UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

ALPHA AND OMEGA SEMICONDUCTOR LIMITED, et al.,

Plaintiffs,

v.

FORCE MOS TECHNOLOGY CO., LTD., et al.,

Defendants.

Case No. 22-cv-05448-PCP

ORDER RE: MOTIONS FOR SUMMARY JUDGMENT AND TO STRIKE

Re: Dkt. Nos. 149, 159, 172

This case involves a set of patents related to metal oxide semiconductor field effect transistors, or MOSFETs. Now before the Court are several motions. For the reasons stated herein, the Court grants plaintiff Alpha and Omega Semiconductor Ltd.'s (AOS) motion for a summary judgment that its accused products do not infringe U.S. Patent No. 7,646,058. The Court grants defendant Force MOS Technology Co., Ltd.'s motion for summary judgment as to AOS and third-party defendant Jireh Semiconductor, Inc.'s marking defenses under 35 U.S.C. § 287(a) and denies AOS's motion for summary judgment as to that defense. The Court grants in part and denies in part Force MOS's motion to exclude certain documents and theories that AOS allegedly failed to disclose during discovery and to strike expert testimony relying on those undisclosed materials.[1]

BACKGROUND

As described in greater detail in the Court's claim construction order, *see* Dkt. No. 94 at 1–3, MOSFETs are devices composed of differently doped semiconductor materials arranged to

[1] The Court will resolve the parties' *Daubert* motions (Dkt. Nos. 161, 163, and 165) and consolidated sealing requests (Dkt. Nos. 183 and 194) in separate orders.

form junctions that, along with conductor and insulator materials, can be used to switch the direction of or amplify electrical signals. Power MOSFETs are designed to handle significant current and voltage and, like other transistors, have three electrical leads or terminals: a source, a drain, and a gate. Applying a voltage to the gate terminal controls the conductivity between the source and drain terminals. In a trench power MOSFET, current flows vertically from the source on the top layer of a silicon chip to the drain on the bottom, controlled by gates located in "trenches" within the chip.

Force MOS is the owner of three patents pertaining to various inventions that aim to make power MOSFETs better, smaller, and cheaper. The first, U.S. Patent No. 7,629,634 ("'634 patent"), involves a trench MOSFET where the source contacts are trenched in addition to the gates and metal contact plugs extend into the source-contact trenches. The '634 patent describes the use of particular contact layers at the side walls of those trenches to improve the performance of the chip. The second, U.S. Patent No. 7,847,346 ("'346 patent"), proposes a new source contact trench structure to allow for greater cell density and lower resistance, as well as lower fabrication costs. The third, U.S. Patent No. 7,646,058 ('058 patent"), seeks to improve the heat dissipation of trenched MOSFETs. This patent proposes a wider contact area between the front metal atop the chip and the wires that facilitate external connection, as well as using metals with better thermal conductivity than those used in the prior art. Specifically, claim 1 of the '058 patent requires that "said metallic contact plugs and said front metal are composed of a metallic material having a thermal conductivity higher than a thermal conductivity of aluminum and/or aluminum alloys."

Force MOS and AOS both make trench MOSFETs, and Force MOS has sold MOSFETs embodying the asserted patents since 2017. In September 2022, Force MOS sent a letter to AOS asserting that AOS's products infringe the '634 patent. Soon thereafter, AOS filed this action seeking a declaratory judgment that its accused products do not infringe the '634 patent. Force MOS sent another letter asserting infringement of the '346 patent in November 2022, prompting AOS to amend its complaint to seek a declaration that its accused products also do not infringe

that patent.[2] Force MOS then sent a final letter in April 2023 notifying AOS of its alleged infringement of the '058 patent. Force MOS subsequently filed counterclaims against AOS and a third-party complaint against AOS's wholly-owned subsidiary Jireh, asserting claims for infringement of the '646, '346, and '058 patents.

AOS now moves for summary judgment on Force MOS's claim for infringement of the '058 patent and on AOS's marking defense as to all of Force MOS's claims. Force MOS moves for summary judgment as to both AOS and Jireh's marking defenses. Force MOS also moves to strike or exclude certain evidence, information, and expert testimony reliant thereon pursuant to Federal Rule of Civil Procedure 37(c)(1).

LEGAL STANDARDS

Courts may grant summary judgment "if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(a). A factual dispute is genuine "if the evidence is such that a reasonable jury could return a verdict for the nonmoving party." *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986). A dispute is material if it "might affect the outcome of the suit under the governing law." *Id.* The moving party bears the initial burden to demonstrate a lack of genuine factual dispute. *Celotex v. Catrett*, 477 U.S. 317, 323 (1986). "When the nonmoving party has the burden of proof at trial, the moving party need only point out 'that there is an absence of evidence to support the nonmoving party's case." *Devereaux v. Abbey*, 263 F.3d 1070, 1076 (9th Cir. 2001) (quoting *Celotex Corp.*, 477 U.S. at 325). The burden then shifts to the nonmoving party to "provide affidavits or other sources of evidence that 'set forth specific facts showing that there is a genuine issue for trial.'" *Id.* at 1076 (quoting Fed. R. Civ. P. 56(e)). "The evidence of the non-movant is to be believed, and all justifiable inferences are to be drawn in his favor." *Anderson*, 477 U.S. at 255.

