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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NINTENDO OF AMERICA, INC. and NINTENDO CO., LTD.,
Petitioner,

v.

iLIFE TECHNOLOGIES, INC.,
Patent Owner.

Case IPR2015-00109
Patent 6,864,796 B2

Before JACQUELINE WRIGHT BONILLA, MICHELLE R. OSINSKI, and HYUN J. JUNG, *Administrative Patent Judges.*

JUNG, *Administrative Patent Judge.*

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

Nintendo of America, Inc. and Nintendo Co., Ltd. (collectively, "Petitioner") filed a Corrected Petition (Paper 4, "Pet."), requesting institution of an *inter partes* review of claims 1–3, 9–12, and 18–20 of U.S. Patent No. 6,864,796 B2 (Ex. 1001, "the '796 patent"). iLife Technologies, Inc. ("Patent Owner") timely filed a Preliminary Response (Paper 9, "Prelim. Resp."). Upon considering these submissions, we instituted *inter partes* review of claims 1–3, 9–12, and 18–20 of the '796 patent. Paper 12 ("Dec. on Inst.").

After institution, Patent Owner filed a Response (Paper 14, "PO Resp."), and Petitioner filed a Reply (Paper 21, "Reply"). Petitioner proffered a Declaration of Gregory Francis Welch, Ph.D. (Ex. 1002, "Welch Declaration") with its Petition and a Reply Declaration of Gregory Francis Welch, Ph.D. (Ex. 1010, "Welch Reply Declaration") with its Reply. Patent Owner proffered Declarations of Dr. Robert H. Sturges (Ex. 2006), Michael L. Lehrman (Ex. 2007), Michael D. Halleck (Ex. 2008), Michael E. Halleck (Ex. 2009), Alan Owens (Ex. 2010), Edward L. Massman (Ex. 2011), Don James (Ex. 2012), and Greg Younger (Ex. 2013) with its Response. Also, deposition transcripts were filed for Dr. Sturges (Ex. 1009) and Dr. Welch (Ex. 2039).

Patent Owner moves to exclude portions of the Reply Declaration. Paper 20. Petitioner filed a Response (Paper 33) to the motion, and Patent Owner filed a Reply (Paper 37).

Patent Owner also filed a notice regarding new arguments and belated support (Paper 30), to which Petitioner filed a response (Paper 34). Patent

Owner further filed a Motion for Observations (Paper 31), and Petitioner filed a response (Paper 35) to the motion.

A combined oral hearing in this proceeding and Cases IPR2015-00105, IPR2015-00106, IPR2015-00112, IPR2015-00113, and IPR2015-00115 was held on January 27, 2016; a transcript of the hearing is included in the record (Paper 39, "Tr.").

We have jurisdiction under 35 U.S.C. § 6(c). This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons that follow, we determine that Petitioner has not shown by a preponderance of the evidence that claims 1–3, 9–12, and 18–20 of the '796 patent are unpatentable. We also dismiss as moot Patent Owner's motion to exclude.

A. Ground of Unpatentability at Issue

We instituted *inter partes* review on the sole ground that, under 35 U.S.C. § 103, claims 1–3, 9–12, and 18–20 are unpatentable over Yasushi, JP H10-295649 (published Nov. 10, 1998) (Ex. 1003, "Yasushi").

B. Related Proceedings

The parties indicate that district court cases involving the '796 patent include *iLife Technologies, Inc. v. Nintendo of America Inc.*, No. 3:13-cv-04987 (N.D. Tex.), as well as other cases involving other defendants including *iLife Technologies Inc. v. AliphCom*, No. 3:14-cv-03345 (N.D. Cal.); *iLife Technologies Inc. v. Body Media, Inc.*, No. 2:2014-cv-00990 (W.D. Pa.); and *iLife Technologies Inc. v. Fitbit, Inc.*, No. 3:2014-cv-03338 (N.D. Cal.). Pet. 1; Paper 7, 1.

Upon considering other Petitions filed by the same Petitioner on the same day, we also instituted *inter partes* reviews of claims in related U.S. Patent Nos. 6,307,481 B1 (Case IPR2015-00105), 6,703,939 B2 (IPR2015-00106), 7,095,331 B2 (Case IPR2015-00112), 7,145,461 B2 (Case IPR2015-00113), and 7,479,890 B2 (Case IPR2015-00115).

C. The '796 Patent (Ex. 1001)

The '796 patent relates to systems, and methods of operation thereof, for evaluating movement of a body relative to an environment, such as falls, irregular movement, inactivity, etc. Ex. 1001, 1:24–28, 2:35–50. The '796 patent indicates that prior art methods fail to discern normal, acceptable, or unacceptable changes in levels of body activity. *Id.* at 1:53–58. The specification acknowledges that "accelerometers that measure both static and dynamic acceleration are known," but states that "their primary use has heretofore been substantially confined to applications directed to measuring one or the other, but not both." *Id.* at 2:1–4.

The specification distinguishes between "static acceleration, or gravity," which is "a gauge of position," versus "dynamic acceleration (i.e., vibration, body movement, and the like)." *Id.* at 1:65–2:1. The system of the '796 patent includes a sensor associated with the body that operates to repeatedly sense dynamic and static accelerative phenomena of the body. *Id.* at 2:53–55. The sensor "senses one or more absolute values, changes in value, or some combination of the same" and may be "a plural-axis sensor" that "generates an output signal to the processor indicative of measurements of both dynamic and static acceleration of the body in plural axes." *Id.* at 2:64–3:5, 5:46–52. In one embodiment, the sensor generates voltage signals that include "an ac voltage component proportional to G forces (i.e.,

dynamic acceleration component related to vibrations of sensor layer 31)," as well as "a dc voltage component proportional to an angle relative to earth (i.e., static acceleration component related to gravity)." *Id.* at 6:20–27.

The system further includes a processor that processes "sensed accelerative phenomena as a function of at least one accelerative event characteristic" to determine whether evaluated body movement is within "environmental tolerance." *Id.* at 2:56–60, 6:54–59. The '796 patent defines "accelerative events" as "occurrences of change in velocity of the body (or acceleration), whether in magnitude, direction or both." *Id.* at 5:20–24. The '796 patent states that an accelerative event characteristic "will largely be defined by the specific application." *Id.* at 9:42–47. The specification also states that the "relevant environment may be statically or dynamically represented" and the "sophistication of any such representation may be as complex or as uncomplicated as needed by a given application." *Id.* at 3:15–18.

