2019-1570

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

DEEP GREEN WIRELESS LLC,

Appellant

v.

OOMA, INC.,

Appellee

Appeal from the United States Patent and Trademark Office,
Patent Trial and Appeal Board in No. IPR2017-01541

APPELLANT DEEP GREEN WIRELESS LLC'S COMBINED PETITION FOR PANEL REHEARING AND REHEARING EN BANC

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Dated: April 30, 2020

CERTIFICATE OF INTEREST

Counsel for Appellant Deep Green Wireless LLC certifies the following:

1. Full Name of Party Represented by me	**2.** Name of Real Party in interest (Please only include any real party in interest NOT identified in Question 3) represented by me is:	**3.** Parent corporations and publicly held companies that own 10% or more of stock in the party
Deep Green Wireless LLC	Deep Green Wireless LLC	General Patent Corporation

4. The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in this court (and who have not or will not enter an appearance in this case) are: Mishcon de Reya New York, LLP; Timothy Rousseau.

5. The title and number of any case known to counsel to be pending in this or any other court or agency that will directly affect or be directly affected by this court's decision in the pending appeal:

- *Deep Green Wireless LLC v. Ooma, Inc.*, Case No. 4:17-cv-02434-JSW (N.D. Cal.)

Date: April 30, 2020 by: */s/ Michael DeVincenzo*
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TABLE OF CONTENTS

TABLE OF AUTHORITIES

Page(s)

Cases

RULE 35 STATEMENT OF COUNSEL

Based on my professional judgment, I believe the panel decision is contrary to the following decisions of the Supreme Court of the United States or the precedents of this Court:

Microsoft Corp. v. Proxyconn, Inc., 789 F.3d 1292 (Fed. Cir. 2015); *Trivascular, Inc. v. Samuels*, 812 F.3d 1056 (Fed. Cir. 2016); *In re Smith Int'l, Inc.*, 871 F.3d 1375 (Fed. Cir. 2017); *In re Power Integrations, Inc.*, 884 F.3d 1370 (Fed. Cir. 2018).

Date: April 30, 2020 by: */s/ Michael DeVincenzo*
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I. INTRODUCTION AND POINTS OF LAW OVERLOOKED OR MISUNDERSTOOD BY THE PANEL MAJORITY

This appeal turns on what should have been a straightforward issue of claim interpretation: whether the broadest reasonable interpretation ("BRI") of the claim term "incoming voice signals" in the field of telecommunications encompasses only those signals that are "incoming" from a network, as Deep Green contends, or whether it is broad enough to cover signals that are "outgoing" to the network, as the Board found and the panel majority affirmed.

For a construction to be the "broadest reasonable interpretation," it must find ***some*** support in the intrinsic or extrinsic record. Here, there is ***no*** record evidence that the claimed "incoming" voice signals can encompass signals that are "outgoing" to a network. Indeed, none of the Board, Ooma, or the panel majority disputed that every usage of the term "incoming" in the specification refers only to signals that are incoming from a network. Further, none of the Board, Ooma, or the panel majority identified ***any*** intrinsic or extrinsic evidence that the claim term "incoming" could be used to encompass signals "outgoing" to a network. Under controlling precedent of this Court, that lack of evidentiary support should have ended the inquiry. *Microsoft Corp. v. Proxyconn, Inc.*, 789 F.3d 1292, 1298 (Fed. Cir. 2015), *overruled on other grounds by Aqua Prods., Inc. v. Matal*, 872 F.3d 1290 (Fed. Cir. 2017); *Trivascular, Inc. v. Samuels*, 812 F.3d 1056, 1061–1062

(Fed. Cir. 2016); *In re Smith Int'l, Inc.*, 871 F.3d 1375, 1382–83 (Fed. Cir. 2017); *In re Power Integrations, Inc.*, 884 F.3d 1370, 1375–77 (Fed. Cir. 2018). Instead, over Judge Moore's dissent, the panel majority affirmed the Board's decision, on the basis that the Board's construction was "not inconsistent with the specification's disclosure." Opinion ("Op.") at 7. But this Court has held that simply checking whether a construction is "not inconsistent" with the specification is not the proper way to determine the broadest reasonable interpretation in light of the specification. *See, e.g., Smith*, 871 F.3d at 1383 (BRI standard "is not simply an interpretation that is not inconsistent with the specification").

Deep Green accordingly requests panel rehearing or rehearing en banc to resolve the conflict between the panel majority's rationale and controlling precedent of this Court with respect to the determination of the broadest reasonable interpretation of a claim term.

II. BACKGROUND

A. U.S. Patent No. RE42,714

U.S. Patent No. RE42,714 ("the '714 Patent") discloses a computer telephony apparatus that routes calls between network interfaces and connected telecommunications devices, such as wireless telephones. As with nearly any telecommunications device connected to a network, the system deals with two

types of signals: signals received from the network, i.e., ***incoming*** signals, and signals intended for the network, i.e., ***outgoing*** signals. Thus, the specification distinguishes between "incoming" signals that travel from a network interface to a telecommunications device, and "outgoing" signals that travel in the opposite direction, from a telecommunications device toward a network interface. *Compare* '714 Patent at Abstract, Fig. 4, 2:30–32, 2:43–45, 4:57–60, 4:60–5:19 (Appx0036, Appx0040, Appx0044–0046) (regarding "incoming" calls) *with* '714 Patent at Fig. 3, 4:24–27, 4:27–56 (Appx0039, Appx0045) (regarding "outgoing" calls); *see also* Appellant's Br. at 6–9, 26–28; Appellant's Reply at 8–9.