Federal Rule of Civil Procedure 37(c)(1) authorizes courts to strike or exclude evidence or information that "a party fails to provide … as required" in its initial disclosures and discovery responses, "unless the failure was substantially justified or is harmless." This "self-executing,

[2] AOS also claimed that Force MOS infringed several of AOS's own patents, but the parties subsequently stipulated to dismiss those claims.

automatic sanction … provide[s] a strong inducement for disclosure of material" and does not "require[] … a finding of willfulness or bad faith to exclude … evidence." *Hoffman v. Constr. Protective Servs., Inc.*, 541 F.3d 1175, 1180 (9th Cir. 2008) (quoting *Yeti by Molly, Ltd. v. Deckers Outdoor Corp.*, 259 F.3d 1101, 1106 (9th Cir. 2001)). The burden is on the party facing discovery sanctions under Rule 37(c)(1) to prove harmlessness or substantial justification. *See Torres v. City of Los Angeles*, 548 F.3d 1197, 1213 (9th Cir. 2008). A district court generally "has wide discretion in controlling discovery," and "that discretion is particularly wide when it comes to excluding [evidence] under Rule 37(c)(1)." *Ollier v. Sweetwater Union High Sch. Dist.*, 768 F.3d 843, 862 (9th Cir. 2014).

ANALYSIS

I. AOS's motion for a summary judgment as to the '058 patent is granted.

AOS first moves for summary judgment that its accused products do not infringe the '058 patent. As noted above, the '058 patent describes an invention relating to a trench MOSFET that contains both metallic contact plugs and a solderable front metal. Claim 1 of the '058 patent, on which all the other claims depend, requires that "said metallic contact plugs and said front metal are composed of a metallic material having a thermal conductivity higher than a thermal conductivity of aluminum and/or aluminum alloys." Because aluminum alone has a higher thermal conductivity than any of its alloys, the Court previously construed this language to mean that the "metallic contact plugs and said front metal are composed of a metallic material having a thermal conductivity higher than the thermal conductivity of aluminum."

It is undisputed that AOS's accused products contain metallic contact plugs composed of tungsten, which has a lower thermal conductivity than aluminum. AOS argues that because claim 1 requires the plugs "and" the front metal to have a thermal conductivity higher than that of aluminum, the accused products do not satisfy claim 1's thermal-conductivity requirement. And because claim 1 is the only independent claim in the '058 patent, AOS contends that its products' tungsten plugs are fatal to Force MOS's claim that the products infringe the '058 patent. Force MOS contends that "and" is ambiguous and sometimes disjunctive (i.e., that "and" sometimes means "or"). Force MOS therefore argues that the Court should look to the '058 patent's

specification and disclosed embodiments to discern the meaning of "and" as used in claim 1. Because reading "and" in its usual conjunctive sense would exclude the disclosed embodiments from practicing the '058 patent, Force MOS insists that "and" must be read as disjunctive.

In this case, "and" unambiguously means "and." That is, of course, "its plain and ordinary meaning." *Medgraph, Inc. v. Medtronic, Inc.*, 843 F.3d 942, 950 (Fed. Cir. 2016); *see also OfficeMax, Inc. v. United States*, 428 F.3d 583, 588 (6th Cir. 2005) ("[D]ictionary definitions, legal usage guides and case law compel us to start from the premise that 'and' usually does not mean 'or.'"); *see also* Bob Donough, *Conjunction Junction*, *in* Schoolhouse Rock! (1973) ("And': That's an additive, like 'this and that.'"). Where the Federal Circuit has construed "and" as potentially disjunctive, it generally has done so because the claim included other language strongly suggesting a disjunctive meaning. In *Ortho-McNeil Pharmaceutical, Inc. v. Mylan Laboratories, Inc.*, for example, the Federal Circuit affirmed a district court's construction of "and" as disjunctive where:

> The claim … d[id] not use *and* in isolation but in a larger context that clarifie[d] its meaning. Specifically, *and* appear[ed] in conjunction with the adverbs *independently* and *together*. … [T]hese terms signal that *and* links alternatives that occur under the different conditions of independence or togetherness.

520 F.3d 1358, 1361–63 (Fed. Cir. 2008). Similarly, in *SuperGuide Corp. v. DirecTV Enterprises, Inc.*, the Federal Circuit interpreted "and" as disjunctive where "[t]he phrase 'at least one of' precede[d] a series of categories of criteria, and the patentee used the term 'and' to separate the categories of criteria." *SuperGuide Corp. v. DirecTV Enters., Inc.*, 358 F.3d 870, 886 (Fed. Cir. 2004). No such limiting language is found in claim 1 of the '058 patent.

