

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

ENERGY TRANSPORTATION GROUP,)	
INC.,)	
Plaintiff,)	
v.)	C.A. No. 05-422 (GMS)
SONIC INNOVATIONS, INC., et al.,)	
Defendants.)	

MEMORANDUM

I. INTRODUCTION

Presently before the court are the parties' post-trial motions in the above-captioned patent infringement action. For the reasons that follow, the court will grant in part and deny in part the defendants' motion for judgment as a matter of law of noninfringement and invalidity, and for a new trial. (D.I. 527.) Specifically, the court will reverse the jury's finding of infringement under the doctrine of equivalents for claims 1 and 2 of the '749 patent due to prosecution history estoppel. However, the court will preserve the jury's finding of validity. The court will also preserve the jury's finding of infringement under the doctrine of equivalents for all of the asserted claims of the '850 patent and literal infringement of claim 19 of the '850 patent. Thus, the court will deny the defendants' request for a new trial on the issues of infringement and invalidity.

Additionally, the court will grant ETG's motion for prejudgment and post-judgment interest. (D.I. 532.) The court will deny all other post-trial motions.¹

II. PROCEDURAL BACKGROUND

On June 23, 2005, the plaintiff, Energy Transportation Group, Inc. ("ETG"), filed the above-captioned action against 14 different defendants, and filed an amended complaint on August 8, 2005, which included three additional defendants, alleging that their hearing aid products² infringe United States Patent Nos. 4,731,850, (the "'850 patent"), and 4,879,749 (the "'749 patent") (collectively, the "ETG patents").³ The court held a *Markman* hearing in this matter on July 6, 2007. On August 17, 2007, the court issued an order construing the disputed claim terms of the ETG patents. (D.I. 351.)

On February 4, 2008, following nine days of trial testimony, the jury returned a verdict in favor of ETG. (D.I. 521.) In its verdict, the jury found that: (1) the ETG patents are not invalid; (2)

¹ These motions include: ETG's second amended motion for judgment as a matter of law (D.I. 548); the Widex defendants' motion for judgment as a matter of law of no willful infringement, and a new trial (D.I. 529); ETG's amended motion for enhanced damages and attorney's fees (D.I. 538); the defendants' motion for relief from judgment pursuant to Fed. R. Civ. P. 60(b)(2) or 60(b)(6) (D.I. 615); the defendants' motion for judgment as a matter of law on damages, and for remittitur and a new trial (D.I. 528); and the defendants' motion for leave to supplement defendants' renewed motion for judgment as a matter of law with respect to damages or, in the alternative, for a remittitur or new trial on damages (D.I. 617).

² The products that ETG accuses of infringement are all programmable digital hearing aids that compensate for the hearing deficiencies of a patient by amplifying sound, while also reducing screeching noises commonly experienced as a result of feedback. (Tr. at 120:17-20.) In this Memorandum, the court refers to these hearing aid products as the "Accused Products."

³ Prior to trial, most of the defendants settled with ETG. Only two groups of defendants went to trial: William Demant Holdings A/S, WDH Inc., Oticon A/S, Oticon Inc., Bernafon AG, and Bernafon, LLC (collectively the "Demant defendants"); and Widex A/S and Widex Hearing Aid Company, Inc. (collectively the "Widex defendants"). For convenience, the court will refer to the Demant defendants and the Widex defendants collectively as "the defendants."

the defendants literally infringe claim 19 of the '850 patent; (3) the defendants infringe all asserted claims of the ETG patents under the doctrine of equivalents; and (4) the Widex defendants willfully infringe the ETG patents. (Id.) In addition, the jury awarded ETG \$15 million in compensatory damages based on the Widex defendants' infringement, and \$16 million in compensatory damages based on the Demant defendants' infringement. (Id.) On February 8, 2008, the court entered judgment on the verdict in favor of ETG and against the defendants. (D.I. 522.)

Pursuant to Rule 50(a) of the Federal Rules of Civil Procedure, prior to the entry of judgment, the parties each moved for judgment as a matter of law ("JMOL") on the issues of infringement and invalidity. (D.I. 513, 515-517.) At that time, however, the court reserved ruling on these motions, subject to the parties renewing the motions post trial. *See* Fed. R. Civ. P. 50(b). Following entry of the judgment, on February 21, 2008, the defendants filed the following post-trial motions: (1) a renewed motion for JMOL or, in the alternative, for a new trial for non-infringement and invalidity of the ETG patents (D.I. 527); and (2) a motion for JMOL or, in the alternative remittitur, to alter or amend the damages award (D.I. 528). The Widex defendants also filed a renewed motion for JMOL of no willful infringement of the ETG patents (D.I. 529). On February 22, 2008, ETG filed the following post-trial motions: (1) a motion for prejudgment and post-judgment interest (D.I. 532); (2) a motion for enhanced damages and for attorneys' fees (D.I. 538); and (3) a second amended motion for JMOL that certain alleged prior art references are not prior art, and for literal infringement of the asserted claims for which the jury found infringement under the doctrine of equivalents (claims 13, 14, and 16 of the '850 patent) (D.I. 548). On June 25, 2010, the defendants filed (1) a motion for relief from judgment pursuant to Fed. R. Civ. Proc. 60(b)(2) or (6) (D.I. 615) and (2) a motion for leave to supplement defendants' renewed motion for JMOL with respect to

damages or, in the alternative, for a remittitur or new trial on damages (D.I. 617).

III. BACKGROUND OF THE TECHNOLOGY

The ETG patents relate to a programmable digital hearing aid system. In particular, the ‘850 patent relates to a system that comprises a hearing aid that is programmable so as to have optimum electro-acoustic characteristics for the patient and acoustic environment in which it is used. (See ‘850 patent, abstract.) The patent discloses a digital hearing aid system that provides coefficients to a programmable filter within a hearing aid to cancel feedback by automatically mirroring existing feedback in both amplitude and phase. (Id.) Likewise, the ‘749 patent relates to a system for cancelling feedback in a programmable filter within a hearing aid. (See ‘749 patent, abstract.) Specifically, the ‘749 patent discloses a host controller for producing data from a computer for a programmable filter of a hearing aid to cancel feedback. (Id.) At trial, ETG asserted claims 13, 14, 16 and 19 of the ‘850 patent and claims 1 and 2 of the ‘749 patent.

IV. LEGAL STANDARD

A. Motion for Judgment as a Matter of Law

Pursuant to Federal Rule of Civil Procedure 50, a court may render judgment as a matter of law after the moving party is fully heard on an issue at trial if there is no legally sufficient evidentiary basis for a reasonable jury to find for the party opposing the motion on that issue. *Walter v. Holiday Inns, Inc.*, 985 F.2d 1232, 1238 (3d Cir. 1993) (internal citation omitted). If the court denies a motion for judgment as a matter of law during trial, the motion may be renewed within ten days of entry of judgment in the case. Fed. R. Civ. P. 50(b). For a party to prevail on its renewed motion for judgment as a matter of law following a jury trial and verdict, the party ““must show that the jury’s findings, presumed or express, are not supported by substantial evidence or, if they were, that

the legal conclusion(s) implied [by] the jury's verdict cannot in law be supported by those findings.” *Pannu v. Iolab Corp.*, 155 F.3d 1344, 1348 (Fed. Cir. 1998) (quoting *Perkin-Elmer Corp. v. Computer-Vision Corp.*, 732 F.2d 888, 893 (Fed. Cir. 1984)). “Substantial evidence” is defined as “such relevant evidence from the record taken as a whole as might be accepted 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 draw all reasonable inferences from the evidence in the light most favorable to the nonmovant. *See id.*; *Richardson-Vicks, Inc. v. UpJohn Co.*, 122 F.3d 1476, 1479 (Fed. Cir. 1997). The appropriate inquiry is whether a reasonable jury, given the facts before it, could have arrived at the conclusion it did. *See Dawn Equip. Co. v. Kentucky Farms, Inc.*, 140 F.3d 1009, 1014 (Fed. Cir. 1998). 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.

B. Motion for a New Trial

Pursuant to Federal Rule of Civil Procedure 59, a court may grant a new trial “for any of the reasons for which new trials have heretofore been granted in actions of 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. *See Allied Chem. Corp. v. Daiflon, Inc.*, 449 U.S. 33, 36 (1980). In making this determination, the trial judge should consider the overall setting of the trial, the character of the evidence, and the complexity or simplicity of the legal principles which the jury had to apply to the facts. *Lind v. Schenley Indus., Inc.*, 278 F.2d 79, 89 (3d Cir. 1960), *cert. denied*, 364 U.S. 835 (1960). 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. *Allied Chem. Corp.*, 449 U.S. at 36.

A court should grant a new trial in a jury case, however, only if “the verdict was against the weight of the evidence . . . [and] a miscarriage of justice would result if the verdict were to stand.” *Williamson v. Conrail*, 926 F.2d 1344, 1352 (3d Cir. 1991).

V. DISCUSSION

Here, after having considered the record evidence, the parties’ post trial submissions, and the applicable law, the court concludes that the jury’s findings are supported by substantial evidence in the record, and that a new trial in this case is unwarranted.⁴ Specifically, the court concludes that there is substantial evidence in the record to support the following jury findings: (A) the ETG patents are not invalid; and (B) the defendants do not literally infringe any claim of the ‘850 patent except for claim 19, and the defendants infringe all of the asserted claims of the ‘850 patent under the doctrine of equivalents. (D.I. 521.) The court finds, however, that the defendants do not infringe any of the asserted claims of the ‘749 patent under the doctrine of equivalents because of prosecution history estoppel.

A. The Defendants’ Renewed JMOL Motion Regarding Invalidity

The court concludes that substantial evidence in the record supports the jury’s finding that the defendants failed to prove by “clear and convincing evidence” that the ETG patents are invalid.⁵ (D.I. 521 at 5-6.) The defendants contend that: (1) claim 19 of the ‘850 patent is anticipated by the

⁴ There is no basis in the record for the court to conclude that the jury’s verdict goes “against the weight of the evidence” or that “a miscarriage of justice would result if the verdict were to stand.” *Williamson*, 926 F.2d at 1352. Hence, the court will not grant a new trial on any of the issues in this case.

