United States Court of Appeals for the Federal Circuit

LASERDYNAMICS, INC.,
Plaintiff-Appellant,

v.

QUANTA COMPUTER, INC.,
Defendant-Cross Appellant,

and

QUANTA COMPUTER USA, INC.,
QUANTA STORAGE, INC., AND
QUANTA STORAGE AMERICA, INC.
Defendants.

2011-1440, -1470

Appeals from the United States District Court for the Eastern District of Texas in case no. 06-CV-0348, Judge T. John Ward.

Decided: August 30, 2012

MATTHEW C. GAUDET, Duane Morris LLP, of Atlanta, Georgia, argued for plaintiff-appellant. On the brief were ROBERT L. BYER, of Pittsburgh, Pennsylvania, and GREGORY M. LUCK, of Houston, Texas, and KRISTINA

CAGGIANO, of Washington, DC. Of counsel was THOMAS W. SANKEY, of Houston, Texas.

TERRENCE DUANE GARNETT, Goodwin Procter, LLP, of Los Angeles, California, argued for defendant/cross-appellant. With him on the brief were VINCENT K. YIP, and PETER J. WIED.

Before DYK, CLEVENGER, and REYNA, *Circuit Judges*.

REYNA, *Circuit Judge*.

These appeals come before us after two trials in the district court—a first trial resolving the claims of patent infringement and damages, and a second trial ordered by the district court to retry the damages issues. The parties raise various issues relating to the proper legal framework for evaluating reasonable royalty damages in the patent infringement context. Also before us are questions regarding implied license, patent exhaustion, infringement, jury instructions, and the admissibility of a settlement agreement. For reasons explained in detail below, we *affirm-in-part*, *reverse-in-part*, and *remand*.

I. BACKGROUND

A. The Patented Technology and the Optical Disc Drive Industry

LaserDynamics, Inc. ("LaserDynamics") is the owner of U.S. Patent No. 5,587,981 ("the '981 Patent"), which was issued in 1996. The patent is directed to a method of optical disc discrimination that essentially enables an optical disc drive ("ODD") to automatically identify the type of optical disc—e.g., a compact disc ("CD") versus a digital video disc ("DVD")—that is inserted into the ODD. Claim 3, which was asserted at trial, is representative:

> 3. An optical disk reading method comprising the steps of:
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> > processing an optical signal reflected from encoded pits on an optical disk until total number of data layers and pit configuration standard of the optical disk is identified;
> >
> > collating the processed optical signal with an optical disk standard data which is stored in a memory; and
> >
> > settling modulation of servomechanism means dependent upon the optical disk standard data which corresponds with the processed optical signal;
> >
> > (c) [sic] the servomechanism means including:
> >
> > > a focusing lens servo to modulate position of a focusing lens; and
> > >
> > > a tracking servo to modulate movement of a pickup.

This automated process saves the user from having to manually identify the kind of disc being inserted into the ODD before the ODD can begin to read the data on the disc. The patented technology is alleged to be particularly useful in laptop computers where portability, convenience, and efficiency are essential. At least as early as 2006, a laptop computer was not commercially viable unless it included an ODD that could automatically discriminate between optical discs.

Yasuo Kamatani is the sole inventor of the ’981 Patent. In 1998, viewing DVD technology as the next major data and video format, Mr. Kamatani founded LaserDynamics and assigned the ’981 Patent to the company. Mr. Kamatani is the sole employee of LaserDynamics, which is exclusively in the business of licensing Mr. Kamatani's patents to ODD and consumer electronics manufacturers.

When LaserDynamics was founded, the DVD market had reached few mainstream consumers, and there was some skepticism among electronics companies as to the likely success of this technology compared with the established VHS format. By 2000, however, DVD sales and the ODD market were sharply rising. By 2003, most homes had DVD players and nearly every computer had an ODD. An ODD having automatic disc discrimination capability quickly became the industry standard for DVD players and computers.[1]

B. LaserDynamics' Licensing History of the '981 Patent

According to LaserDynamics, it was initially difficult to generate interest in licensing the '981 Patent, due to the novelty of the technology and LaserDynamics' limited operating capital and bargaining power. Nevertheless, LaserDynamics entered into sixteen licensing agreements from 1998 to 2001. These licenses were granted to well known electronics and ODD manufacturers such as Sony, Philips, NEC, LG, Toshiba, Hitachi, Yamaha, Sanyo, Sharp, Onkyo, and Pioneer. All of the licenses were non-

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[1] While LaserDynamics contends that all ODDs performing a disc discrimination method are within the scope of the '981 Patent, Quanta Computer, Inc. ("QCI") disputes that Mr. Kamatani invented the concept of disc discrimination, alleging that "[t]here are numerous other techniques disclosed in the prior art for determining what type of disc is inserted in an optical disc drive." *QCI Br.* at 10; A648. The validity of the '981 Patent is not before us, and so we do not address whether the scope of the invention as alleged by LaserDynamics is accurate other than to consider QCI's non-infringement contentions below.

exclusive licenses granted in exchange for one time lump sum payments ranging from $57,000 to $266,000. There is no evidence that these licenses recited the lump sum amounts as representing a running royalty applied over a certain period of time or being calculated as a percentage of revenues or profits. These sixteen licenses were admitted into evidence in the first trial, as explained below.

Several other lump sum licenses were granted by LaserDynamics between 1998 and 2003 to other ODD and electronics manufacturers via more aggressive licensing efforts involving actual or threatened litigation by LaserDynamics. These licenses, in addition to the sixteen licenses from the first trial, were admitted in the second trial.

On February 15, 2006, LaserDynamics (and Mr. Kamatani) entered into a license agreement with BenQ Corporation to settle a two-year long litigation for a lump sum of $6 million. This settlement agreement was executed within two weeks of the anticipated trial against BenQ. *Kamatani v. BenQ Corp.*, No. 2:03-CV-437 (E.D. Tex. Jan. 20, 2006) (pre-trial conference order indicating trial was expected to begin in the last week of February 2006). By the time of the settlement, BenQ had been repeatedly sanctioned by the district court for discovery misconduct and misrepresentation. The district court had allotted BenQ one-third less time than Mr. Kamatani for *voir dire*, opening statement, and closing argument, had awarded attorneys' fees to Mr. Kamatani for bringing the sanctions motion, had stricken one of BenQ's pleaded defenses, and had sanctioned BenQ $500,000.00 as an additional punitive and deterrent measure. *Kamatani v. BenQ Corp.*, No. 2:03-CV-437, 2005 U.S. Dist. LEXIS 42762, at *20, *44-46 (E.D. Tex. Oct. 6, 2005). The district court believed that its harsh sanctions were justified because BenQ's extensive misconduct "demonstrate[d] a conscious intent to evade the discovery orders of this Court, as well as violate[d] this Court's orders and the rules to an extent previously unknown by this Court." *Id.* at *44-45. The BenQ settlement agreement was admitted into evidence in the second trial.

Finally, in 2009 and 2010, LaserDynamics entered into license agreements with ASUSTeK Computer and Orion Electric Co., Ltd., respectively, for lump sum payments of $1 million or less. These two licenses were admitted into evidence in the second trial.

In total, twenty-nine licenses were entered into evidence in the second damages trial. With the exception of the $6 million BenQ license, all twenty-nine licenses were for lump sum amounts of $1 million or less.

C. Quanta Computer Inc. and Quanta Storage Inc.

Quanta Storage, Inc. ("QSI") is a manufacturer of ODDs that was incorporated in 1999. QSI is headquartered in Taiwan and is a partially-owned subsidiary of Quanta Computer, Inc. ("QCI"), with which it shares some common officers, directors, and facilities. QCI's corporate headquarters are also located in Taiwan, and its factories are located in China. QCI holds a minority share in QSI and does not control QSI's operations.

QCI assembles laptop computers for its various customers, which include name brand computer companies such as Dell, Hewlett Packard ("HP"), Apple, and Gateway. QCI does not manufacture ODDs, but will install ODDs into computers as instructed by its customers. QCI will sometimes purchase ODDs directly from ODD manufacturers such as Sony, Panasonic, Toshiba, or QSI, as directed by QCI's customers. Predominantly, however, QCI will be required to purchase the ODDs from the customer for whom QCI is assembling the laptop computer. In other words, QCI's typical practice is to buy ODDs from Dell, HP, Apple, or Gateway, which in turn purchased the ODDs from the ODD manufacturers. Because QCI eventually sells the fully assembled laptop computers—including the ODDs—to its customers, this process is called a "buy/sell" arrangement. When QCI purchases ODDs from one of its customers in a buy/sell context, it buys the ODDs for an artificially high "mask price" set by the customer and designed to hide the actual lower price of the ODDs from the customer's competitors. Thus, the mask price is always higher than the actual price to the customer.

QSI first sold its ODDs for integration into laptop computers in the United States in 2001. In 2002, LaserDynamics offered QSI a license under the '981 Patent, but QSI disputed whether its ODDs were within the scope of the '981 Patent and declined the offer. QCI sold its first computer in the United States using an ODD from QSI in 2003. It was not until August 2006 that LaserDynamics offered a license to QCI concurrently with the filing of this lawsuit. To date, neither QSI nor QCI has entered into a licensing agreement with LaserDynamics relating to the '981 Patent.

D. ODDs Made by Philips and Sony/NEC/Optiarc

Just as computer sellers Dell, HP, Apple, and Gateway outsource the assembly of their computers to companies like QCI, some sellers of ODDs outsource the assembly of their ODDs. QSI assembles ODDs for Philips and Sony/NEC/Optiarc—two of the largest sellers of ODDs. As discussed above, Philips and Sony/NEC/Optiarc are licensed by LaserDynamics to make and sell ODDs within the scope of the '981 Patent. Under the license agreements, both Philips and Sony/NEC/Optiarc also enjoy "have made" rights that permit them to retain companies like QSI to assemble ODDs for them.

