

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

INTELLECTUAL VENTURES I, LLC and)	
INTELLECTUAL VENTURES II, LLC,)	
)	
Plaintiffs,)	
)	
v.)	Civ. No. 11-792-SLR
)	
CANON INC. and CANON U.S.A., INC.,)	
)	
Defendants.)	

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MEMORANDUM OPINION

Dated: May 18, 2015
Wilmington, Delaware


ROBINSON, District Judge

I. INTRODUCTION

On September 9, 2011, plaintiffs Intellectual Ventures I, LLC (“IV I”) and Intellectual Ventures II, LLC (“IV II”) (collectively “IV”) filed suit in this district against defendants Canon Inc., Canon U.S.A., Inc. (collectively “Canon”), Olympus Corporation, Olympus Corporation of the Americas, Olympus America Inc., and Olympus Imaging America Inc. (collectively “Olympus”), alleging infringement of nine patents: U.S. Patent Nos. 5,754,348 (“the ‘348 patent”), 6,121,960 (“the ‘960 patent”), 6,221,686 (“the ‘686 patent”), 6,023,081 (“the ‘081 patent”), 6,979,587 (“the ‘587 patent”), 5,844,264 (“the ‘264 patent”), 6,181,836 (“the ‘836 patent”), 6,412,953 (“the ‘953 patent”), and 7,733,368 (“the ‘368 patent”). (D.I. 1) All claims and counterclaims asserted between IV and Olympus were dismissed with prejudice on December 11, 2012. (D.I. 78) IV voluntarily withdrew its claims as to the ‘836 and ‘368 patents (D.I. 81), and filed a second amended complaint against Canon on January 7, 2013 adding U.S. Patent No. 7,365,298 (“the ‘298 patent”) (D.I. 89). Six patents (“the patents-in-suit”) remain asserted in the present case.

On October 30, 2013, IV filed a motion for summary judgment of infringement and nonobviousness (D.I. 163), and Canon filed a motion for summary judgment of non-infringement (D.I. 168) and invalidity (D.I. 167). In a memorandum opinion and order dated April 10, 2014, the court resolved several summary judgment motions, granting, *inter alia*, IV’s motion for summary judgment of infringement of claims 14 and 16 of the ‘686 patent and denying in part Canon’s motion for summary judgment of non-

infringement of claim 3 of the '081 patent.¹ (D.I. 252; D.I. 253) A five-day jury trial was held on April 28 – May 2, 2014 on infringement and validity of claim 3 of the '081 patent, and validity of claims 14 and 16 of the '686 patent (“trial 1”). On May 2, 2014, the jury returned a verdict that claim 3 of the '081 patent was valid and infringed and that claims 14 and 16 of the '686 patent were valid. A second six-day jury trial was held on May 5 – 12, 2014 on the infringement and validity of claims 1-3 of the '348 patent and claims 19 and 20 of the '960 patent (“trial 2”). On May 12, 2014, the jury returned a verdict that claims 1-3 of the '348 patent and claims 19 and 20 of the '960 patent were valid but not infringed. Presently before the court are the following motions: (1) Canon’s motion for judgment as a matter of law (“JMOL”) regarding the '081 and '686 patents or, in the alternative, for a new trial (D.I. 312); (2) Canon’s motion for JMOL regarding the '348 and '960 patents or, in the alternative, for a new trial (D.I. 315); and (3) IV’s motion for JMOL regarding the '960 and '348 patents or, in the alternative, for a new trial (D.I. 319). The court has jurisdiction pursuant to 28 U.S.C. § 1338.

II. BACKGROUND

A. The Parties

IV I and II are limited liability companies organized and existing under the laws of the State of Delaware, with their principal place of business in Bellevue, Washington. (D.I. 1 at ¶¶ 1-2) IV I owns the '348 patent. (*Id.* at ¶¶ 15) IV II owns the '081, '960, '686, '587, and '298 patents. (*Id.* at ¶¶ 19, 21, 25, 29; D.I. 89 at ¶ 21)

¹ IV requests that the court award expenses and attorney fees pursuant to 35 U.S.C. § 285 arising from the judgments of infringement of the '081 and '686 patents. (D.I. 311) The court agrees that this request is premature and any briefing on this topic should be stayed until damages are awarded and all appeals are fully resolved. (D.I. 311; D.I. 331)

Canon Inc. is a corporation organized and existing under the laws of Japan, with its principal place of business in Tokyo, Japan. (*Id.* at ¶ 3) Canon U.S.A., Inc. is a corporation organized and existing under the laws of New York, with its principal place of business in Lake Success, New York. (*Id.* at ¶ 4) It makes, manufactures, and/or sells the accused products. (*Id.* at ¶ 19)

B. The Technology

The '081, '686, '348 and '960 patents relate to a variety of technologies regarding the manufacture and use of digital cameras. The '081 and '686 patents relate to methods for making and configurations of semiconductor image sensors. The '348 patent relates to digital image magnification, and the '960 patent relates to displaying data on touch screens. The court discusses each patent in more detail *infra*.

III. STANDARDS

A. Renewed Motion for Judgment as a Matter of Law

To prevail on a renewed motion for judgment as a matter of law following a jury trial, the moving party “must show that the jury’s findings, presumed or express, are not supported by substantial evidence or, if they were, that the legal conclusions implied [by] the jury’s verdict cannot in law be supported by those findings.” *Pannu v. lolab Corp.*, 155 F.3d 1344, 1348 (Fed. Cir. 1998) (quoting *Perkin–Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 893 (Fed. Cir. 1984)). “Substantial’ evidence is such relevant evidence from the record taken as a whole as might be acceptable by a reasonable mind as adequate to support the finding under review.” *Perkin–Elmer Corp.*, 732 F.2d at 893. In assessing the sufficiency of the evidence, the court must give the non-moving party, “as [the] verdict winner, the benefit of all logical inferences that could

be drawn from the evidence presented, resolve all conflicts in the evidence in his favor, and in general, view the record in the light most favorable to him.” *Williamson v. Consol. Rail Corp.*, 926 F.2d 1344, 1348 (3d Cir. 1991); *Perkin–Elmer Corp.*, 732 F.2d at 893. The court may not determine the credibility of the witnesses nor “substitute its choice for that of the jury between conflicting elements of the evidence.” *Perkin–Elmer Corp.*, 732 F.2d at 893. In sum, the court must determine whether the evidence reasonably supports the jury’s verdict. See *Dawn Equip. Co. v. Kentucky Farms Inc.*, 140 F.3d 1009, 1014 (Fed. Cir. 1998).

B. Motion for a New Trial

Federal Rule of Civil Procedure 59(a) provides, in pertinent part:

A new trial may be granted to all or any of the parties and on all or part of the issues in an action in which there has been a trial by jury, for any of the reasons for which new trials have heretofore been granted in actions at law in the courts of the United States.

Fed. R. Civ. P. 59(a). The decision to grant or deny a new trial is within the sound discretion of the trial court and, unlike the standard for determining judgment as a matter of law, the court need not view the evidence in the light most favorable to the verdict winner. See *Allied Chem. Corp. v. Daiflon, Inc.*, 449 U.S. 33, 36 (1980); *Olefins Trading, Inc. v. Han Yang Chem. Corp.*, 9 F.3d 282 (3d Cir. 1993); *LifeScan Inc. v. Home Diagnostics, Inc.*, 103 F. Supp. 2d 345, 350 (D. Del. 2000) (citations omitted); see also 9A Wright & Miller, *Federal Practice and Procedure* § 2531 (2d ed. 1994) (“On a motion for new trial the court may consider the credibility of witnesses and the weight of the evidence.”). Among the most common reasons for granting a new trial are: (1) the jury’s verdict is against the clear weight of the evidence, and a new trial must be granted

to prevent a miscarriage of justice; (2) newly-discovered evidence exists that would likely alter the outcome of the trial; (3) improper conduct by an attorney or the court unfairly influenced the verdict; or (4) the jury's verdict was facially inconsistent. See *Zarow-Smith v. N.J. Transit Rail Operations*, 953 F. Supp. 581, 584–85 (D.N.J.1997) (citations omitted). The court must proceed cautiously, mindful that it should not simply substitute its own judgment of the facts and the credibility of the witnesses for those of the jury. Rather, the court should grant a new trial on the basis that the verdict was against the weight of the evidence only where a miscarriage of justice would result if the verdict were to stand. See *Williamson*, 926 F.2d at 1352; *EEOC v. Del. Dep't of Health & Soc. Servs.*, 865 F.2d 1408, 1413 (3d Cir. 1989).

IV. DISCUSSION

A. Standards

1. Infringement

A patent is infringed when a person “without authority makes, uses or sells any patented invention, within the United States . . . during the term of the patent.” 35 U.S.C. § 271(a). To prove direct infringement, the patentee must establish, by a preponderance of the evidence, that one or more claims of the patent read on the accused device literally or under the doctrine of equivalents. See *Advanced Cardiovascular Sys., Inc. v. Scimed Life Sys., Inc.*, 261 F.3d 1329, 1336 (Fed. Cir. 2001). A two-step analysis is employed in making an infringement determination. See *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995). First, the court must construe the asserted claims to ascertain their meaning and scope. See *id.* Construction of the claims is a question of law subject to de novo review. See *Cybor*

Corp. v. FAS Techs., 138 F.3d 1448, 1454 (Fed. Cir. 1998). The trier of fact must then compare the properly construed claims with the accused infringing product. See *Markman*, 52 F.3d at 976. This second step is a question of fact. See *Bai v. L & L Wings, Inc.*, 160 F.3d 1350, 1353 (Fed. Cir. 1998).

