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United States Court of Appeals for the Federal Circuit

02-1522, -1523

ATMEL CORPORATION,

Plaintiff-Cross Appellant,

v.

SILICON STORAGE TECHNOLOGY, INC.,

Defendant-Appellant.

DECIDED: September 12, 2003

Before SCHALL, Circuit Judge, ARCHER, Senior Circuit Judge, and PROST, Circuit Judge.

SCHALL, Circuit Judge.

DECISION

Atmel Corporation ("Atmel") sued Silicon Storage Technology, Inc. ("SST") in the United States District Court for the Northern District of California for infringement of, inter alia, U.S. Patent No. 4,511,811 ("the '811 patent") and U.S. Patent No. 4,673,829 ("the '829 patent"). After a jury found that SST had willfully infringed both patents and that the patents were not invalid, and after the district court denied SST's post-verdict motion for judgment as a matter of law ("JMOL"), the district court entered final judgment in favor of Atmel against SST, awarding Atmel compensatory damages, enhanced damages, and prejudgment interest. Atmel Corp. v. Silicon Storage Tech., Inc., No. 96-00039 (N.D. Cal. June 21, 2002) (rule 54(b) judgment). The district court previously had denied Atmel's request for attorney fees, see Atmel Corp. v. Silicon Storage Tech., Inc., No. 96-00039 (N.D. Cal. May 7, 2002) (order regarding pre-judgment interest, enhanced damages, and attorney fees) ("Enhanced Damages and Attorney Fees Order"), and had sanctioned Atmel under Rule 26(g) of the Federal Rules of Civil Procedure, see Atmel Corp. v. Silicon Storage Tech., Inc., No. 96-00039 (N.D. Cal. Aug. 7, 2001) (order awarding

sanctions) ("Sanctions Order").

SST appeals from the district court's judgment, raising issues relating to infringement, validity, damages, and some of the district court's evidentiary rulings. For its part, Atmel cross-appeals, raising issues relating to enhanced damages, its request for attorney fees, and the award of sanctions against it. We affirm the district court's judgment in all respects.

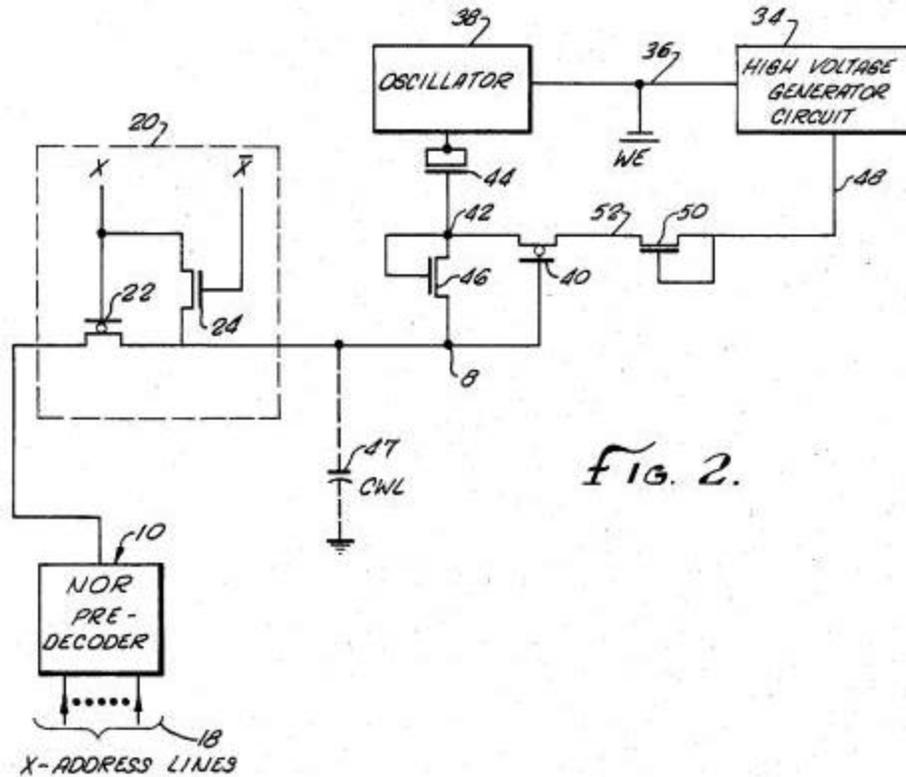
DISCUSSION

I. Background

Atmel is the owner of the '811 and the '829 patents. The two patents have substantially the same specification, share the same figures, and contain only one claim each. In fact, the claim limitations of the patents that are at issue in this case are substantially identical. Consequently, unless otherwise indicated, all references in this opinion are to the specification and claim of the '811 patent.

The patents are directed to programmable semiconductor memory chips, such as an erasable programmable read-only memory ("EPROM") or an electrically erasable programmable read-only memory ("EEPROM"). '811 patent, col. 3, ll. 11-17. Such devices are composed of an array of memory cells and circuitry dedicated to writing, erasing, or reading information stored in specific memory cells. In order to program or erase designated memory cells, the circuitry must increase the voltage on a selected conductive line to a relatively high voltage, i.e., higher than 5 volts. Although there may be a power supply on the device, that power supply may not be able to generate a voltage higher than 5 volts. Accordingly, a power supply located off-chip traditionally provides the additional power needed to perform the programming and erasing operations. In order to reduce cost, size, and weight, it is preferable to generate the required high voltage on-chip from the primary low voltage power supply. The disadvantage of doing so is that on-chip devices are subject to voltage leaking from the on-chip power supply through the large number of unselected conductive lines. For example, in a 16K-bit memory chip arranged in a 128 x 128 bit array, there are 128 lines. Since only one line is selected for programming any one byte, there are 127 unselected lines during any programming cycle through which the voltage can leak.

The '811 and the '829 patents recognize the foregoing problems and disclose a circuit for increasing the voltage on the selected line without the use of an external voltage supply while also preventing leakage to the unselected lines. Figure 2 of the '811 patent, which is reproduced below, discloses such a circuit, which is sometimes referred to as a "charge pump" or a "pumping circuit":



There are two different modes of operation of this circuit: (1) when line 8 is selected to have its voltage increased (“selected mode”); and (2) when line 8 is left unselected and not permitted to receive the transfer of charge from the high voltage generator circuit 34 (the “unselected mode”).

In the “selected mode,” the NOR pre-decoder 10 and post-decoder 20 identify line 8 as the addressed line and place an initial voltage on it. '811 patent, col. 5, ll. 43-53. This initial voltage causes transistor 40 to turn on, thus permitting charge to pass from the high-voltage generator circuit 34 through transistor 40 to node 42. The amount of charge passed to node 42 increases the voltage on node 42, which causes capacitor 44 to turn on. Then, when oscillator 38 cycles high, i.e., when it transitions to a high voltage (e.g., 5 volts), it raises the voltage on node 42. As a result, transistor 40 no longer conducts, but transistor 46 conducts the charge on node 42 to word line 8. This charge raises the voltage on the word line by a relatively small amount (e.g., 0.5 volts). When the oscillator 38 transitions to a low voltage, transistor 46 turns “off” and transistor 40 turns “on” allowing more charge to pass from the high voltage source to node 42. Subsequently, when the oscillator 38 goes high again, the process repeats, i.e., the voltage on node 42 increases, transistor 46 conducts again, and transfers the packet of charge to the selected line 8. By repeating this process many times, the voltage on the selected line 8 is incrementally raised in a stepwise fashion. In the unselected mode, line 8 is not selected and a switching device (transistor 40 or 46) blocks the leakage of voltage, by clamping the unselected line 8 to zero volts.

