

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

VOLKSWAGEN GROUP OF AMERICA, INC.,
Petitioner,

v.

CARUCEL INVESTMENTS, L.P.,
Patent Owner.

IPR2019-01102
Patent 7,848,701 B2

Before THOMAS L. GIANNETTI, DANIEL J. GALLIGAN, and PAUL J.
KORNICZKY, *Administrative Patent Judges*.

KORNICZKY, *Administrative Patent Judge*.

DECISION
Denying Request for Rehearing
37 C.F.R. § 42.71(d)

I. INTRODUCTION

Volkswagen Group of America, Inc. (“Petitioner”) filed a Petition requesting *inter partes* review of claims 10, 15–18, 31, and 33–35 (the “challenged claims”) of U.S. Patent No. 7,848,701 B2 (Ex. 1001, the “’701 patent”). Paper 2 (“Pet.”). Following institution (Paper 7), Patent Owner filed a Response. Paper 12 (“PO Resp.”). Subsequently, Petitioner filed a Reply to Patent Owner’s Response (Paper 19, “Pet. Reply”), and Patent Owner filed a Sur-reply (Paper 23, “PO Sur-reply”). In our Final Written Decision (Paper 28, “Final Dec.”), we determined Petitioner has shown by a preponderance of the evidence that all challenged claims of the ’701 patent are unpatentable. Final Dec. 2–3.

Patent Owner Carucel Investments, L.P. requests reconsideration of our Final Written Decision regarding the challenged claims. Paper 29 (“Req. Reh’g”). Patent Owner’s grounds for seeking rehearing are that the Final Written Decision “misapprehends and overlooks (1) the proper scope of the term ‘mobile device’ . . . and (2) under the proper construction of ‘mobile device’ that each of Petitioner’s prior art references do not disclose the limitation of ‘mobile device’ as required by the Challenged Claims of the ’701 Patent.” Req. Reh’g 1.

For the reasons that follow, Patent Owner’s request for rehearing is denied.

II. ANALYSIS

A. Legal Standard

The standard for a request for rehearing of a Final Written Decision is set forth in 37 C.F.R. § 42.71(d), which provides in relevant part:

The burden of showing a decision should be modified lies with the party challenging the decision. The request must specifically identify all matters the party believes the Board misapprehended or overlooked, and the place where each matter was previously addressed in a motion, an opposition, or a reply.

A rehearing request is not an opportunity for the requesting party to reargue its case or merely to express disagreement with the Final Written Decision. Nor is it an opportunity for the moving party to present new arguments that were not in its original submissions.

B. The '701 Patent (Ex. 1001)

The title of the '701 patent is “Mobile Communication System with Moving Base Station.” Ex. 1001, code (54). The '701 patent relates to cellular telephone systems and states that a “problem with existing mobile telephone systems is the considerable time required in handoffs,” which is the process by which a mobile unit is transferred from one cell site to another as it moves through a network. *Id.* at 1:35–43, 1:54–55. According to the '701 patent, in urban areas, the number of cells is increased and cell size is decreased to accommodate more users. *Id.* at 1:55–65. The '701 patent states that a drawback of reducing cell size is that mobile units cross cell boundaries more often, requiring more handoffs. *Id.* at 1:65–2:2.

To address this purported problem, the '701 patent proposes a mobile communication system that employs moving base stations, which move in the direction of traffic along a roadway. *Id.* at 2:65–3:5. The moving base

stations are interposed between mobile units and fixed base stations. *Id.*
The '701 patent states that, “because of movement of the base station in the same direction as the traveling mobile unit, the number of handoffs is greatly reduced.” *Id.* at 5:14–16.

C. Illustrative Claims

As mentioned above, the challenged claims are claims 10, 15–18, 31, and 33–35. Claims 10 and 31 are the independent claims among the challenged claims, and are reproduced below:

10. A movable base station configured to move relative to Earth, the movable base station comprising:

a plurality of spatially separated antennas;

a receiver configured to receive fixed port signals from a fixed port through the plurality of spatially separated antennas;

a controller configured to align and combine the received fixed port signals; and

a transmitter configured to transmit radio frequency signals to a *mobile device* corresponding to the received fixed port signals.

Ex. 1001, 11:54–64 (emphasis added).

