seeking a declaration of invalidity and for noninfringement of the patents held by United States Plywood. United States Plywood filed a counterclaim against Georgia-Pacific for patent infringement and for unfair competition. On October 26, 1956, the court held that United States Plywood's patents at issue were invalid and not infringed and found no proof that Georgia-Pacific engaged in unfair competition.¹⁷

In 1958, the Second Circuit Court of Appeals reversed and remanded, holding that one of the claims of one of the patents at issue was valid and infringed.¹⁸ On remand, the case was referred to a special master to determine the amount of damages that should be awarded to compensate for the infringement. The special master awarded an amount equal to Georgia-Pacific's profits derived from the sale of the infringing article.¹⁹ The district court judge, on exception to the Master's Report, concluded that this was an improper measure of recovery, and that the damages should have been computed on a reasonable royalty basis.²⁰ Between 1967 and 1969, the court took evidence on the issue of a reasonable royalty. After having reviewed the demeanor of the witnesses, having reviewed the transcript, briefs, the Master's Report, and the applicable authority, on August 29, 1969, without having filed a formal opinion, the trial judge died. However, prior to his demise, the judge had “substantially completed a draft of his opinion.”²¹

On October 9, 1969, the chief judge of the Southern District referred the action to a second judge. Supported by a stipulation of the parties, the second judge accepted and adopted, with minor amendment, the reasoned opinion of the trial judge, which on May 28, 1970, was set out as the decision.²²

In the decision, the court set out 15 factors selected from unidentified ““leading cases.”²³ The factors were selected by the court for their pertinence to the particular facts in the case before it.²⁴ It should be apparent from the lack of identifiable sources for the factors and their selection due to their relevance to the facts of the particular case that the discussion of the factors was not intended to be applicable to any and all subsequent cases.

In its analysis of what should constitute a reasonable royalty, the court began with a discussion of factor 15, the “hypothetical negotiations.” The court noted that the hypothetical negotiations are “more a statement of approach than a tool of analysis.” In discussing this “statement of approach,” the court acknowledges that negotiation is as much a matter of subjective viewpoints, as it is one of measurable determiners. The approach involves beliefs held by each of the parties, as much or more than facts known by either or agreed by both.²⁵

Where a willing licensor and a willing licensee are negotiating for a royalty, the hypothetical negotiations would not occur in a vacuum of pure logic. They would involve a market place confrontation of the parties, the outcome of which would depend upon such factors as their relative bargaining strength; the anticipated amount of profits that the prospective licensor reasonably thinks

he would lose as a result of licensing the patent as compared to the anticipated royalty income; the anticipated amount of net profits that the prospective licensee reasonably thinks he will make; the commercial past performance of the invention in terms of public acceptance and profits; the market to be tapped; and any other economic factor that normally prudent businessman would under similar circumstances, take into consideration in negotiating the hypothetical license.²⁶

In addition to a discussion of the “hypothetical negotiations” approach, the court looked at only six of the remaining 14 factors.²⁷

While the court is to be commended for forthrightly recognizing that any negotiation, whether real or hypothetical, necessarily involves views and beliefs that may or may not be realistic, and that these are factors that play a part in every negotiation, the court does omit to mention perhaps the *5 most important intangible of all: the negotiation skills that each party brings to the table. Any experienced mediator can attest that the settlement that results from a mediation often owes as much to the mediation skills of one or both of the parties as it does to the skill of the mediator, at least if the mediator is looking for a fair and reasonable result, rather than merely pushing the parties to settle on any basis.

Commentators have criticized the application of the *Georgia-Pacific* factors to determine reasonable royalties in patent infringement cases as failing to provide meaningful guidance to juries or provide reliable standards of review for appellate courts²⁸ and indeed to constitute “a grab bag for use by parties seeking to establish whatever reasonable royalties serve their purposes.”²⁹

Both courts and commentators have recognized that the *Georgia-Pacific* factors should not be applied to the calculation of FRAND absent modification, usually in the form of nonconsideration of some of the factors.³⁰

However, as recent decisions in the area have shown, modifications of the factors alone will not provide a better result in the hypothetical negotiations when applied to complex FRAND cases, and may not avoid the complicated problems of patent holdup and royalty stacking.

Microsoft v. Motorola

The first of the two recent decisions to apply a modified version of the *Georgia-Pacific* factors in order to determine a FRAND royalty was *Microsoft Corp. v. Motorola, Inc., et al.*³¹ In this case, the district court judge held a bench trial from November 13-20, 2012, with the sole aim of determining a FRAND licensing rate and royalty range for Motorola's patents.³² During that period the court heard testimony from 18 witnesses.³³

The court noted two major problems that must be dealt with in order to establish a FRAND rate and range for patents that claim technology that is essential if one is to practice the standard established by the IEEE SDO. The first is the problem of “hold-up.”³⁴ This problem arises because the holder of a SEP has the ability to demand more than the value inherent in its patented technology and to attempt to capture the added value attributable to the standard itself.³⁵ “Hold-up” can ultimately affect the consuming public, as the parties who are “held-up” and forced to pay royalties that are higher than justified by the value of the patented technology itself then pass the higher royalty costs on to the consumer.³⁶ The FRAND commitment is intended to solve the problem of patent “hold-up.”³⁷

