UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

CARNEGIE MELLON UNIVERSITY,

Plaintiff,

v.

LSI CORPORATION, et al.,

Defendants.

Case No. 18-cv-04571-JD

ORDER RE FRE 702 RE WITNESS LAWTON

In this patent infringement case, Carnegie Mellon University (CMU) sued LSI Corporation and Avago Technologies U.S. Inc. (collectively, LSI) alleging infringement of two CMU patents related to hard-disk drives. *See* Dkt. No. 1 ¶ 2. The parties filed a slew of motions under Federal Rule of Evidence 702 challenging the other side's expert witnesses. *See* Dkt. Nos. 320, 322, 326, and 330. The Court resolved the challenges to Brian Napper and Dr. Christopher Bajorek in other orders. *See* Dkt. Nos. 444, 445. This order resolves LSI's request to exclude the opinions of CMU's damages witness, Catharine Lawton. Dkt. No. 326.

Lawton's damages opinions are excluded in part. Her reasonable royalty opinions with respect to Seagate and Hitachi Global Storage Technologies (HGST) are based on acts of infringement that are time-barred under 35 U.S.C. Section 286. Her opinion about an improvement in signal-to-noise ratio between LSI's product generations attributable to the patented technology did not properly apportion for unpatented improvements. The request to exclude Lawton is denied in all other respects.

United States District Court
Northern District of California

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BACKGROUND

The parties' familiarity with the record is assumed. CMU's damages theory is somewhat exotic, and so a brief overview is useful.

CMU owns related United States Patent Nos. 6,201,839 (the '839 patent, Dkt. No. 1-3) and 6,438,180 (the '180 patent, Dkt. No. 1-4) (collectively, the Patents-in-Suit). CMU asserts one method claim from each of the patents. *See* Dkt. No. 413 (Joint Pretrial Statement) at 1. At a high level, the asserted methods teach an improved process for accurately reading bits, particularly those stored on hard disks. *See* Dkt. No. 391 (§ 101 Order) at 2-3. CMU alleges that LSI and its customers infringed during the testing, validation, and operation of LSI products, when they practiced the claimed methods millions to billions of times per second. Dkt. No. 413 at 3.

Because CMU asserts method claims, and not system claims, it acknowledges that direct infringement arises not from the sale of LSI's products, but from its use of the claimed methods. Dkt. No. 413 at 4. Even so, CMU bases its damages on such sales. CMU says this is appropriate because, but for the use of the asserted method claims, "LSI's customers would not have purchased LSI's SoCs, LSI would not have reached the volume production stage of the sales cycle, and LSI would not have achieved profits." *Id.* Consequently, CMU says that LSI's sales are the "best and most appropriate metric" on which to base the calculation of a reasonable royalty. *Id.* at 5. The Federal Circuit accepted a similar theory in CMU's earlier litigation against Marvell involving the same patents. *Carnegie Mellon Univ. v. Marvell Tech. Grp., Ltd.*, 807 F.3d 1283, 1303 (Fed. Cir. 2015).

LSI sold its read channel system-on-a-chip (SoC) products to four customers: Western Digital, Toshiba, Seagate, and HGST. Dkt. No. 336-0[1] (Lawton Report) at Tables 8.7A and 8.7B.[2] These were not similarly situated customers. As the record established without genuine dispute during summary judgment proceedings, Seagate and HGST held a license to the asserted patents and enjoyed have-made rights to the technology. Dkt. No. 196 (Order re Partial Summary

[1] For documents filed under seal in their entirety, this order cites to the sealed versions.

[2] A de minimis number, not considered here, were also sold to other parties. Dkt. No. 336-0 at Tables 8.7A and 8.7B.

Judgment). Unlike Western Digital and Toshiba, Seagate and HGST were legally entitled to have LSI manufacture for them read channel SoCs using CMU's technology, and LSI cannot be liable for damages arising from having made those products. *See Vulcan Eng'g Co. v. Fata Aluminium, Inc.*, 278 F.3d 1366, 1378 (Fed. Cir. 2002).

These circumstances would seem to have spelled the end of CMU's damages theory based on sales to Seagate and HGST, leaving only the factual question of how much of CMU's alleged royalty base was to be excluded. Dkt. No. 196 at 9. But CMU took the view that the summary judgment determinations did not curtail its alleged damages in any meaningful way. This is so, according to CMU, because LSI directly infringed the patents during a customer-independent platform development stage "before customer-specific customization," namely, before have-made rights would apply. Dkt. No. 209-3 (CMU SJ Opposition Brief) at 4.