Claim 1 of the '811 patent, the only claim at issue in this appeal, is as follows:

1. An apparatus for selectively increasing the voltage on one or more of a plurality of conductive

lines having inherent distributed capacitance disposed in a semiconductor circuit comprising:

means disposed on said semiconductor circuit for selecting one or more of said conductive lines;

high voltage generating means disposed on said semiconductor circuit for generating a high voltage from a lower voltage power supply connected to said semiconductor circuit;

voltage pulse generating means disposed on said semiconductor circuit for generating voltage pulses;

means for capacitively coupling voltage pulses from said voltage pulse generating means to a voltage node in said semiconductor circuit;

transfer means responsive to said selecting means and connected to said voltage node for transferring increments of charge from said high voltage generating means to the inherent distributed capacitance in selected ones of said conductive lines in response to said voltage pulses;

said transfer means including switching means cooperating with said selecting means for blocking substantially all of the flow of current through and transfer of charge from said high voltage generating means to said conductive lines which are unselected.

'811 patent, col. 8, ll. 17-45.

II. Procedural History

SST manufactures EEPROM circuits that also charge a selected line while preventing leakage to unselected lines. On January 3, 1996, Atmel sued SST, alleging infringement of the '811 patent. Subsequently, on September 9, 1997, Atmel was granted leave to amend its complaint to allege infringement of the '829 patent. Atmel contended that SST's cpl2 circuit infringes the '811 and '829 patents. SST counterclaimed, seeking a declaratory judgment of invalidity and non-infringement.

On October 9, 1996, Atmel moved for summary judgment of infringement of the '811 patent. In ruling on this motion, the district court determined that the cpl2 circuit met four limitations of claim 1 of the '811 patent: high voltage generating means, voltage pulse generating means, means for capacitively coupling, and switching means. Atmel Corp. v. Silicon Storage Tech., Inc., No. 96-00039, slip op. at 21-23, 27 (N.D. Cal. June 25, 1997) (order addressing Atmel's motion for summary judgment) ("Summary Judgment Order dated June 25, 1997"). The court determined, however, that genuine issues of material fact existed with respect to the conductive lines limitation and with respect to the transfer and selecting means limitations. Id. at 16-21, 23-27. Accordingly, it denied Atmel's motion. Id. at 33.

Subsequently, on November 3, 1997, SST moved for summary judgment of non-infringement of the '811 patent. Alternatively, it moved for summary judgment of invalidity of the '811 patent. Atmel responded and opposed SST's motion. At the same time, it filed a cross-motion for summary judgment of infringement of the '811 patent. On January 6, 1998, the district court denied both SST's motion and Atmel's motion. Atmel Corp. v. Silicon Storage Tech., Inc., No. 96-00039, slip op. at 13 (N.D. Cal. Jan. 6, 1998) (order addressing motions for summary judgment regarding the '811 patent) ("Summary Judgment Order dated January 6, 1998"). The court determined that the cpl2 circuit met the means for selecting limitation of the '811 patent. Id. at 12-13. It concluded, however, that a genuine issue of material fact existed as to whether, inter alia, the cpl2 circuit contained a transfer means responsive to the selecting means. Id. at 12.

In addition to suing SST, Atmel sued Information Storage Devices, Inc. ("ISD") in the district court, alleging that ISD's products infringed the '811 patent. On April 14, 1998, the judge who was presiding over the ISD case granted summary judgment to ISD, finding that claim 1 of the '811 patent was invalid for indefiniteness. See Atmel Corp. v. Info. Storage Devices, Inc., No. 95-1987 (N.D. Cal. Apr. 14, 1998). Atmel appealed to us. We reversed and remanded. Atmel Corp. v. Info. Storage Devices, Inc., 198 F.3d 1374 (Fed. Cir. 1999). On remand, the ISD case was reassigned to the judge presiding over Atmel's case against SST. The court held a claim construction hearing in the ISD case, and on July 24, 2000, issued an order construing claim 1 of the '811 patent. See Atmel Corp. v. Info. Storage Devices, Inc., No. 95-1987 (N.D. Cal. July 24, 2000) (order construing claim 1 of the '811 patent) ("First Claim Construction Order"). Atmel and ISD subsequently settled.

Atmel's suit against SST was partially stayed pending Atmel's appeal in ISD. As a result, the parties did not restart litigation in this case until January 2001. Eventually on April 11, 2001, Atmel moved for summary judgment of infringement of the '811 and '829 patents, premised on the claim construction set forth by the district court in the ISD case. SST opposed Atmel's motion, stating that "[a]lthough this Court's claim construction in . . . [the ISD case] was well reasoned and, in SST's opinion, correct, Atmel cannot now unilaterally bind SST to that order and obtain summary judgment on that basis alone."

The district court denied Atmel's motion. Atmel Corp. v. Silicon Storage Tech., Inc., No. 96-00039, slip op. at 28 (N.D. Cal. June 20, 2001) (order denying Atmel's motion for summary judgment of infringement) ("Summary Judgment Order dated June 20, 2001"). The court observed that collateral estoppel did not bar SST from seeking a new claim construction. Id. at 15. Nevertheless, it found it appropriate to rely on its claim construction in the ISD case, noting that SST had called that claim construction "well-reasoned" and "correct." Atmel Corp. v.

Silicon Storage Tech., Inc., No. 96-00039, slip op. at 15 (N.D. Cal. June 20, 2001) (order denying Atmel's motion for summary judgment of infringement) ("Summary Judgment Order dated June 20, 2001"). The court then turned to the issue of infringement. It noted that it had previously determined that the cpl2 circuit met five of the limitations of claim 1 of the '811 patent: means for selecting, high voltage generating means, voltage pulse generating means, means for capacitively coupling, and selecting means. Id. at 15. It observed that in light of its previous orders regarding those five limitations, only two issues remained in dispute: (1) which lines on the cpl2 circuit were "conductive lines having an inherent distributive capacitance" and whether such lines met the limitations of claim 1; and (2) whether the cpl2 circuit contained devices meeting the transfer means limitation of claim 1. Id. at 15-16. The district court determined that the cpl2 circuit did have a conductive line having an inherent distributing capacitance, as required by claim 1. Id. at 18. In addition, it determined that its previous conclusion that the cpl2 circuit met five of the limitations of claim 1 of the '811 patent—means for selecting, high voltage generating means, voltage pulse generating means, means for capacitively coupling, and switching means—was consistent with its claim construction. Id. at 25-28. It observed, however, that genuine issues of material fact existed with respect to the transfer means limitation. Id. at 18-25. Accordingly, it denied Atmel's motion for summary judgment. Id. at 28.