31. A movable base station configured to move relative to Earth, the movable base station comprising:

a plurality of spatially separated antennas;

a receiver configured to receive fixed port signals from a fixed port through the plurality of spatially separated antennas; and

a transmitter configured to transmit radio frequency signals to a *mobile device* corresponding to the received fixed port signals, the radio frequency signals transmitted within time slots of time-division multiplex channels.

Ex. 1001, 13:13–22 (emphasis added).

D. Patent Owner's Contentions

The Rehearing Request focuses exclusively on the proper construction of “mobile device,” a term that appears in all of the challenged claims. Req. Reh’g 1. Patent Owner requests that the “plain and ordinary meaning” of the term “mobile device” be applied, which is, according to Patent Owner: “a device that must register with and be able to directly communicate with the cellular network.” PO Resp. 13; Req. Reh’g 2. According to Patent Owner, our Final Written Decision “misapprehends and overlooks the proper scope of the term ‘mobile device’ by improperly disregarding at least Patent Owner’s proposed construction of ‘mobile device’ and the ’701 Patent’s explicit support for this proposed construction.” Req. Reh’g 2–3 (footnote omitted).

As discussed below, in the Final Written Decision, we provided a detailed analysis of Patent Owner’s arguments and rejected Patent Owner’s proposed limitations for “mobile device,” determining that the ordinary meaning should apply and no further construction was necessary. Final Dec. 10–21.

E. The Final Written Decision

Our analysis of “mobile device” in the Final Written Decision was guided by *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc). Final Dec. 7–9. We observed that claim terms are generally given their ordinary and customary meaning as understood by a person of ordinary skill in the art. *Id.* at 7–8. We said that “[i]n determining the meaning of the disputed claim limitation, we look principally to the intrinsic evidence of record, examining the claim language itself, the written

description, and the prosecution history, if in evidence.” *Id.* at 8 (citing *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006)). We cautioned that extrinsic evidence is “less significant than the intrinsic record in determining ‘the legally operative meaning of claim language.’” *Id.* (citing *Phillips*, 415 F.3d at 1317).

In summary, for the reasons below, we are not persuaded that our analysis of “mobile device” under *Phillips* was incorrect, or that we overlooked or misapprehended Patent Owner’s arguments or evidence in that analysis. We fully considered and then rejected Patent Owner’s arguments.

1. The Claim Language Does Not Support Patent Owner’s Proposed Claim Construction

In the Final Written Decision, we began our analysis of “mobile device” with the language of the claims. Final Dec. 12. After reviewing the parties’ contentions (Final Dec. 10–12) and analyzing the challenged claims, we found that the language of the claims does not support Patent Owner’s construction. Final Dec. 12–15. The challenged claims themselves are not directed to the mobile device. *Id.* at 12. Instead, the claims are directed to the mobile base station. *Id.* at 13 (citing testimony from Patent Owner’s expert, Mr. Lanning, Ex. 1039, 164:6–7 (“None of the claims are in regard to the mobile device.”)). We also observed that the claims do not specify a mobile device “that must register with and be able to directly communicate with the cellular network.” *Id.* at 12–13.

Patent Owner’s contention that the mobile device must be able to communicate directly with the cellular network is contrary to the claims. Final Dec. 13–14. In the claims, the mobile device does not communicate

with a fixed base station or fixed port directly, but only through the intermediary moving base station. *Id.* at 13 (quoting language in claim 10).

Furthermore, we found that the challenged claims do not associate the signals transmitted between the mobile device and the mobile base station with a cellular network, or identify the mobile device with a cellular network. Final Dec. 14. As shown by our analysis of the claim language, the only functionality related to the “mobile device” in the claims of the ’701 patent is the ability of the apparatus (the moving base station) to transmit radio signals to and receive radio signals from the “mobile device.” *Id.*

In reaching these conclusions, as *Phillips* requires, we focused on the language of the claims. In contrast, Patent Owner’s response to the Petition avoided any discussion of the claim language. Instead, Patent Owner asserted that “Petitioner’s analysis attempts to . . . broadly construe the term ‘mobile device’ in a vacuum” and “disregard the ’701 patent Specification’s criteria for the term ‘mobile device.’” PO Sur-reply 1–2.

