

ARTICLE

RECENT FEDERAL CIRCUIT DECISIONS CLARIFY AND REFINE METHODOLOGIES FOR DETERMINING PATENT DAMAGES

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I. INTRODUCTION

Jury awards for patent infringement can exceed \$1 billion.¹ The experts and consulting firms hired to opine on damages for patent infringement can charge millions of dollars for their services.² Lawsuits over patents covering interoperability standards for prominent, widely used consumer products, such as laptop computers and smartphones, have gained increased public attention.³ Even with relatively low per-unit damages, total awards for popular products can reach high levels. With so much at stake in a typical patent case, using a

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¹ See, e.g., *Carnegie Mellon Univ. v. Marvell Tech. Grp., Ltd.*, 807 F.3d 1283, 1288 (Fed. Cir. 2015), *reh'g en banc denied in part*, 805 F.3d 1382 (Fed. Cir. 2015) (holding in abeyance a decision on a request for rehearing en banc regarding an enhanced-damages issue); *Apple Inc. v. Samsung Elecs. Co.*, 786 F.3d 983, 989 (Fed. Cir. 2015); see also Chris Barry et al., *2015 Patent Litigation Study: A Change in Patentee Fortunes*, PwC 5 (May 2015), <https://www.pwc.com/us/en/forensic-services/publications/assets/2015-pwc-patent-litigation-study.pdf> [<https://perma.cc/JA42-KYN8>].

² See, e.g., Troy Wolverton, *Samsung Attorney Tries to Undermine Apple's Damages Expert*, SAN JOSE MERCURY NEWS (Apr. 11, 2014, 5:40 PM), http://www.mercurynews.com/business/ci_25549404/samsung-attorney-tries-undermine-apples-damages-expert [<https://perma.cc/3PN7-993Q>]; MacNN Staff, *Apple vs Samsung, Day 10: The Home Stretch*, MACNN NEWS (Apr. 23, 2014, 2:15 AM), <https://www.macnn.com/articles/14/04/23/apple.defends.against.samsung.charges.discloses.secret.deal/> [<https://perma.cc/SJY5-8KS5>]; Joel Rosenblatt, *Google's Stake in \$2 Billion Apple-Samsung Trial Revealed*, BLOOMBERGBUSINESS (Apr. 23, 2014, 2:31 AM), <http://www.bloomberg.com/news/articles/2014-04-22/google-indemnified-samsung-in-apple-patent-trial-witness-says> [<https://perma.cc/V5ZM-NV93>].

³ See Daryl Lim, *Standard Essential Patents, Trolls, and the Smartphone Wars: Triangulating the End Game*, 119 PENN ST. L. REV. 1, 1 (2014).

suitable methodology to determine patent damages is essential.

The Court of Appeals for the Federal Circuit has exclusive jurisdiction over appeals in patent cases.⁴ This article discusses recent Federal Circuit decisions that clarify and refine the analysis of methodologies for determining patent damages. It also includes points to consider when litigating patent cases.

Specifically, this article provides background regarding patent damages and standard-essential patents. It then discusses two decisions that addressed damages methodologies for standard-essential patents and the implications of those decisions. Finally, it discusses three decisions that addressed damages methodologies involving profit splitting and the implications of those decisions.

A. Patent Damages Generally

The Patent Act provides that a patentee should receive “no . . . less than a reasonable royalty for the use made of the invention by the infringer.”⁵ A reasonable royalty “derives from a hypothetical negotiation between the patentee and the infringer when the infringement began.”⁶ This analysis “attempts to ascertain the royalty upon which the parties would have agreed had they successfully negotiated an agreement just before infringement began.”⁷ A reasonable royalty compensates the patentee for the value of what was appropriated—the patented technology—instead of the damages actually suffered by the patentee.⁸ A reasonable royalty is often calculated by multiplying a royalty base by a royalty rate.⁹

Under some circumstances, patentees can recover actual damages even though the actual damages exceed a reasonable royalty.¹⁰ If a patentee can prove that profits would have accrued “but for” the infringement, the patentee can receive lost profits as damages.¹¹ However, a patentee cannot receive both lost profits and a reasonable royalty for a particular sale of an infringing

⁴ 28 U.S.C. § 1295(a) (2011).

⁵ 35 U.S.C. § 284 (2011); *see also* *Bandag, Inc. v. Gerrard Tire Co.*, 704 F.2d 1578, 1583 (Fed. Cir. 1983) (noting that a reasonable royalty is “the floor below which damages shall not fall.”).

⁶ *ResQNet.com, Inc. v. Lansa, Inc.*, 594 F.3d 860, 868 (Fed. Cir. 2010).

⁷ *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1324 (Fed. Cir. 2009).

⁸ *Warsaw Orthopedic, Inc. v. NuVasive, Inc.*, 778 F.3d 1365, 1375, 1377 (Fed. Cir. 2015).

⁹ Eric Phillips & David Boag, *Recent Rulings on the Entire Market Value Rule and Impacts on Patent Litigation and Valuation*, 48 LES NOUVELLES 1, 1 (Mar. 2013), https://www.lesi.org/docs/default-source/Inmarch2013/In-book-03_13.pdf [<https://perma.cc/JN5G-68C6>]; *see also* *Whitserve, LLC v. Comput. Packages, Inc.*, 694 F.3d 10, 27 (Fed. Cir. 2012) (stating that multiplying the royalty base by the royalty rate is the “classic way” of determining a reasonable royalty).

¹⁰ *Rite-Hite Corp. v. Kelley Co.*, 56 F.3d 1538, 1545 (Fed. Cir. 1995) (en banc).

¹¹ *King Instruments Corp. v. Perego*, 65 F.3d 941, 952 (Fed. Cir. 1995).

product.¹²

Where the patent at issue covers only some aspects of a multi-component/multi-feature product, the patentee must separate or apportion the value added by the patented technology from the unpatented technology.¹³ The entire-market-value rule provides a narrow exception to the apportionment requirement for multi-component/multi-feature products.¹⁴ Under that rule, “[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.”¹⁵ That rule “is designed to account for the contribution of the patented feature to the entire product.”¹⁶

B. Standard-Essential Patents

As additional background, standard-setting organizations (or SSOs) establish technical specifications that ensure compatibility between products made by different manufacturers.¹⁷ “Standardization provides enormous value to both consumers and manufacturers” because standardization “increases competition by lowering barriers to entry and adds value to manufacturers’ products by encouraging production by other manufacturers of” compatible products.¹⁸

Implementing a standard may require use of patented technology.¹⁹ Where a standard requires use of patented technology, the patent is called an “essential” patent or a standard-essential patent.²⁰ Before implementing standards, SSOs often request assurances from patentees that they will license standard-essential patents under reasonable and nondiscriminatory (RAND) terms.^{21, 22}

¹² *Warsaw Orthopedic*, 778 F.3d at 1374.

¹³ *VirnetX, Inc. v. Cisco Sys., Inc.*, 767 F.3d 1308, 1326 (Fed. Cir. 2014) (citing *Garretson v. Clark*, 111 U.S. 120, 121 (1884)).

¹⁴ *Id.*

¹⁵ *Versata Software, Inc. v. SAP Am., Inc.*, 717 F.3d 1255, 1268 (Fed. Cir. 2013) (quoting *SynQor, Inc. v. Artesyn Techs., Inc.*, 709 F.3d 1365, 1383 (Fed. Cir. 2013)).

