

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

SOLAS OLED LTD.,

Plaintiff,

v.

SAMSUNG DISPLAY CO., LTD.,
SAMSUNG ELECTRONICS CO., LTD.,
SAMSUNG ELECTRONICS AMERICA,
INC.,

Defendants.

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CIVIL ACTION NO. 2:19-CV-00152-JRG

MEMORANDUM OPINION AND ORDER

Before the Court are the following motions filed by Defendants Samsung Display Co., Ltd. (“SDC”), Samsung Electronics Co., Ltd. (“SEC”), and Samsung Electronics America, Inc. (“SEA”) (collectively, “Defendants” or “Samsung”):

1. **Defendants’ Rule 50(b) Motion for Judgment as a Matter of Law of Non-Infringement, No Willful Infringement, and Invalidity of the Asserted Claims of the ’311 Patent** (the “’311 JMOL Motion”) (Dkt. No. 371);
2. **Defendants’ Rule 50(b) Motion for Judgment as a Matter of Law of Non-Infringement of the Asserted Claims of the ’338 Patent** (the “’338 JMOL Motion”) (Dkt. No. 372);
3. **Defendants’ Rule 50(b) Motion for Judgment as a Matter of Law of No Damages** (the “Damages JMOL Motion”) (Dkt. No. 373); and
4. **Defendants’ Rule 59 Motion for New Trial** (the “Motion for New Trial”) (Dkt. No. 374).

Having considered these Motions, and for the reasons stated herein, the Court finds that such Motions should each be **DENIED**.

I. BACKGROUND

Plaintiff Solas OLED Ltd. (“Plaintiff” or “Solas”) filed suit against Defendants, alleging that Samsung’s Galaxy products¹ (the “Accused Products”) infringe U.S. Patent Nos. 6,072,450 (the “’450 Patent”), 7,446,338 (the “’338 Patent”), and 9,256,311 (the “’311 Patent”). (Dkt. Nos. 1, 15). A jury trial was held beginning on March 1, 2021. (Dkt. No. 343). At the close of evidence, the parties moved for judgment as a matter of law (“JMOL”) pursuant to Federal Rule of Civil Procedure 50(a). (*See* Dkt. No. 352). Among the Rule 50(a) motions heard by the Court were Defendants’ motions of non-infringement, no willful infringement, and invalidity of the Asserted Claims of the ’311 Patent, non-infringement of the Asserted Claims of the ’338 Patent, and no damages. (*See id.* at 788:22–789:5).

On March 8, 2021, the jury returned a verdict finding that Defendants infringed one or more claims asserted by Plaintiff, such claims being Claims 4 and 5 of the ’450 Patent, Claims 5 and 9 of the ’338 Patent, and Claims 7 and 12 of the ’311 Patent (collectively, the “Asserted Claims”); that Claims 4 and 5 of the ’450 Patent are invalid; that Defendants’ infringement of the ’311 Patent was willful; and that Plaintiff was entitled to \$27,326,497.00 for infringement of the ’338 Patent and \$35,412,046.00 for infringement of the ’311 Patent, in the form of a lump-sum reasonable royalty. (Dkt. No. 341). The Court entered a Final Judgment reflecting the jury’s

¹ For the ’450 Patent, the Accused Products were the Samsung Galaxy S8, Galaxy Note 3, Galaxy Note 4, Galaxy Note 4 Edge, Galaxy Note 5, Galaxy Note 8, Galaxy S4, Galaxy S5, Galaxy S7, Galaxy S7 Edge, and Galaxy S8 Plus (the “’450 Patent Accused Products”). (Dkt. No. 863:23–864:1). For the ’338 Patent, the Accused Products were the Samsung Galaxy S8, Galaxy Note 3, Galaxy Note 4, Galaxy Note 4 Edge, Galaxy Note 5, Galaxy Note 8, Galaxy Note 9, Galaxy S4, Galaxy S5, Galaxy S6 Edge Plus, Galaxy S8 Plus, Galaxy S9, and Galaxy S9 Plus (the “’338 Patent Accused Products”). (*Id.* at 864:2–6). For the ’311 Patent, the Accused Products were the Samsung Galaxy S9, Galaxy Note 9, Galaxy Note 10, Galaxy Note 10 Plus, Galaxy S8, Galaxy S9 Plus, Galaxy S10, Galaxy S10 Plus, Galaxy S10 5G, Galaxy S20, Galaxy S20 Plus, Galaxy S20 Ultra, and Galaxy Z Flip (the “’311 Patent Accused Products”). (*Id.* at 864:7–11).

unanimous verdict and additionally enhancing the damages award in the amount of \$15,000,000.00 pursuant to 35 U.S.C. § 284. (Dkt. No. 356).

II. DEFENDANTS' JMOL MOTIONS

Pursuant to Federal Rule of Civil Procedure 50(b), Defendants filed JMOL Motions seeking judgment as a matter of law of: (1) non-infringement, no willful infringement, and invalidity of the Asserted Claims of the '311 Patent; (2) non-infringement of the Asserted Claims of the '338 Patent; and (3) no damages. (*See* Dkt. Nos. 371, 372, 373). The Court finds that substantial evidence exists within the record supporting the jury's verdict on each of the grounds raised by Defendants, and consequently the Motions should be denied and the jury's verdict reaffirmed.

a. Legal Standard

“Judgment as a matter of law is proper when ‘a reasonable jury would not have a legally sufficient evidentiary basis to find for the party on that issue.’” *Abraham v. Alpha Chi Omega*, 708 F.3d 614, 620 (5th Cir. 2013) (quoting Fed. R. Civ. P. 50(a)). The non-moving party must identify “substantial evidence” to support its positions. *TGIP, Inc. v. AT&T Corp.*, 527 F. Supp. 2d 561, 569 (E.D. Tex. 2007). “Substantial evidence is more than a mere scintilla. It means such relevant evidence as a reasonable mind might accept as adequate to support a conclusion.” *Eli Lilly & Co. v. Aradigm Corp.*, 376 F.3d 1352, 1363 (Fed. Cir. 2004).

“The Fifth Circuit views all evidence in a light most favorable to the verdict and will reverse a jury's verdict only if the evidence points so overwhelmingly in favor of one party that reasonable jurors could not arrive at any contrary conclusion.” *Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc.*, 880 F.3d 1356, 1361 (Fed. Cir. 2018) (citing *Bagby Elevator Co. v. Schindler Elevator Corp.*, 609 F.3d 768, 773 (5th Cir. 2010)). A court 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, 937–38 (5th Cir. 2006).

b. Discussion

1. THE '311 JMOL MOTION

i. Direct Infringement

Defendants argue that they are entitled to judgment as a matter of law on the basis that Plaintiff did not present sufficient evidence to support a finding of direct infringement of the '311 Patent. (Dkt. No. 371 at 2–9). Defendants provide four arguments to support their position: first, that the '311 Patent Accused Products do not infringe because they do not have a “substantially flexible substrate” and “touch sensor” that are “configured to wrap around one or more edges of a display”; second, that the '311 Patent Accused Products do not infringe because they do not have the type of “substrate” required by Claims 7 and 12 of the '311 Patent; third, that the Galaxy Z Flip does not infringe Claims 7 and 12 of the '311 Patent; and fourth, that Plaintiff failed to provide particularized evidence that each device infringed the Asserted Claims of the '311 Patent. (*See id.*).

a. “substantially flexible substrate and . . . touch sensor configured to wrap around one or more edges of a display”

Claims 7 and 12 of the '311 Patent contain the claim limitation “substantially flexible substrate and . . . touch sensor configured to wrap around one or more edges of a display.” (Dkt. No. 1-2 (the “'311 Patent”) at 9:44–6, 10:22–24). “Configured to wrap around one or more edges of a display” was construed by the Court to mean “configured to wrap around one or more intersections between two or more surfaces of a display.” (Dkt. No. 99 at 28). Defendants argue that no reasonable jury could have concluded that the '311 Patent Accused Products could have

met this limitation because the evidence at trial showed that, except for the Galaxy Z Flip, the touch sensors were formed over the top surface of a flat display and the sensor and display panel were adhered to a glass cover window that is flat with a slight curvature at each end. (Dkt. No. 371 at 3) (citing Dkt. No. 351 at 115:2–12, 117:5–24, 119:6–12; Dkt. No. 349 at 112:16–113:2, 125:18–126:1). Defendants argue that Plaintiff’s theory that the curvature in the display was sufficient to meet the “edge” limitation was inconsistent with the specification of the ’311 Patent and the Court’s construction. (*Id.* at 4–7). Defendants cite the Court’s Claim Construction Order, in which the Court noted that “the patentee distinguished between wrapping around an ‘edge’ and wrapping around ‘a pebble-shaped or curved device,’” and construing the term such that “an ‘edge’ is an intersection between surfaces.” (*Id.* at 5–6) (citing Dkt. No. 99 at 27).

In response, Plaintiff points to the Court’s rejection of Defendants’ Motion for Summary Judgment on the issue of whether the ’311 Patent Accused Products are “configured to wrap around one or more edges of a display.” (Dkt. No. 385 at 1) (citing Dkt. No. 142 at 5–15; Dkt. No. 252). Plaintiff further argues that it presented substantial evidence that the ’311 Patent Accused Products satisfy the limitation, including that the displays included a flat surface, a curved surface, and an intersection between the two. (*Id.* at 2) (citing DTX-989; DTX-892; Dkt. No. 379-2 at 31, 52; Dkt. No. 347 at 16:1–14, 19:23–20:19, 21:1–24:4). Plaintiff additionally raises an issue with respect to whether Defendants adequately raised their argument in their Rule 50(a) motion. (*Id.* at 4).

Defendants argue in their reply brief that their arguments were not waived. (Dkt. No. 388 at 1–2). Defendants argue that they in fact moved pursuant to Rule 50(a) on the basis that the ’311 Patent Accused Products did not have a display with an intersection between separate surfaces, orally and by written motion, which was sufficient to preserve the issue under the Fifth Circuit’s

liberal standard. (*Id.*) (citing *W. Union Co. v. MoneyGram Payment Sys., Inc.*, 626 F.3d 1361, 1367 (Fed. Cir. 2010); Dkt. No. 352 at 800:9–24; Dkt. No. 335 at 10–12). As a threshold matter, the Court finds that Defendants’ Rule 50(b) arguments were not waived at the Rule 50(a) stage. The purposes of Rule 50(a) motions are “to alert the court to the party’s legal position and to put the opposing party on notice of the moving party’s position as to the insufficiency of the evidence,” particularly when applying “the Fifth Circuit’s practice of liberally construing the rule.” *Blackboard, Inc. v. Desire2Learn, Inc.*, 574 F.3d 1371, 1380 (Fed. Cir. 2009) (internal citations omitted). Defendants raised, at a high level, their non-infringement arguments for the ’311 Patent in their oral Rule 50(a) motion before the Court.² (*See* Dkt. No. 352 at 799:13–801:24).

The Court finds that Plaintiff presented substantial evidence that the ’311 Patent Accused Products contain a “substantially flexible substrate” and “touch sensor” that are “configured to wrap around one or more edges of a display.” As noted, the Court construed “configured to wrap around one or more edges of a display” to mean “configured to wrap around one or more intersections between two or more surfaces of a display.” (Dkt. No. 99 at 28). The Court’s construction considered the distinction between wrapping around an “edge,” i.e., an intersection between surfaces, and wrapping around a pebble-shaped or curved device. (*Id.* at 27). The Court’s construction also noted that the limitation did not require a particular angle of intersection, “but instead simply requires two or more surfaces that have an identifiable intersection.” (*Id.*).

Plaintiff’s expert, Mr. Credelle, testified that the Galaxy S8 met the claim limitation, noting that the Galaxy S8 product had “an intersection” between “two surfaces, a curved surface and a flat surface.” (Dkt. No. 347 at 22:19–20). Mr. Credelle testified that “[t]he display and touch sensor and flexible substrate start out flat,” are then “forced up into the window glass,” and then have

² Although Defendants filed a written Rule 50(a) motion with the Court (Dkt. No. 335), the Court addressed the parties’ 50(a) motions orally and on the record in accordance with its typical practice.