⁵ “Clear and convincing evidence is evidence that places in the fact finder ‘an abiding conviction that the truth of [the] factual contentions are highly probable.’” *Alza Corp. v. Andrx Pharms., LLC*, 607 F. Supp. 2d 614, 631 (D. Del. 2009) (quoting *Colorado v. New Mexico*, 467 U.S. 310, 316 (1984)).

Graupe '818 patent; (2) claim 19 of the '850 patent is anticipated by the Best Thesis; (3) all asserted claims of the '850 patent and '749 patent are anticipated by the Best Thesis; and (4) all asserted claims of the '850 patent lack an adequate written description. There is substantial evidence in the record, however, for a reasonable jury to conclude that the ETG patents are not invalid based on anticipation or based on a lack of written description.

1. Anticipation of Claim 19 of the '850 Patent by the Graupe '818 Patent

First, the defendants argue that they are entitled to JMOL that claim 19 of the '850 patent is anticipated by the Graupe '818 patent. 35 U.S.C. § 102(a) provides that “[a] person shall be entitled to a patent unless . . . the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent.” To prove that a patent is invalid based on anticipation “requires that the four corners of a single, prior art document describe every element of the claimed invention, either expressly or inherently, such that a person of ordinary skill in the art could practice the invention without undue experimentation.” *Advanced Display Sys., Inc. v. Kent State Univ.*, 212 F.3d 1272, 1282 (Fed. Cir. 2000) (citations omitted). Because a patent as a whole is entitled to the presumption of validity, an accused infringer seeking to prove that a patent is anticipated by the prior art, and therefore invalid, must do so by clear and convincing evidence. *State Contracting & Eng'g Corp. v. Condotte Am. Inc.*, 346 F.3d 1057, 1067 (Fed. Cir. 2003).

Here, there is substantial evidence in the record for a reasonable jury to conclude that the Graupe '818 patent does not anticipate claim 19 of the '850 patent. Specifically, ETG's expert, Norman Matzen (“Matzen”) testified that the Graupe '818 patent does not anticipate any of the claims. (Trial Transcript (“Tr.”) at 1922:16-21.) More specifically, Matzen testified that the Graupe

'818 patent does not anticipate claim 19 for three reasons: (1) it excludes the amplifier and transmission channel during the identified mode; (2) it calculates the wrong coefficients for proper reduction of acoustic feedback and functions as a noise generator during the identification mode; and (3) it does not show a filter programmed to effect substantial reduction of acoustic feedback.⁶ (Tr. at 1923:2-14, 1926:10-19, 1928:9-16.) Given Matzen's testimony, there is substantial evidence in the record to support the jury's finding that claim 19 of the '850 patent is not invalid. The defendants have failed to present clear and convincing evidence to the contrary.

2. Anticipation of Claim 19 of the '850 Patent by the Best Thesis

Second, the defendants argue that claim 19 of the '850 patent is invalid as anticipated under 35 U.S.C. § 102(g). In support of their argument, the defendants contend that the evidence demonstrates that Leland Best, Ph.D. ("Dr. Best") conceived of and reduced to practice the inventions claimed in the ETG patents in his May 1985 Master's thesis titled "Digital Suppression of Acoustic Feedback in Hearing Aids."⁷ 35 U.S.C. § 102(g) provides, in pertinent part: "[a] person shall be entitled to a patent unless . . . before such person's invention thereof, the invention was made in this country by another inventor who had not abandoned, suppressed, or concealed it" 35 U.S.C. § 102(g)(2). The Federal Circuit "has interpreted section 102(g) to provide that 'priority of invention goes to the first party to reduce an invention to practice unless the other party can show that it was the first to conceive the invention and that it exercised reasonable diligence in later

⁶ While the defendants state that Matzen testified on cross examination that "[n]othing is missing from Claim 19," (D.I. 545 at 13; Tr. at 1988:1-13), the court notes that he did so only in response to a set of hypothetical questions posed by counsel for the defendants, asking him to make certain assumptions regarding potential jury findings that were not part of his original opinion.

⁷ The date of invention for the ETG patents is November 12, 1985.

reducing that invention to practice.” *Monsanto Co. v. Mycogen Plant Sci., Inc.*, 261 F.3d 1356, 1362 (Fed. Cir. 2001) (quoting *Mahurkar v. C.R. Bard, Inc.*, 79 F.3d 1572, 1577 (Fed. Cir. 1996)). Therefore, to establish anticipation under section 102(g), the party challenging validity must prove by clear and convincing evidence that the prior inventor: (1) constructed an embodiment or performed a process that met all of the limitations of the claims at issue and (2) determined that the invention would work for its intended purpose. *Z4 Tech., Inc. v. Microsoft Corp.*, 507 F.3d 1340, 1352 (Fed. Cir. 2007) (citation omitted). Once the party challenging validity makes this showing, the court applies the basic rules of priority under section 102(g).

Here, there is substantial evidence in the record for a reasonable jury to conclude that the Best Thesis is not a prior invention pursuant to section 102(g). Specifically, Matzen, testified that Dr. Best did not construct an embodiment that met all of the limitations of claim 19 of the ‘850 patent. (Tr. at 1931:5-8.) More specifically, Matzen testified that prototype 2 of the Best Thesis does not anticipate claim 19 of the ‘850 patent, because it “does not show a filter in the feedback path.” (Tr. at 1931:16-18; 1934:7-18.)⁸ In reaching his conclusions, Matzen distinguished the filter of the Best Thesis as being merely in a forward path, *i.e.* “between the microphone and the amplifier,” as compared to the location of the filter in claim 19 of the ‘850 patent, *i.e.* “[between] the output of the

⁸ The defendants spend much time in their briefs discussing whether the Best Thesis is a prior invention under ETG’s “interpretation” of the court’s claim construction. The court will not address this argument, because it is not for the parties to interpret the court’s claim construction. If the defendants believed that ETG was attempting to introduce evidence based on something other than the court’s claim construction, they should have objected to the evidence. Having failed to object during the trial, the defendants cannot now complain that ETG improperly adduced evidence. Moreover, Matzen testified that the circuit in prototype 2 of the Best Thesis is not in a feedback path as defined by the court, *i.e.* a path in which a signal travels from the output to the input. (See Tr. at 1936:10-17.) Thus, the court finds that ETG presented evidence in accordance with the court’s claim construction.

transmission channel [and] the input of the transmission channel.” (Tr. at 1932:3-10; 1935:3-6.) Given the evidence presented by ETG, a reasonable jury could conclude that the Best Thesis does not anticipate claim 19 of the ‘850 patent.

3. Anticipation of All Asserted Claims by the Best Thesis

The defendants also argue that all of the asserted claims are anticipated by the Best Thesis. In a summary fashion, the defendants contend that “[t]here is no meaningful difference of record” between the accused products and the Best Thesis and conclude that the asserted claims are therefore invalid. (D.I. 545 at 28.) Based on the record, however, there is substantial evidence to support the jury’s finding of validity. As discussed above, the Best Thesis does not include a filter in the feedback path and, therefore, does not anticipate claim 19 of the ‘850 patent. Likewise, Matzen testified that the Best Thesis does not anticipate the remaining asserted claims of the ‘850 patent – claims 13, 14, or 16 – because the Best system does not determine the effect on the amplitude and phase of a signal in the transmission path or insert a filter programmed by such a determination, as the patent requires. (Tr. at 1937: 5-20.) With regard to claims 1 and 2 of the ‘749 patent, the defendants’ expert, Sigfrid Soli, Ph.D. (“Dr. Soli”), only provided a summary conclusion that “if the elements of claims 1 and 2 are similar to that of the adaptive filter, as asserted by ETG, then we have an adaptive filter that performs the function in Best’s thesis.” (Tr. at 1687:3-9.) Thus, the defendants failed to present clear and convincing evidence to overcome the presumptive validity of the claims. On the record before it, there was substantial evidence for the jury to conclude that none of the asserted claims were anticipated by the Best Thesis.

4. Inadequate Written Description of the ‘850 Patent Claims

Finally, the defendants contend that the asserted claims of the ‘850 patent are invalid due to

an inadequate written description. The Federal Circuit has held that under the “written description” requirement of 35 U.S.C. § 112 ¶ 1, a patent applicant must provide a description that conveys with “reasonable clarity” to one skilled in the art that he or she was in possession of the claimed invention at the time of the application. *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64 (Fed. Cir. 1991) (citation omitted). In order to show that one is “in possession,” the applicant must clearly describe the invention, but the applicant “does not have to describe exactly the subject matter claimed.” *Id.* at 1563. Compliance with the written description requirement is a question of fact, which is reviewed for substantial evidence. *See Abbott Labs. v. Syntron Bioresearch, Inc.*, 334 F.3d 1343, 1356 (Fed. Cir. 2003). The defendant bears the burden to prove by clear and convincing evidence that the written description requirement is not met. *Id.* Here, the defendants challenge whether the ‘850 “patent specification evidenced that the inventors themselves were actually in possession of an adaptive feedback reduction system.” (D.I. 545 at 24.)

The defendants’ contention that a filter cannot be programmable and adaptive was rejected by the jury. Because the jury found the ‘850 patent was not invalid, it necessarily found that the patent specification conveyed with reasonable clarity to a person of ordinary skill in the art that the inventor was in possession of the claimed invention when the ‘850 patent application was filed. Although the burden to disprove this point is on the defendants, ETG presented expert testimony supporting the jury’s finding. Harry Levitt, Ph.D. (“Dr. Levitt”) and Clyde Brown, Jr. (“Brown”) both testified that the ‘850 patent provided that the programmable filter may also be described as “adaptive.” (See, e.g., Tr. at 265:5-268:16.) Specifically, Dr. Levitt testified that the patent described a hearing aid that was able to “adjust automatically” because the co-efficients “adapt to the acoustic environment.” (Tr. at 265:16-17; 266:1-2.) Dr. Levitt further testified that “[the

patented invention] was an adaptive hearing aid.” (Tr. at 266:2-3.) Accordingly, a reasonable jury could have concluded that the evidence was insufficient to establish the inadequacy of the written description of the ‘850 patent claims at issue in this litigation.