¹⁶ *AstraZeneca AB v. Apotex Corp.*, 782 F.3d 1324, 1338 (Fed. Cir. 2015).

¹⁷ *Microsoft Corp. v. Motorola, Inc.*, 795 F.3d 1024, 1030 (9th Cir. 2015); Mark A. Lemley, *Intellectual Property Rights and Standard-Setting Organizations*, 90 CAL. L. REV. 1889, 1892-1893 (2002).

¹⁸ *Microsoft*, 795 F.3d at 1030.

¹⁹ *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201, 1209 (Fed. Cir. 2014).

²⁰ *Apple, Inc. v. Motorola Mobility, Inc.*, 886 F. Supp. 2d 1061, 1067 (W.D. Wis. 2012).

²¹ *Ericsson*, 773 F.3d at 1209; *see also* *Microsoft Corp. v. Motorola, Inc.*, No. 10-1823, 2013 WL 2111217, at *7 (W.D. Wash. Apr. 25, 2013), *aff’d*, 795 F.3d 1024 (9th Cir. 2015); *Apple*, 886 F. Supp. 2d at 1067; *Barnes & Noble, Inc. v. LSI Corp.*, 849 F. Supp. 2d 925, 931 n.4 (N.D. Cal. 2012); *Vizio, Inc. v. Funai Elec. Co.*, No. 09-0174, 2010 WL 7762624, at *7 n.3 (C.D. Cal. Feb. 3, 2010).

²² Instead of RAND terms, some entities refer to FRAND terms, i.e., fair, reasonable,

An owner of a standard-essential patent who commits to license on RAND terms cannot refuse to license anyone—even a direct competitor—who agrees to pay a RAND rate.²³ But a patentee does not usually have to specify RAND terms (such as royalty provisions) before an SSO adopts a standard.²⁴ So disputes over RAND terms may arise when a manufacturer seeks a license or during a lawsuit over infringement of a standard-essential patent.

Standard-compliant products may implement many standards and contain numerous components and features.²⁵ Because a standard-essential patent may cover only one aspect of one standard, apportionment issues may arise in cases involving standard-compliant products.

II. REFINEMENTS IN THE ANALYSIS OF DAMAGES METHODOLOGIES FOR STANDARD-ESSENTIAL PATENTS

In two recent decisions, the Federal Circuit considered apportionment in the context of standard-essential patents: *Ericsson, Inc. v. D-Link Systems, Inc.*²⁶ and *Commonwealth Scientific & Industrial Research Organisation v. Cisco Systems, Inc.*²⁷ Both *Ericsson* and *CSIRO* concerned the Institute of Electrical and Electronics Engineers (IEEE) 802.11 standard for wireless local area networks (WLANs), commonly called Wi-Fi.²⁸

A. Applying Apportionment Principles to RAND-Encumbered Standard-Essential Patents

In *Ericsson v. D-Link*, Ericsson asserted that D-Link infringed RAND-encumbered standard-essential patents.²⁹ The asserted patents covered equipment and methods for improving the quality of data transmitted

and nondiscriminatory terms. Fiona M. Scott-Morton, Deputy Assist. Att’y Gen. for Econ. Analysis, Antitrust Div., *The Role of Standards in the Current Patent Wars*, U.S. Dep’t of Justice 2 n.3 (Dec. 5, 2012), <http://www.justice.gov/atr/file/518961/download> [<https://perma.cc/JA8J-JRU7>]. One federal judge has noted, however, that “the word ‘fair’ adds nothing to ‘reasonable’ and ‘nondiscriminatory.’” *Apple, Inc. v. Motorola, Inc.*, 869 F. Supp. 2d 901, 911–12 (N.D. Ill. 2012) (Posner, J., sitting by designation), *aff’d in part, rev’d in part, vacated in part*, 757 F.3d 1286 (Fed. Cir. 2014), *overruled on other grounds by Williamson v. Citrix Online, LLC*, 792 F.3d 1339 (Fed. Cir. 2015).

²³ *Microsoft*, 795 F.3d at 1031.

²⁴ *See Microsoft Corp. v. Motorola, Inc.*, 696 F.3d 872, 876 (9th Cir. 2012).

²⁵ *See Brad Biddle, Andrew White & Sean Woods, How Many Standards in a Laptop? (And Other Empirical Questions)*, 3 (Sept. 10, 2010) (identifying about 250 interoperability standards implemented in a laptop computer), http://standardslaw.org/How_Many_Standards.pdf [<https://perma.cc/FWA7-BSQ4>].

²⁶ *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201 (Fed. Cir. 2014).

²⁷ *Commonwealth Sci. & Indus. Research Org. v. Cisco Sys., Inc. (CSIRO)*, 809 F.3d 1295 (Fed. Cir. 2015).

²⁸ *Ericsson*, 773 F.3d at 1208; *CSIRO*, 809 F.3d at 1297-98.

²⁹ *Ericsson*, 773 F.3d at 1207–11.

wirelessly between devices.³⁰ The accused products included a variety of electronic devices, such as laptop computers and routers, that incorporated Wi-Fi chips made by Intel.³¹ The jury found that D-Link infringed three patents and awarded a reasonable royalty of approximately \$10 million.³² That award amounted to a royalty of roughly 15 cents per infringing product.³³

D-Link appealed and raised several issues.³⁴ Among other things, D-Link argued that the district court improperly allowed Ericsson's damages expert to present testimony based on the entire market value of the accused products even though the patents covered only one component, i.e., the Wi-Fi chip.³⁵ In particular, D-Link urged that Ericsson's expert violated the entire-market-value rule by relying in part on licenses tied to end-product value.³⁶ The district court allowed that testimony because it determined that Ericsson's expert "properly apportioned any damages calculations based on those licenses to account for the value of the patents at issue."³⁷

The Federal Circuit concluded that the district court did not abuse its discretion by allowing expert testimony about licenses tied to end-product value because Ericsson's expert explained "the need to discount reliance on a given license to account only for the value attributed to the licensed technology" to the jury.³⁸ The Federal Circuit observed that a reasonable royalty "must be based on the incremental value that the patented invention adds to the end product."³⁹ It noted, however, that real-world licenses "are almost never perfectly analogous to the infringement action."⁴⁰ It also noted that real-world licenses "are generally negotiated without consideration" of the entire-market-value rule.⁴¹ Thus, the court reasoned that excluding evidence about licenses tied to end-product value "would often make it impossible for a patentee to resort to license-based evidence."⁴²

The Federal Circuit explained that when licenses based on an overall product are admitted into evidence or even referenced in expert testimony, district courts should instruct juries about the limited purposes of the evidence.⁴³ In particular, the appellate court advised district courts to "ensure

³⁰ *Id.* at 1209–11.

³¹ *Id.* at 1211.

³² *Id.* at 1213.

³³ *Id.*

³⁴ *Id.* at 1214.

³⁵ *Id.* at 1225.

³⁶ *Id.* at 1225, 1227.

³⁷ *Id.* at 1225.

³⁸ *Id.* at 1228.

³⁹ *Id.* at 1226.

⁴⁰ *Id.* at 1227.

⁴¹ *Id.* at 1228.

