

No. 24-1822

**United States Court of Appeals
for the Federal Circuit**

CONSTELLATION DESIGNS, LLC

Plaintiff-Appellee,

v.

**LG ELECTRONICS INC., LG ELECTRONICS U.S.A., INC.,
LG ELECTRONICS ALABAMA, INC.**

Defendants-Appellants

APPEAL FROM THE UNITED STATES DISTRICT COURT FOR THE EASTERN
DISTRICT OF TEXAS IN CASE NO. 2:21-CV-00448-JRG

**CORRECTED COMBINED PETITION FOR PANEL REHEARING
AND REHEARING EN BANC OF DEFENDANTS-APPELLANTS**

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June 30, 2026

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CERTIFICATE OF INTEREST

Counsel for Defendants-Appellants LG Electronics Inc., LG Electronics U.S.A., Inc., and LG Electronics Alabama, Inc. (collectively, “LG”) certifies the following:

1. Provide the full names of all entities represented by undersigned counsel in this case.

LG Electronics Inc., LG Electronics U.S.A., Inc., LG Electronics Alabama, Inc.

2. Provide the full names of all real parties in interest for the entities. Do not list the real parties if they are the same as the entities.

None/Not Applicable.

3. Provide the full names of all parent corporations for the entities and all publicly held companies that own 10% or more stock in the entities.

LG Corporation, LG Electronics Inc., LG Electronics U.S.A., Inc.

4. List all law firms, partners, and associates that (a) appeared for the entities in the originating court or agency or (b) are expected to appear in this court for the entities. Do not include those who have already entered an appearance in this court. Fed. Cir. R. 47.4(a)(4).

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** No longer with firm.*

5. Other than the originating case(s) for this case, are there related or prior cases that meet the criteria under Fed. Cir. R. 47.5(a)?

No.

6. Provide any information required under Fed. R. App. P. 26.1(b) (organizational victims in criminal cases) and 26.1(c) (bankruptcy case debtors and trustees). Fed. Cir. R. 47.4(a)(6).

None/Not Applicable

Dated: June 30, 2026

/s/ Michael J. McKeon

Michael J. McKeon

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STATEMENT OF COUNSEL UNDER FED. CIR. RULE 40(c)

Based on my professional judgment, I believe the panel decision is contrary to the following decision(s) of the Supreme Court of the United States or the precedent(s) of this court:

- *Garretson v. Clark*, 111 U.S. 120 (1884);
- *LaserDynamics, Inc. v. Quanta Computer, Inc.*, 694 F.3d 51 (Fed. Cir. 2012);
- *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201 (Fed. Cir. 2014);
- *VirnetX, Inc. v. Cisco Sys., Inc.*, 767 F.3d 1308 (Fed. Cir. 2014); and
- *Omega Patents, LLC v. CalAmp Corp.*, 13 F.4th 1361 (Fed. Cir. 2021).

Dated: June 30, 2026

/s/ Michael J. McKeon

Michael J. McKeon

INTRODUCTION

This petition presents an important patent damages law question: whether a patentee may recover a royalty covering an entire technology rather than the value of the patent claims it actually asserts. The panel held that it may. And the panel surprisingly held so for a damages award built on a third party’s decades-old portfolio rate to an incompatible technology that did not change with the number of patents infringed, and treated that rate as reflecting the apportioned value of Constellation’s asserted claims. That holding cannot be reconciled with the apportionment requirement the Supreme Court and this Court have long enforced.

The panel broke with settled law in multiple ways. First, it accepted a flat, patent- and claim-indifferent rate as a substitute for apportionment, thereby expanding the narrow “built-in apportionment” exception beyond the clear limits this Court confirmed in *Omega*. Second, it treated a bare finding of “comparability” as sufficient, even though the licenses on which the rate rested—directed to a third-party’s decades-old licenses to different patents covering a different technology and product mix—were not sufficiently comparable to the hypothetical negotiation or apportioned to the asserted claims.

The panel compounded these errors by refusing to set aside the jury’s damages award despite invalidating over half of the asserted claims underlying that award. That is, after holding five out of the nine asserted claims from two of the four patents-

in-suit ineligible, the panel declined to vacate the jury's single, undifferentiated damages award. The panel's support for this unusual outcome is Constellation's expert's legally impermissible testimony that the value of Constellation's asserted patents "was tied to the *technology* rather than any asserted patent or claim," and a forfeiture finding that contravenes the plain record. Op. 31 n.4 (original emphasis).

The consequences are concrete. The panel sustained a \$6.75-per-television rate for Constellation's remaining four claims across two asserted patents—more than double what patent pools charge to license the same standard. The Avanci pool licenses more than 11,000 ATSC 3.0-declared patents for \$2-3 per unit, and the MPEG LA/VIA LA pool licenses 53 patents for \$2.75 per unit. Appx20278-20279; Appx20393-20394; Appx20397. The disparity is large enough that LG publicly halted selling ATSC 3.0-compatible televisions in the United States rather than pay that rate. Dkt. 23 at 14-15.

The panel's opinion, if left undisturbed, threatens to eviscerate decades-old apportionment precedent and would permit damages that far exceed the incremental value of patents asserted in litigation. The panel's damages holdings conflict with precedent, and raise questions of exceptional and recurring importance. The Court should grant panel rehearing or rehearing en banc.

RELEVANT BACKGROUND

Constellation accused LG's ATSC 3.0-compatible televisions. Appx20273 (14:17-24). Constellation's technical expert testified that one chip allegedly implements Constellation's patents in these televisions, Appx20216 (86:25-87:11), but conceded that they include many unaccused technologies and features. Appx20216 (86:15-20); Appx20240-20241 (184:3-185:8); Appx20291 (85:22-86:19); Appx20322 (211:25-212:12). Constellation's damages expert, Ryan Sullivan, opined that LG owed \$1,684,469 in past infringement damages. Appx20280 (42:8-10). Although the past damages amount may be perceived as low, Sullivan's royalty rate was high—\$6.75 per television—and the district court adopted this rate in imposing an ongoing forward-looking royalty. Appx20273 (15:2-3); Appx83-86. Sullivan derived this rate from a \$5 per-unit rate from three licenses granted by third-party Zenith.¹ Appx20274-20275 (19:16-21:11); Appx20276 (27:7-24); Appx17112-17127; Appx16578-16611; Appx17128-17142. Sullivan used these Zenith licenses even though they involved a different licensor (Zenith), preceded the hypothetical negotiation by about 15 years, and covered a different technology, vestigial sideband ("VSB") signal modulation. Appx20248 (213:15-17, 214:5-9); Appx20274-20275 (19:16-21:11); Appx20277 (32:18-23).

¹ Zenith is an LG subsidiary but is not a named party in this case. Appx20264 (277:5-9).

Sullivan then *increased* Zenith’s \$5 per-unit rate to \$6.75 based on general CPI inflation. Appx20277 (31:1-7); Appx20278 (33:20-22); Appx20285 (64:16-21).

The jury adopted Sullivan’s exact damages amount. Appx38. The district court denied LG’s pre- and post-trial motions on damages, and adopted Sullivan’s \$6.75-per-unit rate as an ongoing royalty. Appx20058 (227:11-228:15); Appx43-52; Appx78-82; Appx83-86. LG appealed, challenging the district court’s denial of LG’s *Daubert* motion and LG’s JMOL of no damages based upon Constellation’s failure to apportion.

The panel rejected LG’s damages challenges. Treating LG’s *Daubert* and JMOL challenges as singular, the panel held that Sullivan permissibly relied on a “built-in apportionment” theory. Op. 30. The panel reasoned that Sullivan had sufficient basis for finding the Zenith licenses comparable and, therefore, allowed Sullivan’s built-in apportionment opinion to stand. Op. 30-31. In a footnote, the panel declined to vacate the damages award even after holding the asserted claims of two patents-in-suit ineligible, reasoning that Sullivan had testified that the value of Constellation’s asserted patents “was tied to the *technology* rather than any asserted patent or claim” and that LG had forfeited the issue. Op. 31 n.4 (original emphasis).

ARGUMENT

I. The One-Size-Fits-All Approach Accepted by the Panel Opinion Fails the Apportionment Mandate

A. The Panel Opinion Pushes the “Built-In Apportionment” Exception Past Its Breaking Point

The panel held that Constellation could satisfy the apportionment mandate through built-in apportionment, writing that “Sullivan had a sufficient basis for relying on a built-in apportionment theory” because “evidence supports that the Zenith licenses were sufficiently comparable.” Op. 31. That reasoning collapses two distinct inquiries into one. Even assuming the Zenith licenses were comparable enough to be candidates for built-in apportionment—which they were not, *see* Section I.B—comparability alone does not establish apportionment. Constellation still had to show that the Zenith portfolio rate was apportioned to the specific Constellation patent claims asserted in this case. Blue Br. 58-61; Reply Br. 24-26; 32-33. It never did, which the panel did not scrutinize because it accepted that the value of Constellation’s asserted patents “was tied to the *technology* rather than any asserted patent or claim.” Op. 31 n.4 (original emphasis).

The panel’s holding cannot be reconciled with apportionment precedent. *See, e.g., Garretson v. Clark*, 111 U.S. 120, 121 (1884). This Court has explained that “when a sufficiently comparable license is used as the basis for determining the appropriate royalty, further apportionment may not necessarily be required,” but only because “[b]uilt-in apportionment effectively assumes that the negotiators of a

comparable license settled on a royalty rate and royalty base combination embodying the value of the asserted patent.” *Omega Patents, LLC v. CalAmp Corp.*, 13 F.4th 1361, 1376-77 (Fed. Cir. 2021) (quoting *Vectura Ltd. v. Glaxosmithkline LLC*, 981 F.3d 1030, 1040-41 (Fed. Cir. 2020)). The doctrine relieves a patentee of separate apportionment *only* when the comparable license already reflects the value of the *asserted* patents. Where the rate does not, there is nothing “built in,” and ordinary apportionment principles apply: the patentee must “account for substantial ‘distinguishing facts’ between the proffered licenses and a hypothetical negotiation,” including the number of patents at issue. *Omega*, 13 F.4th at 1380.