“two bent edges and a flat surface.” (*Id.* at 20:5–10). Mr. Credelle cited DTX-892, a Samsung document, which shows “where the flat section ends and where the curved section starts,” including “a 62.679 degree angle . . . at the edge.” (*Id.* at 21:6–16). Mr. Credelle also referred to DTX-989 to support his opinion that the sensor and substrate curved around the edge and identifying an intersection between a “curved portion” and “flat section.” (*Id.* at 21:21–22:11). Mr. Credelle additionally used the Galaxy S9 as an example, citing DTX-993 and PTX-131. (*Id.* at 22:23–23:25). Mr. Credelle testified that he “performed this same analysis on all of the . . . products, and they all meet” the claim limitation. (*Id.* at 24:3–4).

b. “substantially flexible substrate”

Defendants next argue that the ’311 Patent Accused Products do not have a “substantially flexible substrate” separate from the display as required by Claims 7 and 12 of the ’311 Patent. (*Id.* at 7–8; ’311 Patent at 9:33, 10:22–24). Rather, Defendants argue that the thin film encapsulation (“TFE”) layer identified by Plaintiff is an integral part of the display, not a separate structure. (Dkt. No. 371 at 7) (citing Dkt. No. 351 at 93:4–98:23; Dkt. No. 349 at 100:22–101:22; DTX-633-0008; DTX-677-0008; DTX-669-0009; DTX-699-0008; DTX-775-0008; DTX-789-0009; DTX-805-0009; DTX-710-0010; DTX-706-0009; DTX-719-0009; DTX-732-0009; DTX-0740-0010; DTX-749-0009).

Plaintiff argues that the “substantially flexible substrate” limitation was met by the TFE layer, pointing to evidence presented to the jury at trial showing that the layer was, in fact, a flexible substrate layered above the display in the ’311 Patent Accused Products. (*Id.* at 5–6) (citing Dkt. No. 379-2 at 31, 43, 49; PTX-123; Dkt. No. 347 at 11:16–17, 13:17–14:7, 17:17–19:16). Plaintiff cites additional evidence from Defendants’ witnesses, arguing that the same confirms that the TFE layer was a separate flexible substrate. (*Id.* at 6) (citing Dkt. No. 349 at 133:23–134:3;

Dkt. No. 351 at 101:18–23, 127:11–18). With respect to Defendants’ arguments that the TFE layer is necessary for the display’s function and inseparable from the display, Plaintiff argues that contrary evidence—including PTX-123, an internal Samsung document—was presented at trial. (*Id.* at 6–7) (citing PTX-123; Dkt. No. 347 at 11:5–17; Dkt. No. 351 at 128:25–130:11, 131:11–132:20).

Regarding the “substantially flexible substrate” element, Mr. Credelle testified that the ’311 Patent Accused Products contain “TFE, which is a flexible substrate,” citing Samsung document PTX-123 and testimony from Mr. Kwak. (*Id.* at 11:8–9, 16–17). Mr. Credelle testified that the element was “in all of the products that [he] analyzed.” (*Id.* at 11:24–25). The Court finds that Plaintiff presented substantial evidence as to this limitation.

c. Galaxy Z Flip

Defendants next argue that the Galaxy Z Flip does not infringe Claims 7 and 12 of the ’311 Patent. (*Id.* at 8–9). Defendants point to testimony from their expert, Dr. Sierros, who testified that when folded, the Galaxy Z Flip’s display panel is wrapped around the touch sensor, and when unfolded, the display is planar and the touch sensor is on the surface of the display. (*Id.* at 8) (citing DTX-471; Dkt. No. 351 at 105:8–107:5). Defendants thus argue that the Galaxy Z Flip does not satisfy the limitation of Claims 7 and 12 requiring that the “touch sensor” “wrap around one or more edges of a display.” (*Id.*). Defendants additionally argue that the testimony of Plaintiff’s expert Mr. Credelle that the touch sensor “wrapped around the inside of the display” was not substantial evidence of infringement. (*Id.* at 8–9) (citing Dkt. No. 347 at 29:5–7).

Plaintiff points to the Court’s rejection of Defendants’ Motion for Summary Judgment of Non-Infringement, which included similar arguments. (*Id.* at 8) (citing Dkt. Nos. 142, 152). Plaintiff also refers to evidence presented during the trial, including testimony from Mr. Credelle

that the Galaxy Z Flip had a sensor and substrate “wrapped around the inside of the display,” meeting the claim limitation. (*Id.*) (citing Dkt. No. 379-3; DTX-750; DTX-960; PTX-95; Dkt. No. 347 at 28:23–29:8). Plaintiff cites the Court’s claim construction, which stated that the claim limitation “specifies no particular angle of intersection but instead simply requires two or more surfaces that have an identifiable intersection.” (*Id.* at 8–9) (citing Dkt. No. 99 at 27).

The Court finds that Plaintiff presented substantial evidence as to the Galaxy Z Flip. Mr. Credelle testified that the Galaxy Z Flip has a “sensor, “display,” and “substrate,” that the “substrate and sensor is (sic) wrapped around the display,” and although “[i]n this case, it’s wrapped around the inside of the display . . . it still meets the claim element.” (*Id.* at 29:4–8). In support, Mr. Credelle cited DTX-850, DTX-960, and the GDS file in PTX-095. (*Id.* at 29:10–11, 93:7–8).

d. The Accused Products

Defendants argue that Plaintiff only presented evidence of the Galaxy S8 product, and that Mr. Credelle’s testimony was insufficient to show infringement of all of the ’311 Patent Accused Products. (*Id.* at 9) (citing Dkt. No. 346 at 399:10–15).

In response, Plaintiff first argues that Defendants did not raise that argument in their 50(a) motion and have waived it. (*Id.* at 9–10). Plaintiff further argues that it did present substantial evidence, pointing to testimony from Mr. Credelle that addressed all of the ’311 Patent Accused Products as well as an explanation to the jury that he performed the same analysis on both the representative Galaxy S8 and remaining Accused Products. (*Id.* at 10) (citing Dkt. No. 347 at 10:6–9, 24:1–3, 26:5–29:19; Dkt. No. 379-3).

Mr. Credelle testified that all ’311 Patent Accused Products infringed Claims 7 and 12 of the ’311 Patent. (*Id.* at 24:21–23, 26:5–7). Although Mr. Credelle used the Galaxy S8 as a

representative product, Mr. Credelle did note for the jury that he went through documents for each '311 Patent Accused Product, listing the corresponding exhibit numbers. (*Id.* at 26:18–29:11). The Court finds that Plaintiff presented substantial evidence of direct infringement of all of the '311 Patent Accused Products. Having so found, the waiver argument need not be addressed.

ii. Indirect Infringement

Defendants argue that Plaintiff did not provide legally sufficient evidence upon which the jury could find that the Defendants induced infringement of the '311 Patent. (Dkt. No. 371 at 9–11). Defendants argue that Plaintiff's theory was direct infringement by SEA induced by Defendants SDC and SEC. (*Id.*) (citing Dkt. No. 344 at 161:5–7; Dkt. No. 354 at 864:12–16). Defendants argue that Plaintiff referred to testimony of Mr. Kwak, Mr. Kim, and Mr. Repice during 50(a) arguments that Samsung "is a global company and a global leader in the smartphones and sells its products worldwide," but did not present evidence before the jury of indirect or induced infringement. (*Id.* at 10) (citing Dkt. No. 352 at 792:13–18). Defendants argue that SDC and SEC's awareness that SEA sold accused products in the United States, or intent that SEA do so, is insufficient to show the actual knowledge or willful blindness required for indirect infringement. (*Id.*). Further, Defendants argue that evidence that SDC was aware of a patent portfolio was not sufficient to show knowledge of a specific patent, and SDC's knowledge cannot be imputed to SEC. (*Id.* at 10–11) (citing *Finjan, Inc. v. Cisco Sys. Inc.*, No. 17-CV-72, 2017 WL 2462423, at *5 (N.D. Cal. Jun. 7, 2017)).

Plaintiff argues in response that whether there was indirect infringement by SDC or SEC is not material to the outcome of the case because the jury necessarily found direct infringement by SEA and all Defendants are jointly and severally liable to Plaintiff. (Dkt. No. 385 at 11) (citing *DataTreasury Corp. v. Wells Fargo & Co.*, No. 2:06-CV-72-DF, 2010 WL 11541530, at *3 (E.D.

Tex. Dec. 10, 2010); Dkt. No. 356 at 2). Additionally, Plaintiff argues that substantial evidence was presented to the jury that SDC, SEC, or both induced direct infringement by SEA. (*Id.*).

Plaintiff argues that testimony from Mr. Credelle or other witnesses called by Plaintiff that SDC or SEC had a particular state of mind would be inappropriate. (*Id.*) (citing *GREE, Inc. v. Supercell Oy*, No. 2:19-CV-71-JRG-RSP, 2020 WL 4059550, at *2 (E.D. Tex. July 20, 2020)). Plaintiff argues that evidence was presented from which the jury could conclude that SDC and SEC knew of the '311 Patent by the time Plaintiff's complaint was filed and that SDC and SEA were subsidiaries of SEC—in particular, the filing of the complaint and testimony from Mr. Repice, Samsung's corporate representative at trial. (*Id.* at 12) (citing *Vocalife LLC v. Amazon.com, Inc.*, No. 2:19-CV-123-JRG, 2021 WL 1401434, at *3 (E.D. Tex. Apr. 14, 2021); Dkt. No. 1; Dkt. No. 348 at 509:24–511:6). Plaintiff further points to evidence tending to show that SDC knew of the '311 Patent before the suit was filed, including PTX-103, a list of patents researched by SDC dated March 28, 2016 which included the '311 Patent. (*Id.* at 12–13) (citing Dkt. No. 347 at 41:13–22; PTX-103; Dkt. No. 379-2). Also presented at trial was an SDC patent application used for demonstrative purposes which cited the '311 Patent and SDC's discovery responses acknowledging pre-suit knowledge. (*Id.* at 13) (citing Dkt. No. 347 at 42:2–8, 19–43:1; Dkt. No. 379-5).

Plaintiff argues that SDC and SEC, at least as of the date the complaint was filed, designed, sold, purchased, assembled, and incorporated display modules into the '311 Patent Accused Products, knowing that SEA would import and sell such products in the United States. (*Id.* at 13). Plaintiff cites testimony from Mr. Dell, Plaintiff's damages expert, regarding the supply chain of the Accused Products. (*Id.* at 13–14) (citing Dkt. No. 348 at 440:7–20). Plaintiff also argues that evidence of SDC's relationship with Atmel Corporation (“Atmel”), the prior owner of the '311

Patent, could lead a reasonable jury to conclude that SDC was aware of the '311 Patent. (*Id.* at 14) (citing Dkt. No. 347 at 37:2–41:12, 43:2–15).

“Whoever actively induces infringement of a patent shall be liable as an infringer.” 35 U.S.C. § 271(b). “[L]iability for inducing infringement attaches only if the defendant knew of the patent and that ‘the induced acts constitute patent infringement.’” *Commil USA, LLC v. Cisco Sys., Inc.*, 135 S. Ct. 1920, 1926 (2015) (quoting *Global-Tech Appliances, Inc. v. SEB S.A.*, 563 U.S. 754, 766 (2011)). “While proof of intent is necessary, direct evidence is not required; rather, circumstantial evidence may suffice.” *Water Techs. Corp. v. Calco, Ltd.*, 850 F.2d 660, 668 (Fed. Cir. 1988).

