

United States Court of Appeals for the Federal Circuit

**OPTIS CELLULAR TECHNOLOGY, LLC, OPTIS
WIRELESS TECHNOLOGY, LLC, PANOPTIS
PATENT MANAGEMENT, LLC, UNWIRED PLANET
INTERNATIONAL LIMITED, UNWIRED PLANET,
LLC,**
Plaintiffs-Cross-Appellants

v.

APPLE INC.,
Defendant-Appellant

2022-1904, 2022-1925

Appeals from the United States District Court for the
Eastern District of Texas in No. 2:19-cv-00066-JRG, Judge
J. Rodney Gilstrap.

Decided: June 16, 2025

WILLIAM M. JAY, Goodwin Procter LLP, Washington,
DC, argued for plaintiffs-cross-appellants. Also repre-
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Before PROST, REYNA, and STARK, *Circuit Judges*.

PROST, *Circuit Judge*.

Optis Cellular Technology, LLC, Optis Wireless Technology, LLC, PanOptis Patent Management, LLC, Unwired Planet International, Ltd., and Unwired Planet, LLC (collectively, “Optis”) sued Apple Inc. (“Apple”) for patent infringement in the U.S. District Court for the Eastern District of Texas. Relevant here, Optis asserted U.S. Patent Nos. 9,001,774 (“the ’744 patent”), 8,019,332 (“the ’332 patent”), 8,385,284 (“the ’284 patent”), 8,102,833 (“the ’833 patent”), and 8,411,557 (“the ’557 patent”) (collectively, “the asserted patents”). The asserted patents are standard-essential patents (“SEPs”) that cover technology essential to the Long-Term Evolution (“LTE”) standard. Optis contends various Apple iPhones, iPads, and Watches implementing the LTE standard infringe the asserted patents. The jury returned a verdict that Apple infringed certain claims of the asserted patents and awarded \$506,200,000 as a reasonable royalty for past sales.¹ Apple moved for a new trial arguing that the jury did not hear evidence regarding Optis’s obligation to license the patents on fair, reasonable, and nondiscriminatory (“FRAND”) terms. The district court granted a new trial only on damages as to the amount of a FRAND royalty for the use of

¹ The asserted claims are claim 6 of the ’774 patent; claims 6 and 7 of the ’332 patent; claims 1, 14, and 27 of the ’284 patent; claim 8 of the ’833 patent; and claims 1 and 10 of the ’557 patent (collectively, “the asserted claims”).

the asserted patents. In the subsequent damages retrial, the jury awarded Optis \$300,000,000 as a lump sum.

For the reasons below, we vacate both the infringement and second damages judgments and remand for proceedings consistent with this opinion, including a new trial on infringement and damages. We dismiss Optis's cross-appeal to reinstate the original damages verdict and need not reach those arguments. We also reverse the district court's finding that (1) claims 6 and 7 of the '332 patent are not directed to an abstract idea under 35 U.S.C. § 101; and (2) claim 1 of the '557 patent does not invoke 35 U.S.C. § 112 ¶ 6. We affirm the district court's construction of claim 8 of the '833 patent. Last, we conclude that the district court abused its discretion under Federal Rule of Evidence 403 by admitting into evidence the Apple-Qualcomm settlement agreement and Optis's damages expert's testimony concerning that agreement.

BACKGROUND

A

This dispute concerns patents declared to be essential to practice the LTE standard. In the telecommunications industry, global standards, like the LTE standard, ensure interoperability of telecommunication devices regardless of device maker. These standards specify how cellular phones and towers function and ensure worldwide interoperability between networks, devices, and network operators. Standard development organizations, like the European Telecommunications Standards Institute ("ETSI"), are responsible for developing these standards.

Standards often incorporate patented technology, also known as SEPs. When a standard incorporates SEPs, "compliant devices *necessarily* infringe" claims that "cover technology incorporated into the standard." *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201, 1209 (Fed. Cir. 2014) (emphasis in original). As a result, companies developing

standard-compliant devices must obtain licenses from the owners of such SEPs. ETSI has created an Intellectual Property Rights (“IPR”) Policy designed to ensure that patentees are fairly compensated for their contributions while fostering the standard’s widespread adoption. To facilitate this balance, under the IPR policy, SEP owners commit to licensing their SEPs on FRAND terms.

B

Here, each of the asserted patents has been declared to ETSI, by the asserted patents’ original assignees, as essential to practicing the LTE standard.²

The ’774 patent, titled “System and Method for Channel Estimation in a Delay Diversity Wireless Communication System,” issued on April 7, 2015. ’774 patent Title (capitalization normalized). It is directed to technology “for performing channel estimation in an orthogonal frequency division multiplexing (OFDM) network or an orthogonal frequency division multiple access (OFDMA) network.” *Id.* at col. 1 ll. 32–37. Claim 6 of the ’774 patent is reproduced below:

A method, comprising:

receiving a processing parameter for transmission of data on two antenna ports, the processing parameter including at least one of a time delay, a phase rotation and a gain determined based on a received uplink signal;

² Optis acquired the asserted patents from LG Electronics Inc., Panasonic Corp., and Samsung Electronics Co., Ltd.

receiving a first pilot, a second pilot, a first data symbol and a second data symbol transmitted on the two antenna ports; and
demodulating the first data symbol and the second data symbol based on the processing parameter, the first pilot and the second pilot.

Id. at claim 6.

The '332 patent, titled "Method for Transmitting and Receiving Control Information through [Physical Downlink Control Channel ("PDCCH")]," issued on September 13, 2011. '332 patent Title (capitalization normalized). The '332 patent is directed to "efficiently transmitting and receiving control information through a [PDCCH]." *Id.* at col. 1 ll. 24–26. It describes an approach to limiting the Control Channel Elements ("CCEs") available to User Equipment ("UE") for the PDCCH to reduce search processing by the UE. Different UEs may be allocated different CCEs based on different starting positions for the PDCCH. *See, e.g., id.* at col. 2 ll. 18–22, col. 5 ll. 27–47, 58–67. Claim 6 of the '332 patent is reproduced below:

A user equipment (UE) for decoding control information, the UE comprising:

a receiver for receiving a Physical Downlink Control Channel (PDCCH) from a base station at subframe k; and

a decoder for decoding a set of PDCCH candidates within a search space of the PDCCH at the subframe k, wherein each of the set of PDCCH candidates comprises 'L' control channel elements (CCEs),

wherein the 'L' CCEs corresponding to a specific PDCCH candidate among the set of PDCCH candidates of the search space at

the subframe k are contiguously located from a position given by using a variable of Y_k for the subframe k and a modulo 'C' operation, wherein 'C' is determined as $\text{floor}(N/L)$, wherein 'N' represents a total number of CCEs in the subframe k , and

wherein Y_k is defined by:

$$Y_k = (A * Y_{k-1}) \bmod D,$$

wherein A, and D are predetermined constant values.

'332 patent claim 6 (emphasis added). Claim 7 depends from claim 6 and adds only the limitation that the variables A and D are specific numbers. *Id.* at claim 7.