On August 7, 2001, the district court also decided SST's pending motion for sanctions under Rule 26(g) of the Federal Rules of Civil Procedure. It sanctioned Atmel in the amount of \$22,302.50 for violation of Rule 26(g). Sanctions Order at 3.

Subsequently, on March 28, 2002, at a pre-trial conference, the parties disputed the definition of the term "increments of charge" as found in the transfer means limitation. As a result, the court construed this term in an order dated April 2, 2002. Atmel Corp. v. Silicon Storage Tech., Inc., No. 96-00039, (N.D. Cal. Apr. 2, 2002) (order construing "increments of charge") ("Second Claim Construction Order").

The district court then held a jury trial on the '811 and '829 patents. The jury determined liability and damages for the '811 and the '829 patents in two phases. On April 17, 2002, the jury returned a verdict for Atmel, finding the '811 and '829 patents to be not invalid and literally infringed. On April 26, 2002, the same jury awarded Atmel price erosion damages in the amount of \$10,400,000 and a reasonable royalty of \$9,569,640. The jury also found SST's infringement to be willful.

Thereafter, on May 7, 2002, the district court awarded Atmel prejudgment interest in the amount of \$9,415,758 and enhanced damages for willfulness in the amount of \$7,092,360, but denied its request for attorney fees. Enhanced Damages and Attorney Fees Order at 1.^[1] On May 21, 2002, SST moved for JMOL on the issues of infringement, validity, damages, and willfulness. The district court denied the motion, stating: "Having reviewed the parties' arguments and the record, the Court finds that the jury's verdict was supported by legally sufficient evidence." Atmel Corp. v. Silicon Storage Tech., Inc., No. 96-00039, slip op. at 1 (N.D. Cal. June 21, 2002) (order denying SST's renewed motion for JMOL) ("JMOL Order"). The court also certified the judgment as final and immediately appealable pursuant to Rule 54(b) of the Federal Rules of Civil Procedure.^[2] Atmel Corp. v. Silicon Storage Tech., Inc., No. 96-00039 (N.D. Cal. June 21, 2002) (rule 54(b) judgment).

SST now appeals to us. Atmel also cross-appeals. We have jurisdiction over these appeals pursuant to 28 U.S.C. § 1295(a)(1). The appeals raise a number of issues, each of which we address in turn.

III. Infringement

The determination of infringement is a two-step process. First, the court construes the claims at issue to correctly determine their scope. Second, it compares the properly construed claims to the accused device. Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1454-56 (Fed. Cir. 1998) (en banc) (citations omitted). Claim construction is a question of law that we review de novo. Id. Comparison of the construed claims to the accused device presents a question of fact. Insituform Techs., Inc. v. Cat Contracting, Inc., 161 F.3d 688, 692 (Fed. Cir. 1998) (citation omitted).

SST appeals the denial of its JMOL motion on infringement with respect to the transfer means limitation and the district court's grant of summary judgment of infringement with respect to the means for selecting and switching means limitations of claim 1. We address each of these issues in turn.

A. Transfer means

Claim 1 recites, inter alia, “transfer means responsive to said selecting means and connected to said voltage node for transferring increments of charge from said high voltage generating means to the inherent distributed capacitance in selected ones of said conductive lines in response to said voltage pulses.” '811 patent, col. 8, ll. 34-38 (emphases added). In its First Claim Construction Order, the district court construed this limitation as follows:

The function of the transfer means is to transfer increments of charge from the high voltage generating means to the inherent distributed capacitance of the selected conductive line or lines. The transfer means reacts to the stimulus provided to it when the associated conductive line is selected by the selecting means. The transfer means also increases the charge on a selected conductive line by transferring, or shifting, amounts of charge from the high voltage source to the selected conductive line until the desired high voltage has been achieved. The structures and materials that correspond to the transfer means consist of both device 40 and device 46 in Figure 2. The optional device 50 is not a necessary component of the structures that correspond to the transfer means claim element.

First Claim Construction Order at 19-20 (emphases added). Then, to resolve the parties' dispute on the definition of "increments of charge," as found in the transfer means limitation, the district court construed the term. It determined that "an 'increment of charge' is an amount of charge that may vary." Id. In construing this term, the court rejected SST's construction that "increments of charge" should be defined as "transference in discrete increments." Id. Specifically, the court stated that it would "not read into the term the meaning SST proffers: that it creates a distinction between a means that transfers continuous charge and a means that transfers charge in discrete bursts." Id. The court observed that its construction of the term "increments of charge" was consistent with its earlier construction of the transfer means limitation. Id. at 2-3.

Subsequently, in accordance with its two claim construction orders, the district court instructed the jury on the construction of the transfer means limitation. The jury found that SST's products infringed this limitation. SST then filed a motion for JMOL, which the district court denied. See JMOL Order at 1.

The denial of a motion for JMOL is a procedural issue not unique to patent law, and thus we apply the law of the regional circuit where the appeal from the district court would normally lie. See Sjolund v. Musland, 847 F.2d 1573, 1576 (Fed. Cir. 1988). In this case, that is the Ninth Circuit. The Ninth Circuit reviews de novo a district court's denial of a motion for JMOL. Saman v. Robbins, 173 F.3d 1150, 1154 (9th Cir. 1999). Under Ninth Circuit law, the district court must be affirmed if there is substantial evidence to support the verdict. Id. It has held that "[s]ubstantial evidence is evidence reasonable minds might accept as adequate to support a conclusion even if it is possible to draw two inconsistent conclusions from the evidence." Id. (quoting United States ex rel. Hopper v. Anton, 91 F.3d 1261, 1268 (9th Cir.1996)).

However, where a party fails to comply with the requirements of Rule 50, the Ninth Circuit's standard of review on appeal is considerably different.^[3] Rule 50(b) provides, in pertinent part: "If, for any reason, the court does not grant a motion for judgment as a matter of law made at the close of all the evidence, the court is considered to have submitted the action to the jury subject to the court's later deciding the legal questions raised by the motion" (emphasis added). The Ninth Circuit has stated that "the requirement that the motion be made at the close of all the evidence is to be strictly observed" and that, where a party fails to file a motion for JMOL at the close of all the evidence, the party cannot challenge the sufficiency of the evidence on appeal.^[4] Herrington v. Sonoma County, 834 F.2d 1488, 1500 (9th Cir. 1988); see Patel v. Penman, 103 F.3d 868, 878 (9th Cir.1996). In such cases, the appellate review is limited to "whether there was any evidence to support the jury's verdict, irrespective of its sufficiency, or whether plain error was committed which, if not noticed, would result in a 'manifest miscarriage of justice.'" Herrington, 834 F.2d at 1500 (internal quotation marks and citations omitted).

On appeal, SST argues that the district court erred in construing the transfer means limitation and that under the correct construction, it does not infringe as a matter of law. SST, however, does not argue that substantial evidence does not support the jury's verdict of infringement if the district court's construction of the transfer means limitation stands. Accordingly, the issue of infringement with respect to the transfer means limitation turns solely on claim construction.