The processor "generates state indicia relative the environment of interest, and determines whether the evaluated body movement is within tolerance in the context of that environment." *Id.* at 9:48–51. The '796 patent describes that "'tolerance' would . . . be very different for a monitored body of an elderly person . . . , a toddler, a box in a freight car, a container of combustible gas, etc." *Id.* at 9:51–54.

Figure 4 of the '796 patent is reproduced below.

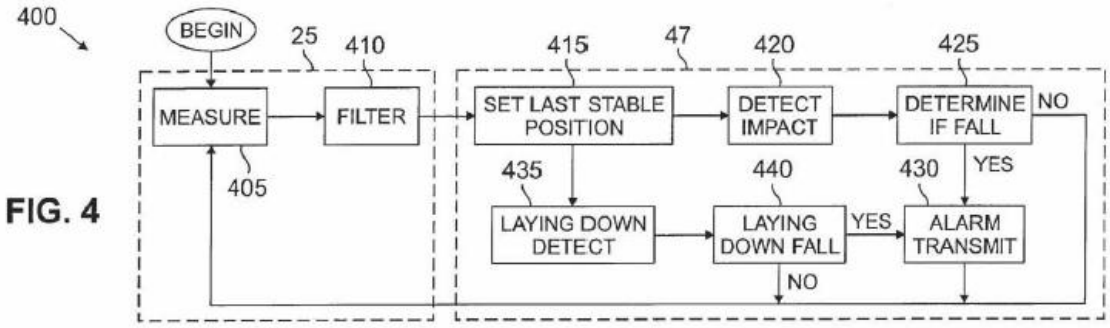

FIG. 4

Figure 4 depicts an operational flow diagram of exemplary method 400 of programming processor 47 in accordance with a fall detection application of the principles of the '796 patent. *Id.* at 8:17–21. Step 405 involves generating a request for sampling measurements, either in response to an executing operations program or upon initiation by a user. *Id.* at 8:31–35. Sensor 25 senses x and y acceleration values and outputs measurement signals that are filtered in step 410 to reduce the probability that an out-of-tolerance abnormal movement will be determined incorrectly in response to a single sharp impact. *Id.* at 8:36–44. Step 415 involves processor 47 using the outputs from sensor 25 to determine a last stable position of the body. *Id.* at 8:46–48. In Step 420, processor 47 uses ac voltage components of each output from sensor 25 to check against a G force threshold value to see if the threshold is exceeded, and thus, qualifies as a potential fall. *Id.* at 8:65–9:1. In Step 425, processor 47 determines a fall by testing a post-impact stream of samples against a tolerance. *Id.* at 9:8–11. In Step 430, a change of body position greater than 45° or more from the last stable position may lead to classification of the event as a debilitating fall. *Id.* at 9:17–21.

In Step 435, processor 47 adds the absolute values of the x and y last stable positions and then determines whether the body is lying down if the

added value exceeds a value corresponding to 90° plus or minus 25%, after setting the last stable position. *Id.* at 9:26–30. In Step 440, any impact that exceeds a G force threshold is treated as a debilitating fall. *Id.* at 9:31–34. "Exemplary processor 47 is programmed to distinguish between normal and abnormal accelerative events (e.g., walking, sitting, lying down, etc. versus tripping, falling down, etc.), and, when an abnormal event is identified, indicates whether the abnormal event is tolerable, or within tolerance." *Id.* at 12:12–17.

The '796 patent has 20 claims, of which claims 1–3, 9–12, and 18–20 are being challenged. Claims 1 and 10 are independent and reproduced below:

> 1. A system within a communications device capable of evaluating movement of a body relative to an environment, said system comprising:
>
> a sensor, associable with said body, that senses dynamic and static accelerative phenomena of said body, and
>
> a processor, associated with said sensor, that processes said sensed dynamic and static accelerative phenomena as a function of at least one accelerative event characteristic to thereby determine whether said evaluated body movement is within environmental tolerance
>
> wherein said processor generates tolerance indicia in response to said determination; and
>
> wherein said communication device transmits said tolerance indicia.
>
> 10. A method for operating a system within a communications device, wherein said system is capable of evaluating movement of a body relative to an environment, wherein said system comprises a sensor, associable with said body, that senses dynamic and static accelerative phenomena of said body, and

> a processor, associated with said sensor, that processes said sensed dynamic and static accelerative phenomena as a function of at least one accelerative event characteristic to thereby determine whether said evaluated body movement is within environmental tolerance, wherein said method comprises the steps of:
>
> generating tolerance indicia in said processor in response to said determination of whether said evaluated body movement is within said environmental tolerance; and
>
> transmitting said tolerance indicia through said communications device.

II. CLAIM CONSTRUCTION

In an *inter partes* review, claim terms in an unexpired patent are interpreted according to their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b); Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,766 (Aug. 14, 2012); *In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1275–79 (Fed. Cir. 2015), *cert. granted sub nom. Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 890 (mem.) (2016). There is a presumption that a claim term carries its ordinary and customary meaning. *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002); *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). A patentee may rebut this presumption, however, by acting as his own lexicographer, providing a definition of the term in the specification with "reasonable clarity, deliberateness, and precision." *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994). In the absence of such a definition, limitations are not to be read from the specification into the claims. *In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993).

In the Decision on Institution, we interpreted various claim terms of the '796 patent as follows:

Term	Interpretation
"dynamic accelerative phenomena"	"acceleration indicating vibration or movement"
"static accelerative phenomena"	"acceleration indicating position of the body relative to the earth"
"within environmental tolerance"	"acceptable based on criteria including a specified value given the environment for which body movement is being evaluated"
"tolerance indicia"	"information indicating whether evaluated body movement is within environmental tolerance"

Dec. on Inst. 8–13.

Patent Owner states that "for purposes of this Response, the preliminary claim constructions from the Board's Decision to institute trial (Paper 12) are used." PO Resp. 25. Petitioner also does not present arguments disputing these preliminary claim constructions in its Reply. Based on our review of the complete record, we do not perceive any reason or evidence that now compels any deviation from these interpretations.

In addition to the terms construed above, we address the construction of "processor" and "communications device."