⁴² *Id.*

⁴³ *Id.*

that the instructions fully explain the need to apportion the ultimate royalty award to the incremental value of the patented feature from the overall product.”⁴⁴

With regard to RAND issues, D-Link asked the district court to instruct the jury about Ericsson’s actual RAND commitment.⁴⁵ But instead of adopting the instruction that D-Link proposed, the court simply informed the jury that it “may consider . . . Ericsson’s obligation to license its technology on RAND terms.”⁴⁶ Further, the court instructed the jury about all fifteen of the *Georgia-Pacific* factors, including an additional sixteenth factor.^{47, 48}

On appeal, D-Link argued that the district court improperly failed to provide more detailed instructions on RAND issues and that many of the *Georgia-Pacific* factors were inapplicable or misleading in the RAND context.⁴⁹ The Federal Circuit agreed with D-Link that the district court should have instructed the jury about Ericsson’s actual RAND commitment rather than referring generally to Ericsson’s obligation to license on RAND terms.⁵⁰ The appellate court observed that “‘RAND terms’ vary from case to case.”⁵¹ So it directed district courts to instruct juries about “what commitments have been made” and the “obligation (not just option) to take those commitments into account when determining a royalty award.”⁵²

In response to D-Link’s argument regarding the *Georgia-Pacific* factors, the Federal Circuit addressed their applicability to RAND-encumbered patents.⁵³ The court noted that many factors are “not relevant,” “contrary to RAND

⁴⁴ *Id.*

⁴⁵ *Id.* at 1229.

⁴⁶ *Id.*

⁴⁷ *Id.* (The sixteenth factor concerned the patentee’s obligation to license the patented technology.)

⁴⁸ In *Georgia-Pacific Corp. v. United States Plywood Corp.*, the district court compiled a list from what it called a “conspectus of the leading cases” of fifteen factors generally relevant when determining a reasonable royalty for a patent license. 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970), *modified and aff’d*, 446 F.2d 295 (2d Cir. 1971). Those factors include royalties paid under the patent in suit, royalties paid under comparable patents, the nature and scope of the license (e.g., exclusive or nonexclusive), the patentee’s established policy of licensing or not licensing its patents, the relationship between the parties (e.g., whether they compete directly against each other), and the profitability of products made under the patent in suit. *Id.* The Federal Circuit has authorized use of the *Georgia-Pacific* factors when determining a reasonable royalty. *See, e.g.*, *Apple Inc. v. Samsung Elecs. Co.*, 786 F.3d 983, 1005 (Fed. Cir. 2015); *Whitserve, LLC v. Comput. Packages, Inc.*, 694 F.3d 10, 26–27 (Fed. Cir. 2012); *Maxwell v. J. Baker, Inc.*, 86 F.3d 1098, 1109 (Fed. Cir. 1996); *SmithKline Diagnostics, Inc. v. Helena Labs. Corp.*, 926 F.2d 1161, 1168 (Fed. Cir. 1991).

⁴⁹ *Ericsson*, 773 F.3d at 1229.

⁵⁰ *Id.* at 1231.

⁵¹ *Id.*

⁵² *Id.*

⁵³ *Id.* at 1230–31.

principles,” or “misleading.”⁵⁴ The court expressly identified factors 4, 5, 8, 9, and 10 as problematic for RAND-encumbered patents.⁵⁵

Factor 4 concerns “[t]he licensor’s established policy and marketing program to maintain his patent monopoly by not licensing others to use the invention or by granting licenses under special conditions designed to preserve that monopoly.”⁵⁶ The Federal Circuit concluded that a RAND commitment conflicts with a policy of preserving a patent monopoly.⁵⁷ So factor 4 should not apply to RAND-encumbered patents.

Factor 5 concerns “[t]he commercial relationship between the licensor and licensee, such as, whether they are competitors in the same territory in the same line of business; or whether they are inventor and promoter.”⁵⁸ The Federal Circuit decided that—inconsistent with factor 5—a RAND commitment requires a nondiscriminatory rate.⁵⁹ Because the parties’ commercial relationship is irrelevant, factor 5 should not apply to RAND-encumbered patents.

Factor 8 accounts for the patented invention’s “commercial success” and “current popularity,” while factor 9 considers the “utility and advantages of the patent property over the old modes or devices.”⁶⁰ For those factors, the Federal Circuit observed that standard adoption and the resultant need to use the patented technology could unduly inflate their importance.⁶¹ Depending on the facts of the case and the alternatives available at standard adoption, the patented technology may not improve over the prior art or other contemporaneous technologies.⁶² For instance, several equally serviceable options may exist for achieving a particular result, with the patented technology merely constituting one of those options.⁶³

With regard to the tenth factor’s⁶⁴ reference to the licensor’s “commercial embodiment,” the Federal Circuit considered that irrelevant since “the standard requires the use of the technology.”⁶⁵ In addition, the court noted that “[o]ther factors may also need to be adapted on a case-by-case basis depending on the

⁵⁴ *Id.*

⁵⁵ *Id.*

⁵⁶ *Georgia-Pac. Corp. v. U.S. Plywood Corp.*, 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970), *modified and aff’d*, 446 F.2d 295 (2d Cir. 1971).

⁵⁷ *Ericsson*, 773 F.3d at 1230.

⁵⁸ *Georgia-Pac.*, 318 F. Supp. at 1120.

⁵⁹ *Ericsson*, 773 F.3d at 1230–31.

⁶⁰ *Georgia-Pac.*, 318 F. Supp. at 1120.

⁶¹ *Ericsson*, 773 F.3d at 1231.

⁶² *Id.* at 1233.

⁶³ *Id.*

⁶⁴ *Georgia-Pac.*, 318 F. Supp. at 1120 (factor 10: “[t]he nature of the patented invention; the character of the commercial embodiment of it as owned and produced by the licensor; and the benefits to those who have used the invention”).

⁶⁵ *Ericsson*, 773 F.3d at 1231.

technology at issue.”⁶⁶

According to the Federal Circuit, district courts should “carefully consider the evidence presented” and “the facts of record when instructing the jury and should avoid rote reference to any particular damages formula.”⁶⁷ That guidance should apply whenever a litigant or expert invokes the *Georgia-Pacific* factors during a jury trial: “[I]n all cases, a district court must instruct the jury only on factors that are relevant to the specific case at issue.”⁶⁸

The Federal Circuit provided additional guidance regarding “two special apportionment issues” arising with standard-essential patents.⁶⁹ “First, the patented feature must be apportioned from all of the unpatented features reflected in the standard.”⁷⁰ Hence, a reasonable royalty should reflect “the value of the patented invention” rather than “the value of the standard as a whole.”⁷¹ Second, a reasonable royalty should not reflect the “value added” due to standard adoption.⁷² That “requires apportionment of the value of the patented technology from the value of its standardization.”⁷³ Applying these apportionment principles should ensure that a royalty award corresponds to “the incremental value of the invention, not the value of the standard as a whole or any increased value the patented feature gains from its inclusion in the standard.”⁷⁴

The Federal Circuit vacated the jury’s royalty award because the court concluded that the following failures collectively constituted prejudicial error:

- (1) failing to instruct the jury adequately regarding Ericsson’s actual RAND commitment;
- (2) failing to instruct the jury that any royalty for the patented technology must be apportioned from the value of the standard as a whole; and
- (3) failing to instruct the jury that the RAND royalty rate must be based on the value of the invention, not any value added by the standardization of that invention—while instructing the jury to consider irrelevant *Georgia-Pacific* factors.⁷⁵

⁶⁶ *Id.*

⁶⁷ *Id.* at 1231–32.

⁶⁸ *Id.* at 1235.

⁶⁹ *Id.* at 1232.

⁷⁰ *Id.*

⁷¹ *Id.* at 1233.

