

The Federal Circuit Disavows Mandatory Smallest Salable Patent-Practicing Unit “Rule”

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I. INTRODUCTION

The Federal Circuit recently clarified that there is no “rule” mandating that all patent damages methodologies for multi-component products be calculated using the smallest salable patent-practicing unit (SSPPU).¹ Rejecting as “untenable” the infringer’s argument for a bright-line rule that damages must be based on the price or profits of the Wi-Fi chips incorporated into the end products accused in the case, the Federal Circuit held that the SSPPU is not the only reliable approach.² This decision should put to rest the misconception that royalties must be based on components rather than on end products.³

This article explores the implications of the Federal Circuit’s ruling in (1) validating the principles of apportionment, (2) protecting the viability of the standard-setting process, and (3) preserving the use of real-world evidence of value for use in damages models.

II. BACKGROUND

In 2014, the Federal Circuit made clear that selection of the appropriate royalty base for purposes of determining reasonable royalty damages is properly conceptualized as having two distinct steps, one of which is mandatory in all cases and the other of which is not.⁴ The mandatory concept is that “the ultimate combination of royalty base and royalty rate must reflect the value attributable to the

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1. Commonwealth Sci. & Indus. Research Organisation v. Cisco Sys., Inc. (*CSIRO II*), 809 F.3d 1295, 1303-04 (Fed. Cir. 2015).

2. *Id.*

3. While the Federal Circuit’s decision addressed other important issues, this article is limited to the aspects of the decision responding to Cisco’s argument that damages must be calculated using the SSPPU as the royalty base.

4. Ericsson, Inc. v. D-Link Sys., Inc., 773 F.3d 1201, 1226 (Fed. Cir. 2014).

infringing features of the product, and no more.”⁵ This rule, which the court again confirmed in *CSIRO II*, recognizes that a patentee “must in every case give evidence tending to separate or apportion the defendant’s profits and the patentee’s damages between the patented feature and the unpatented features.”⁶ In addition, the Federal Circuit recognized a specific evidentiary principle, the SSPPU methodology, that “assist[s] in reliably implementing the rule when . . . the jury is asked to choose a royalty base as the starting point for calculating a reasonable royalty award.”⁷

Patent owner Commonwealth Scientific and Industrial Research Organisation (CSIRO) is the principal scientific research organization for the Australian federal government.⁸ CSIRO held a patent, the ’069 Patent, that addressed multipath problems in a wireless local area network.⁹ The patent was essential to the Institute of Electrical and Electronic Engineers’ (IEEE) 802.11 standard as ratified in 1999, and “CSIRO submitted a letter of assurance to the IEEE pledging to license the ’069 patent on reasonable and nondiscriminatory (‘RAND’) terms.”¹⁰ The patent “is also essential to various later iterations of 802.11 (802.11g, n, and ac),” but “despite the IEEE’s repeated requests . . . CSIRO refused to encumber the ’069 patent with a RAND commitment for these revisions.”¹¹

Shortly after the patent issued, a company called Radiata Communications was formed to sell wireless chips in the United States.¹² Radiata and CSIRO entered into a Technology License Agreement (the Agreement) for the ’069 Patent.¹³ Under the Agreement, Radiata agreed to pay CSIRO a per-Wi-Fi-chip royalty payment, decreasing from a 5% royalty per chip to 1% as the volume of the licensed chips increased.¹⁴ In 2001, Cisco acquired Radiata, and the Agreement was amended twice, though always maintaining the general concept of a per-chip royalty base.¹⁵ Cisco paid royalties under the Agreement until 2007.¹⁶

5. *Id.*

6. *Garretson v. Clark*, 111 U.S. 120, 121 (1884) (internal quotation omitted).

7. *Ericsson*, 773 F.3d at 1226.

8. *CSIRO II*, 809 F.3d at 1297.

9. *Id.*

10. *Id.* at 1298.