“Direct infringement requires a party to perform each and every step or element of a claimed method or product.” *Exergen Corp. v. Wal-Mart Stores, Inc.*, 575 F.3d 1312, 1320 (Fed. Cir. 2009) (internal quotation marks omitted). “If any claim limitation is absent from the accused device, there is no literal infringement as a matter of law.” *Bayer AG v. Elan Pharm. Research Corp.*, 212 F.3d 1241, 1247 (Fed. Cir. 2000). If an accused product does not infringe an independent claim, it also does not infringe any claim depending thereon. See *Wahpeton Canvas Co. v. Frontier, Inc.*, 870 F.2d 1546, 1553 (Fed. Cir. 1989). However, “[o]ne may infringe an independent claim and not infringe a claim dependent on that claim.” *Monsanto Co. v. Syngenta Seeds, Inc.*, 503 F.3d 1352, 1359 (Fed. Cir. 2007) (quoting *Wahpeton Canvas*, 870 F.2d at 1552) (internal quotations omitted). The patent owner has the burden of proving infringement and must meet its burden by a preponderance of the evidence. See *SmithKline Diagnostics, Inc. v. Helena Lab. Corp.*, 859 F.2d 878, 889 (Fed. Cir. 1988) (citations omitted).

To establish indirect infringement, a patent owner has available two theories: active inducement of infringement and contributory infringement. See 35 U.S.C. § 271(b) & (c). To establish active inducement of infringement, a patent owner must show that an accused infringer “knew or should have known [their] actions would induce actual infringements.” *DSU Med. Corp. v. JMS Co., Ltd.*, 471 F.3d 1293, 1306 (Fed.

Cir. 2006). To establish contributory infringement, a patent owner must show that an accused infringer sells “a component of a patented machine ... knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use.” *Golden Blount, Inc. v. Robert H. Peterson Co.*, 365 F.3d 1054, 1061 (Fed. Cir. 2004) (quoting 35 U.S.C. § 271(c)). Liability under either theory, however, depends on the patent owner having first shown direct infringement. *Joy Technologies, Inc. v. Flakt, Inc.*, 6 F.3d 770, 774 (Fed. Cir. 1993).

2. Invalidity

a. Anticipation

Under 35 U.S.C. § 102(e),

a person shall be entitled to a patent unless an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent . . . or a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent.

A claim is anticipated only if each and every limitation as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.

Verdegaal Bros., Inc. v. Union Oil Co., 814 F.2d 628, 631 (Fed. Cir. 1987). A single prior art reference may expressly anticipate a claim where the reference explicitly discloses each and every claim limitation. However, the prior art need not be *ipsissimis verbis* (i.e., use identical words as those recited in the claims) to be expressly anticipating. *Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 716 (Fed. Cir. 1984). A single prior art reference also may anticipate a claim where one of ordinary skill in the art would have understood each and every claim limitation to have

been disclosed inherently in the reference. *Cont'l Can Co. USA Inc. v. Monsanto Co.*, 948 F.2d 1264, 1268 (Fed. Cir. 1991). The Federal Circuit has explained that an inherent limitation is one that is necessarily present and not one that may be established by probabilities or possibilities. *Id.* That is, “the mere fact that a certain thing may result from a given set of circumstances is not sufficient.” *Id.* The Federal Circuit also has observed that “inherency operates to anticipate entire inventions as well as single limitations within an invention.” *Schering Corp. v. Geneva Pharm. Inc.*, 339 F.3d 1373, 1380 (Fed. Cir. 2003). Moreover, recognition of an inherent limitation by a person of ordinary skill in the art before the critical date is not required to establish inherent anticipation. *Id.* at 1377.

Even if the prior art discloses each and every limitation set forth in a claim, such disclosure will not suffice under 25 U.S.C. § 102 if it is not enabling. *In re Borst*, 345 F.2d 851, 855 (C.C.P.A. 1965). “Long ago our predecessor court recognized that a non-enabled disclosure cannot be anticipatory (because it is not truly prior art) if that disclosure fails to ‘enable one of skill in the art to reduce the disclosed invention to practice.’” *Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 314 F.3d 1313, 1354 (Fed. Cir. 2003) (citations omitted). The patentee bears the burden to show that the prior art reference is not enabled and, therefore, disqualified as relevant prior art for an anticipation inquiry. *Id.* at 1355.

An anticipation inquiry involves two steps. First, the court must construe the claims of the patent in suit as a matter of law. *Key Pharm. v. Hercon Lab. Corp.*, 161 F.3d 709, 714 (Fed. Cir. 1998). Second, the finder of fact must compare the construed claims against the prior art to determine whether the prior art discloses the claimed

invention. *Id.* The burden of proof rests on the party asserting invalidity and can be met only by clear and convincing evidence. *Microsoft Corp. v. i4i Ltd. P'ship*, – U.S. –, 131 S. Ct. 2238, 2242, 180 L. Ed. 2d 131 (2011) (“We consider whether [35 U.S.C.] § 282 requires an invalidity defense to be proved by clear and convincing evidence. We hold that it does.”).

b. Obviousness

“A patent may not be obtained . . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art.” 35 U.S.C. § 103(a). Obviousness is a question of law, which depends on underlying factual inquiries.

Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.

KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398, 406 (2007) (quoting *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17-18 (1966)).

“[A] patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.” *KSR*, 550 U.S. at 418. Likewise, a defendant asserting obviousness in view of a combination of references has the burden to show that a person of ordinary skill in the relevant field had a reason to combine the elements in the manner claimed. *Id.* at 418-

19. The Supreme Court has emphasized the need for courts to value “common sense” over “rigid preventative rules” in determining whether a motivation to combine existed. *Id.* at 419-20. “[A]ny need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.” *Id.* at 420. In addition to showing that a person of ordinary skill in the art would have had reason to attempt to make the composition or device, or carry out the claimed process, a defendant must also demonstrate that “such a person would have had a reasonable expectation of success in doing so.” *PharmaStem Therapeutics, Inc. v. ViaCell, Inc.*, 491 F.3d 1342, 1360 (Fed. Cir. 2007).

A combination of prior art elements may have been “obvious to try” where there existed “a design need or market pressure to solve a problem and there [were] a finite number of identified, predictable solutions” to it, and the pursuit of the “known options within [a person of ordinary skill in the art’s] technical grasp” leads to the anticipated success. *Id.* at 421. In this circumstance, “the fact that a combination was obvious to try might show that it was obvious under § 103.” *Id.*

A fact finder is required to consider secondary considerations, or objective indicia of nonobviousness, before reaching an obviousness determination, as a “check against hindsight bias.” See *In re Cyclobenzaprine Hydrochloride Extended-Release Capsule Patent Litig.*, 676 F.3d 1063, 1079 (Fed. Cir. 2012). “Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.” *Graham*, 383 U.S. at 17–18.

“Because patents are presumed to be valid, see 35 U.S.C. § 282, an alleged infringer seeking to invalidate a patent on obviousness grounds must establish its obviousness by facts supported by clear and convincing evidence.” *Kao Corp. v. Unilever U.S., Inc.*, 441 F.3d 963, 968 (Fed. Cir. 2006) (citation omitted). In conjunction with this burden, the Federal Circuit has explained that,

[w]hen no prior art other than that which was considered by the PTO examiner is relied on by the attacker, he has the added burden of overcoming the deference that is due to a qualified government agency presumed to have properly done its job, which includes one or more examiners who are assumed to have some expertise in interpreting the references and to be familiar from their work with the level of skill in the art and whose duty it is to issue only valid patents.

PowerOasis, Inc. v. T-Mobile USA, Inc., 522 F.3d 1299, 1304 (Fed. Cir. 2008) (quoting *Am. Hoist & Derrick Co. v. Sowa & Sons*, 725 F.2d 1350, 1359 (Fed. Cir. 1984)).

B. Canon’s Renewed JMOL Motion (Trial 1)

1. Infringement² of the ‘081 Patent

² The Federal Circuit has held that “a party must have first moved for JMOL under Rule 50(a) at the close of all the evidence in order to preserve the right to renew that same JMOL motion after the jury returns its verdict.” See *Comaper Corp. v. Antec, Inc.*, 596 F.3d 1343, 1347 (Fed. Cir. 2010). The Federal Circuit reasoned that “[i]t is difficult to see how [appellant] met the letter and spirit of the rule, however, when it failed to actually take the step of moving for JMOL,” and instead argued against the opposing parties’ Rule 50(a) motion. *Id.* The Federal Circuit, however, will excuse “technical noncompliance,” such as when a party fails to specifically point out a sub-issue within the overarching 50(a) motion. *MoneyGram Payment Sys. Inc.*, 626 F.3d 1361, 1367 (Fed. Cir. 2010).

Here, Canon moved for JMOL of no infringement, but did not affirmatively move for JMOL of invalidity. (See D.I. 354 at 431:9-435:8, D.I. 355 at 699:12-700:1, 784:13-14) Canon does not dispute that it failed to move for JMOL of invalidity, but argues that its 50(b) motion is nonetheless appropriate because it opposed IV’s motion for JMOL on nonobviousness. (D.I. 355 at 699:6-11) This is not a case of mere “technical non-compliance,” but is rather akin to the situation in *Comaper* where the movant failed to meet “the letter and spirit of the rule.” Accordingly, the court finds that Canon has waived its right to move for JMOL on the issue of obviousness of the ‘081 and ‘686

The '081 patent, titled "Semiconductor Image Sensor," was filed on November 14, 1997 and issued on February 8, 2000. The '081 patent is the parent of the '686 patent and is directed to a specific configuration of an image sensor that includes a "silicide layer." Specifically, the invention seeks to avoid formation of the silicide layer on the light-sensing photodiode. ('081 patent, cols. 1:50-51, 4:34-35) The '081 patent explains that silicide is used as a low-resistance contact material for the transistor transfer gates. (*Id.* at col. 4:36-38) Independent claim 3, the only asserted claim, is reproduced below.

3. An image sensor comprising:

a substrate;

a pinned photodiode on the substrate;

a dielectric layer overlying the pinned photodiode; and

a silicide layer on a portion of the image sensor wherein an area overlying the pinned photodiode is devoid of the silicide layer.

