

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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GARMIN INTERNATIONAL, INC.,  
Petitioner,

v.

MSPBO, LLC,  
Patent Owner.

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Case IPR2014-01379  
Patent 6,744,375 B1

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Before DEBRA K. STEPHENS, JOSIAH C. COCKS, and  
JAMES B. ARPIN, *Administrative Patent Judges*.

STEPHENS, *Administrative Patent Judge*.

DECISION  
Institution of *Inter Partes* Review  
*37 C.F.R. § 42.108*

## I. BACKGROUND

Garmin International, Inc. (“Petitioner”) filed a corrected Petition (Paper 5, “Pet.”) to institute an *inter partes* review of claims 1 and 9–12 (the “challenged claims”) of U.S. Patent No. 6,744,375 B1 (Ex. 1001, “the ’375 Patent”). 35 U.S.C. §§ 311–319. MSPBO, LLC (“Patent Owner”) filed a Preliminary Response. Paper 10 (“Prelim. Resp.”). We have jurisdiction under 35 U.S.C. § 314, which provides that an *inter partes* review may not be instituted “unless . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a).

Petitioner challenges claims 1 and 10 as anticipated under 35 U.S.C. § 102(b) and claims 1 and 9–12 as unpatentable under 35 U.S.C. § 103(a). Pet. 28–58. Patent Owner contends that the Petition should be denied as to all challenged claims. Prelim. Resp. 17–18. Based on our review of the record, we are persuaded that Petitioner shows a reasonable likelihood of prevailing in demonstrating that at least one of the challenged claims is not patentable.

### A. *Related Matters*

Patent Owner indicates the ’375 Patent was asserted in *MSPBO, LLC v Adidas N. Am., Inc.*, No. 1:13-cv-02287 (D. Colo.) (Paper 6) and *MSPBO, LLC v. Garmin Int’l, Inc.*, No. 1:13-cv-3388 (D. Colo.) (Paper 1). Paper 8, 24.<sup>1</sup>

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<sup>1</sup> Copies of filings in the related matters have been filed erroneously as Paper 1 and Paper 6, instead of exhibits. Papers 1 and 6 shall be expunged from the record of the proceeding. *See* 37 C.F.R. § 42.7(a). These papers must be resubmitted as Exhibits with five days of the date of entry of this Decision.

*B. The '375 Patent (Ex. 1001)*

The '375 Patent, titled “DEVICE AND METHOD FOR DETERMINING AND DISPLAYING TRAVEL OR FITNESS QUANTITIES OF A USER OF A SPORTS EQUIPMENT,” issued on June 1, 2004. The '375 Patent describes devices and methods for determining and displaying travel data of sports equipment which has contact with the ground. Ex. 1001, Abstract; 1:10–13. According to the '375 Patent, a need exists to determine sports achievements performed with sports equipment, such as, for example, distances traveled or speeds reached. *Id.* at 1:21–25. The '375 Patent acknowledges several systems have been devised to provide this information to a user; however, the '375 Patent indicates these systems are impractical, do not permit user-friendly accessing of data, and suffer from high power consumption requiring frequent battery replacement. *Id.* at 1:26–2:5. Thus, the devices and methods of the '375 Patent are intended to provide greater user friendliness and reduced power consumption, resulting in longer service life for the battery needed to power the system. *Id.* at 1:66–2:12.

A system shown in the '375 Patent, includes roller skate or inline skate 100. *Id.* at 4:1–2. For instance, Figure 1 of the '375 Patent illustrates a perspective view of a preferred embodiment of a wheel usable on an inline skate and a wristwatch device for receiving data.

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*See* 37 C.F.R. § 42.6 (b)(2)(c) (requiring filing of an exhibit cited in a document).

Figure 1 of the '375 Patent is reproduced below:

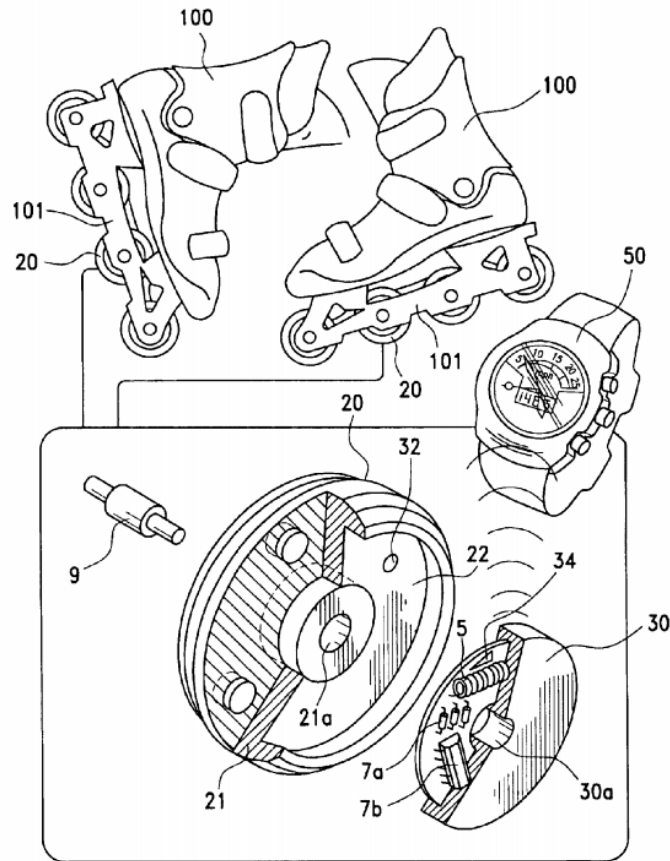


FIG. 1

Skate 100 includes wheels 20, each having wheel body 21. *Id.* at Fig. 1. Electrical or electronic component 30 is inserted into recess 22 of wheel body 21 of wheel 20. *Id.* at Abstract, 4:6–16; 5:32–50. Further, component 30 may be accommodated by housing 47 having housing cover 48. *Id.* at 4:54–60, Fig. 2.

Component 30 includes microcontroller 7b and transceiver 34. *Id.* at 4:12–16. Microcontroller 7b records, partially processes, or fully processes,

travel data of the sports equipment based on the sports equipment's interaction with the ground and transmits, using sender or transmitter 34, the recorded or processed travel data to device 50, which may be in the form of a wristwatch. *Id.* at 4:8–12, 4:28–30, 4:33–36.