The second problem cited by the court is that of “royalty stacking.”³⁸ There often are hundreds and even thousands of patents that are essential to the standard established by a particular SDO for any given technology. One who practices the technology may be required to pay royalties on many, if not all, of these SEPs. The sum of the royalties paid may result in the practicing

entity paying royalties that make practicing the standard unattractive, unless the practicing entity is able to pass some or all of the excess costs to the ultimate consumer. The commitment by SEP holders to license their essential technology at fair, reasonable, and nondiscriminatory rates is also intended to address the problem of “royalty stacking.”³⁹ In both instances, the important determination that must be made is what constitutes a FRAND that will operate to overcome the potential pitfalls.

Modified *Georgia-Pacific* Factors

In the *Motorola v. Microsoft* case, the court noted that the use of the *Georgia-Pacific* factors to establish reasonable royalties has a long history in patent infringement litigation.⁴⁰ The court adopted the judicial simulation of a hypothetical bilateral negotiation between the parties.⁴¹ The court began its analysis of the 15 *Georgia-Pacific* factors by noting that it had discretion as to which of the factors to use in a given case and that the 15 factors must be adapted for use in cases seeking to determine FRAND royalties.⁴²

The court discussed several of the factors in detail. The first *Georgia-Pacific* factor deals with the royalties received by the patentee for the license of the patents in suit to others as an indication of an established royalty.⁴³ The court then modified this factor for the purpose of FRAND determinations. In determining FRAND, the licensing arrangements properly considered as comparable must be similar, for example, a negotiated royalty that took place in light of a FRAND commitment or in the context of a patent pool entered into by the holders of potential SEPs to encourage the adoption of a standard.⁴⁴

*6 The court next turned to factor four, which considers the licensor's efforts to preserve the patent monopoly, for example, by refusing to license to others. The court correctly determined that this factor was inconsistent with the FRAND licensing commitment and should not be used in the determination of a FRAND royalty.⁴⁵

Factor five of the 15 factors, which examines whether the licensor and licensee are competitors in the same territory or line of business, the court found to be inapplicable to a FRAND determination, because both are potential if not actual competitors as to the Standards.⁴⁶

The court next considered factors six and eight that deal with secondary and conveyed sales of licensor and licensee to the determination of a reasonable royalty. The court found conveyed sales to be irrelevant, because the FRAND commitment exists to preclude SEP patent holders from demanding more than the value inherent in the technology itself.⁴⁷

In the traditional *Georgia-Pacific* analysis, factor seven looks at the duration of the patent term and the term of the license. Because these always are equivalent in the FRAND context, the court found that this factor “would have little influence” on the determination of a FRAND royalty.⁴⁸

Factor nine, which examines the advantages of the patented technology over prior technology, should be applied in the context of FRAND as of the time that alternative technologies were being considered that could have been written into the standard.⁴⁹

It is important that the analysis of factors 10 and 11, which deal with the benefit and value of the patented technology, focus strictly on the technology itself, separate and apart from its value as incorporated into the standard.⁵⁰

Georgia-Pacific factor number 12 considers the portion of the profit or selling price customary in the business to allow for use of the invention or of an analogous invention. The court indicated that this factor could be considered only in relation to customary practice in the business of licensing SEPs subject to the FRAND commitment.⁵¹

In considering factor 13, the portion of realizable profit that is derived from the patented technology must be considered. The realizable profit is distinguished from the nonpatented elements, the manufacturing process, business risks, or improvements made by the implementer. The determiner must be careful to consider only the value of the patented technology itself, apart from the value of the patent as having been incorporated into the standard.⁵²

Finally, the hypothetical negotiation called for in factor 15 must be conducted in light of the FRAND commitment made by the SEP owner.⁵³

In summary, the court expressly considered 12 of the 15 *Georgia-Pacific* factors (all but 2, 3, and 14), found three to be inapplicable entirely to a FRAND analysis (4, 5, and 7), and modified the remaining nine (1, 6, 8, 9, 10, 11, 12, 13, and 15). The court then turned to an examination of the evidence before it. The trick, of course, is to analyze the factors in light of the facts of a given case to arrive at a reasoned result. In the absence of sufficient factual evidence and no application of a burden of proof, the task is difficult to impossible.

In patent infringement litigation, the burden of proof to establish the fact and amount of damages resides with the patentee, whether the patentee is the plaintiff in a patent infringement action or a defendant in a declaratory judgment action.⁵⁴ Unfortunately, in the present case, despite a lengthy bench trial, the court was faced with a dearth of relevant factual evidence. Rather than applying a burden of proof, the court elected to treat statements of the attorneys and unsupported assertions of experts as evidence in its FRAND analysis.