(*Id.* at col. 6:6-15)

a. Canon's evidence

At trial, IV asserted that the following products infringe claim 3 of the '081 patent: Canon's EOS 1Ds Mark III cameras; EOS 5D Mark II cameras; and several models of Canon's Vixia camcorders ("the accused products"). The jury was asked to evaluate

patents. (D.I. 312) Because Canon failed to move for a directed verdict on obviousness at the close of evidence, "it wholly waive[d] the right to mount any post-trial attack on the sufficiency of the evidence." *Greenleaf v. Garlock, Inc.*, 174 F.3d 352, 364 (3d Cir. 1999) (quoting *Yohannon v. Keene Corp.*, 924 F.2d 1255, 1262 (3d Cir. 1991)). As such, the court also denies Canon's motion for a new trial on the issue of obviousness for trial 1. (D.I. 312)

products containing image sensors manufactured with three different processes: (1) Canon EOS 1DS Mark III camera LC1060 image sensors manufactured with the L34 process; (2) Canon EOS 5D Mark II camera LC1100 image sensors manufactured with the L60 process; and (3) Canon Vixia Camcorder LD1050 image sensors manufactured with the O10 process. (D.I. 290 at 1; PTX 1053-1055) Canon argues that IV failed to demonstrate that any of the accused products contain a “silicide layer” as required by claim 3.³ IV’s expert, Dr. Martin Afromowitz (“Dr. Afromowitz”), admitted that he “never [directly] tested any of Canon’s products.” (D.I. 353 at 351:10-13) Rather, he based his infringement opinion on the fact that titanium is deposited in the Canon processes and “[w]herever the titanium touches the bare silicon after an annealing step, you will get titanium silicide.” (D.I. 353 at 333:10-13) Using his knowledge of this “known chemical reaction,” Dr. Afromowitz opined that “the silicide is formed over a portion of the image sensor . . . but it’s not formed over the photodiode.” (D.I. 355 at 731:8-11)

Accompanying Dr. Afromowitz’s testimony were various demonstratives depicting images from Canon process manuals with the silicide layers drawn as red rectangles, which Dr. Afromowitz admitted had a certain thickness and width. (D.I. 353 at 353:10-23; D.I. 314, ex. C at PTX 1074; see *also* PTX 1075, 1088, 1102) On cross-examination, Dr. Afromowitz testified that he did not calculate the thickness or the width of the silicide layer because “it wasn’t germane to the questions that I was trying to answer.” (D.I. 353 at 352:18-353:4) Rather, Dr. Afromowitz speculated that, at least for the O10 process, one could consult a report from third-party TechInsights (“the

³ The parties stipulated that IV owns the ‘081 patent (D.I. 353 at 373:3-5) and that Canon sold the accused products in the United States (D.I. 355 at 702:5-10).

TechInsights report”) (PTX 0157) and “measure with a ruler what length is shown for 200 nanometers and you can estimate the thickness of the layer that way.” (*Id.* at 352:11-20)

Katsuhito Sakurai (“Sakurai”), a witness for Canon, testified that “there's no mention whatsoever of a step for forming silicide” in the L34 process design manual. (*Id.* at 404:5-9) Sakurai explained that Canon does “not attempt to form [silicide] because . . . it doesn't contribute whatsoever to the functioning of our CMOS image sensors.” (*Id.* at 404:12-16) For that reason, Canon does not “test its image sensors for silicide.” (*Id.* at 404:19-23) Sakurai further testified that Canon does not attempt to form silicide in the L60 process (*id.* at 408:14-17) or the O10 process (*id.* at 409:3-410:2). Rather, titanium nitride “is formed as a barrier to prevent corrosion of silicon from tungsten gas when tungsten is later deposited” and titanium “is deposited to enhance the adhesiveness between the titanium nitride that was just deposited and the silicon.” (*Id.* at 408:1-9)

Finally, Canon alleges that Dr. Afromowitz was unable to adequately support his conclusion that the O10 process includes an annealing step. During trial, Dr. Afromowitz testified that “the O10 process guide [does not] specify the annealing step.” (*Id.* at 344:16-19) To cure this deficiency, Dr. Afromowitz consulted the TechInsights report, which “showed [] more detail about this device and its fabrication and its . . . geometry.” (*Id.* at 344:20-25) The TechInsights report “identified that those dark regions are, in fact, silicide, titanium silicide, exactly where I would expect them to appear from Canon's description of their process, except they left out . . . that annealing step, but this confirms that silicide is actually there.” (*Id.* at 347:2-11)

Regarding the reliability of the TechInsights report, Dr. Afromowitz agreed that he did not oversee the test in the TechInsights report, nor did he know who conducted the test. (*Id.* at 355:15-23) He admitted that he has “no direct knowledge” as to whether the images in the report come from Vixia camcorders. (*Id.* at 356:12-14) Canon’s expert, Professor Eric Fossum (“Dr. Fossum”), added that there is no evidence of how the people who wrote the TechInsights report “figured out that that was [titanium silicide].” (D.I. 354 at 547:24-548:24) He testified that he “looked at other SEM pictures that included silicide and the color is different than those pictures.” (*Id.* at 548:7-11) Dr. Fossum opined that there is no “evidence that meets the normal scientific technical kind of test for that particular material that was ever shown in the evidence.” (*Id.* at 548:19-22)

b. IV’s evidence

Both Dr. Afromowitz and Dr. Fossum agree that a “common method to make silicide” is where “one deposits a metal such as titanium on silicon and then anneals it.” (D.I. 354 at 604:11-3; D.I. 353 at 306:21-307:3; PTX 1051) For the L34 process, Dr. Afromowitz consulted Canon’s L34 process manual (PTX 95), and testified that Canon deposits “300 angstroms of titanium” on a silicon wafer, which is then annealed at “600 degrees Centigrade” for 30 minutes. (D.I. 353 at 332:10-19; PTX 1074-1075) When the titanium reacts with silicon, titanium disilicide is formed. (D.I. 353 at 332:19-20) Dr. Afromowitz further testified that, based on the location of the titanium layers at “the bottom of the hole” (D.I. 355 at 728:20-729:5), “silicide is formed over a portion of the image sensor . . . it is the width of the hole, but it's not formed over the photodiode.” (D.I. 355 at 731:8-11; *see also* D.I. 353 at 354:9-16; *id.* at 343:18-344:12) Dr.

Afromowitz stated that the reaction occurs in the same manner in the L60 process. (D.I. 353 at 339:19-340:2; PTX 1088)

Dr. Fossum agreed that, according to the L34 process manual and “the other Canon manuals for the other products that are accused of infringement,” titanium nitrate is deposited “across everything” and then annealed, which is “the recognized way in the industry to form a silicide.” (D.I. 354 at 608:15-610:13) Dr. Albert Theuwissen (“Dr. Theuwissen”), another Canon expert, explained that Canon generally uses a production method wherein tungsten, titanium nitrite and titanium are deposited and then “you edge the whole thing back (indicating) uniformly . . . so that only in the plugs over here (indicating), your percentage of [deposited products] is left.” (D.I. 353 at 265:20-266:8) Ultimately, silicide may be formed “as a kind of byproduct,” though he would not expect the titanium silicide to be present “in every plug.” (*Id.* at 266:9-267:11)

As for the O10 process, Dr. Afromowitz testified that titanium silicide is formed because there are “holes in the layer . . . [s]o when titanium is deposited on the wafer, it . . . goes down to the bottom” and “comes in contact with the silicon underneath.” (*Id.* at 344:5-8; PTX 1102) As discussed, *supra*, Dr. Afromowitz admitted that the O10 process manual did not disclose an annealing step, so he relied on information in the TechInsights report purportedly demonstrating the presence of silicide. (See D.I. 353 at 344:16-19, 347:2-11; PTX 157 at IVCANON00242202) Regarding the reliability of the TechInsights report, Dr. Afromowitz opined that TechInsights is a “very reputable company” that has “been around for 25 years, they do this all the time.” (D.I. 353 at 356:2-3) Both Dr. Afromowitz and Dr. Theuwissen agreed that the images in the

TechInsights report came from the accused Vixia camcorders. (*Id.* at 356:9-11, 264:21-23)

c. Analysis

Canon's non-infringement position hinges on the argument that the court's "claim construction requires some dimensionality to be a 'coating' of silicide." (D.I. 313 at 5) Canon recognizes that IV's testimony focused on establishing the presence of silicide, but argues that such evidence was inadequate without additional evidence regarding the dimensions of the silicide product. (*Id.* at 4) In its memorandum order, the court construed "a silicide layer on a portion of the image sensor wherein an area overlying the pinned photodiode is devoid of the silicide layer" as "[a] coating of silicide over a portion of the image sensor but not covering at least part of the photodiode." (D.I. 252 at 11-12) The court reasoned that "a person of ordinary skill in the art would understand that when titanium metal is deposited on a silicon layer, the resulting silicide layer can be of varying thicknesses depending on the amount of material deposited and reaction conditions." (*Id.* at 12) The court further construed "layer" as "[a] coating of material deposited or formed across a surface," and added the qualification that "layer" need not be a "single thickness." (*Id.* at 9) Other than stating that the silicide must not cover "at least part of the photodiode," the court did not specify any additional restrictions regarding the thickness or width of the silicide layer. Accordingly, IV was not obligated to present evidence regarding the dimensions of the silicide layer other than to demonstrate that the silicide does not cover at least part of the photodiode.⁴

⁴ Canon also moved for a new trial with the argument that Dr. Afromowitz's demonstratives and exhibits were outside of the scope of his expert report. (D.I. 353 at 226:18-228:7; D.I. 355 at 729:6-10) In his expert report, Dr. Afromowitz opined that

As detailed, *supra*, IV presented evidence that in the L34 and L60 processes, titanium is deposited on the silicon substrate and then annealed, resulting in the formation of titanium disilicide.⁵ (See D.I. 353 at 332:10-20) IV satisfied its obligation to demonstrate that “an area overlying the pinned photodiode is devoid of the silicide layer” by presenting evidence that the silicide will form over a portion of the image sensor, but not over the photodiode. (D.I. 355 at 731:8-11) Canon countered with evidence that Canon does not “attempt to form [silicide],” nor does it “test its image sensors for silicide.” (D.I. 353 at 408:14-17, 404:19-23) Through Dr. Theuwissen, Canon presented evidence that the titanium disilicide might not be present in every plug. (*Id.* at 266:9-267:11) However, Canon was unable to dispute the possibility that silicide could form under the practiced conditions. (D.I. 354 at 608:15-610:13; D.I. 353 at 265:20-266:8)