⁷² *Id.* at 1232.

⁷³ *Id.* at 1233.

⁷⁴ *Id.* at 1235; *see id.* at 1226 (“[T]he ultimate combination of royalty base and royalty rate must reflect the value attributable to the infringing features of the product, and no more.”); *id.* at 1232 (“[Apportionment is] necessary to ensure that the royalty award is based on the incremental value that the patented *invention* adds to the product, not any value added by the standardization of that technology.”); *id.* at 1233 (“[T]he patent holder should only be compensated for the approximate incremental benefit derived from his invention.”).

⁷⁵ *Id.* at 1235.

B. Refining the Damages Analysis for Standard-Essential Patents

About one year after the *Ericsson* decision, the Federal Circuit considered a second damages analysis case involving another patent covering the IEEE 802.11 standard in *CSIRO v. Cisco*.⁷⁶ Since releasing that standard in 1997, the IEEE has updated it several times, using a letter suffix to denote a particular version, e.g., 802.11a, 802.11b, etc.⁷⁷ In contrast to the patentee in *Ericsson*, CSIRO declined to provide a RAND commitment for several versions of the 802.11 standard.⁷⁸

In particular, the asserted patent concerned “techniques directed to solving issues from wireless signals reflecting off objects and interfering with each other.”⁷⁹ For version 802.11a, “CSIRO submitted a letter of assurance to the IEEE pledging to license” the patent on RAND terms.⁸⁰ Despite the IEEE’s repeated requests for similar letters of assurance for later versions of the 802.11 standard, CSIRO refused to encumber the asserted patent with a RAND commitment.⁸¹ Hence, “CSIRO was obligated to license on RAND terms for only 0.03% of the accused products.”⁸²

After Cisco stipulated that it would not contest infringement or validity, the district court conducted a bench trial to determine damages.⁸³ The court rejected each party’s damages model as flawed and instead developed its own methodology.⁸⁴ That methodology resulted in a royalty award of about \$16 million.⁸⁵ Although the same district judge handled the *Ericsson* and *CSIRO* cases, he did not have the benefit of the Federal Circuit’s *Ericsson* decision when determining the royalty award in *CSIRO*.⁸⁶

Cisco appealed and challenged the district court’s royalty award.⁸⁷ Among other things, Cisco argued that the district court awarded an excessive royalty for two separate reasons: (1) the court’s damages methodology did not start with the smallest saleable patent-practicing unit, namely, the Wi-Fi chip; and (2) the court “did not adjust the *Georgia-Pacific* factors to account for the

⁷⁶ Commonwealth Sci. & Indus. Research Org. v. Cisco Sys., Inc. (*CSIRO*), 809 F.3d 1295, 1297–98 (Fed. Cir. 2015).

⁷⁷ *Ericsson*, 773 F.3d at 1208 n.2; *CSIRO*, 809 F.3d at 1297–98.

⁷⁸ *CSIRO*, 809 F.3d at 1298.

⁷⁹ *Id.* at 1297.

⁸⁰ *Id.* at 1298.

⁸¹ *Id.*

⁸² *Id.* at 1300.

⁸³ *Id.* at 1299.

⁸⁴ *Id.* at 1300.

⁸⁵ *Id.*

⁸⁶ *Id.* at 1305; Commonwealth Sci. & Indus. Research Org. v. Cisco Sys., Inc., No. 6:11-cv-343, 2014 U.S. Dist. LEXIS 107612, at *1 (E.D. Tex. July 23, 2014) (Davis, J.); *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201, 1201 (Fed. Cir. 2014).

⁸⁷ *CSIRO*, 809 F.3d at 1297.

asserted patent being essential to the 802.11 standard.”⁸⁸

With regard to Cisco’s argument regarding the smallest saleable patent-practicing unit, the Federal Circuit repeated the importance of apportionment when considering multi-component/multi-feature products.⁸⁹ In addition, the court explained “where a damages model apportions from a royalty base, the model should use the smallest salable patent-practicing unit as the base.”⁹⁰

Although the Federal Circuit discussed those general principles, it decided the “district court did not apportion from a royalty base at all.”⁹¹ Instead, the district court relied on the parties’ presuit proposals for a flat-fee, per-unit royalty for the asserted patent.⁹² Because those proposals addressed a royalty for the asserted patent, the “starting point for the district court’s analysis already built in apportionment.”⁹³ The Federal Circuit concluded that, consistent with *Ericsson* and earlier precedent, “the parties negotiated over the value of the asserted patent, ‘and no more.’”⁹⁴

Consequently, the Federal Circuit rejected the premise that in all cases involving multi-component/multi-feature products the damages methodology must start with the smallest saleable patent-practicing unit.⁹⁵ The court reasoned that such a rule would conflict with decisions approving damages methodologies based on comparable licenses.⁹⁶ In an earlier decision, the court explained, “[T]he royalty that a similarly-situated party pays inherently accounts for market conditions at the time of the hypothetical negotiation”⁹⁷

The Federal Circuit cautioned that only “sufficiently comparable” licenses should be used to determine a reasonable royalty.⁹⁸ And even with “sufficiently comparable” licenses, the analysis should account for differences in technical and economic circumstances.⁹⁹ Differing circumstances may result

⁸⁸ *Id.* at 1300–01.

⁸⁹ *Id.* at 1301.

⁹⁰ *Id.* at 1302.

⁹¹ *Id.*

⁹² *Id.* at 1302–03.

⁹³ *Id.* at 1303.

⁹⁴ *Id.* (quoting *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201, 1206 (Fed. Cir. 2014)).

⁹⁵ *Id.*

⁹⁶ *Id.*

⁹⁷ *Apple, Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1326 (Fed. Cir. 2014), *overruled on other grounds* by *Williamson v. Citrix Online, LLC*, 792 F.3d 1339 (Fed. Cir. 2015).

⁹⁸ *CSIRO*, 809 F.3d at 1303; *see also* *Summit 6, LLC v. Samsung Elecs. Co.*, 802 F.3d 1283, 1296 (Fed. Cir. 2015); *VirnetX, Inc. v. Cisco Sys., Inc.*, 767 F.3d 1308, 1330 (Fed. Cir. 2014); *Uniloc USA, Inc. v. Microsoft Corp.*, 632 F.3d 1292, 1316 (Fed. Cir. 2011); *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1325 (Fed. Cir. 2009).

⁹⁹ *CSIRO*, 809 F.3d at 1304–05; *Carnegie Mellon Univ. v. Marvell Tech. Grp., Ltd.*, 807 F.3d 1283, 1304–05 (Fed. Cir.), *reh’g en banc denied in part*, 805 F.3d 1382 (Fed. Cir. 2015).

from: (1) an actual license covering more or fewer patents than asserted in the lawsuit or different patents than asserted; (2) an actual license granting additional rights, e.g., to trade secrets or foreign patents; (3) an actual license granting exclusive rights rather than nonexclusive rights; (4) an actual license requiring the licensee to cross-license certain subject matter to the licensor, e.g., patents on improvements; (5) an actual license resulting from a litigation settlement; (6) an actual license's date diverging from the hypothetical negotiation's date; (7) different royalty bases, e.g., end product versus component; (8) different compensation provisions, e.g., lump-sum royalty versus running royalty; (9) different competitive positions, e.g., supplier/customer versus direct competitor; and (10) the relative importance of the licensed patents compared to the patents at issue in the lawsuit.¹⁰⁰

With regard to Cisco's argument regarding the *Georgia-Pacific* factors, the Federal Circuit concluded that the royalty award overcompensated CSIRO because the district court failed to account for the value accruing to the asserted patent due to the standard's widespread adoption.¹⁰¹ In reaching that conclusion, the court explained, as it did in *Ericsson*, that damages methodologies for standard-essential patents must "attempt to capture the asserted patent's value resulting not from the value added by the standard's widespread adoption, but only from the technology's superiority."¹⁰²

Thus, compensation for patents covering significant discoveries should differ from compensation for patents covering minor advances, without standard adoption obscuring a patent's actual technological contribution. So litigants and experts should ascertain the reasons why an SSO decided to include the patented technology in a standard. Those reasons could play an important role in determining the patented technology's incremental value.