SST contends that the district court erred in construing the term "increments of charge" as it relates to the transfer means limitation. It urges that the ordinary meaning of the word "increment" requires that "increment of charge" should be defined as a "discrete packet or amount of charge." It points to several dictionary definitions of the word "increment" and asserts that the dictionary definition that is consistent with the specification is one that defines "increment" as "one of a series of regular consecutive additions of like or proportional size or value." SST argues that each "addition of like or proportional size or value" must by nature be a discrete amount. Thus, it asserts that "increment of charge" should be defined as a "discrete packet or amount of charge." Pointing to the specification, SST argues that it too requires us to construe "increment of charge" as a "discrete packet or amount of charge." SST notes the structure disclosed in the specification that corresponds to the function of the transfer means limitation and argues that "[t]hose circuit elements can only function to transfer discrete packets of charge in a two-step process." Under its claim construction, argues SST, it does not infringe

as a matter of law.

Atmel responds that the district court correctly construed the term “increments of charge” and that substantial evidence supports the jury’s verdict of infringement. It adds that SST’s proposed construction is not materially different from the district court’s construction in that it defines “increment” as “one of a series of regular consecutive additions of like or proportional size or value.” It, however, disagrees with SST that “increment” must also be discrete. It contends that limiting increment to “discrete” would be limiting the claims to the preferred embodiment disclosed in the specification.

We agree with Atmel that the district court correctly construed the term “increment of charge.” As a preliminary matter, we note that neither party disputes that the transfer means limitation is subject to 35 U.S.C. § 112, paragraph 6, which provides:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

35 U.S.C. § 112, ¶ 6. The first step in construing such a means-plus-function limitation is to identify the function of the limitation. Micro Chem., Inc. v. Great Plains Chem. Co., 194 F.3d 1250, 1258 (Fed. Cir. 1999). The next step is to identify the corresponding structure in the written description necessary to perform that function. Id. “Structure disclosed in the specification is ‘corresponding’ structure only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim.” B. Braun Med., Inc. v. Abbott Labs., 124 F.3d 1419, 1424 (Fed. Cir. 1997).

In this case, based on the claim language, the function performed by the transfer means limitation is “transferring increments of charge from said high voltage generating means to the inherent distributed capacitance in selected ones of said conductive lines in response to said voltage pulses.” The district court defined the function similarly when it stated that the function of the transfer means limitation is “to transfer increments of charge from the high voltage generating means to the inherent distributed capacitance of the selected conductive line or lines.” First Claim Construction Order at 19. Neither party disagrees with the district court’s identification of function. Moreover, there is no dispute that transistors 40 and 46 attached to voltage node 42 comprise the structure corresponding to the transfer means limitation. As noted, the main contention of the parties is whether the term “increments of charge” in the identified function should be defined as “discrete packets or amounts of charge.” Like the district court, we conclude that the term “increments of charge” does not require discrete packets or amounts of charge. See Second Claim Construction Order at 2.

We begin our claim construction analysis with the words of the claim. Vitronics Corp. v. Conceptoronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996). “In construing claims, the analytical focus must begin and remain centered on the language of the claims themselves, for it is that language that the patentee chose to use to ‘particularly point[] out and distinctly claim[] the subject matter which the patentee regards as his invention.’” Interactive Gift Express, Inc. v.

Compueerve, Inc., 256 F.3d 1323, 1331 (Fed. Cir. 2001) (citing 35 U.S.C. § 112, ¶ 2). The words used in the claims are examined from the perspective of a person skilled in the art. Tegal Corp. v. Tokyo Electron Am., Inc., 257 F.3d 1331, 1342 (Fed. Cir. 2001). In the absence of an express intent to impart a novel meaning to claim terms, the words are presumed to take on the ordinary and customary meanings attributed to them by those of ordinary skill in the art. See, e.g., Teleflex, Inc. v. Ficoso N. Am. Corp., 299 F.3d 1313, 1325 (Fed. Cir. 2002). The ordinary and customary meaning of a claim term may be determined by reviewing a variety of sources. Brookhill-Wilk 1, LLC v. Intuitive Surgical, Inc., No. 02-1145, slip op. at 6 (Fed. Cir. June 27, 2003). Some of these sources include the claims themselves, see Process Control Corp. v. HydReclaim Corp., 190 F.3d 1350, 1357 (Fed. Cir. 1999); dictionaries and treatises, Tex. Digital Sys., Inc. v. Telegenix, Inc., 308 F.3d 1193, 1202 (Fed. Cir. 2002); and the written description, the drawings, and the prosecution history, see, e.g., DeMarini Sports, Inc. v. Worth, Inc., 239 F.3d 1314, 1324 (Fed. Cir. 2001).

In this case, nothing in the claim language requires that "increments of charge" be discrete. The claim language in question reads as follows: "transfer means . . . for transferring increments of charge from said high voltage generating means to the inherent distributed capacitance in selected ones of said conductive lines in response to said voltage pulses." '811 patent, col. 8, ll. 34-39. Nothing in this language requires that the increments of charge be transferred discretely. Moreover, we do not agree with SST that the dictionary definition of "increment," i.e., "one of a series of regular consecutive additions of like or proportional size or value," requires that we construe "increments of charge" as discrete increments of charge. This definition of "increment" requires only that the increments be regular and of proportional size, not that they be discrete.

The specification does not alter our conclusion. We have noted that the examination of the written description and drawings is necessary in every case to determine whether the patentee has disclaimed subject matter or has otherwise limited the scope of the claims. Apex Inc. v. Raritan Computer, Inc., 325 F.3d 1364, 1374 (Fed. Cir. 2003). Notwithstanding the fact that the claim language must be examined in light of the written description, limitations may not be read into the claims from the written description. Prima Tek II, L.L.C. v. Polypap, S.A.R.L., 318 F.3d 1143, 1148 (Fed. Cir. 2003). Nothing in the specification of the '811 patent requires that increments of charge be transferred discretely. Although, as Atmel acknowledges, the preferred embodiment of the '811 patent discloses the transfer means transferring increments of charge discretely, we agree with Atmel that the preferred embodiment does not require us to read "discrete" into the claims. While the specification may well indicate that certain embodiments are preferred, particular embodiments appearing in a specification will not be read into the claims when the claim language is broader than such embodiments. See Electro Med. Sys., S.A. v. Cooper Life Scis., Inc., 34 F.3d 1048 (Fed. Cir. 1994). In this case, the claim language is definitely broader than the preferred embodiment in that it does not require that "increments of charge" be transferred discretely. Accordingly, we decline to read that limitation into the claim.

Moreover, defining "increments of charge" by looking at the structure corresponding to the function of the transfer means limitation, as SST urges us to do, would be contrary to the principle that section 112, paragraph 6 does not limit all terms in a means-plus-function clause to what is disclosed in the written description and equivalents thereof. See O.I. Corp. v. Tekmar Co., 115 F.3d 1576, 1581 (Fed. Cir. 1997). Section 112, paragraph 6 applies only to interpretation of the means that performs a recited function when a claim recites insufficient structure or acts for performing the function. See id.