Quite the opposite: The same clause that refers to "said metallic contact plugs *and* said front wall" refers to "aluminum *and/or* aluminum alloys." "And/or" signifies that a requirement may be satisfied by the presence of any of the listed criteria alone or in combination. And it is well established that "[d]ifferent claim terms are presumed to have different meanings." *Bd. of Regents of the Univ. of Tex. Sys. v. BENQ Am. Corp.*, 533 F.3d 1362, 1371 (Fed. Cir. 2008). So the use of "and/or" in claim 1 strongly suggests that "and" carries a different meaning—i.e., that "and" does not indicate that only one of the contact plugs or front wall need satisfy the thermal conductivity

requirement. The only other plausible meaning of "and" is purely conjunctive. That distinguishes this case from the only Federal Circuit opinion of which the Court is aware that treated "and" as ambiguous absent other textual indicia of a disjunctive meaning. *See Kaufman v. Microsoft Corp.*, 34 F.4th 1360, 1373 (Fed. Cir. 2022). Unlike here, the claim language at issue in *Kaufman* contained no use of "and/or" nor any other textual clue that "and" must be conjunctive.

Force MOS's remaining arguments are unavailing.

First, Force MOS argues that "[a] claim construction that excludes a preferred embodiment is rarely, if ever correct." *Kaufman*, 34 F.4th at 1372–73 (citation modified). But "courts may not redraft claims to cure a drafting error made by the patentee, whether to make them operable or to sustain their validity." *Lucent Techs., Inc. v. Gateway, Inc.*, 525 F.3d 1200, 1215 (Fed. Cir. 2008). So "where," as here, "the claim language is unambiguous," courts must give effect to that language, even if it means "constru[ing] the claims to exclude all disclosed embodiments." *Id.* at 1215–16; *see also Source Vagabond Sys. Ltd. v. Hydrapak, Inc.*, 753 F.3d 1291, 1301 (Fed. Cir. 2014) ("A court may not rewrite a claim even if giving a disputed claim its plain meaning would lead to a 'nonsensical result.'" (quoting *Chef Am., Inc. v. Lamb–Weston, Inc.,* 358 F.3d 1371, 1373 (Fed. Cir. 2004))).

Second, Force MOS argues that the prosecution history and other intrinsic evidence demonstrate that it intended for claim 1 to require that *either* the metallic contact plugs *or* the front metal be composed of a material with a thermal conductivity higher than that of aluminum. But Force MOS's intent cannot vary unambiguous claim language. A contrary rule "would unduly interfere with the function of claims in putting competitors on notice of the scope of the claimed invention." *Lucent Techs.*, 525 F.3d at 1215 (citation modified).

Third, Force MOS points to the report of its technical expert Dr. Neikirk, who argues that a person of ordinary skill in the art would have read claim 1 to use "and" disjunctively. But Dr. Neikirk did not make that assessment based on any well-known practice of using "and" to mean "or." Instead, his conclusion relied entirely on the fact that reading "and" as conjunctive would exclude the disclosed embodiments, the same argument rejected above.

Fourth, Force MOS insists that the Court already rejected AOS's proposed construction of

claim 1 in the Court's claim-construction order. The Court did not do so. To be certain, the Court declined to adopt AOS's proposal to insert the word "both" into the clause at issue, which would then have read "both the metallic contact plugs and the front metal are composed of …" But nothing in the order suggested that the Court understood "and" to be disjunctive—rather, the Court rejected AOS's proposal because it determined that "and" was already unambiguously conjunctive and adding the word "both" would therefore be duplicative. In any case, the Court is free to revisit its claim construction. *In re Papst Licensing Digital Camera Pat. Litig.*, 778 F.3d 1255, 1261 (Fed. Cir. 2015).

Finally, in a last-ditch effort to avoid summary judgment, Force MOS asks the Court to send the issue to the jury. But there is no factual dispute for a jury to decide: The parties agree as to the relevant facts—namely, that the accused products' contact plugs are composed of a metallic material with a thermal conductivity lower than that of aluminum. "Where the parties do not dispute any relevant facts regarding the accused product … [and] disagree [only] over possible claim interpretations, the question of literal infringement collapses into claim construction[.]" *Gen. Mills, Inc. v. HuntWesson*, 103 F.3d 978, 983 (Fed. Cir. 1997). And claim construction "is a matter of law exclusively for the court." *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 970–71 (Fed. Cir. 1995), *aff'd*, 517 U.S. 370 (1996).

In sum, claim 1 of the '058 patent unambiguously requires that both the metallic contact plugs and the front metal be composed of a material with a thermal conductivity higher than that of aluminum. Nothing warrants departing from that clear meaning. And there is no dispute that AOS's accused products use metallic plugs made of tungsten, which does not have a higher thermal conductivity than aluminum. AOS's motion for a summary judgment that its accused products do not infringe the '058 patent is therefore granted.[3] As a result, the Court need not address AOS's alternate argument that the accused products do not infringe the '058 patent because their front metals contain an aluminum layer disclaimed by the patent's specification.

[3] Because Jireh neither joined AOS's motion for summary judgment nor filed its own motion, the Court grants summary judgment only as to Force MOS's claim against AOS.

II. Force MOS's motion for summary judgment as to AOS and Jireh's marking defense is granted and AOS's contrary motion is denied.