The record forecloses any assumption that the Zenith rate embodies the value of Constellation’s asserted patents. To support built-in apportionment, the panel recognized testimony that “the Zenith licenses were structured to provide a single royalty rate regardless of the number of Zenith patents found to be infringed.” Op. 30; *see also* Op. 31-32 n.4. Rather than supporting built-in apportionment, however, this static rate demonstrates the opposite. A “one-size-fits-all” rate that remains fixed no matter how many patents are practiced is—by definition—untethered from the value of any particular patent. Such a rate cannot “embod[y]

the value of the asserted patent,” *Omega*, 13 F.4th at 1377, because it is indifferent to which patents are infringed.²

This Court confronted that precise flaw in *Omega*. There, the patentee’s expert advanced a \$5.00-per-unit rate, testifying that the infringer “should pay the same rate no matter how many claims or how many of the patents it infringes.” *Id.* at 1379. This Court held that the patentee’s “fundamental problem [wa]s that it failed to show that these agreements attributed a \$5.00-per-unit royalty to the value of the [asserted] patent,” and that, “absent evidence ... to support an identical \$5.00 rate for a one-patent license,” it could not “see how this patent/claim-independent approach accounts for apportionment.” *Id.* The damages theory the panel approved here is the same patent/claim-independent approach the Court previously rejected. Constellation applied the Zenith-portfolio rate without regard to which or how many patents that portfolio contained, and carried it into a hypothetical negotiation over an unrelated set of patents—making only a single, 35% *upward* adjustment to the rate for inflation. Appx20277 (31:1-7); Appx20278 (33:20-22); Appx20285 (64:16-21). *Omega* and the panel’s opinion cannot be squared.

There are two defects with the Court’s holding that the panel did not confront. First, the Zenith portfolio rate had to be allocated among the many patents within

² Had Zenith sued for patent infringement, it too would have needed to apportion to actual claims asserted to prove the damages for that suit.

the Zenith portfolio before it could be attributed to any infringing feature. Comparable licenses routinely “may cover more patents than are at issue,” and “[t]estimony relying on licenses must account for such distinguishing facts when invoking them to value the patented invention.” *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201, 1227 (Fed. Cir. 2014). For that reason, this Court has repeatedly held that “expert testimony should be excluded when it fails to allocate license fees among the licensed patents covered by an agreement.” *Jiaying Super Lighting Elec. Appliance, Co. v. CH Lighting Tech. Co.*, 146 F.4th 1098, 1112 (Fed. Cir. 2025) (citations omitted); *see also Rex Med., L.P. v. Intuitive Surgical, Inc.*, 156 F.4th 1289, 1298 (Fed. Cir. 2025) (affirming exclusion of damages testimony that “fail[ed] to allocate license fees among the licensed patents covered by [the] agreement”). Second, having isolated whatever value was attributable to the relevant Zenith patents, Constellation still had to map that value onto its own asserted patent claims. It did neither. As in *Omega*, even if the Zenith rate apportioned between Zenith’s patented technology and the unpatented features of the licensed products, Constellation made no showing connecting that rate to the value of the specific Constellation patents at issue. *See* 13 F.4th at 1379-81.

The panel’s decision creates a chasm in this Court’s built-in apportionment precedent. The Court has previously applied the doctrine almost exclusively to situations where the relied-upon license included the asserted patent itself, or at least

its specific technology. *See Vectura*, 981 F.3d at 1040-41; *Commonwealth Sci. & Indus. Rsch. Org. v. Cisco Sys., Inc.*, 809 F.3d 1295, 1303 (Fed. Cir. 2015); *Pavo Sols. LLC v. Kingston Tech. Co.*, 35 F.4th 1367, 1380 (Fed. Cir. 2022). Until now, no decision of this Court has sanctioned built-in apportionment based upon a third-party's decades-old licenses to an entirely different set of patents covering an entirely different technology and different products. The panel's holding extends a narrow, carefully cabined exception to circumstances this Court has never approved. In so doing, the panel relieved Constellation of its burden to prove that its damages were apportioned. *See Omega*, 13 F.4th at 1377.

Importantly, whether a “one-size-fits-all” portfolio rate can supply built-in apportionment is a legal question, and *Omega* conclusively holds it may not. The panel sidestepped this legal error by recasting LG's challenge as a question of admissibility reviewed for abuse of discretion. Op. 29-30 (citing *EcoFactor, Inc. v. Google LLC*, 137 F.4th 1333, 1338 (Fed. Cir. 2025) (en banc)).³ But legal error is legal error. And LG clearly appealed this legal error under both JMOL and *Daubert*. *See Blue Br.* 54. Even under the deferential abuse-of-discretion standard, legal error cannot stand. *See Omega*, 13 F.4th at 1375; *Koon v. United States*, 518 U.S. 81, 100

³ The full Court recently underscored the rigor that Rule 702 demands of comparable-license damages testimony, explaining that “the *ipse dixit* of the expert” need not be admitted. *EcoFactor*, 137 F.4th at 1341, 1346.

(1996) (“A district court by definition abuses its discretion when it makes an error of law.”).⁴

Left uncorrected, the panel’s reasoning supplies a playbook for evading apportionment in any case in which a patentee can locate a superficially related third-party portfolio license.⁵ This danger is particularly acute in standard-essential-patent litigation (like here), where the incentive to substitute the value of an entire technology or standard for the incremental value of a few asserted claims is greatest, and where this Court has insisted that “the patentee’s royalty must be premised on the value of the patented feature, not any value added by the standard’s adoption of the patented technology.” *Ericsson*, 773 F.3d at 1232.

The panel’s decision wreaks havoc on this Court’s damages precedent by making built-in apportionment the exception that swallows the rule. The Court should grant rehearing to avoid this outcome.

B. The Zenith Licenses Are Not Sufficiently Comparable to the LG-Constellation Hypothetical Negotiation License

The Zenith licenses should never have cleared the comparability threshold as candidates for built-in apportionment. Built-in apportionment is available only

⁴ The panel’s criticism for not including Constellation’s expert report in the appellate record is misplaced. Op. 30. The trial record, which LG cited in its appeal briefing, takes the place of expert reports following trial. *See Ortiz v. Jordan*, 562 U.S. 180, 184 (2011).

⁵ Section I.B explains that the Zenith licenses have no legitimate connection to the LG-Constellation hypothetical negotiation.

where the prior license is “sufficiently comparable, in that principles of apportionment were effectively baked into the purportedly comparable license.” *Omega*, 13 F.4th at 1377. Comparability is both a technical and an economic inquiry, and “a loose or vague comparability between different technologies or licenses does not suffice.” *LaserDynamics, Inc. v. Quanta Computer, Inc.*, 694 F.3d 51, 79 (Fed. Cir. 2012). The panel held the threshold satisfied based on generalized technical and economic similarities that do not withstand scrutiny. Op. 30-31. The Zenith licenses differ from the hypothetical negotiation between LG and Constellation in every material dimension.

To start, the patents themselves are wholly different. None of the licensed Zenith patents overlap with those Constellation asserted at trial. The hypothetical negotiation concerned a license to the four related Constellation patents.⁶ The Zenith portfolio, on the other hand, comprised an entirely different and far larger body of patents, organized across multiple patent families and many countries. Appx20276 (25:7-23); Appx20293 (94:10-15); Appx15551. A rate negotiated for that portfolio says nothing about the value the parties would have assigned to Constellation’s nine claims asserted across the four patents it tried. *See Omega*, 13 F.4th at 1380-81 (explaining multi-patent portfolio licenses are not comparable to a hypothetical

⁶ As discussed in Section II, the panel deemed two of the asserted patents ineligible under § 101, yet maintained the full damages award, reflecting further error with the panel’s application of apportionment principles.

“single-patent license” absent an adequate accounting for the “substantial distinguishing facts”).

Moreover, the relevant technologies are entirely different. The Zenith licenses used in the ATSC 1.0 standard are directed to VSB modulation, while Constellation’s patents purportedly cover the ATSC 3.0 standard’s non-uniform constellations. Those technologies are not only different, but wholly incompatible: ATSC 3.0 replaces VSB modulation with orthogonal frequency-division multiplexing, Appx20292 (91:5-6), employs different compression, *id.* (91:7-9), and is not backward compatible with ATSC 1.0. *Id.* (91:10-13). And where ATSC 1.0 uses *uniform* constellations, Constellation’s asserted patents purportedly claim *non-uniform* constellations—the very feature Constellation alleges distinguishes its invention. Appx20238 (174:20-25); Appx20257 (251:5-9). The shared appearance of the letters “ATSC” in both standards’ names cannot manufacture technical comparability any more than the shared word “telephone” makes a landline comparable to a modern cellular handset. *See ADASA Inc. v. Avery Dennison Corp.*, 55 F.4th 900, 915 (Fed. Cir. 2022) (rejecting reliance on overbroad technology category). That is the “loose or vague” comparability that *LaserDynamics* forbids. 694 F.3d at 79.

The technical comparison the panel credited only confirms the point. The panel relied on Constellation’s technical expert’s testimony that the Zenith and

asserted patents recite “similar features” and “specific decoding methods,” and achieve “similar technological benefits.” Op. 30-31. But that comparison rested on generic, decades-old building blocks of any digital communication system—receivers, demodulators, demappers, and decoders—that Constellation’s own named inventor conceded long predated the asserted patents. Op. 19.

The timing and the licensor are also different. Zenith, not Constellation, was the licensor and executed its licenses in 2004-2005, over 15 years before the 2020 hypothetical negotiation date. Appx20274 (17:16-22); Appx20290 (81:9-18); Appx20294 (97:16-20). And unlike Constellation, Zenith was an industry player that had manufactured products and substantially contributed to the standardization of ATSC 1.0. Appx20276 (25:9-23); Appx20183 (275:14-22); Appx20181-20182 (267:12-22, 268:25-269:4). The economic posture of a longtime industry participant licensing technology it helped create bears little resemblance to a hypothetical negotiation involving a non-practicing patentee and a later, different technology and standard. Those are precisely the differences in “the technologies and economic circumstances of the contracting parties” that a patentee invoking a prior license must account for before the license may be treated as comparable. *VirnetX, Inc. v. Cisco Sys., Inc.*, 767 F.3d 1308, 1330 (Fed. Cir. 2014).

