

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

**GENUINE ENABLING TECHNOLOGY
LLC,**

Plaintiff,

v.

SONY CORPORATION *et al.*,

Defendants.

Civil Action

No. 17-cv-135

MEMORANDUM OPINION

GOLDBERG, J.

November 28, 2022

In this patent infringement lawsuit, Plaintiff Genuine Enabling Technology, LLC (“Genuine Enabling”) asserts that video game controllers and consoles sold by Defendants Sony Corporation and related entities (collectively “Sony”) infringe U.S. Patent No. 6,219,730 (the ’730 patent). Each party has identified an engineering and a damages expert. Before me are four motions to exclude these experts’ testimony pursuant to Federal Rule of Evidence 702 and Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993). For the reasons that follow, these motions will be granted in part and denied in part.

I. FACTUAL AND PROCEDURAL BACKGROUND

A. Genuine Enabling’s Claimed Invention

The ’730 patent describes an invention for transmitting multiple data streams from a user input device such as a mouse or keyboard to a computer over a single communication link. According to the patent’s specification, sending multiple data streams over a single communication link is advantageous because it makes efficient use of computer hardware. (’730 patent, col. 1.)

The patent refers to two of these data streams as the “input stream” and “user input stream,” respectively. Despite the different names, both are streams of inputted data and both may originate with the user. The “input stream” derives from what the patent terms an “input signal,” and the “user input stream” is produced by what the patent calls a “user input means.”

To transmit the two data streams over a single communication link, the “input stream” and “user input stream” are synchronized and combined into a “combined data stream.” (’730 patent, cols. 3-6.) The component of the invention that handles synchronizing and combining is referred to, in some claims, as an “encoding means,” and in others as a “framer.” (See, e.g., claims 1, 16.)

Genuine Enabling alleges that Sony’s accused products infringe claims 10, 14, 16, 18, 21, and 23. Claim 16 is illustrative of these claims and reads:

An apparatus linked to a computer by a communication link, functioning as a user input device and additionally receiving at least one input signal, comprising:

a user input device producing a user input stream;

an input port receiving at least one input signal;

a converter receiving the at least one input signal for producing an input stream;
and

a framer synchronizing the user input stream with the input stream and encoding the same into a combined data stream transferable by the communication link.

(’730 patent, claim 16.)

B. Sony’s Accused Products

Sony’s allegedly infringing products consist of hardware used to play video games. These include game controllers (the input device held by the user) and consoles (the computer and associated hardware designed to play the game). (Complaint ¶ 24.)

The accused controllers transmit information from buttons, accelerometers, and other sensors to the accused consoles. According to Genuine Enabling, the stream of data produced by

button presses constitutes a “user input stream,” the signal produced by an accelerometer is an “input signal,” and the digitized accelerometer data is an “input stream.” These two data streams are transmitted over a single wireless (Bluetooth) communication link. Genuine Enabling asserts that components of the accused controllers that synchronize and combine the two data streams for transmission correspond to the “encoding means” and “framer” limitations.

C. Claim Construction

On December 3, 2019, I held a Markman hearing to construe terms in the asserted claims, three of which are relevant to the present Daubert disputes.

1. “Encoding Means” and “Framer”

I construed the terms “encoding means” and “framer” as “means-plus-function” terms under 35 U.S.C. § 112(f).¹ A means-plus-function term “cover[s] the corresponding structure, material, or acts described in the specification and equivalents thereof.” Id. I determined that the “function” performed by both the “framer” and “encoding means” is “[s]ynchronizing the user input stream with the input stream and encoding the user input stream and the input stream into a combined data stream.” (Claim Construction Op. 3/9/2020, ECF No. 112, at 27.) I also found that the corresponding structure is “[t]he logic design at block 34 in Figure 4A,” and, accordingly, the terms “framer” and “encoding means” cover “[t]he logic design at block 34 in Figure 4A and equivalents thereof.”

¹ When the ’730 patent issued, this provision was codified at 35 U.S.C. § 112 ¶ 6. Because the language did not change between the two codifications, this opinion will use the current one at 35 U.S.C. § 112(f).

2. “User Input Means”

Some claims in the ’730 patent refer to a “user input means” that produces the “user input stream” described above. I construed “user input means” as a means-plus-function term with a function of “[p]roducing a digital stream, called the user input stream” and a structure of “[a] sensor translating user-initiated actuations and an encoder and equivalents thereof.”

3. “Input Signal”

As described above, the invention converts an “input signal” into an “input stream,” which is one of the data streams combined for transmission to the computer. I construed “input signal” to mean “[a] signal having an audio or higher frequency.”

D. The Federal Circuit’s Nintendo Decision

After I construed the term “input signal,” the Federal Circuit construed that term in an appeal from another lawsuit brought in the Western District of Washington by Genuine Enabling. Genuine Enabling Tech. LLC v. Nintendo Co., 29 F.4th 1365 (Fed. Cir. 2022). Because the meaning of a claim term is a question of law, the Federal Circuit’s construction is binding on me to the extent it does not depend on factual findings that differ between the Nintendo and Sony lawsuits. See Intel Corp. v. Qualcomm Inc., 21 F.4th 801, 808 (Fed. Cir. 2021). The Federal Circuit construed “input signal,” as I did, to mean “a signal having an audio or higher frequency.”

II. EXPERT OPINIONS

Each side plans to offer the testimony of an engineering expert and a damages expert. Genuine Enabling’s experts are Dr. Kenneth Fernald (engineering) and Gregory Urbanchuk (damages). Sony’s experts are Dr. Gregory Welch (engineering) and Dr. Pallavi Seth (damages). These experts’ challenged opinions are described infra in connection with each Daubert dispute.

III. LEGAL STANDARD

Expert opinion testimony must comply with Federal Rule of Evidence 702. That Rule requires, among other things, that the proposed testimony “help the trier of fact to understand the evidence or to determine a fact in issue” and that it be “the product of reliable principles and methods.” Fed. R. Evid. 702(a), (c). The proponent of expert testimony bears the burden of establishing that these requirements are met. See Bardo v. Norfolk Southern Ry. Co., 459 F. Supp. 3d 618, 624 (M.D. Pa. 2020). Rule 702 “has a liberal policy of admissibility.” Pineda v. Ford Motor Co. 520 F.3d 237, 243 (3d Cir. 2008).

A motion to exclude evidence “is not a proper vehicle for a party to ask the Court to weigh the sufficiency of the evidence to support a particular claim or defense, because that is the function of a motion for summary judgment, with its accompanying and crucial procedural safeguards.” Bowers v. NCAA 563 F. Supp. 2d 508, 532 (D.N.J. 2008) (alterations and quotation marks omitted). To be admissible, evidence need not be sufficient to prove a party’s case. United States v. Kemp, 500 F.3d 257, 295 (3d Cir. 2007). “Where there is a logical basis for an expert’s opinion testimony, the credibility and weight of that testimony is to be determined by the jury, not the trial judge.” Breidor v. Sears, 722 F.2d 1134, 1138-39 (3d Cir. 1983). If the underlying facts are disputed, “[a]n expert is ... permitted to base his opinion on a particular version of disputed facts and the weight to be accorded to that opinion is for the jury.” Walker v. Gordon, 46 F. App’x 691, 695-96 (3d Cir. Sept. 17, 2002); see also Fed. R. Evid. 703 (“An expert may base an opinion on facts or data in the case that the expert has been made aware of or personally observed.”).

IV. DISCUSSION

A. Dr. Fernald's Analysis of the "Encoding Means" and "Framer" Limitations

Dr. Fernald opines that Sony's accused products meet the "encoding means" limitation (for some claims) and "framer" limitation (for others). Sony asks that these opinions be excluded.

1. Challenged Opinion

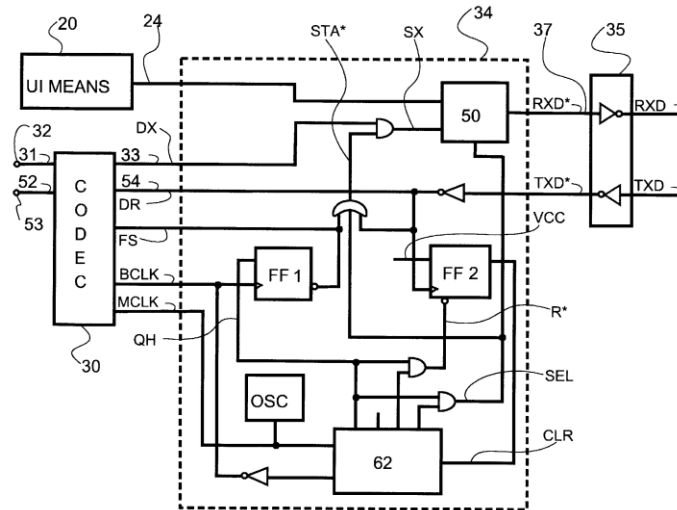
As stated above, I construed "encoding means" and "framer" as means-plus-function terms having the function "[s]ynchronizing the user input stream with the input stream and encoding the user input stream and the input stream into a combined data stream" and structure "[t]he logic design at block 34 in Figure 4A and equivalents thereof." Because I construed these terms to have the same meaning, I will refer to both as a "framer."