Both AOS and Force MOS move for summary judgment on the issue of marking. "Pursuant to 35 U.S.C. § 287(a), a patentee who makes or sells a patented article [within the United States] must mark his articles or notify infringers of his patent in order to recover damages." *Arctic Cat Inc. v. Bombardier Recreational Prods. Inc.*, 876 F.3d 1350, 1365 (Fed. Cir. 2017). If a patentee fails to mark its products, "no damages shall be recovered …, except on proof that the infringer was notified of the infringement and continued to infringe thereafter, in which event damages may be recovered only for infringement occurring after such notice." 35 U.S.C. § 287(a).

AOS asserts that Force MOS failed to mark embodying products that were sold within the United States prior to 2024. AOS therefore contends that Force MOS cannot recover damages for AOS's allegedly infringing sales prior to the dates on which Force MOS provided actual notice of AOS's alleged infringement in 2022.[4] Force MOS argues that neither AOS nor Jireh have raised a triable issue as to Force MOS's alleged failure to mark.

"The patentee bears the burden of *pleading and proving* [it] complied with § 287(a)'s marking requirement." *Arctic Cat*, 876 F.3d at 1366 (emphasis added) (citing *Maxwell v. J. Baker, Inc.*, 86 F.3d 1098, 1111 (Fed. Cir. 1996)). But before the patentee's burden arises, "an alleged infringer who challenges the patentee's compliance with § 287 bears an initial burden of *production* to articulate the products it believes are unmarked 'patented articles' subject to § 287." *Id.* at 1368 (emphasis added). To satisfy this initial burden of production, "[t]he alleged infringer need only put the patentee on notice that [it] or [it]s authorized licensees sold *specific* unmarked products which the alleged infringer believes practice the patent." *Id.* (emphasis added). This requirement prevents an alleged infringer from engaging in a "large scale fishing expedition [or] gamesmanship" by forcing a patentee to "establish[] compliance with … the marking statute"

[4] As noted above, Force MOS provided actual notice concerning the '634 and '346 patents in letters sent in September and November 2022, respectively. Because the Court grants AOS's motion for summary judgment of noninfringement as to the '058 patent, the date on which AOS received actual notice concerning the '058 patent is irrelevant.

for an "unbounded" "universe of products." *Id.*

As Force MOS argues, AOS and Jireh have not carried their initial burden of production under *Arctic Cat*. AOS did not disclose material facts relating to its marking defense in its responsive damages contentions, as Patent Local Rule 3-9 requires, and Jireh never served damages contentions at all. Nor did AOS identify unmarked patented products in response to Force MOS's interrogatory requesting "all factual and legal bases for what you believe are the appropriate damages if infringement of [the asserted [patents] is found." Even in its summary-judgment briefing, AOS never specifically identified the Force MOS products that it believes practiced the asserted patents, were made or sold in the United States, and were unmarked prior to the dates on which AOS received actual notice of its alleged infringement. When the Court asked AOS's counsel to identify those products at the summary-judgment hearing, he was unable to do so.

AOS makes several unavailing attempts to circumvent *Arctic Cat*'s requirements.

First, AOS points to Force MOS discovery responses that, AOS argues, "revealed that all of Force MOS's embodying products were unmarked prior to suit." But those discovery responses "never identified any specific unmarked products," and AOS cannot meet its burden under *Arctic Cat* by "refer[ring] generally to [Force MOS]'s … failure to mark any of its products embodying any claim of the Patent[s]-in-Suit." *Droplets, Inc. v. Yahoo! Inc.*, No. 12-CV-03733-JST, 2022 WL 2670188, at *2 (N.D. Cal. Feb. 28, 2022).

Second, AOS suggests that it need not satisfy the usual burden of production under *Arctic Cat* because statements by Force MOS's corporate representative in a Rule 30(b)(6) deposition amount to a binding judicial admission as to Force MOS's failure to comply with § 287. *See Dynetix Design Sols., Inc. v. Synopsys, Inc.*, No. 11-cv-5973, 2013 WL 4537838, at *3 (N.D. Cal. Aug. 22, 2013). But those statements at most admit that Force MOS did not mark its products prior to 2024. They do not admit that any Force MOS products embody the asserted patents or were made or sold within the United States, as was required to trigger § 287's marking requirement. *See* 35 U.S.C. § 287(a).

To fill that gap, AOS identifies other documents that it contends show Force MOS's sale

of embodying products in the United States. These documents are of no help to AOS. While AOS relies on Force MOS's interrogatory responses, those responses merely list certain Force MOS products that embody the asserted patents without identifying which products were sold within the United States before AOS received actual notice of its alleged infringement. AOS also relies on admissions in Force MOS's pleadings. But only Force MOS's operative answer functions as a binding judicial admission. *See Huey v. Honeywell, Inc.*, 82 F.3d 327, 333 (9th Cir. 1996); *see also Wood v. Washburn*, No. 23-35041, 2025 WL 66046, at *1 (9th Cir. Jan. 10, 2025) ("[A]nswers to a first amended complaint supersede answers to an original complaint, and Defendants-Appellees are therefore not bound by prior admissions."). And the operative answer admits only that embodying products made their way to the United States as of April 2023, which is after AOS received actual notice and therefore outside the relevant period for marking purposes. *See also Oracle Am., Inc. v. Google Inc.*, No. 10-cv-03561-WHA, 2011 WL 5576228, at *2 (N.D. Cal. Nov. 15, 2011) ("An admission … in April 2011 that various instrumentalities 'practice' [present tense] unspecified claims of its asserted patents does not establish that any patented articles (whether or not marked as such) were [past tense] offered for sale, sold, or imported into the United States before July 20, 2010."). AOS's reliance on data in Mr. LaMotta's expert report showing Force MOS's profits from U.S. sales of embodying products from 2018 to 2025 fails for similar reasons: The data cover sales both during and after the relevant period and provide no insight as to when ForceMOS began selling any particular embodying product in the United States.

