

NOTE: This disposition is nonprecedential.

**United States Court of Appeals  
for the Federal Circuit**

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**SAIED TADAYON, BIJAN TADAYON,**  
*Appellants*

v.

**SAUCON TECHNOLOGIES, INC.,**  
*Appellee*

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2014-1804

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Appeal from the United States Patent and Trademark  
Office, Patent Trial and Appeal Board, in No. 95/001,644.

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Decided: May 11, 2015

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SAIED TADAYON, Potomac, MD, pro se.

BIJAN TADAYON, Potomac, MD, pro se.

SANFORD J. PILTCH, Allentown, PA, for appellee.

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Before LOURIE, LINN, and HUGHES, *Circuit Judges*.

PER CURIAM.

Drs. Saied and Bijan Tadayon (the “Tadayons”) appeal from the decision of the United States Patent and

Trademark Office (“PTO”) Patent Trial and Appeal Board (“Board”) in an *inter partes* reexamination initiated by Saucon Technologies, Inc. (“Saucon”), affirming the Examiner’s decision to reject claims 1, 2, 11–15, and 25 of the Tadayons’ U.S. Patent 7,031,657 (the “’657 patent”) as obvious under 35 U.S.C. § 103 (2006).<sup>\*</sup> *See Saucon Techs., Inc. v. Tadayon*, No. 2014-002491, 2014 WL 2466138 (P.T.A.B. May 30, 2014) (“*Opinion*”). Because the Board did not err in affirming the Examiner’s rejection of claims 1, 2, 11–15, and 25 of the ’657 patent, we *affirm*.

#### BACKGROUND

The Tadayons own the ’657 patent, which is directed to a method and system for reducing the power absorbed by the body of a user of a wireless communication device. ’657 patent col. 3 ll. 43–47. In one embodiment, the system has multiple antennas for transmission and reception over multiple stages. *Id.* col. 3 ll. 48–49. A first antenna, closest to the user, operates with extremely low power for short distances. *Id.* col. 4 ll. 29–31. The first antenna communicates with a second antenna, which operates at a distance from the user and transmits the data to a base station at a relatively high power. *Id.* col. 4 ll. 31–32. Independent claim 1 of the ’657 patent is directed to the invention’s receive mode of operation and reads as follows:

1. A system for mobile or wireless communication or computation, said system comprising:  
first unit comprising first antenna, wherein said first unit is mobile or wireless;

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<sup>\*</sup> Because the application of the ’657 patent was filed before March 16, 2013, the pre-Leahy-Smith America Invents Act version of § 103 applies. *See* Pub L. No. 112-29, 125 Stat. 284 (2011).

last unit comprising last antenna, wherein said last unit is mobile or wireless; and

said first unit receives data from said last unit, wherein said data is transmitted from said last antenna to said first antenna,

wherein said last unit receives said data from a location outside said system,

wherein said data is transmitted from said location outside said system to said last antenna,

wherein transmission of said data between said first antenna and said last antenna is done at first frequency, and

transmission of said data between said last antenna and said location outside said system is done at second frequency,

wherein said second frequency is different than said first frequency,

*wherein said first frequency is chosen from a range of frequency which corresponds to a low radiation power absorption for a specific tissue or part of human body, or which corresponds to a low overall radiation power absorption for whole body of a human or a specific animal, and*

wherein transmission of said data between said first antenna and said last antenna is done at first power, and

transmission of said data between said last antenna and said location outside said system is done at second power,

*wherein said second power is different than said first power, wherein said second power is larger than said first power.*

*Id.* col. 7 l. 47–col. 8 l. 13 (emphases added). Independent claim 2 is similar to claim 1, but directed to the transmit mode of operation. *Id.* col. 8 ll. 14–48. Claims 11–15 and 25 depend from independent claim 2. *Id.* col. 9 ll. 1–28, col. 10, ll. 39–40.

In June 2011, Saucon filed a request for *inter partes* reexamination of claims 1, 2, 11–15, and 25 of the '657 patent, which the PTO granted. J.A. 3170. The Examiner adopted Saucon's proposed rejections of claims 1, 2, 11–15, and 25 under § 103 based on combinations of: (1) Martin van der Zee et al., "Quality of Service in Bluetooth Networking, *Part I*," Mar. 1, 2001 ("van der Zee"); (2) Specification of the Bluetooth System v1.0 B, Dec. 1, 1999 ("Bluetooth Specification"); (3) "New Developments in Wireless Technologies," Talk of the Nation/Science Friday, June 23, 2000 ("Science Friday transcript"); and (4) other prior art. The Tadayons appealed to the Board.

