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Paper No. 39
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

EMERSON ELECTRIC CO.,
Petitioner,

v.

SIPCO, LLC,
Patent Owner.

Case CBM2016-00095
Patent 8,908,842 B2

Before KEVIN F. TURNER, JONI Y. CHANG, and CHRISTOPHER G. PAULRAJ, *Administrative Patent Judges*.

CHANG, *Administrative Patent Judge*.

FINAL WRITTEN DECISION

35 U.S.C. § 328(a); 37 C.F.R. § 42.73

I. INTRODUCTION

Emerson Electric Company ("Petitioner") filed a Petition requesting a review of claims 1, 7, 9, 16, and 17 of U.S. Patent No. 8,908,842 B2 (Ex. 1001, "the '842 patent") under the transitional program for covered business method patents ("CBM").[1] Paper 2 ("Pet."). SIPCO, LLC ("Patent Owner") filed a Preliminary Response to the Petition. Paper 10 ("Prelim. Resp."). Pursuant to 35 U.S.C. § 324(a), we instituted the instant proceeding as to claims 1, 7, 9, 16, and 17 of the '842 patent. Paper 12 ("Dec.").

After Institution, Patent Owner filed a Response (Paper 22, "PO Resp.") and a statutory disclaimer of claims 3 and 4[2] (Ex. 2008), and Petitioner filed a Reply (Paper 26, "Reply"). Patent Owner filed a Motion for Observation (Paper 30) on certain cross-examination testimony of Petitioner's declarant (Ex. 2019), and Petitioner filed a Response (Paper 32). The transcript of the oral hearing held on October 18, 2017, has been entered into the record as Paper 38 ("Tr.").

This Final Written Decision is issued pursuant to 35 U.S.C. § 328(a). For the reasons that follow, we determine that Petitioner has shown by a preponderance of the evidence that claims 1, 7, 9, 16, and 17 of the '842 patent are unpatentable.

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[1] *See* § 18(a) of the Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284, 329 (2011) ("AIA").

[2] Petitioner relies upon these claims to establish that the '843 patent is eligible for a CBM patent review. Pet. 6−9.

A. Related Matters

The parties indicate that the '842 patent is involved in *SIPCO, LLC v. Emerson Electric Co.*, Case No. 6:15-cv-00907-JRG-KNM (E.D. Tex.). Pet. 4–5; Paper 3, 1–2. The parties also identify two pending U.S. Patent Applications that claim priority to the '842 patent, and two pending *inter partes* reviews that involve related patents. Pet. 4–5; Paper 3, 1–2.

B. The '842 Patent

The '842 patent is "directed to a general purpose transceiver and a method for communicating information from remote sites to a central location." Ex. 1001, Abs., 4:27–29, Figs. 1A–4. The '842 patent discloses two embodiments: (1) an "automatic financial transaction machine" embodiment, in which information is communicated from financial transaction machines to a central location, as illustrated in Figures 1A and 1B; and (2) a "vending machine" embodiment, in which information is communicated from vending machines to a central location, as illustrated in Figures 2A and 2B. *Id*. at 4:30–37.

Figure 1A of the ’842 patent is reproduced below.

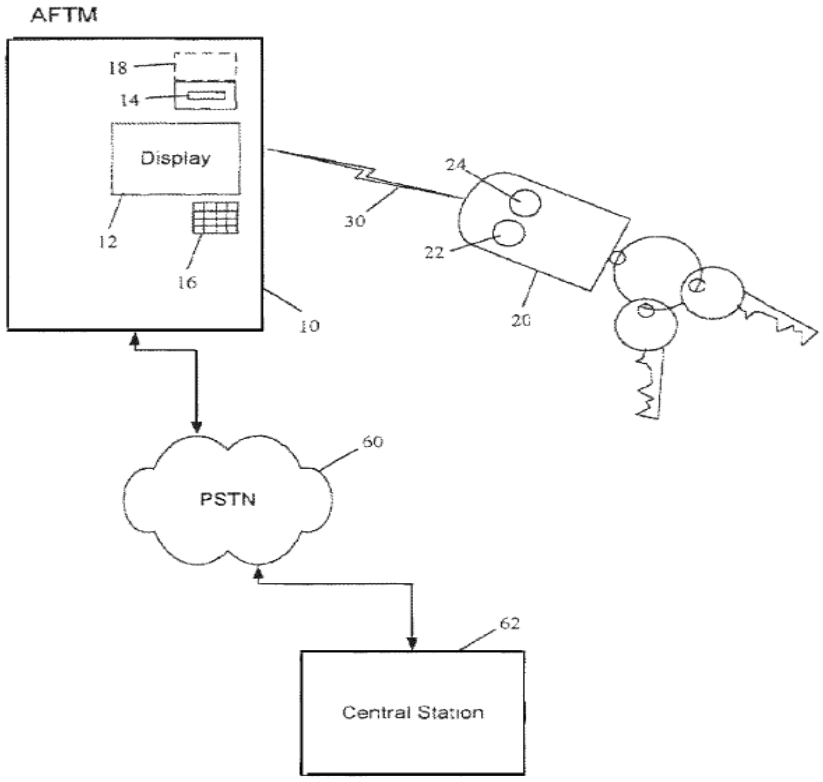

Figure 1A of the ’842 patent illustrates a block diagram of automatic financial transaction machine (AFTM) 10, which includes display 12, card receiving slot 14 for receiving a bank or credit card, key pad 16 for inputting information such as a personal identification number (PIN) and transaction amounts, and receiving unit 18 for receiving signal 30 from transmitter 20 and interpreting the signal in order to allow a user access to AFTM 10. *Id*. at 4:54–5:1. Transmitter 20 transmits signal 30 to receiving unit 18. *Id*. at 5:9–15. AFTM 10 communicates across public-switched telephone network (PTSN) 60 to central station 62, which may comprise a database of financial and/or account information for verifying user information. *Id*. at 7:41–44.

C. Illustrative Claim

Of the challenged claims, claims 1, 16, and 17 are independent. Claims 7 and 9 depend directly from claim 1. Claim 1 is reproduced below:

> 1. A device for communicating information, the device comprising:
>
> a low-power transceiver configured to wirelessly transmit a signal comprising instruction data for delivery to a network of addressable devices;
>
> an interface circuit for communicating with a central location; and
>
> a controller coupled to the interface circuit and to the low-power transceiver,
>
> the controller configured to establish a communication link between at least one device in the network of addressable devices and the central location using an address included in the signal, the communication link comprising one or more devices in the network of addressable [devices], the controller further configured to receive one or more signals via the low-power transceiver and communicate information contained within the signals to the central location.

Ex. 1001, 14:43–59.

D. Standing to Seek a Covered Business Method Patent Review

Section 18(a)(1)(B) of the AIA limits such reviews to persons or their privies that have been sued or charged with infringement of a covered business method patent. Here, Petitioner has been sued for infringement of the '842 patent in *SIPCO, LLC v. Emerson Electric Co.*, Case No. 6:15-cv-00907-JRG-KNM (E.D. Texas). Pet. 4.

1. Financial Product or Service

A "covered business method patent" is a patent that "claims a method or corresponding apparatus for performing data processing or other operations used in the practice, administration, or management of a financial product or service, except that the term does not include patents for technological inventions." AIA § 18(d)(1); 37 C.F.R. § 42.301(a). A patent is eligible for review if it has at least one claim directed to a covered business method. *Transitional Program for Covered Business Method Patents—Definitions of Covered Business Method Patent and Technological Invention*, 77 Fed. Reg. 48,734, 48,736 (Response to Comment 8) (Aug. 14, 2012) (Final Rule).

Our reviewing court has explained that "§ 18(d)(1) directs us to examine *the claims* when deciding whether a patent is a CBM patent." *Blue Calypso, LLC v. Groupon, Inc.*, 815 F.3d 1331, 1340 (Fed. Cir. 2016) (finding that the challenged patent was eligible for review because the claims recited "an express financial component in the form of a subsidy" that was "central to the operation of the claimed invention"). "CBM patents are limited to those with claims that are directed to methods and apparatuses of particular types and with particular uses 'in the practice, administration, or management of a financial produce or service.'" *Unwired Planet, LLC v. Google Inc.*, 841 F.3d 1376, 1382 (Fed. Cir. 2016). "Necessarily, the statutory definition of a CBM patent requires that the patent have a claim that contains, however phrased, a financial activity element." *Secure Axcess, LLC v. PNC Bank National Ass.*, 848 F.3d 1370, 1381 (Fed. Cir.

2017). "[T]he definition of 'covered business method patent' is not limited to products and services of only the financial industry" and "on its face covers a wide range of finance-related activities." *Versata Dev. Grp., Inc. v. SAP Am., Inc.*, 793 F.3d 1306, 1325 (Fed. Cir. 2015).

Here, Petitioner takes the position that the '842 patent is a CBM patent because it "is directed to and claims activities financial in nature." Pet. 6–9. Petitioner notes that the '842 patent focuses on applying a device in the banking and vending machine industries. *Id.* at 6−7 (citing Ex. 1001, 1:43−65, 2:23−25, 4:30−37, Figs. 1B, 2A). Petitioner contends that claims 3 and 4 (which were disclaimed after institution) are intended to capture a device for performing data processing or other operations used in management of a financial product or service, as claim 3 recites a remote device that "is associated with a vending machine" and claim 4 recites a remote device that "is associated with an Automated Teller Machine (ATM)." *Id.* at 8−9.

At the time of institution, we determined that Petitioner has demonstrated sufficiently that claims 3 and 4 are directed to an apparatus for performing data processing used in the practice, administration, or management of a financial product or service[3] and that the '842 patent

[3] As noted in the Institution Decision (Dec. 5, 7 n.2), a patent is eligible for review if it has at least one claim directed to a covered business method. 77 Fed. Reg. at 48,736 (Response to Comment 8). Although the patentability of claims 3 and 4 are not challenged by Petitioner, there is no requirement that only challenged claims may be considered for purposes of determining a patent is eligible for CBM patent review.

satisfies the "financial product or service" component of the definition for a covered business method patent under § 18(d)(1) of the AIA. Dec. 5−7.

After Institution, Patent Owner filed a statutory disclaimer for claims 3 and 4. Ex. 2008. Patent Owner also maintains its opposition, advancing several arguments as to why the '842 patent does not qualify as a "covered business method patent." PO Resp. 18−20.

First, Patent Owner argues that the disclaimed claims "cannot form the basis for a ruling that the '842 patent is a covered business method patent," as the '842 patent should be "treated as though the disclaimed claims never existed." *Id*. at 23. However, the belated post-institution disclaimer of claims 3 and 4 does not affect our CBM patent review eligibility determination. Notably, "CBM patent review eligibility is determined based on the claims of the challenged patent *as they exist at the time of the decision whether to institute*." *Facebook, Inc. v. Skky, LLC,* Case CBM2016-00091, slip op. 11 (PTAB Sept. 28, 2017) (Paper 2) (precedential) (emphasis added). Section 18(a)(1)(E) of the AIA provides that "[t]he Director may *institute* a transitional proceeding only for a patent that *is* a covered business method patent" (emphases added). Section 18(d)(1) of the AIA defines a "covered business method patent" as "a patent that *claims* a method or corresponding apparatus for performing data processing or other operations used in the practice, administration, or management of a financial product or service" (emphasis added). Hence, the decision whether to institute a CBM patent review is based on whether a patent "is" a covered business method patent, which in turn is based on what

the patent "claims" *at the time of the institution decision*—not as the claims may exist at some later time after institution, as urged by Patent Owner.

Here, there is no dispute that claims 3 and 4 were part of the '842 patent at the time of our Decision on Institution. *Compare* Dec. 1 (instituting the instant CBM patent review on January 23, 2017), *with* Ex. 2008, 1 (filing the disclaimer on May 5, 2017). Therefore, we did not err, nor does Patent Owner argue that we erred, in considering claims 3 and 4 when determining whether the '842 patent is eligible for CBM patent review *at the time of institution*. Significantly, Patent Owner's belated disclaimer is an improper attempt to seek the specific relief set forth in 37 C.F.R. § 42.207 without complying with the rule's *timeliness requirement*. Patent Owner provides no reasonable explanation why we should excuse Patent Owner's delay in filing the disclaimer.

Under 37 C.F.R. § 42.207 titled "Preliminary response to petition," a "patent owner may file a preliminary response to the petition . . . setting forth the reasons why no *inter partes* review should be instituted." The rule also provides that "[t]he patent owner may file a statutory disclaimer under 35 U.S.C. 253(a) in compliance with § 1.321(a) of this chapter, disclaiming one or more claims in the patent," and "[n]o post-grant review will be instituted based on disclaimed claims." In short, when a patent owner timely files a statutory disclaimer before institution, "[n]o post-grant review will be instituted based on disclaimed claims."

Here, we would not have considered claims 3 and 4 in determining whether the '842 patent is eligible for CBM patent review if Patent Owner

had *timely* filed the statutory disclaimer before institution. *See Facebook*, Case CBM2016-00091, slip op. at 4 (denying institution on the sole ground that the patent is not eligible for CBM patent review because, when the patent owner filed a statutory disclaimer before its preliminary response, the panel treated the disclaimed claims as if they never existed and declined to consider Petitioner's arguments that were based on the disclaimed claims). The Board and both parties could have avoided the cost and expense of the instant trial, assuming no other claim could provide standing.

More importantly, Petitioner would have had an opportunity to timely request an *inter partes* review before the deadline date of the one-year statutory bar under 35 U.S.C. § 315(b) (November 30, 2016). Reply 5 & n.6; Exs. 1034−1036. We agree with Petitioner that treating the belated post-institution disclaimed claims as never existed, as urged by Patent Owner, would unfairly prejudice Petitioner. Reply 5 & n.6.