Third, AOS suggests that it may satisfy its burden of production under *Arctic Cat* at some unspecified later date, even if that is "on the eve of trial." The only binding authority AOS cites for that proposition is *Lubby Holdings, LLC v. Chung*, 11 F.4th 1355, 1360 (Fed. Cir. 2021). There, the Federal Circuit permitted an alleged infringer to raise a marking defense on the eve of trial because the patentee "did not disclose its damages computation as required by [Rule] 26(a)(1)(A)(iii) until … the day prior to trial." *Id.* at 1359–60. That is obviously not the case here, and AOS offers no other justification for its delay in identifying specific Force MOS products that it believes were unmarked, practiced the asserted patents, and were sold or made within the United

States before AOS received actual notice.

Accordingly, the Court grants Force MOS's motion for summary judgment on AOS and Jireh's marking defenses and denies AOS's contrary motion. The Court does not reach Force MOS's alternate argument that it had no duty to mark its products because it did not directly sell any such products into the United States.

III. Force MOS's motion to strike is granted in part and denied in part.

Force MOS moves to strike various evidence and information produced by AOS and the related testimony of AOS's experts. This evidence and information includes: (1) financial data concerning "ship-and-debit credits" that bear on AOS's revenue from sales of accused products; (2) technical documents concerning the composition of soldering pastes used in AOS's accused products; (3) a purportedly comparable agreement (the "Cerian Agreement") that AOS's experts use to calculate a reasonable royalty rate; and (4) purportedly non-infringing alternatives.

Three federal rules govern Force MOS's motion. As noted above, Rule 37(c)(1) prohibits a party from using evidence or information at trial if the party failed to disclose it "as required by Rule 26(a) or (e) …, unless the failure was substantially justified or harmless." Fed. R. Civ. P. 37(c)(1). Rule 26(a) requires that a party disclose at the outset of litigation (1) "all documents … in its possession" that it "may use to support its claims or defenses" and (2) "a computation of each category of damages claimed" and "the documents or other evidentiary material … on which each computation is based, including materials bearing on the nature and extent of injuries suffered." Fed. R. Civ. 26(a)(1)(A)(ii)–(iii). And Rule 26(c) provides that "[a] party who has made a disclosure under Rule 26(a)—or who has responded to an interrogatory, request for production, or request for admission—must supplement or correct its disclosure or response … in a timely manner if the party learns that in some material respect the disclosure or response is incomplete or incorrect." Fed. R. Civ. P. 26(e)(1)(A).

Force MOS's motion also relies on two local rules. Patent Local Rule 3-4 requires that "[w]ith the 'Invalidity Contentions,' the party opposing a claim of patent infringement shall produce … (a) [s]ource code, specifications, schematics, flow charts, artwork, formulas, or other documentation sufficient to show the operation of any aspects or elements of an Accused

Instrumentality" and "(d) [d]ocuments sufficient to show the sales, revenue, cost, and profits for accused instrumentalities … for any period of alleged infringement." Additionally, Patent Local Rule 3-9 requires that "each party denying infringement shall disclose in good faith material facts of which it is aware that are relevant to a category of damages disclosed under Rule 3-8."

Force MOS contends that AOS failed to timely disclose the evidence described above as required by Rule 26(a) and (e) and Patent Local Rules 3-4 and 3-9. Force MOS therefore asks the Court to strike the evidence and the expert reports based thereon pursuant to Rule 37(c)(1). The Court grants Force MOS's motion to strike only with respect to the ship-and-debit-credit data and the Cerian Agreement.

A. The Ship-and-Debit-Credit Data

Force MOS first requests that the Court exclude financial data concerning "ship-and-debit credits" bearing on AOS's revenue from the accused products.

Rule 26(a) required AOS to include the evidence underlying its damages calculations with its initial disclosures. *See* Fed. R. Civ. P. 26(a)(1)(A)(iii). Patent Local Rule 3-4(d) similarly required that AOS's invalidity contentions be accompanied by documents sufficient to show its revenue from the accused products. And Patent Local Rule 3-9 required disclosure of any material facts of which AOS was aware that were relevant to a category of damages. Force MOS also issued multiple discovery requests seeking information about AOS's revenue from the accused products, and AOS was required to supplement those responses under Rule 26(e).

Pursuant to these obligations, AOS produced certain financial data in 2023 showing accounts receivable and credit notes. Force MOS deposed AOS's corporate representative about that financial data in April 2025, and Force MOS's damages expert Ryan LaMotta then relied upon the data in his evaluation of AOS's revenue in his report in September 2025.