The '284 patent, titled "Control Channel Signaling Using a Common Signaling Field for Transport Format and Redundancy Version," issued on February 26, 2013. '284 patent Title (capitalization normalized). At a high level, the patent relates to technology for efficient use of control channels by reducing the amount of data needed. Representative claim 1 recites:

A mobile terminal for use in a mobile communication system, the mobile terminal comprising:

a receiver unit for receiving a sub-frame of physical radio resources comprising a control channel signal destined to the mobile terminal,

a processing unit for determining based on the received control channel signal a transport format of and a redundancy version for an initial transmission or a retransmission of a protocol data unit conveying user data, and

a transmitter unit for transmitting the protocol data unit on at least one physical radio resource using the transport format and the redundancy version of the protocol data unit indicated in the received control channel signal,

wherein the control channel signal received within said sub-frame comprises a control information field, in which the transport format and the redundancy version of the protocol data unit are jointly encoded,

wherein the processing unit is further configured for the determination of the control information field, which consists of a number of bits representing a range of values that can be represented in the control information field, *wherein a first subset of the values is reserved for indicating the transport format of the protocol data unit and a second subset of the values, different from the first subset of the values, is reserved for indicating the redundancy version for transmitting the user data, and*

wherein the first subset of the values contains more values than the second subset of the values.

Id. at claim 1 (emphasis added).

The '833 patent, titled "Method for Transmitting Uplink Signals," issued on January 24, 2012. '833 patent Title (capitalization normalized). It discloses "a method for transmitting uplink signals by efficiently arranging [acknowledgment ("ACK") / non-acknowledgment ("NACK")] signals and other control signals in a resource region considering priority among them." *Id.* at col. 2 ll. 7–10. Claim 8 of the '833 patent is reproduced below:

A mobile station for transmitting uplink signals comprising control signals and data signals in a wireless communication system, the mobile station comprising:

a processor serially multiplexing first control signals and data signals, wherein the first control signals are placed at a front part of the multiplexed signals and the data signals are placed at a rear part of the multiplexed signals;

the processor mapping the multiplexed signals to a 2-dimensional resource matrix comprising a plurality of columns and a plurality of rows, wherein the columns and the rows of the 2-dimensional resource matrix correspond to single carrier frequency divisional multiple access (SC-FDMA) and subcarriers for each SC-FDMA symbol, respectively, wherein a number of columns of the 2-dimensional resource matrix corresponds to a number of SC-FDMA symbols within one subframe except specific SC_FDMA symbols used for a reference signal, and wherein the multiplexed signals are mapped from the first column of the first row to the last column of the first row, the first column of the second row to the last column of the second row, and so on, until all the multiplexed signals are mapped to the 2-dimensional resource matrix; and

the processor mapping ACK/NACK control signals to specific columns of the 2-dimensional resource matrix, wherein the specific columns correspond to SC-FDMA symbols right adjacent to the specific SC-FDMA

symbols, *wherein the ACK/NACK control signals overwrite some of the multiplexed signals mapped to the 2-dimensional resource matrix from the last row of the specific columns.*

Id. at claim 8 (emphasis added).

The '557 patent, titled "Mobile Station Apparatus and Random Access Method," issued on April 2, 2013. '557 patent Title (capitalization normalized). It is directed to technology for allowing a mobile communication device to report control information to the base station using the Random Access Channel. *Id.* at col. 1 ll. 10–15, col. 1 l. 54–col. 2 l. 22. Representative claim 1 recites:

A mobile station apparatus comprising:

a receiving unit configured to receive control information;

a selecting unit configured to randomly select a sequence from a plurality of sequences contained in one group of a plurality of groups, into which a predetermined number of sequences that are generated from a plurality of base sequences are grouped and which are respectively associated with different amounts of data or reception qualities, wherein the predetermined number of sequences are grouped by partitioning the predetermined number of sequences, in which sequences generated from the same base sequence and having different cyclic shifts are arranged in an increasing order of the cyclic shifts; and

a transmitting unit configured to transmit the selected sequence,

wherein a position at which the predetermined number of sequences are partitioned is determined based on the control information, and a number of sequences contained in each of the plurality of groups varies in accordance with the control information.

Id. at claim 1 (emphasis added).

C

Starting around 2017, the parties engaged in licensing discussions in which Optis purportedly made licensing offers on FRAND terms concerning the asserted patents.³ See J.A. 2715 (1057:10–11), 3208 (139:15–19). Apple denies that those terms were in fact FRAND. The parties’ licensing negotiations were unsuccessful, and in 2019, Optis filed a complaint in the U.S. District Court for the Eastern District of Texas alleging Apple’s LTE-capable products, including iPhone, iPad, and Watch product lines, infringed claims of the asserted patents.

In 2020, the district court issued its claim-construction order. *Optis Wireless Tech., LLC v. Apple Inc.*, No. 19-00066, 2020 WL 1692968 (E.D. Tex. Apr. 7, 2020) (“*Claim Construction Order*”). Relevant to this appeal, the district court construed “the ACK/NACK control signals overwrite some of the multiplexed signals mapped to the 2-dimensional resource matrix from the last row of the specific columns” in claim 8 of the ’833 patent to mean “(1) some of the multiplexed signals, from the last row of the specific

³ “ETSI has an [IPR] policy under which SEP holders declare that they are ‘prepared to grant irrevocable licen[s]es’ to their SEPs on ‘[FRAND] terms and conditions.’” *Telefonaktiebolaget LM Ericsson v. Lenovo (United States), Inc.*, 120 F.4th 864, 867 (Fed. Cir. 2024) (some alterations in original).

columns of the 2-dimensional resource matrix, are skipped and the corresponding ACK/NACK signals are mapped, and (2) the length of the entire information is maintained equally even after the ACK/NACK control signals are inserted.” *Id.* at *26. The district court also found that the claim limitation “selecting unit” in claim 1 of the ’557 patent does not invoke 35 U.S.C. § 112 ¶ 6⁴ and that the limitation “needs no further construction.” *Id.* at *20–22.

Relevant here, the district court denied Apple’s motion for summary judgment of invalidity of claims 6 and 7 of the ’332 patent under 35 U.S.C. § 101. J.A. 67. In August 2020, the district court held a jury trial. *Optis Wireless Tech., LLC v. Apple Inc.*, No. 19-00066, 2021 WL 2349343, at *1 (E.D. Tex. Apr. 14, 2021) (“*Damages Retrial Order*”). Despite both parties requesting infringement verdict questions on a patent-by-patent basis, J.A. 8264, the district court on its own included only a single infringement question covering all five asserted patents on the verdict form: “Did Optis prove by a preponderance of the evidence that Apple infringed **ANY** of the [a]sserted [c]laims?” J.A. 101 (emphasis in original). In contrast, the invalidity question on the verdict form was broken up on a claim-by-claim basis. J.A. 102. The jury returned a verdict that Apple infringed one or more claims of the asserted patents; that none of the asserted claims were invalid; that Apple’s infringement had been willful; and that Optis should recover from Apple \$506,200,000 as a reasonable royalty for past sales through the date of trial. J.A. 98–106. The district

⁴ “The Leahy-Smith America Invents Act (‘AIA’) renamed § 112 ¶¶ 2 and 6 as, respectively, § 112(b) and (f). AIA, Pub. L. No. 112-29, sec. 4(c), 125 Stat. 284, 296 (2011). Because the application[] resulting in the [’557] patent[] w[as] filed before September 16, 2012, we refer to the pre-AIA version of § 112.” *See Fintiv, Inc. v. PayPal Holdings, Inc.*, 134 F.4th 1377, 1379 n.1 (Fed. Cir. 2025).

court entered final judgment memorializing the jury's findings and electing not to enhance damages for willful infringement under 35 U.S.C. § 284. J.A. 133–35.