11. *Id.*

12. *Id.*

13. *Id.*

14. *Id.*

15. *Id.*

16. *Id.*

By 2004, CSIRO had developed a form license offer, called the “Rate Card,” and began offering Wi-Fi industry participants a flat-fee royalty, charged per end-product unit sold.¹⁷ The lowest royalty rates ranged from \$1.40 to \$1.90 per unit based on volume.¹⁸

CSIRO offered Cisco a license based on the Rate Card in 2004, which Cisco declined.¹⁹ During discussions in 2005, Cisco’s Vice President of Intellectual Property informally suggested a rate of \$0.90 per unit.²⁰ That rate “was not much lower than what Cisco was already paying CSIRO” under the Agreement.²¹

III. DISTRICT COURT LITIGATION

CSIRO filed suit against Cisco in 2011.²² Cisco did not contest validity or infringement, and a bench trial on damages was held in 2014 before Chief Judge Leonard Davis in the Eastern District of Texas.²³ CSIRO’s damages model was premised on the profit difference between Cisco products using versions of the 802.11 standard that incorporate the patented technology (802.11a and 802.11g) and Cisco products using versions of the 802.11 standard that did not use the patented technology (802.11b).²⁴ CSIRO contended that the difference in profit was primarily attributable to the patented technology and concluded that a reasonable royalty ranged from \$1.35 to \$2.25 per end-unit.²⁵ The court rejected this damages model “for, among other reasons, performing ‘arbitrary’ final apportionment and having broad profit premium ranges.”²⁶

Cisco’s damages model was premised on the original Radiata Agreement.²⁷ Cisco concluded that reasonable royalties ranged from \$0.03 to \$0.37 per Wi-Fi chip.²⁸ The court also rejected Cisco’s damages model, finding that “the primary problem with Cisco’s

17. *Id.* at 1299.

18. *Id.*

19. *Id.*

20. *Id.*

21. *Id.*

22. *Commonwealth Sci. & Indus. Research Organisation v. Cisco Sys., Inc.* (*CSIRO I*), No. 6:11-CV-343, 2014 WL 3805817, at *1 (E.D. Tex. July 23, 2014), *vacated*, 809 F.3d 1295 (2015), *cert. denied*, 136 S. Ct. 2530 (2016).

23. *Id.*

24. *Id.* at *5.

25. *Id.* at *6.

26. *CSIRO II*, 809 F.3d at 1299.

27. *CSIRO I*, 2014 WL 3805817, at *8.

28. *Id.* at *9.

damages model is the fact that it bases royalties on chip prices.”²⁹ In dismissing Cisco’s damages model based on chip prices, the district court reasoned:

The benefit of the patent lies in the idea, not in the small amount of silicon that happens to be where that idea is physically implemented. . . . Basing a royalty solely on chip price is like valuing a copyrighted book based only on the costs of the binding, paper, and ink needed to actually produce the physical product. While such a calculation captures the cost of the physical product, it provides no indication of its actual value.³⁰

The district court conducted its own analysis premised on CSIRO’s 2004 Rate Card and the rate informally suggested by Cisco’s Vice President during negotiations.³¹ The court found a reasonable range based on these data points to be \$0.90 to \$1.90.³² Judge Davis then considered the various *Georgia-Pacific* factors,³³ concluding that because some of the factors suggested an increase while others suggested a decrease, further adjustment of the royalty rate was unnecessary.³⁴ In short, the royalties argued by the parties and awarded by Judge Davis were:

CSIRO	\$1.35 to \$2.25 per unit (\$30 million total) ³⁵
Judge Davis	\$0.65 to \$1.90 per unit (\$16 million total) ³⁶
Cisco	\$0.03 to \$0.37 per unit (\$1 million total) ³⁷

29. *Id.* at *11.

30. *Id.*

31. *Id.* at *11-12.

32. *Id.* at *12.

33. “*Georgia-Pacific* factors” refers to a list of fifteen evidentiary factors courts use in determining reasonable royalty damages. These factors were first listed in the case of *Georgia-Pacific Corp. v. United States Plywood Corp.*, in which the district court reasoned that a “hypothetical negotiation” between a “willing licensor” (the patent owner) and a “willing licensee” (the infringer) would center around such considerations. 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970), *mod. and aff’d*, 446 F.2d 295 (2d Cir. 1971).

34. *CSIRO I*, 2014 WL 3805817, at *13.

35. *Id.* at *6.

36. *Id.* at *14.

37. *Id.* at *9.