The following are only two prominent examples of instances in which the court, in the face of the absence of any probative evidence on points essential to a determination of damages in a patent claim or of any reference to the burden of proof, instead elected to rely on statements of counsel and on the absence of any direct refutation of that statement by the other party:

Though Motorola claims 24 of its patents are essential to the 802.11 Standard, it did not provide any independent analysis to substantiate this claim ... Instead, Motorola provided only conclusory expert opinion testimony that an 802.11 compliant device would necessarily infringe SEPs at issue. Even though the court finds [the expert's] testimony conclusory, the court *7 will minimally credit his assertion that Motorola's SEPs are in fact essential to the 802.11 standard. (noting that the expert had not reviewed any patent file history, nor did the expert construe any claim term, nor even express the expert's view as to the plain meaning of the claim language).⁵⁵

The parties in a hypothetical negotiation would also consider the relative importance of Motorola's patents to the 802.11 standard by examining whether - at the time the standard was developed - there existed viable alternatives to the patents ... The court has carefully examined the relevant portions of the trial transcript and concludes that both Microsoft's and Motorola's experts provide little more than ipse dixit testimony regarding such alternatives ... The court finds that neither party has demonstrated the presence or absence of feasible alternatives to Motorola's SEPs. The court therefore concludes that in a hypothetical negotiation, the parties would simply disagree as to the technical contribution of Motorola's SEPs to the 802.11 standards.⁵⁶

To the same effect are the following determinations:

Finding minimal evidence to demonstrate that the patent was essential to the Standard, the court credits scant evidence in light of Microsoft's failure to contest it.⁵⁷

The parties have put the court in the middle of a battle of experts and have provided no basis for the court to determine a winner. In other words the court has insufficient evidence to determine essentiality of the '724 and '730 patents [A]bsolutely no evidence exists in the record explaining the relative importance in relation to other technological contributions of Motorola's '724 and '730 patents to OFDM⁵⁸ Because of the limited evidence showing the importance of the '724 and '730 patents

to the 802.11 standard, parties to the hypothetical negotiation would view both patents as providing very minimal technical contribution to data modulation or OFDM.⁵⁹

As with previous patents, Motorola did not elicit testimony regarding the meaning of the '724 Patent or the '730 Patent's claims as they relate to portions of the 802.11 Standard, but now asserts a claim[s] to Standard relationship through attorney representations in proposed findings of fact and conclusions of law ... Motorola's expert [], in a conclusory statement, contends that the Patents cover initiation of communications between a station and an access point in the 802.11 Standard. Because Microsoft does not contest the essentiality of the Patents, the court will credit Motorola's scant evidence that the Patents are essential to network setup in the 802.11 Standard.⁶⁰

As with the previous patents, Motorola did not elicit testimony regarding the meaning of the ... patents' claims as they relate to portions of the 802.11 Standard, but now asserts a claims-to-standard relationship through attorney representations in proposed findings of fact and conclusions of law. Motorola's expert [], in a conclusory statement, contends that the ... patents cover how to modulate the carrier signal to transmit information in the 802.11 standard. (Citations to record omitted.) (“In the bottom three patents ..., these deal with the fundamental process of how to change the carrier, how to modulate that carrier in order to convey the information to the other side.”)⁶¹

As before, Motorola did not elicit testimony regarding the meaning of the '571, '398 or '563 patents' claims as they relate to portions of the 802.11 Standard, but now asserts a claims-to-standards relationship through attorney representations in proposed findings of fact and conclusions of law.⁶²

These are but a few of the examples in which the court, in the absence of probative evidence as to the essentiality of the patents at issue, must rely on attorney representations and/or conclusory statements from expert witnesses and the failure of the potential licensee to affirmatively deny the essentiality of the patents at issue in order to conclude that there was evidence in the record to demonstrate that the patents at issue were essential to the standard.

*8 Far more cogent is the court's excellent discussion of the proper application of information from patent pools to a FRAND determination.

Patent Pools

The *Microsoft v. Motorola* ruling focused on at least two prominent patent pools to make its FRAND determination regarding both of the standards in question: (1) MPEG LA's pool for H.264, and (2) a Via Licensing pool for IEEE 802.11 were compared as useful indicators of reasonable royalty rates. While Judge Robart found that Microsoft was an intended third party beneficiary of the MPEG LA commitment to reciprocity, the court didn't base its rate-setting decision on a strict application of the grant-back obligation. The court stated, “Google [who acquired Motorola] is a sophisticated, substantial technology firm,” and whose execution of the license having the grant-back clause “further corroborates that the MPEG LA H.264 pool arrangement is an appropriate benchmark for determining [F]RAND royalties in this case.”

The court appears to rely on patent pools in order to contend with potential ““patent stacking,”” issues. Although, the Motorola patents were the sole IP at issue in the lawsuit, in fact implementation of the standards at issue may require use of hundreds of SEPs. So there is a potential for a given standard to be priced out of the market if an implementer must pay multiple royalties ““stacked”” on top of another. So although the patents involved in the MPEG LA H.264 pool and IEEE 802.11 pool had little in common with the Motorola patents and the Motorola was not directly involved in the pools, the court gave some weight to the low rates of these patent pools to avoid a perceived “stacking” problem.