In sum, we agree with the district court's construction of the term "increments of charge." Moreover, because SST does not argue that substantial evidence does not support the jury's verdict of infringement if the district court's construction stands, we affirm the district court's denial of SST's motion for JMOL on infringement.

B. Means for selecting and switching means

We now turn to the means for selecting and switching means limitations. These limitations read as follows: "means disposed on said semiconductor circuit for selecting one or more of said conductive lines" and "said transfer means including switching means cooperating with said selecting means for blocking substantially all of the flow of current through and transfer of charge from said high voltage generating means to said conductive lines which are unselected." '811 patent, col. 8, ll. 22, 21, 40-45. As noted, the district court construed these limitations and granted summary judgment to Atmel, holding that SST's products met these limitations. See Summary Judgment Order dated June 20, 2001.

SST challenges the district court's construction of the switching means limitation as well as the district court's grant of summary judgment with respect to this limitation and the means for selecting limitation. For its part, Atmel argues that the district court correctly construed the switching means limitation and correctly granted summary judgment with respect to this limitation and the means for selecting limitation.

Summary judgment is appropriate when there is no genuine issue as to any material fact and the moving party is entitled to judgment as a matter of law. Fed. R. Civ. P. 56(c); Johnston v. IVAC Corp., 885 F.2d 1574, 1576-77 (Fed. Cir. 1989). In determining whether there is a genuine issue of material fact, the court must view the evidence in the light most favorable to the party opposing the motion, with doubts resolved in favor of the non-movant. Transmatic, Inc. v. Gulton Indus., Inc., 53 F.3d 1270, 1274 (Fed. Cir. 1995). We review de novo a district court's grant of summary judgment. Conroy v. Reebok Int'l, Ltd., 14 F.3d 1570, 1575 (Fed. Cir. 1994).

Having considered the parties' arguments and the record, we see no error in the district court's construction of the switching means limitation and its grant of summary judgment with respect to this limitation and the means for selecting limitation. Accordingly, we affirm the district court's grant of summary judgment with respect to these limitations.

IV. Invalidity

A claimed invention is unpatentable if the differences between it and the prior art "are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art." 35 U.S.C. § 103 (1998); Graham v. John Deere Co., 383 U.S. 1, 13 (1966). When obviousness is based on particular prior art references, there must be a showing of a suggestion or motivation to combine the teachings of those references, though it need not be expressly stated. See Riverwood Int'l Corp. v. The Mead Corp., 212 F.3d 1365, 1366 (Fed. Cir. 2000). The ultimate determination of whether an invention is or is not obvious is a legal conclusion based on underlying factual inquiries including: (1) the scope and content of the prior art; (2) the level of ordinary skill in the prior art; (3) the differences between the claimed invention and the prior art; and (4) objective evidence of non-obviousness. Graham, 383 U.S. at 17-18; In re Dembiczak, 175 F.3d 994, 998, (Fed. Cir. 1999). When the parties dispute

the underlying facts, the issue of obviousness typically is submitted to the jury, as it was in this case. See Jurgens v. McKasy, 927 F.2d 1552, 1557 (Fed. Cir. 1991).

In the district court, SST alleged that the claims of the '811 and the '829 patents were obvious in view of certain references, including U.S. Patent No. 4,649,289 ("the '289 patent") and in view of the inventions by Daniel Amrany, Richard Simko, and Dhaval Brahmbhatt, each of whom obtained a patent for his particular invention. In addition, so that the inventions by Amrany, Simko, and Brahmbhatt could be considered prior art against Atmel's patents, SST asserted that Atmel had failed to present sufficient evidence to establish a conception date for its patents prior to February 8, 1982, the date the application that matured into the '811 patent was filed. (The '829 patent's application was a continuation of the '811 patent's application.) SST moved for JMOL on the issue of conception during trial, but the district court denied its motion. The district court submitted the issue of conception along with the issue of obviousness to the jury. The jury determined that SST had not proved by clear and convincing evidence that the claims of the '811 and the '829 patents were invalid as obvious.

Subsequently, SST filed a motion for JMOL, arguing that it had presented clear and convincing evidence that the '811 and '829 patents were invalid as obvious. Specifically, it asserted that Atmel had failed to present sufficient evidence to establish a conception date for its patents prior to the February 8, 1982 filing date of their applications and that, as a result, the inventions of Amrany, Simko, and Brahmbhatt could be considered as prior art. It asserted that prior to the time of the invention claimed in the '811 and '829 patents, Amrany, Simko, and Brahmbhatt had circuits that transferred high voltage onto selected lines while blocking current leakage onto unselected lines. Finally, SST argued that the '289 patent, by itself, rendered the claims of the '811 and '829 patents obvious. As noted, the district court denied the motion. JMOL Order at 1.

As a preliminary matter, we note that the district court never asked the jury to specifically answer the question of whether Atmel had proved a conception date for its patents prior to the February 8, 1982 filing date of their applications. SST argues, however, that the jury may have found the patents to be not invalid as obvious because it did not find some of the references to be prior art, i.e., it may have found that Atmel proved a conception date prior to the February 8, 1982 filing date. Thus, for purposes of this appeal, we will assume that the jury may have found that Atmel proved a conception date prior to the February 8, 1982 filing date.

It is undisputed that SST did not move for JMOL on conception or obviousness at the close of all the evidence. Rule 50, however, requires a party to do so. See Herrington, 834 F.2d at 1500. Under these circumstances, SST cannot challenge the sufficiency of the evidence on appeal, and our review is limited to "whether there was any evidence to support the jury's verdict, irrespective of its sufficiency, or whether plain error was committed which, if not noticed, would result in a 'manifest miscarriage of justice.'" Id.; see also Duro-Last, Inc., v. Custom Seal, Inc., 321 F.3d 1098, 1108 (Fed. Cir. 2003) (stating that a party waives "its right to challenge any factual findings underlying the jury's obviousness verdict [when] its post-verdict JMOL motion [is] not supported by the required pre-verdict Rule 50(a) motion on obviousness"). Because we find that there is at least some evidence supporting the jury's "presumed" verdict on conception and its verdict on obviousness, and because we do not find a plain error in this case, we affirm the district court's denial of SST's motion for JMOL on conception or obviousness^[5]

V. Reasonable royalty and price erosion damages

Under 35 U.S.C. § 284, a patentee is entitled to at least a reasonable royalty for infringement of its patent: "Upon finding for the claimant the court shall award the claimant damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer, together with interest and costs as fixed by the court." (emphasis added). Beyond reasonable royalty, a patentee may seek lost profit damages for infringement. Lost profits may be due to diverted sales, price erosion, and increased expenditures caused by infringement. Lam, Inc. v. Johns-Manville Corp., 718 F.2d 1056, 1065 (Fed. Cir. 1983). For price erosion damages, the patentee must show that, but for the infringement, it would have been able to charge and receive a higher price. See id.