When QCI purchases ODDs directly from Philips or Sony/NEC/Optiarc—i.e., not under a buy/sell arrangement—QCI has no knowledge of which entity assembled the ODDs. QCI pays Philips or Sony/NEC/Optiarc directly for the ODDs, which are not sold under the QSI brand name even if assembled by QSI.

II. PROCEDURAL HISTORY

In August 2006, LaserDynamics brought suit against QCI and QSI for infringement of the '981 Patent. Because asserted claim 3 of the '981 Patent is directed to a method of disc discrimination performed by an ODD, as opposed to the ODD itself, LaserDynamics relied on a theory of infringement that QSI's and QCI's sales of ODDs and laptop computers, respectively, actively induced infringement of the method by the end users of the ODDs and laptop computers. *See* 35 U.S.C. § 271(b).

On a pre-trial summary judgment motion brought by QCI and QSI relating to their defenses of patent exhaustion and implied license, the district court made the following rulings:

> (1) "the exhaustion doctrine does not apply to sales made overseas by [LaserDynamics'] licensees";
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> (2) "QCI has an implied license with respect to drives manufactured by non-Quanta entities licensed by [LaserDynamics] under worldwide licenses and sold by those licensees to QCI for incorporation into QCI computers. In addition, QSI is not liable for manufacturing drives for Philips or Sony/NEC/Optiarc which are, in turn,

> resold into the United States to non-Quanta entities"; and
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> (3) "the Quanta defendants do not have an implied license with respect to drives that are manufactured by QSI and eventually sold to QCI (or another Quanta entity), notwithstanding the fact that those drives are sold through Philips or Sony/NEC/Optiarc, two of [LaserDynamics'] licensees. *E.I. Du Pont de Nemours & Co. v. Shell Oil Co.,* 498 A.2d 1108, 1116 (Del. 1985). The effect of such transactions is to grant an impermissible sublicense."

LaserDynamics, Inc. v. Quanta Storage Am., Inc., No. 2:06-CV-348-TJW-CE, 2009 U.S. Dist. LEXIS 115848, at *3-5 (E.D. Tex. June 29, 2009) ("*Pre-Trial Op.*"). Based on these rulings, LaserDynamics dropped its claims against QSI and opted to pursue its active inducement of infringement claims against QCI only at trial.

QCI was first on notice of the '981 Patent in August 2006 when the complaint was filed. Between August 2006 and the conclusion of the first trial in June 2009, QCI sold approximately $2.53 billion of accused laptops into the United States. LaserDynamics sought reasonable royalty damages under 35 U.S.C. § 284. Pursuant to the analytical framework for assessing a reasonable royalty set forth in *Georgia-Pacific Corp. v. United Plywood Corp.,* 318 F. Supp. 1116 (S.D.N.Y. 1970),[2] the date of the "hypothetical negotiation" between the parties was deemed by the

[2] This court has sanctioned the use of the *Georgia-Pacific* factors to frame the reasonable royalty inquiry. Those factors properly tie the reasonable royalty calculation to the facts of the hypothetical negotiation at issue." *Uniloc USA, Inc. v. Microsoft Corp.*, 632 F.3d 1292, 1317 (Fed. Cir. 2011).

district court (over QCI's objections) to be August 2006—the date that QCI first became aware of the '981 Patent and was therefore first potentially liable for active inducement of infringement. *See Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S. Ct. 2060, 2068 (2011) (holding that knowledge of the patent is necessary to prove active inducement of infringement).

A. The First Trial

The damages theory advanced by LaserDynamics in the first trial was presented chiefly through LaserDynamics' expert, Mr. Emmett Murtha. Mr. Murtha opined that a running royalty of 2% of the total sales of laptop computers by QCI is what the parties would have agreed to as a reasonable royalty had they engaged in a hypothetical negotiation in August 2006. This opinion was based on Mr. Murtha's understanding, obtained primarily from LaserDynamics' other expert witnesses, that the technology covered by the '981 Patent provided an important and valuable function that was present in all ODDs currently in use, and that the presence of this function was a prerequisite for any laptop computer to be successful in the marketplace. Since QCI sold laptop computers and not ODDs, Mr. Murtha viewed the complete laptop computer as an appropriate royalty base.

To arrive at his 2% per laptop computer royalty rate, Mr. Murtha began by finding that 6% would be a reasonable royalty rate to pay with respect to an ODD alone. Mr. Murtha reached his conclusion of a 6% per ODD royalty by relying on "comparable rates in two separate licensing programs involving DVDs where the rates were 3.5 in one case and 4 percent in another case." A621, A650-54.[3] The two patent licensing programs were un-

[3] Citations to "A___" herein refer to pages of the Joint Appendix filed by the parties.

dertaken by third parties in the DVD industry around 2000. *Id.* He also relied on "a very comprehensive royalty survey that was done by the Licensing Executive Society in 1997," which he viewed as "a standard textbook for people who are seeking to set reasonable royalty rates." *Id.* The licensing survey was not limited to any particular industry but "was across whatever technologies were being licensed by the people who responded," and suggested that in general, across all of those unrelated technologies, "for a minor improvement, we would charge 2 to 5 percent. For a major improvement, we would charge 4 to 8 percent. And for a major breakthrough, 6 to 15 percent . . . ." A653-54. There is no evidence in the record that the two third-party licensing programs or the industries involved in the licensing survey included the patented technology or even involved optical disc discrimination methods. *See id.*; A652 ("[T]he two licensing programs are important, because they indicate the going rate, if you will, *at least for those patents, which may or may not be as important as the one in question*.") (emphasis added); A653 ("Q. Was the [licensing] survey directed to ODD technology? A. No.").

Mr. Murtha did not deem the sixteen lump sum licenses that were entered into between LaserDynamics and various electronics companies between 1998 and 2001 to establish a royalty rate for the '981 Patent. Although he conceded that QCI would "absolutely" be aware of these prior agreements in a hypothetical negotiation context, he dismissed any probative value of these 16 licenses because they were entered into before the August 2006 hypothetical negotiation date. He reasoned that, by 2006, the DVD market was larger and more established such that the value of the patented technology was better appreciated and LaserDynamics had more bargaining power.

Based on his discussions with LaserDynamics' other experts, Mr. Murtha concluded that the patented technology in the ODD is responsible for one-third of the value of a laptop computer containing such an ODD. Thus, he arrived at his 2% per laptop computer rate simply by taking one-third of the 6% rate for the ODD. When Mr. Murtha's proffered 2% running royalty rate was applied to QCI's total revenues from sales of laptop computers in the United States—$2.53 billion—the resulting figure presented to the jury was $52.1 million.

By contrast, QCI's theory of damages was that a lump sum of $500,000 would be a reasonable royalty. QCI's expert, Mr. Brett Reed, found the 16 licenses in evidence—all lump sums ranging between $50,000 and $266,000—to be highly indicative of the value of the patented technology according to LaserDynamics, and of what a reasonable accused infringer would agree to pay for a license.

Prior to the first trial, QCI filed a motion for partial summary judgment, or in the alternative a motion pursuant to *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993), with respect to damages. QCI sought to limit damages to a one-time lump sum of $232,376.00 based on LaserDynamics' prior licenses, and to preclude Mr. Murtha from offering any opinion to the contrary for being unreliable by ignoring this established licensing practice. QCI's motion heavily criticized Mr. Murtha's opinions for being fundamentally inconsistent with LaserDynamics' licenses in either form or amount. However, QCI's motion did not challenge Mr. Murtha's one-third apportionment calculation to go from his 6% rate per ODD to his 2% rate per laptop computer, nor did it challenge his use of a completed laptop computer as a royalty base. The district court never ruled on QCI's motion. QCI also moved *in limine* to preclude testimony regarding damages in excess of $266,000 or suggesting that the prior 16 licenses did not establish a royalty rate. The district court denied this motion. At no point during the first trial did QCI object to or seek to limit Mr. Murtha's testimony relating to his apportionment or royalty base selection, nor did QCI file a pre-verdict motion for judgment as a matter of law ("JMOL") implicating such issues pursuant to Federal Rule of Civil Procedure 50(a).

Two other issues arose during the first trial that are pertinent to this appeal: (1) the district court's instructions to the jury concerning QCI's position regarding its buy/sell arrangements, and (2) the adequacy of LaserDynamics' proof of infringement. We discuss each issue in turn.

1. The District Court's Instruction to the Jury

Upon perceiving a change in position by QCI concerning the frequency with which QCI's ODDs were obtained via a buy/sell arrangement, the district court instructed the jury as follows:

> [P]rior to yesterday, the position of Quanta Computers was that this buy/sell arrangement . . . [was] one of the ways in which . . . they did their business. Yesterday, the testimony was, for the first time, that that was the predominant method of doing business. You are instructed that this constitutes a significant change in the testimony, and no documents have been produced to support that, and that you may take this instruction into account in judging the credibility of all of this witness' testimony and all other Quanta Computer's positions in this case.

A34-35. A prior ruling from the magistrate judge permitted QCI to utilize a demonstrative showing how a buy/sell arrangement works "conditioned on the Defendants' representation that they would use the demonstratives to show generally one way that QCI obtains optical drives." A5100. QCI believed the district court's later instruction was based on a false premise that QCI had changed its position. Prior to trial, LaserDynamics was made aware of QCI's contention that approximately 85% of its ODD purchases were through buy/sell arrangements. The testimony elicited by QCI at trial was ostensibly consistent with this contention, representing that QCI obtains drives from its customers "more frequently" than from ODD sellers. A754. Arguing that QCI did not run afoul of the earlier magistrate judge's condition that the demonstrative show only "one way" QCI obtains its drives, QCI viewed the district court's instruction unfairly prejudicial and moved for a new trial on that basis. QCI's motion for a new trial on these grounds was denied.