Permanent magnet 32 is integrated in wheel body 21. *Id.* at 3:65–67. Magnet 32 closes a circuit within a reed contact of the non-rotating wheel electronics, which includes component 30, housing 47, and housing cover 48. *Id.* at 4:66–5:6. Pulses are generated in this manner and are processed by microcontroller 7b. *Id.* at 5:6–8. Alternatively, pulse generators may be used to determine revolutions of wheel 20. *Id.* at 5:8–10. Software integrated in microcontroller 7b may process the determined time per revolution of wheel 20 to acquire standard distance per second or time interval valid for a pre-programmed standard diameter (or circumference) for wheel 20. *Id.* at 5:8–21.

As shown in Figure 3, transmitter 34 of component 30 transmits the processed data signal via radio to receiver 51 of display device 50. *Id.* at 5:37–39.

Figure 3 of the '375 Patent is reproduced below:

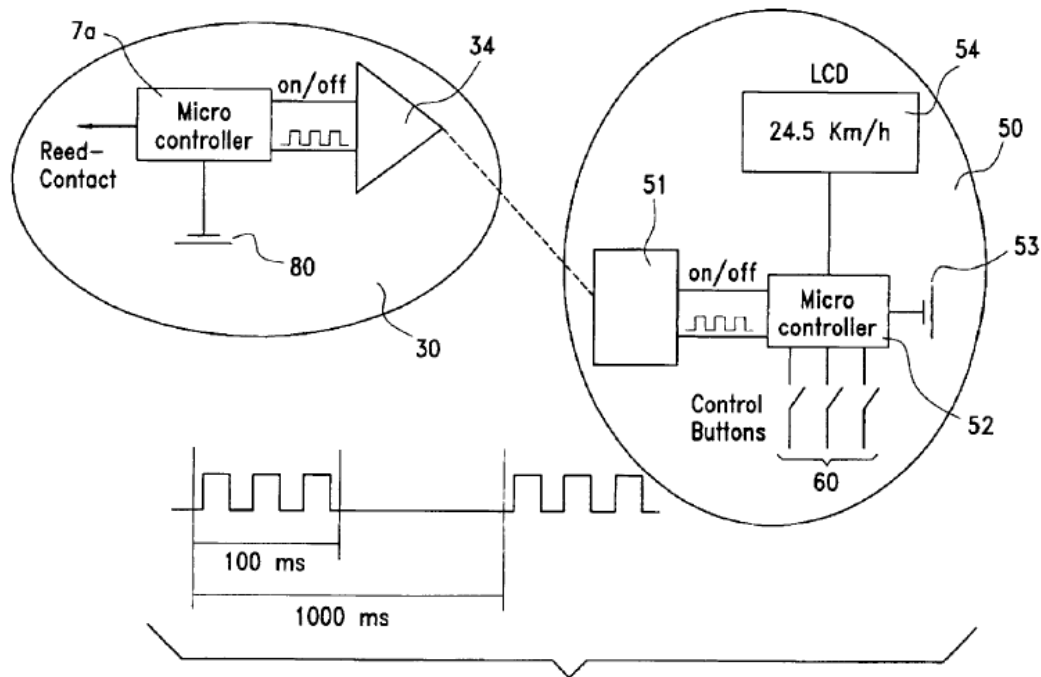


FIG. 3

Figure 3 depicts a schematic block diagram for describing the transceiver system usable according to the invention. Ex. 1001, 3:51–52. In Figure 3, transmitter 34 is controlled by microcontroller 7a,<sup>2</sup> such that “it transmits exclusively within defined transmitting time intervals (for example, 0.1–0.05 seconds per second).” *Id.* at 5:37–42. In the '375 Patent, transmitter 34 is switched off via microcontroller 7a, during the non-transmitting time interval, and switched on again only in time for the next transmitting time interval. *Id.* at 5:39–45. Receiver 51 of display device 50

<sup>2</sup> We note, in Figure 1 of the '375 Patent and its accompanying description, element 7a is designated as an amplifier, while the microcontroller is element 7b. In Figure 3 of the '375 Patent, the microcontroller now is labeled 7a, and the amplifier is not shown. For purposes of this discussion, we consider microcontroller 7a and 7b to be the same element and use the number interchangeably.

receives the transmitted data signal. *Id.* at 5:37–39. Receiver 51 can be controlled analogously or switched on and off via microcontroller 52 provided. *Id.* at 5:51–53. The received information, i.e., “distance per time interval,” can be further processed by microcontroller 52 for display on LCD 54. *Id.* at 5:55–62, 6:1–9. The devices and methods of the ’375 Patent may compute current speed, maximum speed, average speed, distance covered per day, total distance covered, skating duration, current diameter and/or circumference of the wheel in either microcontroller 52 or microcontroller 7a. *Id.* at 6:1–13. In microcontroller 7a, the computations are based on a standard distance standardized to the standard diameter of wheel 20; in microcontroller 52, the current or actual diameter can be accounted for and used in the computations. *Id.* at 5:55–6:8.

### *C. Illustrative Claim*

Of the challenged claims, claims 1, 9, and 10 are independent claims. Claims 11 and 12 depend, directly and indirectly, respectively from claim 10. Claim 1, reproduced below, is illustrative:

1. A device for determining and displaying travel data of a user of a sports equipment which has contact with the ground, comprising:
  - a) a first microcontroller associated with said sports equipment for at least recording or partially processing travel data of said sports equipment based on an interaction between said sports equipment and the ground;
  - b) a transmitter for transmitting the travel data to a receiver having a display;

- c) said receiver having a second microcontroller for at least further processing or displaying the partially processed travel data;
- d) said transmitter only transmits within defined transmitting intervals such that between said intervals when said transmitter is not transmitting, said transmitter is switched off; and
- e) said receiver is synchronized with said transmitter such that said receiver is switched on only when said transmitter is expected to transmit and switched off when transmission is not expected from said transmitter.

Ex. 1001, 6:65–7:19.

*D. The Prior Art Relied Upon*

Petitioner relies upon the following prior art references:

Name	Patent No.	Issue Date	Exhibit No.
Goetzl	US 5,721,539	Feb. 24, 1998	1002
Mayo	US 6,571,111 B1	May 27, 2003	1003
Okigami	US 5,743,269	Apr. 28, 1998	1004

Thomas Barber Jr., Phil Carvey, & Anantha Chandrakasan, *Designing for Wireless LAN Communications*, 12 IEEE CIRCUITS & DEVICES, 29–33 (July 1996) (Ex. 1005) (hereinafter “Barber”).