The Board's rules are "construed to secure the just, speedy, and inexpensive resolution of every proceeding." 37 C.F.R. § 42.1(b). The rules, including 35 C.F.R. §§ 42.1(b) and 42.207, were promulgated with the consideration of "the effect of any such regulation on the economy, the integrity of the patent system, the efficient administration of the Office, and the ability of the Office to timely complete proceedings instituted under this chapter." 35 U.S.C. § 326(b). We decline to construe our rules and procedures to encourage dilatory tactics.

Patent Owner's reliance on 35 U.S.C. § 235(a) (PO Resp. 23) is misplaced. While our reviewing court has "held that a disclaimer

relinquishes the rights of the patent owner," its "precedent and that of other courts have not readily extended the effects of disclaimer to situations where others besides the patentee have an interest that relates to the relinquished claims." *Rembrandt Wireless Techs., LP v. Samsung Elecs. Co.*, 853 F.3d 1370, 1383−84 (Fed. Cir. 2017); *cf Guinn v. Kopf*, 96 F.3d 1419, 1422 (Fed. Cir. 1996) (holding disclaimer of an allegedly interfering claim did not divest the Board of jurisdiction over interference proceeding). Moreover, although institution is discretionary (AIA § 18(a)(1); 35 U.S.C. § 324(a)), after institution of a CBM patent review, we are required by 35 U.S.C. § 328(a) "to issue a final written decision with respect to the patentability of" the challenged claims in the instituted CBM patent review.

In view of the foregoing, we are not persuaded by Patent Owner's argument that we should reconsider our determination that the '842 patent is eligible for CBM patent review based on the post-institution disclaimer.

Patent Owner alternatively argues that, even if post-institution disclaimed claims 3 and 4 could be taken into consideration, the '842 patent is not a CBM patent. PO Resp. 23−30. According to Patent Owner, "[t]he mere fact that claims 3 and 4 . . . mention a vending machine and ATM respectively is not [] sufficient to demonstrate that the invention of the '842 patent is directed to financial products or services" *Id.* at 23. Patent Owner also argues that the mere possibility that the remote devices "could communicate financial data is not nearly sufficient to demonstrate that it is directed to financial products or services." *Id*. at 24. Patent Owner further contends that the '842 patent is not directed to financial products or services,

but instead directed to a radio frequency ("RF") transceiver that communicates data between remote devices and a central location. *Id*. at 18–19. Patent Owner avers that the operation of the RF transceiver and associated components is the same regardless of whether they are communicating financial data or another type of data. *Id.* at 19−22. Patent Owner also maintains that the claimed invention is "not related to the operation of an ATM, vending machine or any other device that could send financial information." *Id.* at 22−23.

Based on the evidence before us, we determine that Petitioner has established sufficiently that each of claims 3 and 4 recites an apparatus for performing data processing or other operations used in the practice, administration, or management of a financial product or service. We are not persuaded by Patent Owner's arguments, as they are based on the wrong test and fail to consider the financial elements recited in the claims.

At the outset, Patent Owner's arguments are based on the wrong test, requiring the claimed invention to be "directed to a financial product or service." PO Resp. 30. "[T]he definition of 'covered business method patent' is not limited to products and services of only the financial industry." *Versata*, 793 F.3d at 1325. Rather, the proper inquiry is whether the patent "claims a method or corresponding apparatus for performing data processing or other operations *used in* the practice, administration, or management of a financial product or service." AIA § 18(d)(1) (emphasis added); *Unwired Planet*, 841 F.3d at 1382.

Contrary to Patent Owner's assertion that "claims 3 and 4 do not recite an automated teller machine or a vending machine," claims 3 and 4 expressly recite "wherein the remote device is [] associated with a vending machine" and "wherein the remote device is associated with an Automated Teller Machine (ATM)," respectively. Ex. 1001, 14:64−67. We disagree with Patent Owner's characterization that "the claims recite that a communication link is established 'between at least one device [which could be associated with an ATM or vending machine] in the network of addressable devices and the central location.'" PO Resp. 24 (citing Ex. 1001, 13:52−54) (bracketed text added by Patent Owner). Claims 3 and 4 use the present tense "*is*," not "*could be*," and thus do not merely encompass a vending machine or ATM as examples of remote devices that fall within the scope of a broadly claimed genus. This claim language indicates that the claimed remote device or device for communicating information may be the vending machine or ATM itself, as shown in Figures 1A−2B, using the communication link to communicate information associated with the vending machine or ATM to the central location.

In the context of the '842 patent, we find that a vending machine and an ATM, as recited in claims 3 and 4, respectively, are themselves a "financial product" and used to perform a financial "service." Turning to the Specification to assess the scope of these claims, we note that the Specification repeatedly describes the claimed subject matter in the context of selling goods in exchange for money or providing banking services. *Id*. at 1:43–65, 2:23–25, 3:12−14, 3:22−23, 4:32−37, 6:19−28, Fig. 5. For

example, the Specification describes a vending machine, such as a soda dispensing machine, "a snack dispensing apparatus, a candy dispensing apparatus, a cigarette dispensing apparatus, a newspaper dispensing apparatus, [or] an ice dispensing apparatus." *Id*. at 8:12–19, Figs. 2A, 2B. In another embodiment, the Specification describes an automatic financial transaction machine as "an automated teller machine for banking [or] gas pumps of the type equipped to receive credit cards for charging an otherwise cash transaction." *Id*. at 4:43–53, Figs. 1A, 1B. Significantly, selling goods or providing banking services are activities that are financial in nature. *See SightSound Techs., LLC v. Apple Inc.*, 809 F.3d 1307, 1315 (Fed. Cir. 2015) (a financial activity (e.g., electronic sales of digital audio) not directed to money management or banking can constitute a "financial product or service" within the meaning of the statute). In short, claims 3 and 4 explicitly contain a financial activity element—a vending machine and an ATM, respectively—and not merely a limitation that could be considered "incidental" or "complementary" to such financial activity. *See Secure Axcess*, 848 F.3d at 1381; *Unwired Planet*, 841 F.3d at 1382.

Furthermore, in the context of the '842 patent, the claimed "device for communicating information" as a whole is an apparatus *used in the administration and management* of the recited vending machine and ATM and, consequently, is a financial product. Ex. 1001, 14:43−67. Notably, the claimed remote device is used for communicating financial and service information from a vending machine or an ATM to a central location. Ex. 1001, 14:43−67, Figs. 1A, 5. Indeed, the concept of communicating

financial and service information from the vending machine or ATM is central to the operation of the claimed device. *Id*. at 1:43–65, 2:23–25, 3:12−14, 3:22−23, 4:32−37, 6:19−28, Figs. 1A, 5. As explained in the Specification, "in the banking industry, when a user accesses an automated teller machine (ATM), it may be desirable to communicate the user identifying information (e.g., account and PIN number) to a central location to verify that the PIN number matches the account number." *Id.* at 1:43−49. In addition, "if the ATM breaks down, malfunctions, runs out of money, takes in a predetermined amount of money, or for a variety of other reasons, it may be desirable to communicate such information to a central location that can respond accordingly (e.g., dispatch a person to repair or otherwise service machine)." *Id.* at 1:49−54. The Specification also explains that "[i]n the vending machine industry, it may be desirable to communicate information relating to the product status (e.g., low or out of stock) of a given vending machine to a central location, so that service personnel may be dispatched to replenish the product." *Id*. at 1:55−59. Further, "if the vending machine malfunctions, runs out of change, acquires too much currency, or for other reasons, it may be desired to communicate this information to a centralized location." *Id*. at 1:62−65. Patent Owner also admits that the "'low power transceiver module' disclosed in original claim 1 is clearly a remote device associated with a vending machine because it transmits instruction data associated with a vending machine such as 'Vending Machine n is out of order,' and 'Vending machine n is tilted.'" PO Resp. 83 (citing Ex. 1001, 16:9−11, Fig. 5). As such, the other claim

elements are intended to assist the vending machine and ATM (the remote device of dependent claims 3 and 4, respectively) in performing the financial activities of selling goods and/or dispensing money.

For the foregoing reasons, we determine that Petitioner has demonstrated sufficiently that claims 3 and 4 are directed to an apparatus for performing data processing used in the practice, administration, or management of a financial product or service. Consequently, the '842 patent satisfies the "financial product or service" component of the definition for a covered business method patent under § 18(d)(1) of the AIA.

2. Technological Invention Exception

The definition of "covered business method patent" in § 18(d)(1) of the AIA *excludes* patents for "technological inventions." To determine whether a patent falls within this exception, we consider "whether the claimed subject matter as a whole recites a technological feature that is novel and unobvious over the prior art; and solves a technical problem using a technical solution." 37 C.F.R. § 42.301(b). Both requirements must be satisfied in order for the patent to be excluded as a technological invention. *See Versata*, 793 F.3d at 1326–27; *Apple Inc. v. Ameranth, Inc.,* 842 F.3d 1229, 1240 (Fed. Cir. 2016). Therefore, a patent would not be excluded as a technological invention if one of the prongs is not satisfied.

Further, the following claim drafting techniques, for example, typically do not render a patent a technological invention:

> (a) Mere recitation of known technologies, such as computer hardware, communication or computer networks,

> software, memory, computer-readable storage medium, scanners, display devices or databases, or specialized machines, such as an ATM or point of sale device.
>
> (b) Reciting the use of known prior art technology to accomplish a process or method, even if that process or method is novel and non-obvious.
>
> (c) Combining prior art structures to achieve the normal, expected, or predictable result of that combination.

Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,763–64 (Aug. 14, 2012). A claim does not include a "technological feature" if its "elements are nothing more than general computer system components used to carry out the claimed process." *Versata*, 793 F.3d at 1327 ("the presence of a general purpose computer to facilitate operations through uninventive steps does not change the fundamental character of an invention").

Here, Petitioner asserts that the '842 patent is not directed to a technological invention and, thus, should not be excluded from the definition of a covered business method patent. Pet. 9–13. In Petitioner's view, the technology recited in the claims at issue is generic and was well-known. *Id*. at 9–12. Petitioner also argues that the claims do not solve a technical problem using a technical solution. *Id*. at 12–13.

Patent Owner counters that the claims here solve a technical problem, including: (1) "the unlawful interception of the electromagnetic signals"; (2) interference from a second user's device; and (3) "different machines manufactured by different companies associate different meanings with different codes." PO Resp. 31–43. Patent Owner argues that the '842 patent addresses these technical problems with a technical solution of using a

low-power transceiver receiving an instruction data from a remote device, an interface circuit, and a controller coupled to the interface circuit and the low power transceiver establishing a communication link between the remote device and central location. *Id*. at 32.

Upon consideration of the parties' contentions, we are persuaded by Petitioner's showing. Notably, claims 3 and 4 are directed to a device for communicating information, comprising a low-power transceiver, an interface circuit, and a controller to establish a communication link between a remote device that is associated with a vending machine or an ATM and a central location. Ex. 1001, 14:43−67. We agree with Petitioner that claims 3 and 4 recite no more than generic and known hardware elements and routine computer functions. Pet. 9–13. As the Specification and other evidence confirm, wireless communication using a low-power transceiver was known in the art. *See, e.g.*, Ex. 1001, 5:23–25 ("[S]mall transmitters of this type are known for activating and deactivating automobile alarm systems."); *see also* Ex. 2001, 1 ("Low-power, non-licensed transmitters are used virtually everywhere. Cordless phones, baby monitors, garage door openers, wireless home security systems, keyless automobile entry systems and hundreds of other types of common electronic equipment rely on such transmitters to function."). The Specification admits that (1) the "invention is directed to a general purpose transceiver," (2) "the "actual structure . . . of the central station 62 is unimportant," (3) "controller 256 may be a general purpose microprocessor or microcontroller," (4) "interface 258 . . . is designed to interface with . . . typical/standard telephone circuitry 263," and

(5) the system provides "general purpose communications to a central location" using the public-switched telephone network (PSTN). Ex. 1001, Abs., 2:46–48, 7:53–55, 10:13–14, 10:21–23, Figs. 1A, 1B.

We agree with Petitioner that the claimed subject matter as a whole does not solve a technical problem using a technical solution. Pet. 9–13. The Specification states that the "invention is generally directed to a system for communicating information to a predetermined location." Ex. 1001, 2:23–25. When a vending machine or ATM breaks down, malfunctions, or runs out of money, it may be desired to communicate this information to a centralized location using an automated process to replace the relatively expensive manual process of dispatching a person to check on the machine periodically. *Id.* at 1:43–2:11. Automating service requests of vending machines and ATMs to reduce the cost is a financial problem, not a technical problem purportedly solved by the '842 patent.

The Specification also confirms that the solutions to the purported technical problems relied upon by Patent Owner involve features that are not recited in the claims. Notably, the Specification discloses using an extremely low power transmitter to prevent "the unlawful interception of the electromagnetic signals" and interference from a second user's device. Ex. 1001, 6:1−9, 9:3−23. Claims 3 and 4 depend from claim 1, which recites "a low-power transceiver," not "an *extremely* low power transmitter." *Id*. at 14:45. As discussed in the claim construction section below (Section II. A), these claims also do not recite "codes."

As such, we are persuaded by Petitioner's showing that the subject matter, as a whole, in each of claims 3 and 4 does not recite a technological feature that is novel and non-obvious over the prior art, and the claimed subject matter does not solve a technical problem using a technical solution. Accordingly, the '842 patent is not excluded from covered business method patent review as being directed to a technological invention.

For the foregoing reasons, we conclude that the '842 patent is a covered business method patent under AIA § 18(d)(1) and is eligible for review using the transitional covered business method patent program.

E. Instituted Grounds of Unpatentability

We instituted this trial based on the following grounds (Dec. 50−51):

Challenged Claims	Basis	Reference
1, 7, 9, 16, and 17	§ 101	
1, 7, 9, 16, and 17	§ 103(a)	Tymes[4]
1, 7, 9, 16, and 17	§ 112, ¶ 1	

[4] U.S. Patent No. 5,157,687, issued on Oct. 20, 1992 ("Tymes," Ex. 1005).