The Court finds that sufficient evidence was presented at trial to support a finding of pre-suit knowledge as to SDC. In particular, PTX-103, an SDC spreadsheet created on or about March 28, 2016, clearly shows the '311 Patent as third on the list. (*See* PTX-103). This is a different situation than in *Finjan*, in which the plaintiff attempted to tie “general knowledge of [plaintiff’s] patent portfolio” to pre-suit knowledge of the asserted patents. *See* 2017 WL 2462423, at *5. Further, the jury heard evidence regarding the relationship between the Defendants, including between SEC and its subsidiaries SDC and SEA, as well as evidence that SDC manufactures the OLED display and sells the display to SEC; that SEC incorporates the display into the Accused Products and sells those products to SEA; and finally, SEA markets the Accused Products in the United States. (Dkt. No. 348 at 440:7–20, 466:24–467:3, 469:25–470:6, 510:23–511:6). The Court concludes that from the evidence presented at trial, a reasonable jury could conclude that SEC and SDC induced direct infringement by SEA.

iii. Willful Infringement

Defendants argue that Plaintiff did not present sufficient evidence for the jury to conclude that Defendants willfully infringed the '311 Patent. (Dkt. No. 371 at 11–17). First, Defendants argue that there was no evidence of willful infringement by SEC or SEA. (*Id.* at 11). Second, Defendants argue that there was no evidence of adequate pre-suit notice of the '311 Patent or of egregious or bad-faith conduct by SDC. (*Id.* at 12).

Defendants argue that, although there was testimony regarding pre-suit notice based on SDC documents, there was no testimony or any documents showing that SEC or SEA had pre-suit notice. (*Id.* at 11) (citing Dkt. No. 347 at 41:13–43:1). Defendants also argue that there was no evidence presented of egregious or bad-faith conduct by SEC or SEA. (*Id.*).

Regarding SDC, Plaintiff's evidence of pre-suit notice included Mr. Credelle's testimony regarding a spreadsheet that contained the '311 Patent. Defendants argue that this spreadsheet was a machine-generated patent search containing hundreds of other patents. (*Id.* at 12) (citing Dkt. No. 347 at 41:13–17). Mr. Credelle also testified regarding an SDC patent application, in which the '311 Patent was cited. (*Id.*) (citing Dkt. No. 347 at 42:5–8). Defendants argue that “[t]his type of generalized evidence is legally insufficient to establish knowledge of the '311 Patent.” (*Id.*) (citing *Finjan*, 2017 WL 2462423, at *5; *Evolved Wireless, LLC v. Samsung Elecs. Co., Ltd.*, No. 15-545, 2016 WL 1019667, at *4 (D. Del. Mar. 15, 2016)). Plaintiff also presented evidence in the form of SDC's responses to Plaintiff's requests for admission, which Defendants argue was limited to SDC merely knowing of the existence of the '311 Patent pre-suit. (*Id.*) (citing Dkt. No. 347 at 42:22–25). However, Defendants argue that mere knowledge of the patent is not sufficient to establish willfulness. (*Id.*).

Defendants argue that Plaintiff presented no evidence of “specific intent” to infringe, nor did Plaintiff show that any infringement was “egregious,” “deliberate,” “wanton,” or otherwise characteristic of the type of infringement to warrant enhanced damages. (*Id.* at 13) (citing *Bayer Healthcare LLC v. Baxalta Inc.*, 989 F.3d 964, 987 (Fed. Cir. 2021); *Halo Elecs., Inc. v. Pulse Elecs., Inc.*, 136 S. Ct. 1923, 1932 (2016)). Although Plaintiff presented a copying theory, Defendants point to evidence that the technology used in the Accused Products was “independently developed, differs significantly from any device made by Atmel, and cannot be said to copy any Atmel product” and that SDC’s technology was itself patented. (*Id.*) (citing Dkt. No. 346 at 315:19–316:3; Dkt. No. 349 at 92:12–18, 95:17–96:10). Plaintiff presented evidence of SDC’s relationship with Atmel, which Defendants argue was limited to their potentially acquiring external metal mesh touch sensors from Atmel. (*Id.* at 13–14) (citing Dkt. No. 346 at 302:5–8; Dkt. No. 349 at 109:10–110:6). Defendants argue that Atmel never offered a product that practiced the ’311 Patent. (*Id.* at 14) (citing Dkt. No. 350 at 558:22–559:2).

Mr. Credelle referred to PTX-015 during his testimony on copying, which Defendants argue was flawed for multiple reasons, including that Mr. Credelle did not analyze a translation of the Korean-language document in full and that Mr. Credelle did not identify a feature copied from Atmel in the ’311 Patent Accused Products. (*Id.*) (citing PTX-015-0001; Dkt. No. 346 at 399:1–7; Dkt. No. 347 at 40:1–23, Dkt. No. 349 at 9:18–22). Defendants further point to evidence, such as testimony from Mr. Kwak, Mr. Shaikh, and Defendants’ expert Dr. Sierros, that SDC was working on metal mesh touch sensors before discussions with Atmel; Atmel’s external metal mesh touch sensors were “unusable in SDC’s products”; and that SDC developed its own Y-OCTA touch sensor technology instead. (*Id.* at 15–17) (internal citations omitted).

Plaintiff argues in response that SEC, SEA, and SDC did not need to have pre-suit notice to support a finding of willful infringement. (Dkt. No. 385 at 15–16) (citing *Packet Intel. LLC v. NetScout Sys., Inc.*, No. 2:16-CV-230-JRG, 2019 WL 2375218, at *8 (E.D. Tex. June 5, 2019), *aff'd in part, rev'd in part on other grounds*, 965 F.3d 1299 (Fed. Cir. 2020) (affirming willfulness judgment)). In SDC's case, and as noted above, evidence was presented showing that SDC knew of the '311 Patent by March 28, 2016. (*Id.* at 16) (citing Dkt. No. 347 at 41:13–22; PTX-103; Dkt. No. 379-4). Plaintiff also argues that “SEC's continued transfers of the accused devices to its wholly-owned subsidiary, SEA, even after being placed on notice” of infringement was sufficient to support a willfulness finding. (*Id.* at 15).

Plaintiff argues that a showing of “egregious” behavior is not a question for the jury. (*Id.* at 16–17) (citing *Eko Brands, LLC v. Adrian Rivera Maynez Enterprises, Inc.*, 946 F.3d 1367, 1378 (Fed. Cir. 2020)). Rather, Plaintiff argues that *Halo* only requires that the jury find deliberate or intentional infringement, and the Court considers egregiousness in determining whether enhanced damages are appropriate. (*Id.*).

Plaintiff argues that Defendants did not, in fact, present evidence showing a good-faith belief of non-infringement. (*Id.* at 18). Plaintiff also points to Mr. Shaikh's testimony regarding Atmel's relationship with SDC. (*Id.* at 19–20) (citing Dkt. No. 346 at 302:5–305:23). Plaintiff responds to Defendants' arguments with respect to PTX-015 and copying by arguing that what Defendants are essentially asking the Court to do is make credibility determinations, which are solely within the purview of the jury. (*Id.* at 20). Plaintiff cites testimony and exhibits showing SDC's analysis of Atmel's technology. (*Id.* at 20–21) (citing PTX-030; PTX-686; PTX-100_EN; PTX-508; PTX-015; Dkt. No. 347 at 36:22–41:12).

Evidence that Defendants were “aware of the [’311 Patent] prior to the current litigation,” as well as “evidence of [SDC and Atmel’s] prior business dealings from which the jury could have inferred that [SDC] believed that it needed [a] license,” and “circumstantial evidence that [SDC] copied [Atmel’s] technology” is substantial evidence supporting a conclusion of willfulness. *Georgetown Rail Equip. Co. v. Holland L.P.*, 867 F.3d 1229, 1245 (Fed. Cir. 2017). The fact that Defendants dispute the credibility and weight of such evidence is not sufficient for this Court to second-guess the jury’s conclusion. Accordingly, the Court finds that Defendants’ ’311 JMOL Motion as to willfulness should be denied.

iv. Invalidity

Defendants argue that they are entitled to judgment as a matter of law that the asserted claims of the ’311 Patent are invalid. (Dkt. No. 371 at 17–24). In support of their argument, Defendants argue that they presented clear and convincing evidence that Claims 7 and 12 of the ’311 Patent were obvious over U.S. Publication No. US 2010/0045632 (“Yilmaz”) (DTX-167) and U.S. Publication No. US 2008/0223708 (“Joo”) (DTX-169). (Dkt. No. 371 at 17). Defendants also argue that the asserted claims of the ’311 Patent were anticipated by U.S. Patent No. 9,400,576 (“Chen”), and that Plaintiff failed to antedate Chen. (*Id.* at 21).

a. Yilmaz and Joo

Pointing to testimony from Mr. Yilmaz and Dr. Sierros, Defendants’ expert, as well as accompanying exhibits, Defendants list evidence presented to the jury showing that most of the elements of Claims 7 and 12 were found in the Yilmaz reference. (*Id.* at 17–19) (internal citations omitted). As to the claim limitation “the substantially flexible substrate and the touch sensor are configured to wrap around one or more edges of a display,” Defendants argue that “the Yilmaz reference disclosed a touch sensor and substantially flexible substrate that were manufactured in a

roll-to-roll fashion and could wrap around surfaces at least in the manner that Solas claims to infringe,” based on testimony from Mr. Yilmaz. (*Id.* at 20) (citing Dkt. No. 346 at 345:20–354:22, 355:1–359:3). Further, Dr. Sierros testified that the Joo reference discloses advantages and motivation to wrap the touch sensor and substrate around one or more edges of a display. (*Id.*) (citing DTX-169 ¶¶ 63, 67; Dkt. No. 350 at 698:22–705:25).

Plaintiff responds that Defendants did not establish obviousness based on the Yilmaz and Joo combination. (Dkt. No. 385 at 21–24). Plaintiff argues that Dr. Sierros did not provide analysis regarding the issue. (*Id.* at 22). Plaintiff points to cross-examination testimony from Dr. Sierros that, although he opined that Joo disclosed the “wrapping around one or more edges of a display” limitation, he could not identify the intersection required by the Court’s construction. (*Id.* at 23–24) (citing Dkt. No. 350 at 702:20–23; Dkt. No. 351 at 146:5–25). Plaintiff also refers to Dr. Sierros’s lack of an explanation for why Yilmaz and Joo would be combined when specialized injection molding was in use. (*Id.* at 24) (citing Dkt. No. 351 at 145:5–146:8).

It was Defendants’ burden to show, by clear and convincing evidence, that Claims 7 and 12 were invalid. Defendants must now show that “the evidence points so overwhelmingly in favor of one party that reasonable jurors could not arrive at any contrary conclusion.” *Core Wireless*, 880 F.3d at 1361. The Court finds that the evidence does not point to such a conclusion. With respect to Defendants’ obviousness arguments, although Dr. Sierros testified that the asserted claims of the ’311 Patent were obvious in view of Yilmaz and Joo, the jury was entitled to disregard such evidence if it concluded that his testimony was not credible or contradicted other evidence or testimony that it did find to be credible.

b. Chen

Defendants argue that Plaintiff did not meet its burden to show an invention date prior to the Chen reference. (Dkt. No. 371 at 21) (citing *Coleman v. Dines*, 754 F.2d 353, 359 (Fed. Cir. 1985); *Cooper v. Goldfarb*, 154 F.3d 1321, 1327 (Fed. Cir. 1998)). Defendants argue that Plaintiff had to prove conception and reduction to practice through corroborating evidence independent of the inventor(s). (*Id.*) (citing *Kolcraft Enters., Inc. v. Graco Children's Prods., Inc.*, 927 F.3d 1320, 1324–25 (Fed. Cir. 2019)). However, the evidence Plaintiff presented at trial included testimony of named inventors, Mr. Credelle relying on inventors' testimony, and documents created by the inventors. (*Id.* at 21–22) (citing PTX-702; PTX-524; PTX-692; PTX-694; PTX-714; PTX-703; PTX-690; PTX-691; Dkt. No. 346 at 292:15–16, 395:9–10; Dkt. No. 347 at 32:11–34:15, 36:11–13). Absent is evidence of a physical prototype, evidence of a prototype embodying the “wrap around” limitation, or evidence that any prototype functioned. (*Id.* at 23). Plaintiff showed the jury a delivery schedule, PTX-690, to show samples shipped to Nokia, which Defendants argue was insufficient because it did not show that such samples embodied the asserted claims. (*Id.* at 23–24). Further, the schedule appears to acknowledge that Atmel had yet to ship functional units at a later date. (*Id.* at 24) (citing PTX-690).

