IN THE UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

BAXTER INTERNATIONAL, INC.,	)	
	)	
Plaintiff	)	
	)	
	)	No. 15 C 9986
v.	)	
	)	Judge Virginia M. Kendall
CAREFUSION CORPORATION, and	)	
BECTON, DICKINSON AND	)	
COMPANY,	)	
	)	
Defendants.	)	

MEMORANDUM OPINION AND ORDER

Plaintiff Baxter International, Inc. sues CareFusion Corporation and Becton, Dickinson, and Company alleging that CareFusion's Alaris System breaches U.S. Patent No. 5,782,805 ("the '805 patent"), relating to a medical infusion pump device. Defendants move for summary judgment that the Alaris System does not infringe the '805 patent. (Dkt. 364). For the reasons that follow, CareFusion's motion for summary judgment of noninfringement is denied.

BACKGROUND

I. The '805 Patent

The '805 Patent discloses a medical infusion pump "having a main body portion" which "includes a display area for displaying user interface information." (Dkt. 400 at ¶ 6). A pump module included with the device, "which is removably secured to the main body portion" of the device, also "includes an auxiliary display area for displaying supplemental user interface information." (*Id*.) The main body portion of the device also includes a slave microprocessor that "keeps track of a plurality of time periods related to battery operation." (Dkt. 418 at ¶ 33). Claim 1 of the patent is the only remaining independent patent claim at issue; the other asserted claims

1

depend on Claim 1 and include all of its limitations. (Dkt. 400 at ¶ 8). Claim 1 includes two means-plus-function limitations: (1) "microprocessor means contained in the main body portion for generating user interface information on the display areas" and (2) "means for generating a plurality of pictoral graphic representations as user interface information on the main display." (*Id.* at ¶¶ 9–10). These limitations are collectively referred to herein as the "microprocess means" limitations. At claim construction, the Court construed the "microprocessor means" limitations as follows:

Limitation	Function	Corresponding Structure
microprocessor means contained in the main body portion for generating user interface information on the display areas	generating user interface information on the display areas	a main microprocessor with at least one slave microprocessor, and associated description of the operation and features of the user interface of the infusion pump, including the accompanying user interface screens, features, information, and the subroutines that control their operation as described in the specification to perform the function of generating user interface information on the display
means for generating a plurality of pictoral graphic representations as user interface information on the main display	generating a plurality of pictoral graphic representations as user interface information on the main display	an LCD screen and associated drivers under control of the microprocessors

(Dkt. 191 at 7) (Dkt. 418 at ¶ 1).

II.   The Alaris System

Defendants' Alaris System is a modular infusion system that has a central control unit to which a user can attached various modules, including pump modules. (Dkt. 400 at ¶ 20). It has a main processor as well as a Power Supply Processor ("PSP"), which, at least in part, monitors the battery voltage, current, and temperature and communicates that information to the main

processor. (*Id*. at ¶ 22; Dkt. 418 at ¶ 34). The Alaris System does no display battery voltage, current, or temperature, but does display battery run time. (*Id*. at ¶¶ 25–26). The battery run time is displayed as a number. (*Id*. at ¶ 27).

III.   Heim and Kirkpatrick's Expert Reports

Baxter's expert, Warren Heim, issued an infringement report on March 13, 2020. (Dkt. 401). Following that report, the Court struck certain portions relating to opinions that the keyboard processor in the Alaris PCU met the "slave microprocessor" limitation in Claim 1 of the '805 patent. The Court stated that "the only reference to a slave microprocessor in Baxter's final invalidity contentions is a reference to 'a slave microprocessor related to battery operation.'" (Dkt. 286 at 2). This references the Power Supply Processor of the Alaris system. (Dkt. 418 ¶ 2-3, 7).

Heim's infringement report does not compare the user interface of the Alaris system to the navigation flow of Figure 7 of the '805 patent alone, nor does it compare the user interface of the Alaris system to all of the subroutines of Figure 7. (Dkt. 400 ¶¶ 37-38). Heim identified an algorithm disclosed for each of the claimed functions of the '805 patent, although the parties dispute whether or not the algorithms Heim uses are disclosed by the patent. (Id. ¶¶ 39-41).