Despite its concern regarding stacking, the court determined that a FRAND rate could be higher than a pool rate. The court used the incremental value of a patent compared to alternatives available at the time that were not chosen which inflated the rate beyond the patent pool rates.

In Re Innovatio

The second recent case to discuss the use of the *Georgia-Pacific* factors in a FRAND case was *In Re Innovatio LP Ventures*.⁶³ *Innovatio* focused solely on the determination of a single FRAND royalty rate in order to set damages for the infringement trial that was to follow.⁶⁴ Unlike in *Microsoft v. Motorola*, the court already had held a separate proceeding on the essentiality of the patents at issue and had determined that all of them were SEPs.⁶⁵

In order to determine the FRAND royalty rate and therefore the damages available if infringement were established in a subsequent trial, the court held an eight day bench trial, at which *Innovatio*, the owner of the SEPs, presented the testimony of five expert witnesses; and the manufacturers, the alleged infringers and the plaintiffs in the declaratory judgment action, presented the testimony of the associate general counsel of the original patentee/owner of the SEPs, the chair of several working groups at the standards setting organization (SSO), and three other experts.⁶⁶

After summarizing the court's modifications of the *Georgia-Pacific* factors in *Microsoft v. Motorola*, the court noted the differences in the purpose of the FRAND determination in the prior case (to determine a FRAND royalty range so that a jury could determine whether Motorola's initial offers were made in good faith) and the prior case's focus on whether the patents at issue were essential to the standard, a determination that the court in *Innovatio* had already made.⁶⁷ The court in *Innovatio* agreed with the *Microsoft v. Motorola* court that the primary purpose of the FRAND commitment was to avoid "patent hold-up" and "royalty-stacking."⁶⁸ As to the latter, the *Innovatio* court agreed with the court in the *Microsoft v. Motorola* case that a FRAND determination "must 'address the risk of royalty stacking by considering the aggregate royalties that would apply if other [standards essential patent] holders made royalty demands of the implementer.'"⁶⁹ In the words of the *Innovatio* court, "the concern of royalty stacking requires that the court, to the extent possible, evaluate a proposed RAND rate in the light of the total royalties an implementer would have to pay to practice the standard."⁷⁰

After determining that the infringing portion of the product upon which royalties must be paid was the Wi-Fi chip embodying the features of the standard,⁷¹ the court next turned to an examination of the value of the features covered by *Innovatio*'s SEPs. After an extensive examination of the testimony of the experts from both sides, including analysis of other licenses,⁷² the court adopted the "top down" approach to the determination of a FRAND royalty rate advocated by one of the experts for the manufacturers.⁷³

*9 The "top down" approach begins with an analysis of the average price of a Wi-Fi chip.⁷⁴ It then calculates the average profit a chipmaker earns on the sale of each chip.⁷⁵ Next, one must determine the average annual profit that a chipmaker earns on the sale of a chip.⁷⁶ This is the amount available from which to pay royalties on intellectual property. Then one must multiply the available profit per chip by a fraction, the numerator of which is the number of patents essential to the standard at issue held by the negotiating patent owner, and the denominator of which is the total number of essential patents held by all standards essential patentees.⁷⁷ The court was careful to note that "[i]f a royalty is excessive in comparison to a chip manufacturer's profit margin on a chip, the royalty is too high [The manufacturers' expert's] method of basing the total potential royalty for all 802.11 standard essential patents on the chip maker's profit insures that the total royalty stack will not exceed an amount that would force chipmakers out of the business."⁷⁸ Unfortunately, an analysis of the application of the "top down" methodology in *Innovatio*, when used in a nondiscriminatory manner by all SEP holders, would result in the exhaustion of the entire profit margin of a manufacturer.

The court noted that the “top down” method requires verifiable data points, including the total number of SEPs, the average price of a chip, and the average profit of a chip manufacturer.⁷⁹ The court then proceeded to determine each of the required elements.

The first “verifiable data point” used was a 2010 report from a market research company on which the industry relies that included the following information for the years 2000-2015: (1) a determination of the average annual selling price of the Wi-Fi chip; and (2) the number of such chips that were sold annually.⁸⁰ Exhibit 1 is a summary reproduction of the chart used in the court's calculations.⁸¹

Exhibit 1

Year	Avg. Price of Chip	No. Units Sold (millions)
2000	\$37.00	5.4
2001	\$29.03	7.5
2002	\$17.17	23.1
2003	\$12.10	43.2
2004	\$ 7.57	81.5
2005	\$ 5.76	158.8
2006	\$ 5.59	203.6
2007	\$ 5.47	307.2
2008	\$ 4.73	459.6
2009	\$ 3.75	591.3
2010	\$ 3.53	761.4
2011	\$ 3.42	1001.1
2012	\$ 3.28	1270.4
2013	\$ 3.05	1548.8
2014	\$ 2.81	1801.5
2015	\$ 2.54	2015.5