According to Dr. Fernald, the Bluetooth module in each accused controller meets the definition of a framer because: (1) it synchronizes and combines a user input stream with an input stream; and (2) it is structurally equivalent to Block 34 in Figure 4A. Dr. Fernald determined that the Bluetooth controller is structurally equivalent to Block 34 in Figure 4A using the "function, way, result" test, under which a structure in an accused product is equivalent to a claimed structure if "the two [structures] perform the identical function in substantially the same way, with substantially the same result." Traxcell Tech. LLC v. Sprint Comms. Co., 15 F.4th 1121, 1129 (Fed. Cir. 2021).

Sony challenges only the "way" prong of Dr. Fernald's analysis. Because the "synchronizing" aspect of the claimed function best illustrates Sony's objection, I will focus on that aspect. I begin by summarizing Dr. Fernald's "way" opinion regarding both the claimed and accused structures. I then summarize the basis for Dr. Fernald's opinion that the two ways are substantially similar.

'730 Patent's Claimed "Way": Dr. Fernald's report first describes the "way" Block 34 of

Figure 4A in the '730 patent synchronizes the user input stream with the input stream. For reference, that figure is depicted below:



(Fig. 4A.) "Block 34" is indicated with a dashed line. The "user input stream" is wire 24 and the "input stream" is wire 33. The combined data stream exits Block 34 on wire 37. The component 50 is a "data selector."

According to Dr. Fernald's report, the "way" Block 34 synchronizes the user input stream with the input stream is by "sampling both streams using a common bit-rate clock." (Fernald Infringement Report ¶ 124.) First, Block 34 synchronizes the input stream to the bit-rate clock by "feeding [the bit-rate clock] to the CODEC," which "caus[es]" the output of the CODEC—that is, the input stream—"to clock on rising edges of" the bit-rate clock. (*Id.* ¶ 126 n.39.) Second, Block 34 synchronizes the user input stream to the same bit-rate clock using the data selector. The data selector "normally select[s] the input stream" but can alternately "sample[] [the user input] stream," and stores data from both streams in the output stream. (*Id.* ¶ 125.) This sampling process "synchronizes the [user input] stream data to the [bit-rate] clock, and hence to the similarly synchronized input stream" (*Id.* ¶ 126.)

As I understand this description, Dr. Fernald opines that Block 34 uses one bit-rate clock to drive two processes: one that generates the input stream using a CODEC and one that samples the user input stream using a data selector. The output of each process is therefore synchronized to that same bit-rate clock, and, thus, the two outputs are synchronized.

But at oral argument, Genuine Enabling argued for a claimed “way” that was much broader than described above as it included fewer details. Specifically, referencing a discrete sentence from Dr. Fernald’s voluminous report, Genuine Enabling focused on the following phrase:

[T]he logic of block 34 ... **synchronizes each of the bits of the input stream and user input stream ... to the rising edge of the [bit-rate] clock ..., thereby synchronizing the two streams together.**

(Fernald Infringement Report ¶ 125 (emphasis added); Tr. Oral Argument, 6/21/22, at 43:16-21 (referencing slides).) This sentence includes the common bit-rate clock but omits the CODEC, the data selector, and the process of sampling. The difference between these two “ways” is discussed in greater detail below.

Sony’s Accused’s Products’ “Way”: Dr. Fernald’s report does not expressly state the “way” in which the accused Bluetooth module synchronizes the input stream and user input stream. It is therefore unclear whether the report offers an opinion on what that “way” is. In its briefing and at oral argument, Genuine Enabling identifies the following sentence from the report as the accused “way”: “The Bluetooth modules in the accused Sony controllers ... synchronize the user input stream with the input stream by synchronizing both streams to a common bit clock.” (Fernald Infringement Report ¶ 127.)

To arrive at the conclusion that the Bluetooth module “synchroniz[es] both streams to a common bit clock,” Dr. Fernald refers to an industry-wide specification for the Bluetooth protocol. According to Dr. Fernald, to comply with the specification, the accused Bluetooth module must perform steps called “CRC generation” and “whitening.” (Id. ¶¶ 127-128 & n.40.) Both steps “use

digital shift registers,” and, therefore, “[f]or either process to operate properly, the incoming [data] must **be synchronized** to the same bit clock used for shifting these shift registers[.]” (Id. ¶ 131 (emphasis added).) From this, Dr. Fernald reasons that the data supplied to the CRC generation and whitening steps must be “synchronized to a bit-rate clock.” (Id. ¶ 129.) Thus, according to Dr. Fernald, “the Bluetooth modules in the accused Sony controllers necessarily synchronize the user input stream with the input stream.” (Id.)

In a footnote, Dr. Fernald clarifies that he is “not suggesting that the CRC generation or data whitening logic is part of the encoding means or framer, but only that the **existence** of such bitstream processing operations is evidence that the bitstream **is synchronized** to a bit clock.” (Fernald Infringement Report ¶ 131 n.46 (emphasis added).) Dr. Fernald does not identify the circuitry in the Bluetooth module that synchronizes the user input stream with the input stream. Rather, his report reasons that because certain required steps in the Bluetooth module only work if the data streams are synchronized, circuitry must exist to perform such synchronizing. Consistent with this reasoning, Dr. Fernald testified at his deposition that he “didn’t have the schematics for the Bluetooth chips.” (Fernald Tr. 9/1/21 at 107:14.)

Substantial Similarity: Dr. Fernald’s report then states that the claimed and accused structures are equivalent:

[T]he “encoding means” and “framer” in the Bluetooth modules of the accused Sony controllers synchronizes the user input stream with the input stream. Further, the logic in the Bluetooth modules perform[s] the same operation, specifically synchronizing the two streams to a common bit clock, as the logic design in block 34 of Figure 4A, and hence is structurally equivalent to the logic design of block 34.

(Fernald Infringement Report ¶ 135.) In introducing his analysis, Dr. Fernald’s report also states that those two structures will be shown to operate “in substantially the same way.” (Id. ¶ 104.) The report’s conclusion does not repeat this reference to the “way” or state how the two “ways” have been shown to be substantially similar. (Id. ¶ 135.)

At oral argument on the Daubert motions, Genuine Enabling took the position that in the field of electrical engineering, an analysis of whether the “ways” are substantially similar is unnecessary because all ways of achieving a given result are equivalent. (See Tr. Oral Argument, 6/21/22, 45-46 (referencing slides).) For support, Genuine Enabling relied on paragraphs of Dr. Fernald’s report that highlight the use of algebraic properties to transform simple digital circuits into equivalent ones. (Fernald Infringement Report ¶¶ 56-57.) The report states that “a [person of ordinary skill in the art] would understand that logic structural equivalence relies on a comparison of the operation performed by the two logic designs, rather than a gate-by-gate and connection-by-connection comparison.” (Id. ¶ 64.) While the report does not state that all “ways” are equivalent if they achieve the same result, Dr. Fernald testified in deposition that:

[T]he way equivalency is understood by one skilled in the art and logic is, if you can show that the Bluetooth module and Block 34 are basically producing the same result effectively, that is indicative of that—the structural equivalent, because it’s just the fluid nature of logic. There’s just so many different ways of doing the same thing in logic design, and they’re all considered equivalent to one skilled in the art.

(Fernald Tr. 9/1/21 at 107.)

2. Sony’s First Objection: Insufficient Analysis of the “Way” Prong of Structural Equivalence

Sony argues that Dr. Fernald’s analysis of the “encoding means” and “framer” limitations should be excluded because Dr. Fernald does not analyze the “way” prong of structural equivalence. While Sony does not identify which requirement of Rule 702 this alleged deficiency violates, it cites to the Federal Circuit’s nonprecedential opinion in Medtronic Inc. v. Boston Sci. Corp., 558 F. App’x 998 (Fed. Cir. March 11, 2014), which held that it was proper to exclude an expert’s opinion under the “reliability” requirement of Rule 702(c) because the expert’s infringement analysis was based on “conclusory statements.” Id. at 1000. Genuine Enabling does not

contest that failing to correctly analyze structural equivalence could be a basis for exclusion, but responds that Dr. Fernald's testimony is "reliable" under Daubert.

Genuine Enabling's "All Ways Are Equivalent" Argument: At oral argument, Genuine Enabling contended that in the field of electrical engineering, an expert need not separately analyze the "way" prong of structural equivalence because all ways are equivalent if they achieve the same result.