Consistent with the specification, the claims recite an apparatus that receives signals from a network interface, including ***incoming*** voice signals, and routes signals between the network interface and wireless telecommunications devices. In particular, the claims recite, *inter alia*, "a network interface . . . [that] receives digital data signals . . . comprising at least one voice signal," and "a discrimination circuit connected to the network interface for detecting ***incoming*** voice signals from among other digital data signals." '714 Patent at 9:40–47 (Appx0048); *see also* Appellant's Br. at 29–30 (emphasis added).[1]

[1] All claims at issue in this appeal—claims 35, 37–39, 43, 44, 46–48, 52–53, and 55–57 of the '714 Patent—include the limitation of "a discrimination circuit … for

B. The Board's Final Written Decision

After conducting *inter partes* review ("IPR") trial, the Board found the challenged claims invalid under 35 U.S.C. § 103(a). Final Written Decision at 21–28, 34 (Appx0021–0028, Appx0034). The Board's obviousness finding relied on a construction of "incoming voice signals" that permitted it to encompass signals incoming from the network interface ***or*** outgoing to the network interface. *Id.* at 23 (Appx0023); Op. at 4 n.1.

C. The Panel's Majority and Dissenting Opinions

A divided panel of this Court affirmed the Board's construction of the claimed "incoming voice signals." The panel majority (Judge Chen, joined by Judge Lourie) acknowledged that "[i]t is true that the specification uses 'incoming' when describing calls received from a telephone line, and 'outgoing' when connecting a telephone device to a telephone line." Op. at 7. The panel majority even conceded that "[i]t may very well be that Deep Green's construction better reflects the meaning of 'incoming' as understood in view of the networking technology disclosed in the specification." *Id.* at 8–9 n.3. Nevertheless, the panel majority determined that the Board's construction was not unreasonably broad

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detecting incoming voice signals." *See* '714 Patent at 9:37–56 (independent claim 35), 10:22–24 (independent claim 44), 11:1–3 (independent claim 53) (Appx0048–0049).

because "the claim does not specify that the incoming voice signals detected by the discrimination circuit must be conveyed from the network interface to the wireless telecommunications devices," and "[t]he specification never defines the word 'incoming,' nor does it explicitly require that incoming be measured against any particular perspective." *Id*. at 5, 8. Thus, the panel majority concluded that "the Board's interpretation of 'voice signals' as incoming to the discrimination circuit is ***not inconsistent with the specification's disclosure***." *Id*. at 7 (emphasis added).

Judge Moore dissented. In her view, "Deep Green's construction is the only construction that accurately reflects the meaning of 'incoming' in view of the networking technology disclosed in the specification and claimed in the asserted claims." Dissent at 5. Turning first to the claims, Judge Moore explained that "[i]n light of the claim as a whole, the only reasonable reading of this limitation is that the digital data signals received by the discrimination circuit are the same digital data signals (comprising at least one voice signal) received by the network interface." *Id.* at 3–4. Judge Moore also noted that "[t]he specification strongly reinforces Deep Green's proposed construction that the *digital data* signals processed by the discrimination circuit are the same *digital data signals* flowing through the rest of the system," and that "[t]he claimed 'incoming voice signals' are incoming from the network interface." *Id*. at 4. Judge Moore further explained

that "[t]he specification and the claims only discuss a discrimination circuit in connection with calls that are incoming over the network communication line," and that "the claims make clear that the incoming voice signals are transmitted 'over the at least one network communication line' and are 'rout[ed] . . . to specific telecommunications devices." *Id*. Thus, Judge Moore concluded that the Board's construction did not comport with the BRI standard:

> Indeed, the Board must give claims their broadest reasonable construction in view of the specification, not their broadest possible construction. The Board therefore erred in construing the claim term "incoming voice signals" as not requiring that the claimed voice signals be the voice signals incoming from the claimed network interface.

Id. at 2.

In sum, Judge Moore disagreed with the majority's affirmance of a claim construction that is contradicted by the entirety of the record, and thus unquestionably "wrong," but—according to the majority—not "wrong enough" to be deemed "unreasonable." Dissent at 1 ("The majority does not contend that the Board's construction of 'incoming voice signals' is correct, and it is not. Instead, the majority holds that the Board's construction is not wrong enough to be unreasonable. I respectfully dissent."); *id*. at 5–6 ("I am not certain exactly where the line is. How wrong must a construction be before it becomes unreasonable? For me, this one crosses that line.").