Unlike the L34 and L60 processes, IV did not point to evidence of an annealing step in Canon’s O10 process reports. (D.I. 353 at 344:16-19) However, IV did produce evidence in the form of the TechInsights report that the Vixia image sensors contain silicide. (*Id.* at 344:16-19, 347:2-11) Canon had ample opportunity to question the

“Canon’s L34 Process Design Manual discloses that 300 Å of Ti is deposited on bare Si and then annealed at 600° C in process element AL1 . . . No silicide is formed overlying the photodiode.” (D.I. 314, ex. D, ex. G at 4-5) Canon argues this opinion fails to address the dimensions of the silicide, yet Dr. Afromowitz used demonstratives depicting the silicide layer with some thickness and width. (D.I. 314, ex. C at PTX 1074) Because the court finds that Dr. Afromowitz was not obligated to present evidence regarding the precise dimensions of the silicide to fully address the claim limitations, the use of demonstratives depicting the silicide layer as generic rectangles in the areas where Dr. Afromowitz theorized the silicide would form do not constitute a miscarriage of justice. Accordingly, the court denies Canon’s motion for a new trial on the issue of infringement for trial 1. (D.I. 312)

⁵ As explained in Dr. Afromowitz’s expert report, “a silicide is a compound containing Silicon and a metal” such as titanium disilicide. (D.I. 314, ex. D, ex. G at 5)

credibility of the TechInsights report through cross examination (*id.* at 355:15-23) and through its own expert testimony (D.I. 354 at 547:24-548:24). The court cannot act as an independent factfinder in selecting the most credible testimony.

Insofar as Canon presented a question of fact regarding the formation of a silicide layer on the image sensor but not on the pinned photodiode, the court is charged with determining whether there is evidence upon which the jury could properly find for the non-moving party. Viewing the record in the light most favorable to IV, the court concludes that a jury could properly credit the testimony of IV's experts above that of Canon's experts and determine that a silicide layer is formed on the image sensor, but not on an area overlying the pinned photodiode using all three accused image sensors. The court denies Canon's motion for judgment as a matter of law with respect to infringement of claim 3 of the '081 patent. (D.I. 312)

C. Canon's Renewed JMOL Motion (Trial 2)

1. Anticipation⁶ of the '348 Patent

⁶ At the close of evidence, Canon moved for JMOL of anticipation of the asserted claims of the '348 patent and '960 patents, but did not move for JMOL of obviousness. (D.I. 360 at 990:5-8) Specifically, Canon's counsel stated that "for the record, defendants make a motion for **anticipation** of both the claim 1 to 3 of the '348 patent and claims 19 and 20 of the '960 patent based upon the references presented. Shall I tell you – I can read them to you, if you'd like." (*id.* at 990:5-10) (emphasis added) The court responded that "I think we've heard them already. I appreciate the motion." (*id.* at 990:11-12) Canon contends that it did not raise the issue of obviousness because it did not want to belabor the record. Canon also contends that the act of opposing IV's motion of no anticipation or obviousness provided sufficient notice to justify a 50(b) motion. (*id.* at 985:19-986:6) Although the court generally adopts a lenient 50(a) motion policy, it cannot, as an issue of fairness to the opposing party, allow a party to argue an entirely distinct legal issue in a 50(b) motion that was not raised under 50(a) during trial. See *Duro-Last, Inc. v. Custom Seal, Inc.*, 321 F.3d 1098, 1107 (Fed. Cir. 2003) (because "obviousness and anticipation . . . are legally distinct and separate challenges to a patent's validity," "a pre-verdict JMOL motion on anticipation is not sufficient to support a post-verdict JMOL on obviousness") (citing *Union Carbide*

The '348 patent, titled "Method for Context-Preserving Magnification of Digital Image Regions," was filed on May 14, 1996 and issued on May 19, 1998. The '348 patent is directed to a method for digital image magnification in a graphical user interface that allows simultaneous viewing of the magnified image and its unmagnified context. ('348 patent, Abstract) The '348 patent addresses the problem faced by a user who "experiences difficulty discerning small details and would like to view a portion of the image in a magnified format." (*Id.* at col. 1:12-14) Asserted claims 1-3 of the '348 patent are directed to magnifying a selected region of a digital image in a graphical user interface, and superimposing the magnified image window – a "floating plane region" – over the selected region of the original image to preserve the context of the selected region. Independent claim 1 and dependent claims 2 and 3 are reproduced below.

1. A method of digital image magnification in a graphical user interface, the method comprising: selecting for magnification a selected region of an original image in the graphical user interface; and superimposing on the original image a floating plane region in the graphical user interface containing a magnified image of the selected region, wherein the floating plane region has an area larger than an area of the selected region and smaller than an area of the original image, such that the selected region of the original image is magnified and viewed while preserving the context of the selected region.

Chems. & Plastics Tech. Corp. v. Shell Oil Co., 308 F.3d 1167, 1188 (Fed. Cir. 2002). Canon gave no indication that it intended to move for JMOL of obviousness, instead offering to expand on its JMOL for anticipation. Moreover, for the reasons explained with regard to Canon's 50(b) motion for obviousness of the '081 and '686 patents, *supra*, the court finds that Canon did not properly move under 50(a) by merely objecting to IV's JMOL on validity. Accordingly, the court finds that Canon waived its right to move for JMOL on the issue of obviousness of the '348 and '960 patents. Because the court did not rely on any allegedly new arguments presented by Canon in its reply brief for trial 1 (D.I. 340) or trial 2 (D.I. 342) in reaching its conclusion, the court denies as moot IV's motion for leave to file a sur-reply brief addressing said arguments. (D.I. 348)

2. The method of claim 1 further comprising restoring a portion of the original image, wherein the portion restored was previously covered by a prior position of the floating plane region.

3. The method of claim 1 wherein the floating plane region is superimposed on the original image such that the floating plane region covers the selected region of the original image.

(*Id.* at col. 5:16-35)

At trial, Canon argued that claims 1-3 of the '348 patent are anticipated by: (1) Japanese Publication No. 4-142661, titled "Information Processing Apparatus" ("Sano") (D.I. 317, ex. C (original)); D.I. 317, ex. D (English translation)); (2) a video by Bier et al. entitled "Toolglass and Magic Lenses: The See-Through Interface" (the "Toolglass video") and accompanying article;⁷ (3) Kline & Glinert, "Improving GUI Accessibility for People with Low Vision," CHI '95 (1995) ("Kline") (D.I. 317, ex. G); and (4) U.S. Patent No. 5,818,455, titled "Method and Apparatus for Operating on the Model Data Structure of an Image to Produce Human Perceptible Output Using a Viewing Operation Region Having Explicit Multiple Regions" ("Stone") (D.I. 317, ex. H).

a. Sano

i. Evidence

The sole dispute between the parties is whether Sano discloses the limitation of "digital image magnification." (See D.I. 360 at 934:1-4) Canon's expert, Dr. Steven Feiner ("Dr. Feiner"), presented a methodical opinion to the jury, detailing how Sano

⁷ Dr. Feiner testified that the Toolglass article was designed to accompany the video and be a "paper record of what was on video." (D.I. 360 at 735:21-736:2) Dr. Feiner agreed that "the same people and the same body of work is behind" the Toolglass article, the Toolglass video, and Stone. (*Id.* at 838:12-25)

allegedly anticipates each limitation of claims 1-3 of the '348 patent. (*Id.* at 712:10-726:2) With respect to the disclosure of “digital image magnification,” Dr. Feiner opined that Sano “shows digital image magnification, because in this case it happens to be magnifying pixels.” (*Id.* at 713:21-25) More specifically, Dr. Feiner opined that the magnified section in Sano is “taken from a bit image obtained in the usual mode to the bit image magnified under the magnification M. . . . So it magnified a representation that happens to be in the form of bits, pixels.” (*Id.* at 716:25-717:8, 716:3-5) For example, Dr. Feiner pointed to figure 2 as depicting “a piece of a digital image represented in terms of pixels, and it's going to be magnified in the larger area around the outside of what Sano refers to as a pseudo loupe.”⁸ (*Id.* at 712:14-19)

IV's expert, Dr. Dan Schonfeld (“Dr. Schonfeld”), responded “that Sano does not disclose digital image magnification” because Sano “relates exclusively to documents and represents everything in terms of magnification resulting in characters, character strings, input and editing of characters, [and] cursors.” (*Id.* at 941:17-24) Dr. Schonfeld also noted that “the end result of magnification is a character SA . . . [and] the cursor is displayed on the screen.” (*Id.* at 943:1-5) In other words, Sano is “referring to not [sic] pixels, it's referring to actual characters, either fonts or in a word processing program.” (*Id.* at 911:11-13) He explained that “[i]f you are doing digital image magnification, you don't have a cursor, you don't know what the underlying character is, you don't know if

⁸ At trial, IV challenged Dr. Feiner's credibility by highlighting allegedly inconsistent statements. (D.I. 360 at 717:23-718:1, 837:3-838:11 (initially testifying that figures 3 through 9 of the '348 patent “all show text being magnified” and later testifying that the examples in the '348 patent also relate to images); see also *Id.* at 831:16-19, 832:16-18 (disagreeing then later admitting that the first draft of his invalidity report was typed by Canon's lawyers).

there's a character at all, you just have pixels and you have no idea what they represent when you are doing digital image magnification or digital image processing of any kind.” (*Id.* at 912:10-15) Functionally, “Sano is “representing characters in the form of . . . pixels on the screen. Then you take the characters back to the computer program, replace them by other characters, regenerate the . . . final bitmap and then you display it on the screen, so the magnification itself takes place, part of the computer program representing the character strings.” (*Id.* at 937:14-17)