A. "processor"(claims 1 and 10)

The specification of the '796 patent defines "processor" to mean "any device, system or part thereof that controls at least one operation, such a device may be implemented in hardware, firmware or software, or some suitable combination of at least two of the same." Ex. 1001, 4:34–38.

Petitioner cited the same definition for its proposed construction of "processor" (Pet. 5 (citing Ex. 1001, 4:34–38)), and Patent Owner states that it uses the same definition (PO Resp. 26). We adopt that claim construction here.

B. "communications device" (claims 1 and 10)

In arguing that Patent Owner fails to show that the challenged claims are entitled to an earlier priority date, Petitioner contends that Patent Owner "has ignored the proper claim construction dictated by the express definition of 'communication device' in the '796 specification." Reply 1. Petitioner asserts that "the ['796 patent expressly defines 'communication device . . . broadly to include, without limitation, cellular telephones, personal digital assistants, hand held computers, laptops, computers, wireless Internet access devices, and other similar types of communications equipment.'" *Id.* (citing Ex. 1001, 2:46–50).

Petitioner also presents arguments based on the prosecution history of the '796 patent, which issued from application 10/331,958, which, in turn, is a continuation of application 09/727,974 ("the parent application"), filed on November 30, 2000. Ex. 1001, 1:6–8. The parent application is a continuation-in-part of application 09/396,991 ("the grandparent application"), filed on September 15, 1999. Ex. 1001, 1:8–10.

Petitioner asserts that a "system comprising an acceleration sensor 'within a communications device' is the only new subject matter added . . . by the [continuation-in-part] application . . . which is the parent of the ['796 patent" and that the parent application "added Fig. 9 to introduce an acceleration sensor 'within a communications device'." Reply 3 (citing Ex. 1010, App. 1). Petitioner argues that, although the grandparent application

"does disclose the acceleration sensor within a device 11 that includes a one-way 'RF transmitter' for communicating with receiver unit 103," its Figures 1, 2, and 6–8 do not show acceleration sensor 25 within remote receiver units/mobile devices 103, which can receive signals. Reply 4–6 (citing Ex. 1007, 34:11–20, 37:20–38:1, 42:18–21, 58:10–12). Petitioner, thus, contends that the express definition of "communication device" does not encompass, cover, or contemplate a one-way RF transmitter device and that "[a]ll of the devices listed in the express definition include two-way communication capabilities." *Id.* at 6–7.

We authorized Patent Owner to file a sur-reply addressing the construction of the term "communication device" in this proceeding. Paper 25 (Order). In its sur-reply, Patent Owner argues that the "claims only require the communication device to transmit data, not receive it" and "[n]o claims require the communication device to receive information." Paper 26, 1.

Patent Owner also argues that the '796 patent "never states *two-way* communication is required" and defines "communication device" broadly with non-limiting examples. *Id.* (citing Ex. 1001, 2:46–50). Patent Owner asserts limiting claims to specific examples or importing the examples into a construction would be improper. *Id.* at 1–2 (citing *Dealertrack, Inc. v. Huber*, 674 F.3d 1315, 1321–22 (Fed. Cir. 2012); *Joovy LLC v. Target Corp.*, 437 F. App'x 932, 936 (Fed. Cir. 2011)). Patent Owner further contends that "[e]xemplary embodiments confirm 'one-way' communication is sufficient" and that the "broadest reasonable construction of a communication device must cover a 'distributed device' with wirelessly

associated components." *Id.* at 2–3 (citing Ex. 1001, 7:1–11, 7:28–32, 10:25–50, Figs. 1, 2, 6, 7; Ex. 2038, 2–3).

Turning first to the express language of independent claims 1 and 10, claim 1 recites a "system within a communications device capable of evaluating movement of a body relative to an environment . . . wherein said communication[1] device transmits said tolerance indicia," and claim 10 recites a "method for operating a system within a communications device . . . wherein said method comprises the steps of . . . transmitting said tolerance indicia through said communications device." We, thus, agree with Patent Owner that claims 1 and 10 only require the "communications device" to transmit tolerance indicia.

The '796 patent also states that the "term 'communication device' is defined broadly to include, without limitation, cellular telephones, personal digital assistants, hand held computers, laptops, computers, wireless Internet access devices, and other similar types of communications equipment." Ex. 1001, 2:46–50. Because of the qualifiers "broadly," "without limitation," and "other similar types of communications equipment," we do not find that the '796 patent's purported definition of "communication device" limits the

[1] Unlike claim 10, claim 1 recites "said communication device," not "said communications device," which would then refer to the "communications device" previously recited in the preamble of claim 1. It appears to be a drafting error, and the parties provide arguments that are not dependent on any difference between "communications device" and "communication device." *See* Reply 1 ("PO has ignored the proper claim construction dictated by the express definition of 'communication device' in the '796 specification"), 3 ("the '796 specification includes an express definition for the claimed term 'communications device'"); Paper 26, 1 ("[t]here are two main disputes regarding construction of 'communication device'").

claim's recitation of "communications device" to the purported definition's listed, exemplary communications equipment. *See also* Ex. 2039, 205:18–21 (Petitioner's declarant stating that "[t]hese are just examples that illustrate, that are concrete examples, that tell you the sort of space the broad, in quotes, space that we're talking about"), 207:15–18 (Petitioner's declarant stating that "those examples are painting a picture of a space of communications devices that the inventors intended to encompass by that statement" and "[a]t least that's the way I think a person of ordinary skill would read it").

The definition of "communication device" was not included in the disclosure of the '796 patent's grandparent application (*see* Prelim. Resp. 14); however, Petitioner does not persuade us that the added definition was intended to exclude embodiments already described in the '796 patent's grandparent application. Both the '796 patent and its grandparent application describe that an "[e]xemplary indicating means 41 [is] . . . operable to . . . communicate such state, or tolerance, indicia to a monitoring controller," that "[i]ndicating means 41 may take any number of forms," and that "in system 11 of the present embodiment, stage 41 is an RF transmitter." Ex. 1001, 7:1–7; Ex. 1007, 43:14–20. Both the'796 patent and its grandparent application describe an indicating means 41 as being an RF transmitter and operable to communicate, which indicates that a device with an RF transmitter would be a communications device. The '796 patent's description of indicating means 41 as an RF transmitter and operable to communicate also indicates that "communications device" should not be limited to two-way communication devices.