III. ARGUMENT

A. Under Controlling Precedent, a Construction Does Not Satisfy the BRI Standard Merely Because It Is Not Precluded by the Specification; It Must Be Affirmatively Supported by Record Evidence

"Even under the broadest reasonable interpretation," a claim construction "cannot be divorced from the specification and the record evidence." *Proxyconn*, 789 F.3d at 1298 (internal quotation marks and citation omitted); *see also Trivascular*, 812 F.3d at 1062 ("While the broadest reasonable interpretation standard is broad, it does not give the Board an unfettered license to interpret the words in a claim without regard for the full claim language and the written description.").

A construction does not become "reasonable" merely because nothing in the record precludes it; to be reasonable, a construction must have affirmative support. "The correct inquiry in giving a claim term its broadest reasonable interpretation in light of the specification is not whether the specification proscribes or precludes some broad reading of the claim term . . . . And it is not simply an interpretation that is not inconsistent with the specification. It is an interpretation that corresponds with what and how the inventor describes his invention in the specification, *i.e.*, an interpretation that is 'consistent with the specification.'"

Smith, 871 F.3d at 1382–1383 (*quoting In re Morris*, 127 F.3d 1048, 1045 (Fed. Cir. 1997)); *Power Integrations*, 884 F.3d at 1377 (same).

Under *Proxyconn*, *Trivascular*, *Smith*, and *Power Integrations*, this Court cannot affirm a construction that lacks any affirmative support in the specification or extrinsic evidence. The panel majority's decision did not even address this controlling law, and its decision is in conflict with it.

B. The Panel Majority Improperly Affirmed a Construction of "Incoming Voice Signals" that Has No Support in the Specification or Extrinsic Evidence

The panel majority's affirmance of the Board's construction was based solely on its finding that the claims fail to redundantly state that the "incoming" voice signals detected by the discrimination circuit are incoming from the network interface. Op. at 4–6. The Board, however, pointed to ***no*** support in the specification for any other meaning of the term "incoming."

To the contrary, it is undisputed that the specification repeatedly and consistently teaches that signals travel in two directions relative to the inventive apparatus: "incoming" from a network communication line toward a connected telecommunications device, or "outgoing" from a telecommunications device to a network communication line. *Compare* '714 Patent at Abstract, Fig. 4, 2:30–32, 2:43–45, 4:57–60, 4:60–5:19 (Appx0036, Appx0040, Appx0044–0046) (regarding

"incoming" calls) *with* '714 Patent at Fig. 3, 4:24–27, 4:27–56 (Appx0039, Appx0045) (regarding "outgoing" calls); *see also* Appellant's Br. at 6–9, 26–28; Appellant's Reply at 8–9. This is consistent with the usage of the terms "incoming" and "outgoing" in the field of invention, which is "computer telephony." '714 Patent at 1:22 (Appx0044). As Judge Moore recognized:

> The specification describes the signals as traveling in two directions: "incoming" and "outgoing." Every use in the specification of "incoming" (and this term is used 21 times in the patent) is compatible with only one view – that the incoming signals are from a network communication line toward the telecommunications devices. Every use of the term "outgoing" (and this term is used 5 times) likewise reflects the direction from a telecommunications device to a network communication line.

Dissent at 4–5 (citations omitted).

Moreover, the specification expressly uses this same meaning of "incoming" in connection with its discussion of the claimed "discrimination circuit," indicating that the discrimination circuit operates on signals, including voice signals, that are incoming from a network communication line for routing to telecommunications devices:

> Optionally, the invention can be fitted with ***a discrimination circuit that can detect the type of call and automatically route the communication line*** to the corresponding DO [Device Order]. In an embodiment of the invention, a system may handle three types of calls: voice, data and facsimile ("fax"). . . . In an embodiment of the invention, the same devices may be available to handle ***the above***

> ***incoming call*** that are available for a voice call, as shown in a device list 106.

'714 Patent at 5:8–17 (emphasis added) (Appx0046). Likewise, the provisional patent application, which is expressly incorporated by reference into the specification, requires that "[f]or ***incoming*** telephone calls, ***the invention has a discrimination circuit*** that will route the telephone line based on the type of call." Appl. No. 60/130,545 at 6 (emphasis added) (Appx0660); *see also* '714 Patent at 1:13–16 (incorporating by reference provisional application into specification) (Appx0044). In the face of the evidence supporting Deep Green's proposed construction, the panel majority pointed to ***no*** evidence in the specification that "incoming" voice signals can include signals originating from the telecommunications devices and bound for the network (i.e., "outgoing" signals).