IV. FEDERAL CIRCUIT DECISION

On appeal, Cisco argued that the district court erred by (1) not starting with the SSPPU (the wireless chip) as the royalty base; (2) not adjusting the *Georgia-Pacific* factors to account for value attributable to standardization; and (3) not giving credit to Cisco’s evidence regarding the Radiata Agreement.³⁸ The Federal Circuit rejected Cisco’s SSPPU argument, agreed with Cisco’s second and third arguments, vacated the damages award, and remanded for further proceedings.³⁹

In rejecting a bright-line rule that the SSPPU methodology must apply to multi-component products, the Federal Circuit reiterated its holding in *Ericsson* that the SSPPU methodology is a variant of the apportionment principle:

Recognizing that each case presents unique facts, we have developed certain principles to aid courts in determining when an expert’s apportionment model is reliable. For example, the smallest salable patent-practicing unit principle provides that, where a damages model apportions from a royalty base, the model should use the smallest salable patent-practicing unit as the base.⁴⁰

The court found that the SSPPU principle did not apply in *CSIRO I* because the district court had not apportioned from a royalty base but instead had started with real-world negotiations between the parties that “already built in apportionment” based on Cisco’s suggested \$0.90-per-unit royalty as a lower bound and the \$1.90-per-unit royalty from the Rate Card as the upper bound.⁴¹ The Federal Circuit held that “the district court did not err in valuing the asserted patent with reference to end product licensing negotiations.”⁴² The Federal Circuit rejected as “untenable” Cisco’s rule that “would require all damages models to begin with the smallest salable patent-practicing unit.”⁴³ Such a rule “conflicts with our prior approvals of a methodology that values the asserted patent based on comparable licenses.”⁴⁴

38. *CSIRO II*, 809 F.3d 1295, 1300-01 (Fed. Cir. 2015).

39. *Id.* at 1304, 1307.

40. *Id.* at 1302.

41. *Id.* at 1303.

42. *Id.*

43. *Id.*

44. *Id.*

V. THE IMPACT OF *CSIRO v. CISCO*

The Federal Circuit's rejection of a bright-line rule that requires application of the SSPPU when multi-component products are accused of infringement, regardless of the facts in a particular case, should put to rest the misconception that royalties must always be based on components rather than on end products. The full implications of this ruling remain to be seen.⁴⁵ However, the Federal Circuit's rejection of such a bright-line rule in assessing damages when multi-component products are accused of infringement has important implications in (1) validating the principles of apportionment, (2) protecting the viability of the standard-setting process, and (3) preserving the use of real-world evidence of value for use in damages models.

A. Purpose of the SSPPU and the Principles of Apportionment.

The "essential requirement" animating damages apportionment "is that the ultimate reasonable royalty award must be based on the incremental *value* that the patented invention adds to the *end product*."⁴⁶ Critically, the "entire market value rule" (EMVR) and the SSPPU approach are not linked in any necessary way with this essential legal requirement; they flow instead from an "evidentiary principle" that the Federal Circuit's "cases have added to that governing legal rule."⁴⁷ These evidentiary principles spring from the observation that introducing large market-value figures might "skew unfairly the jury's ability to apportion the damages," so courts "must insist on a more realistic starting point for the royalty calculations by juries."⁴⁸

The EMVR and SSPPU doctrines thus provide protection against skewing a jury's damages horizon based on unduly large market-value figures. That said, a mandatory SSPPU approach, which limits the focus to only that of the chip, may skew a jury's

45. As of the date of this article, the authors are unaware of subsequent case law directly addressing this aspect of the Court's ruling.

46. *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201, 1226 (Fed. Cir. 2014) (emphasis added).

47. *Id.*

48. *Id.* at 1227-28; *see also* *LaserDynamics, Inc. v. Quanta Comput., Inc.*, 694 F.3d 51, 67-68 (Fed. Cir. 2012) (noting that these evidentiary principles require exclusion of evidence that "cannot help but skew the damages horizon for the jury"); *Uniloc USA, Inc. v. Microsoft Corp.*, 632 F.3d 1292, 1320 (Fed. Cir. 2011) (noting the same).

damages horizon based on unduly small market-value figures. Evidence that minimizes a reasonable royalty can be just as misleading, disproportionate, and prejudicial as evidence that exaggerates it. Requiring such an approach in multi-component product cases runs the risk of violating the protections against the very jury confusion that the EMVR and SSPPU were designed to prevent. The Federal Circuit, in its rejection of a categorical application of the SSPPU, confirmed that the focus must be on “the incremental value that the patented invention adds to the end product,”⁴⁹ not the artificially deflated price of incorporated chips.