The licensed products and geographic scope are different as well. The Zenith licenses swept in a broad range of consumer electronics—not only televisions but

also computers, cable boxes, video recorders, camcorders, converter boxes, set-top boxes, and satellite boxes—and reached sales in the United States, Canada, and Mexico. Appx20293 (94:21-95:1, 96:3-21); Appx20294 (97:7-11). The hypothetical negotiation, by contrast, concerned only the accused ATSC 3.0 televisions and United States rights. Even for televisions, the accused smart televisions differ markedly from the mid-2000s sets the Zenith licenses covered, including in their capacity to stream content over the internet. Appx20290-20291 (83:13-85:9, 86:4-19). A portfolio rate negotiated across that far broader array of products and three national markets cannot, without apportionment, reflect the value the parties would have assigned to a single product category accused in the United States alone. Constellation needed to account for that mismatch, not paper over it with a generalized assertion that both settings involved “televisions.”

The economic similarities the panel credited fare no better. For instance, the panel pointed to Sullivan’s testimony that “the parties were similarly situated.” Op. 31. But that equivalence is illusory: Zenith created the licensed VSB technology and helped standardize ATSC 1.0, whereas Constellation made no products and did not contribute to ATSC 3.0. Surface-level similarities do not establish that the negotiators of the Zenith licenses priced the value of Constellation’s asserted patents. Regardless, economic similarities cannot rescue the deficient technical similarities,

as both are required. *See Wordtech Sys., Inc. v. Integrated Networks Sols., Inc.*, 609 F.3d 1308, 1319-20 (Fed. Cir. 2010).

These discrepancies are meaningful. They are differences in “the technologies and economic circumstances of the contracting parties” that a patentee invoking a license must “account for,” but Constellation’s experts did not do so. *Rex Med.*, 156 F.4th at 1296 (quoting *VirnetX*, 767 F.3d at 1330). At most they identified the differences, like the expert in *Omega*, but “merely identif[ying]” differences is not enough. 13 F.4th at 1381. The panel nonetheless accepted Sullivan’s recitation of boilerplate economic similarities—a running royalty, coverage of some of the same products (televisions), a term extending through the life of the patents, non-exclusivity, and a United States sales nexus—as proof of comparability. Op. 31. Those features are common to countless licenses and say nothing about whether the Zenith rate reflects the value of Constellation’s asserted patents.

Comparability is the gatekeeping condition on which the entire built-in-apportionment doctrine depends. If generic technical overlap and boilerplate license terms suffice, the apportionment mandate will soon become meaningless. This Court’s most recent decisions confirm that comparable-license damages testimony must be policed with care. *See, e.g., EcoFactor*, 137 F.4th at 1341; *Jiaxing*, 146 F.4th at 1112; *Rex Med.*, 156 F.4th at 1298. The panel’s contrary approach conflicts

with that precedent and presents a question of exceptional importance warranting rehearing.

II. The Panel’s Ineligibility Rulings Require Setting Aside the Damages Verdict

The panel further erred by not vacating the jury’s lump-sum damages award—returned without allocating any portion to a specific patent—after holding more than half of the asserted claims (and all asserted claims for two of the four patents) ineligible under 35 U.S.C. § 101. Op. 22-23. The panel’s basis for not setting aside the award is because Sullivan “testified that the value of Constellation’s asserted patents was tied to the *technology* rather than any asserted patent or claim.” Op. 31 n.4 (original emphasis). But this rationale only further exacerbates the one-size-fits-all error addressed in Section I.A. That is, the panel applied a single rate for an entire technology without regard to which or how many claims are infringed. As described above, a technology-wide valuation cannot sustain an award keyed to the claims actually tried.

This Court’s precedent demonstrates the impermissibility of such a result. Where an appeal disposes of liability for some patents tied to a verdict, and “the jury rendered a single verdict on damages, without breaking down the damages attributable to each patent, the normal rule would require a new trial as to damages.” *Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1310 (Fed. Cir. 2007); *see also Omega Patents, LLC v. CalAmp Corp.*, 920 F.3d 1337, 1351 (Fed.

Cir. 2019) (vacating damages award and remanding for new damages trial where subset of products were found non-infringing on appeal). There is no basis to depart from this default rule here, and doing so further fails to apply settled principles of apportionment. Because the jury returned a single verdict on damages spanning the surviving and now-ineligible claims alike, the already-flawed damages award must be set aside for this independent reason.⁷

Finally, the panel's forfeiture finding cannot stand. The panel found that LG had forfeited the argument that the damages award must be vacated if some of the challenged patents were deemed ineligible by raising it "for the first time" at oral argument in response to questioning. Op. 31 n.4. But this belies the very point of LG's appeal. A critical aspect of LG's appeal was that Constellation failed to apportion because of its one-size-fits-all theory. *See* Blue Br. 62-65. Moreover, LG sought ineligibility to defeat liability, and there can be no damages without liability. *See Optis Cellular Tech., LLC v. Apple Inc.*, 139 F.4th 1363, 1376 (Fed. Cir. 2025). Vacatur is not a new argument requiring separate briefing; it is the natural and necessary consequence of LG's requested relief.

⁷ The panel also indicated that "none of LG's witnesses disputed [Mr. Sullivan's] testimony" that the value of Constellation's asserted patents was tied to the technology and not particular patent claims. Op. 31 n.4. This averment fails to recognize LG's argument that a one-size-fits-all theory is impermissible. *See* Appx1343-44. Contrary witness testimony is not needed here because the damages theory that Constellation presented and the jury adopted is legally deficient on its face.

The forfeiture case the panel cited does not hold otherwise. There, the appellant asked this Court, for the first time at oral argument and in a mootness posture, to vacate portions of an agency decision—a request untethered to any preserved merits position. *ABS Glob., Inc. v. Cytonome/ST, LLC*, 984 F.3d 1017, 1027 (Fed. Cir. 2021). Here, LG successfully appealed on invalidity and appealed damages based on Constellation’s failure to apportion to the asserted patent claims. Forfeiture does not fit the facts or posture of this case, and the panel’s finding of forfeiture should be set aside.

CONCLUSION

The Court should grant rehearing, vacate the Panel Opinion, and reverse the denial of judgment as a matter of law of no damages, or, in the alternative, remand to the district court for further proceedings on damages on the surviving claims.

Dated: June 30, 2026

Respectfully submitted,

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ADDENDUM

United States Court of Appeals for the Federal Circuit

CONSTELLATION DESIGNS, LLC,
Plaintiff-Appellee

v.

LG ELECTRONICS INC., LG ELECTRONICS USA,
INC., LG ELECTRONICS ALABAMA, INC.,
Defendants-Appellants

2024-1822

Appeal from the United States District Court for the
Eastern District of Texas in No. 2:21-cv-00448-JRG, Judge
J. Rodney Gilstrap.

Decided: April 28, 2026

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CALDWELL, JASON DODD CASSADY, AUSTIN CURRY, AISHA
MAHMOOD HALEY, ROBERT SETH REICH, JR., JAMES F.
SMITH, Caldwell Cassady & Curry, Dallas, TX; DANIEL J.
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JOSEPH CHRISTOFF, CHRISTIAN A. CHU, MICHAEL J. MCKEON; ASHLEY BOLT, Atlanta, GA.

Before LOURIE and STOLL, *Circuit Judges*, and OETKEN,
District Judge.¹

STOLL, *Circuit Judge*.

This patent infringement case raises issues of eligibility, infringement, and damages and relates to communication systems that use non-uniform constellations that have increased capacity compared to conventional, uniform constellations operating within a similar signal-to-noise ratio band. Constellation Designs, LLC sued LG Electronics Inc.; LG Electronics USA, Inc.; and LG Electronics Alabama, Inc. (collectively, “LG”) for patent infringement in the United States District Court for the Eastern District of Texas, which proceeded to a jury trial. The district court entered a final judgment against LG for willfully infringing claims 17, 21, 24, and 28 of U.S. Patent No. 8,842,761; claim 5 of U.S. Patent No. 10,693,700; claims 21 and 23 of U.S. Patent No. 11,019,509; and claims 24 and 44 of U.S. Patent No. 11,018,922.

LG challenges on appeal the district court’s (1) summary judgment of patent eligibility under 35 U.S.C. § 101, (2) denial of LG’s motion for judgment as a matter of law of non-infringement, and (3) denial of LG’s motion for judgment as a matter of law of no damages or denial of LG’s motion to exclude the testimony of Constellation’s damages expert.

For the reasons discussed below, we vacate the summary judgment of eligibility for claims 17, 21, 24, and 28 of

¹ Honorable J. Paul Oetken, District Judge, United States District Court for the Southern District of New York, sitting by designation.

the '761 patent and claim 5 of the '700 patent; affirm the summary judgment of eligibility for claims 21 and 23 of the '509 patent and claims 24 and 44 of the '922 patent; affirm the denial of LG's motion for judgment as a matter of law of non-infringement; and affirm the denial of judgment as a matter of law of no damages as well as the denial of LG's motion to exclude the testimony of Constellation's damages expert. Accordingly, we vacate-in-part, affirm-in-part, and remand for further proceedings consistent with this opinion.

BACKGROUND

I. Technological Background

In a conventional digital communication system, a transmitter, as shown in Figure 2 of the '761 patent (reproduced below), uses a coder (e.g., an encoder), mapper, and modulator to transform a bitstream of digital “bits” (i.e., sequences of 0s and 1s) into an analog signal for transmission over a communications channel. '761 patent col. 3 ll. 30–31, col. 5 ll. 22–34.

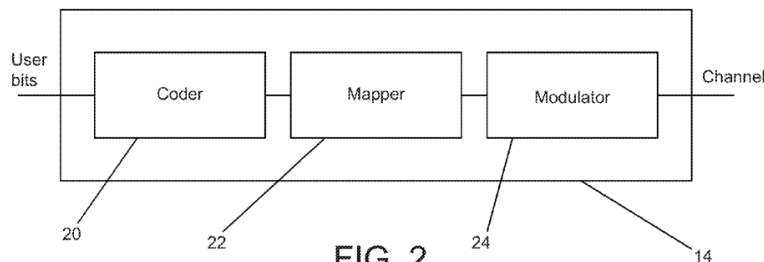
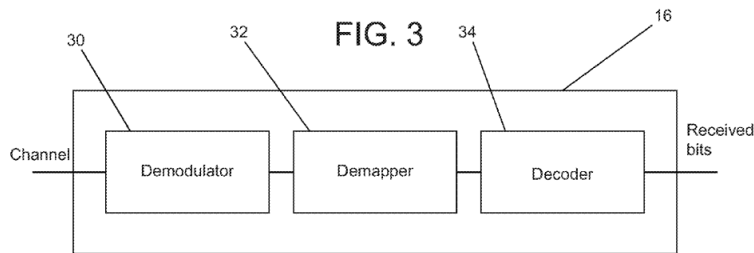


FIG. 2

Id. Fig. 2. As shown in Figure 3 (reproduced below), at the communication channel's other end, a receiver receives the analog signal and transforms it back into a bitstream of digital bits using, for example, a demodulator, a demapper, and a decoder. *Id.* at col. 3 ll. 32–33, col. 5 ll. 35–43.