Apple moved for a new trial on all issues due to the improper preclusion of evidence of Optis's FRAND obligation with respect to the asserted patents. The district court granted a new trial on damages as to the amount of a FRAND royalty for the use of the asserted patents. *Damages Retrial Order*, 2021 WL 2349343, at *4. The district court explained:

Given that the patents found to be infringed are FRAND-encumbered SEPs, any royalty awarded must be FRAND. . . . [T]he jury never had any evidence that Optis's patents were in fact FRAND-encumbered, nor did the jury hear any evidence as to what royalties would or could be FRAND. As a result, the verdict does not necessarily represent a FRAND royalty. Consequently, the absence of FRAND evidence and instructions to the jury casts serious doubt on the reliability of the verdict, and a new trial regarding damages is warranted.

Id. The district court declined, however, to grant a new trial as to liability. *Id.* Relevant here, in resolving Apple's other post-judgment motions, the district court rejected Apple's argument that the "verdict form separately violated Apple's right to a unanimous verdict." *See* J.A. 16075 (capitalization omitted), J.A. 183–85 ("Accordingly, the [c]ourt finds that there was no error in submitting the verdict form as it did.").

In 2021, the district court held the retrial on damages with respect to all five asserted patents. Before the jury returned a verdict, Apple filed written objections concerning its objection to the previous verdict form, J.A. 8706–10, and the district court granted Apple's request for a running objection with respect to the issues memorialized in Apple's written objections, J.A. 3174–75 (105:16–106:3). The jury

awarded \$300,000,000 as a lump sum for past and future sales. J.A. 217–18. The district court entered judgment, J.A. 220–22, and denied Apple’s post-judgment motions, *Optis Wireless Tech., LLC v. Apple Inc.*, No. 19-00066, 2022 WL 22913390, at *1 (E.D. Tex. May 31, 2022).

Apple timely appealed, and Optis timely cross-appealed. We have jurisdiction under 28 U.S.C. § 1295(a)(1).

DISCUSSION

On appeal, Apple raises several issues: (1) whether the single infringement question on the verdict form covering all the asserted patents violated Apple’s right to jury unanimity; (2) whether claims 6 and 7 of the ’332 patent are patent-ineligible under § 101; (3) whether the district court erred in construing claim 8 of the ’833 patent; (4) whether the district court erred in finding claim 1 of the ’557 patent not indefinite; (5) whether a jury could have found that Apple’s accused products infringe the asserted claims; and (6) whether the district court erred in admitting certain damages-related evidence. Optis cross-appealed and argues that we should reinstate the original damages judgment. We address each issue in turn.

I

We first address Apple’s challenges to the verdict forms and associated jury instructions. The verdict form is reviewed for an abuse of discretion. *R.R. Dynamics, Inc. v. A. Stucki Co.*, 727 F.2d 1506, 1515 (Fed. Cir. 1984); *see also Travelers Cas. & Sur. Co. of Am. v. Ernst & Young LLP*, 542 F.3d 475, 489 (5th Cir. 2008). “District courts have broad authority and discretion in controlling the conduct of a trial,” including “the form by which juries return verdicts.” *R.R. Dynamics*, 727 F.2d at 1515. “A district court by definition abuses its discretion when it makes an error of law.” *Koon v. United States*, 518 U.S. 81, 100 (1996); *see also id.* (“The abuse-of-discretion standard includes review

to determine that the discretion was not guided by erroneous legal conclusions.”).

A

Apple argues that the verdict form improperly combined all asserted patents into a single infringement question and permitted the jury to find Apple liable for infringement regardless of whether all jurors agreed that Apple was infringing the same patent. According to Apple, asking whether Optis proved that Apple infringed *any* of the asserted claims would erroneously require an affirmative answer even in a situation where all jurors did not agree that the same patent was being infringed. We agree.

For infringement, both parties proposed breaking up the infringement questions by patent on the proposed verdict form. *See* J.A. 8264, 16315–16. The district court rejected both parties’ proposals and instead included a single question concerning infringement: “Did Optis prove by a preponderance of the evidence that Apple infringed **ANY** of the [a]sserted [c]laims?” J.A. 101 (emphasis in original). Apple objected to the court’s infringement question “because it does not break out infringement by patent.” J.A. 96 (948:7–8). The district court overruled Apple’s objection. J.A. 96 (948:10). In its supplemental motion for a new trial, Apple argued that the “verdict form separately violated Apple’s right to a unanimous verdict.” J.A. 16075 (capitalization omitted). The district court denied Apple’s post-judgment relief on the jury verdict unanimity issue. J.A. 183–85.⁵

⁵ Optis contends that Apple’s unanimity argument is forfeited. *See* Cross-Appellants’ Br. 13. We disagree. On this record, Apple did not forfeit its unanimity argument. The district court addressed the jury unanimity argument on the merits, which preserved the issue for appeal. *See*

The problem with the district court’s single infringement question is that it deprived Apple of its right to a unanimous verdict on each legal claim against it related to infringement. The verdict form instructed the jury to find Apple liable for infringement regardless of whether all jurors agreed that Apple was infringing the same patent. As long as each juror believed some claim of some patent was infringed, the jury was required to answer “Yes”—even if the various jurors believed that Apple was infringing a different asserted patent. In other words, the question whether Apple infringed “ANY” of the asserted claims erroneously required an affirmative answer even in a situation where all jurors did not agree that *the same patent* was being infringed.

The verdict form violated Apple’s right to jury unanimity on each legal claim against it. The Seventh Amendment preserves the right to a jury trial for “[s]uits at common law.” U.S. CONST. amend. VII. “Unanimity in jury verdicts is required where,” as here, the “Seventh Amendment[] appl[ies].” *Andres v. United States*, 333 U.S. 740, 748 (1948). Federal Rule of Civil Procedure 48 also states that “[u]nless the parties stipulate otherwise, the verdict must be unanimous.” Fed. R. Civ. P. 48(b). And “civil juries must ‘render unanimous verdicts on the ultimate issues of a given case[,]’ not just the final verdict itself.” *Jazzabi v. Allstate Ins. Co.*, 278 F.3d 979, 985 (9th Cir. 2002) (alteration in original) (footnote omitted). We agree with the Ninth Circuit that the “key” to a general verdict is “whether the jury announces *the ultimate legal result of each claim*.” *Zhang v. Am. Gem Seafoods, Inc.*, 339 F.3d 1020, 1031 (9th Cir. 2003) (emphasis added).