Although Dr. Schonfeld opined that the “Sano patent is exclusively designed for text documents” (*id.* at 910:25-:911:1), he admitted that Sano “does not describe a character replacement system” in that it “does not talk about the magnification in any detail other than to say that the bitmap is enlarged and you have a new bitmap corresponding to characters.” (*Id.* at 943:7-11) He agreed that the video RAM in Sano contains a bitmap image “with the understanding that whenever you do magnification, whether it's of a data structure with a circle or a program, you have to begin with the bit image and the end result will always be a bit image, because that's the only thing that can be displayed on the screen.” (*Id.* at 947:13-23) Dr. Schonfeld characterized the central question as “whether you do it directly or whether you have to go back to the program and do manipulation of the program.” (*Id.* at 947:18-25)

ii. Analysis

Fundamentally, the parties dispute the proper construction of the term “digital image magnification” in the preamble of independent claim 1 of the ‘348 patent. A disagreement over the interpretation of the disputed term was raised at the April 11, 2014 pretrial conference, and the court issued a supplemental claim construction order

on May 5, 2014 to resolve the dispute prior to presentation to the jury.⁹ (D.I. 296 at 1) The court construed “digital image magnification in a graphical user interface” as “expanding image data – which may be represented in the form of pixels, a page description language, or any other form – on the screen of a digital device.” (*Id.* at 1-2) The court further explained that “magnification” is “the expansion of an image,” “consistent with its ordinary meaning and the definition given by the inventor of the ‘348 patent.” (*Id.* at 2) Additionally, a “graphical user interface’ is the screen of the digital device where the image data is displayed.” (*Id.*)

At trial and in its post-trial briefing, IV seemingly interpreted the language “on the screen of the digital device” in the court’s construction to mean that the magnification program must manipulate the pixels displayed on the screen, not the underlying data structure. (See D.I. 334 at 3) In distinguishing Sano, Dr. Schonfeld stated that Sano is “referring to not [sic] **pixels**, it’s referring to actual characters” (D.I. 360 at 911:11-13) (emphasis added), and that Sano “has nothing to do with an [sic] manipulation **of image pixels themselves**” (*id.* at 913:15-19) (emphasis added). IV made a similar argument in advocating for its proposed claim construction of “digital image magnification,” asserting that although the specification states that “[t]his image data may be represented in the form of pixels, a page description language, or any other form” (‘348 patent, col. 4:27-29), the image data may not truly be in “any form” because it must be “displayed on the screen.” (D.I. 269 at 4) Consistent with this argument, IV proposed the construction, “an image that has been converted into an array of pixels, each of which has an associated value,” which it believed more accurately reflected the “plain

⁹ Trial ran from May 5-12, 2014.

meaning” of the term. (*Id.* at 2-5) IV’s arguments at trial more closely tracked its proposed construction than the construction ultimately adopted by the court.

By including the language “on the screen of a digital device,” the court did not intend to exclude manipulation of image data represented in a non-pixel form. Rather, the court directly stated that image data “may be represented in the form of pixels, a page description language, or any other form.” (D.I. 296 at 2) The court recognizes that IV’s technical argument may align with one “traditional” understanding of digital image magnification where a magnifier “simply replicate[s] the pixels of the displayed image.” (DTX-335 at DEFS_0015866) The court’s understanding of claim scope is not so limited, however, and the court is not inclined to make further changes to the landscape of the claim construction in the post-trial context. As recognized by the court in its claim construction analysis, the ‘348 patent states that “[i]t will be appreciated that preserving visual context is especially advantageous when **magnifying a line of text** or other image data whose interpretation is context dependent.” (‘348 patent, col. 2:19-21) (emphasis added) As “digital image magnification” is the only disputed limitation, and the court finds that IV’s interpretation of the term is not consistent with the court’s claim construction, the court grants Canon’s renewed motion for judgment as a matter of law with respect to anticipation of the ‘348 patent by Sano. (D.I. 315)

b. Toolglass video

i. Evidence

As with Sano, the sole dispute between the parties is whether the Toolglass video discloses the limitation of “digital image magnification.” (See D.I. 360 at 935:16-24) Dr. Feiner again presented a step-by-step analysis of how the reference allegedly

anticipates all limitations of the '348 patent. (*Id.* at 726:3-747:8) Dr. Feiner highlighted a section of the Toolglass video describing “pixel doubling” by “apply[ing] a lens to the display pixels themselves” as an example of digital image magnification. (*Id.* at 740:2-9) Dr. Schonfeld disagreed that the technique of pixel doubling was an example of digital image magnification, opining that “[i]t is just making the lines wider, just like bolding them, so you can see them more clearly. It’s not magnifying them. The magnification appeared in the previous technique, which was not based on pixel operation.” (*Id.* at 900:9-13) Dr. Schonfeld elaborated that “it was clear that what is shown there is not digital image magnification and, in particular, it’s not expanding image data under the Court’s construction because it is doing a technique on a data structure itself.” (*Id.* at 900:16-21) Such a technique sacrifices “the ability to work with any type of data, image, text or whatever and only work with focused data.” (*Id.* at 902:18-23) In contrast, Dr. Schonfeld opined that the '348 patent contemplates a “generic” technique “that could be applicable to any type of data.” (*Id.* at 904:1-3)

Dr. Feiner interpreted Dr. Schonfeld’s testimony to mean that “page description language data doesn’t qualify as image data for magnification.” (*Id.* at 965:6-966:8) Dr. Feiner opined that such a position is contrary to the court’s claim construction, where the “definition says that image data may be represented in the form of a page description language and the patent also explicitly states that.” (*Id.* at 965:18-966:8)

ii. Analysis

By arguing that the Toolglass video does not anticipate because the magnification is not “based on pixel operation” (*id.* at 900:9-13), IV reiterates the same argument it made with respect to Sano. Essentially, IV argues that the Toolglass video

contemplates a “technique on a data structure itself” and, therefore, does not fall within the ambit of the court’s claim construction. (*Id.* at 900:16-21) For the reasons stated, *supra*, the court finds that magnification performed on the underlying data structure, whether in the form of page description language or another form, qualifies as “digital image magnification” under the court’s construction. As IV admitted that the technique in the Toolglass video results in an expansion of the selected image (*see id.* at 898:6-9 (describing how the Toolglass video describes magnifying a map section)), but instead bases its non-anticipation position on the flawed assumption that manipulation of the underlying data structure is not digital image magnification, the court grants Canon’s renewed motion for judgment as a matter of law with respect to anticipation of the ‘348 patent by the Toolglass video. (D.I. 315)

c. Kline

i. Evidence

The parties agree that Kline discloses digital image magnification (*id.* at 938:12-19), but dispute whether Kline discloses the “floating plane” limitation insofar as the formation of a floating plane must preserve the “context of the selected region” (*id.* at 938:20-939:3). Dr. Feiner testified that Kline “tells us about different ways to use a magnifier . . . [where] the magnified area follows the mouse pointer around the screen, dynamically showing whatever lies beneath it.” (*Id.* at 761:7-10; DTX 3281) Dr. Feiner presented a detailed invalidity opinion, comparing each limitation of the ‘348 patent to disclosures in Kline. (D.I. 360 at 756:21-762:6) As for the “floating plane limitation,” Dr. Feiner testified that Kline describes how a “magnified area follows the mouse pointer around the screen, dynamically showing whatever lies beneath it” (*id.* at 761:7-10),

which results in a magnified image “on top of the original image” (*id.* at 762:1-4). Dr. Feiner also testified that, although Kline did not visually depict “a floating plane region being superimposed on top of and covering the selected region,” it “certainly described” the technique in that it “show[ed] the magnified stuff, being sticky to the mouse pointer and obscuring the area that it’s actually magnifying.” (*id.* at 766:5-13)

In formulating his validity opinion, Dr. Schonfeld divided the figures of the ‘348 patent into two categories: (1) a “simplified embodiment” as depicted in figures 3 and 4 where the magnified image window “is far removed from the selected region” “in order to preserve context;” and (2) a “preferred embodiment” as depicted in figures 5 and 6 where the magnified image covers the selected region. (D.I. 358 at 376:24-377:22) In Dr. Schonfeld’s opinion, the asserted claims only cover the preferred embodiment.¹⁰ (*Id.*) Dr. Schonfeld analogized the disclosure in Kline to the simplified embodiment of the ‘348 patent, testifying that the magnified window was “separate like the simplified embodiment,” but there is “no relationship between” the magnified window and the region that is being magnified. (D.I. 360 at 914:17-24) Dr. Schonfeld testified that the disclosure in Kline also fails to anticipate the preferred embodiment because Kline “teaches that the . . . area which is to be magnified is not centered around the pointer’s location. Instead, the area immediately above and to the right of the pointer is magnified. This is done in an effort to reduce the loss of the local context.” (*Id.* at

¹⁰ Dr. Schonfeld admitted that his interpretation of claim scope was not informed by “the Court’s [claim] construction in isolation,” but rather he arrived at his opinion by considering the claim language requiring that content be preserved. (D.I. 360 at 948:24-949:3) When asked whether box 110 in figure 3 of the ‘348 patent “contained a magnified image of a region of a digital image,” Dr. Schonfeld admitted that “[i]t does.” (*Id.* at 949:4-6)

915:13-18) Altogether, Kline lacks the “preserving context” limitation because: (1) it does not “mark where the region you are magnifying . . . by putting dotted lines” as in the simplified embodiment of the ‘348 patent; and (2) it does not “impos[e] the floating plane on top” of the selected region as in the preferred embodiment of the ‘348 patent.¹¹ (*Id.* at 914:11-915:25)

ii. Analysis

Again, the court is presented with what is essentially an issue of claim scope. During the claim construction exercise, the parties presented the term “floating plane” in claim 1 of the 348 patent for construction. In its claim construction brief, IV argued that Canon’s proposal should not be adopted because it imported a limitation from the preferred embodiment, arguing that “particular embodiments appearing in a specification [should] not be read into the claims when the claim language is broader than such embodiments.” (D.I. 144 at 20) Canon responded that IV should be prevented from “seek[ing] to expand the asserted claims to cover the simplified embodiment.” (D.I. 150 at 21) The court adopted IV’s construction of “a window over a digital image that contains a magnified image of a region of the digital image,” explaining that “so long as the claim is construed broadly enough to encompass the preferred embodiment, the Federal Circuit has rejected the contention that the claim should be limited to such.” (D.I. 252 at 2) Notwithstanding the court’s implicit determination that claim 1 covers both the preferred and simplified embodiments, IV argued at trial that claim 1 only covers the preferred embodiment. IV’s position that