Moreover, the grandparent application states that "[s]ystem 11 may be implemented using any suitably arranged computer or other processing system including micro, personal, mini, mainframe or super computers, as well as network combinations of two or more of the same." Ex. 1007, 44:12–15. The list includes systems that are similar to, at least, the "laptops" and "computers" listed in the definition of "communication device." Ex. 1001, 2:46–50.

The Welch Reply Declaration also cites to an "Appellants' Brief Under 37 C.F.R. § 1.192" in the file history of the '796 patent's parent application, wherein Appellants stated that the "communications device is capable of sending messages to the processor and receiving messages from the processor" in a required "Summary of Invention." Ex. 1010, 64 (citing Ex. 1006, 152). Petitioner, however, does not explain how this statement can be deemed a clear disavowal of claim scope with regard to the term "communications device." Nor does Petitioner show that this statement was made by Appellants to distinguish over prior art, when the issues being addressed at the time concerned a double patenting rejection, failure to provide Primary Examiner approval of a rejection, and the finality of a rejection (*see* Ex. 1006, 153). The Appellants' Brief also states that "amended Claims 1–24 claim a 'communications device' comprising a 'sensor and processor' to evaluate body movement" and that "Appellants recognize that a 'communications device' comprising a 'sensor and processor' to evaluate body movement may be subject to an obviousness-type double patenting rejection in view of United States Patent No. 6,307,481 B1." Ex. 1006, 157. The patent cited by Appellants is the patent that issued from the grandparent application. Ex. 1001, 1:6–10.

Therefore, for the preceding reasons, Petitioner does not persuade us that the definition of "communication device" excludes devices with only an RF transmitter and includes only devices with two-way communication. Based on the full record before us and for the purposes of this Decision, we determine that the term "communications device" includes devices with an RF transmitter and devices with two-way communication. *See* Reply 1–2, 6–7. Also, for the purposes of this Decision, we do not need to further interpret "communication device" or any other claim term.

III. CHALLENGE BASED ON YASUSHI

To prevail in its challenge of claims 1–3, 9–12, and 18–20 as unpatentable over Yasushi, Petitioner must prove unpatentability by a preponderance of the evidence. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d).

A. Priority Date

The '796 patent issued from an application, which is a continuation of application 09/727,974 ("the parent application"), filed on November 30, 2000 and issued as U.S. Patent No. 6,501,386. Ex. 1001, 1:6–8. The parent application is a continuation-in-part of application 09/396,991 ("the grandparent application"), filed on September 15, 1999 and issued as U.S. Patent No. 6,307,481, which Petitioner challenges in IPR2015-00105. Ex. 1001, 1:8–10.

Petitioner argues that "claims 1 and 10 of the ['']796 patent both recite the feature of providing the sensor system 'within a communication device'" and "[t]his feature was first disclosed by Applicant in the '386 application filed November 30, 2000, in which the Applicant added Fig. 9 and the associated communications device description to the specification." Pet. 9

(citing Ex. 1001, claims 1, 10; Ex. 1006). Petitioner, thus, argues that "the earliest priority date to which the claims of the '796 patent are entitled is November 30, 2000." *Id.* (citing Ex. 1008). Petitioner also states that Yasushi "was published on November 10, 1998" and "Yasushi is prior art under §102(b) to claims 1–3, 9–12 and 18–20 of the '796 patent." *Id.* at 10.

In the Decision on Institution, we determined that Patent Owner showed that claims 1 and 10 are supported by the written description of the grandparent application filed on September 15, 1999, because both the '796 patent and the grandparent application describe a "system within a communications device" and a "method for operating a system within a communications device," as recited by these claims. Dec. on Inst. 17–18 (citing Ex. 1001, 7:5–11, Figs. 1, 2; Ex. 1007 at 43, 68).

We considered Yasushi prior art under § 102(a)[2] for purposes of the Decision on Institution because Yasushi's November 10, 1998, publication date indicates that Yasushi's portable accident monitoring device 1 was described in a printed publication in a foreign country before September 15, 1999—the earliest priority date of the '796 patent. *Id.* at 18. In our Decision on Institution, we stated that "[a]t this stage of the proceeding, the Board has not made a final determination with respect to . . . any underlying factual and legal issues." *Id.* at 24.

By presenting evidence and argument for antedating Yasushi, Patent Owner appears to rely on the preliminary determination in the Decision on Institution, and does not provide further evidence or argument showing why

[2] Applications filed before March 16, 2013 are governed by pre-AIA 35 U.S.C. §§ 102 and 103. *See* Manual of Patent Examining Procedure § 2159.01.

the challenged claims are supported by the written description of the priority application so as to be entitled to a priority date of at least September 15, 1999. *See, e.g.*, PO Resp. 1.

In order to receive benefit of the filing date of an application previously filed in the United States, the subsequent application for patent must be for an invention disclosed in the manner provided in 35 U.S.C. § 112, first paragraph. 35 U.S.C. § 120; *see also* 37 C.F.R. § 1.78; *see Tronzo v. Biomet, Inc.*, 156 F.3d 1154, 1158 (Fed. Cir. 1998) (discussing requirements of claiming benefit of priority date of earlier application under 35 U.S.C. § 120).[3] To satisfy 35 U.S.C. §112, first paragraph, the written description must convey with reasonable clarity to those skilled in the art that the inventor was in possession of the claimed invention. *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563–64 (Fed. Cir. 1991). One shows "possession" of the invention by describing the invention using such descriptive means as words, structures, figures, diagrams, formulas, etc. that fully set forth the claimed invention. *Lockwood v. Am. Airlines, Inc.*, 107 F.3d 1565, 1572 (Fed. Cir. 1997). The issue of whether the written

[3] The subsequent application must also be filed before the patenting or abandonment of or termination of proceedings on the first application or on an application similarly entitled to the benefit of the filing date of the previously filed application and contain or be amended to contain a specific reference to the previously filed application. 35 U.S.C. § 120; *see also* 37 C.F.R. § 1.78. In this case, the application that matured into the '796 patent was filed on December 30, 2002, which is before the patenting of the parent application on December 31, 2002, which was similarly entitled to the benefit of the filing date of the grandparent application. Ex. 1001, 1; Ex. 1007, 8. The application that matured into the '796 patent contained a specific reference to the grandparent application. Ex. 1006, 38.

description requirement has been satisfied is a question of fact. *Wang Labs., Inc. v. Toshiba Corp.*, 993 F.2d 858, 865 (Fed. Cir. 1993).