*E. Asserted Grounds of Unpatentability*

Petitioner contends that the challenged claims are unpatentable under 35 U.S.C. §§ 102 and 103 based on the following grounds (Pet. 15–16):

Claim(s)	Basis	References
1 and 9–12	§ 103	Goetzl and Mayo
9	§ 103	Goetzl, Mayo, and Understanding of One of Ordinary Skill in the Art
1 and 9–12	§ 103	Goetzl and Okigami
9	§ 103	Goetzl, Okigami, and Understanding of One of Ordinary Skill in the Art
1 and 10	§ 102	Barber

For the reasons described below, we institute an *inter partes* review of claims 1 and 9–12 based on obviousness over Goetzl and Mayo and over Goetzl and Okigami. We decline to institute an *inter partes* review of claim 9 based on (1) obviousness in light of Goetzl, Mayo, and Understanding of One of Ordinary Skill in the Art and (2) obviousness in light of Goetzl, Okigami, and Understanding of One of Ordinary Skill in the Art; and of claims 1 and 10 based on anticipation by Barber.

II. DISCUSSION

*A. The Seventh Amendment*

As a preliminary matter, Patent Owner argues that *inter partes* review proceedings violate the Seventh Amendment of the U.S. Constitution. Prelim. Resp. 17–18. The U.S. Court of Appeals for the Federal Circuit, however, previously has rejected this argument in the context of reexaminations. *Patlex Corp. v. Mossinghoff*, 758 F.2d 594, 603-05 (Fed.

Cir. 1985) (holding that even when applied retroactively, the reexamination statute does not violate the jury trial guarantee of the Seventh Amendment); *see also Joy Techs., Inc. v. Manbeck*, 959 F.2d 226, 228-29 (Fed. Cir. 1992) (affirming the holding in *Patlex*), *superseded by statute on other grounds*, 35 U.S.C. § 145, *as recognized in In re Teles AG Informationstechnologien*, 747 F.3d 1357 (Fed. Cir. 2014). *Inter partes* review proceedings continue the basic functions of the reexamination proceedings at issue in *Patlex*—authorizing the U.S. Patent and Trademark Office (“Office”) to review the validity of an issued patent and to render decisions resulting in the cancelation of any claims the Office concludes should not have been issued. Patent Owner does not identify any constitutionally-significant distinction between reexamination proceedings and *inter partes* review proceedings. Thus, for the reasons articulated in *Patlex*, we conclude that *inter partes* reviews, like reexaminations, do not violate the Seventh Amendment.<sup>3</sup>

### *B. Claim Interpretation*

In an *inter partes* review, claim terms in an unexpired patent are given their broadest reasonable construction in light of the specification of the patent in which they appear. 37 CFR § 42.100(b); *In re Cuozzo Speed Tech., LLC*, No. 2014-1301, 2015 WL 448667, at \*5–\*8 (Fed. Cir. Feb. 14, 2015). Claim terms are given their “ordinary and customary meaning” as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007) (quoting *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005))

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<sup>3</sup> *See also J. Carl Cooper v. Michelle K. Lee*, No. 1:14-cv-00672-GBL-JFA (E. D. Va. Feb. 18, 2015) (determining Congress intended that the exhaustion doctrine applied to *inter partes* review and constitutional claims.)

(en banc)). An inventor may rebut that presumption by 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).

Both Petitioner and Patent Owner propose interpretations for various terms. Pet. 16–27; Prelim. Resp. 1–4. We address only those terms, at this juncture, necessary for this decision and based on the record before us. Accordingly, on the current record, we construe the following claim terms:

1. “switched off”

Initially we note “switched off” is not defined explicitly in the Specification of the ’375 Patent. Petitioner contends the ’375 Patent discloses that a transmitter is switched off for a particular time period (in the example, a 900 milliseconds period of time), and switched on to transmit during defined transmitting time intervals (in the example, 0.1 – 0.5 seconds). Pet. 17–18 (quoting Ex. 1001, 5:36–50).

Patent Owner asserts the Specification of the ’375 Patent discloses transmitter 34 transmits exclusively within defined transmitting time intervals and is switched off for the remaining time. Prelim. Resp. 3–4.

Although neither party proffers an explicit interpretation of this term, Patent Owner and Petitioner both identify the same section of the ’375 Patent as describing this feature. *See* Pet. 17–18; Prelim. Resp. 3–4. This section of the ’375 Patent discloses that transmitter 34 transmits a signal to receiver 51. Ex. 1001, 5:37–39. Transmitter 34 is controlled to transmit exclusively within defined transmitting time intervals and switched off

during the remaining time. *Id.* at 5:39–45. Figure 3 of the '375 Patent illustrates “[a] *typical* course of the signal.” *Id.* at 5:45–46 (emphasis added). Therefore, taking the ordinary and customary meaning as would be understood by an ordinarily skilled artisan, in light of the Specification, for purposes of this Decision and on this record, we interpret “said receiver is switched off” to mean “said receiver is not receiving signals” and “said transmitter is switched off” to mean “said transmitter is not sending signals.”

2. “*only when said transmitter is expected to transmit*” (claim 1(e)); “*only when said transmitting means is expected to transmit*” (claim 9(f)); and “*only when a transmission is expected from the transmitter*” (claim 10(e))

Petitioner urges us to interpret these terms as requiring the receiver to be switched on “only in time” for reception of a transmitted signal. Pet. 17–18. Patent Owner, in their Preliminary Response, does not propose specifically how “only when. . . expected” should be interpreted, but argues Mayo does not disclose this feature (Ex. 1003). Prelim. Resp. 4.

Initially, we note “expect” is not defined explicitly in the Specification. Thus, taking the ordinary and customary meaning as would be understood by an ordinarily skilled artisan, in light of the Specification, we interpret “expect” as “to anticipate or look forward to the coming or occurrence of.” *See* MERRIAM-WEBSTER’S COLLEGIATE DICTIONARY 407 (10th ed. 2000). We note this interpretation does not require the “anticipated coming or occurrence of” actually comes or occurs, nor does this interpretation specify the period of time of this “anticipated coming or occurrence.” Accordingly, for purposes of this Decision and on this record, we interpret “only when said transmitter is expected to transmit” to mean “only when said transmitter anticipates or looks forward to the coming or

occurrence of transmitting” and apply similar interpretations to the analogous limitations recited in claim elements 9(f) and 10(e).