Plaintiff argues that it presented evidence that the '311 Patent was reduced to practice by July 8, 2011, including testimony from Mr. Shaikh, Mr. Yilmaz, supporting documents corroborating their testimony, and testimony from Mr. Credelle mapping the evidence to the '311 Patent. (Dkt. No. 385 at 25–26) (citing Dkt. No. 346 at 268:3–379:12, 292:15–300:21; Dkt. No. 347 at 29:23–36:18; PTX-692; PTX-694; PTX-702; PTX-524; PTX-714; PTX-703; PTX-690; PTX-691; Dkt. No. 379-4). Plaintiff disputes Defendants' argument that an inventor's own

documents cannot corroborate the inventor’s testimony regarding conception and reduction to practice. (*Id.* at 26) (citing *NFC Tech., LLC v. Matal*, 871 F.3d 1367, 1373–74 (Fed. Cir. 2017)).

“[A]n inventor’s testimony, standing alone, is insufficient to prove conception—some form of corroboration must be shown.” *Price v. Symsek*, 988 F.2d 1187, 1194 (Fed. Cir. 1993) (internal citation omitted). “A ‘rule of reason’ analysis is applied to determine whether the inventor’s prior conception testimony has been corroborated.” *Id.* at 1195. “The same requirement for evidence that corroborates inventor testimony on conception also applies to the reduction to practice determination.” *E.I. du Pont De Nemours & Co. v. Unifrax I LLC*, 921 F.3d 1060, 1076 (Fed. Cir. 2019).

The Court finds that “the corroborative evidence, including circumstantial evidence, support[s] the credibility of the inventors’ story.” *Id.* at 1077. In contrast to *Kolcraft*, in which the corroborating evidence was limited to a declaration by the inventor and undated attached photos, there is sufficient evidence to corroborate Mr. Shaikh and Mr. Yilmaz’s testimony. *Kolcraft*, 927 F.3d at 1325. Accordingly, the jury could reasonably conclude that the inventors reduced the ’311 Patent to practice on a date before the Chen reference.

2. THE ’338 JMOL MOTION

Defendants argue that they are entitled to judgment as a matter of law of non-infringement of the asserted claims of the ’338 Patent. (*See* Dkt. No. 372). Defendants raise two grounds in support: first, that Plaintiff did not present sufficient evidence to support a finding of direct infringement; second, that Plaintiff did not present sufficient evidence to support a finding of indirect infringement. (*Id.*).

i. Direct Infringement

a. “a driving transistor, one of the source and the drain of which is connected to the pixel electrode”

Claims 5 and 9 of the '338 Patent both depend from Claim 1, which includes the limitation “a driving transistor, one of the source and the drain of which is connected to the pixel electrode.” (DTX-2-0027 (the “'338 Patent”) at 24:32–33). Defendants argue that none of the '338 Patent Accused Products meet this limitation. (Dkt. No. 372 at 3–7). Defendants’ expert Dr. Fontecchio testified that neither the source nor drain of the driving transistor (“T1”) is connected to the pixel electrode, because the source of T1 is connected to the drains of two other transistors (“T2” and “T5”) and the drain of T1 is connected to two more transistors (“T3” and “T6”). (*Id.*) (citing Dkt. No. 351 at 5:5–7:22). Mr. Kwak testified along the same lines. (*Id.*) (citing Dkt. No. 349 88:17–89:3). Dr. Fontecchio also testified that, by design, the pixel electrode is connected to the drain of T6 and the source of T7, not T1. (*Id.* at 4) (citing Dkt. No. 351 at 6:18–20, 30:5–25; Dkt. No. 349 at 88:20–89:6).

Plaintiff’s theory was that T1 was electrically connected to the electrode, which Defendants argue is contrary to the claim language and “inconsistent with other disclosures in the patent.” (*Id.*) (citing Dkt. No. 347 at 59:11–19). Defendants refer to Dr. Fontecchio’s testimony that, if electrical connection was sufficient to meet the claim limitation, “both of the source and the drain would be connected, which doesn’t fit with the claim language, one of the source and the drain.” (*Id.* at 4–5) (quoting Dkt. No. 351 at 80:16–24). Mr. Credelle acknowledged that it would be true that “when T6 is on, the electrode is connected to both the source and the drain.” (*Id.* at 5) (quoting Dkt. No. 347 at 136:21–137:4).

Defendants also point to Claim 2 of the '338 Patent, which recites “a feed interconnection connected to the other of the source and the drain of at least one of the driving transistors,” which

Defendants argue contradicts the argument that the connection could be electrical. (*Id.* at 6) (citing '338 Patent at 24:39–41). Defendants further argue that even if Plaintiff is correct that an electrical connection is sufficient, the theory fails because such an electrical connection would only exist when T6 is on and the evidence did not show that T6 was on when the '338 Patent Accused Products were imported and sold in the United States. (*Id.* at 6–7).

Plaintiffs argue in response that evidence was presented at trial showing that the drain of T1 is connected to the pixel electrode by an electrical path through T6, which Dr. Fontecchio acknowledged. (Dkt. No. 383 at 2) (citing Dkt. No. 347 at 82:22–83:16, 135:1–23; Dkt. No. 351 at 44:3–7, 45:14–17). Although Mr. Credelle testified that current flows from T1 to the pixel electrode when T6 is on, Plaintiff argues that Mr. Credelle opined that even when T6 is off, the pixel electrode is “connected through a high resistance.” (*Id.*) (citing Dkt. No. 347 at 135:6–23).

Plaintiff argues that Defendants seek an untimely claim construction, their argument was rejected at the summary judgment stage, and that the specification of the '338 Patent includes an embodiment in which the driving transistor is electrically connected to the sub-pixel electrode. (*Id.* at 3) (citing *Biscotti Inc. v. Microsoft Corp.*, 302 F. Supp. 3d 797, 803 (E.D. Tex. 2018); Dkt. No. 139 at 5–7; '338 Patent at 7:7–9). In further support, Plaintiff cites multiple portions of the '338 Patent specification describing electrical connections between two elements and passing through other elements. (*Id.* at 3–5).

The Court initially notes that “connected” was not construed by the Court and the jury was instructed to apply the plain and ordinary meaning. The Court also finds that Plaintiff presented sufficient evidence on this issue. Mr. Credelle testified that the claim limitation was met. (Dkt. No. 347 at 82:22–25). Mr. Credelle testified that it did not matter that T1 was connected through T6. (*Id.* at 83:4–6). It is true that Defendants presented their own witness, Dr. Fontecchio, who testified

otherwise. However, the Court will not invade the jury's unique role in determining the weight and credibility of all the evidence.

b. “a switch transistor which makes a write current flow between the drain and the source of the driving transistor”

Claim 1 of the '338 Patent contains the limitation “a switch transistor which makes a write current flow between the drain and the source of the driving transistor.” ('338 Patent at 24:33–35). The Court construed “write current” to mean “pull-out current.” (Dkt. No. 99 at 23). Defendants argue that the current in the '338 Patent Accused Products is pushed into the circuit, not pulled out, and therefore the Accused Products do not infringe. (Dkt. No. 372 at 7–8) (citing Dkt. No. 351 at 8:10–14:13, 86:22–90:13; Dkt. No. 349 at 87:9–20). Plaintiff presented testimony from Mr. Credelle that the current “goes to the capacitor, and then it's pulled out of the circuit,” which Defendants argue is impossible. (*Id.* at 8) (citing Dkt. No. 347 at 85:1–9, 15–21, 88:25–89:7; Dkt. No. 349 at 87:9–20; Dkt. No. 351 at 12:24–14:13).

Citing to transcripts from the *Markman* hearing and IPR proceedings, which the Court notes were not before the jury, Defendants contrast the current-controlled systems described in the '338 Patent with the voltage-controlled systems used in the Accused Products. (*Id.* at 9–10). Mr. Kwak and Dr. Fontecchio testified during trial that there were voltage-controlled systems in the '338 Patent Accused Products. (*Id.* at 9–10) (citing Dkt. No. 349 at 91:6–24; Dkt. No. 351 at 10:20–22, 12:16–23).

Plaintiff argues that Defendants' arguments “amount[] to a request to re-construe the claims after the verdict.” (Dkt. No. 383 at 5–6) (citing *Biscotti*, 302 F. Supp. 3d at 803). Plaintiff cites testimony from Mr. Credelle regarding the “data writing period,” in which the switch transistor (“T2”) turns on, causing the current to flow between the drain and source of driving

transistor T1. (*Id.* at 6) (citing Dkt. No. 347 at 84:14–19, 23–25). Mr. Credelle testified that during the data writing period, the current passes through T1 and T3 and is “pulled out of the circuit” to the line ELVDD. (*Id.*) (citing Dkt. No. 347 at 85:3–4, 8–9, 16–25). Dr. Fontecchio agreed that during the data writing period, the current passes through T1, T3, and the capacitor. (*Id.*) (citing Dkt. No. 351 at 49:10–20). Dr. Fontecchio testified when asked that “it depends” when whether the current flowing to ELVDD from the capacitor was equivalent to the current flowing into the capacitor, also acknowledging that in his deposition he had testified that the current would be “usually equal and opposite.” (*Id.* at 6–7) (citing Dkt. No. 351 at 51:8–11, 17–23, 52:1–53:10). Plaintiff also refers to an embodiment in the ’338 Patent specification, in which the write current flows into and out of the circuit at different points. (*Id.* at 7) (citing ’338 Patent at 15:34–37, Fig. 2).

The Court finds that sufficient evidence was presented at trial to support the jury’s conclusion of infringement. Plaintiff presented the testimony of Mr. Credelle, who testified that the limitation was met. (Dkt. No. 347 at 84:10–85:25). Mr. Credelle testified that the current was “a write current because it’s pulled out of the circuit . . . [i]t goes to the capacitor, and then it’s pulled out of the circuit.” (*Id.* at 85:2–9). As noted elsewhere, the fact that Defendants presented their own evidence contradicting Plaintiff’s is not a sufficient ground for the Court to overturn the jury’s verdict.

c. “a holding transistor which holds a voltage between the gate and source of the driving transistor in a light emission period”

Defendants argue that the ’338 Patent Accused Products do not meet this limitation from Claim 1 because the “holding transistor,” T3, holds a voltage between the gate and drain—not source—of the “driving transistor,” T1. (Dkt. No. 372 at 10–11) (citing Dkt. No. 347 at 73:2–3;

Dkt. No. 351 at 14:22–16:10, 82:4–86:19). Defendants cite testimony from Dr. Fontecchio that the ELVDD element holds a voltage between the gate and source of T1, as well as testimony from Mr. Kwak that T3 does not hold voltage between the gate and source of T1. (*Id.* at 11) (citing Dkt. No. 351 at 15:16–16:10, 83:2–13; Dkt. No. 349 at 88:5–11). Mr. Credelle testified that, when T3 is off, the voltage is held on the capacitor, which is between the gate and source of T1. (*Id.*) (citing Dkt. No. 347 at 87:13–15, 88:2–11, 13–16, 86:23). Defendants further argue that Mr. Credelle acknowledged in his deposition that T3 holds a voltage between the gate and drain of T1. (*Id.* at 11–12) (citing Dkt. No. 346 at 416:24–417:9).