Expert testimony may only be admitted if "the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue." Fed. R. Evid. 702(a). Opinion testimony that is not "helpful" is not admissible, United States v. Gibbs, 190 F.3d 188, 213 (3d Cir. 1999), and, in particular, testimony consisting of "conclusory assertions" and "bald conclusion[s]"—as in "an expert's testimony that 'it is so' "—does not assist the factfinder in understanding the evidence or determining facts in issue. Barnes Foundation v. Township of Lower Merion, 982 F. Supp. 970, 1008-09 (E.D. Pa. 1997); see also Moor-ing Capital Fund, LLC v. Phoenix Central, Inc., No. 06-cv-6, 2009 WL 4263359, at *5 (W.D. Okla. Feb. 12, 2009) ("[A]n expert's opinions are not admissible merely because the expert says, in effect, 'trust me, I know.' "). An "expert must have 'good grounds' for his or her belief." Schneider ex rel. Est. of Schneider v. Fried, 320 F.3d 396, 404 (3d Cir. 2003).

With this precedent in mind, I conclude that expert analysis of the "way" prong of functional equivalence based on a broad assertion that all "ways" are equivalent would not help the factfinder understand the claimed equivalence or determine whether the accused device operates in a substantially similar way as the claimed one. More specifically, such a broad assertion would not help the factfinder: (1) understand the way the claimed structure works; (2) understand the way the accused structure works; (3) understand the "differences" between the claimed and accused

structure; or (4) understand whether those “differences” are “insubstantial.” See Odetics, Inc. v. Storage Tech. Corp., 185 F.3d 1259, 1267 (Fed. Cir. 1999). The factfinder would therefore be left with no understanding of the “way” portion of Dr. Fernald’s opinion.

Genuine Enabling presses that I should consider the statement in Dr. Fernald’s report that “a [person of ordinary skill in the art] would understand that logic structural equivalence relies on a comparison of the operation performed by the two logic designs” (Fernald Infringement Report ¶ 64.) It is true that the perspective of one skilled in the art “should be considered in a [§ 112(f)] equivalence determination.” IMS Tech. Inc. v. Haas Automation Inc., 206 F.3d 1422, 1437 (Fed. Cir. 2000). For example, IMS Tech. involved testimony that “a floppy disk drive and a tape cassette” are considered interchangeable in the art. Id. at 1437. But Genuine Enabling proposes to offer expert testimony that is far broader and vaguer than that in IMS Tech.—that is, a blanket assertion that all structures are considered interchangeable if they achieve the same result. This is true even when considering those paragraphs of Dr. Fernald’s report that describe how simple circuits can be algebraically equivalent. Dr. Fernald does not apply those principles to the accused product or even reference them by analogy. Rather, those paragraphs in his report only provide examples of Genuine Enabling’s broad position that similar results imply similar ways

Ultimately, Dr. Fernald’s assertion that the two structures are equivalent because they “perform the same operation, specifically synchronizing the two streams to a common bit clock” is “an expert’s testimony that ‘it is so,’ ” which is not admissible. Barnes Foundation, 982 F. Supp. at 1008-09. (Fernald Infringement Report ¶ 135.)

Dr. Fernald’s “Way” Analysis: Having concluded that Genuine Enabling may not rely on Dr. Fernald’s blanket assertion that all “ways” are equivalent, I next examine whether Dr. Fernald’s report nonetheless contains a sufficient analysis of the “way” prong to support a conclusion

that the claimed and accused structures meet the function-way-result test for structural equivalence. This task is complicated by Genuine Enabling's inconsistent positions as to how much detail is included in the "way" Block 34 of Figure 4A operates.

Dr. Fernald's report identifies the "way" as "sampling both streams using a common bit-rate clock," using a CODEC to sample the input stream and a data selector to sample the user input stream. (Fernald Infringement Report ¶¶ 124-26.) But the report contains no discussion, or even a conclusion, that the accused Bluetooth module operates similarly to that "way." For example, Dr. Fernald's discussion of the Bluetooth module does not mention the components involved in the claimed "way" (the CODEC and the data selector). He also does not address whether the Bluetooth module contains components that are similar to a CODEC and a data selector, or operate similarly to a CODEC and a data selector. Dr. Fernald therefore offers no basis to render an opinion that the accused Bluetooth module operates in a substantially similar way to "sampling both streams using a common bit-rate clock."

At oral argument, Genuine Enabling argued that the "way" Block 34 of Figure 4A operates is by "synchroniz[ing]" (as opposed to sampling) "each of the bits of the input stream and user input stream ... to the rising edge of the BCLK clock ..., thereby synchronizing the two streams together." (Fernald Infringement Report ¶ 125 (emphasis added); Tr. Oral Argument, 6/21/22, at 43:16-21 (referencing slides).) This explanation is much broader than the one in Dr. Fernald's report because it omits several details: the data selector, the CODEC, the process of sampling, and the use of a common bit-rate clock to drive two operations. While it is permissible for a party to argue that the "way" a structure operates should be framed at a high level of generality, see 5B Chisum on Patents § 18.04b (2022), the assertion that a structure operates in a given way is a proposition that needs factual support. See Mylan Institutional LLC v. Aurobindo Pharma Ltd. 857

F.3d 858, 869 (Fed. Cir. 2017) (noting that facts “may at trial indicate a different ‘way’ ”). Dr. Fernald’s report contains no discussion as to whether the claimed “way” may be framed as broadly as Genuine Enabling posited at oral argument, nor does the report actually draw this conclusion. In particular, there is no assertion, or even discussion, that the data selector, CODEC, and sampling operation are sufficiently insubstantial that they may be omitted from the “way.”

Dr. Fernald’s report also does not support that the accused structure operates in a way that is substantially similar to “synchroniz[ing] each of the bits of the input stream and user input stream ... to the rising edge of the BCLK clock ..., thereby synchronizing the two streams together.” In fact, as Sony points out, Dr. Fernald’s report does not even draw the conclusion that these two ways are substantially similar, instead jumping to the ultimate conclusion that the two structures are equivalent because they “perform the same operation.” (Fernald Report ¶ 135.)

Finally, to the extent Dr. Fernald’s report could be read as impliedly concluding that the claimed and accused ways are substantially similar, that conclusion is still not supported. Dr. Fernald’s report determines that the accused Bluetooth module must result in a combined data stream that is synchronized to a bit-rate clock for certain later steps (CRC generation and whitening) to operate correctly. That is, Dr. Fernald discusses only the result that must be achieved, not how it is achieved. Sony does not argue that it is necessarily improper for an expert working without schematics to reason backward from a specification to determine what steps must have been performed to meet the specification. But the problem with Dr. Fernald’s analysis is that he only works backward as far as the result that is achieved, not how it was achieved. There is no discussion in Dr. Fernald’s report of where or how in the Bluetooth module the streams become synchronized. Because there is no information about the “way” in which the streams become synchronized, a

factfinder would receive no factual support regarding why that “way” is substantially similar to the operation of Block 34 of Figure 4A.

For these reasons, I conclude that Dr. Fernald’s ultimate conclusion that Block 34 of Figure 4A and the accused Bluetooth modules meet the function-way-result test for structural equivalency does not meet the helpfulness and reliability requirements of Rule 702. I will grant Sony’s Motion to exclude that conclusion from Dr. Fernald’s testimony. I make no determination regarding the other challenged portions of Dr. Fernald’s proposed testimony, including Dr. Fernald’s description of Block 34 of Figure 4A, his description of Bluetooth technology, and his inferences about what features must be contained in the accused Bluetooth modules to implement the specification.

3. Sony’s Second Objection: Failure to Analyze Every Component

Sony next objects that Dr. Fernald does not incorporate every component of Block 34 of Figure 4A in his equivalency analysis.

“[A] component-by-component analysis of structural equivalence [is not required] under [§ 112(f)].” Odetics, 185 F.3d at 1267-68. While an expert’s equivalency analysis might be impeached at trial for omitting “critical factors,” cf. Mylan 857 F.3d at 868, admissibility does not require an expert to consider “every possible factor” an adversary might think relevant, Pfizer Inc. v. Teva Pharm. USA, Inc., 461 F. Supp. 2d 271, 274 (D.N.J. 2006).

Dr. Fernald justifies his selection of relevant components by tracing the signal paths of the user input stream and input stream through the data selector to the combined data stream and explaining how the circuit produces the SEL signal that controls the data selector. The accuracy of this description is for the factfinder.

Sony argues that whether an equivalent structure to Block 34 of Figure 4A must include all components is an issue of claim construction and, therefore, Genuine Enabling “waived” the

issue by not raising it at the Markman hearing. But “[w]hether an accused device infringes a [§ 112(f)] claim as an equivalent is a question of fact.” Odetics, 185 F.3d at 1268. Genuine Enabling therefore did not waive this argument by not raising it at the Markman hearing.

Accordingly, I will deny Sony’s Daubert motion as to this ground.

4. Sony’s Third Objection: Use of Figure 4B

Sony next argues that Dr. Fernald’s proposed testimony does not “fit” the case because he references Figure 4B in addition to Figure 4A. Figure 4B “shows the timing waveform of the critical signals involved in FIG. 4A” and “[t]he timing waveform for signals SEL, CLR, FS, QH, R*, TXD*, and RXD* are depicted in FIG. 4B, in relation to bit clock BCLK.” (’730 patent, col. 3.)