Patent Owner’s pattern of avoiding the claim language is repeated in the Rehearing Request. Req. Reh’g 12–14. Thus, Patent Owner’s brief discussion of the claims in the Rehearing Request focuses on describing what Patent Owner presents as the “scope and . . . advantages” of the alleged invention of the ’701 patent, untethered to the language of the claims. Req. Reh’g 13. The only substantive discussion of claim language in the Rehearing Request is Patent Owner’s concession that “the claims of the ’701 Patent require the apparatus/movable base station to communicate directly with the cellular network (*and not the ‘mobile device’*).” *Id.* at 13 (emphasis added).

We are not persuaded that, when we concluded that the language of the challenged claims does not support Patent Owner’s construction of “mobile device,” we overlooked or misapprehended Patent Owner’s arguments or evidence.

2. The Specification Does Not Support Patent Owner’s Proposed Claim Construction

In the Final Written Decision, we considered Patent Owner’s claim construction arguments and found that the Specification of the ’701 patent does not support Patent Owner’s narrow construction of “mobile device” as a phone capable of communications directly with a cellular network. Final Dec. 15–21. Patent Owner devotes most of its Rehearing Request to arguments challenging this conclusion based on the ’701 patent Specification. Req. Reh’g 3–12. Patent Owner presents four main arguments. The first is that the Board erred in finding that the Specification of the ’701 patent “does not require a ‘mobile device’ to register with the cellular network.” *Id.* at 3 (the “registration” requirement). Second, Patent Owner contends the Board erred in finding that the ’701 patent “does not teach that a ‘mobile device’ must be capable of directly communicating with a cellular network via a fixed base station.” *Id.* at 4–5 (the “direct communication” requirement). Third, Patent Owner asserts the Board erred in finding that the ’701 patent “does not ‘exclusively relate[] to improving the wireless connections of mobile devices within ‘cellular telephone systems.’” *Id.* at 7–8 (the “exclusively cellular” requirement). Fourth, Patent Owner argues the Board erred in finding that the ’701 patent “improv[es] wireless connections involving non-cellular devices, such as

radios and telephones.” *Id.* at 10 (the “no non-cellular improvement” requirement).

The common thread in all these arguments is that they are based on statements culled from the Specification, and not on language in the claims. Patent Owner’s Rehearing Request is fundamentally flawed because it is premised entirely on what the ’701 patent allegedly teaches, and not what the patent claims. Even then, the Rehearing Request fails because Patent Owner’s arguments based on the Specification were thoroughly considered and addressed in detail in our Final Written Decision. Final Dec. 14–21. Patent Owner fails to point out with particularity anything that was overlooked or misapprehended in this analysis, as required by 37 C.F.R. § 42.71(d). Instead, Patent Owner merely expresses its disagreement with the Board’s conclusions, and proceeds to reargue points and evidence already considered and rejected in the Final Written Decision. This approach is not proper in a rehearing request.

a) Patent Owner’s “Registration Requirement” Arguments Were Not Misapprehended or Overlooked

Patent Owner’s Response to the Petition asked us to construe “mobile device” as a device that must “register with . . . the cellular network.” PO Resp. 14–15. Patent Owner’s Rehearing Request makes the same argument. Req. Reh’g 3–4.

To support this construction, Patent Owner’s Response relied on the ’701 patent Specification: “The ’701 Patent specification teaches that a mobile device must be capable of directly communicating with either a fixed cellular base station or a moving base station.” PO Resp. 13 (citing Ex. 1001, 4:46–49). According to Patent Owner, “the mobile unit’s capability to

be switched back-and-forth between either a direct connection with the fixed base station or a connection with a moving base station is discussed repeatedly and throughout the specification.” *Id.* at 13–14 (citing Ex. 1001, 10:52–57). Patent Owner cited a portion of the ’701 patent that describes registration by the mobile device (referred to in the patent as a “mobile unit”):

When a mobile unit set is first powered up or first enters a service area, the mobile unit must register in the manner described earlier, by transmitting its unique address in the new service area. The address will be received by the closest moving base station 30 and transmitted via a fixed radio port and the gateway switch 60 to the telephone network.

Ex. 1001, 9:50–56 (partially quoted at PO Resp. 14–15). Patent Owner also relied on testimony from its expert, Mr. Lanning. *See* PO Resp. 13–14 (citing Lanning Decl. ¶¶ 52–59, 62–66).