As noted, the jury awarded Atmel a reasonable royalty in the amount of \$9,569,640 and price erosion damages in the amount of \$10,400,000. The district court denied SST's post-verdict motion for JMOL on these issues. See JMOL Order at 1. SST appeals from the denial of its JMOL motion. It also appeals certain evidentiary rulings with respect to damages.

Specifically, SST argues that the district court erred in refusing to overturn the verdict of \$9,569,640 as a reasonable royalty. It asserts that there was insufficient evidence to support the verdict. In addition, it contends that the district court should never have allowed Stephen Degan, Atmel's reasonable royalty expert, to testify. Finally, it urges that the district court erred in barring evidence of licenses for the '903 patent. It contends that such evidence would have shown that Atmel was only entitled to a very low royalty.

With respect to price erosion damages, SST notes that to prove price erosion damages, Atmel should have shown that, but for the infringement, it would have been able to charge higher prices. It then argues that Atmel failed to establish the causation required under this test. It contends that the district court erred in denying SST's motion to exclude the testimony of Atmel's expert, Dr. Marc Vellrath, and in denying SST's request for a hearing pursuant to Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993).

Atmel responds that because SST failed to move for JMOL at the close of all the damages evidence, it cannot now challenge the sufficiency of the evidence and its appeal must be denied as long as any evidence supports the verdict. In addition, it argues that, in any event, substantial evidence supports the jury's verdict. As for the evidentiary rulings, Atmel argues that the district court did not err in allowing Stephen Degan to testify, in barring evidence of licenses for the '903 patent, in denying SST's motion to exclude the testimony of Dr. Vellrath, and in denying SST's request for a Daubert hearing.

We agree with Atmel and hold that because SST did not renew its JMOL motion on the reasonable royalty and price erosion damages issues at the close of all the evidence, it cannot challenge the sufficiency of the evidence underlying the jury verdict. See Herrington, 834 F.2d at 1500. The record shows that on April 24, 2002, after SST rested its case-in-chief on damages and Atmel started its rebuttal case on damages, SST moved for JMOL on the issues of price erosion and reasonable royalty. The district court, however, denied that motion. The next day, on April 25, 2002, after Atmel finished presenting its rebuttal, SST presented its rebuttal case. At the close of evidence in the damages phase, i.e., after the parties presented their rebuttal cases, SST did not renew its previously denied rule 50 motion. On April 26, 2002, the jury returned a verdict awarding Atmel a reasonable royalty in the amount of \$9,569,640 and price erosion damages in the amount of \$10,400,000. Under these circumstances, because SST failed to move

for JMOL at the close of all the evidence, SST cannot challenge the sufficiency of the evidence and our review is limited to "whether there was any evidence to support the jury's verdict, irrespective of its sufficiency, or whether plain error was committed which, if not noticed, would result in a 'manifest miscarriage of justice.'" Id. We have reviewed the record and find that there is at least some evidence supporting the jury's verdict on the reasonable royalty and price erosion damages. At the same time, we do not find plain error in the case. Accordingly, we affirm the district court's denial of SST's motion for JMOL on the damages issues.

We now address SST's various evidentiary contentions. We apply the law of the regional circuit when we review evidentiary rulings of the district court. See Advanced Cardiovascular Sys., Inc. v. Medtronic, Inc., 265 F.3d 1294, 1308 (Fed. Cir. 2001) ("Evidentiary rulings . . . are not unique to our jurisdiction and, accordingly, we review them under the law of the [regional circuit]."). Because the Ninth Circuit reviews the district court's decision to admit expert testimony, its denial of a Daubert hearing, and its decision to exclude certain evidence for an abuse of discretion, we will do the same. See United States v. Alatorre, 222 F.3d 1098, 1100, 1105 (9th Cir. 2000); Tremain v. Bell Indus., Inc., 196 F.3d 970, 976 (9th Cir. 1999). After a review of the parties' arguments and the record, we do not believe that the district court abused its discretion when it allowed Stephen Degnan to testify, excluded evidence relating to the licenses of another patent in Atmel's portfolio, denied SST's motion to exclude the testimony of Dr. Vellrath, and denied SST's request for a Daubert hearing.

VI. Willful infringement, enhanced damages, and attorney fees

As noted, the jury found SST's infringement to be willful, and the district court awarded Atmel enhanced damages in the amount of \$7,092,360, representing half the compensatory amount. See Enhanced Damages and Attorney Fees Order at 24. At the same time, the district court denied Atmel's request for attorney fees. Id. at 1. SST subsequently moved for JMOL on the issue of willful infringement, but the district court denied the motion. JMOL Order at 1. SST appeals the district court's denial of its post-verdict JMOL motion on willfulness and its decision to enhance damages. At the same time, Atmel cross-appeals the district court's decision to enhance damages by only half the compensatory amount and the district court's denial of its request for attorney fees. We address each of these issues in turn.

A. Willful infringement

Willfulness is shown when, upon consideration of the totality of the circumstances, clear and convincing evidence establishes that the infringer acted in disregard of the patent, and that the infringer had no reasonable basis for believing it had a right to engage in the infringing acts. See WMS Gaming Inc. v. Int'l Game Techs., 184 F.3d 1339, 1354 (Fed. Cir. 1999). This court reviews a jury's finding of willful infringement to determine if there is substantial evidence to support the finding. See Hoechst Celanese Corp. v. BP Chems. Ltd., 78 F.3d 1575, 1583 (Fed. Cir. 1996). An important factor in determining whether willful infringement has been shown is whether or not the infringer obtained the opinion of counsel. See Ortho Pharm. Corp. v. Smith, 959 F.2d 936, 944 (Fed. Cir. 1992).

SST argues that the district court improperly allowed Atmel to "unilaterally and misleadingly" instruct the jury to focus on a single factor of the willfulness "totality" test. It asserts that by giving the jury the improper impression that SST's opinion of counsel was unequivocally

insufficient under the law, Atmel effectively collapsed the test of willfulness into a single factor test that made the jury's verdict a forgone but erroneous conclusion. It contends, that, in fact, the evidence shows that Atmel failed to meet its burden of proof.

Atmel contends that SST never moved for JMOL on willful infringement during the trial and thus there was nothing that could be renewed following the entry of judgment. In other words, Atmel argues that SST waived its arguments with respect to the jury's finding of willful infringement. In addition, it argues that even if SST could have renewed its JMOL motion, Atmel proved willfulness by clear and convincing evidence. In addition, it asserts that the jury was instructed properly on the totality of the circumstances test.

As a preliminary matter, we note that a review of the record reveals that SST never moved for JMOL on willful infringement during the trial. Neither does SST challenge Atmel's statements that it never moved for JMOL on willful infringement during the trial. Under these circumstances, SST cannot challenge the sufficiency of the evidence underlying the jury verdict on willfulness, and our review is limited to "whether there was any evidence to support the jury's verdict, irrespective of its sufficiency, or whether plain error was committed which, if not noticed, would result in a 'manifest miscarriage of justice.'" See Herrington, 834 F.2d at 1500. After a review of the record, we hold that there is at least some evidence to support the jury's verdict on willfulness and that a plain error was not committed in this case.