LaserDynamics, Inc. v. Quanta Comput., Inc., 694 F.3d 51, 70–71 (Fed. Cir. 2012) (applying Fifth Circuit law); *Garrriott v. NCsoft Corp.*, 661 F.3d 243, 249 (5th Cir. 2011).

In the patent context, “[e]ach patent asserted raises an independent and distinct cause of action,” and therefore “infringement must be separately proved as to each patent.” *Kearns v. Gen. Motors Corp.*, 94 F.3d 1553, 1555–56 (Fed. Cir. 1996). Optis alleged at least five separate causes of action by asserting infringement of five patents. Thus, each of the asserted patents defined a distinct cause of action with distinct asserted claims, not five alternative theories for a single common legal claim. The single infringement question on the verdict form fell short of the requirements for a general verdict. That single question improperly “interwove the [five] causes of action,” *Hager v. Gordon*, 171 F.2d 90, 93 (9th Cir. 1948), and required an affirmative answer even in a situation where all jurors did not agree that the same patent was being infringed. Here, to announce the ultimate legal result of each cause of action and to ensure a unanimous verdict, the verdict form needed to have included, at the very least, separate infringement questions for each asserted patent, just as the parties jointly requested of the court.⁶

None of the cases cited by Optis supports the district court’s choice to include a single infringement question covering multiple distinct asserted patents. For example, *Hoechst Celanese Corp. v. BP Chemicals Ltd.*, 78 F.3d 1575, 1577, 1581 (Fed. Cir. 1996), and *RLIS, Inc. v. Cerner Corp.*, 128 F. Supp. 3d 963, 965–66 (S.D. Tex. 2015), involved only one asserted patent. And while *Structural Rubber Products Co. v. Park Rubber Co.*, 749 F.2d 707, 709, 712, 720 (Fed. Cir. 1984), involved several asserted patents, the

⁶ We are not presented in this case with a question of whether the verdict form needed to be broken out on a claim-by-claim basis. The parties’ proposed verdict forms broke up the infringement questions on a patent-by-patent basis.

verdict form included “specific questions” on a patent-by-patent basis concerning infringement.

Optis also contends that the jury instructions remedy the unanimity issue. Cross-Appellants’ Br. 14–15. We disagree. The verdict form stated that the jury’s answers to each question must be unanimous, J.A. 98 (“Your answers to each question must be unanimous”), 106 (“You have now reached the end of the Verdict Form and should review it to ensure it accurately reflects your unanimous determinations.” (emphasis in original)), and the district court instructed the jury that its answers must be unanimous, J.A. 2716 (1058:19–20) (“I remind you, ladies and gentlemen, your answers and your verdict in this case must be unanimous.”), 2718 (1060:14–16) (“After you have reached a unanimous verdict, your foreperson is to fill out the answers to those questions in the verdict form reflecting your unanimous answers.”). On infringement, the jury was instructed as follows:

The first issue that you’re asked to decide is whether the Defendant, Apple, has infringed any of the asserted claims of the patents-in-suit. Infringement is assessed on a claim-by-claim basis. And the Plaintiffs, Optis, must show by a preponderance of the evidence that a claim has been infringed. Therefore, there may be infringement as to one claim but no infringement as to another claim.

J.A. 1187–88 (187:22–188:4); *see also* J.A. 2630–31 (972:22–973:1) (“[I]nfringement . . . is assessed on a claim-by-claim basis within each patent. Therefore, there may be infringement of a particular patent as to one claim, even if there is no infringement as to other claims in that patent.”).

The jury instructions’ and verdict form’s reference to unanimity do not remedy the unanimity issue with the infringement verdict form. The jury could have abided by the

verdict form and jury instructions and yet still believed that it need only be unanimous about the question asked on the verdict form—whether Apple infringed “**ANY**” of the asserted claims—and not whether Apple infringed the *same* patent. Nothing in the verdict form or the jury instructions instructed the jury that, to answer “Yes” to the infringement question, all jurors had to unanimously agree that the *same* patent was infringed. In fact, the jury could follow the court’s instruction that its answers and verdict must be unanimous, find different asserted patents infringed, and still would be required to answer “Yes” as to infringement.

Optis insists that we can be confident the jury was unanimous in finding all asserted claims were infringed because the \$506,200,000 award “corresponded *exactly* to the sum of the five numbers that Optis’s damages expert gave as the measure of damages for each patent.” Cross-Appellants’ Br. 5 (emphasis in original); *see also* Cross-Appellants’ Br. 1, 60. This argument is not persuasive. As discussed above, the assumption that the infringement jury verdict supports the conclusion that all five patents were unanimously found to be infringed is unfounded and not supported by the district court’s own infringement judgment, J.A. 134 (“Apple has infringed *one or more* of the [a]sserted [c]laims.”) (emphasis added). And the fact that the first damages verdict corresponds to the amount of damages Optis requested for all five asserted patents does not resolve the issue that the jury could have answered “Yes” to the infringement verdict question without unanimously agreeing that the same patent is infringed. Indeed, the jury could have reasonably understood the verdict sheet and instructions as directing it to add up its damages valuations associated with each claim even a single juror found infringed. Hence, we have no greater confidence that the jurors unanimously agreed on the total damages award than we do that the jurors unanimously agreed that every asserted claim was infringed.

For the foregoing reasons, here, the district court abused its discretion by asking a single infringement question covering five asserted patents. Thus, the infringement judgment is vacated.⁷

B

In view of our holding that a new trial is required on infringement, we must also vacate the damages retrial judgment awarding Optis \$300,000,000. Unless and until Optis proves infringement at a new trial, there is no infringement finding on which any damages can be awarded.

During the damages retrial,⁸ the district court instructed the jury, over Apple's objection, to assume all five asserted patents are infringed and to determine a single damages amount. *See* J.A. 203 (114:18–20) (instructing the jury “to decide what amount of money damages, if any, to be awarded to [Optis] as compensation for the infringement

⁷ There may be cases in which an issue of infringement is identical across more than one asserted patent such that a single infringement question does not run afoul the Seventh Amendment and Rule 48(b). That is not the case here.

⁸ The district court granted Apple's motion for a new trial as to damages because the court had excluded evidence of Optis's FRAND obligation, and “the verdict does not necessarily represent a FRAND royalty.” *Damages Retrial Order*, 2021 WL 2349343, at *4. That ruling was consistent with our case law. The asserted patents are undisputably FRAND-encumbered SEPs, *id.*, so any royalty award had to be FRAND. *See Ericsson*, 773 F.3d at 1231 (“The court therefore must inform the jury what [FRAND] commitments have been made and of its obligation (not just option) to take those commitments into account when determining a royalty award.”); *see also id.* at 1232.

of their five patents”). The verdict form asked “[w]hat sum of money, if any, paid by Apple now in cash, has Optis proven by a preponderance of the evidence would compensate Optis as a FRAND royalty for the damages resulting from infringement between February 25, 2019 and August 3, 2020.” J.A. 217. The jury awarded a lump sum of \$300,000,000. J.A. 217.