Using the figures on the chart,⁸² the court calculated the average price per year for the years 1997-2013, and arrived at a figure of \$14.85. In calculating the annual average profit margin, the court considered the operating profits realized by the original patentee/owner of the patents at issue on its sales of Wi-Fi chips during the period 2000-2012. The average profit reported by the original patentee/owner for those years was 12.1 percent per Wi-Fi chip sold. The court adopted this figure for the purposes of its calculations.⁸³

Relying on the same expert on which the court relied for the method of calculation and the calculation of average annual profit margin, the court determined that there were a total of 3,000 SEPs for the standard at issue.⁸⁴ The same expert, in reliance on a 1998 article by Mark Schankerman opined that the top 10 percent of all electronic patents account for 84 percent of the value of all electronic patents.⁸⁵ The expert then multiplied the average annual profit margin of 12.1 percent by 84 percent to determine Innovatio's share of the value of the top 10 percent of SEPs.⁸⁶ The court then found that Innovatio's SEPs were in the top 10 percent of all SEPs.⁸⁷

Using the above information, the court then performed the following calculations: the court multiplied the average annual price charged for the Wi-Fi chip (\$14.85) by the profit margin (12.1 percent) to get the average annual profit per Wi-Fi chip made by the manufacturer (\$1.80). In the court's view this represents the total annual profit per chip available for the payment. The court then took 84 percent (the value attributable to the 10 percent of the SEPs deemed most essential, and including the Innovatio SEPs) and multiplied that figure by the \$1.80 profit margin per chip, which resulted in a figure of \$1.51. This figure, according *10 to the court, represents “the value attributable to the top 10% of all 802.11 SEPs.”⁸⁸

The court then multiplied the \$1.51 (“the value attributable to the top 10% of all 802.11 SEPs”) [or, more precisely 84 percent of the average annual profit margin per chip] by the fraction 19/300, with the numerator being the number of the Innovatio

SEPs and the denominator representing the top 10 percent of all 802.11 SEPs (10 percent of 3,000).⁸⁹ This results in a figure of \$.0956 which represents the portion of the annual profit margin per chip attributable to the Innovatio SEPs, which the court refers to as “the pro rata share of the value in the top 10% of all 902.11 SEPs attributable to [Innovatio's SEPs].”⁹⁰

The court adopts this figure of \$.0956 (9.56 cents) per Wi-Fi chip, which is in reality the amount of the average annual profit per Wi-Fi chip attributable to Innovatio's SEPs, as the RAND rate for licensing Innovatio's 802.11 patent portfolio.⁹¹

However, there is a serious difficulty with this analysis when considered in the light of the perceived problem of “royalty stacking” because the calculation does not take account of the non-SEPs when determining a RAND rate. If one were to perform the same calculations for all of the remaining SEPs in the top 10 percent of 802.11 SEPs, steps one and two would be exactly the same. In performing step three, one would multiply the \$1.51 (“the value attributable to the top 10% of all 802.11 SEPs” [or more precisely 84 percent of the average annual profit margin per chip] by the fraction 281/300, with the numerator being the number of non-Innovatio patents in the top 10 percent and the denominator representing the top 10 percent of all 802.11 SEPs. This results in a figure of \$1.4144.

Applying the same logic used by the court, we would adopt this figure of 1.4144 as representing the RAND rate for licensing the 802.11 portfolio of the non-Innovatio SEPs among the top 10 percent of 802.11 SEPs. And, lo and behold, if we add the RAND rate for licensing the Innovatio SEPs (.0956) to the RAND rate for licensing the balance of the SEPs in the top 10 percent (1.4144), we get 1.51, or exactly 84 percent of the average annual profit margin per chip.

Thus if one were to perform the appropriate calculations for the lower 90 percent of the SEPs one would undoubtedly use up the balance of the average annual profit margin per chip of royalties.⁹²

Therefore, under the court's scenario, the manufacturers would be paying out 100 percent of their average annual profit margins in royalties on SEPs. This seems to be the very essence of the problem of “royalty stacking” that one seeks to avoid, because the royalties that must be paid to the owners of all of the SEPs would eat up the entire profit margin realized by the manufacturers leaving no profit to be paid for non-SEPs.

Baseball Arbitration

In view of the high level of complexity involved in attempting to make a FRAND ruling according to the typical litigation process used in the *Microsoft* and *Innovatio* cases discussed above, it raises a question as to whether there may be a better method of making a FRAND determination. For example, the FTC has indicated a preference for the use of arbitration in order to resolve a particular FRAND conflict.⁹³ However, such standard arbitration proceedings may fall into the same lengthy and overly complicated litigations as discussed above.