B. The Defendants’ Renewed JMOL Motion Regarding Non-Infringement

In the defendants’ renewed JMOL motion, they challenge the jury’s factual determinations that the defendants have literally infringed claim 19 of the ‘850 patent, as well as all other asserted claims, under the doctrine of equivalents. (D.I. 521 at 2-4.) A patent infringement analysis entails two steps: “(1) claim construction to determine the scope of the claims, followed by (2) determination of whether the properly construed claim encompasses the accused device.” *Bai v. L & L Wings, Inc.*, 160 F.3d 1350, 1353 (Fed. Cir. 1998). The first step, claim construction, is a matter of law for the court to decide. *Id.*, *See also Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372 (1996). The second step, determination of infringement, is a question of fact. *Bai*, 160 F.3d at 1353.

A patentee must establish literal infringement by a preponderance of the evidence. *See Braun Inc. v. Dynamics Corp.*, 975 F.2d 815, 819 (Fed. Cir.1992). “To establish literal infringement, every limitation set forth in a claim must be found in [the] accused product, exactly.” *Southwall Tech., Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1575 (Fed. Cir.1995). Therefore, the court must determine whether substantial evidence supports the jury’s findings that every limitation of claim 19 of the ‘850 patent is literally found in the defendants’ accused products, “exactly.”

Infringement may also be established under the doctrine of equivalents because “[t]he scope of a patent is not limited to its literal terms but instead embraces all equivalents to the claims described.” *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 732 (2002).

Thus, “a product or process that does not literally infringe upon the express terms of a patent claim may nonetheless be found to infringe if there is ‘equivalence’ between the elements of the accused product or process and the claimed elements of the patented invention.” *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 21 (U.S. 1997). “[T]he doctrine of equivalents must be applied to individual elements of the claim, not to the invention as a whole.” *Id.* at 29. “An element of an accused [product or process] is equivalent to an element of the patented invention if the differences between them are insubstantial.” *Martek Biosciences Corp. v. Nutrinova, Inc.*, 520 F. Supp. 2d 537, 547 (D. Del. 2007) (quoting *Warner-Jenkinson*, 520 U.S. at 39). “Alternatively, the accused product infringes under the doctrine of equivalents if the element in the accused device performs substantially the same function in substantially the same way to obtain the same result as the claim limitation.” *Id.* at 547-48. Regardless of whether the insubstantial differences test or the function, way, result test is used, a patentee must provide “particularized testimony and linking argument” for each limitation invoking the doctrine of equivalents. *Texas Instruments v. Cypress Semiconductor Corp.*, 90 F.3d 1558, 1567 (Fed. Cir. 1996). Therefore, the court must determine whether substantial evidence supports the jury’s finding that every limitation set forth in each of the asserted claims of the ETG patents, is found in the defendants’ accused products under the doctrine of equivalents.

The doctrine of prosecution history estoppel, however, may bar a patentee from asserting as an equivalent subject matter that was surrendered during prosecution of the patent. *Festo*, 535 U.S. at 729. If the prosecution history shows that a patentee made a narrowing amendment for reasons related to patentability or there is no explanation regarding the amendment, then a presumption is raised that bars equivalents for the added limitations. *Id.* at 739-40. An amendment introducing new

claims, similar to broader claims previously rejected, also creates a bar as to equivalents that are related to the difference between the newer and older claims. *See id.* at 733-35. Prosecution history estoppel is a legal question for the court to decide. *See Bai v. L & L Wings*, 160 F.3d 1350, 1354 (Fed. Cir. 1998). Therefore, the court must determine whether any equivalent is barred by the prosecution history.

The court will now address the defendants' arguments regarding infringement of the '850 patent and the '749 patent, respectively.

1. The '850 Patent

As discussed above, the '850 patent discloses a programmable digital hearing aid system. At trial, ETG alleged infringement of claims 13, 14, 16, and 19 against the defendants. Claim 13 is an independent claim and reads as follows:

13. A method of reducing acoustic feedback in a sound system comprising a microphone, a transducer and a signal transmission channel interposed between said microphone and transducer, comprising the steps of

determining the effect on the amplitude and phase of a signal in said transmission channel as a function of frequency of acoustic feedback between said transducer and microphone, and

inserting between the input and output of said transmission channel an electrical feedback path having a filter therein programmed to equalize and reduce the effect of said acoustic feedback both in amplitude and phase on a signal in said transmission channel.

('850 patent, claim 13.) Claim 14 is also an independent claim and reads as follows:

14. A method of reducing acoustic feedback in a hearing aid comprising a microphone, a receiver fitted in an ear of a wearer of the aid, and a signal transmission channel interposed between said microphone and transducer, comprising the steps of

determining the effect on the amplitude and phase of a signal in said transmission channel as a function of frequency of acoustic feedback between said receiver and microphone, and

inserting between the input and output of said transmission channel a programmable filter

programmed to equalize and reduce the effect of said acoustic feedback both in amplitude and phase on a signal in said transmission channel.

(‘850 patent, claim 14.) Claim 16 is a dependent claim and reads as follows:

16. A method of reducing feedback in a hearing aid as described in claim 14 in which said programmable filter is inserted in an electrical feedback loop for said transmission channel.

(‘850 patent, claim 16.) Finally, claim 19 is an independent claim and reads as follows:

19. A hearing aid comprising at least one input microphone, an output receiver, a signal transmission channel interposed between said microphone and said receiver, and a programmable delay line filter interposed in a feedback path between the input and output of said transmission channel, said programmable filter being programmed to effect substantial reduction of acoustic feedback from said receiver to said microphone.

(‘850 patent, claim 19.) Based on its review of the evidence, the jury found that the accused products literally infringed claim 19 of the ‘850 patent and did not literally infringe claims 13, 14, and 16. The jury further found that the accused products infringed all asserted claims under the doctrine of equivalence.

As a preliminary matter, the defendants argue that the accused products do not use a “programmed filter,” “programmable filter,” or “programmable delay line filter” as required by the asserted claims of the ‘850 patent.⁹ In making their argument, the defendants appear to ask the court to interpret its constructions of the terms “programmable” and “programmed.” For example, the defendants state that “[a] proper interpretation of the Court’s construction of ‘programmable delay line filter,’ however, must fairly differentiate between one that is ‘programmable’ and one that is

⁹ The court construed the term “programmable delay line filter” to mean “a filter that operates on time-delayed samples of an input by multiplying each sample by a corresponding weighting coefficient and summing the weighted samples.” (D.I. 495 at 1.) The court further explained that “the value of at least one weighting coefficient can be programmed.” (Id.) The court also construed the term “programmed” to mean “provided with one or more values so as to produce a response.” (D.I. 495 at 2.)

‘non-programmable.’ To hold otherwise would make the word ‘programmable’ mere surplusage.” (D.I. 545 at 10.) The court already ruled against defendants on this point clearly stating in its *Markman* order that “the defendants’ construction of the term ‘programmable’ invites the court to import a limitation from the specification into the claims, which is contrary to Federal Circuit precedent.” (D.I. 495 at 1 n.1.)

The defendants also contend that the accused products do not infringe any of the asserted claims of the ‘850 patent, and that ETG has not adduced substantial evidence to support the jury’s findings. Specifically, the defendants argue that: (a) the accused products do not copy the “programmable delay line filter” limitation within the meaning of the court’s construction of that term necessary to show literal infringement of claim 19 of the ‘850 patent; (b) prosecution history estoppel should preclude the application of the doctrine of equivalents to claim 19 of the ‘850 patent; and (c) the accused products do not infringe claims 13, 14, 16, or 19 of the ‘850 patent under the doctrine of equivalents. The court disagrees with the defendants. The court concludes that substantial evidence supports the jury’s finding that the defendants’ accused products do copy the “programmable delay line filter” limitation; and that prosecution history estoppel does not preclude the application of the doctrine of equivalents as to claim 19 of the ‘850 patent. The court further concludes that there is substantial evidence to support the jury’s finding that the defendants’ accused products infringe each of the asserted claims under the doctrine of equivalents.¹⁰

¹⁰ The defendants argue that ETG failed to establish that the defendants directly infringed method claims 13, 14, and 16. (See, e.g., D.I. 545 at 27; *id.* at 31 n.24; D.I. 543 at 20 n.7; and D.I. 597 at 15.) The record, however, supports a finding of indirect infringement under 35 U.S.C. § 271(b) based upon the defendant’s inducement (see D.I. 577 at 22-24) and direct infringement of product claim 19. Thus, the court will preserve the jury’s verdict. (See *Biotec Biologische Naturverpackungen GmbH v. Biocorp, Inc.*, 249 F.3d 1341, 1351 (Fed. Cir. 2001).)

a. Literal Infringement of Claim 19

As to the defendants' first argument, the court concludes that substantial evidence in the record supports the jury's finding that the accused products copy the "programmable delay line filter" limitation in claim 19 of the '850 patent. At trial, ETG offered expert testimony concerning this precise issue. Specifically, Brown testified that "just about any digital filter will satisfy a delay line filter because it operates on time-delayed samples, and it multiplies these samples by coefficients, and sums them together in one way or another." (Tr. at 533:15-18.) Brown explained that "the simplest example is like this FIR filter." (Tr. at 533:18-19.) He further explained that "in all of [the accused products] we found some variant of an [sic] FIR filter." (Tr. at 533:22). When asked if the accused products contain programmable delay line filters, Brown responded, "absolutely." (Tr. at 533:23-24.) He further explained, that the programmable delay line filters in the accused products are "programmed by the LMS routines, which calculate the coefficients for them." (Tr. at 534:3-4.) In fact, Brown explicitly stated that "the LMS routine provides the coefficients to the FIR filter, generates them and provides them to the filter." (Tr. at 536: 22-24.) Given Brown's testimony, a reasonable jury could have determined that the accused products contained this limitation.

b. Prosecution History Estoppel Regarding Claim 19

As to the defendants' second argument, the court rejects its prosecution history estoppel argument regarding claim 19 of the '850 patent.¹¹ The defendants contend that during the

¹¹ Although the court holds that substantial evidence supports the finding of literal infringement of claim 19, the court will address the defendants' challenge to infringement under the doctrine of equivalents based on prosecution history estoppel.

prosecution of the '850 patent the patentee made an amendment that narrowed the scope of claims that were previously rejected. The defendants further contend that, consequently, ETG is presumptively barred from using the doctrine of equivalents to recapture claim scope that was surrendered during prosecution. Before the court considers whether there was a narrowing amendment related to patentability, however, “[t]he first step the court must take . . . is to precisely articulate the equivalent element¹² in question.” *Honeywell Int'l, Inc. v. Hamilton Sunstrand Corp.*, 2006 WL 2346446, 83 U.S.P.Q.2d 1365, 1369 (D. Del. 2006) (following the instructions on remand from the Federal Circuit regarding when to apply the *Festo* presumption and when it has been rebutted). The single limitation from claim 19 that ETG relied on for its doctrine of equivalents infringement argument was the “programmable delay line filter” limitation.¹³ (Tr. at 548:21-550:4.) According to the defendants, the “alleged equivalent” element is the “LMS adaptive filter.” (D.I. 545 at 30.)