Instead of relying on the specification's teachings, the panel majority hypothesized that the term "incoming" is used to "identif[y] voice signals that are incoming to the discrimination circuit from external sources [i.e., in either direction], as opposed to voice signals produced by or outgoing from the discrimination circuit." Op. at 7. There is no record evidence, however, of a hypothetical discrimination circuit that discriminates with respect to "voice signals produced by or outgoing from the discrimination circuit," and the panel majority cited no evidence in support of that premise. *Id.* Indeed, the specification does not

mention a distinction between signals entering and exiting the discrimination circuit. Rather, the specification teaches that the inventive apparatus can use a discrimination circuit for detecting different types of "incoming" calls ***from the network***, so that they can be routed to the appropriate telecommunications devices capable of handling different call types (*e.g.*, telephone for handling voice, modem for data, etc.). *See* Appellant's Br. at 6–8, 27–28; *see also* '714 Patent at 5:8–17 (Appx0046); *see also* Appl. No. 60/130,545 at 6 (Appx0660) ("[f]or ***incoming*** telephone calls, the invention has a discrimination circuit that will route the telephone line based on the type of call.") (emphasis added); '714 Patent at 1:13–16 (Appx0044) (incorporating by reference provisional application into specification). The specification includes no corresponding discussion of the discrimination circuit in connection with ***outgoing*** calls, i.e., calls intended for the network. *See* Appellant's Br. at 8–9, 28–29; *compare* '714 Patent at 4:24–56 (outgoing calls) *with* 4:57–5:19 (incoming calls) (Appx0045–0046). As Judge Moore recognized, "[t]he specification and the claims only discuss a discrimination circuit in connection with calls that are incoming over the network communication line." Dissent at 5. Accordingly, there is no support in the specification for the Board's construction that "incoming voice signals" encompasses signals that enter the discrimination circuit from either the "incoming" ***or*** "outgoing" direction.

Nor is there any extrinsic evidence in the record supporting the Board's construction. Indeed, Ooma offered no expert testimony or dictionary definition concerning the meaning of "incoming voice signals."

C. The Panel Majority's Decision Is Contrary to This Court's Controlling Precedent on the BRI Standard

In sum, the panel in this appeal was presented with the following scenario:

- ***nothing*** in the specification supports the Board's construction;
- ***no*** extrinsic evidence supports the Board's construction; and
- ***every*** usage of the claim terms "incoming" and "outgoing" in the specification is consistent with Deep Green's construction and does not support the Board's construction.

Under such circumstances, this Court's prior precedent regarding the BRI standard required rejecting the Board's construction in favor of Deep Green's. *See, e.g.*, *Smith*, 871 F.3d at 1382–1383 ("The correct inquiry in giving a claim term its broadest reasonable interpretation in light of the specification is not whether the specification proscribes or precludes some broad reading of the claim term . . . . And it is not simply an interpretation that is not inconsistent with the specification. It is an interpretation . . . that is 'consistent with the specification.'") (citation omitted); *Proxyconn*, 789 F.3d at 1298 ("Even under the broadest reasonable interpretation," a claim construction "cannot be divorced from the specification

and the record evidence.") (internal quotation marks and citation omitted); *Trivascular*, 812 F.3d at 1062 ("Construing individual words of a claim without considering the context in which those words appear is simply not 'reasonable.'").

The panel majority even acknowledged that Deep Green's proposed construction might better reflect the meaning of "incoming" in the field of the invention: "It may very well be that Deep Green's construction better reflects the meaning of 'incoming' as understood in view of the networking technology disclosed in the specification." Op. at 8–9 n.3. Nevertheless, because the panel majority found that the claims and specification do not expressly ***prohibit*** the voice signals detected by the discrimination circuit from being signals traveling in the direction from telecommunications devices towards the network (i.e., "outgoing" signals), the majority concluded that the Board's construction was not unreasonable. *Id.* at 7 ("[T]he Board's interpretation of 'voice signals' as incoming to the discrimination circuit is not inconsistent with the specification's disclosure, but instead reflects the broad scope of the claim."); *id.* at 9 n.3 ("[T]he Board's construction here is not unreasonable, nor is it inconsistent with the specification.").

As Judge Moore correctly noted in her dissent, "[t]he majority does not contend that the Board's construction of 'incoming voice signals' is correct, and it

is not. Instead, the majority holds that the Board's construction is not wrong enough to be unreasonable." Dissent at 1. The panel majority's affirmance of an incorrect construction conflicts with prior precedent of this Court concerning the proper application of the BRI standard:

> [T]he Board may [not] construe claims during IPR so broadly that its constructions are *unreasonable* under general claim construction principles. As we have explained in other contexts, "[t]he protocol of giving claims their broadest reasonable interpretation . . . does not include giving claims a legally incorrect interpretation."

Proxyconn, 789 F.3d at 1298 (*quoting In re Skvorecz*, 580 F.3d 1262, 1267 (Fed. Cir. 2009)). The panel majority identified ***nothing*** that supports the Board's overbroad construction. The panel majority relied instead on its determination that the Board's construction is not explicitly ***precluded*** in order to adopt a legally erroneous and implausible construction. Under *Proxyconn*, *Trivascular*, *Smith*, and *Power Integrations*, that is not the proper methodology for determining the broadest reasonable interpretation of a disputed claim term. "[F]ollowing such logic, any description short of an express definition or disclaimer in the specification would result in an adoption of a broadest possible interpretation of a claim term, irrespective of repeated and consistent descriptions in the specification that indicate otherwise. That is not properly giving the claim term its broadest reasonable interpretation *in light of* the specification." *Smith*, 871 F.3d at 1383.

Because the panel majority's decision is contrary to this Court's controlling precedent regarding application of the BRI standard, panel rehearing or rehearing en banc is warranted.