Further, in reaching the conclusion concerning overcompensation, the Federal Circuit rejected CSIRO's contention that *Ericsson* applies only to RAND-encumbered patents.¹⁰³ The court said that "*Ericsson* explicitly holds that the adjustments to the *Georgia-Pacific* factors apply equally to RAND-encumbered patents" and other standard-essential patents.¹⁰⁴ Hence, a reasonable royalty for any standard-essential patent "must not include any

¹⁰⁰ See, e.g., *AstraZeneca AB v. Apotex Corp.*, 782 F.3d 1324, 1335–36 (Fed. Cir. 2015); *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201, 1227 (Fed. Cir. 2014); *VinnetX, Inc. v. Cisco Sys., Inc.*, 767 F.3d 1308, 1330–31 (Fed. Cir. 2014); *Apple*, 757 F.3d at 1323; *ActiveVideo Networks, Inc. v. Verizon Commc'ns, Inc.*, 694 F.3d 1312, 1332–33 (Fed. Cir. 2012); *Finjan, Inc. v. Secure Computing Corp.*, 626 F.3d 1197, 1212–13 (Fed. Cir. 2010); *Wordtech Sys., Inc. v. Integrated Networks Sol., Inc.*, 609 F.3d 1308, 1319–20 (Fed. Cir. 2010); *Lucent*, 580 F.3d at 1328–31 (Fed. Cir. 2009); see also John C. Jarosz & Michael J. Chapman, *The Hypothetical Negotiation and Reasonable Royalty Damages: The Tail Wagging the Dog*, 16 STAN. TECH. L. REV. 769, 818–23 (2013).

¹⁰¹ *CSIRO*, 809 F.3d at 1303–06.

¹⁰² *Id.* at 1304.

¹⁰³ *Id.* at 1304–1305.

¹⁰⁴ *Id.* at 1304.

value flowing to the patent from the standard's adoption."¹⁰⁵

The Federal Circuit held that the district court's failure to apply that principle caused it to give *Georgia-Pacific* factors 8, 9, and 10 undue weight in CSIRO's favor, thus erroneously enlarging the royalty award.¹⁰⁶ In addition, the appellate court noted that the district court failed to account for the possibility that standardization may have upwardly impacted the parties' presuit proposals for a flat-fee, per-unit royalty for the asserted patent.¹⁰⁷ Because of those errors, the Federal Circuit vacated the district court's royalty award and remanded "for a new determination of a reasonable royalty."¹⁰⁸

C. Implications of *Ericsson* and *CSIRO*

In *Ericsson* and *CSIRO*, the Federal Circuit made clear that the same apportionment principles apply to all standard-essential patents, whether or not RAND encumbered. More broadly, apportionment principles apply to all patents that cover only some aspects of a multi-component/multi-feature product (except in the few cases where the entire-market-value rule applies).

Further, in *Ericsson* and *CSIRO*, the Federal Circuit clarified the relevance of (1) a patented technology's inclusion in a standard and (2) a standard's adoption and use for purposes of determining a reasonable royalty. Without more, those bare facts should not result in a higher royalty. However, a patentee may prove facts demonstrating that an SSO decided to include the patented technology in a standard because the technology improved on available alternatives, provided the impetus for a standard's widespread adoption and use, or drove consumer demand for standard-compliant products. Such facts would tend to increase the patented technology's incremental value and justify a higher royalty.

Moreover, in *CSIRO*, the Federal Circuit elucidated the role that comparable licenses may play in determining a reasonable royalty where the patent at issue covers only some aspects of a multi-component/multi-feature product. Hence, a license with a different royalty base than the patent at issue may still qualify as "sufficiently comparable" for determining a reasonable royalty. As with any real-world license, however, the evidence proponent must establish comparability with suitable evidence, expert testimony for example.¹⁰⁹ Additionally, in *CSIRO*, the Federal Circuit explained the importance of the smallest saleable patent-practicing unit as the starting point for apportionment

¹⁰⁵ *Id.* at 1305.

¹⁰⁶ *Id.* (citing *Georgia-Pac. Corp. v. U.S. Plywood Corp.*, 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970) for factor 8: the patented invention's "commercial success" and "current popularity"; factor 9: the "utility and advantages of the patent property over the old modes or devices"; and factor 10: the licensor's "commercial embodiment").

¹⁰⁷ *Id.*

¹⁰⁸ *Id.* at 1306.

¹⁰⁹ *See* *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1329–30 (Fed. Cir. 2009).

“where a damages model apportions from a royalty base.”¹¹⁰

According to *Ericsson* and *CSIRO*, a patentee should not benefit for royalty purposes from the value added by a standard’s widespread adoption.¹¹¹ Moreover, several courts have concluded that a patentee’s RAND commitment conflicts with a request for injunctive relief that would preclude use of the patented technology.¹¹² On top of that, a patentee’s RAND commitment could result in a breach-of-contract claim if the patentee allegedly fails to offer RAND terms to a prospective licensee.¹¹³

Some may question the desirability of making a RAND commitment since it (1) provides no greater royalty as a benefit, (2) impedes the ability to obtain injunctive relief, and (3) increases exposure to liability for breach of contract. But an SSO may require a RAND commitment before incorporating the patented technology into a proposed standard.¹¹⁴ If a patentee does not make a RAND commitment, an SSO may revise a proposed standard to select an alternative technology and avoid the patent. As the Federal Circuit explained in *Ericsson*, “When a technology is incorporated into a standard, it is typically chosen from among different options.”¹¹⁵ So a patentee may make a RAND commitment to create a market for the patented technology that might not materialize absent the RAND commitment and standard adoption. If so, the patentee relinquishes certain rights in exchange for having the patented technology included in the standard.¹¹⁶

¹¹⁰ *CSIRO*, 809 F.3d at 1302.

¹¹¹ *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201, 1232–33 (Fed. Cir. 2014); *CSIRO*, 809 F.3d at 1305.

¹¹² *See, e.g.*, *Microsoft Corp. v. Motorola, Inc.*, 696 F.3d 872, 885 (9th Cir. 2012) (“injunctive relief against infringement is arguably a remedy inconsistent with the licensing commitment”); *Realtek Semiconductor Corp. v. LSI Corp.*, 946 F. Supp. 2d 998, 1006 (N.D. Cal. 2013), *appeal dismissed*, 565 F. App’x 602 (9th Cir. 2014); *Microsoft Corp. v. Motorola, Inc.*, No. 10-1823, 2012 WL 5993202, at *6–7 (W.D. Wash. Nov. 30, 2012), *aff’d*, 795 F.3d 1024 (9th Cir. 2015); *Apple, Inc. v. Motorola, Inc.*, 869 F. Supp. 2d 901, 913–14 (N.D. Ill. 2012), *aff’d in part, rev’d in part, vacated in part*, 757 F.3d 1286, 1294, 1331–32 (Fed. Cir. 2014) (“The [district] court’s decision that Motorola is not entitled to an injunction for infringement of the FRAND-committed ‘898 patent is affirmed.”), *overruled on other grounds by Williamson v. Citrix Online, LLC*, 792 F.3d 1339 (Fed. Cir. 2015); *Barnes & Noble, Inc. v. LSI Corp.*, 849 F. Supp. 2d 925, 943–44 (N.D. Cal. 2012).