During prosecution, the patentee amended its application in response to the PTO’s initial rejection of several claims based on prior art. (D.I. 547, JX 5 at 116.) Following *Festo*, that amendment would create a bar as to equivalent elements related to the difference between the newer and older claims, because, “[t]he scope of the patentee’s concession is determined on a limitation-by-limitation basis,” and that “[i]t necessarily follows that the presumption of surrender

¹² This court subscribes to the custom laid out by the Federal Circuit when “referring to claim ‘limitations,’ reserving the word ‘elements’ for describing the parts of the accused device, though the court on occasion continues to use the words interchangeably.” *Dawn Equip. Co. v. Kentucky Farms*, 140 F.3d 1009, 1015 (Fed. Cir. 1998).

¹³ ETG presented evidence for every other limitation of claim 19 to be found in the accused products exactly. (See, e.g., Tr. at 540:20-541:5.)

applies only to the amended or newly added limitation.” *Honeywell Int’l v. Hamilton Sundstrand Corp.*, 370 F.3d 1131, 1144 (Fed. Cir. 2004). Here, the limitation at issue, a “programmable delay line filter,” was not a newly added limitation. None of the string of similar claims from which claim 19 grows out of lack the “programmable delay line filter” limitation, whether they were independent claims rejected and amended (original claim 1) (D.I. 547, Ex. JX5 at 116), or dependent claims rewritten into allowable form as independent claims (original claims 15-18) (Id.). The amendment first introducing claim 19 (original claim 25), points out the similarity of claim 25 to original claim 15. “Claim 25 is similar to claim 15 except that it recites having a programmable delay line filter in a feedback path, rather than a forward path, of the transmission channel.” (D.I. 547, Ex. JX5 at 119.) Moreover, claim 15 was already deemed “allowable if rewritten in independent form.” (Id. at 116.) Accordingly, a presumption of surrender does not apply to the “programmable delay line filter” limitation. Defendant’s prosecution history estoppel argument regarding claim 19 must, therefore, fail.

c. Infringement of All Asserted Claims of the ‘850 Patent Under the Doctrine of Equivalents

Next, the court concludes that substantial evidence in the record supports the jury’s finding that the defendants’ accused products infringe claims 13, 14, 16, and 19 of the ‘850 patent under the doctrine of equivalents. The defendants contend that ETG did not provide legally sufficient particularized testimony and linking argument. To support their position, the defendants cite to *Hewlett-Packard Co. v. Mustek Systems, Inc.*, 340 F.3d 1314 (Fed. Cir. 2003) and *Texas Instruments, Inc. v. Cypress Semiconductor Corp.*, 90 F.3d 1558 (Fed. Cir. 1996). Both cases, however, are distinguishable from the instant case. In *Hewlett-Packard Co.*, the jury did not find infringement

under the doctrine of equivalents, and the plaintiff failed to file a motion for JMOL on the issue of infringement under the doctrine of equivalents. *See Hewlett-Packard Co.*, 340 F.3d at 1321-22. The district court in that case *sua sponte* found infringement under the doctrine of equivalents, which the Federal Circuit held was impermissible, especially in light of the scant evidentiary record on the equivalents claim. *Id.* at 1322. Here, ETG presented a *prima facie* case for literal infringement and infringement under the doctrine of equivalents. ETG presented testimony and argument regarding both types of infringement, and the jury found all of the asserted claims infringed under the doctrine of equivalents. Moreover, in *Texas Instruments*, the plaintiff presented evidence in a generalized manner, as opposed to limitation-by-limitation. *See Tex. Instruments*, 90 F.3d at 1567. Here, ETG applied the function, way, result test for each claim limitation and addressed the insubstantiality of differences.

Claims 13, 14, and 16 are method claims and all require a “determining” step and an “inserting” step. The defendants challenge the sufficiency of the evidence presented for the “determining” and “inserting” limitations. After having reviewed the evidence presented at trial, the court is persuaded that substantial evidence exists to support the jury’s finding of infringement. After discussing whether the defendants literally infringed the asserted claims, ETG’s expert, Brown, analyzed whether the accused products infringed under the doctrine of equivalents. For the “determining” step, Brown testified that the “function is to determine the effective amplitude and phase of the signal transmission” and “the way is by the LMS filter calculating coefficients” and “the result is that you end up with the resulting output of that filter being the effect of the acoustic feedback in the external channel.” (Tr. at 546:13-18.) Brown then agreed that what he had just described was “substantially the same as what is described in the patent.” (Tr. at 546:19-21.)

For the “inserting” step, Brown testified that the “function is to insert a filter which equalizes the effect” and the way is “through the elements filter calculating coefficients, loading them into the FIR filter” and “the result is to equalize and reduce the effect of the acoustic feedback in both phase and amplitude.” (Tr. at 547:3-8.) Brown agreed again that what he described was “substantially” the same as the claimed language. (Tr. at 547:21-24.) Although Brown did not explain why or how the process in the accused products and the claimed invention were substantially the same at that juncture, Brown had previously discussed those precise issues in his literal infringement testimony. For example, Brown testified that: “The determining is done by the LMS routine and calculates coefficients, then inserts the coefficients into the filter and thereby sets a new filter, electrical filter response. And in electrical terms, we considered that inserting [a] filter. And so first you have to calculate the coefficients and then you insert them. It can be done iteratively as it’s done in the LMS routine, but if you compare that to the original patent, it is very much like Dr. Levitt’s person and his ‘no’ [sic - null] routine going back and tweaking the knob until he found a no [sic - null]. In this case, the LMS routine does it on a chip and tweaks the knob until it finds a no [sic - null].” (Tr. at 528:19- 529:5.) Brown also testified that the LMS algorithm “determines the effect on phase and amplitude” and that “mathematically speaking, the coefficients define the amplitude and phase.” (Tr. at 516:17-22.) In light of this testimony and the other evidence presented, the court concludes that there is substantial evidence to support the finding of infringement under the doctrine of equivalents for claims 13, 14, and 16.

Claim 19 is a product claim. ETG asserted that the defendants meet the “programmable delay line filter” limitation under the doctrine of equivalents. The defendants challenge the sufficiency of the evidence presented in support of this assertion. The court has already concluded

in Section V(B)(1)(a) that substantial evidence supports the jury's finding of literal infringement. Nonetheless, the court will address the defendants' doctrine of equivalents challenge. Brown testified that the function is to "place a filter in the feedback path" and the way is "to use [a] FIR filter where it is physically in the feedback path, and by inserting coefficients into that filter, you insert that filter into the feedback path" and "the result is the filter is there to cancel the acoustic signal." (Tr. 549:8-14.) In light of this testimony, which it seems the jury credited, and the other evidence presented, the court concludes that there is substantial evidence to support the finding of infringement of claim 19 under the doctrine of equivalents.¹⁴

The defendants alternatively contend that even if ETG provided particularized testimony and linking argument, there is no infringement under the doctrine of equivalents because the equivalence evidence vitiates certain claim limitations. (D.I. 545 at 35.) In particular, the defendants argue that the determining limitation would be read out of the claims 13, 14, and 16. (Id. at 36.) The defendants also argue that the "programmable" and "programmed" requirements would be read out of claim 19. (Id.) Given the discussion above, the court cannot agree with the defendants.¹⁵ Accordingly, because there is substantial evidence in the record for a jury to conclude that the accused products infringe the asserted claims under the doctrine of equivalents, the court will preserve the jury verdict of infringement under the doctrine of equivalents of claims 13, 14, 16, and 19.

¹⁴ Additionally, as discussed in Section V(B)(1)(b), the defendants' prosecution history estoppel argument is unavailing.

¹⁵ In light of earlier discussion, the court also rejects the defendants' argument that there is no valid hypothetical claim. The court has consistently rejected the defendants' position based on prior art.

2. The '749 Patent

The '749 patent discloses a host controller for programmable digital hearing aid system. At trial ETG contended that claims 1 and 2 of this patent were infringed under the doctrine of equivalents. Claim 1 is an independent claim and reads as follows:

1. A host controller for producing data from a computer for a programmable hearing aid to cancel acoustic feedback comprising means for receiving signals from the hearing aid and measuring phase and amplitude, means for receiving signals from the hearing aid indicative of the summation of acoustic feedback and acoustic feedback cancellation signals, and means controlled by the computer for adjusting the phase and amplitude necessary to eliminate acoustic feedback and produce null summation.

('749 patent, claim 1.) Claim 2 is a dependent claim and reads as follows:

2. A host controller as set forth in claim 1 including means controlled by the computer and for transmitting phase shift and amplitude data to program the hearing aid to eliminate acoustic feedback.

('749 patent, claim 2.) The jury found the claims infringed by the accused products.