We determine whether Patent Owner has provided sufficient evidence to support that the written description requirement has been satisfied with respect to the recitation of a "communications device" in the grandparent application filed on September 15, 1999. In its arguments regarding the construction of "communications device," Patent Owner contends that the '796 patent "expressly describes distributed communication devices in which the processor and sensor are wirelessly associated," that "the sensor unit necessarily communicates information wirelessly to the processor unit," and that system 11 shown in Figures 1 and 2 "uses an RF transmitter to communicate tolerance indicia to a monitoring controller 103 (Figs. 6 and 7), which contains a retransmission unit 125 incorporating communication means, such as digital cellular technology, an RF transmitter, or internet appliance." Paper 26, 2–3 (citing Ex. 1001, 7:28–32, 10:25–50). The cited descriptions of the '796 patent are also found in the grandparent application. *See* Ex. 1007, 44:15–19, 52:10–53:8.

Petitioner replies that Yasushi is prior art under § 102(b) and Patent Owner cannot swear behind Yasushi. Reply 2. Petitioner contends that the "only communication capability disclosed in the device containing the acceleration sensor 25 in the [grandparent] application is a one way, RF transmitter," that "[t]here is no disclosure in the [grandparent] application of the acceleration sensor 25 being located within any of the 'communication devices' listed in the express definition," and that there is "no support in the [grandparent] application for the challenged claims." *Id.* at 1–2 (citing Ex. 1007, 43:17–44:1, 68). Petitioner argues that a "system comprising an

acceleration sensor 'within a communications device' is the only new subject matter added . . . by the CIP application . . . which is the parent of the ['']796 patent" and that the parent application "added Fig. 9 to introduce an acceleration sensor 'within a communications device'." *Id.* at 3.

Petitioner also argues that Patent Owner cites Figure 8, which shows a mobile station 103, that is different from sensing device 11 of Figures 1 and 2 that contains acceleration sensor 25 and that there is no disclosure of acceleration sensor 25 being within mobile station 103. Reply 4 (citing Ex. 1007, 37:20–38:1, 42:18–21). Petitioner further asserts that the communication between processor 117 and monitoring controller 805 "has nothing to do with the communications capability of the device 11 of Figs. 1 and 2 containing sensor 25." *Id.* at 5 (citing Prelim. Resp. 13; Ex. 1007, 34:11–20, 58:10–12).

The grandparent application to which Patent Owner asserts priority describes that "[s]ystem 11 includes circuit boards 13 and 15 . . . associated with a housing (generally designated 17)," that "[h]ousing 17 may comprise . . . halves 19 and 21 that encase boards 13 and 15," and that "[s]ystem 11 includes a processor . . . and a sensor 25." Ex. 1007, 39:10–12, 39:16–19, 40:4–5; *see also* Ex. 1001, 5:25–28, 5:32–36, 5:45–46. Figure 2 illustrates system 11, "which includes processing circuitry 39, indicating means 41, . . . along with sensor 25" and shows sensor 25 on board 15 within housing 17. Ex. 1007, 42:18–21; *see also* Ex. 1001, 6:48–51. The grandparent application also describes that an "[e]xemplary indicating means 41 . . . [is] operable to . . . communicate such state, or tolerance, indicia to a monitoring controller," that "[i]ndicating means 41 may take any number of forms," and that "in system 11 of the present embodiment, stage 41 is an RF transmitter."

Ex. 1007, 43:14–20. Based on these descriptions of system 11 with an RF transmitter, we find that the grandparent application provides adequate written description support for the "communications device" recited by the challenged claims.

Petitioner further contends that "in view of the express definition of 'communication device', the disclosure of an RF transmitter is clearly not sufficient to provide written description support for the challenged claims as properly construed" because the express definition of "communication device" does not encompass a one-way RF transmitter, that "[a]ll of the devices listed in the express definition include two-way communication capabilities," and that "there is no written description support in the [grandparent] application for placing acceleration sensor 25 within these or any of the other communication devices listed in the express definition." Reply 5–7 (citing Ex. 1001, 2:46–50). Petitioner additionally asserts that Patent Owner admitted that communication capabilities beyond a wireless transmitter is not supported by the grandparent application and that the "communication device" has two-way communication capability which is not provided by an RF transmitter. Reply 8 (citing Prelim. Resp. 14).

For the reasons described above, we determine that the term "communications device" does not exclude devices with only an RF transmitter, and thus, Petitioner's arguments based on such a construction that excludes devices with an only an RF transmitter are unpersuasive. We also do not agree that "there is no written description support" in the grandparent application for sensor 25 being in other communication devices. The grandparent application describes that "[s]ystem 11 may be implemented using any suitably arranged computer or other processing

system including micro, personal, mini . . . as well as network combinations of two or more of the same" and that "in one advantageous embodiment, sensor 25 and processor 47 are not co-located, but rather associated wirelessly." Ex. 1007, 44:12–17; *see also* Ex. 1001, 7:24–30. In a distributed system according to an embodiment, the grandparent application states that "[m]obile stations 103, and 811 to 814, may be any suitable cellular devices, including conventional cellular telephones, PCS handset devices, portable computers, metering devices, transceivers, and the like (including, for instance, remote receiver unit 103)." Ex. 1007, 52:12–16, 54:6–10; *see also* Ex. 1001, 10:29–31, 11:8–12. Based on these disclosures, we find that the grandparent application provides adequate written description support for system 11 and remote receiver unit 103 being a "communications device" as recited by the challenged claims. *See also* Ex. 2006 ¶ 109 (Patent Owner's declarant citing the same portions and stating that "[b]y operating as a mobile station in a wireless communications system, the distributed device formed by the combination of the sensor system 11 and the remote receiver unit 103 is a communications device").

We also find that the listed, exemplary devices provide adequate written description support for a communications device being a range of devices such as, "cellular devices, including conventional cellular telephones, PCS handset devices, portable computers, metering devices, transceivers, and the like." Ex. 1007, 54:6–10. Dependent claims 2, 3, 10, and 11, which require the communications device to comprise one of a cordless telephone, a cellular telephone, a personal digital assistant, a hand held computer, a laptop computer, and a wireless Internet access device,

thus, have adequate written description support in the grandparent application.