IV. CONCLUSION

Deep Green respectfully requests that the Court grant panel rehearing or rehearing en banc.

Respectfully submitted,

Date: April 30, 2020 by: */s/ Michael DeVincenzo*
Michael DeVincenzo
Counsel for Appellant Deep Green Wireless LLC

ADDENDUM

NOTE: This disposition is nonprecedential.

United States Court of Appeals for the Federal Circuit

DEEP GREEN WIRELESS LLC,
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v.

OOMA, INC.,
Appellee

2019-1570

Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2017-01541.

Decided: March 31, 2020

MICHAEL DEVINCENZO, King & Wood Mallesons LLP, New York, NY, argued for appellant. Also represented by ANDREA PACELLI, ROBERT WHITMAN, CHARLES WIZENFELD.

JEFFREY C. MORGAN, Barnes & Thornburg LLP, Atlanta, GA, argued for appellee. Also represented by MICHAEL ANTHONY CARRILLO, JONATHAN FROEMEL, JOSEPH H. PAQUIN, JR., Chicago, IL; L. RACHEL LERMAN, Los Angeles, CA.

Before LOURIE, MOORE, and CHEN, *Circuit Judges*.

Opinion for the court filed by *Circuit Judge* CHEN.

Dissenting opinion filed by *Circuit Judge* MOORE.

CHEN, *Circuit Judge*.

Deep Green appeals from the final written decision of the United States Patent and Trademark Office Patent Trial and Appeal Board (the Board) in the above-captioned *inter partes* review (IPR) proceeding holding claims 35, 37–39, 43, 44, 46–48, 52, 53, and 55–57 of U.S. Patent No. RE42,714 (the '714 patent) as obvious over U.S. Patent No. 6,600,734 (Gernert) and U.S. Patent No. 6,452,923 (AT&T) based on the Board's claim construction of "incoming voice signals." Because we agree with the Board's construction of "incoming voice signals" under the broadest reasonable interpretation (BRI) standard, we *affirm*.

BACKGROUND

The '714 patent describes a device for sharing telephone lines among connected telecommunications equipment such as modems, telephones, and fax machines. '714 patent at col. 2, ll. 24–35. The equipment can be connected to the line-sharing device via wire or wirelessly. *Id.* at col. 6, ll. 8–20. The specification contemplates that the line-sharing device sends and receives voice and data signals between the telecommunications equipment and the shared telephone lines, for example employing telephony circuitry for voice calls, *id.* at col. 3, l. 62–col. 4, l. 23, or a modem to access the Internet. *Id.* at col. 5, ll. 63–65. Claim 35 is representative for the purposes of this appeal:

> 35. An apparatus for routing digital data signals among a plurality of telecommunications devices over a network, the apparatus comprising:
>
> a network interface for connection to at least one network communication line, wherein the network interface receives digital data signals over the at

> least one network communication line, the digital data signals comprising at least one voice signal*;*
>
> *a discrimination circuit connected to the network interface for detecting incoming voice signals from among other digital data signals;*
>
> a wireless interface, wherein the wireless interface communicates the digital data signals between a plurality of wireless telecommunications devices; and
>
> a processor for executing instructions to route the digital data signals between the network interface, the wireless interface, and the plurality of wireless telecommunications devices for communication over the network; and
>
> a circuit for routing voice communication sessions to specific telecommunications devices.

Id. at claim 35 (emphasis added).

The parties' dispute focuses on the functionality of the claimed "discrimination circuit"—specifically, whether "detecting incoming voice signals" requires that the voice signals are incoming from the claimed "network interface" to the "plurality of wireless telecommunications devices," as Deep Green urges. Under its proposed construction, Deep Green alleges that Gernert fails to disclose the claimed "incoming voice signals" because, in Deep Green's view, Gernert's corresponding "discrimination circuit" only discloses detection of outgoing voice signals traveling from Gernert's telecommunications devices to the network line.

The Board rejected Deep Green's proposed construction of "incoming voice signals." J.A. 23. The Board explained that the claim only requires the discrimination circuit to be connected to the network interface, which does not impose the additional requirement that these voice signals are incoming from the network interface. *Id.* Rather, the Board

determined that this limitation encompasses voice signals "incoming" to the discrimination circuit from the other direction as well—that is, from the recited telecommunication devices. Based on this understanding of "incoming voice signals," the Board concluded that the claims at issue would have been obvious over Gernert and AT&T. J.A. 34. Deep Green appeals, and we have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

DISCUSSION

We review the Board's claim construction[1] here de novo because it relied only on evidence intrinsic to the '714 patent. *Jazz Pharm., Inc. v. Amneal Pharm., LLC*, 895 F.3d 1347, 1360 (Fed. Cir. 2018).

When an IPR is instituted from a petition filed before November 13, 2018, as here, the claims are given the "broadest reasonable interpretation" consistent with the specification. *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2142 (2016); *Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board*, 83 Fed. Reg. 51340 (Oct. 11, 2018). Thus, the Board's construction must be reasonable in light of the record evidence and the understanding of one skilled in the art. *See Knowles Elecs. LLC v. Iancu*, 886 F.3d 1369, 1374 (Fed. Cir. 2018).