¹¹³ *See, e.g.*, *Microsoft Corp. v. Motorola, Inc.*, 795 F.3d 1024, 1031–32 (9th Cir. 2015).

¹¹⁴ *See, e.g.*, *Apple, Inc. v. Motorola Mobility, Inc.*, 886 F. Supp. 2d 1061, 1067 (W.D. Wis. 2012); *Vizio, Inc. v. Funai Elec. Co.*, No. 09-0174, 2010 WL 7762624, at *1 n.3 (C.D. Cal. Feb. 3, 2010); *see also Barnes & Noble, Inc. v. LSI Corporation*, 849 F. Supp. 2d 925, 931 n.4.

¹¹⁵ *Ericsson*, 773 F.3d at 1233.

¹¹⁶ *See Jonathan L. Rubin, Patents, Antitrust, and Rivalry in Standard-Setting*, 38 RUTGERS L.J. 509, 531 (2007).

III. RECENT REFINEMENTS WHEN ANALYZING PROFIT SPLITTING FOR DETERMINING A REASONABLE ROYALTY

A basic premise of the hypothetical negotiation is that the two participants can each profit if they can agree on a license.¹¹⁷ *Georgia-Pacific* factor 12 concerns “[t]he 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.”¹¹⁸ Allocations of expected profits between a patentee/licensor and an infringer/licensee in a hypothetical negotiation have been considered in numerous cases. Many earlier cases concerned a “25 percent rule of thumb.”¹¹⁹ More recent cases have addressed a mathematical model called the Nash Bargaining Solution.¹²⁰

A. *The 25% Rule of Thumb for Determining a Royalty*

The “25 percent rule of thumb” estimates the total expected profits and initially allocates 25% to the patentee/licensor and 75% to the infringer/licensee.¹²¹ The infringer/licensee receives a larger percentage (75%) to account for its development and commercialization contributions and risks.¹²² After the 25%–75% initial profit split, the *Georgia-Pacific* factors are applied to adjust the split based on the facts of the case at hand.¹²³

B. *The Federal Circuit Rejected the 25% Rule of Thumb as Arbitrary, Unreliable, and Irrelevant*

In *Uniloc USA, Inc. v. Microsoft Corp.*, the Federal Circuit rejected the 25% rule as “a fundamentally flawed tool for determining a baseline royalty rate in a hypothetical negotiation.”¹²⁴ In doing so, the court noted that previously it had “passively tolerated its use where its acceptability has not been the focus of the case.”¹²⁵

The Federal Circuit called the 25% rule an “abstract and largely theoretical construct” that “does not say anything about a particular hypothetical negotiation or reasonable royalty involving any particular technology, industry,

¹¹⁷ *Carnegie Mellon Univ. v. Marvell Tech. Grp., Ltd.*, 807 F.3d 1283, 1303–04 (Fed. Cir. 2015), *reh’g en banc denied in part*, 805 F.3d 1382 (Fed. Cir. 2015).

¹¹⁸ *Georgia-Pac. Corp. v. U.S. Plywood Corp.*, 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970).

¹¹⁹ *Uniloc USA, Inc. v. Microsoft Corp.*, 632 F.3d 1292, 1314–15 (Fed. Cir. 2011) (citing cases discussing the “25 percent rule of thumb”).

¹²⁰ *VirnetX, Inc. v. Cisco Sys., Inc.*, 767 F.3d 1308, 1331–32 (Fed. Cir. 2014) (citing cases discussing the Nash Bargaining Solution).

¹²¹ *Uniloc*, 632 F.3d at 1312–13.

¹²² *Id.* at 1313.

¹²³ *Id.* at 1311, 1317.

¹²⁴ *Id.* at 1315.

¹²⁵ *Id.* at 1314.

or party.”¹²⁶ As for applying the *Georgia-Pacific* factors to adjust the 25%–75% initial profit split, the court said, “Beginning from a fundamentally flawed premise and adjusting it based on legitimate considerations specific to the facts of the case nevertheless results in a fundamentally flawed conclusion.”¹²⁷

With regard to the 25% rule’s use in *Uniloc*, the Federal Circuit concluded that the rule “had no relation to the facts of the case, and as such, was arbitrary, unreliable, and irrelevant.”¹²⁸ Thus, the court affirmed the grant of a new trial on damages “[b]ecause the jury’s damages award was fundamentally tainted by the use of a legally inadequate methodology”¹²⁹ More broadly, the court considered evidence based on the 25% rule inadmissible because the rule “fails to tie a reasonable royalty base to the facts of the case at issue.”¹³⁰

C. The Nash Bargaining Solution for Determining a Royalty

After the Federal Circuit discredited the 25% rule, use of the Nash Bargaining Solution increased in patent cases.¹³¹ The Nash Bargaining Solution rests on a theorem or model developed by Nobel-prize winning economist John F. Nash, Jr. for a two-party bargaining situation.¹³² The Nash model “purports to define the most mutually beneficial outcome” or solution.¹³³

The Nash model requires the identification of “the profits each party could expect without a deal” and the profit “created by their cooperation,” i.e., the total profit with a deal.¹³⁴¹³⁵ The model then “allocates the value of the deal in two steps: each party first receives the same profits it could expect without a deal, and then the remaining surplus is divided evenly between them.”¹³⁶ Thus,

¹²⁶ *Id.* at 1317.

¹²⁷ *Id.*

¹²⁸ *Id.* at 1318.

¹²⁹ *Id.* at 1295.

¹³⁰ *Id.* at 1315.

¹³¹ *VinnetX, Inc. v. Cisco Sys., Inc.*, 767 F.3d 1308, 1331–32 (Fed. Cir. 2014) (citing cases discussing the Nash Bargaining Solution).

¹³² *Id.* at 1325; *Oracle Am., Inc. v. Google Inc.*, 798 F. Supp. 2d 1111, 1119 (N.D. Cal. 2011); see John F. Nash, Jr., *The Bargaining Problem*, 18 *ECONOMETRICA* 155, 155–62 (Apr. 1950), <http://www.eecs.harvard.edu/cs286t/courses/spring02/papers/nash50a.pdf> [<https://perma.cc/WP8Z-V9R2>].

¹³³ *Oracle Am.*, 798 F. Supp. 2d at 1119.

¹³⁴ *Id.*; William Choi & Roy Weinstein, *An Analytical Solution to Reasonable Royalty Rate Calculations*, 41 *IDEA* 49, 54–55 (2001).