We also reject SST's argument that the district court improperly allowed Atmel to unilaterally and misleadingly instruct the jury to focus on a single factor of the willfulness "totality" test. The jury instructions stated, inter alia:

In making the determination as to willfulness, you must consider the totality of the circumstances. The totality of the circumstances comprises a number of factors, which include, but are not limited to: whether SST intentionally copied the products covered by the infringed patent or patents, whether SST exercised due care to avoid infringing the patent, SST's behavior as a party to the litigation and whether SST reasonably relied on competent legal advice.

In view of these statements, we cannot say that the district court allowed Atmel to "unilaterally and misleadingly" instruct the jury to focus on a single factor of the willfulness analysis. In short, we affirm the district court's denial of SST's motion for JMOL on willfulness.

B. Enhanced damages

Under 35 U.S.C. § 284, damages may be enhanced up to three times the compensatory award. To assist district courts in making reasoned decisions about enhanced damages, in Read Corp. v. Portec, Inc., 970 F.2d 816, 826-27 (Fed. Cir. 1992), we set forth nine factors that are to be considered. Enhanced damages have been awarded when a party is found to have willfully infringed or to have acted in bad faith. See Electro Med. Sys., S.A. v. Cooper Life Scis, Inc., 34 F.3d 1048, 1056 (Fed. Cir. 1994). A finding of willfulness, however, does not mandate enhanced damages. See Read Corp., 970 F.2d at 826. Instead, "[t]he paramount determination . . . is the egregiousness of the defendant's conduct based on all the facts and circumstances." Id. We review an award of enhanced damages under an abuse of discretion

standard. See Nat'l Presto Indus., Inc. v. West Bend Co., 76 F.3d 1185, 1193 (Fed. Cir. 1996).

SST argues that the district court's decision to enhance damages was an abuse of discretion. It asserts that the facts do not warrant enhancement. For its part, Atmel argues not only that enhancement of damages was warranted, but it cross-appeals and argues that we should direct the district court to enhance damages by greater than half the compensatory amount.

Because we agree with the district court's analysis of the Read factors, we affirm its award of enhanced damages in the amount of \$7,092,360. The court considered the Read factors and goals behind the award of enhanced damages before awarding Atmel \$7,092,360 in enhanced damages:

As the parties correctly noted, the Federal Circuit has delineated the bounds of the willfulness inquiry with a list of nine factors against which the infringer's acts should be measured. Read Corp., 970 F.2d at 826-27. The Court is obligated to look at the totality of the circumstances, but because these factors are points of reference, the Court will briefly address each in turn. On balance, the Court finds that Atmel is entitled to enhanced damages equal to half the compensatory damages award. That is, the Court will order SST to pay Atmel an additionally \$7,092,360 in willfulness damages.

. . . [Discussion of the Read factors]

On balance, the Court finds that because SST's conduct was reckless, but not egregious, and SST did present good-faith defenses to infringement throughout the litigation, an award of half the compensatory amount is appropriate to compensate Atmel for SST's deliberate indifference to its rights.

Enhanced Damages and Attorney Fees Order at 12, 24 (emphases added). We hold that the district court did not abuse its discretion by awarding Atmel \$7,029,360 in enhanced damages.

C. Attorney Fees

Atmel also appeals the district court's denial of its request for attorney fees. Under 35 U.S.C. § 285, a district court may award reasonable attorney fees to the prevailing party in exceptional cases. "The determination of whether a case is exceptional and, thus, eligible for an award of attorney fees under § 285 is . . . a factual determination reviewed for clear error." Cybor, 138 F.3d at 1460 (citation omitted). The subsequent determination of whether attorney fees are appropriate is reviewed for an abuse of discretion. Id.

The district court noted that "[a] prevailing party can make out a case for attorney fees by showing: 'inequitable conduct before the PTO; litigation misconduct; vexatious, unjustified, and

otherwise bad faith litigation; [or] a frivolous suit or willful infringement.'" Enhanced Damages and Attorney Fees Order at 24. It observed that "[w]here, as here, the evidence of willful infringement is 'sufficient but weak,' a court may be justified in not awarding attorney fees." Id. at 25. It determined that taking all the Read factors into account, there was nothing to suggest that the case was so egregious as to merit the award of attorney fees. Id. At the same time, the court found no litigation misconduct by SST. Id. In short, the court concluded that "[t]here is no evidence that Atmel can point to suggesting that SST blatantly and purposely lied or committed fraud in a judicial forum" and as such, "[t]here are therefore no grounds on which to find this case exceptional." Id. at 26.

On appeal, Atmel notes that the district court declined to award attorney fees to Atmel because "the evidence of willful infringement is 'sufficient but weak.'" It then argues that this appraisal is wrong. It asserts that SST knew of the '811 patent, but tried to hide behind an oral opinion based on facts that it knew to be incorrect. It concludes that therefore the district court abused its discretion in denying attorney fees. SST responds and argues that the Patent Act provides for attorney fee awards only in exceptional cases and that this is simply not an exceptional case. It argues that, therefore, the district court used proper discretion in denying attorney fees.

We do not find clear error in the district court's determination that this case is not exceptional, and thus not eligible for attorney fees. The district court stated that "[t]aking all the willfulness factors into account, there is nothing to suggest that the case was so egregious as to merit the award of attorney fees." Id. at 25. We agree. We also agree with the district court that Atmel has pointed to no evidence "suggesting that SST blatantly and purposefully lied or committed fraud in a judicial forum." Id. at 26. In short, we agree with the district court's conclusion that there are no grounds on which to find this case exceptional; we therefore affirm the district court's denial of Atmel's request for attorney fees.

VII. Sanctions

We now turn to Atmel's appeal of the district court's award of sanctions to SST under Rule 26 of the Federal Rules of Civil Procedure. At the time of the original complaint, Atmel alleged that SST's two different product lines consisting of eight products infringed its patents. Between 1998 and 2001, SST developed twelve product lines consisting of around eighty products. In light of these new products, SST requested Atmel to update its infringement allegations. Atmel informed SST that it believed that virtually all of SST's new products were infringing and that SST was obligated to update its discovery responses as to the new products. After SST complained that it did not know which of its products allegedly infringed and which patents and claims allegedly were infringed, Atmel filed a motion to compel SST to provide documents and deposition testimony relating to the new products. Atmel's motion to compel was heard before Magistrate Judge Larsen.

While Atmel's motion to compel was pending, SST filed a motion for sanctions pursuant to Rule 26(g). Rule 26(g) requires an attorney to sign every discovery request certifying that to the best of the signer's knowledge, information, and belief, formed after a reasonable inquiry, the request is:

(A) consistent with these rules and warranted by existing law . . . ;

...

(B) not interposed for any improper purpose, such as to harass or to cause unnecessary delay or needless increase in the cost of litigation; and

(C) not unreasonable or unduly burdensome or expensive

Fed. R. Civ. P. 26(g)(2). The rule further provides that:

If without substantial justification a certification is made in violation of the rule, the court . . . shall impose upon the person who made the certification, the party on whose behalf the . . . request . . . is made, or both, an appropriate sanction, which may include an order to pay the amount of the reasonable expenses incurred because of the violation, including a reasonable attorney's fee.