Heim also submitted an expert rebuttal report on CareFusion's invalidity and unenforceability contentions in this case on October 16, 2020. (Dkt. 402).[1] This report included

---

[1] The parties were required to submit expert reports for issues on which they bore the burden of proof by March 13, 2020. Baxter's affirmative infringement opinions, therefore, should have been contained in Heim's March 13, 2020, expert report to comport with the Local Patent Rules and the Court's scheduling order. Baxter now points to a section of Heim's rebuttal invalidity report (Dkt. 402) disclosing the opinion that, in disagreement with the opinion offered by Kirkpatrick, the Power Supply Processor does meet the claimed slave processor limitation. Although Heim did properly disclose his opinion that the Power Supply Processor is a slave processor in his infringement report (Dkt. 401, Ex. BX1 ¶ 214), the additional opinions contained in his invalidity report were not properly disclosed as an affirmative opinion. The Court has broad discretion to enforce its Local Patent Rules, which "do not specify the actions that the [Court] may or must take if there is non-compliance with the requirements for disclosure of contentions." *See, e.g., Medline Indus., Inc. v. C.R. Bard, Inc.*, 511 F. Supp. 3d 883, 889 (N.D. Ill. 2021) (quoting *O2 Micro Int'l Ltd. v. Monolithic Power Sys.*, Inc., 467 F.3d 1355, 1363 (Fed. Cir. 2006)). The Court declines to strike Heim's opinions on the slave processor contained in his invalidity report. CareFusion has been aware of this opinion since Heim's invalidity report was issued on October 16, 2020. No trial date is set in this case and any prejudice can

the opinion that CareFusion's expert, Greg Kirkpatrick, is incorrect in his opinion that the Power

Supply Processor is not a slave processor that performs the function disclosed in the '805 patent.

(Dkt. 402 ¶ 381).

Kirkpatrick issued a noninfringement report on behalf of CareFusion opining that the

Alaris system does not infringe the asserted claims of the '805 patent. Kirkpatrick opined in his

report that the specification of the '805 patent does not disclose an algorithm corresponding to the

microprocessor means-plus-function claim limitations. (Dkt. 418 ¶¶ 27-28). Kirkpatrick testified

that the Alaris system Power Supply Processor is a slave processor to the main processor, and that

there is no "division of labor in detail" of how the slave processor and main processor claimed in

the '805 patent function. (*Id.* ¶¶ 29-30).

LEGAL STANDARD

Summary judgment is proper when "the movant shows that there is no genuine dispute as

to any material fact and the movant is entitled to judgment as a matter of law." Fed. R. Civ. P.

56(a); *see, e.g.*, *Reed v. Columbia St. Mary's Hosp.*, 915 F.3d 473, 485 (7th Cir. 2019). The parties

genuinely dispute a material fact when "the evidence is such that a reasonable jury could return a

verdict for the nonmoving party." *Daugherty v. Page*, 906 F.3d 606, 609–10 (7th Cir. 2018) (citing

Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 248 (1986)). In determining whether a genuine

issue of material fact exists, the Court draws all reasonable inferences in favor of the party

opposing the motion. *Anderson*, 477 U.S. at 255; *Zander v. Orlich*, 907 F.3d 956, 959 (7th Cir.

2018).

---

be cured by allowing an opportunity to issue a supplemental report to respond to Heim's opinions and/or conduct a
limited deposition on these opinions should CareFusion wish to seek leave to do so.

DISCUSSION

Finding patent infringement requires a two-step analysis. The court must first construe the claims alleged to be infringed and then compare the construed claims to the alleged infringing device. *See Dynacore Holdings Corp. v. U.S. Philips Corp.*, 363 F.3d 1263, 1273 (Fed.Cir.2004). The accused device must meet every limitation of a claim—"either literally or under the doctrine of equivalents." *Deering Precision Instruments, LLC v. Vector Distrib. Sys., Inc.*, 347 F.3d 1314, 1324 (Fed.Cir.2003). "Whether an accused device or method infringes a claim either literally or under the doctrine of equivalents is a question of fact." *Caterpillar Inc. v. Deere & Co.*, 224 F.3d 1374, 1379 (Fed. Cir. 2000).

I.   Literal Infringement

"Literal infringement of a [means-plus-function] limitation requires that the relevant structure in the accused device perform the identical function recited in the claim and be identical or equivalent to the corresponding structure in the specification." *Id*. Where, as here, the relevant claim limitations are implemented using a microprocessor, the corresponding structure is the algorithm disclosed by the patent for performing the claimed functions. *Aristocrat Techs. Austl. PTY Ltd. v. Int'l Game Tech.*, 521 F.3d 1328, 1333 (Fed. Cir. 2008).