¹¹ IV also argues that the “superimposed” limitation requires that the magnified region overlap the original image, but relies on attorney argument to support the conclusion that such a limitation is absent from Kline. (D.I. 334 at 9-10)

Kline does not anticipate because it does not “impos[e] the floating plane on top” of the selected region as in the preferred embodiment, therefore, runs contrary to the court’s claim construction. However, IV also presented the alternative argument that Kline is unlike the simplified embodiment in that it does not “mark where the region you are magnifying . . . by putting dotted lines.” (D.I. 360 at 914:17-20) The jury was free to credit Dr. Schonfeld’s opinion that Kline does not preserve context by failing to mark the correspondence between the magnified image and the selected region. Accordingly, the court denies Canon’s renewed motion for judgment as a matter of law with respect to anticipation of the ‘348 patent by Kline. (D.I. 315)

d. Stone

i. Evidence

The parties dispute whether Stone discloses both the “digital image magnification” and “floating plane image” limitations. (D.I. 360 at 905:3-6) Dr. Feiner testified that Stone discloses two kinds of magnifiers: (1) “one in which we see the magnified region on top of the selected region;” and (2) one in which “the selected region and the magnified region do not overlap.” (*Id.* at 748:21-749:2) Dr. Feiner opined that, under the court’s claim construction, “both of these [figures] show floating planes that are magnified.” (*Id.* at 749:9-15) Dr. Schonfeld disagreed, testifying that digital image magnification is not disclosed because Stone describes “graphical magnification,” not digital “pixel level operations.” (*Id.* at 906:17-19, 963:13-18) Dr. Schonfeld stated that “the Stone patent actually devotes about two columns or a column and a half exclusively to teach why one should avoid [expanding an image] and rely only on graphical magnification and not digital image magnification.” (*Id.* at 963:13-18)

Dr. Feiner countered with the opinion that Stone describes magnification of “images that are represented as pixels.” (*Id.* at 750:12-15) Specifically, Dr. Feiner pointed to a disclosure in Stone in which “page description language representation can include scanned images, which are themselves represented in terms of pixels.” (*Id.* at 751:6-8)

Regarding the floating plane limitation, Dr. Schonfeld testified that “the background section” of Stone discloses how “the magnified region is superimposed above the selected region for the data,” but “it teaches that we . . . should avoid it and tries to find a solution for it” by “having separated selected region and separate magnified region.” (*Id.* at 907:24-908:24) Instead, Stone teaches doing “something that is closer to the simplified embodiment, which is not the claimed invention.” (*Id.* at 908:25-909:3) Dr. Feiner opined that “the magnified region is going to be on top of the region that has been selected,” providing an example of how a letter “M” is magnified and “cover[s] the selected region of the original M.” (*Id.* at 755:16-25)

ii. Analysis

As for the disclosure of “digital image magnification,” the court explained, *supra*, that even if magnification is not at the “pixel level,” it nonetheless may qualify as digital image magnification under the court’s construction. Therefore, for substantially the same reasons articulated with regard to Sano and the Toolglass video, the court finds that IV’s attempt to limit the claim to “pixel level” operations is contrary to the court’s claim construction, and that Stone discloses “digital image magnification.”

As for disclosure of a “floating plane,” the court explained, *supra*, that claim 1 of the ‘348 patent covers both the preferred “overlapping” embodiment and the simplified embodiment. Therefore, IV improperly argued at trial that Stone does not anticipate the

'348 patent because Stone discloses "something that is closer to the simplified embodiment." (*Id.* at 908:25-909:3) Unlike independent claim 1, claim 3 explicitly requires superimposition in that "the[] floating plane regions need to be on top of and covering the original selected region." (*Id.* at 755:13-15) IV presented evidence by way of expert opinion that Stone does not teach the "superimposed" limitation (*id.* at 907:24-908:24), and the jury was free to credit such testimony over Dr. Feiner's opinion that Stone does disclose an example of superimposition (*id.* at 755:16-25). Accordingly, the court grants Canon's renewed motion for judgment as a matter of law with respect to anticipation of claims 1 and 2 of the '348 patent by Stone,¹² and denies Canon's renewed motion for judgment as a matter of law with respect to anticipation of claim 3.¹³ (D.I. 315)

2. Anticipation of the '960 Patent

The '960 patent, titled "Touch Screen Systems and Methods," was filed on August 28, 1997 and issued on September 19, 2000. It claims priority to provisional application no. 60/024,780 filed on August 28, 1996, which claims priority to provisional application no. 60/028,028 filed on October 9, 1996, which claims priority to provisional application no. 60/036,195 filed on January 21, 1997. The '960 patent is directed to touch screens that can simultaneously display a keyboard-type image superimposed on a background image. (See '960 patent, col. 1:16-19) The '960 patent relates to a

¹² The parties do not distinguish independent claim 1 and dependent claim 2 in their briefing, so the court assumes that a finding of anticipation regarding claim 1 applies equally to claim 2.

¹³ As the court grants, in part, Canon's renewed motion for judgment as a matter of law as to invalidity, it denies Canon's contingent motion for a new trial on invalidity. (D.I. 315)

technique of superimposing images called “variable-pixel control,” which technique employs “logical operators” to determine which pixels are used to display the keyboard image and which are used to display the main image. (See *id.* at cols. 2:8-12, 4:33-41) IV alleged that Canon infringes claims 1, 7, 12, 19-20, 26, and 28-30 of the ‘960 patent through the function panel in Canon’s accused products. (D.I. 192 at 10) The court granted summary judgment of invalidity of claims 1, 7, 12, and 28-30 of the ‘960 patent, but denied Canon’s motion for summary judgment of invalidity of claims 19 and 20. (D.I. 253 at 18-20) Claims 19 and 20 are reproduced below.

19. A method of superimposing a representation of at least one key over a main image provided by a computing device, the method comprising:

(a) using variable-pixel control to form a representation of at least one key, the representation of at least one key activating an input function, and to form the main image, the variable-pixel control causing pixels selected to form the representation of at least one key to be activated simultaneously with pixels selected to form the main image; and

(b) generating and displaying a composite image visible to a user of the screen peripheral system, the composite image simultaneously including the representation of at least one key and the main image produced by the computing device, the representation of at least one key being superimposed on the main image;

wherein the variable-pixel control allows individual pixels to be dedicated simultaneously to both the main image and the representation of at least one key.

(‘960 patent, col. 13:46-64)

20. The method of claim 19, wherein the step of (b) includes the step of merging the representation of at least one key with the main image.

(*Id.* at col. 13:65-67)

At trial, Canon argued that claims 19 and 20 of the '960 patent are anticipated by: (1) U.S. Patent No. 5,638,501, titled "Method and Apparatus for Displaying an Overlay Image" to Gough, et al. ("Gough") (D.I. 317, ex. J); (2) U.S. Patent No. 5,148,155, titled "Computer with Tablet Input to Standard Programs" to Martin et al. ("Martin") (D.I. 317, ex. K); and (3) U.S. Patent No. 5,651,107, titled "Method and Apparatus for Presenting Information in a Display System Using Transparent Windows" to Frank et al. ("Frank") (D.I. 317, ex. L).

a. Gough

i. Evidence

The parties dispute whether Gough discloses "variable pixel control" and pixels "dedicated simultaneously" to both the main image and the keyboard image. (See D.I. 360 at 921:5-923:13) Dr. Feiner presented a limitation-by-limitation analysis demonstrating how Gough anticipates claims 19 and 20 of the '960 patent. (*Id.* at 794:3-801:18) Regarding "variable pixel control," Dr. Feiner testified that Gough describes a "blending engine process 114, so this is a computer process that is going to be used to do the blending." (*Id.* at 796:24-797:1) Dr. Feiner opined that Gough discloses a program because "the programming is how you set up the blending engine and what decisions you make about the pixels that are going to be in the representations, the keyboard and the background, as well as there's the shield rectangle . . . which shields the blending process from parts of the screen." (*Id.* at 974:8-13)

Dr. Schonfeld responded that the programs referred to by Dr. Feiner "are not programs that perform the selection that is described. These are programs that just

simply generate windows that later on need to be selected if you want to practice the invention.” (*Id.* at 921:17-20; DTX 335-3341) Using figure 7 of Gough as a reference, Dr. Schonfeld opined that “[t]he application program simply generates whatever window you have and then it is simply blended regardless of wherever it may appear. And so the program doesn’t actually select any pixels for the main image or for the window.” (D.I. 360 at 922:2-7; DTX 3339-40) Dr. Schonfeld agreed on cross-examination that “there are pixels in [Gough] that are used to display the main image” and that “there are pixels that are used to display a key.” (D.I. 360 at 956:13-21) However, he reiterated that “[t]here is no programing, no determination, and no selection You just simply have another program generate an application.” (*Id.* at 956:24-957:4; *see also id.* at 956:7-10) When asked how the pixels “get there,” he opined that they “get there by the application, not by the composition.” (*Id.* at 957:14-15)

As for the “dedicated simultaneously” limitation, Dr. Feiner opined that “[t]he point that was being made in Gough is each one of these blendable units, and that, for example, is a blendable unit over here, a blendable unit, that they can be anywhere in the range of 1 to 32 pixels where a pixel is the smallest display unit.” (*Id.* at 974:22-975:2; DTX 3343) Dr. Schonfeld admitted that “[y]ou can use any technique for blending as long as you have individual pixels that can . . . represent both images at the same time.” (D.I. 360 at 882:3-8) Nonetheless, he went on to testify that Gough “does not describe individual pixels that are dedicated simultaneously. What it describes is taking chunks of images of size of four by four, so 16 blended units, each of them of size from 1 to 32 pixels, each one, that are shown over here in the square boxes.” (D.I. 360 at 922:16-20; *see also id.* at 954:11-955:5; DTX 3341) Moreover, Gough is