2. QCI's Challenge to the Proof of Infringement

QCI challenged LaserDynamics' contentions that the end users of the ODDs directly infringed the '981 Patent. Asserted claim 3 of the '981 Patent includes the step of "processing an optical signal reflected from encoded pits on an optical disk . . . ." The district court construed the phrase "encoded pits on an optical disk" to mean "depression[s] in the surface of the disk which represent[] data or information." *LaserDynamics, Inc. v. Asus Computer Int'l*, No. 2:06-cv-348-TJW-CE, 2008 U.S. Dist. LEXIS 63498, at *13 (E.D. Tex. Aug. 18, 2008) ("*Markman Order*"). The subsequent claimed step of "collating the processed optical signal with an optical disk standard data which is stored in a memory" was construed to mean "comparing the processed optical signal with an optical disk standard data stored on a memory." *Id.* at *15. The *Markman*

Order further explained that "there is no requirement that the same optical signal determine both the total number of data layers and also pit configuration standard." *Id.* According to LaserDynamics' expert, industry standards require that each type of optical disc (i.e., CD, DVD, etc.) has a particular arrangement of depressions within the data layer as well as a particular depth of the data layer from the surface of the disc, such that the depth and arrangement of depressions have a one-to-one correspondence. LaserDynamics' theory of infringement was that the optical signal in the accused ODDs included a "counter value" that tracked the time for the ODD to change focus from the transparent outer surface of the disc to the internal data layer. When the counter value was compared with a known threshold counter value for a given type of optical disc, the type of disc (including its standard arrangement of depressions) could be identified.

QCI filed a motion for JMOL of non-infringement, arguing that the ODDs in its laptop computers, by measuring a counter value of time, were not literally measuring an arrangement of depressions, which QCI contended was required by the language of claim 3 and the district court's claim constructions. Specifically, QCI notes claim 3 requires a step of "settling modulation of servomechanism means dependent upon the optical disk standard data which corresponds with the processed optical signal," which the district court construed as "establishing the regulation of the automatic feedback control system for mechanical motion dependent upon the recognized arrangement of depressions for an optical storage medium which corresponds to the processed optical signal." *Markman Order* at *16. QCI alleged that this construction indicates that the reference to operating the servomechanism based on "optical disk standard data" requires the ODD to identify a spatial value—"the recognized arrangement of depressions"—not to calculate a temporal "counter value" in order to discriminate between optical disc types. A3190. The district court denied QCI's motion for JMOL, finding no basis to disturb the jury's infringement verdict.

B. The First Jury Verdict and Post-Trial Proceedings

The jury ultimately returned a verdict finding QCI liable for active inducement of infringement, and awarded $52 million in damages to LaserDynamics, almost the exact amount proffered by Mr. Murtha. After the verdict, QCI filed a motion for a remittitur or new trial pursuant to Federal Rule of Civil Procedure 59(a). In this motion, QCI argued that the verdict was grossly excessive and against the great weight of the evidence, and for the first time argued that Mr. Murtha's testimony should have been excluded due to his unreliable methodology in applying the "entire market value rule"—i.e., using the revenues from sales of the entire laptop computers as the royalty base—without having established that the patented feature drives the demand for the entire laptop computer. *Rite-Hite Corp. v. Kelley Co.*, 56 F.3d 1538, 1549 (Fed. Cir. 1995). In other words, QCI argued that LaserDynamics failed to establish that the disc discrimination method covered by claim 3 of the '981 Patent was "the basis for customer demand" for the laptop computers. *Id.*

The district court granted QCI's motion, finding that LaserDynamics had indeed improperly invoked the entire market value rule. *LaserDynamics, Inc. v. Quanta Computer, Inc.*, No. 2:06-cv-348-TJW-CE, 2010 U.S. Dist. LEXIS 56634 (E.D. Tex. June 9, 2010) ("*New Trial Op.*"). The district court reasoned that "[t]he price of the finished computers should not have been included in the royalty base [because] LaserDynamics presented no evidence that its patented method drove the demand for QCI's finished computers." *Id.* at *9. "At best," LaserDynamics had only established that "almost all computers sold in the retail market include optical disc drives and that customers would be hesitant to purchase computers without an optical disc drive." *Id.* at *10. LaserDynamics' theory in the first trial was thus found to violate *Rite-Hite* as well as our then-recent decision in *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301 (Fed. Cir. 2009),[4] which further expounded on the entire market value rule. The district court concluded that the $52 million damages award was unsupportable and excessive, and granted QCI's motion. *Id.* at *12-13. Because the district court did not view Mr. Murtha's 6%-per-ODD royalty as clearly excessive, LaserDynamics was given the option of a new trial on damages or a remittitur to $6.2 million, which was calculated using the 6% royalty rate applied to each ODD sold as part of QCI's laptop computers. *Id.* at *11-13. LaserDynamics declined to accept the remittitur to $6.2 million and elected to have a new trial.

C. The Second Trial

Prior to the second trial on damages, QCI renewed its objections to the anticipated testimony of Mr. Murtha concerning his dismissive view of the existing licenses to the '981 Patent, and challenged his 6% royalty rate based on ODD average price for being improperly based on non-comparable licensing evidence. QCI also expressly challenged Mr. Murtha's 2% royalty applying the entire market value rule, relying on our decisions in *Lucent Technologies*, 580 F.3d 1301, and *Uniloc USA, Inc. v. Microsoft Corp.*, 632 F.3d 1292 (Fed. Cir. 2011). QCI's

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[4] *Lucent* was issued two months after the jury verdict but before QCI's new trial motion was filed.

objections regarding the application of the entire market value rule were sustained. *LaserDynamics, Inc. v. Quanta Computer, Inc.*, No. 2:06-cv-348-TJW-CE, 2011 U.S. Dist. LEXIS 42590, at *8 (E.D. Tex. Jan. 7, 2011) ("Mr. Murtha's opinions that a reasonable royalty is 2% of the entire market value of a computer, and that a disk drive constitutes a third of the value of the computer, are excluded."). The district court permitted LaserDynamics to put on evidence regarding a 6% running royalty damages model based on ODD average price, but subject to certain restrictions regarding proof of comparability to the hypothetically negotiated license. *LaserDynamics, Inc. v. Quanta Computer, Inc.*, No. 2:06-cv-348-TJW-CE, at 3 (E.D. Tex. Jan. 19, 2011) ("[T]he court DENIES Quanta's cross-motion to preclude Laser from arguing that a running royalty is appropriate."); *LaserDynamics*, 2011 U.S. Dist. LEXIS 42590, at *10 (permitting Mr. Murtha to rely on the 1997 Licensing Executive Society survey "to allude to general practices, such as preference for a running royalty or a lump sum, but [not to] testify as to the royalty rates discussed in the survey"); *id.* at *11 (ordering that, if seeking to present licenses as comparable to the jury, "[i]t is not sufficient to state that both patents cover optical disk drive technology. The plaintiff must establish the functionality enabled by the patent-in-suit as well as the functionality purportedly covered by the licensed patent and compare their economic importance").

Before the second trial, QCI also filed a motion *in limine* to exclude the 2006 BenQ settlement agreement from evidence for having its probative value substantially outweighed by the danger of unfair prejudice or confusion of the issues under Federal Rule of Evidence 403. QCI's motion emphasized the unique circumstances of the BenQ settlement that rendered it non-comparable, as it was executed shortly before trial and after BenQ had been repeatedly sanctioned by the district court. QCI also challenged the probative value of any per unit royalty rate that might be extrapolated from the BenQ settlement, which involved only a one time lump sum royalty payment of $6 million. The district court denied QCI's motion, reasoning that LaserDynamics could use the BenQ agreement to "prove up a per unit royalty rate from the information provided in the agreement" so as to support its 6% per ODD royalty rate. *LaserDynamics, Inc. v. Quanta Computer, Inc.*, No. 2:06-cv-348-TJW-CE, at 3 (E.D. Tex. Jan. 19, 2011).

In light of these rulings, LaserDynamics offered testimony that damages should be $10.5 million based on a running royalty of 6% of the average price of a standalone ODD. While the average per-unit ODD price utilized in the first trial was the $28 mask price, LaserDynamics now used a $41 per ODD value that was calculated based on a relatively small sample of about 9,000 licensed non-infringing drives made by Sony that were sold as replacement drives by QCI. In response to QCI's objections, LaserDynamics contended that this increased value was accurate and reliable because prior to the first trial both QSI and QCI were accused of inducing infringement. According to LaserDynamics, the prices of QSI's ODDs and QCI's laptop computers were evaluated to support LaserDynamics' damages theory going into the first trial since it was not until after the district court's rulings in the *Pre-Trial Opinion* that LaserDynamics dropped its claims against QSI. Going into the second trial, however, only QCI was accused of active inducement, and so the price of ODDs sold by QCI became a more central issue. Since QCI does not itself make and sell standalone ODDs, and since QCI presented no representative sales price, LaserDynamics used the average price of the replacement ODDs sold by QCI. QCI nevertheless contends that this

$41 price is far too high since the evidence is undisputed that mask price of $28 paid by QCI is always higher than the actual price of the ODD.

QCI's expert testified that the appropriate damages amount was a lump sum payment of $1.2 million, based in large part on the fact that none of the now twenty-nine licenses in evidence (excluding the BenQ settlement) exceeded lump sum amounts of $1 million. Based on evidence that QCI could have switched from QSI drives to other licensed ODD suppliers to avoid infringement at a cost of $600,000, QCI's expert also opined that QCI would have paid twice that amount to have the freedom to use ODDs from any supplier.

The jury ultimately awarded a lump sum amount of $8.5 million in damages. QCI moved for JMOL on the grounds that the hypothetical negotiation date had been improperly set as August 2006, that the evidence at trial did not support the jury's award of $8.5 million, and that LaserDynamics had failed to offer proof at trial to support its $10.5 million damages theory. The district court denied QCI's motion for JMOL.