The defendants argue that the jury's finding is not supported by substantial evidence. First, the defendants contend that the patentee made a narrowing amendment during the prosecution of the '749 patent, introducing new claims, similar to broader claims previously rejected. The defendants assert this results in a presumptive bar to the ability of ETG to claim infringement under the doctrine of equivalents. Second, the defendants contend that even if ETG is not estopped from making an equivalents argument, the accused products do not infringe claims 1 and 2 of the '749 patent. The defendants also assert that ETG has not established that any of the means-plus-function claim elements required in the '749 patent claims are present in the accused products. The court agrees that the prosecution history estoppel bar applies, and as a result will not address the defendants' second argument.

The prosecution history shows that the patentee amended the patent application and introduced new claims that are similar to broader claims previously rejected. (D.I. 547, JX 3 at 1-5.) Amended claim 33 narrowed the “means for receiving signals” limitation present in original claim 24 by adding the further requirement that the means for receiving signals include a means for “measuring phase and amplitude.” (Id. at 28.) This amendment creates a bar as to equivalent limitations related to the difference between the newer and older claims. *See Honeywell*, 370 F.3d at 1144. Since “measuring phase and amplitude” is a newly added limitation that narrows the claim, a rebuttable presumption of surrender does apply to that particular limitation. Hence the defendants argue that infringement of the “measuring” limitation cannot be proven by an equivalent. (D.I. 597 at 18-19.) ETG argues, however, that “‘measuring’ phase and amplitude is merely one way of ‘determining.’” (D.I. 577 at 25.) ETG further argues that “no prior art in the record would have precluded a claim to determining phase and amplitude but permitted the claims reciting measuring instead.” (Id. at 26.)

There are three ways for a patentee to rebut the presumption of surrender: “‘demonstrate that the alleged equivalent would have been unforeseeable at the time of the narrowing amendment, that the rationale underlying the narrowing amendment bore no more than a tangential relation to the equivalent in question, or that there was some other reason suggesting that the patentee could not reasonably have been expected to have described the alleged equivalent.’” *Honeywell Int’l, Inc. v. Hamilton Sunstrand Corp.*, 83 U.S.P.Q.2d 1365, 1369 (D. Del. 2006) (quoting *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 344 F.3d 1359, 1369 (Fed. Cir. 2003) (en banc) (“Festo III”)). ETG argues that even if a presumption of prosecution history estoppel applies, it overcomes the presumption because the limitation in question was not added to overcome prior art.

Specifically, ETG argues that “[n]othing in the prosecution history suggests any relationship between the new claim limitations and any prior art rejection of broader claim language.” (D.I. 577 at 26.) That argument is not persuasive and is irrelevant as a matter of law. Indeed, the Supreme Court has held that estoppel may apply when “[a] patentee who narrows a claim as a condition for obtaining a patent disavows his claim to the broader subject matter, whether the amendment was made to avoid the prior art or to comply with § 112.” *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 737 (2002). The Supreme Court further explained that “[w]e must regard the patentee as having conceded an inability to claim the broader subject matter or at least as having abandoned his right to appeal a rejection.” (*Id.*) Nevertheless, ETG uses this prior art argument in an attempt to rebut the presumption of estoppel based on a “tangential relation.” ETG argues that “[w]hether the phase and amplitude are measured or determined is tangential to the summing of the signals to produce an acoustic feedback cancellation signal.” (D.I. 577 at 26.) However, “unless it is ‘clear’ that the rationale underlying the amendment is only peripheral to the alleged equivalent, the tangential-relation criterion is impotent to rebut the presumption of surrender.” *Honeywell Int’l*, 83 U.S.P.Q.2d at 1371 (citing *Amgen, Inc. v. Hoechst Marion Roussel, Inc.*, 457 F.3d 1293, 1315 (Fed. Cir. 2006)). In this instance, it is not clear. Moreover, the other two ways to rebut the presumption

are not applicable.¹⁶ Given the court’s analysis, the jury’s verdict that claims 1 and 2 of the ‘749 patent are infringed under the doctrine of equivalents cannot stand.

C. ETG’s Renewed JMOL Motion Regarding Prior Art and Literal Infringement

1. Prior Art

ETG moves for a ruling that several of the defendants’ prior art references do not qualify as prior art. (D.I. 549 at 3.) The purpose of JMOL is to test the jury’s verdict. *See Pannu*, 155 F.3d at 1348 (The moving party ““must show that the jury’s findings, presumed or express, are not supported by substantial evidence.””). Here, no such test is possible because the jury was not asked to specify the references upon which it relied. If ETG wanted those types of findings then it should have argued for their inclusion in the jury’s final verdict form. Seeing no such request, the motion will be denied.

2. Literal Infringement

ETG challenges the jury’s findings of no literal infringement for claims 13, 14, and 16 of the ‘850 patent. Specifically, ETG contends that, given the facts before it, no reasonable jury could have arrived at the conclusion that the accused products do not literally meet (a) the “determining” limitation and (b) the “inserting” limitation of the ‘850 patent. (See D.I. 549 at 23-24.) Having reviewed all of the evidence adduced at trial, the court is not persuaded by ETG’s

¹⁶ The court notes that the nature of this patent infringement case prevents ETG from rebutting presumption based on “unforseeability” or “some other reason.” Although the ‘749 patent claims “measuring phase and amplitude,” the ‘850 patent explicitly claims “determining the effect on the amplitude and the phase.” Consequently, ETG cannot argue that it was unable to articulate the alleged equivalent. Indeed, wisely, ETG did not attempt to make that argument. This precise difference in language - “measuring” versus “determining” - was the root of the problem between the parties regarding infringement of the ‘850 patent. In that context, ETG made it clear that “determining” is not limited to “measuring.” ETG cannot now claim that the two terms are indistinguishable.

arguments.

a. The Determining Limitation

First, ETG contends that the defendants improperly argued that the determining limitation requires a physical measurement. (D.I. 549 at 24.) ETG further contends that the defendants presented other arguments at trial that were contrary to the court's *Markman* order and inconsistent with the defendant's technical and marketing materials. (Id. at 29.) The court is not persuaded by ETG's contentions. As discussed above, the "determining" limitation requires, in pertinent part, "determining the effect on the amplitude and phase of a signal in said transmission channel as a function of the frequency of acoustic feedback." ('850 patent, col. 14, ll. 8-10.) The court construed this phrase to have its plain and ordinary meaning. (D.I. 495 at 5.) Although the defendants posed factual questions about whether phase and amplitude were "measured" as a part of their trial strategy, the record shows that the defendants understood what the claim required as a matter of law.

ETG contends that it "conclusively" proved at trial that the LMS algorithm techniques used in the accused products satisfy the claimed determining limitation. (D.I. 549 at 34.) The defendants, however, challenged the assertion that the "determining" limitation was met. For example, the defendants' expert witness, Dr. Robert Morley, Jr. ("Dr. Morley), testified that "there is nothing in the equations that determines the calculation of the coefficients in that adaptive filter." (Tr. at 1412:23-25.) He further stated that "[n]othing in those equations has anything about phase and amplitude." (Tr. at 1412:25-1413:1.) The defendants contend that "no expert for ETG . . . at any point in trial was able to point to any aspect of an LMS algorithm that undertook any literal determination of the effect of phase or amplitude as a function of frequency." (D.I. 585 at 21.) In fact, on cross-examination, Brown testified that "phase and amplitude are defined by the coefficient

when you have reached the answer.” (Tr. at 619:1-2.) Brown also testified that you do not need to know the “answer” before the coefficients are added and characterized that fact as “an improvement.” (Tr. at 619:3-11.)

Given this testimony, the court concludes there is substantial evidence in the record upon which a reasonable jury could find that the accused products do not literally infringe the determining limitation.

b. The Inserting Limitation

Next, ETG contends that the defendants improperly argued that the inserting limitation requires that the circuit must be broken and a filter must physically be placed in the hearing aid. (D.I. 549 at 26.) The court is not persuaded by ETG’s contention. As discussed above, the “inserting” limitation requires, in pertinent part, “inserting . . . an electrical feedback path having a filter therein programmed.” (‘850 patent, col. 14, ll. 12-14.) The court construed this phrase to mean “inserting an electrical feedback path between the input and output of the transmission channel.” (D.I. 495 at 5.) The court found further that “the steps of ‘determining’ and ‘inserting’ are performed in the order recited in the claim limitation.” (Id.) The defendants presented expert testimony that the inserting step is not performed as claimed in the patent. Specifically, the defendants’ expert witness, Dr. David Anderson (“Dr. Anderson”), testified that “in the accused products, the filter is inserted at the time of manufacture, long before there are any coefficients anywhere.” (Tr. at 1589:17-19.) Dr. Anderson further explained that “the insertion step occurs out of order then” because “[i]t occurs first.” (Tr. At 1589:19-20.) Again, given this testimony, there is substantial evidence in the record for a reasonable juror to conclude that the accused products do not literally infringe the inserting limitation.

Given the defendants' expert testimony, and other relevant evidence presented at trial, the court finds that there is substantial evidence in the record to support the jury's finding that the accused products do not literally infringe claims 13, 14, and 16 of the '850 patent. The court will permit the jury's findings in this regard to stand.

D. The Widex Defendants' Motion for JMOL of No Willful Infringement and a New Trial

Widex challenges the jury's finding of willful infringement. Specifically, Widex seeks a judgment of no willful infringement, and, in the alternative, requests a new trial on damages. The Federal Circuit has set forth a two-part test for willfulness. *See In re Seagate Tech., LLC*, 497 F.3d 1360, 1370-72 (Fed. Cir. 2007). First, "a patentee must show by clear and convincing evidence that the infringer acted despite an objectively high likelihood that its actions constituted infringement of a valid patent." *Id.* at 1371. Second, "[i]f this threshold objective standard is satisfied, the patentee must also demonstrate that this objectively-defined risk (determined by the record developed in the infringement proceeding) was either known or so obvious that it should have been known to the accused infringer." *Id.* After considering the totality of the circumstances, a finding of willfulness is properly made by the trier of fact who must weigh and evaluate the evidence, including making credibility determinations and drawing inferences. *See Liquid Dynamics Corp. v. Vaughan Co.*, 449 F.3d 1209, 1225 (Fed. Cir. 2006).