II. ANALYSIS

A. Claim Construction

Claims of an *expired* patent are given their ordinary and customary meaning in accordance with *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). *See In re Rambus Inc.*, 694 F.3d 42, 46 (Fed. Cir. 2012). However, 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. § 42.300(b). "In many cases, the claim construction will be the same under [both] standards." *In re CSB-System Int'l, Inc.*, 832 F.3d 1335, 1341 (Fed. Cir. 2016).

In the Decision on Institution, we applied the broadest reasonable interpretation standard to construe two claim terms, "low-power transceiver" and "instruction data." Dec. 14−20. We also indicated that, during trial, parties may present arguments in their briefs regarding whether the *Phillips* standard should be applied. *Id*. at 14. After institution, both parties agree that the '842 patent has expired and the *Phillips* standard should apply. PO Resp. 9−10; Reply 1−2 n.1. However, neither party provides, nor can we discern, any reason the broadest reasonable interpretation standard would lead to a different result than the *Phillips* standard.

We note that only those claim terms that are in controversy need to be construed, and "only to the extent necessary to resolve the controversy." *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co. Ltd.,* 868 F.3d 1013, 1017 (Fed. Cir. 2017) (citing *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc*., 200 F.3d 795, 803 (Fed. Cir. 1999)). For purposes of this Decision, we

find it necessary to address only the claim terms "low-power transceiver" and "instruction data."

"low-power transceiver"

Claim 1 recites "a low-power transceiver configured to wirelessly transmit a signal comprising instruction data for delivery to a network of addressable devices." Ex. 1001, 14:45–47. In our Institution Decision, we agreed with the Patent Owner insofar as an ordinarily skilled artisan would have recognized that a transceiver[5] is a device that can transmit and receive signals and that, at the time of the invention, low-power transceivers *may have* a limited transmission range, such as those used in baby monitors and garage door openers. Dec. 14−17. In view of the Specification and other evidence in the record, we construed the claim term "low-power transceiver" to *encompass* "a device that transmits and receives signals having a limited transmission range." *Id*.

After institution, Petitioner agrees with our claim construction set forth in the Institution Decision. Reply 2. However, Patent Owner maintains that the proper construction *is* a "transceiver that transmits and receives signals having a limited transmission range," advancing several arguments. PO Resp. 12−15.

Petitioner counters that Patent Owner's proposed construction would improperly import the limitation "limited transmission range" into the

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[5] *See* MICROSOFT COMPUTER DICTIONARY at 474 (3rd ed. 1997) (defining "transceiver" as a "device that can both transmit and receive signals.") (Ex. 3001, 4)

claims. Reply 1−2. Petitioner argues that plain and ordinary meaning should apply, and that the term "a low-power transceiver" refers to a "transceiver that consumes *less power*, *e.g.*, by transmitting and receiving low power signals." *Id*. at 2; Ex. 1038 ¶¶ 34−39 (emphasis added).

Upon consideration of the parties' contentions, we are not persuaded by Patent Owner's arguments, as they conflate "power" with "transmission range"—the claim term recites "low-power," not "low-transmission range." We agree with Petitioner that Patent Owner's proposed construction would import improperly a limitation into the claims, and we credit Mr. James T. Geier's testimony (Ex. 1038 ¶¶ 34−39) as it consistent with the other evidence of record before us. We address below each of Patent Owner's arguments in turn.

First, Patent Owner argues that "the claim language itself indicates that the claimed low-power transceiver transmits low-power signals," citing the language of claim 2, "wherein the low-power signal comprises a logical IP address." PO Resp. 12 (citing Ex. 1001, 14:60–61). However, "the low-power signal" does not necessarily require a transceiver to transmit signals having a limited transmission range. Patent Owner does not explain meaningfully, or provide persuasive evidence to show, how a "low-power signal" is necessarily related to the *transmission range* of a transceiver. Consistent with the plain and ordinary meaning of the term, "a low-power transceiver" refers to a transceiver that consumes less power, *e.g.*, by transmitting and receiving low power signals. Ex. 1038 ¶¶ 34−39.

Second, Patent Owner avers that the Specification relates low-power to a limited transmission range by distinguishing a low-power transmitter from cellular transmitters. PO Resp. 12−13 (citing Ex. 1001, 14:15–21). Patent Owner also argues the Specification states that an *extremely* low-power transmitter has a range of only several feet. *Id*.; Ex. 1001, 6:1–3. However, that disclosure does not support Patent Owner's proposed construction, as it addresses a low-power RF transmitter. *Id*. at 14:15−21. The claims merely recite a "low-power transceiver," which could be, but may not necessarily be, a low-power RF transceiver. Furthermore, the use of a cellular transmitter instead of a low-power RF transmitter in the context of an automobile could be based on the availability of cell towers versus payphones, not necessarily the transmission range. Ex. 1038 ¶ 38. We also do not discern the preferred embodiment using an *extremely* low-power transmitter supports Patent Owner's positon. Our reviewing Court "has repeatedly cautioned against limiting the claimed invention to preferred embodiments or specific examples in the specification." *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1346–47 (Fed. Cir. 2015).

Third, Patent Owner argues that an ordinarily skilled artisan would have understood that a low-power transceiver has a significantly lower transmission range than the range of a cellular transmitter, citing Mr. Geier's cross-examination testimony. *Id*. at 12–13 (citing Ex. 2007, 37:6−9). However, Mr. Geier's cross-examination testimony does not support Patent Owner's construction. Ex. 2007, 36:2−14, 36:12−17 (testifying that "it really depends on the situation"), 37:6−9 ("you could have . . . less, range

with a lower power transmitter"); Ex. 1038 ¶¶ 36−37. In fact, Mr. Geier's cross-examination testimony is consistent with his testimony filed in support of Petitioner's Reply that a relevant artisan would have recognized that changing the "power" does not necessarily change the "transmission range," which depends numerous factors, including the signal frequency and environment. Ex. 1038 ¶¶ 36−37.

Fourth, Patent Owner argues that "low-power transceiver" should be construed as "having a limited transmission range to be consistent with its function of limiting contention, interference and the unlawful interception of data." PO Resp. 13−14. However, none of the claims contains that functional language. As described in the Specification, the "function of limiting contention, interference and the unlawful interception of data" is achieved by an *extremely* low power transmitter—an unclaimed feature. Ex. 1001, 5:65−6:11. Once again, Patent Owner improperly attempts to import a limitation from a preferred embodiment into the claims.

Finally, Patent Owner argues that the Federal Communication Commission (FCC) defined low-power radio transmitters as having a range of only a few meters, citing to the following passage:

> Low-power, non-licensed transmitters are used virtually everywhere. Cordless phones, baby monitors, garage door openers, wireless home security systems, keyless automobile entry systems and hundreds of other types of common electronic equipment rely on such transmitters to function. *At any time of day, most people are within a few meters of consumer products that use low-power, non-licensed transmitters*.

PO Resp. 14−15; Ex. 2001, 1 (emphasis added).[6] However, the FCC Bulletin does not support Patent Owner's argument that the term "low-power transceiver" is limited to a transmission range of *a few meters* because the *distance* between "people" and the "consumer products that use low-power, non-licensed transmitters" is not necessarily equal to the transmission range of signals—the distance between the transmitter that sends the signals and the receiver that receives the signals.

Therefore, based on the record in this proceeding, we maintain our construction for "low-power transceiver" to *encompass* "a device that transmits and receives signals having a limited transmission range."

"instruction data"

Claim 1 recites "a low-power transceiver configured to wirelessly transmit a signal comprising *instruction data* for delivery to a network of addressable devices." Ex. 1001, 14:45–47 (emphasis added). In our Institution Decision, we rejected Patent Owner's proposed claim construction for the term "instruction data" as it would import improperly a limitation from a preferred embodiment into the claims, attempting to replace "data" with "code." Dec. 18−20. Rather, in light of the Specification, we construed "instruction data" as "items of information that allows a computer system to identify a function or an instruction to be

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[6] The Office of Engineering and Technology of the Federal Communications Commission, *Understanding the FCC Regulations for Low-Power, Non-Licensed Transmitters*, OET Bulletin No. 63 (Edited and Reprinted Feb. 1996) ("the FCC Bulletin").

performed." *Id*. After institution, Petitioner agrees with our claim construction. Reply 4.

However, Patent Owner maintains that the proper construction for "instruction data" is a "code identifying a function to be performed or identifying a status that triggers a function to be performed." PO Resp. 15–18. According to Patent Owner, the language of claim 10 supports its interpretation—the controller is "configured to decode the instruction data and implement an associated instruction." Ex. 1001, 15:14–19. Patent Owner also cites the following passages of the Specification as support:

> In accordance with one aspect of the invention, the system includes a transmitter disposed at a first location and configured to transmit a signal containing an instruction code to a transceiver. *The instruction code uniquely identifies an instruction to be carried out*.

Ex. 1001, 2:25–30 (emphasis added).

> The instruction code is *a relatively small data value* that may be decoded to define a wide variety of functions. For example, an instruction code a single byte (eight bits) in size may define up to two hundred fifty six different functions or instructions Similarly, an instruction code two bytes in size may *define over sixty-five thousand (2^{16}) functions or instructions*.

Id. at 2:51–57 (emphases added).

> In fact, for purposes of the present invention, the message transmitted by the transmitter may be as simple as an instruction code that *defines some condition, that a central station may decode and act upon*.

Id. at 13:58–61 (emphasis added).

Again, Patent Owner's proposed construction would improperly import a limitation from a preferred embodiment into the claims. The Specification, including claim 10, does not redefine "instruction data" as an *instruction code* that is a relative small data value uniquely identifying a function to be performed or a status that triggers a function to be performed. Rather, in the context of the Specification, an ordinarily skilled artisan would have understood "data" as plural of datum, "an item of information." *See* MICROSOFT COMPUTER DICTIONARY at 129 (3rd ed. 1997) (defining "data" as "[p]lural of the Latin *datum*, meaning an item of information") (Ex. 3001, 3). As the Specification confirms, the "signal comprising instruction data" itself does not include an instruction, but instead contains information for a computer system at the central location, or other locations, to identify the function or instruction to be performed. Ex. 1001, 14:50–59 (reciting a controller that is configured to "communicate information contained within the signals to the central location"), 3:3–7 (explaining the predetermined location, e.g., a central dispatch location, identifies the function or instruction), Fig. 4. Furthermore, the portion of Mr. Geier's cross-examination testimony relied upon by Patent Owner (Ex. 2007, 59:10−17, 61:1−5) also does not support Patent Owner's construction because, in the very next two sentences in that testimony, Mr. Geier explained that the cited passages in the Specification are "referring to codes," while the claims refer to "instruction data." Ex. 2007, 59:18−21.

For the foregoing reasons, we decline to adopt Patent Owner's proposed construction for the term "instruction data." Rather, in light of the

Specification and the basic knowledge of an ordinarily skilled artisan, we construe "instruction data" as "items of information that allows a computer system to identify a function or an instruction to be performed."

B. Patentable Subject Matter Under 35 U.S.C § 101

Petitioner asserts that claims 1, 7, 9, 16, and 17 are directed to an abstract idea that is not eligible subject matter for a patent under § 101. Pet. 16–28. Petitioner takes the position that these challenged claims are directed to an abstract idea of "establishing a communications route between two points to relay information," and no other component recited in the claims transforms the patent-ineligible concept to a patent-eligible application. *Id*. Patent Owner opposes. PO Resp. 58–77.

A patent may be obtained for "any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof." 35 U.S.C. § 101. The Supreme Court has held that this provision contains an implicit exception: laws of nature, natural phenomena, and abstract ideas are not patentable. *Alice Corp. v. CLS Bank International*, 134 S. Ct. 2347, 2354 (2014); *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972) ("Phenomena of nature, through just discovered, mental processes, and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work."). Notwithstanding that a law of nature or an abstract idea, by itself, is not patentable, the practical application of these concepts may be deserving of patent protection. *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1293–94 (2012).

In *Alice*, the Supreme Court reaffirmed the framework set forth previously in *Mayo* "for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of these concepts." *Alice*, 134 S. Ct. at 2355. The first step in the analysis is to "determine whether the claims at issue are directed to one of those patent-ineligible concepts." *Id*. If the claims are directed to a patent-ineligible concept, the second step in the analysis is to consider the elements of the claims "individually and 'as an ordered combination'" to determine whether there are additional elements that "'transform the nature of the claim' into a patent-eligible application." *Id.* (quoting *Mayo*, 132 S. Ct. at 1298, 1297). The prohibition against patenting an abstract idea "cannot be circumvented by attempting to limit the use of the formula to a particular technological environment or adding insignificant post-solution activity." *Bilski v. Kappos*, 561 U.S. 593, 610–11 (2010) (citation and internal quotation marks omitted).

Whether the challenged claims are directed to an abstract idea

As the first step of our analysis, we determine whether claims 1, 7, 9, 16, and 17 of the '842 patent are directed to a patent-ineligible concept, such as an abstract idea. *See Alice*, 134 S. Ct. at 2355. In determining whether the claims are directed to an abstract idea, we must avoid oversimplifying the claim because "all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas." *Mayo*¸132 S. Ct. at 1293. To that end, we consider the claims "in light of the specification, based on whether 'their character as a whole is directed to

excluded subject matter.'" *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016) (citing *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015)). In that regard, we determine whether the claims "focus on a specific means or method that improves the relevant technology" or are "directed to a result or effect that itself is the abstract idea and merely invoke generic processes and machinery." *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1314 (Fed. Cir. 2016).

Here, Petitioner argues that claims 1, 7, 9, 16, and 17 are directed to the patent-ineligible abstract idea of "establishing a communication route between two points to relay information." Pet. 17. According to Petitioner, "[t]his concept has been practiced for centuries in applications such as the Postal Service, Pony Express, and telegraph, where a route is established to relay mail or other communications from one point to another." *Id*. (citing Ex. 1003 ¶¶ 26–30, 44–57, 59–63; Ex. 1019–Ex. 1021).