On appeal, the Board affirmed the Examiner's rejection of claims 1, 2, 11–15, and 25 under § 103. *Opinion* at \*1. The Board first addressed the Tadayons' argument that the Examiner misconstrued the "second power" limitation in claim 1 by confusing the claim 1 limitation that the last unit *receive data* from a location outside the system with the claim 2 limitation that conversely requires that the last unit *transmit data* to a location outside the system. *Id.* at \*5. The Tadayons argued that none of the cited references disclosed a "second power," or a power associated with the transmission of data from a location outside the system, as recited in claim 1. *Id.* In response, the Board found that van der Zee teaches "the level of power required to transmit data from the last unit to outside the system (e.g., from a cellular phone to a mobile base station) relative to the level of power required to transmit data between the first and last units (i.e., Bluetooth transmissions)." *Id.* at \*6. The Board reasoned that "if a certain power level is required for the cellular phone to transmit data to the base station, it follows that

at least the same order of power level would be required to transmit data in the opposite direction from the base station to the cellular phone.” *Id.* Because van der Zee teaches that the power level of Bluetooth is significantly lower than the transmit power of current cellular phones, the Board found that “one of ordinary skill in the art would reasonably understand that the power level of Bluetooth is likewise lower than the power at which the mobile base station transmits to the cellular phone.” *Id.* Thus, the Board concluded that van der Zee teaches the “second power,” as recited in claim 1. *Id.* at \*7.

The Board next addressed the Tadayons’ argument that none of the references taught the limitation of frequency-based low power absorption, as required by claims 1 and 2. *Id.* at \*9. In view of the various methods disclosed in the specification for a frequency to be deemed to correspond to a low radiation power absorption, the Board found that a first frequency can be deemed to be “chosen from a range of [frequencies] which correspond[] to a low radiation power absorption’ . . . if the range of frequencies from which the first frequency is chosen [is] such that the frequency enables communication between the first and last units at some power level that is lower than some objective baseline power level.” *Id.* at \*12. Based upon that interpretation of the claim language, the Board found that the limitation of frequency-based low power absorption, as required by claims 1 and 2, was taught by the Science Friday transcript. *Id.*

The Board also addressed the Tadayons’ argument that circumstances exist in which a cellular phone transmission power level might be the same as or lower than the power level of conventional Bluetooth transmissions. *Id.* at \*13. The Board accepted the Tadayons’ premise that those situations exist, but nevertheless found that “the relevant inquiry is whether the cited prior art teaches or suggests at least one operating condition that does satisfy the claim limitation.” *Id.* Thus, because evidence

exists that under some normal operating conditions cellular phones will transmit to base stations at power levels that are greater than the power levels of conventional Bluetooth communications, the Board concluded that the prior art was correctly applied. *Id.* Accordingly, the Board affirmed the Examiner's decision to reject claims 1, 2, 11–15, and 25 under § 103.

The Tadayons timely appealed to this court. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(4)(A).

#### DISCUSSION

We review the Board's legal determinations *de novo*, *In re Elsner*, 381 F.3d 1125, 1127 (Fed. Cir. 2004), and the Board's factual findings underlying those determinations for substantial evidence, *In re Gartside*, 203 F.3d 1305, 1316 (Fed. Cir. 2000). A finding is supported by substantial evidence if a reasonable mind might accept the evidence to support the finding. *Consol. Edison Co. v. NLRB*, 305 U.S. 197, 229 (1938). Obviousness is a question of law based on several underlying factual findings, *In re Baxter*, 678 F.3d 1357, 1361 (Fed. Cir. 2012), including what a reference teaches, *Rapoport v. Dement*, 254 F.3d 1053, 1060–61 (Fed. Cir. 2001).

During reexamination, the Board construes disputed limitations according to their broadest reasonable interpretation consistent with the specification. *In re Yamamoto*, 740 F.2d 1569, 1571 (Fed. Cir. 1984). In this case, we review the Board's claim construction *de novo* because the intrinsic record fully determines the proper construction, and the Board's construction was not based on extrinsic evidence. *See Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 574 U.S. \_\_\_, 135 S. Ct. 831, 841 (2015).