Plaintiff argues that substantial evidence was presented to the jury to support its position. (Dkt. No. 383 at 8–10). Plaintiff refers to Mr. Credelle’s testimony that, during the data writing period, a voltage is written on the capacitor and when T3 is off that voltage remains on the capacitor—as a result, T3 is “holding the voltage from the gate to the source[.]” (*Id.*) (citing Dkt. No. 347 at 75:10–21, 86:12–87:15). Plaintiff argues that T3 prevents the voltage on the capacitor from changing during the light emission period, which means that T3 holds a voltage between the gate and source. (*Id.* at 8–9) (citing Dkt. No. 347 at 89:8–16). Plaintiff argues that testimony from Dr. Fontecchio acknowledged that the voltage between the gate and source of T1 during the light emission period is approximately equal to the difference between ELVDD and the voltage on the capacitor during the data writing period. (*Id.* at 9) (citing Dkt. No. 351 at 56:9–13, 59:1–14). Plaintiff also argues that Dr. Fontecchio agreed that when T3 is off, it holds the voltage set on the capacitor approximately constant “because there’s no place for that voltage to go.” (*Id.*) (citing Dkt. No. 351 at 58:16–25). Plaintiff argues that T3 holds voltage between the gate and source in the same way as in Figure 2, an embodiment in the ’338 Patent specification. (*Id.* at 9–10) (citing ’338 Patent at 15:58–63).

The Court finds that Plaintiff presented adequate evidence to support its theory. Mr. Credelle testified that T3 holds a voltage between the gate and source “because T3 is turned off, so no current can leak out this way.” (Dkt. No. 347 at 88:9–11). Mr. Credelle testified that when T3 was off, it held the voltage on the lower plate of the capacitor, which was the same voltage as that at the gate and source of the driving transistor, T1. (*Id.* at 88:13–89:7). Although Plaintiff presented sufficient evidence in its case-in-chief, the Court finds the jury’s verdict further bolstered by Dr. Fontecchio’s apparent agreement on cross-examination that, when turned off, T3 holds the voltage on the capacitor constant. (*See* Dkt. No. 351 at 58:22–25).

d. “a plurality of interconnections which are formed to project from a surface of the transistor array substrate”

Defendants argue that six of the ’338 Patent Accused Products³ do not meet this limitation from Claim 1, and except for the Galaxy S8, there was no evidence presented that the same met this limitation. (*Id.* at 12). Mr. Credelle testified that “zig-zag” lines in the Galaxy S8 were the required “interconnections.” (*Id.*) (citing Dkt. No. 347 at 78:25–79:13). However, Dr. Fontecchio testified that the same lines were not connected to and did not deliver an electrical signal to a pixel. (*Id.*) (citing Dkt. No. 351 at 21:21–22:8). Defendants argue that Mr. Credelle’s testimony was limited to two ’338 Patent Accused Products: the Galaxy S6 Edge Plus and Galaxy S8. (*Id.* at 13–14) (citing Dkt. No. 347 at 78:25–80:10). Mr. Credelle stated that the interconnections in the S8 connected to each other “at the edge of the display panel,” rather than to the pixels, as Mr. Fontecchio testified. (*Id.* at 12, 14) (citing Dkt. No. 347 at 78:25–80:10; Dkt. No. 351 at 19:12–16, 16:11–17:16). Defendants argue that Mr. Credelle did not present analysis with respect to the other ’338 Patent Accused Products. (*Id.* at 14).

³ The Galaxy Note 8, Galaxy Note 9, Galaxy S8, Galaxy S8 Plus, Galaxy S9, and Galaxy S9 Plus.

Plaintiff argues in response that Mr. Credelle presented evidence on the Galaxy S6 Edge Plus and Galaxy S8 products, explaining how the “yellow zig-zag lines” in Samsung documents were the required “interconnections,” as well as how he analyzed similar documents for each of the ’338 Patent Accused Products. (*Id.* at 10–11) (citing Dkt. No. 347 at 78:25–80:10, 93:3–94:2; Dkt. No. 346 at 391:10–394:10; PTX-016; PTX-135; PTX-095; PTX-681; PTX-120; PTX-016; PTX-129; PTX-132; PTX-142; PTX-026; PTX-122; PTX-270; PTX-116; PTX-118; PTX-119; PTX-117; PTX-124; PTX-143). With respect to the Galaxy Note 3, Galaxy Note 4, Galaxy Note Edge, Galaxy Note 5, Galaxy S4, Galaxy S5, and Galaxy S6 Edge Plus, Dr. Fontecchio did not dispute Mr. Credelle’s opinions regarding the “interconnections” limitation. (*Id.* at 11) (citing Dkt. No. 351 at 66:5–67:3). Plaintiff argues that substantial evidence was presented to the jury and that Defendants are merely attempting a post-verdict claim construction. (*Id.* at 12).

The Court finds that Plaintiff presented substantial evidence on this issue. Mr. Credelle testified as to each of the different product groups, that “the yellow zig-zag lines are interconnections.” (*See* Dkt. No. 347 at 79:4–13; *see also* PTX-016, PTX-135, PTX-95). Mr. Credelle noted the different documents he analyzed for each of the different ’338 Patent Accused Products, reiterating that his conclusion on infringement applied across the board. (*See id.* at 93:1–94:2).

ii. Indirect Infringement

Defendants argue that Plaintiff did not present sufficient evidence to support a finding of indirect infringement of the ’338 Patent. (Dkt. No. 372 at 14–15). Defendants advance three arguments: first, that Plaintiff did not present evidence supporting a finding that SEA directly infringed; second, that Plaintiff did not provide evidence regarding SEC and SDC beyond asserting during 50(a) JMOL arguments that “Samsung is a global company and a global leader” in the

Accused Products; and third, that there was no evidence to support the required mental state of SDC or SEC. (*Id.*) (quoting Dkt. No. 352 at 792:13–18).

In response, Plaintiff argues that it presented evidence that SDC made display panels satisfying Claims 5 and 9 of the '338 Patent, which were incorporated into the Accused Products by SEC, then imported and sold by SEA. (Dkt. No. 383 at 12) (citing Dkt. No. 348 at 440:7–20). Plaintiff also argues that SEC and SDC were aware of the '338 Patent at least by the time the complaint was filed, and the jury could have concluded from the circumstances that SDC and SEC had the mental state to support a finding of induced infringement. (*Id.*).

For many of the same reasons as noted *supra*, II.b.1.ii., the Court finds that sufficient evidence was presented to support a finding of indirect infringement of the asserted claims of the '338 Patent.

3. THE DAMAGES JMOL MOTION

Defendants seek judgment as a matter of law of no damages. (*See generally* Dkt. No. 373). Plaintiff argues that the evidence supported the jury's damages verdict and further argues that zero or nominal damages is not an available remedy. (*See* Dkt. No. 380).

i. The Atmel/Uni-Pixel Agreement

First, Defendants argue that the royalty rates from the portfolio license agreement between Atmel and Uni-Pixel Displays, Inc. ("Uni-Pixel") (the "Atmel/Uni-Pixel Agreement") (PTX-506) were improperly used by Plaintiff's damages expert Mr. Dell in calculating his proposed royalty rate for the '311 Patent. (*Id.* at 2–5). Defendants argue that Mr. Dell did not establish the technological or economic comparability of the Atmel/Uni-Pixel Agreement. (*Id.* at 2–3). Specifically, Defendants note the fact that the Atmel/Uni-Pixel Agreement predated the issuance date of the '311 Patent and that Atmel transferred much of its touch sensor business to Uni-Pixel.

(*Id.*) (citing DTX-6; Dkt. No. 346 at 307:10–16, 320:1–322:1; Dkt. No. 349 at 33:6–9; Dkt. No. 353 at 31:19–32:24). Defendants also argue that Mr. Dell’s apportionment was improper because the royalty base in the Atmel/Uni-Pixel Agreement was for capacitive touch sensors, rather than the OLED display modules that Mr. Dell used as his base in this case. (*Id.* at 3) (citing PTX-506 at 2; Dkt. No. 346 at 301:6–11, 318:9–18; Dkt. No. 348 at 439:3–20, 444:5–14). Defendants point to the evidence they presented at trial to show that, at most, the ’311 Patent license would be for a lump-sum of \$500,000. (*Id.* at 4–5).

In response, Plaintiff argues that Mr. Dell in fact used a cost savings analysis to reach a royalty rate of 1.75%, which he adjusted downward after considering the *Georgia-Pacific* factors, including the Atmel/Uni-Pixel Agreement. (Dkt. No. 380 at 2) (citing Dkt. No. 349 at 5:12–12:1). Plaintiff argues that Mr. Dell considered in his analysis that the ’311 Patent application was part of the agreement, was related to the sale of Atmel’s touch sensor business, and that Uni-Pixel needed the license to continue manufacturing the touch sensors. (*Id.* at 2–4) (citing PTX-517; PTX-650; Dkt. No. 346 at 301:1–302:8, 306:16–307:16; Dkt. No. 348 at 448:10–24; Dkt. No. 349 at 9:16–11:15). With respect to Mr. Dell’s apportionment analysis, Plaintiff argues that he apportioned the value of the ’311 Patent through his cost savings analysis, further adjusting the rate after considering that the ’311 Patent was in the application stage and was one of many patents licensed in the Atmel/Uni-Pixel Agreement. (*Id.* at 4–5) (citing Dkt. No. 346 at 320:10–16; Dkt. No. 349 at 8:3–24, 10:17–19, 11:16–12:1). Turning to Defendants’ evidence presented on the topic of damages, Plaintiff argues that the jury could give that evidence less weight or even disregard such evidence, and that Defendants’ evidence does not mean that there was not substantial evidence in the record to support the jury’s verdict. (*Id.* at 5–6) (citing Dkt. No. 352 at 751:12–14, 756:24–757:2, 776:10–23; Dkt. No. 353 at 26:11–14).

Mr. Dell acknowledged during his testimony that the '311 Patent had not issued when the Atmel/Uni-Pixel Agreement was entered into, but that the application that became the '311 Patent was part of the portfolio. (Dkt. No. 349 at 10:8–16). Mr. Dell testified that his analysis considered that the application was part of the broader acquisition of Atmel's touch sensor business and that the portfolio included “a little over a hundred” patents and patent applications, and he adjusted the royalty rate downward based on his cost savings analysis. (*Id.* at 9:18–22, 10:17–19, 11:16–12:1). The Court finds this evidence sufficient to support the jury's damages verdict as relates to the Atmel/Uni-Pixel Agreement.

ii. Cost Savings Analysis

Mr. Dell testified that the use of metal mesh sensors resulted in a cost savings for SDC of “1.60” or “1.75 percent” per display module, then attributed the value of the '311 Patent from the Atmel/Uni-Pixel Agreement to reach a 1% royalty base. (PTX-522; PTX-128; Dkt. No. 349 at 4:12–9:5, 11:16–12:1). Defendants argue that this evidence could not support the jury's damages award. (Dkt. No. 373 at 5–6). Defendants argue that Mr. Dell did not analyze cost savings attributable to the claimed inventions over what existed in the prior art, which is part of *Georgia-Pacific* Factor 9. (*Id.* at 6) (citing *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201, 1226 (Fed. Cir. 2014); *Georgia-Pacific Corp. v. U.S. Plywood Corp.*, 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970); Dkt. No. 349 at 42:25–43:11). Defendants point to an acknowledgement by Solas's counsel that metal mesh touch sensors were not something the '311 Patent inventors came up with, cite the Yilmaz reference as containing a metal mesh touch sensor, note metal mesh touch sensors mentioned in the '311 Patent's prosecution history, and refer to testimony from Dr. Sierros. (*Id.* at 6–7) (citing DTX-6; DTX-167 ¶¶ 22, 155–56; Dkt. No. 343 at 204:9–11; Dkt. No. 346 at 358:7–10; Dkt. No. 349 at 43:12–17; Dkt. No. 350 at 661:13–663:3).

Defendants argue that Mr. Dell's analysis was improper because the cost information presented for external metal mesh touch sensors was not the same type used in the '311 Patent Accused Products or another product practicing the '311 Patent. (*Id.* at 7). In particular, Defendants contend that the samples identified by Mr. Dell were external metal mesh touch sensors, rather than integrated touch sensors such as the Y-OCTA sensors used by Samsung. (*Id.* at 7–8) (citing PTX-522; PTX-128; Dkt. No. 349 at 80:10–15, 109:10–110:6, 111:14–24, 134:23–137:3, 137:23–138:6; Dkt. No. 353 at 66:7–13, 77:11–23).