Dr. Fernald opines that Figure 4B reflects “a more specific embodiment” of the structure in Figure 4A and references Figure 4B to discern properties of that embodiment. For example, Dr. Fernald uses the timing diagram in Figure 4B to infer that Block 34 of Figure 4A “plac[es] the stream values into predetermined locations in the combined data stream” and “sAMPL[es] both streams using a common bit-rate clock.” (Fernald Infringement Report ¶¶ 102, 124.)

Because the specification states that Figure 4B is included to further describe the circuit depicted in Figure 4A, it is not improper for Dr. Fernald to reference Figure 4B in analyzing Block 34 of Figure 4A. While Sony argues that Dr. Fernald misuses Figure 4B, Sony does not say how, and, in any event, this alleged error may be addressed on cross examination. I will therefore deny Sony’s Motion as to this ground.

B. Dr. Fernald’s Validity Analysis of Claim 14

1. Challenged Opinion

Dr. Fernald also authored a separate report on the validity of the asserted claims. Sony challenges Dr. Fernald’s analysis of claim 14, which reads:

A programming method, executed by a computer communicatively coupled via a communication link to a user input means having means for synchronizing and encoding a user input stream and at least one additional input signal into a combined data stream, comprising the steps of:

initializing the communication link;

servicing a single resource service interrupt for receiving the combined data stream;
and

recovering from the combined data stream respective information of the user input means and of the at least one additional input signal.

(emphasis added). As noted above, I construed “user input means” as a means-plus-function term with a function of “[p]roducing a digital stream, called the user input stream” and a structure of “[a] sensor translating user-initiated actuations and an encoder and equivalents thereof.” In his validity report, Dr. Fernald writes that “the term ‘user input means’ in claim 14 should be read as ‘user input apparatus,’ ” and this is the construction he uses in his analysis.

2. Sony’s Objection: Use of a Different Construction for “User Input Means”

Sony objects that the construction Dr. Fernald uses for “user input means” in claim 14 differs from my construction of “user input means.” Sony therefore asks that any of Dr. Fernald’s analysis that relies on his different construction be excluded.

Genuine Enabling does not dispute that Dr. Fernald uses a construction for “user input means” that differs from my construction. Instead, Genuine Enabling argues that I should modify my construction because “user input means” in claim 14 has a different meaning than it does in claim 1.

The meaning of a claim term is a question of law for the court to decide. Markman v. Westview Instruments, Inc. 517 U.S. 370, 385 (1996). “[A]lthough a district court has great latitude in how it conducts the claim construction process, the parties must be involved,” and a court may not issue a new construction without affording each party an opportunity to be heard on the

matter. TNS Media Research v. Tivo Research & Analytics, Inc., 629 F. App'x 916, 939 (Fed. Cir. 2015). Because the present dispute arises in the context of a motion to exclude expert testimony rather than to construe a claim term, I will not now rule on the meaning of “user input means” in claim 14 or decide whether Genuine Enabling forfeited its present contention by not raising it at the Markman hearing.

If Dr. Fernald's construction of “user input means” in claim 14 is ultimately determined to be incorrect, Dr. Fernald may not inform the jury of his incorrect construction, as the jury is “not free to consider its own meanings for the disputed terms but must apply the [court's] construction of the terms[.]” Sulzer Textil A.G. v. Picanol N.V. 358 F.3d 1356, 1367 (Fed. Cir. 2004). I therefore hold under advisement that portion of Sony's Motion, pending possible future resolution of the claim construction issue. See TNS Media Research, 629 F. App'x at 939 (parties must be “afforded the opportunity to present ... claim construction arguments before the district court ... decide[s] ... claim construction”).

Sony also asks that the totality of Dr. Fernald's analysis of claim 14 be excluded because it rests on an incorrect claim construction. Assuming Dr. Fernald's construction is incorrect, Sony does not explain how that error affects the remainder of Dr. Fernald's proposed testimony. While testimony based on an incorrect claim construction may sometimes be “unhelpful to the trier of fact” and thus excludable, TQ Delta, LLC v. ADTRAN, Inc., No. 14-cv-954, 2019 U.S. Dist. LEXIS 188930, at *3 (D. Del. Oct. 31, 2019), Sony has not shown how substituting a correct construction of “user input means” for Dr. Fernald's purportedly incorrect one would change any part of Dr. Fernald's reasoning. In fact, Sony offers no discussion of the substance of Dr. Fernald's testimony. I will therefore deny Sony's Motion to exclude the remainder of Dr. Fernald's analysis of the validity of claim 14 at this time.

C. **Dr. Welch’s Use of “Plaintiff’s Construction” of Certain Terms in His Validity Analysis**

1. Challenged Opinion

Sony’s engineering expert Dr. Gregory Welch’s report reviews Genuine Enabling’s infringement contentions and opines that Genuine Enabling “has broadly interpreted the Asserted Claims in order to accuse Sony’s products of infringement.” (Welch Validity Report ¶ 167.) Dr. Welch explains that he has “considered, where appropriate, Plaintiff’s infringement contentions to determine the scope of the asserted claims as interpreted by the Plaintiff.” (Id. ¶ 134.) Specifically, in Dr. Welch’s opinion, “if the Asserted Claims are really as broad as Plaintiff contends, then they are plainly invalid over the prior art.” (Id. ¶ 167.) Dr. Welch uses, by way of example, what he believes to be Genuine Enabling’s construction of “encoding means” to find an overlap between the invention and a prior art reference:

I understand the Court has construed the term “encoding means” as “the logic design at block 34 in Figure 4A and equivalents thereof” performing the function “synchronizing the user input stream with the input stream and encoding the user input stream and the input stream into a combined data stream.” ...

I also understand Plaintiff has alleged that simply including button press data and accelerometer data in the same Bluetooth packet infringes this limitation. Plaintiff’s Final Infringement Contentions, at pp. 24-29. ...

... [I]f this claim limitation is as broad as Plaintiff’s infringement theory, then [prior art reference] Rosenberg discloses this limitation. ...

(Id. ¶ 194-96.)

2. Genuine Enabling’s Objection: Use of Incorrect Claim Construction

Genuine Enabling objects to Dr. Welch’s reference to “Plaintiff’s interpretation” of the claim terms. In Genuine Enabling’s view, Dr. Welch’s opinion reflects a claim construction other than this Court’s construction. Sony responds that Dr. Welch’s proposed testimony supports an

argument in the alternative: that if Genuine Enabling's contention that the claims encompass the accused product is accepted, it follows that those claims encompass the prior art.

Genuine Enabling is correct, as a general matter, that the jury is "not free to consider its own meanings for the disputed terms but must apply the [court's] construction of the terms[.]" Sulzer Textil, 358 F.3d at 1367. To the extent Dr. Welch intends to testify that the jury should accept one claim construction over another, such testimony is not admissible.

But Dr. Welch is not prohibited from opining on the significance of Genuine Enabling's evidence by explaining what that evidence shows about the relationship between the asserted claims and the prior art. See F.R.E. 703 (permitting an expert to base an opinion on "facts or data in the case"); Odyssey Wireless, Inc. v. Apple Inc., No. 15-cv-01735, 2016 WL 7644790, at *3 (S.D. Cal. Sept. 14, 2016) (denying motion to exclude expert testimony on similar grounds as raised here). The present record is insufficient for me to determine whether Dr. Welch's proposed opinions will be supported by the evidence adduced at trial. I will therefore deny Genuine Enabling's Motion as to this ground without prejudice to be renewed at trial if necessary.

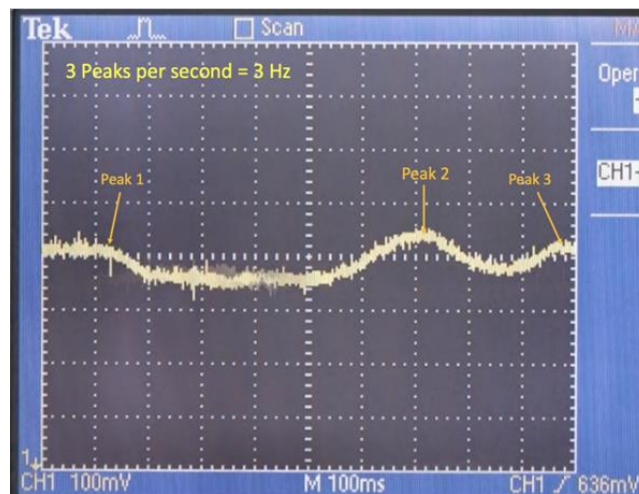
D. Dr. Welch's Infringement Analysis Based on the Frequency of the "Input Signal"

1. Challenged Opinion

As noted above, I construed the term "input signal" to mean "[a] signal having an audio or higher frequency." Dr. Welch's rebuttal report concludes that the accused products do not infringe because none of the signals sent from the controller to the console have an audio or higher frequency, which Sony contends to be 20 Hz. (1 Hz is 1 cycle per second.) The next dispute involves Dr. Welch's handling of signals that contain multiple frequencies.