Widex argues that there is insufficient evidence to support a finding of willfulness because substantial defenses to both infringement and validity were presented to the jury. Widex contends that the only evidence ETG presented was Widex's knowledge of the patents-in-suit. Widex further asserts that there is no evidence that Widex considered the patents in the design of its products.

There is, however, substantial evidence in the record from which a jury could have rejected Widex's contentions and inferred willfulness – a determination in such an “intent-implicating question” that “is peculiarly within the province of the fact finder that observed the witnesses.” *Id.*

Indeed, it would appear this is exactly what the jury did – that is, in spite of Widex's contentions to the contrary, the jury seems to have concluded that Widex had more than mere knowledge of the patents at issue. For example, ETG presented evidence that Widex had the patents-in-suit in their possession. Soren Westermann (“Westermann”) testified to being the director of research of information technology and of intellectual property at Widex. (Tr. at 714:6-7.) Westermann also testified to being in charge of the patent department, which consists of six engineers and a secretary. (Tr. at 714:13-18.) Westermann testified that Widex had the European equivalent of the ‘850 patent in its files and that his secretary wrote a note on the patent relating it to the ‘850 patent. (Tr. 724:14-725:9.) He also testified that Widex also had a copy of the ‘749 patent and that his secretary made a notation on it. (Tr. at 725:11-20.) After being presented with deposition testimony, Westermann testified that these patents had been in Widex files since 1993. (Tr. at 723:7-9; 726:7-727:3.) Despite acknowledging that the patents-in-suit were in Widex's possession, Westermann testified that he did not know if they were used by any Widex engineers or scientists. (Tr. at 768:18-25; 803:8-13.)

Given this and other testimony, as well as, documentary evidence presented at trial, it seems that the jury concluded that Widex acted willfully. Additionally, it is noteworthy that the jury did not make a willfulness finding against Widex's co-defendant Demant. On this record, the court will not disturb the jury's verdict.

E. ETG's Amended Motion for Enhanced Damages

ETG seeks enhanced damages against Widex for its willful infringement of the patents-in-suit. Pursuant to 35 U.S.C. § 284, “the court may increase the damages up to three times the amount found or assessed.” The Federal Circuit has held that “an award of enhanced damages requires a showing of willful infringement.” *In re Seagate Tech., LLC*, 497 F.3d 1360, 1368 (Fed. Cir. 2007). A finding of willfulness, however, does not mandate an enhanced damages award. *Id.* Instead, “the paramount determination [for enhanced damages] . . . is the egregiousness of the defendant's conduct based on all the facts and circumstances.” *Electro Sci. Indus. v. Gen. Scanning*, 247 F.3d 1341, 1353 (Fed. Cir. 2001) (citation omitted). Thus, enhancement of damages is within the discretion of the court, and the exercise of that discretion is informed by the totality of the circumstances. *Id.* at 1354.

In determining whether, and to what extent, enhancement of damages is warranted, the court may take the following factors into consideration: (1) whether the infringer deliberately copied the ideas or design of another; (2) whether the infringer, when he knew of the other's patent protection, investigated the scope of the patent and formed a good-faith belief that it was invalid or that it was not infringed; (3) the infringer's behavior as a party to the litigation; (4) the infringer's size and financial condition; (5) the closeness of the case; (6) the duration of the infringer's misconduct; (7) any remedial action by the infringer; (8) the infringer's motivation for harm; and (9) whether defendant attempted to conceal its misconduct. *Read Corp. v. Portec, Inc.*, 970 F.2d 816, 827 (Fed. Cir. 1992).

ETG's contentions to the contrary notwithstanding, the court is not persuaded that “Widex's actions present the prototypical case for enhanced damages.” (D.I. 539 at 10.)

Although the jury found that Widex willfully infringed the asserted claims, after careful consideration of the entire trial record in light of the *Read* factors, the court finds that record militates against an award of enhanced damages of any kind. Widex did not act in an egregious manner. In a case that was relatively close, Widex, jointly with Demant, presented substantial litigation defenses to both infringement and validity. Even though some of the defenses were unsuccessful, and some appeared to reargue claim construction, the defenses were presented in apparent good faith. *See Delta-X Corp. v. Baker Hughes Production Tools, Inc.*, 984 F.2d 410, 413 (Fed. Cir. 1993) (“[A]n infringer may generally avoid enhanced damages with a meritorious good faith defense and a substantial challenge to infringement.”). The court is not persuaded by ETG’s arguments regarding the defendants’ improper behavior during the litigation process or their motivation to harm or conceal. After reviewing the defendants’ response, the court is convinced that both parties engaged in litigation tactics that could be viewed as harmful by the other side, but are not improper. Moreover, ETG has not adduced sufficient evidence that Widex deliberately copied the patents-in-suit. *But see Finjan Software, Ltd. v. Secure Computing Corp.*, 2009 U.S. Dist. LEXIS 72825 (D. Del. 2009) (“Finjan offered evidence indicating that Secure used the Finjan patents as a ‘road map’ to develop its Webwasher products.”). Additionally, although Widex’s size and financial condition and the fact that Widex continued to sell the accused products after it was sued without any remedial action weigh in favor of enhanced damages, those factors alone do not provide a sufficient basis for an enhancement. Given the totality of the circumstances, the court finds that enhanced damages against Widex are not warranted. Therefore, the court denies ETG’s motion for enhanced damages.

F. ETG's Amended Motion for Attorney's Fees

1. Attorney's Fees Under 35 U.S.C. § 285

ETG seeks an award of attorney's fees. Pursuant to 35 U.S.C. § 285, "[t]he court in exceptional cases may award reasonable attorney fees to the prevailing party." This statutory grant "is an exception to the American Rule and a change to the pre-1946 practice of not awarding attorney fees based upon equitable considerations in patent cases." *Forest Labs., Inc. v. Abbott Labs.*, 339 F.3d 1324, 1329 (Fed. Cir. 2003)(citation omitted). Indeed, an award of attorney's fees under "§ 285 is limited to circumstances in which it is necessary to prevent 'a gross injustice.'" (*Id.*) Determining whether to award statutory attorney's fees requires a two-step process. *See Cybor Corp. v. Fas Techs.*, 138 F.3d 1448, 1460 (Fed. Cir. 1998). First, the court must determine whether a case is exceptional. *Id.* If the case is exceptional, then the court must determine whether attorney's fees are appropriate. *Id.* Exceptional cases involve "litigation misconduct; vexatious, unjustified, and otherwise bad faith litigation; a frivolous suit or willful infringement." *Epcon Gas Sys. Inc. v. Bauer Compressors, Inc.*, 279 F.3d 1022, 1034 (Fed. Cir. 2002).

Because the court does not find this case to be exceptional, the court will not award attorneys' fees. The defendants' conduct in this case does not amount to bad faith litigation. Although there is a sufficient basis for the jury's finding of willful infringement, the court is not persuaded that this case exemplified anything more than the challenges of vigorous advocacy by opposing parties who espouse radically different views on many issues. As this court has noted, "'hard-fought' litigation does not necessarily constitute 'vexatious or bad faith litigation.'" *Lifesciences AG v. Corevalve, Inc.*, 2011 U.S. Dist. LEXIS 12022 (D. Del. Feb. 7, 2011)(citation

omitted).

2. Attorney's Fees Under 28 U.S.C. § 1927 and the Court's Inherent Power

ETG also seeks an award of attorney's fees and costs. ETG bases its request on 28 U.S.C. § 1927 or, alternatively, asks the court to exercise its inherent power to make such an award. Pursuant to 28 U.S.C. § 1927, a court may impose personal liability on an attorney who unreasonably and vexatiously multiplies the proceedings. The Third Circuit has held that sanctions are warranted under § 1927 if an attorney has "(1) multiplied proceedings; (2) unreasonably and vexatiously; (3) thereby increasing the cost of the proceedings; (4) with bad faith or with intentional misconduct." *LaSalle Nat'l Bank v. First Conn. Holding Group, L.L.C.* XXIII, 287 F.3d 279, 288 (3d Cir. 2002). The Court of Appeals has cautioned that "sanctions may not be imposed under § 1927 absent a finding that counsel's conduct resulted from bad faith, rather than misunderstanding, bad judgment, or well-intentioned zeal." *Id.* For the reasons discussed in Section V(F)(1) of this opinion, the court does not find that the requisite grounds exist in this case to make such an award. Likewise, given that there has not been a showing of bad faith, the court declines to accede to ETG's request for an award of attorney's fees pursuant to the court's exercise of its inherent power. *See In re Prudential Ins. Co. Am. Sales Practice Litig. Actions*, 278 F.3d 175, 181 (3d Cir. 2002). Therefore, the court will deny ETG's motion for attorney's fees.

G. ETG's Motion for Prejudgment and Post-judgment Interest

1. Prejudgment Interest

ETG seeks an award of prejudgment interest pursuant to 35 U.S.C. § 284.¹⁷ Specifically, ETG requests prejudgment interest on the total damages awarded “based on the prime rate as set by the Board of Governors of the Federal Reserve System.” (D.I. 537 at 2.) ETG contends that the prejudgment interest award should be calculated by “spreading out the damages over twenty-four (24) quarterly royalty payments Defendants would have made to ETG throughout the period in which Defendants would have licensed the Patents-in-suit and compounding the interest in each of the royalty payments on a quarterly basis.” (Id.)