*3. Means-Plus-Function Claim Elements*

In the instant proceeding, Petitioner proposes constructions for claim elements from challenged claim 9, which are drafted in means-plus-function format, thus invoking 35 U.S.C. § 112, ¶ 6.<sup>4</sup> Pet. 19–27. The particular elements and the asserted corresponding structure derived from the Specification, by the Petitioner, are summarized in the table below:

Claim Element	Proposed Corresponding Structure
“means associated with said sports equipment for at least recording or partially processing travel data of said sports equipment based on an interaction between said sports equipment and the ground.” Pet. 19.	“a coil 5, resistors or an amplifier 7a, a microcontroller 7b, and a reed contact mechanism mounted in or on the wheel in a non-rotating manner, which acts together with a magnet that rotates along with the wheel to determine the time per revolution of the wheel, and equivalents that perform the identified function.” Pet. 21.
“means for transmitting the travel data.” Pet. 22.	“sender or transmitter 34 and equivalents that perform the identified function.” Pet. 22.

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<sup>4</sup> Section 4(c) of the Leahy-Smith America Invents Act (AIA) re-designated 35 U.S.C. § 112, ¶ 6, as 35 U.S.C. § 112(f). Pub. L. No. 112-29, 125 Stat. 284, 296 (2011). Because the ’375 Patent has a filing date before September 16, 2012 (effective date), we refer to the pre-AIA version of § 112.

<p>“means for receiving said travel data” and “said receiving means is synchronized with said transmitting means such that said receiving means is switched on only when said transmitting means is expected to transmit and switched off when transmission is not expected from said transmitting means.” Pet. 22.</p>	<p>“a receiver controlled by a microcontroller 52 and equivalents that perform the identified function.” Pet. 25.</p>
<p>“said receiving means having means for at least further processing or displaying the partially processed travel data.” Pet. 25.</p>	<p>“[The structure for the first function is ‘display device 50, which contains second microcontroller 52, and equivalents that perform the identified function.’” Pet. 26.</p> <p>“[T]he structure for the second function is ‘display device 50, which contains LCD display 54, and equivalents that perform the identified function.’” Pet. 26.</p>
<p>“said transmitting means only transmits within defined transmitting intervals such that between said intervals when said transmitting means is not transmitting, said transmitting means is switched off.” Pet. 26.</p>	<p>“the sender or transmitter 34 that is controlled via the microcontroller 7a and equivalents that perform the identified function.” Pet. 27.</p>

Patent Owner asserts the Petition must “provide constructions of any terms, phrases or elements of the claims” and the claim construction lacks details and explanation. Prelim. Resp. 1. In a footnote, Patent Owner acknowledges Petitioner’s “purported” correspondence of means-plus-function elements to structure in the Specification. *Id.*

We determine Petitioner has met the obligation under 37 C.F.R. § 42.104 (b)(3), requiring a claim to be construed as containing a means-

plus-function limitation as permitted under 35 U.S.C. § 112, ¶ 6, to identify the specific portions of the specification that describe the structure, material, or acts corresponding to each claimed function. Patent Owner does not propose alternative constructions, or specifically point out why the corresponding structure identified by Petitioner is incorrect. Accordingly, for purposes of this Decision and on this record, we find Petitioner's proffered constructions, reproduced above, to be reasonable.

*C. Principles of Law: Obviousness*

A patent claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

In that regard, an obviousness analysis “need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR*, 550 U.S. at 418; *see Translogic*, 504 F.3d at 1259. A prima facie case of obviousness is established when the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art. *In re Rinehart*, 531 F.2d 1048, 1051 (CCPA 1976). The level of ordinary skill in the art is

reflected by the prior art of record. *See Okajima v. Bourdeau*,  
261 F.3d 1350, 1355 (Fed. Cir. 2001).

We analyze the grounds asserted under 35 U.S.C. § 103(a) in  
accordance with the above-stated principles.

*D. Incorporation By Reference*

Patent Owner argues the Petition “improperly attempts to incorporate  
by reference arguments from other documents in contradiction to 37 C.F.R.  
§ 42.6(a)(3).” Prelim. Resp. 6. According to Patent Owner, the Petition  
makes numerous references to a Declaration of Dr. Andrew C. Singer  
submitted by Petitioner (*see* Ex. 1006), each of which identifies one or more  
paragraph numbers, often preceding the identification with “see also” or “see  
generally.” *Id.* Patent Owner does not identify specific examples, but  
instead, in a footnote, alleges Patent Owner “stopped counting at about three  
dozen.” *Id.*

Looking at the first several references to Exhibit 1006, we are not  
persuaded Petitioner has attempted improperly to incorporate by reference  
arguments from other documents. For example, the Petition describes “[i]t  
has been known to synchronize transmitters and receivers for at least one  
hundred years before the ’375 Patent’s priority date. **Ex. 1006** at ¶¶ 1-9.”  
Pet. 7. We do not find this reference to the Declaration to incorporate  
improperly by reference any additional arguments. Instead, we determine  
that the citation provides support for the proposition that synchronizing  
transmitters and receivers was well-known.

The next reference to Exhibit 1006 is as follows: “Each device in the  
wireless network (i.e., nodes 101–104) is equipped with a transceiver, which  
includes both a transmitter and a receiver. [Ex. 1003] at 2:53–65, 3:24–28;



Fig. 1, Fig. 2 (ref. no. 210); *see also*, **Ex. 1006** at 42.” Pet. 8. We do not find this to rise to improper incorporation by reference. Instead, we find this reference to Exhibit 1006 to provide further support to the cited facts in Exhibit 1003.

As a last example, we note the “*see, generally*” cite is to support Petitioner’s assertion that one of ordinary skill in the art would have had a credible reason to combine known methods and techniques taught by Mayo and Goetzl. Pet. 10. We determine the Petition provided sufficient argument regarding this assertion.

Furthermore, Patent Owner has not persuaded us Petitioner has relied on any of the fourteen references cited in the Declaration in making their arguments. Accordingly, we are not persuaded Petitioner improperly incorporated by reference arguments from other documents.

*E. Obviousness over Goetzl and Mayo*

Petitioner asserts claims 1 and 9–12 are unpatentable under § 103 for obviousness over the combination of Goetzl and Mayo. Pet. 7–10; 28–45. As support, Petitioner provides detailed explanations as to how each claim limitation is met by the combination of Goetzl and Mayo. *Id.* Petitioner additionally relies on Dr. Singer’s Declaration in support of those explanations. *See* Ex. 1006 ¶¶ 12–26.

Patent Owner responds that no motivation exists to combine the teachings of Goetzl and Mayo; Mayo does not disclose synchronization between the transmitter and receiver; and Mayo does not disclose “only when . . . expected” as recited in claims 1, 9, and 10. Prelim. Resp. 8–13.