LSI asks to exclude Lawton's opinions that incorporate this theory. LSI also asks to exclude Lawton's opinion that the 0.6 dB of signal-to-noise ratio (SNR) improvement between two LSI product generations -- Redback and Redtail -- was entirely attributable to the Patents-in-Suit. Dkt. No. 336-0 ¶ 1010. LSI's attack is based on testimony by CMU's technical expert, Dr. Steven McLaughlin, that at least "some portion" of the 0.6 dB gain between generations was attributable to non-patented features. Dkt. No. 336-13 (McLaughlin Deposition) at 130:6-12. LSI says that Lawton did not properly apportion damages in view of Dr. McLaughlin's testimony.

DISCUSSION

I. LEGAL STANDARDS

Federal Rule of Evidence 702 provides that a "witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if the proponent demonstrates to the court that it is more likely than not that," *inter alia*, "the testimony is based on sufficient facts or data," "the testimony is the product of reliable principles and methods," and "the expert's opinion reflects a reliable application of the principles and methods to the facts of the case." Fed. R. Evid. 702(b)-(d).

"At all stages, Rule 702 . . . tasks a district court judge with ensuring that an expert's testimony both rests on a reliable foundation and is relevant to the task at hand." *In re Google*

Play Store Antitrust Litig., No. 21-md-02981-JD, 2023 WL 5532128, at *5 (N.D. Cal. Aug. 28, 2023) (cleaned up). "The test of reliability is flexible, and the Court looks at whether the reasoning and methodology underlying the testimony is scientifically valid and whether that reasoning or methodology properly can be applied to the facts in issue." *Reflex Media, Inc.*, 2024 WL 4903267, at *2 (cleaned up) (quotations omitted).

FRE 702 "does not license a court to engage in freeform factfinding, to select between competing versions of the evidence, or to determine the veracity of the expert's conclusions at the admissibility stage." *Elosu v. Middlefork Ranch Inc.*, 26 F.4th 1017, 1026 (9th Cir. 2022). Even so, the Court may evaluate whether the expert proffered sufficient facts or data to "support . . . every necessary link" in her theory, *Domingo ex rel. Domingo v. T.K.*, 289 F.3d 600, 606 (9th Cir. 2002), with an eye toward "foundation, not corroboration," *Elosu*, 26 F.4th at 1025. If the evidence does not suffice, the Court may "conclude that there is simply too great an analytical gap between the data and the opinion proffered." *Id.* at 1026 (quoting *Gen. Elec. Co. v. Joiner,* 522 U.S. 136, 146 (1997)). As the Advisory Committee aptly stated, "nothing . . . requires the court to nitpick an expert's opinion," but the rule "does not permit the expert to make claims that are unsupported by the expert's basis and methodology." Fed. R. Evid. 702, advisory committee's note to 2023 amendment.

II. CMU'S INFRINGEMENT THEORIES

CMUS's infringement theories frame the discussion of Lawton's damages opinions. As CMU alleges, "LSI infringes in 3 ways: (i) direct infringement by its use of the Asserted Claims in the U.S.; (ii) induced infringement when LSI's customers (and their customers) use the Asserted Claims in the U.S. pursuant to LSI's directions; and (iii) contributory infringement by selling SoCs that LSI's customers (and their customers) use to practice the Asserted Claims." Dkt. No. 342-1 (CMU Opp. to Mtn. to Exclude Lawton) at 2.

For the sales to Western Digital and Toshiba, all three of CMU's infringement theories are in play. *Id.* at 2-3.

For the sales to Seagate and HGST, only theory (i) is said to apply. Seagate and HGST are licensees to CMU's patents, so they cannot directly infringe. *See Carborundum Co. v. Molten*

Metal Equip. Innovations, Inc., 72 F.3d 872, 878 (Fed. Cir. 1995); 35 U.S.C. § 271(a) ("[W]hoever *without authority* makes, uses, offers to sell, or sells any patented invention . . . infringes the patent.") (emphasis added). Without direct infringement by Seagate or HGST, there cannot be indirect infringement by LSI, whether induced or contributory, because indirect infringement requires a predicate act of direct infringement. *See Limelight Networks, Inc. v. Akamai Techs., Inc.*, 572 U.S. 915, 921 (2014). ("Our case law leaves no doubt that inducement liability may arise if, but only if, there is direct infringement.") (cleaned up); *Fujitsu Ltd. v. Netgear Inc.*, 620 F.3d 1321, 1326 (Fed. Cir. 2010) ("To establish contributory infringement, the patent owner must show . . . that there is direct infringement").

Even so, CMU says LSI directly infringed the patents-in-suit during the customer-independent development stage before any have-made rights kicked in. Dkt. No. 336-0 ¶¶ 775-76; Dkt. No. 209-3 at 6; Dkt. No. 342-1 at 2-3. This direct infringement is said to have enabled the development of platforms that produced sales to Seagate and HGST, which CMU concludes is grounds for including the sales within the royalty base. *See, e.g.,* Dkt. No. 413 at 4.