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LaserDynamics appealed the district court's granting QCI's motion for a new trial and/or remittitur based on the entire market value rule. QCI cross-appealed the district court's denial of a new trial on the alternative ground of the district court's allegedly prejudicial instruction to the jury. QCI also cross-appealed the district court's entry of summary judgment on the issues of implied license and patent exhaustion, its denial of QCI's motion for JMOL of non-infringement following the first trial, and its denial of QCI's motion for JMOL following the second trial. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

III. DISCUSSION

For issues not unique to patent law, we apply the law of the regional circuit where this appeal would otherwise lie, which in this case is the Fifth Circuit. *i4i Ltd. P'ship v. Microsoft Corp.*, 598 F.3d 831, 841 (Fed. Cir. 2010). Thus, the grant or denial of a motion for a remittitur or a new trial is reviewed for an abuse of discretion. *Brunnemann v. Terra Int'l, Inc.*, 975 F.2d 175, 177 (5th Cir. 1992); *Bonura v. Sea Land Serv., Inc.*, 505 F.2d 665,669 (5th Cir. 1974). Evidentiary rulings are reviewed for an abuse of discretion. *Industrias Magromer Cueros Y Pieles S.A. v. La. Bayou Furs*, 293 F.3d 912, 924 (5th Cir. 2002). Decisions on motions for summary judgment and JMOL are reviewed de novo. *Cambridge Toxicology Group v. Exnicios*, 495 F.3d 169, 173, 179 (5th Cir. 2007).

For reasons explained in detail below, we hold: (a) that the district court properly granted a new trial on damages following the first jury verdict; (b) that the district court erred in finding that QCI does not have an implied license to assemble and sell laptops using ODDs purchased via Philips and Sony/NEC/Optiarc; (c) that the district court properly denied QCI's motion for JMOL of non-infringement; (d) that the district court's jury instruction does not alone warrant a new trial on liability; (e) that the district court erred by setting the hypothetical negotiation date as August 2006; (f) that the district court erred in admitting the BenQ settlement agreement into evidence; and (g) that the district court erred in permitting Mr. Murtha to offer his opinion concerning a 6% per ODD running royalty rate based on ODD average price as a proper measure of reasonable royalty damages in the second trial. We address each of these issues in turn.

A. The District Court Properly Granted a New Trial on Damages

LaserDynamics contends that the district court erred by granting QCI's motion for a new trial on damages after the conclusion of the first trial. Essentially, LaserDynamics believes that the district court was precluded from ordering a new trial under the circumstances, since QCI never raised its entire market value rule argument until after the jury verdict, and thereby waived any right to seek a new trial to rectify that error. Moreover, LaserDynamics denies that it improperly relied on the entire market value rule during the first trial, but contends that it instead used a permissible "product value apportionment" method. *LaserDynamics Br.* at 36-44. We disagree with both of LaserDynamics' arguments.

1. The Entire Market Value Rule

We begin by noting that some products are made of many different components, one or more of which components may be covered by an asserted patent, while other components are not. This is especially true for electronic devices, which may include dozens of distinct components, many of which may be separately patented, the patents often being owned by different entities. To assess how much value each patented and non-patented component individually contributes to the overall end product—e.g., a personal computer—can be an exceedingly difficult and error-prone task.

By statute, reasonable royalty damages are deemed the minimum amount of infringement damages "adequate to compensate for the infringement." 35 U.S.C. § 284. Such damages must be awarded "for the use made of the invention by the infringer." *Id.* Where small elements of multi-component products are accused of infringement, calculating a royalty on the entire product carries a considerable risk that the patentee will be improperly compensated for non-infringing components of that product. Thus, it is generally required that royalties be based not on the entire product, but instead on the "smallest salable patent-practicing unit." *Cornell Univ. v. Hewlett-Packard Co.*, 609 F. Supp. 2d 279, 283, 287-88 (N.D.N.Y. 2009) (explaining that "counsel would have wisely abandoned a royalty base claim encompassing a product with significant non-infringing components. The logical and readily available alternative was the smallest salable infringing unit with close relation to the claimed invention—namely the processor itself.").

The entire market value rule is a narrow exception to this general rule. If it can be shown that the patented feature drives the demand for an entire multi-component product, a patentee may be awarded damages as a percentage of revenues or profits attributable to the entire product. *Rite-Hite*, 56 F.3d at 1549, 1551. In other words, "[t]he entire market value rule allows for the recovery of damages based on the value of an entire apparatus containing several features, when the feature patented constitutes the basis for customer demand." *Lucent*, 580 F.3d at 1336 (quoting *TWM Mfg. Co. v. Dura Corp.*, 789 F.2d 895, 901 (Fed. Cir. 1986)). The entire market value rule is derived from Supreme Court precedent requiring that "the patentee . . . must in every case give evidence tending to separate or apportion the defendant's profits and the patentee's damages between the patented feature and the unpatented features, and such evidence must be reliable and tangible, and not conjectural or speculative." *Garretson v. Clark*, 111 U.S. 120, 121 (1884). The Court explained that "the entire value of the whole machine, as a marketable article, [must be] properly and legally attributable to the patented feature." *Id.*

In effect, the entire market value rule acts as a check to ensure that the royalty damages being sought under 35 U.S.C. § 284 are in fact "reasonable" in light of the technology at issue. We have consistently maintained that "a reasonable royalty analysis requires a court to hypothesize, not to speculate. . . . [T]he trial court must carefully tie proof of damages to the claimed invention's footprint in the market place." *ResQNet.com, Inc. v. Lansa, Inc.*, 594 F.3d 860, 869 (Fed. Cir. 2010). A damages theory must be based on "sound economic and factual predicates." *Riles v. Shell Exploration & Prod. Co.*, 298 F.3d 1302, 1311 (Fed. Cir. 2002). The entire market value rule arose and evolved to limit the permissible scope of patentees' damages theories.

Importantly, the requirement to prove that the patented feature drives demand for the entire product may not be avoided by the use of a very small royalty rate. We recently rejected such a contention, raised again in this case by LaserDynamics, and clarified that "[t]he Supreme Court and this court's precedents do not allow consideration of the entire market value of accused products for minor patent improvements simply by asserting a low enough royalty rate." *Uniloc*, 632 F.3d at 1319-20 (explaining that statements in *Lucent* suggesting otherwise were taken out of context). We reaffirm that in any case involving multi-component products, patentees may not calculate damages based on sales of the entire product, as opposed to the smallest salable patent-practicing unit, without showing that the demand for the entire product is attributable to the patented feature.

Regardless of the chosen royalty rate, one way in which the error of an improperly admitted entire market value rule theory manifests itself is in the disclosure of the revenues earned by the accused infringer associated with a complete product rather than the patented component only. In *Uniloc*, we observed that such disclosure to the jury of the overall product revenues "cannot help but skew the damages horizon for the jury, regardless of the contribution of the patented component to this revenue." *Id.* at 1320 (noting that "the $19 billion cat was never put back into the bag," and that neither cross-examination nor a curative jury instruction could have offset the resulting unfair prejudice). Admission of such overall revenues, which have no demonstrated correlation to the value of the patented feature alone, only serve to make a patentee's proffered damages amount appear modest by comparison, and to artificially inflate the jury's damages calculation beyond that which is "adequate to compensate for the infringement." *Id.*; *see* 35 U.S.C. § 284.

Turning to the facts of this case, LaserDynamics and Mr. Murtha unquestionably advanced an entire market value rule theory in the first trial. Mr. Murtha opined that a 2% running royalty applied to QCI's total revenues from sales of laptop computers in the United States—$2.53 billion—was an appropriate and reasonable royalty. The resulting figure presented to the jury was $52.1 million, and the jury awarded damages in nearly that exact amount. Whether called "product value apportionment" or anything else, the fact remains that the royalty was expressly calculated as a percentage of the entire market value of a laptop computer rather than a patent-practicing ODD alone. This, by definition, is an application of the entire market value rule.

LaserDynamics' use of the entire market value rule was impermissible, however, because LaserDynamics failed to present evidence showing that the patented disc discrimination method drove demand for the laptop computers. It is not enough to merely show that the disc discrimination method is viewed as valuable, important, or even essential to the use of the laptop computer. Nor is it enough to show that a laptop computer without an ODD practicing the disc discrimination method would be commercially unviable. Were this sufficient, a plethora of features of a laptop computer could be deemed to drive demand for the entire product. To name a few, a high resolution screen, responsive keyboard, fast wireless network receiver, and extended-life battery are all in a sense important or essential features to a laptop computer; take away one of these features and consumers are unlikely to select such a laptop computer in the marketplace. But proof that consumers would not want a laptop computer without such features is not tantamount to proof that any one of those features alone drives the market for laptop computers. Put another way, if given a choice between two otherwise equivalent laptop computers, only one of which practices optical disc discrimination, proof that consumers would choose the laptop computer having the disc discrimination functionality says nothing as to whether the presence of that functionality is what motivates consumers to buy a laptop computer in the first place. It is this latter and higher degree of proof that must exist to support an entire market value rule theory.

Our decision in *Lucent* is illustrative. There, the patent at issue involved a helpful and convenient "date picker" feature that was being used within the grand scheme of Microsoft's Outlook email software. We held that because the patented feature was "but a tiny feature of one part of a much larger software program," a royalty could not be properly calculated based on the value of the entire Outlook program because "there was no evidence that anybody anywhere at any time ever bought Outlook . . . *because* it had [the patented] date picker." *Lucent*, 580 F.3d at 1332-33 (emphasis added).

In this case, Mr. Murtha never conducted any market studies or consumer surveys to ascertain whether the demand for a laptop computer is driven by the patented technology. On the record before us, the patented method is best understood as a useful commodity-type feature that consumers expect will be present in all laptop computers. There is no evidence that this feature alone motivates consumers to purchase a laptop computer, such that the value of the entire computer can be attributed to the patented disc discrimination method. As the district court aptly stated, "[a]t best," LaserDynamics proved only that "almost all computers sold in the retail market include optical disc drives and that customers would be hesitant to purchase computers without an optical disc drive." *New Trial Op.* at *10. The district court correctly found that this evidence fails to satisfy the requirements of our precedent to support the usage of the entire market value rule when calculating reasonable royalty damages.