The district court erred by instructing the jury to assume infringement of every asserted patent. As discussed above, the infringement verdict form did not specify which asserted patent(s) were found to be infringed, and thus there was no finding that any particular asserted patent was infringed. As a result, Optis has been awarded damages for a scope of infringement that it has not proven and that the jury had not unanimously found.

For the foregoing reasons, we vacate the second damages judgment.⁹

⁹ On April 26, 2024, Apple moved to stay this appeal and Optis’s cross-appeal “until the completion of Optis’s appeal of the judgment issued by a U.K. court that has determined a license to Optis’s worldwide portfolio of declared standard essential patents (‘SEPs’), including the patents-in-suit.” ECF No. 44 at 1. We denied the motion. ECF No. 76. From February 25, 2025, to March 3, 2025, the English Court of Appeal heard oral argument. ECF No. 73. On May 1, 2025, eight days before this court held oral argument, the English Court of Appeal issued its decision. *Optis v. Apple*, [2025] EWCA (Civ) 552. The English Court of Appeal reversed the lower court’s \$56.43 million reasonable royalty and held that Apple must pay Optis \$502 million, with interest and fees, for a FRAND license to Optis’ LTE-related SEPs. In its opinion, the English Court of

II

For at least the sake of judicial efficiency, we address some of Apple's other liability-related arguments that may impact the proceedings of this case on remand. We address: (1) whether the district court correctly held claims 6 and 7 of the '332 patent are not directed to an abstract idea; (2) whether the district court correctly construed claim 8 of

Appeal summarizes the parties' position in the case currently before this court:

Apple's position on the US appeals is that the second jury verdict should be set aside and Optis should be awarded nothing. Optis's position is that the first jury verdict should be reinstated. Thus there are, broadly speaking, three possible outcomes: (i) Optis get[s] nothing; (ii) Optis get[s] \$300 million for the past and future; and (iii) Optis get[s] \$506.2 million for the past.

Id. ¶ 210. It also stated that, “[f]or present purposes . . . [the English Court of Appeal is] assuming that it will be maintained by the [U.S. Court of Appeals for the Federal Circuit] to the extent that one of the two jury awards is upheld. Comity dictates that the English courts should not interfere with such a judgment save for compelling reasons, but there is no compelling reason in the circumstances of this case.” *Id.* ¶ 258. On May 30, 2025, the English Court of Appeal issued an Order and annexed license. ECF No. 98 at 1. It then issued a corrected version of the Order on June 2, 2025. ECF No. 98 at 1. Based on our conclusions here—that both the infringement and second damages judgments are vacated and the original verdict of \$506,200,000 is not reinstated—we do not know how this opinion affects the English Court of Appeal's decisions.

the '833 patent; and (3) whether claim 1 of the '557 patent invokes § 112 ¶ 6.¹⁰

A

We start with Apple's argument that the district court erroneously concluded that claims 6 and 7 of the '332 patent are not directed to an abstract idea. We agree.

We apply the law of the regional circuit to issues not specific to patent law. *LaserDynamics*, 694 F.3d at 66. Here, under Fifth Circuit law, we review decisions on motions for summary judgment de novo. *Id.* 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.*

Claim 6 of the '332 patent is reproduced below:

A user equipment (UE) for decoding control information, the UE comprising:

a receiver for receiving a Physical Downlink Control Channel (PDCCH) from a base station at subframe k; and

a decoder for decoding a set of PDCCH candidates within a search space of the PDCCH at the subframe k, wherein each of the set of PDCCH candidates comprises 'L' control channel elements (CCEs),

¹⁰ We do not address Apple's remaining liability-related arguments, such as whether Optis failed to prove infringement of any of the asserted patents (*see* Appellant's Br. 12–20, 24–31, 36–39, 44–48), because we vacate the infringement judgment.

wherein the ‘L’ CCEs corresponding to a specific PDCCH candidate among the set of PDCCH candidates of the search space at the subframe k are contiguously located from a position given by using a variable of Y_k for the subframe k and a modulo ‘C’ operation, wherein ‘C’ is determined as ‘ $\text{floor}(N/L)$ ’, wherein ‘N’ represents a total number of CCEs in the subframe k , and

wherein Y_k is defined by:

$$Y_k = (A * Y_{k-1}) \bmod D,$$

wherein A, and D are predetermined constant values.

’332 patent claim 6. Claim 7 depends from claim 6 and adds only the limitation that the variables A and D are specific numbers. *Id.* at claim 7 (“The UE of claim 6, wherein A and D are 39827 and 65537, respectively”).

Apple moved for summary judgment, arguing that claims 6 and 7 were invalid under § 101. The district court denied Apple’s motion. The district court found: “[T]he claims are not abstract. They’re not directed merely to an equation. The [c]ourt’s persuaded that they’re directed to applying the equation in a way that offers a technological improvement.” J.A. 60 (98:11–15); *see also* J.A. 67.

“Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.” 35 U.S.C. § 101. “Laws of nature, natural phenomena, and abstract ideas,” in contrast, “are not patentable.” *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 589 (2013).

To determine whether an invention claims ineligible subject matter, we engage in a two-step process established

by the Supreme Court in *Alice*. *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 573 U.S. 208 (2014). At *Alice* step one, we “determine whether the claims at issue are directed to a patent-ineligible concept,” such as an abstract idea. *Id.* at 218. At *Alice* step two, 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.” *Id.* at 217 (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 78–79 (2012)). “We have described step two of this analysis as a search for an ‘inventive concept’—*i.e.*, an element or combination of elements that is ‘sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.’” *Id.* at 217–18 (alteration in original) (quoting *Mayo*, 566 U.S. at 72–73).

We must first determine under *Alice* step one whether claims 6 and 7 of the ’332 patent are directed to a patent-ineligible concept. We conclude that the claims are directed to an abstract idea—a mathematical formula. Optis’s arguments to the contrary are unpersuasive.

To determine whether a claim is “directed to” a patent ineligible concept, we evaluate “the focus of the claimed advance over the prior art to determine if the claim’s character as a whole is directed to excluded subject matter.” *PersonalWeb Techs. LLC v. Google LLC*, 8 F.4th 1310, 1315 (Fed. Cir. 2021) (cleaned up). “[W]hile 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 in identifying that focus.” *ChargePoint, Inc. v. SemaConnect, Inc.*, 920 F.3d 759, 766 (Fed. Cir. 2019).

With these principles in mind, we turn to the claims at issue in this case. Claims 6 and 7 of the ’332 patent are directed to using an equation to calculate the start position from which a UE, such as a mobile device, will begin

searching for information to decode in a control channel of a cellular network. To calculate the start position, the claims recite the mathematical equation “ $Y_k = (A * Y_{k-1}) \bmod D$, wherein A, and D are predetermined constant values,” and “a modulo ‘C’ operation, wherein ‘C’ is determined as $\text{floor}(N/L)$.” ’332 patent claims 6–7. The purported advancement of the ’332 patent over the prior art is the use of the claimed equation. *Id.* at col. 2 ll. 19–20 (explaining that the ’332 patent “provid[es] a technology for efficiently setting a different start position of a search space for each UE”).