At claim construction, the Court construed both "microprocessor means" limitations to include a main microprocessor and a slave microprocessor that, together, perform the claimed functions of "generating user interface information on the display areas" or "generating a plurality of pictoral graphic representations as user interface information on the main display." (Dkt. 191 at 7) (Dkt. 418 at ¶ 1). Baxter accuses the Alaris Power Supply Processor of meeting the slave microprocessor requirement of both limitations. (Dkt. 241 at 43) (Dkt. 286 at 2). CareFusion argues that summary judgment of noninfringement is appropriate because the Power Supply

Processor—the only slave microprocessor Baxter alleges as an infringing component of the Alaris system—does not perform either claimed function. As a threshold matter, the Court's claim constructions do not require that the slave microprocessor *alone* be capable of performing the claimed functions. (Dkt. 191). Nor does the Court's claim construction consider any specific division of labor between the main microprocessor and slave microprocessor claimed in the '805 patent.

A. "MICROPROCESSOR MEANS CONTAINED IN THE MAIN BODY PORTION FOR GENERATING USER INTERFACE INFORMATION ON THE DISPLAY AREAS"

First, the parties do not dispute that the Power Supply Processor is a slave processor to the Main Processor of the Alaris system. (Dkt. 418 ¶¶ 7, 29-30). But CareFusion argues that there is no dispute of material fact over whether the Power Supply Processor performs the claimed function of "generating user interface information on the display." (Dkt. 365 at 7).

Baxter's infringement analysis relies on a portion of the specification in the '805 patent:

> In the battery information selection, the slave microprocessor keeps track of a plurality of time periods related to battery operation. In the preferred embodiment, several parameters are tracked, including the total amount of time the infusion pump is on and not plugged in, the total amount of time the infusion pump was on.

('805 patent, 19:57-62). Heim's opinion, in part, is that because there is no required division of labor between the main and slave microprocessors in performing the claimed function, the claimed function can be met by the way the two microprocessors are programmed by an algorithm in order to work together. (Dkt. 399 at 4-6). Heim's analysis includes a comparison of the algorithm he opines is disclosed in the '805 patent including the display of information about battery status that begins in the Power Supply Processor. Whether this is sufficient to be considered "generating user interface information" is a question of fact.

6

CareFusion also argues that it does not infringe this claim limitation because the Alaris system does not have a processor in the claimed "main body portion" that controls an auxiliary display contained on the pump module. (Dkt. 365 at 9). To make this argument, CareFusion reads in an element of control that does not appear in the Court's construction of this limitation. As evidence, CareFusion identifies the local processors, contained in the auxiliary pump modules, that control the auxiliary displays, in support of their noninfringement position. Because of these local processors that control the displays, there can be no infringement. Baxter does not contest the existence of these local processors, but Heim opines that the claim is met because the function—generating user interface information—is performed by the main processor. The Court agrees with Baxter: to infringe, Baxter must show that an algorithm (the "subroutines") control the main and slave processors (… "that control their operation as described in the specification") to generate user interface information ("to perform the function of generating user interface information on the display." (Dkt. 191) (Dkt. 169).[2] Baxter, through Heim, has presented sufficient information on the *generation* of that user interface information (*e.g.,* the infusion rate and dose information) by the processors to raise an issue of fact.

Finally, CareFusion contends that Heim's failure to compare the Alaris system to Figure 7 of the '805 patent is fatal to Baxter's infringement position. (Dkt. 365 at 7). Heim has opined that "Figure 7 wasn't the proper way to evaluate whether [the accused system performed the same function of] generating user interface information on the displays." (Dkt. 400 ¶ 39). CareFusion argues that the Court's claim construction—finding the claims definite—relied on Figure 7 disclosing the relevant algorithm, and Baxter subsequently was required to compare the Alaris system to Figure 7 to prove infringement.

---

[2] The structure of this claim limitation was adopted from Baxter's proposal. (*See* Dkt. 161).

During the *Markman* proceedings, the parties disputed the definiteness of the '805 patent claims, with CareFusion arguing that the '805 patent does not disclose an algorithm. The Court addressed its claim construction ruling and Figure 7 in its recent decision in this case:

> Heim's deposition testimony that Figure 7 "d[oes] not cover generating use interface information on the displays" creates an issue of credibility that the Court must weigh along with Heim's other testimony. Bank of Illinois v. Allied Signal Safety Restraint Sys., 75 F.3d 1162, 1170 (7th Cir. 1996) ("Variations in a witness's testimony … create an issue of credibility as to which part of the testimony should be given the greatest weight if credited at all. Issues concerning the credibility of witnesses … are questions of fact which require resolution by the trier of fact."). . . .
>
> [T]he scope of Heim's testimony during claim construction regarding algorithms disclosed by the '805 patent extended beyond Figure 7. Heim opined that "[t]he '805 Patent uses a flow chart [Figure 7], text, and many illustrations of user interface screens to describe to someone of ordinary skill in the art at the time of the patent algorithms to generate user interface information on the main display." (Dkt. 136-1 at ¶ 60) (emphasis added). . . .
>
> Heim's decision to "consider the specification of the '805 patent in its entirety, including Figure 7" to derive the algorithms he uses for his infringement analysis is thus consistent with his claim construction testimony. (Dkt. 348 Ex. 6 at 29). . . .
>
> When considered alone, Heim's subsequent deposition testimony that he "used the algorithms that [he] determined were in the '805 patent in the infringement report rather than Figure 7" because Figure 7 "did not cover generating user interface information on the displays" seemingly contradicts his prior testimony. (Dkt. 348 Ex. 6 at 40). Considered in context, however, the contradiction is less apparent. . . . Thus, as a whole, Heim's testimony indicates that while he considered Figure 7 in his analysis, he did not use it alone as a source for a detailed algorithmic comparison because it describes a high-level algorithm. This testimony is once again consistent with Heim's claim construction testimony that Figure 7 discloses an algorithm, the details of which are provided by the specification text and example display images within the patent. (Dkt. 136-1 at ¶¶ 64, 66).

(Dkt. 432 at 11-13). With this context, not comparing the Alaris system directly to Figure 7 is not fatal to Baxter's infringement position. Heim's infringement report compares exemplary algorithms he identified for "generating user interface information on the display areas" in the '805 patent to those in the Alaris system. (*See, e.g.,* Dkt. 401, BX1 at ¶¶ 501-516, 519-527, 550-557, 559, 613). This is sufficient to raise a material issue of fact. *See Dealertrack, Inc. v. Huber*, 674 F.3d 1315, 1329 (Fed. Cir. 2012) ("[E]ven if the structure includes the algorithms in the specification, the accused product need not contain equivalent structure to *all* the algorithms disclosed... but only equivalent structure to *at least one* of the 'distinct and alternative structures for performing the claimed function." (quoting *Creo Prods., Inc. v. Presstek, Inc.,* 305 F.3d 1337, 1345 (Fed. Cir. 2002) (emphasis in original).

Viewed in the light most favorable to Baxter, there is a material issue of fact as to whether the Alaris system practices an algorithm disclosed in the '805 patent, and more broadly whether the Alaris system practices the claim limitation "microprocessor means contained in the main body portion for generating user interface information on the display areas."

B. "MEANS FOR GENERATING A PLURALITY OF PICTORAL GRAPHIC REPRESENTATIONS AS USER INTERFACE INFORMATION ON THE MAIN DISPLAY"

CareFusion also argues that the Alaris system does not have the "means for generating a plurality of pictoral graphic representations as user interface information on the main display." (Dkt. 365 at 12-14); *see also* '805 patent, cl. 1. CareFusion offers two reasons for this: that the Alaris system does not have the required slave processor, and that the Alaris system does not perform the claimed algorithm.

The Court's claim construction order defines the limitation of Claim 1 "means for generating a plurality of pictoral graphic representations as user interface information on the main

display" with a function (agreed by the parties) of "generating a plurality of pictoral graphic representations as user interface information on the main display" and a structure (proposed by Baxter) of "an LCD screen and associated drivers under control of the microprocessors." (Dkt. 191 at 7) (Dkt. 169 at 5). Unlike the limitation discussed in Part I.A., this claim limitation does require "control" by the microprocessors.

CareFusion argues that the Power Supply Processor, as a slave processor, does not "generate user interface information" of any kind and only monitors the power supply, so cannot meet this claim limitation. (Dkt. 365 at 12). Baxter concedes that the Power Supply Processor itself does not generate pictoral graphics. (Dkt. 399 at 12). Rather, as with Part I.A.., Baxter's infringement analysis relies on a portion of the specification in the '805 patent that it says discloses that the claimed slave microprocessor tracks various battery-operated parameters, then used by the microprocessor. ('805 patent, 19:57-62). Baxter then points to Heim's opinion that the Power Supply Processor "is the interface between the system on/off switch and the Main Processor. When the instrument is off and the user actuates a power switch, the Power Supply Processor applies power to the rest of the instrument, informing the Main Microprocessor that the switch was pressed. The System On key is the power switch that powers on the system." (Dkt. 401 ¶ 213). From this, Heim concludes that the main processor and slave processor [in the Alaris system, the Main Processor and Power Supply Processor] work together to generate user interface information, because the Power Supply Processor controls power to both the Main Microprocessor and the main display of the Alaris PC Unit. Heim's opinion is that this control of the power is consistent with the disclosure in the '805 specification and that, because there is no required division of labor between the main microprocessor and slave microprocessor in the '805 patent nor the Court's claim construction, this limitation is met. While CareFusion argues that controlling the power to

10

the main microprocessor in this way does not meet the claim limitation, viewing these opinions in the light most favorable to Baxter, there is a material issue of fact to be determined as to whether the Power Supply Processor, as a slave processor, embodies the claim limitation.