Upon consideration of the parties' contentions, we determined in our Institution Decision that Petitioner has demonstrated sufficiently for purposes of instituting a CBM patent review that claims 1, 7, 9, 16, and 17 are directed to a patent-ineligible abstract idea because the claims appear to require no more than the use of conventional or generic technology in sending information between two locations. Dec. 22−27. As Petitioner explains, the Specification confirms that each claim, as a whole, is drawn to the abstract concept of "establishing a communication route between two points to relay information." Pet. 19.

Notably, the Specification states that "the present invention is generally directed to a system for communicating information to a predetermined location." Ex. 1001, 2:23–25. The Specification confirms that the claimed device merely replaces the manual process of dispatching a human to check periodically on remote devices (e.g., a vending machine or ATM), and notifying the central service location of any problems (e.g., out of a product or money). *Id*. at 1:43–2:11. The Specification explains that another aspect of the invention is to provide a method "for performing an automated service request." *Id*. at 3:28–3:30. The Specification further confirms that "the invention is directed to a *general purpose transceiver* having a receiver for receiving an information signal and a transmitter configured to transmit an outgoing signal to a central station." *Id*. at Abs., 2:23–25 (emphasis added).

Patent Owner argues that the claimed device is "a concrete solution for resolving particular problems that first arose with the development of networks hosting wireless devices: how to receive and transmit data from wireless devices while preventing unlawful interruption of that data, interference, and contention." PO Resp. 63−65. Patent Owner contends that "the problem of transforming received data from a wireless communication protocol to a different protocol for transmission to a central location arises in the realm of computer systems." *Id*. at 71−73. Patent Owner argues that the claims are "directed to an improvement in communication technology between remote devices that are accessible by wireless communication and a central location via a circuit interface." *Id*. at 66−70.

However, Patent Owner's arguments are not commensurate in scope with the claims. The purported problems that arose with the development of networks hosting wireless device—unlawful interruption of that data, interference, and contention—are addressed by using *an extremely low-power transmitter*. Ex. 1001, 5:65−6:11. As discussed above, the challenged claims recite a generic "low-power transceiver," not an *extremely* low-power transmitter. Additionally, the alleged problem of transforming data to a different protocol is addressed by an unclaimed feature, as the '842 patent itself recognizes that the invention is not necessarily limited to certain protocol or requires a protocol conversion. *Id*. at 13:55−14:5. Moreover, the challenged claims do not requires a protocol conversion or recite a device for converting data from one protocol to a different protocol. Rather, they recite generically a "network of addressable devices."

Patent Owner's argument that the claims are "directed to an improvement in communication technology between remote devices that are accessible by wireless communication and a central location via a circuit interface" is unavailing. Significantly, the claims are not directed to a new type of transceiver, interface circuit, or controller to establish a communication link between a remote device and the central location. Instead, the claims are directed to transmitting data between locations using conventional or generic computer components.

The challenged claims essentially recite a device for communicating information that comprises: (1) a low-power transceiver for transmitting or receiving data; (2) an interface circuit for communicating with a central

location; and (3) a controller for establishing a communication link. The Specification confirms that these features were known in the art. Ex. 1001, 5:23–25, 6:62–64 ("As is well known by those skilled in the art, a variety of transducers can perform this functionality adequately."), 10:13–15 ("[T]he controller 256 may be a general purpose microprocessor or microcontroller."), 10:21–23 ("The interface 258 within the transceiver 270 is designed to interface with this typical/standard telephone circuitry 263."), 10:23–26 ("The specific implementation of the circuitry of [interface] 258 will be appreciated by persons skilled in the art and need not be described in detail herein."). Indeed, the FCC Bulletin also confirms that low-power wireless transmitters were "used virtually everywhere," noting that "[c]ordless phones, baby monitors, garage door openers, wireless home security systems, keyless automobile entry systems and hundreds of other types of common electronic equipment rely on such transmitters to function." Ex. 2001, 1. Moreover, the '842 patent itself recognizes that the communication link between the remote device and central location can be established by initiating a phone call over a telephone line that is part of the public-switched telephone network. Ex. 1001, 2:34−38. There is no dispute that such a communication link was known in the art. *Id*. at 10:21−26.

Although the challenged claims recite physical components, not every claim reciting "concrete, tangible components escapes the reach of the abstract-idea inquiry." *In re TLI Commc'ns LLC Patent Litig.*, 823 F.3d 607, 611 (Fed. Cir. 2016) (holding that claims reciting a "telephone unit" and "server" were nonetheless directed to an abstract idea because the

specification made clear that the recited physical components "merely provide a generic environment in which to carry out the abstract idea of classifying and storing digital images in an organized manner"). "The bare fact that a computer exists in the physical rather than purely conceptual realm 'is beside the point.'" *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1256 (citing *Alice*, 134 S. Ct. at 2358). "[C]laims purporting to improve the functioning of the computer itself, or improving an existing technological process[,] might not succumb to the abstract idea exception." *Enfish*, 822 F.3d at 1335 (internal quotation marks, brackets, and citation omitted). The question is "whether the focus of the claims is on the specific asserted improvement in computer capabilities" or whether "computers are invoked merely as a tool." *Id.* at 1335−36. For example, in *Enfish*, the court held that claims "directed to a specific improvement to the way computers operate, embodied in [a] self-referential table," did not fall within the realm of abstract ideas. *Id*. In *DDR Holdings*, the court also held that claims "necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks" did not merely recite an abstract idea. 773 F.3d at 1257. However, these decisions do not support Patent Owner's position in the instant proceeding.

As Petitioner explains, unlike the claims in *Enfish,* 822 F.3d at 1335–36, which were "directed to any specific improvement to the way computers operate," the challenged claims here "simply substitute generic, well-known computer components for a human in performing age-old communications." Pet. 21–23, n.6. Additionally, the challenged claims, unlike those in *DDR*

Holdings, do not recite features that are "necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks." 773 F.3d at 1257. Patent Owner's arguments that the claimed device is directed to a solution to overcome problems arising with the development of networks of wireless devices or "in the realm of computer networks" are based on unclaimed features. The Specification acknowledges that the claimed features were known in the art. Ex. 1001, 2:34−38, 5:23−25, 6:62−64, 10:13−26. The Specification also confirms that the claimed device using known generic components in the known ways (e.g., using a wireless transceiver to transmit data or initiating a phone call across the PSTN) merely replaces the manual process of dispatching a human to check periodically on remote devices (e.g., a vending machine or ATM), and notifying the central service location of any problems (e.g., out of a product or money). *Id*. at 1:43–2:11. The Specification makes clear that the recited physical components merely provide a generic environment in which the service data is transmitted to the central location. *Id*. at Abs., 2:23–25. "[A]fter *Alice*, there can remain no doubt: recitation of generic computer limitations does not make an otherwise ineligible claim patent-eligible." *DDR Holdings*, 773 F.3d at 1256.

The challenged claims also are unlike those in *McRO*, which were focused on "a specific asserted improvement in computer animation, i.e., the automatic use of rules of a particular type." 837 F.3d at 1314. As the court explained in *McRO*, "the claimed improvement [was] allowing computers to produce accurate and realistic lip synchronization and facial expressions in

animated characters that previously could only be produced by human animators." *Id*. at 1313 (internal quotation marks omitted.). In contrast, the claims here do not address how the communication technology itself would be improved. Nor do the claims recite an improved transceiver, interface, or controller. The Specification does not provide "any technical details for the tangible components, but instead predominately describes the system and methods in purely functional terms." *TLI*, 823 F.3d at 612.

As Petitioner notes (Pet. 21), the concept of automating a service request process with a general purpose computer with known electronic components is an abstract idea ineligible for patenting. *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1372 (Fed. Cir. 2011) (finding claim directed to "unpatentable mental processes" where the "steps can be performed in the human mind, or by a human using a pen and paper"); *SiRF Tech., Inc. v. Int'l Trade Comm'n*, 601 F.3d 1319, 1333 (Fed. Cir. 2010); *see also TLI*, 823 F.3d at 612 (holding the claims patent ineligible, where, *inter alia*, "[t]he specification does not describe a new telephone, a new server, or a new physical combination of the two."). In *buySAFE*, the claims were held patent ineligible because they recited no more than using a computer to send and receive information over a network in order to implement the abstract idea of creating a "transaction performance guaranty." *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014). The claims here are similar to those claims in *buySAFE*, reciting a general purpose or conventional transceiver, interface, and controller for sending or receiving information between two locations to implement the abstract idea of

"establishing a communication route between two points to relay information." Further, like the claims in *Apple*, the challenged claims here do not address a particular way of programming or designing the software to establish the communication link between a remote device and the central service center, but rather merely claim a general purpose system that is directed to certain functionality. *Apple*, 842 F.3d at 1240−41. The challenged claims also are similar to those claims in *Affinity Labs*, reciting generic, well-known components to establish a communication link between two locations for transmitting data wirelessly, but do not sufficiently describe how to perform these functions in a non-abstract way. *Affinity Labs of Tex., LLC v. DirectTV, LLC*, 838 F.3d 1253, 1258−59 (Fed. Cir. 2016) (holding that claims, reciting a wireless cellular telephone device, regional broadcasting channel, and graphical user interface, were directed to an abstract idea where they claimed "the function of wirelessly communicating regional broadcast content to an out-of-region recipient, not a particular way of performing that function."). Notably, "limitations recite routine computer functions, such as the sending and receiving information . . . are no more than the performance of well-understood routine, and conventional activities previously known to the industry." *Intellectual Ventures I LLC v. Erie Indemnity Co.*, 850 F.3d 1315, 1328−29 (Fed. Cir. 2017). In short, the challenged claims do not "focus on a specific means or method that improves the relevant technology," but rather are "directed to a result or effect that itself is the abstract idea and merely invoke generic processes and machinery." *McRO*, 837 F.3d at 1314.

For the foregoing reasons, we are persuaded that Petitioner has demonstrated sufficiently that claims 1, 7, 9, 16, and 17 of the '842 patent are directed to a patent-ineligible abstract idea.

Whether the challenged claims lack a patent-eligible inventive concept

Turning to the second step in the analysis, we look for additional elements that can "transform the nature of the claim" into a patent-eligible application of an abstract idea. That is, we determine whether the claims include an "inventive concept," i.e., an element or combination of elements sufficient to ensure that the patent in practice amounts to significantly more than a patent on the abstract idea itself. *Alice*, 134 S. Ct. at 2357. The additional elements must be more than "well-understood, routine, conventional activity." *Mayo*, 768 S. Ct. at 1297−98.

Here, Petitioner argues that claims 1, 7, 9, 16, and 17 are unpatentable because they are "directed only to an abstract idea with nothing more added than generic computing components and 'well-understood, routine, conventional activity' previously performed in the field (both individually and as an ordered combination in the claims)." Pet. 23–24 (citing *Mayo*, 132 S. Ct. at 1294). According to Petitioner, the challenged claims "recite the concept of establishing a communication route between two points 'as performed by a generic computer,' without disclosing any 'novel or unusual' improvement to 'the functioning of the computer itself' or any 'advance in computer technology that makes the performance of [routine] functions more effective." *Id*. at 24 (citing *Alice*, 134 S. Ct. at 2358–60).

We are persuaded by Petitioner's explanations. In view of the Specification, we agree with Petitioner that the claimed elements, individually and as an ordered combination, in each challenged claim, do not transform the claimed abstract idea into a patent-eligible application.

Patent Owner counters that the challenged claims "address problems specific to the new technology of wireless devices and the proliferation of different types of devices from different manufacturers that transmit different types of data." PO Resp. 73−77. In Patent Owner's view, the claims "provide a novel method for communicating data originating from a wide variety of different devices while preventing unlawful interception of that data, interference, and contention." *Id*. However, Patent Owner's arguments again are not commensurate in scope with the claims, relying on unclaimed features. The Specification confirms that those purported problems—interception of data, interference, and contention—are addressed by using an *extremely low-power transmitter*, which is not recited in the challenged claims. Ex. 1001, 5:65−6:11. Moreover, the challenged claims do not recite "different types of devices from different manufacturers," but rather, they generically recite "a network of addressable devices."

We also are not persuaded by Patent Owner's argument that the challenged claims "address problems specific to the new technology of wireless devices and the proliferation of different types of devices from different manufacturers that transmit different types of data." In fact, the challenged claims are not directed to specific details of the transceiver or other new wireless device. Rather, the claimed elements—transceiver,

interface, and controller—are generic, well-known electronic components performing their known functions to transmit data.

Considering the elements individually, we are not persuaded that the elements are sufficient to transform the nature of the claims into a patent-eligible application of the abstract idea of "establishing a communication route between two points to relay information." Even when considering the elements as an ordered combination, we are not persuaded that challenged claims contain a combination of elements sufficient to ensure that any of the claims amounts to significantly more than a patent on the abstract idea.

The Specification itself confirms that the claimed subject matter merely replaces a conventional business practice with an electronic device having known computer components for sending and receiving information. Ex. 1001, 1:66–2:11, 2:23–25, 3:28–3:30, 6:62–64. The Specification explains that "the invention is directed to a general purpose transceiver," and that "[a]s is well known by those skilled in the art, a variety of transducers can perform this functionality adequately." *Id*. at Abs., 2:23–25, 6:62–64. Indeed, the FCC Bulletin confirms that low-power transmitters were "used virtually everywhere," including in cordless phones, baby monitors, garage door openers, wireless home security systems, and keyless automobile entry systems. Ex. 2001, 1. The "transceiver" element requires nothing more than a generic device performing a conventional function (transmitting or receiving information). Using a generic computer to send and receive information over a network does not transform the abstract idea into a

patent-eligible invention. *buySAFE*, 765 F.3d at 1355; *see also Alice*, 134 S. Ct. at 2358–59 (noting that "the use of a computer to create electronic records, track multiple transactions, and issue simultaneous instructions" does not improve the functioning of the computer or any other technology).