Furthermore, Mr. Murtha's one-third apportionment to bring his royalty rate down from 6% per ODD to 2% per laptop computer appears to have been plucked out of thin air based on vague qualitative notions of the relative importance of the ODD technology. The district court correctly concluded that "[a]lthough [LaserDynamics] argues that the many activities that may be performed on a computer using a disk drive, such as playing movies, music and games, transferring documents, backing up files, and installing software comprise a third of the value of a computer, [Mr. Murtha] offers no credible economic analysis to support that conclusion." *LaserDynamics*, 2011 U.S. Dist. LEXIS 42590, at *6. This complete lack of economic analysis to quantitatively support the one-third apportionment echoes the kind of arbitrariness of the "25% Rule" that we recently and emphatically rejected from damages experts, and would alone justify excluding

Mr. Murtha's opinions in the first trial. *Cf. Uniloc*, 632 F.3d at 1318 ("Gemini's starting point of a 25 percent royalty had no relation to the facts of the case, and as such, was arbitrary, unreliable, and irrelevant. The use of such a rule fails to pass muster under *Daubert* and taints the jury's damages calculation.").

Finally, we reject the contention that practical and economic necessity compelled LaserDynamics to base its royalty on the price of an entire laptop computer. *LaserDynamics Br.* at 15-18. LaserDynamics emphasizes that QCI is in the business of assembling and selling complete laptop computers, not independent ODDs, and that QCI does not track the prices, revenues, or profits associated with individual components. Likewise, LaserDynamics points out that QCI purchases ODDs for a "mask price," which the district court described as "nominal" and essentially "an accounting fiction" that offers "little evidence of the drives' actual value." *LaserDynamics, Inc. v. Quanta Computer, Inc.*, No. 2:06-cv-348-TJW-CE (E.D. Tex. Jan. 21, 2011). LaserDynamics further points to Mr. Murtha's testimony that, in his prior experience working in patent licensing at IBM, IBM would often base royalties on entire products to address such accounting difficulties. Thus, LaserDynamics concludes that the parties would have had to use the value of the entire laptop computer as the royalty base in structuring a hypothetical license agreement, as it reflects the only true market value of anything that QCI sells.

LaserDynamics overlooks that a per-unit running royalty is not the only form of a reasonable royalty that the parties might have agreed to in a hypothetical negotiation. An alternate form is evidenced by the many license agreements to the '981 Patent in the record for lump sum royalties that are not calculated as a percentage of *any* component or product, which immediately belies the argument that using a laptop computer as the royalty base is "necessary." LaserDynamics' necessity argument also fails to address the fundamental concern of the entire market value rule, since permitting LaserDynamics to use a laptop computer royalty base does not ensure that the royalty rate applied thereto does not overreach and encompass components not covered by the patent. That is, if difficulty in precisely identifying the value of the ODDs is what justifies using complete laptop computers as the royalty base, when it comes time to then apportion a royalty rate that accounts for the ODD contribution only, the exceedingly difficult and error-prone task of discerning the ODD's value relative to all other components in the laptop remains.

Moreover, LaserDynamics provides no reason that QCI's own lack of internal tracking and accounting of individual components or its "mask price" purchases precludes LaserDynamics from deriving or obtaining accurate information concerning ODD values from third parties, industry practices, etc. LaserDynamics in fact did obtain and use alternative pricing information from Sony-made ODDs in the second trial. As explained below, this Sony-made ODD pricing information was not per se unreliable, as the jury was entitled to weigh it against QCI's competing views of appropriate ODD pricing. Thus, we see no reason to establish a necessity-based exception to the entire market value rule for LaserDynamics in this case.

2. The Grant of a New Trial

Having established that LaserDynamics' theory of damages was legally unsupportable, we turn to the question of whether the district court abused its discretion in granting QCI's post-verdict motion and offering LaserDynamics a choice between a new damages trial and a remittitur of the damages verdict to $6.2 million. While LaserDynamics is correct that QCI made no pre-verdict objection or raised any challenge whatsoever to Mr. Murtha's testimony on an entire market value rule theory, under Fifth Circuit law this ostensible waiver by QCI does not preclude the district court from exercising its discretion to consider the issue. *See Garriott v. NCsoft Corp.*, 661 F.3d 243 (5th Cir. 2011) (finding that an otherwise waived argument made in a motion for a new trial was properly addressed and preserved when the district court exercised its discretion to consider the issue in its opinion denying the motion).

The Fifth Circuit has determined that "[a] district court has discretion to consider new theories raised for the first time in a post-trial brief, . . . and an issue first presented to the district court in a post-trial brief is properly raised below when the district court exercises its discretion to consider the issue." *Quest Medical, Inc. v. Apprill*, 90 F.3d 1080, 1087 (5th Cir. 1996) (citations omitted). In this case, whether or not the district court could have deemed QCI's entire market value rule arguments waived and ignored them, it did not. In light of QCI's post-trial briefing, the district court identified the error of permitting the entire market value rule theory to go to the jury, and exercised its discretion to correct the error. We find no abuse of discretion in the district court's decision to grant QCI's motion for a remittitur or a new trial under these circumstances, and we therefore affirm the district court on this point.

B. QCI Has an Implied License to Assemble Laptops Using ODDs from QSI via Philips and Sony/NEC/Optiarc

QCI contends that it has an implied license to assemble laptop computers for its customers that include the accused ODDs assembled by QSI for Philips or Sony/NEC/Optiarc, pursuant to Philips's and Sony/NEC/Optiarc's "have made" rights under their patent license agreements with LaserDynamics. The QSI-assembled ODDs at issue are sold by Philips or Sony/NEC/Optiarc either directly to QCI or indirectly to QCI via QCI's customers such as Dell and HP, as directed by QCI's customers. "The existence *vel non* of an implied license is a question of law that we review *de novo*." *Anton/Bauer, Inc. v. PAG, Ltd.*, 329 F.3d 1343, 1348 (Fed. Cir. 2003).

At oral argument before this court, counsel for QCI explained that the vast majority of the allegedly infringing ODDs would be covered under QCI's implied license theory, and that QCI's arguments concerning patent exhaustion pertain to only those same ODDs. *Oral Arg.* at 0:30-1:30, *available at* http://oralarguments.cafc.uscourts.gov/default.aspx?fl=2011-1440.mp3. Because we find that QCI has an implied license, we do not reach QCI's patent exhaustion arguments.[5]

[5] At oral argument before this court, counsel for LaserDynamics for the first time argued that the district court merely denied QCI's summary judgment motion on these issues, but did not also enter summary judgment against QCI, and that such a supposed denial of summary judgment cannot be appealed to us after a trial where QCI did not take further steps to preserve the issue. *Oral Arg.* at 11:18-13:57. QCI's briefing repeatedly characterized the district court's order as entering summary judgment against QCI, but LaserDynamics made no challenge to this characterization until oral argument. A subsequent motion refining this argument and seeking to dismiss these portions of QCI's appeal for lack of jurisdiction was filed on March 23, 2012.

The district court relied solely on *E.I. Du Pont de Nemours & Co. v. Shell Oil Co.,* 498 A.2d 1108 (Del. 1985), in finding that "the Quanta defendants do not have an implied license with respect to drives that are manufactured by QSI and eventually sold to QCI (or another Quanta entity), notwithstanding the fact that those drives are sold through Philips or Sony/NEC/Optiarc, two of [LaserDynamics'] licensees." *Pre-Trial Op.* at *4 (citing *Du Pont*, 498 F.3d at 1116). According to the district court, "[t]he effect of such transactions is to grant an impermissible sublicense." *Id.* We disagree.

In *Du Pont*, E.I. Du Pont de Nemours and Company, Inc. ("Du Pont") had entered into a license agreement with Shell Oil Company ("Shell") permitting Shell to "make, have made, use and sell for use or resale" an

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LaserDynamics' belated argument hinges on an incorrect premise. The district court's order plainly went further than denying QCI's motion and made affirmative rulings on these issues as a matter of law. *See LaserDynamics*, 2009 U.S. Dist. LEXIS 115848, at *3-5. The district court indicated that "for purposes of trial, the court advises the parties of the following *holdings*," e.g., "the Quanta defendants do not have an implied license with respect to drives that are manufactured by QSI and eventually sold to QCI (or another Quanta entity), notwithstanding the fact that those drives are sold through Philips or Sony/NEC/Optiarc, two of [LaserDynamics'] licensees." *Id.* Thus, LaserDynamics' citing to *Ortiz v. Jordan*, 131 S. Ct. 884, 889 (2011), for the proposition that an appellate court has no jurisdiction over a denial of summary judgment following a trial on the merits is to no avail. Fed. R. Civ. P. 56(f) permits the district court to enter summary judgment in favor of a non-moving party, and LaserDynamics points to nowhere in the record where it objected to any procedural defect in the district court's doing so. On this record, we see no genuine disputes of material fact that would preclude us from reversing the district court on the implied license issue.

insecticide product covered by Du Pont's patent. 498 A.2d at 1110. The license agreement expressly prohibited any sublicensing by Shell. *Id.* Union Carbide Agricultural Corporation, Inc. ("Union Carbide") later sought permission from Shell to produce the patented insecticide, but Shell declined due to the prohibition on sublicensing in its licensed agreement with Du Pont. *Id.* at 1111. Instead, Shell and Union Carbide came up with the following arrangement: (1) Union Carbide would manufacture the insecticide under the "have made" provision of the license agreement between Shell and Du Pont, then (2) Shell would immediately sell back the insecticide to Union Carbide pursuant to Shell's right to "sell for use or resale." *Id.* at 1111. The minimum amounts of insecticide that Union Carbide agreed to make and the minimum amounts that Shell agreed to sell back to Union Carbide were identical. *Id.* at 1115-16. The Supreme Court of Delaware deemed this arrangement an impermissible sublicense, rather than a permissible exercise of Shell's "have made" and "sell" rights, because "ultimately, Union Carbide was producing [the insecticide], not for Shell, but rather for itself." *Id.* (citing *Carey v. United States*, 326 F.2d 975, 979 (Ct. Cl. 1964) (explaining that "the test is, whether the production is by or for the use of the original licensee or for the sublicensee himself or for someone else")).