¹³⁵ The total profit with a deal minus the profits each party could expect without a deal equals the surplus or incremental profit. See Choi & Weinstein, *supra* note 134, at 54–55. Hence, in addition to the profits each party could expect without a deal, the analysis could identify either the total profit or the incremental profit and then calculate the remaining amount:

$\text{Profit}_{\text{total with deal}} - \text{Profit}_{\text{patentee w/o deal}} - \text{Profit}_{\text{infringer w/o deal}} = \text{Profit}_{\text{incremental}}$

¹³⁶ *Oracle Am.*, 798 F. Supp. 2d at 1119.

in one interpretation, the Nash model provides for a 50:50 split of the incremental profit between the patentee/licensor and the infringer/licensee.¹³⁷ That 50:50 split assumes that the parties have equal bargaining power with respect to the incremental profit.¹³⁸ The profits each party could expect without a deal reflect their relative overall bargaining power.¹³⁹ Commentators have contended that an equal split of the incremental profit “has an intuitive and normative appeal as a solution in the sense that it satisfies both issues of efficiency and fairness.”¹⁴⁰

In another interpretation, however, the Nash model expressly accounts for the relative bargaining strength of the parties when allocating the incremental profit, thus permitting something other than a 50:50 split.¹⁴¹ “The principle behind this model is that if [the] patentee licensor has more bargaining strength relative to the infringing licensee, then the patentee licensor is entitled to receive more profits and vice versa.”¹⁴²

D. In VirnetX v. Cisco, the Federal Circuit Criticized Use of the Nash Bargaining Solution

In *VirnetX, Inc. v. Cisco Systems, Inc.*, the Federal Circuit considered a damages methodology involving the Nash Bargaining Solution.¹⁴³ There, VirnetX asserted that the FaceTime feature in certain Apple devices, such as iPhones and iPads, infringed various VirnetX patents.¹⁴⁴

VirnetX’s damages expert relied on the Nash Bargaining Solution to develop two damages theories for the FaceTime feature.¹⁴⁵ First, he determined the profits related to the FaceTime feature by analyzing the

¹³⁷ *VirnetX, Inc. v. Cisco Sys., Inc.*, 767 F.3d 1308, 1331 (Fed. Cir. 2014); *see also* Choi & Weinstein, *supra* note 134, at 53, 55.

¹³⁸ Jarosz & Chapman, *supra* note 100, at 817; Choi & Weinstein, *supra* note 134, at 55; John C. Jarosz & Michael J. Chapman, *Application of Game Theory to Intellectual Property Royalty Negotiations*, in LICENSING BEST PRACTICES: STRATEGIC, TERRITORIAL, AND TECHNOLOGY ISSUES 248 (Robert Goldscheider & Alan H. Gordon eds., 2006) [hereinafter LICENSING BEST PRACTICES].

¹³⁹ Choi & Weinstein, *supra* note 134, at 55.

¹⁴⁰ William Choi & Roy Weinstein, *An Analytical Solution to Reasonable Royalty Rate Calculations* 7 (July 2000), <http://www.micronomics.com/articles/royaltycalculations.pdf> [<https://perma.cc/9PUX-PSY9>].

¹⁴¹ T. Paul Tanpitukpongse & Kanav Hasija, *Game Theory: A Zooming and Sliding Method for the Determination of Reasonable Royalties in Patent Damages* 4 (Feb. 1, 2011), <http://law.stanford.edu/wp-content/uploads/sites/default/files/event/265103/media/slspublic/T.%20Paul%20Tanpitukpongse%20&%20Kanav%20Hasija%20-%20Game%20Theory%20A%20Zooming%20and%20Sliding%20Method.pdf> [<https://perma.cc/K5PH-S6PB>]; LICENSING BEST PRACTICES, *supra* note 138, at 248.

¹⁴² Tanpitukpongse & Hasija, *supra* note 141, at 4.

¹⁴³ *See VirnetX, Inc. v. Cisco Sys., Inc.*, 767 F.3d 1308, 1331–34 (Fed. Cir. 2014).

¹⁴⁴ *Id.* at 1314–15.

¹⁴⁵ *Id.* at 1325–26, 1331.

revenue attributable to the addition of a front-facing camera in the accused devices.¹⁴⁶ He invoked the Nash model as suggesting a 50:50 profit split and “then modified that result by 10%, explaining that VirnetX would have received only 45% of the profit because of its weaker bargaining position, leaving 55% for Apple.”¹⁴⁷ That calculation resulted in \$588 million as damages.¹⁴⁸

Second, the expert relied on survey evidence to assert that the FaceTime feature caused 18% of sales, determined the corresponding profits, and allocated 45% of the profits to VirnetX and 55% to Apple, consistent with his other modification of the Nash model.¹⁴⁹ That calculation resulted \$606 million as damages.¹⁵⁰

The jury awarded VirnetX about \$368 million as damages.¹⁵¹ Apple appealed and, among other things, challenged the expert’s use of the Nash Bargaining Solution.¹⁵² Apple argued that the expert’s reliance on the Nash model and a default 50:50 profit split was akin to the “25 percent rule of thumb” that the Federal Circuit rejected in *Uniloc*.¹⁵³

The Federal Circuit agreed with Apple.¹⁵⁴ The court noted that the Nash model “states a number of premises and establishes a conclusion that follows from those premises” where each party receives “the same money profit” under the conditions specified in the premises.¹⁵⁵ The court decided VirnetX’s expert failed to establish that the Nash model fit the facts of the case.¹⁵⁶ With regard to the expert’s 10% deviation from an equal split of the incremental profit, the court decided that the expert’s explanation for it was too conclusory to support the jury’s damage award.¹⁵⁷

The Federal Circuit said, “[W]e agree with the courts that have rejected invocations of the Nash theorem without sufficiently establishing that the premises of the theorem actually apply to the facts of the case at hand.”¹⁵⁸ It also said that “[a]nyone seeking to invoke the theorem as applicable to a particular situation must establish” the situation fits the premises of the theorem.¹⁵⁹ Because VirnetX’s expert did not do that, the court vacated the

¹⁴⁶ *Id.* at 1325.

¹⁴⁷ *Id.*

¹⁴⁸ *Id.*

¹⁴⁹ *Id.* at 1325–26, 1331.

¹⁵⁰ *Id.* at 1326.

¹⁵¹ *Id.* at 1313, 1316.

¹⁵² *Id.* at 1313, 1316, 1326.

¹⁵³ *Id.* at 1331.

¹⁵⁴ *Id.*

¹⁵⁵ *Id.* at 1325.

¹⁵⁶ *Id.* at 1332–33.

¹⁵⁷ *Id.* at 1333.

¹⁵⁸ *Id.* at 1332.

¹⁵⁹ *Id.*

damages award.¹⁶⁰

Despite that ruling, the Federal Circuit recognized “the Nash Bargaining Solution does offer at least one noticeable improvement over the 25% rule.”¹⁶¹ In particular, the Nash model “more appropriately” focuses on incremental profits rather than “the entire profits associated with the allegedly infringing product.”¹⁶² In summary, the court left the door ajar for future use of the Nash model.

E. In Summit 6 v. Samsung, the Federal Circuit Did Not Disallow the Nash Bargaining Solution

About one year after the *VirnetX* decision, the Federal Circuit considered another damages methodology implicating the Nash Bargaining Solution in *Summit 6, LLC v. Samsung Electronics Co.*¹⁶³ In contrast to *VirnetX*, however, the court in *Summit 6* concluded that the “damages methodology was based on reliable principles and was sufficiently tied to the facts of the case.”¹⁶⁴

The asserted patent in *Summit 6* concerned a method for processing digital information, such as digital photos.¹⁶⁵ *Summit 6* alleged that certain Samsung smartphones with cameras infringed when sending digital photos via a multimedia messaging service.¹⁶⁶

The Federal Circuit explained that *Summit 6*’s damages expert estimated a reasonable royalty by:

- (1) determining the price paid for including cameras in the accused smartphones,
- (2) ascertaining the sales revenue resulting from the camera functionality,
- (3) apportioning the camera-related revenue to account for noninfringing uses,
- (4) determining the per-unit profit attributable to the infringing features,
- (5) analyzing the relative bargaining strength of the parties,
- (6) allocating the per-unit profit between Samsung and *Summit 6*, and
- (7) multiplying *Summit 6*’s portion of the per-unit profit by the number of infringing devices sold by Samsung.¹⁶⁷

¹⁶⁰ *Id.* at 1332–34.