Rejection of mandatory application of the SSPPU further protects the essential goal of apportionment. Again, apportionment requires a determination of “the incremental *value* that the patented invention adds to the *end product*.”⁵⁰ In some instances, the incremental value that the patented invention adds to the end product could be represented by the cost of the chip. In other instances, evidence of the incremental value may be based on other value drivers.⁵¹ The EMVR and SSPPU approaches are designed to ensure that outsized valuations do not “skew unfairly the jury’s ability” to determine the incremental value added to the end product.⁵² Under a mandatory SSPPU approach, the value added to the end product would be entirely irrelevant; it would be legal error, in fact, to recognize that a particular technology implemented in a Wi-Fi chip could add negligible value to one end product, but substantial value to another. Such a confined approach conflicts with the fundamental principles of apportionment.⁵³

B. The Viability of the Standards Setting Process and SSPPU.

Open telecommunications standards are important and beneficial: they have reduced barriers to entry, increased consumer choice, improved technological performance and interoperability,

49. *Ericsson*, 773 F.3d at 1226.

50. *Id.* (emphasis added).

51. *See* *Summit 6, LLC v. Samsung Elecs. Co., Ltd.*, 802 F.3d 1283, 1296 (Fed. Cir. 2015) (“A party may use the royalty rate from sufficiently comparable licenses, value the infringed features based upon comparable features in the marketplace, or value the infringed features by comparing the accused product to non-infringing alternatives. A party may also use what this court has referred to as ‘the analytical method,’ focusing on the infringer’s projections of profit for the infringing product.” (citation omitted)).

52. *Ericsson*, 773 F.3d at 1228.

53. *Id.* at 1226-27.

and reduced costs.⁵⁴ Innovating members of standard-setting organizations (SSOs) invest significant time and resources conceptualizing, modeling, and testing the solutions that they offer to the standard. This process results in a state-of-the-art systems specification, with the best technical solutions incorporated into the standard. SSOs typically require that innovators contributing their proprietary technology to the standard make a commitment to license their patents covering incorporated technology—standard-essential patents—to any interested implementer on a fair, reasonable, and non-discriminatory (FRAND) basis.⁵⁵

This FRAND licensing regime balances two primary goals: (1) providing implementers with access to standardized technology at a reasonable cost, while (2) providing innovators with sufficient incentive to continue contributing their proprietary technology to this pro-competitive process. The “importance of [this] balance is especially pronounced where there is a critical need for seamless interoperability among software, components and other technologies embedded in microelectronic devices, such as cellular telephones.”⁵⁶

In the real world, mandatory SSPPU chip-based valuation, with no regard for the facts and circumstances of the particular case, would pose a serious threat to the standard-setting process and the balance between implementers and innovators that the FRAND regime promotes. For example, proponents of a mandatory SSPPU approach submitted amici briefs in *CSIRO II* and painted a picture of what the licensing world might look like if standard-essential patent damages were capped based on the proposed chip-focused model.⁵⁷ They contend, for example, that in order to alleviate their royalty-

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

55. *Ericsson*, 773 F.3d at 1208-09. FRAND (also known as RAND) denotes a voluntary licensing commitment that standards organizations often request from the owner of an intellectual property right. See Anne Layne-Farrar, A. Jorge Padilla & Richard Schmalensee, *Pricing Patents for Licensing in Standard-Setting Organizations: Making Sense of Fraud Commitments*, 76 ANTITRUST L.J. 671, 671 (2007) (discussing ways in which courts might evaluate whether behavior is or is not compliant with FRAND commitments).

56. NAT’L RESEARCH COUNCIL, PATENT CHALLENGES FOR STANDARD-SETTING IN THE GLOBAL ECONOMY 17 (2013); see also *Ericsson*, 773 F.3d at 1229 n.6 (citing observation that royalty rates “must be high enough to ensure that innovators have appropriate incentive to invest in future developments and contribute their inventions to the standard-setting process”).

57. See generally Brief for Intel Corp. et al. as Amici Curiae Supporting Appellant, *CSIRO II*, 809 F.3d 1295 (Fed. Cir. 2015) (No. 2015-1066), 2015 WL 514690 (arguing that “[t]he district court’s methodology would unfairly allow patentees to receive royalties that extend well beyond the value of their inventions”).

stacking concerns, each patent essential to the 802.11 standards could be capped at a value between \$0.00011667 and \$0.00078333 per chip.⁵⁸ Pursuant to this math, if every man, woman, and child in the United States bought an 802.11-compliant device making use of a patented technology, an essential-patent holder could expect to receive a total royalty somewhere between \$37,000 and \$250,000—regardless of the incremental value that the particular standard-essential patent added to those devices. Put another way, a standard-essential patent for an instrument that drives significant value may not result in an increase in the chip price but could allow the end-product manufacturer to charge significantly more for the product. Under the chip-based valuation, the patent holder would not be fairly compensated for his invention of an instrument and all the value would, instead, flow to the end-product manufacturer.