An interesting option is “baseball”⁹⁴ or “final offer” arbitration. In baseball arbitration each party provides the arbitrator with a sealed “final offer,” either of which the arbitrator must choose, without modification.⁹⁵ As discussed in prior work by Contreras and Newman, the binary nature of the arbitrator's decision will motivate each party to submit a more reasonable offer.⁹⁶ Because each side knows that the arbitrator is unable to compromise, each side is wary of making unreasonable offers that increase the chance that it may lose. FRAND disputes are well suited to baseball arbitration because the principal (and often the only) issue is the appropriate royalty rate for a SEP. Noted academics have recommended baseball arbitration for these reasons.⁹⁷

However, the lack of a reasoned decision in a traditional baseball arbitration in FRAND disputes will offer little guidance to the parties and to the market as a whole. Reasoned decisions are rare in baseball arbitration because the arbitrator's report typically would only provide a brief explanation why he or she chose a particular party's offer. But if the parties (or an SDO) required

some type of opinion explaining the reasoning behind a FRAND determination, the arbitrator could at least provide an outline of the factors that were considered in arriving at the FRAND rate.⁹⁸

*11 By providing an outline of his/her methodology to determine the FRAND rate, the parties (or an SDO) could at least determine whether an arbitrator had followed prevailing or accepted methodologies to reach his/her conclusions. A determination of the FRAND royalty rates for particular sets of standards-essential patents has the potential to inform other market participants of acceptable royalty rates dealing with the same standards. Confidentiality issues can be addressed by the arbitrator at the outset of the baseball arbitration process based on the input of the parties. As part of the baseball arbitration, the parties may be required to address pertinent SDO rules and whether any disclosure to other standards participants would be necessary to maintain a nondiscriminatory (the ND portion of a FRAND commitment) licensing program.

Using baseball arbitration in such a manner could overcome much of the complexity and difficulty faced by district courts, as exemplified by the *Microsoft* and *Innovatio* rulings discussed above. Upon receipt of a final offer--indicating the royalty rate each side believes should be a FRAND rate-- the arbitrator has a more defined starting point than either Judge Robart or Judge Holderman had in the *Microsoft* or *Innovatio* cases, respectively. Because the arbitrator merely is choosing between the submitted final offers, the FRAND analysis can be more of a check of whether such submitted FRAND rates can be reasonably supported by any number of commercial factors, comparables, etc. As a result, an analysis as to whether a final offer is reasonably supported during a baseball arbitration may require less discovery, less expert testimony, and bypass "blank paper" development of a FRAND rate by the arbitrator.

Conclusion

While the opinions in the *Microsoft* and *Innovatio* cases display careful analysis by Judges Robart and Holderman, the complexity of such analyses introduces room for miscalculation by even the most skilled and intelligent jurists. Conceivably there are myriad variables and factors in any analysis of a fair, reasonable, and nondiscriminatory royalty, and a multitude of methodologies by which an analysis could be approached. Whether using a "top down" approach, "bottom up" approach, or placing a primary focus on avoiding royalty stacking, a FRAND analysis--similar to a valuation of real property--is not an exact science and may never lend itself to a completely satisfactory conclusion.

In such a context, the use of an ADR process, such as baseball arbitration may provide a much more streamlined process to arrive at such an imperfect solution. We accept that a winning throw in a horseshoe toss game may not hit the stake. Likewise, parties involved in a FRAND conflict may be satisfied with an arbitration process that gets them close enough to the stake because the streamlined fashion of the process is likely to be quicker and less expensive than district court litigation. Also parties may be willing to forego a slightly more exacting district court litigation process because it may not hit the stake either. Just as horseshoes and hand grenades, baseball arbitration may reach a solution to a FRAND conflict that is close enough. At the same time, baseball arbitration is a winner-takes-all proposition that is likely to instill fear of an unfavorable result in both sides. Such a one sided result may push the parties to settle the matter outside of the arbitration process, through the give and take of a private negotiation, without the risk of an unfavorable arbitral ruling.

Footnotes

^{a1} **M. Scott Donahey** is an arbitrator and mediator focusing his practice on commercial, intellectual property, and international commercial disputes. **David L. Newman** is a partner at Arnstein & Lehr LLP in Chicago, IL. He is a member of the firm's Intellectual Property Practice Group. The authors may be contacted at adr@scottdonahey.com and dlnewman@arnstein.com, respectively.

¹ J. Contreras, D. Newman, Developing a Framework for Arbitrating Standards-Essential Patent (SEP) Disputes; ___ J. DISPUTE RESOL. ___ (2014, forthcoming), p. 2.