As to CareFusion's argument that the Alaris system does not perform an algorithm contained in this limitation, it is not a basis to grant summary judgment of noninfringement for the same reasons discussed in Part I.A., *supra*. No mechanical application of each and every Figure (including Figure 7) in the '805 patent is required by the Court's claim construction. Heim identifies algorithms that he opines are defined via the specification and figures in the '805 patent. (*See, e.g.,* Dkt. 401 ¶¶ 481-500, 528-541). Heim analyzes three pictoral graphical representations—a syringe when the syringe is not loaded correctly, a secondary infusion (also known as a "piggyback infusion") bag icon, and an icon depicting drops of liquid when priming an infusion set—that Baxter alleges are present in the Alaris system. For each of these representations, Heim opines on how these representations compare and read on the algorithms in the '805 patent. (*Id.* at ¶ 478-500, ¶ 528-533, ¶ 534-541). Whether or not these representations do actually embody an algorithm disclosed in the '805 patent is a question of fact.

The evidence, viewed in the light most favorable to Baxter, creates a triable issue of fact as to whether the Alaris system practices the claim limitation "means for generating a plurality of pictoral graphic representations as user interface information on the main display."

II.   Doctrine of Equivalents

For there to be infringement under the doctrine of equivalents, the accused product or process must embody every limitation of a claim, either literally or by an equivalent. *Warner– Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 40, 117 S.Ct. 1040, 1054, 137 L.Ed.2d 146 (1997). An element is equivalent if the differences between the element and the claim limitation
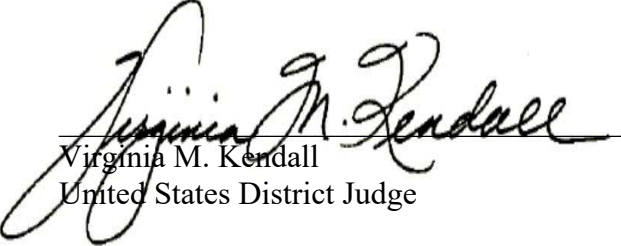
are "insubstantial." *Zelinski v. Brunswick Corp.*, 185 F.3d 1311, 1316 (Fed. Cir. 1999). One test used to determine "insubstantiality" is whether the element performs substantially the same function in substantially the same way to obtain substantially the same result as the claim limitation. *See Graver Tank & Mfg. Co. v. Linde Air Products Co.*, 339 U.S. 605, 608, 70 S.Ct. 854, 94 L.Ed. 1097 (1950). This test is commonly referred to as the "function-way-result" test. The mere showing that an accused device is equivalent overall to the claimed invention is insufficient to establish infringement under the doctrine of equivalents. The patent owner has the burden of proving infringement under the doctrine of equivalents and must meet its burden by a preponderance of the evidence. *See SmithKline Diagnostics, Inc. v. Helena Lab. Corp.*, 859 F.2d 878, 889 (Fed. Cir. 1988) (citations omitted).

CareFusion argues that summary judgment of non-infringement is appropriate under the doctrine of equivalents for the means microprocessor limitations of claim 1. Specifically, CareFusion contends that Baxter provided only cursory conclusions in Heim's expert disclosure under the doctrine of equivalents, and that this is insufficient to establish infringement under the doctrine of equivalents. (Dkt. 365 at 15). Baxter responds that Heim provides ample support for its equivalence arguments in his report by providing side by side comparisons of the insubstantial differences of the algorithms disclosed in the '805 patent with the Alaris system. (Dkt. 399 at 14-15). The Court agrees with Baxter to the extent that Heim has provided sufficient detail on a limitation-by-limitation basis to establish at least a genuine issue of material fact as to whether

Baxter can satisfy its burden to prove the accused product embodies every claim limitation under

the doctrine of equivalents.

CONCLUSION

For the foregoing reasons, Defendants' motion for summary judgment of noninfringement

is denied.

Virginia M. Kendall
United States District Judge

Date: March 30, 2022