In the world proposed by the Intel amici, an innovating SSO member could anticipate that, if its most cutting-edge technology were adopted as an industry standard, and if that industry standard proved highly effective and wildly successful, even then the innovator would be unlikely to recoup its R&D investment. The balance negotiated by the FRAND regime requires royalty rates that are “high enough to ensure that innovators have appropriate incentive to invest in future developments and contribute their inventions to the standard-setting process.”⁵⁹ The chip-based approach often fails this test, and thus threatens the continued viability of open telecommunications standards.⁶⁰

C. Flexibility in Damages Methodologies is Necessary to Account for Market Realities.

The Federal Circuit’s refusal to impose a rigid rule when multi-component products are accused of infringement allows parties to incorporate market realities into their damage methodologies. The district court in *CSIRO I* identified market realities in its damages

58. *Id.* at *28-29.

59. *Ericsson*, 773 F.3d at 1229 n.6.

60. The IEEE, the same SSO at issue in *CSIRO*, recently amended its Intellectual Property Rights (IPR) Policy and now requires, inter alia, that licenses entered pursuant to the IEEE’s IPR Policy be negotiated using the SSPPU approach. The IEEE policy change is highly contested by some of its members and leading contributors to the IEEE. Some of the IEEE’s members have appealed the policy change to the American National Standards Institute (ANSI), an umbrella organization that accredits standards bodies in the U.S. As of the date of this article, the appeal to ANSI’s Appeal Board of ANSI’s re-accreditation of the IEEE is pending. The authors represent Ericsson, Inc. for purposes of this appeal.

analysis—in particular “the depression of chip prices in the damages period resulting from rampant infringement in the wireless industry.”⁶¹

In the real world, no one would think that “actual value” was reflected in the price paid for a bootlegged DVD, or an illegally downloaded e-book, or a Wi-Fi chip bought off the back of a truck following a five-finger discount. In each of those cases, prices are depressed because the items involve stolen property. While those are dramatic examples, the principle is largely the same in this context: if the chip being sold embodies significant unlicensed intellectual property, then there is good reason to believe that the sales price of that chip does not reflect its actual value.

In *CSIRO I*, there was direct, real-world evidence that Cisco believed the patent-in-suit added somewhere around \$0.90 to the value of each of its end products.⁶² CSIRO, on the other hand, placed that value closer to \$1.90.⁶³ Given the particular products at issue, which are principally directed to enabling wireless communication, as well as the district court’s finding that the patent-in-suit “largely solved the multipath problem for indoor wireless data communication,”⁶⁴ there is nothing shocking or unseemly about these numbers.

In any event, the most relevant and reliable evidence available to the district court indicated that Cisco and CSIRO valued the contribution of the patented technology at somewhere in the range of \$0.90 to \$1.90 per end product. If the Federal Circuit had adopted a bright-line rule, consideration of this relevant, real-world evidence of the incremental value added to the accused end products would be precluded in favor of a singular focus on the price of the Wi-Fi chips incorporated into the accused end products. An infringer that recoups substantial value from the incorporation of a Wi-Fi chip into its end products should not necessarily be subject to the same royalty as an infringer that recoups little to no value from the same chip added to its end products. Thus, the Federal Circuit reiterated its holding in *Ericsson* that the legal question must ultimately turn on the incremental value added to the end products, not the price of chips in those products.⁶⁵

61. *CSIRO I*, No. 6:11-CV-343, 2014 WL 3805817, at *11 (E.D. Tex. July 23, 2014), *vacated*, 809 F.3d 1295 (2015), *cert. denied*, 136 S. Ct. 2530 (2016).

62. *Id.* at *12.

63. *Id.*

64. *Id.* at *11.

65. 773 F.3d at 1226-27.

VI. CONCLUSION

The Federal Circuit’s rejection of a mandatory SSPPU approach as “untenable” reaffirms that the appropriate royalty base for calculating damages need not be the SSPPU, provided the evidence shows that there are other value indicators that “already buil[d] in apportionment.”⁶⁶ While the judicially-developed principle of SSPPU remains a tool that will be appropriate in some cases, different cases present different factual circumstances that could lend themselves to different yet reliable methodologies. The “essential requirement is that the ultimate reasonable royalty award must be based on the incremental value that the patented invention adds to the end product.”⁶⁷

66. *CSIRO II*, 809 F.3d 1295, 1303 (Fed. Cir. 2015).

67. *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201, 1226 (Fed. Cir. 2014).