The case before us presents a different situation from that in *Du Pont*. The ODDs provided to QCI via Philips and Sony/NEC/Optiarc were undoubtedly assembled by QSI for Philips and Sony/NEC/Optiarc, not for QSI or QCI. Even though the ODDs made by QSI were in reality shipped directly from QSI to QCI, the substance of the transactions make clear that QSI's manufacture of the ODDs was limited to the needs and requests of Philips and Sony/NEC/Optiarc. QSI had no unfettered ability to make more ODDs than were ordered from it. Nothing in the record suggests that this overall arrangement is designed to circumvent the terms of the patent licenses between LaserDynamics and Philips or Sony/NEC/Optiarc. Indeed, the shipping and manufacturing arrangements involved in this case reflect typical on-time delivery logistics of modern industrial reality.

The apposite precedent is our decision in *Cyrix Corp. v. Intel Corp.*, 77 F.3d 1381 (Fed. Cir. 1996). That case involved Cyrix Corporation ("Cyrix"), a designer and seller of microprocessors, contracting with other companies to manufacture integrated circuit chips containing the Cyrix-designed microprocessors, then selling the chips back to Cyrix. *Id.* at 1383. Cyrix used manufacturers that were licensed under patents owned by Intel, including SGS-Thomson Microelectronics, Inc. ("ST"). *Id.* ST had acquired by assignment a license from Intel "to make, have made . . . [and] sell" the patented chips. *Id.* ST could not itself fulfill Cyrix's orders, however, and, relying on its "have made" rights, arranged for its Italian non-subsidiary affiliate company ("ST-Italy") to manufacture the chips, which ST then sold to Cyrix. *Id.* The district court distinguished this situation from that in *Du Pont* and held that ST did not exceed its rights under the Intel license by having ST-Italy make the chips for ST to sell to Cyrix. *Id.* at 1384. Cyrix and ST were both found to not infringe Intel's patents on this basis.

We affirmed, rejecting Intel's argument that the arrangement among ST, ST-Italy, and Cyrix was a mere paper transaction—a "sham" designed to circumvent Intel's license to ST. *Id.* at 1387-88. We endorsed the district court's reasoning that, unlike in *Du Pont*, "[t]he production of the [chips] is for the use of ST, the original licensee, and not for the use of ST-Italy." *Id.* at 1387. As we explained, "[i]f the facts in this case had been that

Cyrix made the product for ST under ST's 'have made' rights and then ST sold the product back to Cyrix, then they would have been analogous to those in *du Pont*, but those are not our facts." *Id.* at 1388.

This case likewise presents no "sham" transaction as in *Du Pont*. QSI made the ODDs at issue here to fulfill bona fide orders from licensees Philips and Sony/NEC/Optiarc. The ODDs were then sold to QCI by the licensees. QCI did not make the ODDs for Philips or Sony/NEC/Optiarc and then immediately purchase the ODDs back so as to effectively receive a sublicense and obtain as many ODDs as it wanted. Rather, as in *Cyrix*, the manufacture of the ODDs by QSI and their eventual sale to QCI for incorporation into laptop computers, all via Philips and Sony/NEC/Optiarc, were legitimate and separate business transactions that did not expand or circumvent the patent licenses. *Id.* at 1387-88 ("The two agreements, one permitting ST-Italy to manufacture microprocessors for ST and the other providing for ST's sale of microprocessors to Cyrix, were separate business transactions."). Both the manufacture and sale of the ODDs were valid exercises of the "have made" and "sell" rights, respectively, under the license agreements in this case. We therefore conclude that QCI has an implied license to the '981 Patent with respect to the ODDs made by QSI and sold to QCI via Philips or Sony/NEC/Optiarc.

C. The District Court Properly Denied QCI's Motion for JMOL of Non-Infringement

QCI contends that LaserDynamics' evidence at the first trial was inadequate to prove direct infringement by end users of the accused laptops of asserted claim 3 under the district court's claim constructions. As discussed above, claim 3 requires, *inter alia*, the steps of "processing an optical signal reflected from encoded pits on an optical disk until total number of data layers and pit configuration standard of the optical disk is identified" and "collating the processed optical signal with an optical disk standard data which is stored in a memory." The district court construed the phrase "encoded pits on an optical disc" to mean "depression[s] in the surface of the disc which represent[] data or information" *Markman Order*, at *13. The step of "collating the processed optical signal with an optical disk standard data which is stored in a memory" was construed to mean "comparing the processed optical signal with an optical disk standard data stored on a memory." *Id.* at *15.

QCI does not challenge the district court's claim constructions, but only whether the trial record supports the jury's verdict of infringement. Contrary to QCI's argument, nothing in these claim constructions dictates that the arrangement of depressions be "identified" or "recognized" in any particular manner. Substantial evidence exists to show that the industry standards for various optical discs require specified arrangements of the depressions horizontally as well as specified depths of the data layers. The record amply supports that the depth of the data layer precisely correlates to the pit configuration arrangement, such that the measurement of the depth (via a counter value) *is* a measurement of the pit arrangement. Under the claim constructions, the jury was entitled to find infringement on this basis, and we therefore affirm the district court's denial of QCI's motion for JMOL of non-infringement.

D. The District Court's Jury Instruction Does Not Alone Warrant a New Trial on Liability

As discussed above, upon perceiving a change in position by QCI concerning the frequency with which QCI's ODDs were obtained via a buy/sell arrangement, the district judge instructed the jury as follows: "this constitutes a significant change in the testimony, and no documents have been produced to support that, and that you may take this instruction into account in judging the credibility of all of this witness' testimony and all other Quanta Computer's positions in this case." A34-35. QCI contends that this instruction so unfairly prejudiced QCI that only a new trial could rectify the error.

Since QCI did not object at trial, we review the district court's instruction for plain error. *Rodriguez v. Riddell Sports, Inc.*, 242 F.3d 567, 579 (5th Cir. 2001). Plain error is "clear" or "obvious" and must affect substantial rights. *Id.* (quoting *United States v. Calverley*, 37 F.3d 160, 162-64 (5th Cir. 1994)). Such error is reversible only if it "seriously affect[s] the fairness, integrity, or public reputation of judicial proceedings." *Id.* (citations omitted). Although a district court is afforded broad discretion over the manner in which trial is conducted, and may intervene to help expand upon or clarify witness testimony and evidence, such intervention "may not come at the cost of strict impartiality." *Id.* (quoting *United States v. Saenz*, 134 F.3d 697, 702 (5th Cir. 1998)). Thus, "[i]n reviewing a claim that the trial court appeared partial, this court must determine whether the judge's behavior was so prejudicial that it denied the [defendant] a fair, as opposed to a perfect, trial." *Id.* (citations and internal quotation marks omitted). In performing this review, we must consider the district court's actions in light of the entire trial record and consider the totality of the circumstances. *Saenz*, 134 F.3d at 702.

Our review of the record shows that QCI made different representations concerning the frequency with which its ODD purchases were made via buy/sell arrangements. It is not the same to suggest that a certain method is "one way" business is done when in fact it is the predominant way—85% of the time—that business is done. Nevertheless, the district court's response to this potential inconsistency was harsh and prejudicial to QCI. The question of whether there was any inconsistency here, and the associated questions of credibility, should have been for the jury to decide. It is one thing to point out a potential inconsistency to the jury and to raise an associated question of credibility. But it was error to instruct the jury to "take this instruction into account in judging the credibility of . . . *all other Quanta Computer's positions in this case*." A34-35 (emphasis added).

Notwithstanding whether there was any inconsistency in QCI's positions, on the balance, we do not view the district court's instruction to constitute plain error that standing alone warrants a new trial. QCI was given a second trial on the issue of damages, which cured any prejudice that the district court's instruction might have caused in that regard. As for infringement liability, a portion of the case put on through entirely different witnesses, we are not convinced that the instruction, in context, was so severe as to prevent QCI from a receiving a "fair, as opposed to a perfect, trial" on infringement. *Rodriguez*, 242 F.3d at 579 (citations omitted). However, if the same testimony is introduced at a subsequent trial, the court must leave to the jury the decision whether any inconsistency exists.

E. The District Court Erred By Setting the Hypothetical Negotiation Date as August 31, 2006

During both trials, QCI was bound by the district court's ruling that the hypothetical negotiation date for purposes of the *Georgia-Pacific* reasonable royalty analysis was August 2006—i.e., when the lawsuit was filed. The district court reasoned that since QCI was being accused of active inducement of infringement, which requires knowledge of the patent, and since QCI was not notified of the patent until August 2006, this date was when QCI first became liable to LaserDynamics. Based in large part on this late date, LaserDynamics' expert Mr. Murtha testified that he disregarded almost all of LaserDynamics' twenty-nine licenses in evidence that were executed earlier, reasoning that the economic landscape had since changed.

We have explained that "[t]he correct determination of [the hypothetical negotiation] date is essential for properly assessing damages." *Integra Lifesciences I, Ltd. v. Merck KGaA,* 331 F.3d 860, 870 (Fed. Cir. 2003). In general, the date of the hypothetical negotiation is the date that the infringement began. *See Georgia-Pacific*, 318 F. Supp. at 1123. We have consistently adhered to this principle. *See, e.g.*, *Applied Med. Res. Corp. v. U.S. Surgical Corp.*, 435 F.3d 1356, 1363-64 (Fed. Cir. 2006) ("[T]he hypothetical negotiation relates to the date of first infringement."); *State Indus., Inc. v. Mor-Flo Indus., Inc.*, 883 F.2d 1573, 1580 (Fed. Cir. 1989) ("The determination of a reasonable royalty . . . [is based] on what a willing licensor and licensee would bargain for at hypothetical negotiations on the date infringement started.").