Patent Owner’s Rehearing Request relies on the same arguments, even using the same quotation from the patent Specification and also citing the same testimony from Mr. Lanning. Req. Reh’g 3–4. We considered Patent Owner’s arguments and Mr. Lanning’s testimony and addressed them in our Final Written Decision (at pages 20–21). We were not persuaded by Patent Owner’s position that the Specification requires a mobile device to “register . . . with the cellular network.” Final Dec. 20–21 (quoting PO Sur-reply 1 n.1). Although we found that registration with a base station is mentioned in the ’701 patent Specification (*see* PO Sur-reply 8), we also found that “the registration process described there occurs only ‘[w]hen a mobile unit set is first powered up or first enters a service area,’ and involves the mobile device ‘transmitting its address to the moving base station, not the fixed base stations.’” Final Dec. 20 (citing Ex. 1001, 9:52–54 (“The

address will be received by the closest moving base station 30 and transmitted . . . to the telephone network”)).

The Final Written Decision also addresses Petitioner’s reliance on authorities such as *Bell Atlantic Network Services, Inc. v. Covad Communications Group, Inc.*, 262 F.3d 1258 (Fed. Cir. 2001), for the proposition that the written description “can provide guidance as to the meaning of the claims.” Final Dec. 19–20; *cf.* Req. Reh’g 3 n.4. We remarked that this point is not disputed. Final Dec. 19. We found that *Bell Atlantic* does not help Patent Owner because, unlike in *Bell Atlantic*, the written description of the ’701 patent does not support Patent Owner’s construction. Final Dec. 19.

The Final Written Decision further addressed *On Demand Machine Corp. v. Ingram Industries, Inc.*, 442 F.3d 1331 (Fed. Cir. 2006). Final Dec. 19–20; *cf.* Req. Reh’g 14 n.26. We concluded that, as Patent Owner’s quotation from *On Demand* makes clear, it is not necessary to find an explicit disavowal “when the scope of the invention is clearly stated in the specification, and is described as the advantage and distinction of the invention.” Final Dec. 19 (quoting *On Demand*, 442 F.3d at 1340). However, we found that the scope of the invention and its advantages as described in the ’701 patent Specification center on the moving base station, not the mobile device, and concluded that *On Demand*’s exception to the normal requirement for an explicit disavowal of claim scope is not applicable here. *Id.*

Thus, after considering the arguments and evidence presented, we concluded that Patent Owner’s analysis of the ’701 patent Specification does not support its contention that the mobile device must register with the fixed

base station. Final Dec. 21. Further, we found that, to the extent the '701 patent discloses registration by the mobile device, it describes registering with the moving base station and not with the fixed base stations. *Id.* at 21 (citing Ex. 1001, 9:49–56). The actual registration with the fixed base station is handled by the moving base station. *Id.*

We are not persuaded by Patent Owner's Rehearing Request, which largely rehashes the arguments we considered and rejected in our Final Written Decision, that we misapprehended or misconstrued Patent Owner's arguments in reaching this conclusion.

b) Patent Owner's "Direct Communication" Arguments Were Not Misapprehended or Overlooked

In the Final Written Decision, we found that Patent Owner's contention that the mobile device must be able to communicate directly with the cellular network was "not supported by the intrinsic record." Final Dec. 13–14. We focused on the language of the claims and found that the mobile device in claim 10 does not communicate with a base station or fixed port directly. *Id.* at 13–14 (quoting language in claim 10). In the challenged claims, it is the mobile base station (not the mobile device) that has "a receiver configured to receive fixed port signals *from a fixed port* through the plurality of spatially separated antennas" and "a transmitter configured to transmit radio frequency signals corresponding *to a mobile device*." *Id.* (citing Ex. 1001, 11:54–64 (emphasis added)).

Furthermore, we found that the claims do not associate the signals transmitted between the mobile device and the mobile base station with a cellular network, or identify the mobile device with a cellular network. Final Dec. 14. As shown above by our analysis of the claim language, the

only functionality related to the “mobile device” in the claims of the ’701 patent is the ability of the moving base station to transmit radio signals to and receive radio signals from the “mobile device.” Finally we relied on an embodiment described in the patent where the mobile device is prevented from communicating directly with the fixed ports. *Id.* at 15 (citing Ex. 1001, 3:28–35). We concluded that “Patent Owner’s analysis of the ’701 patent Specification does not support its theory that the mobile device communicates *directly* with a cellular system.” *Id.* at 21.