III. LAWTON'S OPINIONS RE HGST AND SEAGATE

The problem for CMU, and Lawton's damages opinions, is that this theory fatally collides with the statutory command in Section 286 that "no recovery shall be had for any infringement committed more than six years prior to the filing of the complaint or counterclaim for infringement in the action." 35 U.S.C. § 286. CMU extended this period briefly with a tolling agreement, but, even with that agreement, both sides agree that the damages period in this case reaches back to September 1, 2011, six years and some months before this case was filed in July 2018. Dkt. No. 336-0 ¶ 947; Dkt. No. 375-39 (Napper Report) ¶ 207.

Lawton determined that the royalty base in this case should be "the total number of units of Accused Products that Defendants have shipped between September 1, 2011 and April 3, 2018 (the expiration date of both Patents-in-Suit)." Dkt. No. 336-0 ¶ 57. Although this date range would seem to be consistent with Section 286, the appearance is deceiving. Lawton in fact proposes to award damages to CMU based on infringement that occurred before September 1, 2011.

The nature of the method claims for the Patents-in-Suit makes this error plain. In a patent case involving infringement of system claims, Lawton's determination might have been appropriate. The sale of an infringing product is an act of direct infringement of a system claim. *See* 35 U.S.C. § 271(a). Consequently, the accused infringer realizes revenue at approximately the same time it commits the act of infringement, and so Section 286 applies to limit both when the infringement must have occurred and when the sale must have happened.

Method claims are different. The sale of a product that *might* practice the claim is not an act of direct infringement. *See Embrex, Inc. v. Serv. Eng'g Corp.*, 216 F.3d 1343, 1352 (Fed. Cir. 2000) ("[A]s a matter of law, an offer to sell a device cannot infringe a method patent without evidence of the device's actual use to carry out the method."). CMU seeks damages from LSI's practice of the methods during a customer-independent platform development stage, a prerequisite to the actual sales of read channel SoCs. Dkt. No. 336-0 ¶¶ 775-76; Dkt. No. 209-3 at 6; Dkt. No. 342-1 at 2.

This necessarily entails a time lag between LSI's alleged acts of direct infringement (design and development of the chips) and the events that form Lawton's royalty base (actual sale of the chips), which calls Lawton's approach into immediate question. Lawton calculated the total amount of sales made during the period from September 2011 to April 2018. But LSI's sales are based on *prior* infringing acts that occurred when LSI practiced the patented methods during the development of the chip platform. Under Section 286, any infringement that occurred before September 2011 cannot be the basis for recovery. Lawton made no attempt to account for this circumstance or cabin sales based on pre-September 2011 infringement from her royalty base. These shortcomings are not questions of weight for the jury to decide, but methodological flaws.

This is enough to warrant exclusion of Lawton's opinions about HGST and Seagate. It bears mention that Lawton also elected to ignore the Court's summary judgment order in her opinions about HGST and Seagate, even though the order was issued four years before her report was written. *Compare* Dkt. No. 196 *with* Dkt. No. 336-0. Lawton's report is a gargantuan document that runs to just shy of 1,000 pages. *See* Dkt. No. 336-0. Nonetheless, Lawton made no mention of the summary judgment order, or any effort to discuss how her opinions might fit with

it. To the contrary, even though the Court concluded that LSI had an implied license for the products it made for Seagate and HGST, Lawton dismissed the implied license as merely a "contention" by LSI, Dkt. No. 336-0 ¶ 1083, a "claim," *id.* ¶ 1092, and a "purported" circumstance, *id.* ¶ 1185. In effect, Lawton simply disregarded the conclusions in the summary judgment order about the scope of damages available in this lawsuit, which created a fatal gap between the data and the opinions Lawton proffered. The lack of fit is an independent reason to exclude the opinions about HGST and Seagate. *See Klein v. Meta Platforms, Inc.*, 766 F. Supp. 3d 956, 960-61 (N.D, Cal. 2025) (and cases cited therein).

In response to all of this, CMU says that the Federal Circuit approved Lawton's overall approach in *Marvell*, the prior case involving the Patents-in-Suit, and the same should go here. But the question is not whether Lawton's hypothetical negotiation methodology is valid as a whole. Rather, the question is whether Lawton properly applied the methodology in the circumstances presented in this case. As discussed, she did not do so. Consequently, *Marvell* is not the lifeline that CMU suggests.