Id. Fig. 3. For example, the bits of digital information that make up a television program are first converted into analog broadcast signals. *See* J.A. 20165–66 (Trial Tr. 204:16–207:12) (testimony of named inventor Dr. Chris Jones). Once that process is complete, antennas and radio towers transmit those broadcast signals over the air until they reach a television capable of receiving them. *See id.* But as they travel, the broadcast signals become weaker—a process called “attenuation”—and pick up “noise,” distorting the broadcast signals and making it difficult to map the received broadcast signals back to the correct set of digital bits. *See id.* The relationship between the strength of the broadcast signal and the strength of the noise is known as the “signal-to-noise ratio” (SNR). *Id.* The television’s receiver attempts to convert the broadcast signals back into digital bits and display the program on the screen, but errors in the conversion can cause a distorted image for viewers. *See id.*

Traditionally, the “receiver attempts to detect the symbols that were transmitted by mapping a received signal to [a] constellation.” ’761 patent col. 1 ll. 31–33. “The term ‘constellation’ is used to describe the possible symbols that can be transmitted by a typical digital communication system.” *Id.* at col. 1 ll. 29–31. For example, as depicted in Figure 21 (reproduced below), a constellation’s group of symbols are representable on a Cartesian plane or in a chart as a visual representation of the relationship between digital bits and broadcast signals.

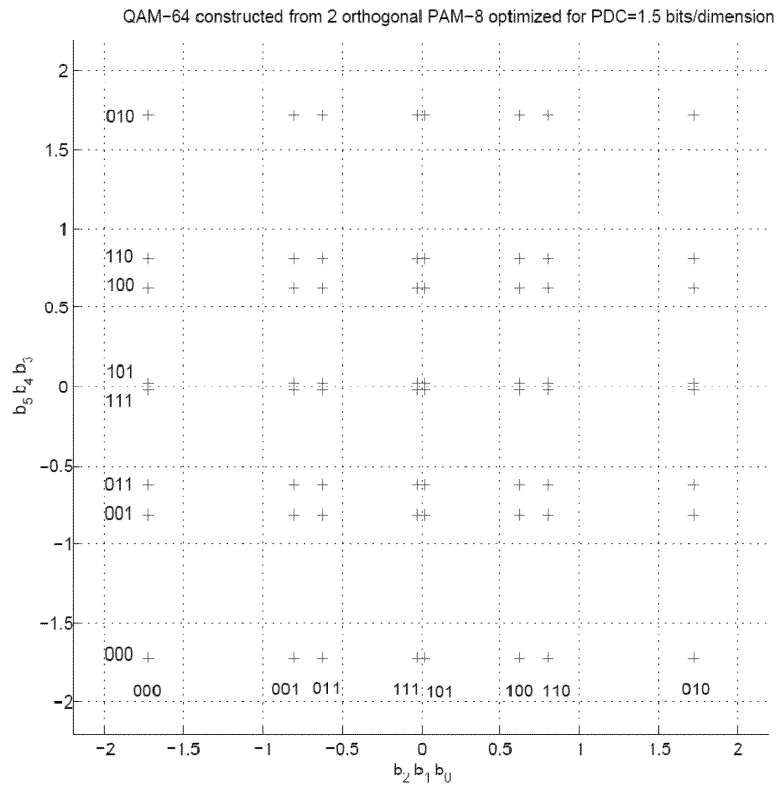


FIG. 21

Id. Fig. 21. Because each symbol in the constellation is plotted according to its I (i.e., in-phase or cosine wave) amplitudes on the x-axis and Q (i.e., quadrature or sine wave) amplitudes on the y-axis, each symbol represents a unique combination of amplitude and phase of the I and Q waves. *See* J.A. 20168–69 (Trial Tr. 213:22–219:16) (testimony of Dr. Chris Jones). In other words, each point in the constellation corresponds to a symbol representing a unique bit pattern. Moreover, the I and Q wave functions are said to be orthogonal to each other—that is, they are 90 degrees apart—such that they can be transmitted simultaneously without interfering with each other at the receiver. *See id.* These symbols are stored in the mapper and demapper of digital communication systems, and the constellation

serves as a key to convert between groups of digital bits and analog broadcast signals. *See* '761 patent col. 5 ll. 29–34, col. 5 ll. 38–43; *see also id.* at col. 1 ll. 29–33.

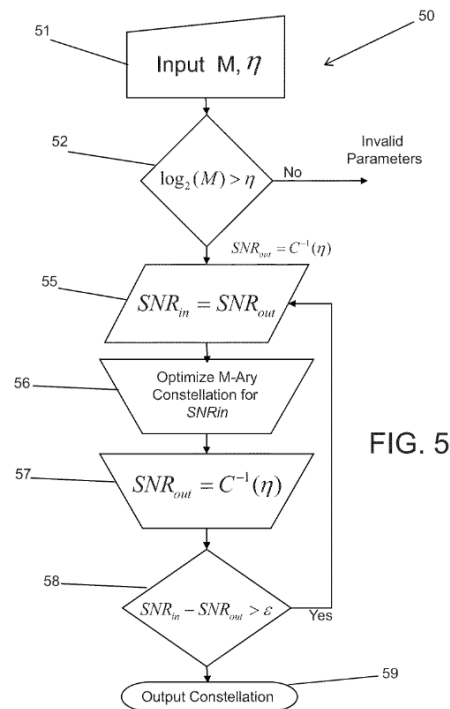
Constellations have well-known characteristics, including dimensionality, size, shape, and capacity. For example, a constellation's *dimensionality* may be represented as one-dimensional or two-dimensional on a Cartesian plane, where a quadrature amplitude modulation (QAM) constellation is an example of a two-dimensional constellation modulating the amplitude of the real (I) and imaginary (Q) parts. *Id.* at col. 1 ll. 37–41, col. 1 l. 66–col. 2 l. 4, col. 12 ll. 8–45. A constellation also has a *size*, which is determined by the number of unique constellation points in a diagram and is normally identified as a power of two, such as 16QAM or 32QAM. *See, e.g., id.* at col. 7 ll. 19–26. The greater the size, the more bits each constellation symbol represents. J.A. 20172 (Trial Tr. 231:4–23) (testimony of Dr. Chris Jones). Moreover, a constellation has a *shape* which is affected by whether the constellation's points are evenly-spaced (uniform) or unevenly-spaced (non-uniform). '761 patent col. 1 ll. 25–28, col. 1 ll. 59–65, col. 4 ll. 47–59, col. 7 ll. 40–42; *see also id.* Figs. 20–21 (showing non-uniform constellations); J.A. 20172–74 (Trial Tr. 231:24–239:2) (testimony of Dr. Chris Jones). And, finally, a constellation has a *capacity*, which is a quantification of the information existing at corresponding points in the transmitter and receiver. '761 patent col. 6 ll. 23–51. One type of capacity is called “parallel decode (PD) capacity” and it is recited in several disputed claims of the asserted patents. *Id.* at col. 4 ll. 56–59. PD capacity compares the information sent into the “mapper” in the transmitter shown in Figure 2 above with information coming out of the “demapper” in the receiver shown in Figure 3 above and measures the difference. *See id.* at col. 6 ll. 45–49.

The background section of the '761 patent explains that it was previously understood that “[t]he minimum distance (d_{min}) between constellation points is indicative of the

capacity of a constellation at high signal-to-noise ratios.” *Id.* at col. 1 ll. 33–35. In other words, it was thought that using a uniform constellation with a maximum distance between the constellation points would result in improved capacity. *See* J.A. 20172 (Trial Tr. 230:7–231:3) (testimony of Dr. Chris Jones). Based on this understanding, engineers have traditionally designed *uniform* constellations and modified the constellation characteristics to maximize the distance between the points in the constellation. *See* ’761 patent col. 1 l. 33–col. 2 l. 3. Indeed, the asserted patents disclose that conventional “constellations used in many communication systems are designed to maximize d_{min} .” *Id.* at col. 1 ll. 35–37.

Rather than optimizing constellations based on d_{min} , however, the inventors of the ’761, ’700, ’509, and ’922 patents tried a new approach. They constructed non-uniform constellations using an iterative process “for locating points (in a one or multiple dimensional space) in order to maximize capacity between the input and output of a bit or symbol mapper and demapper[,] respectively.” *Id.* at col. 2 ll. 17–20; *see also id.* at col. 1 ll. 25–31. The ’761 patent describes determining constellations that are “optimized based upon a capacity measure such as parallel decoding capacity.” *Id.* at Abstract; *see also id.* at col. 5 l. 44–col. 6 l. 22. As noted above, a constellation’s PD capacity measures the amount of information successfully transmitted through a communication system by comparing the information sent to the mapper on one end of a channel with the information coming out of the demapper on the other end. J.A. 20174 (Trial Tr. 238:15–239:2) (testimony of Dr. Chris Jones); *see* ’761 patent col. 6 ll. 45–51. The ’761 patent specification explains that “capacity optimized constellation[s] at low SNRs are geometrically shaped constellations that can achieve significantly higher performance gains (measured as reduction in minimum required SNR) than [conventional] constellations that maximize d_{min} .” ’761 patent col. 8 ll. 2–7.

The '761 patent discloses an exemplary process for selecting a constellation having an optimal capacity. *See id.* at col. 7 ll. 11–col. 9 ll. 10. Figure 5 (reproduced below) shows an exemplary “process for selecting the points, and potentially the labeling, of a geometrically shaped constellation.” *Id.* at col. 7 ll. 15–19.



Id. Fig. 5.

The '761 patent specification describes the process depicted in Figure 5 as follows:

The process 50 commences with the selection ([51]) of an appropriate constellation size M and a desired capacity per dimension η . In the illustrated embodiment, the process involves a check (52) to ensure that the constellation size can support the desired capacity. In the event that the constellation size could support the desired capacity, then

the process iteratively optimizes the M-ary constellation for the specified capacity. Optimizing a constellation for a specified capacity often involves an iterative process, because the optimal constellation depends upon the SNR at which the communication system operates. The SNR for the optimal constellation to give a required capacity is not known a priori. . . .