As to the "interface circuit" element, the Specification does not teach how the interface circuitry was to improve the communication or wireless technology. Nor does it teach how this element was to be implemented technologically. Instead, the Specification merely discloses that "[t]he specific implementation of the circuitry of [the interface] will be appreciated by persons skilled in the art and need not be described in detail herein." Ex. 1001, 10:23–26. The Specification also suggests that the interface circuit uses preexisting technology to send information, using a telephone line. *Id*. at 2:34–38 ("The transceiver circuit includes a line interface circuit configured to interface with a telephone line that is part of the public-switched telephone network."), 10:17–26 ("The interface 258 within the transceiver 270 is designed to interface with this typical/standard telephone circuitry 263."). Simply adding preexisting technologies to an otherwise unpatentable claim does not make the claim patentable. *Apple*, 842 F.3d at 1242 (finding that appending preexisting handwriting and voice capture technologies onto otherwise unpatentable claims does not make them patentable); *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat. Ass'n*, 776 F.3d 1343, 1348 (Fed. Cir. 2014) (holding that a recitation of the use of "existing scanning and processing technology to recognize and store data from specific data fields such as amounts,

addresses, and dates" did not amount to significantly more than the "abstract idea of recognizing and storing information from hard copy documents using a scanner and a computer").

Finally, with respect to the "controller" element, the Specification teaches that the controller "may be a general purpose microprocessor or microcontroller." Ex. 1001, 10:13–15. The Specification discloses that the controller establishes a communication link by initiating a phone call over a telephone line that is part of the public telephone network "for providing general purpose communications to a central location." *Id*. at 2:34–48. As articulated in *Alice*, "the mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention." *Alice*, 134 S. Ct. at 2358. Like in *Alice*, the function performed by the controller as recited in the challenged claims here is "purely conventional." The computers in *Alice* were receiving and sending information over networks connecting the intermediary to the other institutions involved, and the Court found those roles of the computers insufficient for patent eligibility. *Id*. at 2359–60. Moreover, the use of telephone lines for sending information is not an improvement to the communication technology, but rather a well-understood, routine, conventional activity that does not add significantly more to the abstract idea. *Mayo*, 132 S. Ct. at 1298.

The additional elements recited in dependent claims 7 and 9—requiring no more than communicating an identification code, or a field that indicates a destination device, along with the data, using the same generic well-known computing components—also do not add significantly more to

the abstract idea as to render the claims patent-eligible. Patent Owner does not make separate, specific arguments directed to these claims.

For the foregoing reasons, we determine that each claim element "does no more than require a generic computer to perform generic computer functions," as in *Alice*, 134 S. Ct. at 2359. Even when the claimed elements are considered "as an ordered combination," as is the case in *Alice*, they "add nothing that is not already present when the [elements] are considered separately." *Id*. (citing *Mayo*, 132 S. Ct. at 1298) (internal quotation marks omitted). Each of claims 1, 7, 9, 16, and 17, as a whole, conveys nothing meaningfully more than the abstract idea of establishing a communication route between two points to relay information as performed by a generic computer system. Simply implementing an abstract concept on a computer, without meaningful limitations to that concept, does not transform a patent ineligible claim to a patent-eligible claim. *Accenture Global Servs. GmbH v. Guidewire Software, Inc.*, 728 F.3d 1336, 1345 (Fed. Cir. 2013).

On this record, we do not find that the claimed subject matter as a whole "improves the functioning of the computer itself," or "effect[s] an improvement in any other technology or technical field," as there is no specific recitation in the claims of improved computer technology or advanced programing techniques. *See Alice*, 134 S. Ct. at 2359. As is the case in *Alice*, the claims here amount to "nothing significantly more" than applying an abstract idea on a generic computer system, which is not enough to transform an abstract idea into a patent-eligible invention. *Id*. at 2360.

Furthermore, the restriction of using a wireless device to transmit the data does not alter the result. Confining the abstract idea to a particular technological environment, such as wireless delivery of regional broadcast content using only cellphones, does not render the claims any less abstract. *Affinity*, 838 F.3d at 1258−59 (noting that "[t]he Supreme Court and this court have repeatedly made clear that merely limiting the field of use of the abstract idea to a particular existing technological environment does not render the claims any less abstract") (citing *Alice*, 134 S. Ct. at 2358; *Mayo*, 132 S. Ct. at 1294; *Bilski*, 561 U.S. at 612; *Content Extraction*, 776 F.3d at 1348; *buySAFE*, 765 F.3d at 1355).

In view of the foregoing, we determine that Petitioner has shown by a preponderance of the evidence that claims 1, 7, 9, 16, and 17 are directed to patent-ineligible subject matter under § 101.

C. Principles of Law on 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. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

D. Level of Ordinary Skill

In determining the level of ordinary skill in the art, various factors may be considered, including the "type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field." *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (citation omitted). Mr. Geier testifies that a person with ordinary skill in the art "would have had a minimum of a bachelor's degree in electrical engineering or its equivalent and 2−3 years of experience in the development and design, or technical marketing, of radio communications or computer network systems." Ex. 1003 ¶¶ 9−10. Patent Owner's declarant, Kevin Almeroth, Ph.D., testifies similarly that such an artisan would have had a Bachelor of Science Degree "in computer science, computer engineering or the equivalent and at least two years of experience with, or exposure to the design and development of wireless communication network systems, including familiarity with protocols used therein." Ex. 2006 ¶ 103.

We adopt Mr. Geier's assessment of a person with ordinary skill in the art. However, we do not discern any meaningful differences between the parties' assessments of the level of ordinary skill in the art, and our findings and conclusions would be the same under either assessment. We further note that the prior art of record in the instant proceeding reflects the

appropriate level of ordinary skill in the art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1354–55 (Fed. Cir. 2001) (noting that, under some circumstances, "the prior art itself reflects an appropriate level" of ordinary skill in the art).

E. Obviousness over Tymes

Petitioner asserts that claims 1, 7, 9, 16, and 17 are unpatentable under § 103(a) as obvious over Tymes. Pet. 63–85. Petitioner provides detailed explanations as to how Tymes teaches or suggests each limitation and articulates a reason to combine the teachings of Tymes, citing to Mr. Geier's testimony for support. *Id*.; Ex. 1003. Patent Owner counters that Tymes does not disclose certain limitations, citing to Dr. Almeroth's testimony for support. PO Resp. 43–58; Ex. 2006.

We have considered the parties' contentions and supporting evidence in this entire trial record. Based on the evidence before us, we determine that Petitioner has established by a preponderance of the evidence that Tymes renders the challenged claims obvious. We begin our discussion below with an overview of Tymes, and then we address the parties' contentions in turn, focusing on the disputed claim limitations.

Tymes

Tymes discloses a packet data transmission system that links a plurality of remote hand-held data-gathering units to a central computer. Ex. 1005, Abs., Fig. 1. According to Tymes, it is an object of its invention to provide an improved, low-cost, low-power, data communication network,

preferably a network using an RF link, in which the remote terminal units can send data packets to a central station, and receive acknowledged data signals from the central station.

Figure 1 of Tymes is reproduced below.

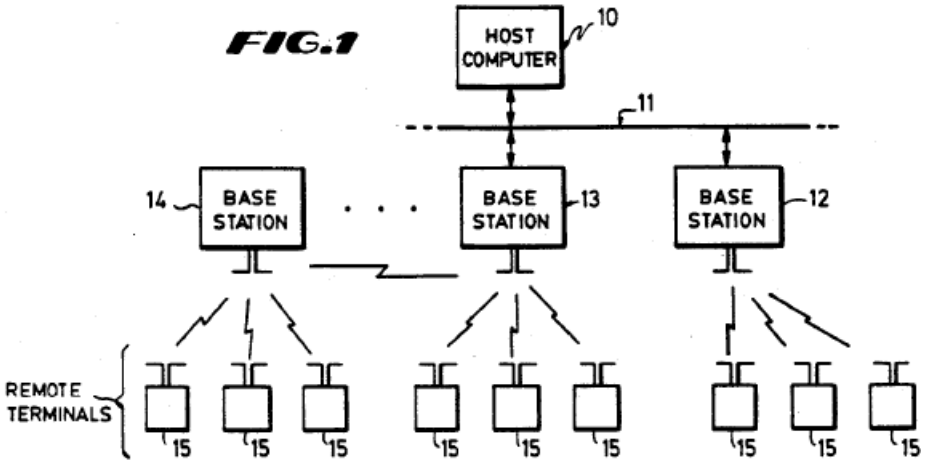


Figure 1 of Tymes illustrates a communication network that includes host computer 10, a plurality of base stations 12−14, and a plurality of remote terminals 15. Host computer 10 is a central computer that maintains a database management system. *Id*. at Abs., 4:61–5:44. Remote units 15 send information to host computer 10 via intermediary base stations 12–14. *Id*. Each base station is connected to one or more remote units 15 via an RF link. *Id*. Base stations 12–14 are connected to central host computer either by a wire connection or by a similar RF link. *Id*. at 3:23–25.

Low-Power Transceiver

Claims 1 requires a device for communicating information that comprises "a low-power transceiver configured to wirelessly transmit a signal comprising instruction data for delivery to a network of addressable

devices." Ex. 1001, 14:45–47. Likewise, by virtue of their dependency, claims 7 and 9 require this limitation. *Id*. at 15:5–7, 15:12–14. Claim 16 requires a device for communicating information that comprises a processor and a memory that "are configured to cause the device to: wirelessly transmit a signal comprising instruction data for delivery to a network of addressable low-power transceivers." *Id*. at 16:5–11. Claim 17 requires a device for communicating information that comprises "a low-power transceiver that is configured to wirelessly receive a signal including an instruction data from a remote device." *Id*. at 16:24–26.

As discussed above in our claim construction analysis (Section II.A.), we construe a "low-power transceiver" to *encompass* "a device that transmits and receives signals having a limited transmission range." We interpret "instruction data" as "*items of information* that allows a computer system to identify a function or an instruction to be performed." We decline to adopt Patent Owner's proposed constructions. Nevertheless, even if we were to apply Patent Owner's proposed construction, our obviousness determination below would not be affected.

In regard to the aforementioned "low-power transceiver" limitations, the parties' dispute centers on (1) whether the RF transceiver in Tymes' base station is "low-power," and (2) whether the RF transceiver in the base station transmits "instruction data" to a network of addressable devices or remote units. There is no dispute that the RF transceivers in Tymes' remote units are "low-power." PO Resp. 45−46; Pet. 65−68; Ex. 1005, 2:36−56.

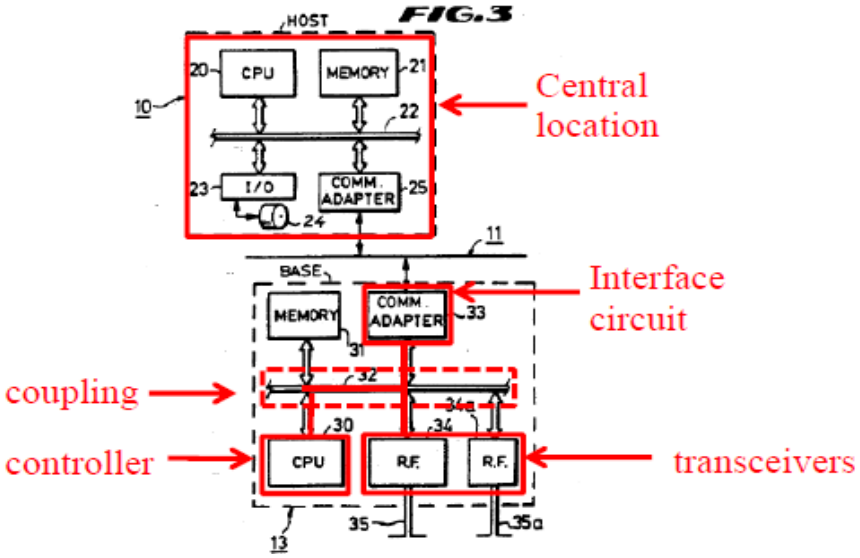
Petitioner asserts that Tymes teaches or suggests all of the limitations recited in the challenged claims, including a low-power transceiver in the device for communicating information (an RF transceiver in Tymes' base station) and a network of addressable low-power transceivers (the RF transceivers in Tymes' remote terminals). Pet. 65−85. Petitioner also asserts that an ordinarily skilled artisan would have implemented low-power transceivers in the base stations because Tymes teaches (1) a low-power data communication network for indoors, and (2) RF links for transmitting and receiving signals between the base stations and remote terminals "*without site licensing* under F.C.C. regulations." *Id*. at 65−68, n.38.

In particular, Petitioner explains that Tymes meets the "low-power transceiver" limitations because Tymes' base station includes an RF transceiver configured to wirelessly transmit or receive a signal (a response to a distress call) via an RF transmission, and Tymes' response packet, indicating "which antenna worked the best," is a signal that comprises instruction data. *Id*. at 63–68, 78–84. Tymes describes an RF data link usable without site licensing under FCC regulations, which limit the power for unlicensed transmitters to less than or equal to one watt for the disclosed 902–928 MHz range. *Id*. at 66, n.38 (citing Ex. 1005, 2:53–55, 14:49–51; Ex. 1010, 18; Ex. 1017, 7:9–11, 31–34). Petitioner asserts that an ordinarily skilled artisan "would thus have found it advantageous and obvious to use 'low power' transceivers for the base stations of the network for use 'indoor[s]', and to keep the devices unlicensed." *Id*.; Ex. 1003 ¶¶ 358−359.