Plaintiff argues that apportionment is based on “the infringing features,” and that metal mesh touch sensors are, in fact, an infringing feature. (Dkt. No. 380 at 6–7) (citing *Ericsson*, 773 F.3d at 1226; Dkt. No. 346 at 397:16–398:5; Dkt. No. 347 14:12–15:1). Plaintiff argues that Mr. Dell used a cost savings model comparing the accused products to non-infringing alternatives. (*Id.* at 7) (citing *Prism Techs, LLC v. Spring Spectrum L.P.*, 849 F.3d 1360, 1376 (Fed. Cir. 2017); *Metaswitch Networks Ltd. v. Genband US LLC*, No. 2:14-CV-744-JRG, 2016 WL 87437, at *3 (E.D. Tex. Mar. 5, 2016)). According to Plaintiff, Mr. Dell compared the cost savings of using the metal mesh touch sensors in the accused products with the non-infringing alternatives identified by Defendants, which used ITO sensors. (*Id.*) (citing Dkt. No. 349 at 4:12–17, 5:5–8:5, 36:20–38:1, 42:25–43:11, 66:2–16, 76:24–77:4, 80:21–25; Dkt. No. 353 at 67:11–23).

Plaintiff additionally argues that Mr. Dell accounted for the fact that he relied on Samsung presentations regarding non-accused products. (*Id.* at 8) (citing Dkt. No. 349 at 7:5–18, 23–9:5, 63:16–21, 66:25–67:9, 74:2–23). Mr. Dell also used Samsung's 2014 cost savings analyses to estimate the savings obtained when it switched to metal mesh sensors in 2017. (*Id.* at 9) (citing Dkt. No. 349 at 79:18–80:3). Plaintiff argues Mr. Dell's analysis was further supported by

testimony from Mr. Kwak that the metal mesh design reduced costs. (*Id.*) (citing Dkt. No. 349 at 95:4–13).

The Court finds that Plaintiff presented sufficient evidence to support the jury’s damages verdict as relates to Mr. Dell’s cost savings analysis. Mr. Dell testified regarding the benefits and cost savings of metal mesh, based on Samsung documents and testimony from Mr. Kwak. (*See, e.g.*, Dkt. No. 349 at 4:9–6:15). On cross-examination, Mr. Dell noted that he reached his conclusion based on “some of the direct economic benefits based upon Samsung’s own analysis” (*Id.* at 43:10–11).

iii. OLED Display Module Royalty Base

Defendants argue that Mr. Dell’s use of the entire OLED display module as the smallest saleable patent practicing unit (“SSPPU”) for the ’311 Patent and use of SDC revenues from selling display modules was faulty and does not support the jury’s verdict. (Dkt. No. 373 at 8–9) (citing Dkt. No. 348 at 445:9–21). Defendants argue that Mr. Dell should have used the touch sensor, a component of the display modules sold by SDC. (*Id.* at 9) (citing Dkt. No. 348 at 444:15–19, 470:20–471:1). Defendants argue that the claims were directed to the touch sensor, substrate, and computer-readable storage media and that touch sensor products without displays were available on the market as of the 2017 hypothetical negotiation date. (*Id.* at 9–10) (citing Dkt. No. 346 at 314:11–15; Dkt. No. 348 at 440:24–441:12, 439:17–20; Dkt. No. 349 at 120:9–19; Dkt. No. 350 at 669:22–670:2; Dkt. No. 352 at 744:15–20). Defendants cite testimony from Mr. Shaikh that Atmel’s XSense metal mesh touch sensors sold for \$1 per inch, showing the difference in price between the touch sensors and display modules. (*Id.* at 10) (citing Dkt. No. 346 at 301:6–11, 318:9–18). Defendants argue that Mr. Dell used the display module revenues without apportioning to the patented features as set forth in the asserted claims of the ’311 Patent, using as an example

the presence of technology claimed in the other patents-in-suit that was not separated from the features of the touch sensors. (*Id.*) (citing Dkt. No. 349 at 13:5–14:6). Defendants argue that Mr. Dell’s analysis violated the entire market value rule (“EMVR”) because there was no showing that the touch sensor features drove demand for the display modules. (*Id.* at 10–11) (citing *LaserDynamics, Inc. v. Quanta Computer, Inc.*, 694 F.3d 51, 67 (Fed. Cir. 2012); *Versata Software, Inc. v. SAP Am., Inc.*, 717 F.3d 1255, 1268 (Fed. Cir. 2013)).

In response, Plaintiff notes that Defendants raised many of the same arguments in their *Daubert* Motion on Mr. Dell. (Dkt. No. 380 at 10 n.2) (citing Dkt. No. 138 at 4–6; Dkt. No. 252 at 3). Plaintiff argues that Defendants did not identify a smaller unit sold by Samsung and refers to evidence that SDC sells the display module to its customers. (*Id.*) (citing Dkt. No. 348 at 444:15–19, 470:20–471:1). Mr. Dell also testified that he relied on Mr. Credelle’s expertise to conclude that the display module is the SSPPU. (*Id.* at 10–11) (citing Dkt. No. 348 at 438:18–439:20). Mr. Dell additionally testified that SDC provides the display modules to SEC before the ’311 Patent Accused Products are sold, that Samsung integrates touch sensors into its display modules, and that Samsung licenses the display modules rather than a component thereof. (*Id.* at 11) (citing Dkt. No. 348 at 440:7–20, 24–441:12, 439:17–20, 442:19–22). Plaintiff argues that Defendants did not identify touch sensor products sold separately from display modules that in fact practiced the claims, noting that the XSense did not have the touch controller necessary to practice the ’311 Patent; further, Mr. Dell testified that the touch sensors on the market lacked a controller. (*Id.* at 11–12) (citing Dkt. No. 346 at 318:12–22; Dkt. No. 349 at 45:19–46:4; Dkt. No. 351 at 120:9–19).

Plaintiff argues that Defendants’ argument regarding apportionment is incorrect because, as noted previously, Mr. Dell apportioned using his cost savings analysis. (*Id.* at 12). Plaintiff also

argues that the EMVR does not apply because the Accused Products were mobile devices, not the display modules. (*Id.* at 12–13).

The Court finds that Mr. Dell’s use of the OLED display module as the SSPPU was not erroneous, and that the jury’s damages verdict is supported by the evidence. Mr. Dell testified that he relied on discussions with Mr. Credelle to conclude that the OLED display module was the SSPPU for all three of the Asserted Patents. (Dkt. No. 348 at 439:3–12, 17–20). Mr. Dell identified the display module as the product sold by SDC to SEC, which integrates the display into its products and sells the Accused Products to SEA. (*Id.* at 440:11–16). Mr. Dell testified to his understanding, based on conversations with Mr. Credelle, that separate touch sensor products on the market did not, in fact, practice the patent. (Dkt. No. 349 at 46:2–4). Further, the Court finds that the EMVR does not apply and notes that Plaintiff’s damages theory in no way relied on the EMVR.

iv. The 2005 UDC-SDI Agreement

Defendants argue that there is no substantial evidence to support the jury’s damages verdict with respect to the ’338 Patent because Plaintiff’s royalty rate was based on PTX-509, a license agreement between Universal Display Corporation (“UDC”) and Samsung SDI Co., Ltd. (“SDI”) (the “2005 UDC-SDI Agreement”). (Dkt. No. 373 at 11). Defendants argue that Plaintiff did not show that the 2005 UDC-SDI Agreement was comparable, and even if it were, Plaintiff’s damages theory could only support up to half of the damages awarded. (*Id.*). Mr. Dell relied on Mr. Credelle for purposes of technical comparability, which Defendants argue was a flawed approach due to Mr. Credelle having reviewed approximately 70 of the 144 U.S. patents licensed in the portfolio. (*Id.* at 11–12) (citing Dkt. No. 347 at 128:19–129:18; Dkt. No. 353 at 48:20–25). Defendants argue that a significant number of the patents licensed in the portfolio covered OLED materials, which

were not considered by Mr. Dell or Mr. Credelle. (*Id.* at 12) (citing Dkt. No. 347 at 129:6–9; Dkt. No. 349 at 26:12–23; Dkt. No. 351 at 33:4–36:15; Dkt. No. 353 at 10:10–12:23, 14:6–15:17).

Defendants also dispute the economic comparability of the 2005 UDC-SDI Agreement to the hypothetical negotiation, arguing that the evidence presented at trial showed that the agreement was entered into for SDC to acquire necessary phosphorescent materials, that SDC had not begun selling OLED displays at the time of the agreement, and that the agreement was superseded before the 2013 hypothetical negotiation date. (*Id.* at 13) (citing Dkt. No. 353 at 9:10–11:1, 48:23–49:3). Defendants argue that Mr. Dell did not account for the fact that an agreement between UDC and Samsung Mobile Display (“SMD”) was entered into in 2011 (the “2011 UDC-SMD Agreement”) (PTX-535). (*Id.* at 13–14).

Defendants additionally argue that, even under Mr. Dell’s analysis, the evidence showed that his rate should have been half of what it was, because Samsung paid a royalty rate under the 2005 UDC-SDI Agreement based on the number of colors used by SDC. (*Id.* at 14–15) (citing Dkt. No. 349 at 18:3–12, 21:25–22:4). On cross examination, Mr. Dell acknowledged that the 2005 UDC-SDI Agreement would provide for a .5 percent royalty rate, rather than his 1 percent rate, if SDC used one color. (*Id.*) (citing Dkt. No. 349 at 50:7–51:3). Defendants presented other evidence showing that SDC in fact used one color during the term of the 2005 UDC-SDI Agreement. (*Id.* at 15) (citing Dkt. No. 353 at 11:12–12:8).

In response, Plaintiff argues that the 2005 UDC-SDI Agreement was the only license Mr. Credelle reviewed relating solely to OLED technology, and that he grouped the 144 U.S. patents licensed under the agreement, concluding that six (6) of the patents related to OLED device architecture and structures comparable to the ’338 Patent. (Dkt. No. 380 at 13–14) (citing Dkt. No. 347 at 97:23–99:5, 99:22–100:9; Dkt. No. 351 at 71:17–21). Mr. Credelle testified during trial that

the '338 Patent was “more fundamental” than the other, similar patents in the 2005 UDC-SDI Agreement. (*Id.* at 14) (citing Dkt. No. 347 at 100:10–19). Mr. Dell relied on Mr. Credelle’s technical comparability opinions. (*Id.*) (citing Dkt. No. 349 at 26:24–28:24). Plaintiff notes Mr. Credelle’s testimony that he categorized every patent in the license, ruling out foreign patents and patents relating to OLED materials and compounds as well as OLED manufacturing patents. (*Id.*) (citing Dkt. No. 347 at 98:12–99:5, 129:6–18; Dkt. No. 349 at 23:5–24:3, 52:17–54:10). In fact, the 2005 UDC-SDI Agreement did not permit Samsung to practice the patents. (*Id.* at 15) (citing 2005 UDC-SDI Agreement at § 2.3; Dkt. No. 349 at 23:12–24:3). Regarding the timing of the agreement, Plaintiff cites testimony from Mr. Dell that he considered the renewals of the agreement in reaching his conclusions. (*Id.*) (citing PTX-535; PTX-536; Dkt. No. 349 at 18:13–21:18).

Plaintiff disputes Defendants’ argument that they used only one color at the time of the hypothetical negotiation, pointing to testimony from Mr. Kim and exhibits showing that Samsung began using two colors sometime after 2010. (*Id.* at 16) (citing PTX-542-003 at § 2.2; Dkt. No. 353 at 25:14–15). Further, Plaintiff argues that the jury could have agreed that Mr. Dell’s 1 percent rate was appropriate even if the factual dispute was resolved in Defendants’ favor. (*Id.* at 16–17).