We conclude that claims 6 and 7 of the ’332 patent are directed to the abstract idea of a mathematical formula. “Courts have long held that mathematical algorithms for performing calculations, without more, are patent ineligible under § 101.” *In re Bd. of Trs. of Leland Stanford Junior Univ.*, 991 F.3d 1245, 1250 (Fed. Cir. 2021); *see also Mayo*, 566 U.S. at 89 (“[T]he cases have endorsed a bright-line prohibition against patenting laws of nature, mathematical formulas, and the like.”); *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1256 (Fed. Cir. 2014) (“We know that mathematical algorithms, including those executed on a generic computer, are abstract ideas.”); *Parker v. Flook*, 437 U.S. 584, 595 (1978) (“[I]f a claim is directed essentially to a method of calculating, using a mathematical formula, even if the solution is for a specific purpose, the claimed method is nonstatutory.” (cleaned up)); *Gottschalk v. Benson*, 409 U.S. 63, 71–72 (1972) (finding claims patent ineligible because they “would wholly preempt the mathematical formula and in practical effect would be a patent on the algorithm itself.”).

The district court held that the claims were not abstract because they were “directed to applying the equation in a way that offers a technological improvement.” J.A. 60 (98:13–15). Optis also argues on appeal that “[t]he recited equation [in the claims] is . . . a means to achieve the end goal of more efficient UE-base station communication.”

Cross-Appellants’ Br. 20. We disagree with both the district court and Optis. Here, the claims are directed to reciting an equation that outputs a value to be used as the specific start position for decoding information in a cellular network. This is an ineligible mathematical formula. See *Digitech Image Techs., LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344, 1351 (Fed. Cir. 2014) (“Without additional limitations, a process that employs mathematical algorithms to manipulate existing information to generate additional information is not patent eligible.”). Thus, we reverse the district court’s conclusion that claims 6 and 7 of the ’332 patent are not directed to an abstract idea and hold the claims are directed to the abstract idea of using a mathematical formula.

The district court did not reach *Alice* step two because it concluded that the claims were not directed to an abstract idea. Apple argues that, if we agree the claims are directed to an abstract idea, then the claims also fail at *Alice* step two. Apple contends that the “non-formula elements (separately or together) lack any inventive concept” and the UE, receiver, and decoder recited in the claims “were indisputably well-understood, routine, and conventional.” Appellant’s Br. 23. Optis responds that if this court reaches the *Alice* step two inquiry, then a remand is necessary because “the trial record is more than sufficient to show that the claims of the ’332 patent were not well-understood, routine, or conventional.” Cross-Appellants’ Br. 20–21. We conclude that, in this case, remand is required for the court to conduct the *Alice* step two analysis in the first instance.

At *Alice* step two, the court must examine the elements of each claim, both individually and as an ordered combination, to determine whether it contains an “inventive concept,” beyond what was “well-understood,” “routine,” and “conventional,” that transforms the nature of the claim into a patent-eligible application. *Alice*, 573 U.S. at 217, 225. The issue of “[w]hether something is well-understood,

routine, and conventional to a skilled artisan at the time of the patent is a factual determination.” *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1369 (Fed. Cir. 2018). The *Alice* step two analysis requires “a search for an inventive concept—i.e., an element or combination of elements that is sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.” *Alice*, 573 U.S. at 217–18 (cleaned up). And “[t]he abstract idea itself cannot supply the inventive concept, ‘no matter how groundbreaking the advance.’” *Trading Techs. Int’l, Inc. v. IBG LLC*, 921 F.3d 1378, 1385 (Fed. Cir. 2019) (quoting *SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1170 (Fed. Cir. 2018)). On remand, the court must determine whether claims 6 and 7 of the ’332 patent contain any inventive concept beyond the abstract idea of the claimed mathematical formula.¹¹

B

Next, we address Apple’s argument that the district court erroneously construed claim 8 of the ’833 patent. We disagree.

¹¹ If on remand the district court chooses to have the jury decide whether what Optis alleges is the inventive concept is well-understood, routine, and conventional, then the jury should be instructed what the abstract idea is (i.e., a mathematical formula) and that the abstract idea cannot contribute to the inventive concept. “[T]he relevant inquiry is not whether the claimed invention as a whole is unconventional or non-routine,” but “whether the claim limitations other than the invention’s use of the ineligible concept to which it was directed were well-understood, routine and conventional.” *BSG Tech LLC v. Buyseasons, Inc.*, 899 F.3d 1281, 1290 (Fed. Cir. 2018).

“Claim construction is an issue of law reviewed de novo,” *Ericsson*, 773 F.3d at 1214, and “any underlying factual determinations are reviewed for clear error,” *Azurity Pharms., Inc. v. Alkem Labs. Ltd.*, 133 F.4th 1359, 1363 (Fed. Cir. 2025).

The ’833 patent relates to a method of transmitting up-link control signals, and in particular transmission of ACK and NACK signals that indicate the receipt status of transmissions. The relevant claim limitation recites:

the processor mapping ACK/NACK control signals to specific columns of the 2-dimensional resource matrix, wherein the specific columns correspond to SC-FDMA symbols right adjacent to the specific SC-FDMA symbols, *wherein the ACK/NACK control signals overwrite some of the multiplexed signals mapped to the 2-dimensional resource matrix from the last row of the specific columns.*

’833 patent claim 8 (emphasis added). The district court construed “the ACK/NACK control signals overwrite some of the multiplexed signals mapped to the 2-dimensional resource matrix from the last row of the specific columns” limitation (“the mapping limitation”) to mean “(1) some of the multiplexed signals, from the last row of the specific columns of the 2-dimensional resource matrix, are skipped and the corresponding ACK/NACK signals are mapped, and (2) the length of the entire information is maintained equally even after the ACK/NACK control signals are inserted.” *Claim Construction Order*, 2020 WL 1692968, at *26. In construing this limitation, the district court reiterated the ruling of another district court’s opinion that previously construed the same claim term in the same patent. *See Optis Cellular Tech., LLC v. Kyocera Corp.*, No. 16-0059, 2017 WL 541298, at *16–19 (E.D. Tex. Feb. 19, 2017). There, the district court found the mapping limitation does not mandate a starting position. *Id.* at *19.

Apple argues that the mapping limitation requires that mapping *begin from* the last row of a matrix and proceed toward the first row, not—as the district court found—that the system merely map cells *in* the last row. We disagree with Apple and affirm the district court’s construction of the mapping limitation.

The claim language merely requires that the “ACK/NACK” signals overwrite “some” of the signals “from the last row of the specific columns.” ’833 patent claim 8. Nothing in the claim language mandates that the overwriting must start in the last row. The specification also does not provide any clear statements of lexicography or disclaimer requiring a starting location. *See GE Lighting Sols., LLC v. AgiLight, Inc.*, 750 F.3d 1304, 1309 (Fed. Cir. 2014) (“[T]he specification and prosecution history only compel departure from the plain meaning in two instances: lexicography and disavowal.”).

For the foregoing reasons, we affirm the district court’s construction of the mapping limitation.