Fed. R. Civ. P. 26(g)(3). In its motion, SST claimed that Atmel had failed to make a reasonable investigation into the factual basis for its discovery requests. The court referred SST's sanctions motion to Judge Larsen.

On June 22, 2001, Judge Larsen found that Atmel had unreasonably delayed requesting information on the new products; that Atmel had failed to propound a comprehensible discovery request to SST; and that Atmel's discovery requests were intended to harass SST. Atmel Corp. v. Silicon Storage Tech., Inc., No. 96-00039, slip op. at 8 (N.D. Cal. June 22, 2001) (order regarding discovery and report and recommendation regarding amendment of complaint and sanctions under FRCP 26(g)). Based upon these findings, Judge Larsen denied Atmel's motion to compel and recommended that SST's motion for sanctions be granted in an amount to be determined by the district court. The district court approved Judge Larsen's report and recommendation, invited the parties to submit supplemental briefs, and scheduled a hearing. After considering the parties' arguments, the court found that Atmel's discovery requests violated Rule 26(g) without substantial justification and that SST was entitled to Rule 26(g)'s mandatory sanctions. Sanctions Order at 5. The court then awarded SST sanctions in the amount of \$22,302.50. Id. at 7.

Atmel appeals the district court's award of sanctions to SST. In deciding such procedural and non-patent matters, we apply the law of the regional circuit where an appeal from the district court would normally lie. See Thompson v. Haynes, 305 F.3d 1369, 1374 (Fed. Cir. 2002). Because the Ninth Circuit reviews awards of Rule 26(g) sanctions for abuse of discretion, we will do the same. See Oregon RSA No. 6, Inc. v. Castle Rock Cellular of Oregon Ltd. P'ship, 76 F.3d 1003, 1007-08 (9th Cir. 1996).

Atmel argues that the district court abused its discretion when it awarded SST sanctions. It contends that the sanction rested on Rule 26(g)(2)(B) and (C), but the court made no finding that Atmel propounded the requests for an improper purpose or knew that they were unreasonable, or that it failed to make a reasonable infringement inquiry. It notes that its discovery requests reasonably asked for documents and information relating to accused products. It further notes that before moving to compel discovery, Atmel repeatedly asked SST to confirm whether its new products contained the same circuitry as the old ones, but that SST refused to respond to its request. It then asserts that SST's refusal to respond to its requests supports denial of sanctions for seeking the discovery. In addition, it asserts that it reviewed data sheets for the newer SST products at issue, which indicated an on-chip-generated high voltage as with the older products, and that reverse engineering confirmed that the newer SST products appeared to have the cpl2 circuit. In short, it argues that its discovery was reasonable and that, therefore, the sanctions award should be reversed. For its part, SST argues that the district court did not abuse its discretion in sanctioning Atmel.

We agree with SST and affirm the district court's award of sanctions. In awarding sanctions to SST, the district court noted that Judge Larsen found that Atmel's discovery requests were "incomprehensible" because they did not inform SST which new products Atmel was alleging infringed and which patents and claims allegedly were infringed. *Id.* at. 4. The court noted that in its request for reconsideration, Atmel argued that its May 25, 2001 supplemental interrogatory response matching the products to the claims denoted its good intentions. *Id.* In response, the court observed that "[r]ectifying the deficiencies in its discovery requests however . . . [did] not vitiate the finding that Atmel's discovery requests, as originally submitted, were unreasonable and harassing." *Id.* It stated:

"Atmel not only has the responsibility to conduct a reasonable inquiry before propounding discovery, but also to propound discovery in such a way as to not harass, impose unreasonable demands, or unduly burden the responding party. Thus, even if Atmel did conduct a reasonable inquiry prior to seeking discovery on the new products, its failure to adequately identify the products and claims in its discovery requests are grounds for denying its motion to compel and for supporting a sanction award under Rule 26(g)."

We hold that the district court did not abuse its discretion in awarding sanctions under Rule 26 (g) to SST.

CONCLUSION

Because we conclude that the district court correctly construed the claims of the '811 and '829 patents, we affirm the court's denial of SST's motion for JMOL on infringement, as well as its grant of summary judgment of infringement with respect to certain limitations of the patents. At the same time, we conclude (i) that SST cannot challenge the sufficiency of the evidence underlying the jury's verdict on obviousness, reasonable royalty, price erosion, and willful infringement; (ii) that the jury's verdict on those issues is supported by at least some evidence; and (iii) that the district court's decision on those issues is free of error. Accordingly, we affirm the court's denial of SST's motion for JMOL as to those issues.^[6] In addition, because the

district court did not clearly err in finding that this case was not exceptional, we affirm the court's denial of Atmel's request for attorney fees. Finally, because we conclude that the district court did not abuse its discretion in ruling on the challenged evidentiary issues, enhancing damages, and sanctioning Atmel under Rule 26(g), we affirm as to those issues as well. In short, we affirm the district court's judgment in all respects.

[1] We note that the district court amended its order on June 21, 2002 to correct minor informalities. See Atmel Corp. v. Silicon Storage Tech., Inc., No. 96-00039, (N.D. Cal. June 21, 2002) (order correcting judgment). However, for the purposes of this appeal and this opinion, we refer to the district court's order dated May 7, 2002.

[2] Atmel had also sued SST for infringement of U.S. Patent No. 4,451,903 ("the '903 patent"). Because issues relating to the '903 patent were still pending at the time of the court's final decision on the issues relating to the '811 and '829 patents, the court certified its judgment with respect to the '811 and '829 patents as final and immediately appealable.

[3] We also look to the law of the applicable regional circuit to determine the effect of a party's failure to move for JMOL. See Delta-X Corp. v. Baker Hughes Prod. Tools, Inc., 984 F.2d 410, 412 (Fed. Cir. 1993).

[4] The Ninth Circuit has recognized two exceptions to its requirement that the JMOL motion be made at the close of all the evidence: 1) an earlier motion for a directed verdict has been taken under advisement by the trial judge, or 2) an ambiguous or inartful request or motion is made at the close of the evidence which sufficiently approximates a motion for a directed verdict. Herrington, 834 F.2d at 1500. Neither of these exceptions applies in this case.

[5] We recognize that both obviousness and conception are questions of law based on underlying findings of fact, but this does not change our conclusion, because we find no legal error in the district court's denial of SST's motion for JMOL on these issues.

[6] We note that in response to Atmel's various arguments that SST cannot challenge the sufficiency of the evidence with respect to certain issues, SST asserts that because the district court controlled the timing of SST's JMOL motions, it should not now be penalized for complying with the court's directives by a strict application of Rule 50(b). We have reviewed the part of the record that SST cites in support of this argument, but do not agree with SST that the district court controlled the timing of its JMOL motions. More importantly, SST does not point to anything in the record that would suggest that the court prevented it from renewing its

JMOL motions at the close of all the evidence.