Patent Owner’s Rehearing Request asserts the record does not support this conclusion. Req. Reh’g 4–7. Patent Owner cites portions from the Specification that were previously considered and discussed in the Final Written Decision. Final Dec. 19–20. There, we concluded that Patent Owner’s listing of “examples” from the ’701 patent that discuss communications with the fixed base stations when traveling at speeds of less than thirty miles per hour do not describe the communications as cellular communications or the fixed base stations as cellular sites, stating only that their operation is “essentially the same as that of a standard fixed base station.” *Id.* (citing Ex. 1001, 10:50–52).¹

More importantly, even if these disclosures in the ’701 patent Specification were limited to cellular communications when the mobile device is directly communicating with a fixed base station, as Patent Owner contends, that direct communication is not what is claimed. Rather, there is

¹ We note that Patent Owner misquoted the description of the base station as a “standard *cellular* fixed base station” (see PO Sur-reply 3 (emphasis added)) instead of a “standard fixed base station” as stated in the ’701 patent (see Ex. 1001, 10:52). We find no support in the description of these fixed base stations in the ’701 patent that limits them to “cellular” stations.

no dispute that the challenged claims are directed to a “mobile base station” that Patent Owner describes as “an intermediary between cell towers and mobile devices.” PO Resp. 2 (citing Ex. 2102, 12). As noted above, and as Patent Owner acknowledges in its Rehearing Request, “the claims of the ’701 Patent require the apparatus/movable base station to communicate directly with the cellular network (and not the ‘mobile device’).” Req. Reh’g 13. Thus, the focus should be on the claimed “movable base station” and *its* radio interface to the mobile device, and not on some general discussions of cellular networks.

We are not persuaded by the Rehearing Request that we misapprehended or overlooked Patent Owner’s arguments or evidence in reaching our conclusion that the claims do not require a mobile unit that communicates directly with the cellular network. Instead, Patent Owner’s arguments and evidence were fully considered and rejected.

c) Patent Owner’s “Exclusively Cellular” Arguments Were Not Misapprehended or Overlooked

In the Final Written Decision, we stated that “[t]here is no dispute that improving cellular technology is included among the goals described in the ’701 patent.” Final Dec. 20. However, we found that Patent Owner failed to support its more limiting argument that the ’701 patent “explicitly *and exclusively* relates to improving the wireless connections of mobile devices within ‘cellular telephone systems.’” *Id.* (citing PO Sur-reply 5 (original emphasis omitted)). We found that the Specification of the ’701 patent discloses a broader goal of improving wireless connections involving *non-cellular* devices as well. *Id.*

We stated further (Final Dec. 15) that although the '701 patent does refer to base stations in a “typical cellular telephone system” as “cell site[s]” (Ex. 1001, 4:61–62), it also describes the radio interfaces between the mobile devices and the moving base stations in more general terms. *Id.* at 6:37–67. Thus, the '701 patent describes the radio interface between the mobile units and both the moving and fixed base stations not as a cellular interface, but as “a standard radio interface, well known in the art.” *Id.* at 6:37–38. This is consistent with the patent’s stated goal of providing “an infra structure which allows use of . . . a cordless phone.” *Id.* at 2:45–47.

Patent Owner argues in the Rehearing Request that the Board erred in finding that the '701 patent does not “exclusively relate[] to improving the wireless connections of mobile devices within ‘cellular telephone systems,’” and cites several passages in the patent referring to cellular communications. Req. Reh’g 7–9. Patent Owner made a similar argument previously, relying on some of the same references, which we addressed in the Final Written Decision. Final Dec. 19–20. We did not find these references to cellular systems to be persuasive support for Patent Owner’s limiting argument that the '701 patent “explicitly *and exclusively* relates to improving the wireless connections of mobile devices within ‘cellular telephone systems.’” *Id.* at 20.

One passage cited by Patent Owner refers to a CDMA-based cellular standard (IS-95), indicating that it “may” be the interface between the mobile unit and the moveable base. Req. Reh’g 9 (citing Ex. 1001, 6:59–61). By making use of a cellular standard optional for the base station-mobile device interface, this description does not support Patent Owner’s

argument that the patent is “exclusively” related to improving the wireless connections of mobile devices within cellular telephone systems. *Id.* at 7.