We have reviewed the parties’ contentions and supporting evidence. Given the evidence on this record, we determine Petitioner has demonstrated

a reasonable likelihood of prevailing in showing that claims 1 and 9–12 would have been rendered obvious by the combination of Goetzl and Mayo. Our discussion focuses on the deficiencies alleged by Patent Owner as to the alleged unpatentability of the claims over Goetzl and Mayo.

1. *Goetzl (Ex. 1002)*

Goetzl discloses a speedometer suitable for use with an in-line skate. Ex. 1002, 1:4–6.

Figure 1 of Goetzl is reproduced below.

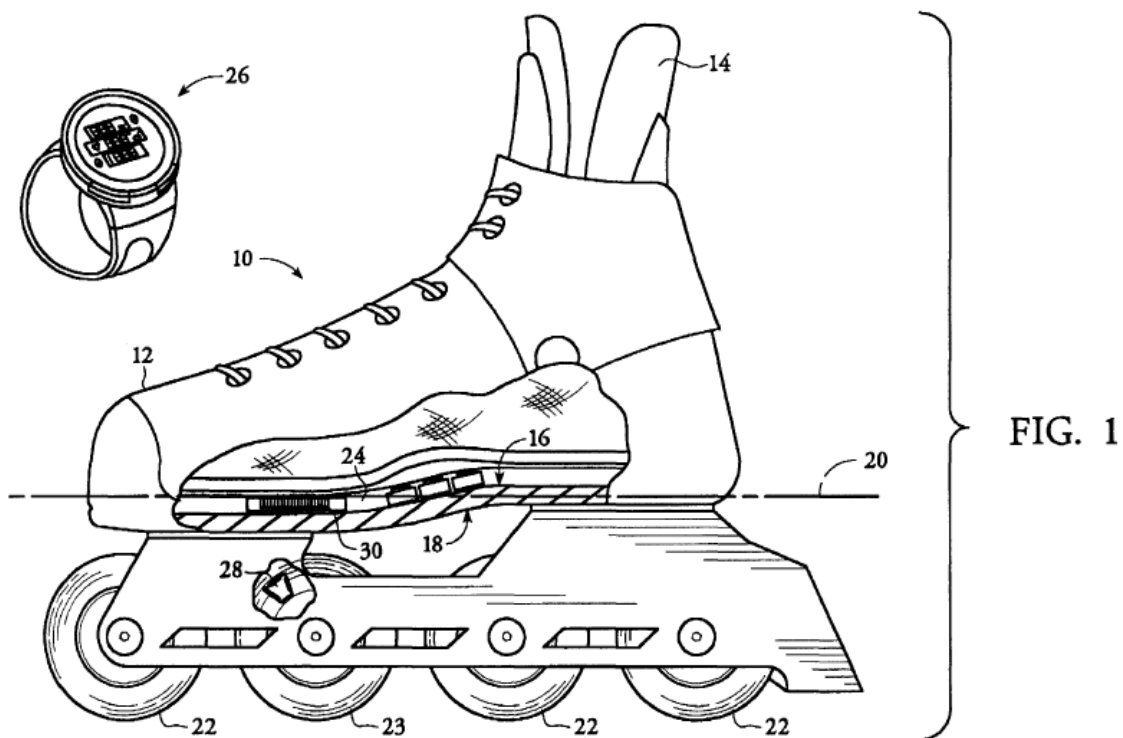


Figure 1 illustrates in-line roller skate 10 having transducer 24 and receiver 26 in communication with transducer 24. *Id.* at 3:30–55. Transducer 24 produces modulated signals containing data corresponding to rotational movement of wheels 22. *Id.* at 3:41–44. Transducer 24 includes transmitter 35 the signals which are coded, at variable intervals of time. *Id.*

at 6:46–47. Therefore, the signal may be transmitted *periodically* to receiver 26. *Id.* at 3:49–55, 6:48–50. Receiver 26 may be in one of three modes: power-down, power-on, or time-delayed deactivation mode. *Id.* at 6:52–53.

2. *Mayo (Ex. 1003)*

*Mayo* is directed to a method and apparatus for reducing battery power consumption. *Ex. 1003*, Abstract. Network 100 includes a plurality of devices 101–104. *Id.* at 2:53–54. One object of *Mayo*'s invention is to allow the devices to communicate with each other while minimizing power consumption. *Id.* at 2:61–63. To accomplish this object, external source 110 generates timing signal 111 which is used to synchronize devices 101–104. *Id.* at 2:67–3:2.

Figure 3 of *Mayo* is reproduced below:

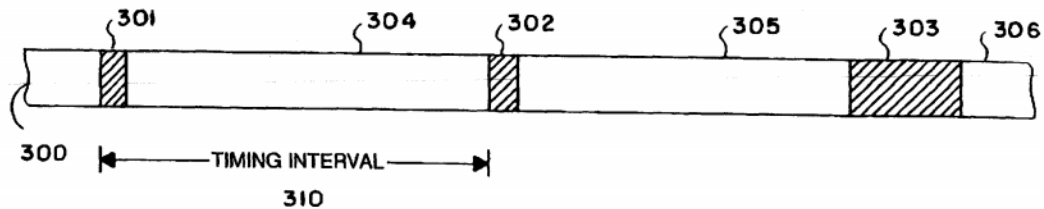


FIG. 3

Figure 3 is a timing diagram used to control operation of the present system. *Id.* at 2:40–41; 50–51. As shown in Figure 3, transmitting and receiving of data is scheduled according to a protocol, based on basic timing interval 310, the length of which can be an arbitrary amount of time. *Id.* at 3:51–54. Shaded periods 301–303 indicate the length of time a device is in “awake mode.” *Id.* at 3:58–60. During the “awake” mode, the device uses an operational amount of power. *Id.* Additionally, the “awake” mode occurs

when devices exchange data, and the length of time of the “awake” mode can be extended when additional data needs to be transmitted. *Id.* at 3:64–65; 3:67–4:2. Periods 304–306 indicate when the device is in “sleep” mode, which uses a minimal amount of power. *Id.* at 4:61–63.

In Mayo, the timing of the awake and sleep modes is synchronized to external timing source 110. *Id.* at 4:2–6. “By using the external timing source **110**, as the generator of the synchronization timing signal **111**, consumption of power can be minimized.” *Id.* at 4:14–17.

### 3. Analysis

Patent Owner asserts the Petition fails to show the claims are likely obvious over Goetzl and Mayo because a person of ordinary skill in the art would not have looked to combine the teachings of Goetzl and Mayo; neither Goetzl nor Mayo discloses the recited receiver/transmitter synchronization; and neither Goetzl nor Mayo discloses the “only when . . . expected” limitation. Prelim Resp. 8.