Our analysis begins with the language of the claim itself. *Homeland Housewares, LLC v. Whirlpool Corp.*, 865 F.3d 1372, 1375 (Fed. Cir. 2017). Claim 35 recites "a discrimination circuit connected to the network interface for detecting incoming voice signals from among other digital data signals." '714 patent at claim 35. As the Board noted,

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[1] Although the Board did not purport to conduct any claim construction, it effectively did so when it interpreted "incoming voice signals" as not limited to voice signals from the network interface.

the "discrimination circuit" is "connected to the network interface" and its purpose is "for detecting incoming voice signals from among other digital data signals," but the claim does not specify that the incoming voice signals detected by the discrimination circuit must be conveyed from the network interface to the wireless telecommunications devices. J.A. 23. The claim only requires that the "incoming voice signals" are "detect[ed] . . . from among other digital data signals." '714 patent at claim 35. And it is not clear that, in the context of the claim, these "other digital data signals" must be conveyed only in the particular direction that Deep Green urges.

The term "digital data signals" first appears in the preamble of claim 35, which introduces "[a]n apparatus for routing digital data signals among a plurality of telecommunications devices over a network." *Id.* But the function of routing digital data signals over a network is agnostic as to the direction in which they are routed. Thus, the preamble imposes no constraints on the directionality of the digital data signals routed by the claimed apparatus. Stated differently, the preamble does not exclude the apparatus from routing digital data signals from the network line to the telecommunications devices or from the telecommunications devices to the network line.

Next, the claim requires "a network interface" that "receives digital data signals over . . . [a] network communication line." *Id.* The claim does not specify whether these digital data signals are the same as those introduced in the preamble. For example, the network interface limitation could have but did not recite "*said* digital data signals." That these digital data signals mentioned in this network interface limitation are received in a particular direction—i.e., by the network interface from a network communication line—still leaves open a permissible reading of the preamble as contemplating a claimed apparatus that may also route digital data signals in the opposite direction—from

the telecommunications devices to the network communication line.

Claim 35 then recites the discrimination circuit limitation at issue: "a discrimination circuit connected to the network interface for detecting incoming voice signals from among other digital data signals." *Id.* While the claim limitation requires the discrimination circuit to detect voice signals from among other digital data signals "incoming" to the discrimination circuit, the limitation does not limit these signals as coming from any particular direction, e.g., the digital data signals received at the network interface from the network communication line. Again, where the claim could have referred to "said" or "the" digital data signals received at the network interface—thereby indicating that these digital data signals are the same as the digital data signals referenced in the network interface limitation—the claim limitation instead simply detects incoming voice signals from among "other" digital data signals. The claim, as written, lacks any requirement that the incoming voice signals detected by the discrimination circuit must be coextensive with voice signals received at the network interface. Rather, the breadth of the claim reasonably supports the conclusion that, like the preamble, the discrimination circuit is agnostic as to whether these voice signals are received from the network communication line or from the telecommunications devices.

Deep Green argues that the Board erroneously interpreted "incoming" to encompass both "incoming" and "outgoing" signals. But signals are only understood as "incoming" or "outgoing" when viewed against a particular reference point. Although it might be reasonable to interpret "incoming" signals from the perspective of the telecommunications devices, such that signals are incoming to those devices after having been initially received from the network communication line by the network interface, the broadly written claim language also supports the interpretation of "incoming" as incoming from the view of the

discrimination circuit, without regard from where the signals come. And Deep Green does not allege that the "other" digital data signals of the discrimination circuit must refer to the "digital data signals" received at the network interface. Thus, as the Board concluded, the claim "only requires that the discrimination circuit be connected to the network interface, not that the signals being detected are incoming from that interface." J.A. 23.

The Board's interpretation does not, as Deep Green contends, render "incoming" superfluous. Instead, it identifies voice signals that are incoming to the discrimination circuit from external sources, as opposed to voice signals produced by or outgoing from the discrimination circuit.

Deep Green also argues that a skilled artisan would read "incoming" with a particular conception in mind in light of the specification. It is true that the specification uses "incoming" when describing calls received from a telephone line, and "outgoing" when connecting a telephone device to a telephone line. But the directionality of these calls is described in the particular context of the telephone devices making and receiving the calls. '714 patent at col. 2, ll. 38–42 (describing "incoming calls to the equipment," defined as "modems, telephones, fax machines, answering machines, or any other device that needs access to a telephone line"); *id.* at col. 4, ll. 24–28 (processing "outgoing calls" according to the "priority in which communication lines are accessed by a device"); *id.* at col. 4, ll. 57–60. In contrast, claim 35 is silent as to the source or destination of the "incoming voice signals." With the claim lacking that concomitant context laid out in the specification, the Board's interpretation of "voice signals" as incoming to the discrimination circuit is not inconsistent with the specification's disclosure, but instead reflects the broad scope of the claim.