In the illustrated embodiment, the iterative optimization loop involves selecting [(55)] an initial estimate of the SNR at which the system is likely to operate (i.e., SNR_{in}). . . . An M-ary constellation is then obtained by optimizing (56) the constellation to maximize a selected capacity measure at the initial SNR_{in} estimate. . . .

The SNR at which the optimized M-ary constellation provides the desired capacity per dimension η (SNR_{out}) is determined (57). A determination (58) is made as to whether the SNR_{out} and SNR_{in} have converged. In the illustrated embodiment convergence is indicated by SNR_{out} equaling SNR_{in}. . . . When SNR_{out} and SNR_{in} have not converged, the process performs another iteration selecting SNR_{out} as the new SNR_{in} (55). When SNR_{out} and SNR_{in} have converged, the capacity measure of the constellation has been optimized.

Id. at col. 7 l. 19–col. 8 l. 2.

One of the named inventors, Dr. Chris Jones, conceded that the inventors did not invent (1) any of the communication system hardware, (2) using unequally spaced (i.e., non-uniform) constellations, or even (3) optimizing non-uniform constellations for a particular constellation characteristic. *See* J.A. 20186–87 (Trial Tr. 286:17–289:6) (testimony of Dr. Chris Jones); J.A. 1218–24 (Dr. Chris Jones Dep. 149:11–155:21); '761 patent col. 1 ll. 59–62. In addition, each of the asserted patents also cites an earlier

article describing optimizing a non-uniform signal set constellation for PD capacity to accomplish a shaping gain. *See, e.g.*, '761 patent References Cited (citing J.A. 1201–04 (Sommer reference)); *see also* '922 patent col. 19 ll. 1–24 (same).

Constellation explains that “[t]o measure performance using [PD] capacity, [the inventors] ‘wr[ote] . . . software’ and ‘buil[t] an optimizer’ to test the results for each constellation” created during the iterative process. Appellee’s Br. 10 (fourth and fifth alterations in original) (quoting J.A. 20173–74 (testimony of Dr. Chris Jones)) (citing J.A. 20215 (testimony of Constellation’s technical expert, Dr. Mark Jones)).

II. The Asserted Patent Claims

Constellation initially sued LG for willful infringement of 239 claims across seven patents. Constellation asserted these claims against LG’s televisions that are compatible with an over-the-air broadcast television standard from the Advanced Television Systems Committee (ATSC) called “ATSC 3.0,” and specifically, protocol “A/322” of the standard, which governs the physical layer of signals transmitted by broadcasters. At the summary judgment stage and trial, Constellation asserted nine claims across four patents: claims 17, 21, 24, and 28 of the '761 patent; claim 5 of the '700 patent; claims 21 and 23 of the '509 patent; and claims 24 and 44 of the '922 patent.

Constellation divides the claims into two groups: (1) claims that cover “non-uniform constellations constructed using [PD] capacity,” and (2) claims that “recite specific constellations of particular sizes or with specific points discovered using that process.” Appellee’s Br. 11–12 (citing J.A. 20215 (testimony of Dr. Mark Jones)). Consistent with Constellation’s view, we discern two groups of claims on appeal: (1) the asserted '761 and '700 patent claims, which recite a geometrically spaced symbol constellation optimized for capacity using PD

capacity (collectively, “the optimization claims”); and (2) the asserted ’509 and ’922 patent claims, which recite specific non-uniform constellations (collectively, “the constellation claims”).

Claim 17 of the ’761 patent is representative of the optimization claims:²

17. A digital communication system, comprising:
 - a receiver configured to receive signals transmitted via a communication channel using a QAM symbol constellation;
 - wherein the receiver, comprises:
 - a demodulator configured to demodulate the signal received via the communication channel;
 - a demapper configured to estimate likelihoods of symbols in a QAM symbol constellation from the demodulated signal;
 - a decoder that is configured to estimate decoded bits from the likelihoods generated by the demapper using an LDPC code; and
 - wherein the QAM symbol constellation is a geometrically spaced symbol constellation optimized for capacity using parallel

² While we have considered all the claims at issue on appeal, because claim 17 of the ’761 patent is substantially similar to the other asserted claims in the ’761 and ’700 patents, our opinion identifies claim 17 as representative of the optimization claims. Similarly, because claim 21 of the ’509 patent is substantially similar to the other asserted claims of the ’509 and ’922 patents, this opinion identifies claim 21 as representative of the constellation claims.

decode capacity that provides a given capacity at a reduced signal-to-noise ratio compared to a QAM signal constellation that maximizes d_{min} .

'761 patent col. 14 ll. 4–23.

As with the '761 and '700 patents, the '509 and '922 patents both “generally relate[] to bandwidth and/or power efficient digital transmission systems and more specifically to the use of unequally spaced constellations having increased capacity.” '509 patent col. 1 ll. 38–41; '922 patent col. 1 ll. 51–54. But the '509 patent additionally describes embodiments with non-uniform constellations with overlapping constellation point locations. *See* '509 patent Title. And the '922 patent recites hundreds of specific, non-uniform constellations constructed based on optimizing PD capacity to improve performance. *See* '922 patent col. 2 l. 64–col. 4 l. 39, Figs. 41–44 (listing the constellation points corresponding to the geometric PAM-8 constellation designs optimized for PD capacity at specific SNRs), Figs. 72–81 (listing the constellation points corresponding to the geometric PAM-16 constellation designs optimized for PD capacity at specific SNRs), Figs. 126–45 (listing the constellation points corresponding to the geometric PAM-32 constellation designs optimized for PD capacity at specific SNRs).

Claim 21 the '509 patent is representative of the constellation claims:

21. A communication system, comprising a receiver that receives signals via a communication channel having a channel signal-to-noise ratio (SNR), wherein the receiver uses a symbol constellation to transform the received signals into received bits, and the symbol constellation includes constellation points at a plurality of unique point locations, where:

the plurality of unique point locations are unequally spaced;

the constellation points each have a location and a different label; and

the locations of at least two of the constellation points are the same.

'509 patent col. 19 ll. 35–47.

III. Procedural Background

After Constellation sued for infringement of the '761, '700, '509, and '922 patents in the Eastern District of Texas, Constellation successfully moved for summary judgment of patent eligibility of all asserted claims. J.A. 2. The district court held all the claims eligible as being directed to a technical solution to a technical problem. Specifically, the district court held that the technical problem is loss of data in over-the-air data transmission and the claimed solution is a communication system that uses a constellation that is optimized for PD capacity to provide improved capacity at a reduced signal-to-noise ratio compared to conventional QAM signal constellations that are created to maximize the distance between the constellation points. *See* J.A. 20025 p. 94 l. 6–p. 95 l. 1; *see also* J.A. 2.

The court then held a jury trial on validity, infringement, willful infringement, and damages. The jury found all asserted claims not invalid and that LG's accused televisions, with semiconductor chips manufactured by LG or third party Realtek Semiconductor Corp., infringed at least one of the asserted claims of each asserted patent. J.A. 32–36. The jury awarded Constellation \$1,684,469.00 for past damages based on a per-television royalty of \$6.75. J.A. 38; *see* J.A. 83–86. The jury also found, by clear and convincing evidence, that LG's infringement of the asserted claims was willful. J.A. 37.

After trial, LG moved for JMOL of non-infringement, contending that, in showing that the accused products read on the claims, Constellation improperly relied on evidence related to the ATSC 3.0 standard for some claim elements and other evidence of infringement for other elements of the same claim. J.A. 53–77. After post-trial briefing, the district court denied JMOL, holding that “nothing . . . prevents a plaintiff from performing both a standard-based infringement read and a direct comparison of a limitation to an accused product.” J.A. 55. Accordingly, the district court did not fault Constellation for relying on a standard-read for some limitations and a direct comparison to the accused products for other limitations of the same claim. J.A. 60. The district court also held that there was substantial evidence at trial for the jury to find infringement for each asserted claim and rejected LG’s argument that the jury’s infringement findings should be set aside. J.A. 60–76.

The district court also denied LG’s separate JMOL of no damages. J.A. 43–52. The district court held that LG’s argument was procedurally improper because it challenged “the admissibility of [Constellation’s damages expert] Dr. Sullivan’s testimony under the guise of challenging the sufficiency of the evidence.” J.A. 48. The court also rejected LG’s arguments on the merits, holding that “[t]here is substantial evidence in the record [demonstrating] that the [challenged] licenses [in the hypothetical reasonable royalty negotiation] are comparable” and thus properly relied on. J.A. 49; J.A. 3. The district court also denied LG’s motion for a new trial, holding that LG’s arguments challenging the jury instructions on use of industry standards, capability, and willfulness were addressed by the concurrent orders on LG’s motions for JMOL and failed on the merits. J.A. 78–82. The district court then entered an Amended Final Judgment on April 26, 2024, granting Constellation an ongoing royalty at the rate of \$6.75 per television. J.A. 83–86.

LG appeals the district court's summary judgment of patent eligibility under § 101, denial of JMOL of non-infringement, denial of JMOL of no damages, and denial of LG's motion to exclude the testimony of Constellation's damages expert. We have jurisdiction under 28 U.S.C. § 1295(a)(1).

DISCUSSION

I. Patent Eligibility

We first address the district court's summary judgment of patent eligibility.³ We apply regional circuit law when reviewing a district court's grant of summary judgment. *C R Bard Inc. v. AngioDynamics, Inc.*, 979 F.3d 1372, 1378 (Fed. Cir. 2020). Applying Fifth Circuit law, we review the district court's grant of summary judgment de novo. *LaserDynamics, Inc. v. Quanta Comput., Inc.*, 694 F.3d 51, 66 (Fed. Cir. 2012) (citing *Cambridge Toxicology Grp., Inc. v. Exnicios*, 495 F.3d 169, 173, 179 (5th Cir. 2007)). Summary judgment is appropriate when "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); see *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 247–48, 255 (1986).