Marvell also was silent on the key issue here, namely the effect of Seagate's license on potential liability. The Court parted company with the district court in *Marvell* about the Seagate license. The *Marvell* district court said that "Marvell did not present uncontroverted evidence that Seagate had a license to the patents" and that "Marvell did not . . . show[] Seagate exercised any DSSC rights in conjunction with its dealings with Marvell." *Carnegie Mellon Univ. v. Marvell Tech. Grp., Ltd.*, 986 F. Supp. 2d 574, 651 n.111 (W.D. Pa. 2013). Here, the Court has determined that Seagate (and HGST) are licensees, Dkt. No. 196 at 2-3, and that they did not need to "affirmatively state in their contracts with LSI that they were using their have made rights." Dkt. No. 196 at 7 (internal quotations omitted). The factual and legal circumstances are materially different in these cases, which is further reason to conclude that Lawton's opinions are not old news under *Marvell*, as CMU urges.

IV. APPORTIONMENT

Another problem is that Lawton did not properly apportion damages. The Supreme Court has long held that a patentee "must in every case give evidence tending to separate or apportion

the defendant's profits and the patentee's damages between the patented feature and the unpatented features." *Garretson v. Clark*, 111 U.S. 120, 121 (1884). A patentee may seek "only those damages attributable to the infringing features." *Virnetx, Inc. v. Cisco Sys., Inc.*, 767 F.3d 1308, 1326 (Fed. Cir. 2014); *see also Finjan, Inc. v. Blue Coat Sys., Inc.,* 879 F.3d 1299, 1311 (Fed. Cir. 2018) (vacating jury's damages award for failure to apportion unpatented features). Consequently, a failure to apportion results in exclusion of the offending opinions. *See, e.g., MLC Intell. Prop., LLC v. Micron Tech., Inc.*, 10 F.4th 1358, 1373 (Fed. Cir. 2021) (affirming exclusion of damages expert who did not properly apportion).

Lawton did not honor these principles. She based her damages opinions on the premise that the entire 0.6 dB in SNR gain from the Redback to the Redtail product generations was attributable to the Patents-in-Suit. Dkt. No. 336-0 ¶ 1010. But CMU's own technical expert, Dr. Steven McLaughlin, opined that the patented feature, referred to as "data-dependent noise-prediction maximum likelihood," was only responsible for "part" of the 0.6 dB improvement. Dkt. No. 332-1 (McLaughlin Report) ¶ 8.221. McLaughlin expressly testified that "some portion" of the SNR gain came from the unpatented improvement regarding "parity" and being "optimized for longitudinal and perpendicular." Dkt. No. 336-13 at 130:6-12. Dr. McLaughlin is clear that the patented technology contributes a significant portion of the SNR gain, but that unpatented technology contributes some other part. *Id.* at 129:16-130:12. It bears repeating that Lawton is a damages expert, not a technical expert, so she must rely entirely on Dr. McLaughlin's opinions to conduct technical apportionment.

If even some portion of the SNR gain came from an unpatented feature, Lawton should have accounted for that unpatented portion before valuing the SNR gain attributable to the patented "data-dependent NPML" feature. Dkt. No. 332-1 ¶ 8.221. She did not. Because Lawton failed to apportion out SNR gain improvements attributable to unpatented technology, her opinion as it relates to "Redtail's estimated SNR gain of 0.6 dB" must be excluded. Dkt. No. 336-0 ¶ 1010.

LSI suggests that the same goes for Lawton's opinions about the estimated SNR gain of the Copperhead generation. *See* Dkt. No. 450 at 8 n.9. The point is not well taken. LSI did not

identify a similar opinion by Dr. McLaughlin that unpatented features contributed to the SNR gain for the Copperhead product.

V. LAWTON'S OPINIONS RE WESTERN DIGITAL AND TOSHIBA

LSI's request to exclude Lawton's opinions with respect to Western Digital and Toshiba is denied. Neither of these companies were licensees, and so the problem of a time lag that sank Lawton's HGST and Seagate opinions is not present. The attendant damages analysis is much more straightforward. For example, under infringement theory (iii), contributory infringement, LSI would be liable when it "offers to sell or sells . . . a component of a patented machine . . . constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial non-infringing use. . . ." 35 U.S.C. § 271(c). Put more directly, LSI's contributory infringement -- a sale -- occurs at the same time the damages accrue -- also from the sale. *See Glenayre Elecs., Inc. v. Jackson*, 443 F.3d 851, 858–59 (Fed. Cir. 2006) ("[W]here a patentee alleges that a manufacturer contributes to and induces infringement by its customers simply because it sells infringing products to its customers, damages assessed for indirect infringement normally will be the same as damages that would be assessed had the patentee sued and obtained a judgment against the customers."). Without have-made rights, the other infringement theories could also support both infringement and damages within Lawton's September 1, 2011 to April 3, 2018 window.

CONCLUSION

Lawton's opinions about a reasonable royalty based on LSI's sales to Seagate and HGST are excluded. Her opinion about the improvement in signal-to-noise ratio between Redback and Redtail attributable to the Patents-in-Suit is also excluded.

IT IS SO ORDERED.

Dated: May 1, 2026

JAMES DONATO
United States District Judge