Patent Owner counters that Tymes' *remote terminal* cannot meet the claimed device because it does not have an interface circuit or a controller. PO Resp. 47–48. Patent Owner takes the position that Tymes' base stations do not include a *low-power* transceiver because Petitioner's citations to "low-power" refer to the remote terminals, not the base stations. *Id*. at 44–45. Patent Owner avers that Tymes teaches "a non-low-powered transceiver to accomplish robust communication." *Id*. at 49−50. Patent Owner also contends that Tymes teaches away from using a *low-power* transceiver in the base station. *Id*. at 46–47. Patent Owner further argues that Tymes does not describe a "signal comprising instruction data" because the remote unit selects the antenna that receives the stronger signal, "not rely on instruction data from base stations to make a selection." *Id*. at 50−53.

Based on the evidence before us, we determine that Petitioner has provided a sufficient showing that Tymes suggests the aforementioned "low-power transceiver" limitations and that, in view of Tymes' teachings, one of ordinary skill in the art would have been motivated to implement a *low-power* transceiver in Tymes' base station. Patent Owner's arguments and evidence do not undermine Petitioner's obviousness showing.

First, Patent Owner's argument that Tymes' *remote terminal* does not meet the claimed device as it does not have an interface circuit and a controller is misplaced. PO Resp. 47–48. Petitioner relies upon Tymes' *base stations* to disclose the claimed device for communicating information. Pet. 63–68. Petitioner's annotated Figure 3 of Tymes is reproduced below.



As shown in annotated Figure 3 of Tymes above, host processor 10 (central location) is connected to base station 13 (a device for communication information) via link 11. Base station 13 includes CPU 30 (controller), which is coupled to *RF transceiver* 34, communication adapter 33 (interface circuit), and memory 31, via local bus 32. *Id*. at 6:63–7:35. RF transceiver 34 in base station 13 is connected to antenna 35 for receiving and transmitting data to and from remote units 15. *Id*.

As Petitioner notes (Pet. 65−68), Tymes' network includes host computer 10, base stations 12−14, and remote terminals 15 (addressable devices). Ex. 1005, 3:31−32 ("A feature of the protocol is to include an ID number for the remote unit in the transmitted packet, and to include this same ID number in the reply packet, so acknowledgement by an assigned base station is confirmed."), 6:3−5, Figs. 1, 3. Host computer 10 maintains a database management system to which remote units 15 make entries or inquires via base stations 12–14. *Id*. at Abs., 4:61–5:44, 6:34–40. Remote

units 15 also have RF transceivers for transmitting and receiving wirelessly coded RF signals to and from a base station, via an RF link. *Id*. at 8:32−9:18. As Patent Owner confirms (PO Resp. 45−46), the RF transceivers in the remote terminals are *low-power* (a network of addressable low-power transceivers). Ex. 1005, 2:36−56.

Accordingly, Petitioner has shown sufficiently that Tymes suggests a device for communicating information (a base station) that comprises: (1) an RF *transceiver* configured to transmit and receive wirelessly a signal to and from a network of addressable low-power transceivers (remote terminals); (2) an *interface circuit* (communication adapter 33) for communicating with a central location (host computer 10); (3) a *controller* (CPU 30) that is coupled to the interface circuit (communication adapter 33) and RF transceivers 34, as required by the challenged claims. Pet. 63−68. Patent Owner's argument that Tymes' *remote terminal* does not meet the claimed device for communicating information is inapposite.

Second, we are not persuaded by Patent Owner's arguments that Tymes does not teach that the RF transceiver in the base station is "low-power" and that Tymes teaches "a non-low-powered transceiver to accomplish robust communication." PO Resp. 45−46, 49−50. Patent Owner's arguments rest on an unduly narrow reading of Tymes, limiting the "low-power" disclosure to only the *remote units*. A person of ordinary skill in the art, reading Tymes as a whole, would have understood that Tymes' RF transceiver in the base station is "low-power." *See Sundance, Inc. v. DeMonte Fabricating Ltd.*, 550 F.3d 1356, 1361 n.3 (Fed. Cir. 2008) ("What

a prior art reference discloses or teaches is determined from the perspective of one of ordinary skill in the art."); *In re Hedges*, 783 F.2d 1038, 1041 (Fed. Cir. 1986) (noting that when evaluating claims for obviousness, "the prior art as a whole must be considered").

As Petitioner notes (Pet. 66−68; Ex. 1003 ¶¶ 353−366), Tymes discloses "an improved, low-cost, *low-power, data communication network* in which a number of remote terminal units are able to send packets of data to a central station, and . . . to receive acknowledge signals and data from the central station." Ex. 1005, 2:36−56 (emphasis added). Tymes describes that the central station includes a number of *base stations* connected to a central computer. *Id*. at 3:21−25. As shown in Figure 1, the network includes *base stations* 12−14, each of which "is coupled by an RF link to a number of remote units." *Id*. at 4:61−5:44. The RF link is used for sending "data packets from the remote terminals to the base stations *and return*." *Id*. at 3:48−51 (emphasis added), 6:66–7:2. In fact, Tymes teaches that the "advantage of this type of RF data link is that a band may be used which does not require site licensing by the F.C.C." *Id*. at 3:55−59. Contrary to Patent Owner's assertion that "low-power" refers to only the remote terminals, Tymes describes a low-power network that includes base stations.

As Petitioner also notes (Pet. 66–67, n.38), Tymes teaches an "indoor" limited range network and an RF data link "usable without site licensing under F.C.C. regulations, so that the expense and delays incident to such licensing are eliminated or minimized." Ex. 1005, 2:36–56. Significantly, Tymes discloses that the optimum frequency is in the 902−928 MHz range

for the RF transceivers in the base stations. *Id*. at 6:66–7:2, 13:58–61, 18:1−3. The FCC limits the power for unlicensed transmitters, and the power limit under the FCC regulations is *less than or equal to one watt* for the disclosed 902–928 MHz range. Ex. 1010, 21[7]; Ex. 1017, 7:9–11, 31–34.

Mr. Geier testifies that an ordinarily skilled artisan "would have understood that an indoor communications network as taught by Tymes requires only a limited range (*e.g.*, 1 mile or less (the length of a storage facility)), so that high-powered transceivers would be unnecessary and disfavored," and that such an artisan "would have considered a transmission of 1 Watt to be a 'low-power' transmission, with a limited range of approximately 1 mile." Ex. 1003 ¶¶ 358−359. Mr. Geier also testifies that such an artisan would have had a reason to use low-power transceivers in the base stations so that they are usable indoors without licensing under the FCC regulations. *Id*. We credit Mr. Geier's testimony as it is consistent with Tymes' teachings and other evidence. Ex. 1005, 2:36–56, 6:66–7:2, 13:58−61, 18:1−3, Figs. 1, 3, 10; Ex. 1010, 21; Ex. 1017, 7:9−11, 29−34 (explaining that "unlicensed systems using conventional modulation techniques attain *ranges on the order of 500−1000 feet*" (emphasis added)).

We are not persuaded by Dr. Almeroth's testimony that "[t]here is no teaching in Tymes that 902 to 928 MHz is to be used," that "using 902 to 928 MHz band at 1 W is not the only way to" avoid "the need to obtain an FCC site license," and that "[t]here are other ways that interference can be

[7] Our citations are to the page numbers in the lower right corner.

avoided, *e.g.*, using non-overlapping frequencies." Ex. 2006 ¶¶ 130−133. We note that "case law does not require that a particular combination must be the preferred, or the most desirable, combination described in the prior art in order to provide [the] motivation [or reason] for the current invention." *In re Fulton*, 391 F.3d 1195, 1200 (Fed. Cir. 2004).

More importantly, Dr. Almeroth's testimony contradicts Tymes' teachings, which discloses that "[t]he optimum frequency for the carrier (in the 902 to 928 MHz band), and the optimum antenna 35a to 35n [for the base stations], can thus be selected." Ex. 1005, 18:1−3. Dr. Almeroth also fails to consider the general knowledge of an ordinarily skilled artisan—e.g., "unlicensed systems using conventional modulation techniques attain ranges on the order of 500−1000 feet" and "[b]ecause the spread spectrum signal produces a low interference level, the FCC presently allows unlicensed operation at output power up to 1 watt, whereas the FCC limits conventional modulation techniques to lower power outputs" (Ex. 1017, 7:29–35). *See Ariosa Diagnostics v. Verinata Health, Inc.*, 805 F.3d 1359, 1365 (Fed. Cir. 2015) (explaining that "[a]rt can legitimately serve to document the knowledge that skilled artisans would bring to bear in reading the prior art identified as producing obviousness"); *Randall Mfg. v. Rea*, 733 F.3d 1355, 1362 (Fed. Cir. 2013) (noting that when considering whether a claim would have been obvious, "the knowledge of such an artisan is part of the store of public knowledge that must be consulted"). As Mr. Geier also points out (Ex. 1038 ¶ 75), Dr. Almeroth is overlooking the FCC regulation that non-licensed transmitter must be low-power. Ex. 1010, 1, 5.

We are not persuaded by Dr. Almeroth's testimony that Mr. Geier does not "identify how much power would be saved and whether it would result in any particular advantage, for example, cost savings" or "address any of the disadvantages of using low power, *e.g.*, communication errors." Ex. 2006 ¶¶ 130−131. Dr. Almeroth again disregards certain portions of Tymes that disclose a low-cost, low-power network usable indoors without site licensing under the FCC regulations and having an optimum frequency in the 902−928 MHz range. Ex. 1005, 2:36−56, 3:21−24, 18:1−3. Neither Patent Owner nor Dr. Almeroth considers the advantages and reasons stated in Tymes for using low-power transceivers in the base stations and low-power network. *See SightSound Techs., LLC v. Apple Inc.*, 809 F.3d 1307, 1318−19 (Fed. Cir. 2015) (affirming the Board's obviousness determination that was based on the "[f]inding that the reason to combine was manifested by the references themselves"). In short, we credit the testimony of Mr. Geier (Ex. 1003 ¶¶ 353−366) over that of Dr. Almeroth (Ex. 2006 ¶¶ 130−133). The Board has broad discretion as to the weight to be accorded to evidence. *Velander v. Garner*, 348 F.3d 1359, 1371 (Fed. Cir. 2003) (stating that it is "within the discretion of the trier of fact to give each item of evidence such weight as it feels appropriate").

For the reasons stated above, we determine that Petitioner has established by a preponderance of the evidence that Tymes suggests using low-power transceivers in the base stations, as required by challenged claims, and that Petitioner has articulated a sufficient reason as to why an ordinarily skilled artisan would have been motivated to use a low-power

transceiver in the base station. Patent Owner's arguments that Tymes does not teach that a low-power transceiver in the base station and that Tymes teaches "a non-low-powered transceiver to accomplish robust communication" are unavailing.

Third, we are not persuaded by Patent Owner's argument that Tymes teaches away from using a low-power transceiver in the base station. PO Resp. 46−47; Ex. 2006 ¶¶ 126−127. A reference does not teach away if it merely expresses a general preference for an alternative invention but does not "criticize, discredit, or otherwise discourage" investigation into the invention claimed. *Fulton*, 391 F.3d at 1201.

Patent Owner and Dr. Almeroth rely upon a sentence in Tymes that "[t]he base stations are usually powered by line current rather than being battery operated, and so there is less concern for power dissipation in these devices compared to that for the remote terminals." Ex. 1005, 7:44–47. Tymes merely expresses a general preference for line current to power the *entire* base station. *Id*. We do not discern such a disclosure criticizes, discredits, or otherwise discourages investigation into using a *low-power transceiver*, which is merely one of the components in the base station. Ex. 1005, 6:63−7:2, Fig. 3. As Mr. Geier explains, Patent Owner and Dr. Almeroth conflate the current used by the *entire* base station with the power used by the *RF transceiver*. Ex. 1038 ¶ 72.

Patent Owner's argument and Dr. Almeroth's testimony that "Tymes discloses that low power consumption on the *Remote Terminals* is achieved by turning off the receiver when not in use, not by reducing the transmission

range like the claimed device" also does not support Patent Owner's position that Tymes teaches away from using a low-power transceiver in the *base station*. PO Resp. 46−47; Ex. 2006 ¶ 127 (emphasis added). Patent Owner and Dr. Almeroth narrowly focus on a single example for reducing the power at the *remote terminals*, disregarding Tymes' disclosure concerning the *base stations*. Notably, Tymes discloses that the RF transceiver in the *base station* is useable indoors, having an optimum frequency in the 902−928 MHz range, without licensing under the FCC regulations. Ex. 1005, 2:36−56, 3:48−59, 18:1−3. As noted above, an indoor network requires only a limited range, the power limit under the FCC regulations is *less than or equal to one watt* for the disclosed 902–928 MHz range, and the FCC regulation that non-licensed transmitted must be low-power. Ex. 1003 ¶ 359; Ex. 1010, 1, 5, 21; Ex. 1017, 7:9−11, 31−34. The cited portion of Mr. Geier's cross-examination testimony also does not support Patent Owner's position, as Mr. Geier was answering questions directed to the *remote terminals*. Ex. 2007, 75:1−22.

Accordingly, Patent Owner's argument that Tymes teaches away from using low-power transceivers in the base station is unavailing.

Finally, we are not persuaded by Patent Owner's argument that Tymes does not teach a "signal comprising instruction data" because the remote unit selects the antenna that receives the stronger signal, "not rely on instruction data from base stations to make a selection." PO Resp. 50−53. Patent Owner ignores certain portions of Tymes, focusing narrowly on a portion of Tymes that is not relied upon by Petitioner, to substantiate its position.

Notably, Patent Owner's and Dr. Almeroth's reliance on Tymes' disclosure regarding "how remote units choose between their two antennae" in normal situations is misplaced. *Id*.; Ex. 2006 ¶¶ 137−141 (citing Ex. 1005, 15:60−69). The portion of Tymes relied upon by Petitioner (Pet. 67−68, 83−84; Ex. 1003 ¶¶ 364−365, 452) addresses the problem where a remote unit sends a *distress call* when it has moved out of range of the base station in charge of the remote unit. Ex. 1005, 21:27−47. In fact, Tymes states that the distress call is sent "twice, once from each of the two antennae" in the remote unit. *Id*. Clearly, *both* antennae in the *remote unit* are being used in the "distress call" situation. Neither Patent Owner nor Dr. Almeroth explains how a remote unit chooses between its own two antennas to use in normal situations is relevant to the "distress call" situation.