At the deadline for disclosing rebuttal expert reports in November 2025, AOS for the first time produced additional financial data concerning "ship-and-debit credits." As AOS's damages expert Gareth Macartney described in his rebuttal report, AOS sells its products to distributors, who in turn sell to end customers. "[T]o remain competitive," AOS allows its distributors to sell products to end customers at a pre-approved price lower than the standard distribution price, as

needed. When distributors do so, they submit a "ship-and-debit" price adjustment claim to "retroactively adjust[] pricing," and those "ship-and-debit credits" result in lower revenues and margins for AOS. Dr. Macartney recognized that "[t]his pricing strategy is well documented in AOS's 10-K reporting," and AOS's August 2023 10-K reporting form notes the company's "allowance for price adjustments" in the form of "ship and debit credit[s]," for which AOS issues "ship and debit credit memos." Dr. Macartney relied on these "ship-and-debit credits" to dispute the revenue and margin calculations of Mr. LaMotta, Force MOS's damages expert, as "inflated." Dr. Macartney purported to "correct" Mr. LaMotta's calculations, "reduc[ing] his incremental values … [and] any related royalties and damages[] roughly by half." Force MOS asserts (and AOS does not dispute) that while AOS produced a spreadsheet with the "ship-and-debit credit" data, it never "produce[d], identif[ied], or itemize[d] the[] 'ship and debit memos'" underlying that data.

Force MOS argues that AOS was required to disclose the ship-and-debit-credit data in fact discovery, if not in its initial disclosures, and that AOS's failure to do so until the deadline for its rebuttal expert reports warrants striking the data and any expert testimony based thereon. The Court agrees.

It is undisputed that AOS was required to disclose the ship-and-debit-credit data during fact discovery. AOS argues only that its failure to do so was "mistaken[]" and that it supplemented its disclosures pursuant to Rule 26(e) as soon as it realized the mistake. In AOS's telling, "[t]he discrepancy in the margin data came to light during expert discovery in October 2025 when AOS damages expert Gareth Macartney reviewed Force MOS's damages expert Ryan LaMotta's calculations in LaMotta's initial report and realized that the margin calculations did not match either the SEC filings or the margins of other AOS products." But AOS cannot "justif[y] its late disclosure of additional [financial data] on the grounds these … d[ata] were only identified as part of [Dr. Macartney]'s report. That [Dr. Macartney] identified these d[ata] while preparing his report does not mean they were unavailable in an easily producible format during fact discovery." *Benefit Cosms. LLC v. e.l.f. Cosms., Inc.*, No. 23-CV-00861-RS, 2024 WL 3558848, at *8 (N.D. Cal. July 25, 2024). To the contrary, AOS's 10-K form and Dr. Macartney's report both indicate that this

information has been readily available for several years. *See Resolute Forest Prods., Inc. v. Greenpeace Int'l*, No. 17-cv-02824-JST, 2022 WL 16637990, at *12 (N.D. Cal. Nov. 2, 2022) (explaining that belated production under the guise of Rule 26(e) does not cure a failure to disclose information that was available earlier).

Because AOS failed to timely disclose the ship-and-debit-credit data, it can avoid sanction only be showing that its failure was "substantially justified" or "harmless." Fed. R. Civ. P. 37(c)(1). It has not done so. While AOS explains that its belated production was "mistaken," that is not enough to show substantial justification. *See LD v. United Behavioral Health*, No. 20-cv-02254-YGR, 2022 WL 4372075, at *8 (N.D. Cal. Sept. 21, 2022). AOS insists that its conduct was "harmless because there was plenty of time in the expert report and expert discovery schedule for questioning and analyzing the supplemental data" before the depositions of the parties' damages experts. AOS also notes that Mr. LaMotta had an opportunity to respond to the additional data in his reply report. But while Force MOS may have been able to respond to AOS's expert report, the belated disclosure of the ship-and-credit debit data "prevented [it] from conducting fact discovery on the issue" of ship-and-debit credits, *Asia Vital Components Co., Ltd. v. Asetek Danmark A/S*, 377 F. Supp. 3d 990, 1005 (N.D. Cal. 2019), thereby depriving it of an opportunity to "test the factual basis" for AOS's new damages calculations, *Apple, Inc. v. Samsung Elecs. Co., Ltd.*, No. 11-CV-01846, 2012 WL 3155574, at *5 (N.D. Cal. Aug. 2, 2012). For example, Force MOS has never had an opportunity to test the actual evidence underlying the data AOS produced, such as the individual ship-and-debit-credit memos that AOS issues. Even Dr. Macartney conceded at his deposition that he had not seen the itemized memos, leaving Force MOS unable to probe the accuracy of the data.

Because AOS's failure to disclose required information concerning the ship-and-debit credits was neither substantially justified nor harmless, exclusion of the data is appropriate. The Court therefore grants Force MOS's motion to strike that data from the record and to strike any expert testimony based thereon.