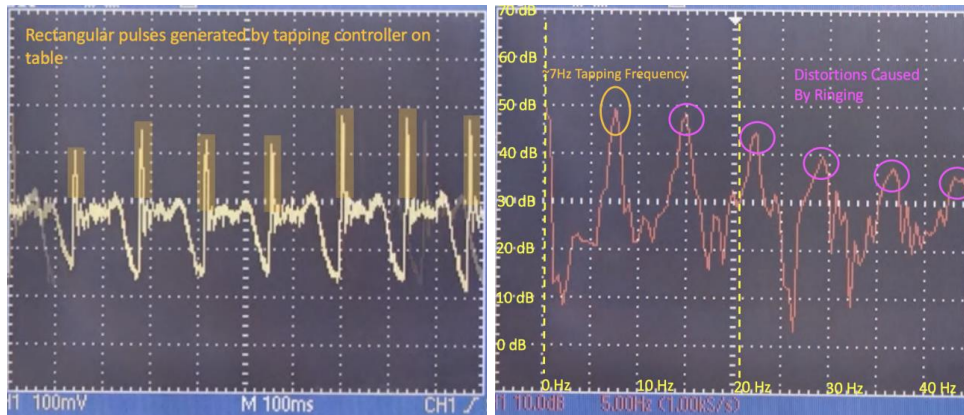
Dr. Welch acknowledges that most "real" signals contain "a range of frequencies" as opposed to just one. (Welch Rebuttal Report ¶¶ 32, 37.) When describing his approach to measuring

the signals in the accused products, however, Dr. Welch states that he is seeking to measure “the fundamental frequency,” “the actual frequency,” and the frequency that “is the dominant energy.” (Id. ¶¶ 236, 285 (emphasis in original).) For example, Dr. Welch analyzes the signal depicted below to determine whether it has a 20 Hz or higher frequency:



(Id. ¶ 213.) Dr. Welch measures the signal’s frequency by counting the peaks (“Peak 1,” “Peak 2,” and “Peak 3”) and dividing by the duration of the recording (1 second) to yield a frequency of 3 Hz. Because 3 Hz is less than 20 Hz, Dr. Welch concludes that this signal does not meet the definition of an “input signal.” This approach inherently yields a single number regardless of whether the signal is made up of one or multiple frequencies.

Dr. Welch also examines some measured signals using a mathematical operation called the “Fourier transform,” which shows the extent to which multiple frequencies contribute to the overall makeup of a signal. The two images below show a signal measured by Dr. Welch (left) and the result of applying a Fourier transform (right):



(Id. ¶¶ 251, 253.) The Fourier transform graph shows frequencies greater than 20 Hz, indicated by circled peaks right of the 20 Hz gridline. Dr. Welch opines that those higher-frequency components should be disregarded for two reasons. The first, which Genuine Enabling does not challenge here, is that those higher-frequency components correspond to “distortions, aberrations, [and] ringing” rather than the signal itself. (Id. ¶ 256.) The second reason, which Genuine Enabling does take issue with, is that the graph on the left (the original signal) shows that “the frequency of the ... signal [is] approximately 7 Hz,” such that components other than 7 Hz should be disregarded. (Id.)

2. Genuine Enabling’s Objection: Use of Incorrect Claim Construction

Genuine Enabling argues that Dr. Welch’s approach of assigning a single frequency to each signal contradicts my claim construction. In Genuine Enabling’s view, the construction “[a] signal having an audio or higher frequency” should be read to mean a signal having any frequency component that is an audio or higher frequency. Genuine Enabling argues that expert testimony using an incorrect claim construction is not “helpful” and should therefore be excluded under Rule 702(a). See TQ Delta, 2019 U.S. Dist. LEXIS 188930, at *3.

Sony responds that Dr. Welch’s approach of assigning just one frequency to each signal is an issue of methodology, not claim construction. In Sony’s view, because Dr. Welch’s

methodology of measuring signals has not been challenged as unreliable, it is up to the factfinder to decide whether they accept a methodology that yields a single frequency or a methodology that yields multiple frequencies.

I agree with Genuine Enabling that whether the phrase “having an audio or higher frequency” may refer to any frequency component is a question of claim construction, not methodology. The issue of whether the word “having” in “having an audio or higher frequency” may refer to any frequency component is a question of the meaning of the claim term (compare “a car having a flat tire” or “a family having an income of \$50,000 or less”). The disagreement is not how Dr. Welch performs his measurements but what Dr. Welch is seeking to measure. This is an issue of claim construction even though the disputed term comes not from the claim itself but from a definition supplied by a party. See TNS Media Research, 629 F. App’x at 938 (finding the district court should have construed the phrase “at a given time” appearing in a construction but not in the claim itself).

While I agree with Genuine Enabling that the meaning of “having an audio or higher frequency” is a question of claim construction, I disagree that my prior Markman opinion answers that question. The phrase “having an audio or higher frequency” is ambiguous as to whether it may refer to any frequency component or the signal’s “actual” frequency.² Further, I have reviewed the briefs and hearing transcript from the Markman proceeding, and the issue of signals containing multiple frequencies was not raised. I will therefore deny Genuine Enabling’s Motion without prejudice pending possible future resolution of the claim construction issue. See TNS Media Research, 629 F. App’x at 939 (requiring notice and an opportunity to be heard before construing claims).

² The Federal Circuit’s construction, which is the same as mine, also does not answer this question.

E. Dr. Welch’s Enablement Analysis Based on Bluetooth Technology

1. Challenged Opinion

Sony’s accused products use Bluetooth as the communication link between the controller and the console. Bluetooth is a standard for wireless communication.

Dr. Welch opines that the asserted claims are not enabled. To reach this conclusion, Dr. Welch applies the rule that a patent’s specification must enable “the full scope of the claimed invention” and assumes that Bluetooth communication meets the claim term “communication means.” Dr. Welch opines that the specification would not enable one skilled in the art to use “a wireless (e.g., Bluetooth) format” as the communication means because “[t]he logic design of the framer (34) shown in Fig. 4A is simply too inflexible to handle the latency and other issues that Bluetooth systems must be able to accommodate.” (Welch Validity Report ¶ 169) He thus concludes that “if the Asserted Claims are broad enough to encompass Bluetooth, then they are invalid for failing to meet the enablement requirement.” (*Id.* ¶ 171.)

2. Genuine Enabling’s Objection: Reference to Technology Post-Dating the Invention

Genuine Enabling objects that Dr. Welch’s proposed testimony is not “helpful” because it suggests two requirements for validity that do not exist. The first is a requirement to enable one skilled in the art to practice the claimed invention with a technology appearing after the patent application was filed—which Genuine Enabling argues includes Bluetooth. The second is a requirement to enable one skilled in the art to build the accused product.

As a matter of substantive patent law, the enablement requirement is based only on the state of the art at the time the application was filed, even if later-emerging technology turns out to fall within the scope of the claim. *In re Hogan*, 559 F.2d 595, 605-07 (C.C.P.A. 1977). Thus, the fact that the accused products use Bluetooth and are alleged to fall within the scope of the claim is

“irrelevant” to the question of whether the asserted patent must enable one skilled in the art to use the invention with Bluetooth. See id.

Sony responds that, in contrast to later-arising technology, technology that is “nascent” at the time of filing (which Sony contends includes Bluetooth) “must be enabled with a ‘specific and useful teaching.’ ” Chiron Corp. v. Genentech, Inc., 363 F.3d 1247, 1254 (Fed. Cir. 2004) (quoting Genentech, Inc. v. Novo Nordisk A/S, 108 F.3d 1361, 1368 (Fed. Cir. 1997)). However, the cases cited by Sony apply to a different situation. Chiron dealt with the question of whether an earlier application sufficiently enabled a later patent to claim the benefit of the earlier priority date. 363 F.3d at 1254. Genentech, by contrast, observed that where the invention itself is a nascent technology, greater detail is required in the specification to enable it, on the ground that an artisan’s background knowledge of science is less able to fill the gaps. See 108 F.3d at 1367-68. Neither Chiron nor Genentech suggests that an applicant must reach out to enable any nascent developments that might improve the claimed invention.

Nevertheless, I cannot rule on Genuine Enabling’s motion on the present record. The state of the art as of the filing date (June 20, 1998) is disputed, and the parties have offered conflicting evidence. In particular, Sony has offered evidence that wireless technology that would later be incorporated into the Bluetooth specification was known in the art as of the filing date, even though the Bluetooth specification itself had not been published. I will therefore grant in part and deny in part Genuine Enabling’s Motion as to this ground at this time. Dr. Welch must base his enablement analysis on the state of the art as it existed on the filing date. Whether that state of the art included Bluetooth technology is a factual question that I do not answer at this time.