Patent eligibility under 35 U.S.C. § 101 is a question of law that may involve underlying questions of fact. *Interval Licensing LLC v. AOL, Inc.*, 896 F.3d 1335, 1342 (Fed. Cir. 2018). "We review the district court's ultimate conclusion on patent eligibility de novo." *Id.* To determine whether a patent claims ineligible subject matter, the Supreme Court has established a two-step framework. First, we must

³ Although Constellation moved for summary judgment in its favor on patent eligibility, LG never cross-moved for summary judgment of patent ineligibility. Instead, LG argued that "genuine issues of material fact preclude[d] summary judgment." J.A. 1164–87.

determine whether the claims at issue are directed to a patent-ineligible concept such as an abstract idea. *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 217 (2014). Second, if the claims are directed to an abstract idea, we must “consider the elements of each claim both individually and ‘as an ordered combination’ to determine whether the additional elements ‘transform the nature of the claim’ into a patent-eligible application.” *Id.* (quoting *Mayo Collaborative Servs. v. Prometheus Lab’ys, Inc.*, 566 U.S. 66, 78–79 (2012)). To transform an abstract idea into a patent-eligible application, the claims must do “more than simply stat[e] the [abstract idea] while adding the words ‘apply it.’” *Id.* at 221 (second alteration in original) (quoting *Mayo*, 566 U.S. at 72).

Because we see meaningful differences between the optimization claims and the constellation claims, we address them separately in turn.

A. The Optimization Claims

At step one of the *Alice* inquiry, “[w]e must first determine whether the claims at issue are directed to a patent-ineligible concept.” *Id.* at 218. We recognize that “[a]t some level, ‘all inventions . . . embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.’” *Id.* at 217 (quoting *Mayo*, 566 U.S. at 71). Thus, at *Alice* step one, “it is not enough to merely identify a patent-ineligible concept underlying the claim; we must determine whether that patent-ineligible concept is what the claim is ‘directed to.’” *Thales Visionix Inc. v. United States*, 850 F.3d 1343, 1349 (Fed. Cir. 2017) (quoting *Rapid Litig. Mgmt. Ltd. v. CellzDirect, Inc.*, 827 F.3d 1042, 1050 (Fed. Cir. 2016)).

“*Alice* step one presents a legal question that can be answered based on the intrinsic evidence,” including the patent’s specification and claims. *CardioNet, LLC v. Info-Bionic, Inc.*, 955 F.3d 1358, 1372–74 (Fed. Cir. 2020). Although “the specification may help illuminate the true focus

of a claim, when analyzing patent eligibility, reliance on the specification must always yield to the claim language.” *ChargePoint, Inc. v. SemaConnect, Inc.*, 920 F.3d 759, 766 (Fed. Cir. 2019). “Even a specification full of technical details about a physical invention may nonetheless conclude with claims that claim nothing more than the broad law or abstract idea underlying the claims, thus preempting all use of that law or idea.” *Id.* at 769.

We thus begin by analyzing claim 17 of the ’761 patent at *Alice* step one to determine whether the claim language is directed to an abstract idea—and thus ineligible—or a technological solution to a technological problem—and thus eligible for patent protection. *See id.* at 773. Claim 17 recites a QAM symbol constellation that is “optimized” for PD capacity to achieve a particular result: capacity at a reduced signal-to-noise ratio compared to conventional QAM signal constellations that maximize d_{min} . *See* ’761 patent col. 14 ll. 4–23. The claim itself does not recite how to achieve a constellation “optimized” for PD capacity. Rather, this important and distinguishing element of the claim is described in a result-oriented way. That is, the claim recites a constellation optimized for PD capacity such that it achieves a better capacity when compared to the prior art constellations that were maximized for d_{min} . Similar to the Supreme Court’s reasoning in *O’Reilly v. Morse*, 56 U.S. (15 How.) 62 (1853), we conclude that claim 17 is ineligible because it is an abstract, result-oriented claim directed to all ways of achieving a recited result.

In *Morse*, the Supreme Court “upheld claims related to the details of Samuel Morse’s invention of the electromagnetic telegraph, but invalidated a claim for the use of ‘electromagnetism, however developed for marking or printing intelligible characters, signs, or letters, at any distances.’” *ChargePoint*, 920 F.3d at 769 (quoting *Morse*, 56 U.S. at 112). “The Court [in *Morse*] expressed concern that such a broad claim would cover any application of printing at a distance via electromagnetism regardless of whether those

applications used the invention in the patent.” *Id.* (citing *Morse*, 56 U.S. at 113). *Morse*’s invalidated claim “encompassed all solutions for achieving a desired result” and was “drafted in such a result-oriented way that [it] amounted to encompassing the ‘principle in the abstract’ no matter how implemented.” *Interval Licensing*, 896 F.3d at 1343.

This was also the case in *ChargePoint, Inc. v. SemaConnect, Inc.*, 920 F.3d at 769. There, we determined that ChargePoint’s inventors “had the good idea to add networking capabilities to existing [electric vehicle] charging stations to facilitate various business interactions,” but they failed to provide “a technical explanation of how to enable communication over a network for device interaction,” let alone claim those details. *ChargePoint*, 920 F.3d at 770. “Instead, the broad claim language would cover any mechanism for implementing network communication on a charging station, thus preempting the entire industry’s ability to use networked charging stations.” *Id.* *Morse* and *ChargePoint* thus instruct that part of a court’s duty in analyzing claims for patent eligibility is to distinguish claims that cover “nothing more than the broad law or abstract idea underlying the claims, thus preempting all use of that law or idea,” from those that recite a specific embodiment covering a technological solution to a technological problem. *Id.* at 769.

Applying the principles in *Morse* and *ChargePoint* here, the breadth of claim 17 demonstrates that the claim is directed to the abstract idea of “optimizing” a constellation for PD capacity. *See Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015) (“[P]reemption may signal patent ineligible subject matter.”). While claim 17 does not recite every way to optimize a constellation, it does recite every way to optimize a constellation for PD capacity. The claim is written so broadly that it covers the mathematical concept of optimizing a constellation for PD capacity to accomplish improved capacity. It is undisputed that this claim element is the

distinguishing feature in claim 17. Indeed, one of the '761 patent's named inventors explained that "the most limiting aspect of the claim is . . . the final claim element," which is the claim's "wherein" clause. J.A. 1211–12 (Dr. Chris Jones Dep. 17:12–18:18). The wherein clause, however, recites only that "the QAM symbol constellation is a geometrically spaced symbol constellation optimized for capacity using parallel decode capacity that provides a given capacity at a reduced signal-to-noise ratio compared to a QAM signal constellation that maximizes d_{min} ." '761 patent col. 14 ll. 4–23. This broad claim language covers all manners and ways of optimizing a constellation based on one of a limited number of known characteristics of constellations—capacity—and one of a limited number of known capacity measures—PD capacity. *See id.* Indeed, Constellation admits that non-uniform constellations were known, that measuring PD capacity was known, and that even optimizing non-uniform constellations based on PD capacity was contemplated, thus supporting our view that the claims are not as specific in technique as Constellation contends. *See* '761 patent col. 1 ll. 59–65; *see* J.A. 20186–87 (Trial Tr. 286:17–289:6) (testimony of Dr. Chris Jones conceding that the inventor did not invent receivers, demodulators, demappers, decoders, low-density parity check codes, constellations, and optimized non-uniform constellations); *see also* '922 patent col. 19 ll. 1–24 (citing J.A. 1201–04 (Sommer reference optimizing a non-uniform signal set constellation for PD capacity to accomplish a shaping gain)). This confirms that claim 17 is indeed "directed to" the abstract idea of "optimizing" a constellation for PD capacity.

Constellation argues that the optimization claims are eligible because they are not directed to simply optimizing constellations; rather, they recite a "concrete technique"—using PD capacity—to optimize constellations. Appellee's Br. 26–28. Constellation contends that the inventors advantageously recognized that optimizing for PD capacity

and allowing the constellation to be non-uniform has counterintuitive results, improving efficiency by over 25%. Oral Arg. at 20:05–22:12, 38:27–40:50, https://www.cafc.uscourts.gov/oral-arguments/24-1822_12042025.mp3; J.A. 20172–74 (Trial Tr. 231:14–239:2) (testimony of Dr. Chris Jones). While we appreciate Constellation’s argument and acknowledge that the issue is close, we view the optimization claims here as analogous to the result-oriented claim in *Morse*. Claim 17 lacks sufficient details about the alleged “concrete technique.” Indeed, the language of claim 17 does not include any of the details that describe the inventors’ “process for selecting the points, and potentially the labeling, of a geometrically shaped constellation,” “ensur[ing] that the constellation size can support the desired capacity,” and “iteratively optimiz[ing] the M-ary constellation for the specified capacity” as described in the specification. ’761 patent col. 7 l. 11–col. 8 l. 7, Fig. 5.

Even if the specification includes enough detail to describe the invention, “[t]he § 101 inquiry must focus on the language of the [a]sserted [c]laims themselves,” *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1149 (Fed. Cir. 2016) (citation omitted), and “the specification cannot be used to import details from the specification if those details are not claimed,” *ChargePoint*, 920 F.3d at 769. Here, the specification provides some technical details about the invention, but the claims nonetheless recite nothing more than the broad abstract idea of “optimizing” a constellation for PD capacity, thus preempting all use of that idea. Compare ’761 patent col. 7 l. 11–col. 8 l. 7, Fig. 5, with *id.* at col. 14 ll. 4–23. This brings us back to the preemption concerns of *Morse* and *ChargePoint*, where the claims similarly “encompassed all solutions for achieving a desired result” because they “were drafted in such a result-oriented way that they amounted to encompassing the ‘principle in the abstract’ no matter how implemented.”

Interval Licensing, 896 F.3d at 1343. In our view, this is effectively what is claimed in claim 17.

At step two of the *Alice* inquiry—the search for an inventive concept—“we consider the elements of each claim both individually and ‘as an ordered combination’ to determine whether the additional elements ‘transform the nature of the claim’ into a patent-eligible application.” *Alice*, 573 U.S. at 217 (quoting *Mayo*, 566 U.S. at 78–79). Where a claim is directed to an abstract idea, the claim “must include ‘additional features’ to ensure ‘that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].’” *Id.* at 221 (alterations in original) (quoting *Mayo*, 566 U.S. at 77). These additional features cannot simply be “well-understood, routine, conventional activit[ies]’ previously known to the industry.” *Id.* at 225 (alteration in original) (quoting *Mayo*, 566 U.S. at 73). Instead, the inventive concept must be “sufficient to ensure that the patent in practice amounts to significantly more” than a patent on the abstract idea. *See Mayo*, 566 U.S. at 72–73.