Deep Green next argues that the specification's description of the discrimination circuit in the context of

processing incoming calls from the network interface mandates that "incoming" be read as incoming from the network interface. The specification describes the discrimination circuit in a single sentence: "[o]ptionally, the invention can be fitted with a discrimination circuit that can detect the type of call and automatically route the communication line to the corresponding DO."[2] '714 patent at col. 5, ll. 8–10. But disclosure of one embodiment does not mean that broadly written claim language must be limited to that embodiment. *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1117 (Fed. Cir. 2004). The specification never defines the word "incoming," nor does it explicitly require that incoming be measured against any particular perspective. And, as explained above, nothing in the claim preamble restricts the data signals to being conveyed in any particular direction, nor does Deep Green argue to the contrary.

In light of the broad language of the claim, which does not demand identity between the digital data signals received at the network interface and the "other" digital data signals from which the "incoming voice signals" are detected, it was reasonable for the Board to decline to read in to the claim a particular network direction to the "incoming voice signals." Although Deep Green's interpretation of "incoming" with respect to the flow of network traffic to the telephone equipment might also be reasonable,[3] the Board

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[2] "DO," or device order setting, refers to the order in which downstream equipment is polled to connect incoming calls from the communications line. For example, the line-sharing device begins by ringing the first device listed in the device order setting, then the second device, and so on. *Id.* at col. 4, l. 57–col. 5, l. 4.

[3] It may very well be that Deep Green's construction better reflects the meaning of "incoming" as understood in view of the networking technology disclosed in the

did not err in adopting the broadest of the two reasonable constructions.

CONCLUSION

We have considered Deep Green's remaining arguments and find them unpersuasive. Deep Green relies solely on its claim construction argument in appealing the Board's conclusion that the challenged claims would have been obvious over Gernert and AT&T. Significantly, Deep Green does not dispute that Gernert and AT&T teach "incoming voice signals" under the Board's construction. Thus, for the reasons stated above, we *affirm* the Board's construction of "incoming voice signals" and the Board's conclusion that the claims at issue are unpatentable.

AFFIRMED

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specification. But claim construction in this IPR is not governed by the framework laid out in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc), and the Board's construction here is not unreasonable, nor is it inconsistent with the specification.

NOTE: This disposition is nonprecedential.

United States Court of Appeals for the Federal Circuit

DEEP GREEN WIRELESS LLC,
Appellant

v.

OOMA, INC.,
Appellee

2019-1570

Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2017-01541.

MOORE, *Circuit Judge*, dissenting.

The majority does not contend that the Board's construction of "incoming voice signals" is correct, and it is not. Instead, the majority holds that the Board's construction is not wrong enough to be unreasonable. I respectfully dissent.

The broadest reasonable interpretation standard, while certainly broad, does not give the Board an unfettered license to interpret claim terms without regard for the full claim language and the specification. *Trivascular, Inc. v. Samuels*, 812 F.3d 1056, 1062 (Fed. Cir. 2016). Even under the broadest reasonable construction, "claim

language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art." *In re Suitco Surface, Inc.*, 603 F.3d 1255, 1260 (Fed. Cir. 2010). Indeed, the Board must give claims their broadest reasonable construction in view of the specification, not their broadest possible construction. The Board therefore erred in construing the claim term "incoming voice signals" as not requiring that the claimed voice signals be the voice signals incoming from the claimed network interface.

The '714 patent is directed to a telephony device with a telephone line distribution system enabling connected devices to share telephone lines. '714 patent at Abstract. The claimed device assigns outgoing usage of the telephone line according to a priority system. *Id.* at 4:24–26. Incoming calls, on the other hand, are processed in accordance with a Device Order (DO) establishing the order in which the devices are signaled by a communications line. *Id.* at 4:57–60. The claimed device utilizes a "discrimination circuit" that can detect the type of call and automatically route the communication line to the corresponding telecommunications device. *Id.* at 5:8–10. Claim 35 is representative and recites:

> 35. An apparatus for routing *digital data signals* among a plurality of telecommunications devices over a network, the apparatus comprising:
>
> > a network interface for connection to at least one network communication line, wherein the network interface receives *digital data signals* over the at least one network communication line, *the digital data signals comprising at least one voice signal*;
> >
> > a discrimination circuit connected to the network interface for detecting *incoming voice signals from among other digital data signals*;

> a wireless interface, wherein the wireless interface communicates *the digital data signals* between a plurality of wireless telecommunications devices; and
>
> a processor for executing instructions to route *the digital data signals* between the network interface, the wireless interface, and the plurality of wireless telecommunications devices for communication over the network; and
>
> a circuit for routing voice communication sessions to specific telecommunications devices.

Claim 35 recites routing *digital data signals* among a plurality of telecommunications devices over a network. The claim refers to the *digital data signals* 6 times as it routes them through the system. I believe that these digital data signals are the same digital data signals being routed through the system. The Board's construction is basically that 5 of the mentioned digital data signals are the same because most of them are preceded by the word "the" and thus are the same digital data signals mentioned in the preamble. However, because the word "the" does not appear before the use of "digital data signals" routed through the discrimination circuit (one component within the system), the Board concludes these can be any digital data signals and therefore do not have to be the same digital data signals being passed through the rest of the system.