F. Dr. Welch's Rebuttal of Dr. Fernald's Infringement Analysis

1. Challenged Opinion

Two concepts in patent law use the word "equivalent." The first is structural equivalence, which allows certain claim terms to cover "structure ... described in the specification and equivalents thereof." 35 U.S.C. § 112(f). The second is the doctrine of equivalents, a judicially created doctrine under which "a product or process that does not literally infringe upon the express terms of a patent claim may nonetheless be found to infringe if there is 'equivalence' between the elements of the accused product or process and the claimed elements of the patented invention." Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 21 (1997). Both forms of equivalence may be analyzed under tests called "function-way-result," although the two same-named tests differ slightly. Compare Applied Med. Res. Corp. v. United States Surgical Corp., 448 F.3d 1324, 1333 (Fed. Cir. 2006), with Dawn Equip. Co. v. Ky. Farms Inc., 140 F.3d 1009, 1016 (Fed. Cir. 1998).

Genuine Enabling's expert Dr. Fernald's report asserts that the accused Sony products literally infringe Genuine Enabling's patent, using, in certain places, a function-way-result test for structural equivalence. Dr. Welch authored a rebuttal report in which he argues that the accused products do not infringe, also using a function-way-result test in places.

2. Genuine Enabling's Objection: Confusion of "Structural Equivalence" with the "Doctrine of Equivalents"

Genuine Enabling argues that Dr. Welch's rebuttal testimony should be excluded because it uses the function-way-result test from the doctrine of equivalents rather than the one for structural equivalence.

Assuming Genuine Enabling's characterization of Dr. Welch's rebuttal report is correct, it is not a reason to exclude testimony. Dr. Welch is not required to mirror Dr. Fernald's analytical

framework, and, even if Dr. Welch did quote the wrong test, Genuine Enabling offers no explanation for why the error would affect the reliability or helpfulness of his analysis. I will therefore deny Genuine Enabling's Motion as to this ground.

G. Mr. Urbanchuk's Opinion That Genuine Enabling and Sony Would Equally Divide Profits from the '730 Patent

1. Challenged Opinion

Mr. Urbanchuk calculates Genuine Enabling's damages using a "hypothetical negotiation" between Genuine Enabling and Sony in which Sony would obtain a license to the '730 patent. See Lucent Techs., Inc. v. Gateway, Inc., 580 F.3d 1301, 1324 (Fed. Cir. 2009). He first calculates the value of the '730 patent to Sony by comparing Sony's gross profit between two versions of its controllers, then estimates how the hypothetical negotiators would divide that profit based on the bargaining positions of the parties and the importance to each of closing the deal, incorporating a set of factors known as the "Georgia-Pacific factors." See Georgia-Pacific Corp. v. United States Plywood Corp., 318 F. Supp. 1116 (S.D.N.Y. 1970). These factors include: "[t]he nature and scope of the license, as exclusive or non-exclusive ..."; "[t]he licensor's established policy and marketing program to maintain his patent monopoly by not licensing others ..."; and "[t]he commercial relationship between the licensor and licensee ..."; among many others. Id. at 1120.

Mr. Urbanchuk's report touches on each Georgia-Pacific factor but concludes that relevant data is unavailable for some. For example, Mr. Urbanchuk decides that no contracts provided comparable royalties; he thus excludes that factor from his analysis. Mr. Urbanchuk ultimately concludes: "Based on the preceding, Sony would have agreed to share a significant portion of the ... expected profits related to the '730 Patent[] from sales of the Accused Controllers. ... Based on my analysis of the Georgia-Pacific Factors, it is my opinion that the parties would have agreed ...

to a 50/50 split of the ... expected profits related to the '730 Patents from sales of the Accused Controllers.” (Urbanchuk Supp. 49-50.)

2. Sony’s Objection: Lack of Support for a 50/50 Profit Split

Sony argues that Mr. Urbanchuk’s valuation opinion should be excluded because Mr. Urbanchuk’s conclusion that Genuine Enabling and Sony would divide profits 50/50 lacks support.

Expert testimony that “fails to tie the [expert’s] theory [of damages] to the facts of the case ... must be excluded.” Uniloc USA, Inc. v. Microsoft Corp., 632 F.3d 1292, 1315 (Fed. Cir. 2011). A plaintiff may not prove damages using a “rule of thumb” that the patentee and alleged infringer would divide profits 25/75. Similarly, an expert may not rely on the “Nash Bargaining Theorem” to derive a 50/50 profit split without analyzing whether, on the facts of the case, the assumptions underlying the theorem are satisfied. Virnetx, Inc. v. Cisco Sys., Inc., 767 F.3d 1308, 1332 (Fed. Cir. 2014).

Neither of those defects applies to Mr. Urbanchuk’s proposed testimony: Mr. Urbanchuk does not rely on a rule of thumb, and he does not use the Nash Bargaining Theorem. Instead, he uses the Georgia-Pacific factors, which “properly tie the reasonable royalty calculation to the facts of the hypothetical negotiation at issue.” Uniloc, 632 F.3d at 1317. Sony’s objection is not that these factors are improper but that the connection Mr. Urbanchuk attempts to draw between the factors and his ultimate conclusion is too thin.

The reasons for excluding “rule of thumb” testimony do not apply to expert testimony based on the Georgia-Pacific factors. A rule of thumb is an “arbitrary, general rule, unrelated to the facts of [the] case” and “taints the jury’s damages calculation.” Uniloc, 632 F.3d at 1318. A party who asks the jury to award damages based on an improper consideration risks “mislead[ing]

the jury into awarding an unduly high royalty.” See Ericsson, Inc. v. D-Link Systems, Inc. 773 F.3d 1201, 1227 (Fed. Cir. 2014). But testimony based on proper considerations, albeit ones that may prove incorrect at trial, does not invite the jury to disregard its responsibility to ground its damages award in the evidence. If the expert’s reasoning is unsound, its unsoundness can be uncovered through cross examination.

Sony takes issue with the fact that Mr. Urbanchuk discerned no relevant evidence for the quantitative Georgia-Pacific factors, thus leading him to weigh only the qualitative ones. In particular, Sony contends that Mr. Urbanchuk should not have excluded comparator licenses post-dating the hypothetical negotiation. See M2M Sols. LLC v. Sierra Wireless Am., Inc., No. 14-cv-1102, 2020 WL 7767639, at *17 (D. Del. Dec. 4, 2020) (holding that comparator licenses post-dating the hypothetical negotiation may be considered). But an expert is not required to “consider every possible factor to render a ‘reliable’ opinion.” MicroStrategy Inc. v. Bus. Objects, S.A., 429 F.3d 1344, 1355 (Fed. Cir. 2005). The fact that Mr. Urbanchuk could have considered other evidence therefore does not make his opinion inadmissible.

Because Mr. Urbanchuk’s analysis rests on proper factors closely tethered to the facts of the case, and considering the “strong preference for admitting any evidence that may assist the trier of fact,” Pineda, 520 F.3d at 243, I find that Mr. Urbanchuk’s proposed testimony meets the threshold for admissibility under Daubert. See Glielmi v. Raymond Corp., No. 09-cv-5734, 2012 WL 924844, at *7 (D.N.J. March 19, 2012) (“[G]aps or inconsistencies in [an] expert’s reasoning go [to the] weight of the evidence[,] not [its] admissibility[.]”).

I will therefore deny Sony’s Motion as to this ground.

H. Mr. Urbanchuk's Opinion That Royalties for Non-Infringing Games May Be Included in Damages

1. Challenged Opinion

Although Sony earned revenue from sales of video games that could be played with the accused products, it is undisputed that the games themselves did not infringe. Mr. Urbanchuk nevertheless incorporates a small (1%) share of Sony's profits from the sale of some non-infringing games in his damages calculation.

To reach this result, Mr. Urbanchuk first describes how features of the accused videogame hardware allegedly derived from the '730 patent increased Sony's ability to sell non-infringing games. Specifically, "Sony's use of the invention claimed in the '730 Patent provided the functionality of allowing a gamer to use a wireless controller with motion control, vibration feedback, and voice." (Urbanchuk Supplemental Report 43.) Mr. Urbanchuk thus determines that "there is a functional relationship between the infringing consoles and controllers, and the non-infringing games." (Id.)

Second, Mr. Urbanchuk opines that the value to Sony of selling consoles includes the value of obtaining an increased ability to sell games that run on those consoles. In Mr. Urbanchuk's opinion, the increased ability to sell games represents most or all of the value of console sales because the hardware is otherwise sold at a loss. "The video game industry is a platform-based industry that follows a razor-blade model—i.e., manufacture and sell consoles at a loss to drive the sale of video games." (Id.)

Combining these two considerations, Mr. Urbanchuk concludes that "the Plaintiff would likely have wanted, and the Defendants would likely have paid, a royalty on the collateral sale of games utilizing the features enabled by the '730 Patent." (Id. at 44.) Mr. Urbanchuk estimates this

royalty at 1% of “the sales of games incorporating the motion and voice functionality enabled by the ’730 Patent.” (Id. at 51.)