Here, Constellation argues that its claims “disclose an innovative way of improving the performance of a digital-communication system through the use of non-uniform constellations that are optimized based on [PD] capacity.” Appellee’s Br. 25. Constellation emphasizes the improvements of its invention over the “earlier approaches” to digital communications, including the efficiency gains. *Id.* at 36–37. Constellation also points to “LG’s statements touting the benefits of the . . . technology reflected in the ATSC 3.0 Standard.” *Id.* at 37 (citing J.A. 6105). However, Constellation points to no elements of the *claims* individually or as an ordered combination that transform the nature of the claim. Indeed, Constellation’s alleged inventive concept is the abstract idea itself. And, as the Supreme Court and this court have explained, “[a]n inventive concept that transforms the abstract idea into a patent-eligible invention must be significantly more than the abstract idea

itself.” *Bascom Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1349 (Fed. Cir. 2016) (citing *Alice*, 573 U.S. at 222–24); *BSG Tech LLC v. Buyseasons, Inc.*, 899 F.3d 1281, 1290–91 (Fed. Cir. 2018) (“If a claim’s only ‘inventive concept’ is the application of an abstract idea using conventional and well-understood techniques, the claim has not been transformed into a patent-eligible application of an abstract idea.” (citations omitted)); *see also Alice*, 573 U.S. at 217–18.

Constellation’s remaining arguments regarding an inventive concept also fail. Constellation argues that an article credited the inventors as the first to develop non-uniform constellations optimized for PD capacity. Appellee’s Br. 37 (citing J.A. 6097 (crediting the named inventors for first describing “[t]he optimization of constellations in the 1-dimensional space with respect to [bit interleaved coded modulation] capacity,” which is synonymous with PD capacity)). In addition, Constellation points to LG’s unsuccessful attempts to challenge the obviousness of Constellation’s patents both at trial and before the Patent Trial and Appeal Board as evidence of an inventive concept. *Id.* at 37–38. Indeed, Constellation alleges that “LG cannot point to anyone before the named inventors who had tried pairing conventional features of a communication system with non-uniform constellations that were constructed in the manner disclosed by the patented inventions.” *Id.* at 38. However, Constellation conflates the separate novelty and obviousness inquiries under 35 U.S.C. §§ 102 and 103, respectively, with the search for an inventive concept and fails to identify what in the *claim* provides the inventive concept other than the abstract idea itself. *See Two-Way Media Ltd. v. Comcast Cable Commc’ns, LLC*, 874 F.3d 1329, 1338 (Fed. Cir. 2017) (“To save a patent at step two, an inventive concept must be evident in the claims.” (citation omitted)). Claim 17 is therefore patent ineligible.

We reach the same conclusion for the other optimization claims—claims 21, 24, and 28 of the '761 patent and claim 5 of the '700 patent. After full analysis of these claims—which are very similar to claim 17—we conclude that they too are directed to an abstract idea and do not recite an inventive concept for the same reasons we discussed above regarding claim 17. We therefore vacate the district court's summary judgment of validity of these claims and remand to the district court for proceedings consistent with this opinion.

B. The Constellation Claims

We next turn to the constellation claims, and *Alice* step one.

Instead of claiming the abstract idea of “optimizing” a constellation for capacity without limiting the optimization to any meaningful process or any constraints, the constellation claims are directed to “specific constellations” that the inventors developed using the techniques described in the specifications. Appellee's Br. 27. Even LG agrees that neither the '509 nor '922 patents' claims “recite optimization,” and instead cover specific constellations. *See* Appellants' Br. 15–16. We conclude that this distinction between the result-oriented optimization claims and constellation claims makes all the difference.

Claim 21 of the '509 patent, for example, covers a concrete implementation of a technological improvement to solve a technological problem. *Cf. Chamberlain Grp., Inc. v. Techtronic Indus. Co.*, 935 F.3d 1341, 1347 (Fed. Cir. 2019). As we discussed above, the problem perceived by the patentee was overcoming the limits of constellation capacity to achieve better coding gains. *See* '509 patent col. 1 l. 55–col. 2 l. 5. As Constellation contends, the inventors discovered that moving constellation points with the objective of maximizing capacity between the input of a mapper and the output of a demapper, instead of the output of the demodulator, led to the counterintuitive conclusion that

“[t]he best thing to do is to start having points land on top of one another.” J.A. 20172–74 (Trial Tr. 231:14–239:2) (testimony of Dr. Chris Jones); Oral Arg. at 20:05–22:12, 38:27–40:50; ’509 patent col. 2 ll. 21–37. Accordingly, the specification explains that Constellation’s invention is the idea of “us[ing] signal constellations, which have unequally spaced (i.e.,) ‘geometrically’ shaped) points,” in which “the locations of geometrically shaped points are designed to provide a given capacity measure at a reduced [SNR] compared to the SNR required by[] a constellation that maximizes d_{min} ,” thus improving coding gains. ’509 patent col. 4 l. 65–col. 5 l. 8.

The specification then describes “a process for obtaining a constellation optimized for capacity for use in a communication system having a fixed code rate and modulation scheme.” ’509 patent col. 3 ll. 53–56, Fig. 5. That process “select[s] the points, and potentially the labeling, of a geometrically shaped constellation” to “iteratively optimize[] the M-ary constellation for the specified capacity” and improve coding gains. *See id.* at col. 7 ll. 35–46. Rather than broadly claiming all means of “optimizing,” claim 21 is an application of the described process with parameters representing the described invention, including that “the plurality of unique point locations are unequally spaced,” “each have a location and a different label,” and “the locations of at least two of the constellation points are the same.” ’509 patent col. 19 ll. 35–47. Thus, claim 21 in its entirety is directed to solving a particular technological problem—overcoming capacity constraints to improve coding gains—using a particular technological solution—specific, non-uniform constellations with overlapping constellation point locations.

We thus hold that the limitations in claim 21 provide enough specificity and structure to satisfy *Alice* step one. And because we conclude that claim 21 of the ’509 patent is not directed to an abstract idea, we do not reach *Alice*

step two. Claim 21 is patent eligible under § 101. *See CardioNet*, 955 F.3d at 1371.

We reach the same conclusion for the other constellation claims—claim 23 of the '509 patent and claims 24 and 44 of the '922 patent—because, “[f]or purposes of validity, the parties did not argue the[se] claims separately, so they rise or fall together.” *Vanda Pharms., Inc. v. West-Ward Pharms. Int’l Ltd.*, 887 F.3d 1117, 1134 n.9 (Fed. Cir. 2018); *see also Endo Pharms. Inc. v. Teva Pharms. USA, Inc.*, 919 F.3d 1347, 1353 n.3 (Fed. Cir. 2019). Thus, we vacate and remand the summary judgment of eligibility of the optimization claims but affirm the district court’s summary judgment of eligibility of the constellation claims.

II. Infringement

We next address the district court’s denial of LG’s motion for JMOL of non-infringement. We review a denial of JMOL de novo according to Fifth Circuit law by reapplying the JMOL standard, where “judgment as a matter of law is proper after a party has been fully heard by the jury on a given issue, and there is no legally sufficient evidentiary basis for a reasonable jury to have found for that party with respect to that issue.” *Ford v. Cimarron Ins. Co., Inc.*, 230 F.3d 828, 830 (5th Cir. 2000) (citation modified).

At trial, Constellation relied on the ATSC 3.0 and A/322 standards to show LG’s accused televisions meet some claim limitations while using product-specific evidence to meet other claim limitations. LG first raises a legal challenge, asserting that a patent owner may only rely on a standard to prove infringement when the standard meets every limitation of the claim as opposed to just one or several limitations. Appellants’ Br. 37. In contrast, Constellation contends, and the district court agreed, that a patent owner may prove infringement based on standards-related evidence for some elements while using evidence about the accused products to show satisfaction of other elements of the same claim. Appellee’s Br. 46–47;

J.A. 54–62. We agree with Constellation and the district court.

LG’s argument turns on the reading and application of our decision in *Fujitsu Ltd. v. Netgear Inc.*, 620 F.3d 1321 (Fed. Cir. 2010). Appellants’ Br. 38–40. There, the plaintiff sought to carve out an exception to the rule that a plaintiff must establish infringement by comparing the asserted claims directly to the accused products. *Fujitsu*, 620 F.3d at 1326–27. Specifically, the plaintiff sought to prove (1) that the defendant’s products practiced two industry standards for wireless communications, and (2) any implementation of the standards would necessarily satisfy all elements of the asserted patent claims. *Id.* at 1327. Thus, according to the plaintiff, there was no need to “show evidence of infringement for each accused product” because any product that “compl[ie]d with the standard” would “necessarily infringe[] the asserted claims.” *Id.* at 1325. We condoned the plaintiff’s carve out, holding that “if an accused product operates in accordance with a standard, then comparing the claims to that standard is the same as comparing the claims to the accused product.” *Id.* at 1327. However, “to prove infringement by showing standard compliance,” we required two conditions be met: (1) the standard “provide[s] the level of specificity required to establish that practicing that standard would always result in infringement,” and (2) “the relevant section of the standard” is mandatory, or, if it is optional, there is evidence showing that the accused product implements the optional portion of the standard. *Id.* at 1327–28.

The district court interpreted the reasoning of *Fujitsu* as “also appl[ying] on a limitation-by-limitation basis.” J.A. 57. In other words, if an accused product meets—or the standard that the accused product practices necessarily meets—every element of the claim, then the accused product infringes the patent claim. We agree with the district court’s reading and application of *Fujitsu* in this case. First, as explained by the district court and supported by

Fujitsu, “[j]udicial resources may be conserved by showing that a class of products practices a limitation.” *Id.* (citing *Fujitsu*, 620 F.3d at 1327). “It would be a waste of judicial resources to separately analyze a limitation for each individual product that practices a standard when it can be shown that all products practice that limitation because they practice a standard.” *Id.*; *Fujitsu*, 620 F.3d at 1327. As explained in *Fujitsu*, “[i]f two products undisputedly operate in the same manner, a finding of infringement against one will create a persuasive case against the other” with no prejudice to future litigants. *Fujitsu*, 620 F.3d at 1327; J.A. 57.

Second, the same concerns we addressed in *Fujitsu*—regarding “the level of specificity required to establish that practicing [an industry] standard would always result in infringement” and whether the “standard is optional”—are present in a limitation-by-limitation analysis and can be addressed by requiring the same evidentiary showings we required in *Fujitsu*. J.A. 57. Indeed, as the district court recognized, *Fujitsu* and its progeny logically permit a plaintiff to prove satisfaction of a claim limitation based on an industry standard if:

- (1) the relevant portion of the standard is sufficiently specific to show that practicing it would always result in practicing that limitation, and
- (2) the relevant portion of the standard is mandatory, or, if it is optional, there is evidence showing that the accused device implements that portion of the standard.