The claimed discrimination circuit is connected to the network interface and detects "incoming voice signals from among other *digital data signals*." In light of the claim as a whole, the only reasonable reading of this limitation is that the digital data signals received by the discrimination circuit are the same data signals (comprising at least one

voice signal) received by the network interface. That the claimed incoming voice and data signals are not modified by the words "said" or "the" does not mean that we can ignore the plain language of the claims. The remaining limitations further reveal the error in the Board's construction. The third limitation recites a "wireless interface" that "communicates *the* digital data signals between a plurality of wireless telecommunications devices." *Id.* Likewise, the fourth limitation recites "a processor for executing instructions to route *the* digital data signals between the network interface, the wireless interface, and the plurality of wireless telecommunications devices . . . ." *Id.* Lastly, the claim recites a circuit for "routing voice communication sessions to specific telecommunications devices." *Id.* When read as a whole, the functional relationship between the claim elements is clear: the system elements are recited in the order in which the data signals flow. Data signals, including at least one voice signal, are received by the network interface. The discrimination circuit is used to detect voice signals from among the other digital data signals incoming from the network interface. The wireless interface then communicates the data signals between a plurality of connected telecommunication devices according to the instructions executed by the processor. Voice signals, in particular, are routed to specific telecommunications devices. Based on the plain language of the claim, the Board's construction that the digital data signals routed through the discrimination circuit need not be the same digital data signals routed through the rest of the system is unreasonable.

The specification strongly reinforces Deep Green's proposed construction that the *digital data* signals processed by the discrimination circuit are the same *digital data signals* flowing through the rest of the system. The claimed "incoming voice signals" are incoming from the network interface. The specification describes the signals as traveling

in two directions: "incoming" and "outgoing." Every use in the specification of "incoming" (and this term is used 21 times in the patent) is compatible with only one view – that the incoming signals are from a network communication line toward the telecommunications devices. *See, e.g.*, '714 patent at Abstract, Fig. 4, 1:48–50, 2:30–32, 2:43–45, 2:62–63, 4:57–62, 5:14–17; *see also id.* at Claims 26, 35, 44, 53, 62, 67, 72, 77, 82, 87, 121, 126. Every use of the term "outgoing" (and this term is used 5 times) likewise reflects the direction from a telecommunications device to a network communication line. *See, e.g.*, '714 patent at Fig. 3, 2:38–42, 2:60–61, 4:24–29. "Outgoing" signals are processed in accordance with a Communications Line Use Priority (CLUP) setting. *Id.* at 4:24–26. When transmitting outgoing signals, a device accesses the communication lines according to the priority established by the CLUP and independently of the type of signal being sent. *Id.* at 4:26–27. In contrast, the specification states that the invention "may process incoming calls" according to a DO, which "establishes the order in which the devices are signaled by a communication line." *Id.* at 4:60–5:19. In the sole embodiment in which a discrimination circuit is used, it is contemplated that the discrimination circuit "can detect the type of call and automatically route the communication line to the corresponding DO." *Id.* at 5:8–17.

The specification and the claims only discuss a discrimination circuit in connection with calls that are incoming over the network communication line. And the claims make clear that the incoming voice signals are transmitted "over the at least one network communication line" and are "rout[ed] . . . to specific telecommunications devices." *See, e.g.*, *Id.* at Claim 35. Deep Green's construction is the only construction that accurately reflects the meaning of "incoming" in view of the networking technology disclosed in the specification and claimed in the asserted claims.

I am not certain exactly where the line is. How wrong must a construction be before it becomes unreasonable?

For me, this one crosses that line. I would hold that the claimed "digital data signals" are the same throughout the claim and thus the "incoming voice signals" are among the digital data signals which as claimed are incoming from the network interface. I respectfully dissent.

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JUDGMENT

THIS CAUSE having been considered, it is

ORDERED AND ADJUDGED:

AFFIRMED

ENTERED BY ORDER OF THE COURT

March 31, 2020

/s/ Peter R. Marksteiner
Peter R. Marksteiner
Clerk of Court

PROOF OF SERVICE

I, Michael DeVincenzo, hereby certify that on April 30, 2020, I caused one copy of the documents listed below:

APPELLANT DEEP GREEN WIRELESS LLC'S COMBINED PETITION FOR PANEL REHEARING AND REHEARING EN BANC

to be electronically filed using the CM/ECF system, which sent a notice of electronic filing to all ECF registered participants.

Date: April 30, 2020 by: */s/ Michael DeVincenzo*
Michael DeVincenzo
Counsel for Appellant Deep Green Wireless LLC

CERTIFICATE OF COMPLIANCE

This brief complies with the type-volume limitation of Fed. R. App. 35(b) and Fed. R. App. 40(b). The brief contains 3,256 words, excluding the parts of the brief exempted by Fed. R. App. P. 32(f) and Fed. Cir. R. 32(b).

This brief complies with the typeface requirements of Fed. R. App. P. 32(a)(5) and the type-style requirements of Fed. R. App. P. 32(a)(6). The document has been prepared in a proportionally spaced typeface using Microsoft Word 2010 in 14 point Times New Roman font.

Date: April 30, 2020 by: */s/ Michael DeVincenzo*
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