- 2 *See, e.g.*, U.S. Federal Trade Commission, “The Evolving IP Marketplace: Aligning Patent Notice and Remedies with Competition” 5 (2011) (“Patent hold-up can overcompensate patentees, raise prices to consumers who lose the benefits of competition among technologies, and deter innovation by manufacturers facing the risk of hold-up”), and Joseph Farrell, John Hayes, Carl Shapiro & Theresa Sullivan, “Standard Setting, Patents, and Hold-Up,” 74 *Antitrust L.J.* 603, 616 (2007).
- 3 Contreras, *supra* n.1 at 3.
- 4 *See* American Bar Association Committee on Technical Standardization, Section of Science & Technology Law, Standards Development Patent Policy Manual x-xi (Jorge L. Contreras, ed. 2007) (defining “essential claims”).
- 5 Mark A. Lemley, “Intellectual Property Rights and Standard-Setting Organizations,” 90 *Cal. L. Rev.* 1889, 1906 (2002) (29 of 36 SDO patent policies studied in 2002, contained FRAND licensing requirements--three more encouraged FRAND licensing).
- 6 ANSI represents the United States at the Geneva-based International Organization for Standards (ISO) and accredits US SDOs. There currently are 230 ANSI-accredited SDOs. Am. Natl. Standards Inst., ANSI Annual Report 2011-12 at 8 (2012). *See also* Contreras, *supra* n.1 at 3.
- 7 *Id.*
- 8 *See, e.g.*, IEEE Standards Assn., Policies and Procedures Sec. 6.3.1 (“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 Patents Claims, or 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”).
- 9 *See, generally*, Jorge L. Contreras, “Fixing FRAND: A Pseudo-Pool Approach to Standards-Based Patent Licensing,” 79 *Antitrust L.J.* ___, App. 1 (2013) (listing US FRAND-related lawsuits through 2012).
- 10 *Microsoft v. Motorola*, Order, 2012 U.S. Dist. LEXIS 146517 (W.D. Wash., Oct. 10, 2012).
- 11 Memorandum Opinion and Order, *In re Innovatio IP Ventures, LLC Patent Litigation*, Case No. 11 C 9308 (N.D. Ill. Jul. 26, 2013) [hereinafter *Innovatio Patent Litigation*] (holding that 168 disputed patent claims were essential to IEEE 802.11 standard and subject to FRAND commitment).
- 12 *Apple v. Motorola* (ITC); *Microsoft v. Motorola* (ITC).
- 13 *See In re Motorola Mobility LLC & Google Inc.*, FTC Docket No. C-4410, at 9- (Jul. 23, 2013) (decision and order), <http://www.ftc.gov/os/caselist/1210120/130724googlemotorolado.pdf> [hereinafter *Google Order*]; *In re Robert Bosch GmbH*, Statement of the Federal Trade Comm'n, No. 121-0081 (Nov. 26, 2012); Case No COMP/M.6381--Google/Motorola Mobility, Commission decision pursuant to Article 6(1)(b) of Council Regulation No 139/2004, February 13, 2012.
- 14 *Georgia-Pacific Corp. v. United States Plywood Corp.*, 318 F. Supp. 116, 120, 166 U.S.P.Q. 235, 238, (S.D.N.Y. 1970), *modified and aff'd*, 446 F.2d 295 (2d Cir.), *cert. denied*, 404 U.S. 870, 92 S.Ct.105, 30 L.Ed.2d 114 (1971).
- 15 The 15 factors cited may be summarized as follows:
1. The royalties that the patentee received from other parties on the licensing of the patent in suit;
 2. The royalty rate that the litigant “licensee” has paid for licenses on patents similar to the patent in suit;
 3. The nature and scope of the license whether exclusive or nonexclusive, whether worldwide or restricted as to territory or class of customers;
 4. Whether any licenses granted under the patent in suit were restricted so as to maintain the patent monopoly;
 5. The commercial relationship between the patentee and its licensees and whether the patentee and its licensees are competitors or whether they are merely promoters of the patented invention;
 6. Whether the selling of the patented technology promotes the sale of other or “convoyed” products, both those of the patentee and those of the litigant “licensee”;
 7. The duration of the patent and the term of any license;
 8. The established profitability, commercial success, and current popularity of the patented technology;
 9. The utility and advantages of patented technology over prior similar technologies;
 10. The nature of the patented technology and the benefits to those who have employed the technology;

11. The extent to which the infringer has used the patented technology and any evidence of the value of that use;
12. The portion of the profit or selling price customary in the particular business to allow for use of the invention or similar inventions;
13. The portion of realizable profits attributable to the patented technology, as opposed to the portions attributable to nonpatented elements or to improvements added by the infringer, or to portions attributable to the manufacturing process or business risks;
14. Opinion testimony of qualified experts; and
15. The royalty that the reasonable patentee and a reasonable prudent licensee would have agreed upon in a voluntary licensing negotiation. *Georgia Pacific*, 92 S.Ct. at 120.

16 [Georgia Pacific](#), 318 F. Supp. 1116.

17 *Id.* at 1117.

18 *Id.*

19 *Id.*

20 *Id.* at 1118.

21 *Id.*

22 *Id.* at 1118-1119.

23 *Id.* at 1120.

24 *Id.*

25 *Id.* at 1121.

26 *Id.*

27 *See, supra*, factors 2, 4, 6, 8, 13, and 14.

28 Daralyn J. Durie & Mark A. Lemley, "A Structured Approach to Calculating Reasonable Royalties," 14 *Lewis & Clark L. Rev.* 637, 628, 633-635 (2010).

29 Fed. Trade Comm'n, *The Evolving IP Marketplace: Aligning Patent Notice and Remedies With Competition* 184 (March 2011).