J.A. 59. This does not vitiate *Fujitsu*, as LG contends, because we have not identified anything in *Fujitsu* or its progeny that prevents the same reasoning that we applied to a *claim* from being applied to a *limitation* as well. See J.A. 57; see also *Fujitsu*, 620 F.3d at 1327–28.

LG’s remaining arguments go to the sufficiency of the evidence presented to the jury. Because infringement is a

fact-bound inquiry, a jury's infringement verdict should be upheld unless the "evidence points so strongly and overwhelmingly in favor of one party that the court believes that reasonable jurors could not arrive at any contrary conclusion." *Versata Software, Inc. v. SAP Am., Inc.*, 717 F.3d 1255, 1261 (Fed. Cir. 2013) (citations omitted). Indeed, we must "resolve all conflicting evidence in favor of [the verdict] and refrain from weighing the evidence or making credibility determinations." *Gomez v. St. Jude Med. Daig Div. Inc.*, 442 F.3d 919, 933 (5th Cir. 2006) (citation omitted).

Here, substantial evidence supports the jury's verdict of infringement. For example, LG's technical expert, Dr. Akl, testified that the accused televisions are compatible with the ATSC 3.0 standard such that they can receive and process ATSC 3.0 signals. J.A. 20359 (Trial Tr. 61:5–63:10) (testimony of LG's technical expert, Dr. Akl). Further, Constellation's technical expert, Dr. Mark Jones, testified that—based on tests he performed on LG's televisions, ATSC documents, LG's source code, and LG's internal testing documents—all the accused televisions were able to receive ATSC 3.0 signals that relied on the same constellations as those used in the standard. J.A. 20220–22 (Trial Tr. 101:13–111:23) (testimony of Dr. Mark Jones); J.A. 20216 (Trial Tr. 87:7–11) (same). Because Dr. Mark Jones also offered evidence that the ATSC 3.0 standard (and specifically, the A/322 protocol) utilizes Constellation's patented constellations, this compatibility supports the inference that the accused televisions infringe the asserted constellations. J.A. 20229–30 (Trial Tr. 139:13–142:12) (testimony of Dr. Mark Jones); J.A. 20171 (Trial Tr. 225:6–15) (testimony of named inventor Dr. Chris Jones); J.A. 20216 (Trial Tr. 87:23–88:4) (testimony of Dr. Mark Jones). The jury also heard testimony from LG's corporate representative, Mr. Lewis, that the LG chips used in its accused televisions incorporate the A/322 protocol, which the FCC adopted as mandatory for

ATSC 3.0 television receivers. J.A. 20317 (Trial Tr. 189:2–192:25) (testimony of Mr. Lewis).

In addition, contrary to LG’s arguments, the jury heard testimony from multiple witnesses at trial that demappers and decoders are critical features for any television that receives broadcast signals. For example, Dr. Mark Jones testified that the Realtek-based accused televisions had demappers and decoders. J.A. 20228–29 (Trial Tr. 135:22–139:12) (testimony of Dr. Mark Jones discussing J.A. 18039–40, 18048); *see* J.A. 20219–22 (Trial Tr. 97:11–111:23) (testimony of Dr. Mark Jones discussing J.A. 15630, 15962). Multiple witnesses, including both Dr. Mark Jones and Dr. Akl, also testified that modern digital communication systems use soft decoding and therefore rely on likelihoods. *See* J.A. 20219 (Trial Tr. 97:23–99:10) (testimony of Dr. Mark Jones); J.A. 20358–59 (Trial Tr. 57:6–61:4) (testimony of Dr. Akl). Dr. Mark Jones testified specifically that both Realtek’s documents and the ATSC recommendations showed that the Realtek chip in the accused televisions supported demapping. J.A. 20228–29 (Trial Tr. 135:22–139:12) (testimony of Dr. Mark Jones). Thus, we conclude that substantial evidence supports the jury’s verdict of infringement and affirm the district court’s denial of LG’s JMOL of non-infringement.

III. Damages

LG asks us to reverse the district court’s denial of JMOL of no damages or, alternatively, to reverse the denial of LG’s motion to exclude the testimony of Dr. Sullivan, Constellation’s damages expert. Appellants’ Br. 54. Specifically, LG asserts that Dr. Sullivan had no basis for relying on a built-in apportionment theory because he relied on third-party Zenith licenses that are not sufficiently comparable because they cover different patents, technologies, and product types. *Id.*

We are not persuaded. As the district court acknowledged, LG’s challenge is not properly directed to JMOL and

the sufficiency of the evidence presented to the jury on damages. J.A. 48–52. Instead, LG challenges the admissibility of Constellation’s expert testimony, which—under the law of the regional circuit, here the Fifth Circuit—we would ordinarily review for abuse of discretion. *See Eco-Factor, Inc. v. Google LLC*, 137 F.4th 1333, 1338 (Fed. Cir. 2025) (en banc). Our court has made clear that challenges to the “admissibility of . . . expert testimony,” including “whether [a] damages model is properly tied to the facts of the case,” “should be resolved under the framework of . . . *Daubert*.” *Versata*, 717 F.3d at 1264 (citations omitted). Because we agree with the district court’s determination that LG’s arguments were inappropriate for JMOL, we see no error in the district court’s denial of LG’s JMOL motion.

While LG also states that it challenges the district court’s denial of its motion to exclude Dr. Sullivan’s testimony under *Daubert*, LG does not present any argument separate from its JMOL argument. LG does not cite or include in the appendix Dr. Sullivan’s expert report and instead relies on the evidence presented to the jury for both its JMOL challenge and its *Daubert* challenge. We will thus treat its argument accordingly. We agree with the district court that Dr. Sullivan relied on sufficient facts to opine that the Zenith licenses were sufficiently comparable to rely on built-in apportionment. *See* J.A. 48–49. For example, LG’s corporate representative, Mr. Lewis, testified that the Zenith licenses were structured to provide a single royalty rate regardless of the number of Zenith patents found to be infringed. J.A. 20333 (Trial Tr. 256:3–16) (testimony of Mr. Lewis). In addition, Constellation’s technical expert, Dr. Mark Jones, testified about the technical similarities between the asserted patents and the Zenith patents. For example, he testified that the Zenith patents and the asserted patents recite similar features and specific decoding methods, describe specific constellations for mapping symbols for transmission across a communication channel, were put to similar use in the physical layer of the

ATSC standard by television manufacturers, and achieved similar technological benefits. J.A. 20236–39 (Trial Tr. 168:7–179:20) (testimony of Dr. Mark Jones). Finally, Dr. Sullivan testified about the economic similarities between the hypothetical negotiation and the Zenith licenses. For example, Dr. Sullivan explained that the parties were similarly situated, as well as that the licenses similarly covered the same products (i.e., televisions), extended through the life of the patents, were non-exclusive, were structured as a running royalty, and applied to sales with a nexus in the United States. J.A. 20276–78 (Trial Tr. 25:7–33:19) (testimony of Constellation’s damages expert, Dr. Sullivan); J.A. 20280 (Trial Tr. 43:3–21) (same); J.A. 20294 (Trial Tr. 97:2–15) (same). Because evidence supports that the Zenith licenses were sufficiently comparable, Dr. Sullivan had a sufficient basis for relying on a built-in apportionment theory.

Because LG has not shown that the district court erred in denying either its motion to exclude or its motion for judgment as a matter of law of no damages, we affirm.⁴

⁴ During oral argument, LG argued for the first time that if we determine—as we do here—that some asserted claims are patent ineligible, we should vacate the damages award. *See* Oral Arg. 18:03–19:34, 42:44–45:38. This argument was foreseeable and should have been raised in LG’s opening brief. *See, e.g., ABS Glob., Inc. v. Cytonome/ST, LLC*, 984 F.3d 1017, 1027 (Fed. Cir. 2021) (collecting cases for proposition that arguments raised for the first time during oral argument are forfeited). Even so, Constellation’s damages expert, Dr. Sullivan, testified that the value of Constellation’s asserted patents was tied to the *technology* rather than any asserted patent or claim, J.A. 20280 (Trial Tr. 42:11–23) (testimony of Dr. Sullivan), and none of LG’s witnesses disputed this testimony. *Cf.*

CONCLUSION

We have considered the parties' remaining arguments and do not find them persuasive. For the foregoing reasons, we vacate the district court's summary judgment of eligibility for claims 17, 21, 24, and 28 of the '761 patent and claim 5 of the '700 patent. We affirm the district court's summary judgment of eligibility for claims 21 and 23 of the '509 patent and claims 24 and 44 of the '922 patent. We affirm the district court's denial of JMOL of non-infringement and no damages, as well as its denial of LG's motion to exclude the testimony of Constellation's damages expert. We remand for further proceedings consistent with this opinion.

VACATED-IN-PART, AFFIRMED-IN-PART, AND REMANDED

COSTS

No costs.

J.A. 20333 (Trial Tr. 256:3–16) (testimony of Mr. Lewis acknowledging that the Zenith licenses were similarly tied to the technology rather than any patents or claims).

CERTIFICATE OF SERVICE AND FILING

I certify that on June 30, 2026, I electronically filed the foregoing **CORRECTED COMBINED PETITION FOR PANEL REHEARING AND REHEARING EN BANC** of Defendants-Appellants LG Electronics Inc., LG Electronics U.S.A., Inc., and LG Electronics Alabama, Inc. using the Court's CM/ECF filing system. Counsel for Plaintiff-Appellee Constellation Designs, LLC were electronically served by and through the Court's CM/ECF filing system per Fed. R. App. P. 25 and Fed. Cir. R. 25(e).

/s/ Michael J. McKeon

Michael J. McKeon

CERTIFICATE OF COMPLIANCE

The **CORRECTED COMBINED PETITION FOR PANEL REHEARING AND REHEARING EN BANC** of Defendants-Appellants LG Electronics Inc., LG Electronics U.S.A., Inc., and LG Electronics Alabama, Inc. is submitted in accordance with the type-volume limitation of Fed. Cir. R. 32(b). The brief contains 3,899 words, excluding the parts of the brief exempted by Fed. R. App. P. 32(f) and Fed. Cir. R. 32(b)(2). This brief has been prepared in a proportionally spaced typeface using Microsoft Word for Microsoft 365 in Times New Roman, 14 Point.

Dated: June 30, 2026

/s/ Michael J. McKeon

Michael J. McKeon