“completely silent of the blending operation itself.” (D.I. 360 at 923:7-9) According to Dr. Schonfeld, the treatment of chunks of pixels or blending units is “a different approach” because “the blending is not done on individual pixels because as we see over here, it's done in rows at a time, and these rows correspond to bins of 1 to 32 pixels each and there are four of them together.” (*Id.* at 923:7-13)

ii. Analysis

During the claim construction exercise, the parties agreed that “variable-pixel control” means “programming to determine and control which pixels of the screen will be used for displaying at least one key (or other input zone) and which pixels will be used for displaying the main image.” (See, e.g., D.I. 360 at 785:11-15) Dr. Schonfeld provided testimony that Gough does not disclose programming as required by the agreed-upon claim construction because “the program doesn’t actually select any pixels for the main image or window.” (*Id.* at 922:2-7) Dr. Schonfeld’s opinion that the image pixels are displayed by having “another program generate an application” might have been poorly articulated, but it is the job of the jury, not the court, to assign appropriate weight to the testimony. Dr. Schonfeld also testified that Gough “does not describe individual pixels that are dedicated simultaneously” (*id.* at 922:16-20), but rather describes blending “chunks of pixels” (*id.* at 923:7-13). Even if Dr. Schonfeld’s admission that any technique may be used for blending (*id.* at 882:3-8) contradicts his later statement that blending of chunks of pixels is not within the scope of the claims, such a contradiction would affect the credibility of the witness, a topic squarely within the purview of the jury. Altogether, the court finds that there was substantial evidence supporting the verdict that Gough does not anticipate claims 19 and 20 of the ‘960

patent. Accordingly, the court denies Canon's renewed motion for judgment as a matter of law with respect to anticipation of claims 19 and 20 of the '960 patent by Gough. (D.I. 315)

b. Martin

i. Evidence

The parties dispute whether Martin discloses individual pixels "dedicated simultaneously" both to the main and keyboard images. (See *id.* at 927:6-16) Dr. Feiner provided a stepwise comparison of Martin to claims 19 and 20 of the '960 patent. (*Id.* at 801:20-809:12) Dr. Feiner testified that Martin discloses how a "mask plan . . . [is] used to determine on a pixel-by-pixel basis whether the data from the normal display buffer ["main image" or "VGA"] . . . or data from the ink plane ["keyboard"] . . . is shown on the display screen." (*Id.* at 806:3-7) Dr. Feiner opined that Martin also describes how "the mask plane could be extended to include more than one bit per pixel. And it says if you have more than one bit, for example, this would permit selection among a set of image combining arrangements, in addition to simply selecting between the VGA and ink data." (*Id.* at 806:14-19, 807:25-808:18)

Dr. Shonfeld responded that in Martin, "it's the exact reverse of what we saw earlier. That is, we have pure selection. It's purely a medley of pixels. There is no blending of individual pixels at all throughout the entire patent." (*Id.* at 927:13-16; DTX 3348-3354) Dr. Shonfeld also opined that Martin fails to disclose "modifying the display buffer, meaning that you do not change the values of the pixel value of the previous image that you are laying over." (D.I. 360 at 927:19-21; DTX 3349; D.I. 317, ex. K at fig. 2, col. 3:37-49) He explained that the disclosed "multiplexer" is "not used

for blending,” but instead “[y]ou can actually make selections that take more into account by looking at more complex image combination arrangements in addition to simply selecting between the VGA and Inc. data. This way it allows you to have patterns like the checkerboard patterns that give you a visual effect if you want.” (D.I. 360 at 928:2-15; D.I. 317, ex. K at fig. 2, col. 9:5-17) In other words, “[e]ach pixel either comes from one image or the other, either from the key image or the main image.” (D.I. 360 at 928:15-16; DTX 3350; D.I. 317, ex. K at fig. 2, col. 9:5-17)

ii. Analysis

As outlined above, Dr. Shonfeld provided a well-buttressed opinion that Martin does not describe blending of individual pixels such that individual pixels are “dedicated simultaneously” both to the main and keyboard images. Dr. Feiner interpreted the disclosure in Martin differently, finding that a “mask plane” could include more than one bit per pixel. Such competing expert testimony raises a question of fact regarding the disclosure of the “dedicated simultaneously” limitation. The court cannot act as an independent factfinder in selecting the most credible approach. Instead, the court is charged with determining whether there is evidence upon which the jury could properly find for the non-moving party. Viewing the record in the light most favorable to IV, the court concludes that a jury could properly credit the testimony of Dr. Shonfeld over that of Dr. Feiner. Accordingly, the court denies Canon’s renewed motion for judgment as a matter of law with respect to anticipation of claims 19 and 20 of the ‘960 patent by Martin. (D.I. 315)

c. Frank

i. Evidence

IV admitted that Frank discloses individual pixels “dedicated simultaneously” to the main and keyboard images, but disputes whether Frank discloses “variable-pixel control.” (D.I. 360 at 924:4-9) As with Gough and Martin, Dr. Feiner provided a detailed invalidity opinion, comparing the disclosures in Frank to claims 19 and 20 of the ‘960 patent. (*Id.* at 809:13-816:4) Regarding the “variable-pixel control” limitation, Dr. Feiner opined that Frank discloses “selective use of alpha blending,” which is “used to blend together on a pixel-by-pixel basis the two images.” (*Id.* at 813:4-6) An alpha value of one “means you completely override what you are on top of,” though “you can change the levels of transparency, depending upon where you are.” (*Id.* at 813:13-21) Additionally, Dr. Feiner testified that, “when alpha is disposed between one and zero . . . then it will contain both X and Y image information. And that’s just another way of saying that pixels are dedicated simultaneously to both the main image and the representation of at least one key.” (*Id.* at 815:5-10; D.I. 317, ex. L at col. 6:37-41)

Dr. Schonfeld admitted that “if you have an alpha value equal to one, you’re blending,” but added that “you are blending by taking two and selecting only one of them.” (D.I. 360 at 925:1-4) “[T]he Frank patent actually describes the fact that each picture of the display may be blended in accordance with a predefined formula utilizing the alpha values or alpha blending.” (*Id.* at 924:10-13; DTX 3358) Dr. Schonfeld added that “you need two parts of the claim, both pixels activated simultaneously and pixels dedicated simultaneously. And so though alpha values can be used for parts, it cannot be used for everything.” (D.I. 360 at 924:18-21; DTX 3359-60) Essentially, Dr. Schonfeld concluded that the claims require “select[ing] representation of the key and select[ing] representation of the main image” (D.I. 360 at 925:11-13), but that Frank

discloses “selection of a portion of the representation of key, but it cannot be used for selection of the main image” (*id.* at 925:14-18). Referencing figure 6 of Frank, Dr. Schonfeld opined that Frank “explicitly teaches no selection to take place, because it teaches that it must be completely transparent.” (*id.* at 925:23-926:2; DTX 3361-62)

ii. Analysis

Dr. Schonfeld provided substantial testimony that Frank does not anticipate claims 19 and 20 of the ‘960 patent, describing how Frank discloses the use of alpha blending to select a key representation, but not to select the main image. Dr. Schonfeld did not address the disclosure that when alpha is equal to zero, the pixel is dedicated solely to the main image (D.I. 317, ex. L at col. 6:37-40; D.I. 360 at 924:25-925:18), and Canon had the opportunity at trial to exploit this omission to undermine Dr. Schonfeld’s credibility.¹⁴ Ultimately, the jury was presented with two competing expert opinions, with Canon arguing that simultaneous dedication of pixels is sufficient to satisfy the claim limitations and IV arguing that both simultaneous dedication **and** activation is required. The jury was free to credit Dr. Schonfeld’s interpretation over that of Dr. Feiner and conclude that Frank does not anticipate claims 19 and 20 of the ‘960 patent. Accordingly, the court denies Canon’s renewed motion for judgment as a matter of law with respect to anticipation of claims 19 and 20 of the ‘960 patent by Frank. (D.I. 315)

D. IV’s Motion for a New Trial on Infringement (Trial 2)

In the second trial, IV alleged that Canon induced infringement of claims 1-3 of the ‘348 patent and claims 19 and 20 of the ‘960 patent through the sale of various

¹⁴ An opportunity that Canon did not seize.

Canon Vixia Camcorders¹⁵ and point-and-shoot cameras¹⁶ (“the accused devices”). Canon stipulated to the fact that it sells the accused devices to customers who use the relevant feature.¹⁷ The jury returned a verdict of no infringement under both asserted patents. (D.I. 302)

Under 35 U.S.C. § 271(b), “whoever actively induces infringement of a patent shall be liable as an infringer.” It is well established that IV, as the patent owner, bears the burden of proving infringement by a preponderance of the evidence. See *SmithKline Diagnostics, Inc. v. Helena Labs. Corp.*, 859 F.2d 878, 889 (Fed. Cir. 1988) (citations omitted). The Supreme Court has held that induced infringement under 35 U.S.C. § 271(b) requires both knowledge of the patent and knowledge that the induced acts constituted infringement. *Global-Tech*, 131 S. Ct. 2060 at 2068. In this regard, a plaintiff must prove more than negligence or recklessness on the part of a defendant; plaintiff must prove willful blindness, that is, that a defendant has taken “deliberate actions to avoid confirming a high probability of wrongdoing and who can almost be said

¹⁵ The Vixia camcorders accused of infringing claims 19 and 20 of the ‘960 patent are: Canon’s Vixia HF G10, Vixia HF M30, Vixia HF M31, Vixia HF M32, Vixia HF M40, Vixia HF M41, Vixia HF M50, Vixia HF M52, Vixia HF M300, Vixia HF M301, Vixia HF M400, Vixia HF M500, Vixia HF R20, Vixia HF R21, Vixia HF R30, Vixia HF R32, Vixia HF R200, Vixia HF R300, Vixia HF S20, Vixia HF S21, Vixia HF S30, Vixia HF S200, and Vixia XA 10. (See D.I. 358 at 429:4-9; PTX 2148)

¹⁶ Each camera accused of infringing claims 1-3 of the ‘348 patent includes one or more of the following magnification features: (1) AF-Point Zoom in Face Detect Mode; (2) AF-Point Zoom in Center Mode; and (3) MF-Point Zoom in Manual Mode. (D.I. 358 at 379:13-18)

¹⁷ Canon stipulated that “at least one of the accused . . . products has been sold by Canon in the United States since May 21st, 2011. (D.I. 368 at 481:14-482:3) Canon also stipulated that “[t]o the extent Intellectual Ventures shows that use of a feature at issue infringes the patents in suit, and that an accused product has that feature, then the parties stipulate that that feature has been used in that product in the United States by at least one user since May 21st, 2011.” (*Id.* at 482:6-10)

to have actually known the critical facts.” *Id.* at 2070-71. An accused infringer may choose to respond with evidence of a good-faith belief of non-infringement or invalidity, which can “tend[] to show that an accused inducer lacked the intent required to be held liable for induced infringement.” *Commil USA, LLC v. Cisco Sys. Inc.*, 720 F.3d 1361, 1367-68 (Fed. Cir. 2013).