Accordingly, we determine that claims 1–3, 9–12, and 18–20 are entitled to a priority date of September 15, 1999, the filing date of the grandparent application.

B. Antedating Yasushi

Patent Owner bears the burden to establish the facts necessary to overcome Yasushi's publication date.[4] *See In re Facius*, 408 F.2d 1396, 1403–04 (CCPA 1969) (holding, in a prosecution context, that an earlier filed reference was prima facie available as prior art and placing the burden on the party claiming prior invention to overcome that reference). Patent Owner may meet its burden by providing evidence that the publication date of the reference is not "before the invention thereof by the applicant for [a] patent," 35 U.S.C. § 102(a), that is, antedating Yasushi.

Yasushi was published on November 10, 1998. As described above, claims 1–3, 9–12, and 18–20 of the '796 patent are entitled to a priority date of September 15, 1999. Thus, Yasushi is available as prior art against these claims under 35 U.S.C § 102(a) unless Patent Owner establishes (i) a reduction to practice before November 10, 1998, or (ii) conception before November 10, 1998, followed by a diligent reduction to practice. *Purdue Pharma L.P. v. Boehringer Ingelheim GMBH*, 237 F.3d 1359, 1365 (Fed. Cir. 2001) ("To antedate . . . an invention, a party must show either an

[4] Even though Patent Owner bears the burden of production in antedating a reference, the burden of persuasion to prove unpatentability of the challenged claims remains with Petitioner. *See* 35 U.S.C. § 316(e).

earlier reduction to practice, *or* an earlier conception followed by a diligent reduction to practice.") (emphasis added) (citation omitted).

Reduction to practice is a question of law predicated on subsidiary factual findings. *Brown v. Barbacid*, 276 F.3d 1327, 1332 (Fed. Cir. 2002). To establish an actual reduction to practice, the inventor must prove that: (1) an embodiment of the invention was constructed that meets all the limitations of the claims at issue; and (2) the inventor appreciated that the invention would work for its intended purpose. *Cooper v. Goldfarb*, 154 F.3d 1321, 1327 (Fed. Cir. 1998). The invention does not have to be at a commercially satisfactory stage of development for an actual reduction to practice, but must have been sufficiently tested to demonstrate that it will work for its intended purpose. *See, e.g.*, *Scott v. Finney*, 34 F.3d 1058, 1062 (Fed. Cir. 1994) (citing numerous cases wherein the character of the testing necessary to support an actual reduction to practice varied with the complexity of the invention and the problem it solved).

It is well settled that an inventor's testimony alone is insufficient to establish an earlier reduction to practice. *Medichem, S.A. v. Rolabo, S.L.*, 437 F.3d 1157, 1170 (Fed. Cir. 2006). Instead, the party seeking to prove an actual reduction to practice must proffer evidence corroborating that testimony. *Id.* "Sufficiency of corroboration is determined by using a 'rule of reason' analysis, under which all pertinent evidence is examined when determining the credibility of an inventor's testimony." *Id.* (citation omitted). Corroboration may be testimony of a witness, other than the inventor, to the actual reduction to practice, or it may consist of evidence of surrounding facts and circumstances independent of information received from the inventor. *Id.*

Patent Owner proffers declarations from the listed inventors of the '796 patent (Exs. 2007–2011), who also are listed inventors of the parent application and, except for Mr. Massman, are listed inventors of the grandparent application.[5] Patent Owner also proffers the Declarations of Don James (Ex. 2012) and Greg Younger (Ex. 2013), who are identified as corroborating witnesses. Patent Owner further provides several supporting exhibits (Exs. 2015–2035).

The inventor and witness declarations support a finding that the inventors constructed a working prototype of the fall detection device and tested it on human subjects in August 1998. Ex. 2007 ¶¶ 17–18 (stating that "the first prototype did include the same Analog Devices ADXL202 accelerometer, Texas Instruments MSP430PM microprocessor, and RF transmitter" and the "first prototype was actually tested on human subjects at HWI in August 1998"); Ex. 2008 ¶ 15; Ex. 2009 ¶ 15; Ex. 2010 ¶ 15; Ex. 2012 ¶ 19 (corroborating witness stating that the "first prototype was actually tested on human subjects at HWI in August 1998" and the "prototype used a dual-axis accelerometer to measure the person's movement and orientation, as well as a microprocessor with code configured to process the sensed static and dynamic acceleration to determine if the user had experienced a real fall"); Ex. 2013 ¶ 19. The inventors constructed a working prototype on a solderless breadboard instead of a printed circuit board, but included the same accelerometer, microprocessor, and RF

[5] Patent Owner states that "[a]ll the inventors filed certificates of correction . . . , reflecting that Michael L. Lehrman, Alan R. Owens, Michael D. Halleck, and Michael E. Halleck were all co-inventors of all the iLife Patents." PO Resp. 19.

transmitter as later designs. Ex. 2007 ¶ 17; Ex. 2008 ¶ 18; Ex. 2009 ¶ 18; Ex. 2010 ¶ 18; Ex. 2012 ¶ 18; Ex. 2013 ¶ 18. As stated by inventors, and corroborated by other witnesses, the

> prototype used a dual-axis accelerometer to measure the person's movement and orientation, as well as a microprocessor with code configured to process the sensed static and dynamic acceleration to determine if the user had experienced a real fall as opposed to normal daily activities such as walking, sitting, standing, or lying down.

Ex. 2007 ¶ 18; Ex. 2008 ¶ 19; Ex. 2009 ¶ 19; Ex. 2010 ¶ 19; Ex. 2012 ¶ 19; Ex. 2013 ¶ 19. The inventor and witness declarations further support the finding that the inventors tested the prototype in August 1998, and based on success in that testing, formal engineering drawings were prepared for production release. Ex. 2007 ¶¶ 18, 20–21; Ex. 2008 ¶¶ 21–22; Ex. 2009 ¶¶ 21–22; Ex. 2010 ¶¶ 21–22; Ex. 2012 ¶¶ 21–22; Ex. 2013 ¶¶ 21–22.