B. Soldering Paste Data

Force MOS next asks the Court to strike certain bills of materials and technical documents

detailing the soldering pastes used in AOS's accused products. This evidence relates only to the parties' claims concerning the '058 patent. Because the Court grants AOS's motion for summary judgment as to the '058 patent, the challenged evidence is no longer relevant, and AOS presumably will not seek to admit it at trial. The Court therefore denies Force MOS's request to strike the evidence and related expert testimony as moot. Should AOS seek to admit the evidence, Force MOS may reassert its objections at that time.[5]

C. Cerian Agreement

Force MOS also asks the Court to strike AOS's expert reports and testimony based on the "Cerian Agreement," which AOS asserts is a comparable agreement for the purpose of determining a reasonable royalty rate. Unlike the other evidence Force MOS seeks to strike, the Cerian Agreement was disclosed before the fact-discovery cutoff. But AOS did not state at the time of production that it planned to rely on the Cerian Agreement as a comparable agreement. Nor did it identify the Cerian Agreement among the comparable licensing agreements listed in its responsive damages contentions or in response to Force MOS's interrogatory requesting "all factual and legal bases for what you believe are the appropriate damages if infringement of [the asserted patents] is found, including what you believe is the appropriate royalty base, royalty rate, and elements of a comparable license." Force MOS did not learn of AOS's reliance on the Cerian Agreement as a comparable agreement until AOS's experts relied on it for that purpose in their reports after the close of fact discovery.

As Force MOS argues, AOS's failure to disclose that it would rely on the Cerian

[5] For the parties' benefit, the Court notes that AOS's failure to disclose the challenged materials identifying the soldering pastes used in its accused products until the deadline for its rebuttal expert report appears to violate Rule 26(a) and Patent Local Rule 3-4(a). And AOS has yet to show that its belated disclosure was substantially justified or harmless. The record belies AOS's assertion that it "could not have known of the relevance of silver to the case during fact discovery." As its own expert noted, *see* Expert Report of John Berg, Dkt. No. 149-17 ¶¶ 76–77, claim 1 of the '058 patent recites as an element "a solderable front metal … composed of a metallic material having a thermal conductivity higher than a thermal conductivity of aluminum," and claim 5 specifically recites a "solderable front metal comprising at Ti/TiN/Ag [i.e., titanium/titanium-nitride/silver] front metal." Accordingly, Force MOS discussed the "solderable front metal" in its claim construction briefing and its initial contentions for the '058 patent. So AOS's contentions of surprise fall flat, and it has offered no other basis to permit the use of the belatedly disclosed soldering-paste data.

Agreement as a comparable agreement violated AOS's obligations under Rule 26. *See MLC Intell. Prop., LLC v. Micron Tech., Inc.*, No. 14-CV-03657-SI, 2019 WL 2863585, at *14–15 (N.D. Cal. July 2, 2019), *aff'd*, 10 F.4th 1358 (Fed. Cir. 2021). Rule 37(c)(1) therefore requires exclusion of any expert testimony relying on the agreement for the purpose of determining a reasonable royalty rate unless AOS's failure was substantially justified or harmless. It was neither.

In its opposition to Force MOS's motion to strike, AOS argues that its failure to identify the Cerian Agreement as a comparable agreement was substantially justified because the Cerian Agreement is a "patent acquisition agreement, as opposed to a license agreement, and therefore was not expressly called for by interrogatories or other discovery served in the case." This argument is entirely meritless. To be sure, Force MOS's interrogatory requested the bases for AOS's arguments as to the "elements of a comparable license," which might not include the Cerian Agreement. But Force MOS also requested "all factual and legal bases for what you believe are the appropriate damages" for infringement, "including what you believe is the appropriate royalty base" and "royalty rate." That obviously includes an agreement that AOS intended to rely on for purposes of determining a reasonable royalty rate, whether it was a patent-acquisition or licensing agreement. AOS appeared to concede as much at the hearing.

Nor was AOS's failure to identify the Cerian Agreement as relevant to its reasonable-royalty calculations harmless. "Because [AOS] never disclosed this information, [Force MOS] was prevented from conducting fact discovery regarding these issues." *MLC*, 2019 WL 2863585, at *15. For example, because Force MOS deposed AOS's witnesses only about the agreements AOS identified as comparable, Force MOS was precluded from procuring deposition testimony about the Cerian Agreement.

The Court therefore grants Force MOS's motion to strike AOS's expert reports to the extent they rely on the Cerian Agreement as a comparable agreement for the purpose of determining a reasonable royalty rate.

D. Non-Infringing Alternatives

Finally, Force MOS asks the Court to strike the AOS experts' reliance on certain non-infringing alternatives. This request is denied.

Patent Local Rule 3-9 required AOS, in its responsive damages contentions, to identify known material facts relevant to any category of damages claimed by Force MOS under Patent Local Rule 3-8, including non-infringing alternatives. *See Carl Zeiss X-Ray Microscopy, Inc. v. Sigray, Inc.*, No. 21-CV-01129-EJD, 2025 WL 974936, at *2 (N.D. Cal. Apr. 1, 2025) (noting that "whether non-infringing alternatives exist" comes into issue when the party claiming infringement serves its damages disclosure under Rule 3-8). Accordingly, AOS identified general non-infringing alternatives, listing "any technology that decreases contact resistance" for the '634 patent and "any technology that improves current capacity" for the '346 patent. And in response to an interrogatory asking it to "specifically describe" each "acceptable … non-infringing alternative[]" it contends exists, AOS stated that "[t]he '634 patent describes a non-infringing alternative in Figure 1, and its formation by 0 degree (straight down) ion implantation," and that "[w]ell-known non-infringing alternatives [for the '346 patent] use a single etch process to create a sidewall with a single slope of etch angle that does not meet the angle limitations in the claims."