2. Sony’s Objection: Lack of Apportionment of Royalties to Infringing Products

Sony argues that it is impermissible for Mr. Urbanchuk to calculate damages based on sales of non-infringing games. In Sony’s view, whether to include sales of non-infringing products in a damages calculation must be analyzed under the “entire market value rule,” which permits consideration of “unpatented components normally sold with the patented components” only in limited circumstances. See Rite-Hite Corp. v. Kelley Co., Inc., 56 F.3d 1538, 1550, (Fed. Cir. 1995). Because the requirements of that rule are not met, Sony argues that Mr. Urbanchuk’s valuation should be excluded.

Genuine Enabling disagrees that the entire market value rule is applicable. In Genuine Enabling’s view, the analysis should proceed under the law applicable to “convoyed sales.” See Interactive Pictures Corp. v. Infinite Pictures, Inc., 274 F.3d 1371, 1385 (Fed. Cir. 2001) (“The jury was entitled to rely on evidence of bundling and convoyed sales in determining the proper scope of the royalty base.”).

“[I]n the context of a utility patent, it is only the patented technology that is taken from the owner, so the value to be determined is only the value that the infringing features contribute to the value of an accused product.” Power Integrations, Inc. v. Fairchild Semiconductor Int’l, Inc., 904 F.3d 965, 977 (Fed. Cir. 2018). “[W]here multi-component products are accused of infringement, the royalty base should not be larger than the smallest salable unit embodying the patented invention.” Id. Even then, “the patentee must estimate what portion of that smallest salable unit is attributable to the patented technology when the smallest salable unit itself contains several non-infringing features.” Id.

Consideration of “bundling and convoyed sales” is appropriate in some cases. See Fujifilm Corp. v. Benun, 605 F.3d 1366, 1373 (Fed. Cir. 2010). The closest analogy is Deere & Co. v. Int’l Harvester Co., 710 F.2d 1551 (Fed. Cir. 1983), in which it was permissible for the trial court to base its damages calculation in part on “anticipated collateral sales of an admittedly noninfringing product.” Id. at 1559. Other non-precedential decisions have limited consideration of non-infringing sales where evidence did not establish that “the patents . . . drove demand” for the non-infringing products. SUNOCO Partners Mktg. & Terminals L.P. v. Powder Springs Logistics, LLC, No. 17-cv-1390, 2020 WL 7330715, at *7 (D. Del. Jan. 13, 2020); Finjan, Inc. v. Blue Coat Sys., Inc., No. 13-cv-03999, 2015 WL 4272870, at *9 (N.D. Cal. July 14, 2015); Zimmer Surgical, Inc. v. Stryker Corp., 365 F. Supp. 3d 466, 491 (D. Del. 2019).

Mr. Urbanchuk’s opinion is that part of the value to Sony of selling a console is the increased opportunity to later sell games—and that the value of an increased opportunity to sell games is partly reflected in the dollar value of Sony’s actual game sales. The present question is not whether Genuine Enabling will present sufficient evidence to meet its burden of production as to these damages; it is whether Mr. Urbanchuk offers a “reliable . . . method[]” supported by “sufficient facts or data” to conclude that the value to Sony of a console sale included the value of an increased opportunity to sell games. See Walker, 46 F. App’x at 692 (sufficiency not at issue in a motion to exclude testimony).

Mr. Urbanchuk primarily bases his opinion that sales of consoles drove sales of games on the usual practices of the video games industry, for which he provides substantial background. For example, Mr. Urbanchuk quotes an investor that, in the video game industry, “hardware is sold at a loss, and only by selling software units (its complementary goods) do platform holders recoup this investment and generate a profit over time.” (Urbanchuk Supplemental Report 9-10.) He also

quotes Sony's Director of Business Insights and Strategy that "[i]f a console does well, then sales of accessories and software, [i.e.] games[,] also do well." (Id. at 10.) Mr. Urbanchuk corroborates this general proposition with financial information showing that Sony initially sold the PlayStation 2 at a loss. (Id.) Similar numbers are provided for the PlayStation 3, along with a quote from an industry commentator that "Sony's loss per unit" on the product was "remarkable." (Id. at 17.)

Mr. Urbanchuk also offers facts to tie Sony's increased ability to sell games to the features enabled by the '730 patent as opposed to the consoles' other features. Specifically, Mr. Urbanchuk only includes in his assessment of per-game royalties games that used features he considers to be enabled by the '730 patent. (Whether the '730 patent did in fact enable those features is an engineering issue beyond Mr. Urbanchuk's expertise.)

The above analysis, if credited, could provide a reliable means for inferring that Sony would be willing to pay some portion of its revenue on noninfringing games in order to obtain the right to sell the infringing consoles. Whether this is sufficient evidence to support a jury verdict for "bundling and convoyed sales" is not presently at issue. Daubert's reliability requirement does not provide a basis for excluding Mr. Urbanchuk's proposed testimony, and I will therefore deny Sony's Motion as to this ground.

I. Mr. Urbanchuk's Setting of the Hypothetical Negotiation

1. Challenged Opinion

Mr. Urbanchuk bases his damages calculation on a hypothetical negotiation between Genuine Enabling and Sony taking place in November 2006. Mr. Urbanchuk chose November 2006 because that is when Sony began selling the PlayStation 3 in the United States, then with the "SixAxis" controller. Although the SixAxis controller is not an accused product, Genuine Enabling

contends that the SixAxis controller did, in fact, infringe, and is only not accused because the infringement occurred before the statute of limitations.

2. Sony's First Objection: Incorrect Date for the Hypothetical Negotiation

Sony objects to Mr. Urbanchuk's use of November 2006 as the date for the hypothetical negotiation because, in Sony's view, the correct date is April 2008, the date the first accused controller was sold. Sony further argues that a damages analysis based on the wrong date is not "help[ful]" and should be excluded. See Fed. R. Evid. 702(a).

"The correct determination of [the] date [of the hypothetical negotiation] 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." LaserDynamics, Inc. v. Quanta Comput., Inc., 694 F.3d 51, 75 (Fed. Cir. 2012).

Neither party cites authority that conclusively resolves whether, in a case in which actual infringement by non-accused products allegedly began before the statute of limitations, the date of the hypothetical negotiation is the date of first infringement by the non-accused product or the date of first infringement by an accused product. In LaserDynamics, the hypothetical negotiation date for induced infringement was the first date of actual infringement by the person induced, even though the alleged inducer had no knowledge of the infringement and thus no liability at the time. 694 F.3d at 76. In WangLabs, Inc. v. Toshiba Corp., the hypothetical negotiation date occurred when the patent was issued (as the accused products were already being sold at the time), even though the infringer did not receive notice of the patent until later. 993 F.2d 858, 870 (Fed. Cir. 1993). Neither of those cases involved two products, one accused and one not accused. The Federal Circuit did make the general observation that "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.” LaserDynamics, 694 F.3d at 75.

Closer to the present facts is Applied Medical Resources Corp. v. U.S. Surgical Corp., 435 F.3d 1356 (Fed. Cir. 2006). The issue in Applied Medical was collateral estoppel: whether a determination of a reasonable royalty in one lawsuit over one product was preclusive of the reasonable royalty in a second lawsuit involving the same patent but a different product. In holding that estoppel did not apply, the Federal Circuit stated that “the infringements requiring compensation began at separate and distinct times” and would thus have involved different hypothetical negotiations. Id. at 1361-62. However, the opinion later qualifies that statement by noting that the two products counted as separate infringements because they were “vastly different” and “involved different infringement issues.” Id. at 1362. Under different facts, “two products, even if not identical, may present the same damages analysis.” Id. at 1363. And the Court noted that the statute of limitations could, as in WangLabs, shift the date of the hypothetical negotiation to a date other than that of first infringement. Id. at 1364.

Although Applied Medical did not reach the issue presented here, it is clear from the Federal Circuit’s reasoning that whether the sale of an earlier infringing but not accused product may be used as the date of the hypothetical negotiation turns on the facts of the case and, in particular, the similarity of the two products. This is consistent with the general principle that patent damages measure the “value of what was taken.” Power Integrations, 904 F.3d at 977. If a patentee can prove that its patent was essential to the launch of an entire product line, the fact that the first product in that line was sold before the statute of limitations would not necessarily preclude accurate consideration of the infringer’s need to use the patent pre-launch, “even if damages cannot be collected until some time later.” LaserDynamics, 694 F.3d at 75.

Accordingly, I find that the date of the hypothetical negotiation turns on disputed facts, which potentially include whether the SixAxis controller was an infringing product and the degree of similarity between the SixAxis and the accused products. These factual disputes cannot be resolved on a motion to exclude testimony. I will therefore deny Sony's Motion as to this ground.

3. Sony's Second Objection: Incorrect Parties to the Hypothetical Negotiation

Sony finally objects that Mr. Urbanchuk's proposed testimony uses Genuine Enabling as one of the parties even though Genuine Enabling did not exist at the time. Sony contends that Mr. Urbanchuk should have used the patentee, Nghi Nho Nguyen.