Patent Owner also conflates selecting which antenna in the *remote unit* to use in normal situation with selecting which antenna in the *base station* to use for reestablishing the communication link in the "distress call" situation. Mr. Geier's cross-examination testimony does not support Patent Owner's position that the remote unit does not rely on instruction data from the base station, as he was answering questions regarding selecting an antenna in the remote use in normal situation, not selecting which antenna in the base station to use in the "distress call" situation. Ex. 2007, 80:18−81:8.

More importantly, even if we were to adopt Patent Owner's proposed construction for "instruction data"—a "code identifying a function to be performed or identifying a status that triggers a function to be performed"—Tymes would render the challenged claims obvious. As Petitioner notes

(Pet. 83, n.56), the remote unit that has moved out of range of the base station in charge sends a *distress call*—a short packet consisting of the standard synchronization signal and its serial number. Ex. 1005, 21:29−45. Mr. Geier explains (Ex. 1003 ¶ 452) that, by sending the distress call, the remote unit instructs "any base station hearing the distress call to communicate by an exchange with the base station normally in charge of this remote unit" so that "the base station in charge . . . can determine which one should be the new base station in charge and 'pass the baton' to that base station in time for that base station to send the response packet 18." Ex. 1005, 21:29−45. An ordinarily skilled artisan would have recognized that the distress call includes a code that identifies a status (the remote unit has moved out of range from the base station in charge) that triggers a function to be performed. Ex. 1005, 12:30–13:22 (each packet and response packet include a 22-bytes data field, which contains 1s and 0s), 21:29–47, Fig. 7. Consequently, such an artisan would have recognized that the distress call to the base stations comprises "instruction data." Ex. 1003 ¶ 452. Therefore, Petitioner has established sufficiently that Tymes suggests a device (base station) having a low-power transceiver that is configured to wirelessly receive a signal including an instruction data (distress call) from a remote device, as recited in claim 17.

In addition, as Petitioner points out (Pet. 67−68, n.39), the *response packet* sent to the remote unit "will indicate which antenna worked the best" in the new base station in charge. Ex. 1005, 21:40−47. An ordinarily skilled artisan would have understood that the response packet includes a code that

identifies a status (the reassignment, indicating that the new base station is within the transmission range and it is the current base station in charge) that triggers a function to be performed—the remote unit should send its packets to the new base station in charge, instead of the previous base station. *Id*. at 12:30−13:22, 21:29−55, Fig. 7. As Mr. Geier explains also, this response packet sent by the new base station in charge comprises "instruction data" because it instructs the remote unit that the communication link has been reestablished and it can stop sending distress calls. *Id*.; Ex. 1003 ¶¶ 364−365. Accordingly, Petitioner has established sufficiently that Tymes suggests a device (base station) having a low-power transceiver that is configured to wirelessly transmit a signal including an instruction data (response packet) to a network of addressable low-power transceivers (RF transceivers in the remote units), as recited in claims 1, 7, 9, and 16.

Establishing Communication Link

Claim 1 requires a controller "configured to establish a communication link between at least one device in the network of addressable devices and the central location using an address included in the signal." Claims 7, 9, 16, and 17 similarly require this limitation.

Petitioner asserts that CPU 30 (controller) in Tymes' base station is configured to establish a communication link between a remote unit with ID number (addressable device) and the host computer (central location) using device identification 74 (an address) included in the signal, citing to Mr. Geier's testimony for support. Pet. 70−74, n.41, n.42, 81−82, 84−85 (citing Ex. 1003 ¶¶ 377−379, 384−386, 429−438, 457−463). Petitioner

explains that the base station establishes a communication link between a remote unit and host computer when the base station: (1) receives a distress call containing an ID of a remote unit that has moved out of range of another base station, (2) is assigned the remote unit, and then (3) sends a response packet containing the ID of the remote unit that sent the distress call. *Id*. Upon review of the record, we are persuaded by Petitioner's showing.

Patent Owner counters that Tymes' remote unit, not the base station, establishes the communication link because the remote unit *initiates sending the packets* and "the base stations cannot initiate communication to the remote units," relying on Dr. Almeroth's testimony and Mr. Geier's cross-examination testimony. PO Resp. 54−58. However, Patent Owner's argument and Dr. Almeroth's testimony (Ex. 2006 ¶¶ 144−150) are not commensurate with the scope of the challenged claims, which do not require the controller to initiate the data transmission. In fact, claim 1, for example, requires the controller (the CPU in the base station) "to *receive* one or more signals" and "*communicate* information contained within the signals to the central location." Ex. 1001, 14:56−59 (emphases added). In short, the claims require the signal transmission itself to be *initiated from a remote unit*, not the base station, and then communicated to the host computer.

Patent Owner also conflates establishing a communication *link* with initiating a data transmission. Mr. Geier's cross-examination testimony does not support Patent Owner's argument that the base station does not establish the communication link, as Mr. Geier was answering questions related to initiating a packet transmission. Ex. 2007, 86:7−87:11.

More importantly, as Petitioner notes (Pet. 81−82), Tymes' base station is an intermediary for the remote unit to communicate with the host processor, relaying data signals from a remote unit to the host computer, or from the host computer to a remote unit. Ex. 1005, 7:61−66. There is no dispute that "host processor 10 is connected by a communications link 11 to a number of base stations" and each base station "is coupled by an RF link to a number of remote units." *Id.* at 4:63−68, 8:6−14. In the "distress call" situation, the new base station establishes a communication link with the remote unit that was moved out of range from the original base station, when the original base station "pass[es] the baton" to the new base station, sending a response packet to the remote unit. *Id*. at 21:40−47. As a result, the remote unit is assigned to the new base station and, after the reassignment, the new base station will receive subsequent data packets from the remote unit, and relay the packets to the host computer. *Id*. at 7:61−66, 11:53−59 (The base station "receives the RF transmission packet 17 from the remote unit 15, . . . and reformats the data in memory 31 by instructions executed by the CPU 30 for sending to the host computer 10 via communication link 11."). Based on the evidence before us, we determine that Petitioner has established sufficiently that Tymes discloses a controller (CPU in the base station) that is configured to establish a communication link between at least one device in the network of addressable devices (remote units) and central location (host computer) using an address included in the signal (device identification 74), as required by the challenged claims.

Summary

For the foregoing reasons, Petitioner has demonstrated by a preponderance of the evidence that Tymes renders obvious claims 1, 16, and 17.

Patent Owner does not advance separate arguments with respect to claims 7 and 9. Upon review of Petitioner's explanations regarding these claims, we are persuaded that Petitioner has shown sufficiently Tymes discloses the limitations recited in these claims. Pet. 75–78. Notably, for claim 7, which requires the controller "to communicate a transceiver identification code to the central location," Petitioner explains that CPU 30 also is configured to communicate a transceiver identification code (device-identification field 74 or remote unit's ID number) to the host processor. Pet. 75−76 (citing Ex. 1005, 3:25−37 (noting that the ID number for the remote unit is included in the transmitted packet, and reply packet), 6:36−40, 65−66,11:53−59, 12:30−47, 20:56−64, Fig. 7; Ex. 1003 ¶¶ 396−404). For claim 9, which requires the signals to include a field that indicates a destination device for a subsequent transmission path to follow, Mr. Geier testifies that the device-identification field 74 in a "remote-to-base" packet 17 (received signal) is used to transmit a response packet back to the same remote unit from the base station, indicating a destination device for a subsequent transmission path to follow. Ex. 1003 ¶ 406. Mr. Geier also testifies that the device-identification field 74 in a "base-to-remote" packet 18 (transmitted signal) is used to route the packet back to the remote device, indicating a destination device for a subsequent transmission path to follow.

Id. ¶ 407. We credit Mr. Geier's unrebutted testimony as it is consistent with Tymes' disclosure. Ex. 1003 ¶¶ 396−407; Ex. 1005, 5:39−6:15, 12:30−50. Based on the evidence in the entire record, we determine that Petitioner has demonstrated by a preponderance of the evidence that Tymes renders claims 7 and 9 obvious.

In view of the foregoing, we conclude that Petitioner has established by a preponderance of the evidence that claims 1, 7, 9, 16, and 17 are unpatentable under § 103(a) as obvious over Tymes.

F. Written Description

Petitioner contends that the '842 patent lacks adequate written description support under § 112, ¶ 1, for certain claim limitations. Pet. 85–89. Patent Owner opposes. PO Resp. 77–90.

Principles of Law

The written description test involves a determination of whether the original disclosure of the application relied upon reasonably conveys to a person of ordinary skill in the art that the inventor had possession of the claimed subject matter as of the filing date. *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (*en banc*). The original disclosure is not required to describe the claimed subject matter in exactly the same way as the terms used in the claims. *See In re Wright*, 866 F.2d 422, 425 (Fed. Cir. 1989). However, a description which renders obvious the invention sought is not sufficient. *Lockwood v. Am. Airlines, Inc.*, 107 F.3d 1565, 1572 (Fed. Cir. 1997). Moreover, even if the claimed subject

matter could have been "envisioned" from the earlier disclosure, it is not enough to establish adequate written description support. *Goeddel v. Sugano*, 617 F.3d 1350, 1356 (Fed. Cir. 2010).

The Scope of the Original Disclosure

As a first step of our written description analysis, we determine the scope of the original disclosure of the application (U.S. Patent Application No. 13/717,384, "the '384 application") that issued as the '842 patent ("the '842 Original Disclosure"). In that regard, the parties' dispute centers on: (1) whether the original claims of the '384 application are part of the '842 Original Disclosure; and (2) whether the earlier-filed applications identified in the first two sentences of the Specification were incorporated by reference effectively. We address each of these issues in turn.

1. Original Claims

According to our reviewing court, "original claims are part of the original specification." *Ariad*, 598 F.3d at 1349 (citing *In re Gardner*, 480 F.2d 879, 879 (CCPA 1973)). Here, we are persuaded that original claims 1−17, which were submitted as part of the '384 application on the filing date, are part of the '842 Original Disclosure. Ex. 1002, 30:5−32:28.

In its Petition, Petitioner's showing proffers no explanation as to why the original claims cannot be part of the '842 Original Disclosure. Pet. 85−89; Ex. 1003 ¶¶ 470−481. In its Reply, Petitioner advances two new arguments. Reply 17−20. Such arguments should have been introduced in the Petition. In any event, these arguments are without merit.

First, Petitioner argues that Patent Owner's "analysis of the '842 application's claims (PO Resp. 82−83) is irrelevant at least because 'a claim in a later application receives the benefit of the filing date of an earlier application so long as the disclosure in the *earlier application meets the requirements of 35 U.S.C. § 112, ¶ 1*, including the written description requirement,' and the '842 [patent] claims priority to applications filed years earlier." Reply 18 (citing *Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1326 (Fed. Cir. 2008)) (emphasis added by Petitioner). Petitioner's argument is misplaced, conflating patentability requirement under § 112, ¶ 1, with the requirements for priority claims under § 120. *See Reiffin v. Microsoft Corp.*, 214 F.3d 1342, 1345−46 (Fed. Cir. 2000) (holding that the district court erred in looking to the earlier-filed application to determine whether the later-filed patents comply with the written description requirement).

Petitioner's reliance on *Tech. Licensing* also is inapposite. In *Tech. Licensing*, the court addressed the underlying priority claim issue under § 120 because, unlike here, the asserted reference was an intervening prior art. *Tech. Licensing*, 545 F.3d at 1326. That decision does not support Petitioner's position that the challenged claims are unpatentable under § 112, ¶ 1, for lack of written description support, which is determined based on the original disclosure of the later-filed application that issued as the '842 patent. *See Reiffin*, 214 F.3d at 1345−46.

Petitioner did not challenge the priority claims of the '842 patent in its Petition. To the extent Petitioner now attempts to introduce such a

challenge, it would be a new argument improperly raised for the first time in its Reply. Such a new argument is not considered. *See* Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,767 (Aug. 14, 2012).

Second, Petitioner argues that "application claim 1 is, at best, indefinite reciting 'wirelessly transmit a signal comprising [an] *instruction data frame for delivery of* a network of addressable low power transceivers.'" Reply 18 (citing Ex. 1038 ¶¶ 102−103) (emphasis added by Petitioner). As support, Mr. Geier testifies that "it is unclear how to interpret 'for delivery of a network of addressable low power transceivers,'" and, "[i]n the context of the claims, specification, and prosecution history, it does not make any sense *to deliver the network of addressable low power transceivers*." Ex. 1038 ¶¶ 102−103 (emphasis added).

However, Petitioner's argument that original claim 1 is indefinite is conclusory. Neither Petitioner nor Mr. Geier provides sufficient explanation as to why a person of ordinary skill in the art, in view the Specification and prosecution history, would not have recognized the typographical error—reading "for delivery *of* a network" as "for delivery *to* a network." Notably, the applicant submitted an amendment to original claim 1, correcting the typographical error by replacing "of" with "to." Ex. 1002, 86:5. Indeed, as Dr. Almeroth testifies, original claim 1 "clearly discloses that one low power transceiver (i.e., the "low power transceiver module") wirelessly transmits a signal containing instruction data for delivery *to a network of addressable devices*." Ex. 2006 ¶ 155 (emphasis added). Dr. Almeroth's reading is reasonable in view of the Specification and prosecution history. As such, we

credit the testimony of Dr. Almeroth over that of Mr. Geier. Moreover, even assuming the scope of original claim 1, as a whole, could not be discerned with reasonable certainty, Petitioner does not explain why certain specific teachings disclosed in original claim 1 (e.g., a low-power transceiver module that is configured to wirelessly transmit a signal) cannot be part of the '842 Original Disclosure.

For the reasons stated above, we are not persuaded by Petitioner's arguments, and we determine that original claims 1−17 of the '384 application are part of the '842 Original Disclosure. Ex. 1002, 30:5−32:28.