We have also been careful to distinguish the hypothetical negotiation date from other dates that trigger infringement liability. For example, the six-year limitation on recovery of past damages under 35 U.S.C. § 286 does not preclude the hypothetical negotiation date from taking place on the date infringement began, even if damages cannot be collected until some time later. *See Wang Labs., Inc. v. Toshiba Corp.,* 993 F.2d 858, 870 (Fed. Cir. 1993). Similarly, the failure to mark a patented product or prove actual notice of the patent pursuant to 35 U.S.C. § 287 precludes the recovery of damages prior to the marking or notice date, but the hypothetical negotiation date may nevertheless be properly set before marking or notice occurs. *Id.* ("[T]he court confused limitation on damages due to lack of notice with determination of the time when damages first began to accrue, and it is the latter which is controlling in a hypothetical royalty determination."). In sum, "[a] reasonable royalty determination for purposes of making a damages evaluation must relate to the time infringement occurred, and not be an after-the-fact assessment." *Riles v. Shell Exploration & Prod. Co.*, 298 F.3d 1302, 1313 (Fed. Cir. 2002) (citing *Hanson v. Alpine Valley Ski Area, Inc.,* 718 F.2d 1075, 1079 (Fed. Cir. 1983) ("The key element in setting a reasonable royalty . . . is the necessity for return to the date when the infringement began.")).

Here, there is no dispute that while QCI first became liable for active inducement of infringement in August 2006, QCI's sales of accused laptop computers into the United States began causing the underlying direct infringement by end users in 2003. From the premise that the hypothetical negotiation must focus on the "date when the infringement began," *Hanson,* 718 F.2d at 1079, we note that active inducement of infringement is, by definition, conduct that causes and encourages infringement. 35 U.S.C. § 271(b) ("Whoever actively induces infringement of a patent shall be liable as an infringer."). While active inducement can ultimately lead to direct infringement, absent direct infringement there is no compensable harm to a patentee. *See Aro Mfg. Co. v. Convertible Top Replacement Co.*, 377 U.S. 476, 500 (1964) ("It is true that a contributory infringer is a species of joint-tortfeasor, who is held liable because he has contributed with another to the causing of a single harm to the plaintiff."). Thus, we hold that in the context of active inducement of infringement, a hypothetical negotiation is deemed to take place on the date of the first direct infringement traceable to QCI's first instance of inducement conduct—in this case, 2003.

Our holding is consistent with the purpose of the hypothetical negotiation framework, which seeks to discern the value of the patented technology to the parties in the marketplace when infringement began. In considering the fifteen *Georgia-Pacific* factors, it is presumed that the parties had full knowledge of the facts and circumstances surrounding the infringement at that time. Indeed, the basic question posed in a hypothetical negotiation is: if, on the eve of infringement, a willing licensor and licensee had entered into an agreement instead of allowing infringement of the patent to take place, what would that agreement be? This question cannot be meaningfully answered unless we also presume knowledge of the patent and of the infringement at the time the accused inducement conduct began. Were we to permit a later notice date to serve as the hypothetical negotiation date, the damages analysis would be skewed because, as a legal construct, we seek to pin down how the prospective infringement might have been avoided via an out-of-court business solution. *See Wordtech Sys. v. Integrated Networks Solutions, Inc.*, 609 F.3d 1308, 1319 (Fed. Cir. 2010) ("The hypothetical negotiation 'attempts to ascertain the royalty upon which the parties would have agreed had they successfully negotiated an agreement just before infringement began,' and 'necessarily involves an element of approximation and uncertainty.'" (quoting *Lucent*, 580 F.3d at 1324-25)). It also makes sense that in each case there should be only a single hypothetical negotiation date, not separate dates for separate acts of infringement, and that a direct infringer or someone who induced infringement should pay the same reasonable royalty based on a single hypothetical negotiation analysis.

Lastly, QCI points out that the accused ODDs were manufactured by QSI as early as 2001, and urges us to deem 2001 the date of first infringement for the hypothetical negotiation. However, it is QCI that is accused of active inducement here, and the record shows that QCI and QSI are related but independently operated companies, and that QCI does not own a controlling interest in QSI. Thus, there is no basis on which to further push back the hypothetical negotiation date to 2001. *See BMC Res., Inc. v. Paymentech, LP*, 498 F.3d 1373, 1380-82 (Fed. Cir. 2007) (declining to impute responsibility for allegedly infringing conduct from one party to another).

Because our decision alters the time period when the analysis under *Georgia-Pacific* is to take place, we remand for a new trial on damages pursuant to the 2003 hypothetical negotiation date with respect to those accused laptop computers not encompassed by QCI's implied license as discussed above.

F. The District Court Erred in Admitting the BenQ Settlement Agreement

Before the second trial, QCI filed a motion *in limine* seeking to exclude the 2006 LaserDynamics-BenQ settlement agreement from evidence pursuant to Federal Rule of Evidence 403. QCI's motion emphasized the unique circumstances of the BenQ settlement, which was entered into on the eve of trial after BenQ had been repeatedly sanctioned by the district court. We conclude that the district court abused its discretion in denying QCI's motion and allowing the agreement into evidence.

Rule 403 provides for the exclusion of otherwise relevant evidence when the probative value of that evidence is substantially outweighed by the danger of unfair prejudice, confusing the issues, or misleading the jury. Along these lines, Federal Rule of Evidence 408 specifically prohibits the admission of settlement offers and negotiations offered to prove the amount of damages owed on a claim. The propriety of using prior settlement agreements to prove the amount of a reasonable royalty is questionable. *See, e.g.*, *Rude v. Westcott*, 130 U.S. 152, 164 (1889) ("[A] payment of any sum in settlement of a claim for an alleged infringement cannot be taken as a standard to measure the value of the improvements patented, in determining the damages sustained by the owners of the patent in other cases of infringement."); *Deere & Co. v. Int'l Harvester Co.,* 710 F.2d 1551, 1557 (Fed. Cir. 1983) (holding that "as the White license was negotiated against a backdrop of continuing litigation and [defendant's] infringement of the Schreiner patent, the district court could properly discount the probative value of the White license with regard to a reasonable royalty"); *see also Hanson,* 718 F.2d at 1078-79 (observing that "license fees negotiated in the face of a threat of high litigation costs may be strongly influenced by a desire to avoid full litigation" and "should not be considered evidence of an established royalty" (quoting *Panduit Corp. v. Stahlin Bros. Fibre Works, Inc.*, 575 F.2d 1152, 1164 n.11 (6th Cir. 1978) (Markey, J.))). The notion that license fees that are tainted by the coercive environment of patent litigation are unsuitable to prove a reasonable royalty is a logical extension of *Georgia-Pacific*, the premise of which assumes a voluntary agreement will be reached between a willing licensor and a willing licensee, with validity and infringement of the patent not being disputed. *See* 318 F. Supp. at 1120.

Despite the longstanding disapproval of relying on settlement agreements to establish reasonable royalty damages, we recently permitted such reliance under certain limited circumstances. *See ResQNet*, 594 F.3d at 870-72 (explaining that a settlement license to the patents-in-suit in a running royalty form was "the most reliable license in [the] record" when compared with other licenses that did not "even mention[] the patents-in-suit or show[] any other discernable link to the claimed technology"). We permitted consideration of the settlement license on remand, but we cautioned the district court to consider the license in its proper context within the hypothetical negotiation framework to ensure that the reasonable royalty rate reflects "the economic demand for the claimed technology." *Id.* at 872.

Unlike the license in *ResQNet*, the BenQ settlement agreement is far from being the "most reliable license in [the] record." 594 F.3d at 872. Indeed, the BenQ settlement agreement appears to be the least reliable license by a wide margin. The BenQ settlement agreement was executed shortly before a trial—a trial in which BenQ would have been at a severe legal and procedural disadvantage given the numerous harsh sanctions imposed on it by the district court. The $6 million lump sum license fee is six times larger than the next highest amount paid for a license to the patent-in-suit, and ostensibly reflects not the value of the claimed invention but the strong desire to avoid further litigation under the circumstances. LaserDynamics executed twenty-nine licenses for the patent-in-suit in total, the vast majority of which are not settlements of active litigation and do not involve the unique coercive circumstances of the BenQ settlement agreement, and which are therefore far more reliable indicators of what willing parties would agree to in a hypothetical negotiation. Additionally, in light of the changing technological and financial landscape in the market for ODDs, the BenQ settlement, entered into a full three years after the hypothetical negotiation date, is in many ways not relevant to the hypothetical negotiation analysis. *See Odetics, Inc. v. Storage Tech. Corp.*, 185

F.3d 1259, 1276-77 (Fed. Cir. 1999) (agreeing with the district court that, for two licenses entered into four and five years after the date of first infringement, "the age of the license agreements, in the context of the changing technology and 'financial landscape' at issue, made those agreements irrelevant for the hypothetical negotiation analysis). This record stands in stark contrast to that in *ResQNet*, where a lone settlement agreement stood apart from all other licenses in the record as being uniquely relevant and reliable. This case is therefore well outside the limited scope of circumstances under which we deemed the settlement agreement in *ResQNet* admissible and probative. The probative value of the BenQ settlement agreement is dubious in that it has very little relation to demonstrated economic demand for the patented technology, and its probative value is greatly outweighed by the risk of unfair prejudice, confusion of the issues, and misleading the jury. Fed. R. Evid. 403. Accordingly, we conclude that the district court abused its discretion by admitting the BenQ settlement agreement into evidence, and must exclude the agreement from the proceedings on remand.

G. The District Court Erred in Admitting Mr. Murtha's Opinions Concerning a 6% Royalty Rate Per $41 ODD

Because we are remanding to the district court for a new trial on damages under the proper 2003 hypothetical negotiation date, we do not reach QCI's argument that the second jury verdict of an $8.5 million lump sum lacks evidentiary support, so as to entitle QCI to a $1.2 million judgment on damages as a matter of law. However, for the purposes of remand, we do reach QCI's *Daubert* challenge to Mr. Murtha's methodology in the second trial and find that the district court erred in allowing the jury to hear his testimony concerning a 6% royalty rate derived from the Sony-made $41 ODDs.