#### a. Reason to Combine

Petitioner asserts one of ordinary skill in the art, upon reading Goetzl, would have recognized the need for reducing power consumption in its battery-powered device due to the disclosure in Goetzl, of placing receiver 26 into a wait state. Pet. 38. Specifically, Petitioner contends Goetzl expressly teaches receiver 26 automatically is placed into a deactivated state, a “power-down” mode, if a signal has not been received for a predetermined amount of time. *Id.* According to Petitioner, an ordinarily skilled artisan would have been motivated to use the smallest battery possible to reduce the size of the device and, therefore, would have been motivated to seek methods for reducing power consumption of the device. *Id.* Therefore, an

ordinarily skilled artisan would have looked to Mayo, which is directed to reducing power consumption in battery-powered devices and would have recognized Mayo's protocol could be used with Goetzl system to further reduce power consumption of both the transmitting and receiving devices. *Id.* at 39.

In response, Patent Owner contends even an ordinarily skilled artisan, motivated by a desire to reduce power consumption of Goetzl's system, would not have looked to the teachings of Mayo. Prelim. Resp. 10. According to Patent Owner, Mayo is directed to synchronizing communication in an *ad hoc* network where devices have "no knowledge of one another" and synchronize each networked device to an external metronome. *Id.* at 10 (citing Ex. 1003, 1:48–2:20). Thus, Patent Owner asserts, one of ordinary skill in the art would not have been motivated to combine Mayo's teaching of an external metronome for synchronizing network nodes as this would add a third component to Goetzl's system, and Goetzl's system is not *ad hoc*. Prelim. Resp. 11.

Based on the record before us, we are not persuaded by Patent Owner's assertions. Goetzl teaches placing receiver 26 in one of three different modes, power-down, power-on, or time-delayed deactivation mode. Ex. 1002, 6:51–53. During the time-delayed deactivation mode, if a signal is received by receiver 26, receiver 26 is placed in a power-on mode, and it will stay in that mode until a predetermined amount of time has passed without receipt of a coded signal. *Id.* at 7:5–9, 12–14. Goetzl further describes automatically placing receiver 26 into a deactivated state (power-down mode) after a predetermined amount of time has passed. *Id.* at 7:9–12. We additionally credit Dr. Singer's testimony that one of ordinary skill in

the art, upon reading Goetzl, would have recognized a need for reducing power consumption of Goetzl's device. Pet. 38 (citing Ex. 1006 ¶¶ 22–23). Thus, we are persuaded based on this record and Petitioner's arguments that a skilled artisan would have determined that Goetzl recognized the need of reducing power consumption.

Mayo is directed to reducing battery power consumption of transceivers in a communications network. Ex. 1003, Title, Abstract. We are persuaded by Dr. Singer's testimony that because Goetzl recognized the need of reducing power consumption, an ordinarily skilled artisan would have looked to techniques for reducing power consumption and thus, looked to references such as Mayo. Pet. 39 (citing Ex. 1006 ¶ 24). We further credit Dr. Singer's testimony that Mayo's objective to minimize power consumption would have led an ordinarily skilled artisan to combine Mayo's teaching into the device of Goetzl. *Id.*

Based on the record before us, Patent Owner's arguments regarding the difference in network type (*ad hoc* vs. signal transmitter and receiver) and use of an external metronome (Prelim. Resp. 10) are not persuasive. More specifically, given the current record, we are not persuaded use of an "external" metronome as set forth in the title or the disclosure of Mayo, would have dissuaded an ordinarily skilled artisan from looking to and being motivated by Mayo. Further, we note the recited claims do not preclude use of an "external" metronome.

Therefore, based on the record before us, we are not persuaded the teachings of Goetzl and Mayo were improperly combined.

b. Transmitter and Receiver Synchronization

Petitioner contends although Mayo uses an “external” metronome while the ’375 Patent discloses pressing a start signal on the receiver which switches on the receiver for a 30-second interval, “none of the claims recite specific limitations for *how* the intervals are synchronized, but only the functional result of the synchronization.” Pet. 41.

Patent Owner argues Mayo teaches synchronization of devices in a network, to an external metronome and not synchronizing a receiver with a transmitter.

We are not persuaded by Patent Owner’s argument. None of claims 1, 9, and 10 precludes use of an external metronome. Moreover, none of these claims recites the specifics of how the synchronization is to be achieved.

c. “Only When . . . Expected”

Petitioner relies on Mayo as teaching “said receiver is switched on only when said transmitter is expected to transmit and switched off when transmission is not expected from said transmitter,” as recited in claim 1. Pet. 36. According to Petitioner, Mayo discloses “awake period” 301–303 for each timing interval 310, during which the transceiver is powered. *Id.* at 8–9. Petitioner further asserts Mayo teaches a “sleep period” 304–306 during which the transceiver is powered off. *Id.* at 9. Thus, Petitioner contends, during the “awake periods,” transmissions and/or receptions are expected while during the “sleep periods,” transmissions and receptions are not expected. *Id.* at 9, 36–37.

Patent Owner contends Mayo teaches receivers and transmitters in a network are switched on and off as signaled by a metronome which provides a common schedule. Prelim. Resp. 13. Thus, according to Patent Owner, a

receiver switches on and off without any expectation of transmission from any other specific device in the network. *Id.* In addition, Patent Owner maintains devices in the system of Mayo stay on for the entire awake period and not just when a particular device expects another networked device to transmit. *Id.*

We are persuaded by Petitioner's assertions. Mayo discloses "[t]ransmitting and receiving of data is scheduled according [to] a protocol based on a basic timing interval." Ex. 1003, 3:51–53. Mayo further describes "the nodes only interchange data when in awake mode" and "the awake time can be extended" after which, the device enters sleep mode. *Id.* at 3:64–4:2. Patent Owner's arguments appear predicated on the requirement a transmission actually is received; however, as noted above in Section II. B. (2), "expected" does not require the transmission actually occur. Thus, we determine an ordinarily skilled artisan would understand Mayo to teach the receiver is switched on, i.e., awake, when the transmitter is expected to transmit and is switched off when transmission is not expected from the transmitter.

#### d. Conclusion

Based on the record before us, we are persuaded by Petitioner that the teachings of Goetzl and Mayo may be combined properly. We are further not persuaded by Patent Owner that Mayo's use of an external metronome does not teach the recited limitation. In addition, we are persuaded that the combination of Goetzl and Mayo teaches "said receiver is switched on only when said transmitter is expected to transmit and switched off when transmission is not expected from said transmitter," as recited in claim 1 and commensurately recited in claims 9 and 10.