The other passages cited by Patent Owner are general references to cellular systems. After a lengthy discussion of Patent Owner’s contentions in the Final Written Decision, we found that such general references in the Specification do not rise to the level of a clear and unmistakable disavowal of claim scope. Final Dec. 16–20. The Specification, in fact, supports the Board’s conclusion that communications between the mobile unit and the moving base station are not required to follow cellular protocols. Thus, as noted, the ’701 patent states the interface between the mobile units and the moving base stations “is a standard radio interface.” Ex. 1001, 6:37–39. And as discussed *infra*, the patent explains that this interface “may” (not “must”) follow the cellular protocol IS-95, indicating that it is not “exclusively” required to do so. *Id.* at 6:59–61; *cf.* Req. Reh’g 9.

d) Patent Owner’s “No Non-Cellular Improvements” Arguments Were Not Misapprehended or Overlooked

In its Rehearing Request, Patent Owner asserts that the “Board erred in finding that the ’701 Patent ‘improv[es] wireless connections involving non-cellular devices, such as radios and telephones.’” Req. Reh’g 10. Patent Owner argues this error is the result of the Board’s “relying on a misapprehension of various excerpts within the ’701 Patent specification.” *Id.* This is a variation on Patent Owner’s “exclusively cellular” argument, discussed above, and is contrary to Patent Owner’s earlier position in this proceeding. *See* PO Resp. 2 (“The asserted claims of the ’701 Patent cover a movable base station configured to provide important benefits to mobile devices, such as smartphone, tablet and laptop users.”).

In the Final Written Decision, after considering Patent Owner’s arguments, we did not see that the ‘701 patent Specification disclosed a clear indication supporting Patent Owner’s contention that conventional non-cellular devices such as cordless non-cellular phones should be excluded from “mobile devices.” Final Dec. 14. We observed that in the Background section, the ‘701 patent describes the goal of the patent as encompassing “all applications” including cordless phones: “What is desirable is an infra structure which allows use of such terminals *in all applications*, whether in the home or office as a *cordless phone . . .*” *Id.* (quoting Ex. 1001, 2:45–47 (emphases added in original)).

We also found that the ‘701 patent describes the radio interfaces between the mobile devices and the moving base stations in generic terms, as a “standard radio interface, well known in the art,” and not limited to cellular interfaces. Final Dec. 15 (citing Ex. 1001, 6:37–67). We found that this is consistent with the patent’s stated goal of providing “an infra structure which allows the use of . . . a cordless phone.” *Id.* (citing Ex. 1001, 2:45–47). We found further support in the ‘701 patent’s description of an embodiment where the mobile device is actually prevented from communicating directly with the cellular network through the fixed ports. *Id.* (citing Ex. 1001, 3:28–35); *see* discussion above.

Contrary to Patent Owner’s arguments, we did not find support for a “disavowal or disclaimer” of claim scope for the term “mobile device.” Final Dec. 17–18. As discussed above, the ‘701 patent claims are directed to a movable base station communicating with the cellular network, and the Specification describes an embodiment which prevents the mobile unit from communicating with the fixed ports. “To disavow claim scope, the

specification must contain ‘expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope.’” *Retractable Techs., Inc. v. Becton, Dickinson & Co.*, 653 F.3d 1296, 1306 (Fed. Cir. 2011); *SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1341 (Fed. Cir. 2001).

We found that the references to cellular communications in the ’701 patent, such as those cited in the Rehearing Request at pages 8–10, do not support the “no non-cellular improvements” argument, and do not rise to the level of a clear and unmistakable disavowal. Final Dec. 18. As discussed above, there is no dispute that improving cellular technology is included among the goals described in the ’701 patent. Having reviewed the evidence, we found, based on the detailed analysis above, that the claims and the Specification of the ’701 patent reveal a broader goal of improving wireless connections involving non-cellular devices as well. *Id.*

We are not persuaded by Patent Owner’s characterization of our detailed analysis of the ’701 patent Specification in the Final Written Decision as “misplaced” and “misapprehend[ing]” the ’701 patent Specification. Req. Reh’g 10. Patent Owner’s explanations of the Specification do not persuade us that we have erred by not excluding non-cellular mobile devices such as radio and telephones. *Id.* at 10–11. For example, we are not persuaded by Patent Owner’s explanation that the reference to cordless phones in the Specification really means mobile devices “like a cordless phone,” except that they are cellular. *Id.* at 11. Apart from being contrary to its earlier position in this proceeding, Patent Owner does not provide any evidentiary support for its argument that “a cellular system is the only system that can facilitate communication to the

same mobile device in **all of the exemplary applications** set forth in the '701 Patent specification.” *Id.*

Moreover, whether or not Patent Owner had provided evidentiary support for this statement, it is undisputed that the claims do not cover direct communication between the mobile device and the cellular network. Rather, as Patent Owner acknowledges, “the claims of the '701 Patent require the apparatus/movable base station to communicate directly with the cellular network (*and not the ‘mobile device’*).” *Id.* at 13 (emphasis added).