The Court finds that Mr. Dell’s reliance on the 2005 UDC-SDI Agreement was sufficient to support the jury’s damages verdict. Mr. Credelle testified regarding his analysis of the patents in the 2005 UDC-SDI Agreement. (Dkt. No. 347 at 97:23–100:19). Mr. Dell testified that he relied on Mr. Credelle’s technical analysis for comparability purposes. (Dkt. No. 349 at 27:4–28:3). Defendants had the opportunity to cross-examine Mr. Credelle and Mr. Dell on the topic and present their own evidence. The Court sees no basis to overturn the jury’s verdict on this issue.

v. Other UDC Portfolio License Agreements

Defendants argue non-comparability of later portfolio license agreements to which UDC was a party, including 2011 and 2018 agreements with SDC (PTX-535, PTX-536), a 2008 agreement with Konica Minolta (PTX-744), and a 2011 agreement with Pioneer (PTX-743). (Dkt. No. 373 at 15). Defendants argue that they presented evidence showing that the most a reasonable jury could award in damages was a lump-sum royalty of \$1,150,000. (*Id.* at 16) (internal citations omitted).

In response, Plaintiff argues that Mr. Dell considered the later agreements between UDC and SDI circumstantially to analyze the 2005 UDC-SDI Agreement. (Dkt. No. 380 at 17) (citing Dkt. No. 349 at 18:13–21:18). Mr. Dell also testified that he did not rely on the Konica Minolta or Pioneer agreements to reach his royalty rate opinion, but rather considered them to understand UDC's licensing practices. (*Id.*) (citing Dkt. No. 348 at 452:18–453:20). Additionally, Plaintiff notes that the jury's damages verdict was the exact number presented by Mr. Dell based on rates from the 2005 UDC-SDI Agreement, not any other agreement. (*Id.*) (citing Dkt. No. 348 at 454:3–7). Plaintiff also argues that the jury was entitled to disregard contrary evidence presented by Defendants, such as a 2012 agreement between Casio and Samsung. (*Id.* at 18).

The Court finds that the jury's damages verdict was supported by the evidence presented. Mr. Dell did not testify that his royalty rate was based on the subsequent SDI agreements, but discussed them in the context of the 2005 UDC-SDI Agreement. (Dkt. No. 349 at 18:13–21:8). Mr. Dell discussed the Konica Minolta and Pioneer agreements as examples of other UDC licenses. (Dkt. No. 348 at 451:24–453:6).

vi. Lump Sum

Defendants argue that all of Plaintiff's evidence on damages was based on a running royalty structure, and thus the jury's lump sum verdicts for the '311 and '338 Patents were erroneous as a matter of law. (Dkt. No. 373 at 16–17) (citing *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1326–30 (Fed. Cir. 2009); *Wordtech Sys., Inc. v. Integrated Networks Solutions, Inc.*, 609 F.3d 1308, 1320 (Fed. Cir. 2010)). For the '311 Patent, Plaintiff asked for a running royalty of \$35,412,046, and for the '338 Patent, a running royalty of \$27,326,497, without evidence to convert such figures to a lump sum award. (*Id.* at 17–18) (citing Dkt. No. 348 at 454:3–7; Dkt. No. 349 at 9:9–12:8). Although Defendants presented evidence supporting a lump sum royalty, Defendants argue that their substantially-reduced figures mean that no reasonable jury could have awarded as much as the jury in this case did as a lump sum royalty. (*Id.* at 18–19).

Plaintiff argues that sufficient evidence was presented to support the damages arrived at by the jury, noting that the jury's verdict adopted Mr. Dell's numbers, and that the jury reasonably could have concluded that a lump sum award was appropriate. (Dkt. No. 380 at 18–19). Plaintiff argues that the holdings in *Lucent Techs.* and *Wordtech* were that a jury could award lump sum based on a running royalty agreement if there was some basis for comparison to lump sum. (*Id.* at 18–19) (citing *Lucent Techs.*, 580 F.3d at 1326–30; *Wordtech*, 609 F.3d at 1320). Plaintiff argues that Defendants' own evidence to support lump sum refutes an argument of no damages. (*Id.* at 19–20).

The Court finds that the jury was permitted to conclude that a lump sum royalty was appropriate to compensate Plaintiff for Defendants' infringement. The jury was properly instructed by the Court on this issue. (Dkt. No. 354 at 891:25–901:15). The Court finds that adequate

evidence was presented regarding lump sum damages, such that the jury could properly award lump sum damages based on sums from a running royalty agreement.

vii. The Solas-LG Settlement Agreement

Defendants argue that Plaintiff “tied its damages claim at trial” to a license agreement between Solas and LG Display Co., Ltd. (“LG”) (the “Solas-LG Agreement”) (PTX-745). (Dkt. No. 373 at 19–20). Defendants argue that no evidence was presented tying the Solas-LG Agreement to Plaintiff’s damages model. (*Id.* at 20–21). Plaintiff argues that it did not use the Solas-LG Agreement to prove damages or offer the agreement as a comparable license, and instead used the agreement to rebut assertions that Solas’s portfolio lacked value and evidence presented by Defendants regarding the license agreement entered into by Solas and eMagin Corporation (“eMagin”) (the “eMagin Agreement”). (Dkt. No. 380 at 20–21).

The Court notes that it dealt with the issue of the Solas-LG Agreement before trial and preadmitted the license as an exhibit, noting that the license could “be used with fact witnesses but not expert witnesses before the jury.” (*See* Dkt. No. 329 at 4). Defendants conveniently ignore their use of the eMagin Agreement, which the Court similarly preadmitted in a limited manner at Defendants’ request. (Dkt. No. 276 at 19:1–6, 30:5–19). Neither agreement was allowed by the Court to be presented by any party’s expert witness as a comparable license agreement and the parties did not do so at trial.

III. DEFENDANTS’ MOTION FOR NEW TRIAL

Pursuant to Federal Rule of Civil Procedure 59, Defendants moved for a new trial. (*See* Dkt. No. 374). The Court finds that none of the grounds asserted by Defendants compel setting aside the jury’s verdict and granting a new trial.

a. Legal Standard

Rule 59 provides that a new trial may be granted on all or part of the issues on which there has been a trial by jury for “any reason for which a new trial has heretofore been granted in an action at law in federal court.” Fed. R. Civ. P. 59(a). Notwithstanding the broad sweep of Rule 59, “courts do not grant new trials unless it is reasonably clear that prejudicial error has crept into the record or that substantial justice has not been done, and the burden of showing harmful error rests on the party seeking the new trial.” *Metaswitch Networks Ltd. v. Genband US LLC*, No. 2:14-CV-00744-JRG, 2017 WL 3704760, at *2 (E.D. Tex. Aug. 28, 2017); *Erfindergemeinschaft UroPep GbR v. Eli Lilly & Co.*, 276 F. Supp. 3d 629, 643 (E.D. Tex. 2017). “A new trial may be granted, for example, if the district court finds the verdict is against the weight of the evidence, the damages awarded are excessive, the trial was unfair, or prejudicial error was committed in its course.” *Smith v. Transworld Drilling Co.*, 773 F.2d 610, 612–13 (5th Cir. 1985); *see also Laxton v. Gap Inc.*, 333 F.3d 572, 586 (5th Cir. 2003) (“A new trial is warranted if the evidence is against the great, and not merely the greater, weight of the evidence.”). Furthermore “[u]nless justice requires otherwise, no error in admitting or excluding evidence—or any other error by the court or a party—is ground for granting a new trial the court must disregard all errors and defects that do not affect any party’s substantial rights.” Fed. R. Civ. P. 61.

b. Discussion

Defendants seek a new trial on damages, non-infringement of the '338 and '311 Patents, invalidity of the '311 Patent, and willfulness. (*See generally* Dkt. No. 374). Defendants also argue that errors in the jury instructions and verdict form warrant a new trial and that damages for infringement of the '338 Patent should be remitted. (*Id.*).

1. Damages

Defendants argue that a new trial on damages is warranted due to the admission of the Solas-LG Settlement Agreement, Mr. Dell's "unreliable testimony," and because the jury's damages award was against the great weight of the evidence. (*Id.* at 1–4).

Setting aside the reasons noted *supra*, II.b.3.vii., and in the Court's previous Order admitting the Solas-LG Settlement Agreement (Dkt. No. 329) and even if the Court had erred in admitting the document, "no error in admitting . . . evidence . . . is ground for granting a new trial," unless justice mandates a new trial. Fed. R. Civ. P. 61 (emphasis added). The Court does not find that justice so mandates. For the same reason, the Court does not find that Defendants' post-trial *Daubert* challenge to Mr. Dell's testimony compels a new trial.⁴

Defendants' arguments that the damages award was against the great weight of the evidence largely repeats arguments raised in their Damages JMOL Motion, specifically with respect to the conversion of Plaintiff's running royalty figures to a lump sum award. (*See* Dkt. No. 374 at 5–6; *see also* Dkt. No. 373 at 16–20). The Court finds that the damages awarded by the jury were not against the great weight of the evidence such that a new trial should be held. As noted *supra*, II.b.3.vi., there was evidence presented at trial from which the jury could reach its lump sum damages verdict.

2. Infringement of the '311 and '338 Patents

Defendants argue that a new trial on infringement of the '338 Patent is warranted, first because Dr. Fontecchio should have been permitted to show an embodiment to the jury as an

⁴ Defendants argue in their Motion for New Trial that the Court did not permit them to address Mr. Dell's alternative hypothetical negotiation date on cross-examination. (Dkt. No. 374 at 3). The Court disagrees and notes that Defendants' counsel did in fact cross-examine Mr. Dell on the subject. (Dkt. No. 349 at 56:16–24) ("Q. The hypothetical negotiation that you put in the report that you gave us said the hypothetical negotiation occurred in late 2008 or early 2009? A. Yes, as well as an alternative hypothetical negotiation date. Q. In the hundred-plus pages, your alleged alternative negotiation was in two footnotes, right? A. Yes, that was incorporating the analysis throughout the 124 pages.")

example of “pull-out current,” and second, because Mr. Credelle offered opinions beyond the scope of his expert report that T3 holds a voltage between the gate and source of T1. (Dkt. No. 374 at 6–7). The Court finds neither argument persuasive.

The Court construed the claim term “write current” to mean “pull-out current.” (Dkt. No. 99 at 23). During trial, Defendants raised their argument regarding Dr. Fontecchio’s use of a non-accused embodiment to show non-infringement of the ’338 Patent claims, and the Court did not permit such use. (Dkt. No. 348 at 540:16–24). “Infringement . . . is determined by comparing an accused product not with a preferred embodiment described in the specification . . . but with the properly and previously construed claims in suit.” *SRI Intern. v. Matsushita Elec. Corp. of America*, 775 F.2d 1107, 1121 (Fed. Cir. 1985). The Court previously concluded and today maintains its conclusion that Dr. Fontecchio’s comparison of Figure 2 of the ’338 Patent to the ’338 Patent Accused Products would be improper.

As to Defendants’ argument regarding Mr. Credelle, the Court finds that his report in fact contained the very opinion Defendants argue was not within his report. Paragraph 124 of Mr. Credelle’s report states that “[d]uring the emission period, T2 and T3 are turned off, which holds the charge on the storage capacitor during the emission cycle,” and shows in Exhibit 2 of his report that the voltage held is between the gate and source of T1. (Dkt. No. 188-4 ¶ 124; Dkt. No. 139-3 ¶ 12). Defendants cite inconsistent deposition testimony from Mr. Credelle, which they had an opportunity to impeach him with during cross-examination. (*See* Dkt. No. 374 at 7) (citing Dkt. No. 139 at 8).

Defendants additionally argue that a new trial is warranted with respect to infringement of the ’311 Patent for the following grounds: (1) the Court’s construction of the term “configured to wrap around one or more edges of a display,” (2) the Court did not allow Defendants to present

evidence that the claims did not cover curved or pebble-shaped devices, and (3) the Court did not permit evidence on non-accused products to show that the accused products lacked the “substantially flexible substrate” that “wrap[s] around one or more edges of a display” element. (Dkt. No. 374 at 7–10).