Accordingly, based on the record before us, Petitioner has persuaded us the combination of Goetzl and Mayo teaches the limitations of claims 1 and 9–10. From this determination, it follows that Petitioner has demonstrated a reasonable likelihood of prevailing on its assertion that claims 1 and 9–10 would have been obvious over Goetzl and Mayo.

*F. Obviousness over Goetzl and Okigami*

Petitioner asserts 1 and 9–12 are unpatentable under § 103 for obviousness over the combination of Goetzl and Okigami. Pet. 11–13; 45–52. As support, Petitioner provides detailed explanations as to how each claim limitation is met by the combination of Goetzl and Okigami. *Id.* Petitioner additionally relies on Dr. Singer’s Declaration in support of those explanations. *Id.* (citing Ex. 1006 ¶¶ 20, 21, 27–34).

Patent Owner responds that the combination of Goetzl and Okigami does not teach “only when . . . expected,” as recited in claims 1, 9, and 10. Prelim. Resp. 14–15.

We have reviewed the parties’ contentions and supporting evidence. Given the evidence on this record, we determine Petitioner has demonstrated a reasonable likelihood of prevailing on its assertion that claims 1 and 9–12 would have been rendered obvious by the combination of Goetzl and Okigami. Our discussion focuses on the deficiencies alleged by Patent Owner as to the alleged unpatentability of the claims over Goetzl and Okigami.

*1. Okigami (Ex. 1004)*

Okigami relates to a cardiometer which detects an electrocardiographic signal and transmits information on cardio-condition to another location which receives and displays the information. Ex. 1004,

1:4–7. The cardiometer includes transmitting section 1 and receiving section 2. *Id.* at 1:20–23; Figs. 1 and 2. Transmitting section 1 detects an electrocardiographic signal, processes the signal, and outputs serial data signal  $S_r$  every  $T_j$  seconds to receiving section 2. *Id.* at 2:34–67.  $T_j$  may be set to any length of time. *Id.* at 3:1–2.

Figure 2 of Okigami is reproduced below:

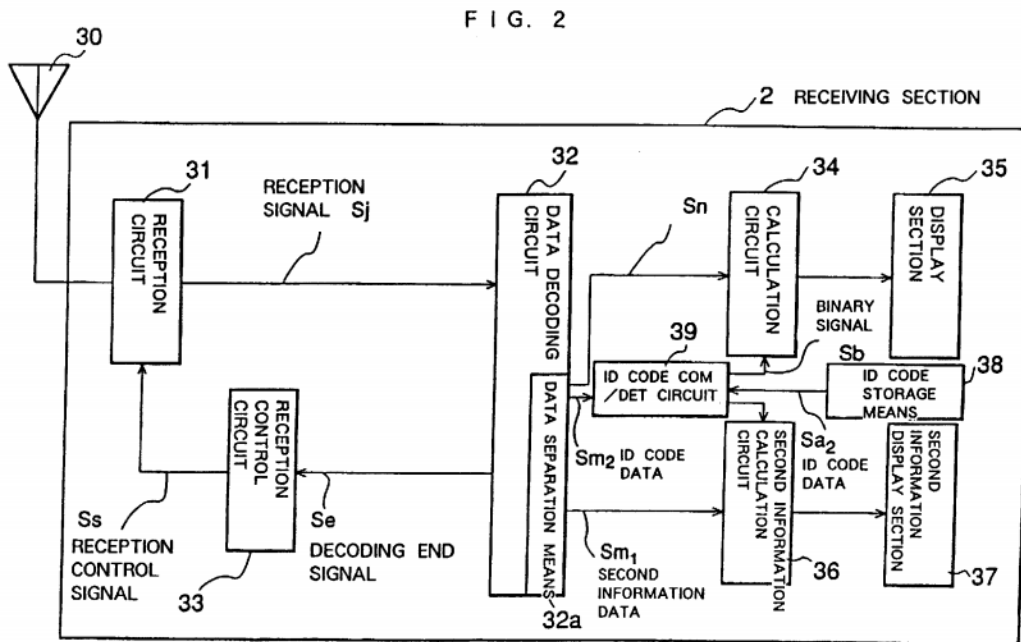


Figure 2 illustrates receiving section 2 of a cardiometer. *Id.* at 2:1–3. Receiving section 2 receives  $S_r$  through reception circuit 31 and transmits reception signal  $S_j$  (which is identical to  $S_r$ ) to be processed by data decoding circuit 32. *Id.* at 3:8–11, 3:13–15; 4:39–40. When data decoding circuit 32 properly decodes reception signal  $S_j$ , decoding end signal  $S_e$  is sent as a one-shot signal to reception control circuit 33. *Id.* at 3:8–11, 3:13–15; 4:39–40. Upon reception of decoding end signal  $S_e$ , reception control circuit 33 outputs reception control signal  $S_s$ , having a pulse width of  $T_s$ , which is shorter than  $T_j$ . *Id.* at 3:31–37; 4:50–54. Once

reception control signal  $S_s$  is received by reception circuit 31, reception circuit 31 is deactivated. *Id.* at 3:11–13. “The decoding end signal  $S_e$  and the reception control signal  $S_s$  are used to reduce the power consumption.” *Id.* at 3:37–38.

Figure 3 of Okigami is reproduced below:

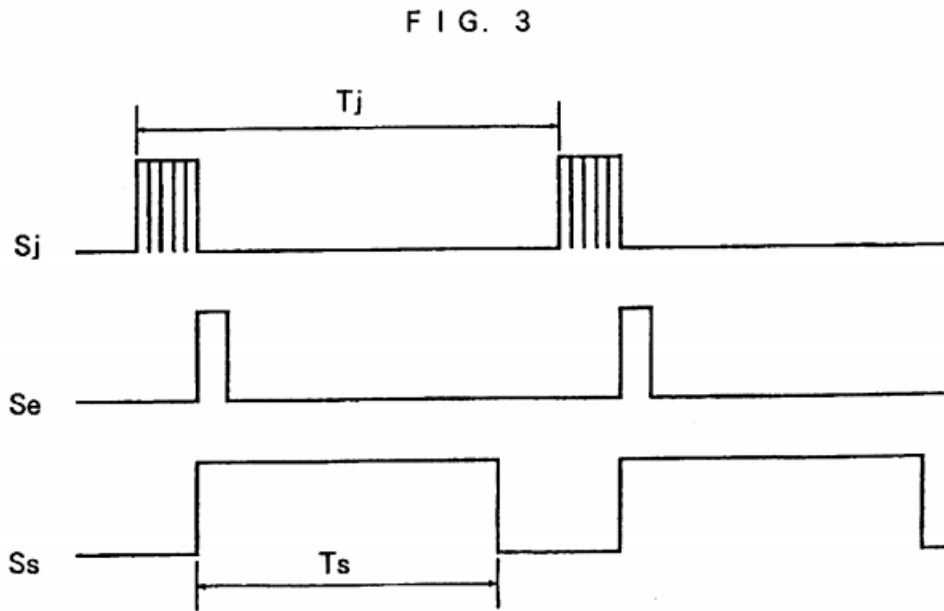


Figure 3 illustrates a timing chart for operation of reception control circuit 31. *Id.* at 2:4–5. In an initial state in which no radio signal is received, reception control signal  $S_s$  is not output. *Id.* at 5:54–55. Thus, reception circuit 31 is in a normal operation state, and the possibility that the first radio signal cannot be received does not exist. *Id.* at 5:56–58. If reception circuit 31 receives noise or an irrelevant signal, data decoding circuit 32 cannot properly decode it; therefore, decoding end signal  $S_e$  is not output, and operation of reception circuit 31 is not stopped by reception control signal  $S_s$ . *Id.* at 5:58–64.

2. *Analysis*

Petitioner relies on Okigami as teaching “said receiver is switched on only when said transmitter is expected to transmit and switched off when transmission is not expected from said transmitter” as recited in claim 1. Pet. 47–48. Specifically, Petitioner argues reception circuit 31 is deactivated after the radio signal received from transmission section 1, is decoded for a period of  $T_s$  seconds. Pet. 12, 47–48. Thus, according to Petitioner, receiving section 2 is synchronized with transmitting section 1 so receiving section 2 is turned on “approximately” when a transmission is expected to be received from transmitting section 1. *Id.* at 12–13.

Patent Owner argues Okigami discloses reception circuit 31 only outputs reception control signal  $S_s$  from reception control circuit 32, if a transmission from transmitting section 1 is received and decoded. Prelim. Resp. 14. Thus, reception circuit 31 is inactive for  $T_s$  seconds. *Id.* at 15. However, Patent Owner contends reception circuit 31 is not deactivated when transmission is not “expected” from transmitting section 1, but, instead, is deactivated when the transmission actually is completed and decoded. *Id.* According to Patent Owner, reception circuit 31 remains active during the time required to decode received data — a period during which transmission is not expected. *Id.* Patent Owner further argues that, if the received transmission  $S_j$  is not decoded properly, reception control circuit 31 remains active even though a transmission is not expected. *Id.*

We are persuaded by Petitioner’s arguments based on the record before us. As discussed above in Section II.B.2, “expected” does not require the anticipated event to occur. Okigami describes that the data decoding circuit 32 receives reception signal  $S_j$ , and, once properly decoded, reception

control signal Ss is received by reception circuit 31 which then deactivates. *Id.* at 3:8–11, 3:13–15, 3:31–37, 4:39–40, 4:50–54. We are not persuaded by Patent Owner’s arguments that the period of decoding a transmitted signal means the receiving section is no longer “expecting” transmission. First, we determine that although data decoding circuit 32 may take time decoding reception control signal Ss, until reception control signal Ss is decoded properly, receiving section 2 is still expecting a proper transmitted signal. Okigami also discloses in an initial state, before the radio signal is received, reception circuit 31 is in an activated state, awaiting a signal. Ex. 1004, 5:54–58. “Even if the reception circuit 31 receives noise or an irrelevant signal,” reception circuit 31 is not stopped. *Id.* at 5:58–61. However, we determine, contrary to Patent Owner’s arguments, the receiving section 2 is still anticipating the transmitter to transmit — reception circuit 31 is expecting a proper transmitted signal.

Thus, we determine an ordinarily skilled artisan, upon reading Okigami, would have understood Okigami to teach “said receiver is switched on only when said transmitter is expected to transmit and switched off when transmission is not expected from said transmitter.”

Accordingly, based on the record before us, Petitioner has persuaded us the combination of Goetzl and Okigami teaches the limitations of claims 1 and 9–10. From that determination, it follows that Petitioner has demonstrated a reasonable likelihood of prevailing on its assertion that claims 1 and 9–10 would have been obvious over Goetzl and Okigami.

*G. Other Asserted Grounds of Unpatentability*

Petitioner also asserts the following grounds of unpatentability:

<b>Claim(s)</b>	<b>Basis</b>	<b>References</b>
9	§ 103	Goetzl, Mayo, and Understanding of One of Ordinary Skill in the Art
9	§ 103	Goetzl, Okigami, and Understanding of One of Ordinary Skill in the Art
1 and 10	§ 102	Barber

With regard to the asserted grounds of unpatentability of claim 9, Petitioner does not explain adequately the relative strengths or weaknesses of the grounds on which we instituted and the other asserted grounds. *See Cisco Sys, Inc. v. Constellation Tech. LLC*, Case IPR2014-01180, slip op. at 29–30 (PTAB Feb. 8, 2015) (Paper 8). Therefore, we exercise our discretion and do not institute a review based on the other asserted grounds. *See* 37 C.F.R. § 42.108(a), 35 U.S.C. § 314(a).

III. CONCLUSION

For the foregoing reasons and based on our review of the record before us, we determine Petitioner has demonstrated a reasonable likelihood of prevailing on its assertion that the challenged claims are unpatentable based on the grounds identified in the ORDER. Therefore, we institute an *inter partes* review of claims 1 and 9–12. At this stage in the proceeding, we have not made a final determination with respect to the patentability of the challenged claims, including the claim construction.

IV. ORDER

For the foregoing reasons, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review hereby is instituted on the following grounds of unpatentability for the '375 Patent:

Claim(s)	Basis	References
1 and 9–12	§ 103	Goetzl and Mayo
1 and 9–12	§ 103	Goetzl and Okigami

FURTHER ORDERED that no other grounds of unpatentability alleged in the Petition are authorized for this *inter partes* review;

FURTHER ORDERED that Papers 1 and 6 shall be expunged from the record of this proceeding;

FURTHER ORDERED that copies of the filings of related cases shall be refiled as Exhibits within five days of the entry date of this Decision; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(a), *inter partes* review of the '375 Patent is instituted commencing on the entry date of this Order, and pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is given of the institution of a trial.

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