C

We next address Apple’s indefiniteness argument—whether “selecting unit” in claim 1 of the ’557 patent invokes § 112 ¶ 6, and if the term is governed by § 112 ¶ 6, whether the claim is indefinite. “Regarding questions of claim construction, including whether claim language invokes [§ 112 ¶ 6], the district court’s determinations based on evidence intrinsic to the patent as well as its ultimate interpretations of the patent claims are legal questions that we review *de novo*.” *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1346 (Fed. Cir. 2015).

The disputed claim limitation recites:

a *selecting unit* configured to randomly select a sequence from a plurality of sequences contained in one group of a plurality of groups, into which a

predetermined number of sequences that are generated from a plurality of base sequences are grouped and which are respectively associated with different amounts of data or reception qualities, wherein the predetermined number of sequences are grouped by partitioning the predetermined number of sequences, in which sequences generated from the same base sequence and having different cyclic shifts are arranged in an increasing order of the cyclic shifts.

'557 patent claim 1 (emphasis added).

The district court found “selecting unit” did not invoke § 112 ¶ 6 based on its construction in *Optis Wireless Technology, LLC v. ZTE Corp.*, No. 15-300, 2016 WL 1599478, at *39–41 (E.D. Tex. Apr. 20, 2016) (“*ZTE Opinion*”). *Claim Construction Order*, 2020 WL 1692968, at *20–22. As discussed further below, we (1) reverse the district court and determine that “selecting unit” invokes § 112 ¶ 6; and (2) remand for further proceedings consistent with this opinion.

“The first step of a § 112 ¶ 6 analysis is to determine whether the claim term at issue is in means-plus-function format.” *Fintiv*, 134 F.4th at 1381. When the claim term at issue does not use the word “means,” there is a rebuttable presumption that § 112 ¶ 6 does not apply. *Williamson*, 792 F.3d at 1348 (en banc in relevant part). That presumption “can be overcome and [§ 112 ¶ 6] will apply if the challenger demonstrates that the claim term fails to ‘recite[] sufficiently definite structure’ or else recites ‘function without reciting sufficient structure for performing that function.’” *Id.* (second alteration in original) (quoting *Watts v. XL Sys., Inc.*, 232 F.3d 877, 880 (Fed. Cir. 2000)); see also *id.* at 1349.

Here, the word “unit” does not sufficiently connote structure and is similar to other terms that we have held to be nonce terms similar to “means” and invoke § 112 ¶ 6. *See, e.g., Diebold Nixdorf, Inc. v. ITC*, 899 F.3d 1291, 1297 (Fed. Cir. 2018) (concluding that “cheque standby unit” invokes § 112 ¶ 6); *see also MTD Prods. Inc. v. Iancu*, 933 F.3d 1336, 1341 (Fed. Cir. 2019) (“Generic terms like ‘module,’ ‘mechanism,’ ‘element,’ and ‘device’ are commonly used as verbal constructs that operate, like ‘means,’ to claim a particular function rather than describe a ‘sufficiently definite structure.’”); Manual of Patent Examining Procedure § 2181 (including “unit for” on its list of “non-structural generic placeholders that may invoke 35 U.S.C. § 112[¶ 6].”). Although claim language that further defines a generic term may add structure sufficient to avoid invoking § 112 ¶ 6 treatment, there is no such language here. The term modifying “unit” (i.e., “selecting”) and the surrounding terms (i.e., “configured to randomly select”) are functional and do not supply a “sufficiently definite” structure, as required by *Williamson*, 732 F.3d at 1349. We thus determine that “selecting unit” in the claim at issue here invokes § 112 ¶ 6.

The district court cites to another district court opinion—the *ZTE Opinion*—to support its finding that “selecting unit” does not invoke § 112 ¶ 6. In the *ZTE Opinion*, the district court found “selecting unit” in claim 1 of the ’557 patent—the same patent at issue on appeal—does not invoke § 112 ¶ 6. *ZTE Opinion*, 2016 WL 1599478, at *41. The court reasoned that “the objective” of the claim term is to “select a sequence” by “randomly selecting from a plurality of sequences that are contained in one group of a plurality of groups of a specific structure” and then transmitting the selecting sequence “via the transmitting unit.” *Id.* at *40 (cleaned up). It also stated:

[T]he “selecting unit” is configured to randomly select a sequence from a plurality of sequences contained in a specifically structured group of groups

of sequences and the “transmitting unit” is configured to transmit the selected sequence. So, the “selecting unit” is connected to the “transmitting unit” in such a way so as to enable the transmitting unit to transmit the sequence selected by the “selecting unit.”

Id. We disagree with the reasoning of the district court in the *ZTE Opinion* for several reasons. First, the district court merely lists the functions of “selecting unit,” and does not specify any structure showing *how* “selecting unit” operates. *See id.* at *40–41. Second, “[w]hile portions of the claim do describe certain inputs and outputs at a very high level,” the claim does not describe how “selecting unit” “interacts with other components . . . in a way that might inform the structural character of the limitation-in-question or otherwise impart structure to [selecting unit].” *See Williamson*, 792 F.3d at 1351. Third, the “connect[ion]” between the “selecting unit” and “transmitting unit” identified in the *ZTE Opinion* also does not impart any particular structure. Fourth, while the court found the “fundamental structure of the unit as a[n electronic] circuit,” *ZTE Opinion*, 2016 WL 1599478, at *41, the purported structure is contradicted by Optis’s own arguments here. Optis argues that “selecting unit” “may be implemented in *either* hardware *or* software.” Cross-Appellants’ Br. 38 n.9 (emphasis in original). Accordingly, we determine “selecting unit” invokes § 112 ¶ 6.

Having determined that “selecting unit” invokes § 112 ¶ 6, we conclude that in this case, remand is appropriate for the district court to conduct the second step of the analysis—determining whether the specification discloses adequate corresponding structure—in the first instance.

III

Next, we address Apple’s challenge to the admissibility of the Apple-Qualcomm settlement agreement, J.A. 26243–26365, and Optis’s damages expert’s—Mr. David

Kennedy—testimony regarding that agreement.¹² For the reasons below, we determine that the district court abused its discretion by admitting into evidence the Apple-Qualcomm settlement agreement and Mr. Kennedy’s testimony concerning that agreement.

We apply the law of the regional circuit, here the Fifth Circuit, for issues not unique to patent law. *LaserDynamics*, 694 F.3d at 66. Evidentiary rulings are reviewed for an abuse of discretion. *Id.*; see also *Industrias Magromer Cueros y Pieles S.A. v. La. Bayou Furs Inc.*, 293 F.3d 912, 924 (5th Cir. 2002). “The Fifth Circuit reviews the trial court’s admission or exclusion of expert testimony for an abuse of discretion.” *Ericsson*, 773 F.3d at 1225.