¹⁶¹ *Id.* at 1333.

¹⁶² *Id.* at 1333–34.

¹⁶³ *Summit 6, LLC v. Samsung Elecs. Co.*, 802 F.3d 1283, 1297–98 (Fed. Cir. 2015).

¹⁶⁴ *Id.* at 1298.

¹⁶⁵ *Id.* at 1287–88.

¹⁶⁶ *Id.* at 1288.

¹⁶⁷ *Id.* at 1296–97; see Paul C. Benoit & Christian J. Rojmar, *Reconciling the Fed. Circ.’s VirnetX and Summit 6 Rulings*, LAW360 (Dec. 10, 2015, 9:35 AM), <http://www.law360.com/articles/734622/reconciling-the-fed-circ-s-virnetx-and-summit-6-rulings> [<https://perma.cc/QBW7-KT9M>].

Regarding the allocation of per-unit profit, Summit 6's expert testified that a hypothetical negotiation would address the entire per-unit profit "because Samsung had no non-infringing alternatives."¹⁶⁸ He also testified that the parties would split that amount evenly "because neither party had a stronger negotiating position."¹⁶⁹ To support an even split, the expert cited three academic articles and the Nash Bargaining Solution.¹⁷⁰

Samsung argued that this damages methodology was "unpublished, created specifically for this litigation, and never before employed," and was, therefore, unreliable.¹⁷¹ The Federal Circuit rejected that argument and concluded that the methodology was "based on reliable principles," "structurally sound," and "sufficiently tied to the facts of the case."¹⁷² Samsung did not expressly challenge the expert's use of the Nash Bargaining Solution.¹⁷³

F. Implications of Uniloc, VirnetX, and Summit 6

In *Uniloc*, *VirnetX*, and *Summit 6*, the Federal Circuit made clear that a damages methodology resting on a general rule or mathematical model must tie the rule or model to the facts of the case. For instance, if an expert's testimony about damages is not grounded on the facts of the case, *Daubert v. Merrell Dow Pharmaceuticals, Inc.* and Federal Rule of Evidence 702 require exclusion of that evidence.¹⁷⁴

The Federal Circuit recognized, however, that "each case presents unique circumstances and facts."¹⁷⁵ The court also recognized that parties may have difficulty applying apportionment principles and assigning value to a patented invention.¹⁷⁶ To allow for flexibility, the court explained that "estimating a reasonable royalty is not an exact science" and that "there may be more than one reliable method for estimating a reasonable royalty."¹⁷⁷ Thus, the court authorized methodologies that "involve some degree of approximation and uncertainty."¹⁷⁸ "For example, a party may use the royalty rate from sufficiently comparable licenses, value the infringed features based upon comparable features in the marketplace, or estimate the value of the benefit provided by the infringed features by a comparing [sic] the accused product to non-infringing alternatives."¹⁷⁹

¹⁶⁸ *Summit 6*, 802 F.3d at 1297.

¹⁶⁹ *Id.*

¹⁷⁰ *Id.*

¹⁷¹ *Id.* at 1294.

¹⁷² *Id.* at 1298.

¹⁷³ *Id.* at 1297 n.3.

¹⁷⁴ *See, e.g.*, *Uniloc USA, Inc. v. Microsoft Corp.*, 632 F.3d 1292, 1315 (Fed. Cir. 2011).

¹⁷⁵ *Summit 6*, 802 F.3d at 1296.

¹⁷⁶ *VirnetX, Inc. v. Cisco Sys., Inc.*, 767 F.3d 1308, 1327–28 (Fed. Cir. 2014).

¹⁷⁷ *Summit 6*, 802 F.3d at 1296.

¹⁷⁸ *VirnetX*, 767 F.3d at 1328.

¹⁷⁹ *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1315 (Fed. Cir. 2014), *overruled on*

Whatever methodology a party decides to employ, it should ensure that its methodology suitably fits the facts of the case. For instance, if a party can prove that the premises underlying the Nash Bargaining Solution sufficiently fit the facts of the case, a court should permit expert testimony based on that model.¹⁸⁰ Even testimony based on the 25% rule might pass muster if the evidence proponent could demonstrate reliability and sufficient fit, e.g., by showing that companies in the particular field at issue typically use the 25% rule as a starting point in patent-licensing negotiations.¹⁸¹

IV. CONCLUSION

The cases discussed above exemplify the Federal Circuit's insistence that litigants and experts couple damages methodologies to the facts of the case. For standard-essential patents, the Federal Circuit's direction to district courts to instruct juries about actual RAND commitment reflects the appellate court's focus on the specific facts at issue. For all patents, the Federal Circuit's direction to district courts to instruct juries only about relevant *Georgia-Pacific* factors—rather than all fifteen factors—also reflects the appellate court's focus on the specific facts at issue. Similarly, the exclusion of damages methodologies resting on general rules or mathematical models unless connected to the facts of the case further illustrates the court's insistence on reliability and sufficient fit.

The cases discussed above also exemplify the Federal Circuit's insistence that litigants and experts apportion a proposed royalty to correspond only to the incremental value added by patented invention. But the Federal Circuit has recognized that no one-size-fits-all methodology exists, that more than one reliable methodology may exist, and that a reliable methodology may involve some imprecision and uncertainty. Hence, the court has allowed for some flexibility when determining damages.

other grounds by *Williamson v. Citrix Online, LLC*, 792 F.3d 1339 (Fed. Cir. 2015).

¹⁸⁰ *Gen-Probe Inc. v. Becton Dickinson & Co.*, No. 09-2319, 2012 WL 9335913, at *3 (S.D. Cal. Nov. 26, 2012) (deciding that expert testimony based on the Nash Bargaining Solution sufficiently fit the facts of the case); *see Sanofi-Aventis Deutschland GmbH v. Glenmark Pharm., Inc.*, No. 07-5855, 2011 WL 383861, at *12-13 (D.N.J. Feb. 3, 2011) (determining that expert testimony regarding a 50:50 profit split rested on the facts of the case), *aff'd on other grounds & remanded*, 748 F.3d 1354 (Fed. Cir. 2014) (remanded for an accounting of any post-verdict damages); *cf. AstraZeneca AB v. Apotex Corp.*, 782 F.3d 1324, 1333, 1337 (Fed. Cir. 2015) (upholding a reasonable royalty of 50% of infringer's profit).

¹⁸¹ *See* Stephen A. Degnan & Corwin Horton, *A Survey of Licensed Royalties*, 32 LES NOUVELLES 91, 95 (June 1997); Robert Goldscheider, John Jarosz & Carla Mulhern, *Use of the 25 Percent Rule in Valuing IP*, 37 LES NOUVELLES 123, 127 & n.33 (Dec. 2002), <http://www.bu.edu/otd/files/2009/11/goldscheider-25-percent-rule.pdf> [<https://perma.cc/R7UG-VP5F>].