The defendants oppose ETG’s motion for prejudgment interest. Preliminarily, they argue that ETG’s undue delay in instituting suit warrants denial of prejudgment interest. “In cases of patent infringement, ‘prejudgment interest should be awarded under [35 U.S.C.] § 284 absent some justification for withholding such an award.’” *Tristrata Tech., Inc. v. Mary Kay, Inc.*, 423 F. Supp. 2d 456, 471 (D. Del. 2006) (citing *GM Corp. v. Devex Corp.*, 461 U.S. 648, 657 (1983)). Such justification may include undue delay in bringing suit. *See id.* Unless delay causes prejudice to the defendant, however, it does not support a denial of prejudgment interest. *Id.*; *See also Lummus Industries, Inc., v. D. M.& E. Corp.*, 862 F.2d 267, 275 (Fed. Cir. 1988). Here, the defendants have neither proven that ETG unduly delayed in filing suit nor that they have been prejudiced. The parties dispute when ETG learned of the defendants’ infringement and the import of EKMS findings. (D.I. 587 at 2-3; D.I. 592 at 3.) This dispute, in light of the record, undermines their undue delay argument. Moreover, the defendants’ claim of prejudice is

¹⁷ 35 U.S.C. § 284 provides in pertinent part: “[u]pon finding for the claimant the court shall award the claimant damages adequate to compensate for the infringement but in no event less than a reasonable royalty for the use made of the invention by the infringer, together with interest and costs as fixed by the court.”

unsubstantiated. As ETG points out, “for Defendants to now offer up argument from counsel suggesting they would have altered their conduct had ETG filed suit earlier is pure speculation and is contradicted by Defendants’ actual conduct after having been put on notice of their infringement.” (D.I. 592 at 5.) Therefore, the defendants have not demonstrated that ETG should be denied prejudgment interest.

Next, the defendants argue that even if an award of prejudgment interest is appropriate, ETG’s calculations are objectively flawed. In particular, the defendants argue that (1) ETG uses the wrong formula for quarterly compounding, (2) ETG uses the wrong start date for the date of first infringement, (3) ETG’s “equal spacing” method unfairly results in a premature and excessively large award of prejudgment interest, (4) ETG uses the wrong historical prime rate, (5) ETG fails to account for corporate income tax effects, and (6) ETG fails to employ the highest-quality debt rate. Other than the contention that ETG uses the wrong start date, the court disagrees with the defendants. The court agrees with the defendants that instead of ETG’s prejudgment interest calculation beginning in the first quarter of 2001, the calculation should begin in the fourth quarter of 2001 when the infringing sales began. (See D.I. 587 at 4; D.I. 592 at 10 n.7.) This reduces the total period to twenty-one (21) quarters rather than twenty-four (24) quarters. (See D.I. 587 at 5.)

Finally, the defendants argue that the court should adopt the treasury bill rate. The court is not persuaded by any of the defendants’ arguments regarding the appropriate rate. For example, the court does not agree with the defendants’ characterization of the case law on “risky” prejudgment interest rates. (D.I. 587 at 10.) The court also does not agree with the defendants’ contention that ETG needed to prove “liquidity risk” or “competitive risk” in order to prevail on

its request to use the prime rate. (Id. at 11.) “The Federal Circuit has given district courts great discretion in determining the interest rate for awards of prejudgment interest.” *Phillips Petroleum Co. v. Rexene Corp.*, 1997 U.S. Dist. LEXIS 18460, 80-81 (D. Del. 1997) (citing *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 939 F.2d 1540, 1545 (Fed. Cir. 1991)). In fact, a patentee does not have to “demonstrate that it borrowed at the prime rate in order to be entitled to prejudgment interest at that rate.” *Id.* at 81. “Courts have recognized that the prime rate best compensate [sic] a patentee for lost revenues during the period of infringement because the prime rate represents the cost of borrowing money, which is ‘a better measure of the harm suffered as a result of the loss of the use of money over time.’” *IMX, Inc. v. Lendingtree, LLC*, 469 F. Supp. 2d 203, 227-228 (D. Del. 2007) (citing *Mars, Inc. v. Conlux USA Corp.*, 818 F. Supp. 707, 720-21 (D. Del. 1993), *aff’d*, 16 F.3d 421 (Fed. Cir. 1993)). Therefore, ETG’s motion for prejudgment interest will be granted in accordance with the calculations set forth by Terry Musika, ETG’s damages expert, in his declarations.¹⁸

2. Post-judgment Interest

ETG also seeks an award of post-judgment interest pursuant to 28 U.S.C. § 1961.¹⁹ The defendants do not oppose ETG’s motion for statutory post-judgment interest. Therefore, the

¹⁸ However, as discussed above, the prejudgment interest calculation should begin in the fourth quarter of 2001 and span twenty-one (21) quarters.

¹⁹ 28 U.S.C. § 1961(a) provides in pertinent part: “[i]nterest shall be allowed on any money judgment in a civil case recovered in a district court” and “[s]uch interest shall be calculated from the date of the entry of judgment.” The statute also establishes the rate.

court will grant ETG's motion for post-judgment interest.²⁰ The post-judgment interest will be calculated from the date of judgment, using the formula set forth in 28 U.S.C. § 1961.

H. Defendants' Motion for Relief from Judgment

The defendants seek relief from judgment pursuant to Federal Rule of Civil Procedure 60. Specifically, the defendants move under Rule 60(b)(2), which provides that the court may grant such relief based on "newly discovered evidence that, with reasonable diligence, could not have been discovered in time to move for a new trial under Rule 59(b)." Fed. R. Civ. P. 60(b)(2). The defendants also move under Rule 60(b)(6), which enables the court to act based on "any other reason that justifies relief." Fed. R. Civ. P. 60(b)(6). The court will not grant the defendants relief from judgment. The defendants' request, as ETG points out, essentially amounts to asking the court to reconsider its decision denying the defendants' motion *in limine*.²¹

The defendants move the court to vacate judgment based on the fact that the German Federal Court of Justice issued a decision (the "German Federal Court Decision")²² that overturned a decision of the Higher Regional Court Düsseldorf (the "German Appellate Court Decision"),²³ which was based on a decision of the German Federal Cartel Office (the "Cartel

²⁰ Since the court is denying ETG's motions for enhanced damages and attorney's fees, the court denies the motion as moot to the extent that it requests interest on those items.

²¹ See D.I. 621, Ex. B at 76:13.

²² See D.I. 616, Ex. A, for an English translation of the German Federal Court decision, which was issued on April 20, 2010.

²³ See D.I. 621, Ex. A, for an English translation of the German Appellate Court decision, which was issued on November 26, 2008.

Office Decision”).²⁴ The German Federal Court held that the German Appellate Court Decision was “rescinded” and that the Cartel Office Decision was “unlawful.” (D.I. 616, Ex. A at 3.) Specifically, the German Federal Court found that “[i]n accordance with the main request in the appeal on points of law, it must be ruled that the prohibition order by the Federal Cartel Office dated 11 April 2007 was unlawful.” (Id. at 32.) The German Federal Court also found that the Cartel Office conducted “extensive investigations” and that the facts did not need to be further clarified. (Id.) Thus, although the Cartel Office Decision was found to be incorrect as a matter of law with regard to its prohibition of a merger, the underlying facts were found to be adequate. Those facts are what ETG introduced at trial, and the defendants were able to vigorously challenge them at trial through live witness testimony and documentary evidence. The jury, as fact finder, was able to accept or reject the proffered evidence. For the following reasons, the court finds that the defendants are not entitled to relief from judgment under Rule 60(b)(2) or Rule 60(b)(6).

Rule 60(b) motions are viewed as requests for “‘extraordinary relief which should be granted only where extraordinary justifying circumstances are present.’” *Bohus v. Beloff*, 950 F.2d 919, 930 (3d Cir. Pa. 1991). A “movant under Rule 60(b) ‘bears a heavy burden,’ which requires ‘more than a showing of the potential significance of the new evidence.’” *Bohus v. Beloff*, 950 F.2d 919, 930 (3d Cir. 1991)(internal citations omitted). “Under Rule 60(b)(2), the term ‘newly discovered evidence’ refers to ‘evidence of facts in existence at the time of trial of

²⁴ The Cartel Office Decision was introduced at trial and entered into evidence as PX648. (See D.I. 616 at 1.) The Federal Cartel Office “prohibited the merger project” of the parties’ before it. (D.I. 621, Ex. A at 3.)

which the aggrieved party was excusably ignorant.” *Bohus v. Beloff*, 950 F.2d 919, 930 (3d Cir. 1991) (citation omitted). The Third Circuit has established a three-part test. “A party is entitled to new trial only if such evidence is (1) material and not merely cumulative, (2) could not have been discovered prior to trial through the exercise of reasonable diligence, and (3) would probably have changed the outcome of the trial.” *Bohus*, 950 F.2d at 930. If, however, the evidence probably would not have changed the outcome of the trial, then the other factors do not need to be addressed. *Bohus v. Beloff*, 950 F.2d 919, 931 n.14 (3d Cir. 1991).

The defendants claim that the German Federal Court Decision reveals newly discovered evidence concerning facts in existence at the time of the trial. The court disagrees and finds that the German Federal Court Decision is not newly discovered evidence.²⁵ Moreover, nothing about that decision creates “extraordinary justifying circumstances.” It can reasonably be expected that a governmental agency’s decision rejecting a merger may be challenged in a court of law. In this case, the underlying factual findings were left undisturbed. Importantly, the German Federal Court Decision did not reveal any newly discovered evidence regarding infringement of the patents-in-suit. Thus, the infringement verdict would not change.²⁶ The facts, and not the legal conclusions, are what ETG presented at trial to support its damages claim. In particular, ETG used the factual findings from the Cartel Office Decision to rebut the

²⁵ See *Betterbox Communs., Ltd. v. BB Techs., Inc.*, 300 F.3d 325, 331 (3d Cir. 2002) (“Because newly discovered evidence must concern facts in existence at the time of trial, the notice of cancellation of the Betterbox registration cannot qualify as newly discovered insofar as it simply shows that the Betterbox registration was canceled. This is so because the fact of cancellation was not in existence at the time of trial.”).

²⁶ ETG did not use the Cartel Office Decision to prove patent infringement. (D.I. 621 at 6 n.4.)

defendants' proposed royalty rate and argue that the hearing aid industry does not negotiate at arm's length.²⁷ Therefore, ETG's reliance upon those facts was not and is not improper. Even if reliance on those facts was deemed improper, ETG presented additional evidence of the same facts based on witness testimony and documentary evidence.²⁸ Therefore, the defendant's request for relief from judgment is denied.