1. Mr. Murtha's Use of the Sony-Made $41 ODDs

QCI argues that Mr. Murtha's testimony in the second trial was unreliable for using a $41 per ODD value that was calculated based on a relatively small sample of about 9,000 non-infringing drives made by Sony, not by QSI. *QCI Br.* at 69-70. We disagree.

LaserDynamics contends that the $41 price of the Sony ODDs was more appropriate than the $28 mask price used in the first trial with respect to QSI-made ODDs. According to LaserDynamics, since QCI does not track prices and revenues of the ODDs that it buys to incorporate into laptop computers, and does not generally sell stand alone ODDs, the $41 Sony-made drives that QCI sells as replacement parts better reflect the market value for ODDs independent of the completed laptop computers. QCI counters that the $41 price was unreliable because it was based on a small sample size of licensed and therefore non-infringing drives, which is irrelevant to the price of the accused drives, and because the record shows that the $28 mask price of the accused QSI-made drives is always higher than the price to the consumer.

As the district court explained, "[Mr. Murtha's] approach appears to be a reasonable attempt to value [QCI's] drives based on arms-length transactions. Although the jury may ultimately determine that [Mr. Murtha's] approach is unreasonable, the approach is not subject to a *Daubert* challenge." *LaserDynamics*, No. 2:06-cv-348-TJW-CE (E.D. Tex. Jan. 21, 2011). We conclude that the district court did not abuse its discretion in declining to exclude Mr. Murtha's use of the $41 Sony-made ODDs on *Daubert* grounds.

2. Mr. Murtha's 6% Royalty Rate Per ODD

QCI contends that Mr. Murtha's opinion that a reasonable royalty in this case would be 6% of each ODD sold within a laptop computer by QCI was unreliable under Federal Rule of Evidence 702 and should have been excluded. We agree.

The first of the fifteen factors in *Georgia-Pacific* is "the royalties received by the patentee for the licensing of the patent in suit, proving or tending to prove an established royalty." 318 F. Supp. at 1120. Actual licenses to the patented technology are highly probative as to what constitutes a reasonable royalty for those patent rights because such actual licenses most clearly reflect the economic value of the patented technology in the marketplace. *See ResQNet*, 594 F.3d at 869 ("[T]he trial court must carefully tie proof of damages to the claimed invention's footprint in the market place.").

When relying on licenses to prove a reasonable royalty, alleging a loose or vague comparability between different technologies or licenses does not suffice. For example, in *Lucent*, where the patentee had relied on various licenses in the same general computer field without proving a relationship to the patented technology or the accused infringing products, we insisted that the "licenses relied upon by the patentee in proving damages [be] sufficiently comparable to the hypothetical license at issue in suit," and noted that the patentee's failure to prove comparability "weighs strongly against the jury's award" relying on the non-comparable licenses. 580 F.3d at 1325, 1332.

Likewise, in *ResQNet*, the patentee's expert "used licenses with no relationship to the claimed invention to drive the royalty rate up to unjustified double-digit levels," and which had no "other discernible link to the claimed technology." 594 F.3d at 870. We rejected this testimony, holding that the district court "must consider licenses that are commensurate with what the defendant has appropriated. If not, a prevailing plaintiff would be free to inflate the reasonable royalty analysis with conveniently selected licenses without an economic or other link to the technology in question." *Id.* at 872. On remand, we directed that unrelated licenses could not be relied on to increase the reasonable royalty rate above rates that are more clearly linked to the economic demand for the claimed technology. *Id.* at 872-73.

Actual licenses to the patents-in-suit are probative not only of the proper amount of a reasonable royalty, but also of the proper form of the royalty structure. In *Wordtech Systems*, the patentee relied on thirteen patent licenses that it previously granted to third parties. 609 F.3d at 1319. We rejected the patentee's reliance on eleven of the thirteen licenses for being in the form of a running royalty (whereas the patentee had sought a lump sum payment) and for including royalty rates far lower than the jury returned. *Id.* at 1320-21. The remaining two licenses, although in the form of lump sums, were also rejected for not describing how the lump sums were calculated or the type and volume of products intended to be covered by the licenses. *Id.* at 1320. We ultimately reversed the $250,000 verdict and remanded for a new trial on damages because "the verdict was clearly not supported by the evidence and based only on speculation or guesswork." *Id.* at 1319-22 (citation and internal quotation marks omitted).

In this case, the district court denied QCI's *Daubert* motion and permitted Mr. Murtha to testify concerning his opinion of a 6% running royalty rate during the second trial. However, the district court insisted that LaserDynamics prove that two DVD-related patent licensing programs and the 1997 Licensing Executives Survey relied on by Mr. Murtha (to the exclusion of the many past licenses for the '981 patent) were sufficiently comparable to the hypothetically negotiated license Mr. Murtha proffered. *LaserDynamics*, 2011 U.S. Dist. LEXIS 42590, at *8-*11.

The district court correctly recognized that LaserDynamics' reliance on the two DVD-related patent licensing programs and the 1997 Licensing Executives Survey was problematic, but its ruling erroneously permitted continued reliance on this evidence where comparability between it and a hypothetical license to the '981 Patent was absent. The DVD-related patent licensing programs did not involve the '981 Patent, and no evidence shows that it even involves a disc discrimination method. A652. The 1997 licensing survey was even further removed from the patented technology, since it was not even limited to any particular industry, but "was across whatever technologies were being licensed by the people who responded." A653-54. Like the licenses we rejected in *ResQNet*, this licensing evidence relied upon by Mr. Murtha "simply [has] no place in this case." 594 F.3d at 871. Relying on this irrelevant evidence to the exclusion of the many licenses expressly for the '981 Patent served no purpose other than to "to increase the reasonable royalty rate above rates more clearly linked to the economic demand for the claimed technology." *Id.* at 872-73.

Aside from the BenQ settlement agreement discussed above, the licenses to the patents-in-suit were all for lumps sum amounts not exceeding $1 million. Mr. Murtha's 6% running royalty theory cannot be reconciled with the actual licensing evidence, which is highly probative of the patented invention's economic value in the marketplace, and of the form that a hypothetical license agreement would likely have taken. Although Mr.

Murtha conceded that QCI would be aware of LaserDynamics' prior licenses in the hypothetical negotiation, he dismissed the probative value of the licenses because they were entered into between 1998 and 2003, before the August 2006 hypothetical negotiation date. Mr. Murtha reasoned that, by 2006, the DVD market was larger and more established such that the value of the patented technology was better appreciated and LaserDynamics had more bargaining power to insist on a running royalty. Thus, in his view, LaserDynamics' past licenses could not reflect an appropriate royalty for QCI in 2006.

This reasoning is not supported by the record, however, which undisputedly shows that by around 2000, the DVDs and ODD markets were already experiencing tremendous growth such that by 2003 those markets were highly saturated. *LaserDynamics Br.* at 8-9 ("The landscape for the acceptance of the DVD format began to change in about 2000. In a relatively short time span, from around 2001 to 2002, video rental stores transitioned their entire stock from VHS tapes to DVDs. By 2003, nearly every home had a DVD player, and nearly every computer had a DVD drive." (citations omitted)); *QCI Br.* at 64 ("The increase in demand for optical disc drives was fully anticipated by the industry in 2000, before many of the prior license agreements were entered into."). Most of the early lump sum licenses that were summarily rejected by Mr. Murtha were thus entered into when the value of the patented technology was readily apparent and demand was already projected to greatly increase. The resetting of the hypothetical negotiation date to 2003, the date of first direct infringement induced by QCI's conduct, further undercuts Mr. Murtha's reasoning that the licenses to the '981 patent from the 1997 to 2001 time frame were too early to be probative. That the Licensing Executives Survey relied upon by Mr. Murtha—which has no meaningful ties to the patented technology—was created in 1997 highlights the inconsistency in Mr. Murtha's selective reasoning. Such strained reasoning is unreliable and cannot be used to ignore LaserDynamics' long history of licensing the '981 Patent.

In sum, the 6% royalty rate was untethered from the patented technology at issue and the many licenses thereto and, as such, was arbitrary and speculative. *See Uniloc*, 632 F.3d at 1318; *ResQNet*, 594 F.3d at 873. A new trial is required because the jury's verdict was based on an expert opinion that finds no support in the facts in the record. *See Wordtech*, 609 F.3d at 1319-22 (prohibiting jury verdicts to stand if they are "clearly not supported by the evidence" or "based only on speculation or guesswork" (citation omitted)); *see also Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 242 (1993) ("When an expert opinion is not supported by sufficient facts to validate it in the eyes of the law, or when indisputable record facts contradict or otherwise render the opinion unreasonable, it cannot support a jury's verdict."). On remand, LaserDynamics may not again present its 6% running royalty damages theory.

As a final matter, we do not hold that LaserDynamics' past licenses create an absolute ceiling on the amount of damages to which it may be entitled, *see* 35 U.S.C. § 284, or that its history of lump sum licenses precludes LaserDynamics from obtaining damages in the form of a running royalty. Full consideration of all the *Georgia-Pacific* factors might well justify a departure from the amount or even the form of LaserDynamics' past licensing practices, given the appropriate evidence and reasoning.

IV. CONCLUSION

For the foregoing reasons, we affirm-in-part and reverse-in-part the district court's judgment. We remand for further proceedings regarding the damages owed by QCI pertaining to the infringing ODDs not purchased by QCI via Philips and Sony/NEC/Optiarc, and for which QCI does not have an implied license to the '981 Patent. On remand, the hypothetical negotiation date shall be set in 2003, the BenQ settlement agreement shall not be admitted into evidence or relied upon at trial, and LaserDynamics shall not again present its 6% running royalty damages theory.

AFFIRMED-IN-PART, REVERSED-IN-PART, and REMANDED

COSTS

No Costs.