Similarly, Patent Owner’s assertion that the “standard radio interface” between the moving base station and the mobile device uses the cellular IS–95 standard (*id.* at 11) ignores the use of the word “may,” making use of the cellular standard optional. *See* Ex. 1001, 6:59–61; *see also* discussion above.

Finally, we are not persuaded that the embodiment of the '701 patent where communication between the mobile device and the cellular network is prevented (*see* Final Dec. 15 and discussion above) should not be considered in our analysis. Req. Reh’g 12. The Federal Circuit has observed that “there is a strong presumption against a claim construction that excludes a disclosed embodiment.” *Nobel Biocare Servs. AG v Intradent USA, Inc.*, 903 F.3d 1365, 1381 (Fed. Cir. 2018).

We are not persuaded that we misapprehended or overlooked these arguments in our Final Written Decision.

3. *The '904 Patent Prosecution History Does Not Support Patent Owner’s Proposed Claim Construction*

Phillips requires us also to consider the relevant prosecution history in construing the claims. *Phillips*, 415 F.2d at 1317. Here, the prosecution

history of related U.S. Patent 7,221,904 (the subject of IPR2019-01101) is relevant. Pet. Reply 8–9. The ’701 patent is a continuation of the ’904 patent, and shares a common Specification and similar claims with the ’904 patent. Thus, in our Final Written Decision, we considered the prosecution history of the ’904 patent. Final Dec. 15–16.

During prosecution of the ’904 patent, in an appeal brief to the Board, the applicant did not limit the invention to cellular devices, but told the Board that radios and telephones are included: “The present invention is directed to methods and devices for providing communication services to moving mobile units *such as telephones, radio modems, or other types of radios.*” Ex. 1023, 181 (emphasis added). We found that this prosecution history of the ’904 patent describing the mobile devices as “telephones” and “radios” does not support Patent Owner’s construction limiting such devices to “a device that must register with and be able to directly communicate with the cellular network.” Final Dec. 15–16.

Patent Owner’s Rehearing Request asserts this conclusion “is not supported by the record,” and cites as an example the fact that “the ’904 Patent does **not** even use the term ‘conventional’ in the ‘summary of the invention,’” and “the appellant only described a brief summary of the invention, and **not** a definition for the term ‘mobile device.’” Req. Reh’g 14–15. We are not persuaded by these arguments that our consideration of the prosecution history was erroneous. Patent Owner has relied on statements in the Specification that do not constitute lexicographic definitions of “mobile device.” In any event, the Federal Circuit has warned against disregarding such statements in the prosecution history: “The public notice function of a patent and its prosecution history requires that a patentee

be held to what he declares during the prosecution of his patent.” *Springs Window Fashions LP v. Novo Indus., L.P.*, 323 F.3d 989, 995 (Fed. Cir. 2003).

We are not persuaded by Patent Owner that we have misapprehended or overlooked anything in our analysis of the relevant prosecution history.

III. CONCLUSION

We have considered Patent Owner’s arguments seeking rehearing of our rejection of Patent Owner’s proposed construction of term “mobile device,” which resulted from analyzing the claims, specification, and prosecution history of the ’701 patent in accordance with *Phillips*. We are not persuaded that we have misapprehended or overlooked anything in our analysis. Patent Owner has not identified with specificity the matters it believes the Board misapprehended or overlooked, but instead has used its Rehearing Request as an opportunity to re-argue issues that we rejected in the Final Written Decision and decided in favor of Petitioner.

Because we deny Patent Owner’s Rehearing Request, we further determine that Patent Owner’s argument that “each of petitioner’s grounds fail[s]” (Req. Reh’g 15) is without merit. Furthermore, even if we modified our claim construction on rehearing and adopted Patent Owner’s construction, the challenged claims would still be unpatentable because we found that Gilhousen865 teaches a “mobile device” under Patent Owner’s construction. Final Dec. 47.

IV. ORDER

In view of the foregoing, it is:

ORDERED THAT Patent Owner’s Request for Rehearing of the Board’s Final Written Decision is *denied*.

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