Inventor and corroborating witness declarations support a finding that the inventors prepared formal engineering drawings (Ex. 2031) that included a printed circuit board layout. Ex. 2007 ¶ 21 (citing Ex. 2030 ("Drawing Number Assignment Log")); Ex. 2008 ¶ 22; Ex. 2009 ¶ 22; Ex. 2012 ¶ 22. The inventors assembled additional field prototypes constructed of printed circuit boards, loaded them with code, and tested them by late September 1998. Ex. 2007 ¶¶ 26, 30; Ex. 2008 ¶ 30; Ex. 2009 ¶ 30; Ex. 2010 ¶ 19; Ex. 2012 ¶ 19; Ex. 2013 ¶ 19. The inventors also built a prototype with the particular printed circuit board corresponding to drawing IAF680R1 on or around September 23, 1998. Ex. 2008 ¶ 28 (citing Ex. 2032); Ex. 2009 ¶ 28 (citing Ex. 2032); Ex. 2012 ¶ 28 (citing Ex. 2032); Ex. 2013 ¶ 28 (citing Ex. 2032). The inventors also created a new layout IAF683R1 on September 23, 1998. Ex. 2008 ¶ 29 (citing Ex. 2030); Ex. 2012 ¶ 29 (citing Ex. 2030); Ex.

2013 ¶ 29 (citing Ex. 2030). The prototypes "performed as expected and were suitable for their intended purpose of movement evaluation and fall detection when tested in August and September of 1998." Ex. 2007 ¶ 30; Ex. 2009 ¶ 28; Ex. 2012 ¶ 28; Ex. 2013 ¶ 28.

Accordingly, Patent Owner has provided declarations from the inventors and corroborating witnesses supporting a finding that the inventors designed, made, and tested fall detection systems embodying the subject claims of the patent at issue in August and September of 1998. PO Resp. 2–13, 31–32 (citing Exs. 2007–2013). Patent Owner has also provided contemporaneous notes and records from this time period supporting a finding that the inventors actually reduced to practice a first working embodiment in August 1998. *Id.* (citing Exs. 2015–2035). Patent Owner provides additional evidence that the inventors created a second generation embodiment with the same basic elements and component parts as the first embodiment on or about September 23, 1998. *Id.* at 13–17 (citing Ex. 2007 ¶ 26; Exs. 2008–2010, 2012–2013 ¶¶ 27–30; Exs. 2018, 2030, 2032), 34 (citing Ex. 2007 ¶¶ 26, 28; Exs. 2008–2010, 2012–2013 ¶¶ 28, 34).

Patent Owner's evidence also supports a finding that the first working embodiment "was an intelligent personal emergency response system ('iPERS') capable of monitoring the movements of an elderly person and automatically detecting real falls as opposed to normal daily activity." *Id.* at 32 (citing Exs. 2007–2010, 2012–2013 ¶ 4); *see also id.* at 10 (stating "[a]ll witnesses agree that the device worked for its intended purpose of distinguishing real falls from normal activities"). This corresponds to the claimed system "capable of evaluating movement of a body relative to an environment." Ex. 1001, 13:49–48, 14:21–22.

Patent Owner's evidence supports a finding that the inventors created a working embodiment that used a dual-axis accelerometer to measure the person's movement and orientation. PO Resp. 32 (citing Ex. 2007 ¶ 19; Exs. 2008–2010, 2012–2013 ¶ 20); *see also id.* at 4 (citing Ex. 2016), 10–11. Patent Owner's evidence supports a finding that the working embodiment was "configured to process the sensed static and dynamic acceleration." *Id.* at 32 (citing 2007 ¶ 19; Exs. 2008–2010, 2012–2013 ¶ 20). This corresponds to the claimed "sensor, associable with said body, that senses dynamic and static accelerative phenomena of said body." Ex. 1001, 13:51–52, 14:23–25.

Patent Owner's evidence (Ex. 2007 ¶ 19; Exs. 2008–2010, 2012–2013 ¶ 20; Ex. 2019 at 1–2) supports a finding that the working embodiment used "a microprocessor with code configured to process the sensed static and dynamic acceleration to determine if the user had experienced a real fall as opposed to normal daily activities." PO Resp. 32 (citing Ex. 2007 ¶ 19; Ex. 2008–2010, 2012–2013 ¶ 20); *see also id.* at 9. This corresponds to the claimed "processor, associated with said sensor, that processes said sensed dynamic and static accelerative phenomena as a function of at least one accelerative event characteristic." Ex. 1001, 13:53–56, 14:26–29. Patent Owner's evidence supports a finding that the inventors programmed a working embodiment

> to measure both static and dynamic acceleration forces to evaluate changes in the wearer's movement and orientation to determine if the person had fallen based on observed dynamic accelerative forces indicating a hard impact of at least 3Gs coupled with a change in static accelerative forces of at least 45 degrees within a specified timeframe.

PO Resp. 32–33 (citing Ex. 2007 ¶ 27; Exs. 2008–2010, 2012–2013 ¶ 24) *see also id.* at 3 (citing Ex. 2016), 10 (citing Ex. 2007 ¶ 19; Exs. 2008–2010, 2012–2013 ¶ 20). This corresponds to the phrase "to thereby determine whether said evaluated body movement is within environmental tolerance." Ex. 1001, 13:56–57, 14:29–30.

Patent Owner's evidence supports a finding that the working embodiment "communicated information indicating whether the evaluated body was within tolerance to a base station for remote monitoring." PO Resp. 33 (citing Ex. 2007 ¶ 30; Exs. 2008–2010, 2012–2013 ¶ 34); *id.* at 12 (stating that the "system used both static and dynamic acceleration outputs from an ADXL202 dual-axis accelerometer to detect that a person wearing the sensor had fallen down, with such information then being used to activate an automatic telephone dialing module to call for help" and citing Ex. 2019, 1; Ex. 2007 ¶ 23; Exs. 2008–2010, 2012–2013 ¶ 24); Ex. 2019, 1 (stating that the fall detector "detect[s] that a person wearing such a sensor has fallen down and this information can be used to activate an automatic telephone dialing module so as to alert others to the plight of the fallen individual"). This corresponds to the phrases "wherein said processor generates tolerance indicia in response to said determination; and wherein said communication device transmits said tolerance indicia" and "generating tolerance indicia in said processor in response to said determination of whether said evaluated body movement is within environmental tolerance; and transmitting said tolerance indicia through said communications device." Ex. 1001, 13:58–61, 14:32–36. The evidence also supports a finding that the inventors actually reduced to practice a system "wherein said communications device transmits said tolerance indicia to a monitoring

controller," as recited by dependent claim 9, and "the step of: transmitting said tolerance indicia from said communications device to a monitoring controller," as recited by dependent claim 18.