I. Defendants' Motion for JMOL on Damages and for Remittitur and a New Trial

The defendants seek JMOL on damages and, in the alternative, a remittitur or a new trial on damages. "A jury award of damages is reviewed by [the district court] for substantial evidence. That award is entitled to deference." *Honeywell Int'l, Inc. v. Universal Avionics Sys. Corp.*, 426 F. Supp. 2d 211, 214 (D. Del. 2006)(citation omitted). "The Federal Circuit has stated that the jury's findings must be upheld unless 'the amount is grossly excessive or monstrous, clearly not supported by the evidence, or based only on speculation or guesswork.'" *Id.* at 215. A remittitur is only proper where the court finds that the jury verdict is excessive or not supported by sufficient evidence. *See Evans v. Port Auth. of N.Y. & N.J.*, 273 F.3d 346, 354 (3d Cir. 2001); *see also Spence v. Board of Education*, 806 F.2d 1198, 1201 (3d Cir. 1986). A new trial is only warranted "where 'a miscarriage of justice would result if the verdict were to stand,' the verdict 'cries out to be overturned,' or where the verdict 'shocks our conscience.'" *Lucent Techs., Inc. v. Newbridge Networks Corp.*, 168 F. Supp. 2d 181, 251 (D. Del. 2001)

²⁷ See, e.g., D.I. 621 at 6; See also Tr. at 870:1-872:10.

²⁸ See, e.g., D.I. 621 at 15-18.

(citation omitted).

The defendants contend that ETG's reasonable royalty analysis and the jury's damages verdict are based on speculation and are not supported by substantial evidence. (D.I. 543 at 5-6.) Specifically, the defendants argue that (1) Musika's profit analysis is legally flawed and unreliable, (2) Musika's conclusions are untethered to any meaningful *Georgia-Pacific*²⁹ factor 13 analysis or assessment of the portion of the profit to be credited to the claimed invention, and (3) Musika improperly disregarded licenses in the hearing aid field. (Id. at 6-16.) The defendants also contend that the evidence overwhelmingly supports damages of no more than \$2 million for Demant and \$1.5 million for Widex. (Id. at 16-20.) ETG challenges the defendant's contentions. ETG characterizes the defendants' motion as an untimely *Daubert*³⁰ challenge and argues that substantial evidence supports the jury's damages verdict. (D.I. 575 at 2-4.) The court agrees with ETG. Based on the applicable legal standards and the record in this case, the court finds that there is substantial evidence to support the jury's damages verdict and that it is not improper for the reasons the defendants submit at this stage. The parties presented conflicting

²⁹ See *Georgia-Pacific Corp. v. United States Plywood Corp.*, 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970). *Georgia-Pacific* is an oft cited case that sets forth a non-exclusive list of factors to be considered in determining a reasonable royalty rate in a patent infringement case. It has been cited with approval by the Federal Circuit.

³⁰ See *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579 (1993); see also *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 149 (U.S. 1999). The cases discuss the trial court's role in ensuring the exclusion of expert testimony that is irrelevant or not based on reliable methodologies or theories.

expert testimony to the jury regarding the appropriate royalty rate, and the jury was able to accept or reject either party's evidence – either in whole or in part. Therefore, the court will not disturb the jury's credibility determinations or substitute resolution of the conflicting evidence for that of the jury. See *Applied Med. Resources Corp. v. United States Surgical Corp.*, 147 F.3d 1374, 1377 (Fed. Cir. 1998).

The jury's verdict demonstrates that it did not fully agree with the reasonable royalty rates proposed by either of the parties. The defendants' proposed a lump sum of \$1 million (D.I. 523 at 1822:7-8) or a royalty rate between .25 percent and .5 percent (Id. at 3-4). Applying .5 percent to the defendants' proposed royalty base yielded damages in the amount of \$2.4 million from Demant (Tr. at 1823:10-11) and \$1.11 million from Widex (Tr. at 1823:5). ETG, on the other hand, proposed a rate of 8.4 percent. (Tr. at 851:13.) This led to damages in the amount of \$35,035,287 from Demant (Tr. at 854:15-17) and \$25,714,749 from Widex (Tr. at 855:24-856:1). At one point during trial, Musika calculated a lower rate of 6.4 percent using the expected profit margins reached by the defendants' expert, Dr. Putnam. (D.I. 509 at 901:13-15.) After listening to all of the expert testimony and reviewing evidence, the jury awarded ETG \$16 million from Demant and \$15 million from Widex. (D.I. 521 at 8.) The jury was not asked to provide a royalty rate. (Id.) ETG asserts that based on the defendants' sales figures, the jury awards "equate to effective royalty rates of 4.97 percent for Widex and 3.91-99 percent for Demant," which are "approximately half-way between" the parties' proposed royalty rates.³¹ (D.I. 575 at 15.) In light of the record, the court does not find that the jury's verdict is excessive.

³¹ ETG explains that "[i]f the jury gave Demant credit for certain government sales, the royalty rate is 3.91 percent. If it refused to do so, the royalty rate is 3.99 percent." (D.I. 575 at 16, n.9.)

Therefore, the court will not grant judgment as a matter of law on the issue of damages. The court will also not allow remittitur at this time. Finally, no basis exists for a new trial. This damages award does not shock the conscience, cry out to be overturned, or result in a miscarriage of justice. *See Lucent Techs.*, 168 F. Supp. 2d at 251.

J. Defendants' Motion for Leave to Supplement

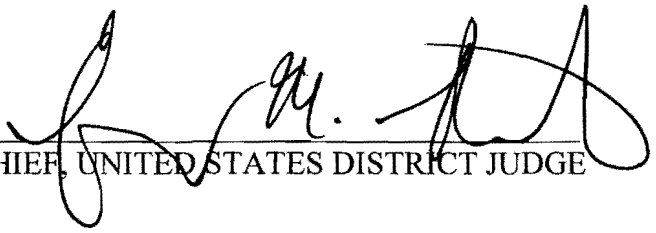
The defendants filed a motion seeking leave to supplement their post-trial motion with respect to damages in order to (1) include the recent German Federal Court Decision and (2) to incorporate arguments set forth in their brief in support of relief from judgment. (D.I. 617.) ETG opposed this request. (D.I. 622.) For the reasons discussed above in Sections H and I, the court will deny this motion.

VI. CONCLUSION

For the aforementioned reasons, the court will: (1) grant in part and deny in part the defendants' motion for judgment as a matter of law of noninfringement and invalidity, and for a new trial (D.I. 527); (2) deny ETG's second amended motion for judgment as a matter of law (D.I. 548); (3) deny the Widex defendants' motion for judgment as a matter of law of no willful infringement, and a new trial (D.I. 529); (4) grant ETG's motion for pre-judgment and post-judgment interest (D.I. 532); (5) deny ETG's amended motion for enhanced damages and attorney's fees (D.I. 538); (6) deny the defendants' motion for relief from judgment pursuant to Fed. R. Civ. P. 60(b)(2) or 60(b)(6) (D.I. 615); (7) deny the defendants' motion for judgment as a matter of law on damages, and for remittitur and a new trial (D.I. 528); and (8) deny the defendants' motion for leave to supplement defendants' renewed motion for judgment as a matter of law with respect to damages or, in the alternative, for a remittitur or new trial on damages (D.I.

617).

Dated: June 7, 2011


CHIEF, UNITED STATES DISTRICT JUDGE

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

ENERGY TRANSPORTATION GROUP,)
INC.,)
)
Plaintiff,)
)
v.) C.A. No. 05-422 (GMS)
)
SONIC INNOVATIONS, INC., et al.,)
)
Defendants.)
_____)

ORDER

For the reasons stated in the court’s Memorandum of this same date, IT IS HEREBY ORDERED that:

1. The Defendants’ Motion for Judgment as a Matter of Law of Noninfringement and Invalidity, and for a New Trial (D.I. 527) is GRANTED IN PART and DENIED IN PART. Specifically, the court will reverse the jury’s finding of infringement under the doctrine of equivalents for claims 1 and 2 of the ‘749 patent due to prosecution history estoppel. However, the court will preserve the jury’s finding of validity. The court will also preserve the jury’s finding of infringement under the doctrine of equivalents for all of the asserted claims of the ‘850 patent and literal infringement of claim 19 of the ‘850 patent. Finally, the court will deny the defendants’ request for a new trial on the issues of infringement and invalidity;
2. ETG’s Second Amended Motion for Judgment as a Matter of Law (D.I. 548) is DENIED;
3. The Widex Defendants’ Motion for Judgment as a Matter of Law of No Willful

Infringement, and a New Trial (D.I. 529) is DENIED;

4. ETG's Motion for Prejudgment and Post-judgment Interest (D.I. 532) is GRANTED.

The defendants shall pay: (a) prejudgment interest on the final damages award at the prime rate calculated by spreading out the damages over the twenty-one (21) quarterly royalty payments defendants would have made to ETG throughout the period in which defendants would have licensed the patents-in-suit and compounding the interest in each of the royalty payments on a quarterly basis, and (b) post-judgment interest on the final damages award pursuant to 28 U.S.C. § 1961;

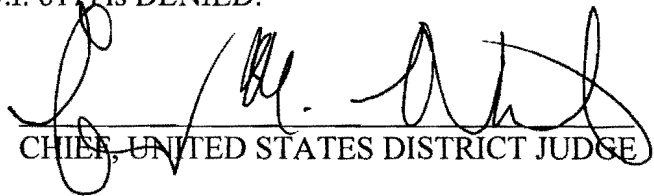
5. ETG's Amended Motion for Enhanced Damages and Attorney's Fees (D.I. 538) is DENIED;

6. The Defendants' Motion for Relief from Judgment Pursuant to Fed. R. Civ. P. 60(b)(2) or 60(b)(6) (D.I. 615) is DENIED;

7. The Defendants' Motion for JMOL on Damages, and for Remittitur and a New Trial (D.I. 528) is DENIED; and

8. The Defendants' Motion for Leave to Supplement Defendants' Renewed Motion for Judgment as a Matter of Law with Respect to Damages or, in the Alternative, for a Remittitur or New Trial on Damages (D.I. 617) is DENIED.

Dated: June 7, 2011


CHIEF, UNITED STATES DISTRICT JUDGE