To prove induced infringement under 35 U.S.C. § 271(b), therefore, IV needed to present evidence of both direct infringement by Canon’s customers as well as evidence of Canon’s knowledge that the induced acts constitute infringement. Canon did not present an affirmative defense, instead choosing to challenge the sufficiency of IV’s evidence. IV now argues that the jury found in favor of Canon because (1) Canon improperly presented evidence of a lack of a subjective intent to infringe in violation of a pre-trial agreement, and (2) various evidentiary rulings prevented IV from presenting evidence regarding Canon’s lack of a subjective belief of non-infringement and invalidity. The dispute between the parties concerning the presentation of evidence on the knowledge prong of induced infringement unfolded as follows:

At the final pretrial conference, the parties raised the question of whether knowledge plus inducement of the allegedly infringing act is sufficient to prove inducement.¹⁸ (D.I. 377 at 30:8-31:5) The court asked Canon to articulate its position on the proper standard for inducement, adding that if Canon believed that knowledge plus inducement was “insufficient, then I believe that the plaintiff should have the opportunity to prove intent in some fashion.” (*Id.* at 30:22-31:2) On April 15, 2014,

¹⁸ Canon stipulated knowledge of the patents-in-suit “for induced infringement purposes under 35 U.S.C. § 271(b) since at least May 21, 2011.” (D.I. 284 at ¶ 31; D.I. 361 at 1158:16-19)

Canon submitted a statement that “proving knowledge of the patent and inducement of the acts is insufficient to satisfy the intent prong for inducement,” and that “the patent owner must [also] prove that the alleged infringer had actual knowledge that the induced acts constitute infringement or was willfully blind to the question.” (D.I. 262 at 1) In a subsequent teleconference, Canon agreed “it is not going to be putting on, for example, evidence that it had an opinion of counsel and that it didn’t believe that it infringed.” (D.I. 378 at 21:16-21)

At trial, IV demonstrated that it sent an email to a Canon employee on May 21, 2011, including as an attachment various claim charts comparing the claims of the ‘348 and ‘960 patents to particular Canon products. (D.I. 357 at 217:18-224:10; PTX 187, 189, 199) IV’s corporate representative, Mr. Kennet Dyer (“Dyer”), testified that Canon did not “comment on the validity or infringement of the ‘348 and ‘960 patent[s] in response to [IV’s] May 21, 2011 e-mail.” (*Id.* at 228:20-23) Dyer further testified that he presented the patents at a meeting on July 7, 2011 attended by representatives from both parties. (*Id.* at 229:11-230:3) Specifically, Dyer “presented the ‘348 and ‘960 [patents] at a high level with the claim charts and invited any questions that Canon might have.” (*Id.* at 230:9-12) Canon did not provide IV “with any reasons why they thought the ‘348 or ‘960 patents were invalid.” (*Id.* at 231:19-22) IV also attempted to question Dyer about Canon’s response to past allegations of infringement by IV involving non-suit patents. (*Id.* at 224:20-228:11) In a sidebar, IV argued that evidence of a lack of response in the present case “goes directly to the issue of willful blindness.” (*Id.* at 225:16-22) The court barred the testimony, reasoning that it is necessary “to balance that [testimony] against the fact that [IV is] bringing in other cases, other

patents, other potential litigation.” (*Id.* at 227:22-25) The court cautioned that “if there is counter-mischief, it will be corrected as well.” (*Id.* at 228:10-11)

Canon’s technical expert, Dr. Feiner, did not testify on the issue of infringement. (D.I. 350 at 824:16-25, 825:15-18) Canon clarified that the testimony of its fact witness, Mr. Shinji Sakai (“Sakai”), would concern how “the [accused] cameras work. It has nothing to do with Canon’s beliefs.” (D.I. 358 at 414:25-415:3) The court permitted Sakai’s testimony, observing that it had been “vetted through discovery.” (*Id.* at 415:15-19)

Sakai testified that, in the auto focus modes and the manual mode, “[n]one of Canon’s PowerShot cameras enlarge or magnify an image on the LCD screen.” (*Id.* at 498:22-23; 499:6-8; 551:7-14) Sakai explained that, “in order for users to see the image on the . . . LCD screen, that image coming from the image sensor, then we use digital image reduction technology and we reduce that image by ten times or more.” (*Id.* at 500:20-24) One portion of the image appears to be larger “because we make the resolution of that portion larger compared to the other portions that are around it.” (*Id.* at 502:15-16; 539:4-10) Sakai further explained that “[w]e take the image that is of high resolution from the image sensor and we reduce it just a little bit and display that in medium resolution. For that reason, then it appears as a higher resolution than what is around it.” (*Id.* at 502:24-503:2) Canon does not “take a portion of that [low resolution] image and then magnify it” because “you would be magnifying a low resolution image” and this “would not enable you to check to make sure the focus is right.” (D.I. 359 at 541:24-542:3)

During closing arguments, Canon's counsel reiterated that "Mr. Sakai didn't focus on words, Mr. Sakai focused on how Canon's cameras work . . . [and] Sakai was examined by [IV's] lawyers on words" rather than how the cameras work. (D.I. 361 at 1121:5-13) Canon's counsel stated that "the difference between reduction and magnifying" is "by no means semantics." (*Id.* at 1121:14-15) Nonetheless, Canon's counsel used Sakai's testimony as support for the conclusion that "Canon's reduction process is fundamentally different from . . . the magnification process of the claims." (*Id.* at 1122:18-24) Canon's counsel explained to the jury that it did not provide expert testimony on non-infringement because "[s]ometimes things are so clear, so common sense that you don't need an expert witness." (*Id.* at 1123:9-12)

On the topic of induced infringement, Canon's counsel argued:

When Canon got those charts, it didn't disappear. It met with Intellectual Ventures. It met with Intellectual Ventures II months later, and only two months after that, Intellectual Ventures sued Canon. There was some motion practice, some legal practice. And finally, when Intellectual Ventures filed an Amended Complaint in January to correct some deficiencies, Canon responded by stating that the patents were not infringed and invalid. That's not evidence of knowledge of infringement or willful blindness as to infringement. That's defending yourself in the lawsuit and that's just the opposite.

(*Id.* at 1130:4-14)

From the outset, Canon represented to IV and to the court that it did not intend to present evidence of non-infringement, including, for example, evidence of a good-faith belief of non-infringement. In keeping with this commitment, Canon's technical witness did not provide testimony on non-infringement. Despite its repeated protestations that Sakai's testimony was simply for the purpose of explaining how the accused devices

work, Canon used Sakai's testimony as the bedrock for its closing argument to the jury that the accused devices do not meet the "digital image magnification" limitation of the claims. The Federal Circuit has held that "[u]nsubstantiated attorney argument regarding the meaning of technical evidence is no substitute for competent, substantiated expert testimony." *Invitrogen Corp. v. Clontech Labs., Inc.*, 429 F.3d 1052, 1068 (Fed.Cir.2005). The court finds that Canon's counsel improperly played the role of expert witness by inferring from factual testimony that the accused devices do not meet the claim limitations.

Canon argues in this regard that any prejudice caused by the closing was cured by the court's instructions to the jury that Sakai's testimony was "not offered as evidence of Canon's non-infringement positions taken in litigation" and was "not relevant to Canon's subjective intent about infringement prior to litigation." (D.I. 359 at 496:22-497:1) This instruction was given just before Sakai's testimony, in an effort by the court to keep the playing field level. The instruction was not repeated after Canon's closing argument, when it took improper liberties with the court's prior ruling. Upon further reflection, the court concludes that the instruction was insufficient to cure the prejudice. In this regard, it is not unusual for a fact witness to testify about how an accused product works, testimony that generally is used by an expert witness to opine on infringement in light of the court's claim construction. The court should have, but did not, anticipate Sakai's testimony to be used as a springboard for a non-infringement argument that completely ignored the claim construction exercise and, by inference, reinforced Canon's defense that it did not have a subjective intent to infringe.

This conclusion is supported by the fact that, at Canon's urging, the scope of IV's trial presentation had been limited by the court's precluding testimony concerning Canon's pre-litigation response to infringement allegations regarding non-suit patents. (D.I. 228 at 10-11) In the end, IV's hands were bound by the court's excluding evidence that was relevant to Canon's subjective belief of non-infringement, while Canon overstepped the bounds of how Sakai's testimony could be used regarding the issues of infringement and intent to infringe. The court promised that it would correct any counter-mischief by Canon's counsel in this regard. (*Id.*) It does now by granting IV's motion for a new trial on infringement of the '348¹⁹ and '960 patents. (D.I. 319) Because the court is granting a new trial, it does not consider IV's motion in the alternative for judgment as a matter of law.

¹⁹ Recognizing that the '348 patent has been held invalid, the court will confer with counsel about whether a new trial on infringement makes sense.