Dependent claims 19 and 20 recite the steps of "generating in said processor state indicia while processing said sensed accelerative phenomena, which represents a state of said body within said environment over time; and transmitting said state indicia through said communication device" and "generating in said processor an output signal that is indicative of measurements of both static and dynamic acceleration of said body in plural axes; and transmitting said output signal through said communications device." Patent Owner's evidence that the working embodiment was

> programmed to measure both static and dynamic acceleration forces to evaluate changes in the wearer's movement and orientation to determine if the person had fallen based on observed dynamic accelerative forces indicating a hard impact of at least 3Gs coupled with a change in static accelerative forces of at least 45 degrees within a specified timeframe

and that it "communicated information indicating whether the evaluated body was within tolerance to a base station for remote monitoring" corresponds to the recitations of dependent claims 19 and 20. PO Resp. 32–33.

The filed declarations with associated exhibits sufficiently evidence that the inventors conceived and reduced to practice a physical construct of the invention, as well as engaged in testing of the invention in a manner that demonstrated that it worked for its intended purpose by September 1998. Ex. 2007 ¶¶ 17–21; Ex. 2008 ¶¶ 18–22; Ex. 2009 ¶¶ 18–22; Ex. 2010 ¶¶ 18–22; Ex. 2012 ¶¶ 18–22; Ex. 2013 ¶¶ 18–22. Accordingly, Patent Owner has presented sufficient evidence to support that the inventors actually reduced

to practice embodiments of claims 1–3, 9–12, and 18–20 by September 1998, which is *before* the first publication of Yasushi on November 10, 1998. The full record indicates that Petitioner does not present adequate argument or evidence to challenge the sufficiency of the testimony and evidence submitted by Patent Owner that demonstrates an actual reduction to practice prior to November 10, 1998. *See* Reply 10–11 (Petitioner arguing that its construction of "communications device" disqualifies the RF transmitter of Patent Owner's reduction to practice evidence); *see also* Tr. 140:9–13 (Patent Owner's counsel stating "there is substantial uncontroverted, well corroborated evidence in the record, uncontroverted by the Petitioner, that establish that iLife conceived and reduced to practice the invention before the publication date of Yasushi, November 10, 1998"). Thus, we determine that Yasushi does not qualify as prior art to the '796 patent.

Because Yasushi is not prior art as to claims 1–3, 9–12, and 18–20, Petitioner has failed to demonstrate, by a preponderance of the evidence, that claims 1–3, 9–12, and 18–20 would have been obvious over Yasushi under 35 U.S.C. § 103(a).

IV. MOTION TO EXCLUDE

Patent Owner filed a motion "to exclude portions of Exhibit 1010, the Reply Declaration of Gregory Francis Welch, Ph.D." Paper 29, 1. In particular, Patent Owner argues that paragraphs 7, 8, and 13–35 and Appendix 1 "make new claim construction arguments about what is required to satisfy the 'communications device' limitation in the context of claims 1 and 10 of the [']796 Patent." *Id.* Patent Owner also argues that paragraphs

37–41 "make new claim construction arguments about what is required to 'process' sensed static and dynamic accelerative phenomena in the context of claims 1 and 10 of the '796 [p]atent." *Id.* at 3.

Petitioner responds that Patent Owner "fails to identify any applicable Federal Rules of Evidence for excluding Mr. Welch's testimony" and that such a motion should not be used to argue that a reply contains new arguments. Paper 33, 1–2. Patent Owner replies that "[b]ecause Petitioners should have raised these constructions in their Petition, supporting evidence submitted with the Reply should be excluded." Paper 37, 2.

We do not rely on any of paragraphs 7, 8, 13–35, and 37–41 and Appendix 1 of the Welch Reply Declaration. These portions are cited only to indicate where Petitioner finds support for its arguments. We, thus, dismiss as moot Patent Owner's motion to exclude.

V. NOTICE REGARDING NEW ARGUMENTS AND BELATED SUPPORT

Patent Owner filed a "Notice Regarding New Arguments and Belated Support." Paper 30. Patent Owner contends that "[p]ages 1–12 of Petitioners' Reply include new arguments regarding what elements are required to constitute a 'communication device' under the ']796 patent" and Patent Owner "had no opportunity to respond or address in its Response or responsive evidence." *Id.* at 1.

Petitioner filed a response (Paper 34) to Patent Owner's Notice, in which Petitioner asserts that pages 1–12 of the Reply "are directly responsive to [Patent Owner's] assertions that Yasushi allegedly 'does not qualify as prior art and cannot be used to invalidate the ']796 [p]atent'" (*id.*

at 1) (citing PO Resp. 1–19, 31–34; Prelim. Resp. 12–14; Ex. 2006 ¶¶ 108–115).

We agree with Petitioner that pages 1–12 of the Reply are responsive to arguments presented by Patent Owner in the cited briefs and paragraphs of the Declaration of Dr. Sturges (Ex. 2006), wherein Patent Owner asserted that Yasushi does not qualify as prior art. Also, to the extent it can be deemed new arguments, we were "persuaded that additional briefing of the identified claim construction issues by Patent Owner will be helpful to the panel in rendering its Final Written Decisions." Paper 25, 2 (Order authorizing Patent Owner to file a sur-reply addressing the construction of the term "communications device"). Patent Owner, thus, had an opportunity to respond via a sur-reply, which Patent Owner filed (Paper 26). Moreover, as discussed above, we are not persuaded by Petitioner's arguments at pages 1–12 of its Reply.

VI. CONCLUSION

For the foregoing reasons, based on the full record before us, we determine that Petitioner has not demonstrated, by a preponderance of the evidence, that, under 35 U.S.C. § 103, claims 1–3, 9–12, and 18–20 of the '796 patent are unpatentable over Yasushi.

VII. ORDER

For the reasons given, it is:

ORDERED that claims 1–3, 9–12, and 18–20 of U.S. Patent No. 6,864,796 B2 have not been shown, by a preponderance of the evidence, to be unpatentable;

FURTHER ORDERED that Patent Owner's Motion to Exclude is *dismissed* as moot; and

FURTHER ORDERED that, because this is a Final Written Decision, the parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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