"[T]he hypothetical negotiation takes place between the patentee and infringer at the time infringement began." Oracle Am., Inc. v. Google Inc., 798 F. Supp. 2d 1111, 1117 (N.D. Cal. 2011). If the current plaintiff was not the patentee at the time, it is improper to use the current plaintiff as the hypothetical negotiator. Id. Accordingly, I will grant Sony's Motion in part as to this ground: Mr. Urbanchuk's testimony must reflect that Nguyen is the hypothetical negotiator, not Genuine Enabling.

However, Sony fails to show how, if at all, changing the hypothetical negotiator from Genuine Enabling to Nguyen would affect Mr. Urbanchuk's calculations. While Sony presents some arguments that the difference could matter (such as that Nguyen is apparently "not greedy"), none so clearly undermines Mr. Urbanchuk's analysis to warrant exclusion of his testimony. I will therefore deny Sony's Motion to the extent it seeks exclusion of any of Mr. Urbanchuk's testimony.

J. Dr. Seth's Damages Analysis Based on Sony's License to Use Bluetooth

1. Challenged Opinion

Dr. Seth is Sony's damages expert. A relevant factor in estimating damages for patent infringement is the royalties the infringer paid for licenses that are comparable to a hypothetical

license for the infringed patent. Bio-Rad Labs., Inc. v. 10X Genomics, Inc. 967 F.3d 1353, 1372 (Fed. Cir. 2020). Dr. Seth considers the royalties Sony paid for the use of Bluetooth technology and concludes that, because Sony paid \$220,000 for Bluetooth, Sony would have paid no more than that for the right to use the '730 patent. (Seth Report ¶ 63.)

Bluetooth is a technology for wireless communication. See Bluetooth Special Interest Group, “A Developer’s Guide to Bluetooth Technology,” <https://www.bluetooth.com/blog/a-developers-guide-to-bluetooth/>. According to Dr. Seth, Sony can only derive benefit from the '730 patent if Sony also uses Bluetooth in its products because Sony cannot transmit “multiple user input data streams ... over the Accused Controllers’ Bluetooth connection to the Accused Consoles” if the Bluetooth link is removed. Dr. Seth therefore concludes that both “a license to the '730 Patent and a license to Bluetooth ... are equally necessary” to achieve “that specific functionality.” (Seth Report ¶ 64.)

A manufacturer seeking to use Bluetooth technology in its product must become a member of the Bluetooth Special Interest Group and qualify its products with that organization. (Seth Report ¶¶ 68, 71.) The Bluetooth Special Interest Group has “over 36,000” members, and companies can join the organization for a fee. (Id. ¶ 68.) Sony and its related entities would have paid a total of between \$110,000 and \$220,000 for membership in the organization and qualification of the accused products. (Id. ¶ 78.) Using a principle termed the “symmetry axiom,” Dr. Seth concludes that Sony would have paid equal value for two blocking technologies, making \$220,000 an “upper bound” for the value of a license for the '730 patent. (Id. ¶¶ 64, 65 n.140)

2. Genuine Enabling’s First Objection: Misunderstanding of the Technological Relationship Between Bluetooth and the '730 Patent

Genuine Enabling first argues that Dr. Seth’s proposed valuation testimony should be excluded because Dr. Seth fails to demonstrate that Bluetooth is “technologically ... [comparable”

to the '730 patent. See Bio Rad, 967 F.3d at 1373. Genuine Enabling contends that Dr. Seth inaccurately assumed that all elements of the '730 patent are practiced on the Bluetooth modules of the accused controllers.

Genuine Enabling's argument rests on a mischaracterization of Dr. Seth's report, which does not assume that all steps necessary to infringe the '730 patent are performed in the Bluetooth module. Rather, Dr. Seth opines that Bluetooth is technologically comparable to the '730 patent because both are equally necessary to transmit a combined data stream from the controller to the console. Moreover, Dr. Seth is not Sony's engineering expert, and a Daubert motion directed to an economics expert is not an appropriate vehicle to test the sufficiency of evidence on the technical relationship between Bluetooth and the '730 patent. See Walker, 46 F. App'x at 692 (sufficiency not at issue on a motion to exclude evidence).

I will therefore deny Genuine Enabling's Motion as to this ground.

3. Genuine Enabling's Second Objection: Failure to Analyze Economic Comparability

Genuine Enabling next argues that Dr. Seth's valuation analysis should be excluded because Dr. Seth fails to show that Sony's license to use Bluetooth technology is economically comparable to a hypothetical license for the '730 patent.

While damages testimony based on comparator licenses requires that those licenses be, in fact, "comparable" to a hypothetical license for the asserted patent, "the issue of comparability is often one of sufficiency of the evidence, not admissibility." Bio-Rad, 967 F.3d at 1373. Daubert requires only that "there ... be a basis in fact to associate the royalty rates used in prior licenses to the particular hypothetical negotiation at issue in the case." Uniloc USA, Inc. v. Microsoft Corp., 632 F.3d at 1317. Once that threshold is met, "[t]he degree of comparability of ... license

agreements ... [is] [a] factual issue[] best addressed by cross examination and not by exclusion.” ActiveVideo Networks, Inc. v. Verizon Comms., Inc., 694 F.3d 1312, 1333 (Fed. Cir. 2012).

I conclude that Dr. Seth has met that minimal threshold. She opines that removal of either Bluetooth or the '730 patent from the accused products would render them inoperable and offers an economic justification for why the licensors of those two technologies would split the profits accruing from the combination. I will therefore deny Genuine Enabling's argument to the extent it seeks to preclude Dr. Seth from placing any reliance on Sony's licensing of Bluetooth in rendering her opinion.

However, mindful that the threshold for admissibility is not high, I do find that Dr. Seth's ultimate conclusion that \$220,000 is an “upper bound” for the royalty Sony would have paid for the '730 patent goes farther than Uniloc allows. According to Dr. Seth, Sony obtained the right to use Bluetooth technology by paying, along with 36,000 other companies, a flat fee for membership in an organization and qualification of its products. Dr. Seth then concludes that Sony would have paid no more than that same flat fee for the '730 patent because both are necessary to transmit a combined data stream from the accused controllers to the accused consoles—essentially, that both are necessary for the product to work.

Dr. Seth does not attempt to account for the stark differences between a technology available to all manufacturers equally on a flat fee and Sony's hypothetical negotiation with a single patentholder. “Testimony relying on licenses must account for ... distinguishing facts when invoking them to value the patented invention.” Ericsson, Inc. v. D-Link Systems, Inc., 773 F.3d 1201, 1227 (Fed. Cir. 2014). In fact, Dr. Seth's analysis could be copied verbatim to measure the value of any technology in any product that also requires Bluetooth, on the theory that licensors of blocking technologies would share profits equally. Dr. Seth's “upper bound” conclusion is

therefore “detached from the facts of [this] case” and must be excluded. ART+COM Innovationpool GmbH v. Google, Inc., 155 F. Supp. 3d 489, 515 (D. Del. 2016).

In its briefing, Sony points out a fact not stated in Dr. Seth’s report: that, under Genuine Enabling’s infringement theory, the Bluetooth module of the accused products itself is used to satisfy some of the elements of the asserted claims. However, this observation differs from Dr. Seth’s actual reasoning, which, as noted, is based on the fact that both Bluetooth and the ’730 patent are blocking technologies, not on the physical portion of the product in which those technologies are utilized. Significantly, Dr. Seth herself does not rely on the physical proximity of the two technologies to argue that the two licenses would be economically comparable.

I will therefore grant Genuine Enabling’s Motion but only to the extent that Dr. Seth is precluded from testifying that Sony’s royalty for Bluetooth technology is an “upper bound” to the royalty Sony would have paid for the ’730 patent merely because both are blocking technologies. Dr. Seth is not otherwise precluded from referencing Sony’s license for Bluetooth technology, incorporating it in her valuation analysis, or arguing that it is indicative of the value of the ’730 patent to Sony.

K. Dr. Seth’s Analysis of Other Licenses

1. Challenged Opinion

Dr. Seth also surveys other licenses Sony purchased related to the accused products. Dr. Seth does not derive a valuation number from these licenses but opines that they are “consistent” with the valuation derived from Sony’s Bluetooth license. (Seth Report ¶ 83.)

2. Genuine Enabling’s Objection: Failure to Analyze Technological and Economic Comparability

As with Dr. Seth’s analysis of Sony’s Bluetooth license, Genuine Enabling argues that Dr. Seth’s analysis of these licenses should be excluded because Dr. Seth did not adequately

consider whether these licenses are technologically and economically comparable to a hypothetical license for the '730 patent.

Technological comparability is an engineering issue not properly directed to Dr. Seth. As to economic comparability, for each comparator license, Dr. Seth evaluates whether the time frame and territory are comparable. Where available, Dr. Seth evaluates the term of the license and the scope of products covered. Where these factors differ, Dr. Seth explains how the difference would affect the comparison. This analysis is sufficiently reliable to support the limited purpose for which Dr. Seth uses these licenses.

I will therefore deny Genuine Enabling's Motion as to this ground.

V. CONCLUSION

For the reasons given, the Motions to Exclude expert testimony are granted in part and denied in part as described above.

An appropriate order follows.