The Tadayons argue that the Board made three errors: (1) the Board erred in construing the frequency-based low power absorption claim limitation in claims 1 and 2 and in determining that the limitation is disclosed

by the prior art; (2) the Board misconstrued the “second power” limitation in claim 1, and the prior art fails to teach a “second power” for transmitting from outside the system, as correctly construed; and (3) the Board misapplied facts regarding the operation of Bluetooth transmissions and cellular phones.

In response, Saucon argues that: (1) substantial evidence supports the Board’s conclusion that the cited references teach the frequency-based low power absorption feature of claims 1 and 2; (2) substantial evidence supports the Board’s conclusion that the prior art teaches the “second power” limitation from claim 1; and (3) the Board correctly considered the operation of Bluetooth devices and cellular phones during active transmission.

We agree with Saucon that the Board did not err in affirming the Examiner’s rejection of claims 1, 2, 11–15, and 25 of the ’657 patent. First, substantial evidence supports the Board’s finding that the prior art teaches “wherein said first frequency is chosen from a range of [frequencies] which correspond[] to a low radiation power absorption for a specific tissue or part of human body,” as recited in claims 1 and 2. As an initial matter, the specification of the ’657 patent fails to explicitly define what constitutes a “low radiation power absorption.” As a result, the Board found, and we agree, that a first frequency can be chosen from a range of frequencies that correspond to a low radiation power absorption if the frequency is chosen from a range of frequencies that enable communication between the first and last units at some power level that is lower than some objective baseline power level. In other words, if the baseline power level is the level at which a cellular phone operates, a frequency may be deemed to correspond to “a low radiation power absorption” if the selected frequency allows communication that produces a much smaller dose of radiation than that produced by a cellular phone.

As construed, and as the Board found, the frequency-based low power absorption limitation is taught by the Science Friday transcript, which teaches choosing a frequency that would minimize absorption of radiation. More specifically, the Science Friday transcript teaches that the radiation of the Bluetooth, which operates in the “2.4-gigahertz ISM band,” J.A. 2673, “is so minimal, much, much, much smaller than radiation that gets sent and received by the cell phone, that you are, in fact, putting less radiation in the area of your head . . .,” J.A. 2674. Thus the Board’s finding that the prior art teaches the frequency-based power absorption limitation in claims 1 and 2 is supported by substantial evidence.

The Board’s finding that van der Zee discloses the “second power” from claim 1 is also supported by substantial evidence. Claim 1 requires that the transmission of data between said last antenna and said location outside said system is done at a second power, “wherein said second power is different than said first power, [and] wherein said second power is larger than said first power.” ’657 patent col. 8 ll. 11–13. As the Board found, van der Zee teaches the relationship between the level of power required to transmit data from a cellular phone to a base station and the level of power required to transmit data from a Bluetooth transmitter to a cellular phone. J.A. 3832; *see also Opinion* at \*6. One of ordinary skill in the art would understand that if a certain power level would be required to transmit data to the base station, at least the same order of power level would be required to transmit data in the opposite direction, *i.e.*, from the base station to the cellular phone. And because van der Zee teaches that the “power level of Bluetooth is significantly lower than the transmit power of current cellular phones,” J.A. 3832, one of ordinary skill in the art would also understand that the power level at which the base station transmits to the cellular phone (or the “second power”) is significantly higher than the power level of Bluetooth.



*See In re Fritch*, 972 F.2d 1260, 1264 (Fed. Cir. 1992) (“[A] prior art reference is relevant for all that it teaches to those of ordinary skill in the art.”) (citation omitted). As a result, the Board’s finding that the prior art teaches the “second power” from claim 1 is supported by substantial evidence.

The Tadayons also argue that circumstances exist in which a cellular phone transmission power level might be the same as or lower than the power level of conventional Bluetooth transmissions. That argument is unavailing because, although the Board accepted the Tadayons’ premise that those situations exist, *van der Zee* still discloses that under normal active operating conditions cellular phones will transmit to base stations at power levels that are greater than the power level of conventional transmissions. *See, e.g., In re Inland Steel Co.*, 265 F.3d 1354, 1361 (Fed. Cir. 2001) (“The fact that [a prior art reference] teaches that [a second step] in addition to [a first step] produces optimal results does not negate [the reference's] additional teaching that [the first step] is effective even in [the absence of the second step.]”)

#### CONCLUSION

We have considered the remaining arguments and find them unpersuasive. For the foregoing reasons, we conclude that claims 1, 2, 11–15, and 25 of the ’657 patent would have been obvious in view of the cited references and therefore affirm the decision of the Board.

**AFFIRMED**