The Court construed “configured to wrap around one or more edges of a display” to mean “configured to wrap around one or more intersections between two or more surfaces of a display.” (Dkt. No. 99 at 28). Defendants argue that their proposed construction, “wrapped around one or more line segments where two surfaces of a display intersect,” was the correct one and that the Court “erred” in its construction. (Dkt. No. 374 at 7–8). For the reasons noted in the Court’s Claim Construction Order, the Court reaffirms its prior construction. (*See* Dkt. No. 99 at 25–28). Defendants also argue that, even under the Court’s construction, Plaintiff’s infringement theory was improper, because it suggested that any curvature of a surface was an “intersection.” (Dkt. No. 374 at 8). The Court does not find that Plaintiff’s evidence was contrary to its construction, which did not require a particular angle of intersection, but “simply requires two or more surfaces that have an identifiable intersection.” (Dkt. No. 99 at 27).

Defendants argue that the Court erred in not permitting Defendants to present testimony from Dr. Sierros that the Accused Products did not have a touch sensor wrapping around an edge. (Dkt. No. 374 at 8–9). The Court recalls the evidence differently. Dr. Sierros referred to the specification of the ’311 Patent, using the embodiment contained in Figure 7 as an example of intersecting surfaces that “meet[] the Court’s claim construction.” (Dkt. No. 351 at 112:22–113:20). The Court sustained an objection from Plaintiff’s counsel to such testimony. (*Id.* at 114:16–17). Dr. Sierros continued, testifying that something that “wraps into the curve” “would not meet the Court’s claim construction.” (*Id.* at 115:2–5). The Court instructed Dr. Sierros and

made clear that he was not permitted to apply the Court’s claim construction to anything but the ’311 Patent Accused Products. (*Id.* at 116:11–117:1). Defendants also argue that they were wrongly precluded from presenting evidence of the ’311 Patent prosecution history to support their non-infringement argument. (Dkt. No. 374 at 9). The Court finds that there was no proper reason to permit Defendants to present such evidence before the jury in this case.⁵

Defendants were not permitted to present evidence regarding non-accused products to show that the ’311 Patent Accused Products did not have a “substantially flexible substrate” that “wrap[s] around one or more edges of a display,” which Defendants argue was prejudicial error. (*Id.* at 9–10). It is not clear to the Court that Defendants were precluded from presenting such evidence, and Defendants have not cited anywhere in the record that such evidence was proffered. Further, the Court permitted non-accused products to be presented as non-infringing alternatives at trial. (*See* Dkt. No. 279 at 2–3, 11–12).

3. Invalidity of the ’311 Patent

Defendants move for a new trial, arguing prejudicial error due to the Court’s pre-trial denial of their Motion to Exclude and Motion to Strike Certain Opinions Offered by Thomas L. Credelle (Dkt. No. 143; Dkt. No. 279 at 9) with respect to Mr. Credelle’s opinions on conception and reduction to practice of the ’311 Patent. (Dkt. No. 374 at 10). Defendants argue that they did not have notice of nor an opportunity to address Mr. Credelle’s opinions regarding conception and reduction to practice and that a new trial is warranted because the jury could have returned their verdict based on a finding that the Chen reference was not prior art. (*Id.*). For the reasons noted in

⁵ In contrast, if there were a prosecution history estoppel argument raised in response to a doctrine of equivalents infringement theory, there may have been a proper reason for the Court to allow such evidence to be presented to the jury. Defendants made no such argument in this case.

the pre-trial conference transcript and the Court's Order on Pretrial Motions and Motions *in Limine* (Dkt. No. 279), the Court reaffirms its prior ruling and does not find prejudicial error.

4. Willfulness

Defendants argue that the jury's willfulness verdict was against the great weight of the evidence, for the reasons noted in their JMOL Motion on the '311 Patent. (Dkt. No. 374 at 10–11). Defendants also refer to the Patent Trial and Appeal Board's ("PTAB") final written decision, which issued after this trial concluded, invalidating the Asserted Claims of the '311 Patent. (*Id.* at 11) (citing Dkt. No. 359). Defendants contend that the PTAB's decision is new evidence that SDC's belief of the invalidity of the '311 Patent was reasonable and supports amending the Court's Final Judgment pursuant to Rule 59(e). (*Id.*).

For the reasons noted *supra*, II.b.1.iii., the Court does not find that the jury's verdict on willfulness was against the great weight of the evidence. With respect to Defendants' argument regarding the PTAB's final written decision on the '311 Patent, the PTAB's decision, entered March 25, 2021, was not evidence in existence at the time of trial. (*See* Dkt. No. 358-1).

5. Jury Instructions and Verdict Form

Defendants argue that a new trial is warranted due to the Court's instructions to the jury on induced infringement and willfulness, the Court not instructing the jury on independent corroboration of conception and reduction to practice and the EMVR, and because of Questions 1 and 3 on the verdict form. (Dkt. No. 374 at 11–15).

i. Induced Infringement Instruction

The Court instructed the jury that SDC and SEC were liable for active inducement if Plaintiff proved, by a preponderance of the evidence, that "SDC and SEC took action during the time the asserted patents were in force intending to cause infringing acts by SEA," an instruction

to which Defendants objected. (Dkt. No. 352 at 833:13–18; Dkt. No. 354 at 873:23–874:5). Defendants requested an instruction that Plaintiff needed to prove that “SDC and SEC took action during the time the asserted patents were in force intending to cause infringement by SEA.” (Dkt. No. 352 at 834:8–835:1). Defendants move for a new trial on the basis that their proposed instruction was not given by the Court and argue that induced infringement requires knowledge that the induced acts constitute infringement, rather than merely intending acts without knowledge that such acts constitute infringement. (Dkt. No. 374 at 12) (citing *Glob.-Tech Appliances, Inc. v. SEB S.A.*, 563 U.S. 754, 766 (2011); *Astornet Techs. Inc. v. BAE Sys., Inc.*, 803 F.3d 1271, 1279 (Fed. Cir. 2015)).

In fact, the Court instructed the jury that Plaintiff was required to prove by a preponderance of the evidence that “SDC and [SEC] were aware of the asserted patents and knew that the acts, if taken, would constitute infringement of those patents” (Dkt. No. 354 at 874:6–8). The Court’s instruction was almost verbatim the language cited by Defendants from *Glob.-Tech*. See 563 U.S. at 766 (“[I]nduced infringement under § 271(b) requires knowledge that the induced acts constitute infringement.”). Accordingly, the Court does not find that a new trial is warranted on this basis.

ii. Willfulness Instruction

The Court instructed the jury that they “may find that a Defendant’s actions were egregious or wanton if the Defendant acted in reckless disregard of or with deliberate indifference to Solas’s patent rights or if the Defendant was willfully blind to Solas’s patent rights.” (Dkt. No. 354 at 875:17–21). Defendants argue that the Court’s instruction erroneously suggested that willful blindness, reckless disregard, or deliberate indifference were sufficient to support a finding of willful infringement. (Dkt. No. 374 at 12). Rather, Defendants argue, willfulness requires a showing of specific intent and that the conduct rises “to the level of wanton, malicious, and bad-

faith behavior required for willful infringement.” (*Id.* at 13) (citing *Bayer*, 989 F.3d at 987; *SRI Int’l, Inc. v. Cisco Sys., Inc.*, 930 F.3d 1295, 1309 (Fed. Cir. 2019); *Halo*, 136 S. Ct. at 1932).

The Court’s instructions comport with governing law on the requisite mental state for willfulness. *See Eko Brands, LLC v. Adrian Rivera Maynez Enterprises, Inc.*, 946 F.3d 1367, 1378 (Fed. Cir. 2020) (“Under *Halo*, the concept of ‘willfulness’ requires a jury to find no more than deliberate or intentional infringement.”) (citing *Halo*, 136 S. Ct. at 1933). Further, the Court instructed the jury that they “may not determine that the infringement was willful just because one of the Defendants knew of an asserted patent and . . . infringed it [Y]ou may find that a particular Defendant willfully infringed if you find that the Defendants’ behavior was malicious, wanton, deliberate, consciously wrongful, or in bad faith.” (Dkt. No. 354 at 875:4–10). The Court finds that a new trial is not warranted on this ground.

iii. Corroboration

Defendants argue that the Court did not instruct the jury that independent corroborating evidence cannot be derived from the inventor or based on the inventor’s testimony and that such omission was prejudicial error. (Dkt. No. 374 at 13) (citing *Kolcraft*, 927 F.3d at 1325; *Medichem, S.A. v. Rolabo, S.L.*, 437 F.3d 1157, 1170–71; Dkt. No. 352 at 837:3–15). The Court instructed the jury that “[a]n inventor’s own testimony regarding conception and reduction to practice . . . must be sufficiently corroborated by independent evidence.” (Dkt. No. 354 at 881:9–12). The Court finds that its instruction adequately instructed the jury on corroboration. *See, e.g., Kolcraft*, 927 F.3d at 1324 (“Inventor testimony of conception must be corroborated by other, independent information.”) (internal citations omitted). Accordingly, the Court finds that a new trial need not be granted on this issue.

iv. EMVR

Defendants argue that the Court should have, but did not, instruct the jury on the EMVR. (Dkt. No. 374 at 13–14). “[T]he entire market value rule applies when *the accused product* consists of both a patented feature and unpatented features; the rule is designed to account for the contribution of the patented feature to *the entire product*.” *AstraZeneca AB v. Apotex Corp.*, 782 F.3d 1324, 1338 (Fed. Cir. 2015) (emphasis added). In this case, all of the Accused Products were mobile devices, not the display modules. Plaintiff’s damages model was not based on the EMVR. The Court concludes that the omission of an EMVR instruction was not erroneous and a new trial is not necessary.

v. Verdict Form

Defendants object to Question 1 of the verdict form, which did not break down the infringement question by each Defendant, each patent claim, and each product, as requested by Defendants. (Dkt. No. 374 at 14–15). Defendants also object to Question 3, the willfulness question regarding the ’311 Patent, because they argue that the question should have been broken down by each Defendant. (*Id.*).

Question 1 on the verdict form asked the jury, “[d]id Solas prove by a preponderance of the evidence that Samsung infringed **ANY** of the Asserted Claims?” (Dkt. No. 341 at 4). Question 3 asked, “[d]id Solas prove by a preponderance of the evidence that Samsung willfully infringed **ANY** of the Asserted Claims of the ’311 Patent that you found were infringed?” (*Id.* at 6). The jury unanimously answered “yes” to both questions. (*Id.* at 4, 6). The jury’s answers to the remaining questions on the verdict form were consistent with their answers to these questions. Further, as noted *supra*, sufficient evidence was presented to support Plaintiff’s infringement and willful infringement theories. *See Railroad Dynamics, Inc. v. A. Stucki Co.*, 727 F.2d 1506, 1516

(Fed. Cir. 1984) (“[W]hen a jury returns a general verdict, the law presumes the existence of fact findings implied from the jury’s having reached that verdict.”) Accordingly, the Court finds that there was no error in the submission of the verdict form.


vi. Remittitur of ’338 Patent Damages

For many of the same reasons in their Damages JMOL, Defendants argue that damages for infringement of the ’338 Patent should be remitted to half of the jury’s award. (Dkt. No. 374 at 15). For the reasons noted *supra*, II.b.3.iv., the Court finds that the evidence presented supports the jury’s verdict and remittitur is not appropriate here.

IV. CONCLUSION

For the reasons set forth herein, **Defendants’ Rule 50(b) Motion for Judgment as a Matter of Law of Non-Infringement, No Willful Infringement, and Invalidity of the Asserted Claims of the ’311 Patent** (Dkt. No. 371), **Defendants’ Rule 50(b) Motion for Judgment as a Matter of Law of Non-Infringement of the Asserted Claims of the ’338 Patent** (Dkt. No. 372), **Defendants’ Rule 50(b) Motion for Judgment as a Matter of Law of No Damages** (Dkt. No. 373), and **Defendants’ Rule 59 Motion for New Trial** (Dkt. No. 374) are each **DENIED**.

So ORDERED and SIGNED this 25th day of October, 2021.



RODNEY GILSTRAP
UNITED STATES DISTRICT JUDGE