Then, in November 2025, AOS's technical expert John Berg identified non-infringing alternatives in far greater detail. For the '634 patent, Mr. Berg listed the "planar transistor of Baliga"; the MOSFETs of an earlier patent (Kobayashi) or the prior art cited therein; "increas[ing] the area of the p+ region in Kobayashi or the prior art to Kobayashi"; modifying Kobayashi "by increasing the contact hole size and/or increase the doping concentration of the p+ contact region"; modifying Kobayashi by "forming a contact trench with curved sidewalls to increase areas of source and body contacts"; and/or "minor increases in die size." For the '346 patent, Berg identified "us[ing] Kobayashi … or the cited prior art in Kobayashi"; "increas[ing] the area of the p+ region in Kobayashi or the prior art to Kobayashi"; "increasing the contact hole size and/or increase the doping concentration of the p+ contact region"; forming a contact trench with curved sidewalls to increase the areas of source; and/or "minor increases in die size." AOS's damages expert Gareth Macartney in turn relied on Berg's opinion on the existence of non-infringing alternatives as evidence of "downward pressure" on a reasonable royalty rate. Force MOS argues that the Court should strike Mr. Berg and Dr. Macartney's reliance on these newly identified non-infringing alternatives.

The Court agrees that the reliance of AOS's experts on previously undisclosed non-infringing alternatives violates Patent Local Rule 3-9. The Patent Local Rules "were 'designed to require parties to crystallize their theories of the case early in the litigation and to adhere to those theories once they have been disclosed'——not defer the disclosure of those theories until the expert rebuttal stage." *Asia Vital*, 377 F. Supp. 3d at 1004 (quoting *MLC Intellectual Prop., LLC v. Micron Tech., Inc.*, No. 14-CV-03657-SI, 2018 WL 6046465, at *2 (N.D. Cal. Nov. 19, 2018)). Here, AOS did just that.

AOS argues that Mr. Berg merely "expanded upon the non-infringing alternatives discussed in AOS's earlier interrogatory response," relying on *Wisk Aero LLC v. Archer Aviation Inc.*, No. 3:21-CV-02450-WHO, 2023 WL 3919469, at *33–34 (N.D. Cal. June 9, 2023). But *Wisk* does AOS no favors. There, the court was faced with two motions to strike a defendant's expert testimony that purported to expand on the defendant's interrogatory responses but that the plaintiff contended were new theories. The court denied one of the motions, finding that the defendant's expert report "did not contain a new opinion" where it merely clarified a detailed interrogatory response that "included an exemplary diagram." *Id.* at *34. But the court granted the other motion to strike, finding that the defendant's expert report "constitute[d] a new theory" where the defendant's previous interrogatory response on the topic was "much more general." *Id.* at *33; *see also Droplets, Inc. v. Yahoo! Inc.*, No. 12-CV-03733-JST, 2021 WL 9038509, at *9 (N.D. Cal. Apr. 27, 2021) (granting motion to strike new alternatives raised in expert report where "Defendants' interrogatory responses lacked particularity" and "disclosed generically 'any implementation' that does not include a particular claim limitation"). AOS's general descriptions of non-infringing alternatives in its responsive damages contentions and interrogatory responses are general and lack particularity, so *Wisk* suggests that exclusion is appropriate. In any case, AOS has made no effort to explain how its experts' new articulations of alternatives are merely expansions of its earlier general statements.

Still, AOS has shown that its failure to identify these non-infringing alternatives sooner was "harmless," such that Rule 37(c)(1) does not require that the theories be stricken as a sanction. As AOS argues, Force MOS's experts had an opportunity to address the newly raised

alternatives in their reply reports. Other courts in this circuit have explained that such an opportunity to reply cures deficiencies in earlier disclosures of non-infringing alternatives. *See State Intellectual Techs., Inc. v. Garmin Int'l, Inc.*, No. 2:11-CV-01578-GMN, 2015 WL 2152658, at *7 (D. Nev. May 7, 2015); *see also Droplets*, 2021 WL 9038509, at *9 n.7. Force MOS has offered little explanation for why its opportunities to reply and take expert discovery after receiving AOS's rebuttal reports were inadequate to remedy any potential prejudice.

The Court therefore denies the motion to strike Mr. Berg and Dr. Macartney's reliance on these non-infringing alternatives.

CONCLUSION

For the foregoing reasons, AOS's motion for summary judgment (Dkt. No. 159) is granted with respect to Force MOS's claim against AOS for infringement of the '058 patent and denied with respect to AOS's marking defense. Force MOS's cross-motion for summary judgment (Dkt. No. 172) as to AOS and Jireh's marking defenses is granted. Force MOS's motion to strike (Dkt. No. 149) is granted with respect to the ship-and-debit-credit data and the Cerian Agreement and denied with respect to the soldering-paste data and the non-infringing alternatives.

IT IS SO ORDERED.

Dated: April 13, 2026

P. Casey Pitts
United States District Judge

United States District Court
Northern District of California