2. Incorporation by Reference

"Incorporation by reference provides a method for integrating material from various documents into a host document . . . by citing such material in a manner that makes clear that the material is effectively part of the host document as if it were explicitly contained therein." *Advanced Display Sys. v. Kent State Univ.*, 212 F.3d 1272, 1282 (Fed. Cir. 2000). "[T]he standard is whether one reasonably skilled in the art would understand the application as describing with sufficient particularity the material to be incorporated." *Harari v. Lee*, 656 F.3d 1331, 1334 (Fed. Cir. 2011). Our reviewing court has "reviewed the incorporation statements from the person of ordinary skill vantage point." *Hollmer v. Harari*, 681 F.3d 1351, 1357 (Fed. Cir. 2012).

Here, the first two sentences of the original Specification identify, with sufficient particularity, six earlier-filed non-provisional applications (Exs. 1011−1016) and two earlier-filed provisional applications (Exs. 1007,

1008) by their application numbers and filing dates, as well as their patent numbers and/or titles. Ex. 1002, 10:5−19. In the very next sentence, the original Specification also states that "[a]ll of said above-listed applications are *hereby incorporated by reference* as is fully set forth herein." *Id*. at 10:19−20 (emphasis added). We are persuaded that a person of ordinary skill in the art would have reasonably understood that each earlier-filed application has been identified in a manner that makes clear that the application, in its entirety, is effectively part of the '842 Original Disclosure as if it were explicitly contained therein. *See Advanced Display*, 212 F.3d at 1282; *Harari*, 656 F.3d at 1334; *Hollmer*, 681 F.3d at 1357.

Petitioner argues that "the incorporation is deficient and insufficient," because the '842 patent fails to "identify with detailed particularity what specific material it incorporates and clearly indicate where that material is found in the various documents." Pet. 88−89 (citing *Hollmer*, 681 F.3d at 1357). Petitioner also contends that "the specification never 'fully set[s] forth' what portions and/are not incorporated or where the material is found." Reply 19 (citing *Advanced Display*, 212 F.3d at 1282).

We disagree with Petitioner's characterization of the incorporation statement. Petitioner's reliance on *Hollmer* and *Advanced Display* is inapposite. Unlike *Hollmer*, 681 F.3d at 1354, where the prior application was not identified by the application number and filing date, the original Specification here identifies, with sufficient particularity, each earlier-filed application by its application number and filing date, as well as the patent number and/or title. Ex. 1002, 10:5−20.

In *Advanced Display*, the court held that the magistrate judge improperly instructed the jury that their role was to determine whether and to what extent material from other documents was incorporated by reference into the host patent. 212 F.3d at 1280−84. That case does not stand for the proposition that the *entire document itself* cannot be incorporated by reference into the host patent, as Petitioner implies. In fact, 37 C.F.R. § 1.57(c) allows an applicant to incorporate by reference an earlier-filed application by submitting an "incorporation by reference" statement that identifies the referenced application by application number and filing date. The Manual of Patent Examining Procedure ("MPEP") explains that "[a]n applicant may incorporate by reference the prior application by including, in the [continuing] application-as-filed, an explicit statement that such specifically enumerated prior application or applications are 'hereby incorporated by reference.'" MPEP § 201.06(c)(IV) (8th ed. Rev. 9) (2012).

Here, the applicant for the '384 application has provided an incorporation statement in accordance with the procedure set forth in 37 C.F.R. § 1.57(c) and MPEP § 201.06(c)(IV). Ex. 1002, 10:5−20. One of ordinary skill in the art would have understood, in view of the identification of the earlier-filed applications and incorporation statement, that the applicant has expressed a clear intent to incorporate by reference each cited application, in its entirety, as if it were fully set forth in the '384 application.

We are not persuaded by Petitioner's argument that the phrase "as is fully set forth herein" requires the applicant to identify separately each portion of an application and where each portion is found. Petitioner once

again relies upon a typographical error to substantiate its position. Based on the context of the statement in the Specification, an ordinarily skilled artisan would have read "as *is* fully set forth herein" to mean "as *if it were* fully set forth herein."

For the reasons stated above, the '842 Original Disclosure includes original claims 1−17 of the '384 application (Ex. 1002, 30:5−32:8) and the earlier-filed applications (Exs. 1007, 1008, 1011−1016) identified in the first sentence of the original Specification (Ex. 1002, 10:5−19).

Low-Power Transceiver and Communication Link

In its Petition, Petitioner argues that the '842 patent lacks written description support for a device that could perform "delivery to a network of addressable devices," in claims 1, 7, and 9 or "delivery to a network of addressable low-power transceivers," as in claim 16, or could "communicate information . . . to the remote device," as in claim 17. Pet. 86−87. As support, Petitioner maintains that "[i]n all embodiments, the transmitting device *transmits* information sent to a central location," but the '842 patent does not disclose "the transmitting device *receiving* information." *Id*. (emphases added). Petitioner also notes that, during prosecution, the Examiner determined that "Applicant did not disclose or demonstrate possession of remote units that receive communication from the central location" because remote transmitting unit 20 in Figure 1B and vending machine 120 in Figure 2B have no receiver. *Id*. (citing Ex. 1002, 77) (emphasis added). Petitioner further avers that the Specification discloses "having only one device (*e.g.*, transmitter 20) in the communication link,

and nothing suggests Applicant possessed a system where the communication link comprised multiple devices," as required by claims 1 and 16. *Id*. at 88–89 (emphasis added).

Patent Owner counters that original claim 1 of the '384 application provides written description support for "a low-power transceiver configured to wirelessly transmit a signal comprising instruction data for delivery to a network of addressable devices," as recited in claims 1, 7, and 9, as well as for "wirelessly transmit a signal comprising instruction data for delivery to a network of addressable low-power transceivers," as recited in claim 16. PO Resp. 82−83 (citing Ex. 1002, 30). Patent Owner also avers that both original claim 1 and the '643 provisional application[8], which disclose a remote device that includes a transceiver, provide written description support for receiving information at the remote device, as recited in claim 17. *Id*. at 83−85 (citing Ex. 1002, 30; Ex. 1007, 6). Patent Owner further asserts that original claim 1 discloses a "communication link comprising one or more low-power transceivers," as recited in claims 1 and 16 of the '842 patent. *Id.* at 89−90.

In its Reply, Petitioner argues that the '842 patent fails to disclose "a receiver in one of the addressable devices." Reply 17−20. Although Petitioner confirms that the '643 provisional application "states that the vending machine has a transceiver," Petitioner argues that "the remainder of

[8] U.S. Provisional Patent Application No. 60/059, 643 (Ex. 1007, "the '643 provisional application"), in its entirety, was incorporated by reference into the '842 Original Disclosure, as discussed above. Ex. 1002, 10:5−20.

the reference describes it only as a 'transmitter' and never discloses sending information to the transceiver." *Id*. at 19.

Upon consideration of the parties' contentions, we agree with Patent Owner that Petitioner has not established that the '842 Original Disclosure lacks adequate written description support for the challenged claims.

Notably, original claim 1 recites:

> 1. A device for communicating information, the device comprising:
>
> *a low-power transceiver* module that is configured to wirelessly transmit a signal comprising a instruction data frame for delivery of *a network of addressable low power transceivers* wherein at least one low power transceiver has a communication link with a central location;
>
> an interface circuit configured to establish a communication link with the central location based on a to address included in a signal, *the communication link comprising one or more low-power transceivers*; and
>
> a controller configured to receive one or more low power RF signals and communicate information contained within the signals to a central location along with a unique transceiver identification number over the communication link.

Ex. 1002, 30:5−15 (emphases added).

As Dr. Almeroth testifies, original claim 1 discloses that a low-power transceiver transmits a signal containing instruction data for delivery to a network of addressable low-power transceivers. Ex. 2006 ¶ 155. As noted above, a transceiver is a "device that can both transmit and receive signals." Based on the evidence before us, we conclude that Petitioner does not show sufficiently that the '842 Original Disclosure lacks written description

support for "delivery to a network of addressable devices," as recited in claims 1, 7, and 9 or "delivery to a network of addressable low-power transceivers," as recited in claim 16. Pet. 86−87. We also are not persuaded by Petitioner's argument that the '842 Original Disclosure does not disclose "a receiver in one of the addressable devices." Reply 17−19.

As Patent Owner explains also, because the remote device disclosed in original claim 1 includes a *low-power transceiver* module, the remote device has the capacity to *receive data*. PO Resp. 83. Figure 2 of U.S. Patent Application No. 08/895,720[9] shows data travels in *both directions, to and from the central location*. Ex. 1015, 29. Figure 1 of the '643 provisional application shows a *transceiver at the remote device* (a vending machine). Ex. 1007, 6. In fact, Petitioner concedes that the '643 provisional application "states that the vending machine has a transceiver." Reply 19. Accordingly, we are not persuaded by Petitioner's argument that the '842 patent does not disclose a remote unit that has a receiver in one of the addressable devices. Pet. 86−87; Reply 19−20. Rather, we agree with Patent Owner that Petitioner has not established the '842 Original Disclosure as a whole lacks adequate written description support for receiving information at the remote device, as recited in claim 17.

Moreover, we are not persuaded by Petitioner's arguments in the Petition because they ignore the original claims and the earlier-filed

[9] U.S. Patent Application No. 08/895,720, in its entirety, was incorporated by reference into the '842 Original Disclosure. Ex. 1002, 10:5−20.

applications, which are part of the '842 Original Disclosure. Pet. 86−87; Ex. 1003 ¶¶ 470−481. Petitioner narrowly focuses on the '842 patent, not the '842 Original Disclosure, and fails to consider the disclosure from the perspective of a person of ordinary skill in the art. *See Ariad*, 598 F.3d at 1351 (noting that "the test requires an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art"); *Blue Calypso*, 815 F.3d at 1345 (noting that "the exact terms appearing in the claim need not be used *in haec verba*"). For example, Petitioner does not explain sufficiently why an ordinarily skilled artisan would not have recognized that a low-power transceiver, as described in original claim 1, provides written description support for "a low-power transceiver that is configure to wirelessly receive a signal," as recited in claim 17. As discussed above, such an artisan would have known that a transceiver is a "device that can both transmit and receive signals." Ex. 3001, 4. Nor does Petitioner explain adequately why the artisan would not have reasonably understood that the transceiver at the vending machine, as shown in Figure 1 of the '643 provisional application, provides written description support for receiving data at a remote device.

Petitioner's reliance on the Examiner's determination (Ex. 1002, 77) concerning original claim 7 is misplaced, as that determination appears to be based only on the Specification, not the '842 Original Disclosure, which includes original claims 1−17. The prosecution history also show that, in response to the Examiner's rejection, the applicant cancelled original claim 7 and added new claims, noting that the written description support for these

new claims was found in original claims 1−17 and paragraphs 42 and 51 of U.S. Patent Application Publication No. 2013-0182831 B1. *Id*. at 90. Upon review of Applicant's remarks and amendment, the Examiner withdrew the rejection. *Id*. at 110. Therefore, the cited portion of the prosecution history of the '842 patent does not support Petitioner's position.

We also are not persuaded by Petitioner's arguments in the Reply and Mr. Geier's testimony, as they overlook the original claims. Reply 17−26; Ex. 1038 ¶¶ 10−19, 96−100. For example, Mr. Geier's testifies that "the '842 patent specification discloses transmitters (not transceivers or receivers) in the network of addressable devices" and that "a device that merely contains a transmitter, and no receiver, cannot receive information." Ex. 1038 ¶ 100; Ex. 1003 ¶ 471. Mr. Geier's testimony does not take into account original claim 1, which discloses "a network of addressable low power transceivers wherein at least one low power transceiver has a communication link with a central location." Ex. 1002, 30.

Petitioner and Mr. Geier appear to decline to consider original claim 1 as they believe that the claim is indefinite, relying on a typographical error. Reply 18; Ex. 1038 ¶¶ 102−103. As discussed above, original claim 1 is part of the '842 Original Disclosure, and we are not persuaded by Petitioner's argument that original claim 1 is indefinite. In view of the prosecution history, an ordinarily skilled artisan would have recognized the typographical error and read "for delivery *of* a network" as "for delivery *to* a network." Ex. 1002, 86:5. Petitioner fails to explain why the '842 Original Disclosure, which includes the original claims, would not have reasonably

conveyed to such an artisan that the inventor had possession of the claimed subject matter. *See Ariad*, 598 F.3d at 1349.

For the foregoing reasons, we determine that Petitioner has not demonstrated by a preponderance of the evidence that claims 1, 7, 9, 16, and 17 are unpatentable under § 112, ¶ 1, for lack of written description support.

G. Motion for Observation

Patent Owner's observations are directed to the cross-examination testimony of Petitioner's declarant, Mr. Geier, who submitted a declaration with Petitioner's Reply (Ex. 1038) and subsequently was cross-examined after Petitioner filed its Reply (Ex. 2019). We have considered Patent Owner's observations (Paper 30) and Petitioner's responses (Paper 32) in rendering this Decision, and have accorded the testimony the appropriate weight as explained above.

III. CONCLUSION

For the foregoing reasons, we determine that Petitioner has established by a preponderance of the evidence that claims 1, 7, 9, 16, and 17 of the '842 patent are unpatentable based on the following grounds:

Challenged Claims	Basis	Reference
1, 7, 9, 16, and 17	§ 101	
1, 7, 9, 16, and 17	§ 103(a)	Tymes

However, we determine that Petitioner has *not* demonstrated by a preponderance of the evidence that claims 1, 7, 9, 16, and 17 are unpatentable under § 112, ¶ 1, for lack of written description support.

IV. ORDER

Accordingly, it is

ORDERED that claims 1, 7, 9, 16, and 17 of the '842 patent are held unpatentable; and

FURTHER ORDERED that, because this is a Final Written Decision, 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.

CBM2016-00095
Patent 8,908,842 B2

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