In April 2019, Apple paid Qualcomm a large figure to settle worldwide litigation.¹³ J.A. 26243–26365. The settlement agreement did not include any of the asserted patents. Before the second damages trial, Apple filed a motion *in limine* seeking to exclude all reference to the Apple-Qualcomm settlement agreement. J.A. 8418–20. Apple argued the settlement agreement was irrelevant and should be excluded “because any alleged relevance is outweighed by the substantial risk of confusion and unfair prejudice to Apple.” J.A. 8420. The district court denied Apple’s motion. J.A. 195. The district court also denied Apple’s motion to preclude expert testimony and opinions

¹² We do not opine on Apple’s other damages-related arguments, such as the admissibility of the Apple-Qualcomm licensing agreement (J.A. 25899–26242), Apple’s general profitability in the cellular industry, and the parties’ settlement negotiations. These issues may or may not arise again during the remand proceedings.

¹³ Because the Apple-Qualcomm settlement agreement number has been designated confidential, we do not state the numerical value of the agreement here.

of Mr. Kennedy concerning the Apple-Qualcomm settlement agreement. *Optis*, 2022 WL 22913390, at *6–7.

On appeal, Apple argues that Mr. Kennedy’s testimony concerning the settlement agreement was “irrelevant and unreliable because [Mr.] Kennedy admitted the agreement[was] not economically comparable to the hypothetical negotiation’s determination of a FRAND license” and his “emphasis on the agreement[’s] large noncomparable figures unfairly prejudiced Apple.” Appellant’s Br. 58. Optis responds that this agreement was “technically comparable” to the asserted patents and Mr. Kennedy “applied the same methodology Apple’s damages expert had used in settlement arrangements of this type to assess how much Apple paid for a license to each of the comparable Qualcomm patents.” Cross-Appellants’ Br. 63. Notably, Optis did not address, on appeal, Apple’s argument that the settlement agreement was unfairly prejudicial to Apple.

Federal Rule of Evidence 403 states:

The court may exclude relevant evidence if its probative value is substantially outweighed by a danger of one or more of the following: unfair prejudice, confusing the issues, misleading the jury, undue delay, wasting time, or needlessly presenting cumulative evidence.

Fed. R. Evid. 403. “The propriety of using prior settlement agreements to prove the amount of a reasonable royalty is questionable,” though they may be used to establish reasonable royalties “under certain limited circumstances,” such as where the settlement agreement is “the most reliable license in [the] record.” *LaserDynamics*, 694 F.3d at 77–78 (concluding that the district court abused its discretion by admitting the settlement agreement that had “very little relation to demonstrated economic demand for the patented technology” and excluding the agreement on Rule 403 grounds); *see also ResQNet.com, Inc. v. Lansa, Inc.*, 594 F.3d 860, 869 (Fed. Cir. 2010) (“This court has long

required district courts performing reasonable royalty calculations to exercise vigilance when considering past licenses to technologies *other* than the patent in suit.” (emphasis in original)).

The Apple-Qualcomm settlement agreement is not the most reliable license in the record, and its probative value appears minimal. The scope of the patent rights under the settlement agreement was far greater than the hypothetical license to the five asserted patents in this case, and the agreement settled global litigation between Apple and Qualcomm, including matters spanning patent, antitrust, tortious-interference, and trade-secret claims. Mr. Kennedy failed to meaningfully account for these differences in scope. Moreover, Mr. Kennedy opined that the settlement agreement is “*informative and would be a consideration* for [Optis] in the [h]ypothetical [n]egotiation,” but that “[n]one of the Apple licenses here are sufficiently comparable to the [h]ypothetical [l]icense for use as a *direct indication* of a reasonable royalty rate.” J.A. 7512 (¶ 416) (emphasis modified).

Additionally, it was highly prejudicial to Apple for Optis (and Mr. Kennedy) to repeatedly recite the large settlement figure given “the probative value of the [Apple-Qualcomm settlement agreement] is dubious.” *LaserDynamics*, 694 F.3d at 78. In fact, Optis posted the large settlement figure on trial slides and emphasized the dollar amount to the jury several times. *See, e.g.*, J.A. 3540–41; J.A. 8810–11. “[D]istrict courts must assess the extent to which the proffered testimony, evidence, and arguments would skew unfairly the jury’s ability to apportion the damages to account only for the value attributable to the infringing features.” *Ericsson*, 773 F.3d at 1228. Here, Optis’s and Mr. Kennedy’s use of the large settlement figure unfairly skewed the jury’s damages horizon. This is true notwithstanding the fact that Mr. Kennedy purported to use the Apple-Qualcomm settlement agreement only as a check or “ballpark” to suggest his \$506 million damages

opinion was reasonable. *See* J.A. 3542 (180:13–17); ECF No. 99 at 2; *see also Uniloc USA, Inc. v. Microsoft Corp.*, 632 F.3d 1292, 1321 (Fed. Cir. 2011) (affirming district court granting new trial where patentee used billion-dollar figure “as a check” to improperly “lend[] legitimacy to the reasonableness of [its] \$565 million damages calculation”). Accordingly, the probative value of the Apple-Qualcomm settlement agreement and Mr. Kennedy’s testimony concerning the same is substantially outweighed by the risk of unfair prejudice and, therefore, the settlement agreement should be excluded from the proceedings on remand. *See LaserDynamics*, 694 F.3d at 78 (excluding settlement agreement on Rule 403 grounds); *cf. Uniloc*, 632 F.3d at 1320 (“The disclosure that a company has made \$19 billion dollars in revenue from an infringing product cannot help but skew the damages horizon for the jury, regardless of the contribution of the patented component to this revenue.”); *VirnetX, Inc. v. Cisco Sys., Inc.*, 767 F.3d 1308, 1327 (Fed. Cir. 2014) (similar).¹⁴

IV

Optis cross-appealed and argues that the first damages verdict of \$506,200,000¹⁵ was not erroneous and should be reinstated. Cross-Appellants’ Br. 52–59; Cross-Appellants’ Reply Br. 3–28. Because we vacate both the infringement and second damages judgments and the first damages judgment presented the same verdict form issue as discussed in Section I of this opinion’s Discussion, we dismiss

¹⁴ We do not address Apple’s arguments concerning whether the Apple-Qualcomm settlement agreement is admissible under Federal Rule of Evidence 703.

¹⁵ The district court vacated the \$506,200,000 damages judgment because it held that it had erred in excluding evidence of Optis’s contractual obligation to license its patents on FRAND terms. *See Damages Retrial Order*, 2021 WL 2349343, at *4.

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Optis's cross-appeal and need not reach the arguments it raised.

CONCLUSION

For the foregoing reasons, we vacate both the infringement and damages judgments and remand for proceedings consistent with this opinion. We dismiss Optis's cross-appeal and need not reach the arguments it raised. We also reverse the district court's finding that (1) claims 6 and 7 of the '332 patent are not directed to an abstract idea under 35 U.S.C. § 101; and (2) claim 1 of the '557 patent does not invoke § 112 ¶ 6. We affirm the district court's construction of claim 8 of the '833 patent. And, we conclude that the district court abused its discretion by admitting into evidence the Apple-Qualcomm settlement agreement and Optis's damages expert's testimony concerning that settlement agreement.

**AFFIRMED-IN-PART, REVERSED-IN-PART AND
VACATED AND REMANDED AS TO THE MAIN
APPEAL; DISMISSED AS TO THE CROSS-APPEAL**

COSTS

Costs to Apple.