30 Corrected Brief for *Amicus Curiae* American Antitrust Institute Supporting Neither Party, filed December 10, 2013, in the matter of *Ericksson, Inc., et al. v. D-Link Systems, Inc., et al.* United States Court of Appeal for the Federal Circuit, Nos. 2013-1625, -1531, -1632, -1633; *Microsoft Corp. v. Motorola, Inc., et al.*, No. C10-1823JLR, 2013 WL 211217 (W.D. Wash. Apr. 25, 2013) (Robart, D.J.); *In re Innovatio IP Ventures, LLC Patent Litig.*, No. 11 C 9308, 2013 WL 5593609 (N.D. Ill. Oct. 3, 2013) (Holderman, D.J.).

31 *Microsoft Corp. v. Motorola, Inc., et al.*, No. C10 - 1823 JLR, 2013 WL 211217 (W.D. Wash. Apr. 25, 2013) (Robart, D.J.).

32 *Id.* at 2.

33 *Id.* at 6.

34 *Id.* ¶ 55 at 21.

35 *Id.* ¶ 56 at 21.

36 *Id.* ¶ 58 at 22.

37 *Id.* ¶ 61 at 22.

38 *Id.* ¶¶ 64 and 65 at 23.

39 *Id.* ¶ 66 at 23.

- 40 *Id.* ¶ 87 at 30-31.
- 41 *Id.* ¶¶ 88-92 at 31-32.
- 42 *Id.* ¶¶ 98-99 at 35.
- 43 *Id.* ¶ 108 at 38-39.
- 44 *Id.*
- 45 *Id.* ¶ 101 at 36.
- 46 *Id.* ¶ 102 at 36.
- 47 *Id.* ¶¶ 103-104 at 36-37.
- 48 *Id.* ¶ 105 at 37.
- 49 *Id.* ¶ 106 at 37-38.
- 50 *Id.* ¶ 107 at 38.
- 51 *Id.* ¶ 108 at 38-39.
- 52 *Id.* ¶ 109 at 39.
- 53 *Id.*
- 54 *Medtronic v. Mirowski Family Ventures*, Slip Opinion, No. 12-1128, U.S. S.Ct. (Jan. 22, 2014); *Lucent v. Gateway*, 580 F. 3d 1302, 1324 (Fed. Cir. 2009); [Smithkline Diagnostics, Inc. v. Helena Labs. Corp.](#), 926 F. 2d 1161, 1164 (Fed. Cir. 1991).
- 55 *Microsoft v. Motorola*, 340 at 105, n. 13.
- 56 *Id.* ¶¶ 343-346 at 106-108.
- 57 *Id.* ¶ 356 at 111-112.
- 58 Orthogonal Frequency Division Multiplexing Functionality.
- 59 *Microsoft v. Motorola* ¶¶ 370-373 at 116-117.
- 60 *Id.* ¶¶ 376-377 at 118-119.
- 61 *Id.* ¶ 387 at 122.
- 62 *Microsoft v. Motorola*, 2013 WL 44936009 (N.D. Ill.).
- 63 *Id.*
- 64 *Id.* at *6.
- 65 *Id.* at *2 and *7.
- 66 *Id.* at *2.
- 67 *Id.* at *6-*7.
- 68 *Id.* at *8-*9.
- 69 *Id.* at *9 (citation omitted).

- 70 *Id.* at *10.
- 71 *Id.* at *12-*14.
- 72 *Id.* at *15-*36.
- 73 *Id.* at *37-*38.
- 74 *Id.* at *38.
- 75 *Id.*
- 76 *Id.*
- 77 *Id.*
- 78 *Id.*, at *39.
- 79 *Id.*, at *39.
- 80 *Id.* It should be noted that the chart was not without its critics at the hearing. One expert's apparent criticism was redacted, apparently to preserve confidentiality. A second expert opined that the numbers in the report were too low, because disproportionately more basic Wi-Fi chips were sold at lower prices. The same expert testified that the costs listed were inaccurate for a particular time period. *Id.* at *40.
- 81 *Id.* at *40.
- 82 As the court lacked price or sales figures for the years 1997, 1998, and 1999, the court used the average price of a chip in 2000 for each of the three prior years. As the report relied on is labeled the "Report," the figure used by the courts for the years 2011, 2012, and 2013 (and perhaps for 2010, because it is unclear when in 2010 that the report was produced were estimates, and not actual reports of sales and prices.
- 83 *Id.*
- 84 *Id.* at *43.
- 85 *Id.*
- 86 *Id.*
- 87 *Id.*
- 88 *Id.*
- 89 *Id.* and n.35.
- 90 *Id.* at *43.
- 91 *Id.*
- 92 *Id.*
- 93 *See*, Google Order, *supra* n.13.
- 94 "Baseball arbitration" is most well known for its use by Major League Baseball, which employed this approach in connection with player salary arbitration.
- 95 Variants of baseball arbitration are known such as where the parties are each permitted to submit final offers, and others.
- 96 Contreras, *supra* n.1 at 19.

- 97 Farrell *et al.*, *supra* n.2 at 8 (“FRAND disputes are wellsuited to baseball-style arbitration, because the only thing at issue is which of two numbers in fact represents the more reasonable royalty”).
- 98 Contreras, *supra* n.1 at 19-20.

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