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Paper No. ____

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MEDIATEK INC. and MEDIATEK USA INC.,
Petitioners,

v.

NIPPON TELEGRAPH AND TELEPHONE CORPORATION,
Patent Owner.

IPR2020-01404
Patent No. 7,280,551 B2

**PETITIONERS' REQUEST FOR REHEARING OF
FINAL WRITTEN DECISION¹**

¹ Emphasis added throughout.

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Petitioners respectfully request rehearing of the Board’s final written decision (Paper 31, (“FWD”)) finding Petitioners had not proven any challenged claim unpatentable. The Board’s decision should be modified for two reasons.²

First, in construing the term “mandatory channel,” the Board overlooked critical evidence that Petitioners submitted during the trial, identified at the oral hearing, and which supported Petitioners’ proposed plain meaning construction of the term. For example, the Board found that a single MIMO (*i.e.*, multi-input, multi-output) channel is a “multichannel communication system” despite undisputed evidence that a system with a single MIMO-implemented channel is just that—a *single channel* system. That Patent Owner never even argued a single MIMO channel is a “multichannel communication system” highlights the lack of evidence on which the Board could rationally have based its MIMO finding.

Likewise, in finding that the ’551 Patent’s purpose “is to prevent leakage between multiple channels” and that construing “mandatory channel” to cover a “single” channel system “would be contrary to [that] purpose” (FWD, 20), the Board overlooked Petitioners’ evidence—which Patent Owner never rebutted—that the patent *explicitly says* power leakage occurs not only in multi-channel

² Petitioners reserve the right to identify additional errors in the FWD in any potential appeal of that decision to the Federal Circuit.

systems but *conventional single channel systems as well*. Dr. Williams’ testimony explaining how setting a “mandatory channel” in a single channel system reduces power leakage was unchallenged by Patent Owner but the Board nonetheless never mentioned his testimony, much less explained how to reconcile its “power leakage” finding with that testimony.

And although the Board noted Patent Owner’s European prosecution statements in passing (FWD, 15-16), it never explained why those statements—which are directly inconsistent with Patent Owner’s position before the Board—were not relevant to construing “mandatory channel” or how the statements could be reconciled with the Board’s construction of “mandatory channel.”

The Board should consider the evidence and related arguments it overlooked, modify its claim construction to adopt Petitioners’ plain meaning construction in which a “mandatory channel” can be the only channel in the system, and re-evaluate Grounds 1 and 3-4 in view of that construction.

Second, the Board also overlooked evidence and argument related to Ground 2 (Shpak-Lundby). Specifically, the Board found that although the Petition’s “augmented bandwidth” rationale for the Shpak-Lundby combination would have given POSAs reason to implement Shpak’s system using two wireless channels rather than one, it held that the rationale “***does not*** provide any reason to prevent transmission altogether based on the status of one of multiple channels.” FWD, 36

(emphasis original). In reaching this conclusion, the Board overlooked Dr. Williams' testimony which explained in detail why POSAs seeking to augment bandwidth between an access point and a client device would have held a channel in reserve for that purpose and how doing so better achieves the "augmented bandwidth" rationale the Petition set forth. This testimony, which Petitioners highlighted at the oral hearing, unquestionable provides a reason why POSAs would have "prevent[ed] transmission altogether based on the status of one of multiple channels," and the Board's failure to consider it was an abuse of discretion that merits rehearing the Board's patentability findings for Ground 2.

I. THE LEGAL STANDARD FOR REHEARING.

Petitioners bear the burden to show why the FWD should be modified and must specifically identify all matters the Board misapprehended or overlooked. 37 C.F.R. § 42.71(d). On rehearing, the Board will review its decision for an abuse of discretion, 37 C.F.R. § 42.71(c), which occurs if a decision "rests on clearly erroneous fact findings" or "involves a record that contains no evidence on which the Board could rationally base its decision." *Redline Detection LLC v. Star Envirotech Inc.*, 811 F.3d 435, 442 (Fed. Cir. 2015).

II. IN CONSTRUING "MANDATORY CHANNEL," THE BOARD OVERLOOKED RELEVANT EVIDENCE AND ARGUMENT.

The Board construed the term "mandatory channel" to mean "one channel in a wireless multichannel communication system whose idle state determines

whether there can be a transmission over the other wireless channels.” FWD, 10. In doing so, the Board rejected Petitioners’ plain meaning construction which permits the challenged claims to cover **both** single channel and multi-channel systems, and adopted Patent Owner’s proposed construction which restricts the claims to covering **only** multi-channel systems. As discussed below, the Board overlooked and/or misapprehended evidence and arguments establishing why Petitioners’ plain meaning construction was the correct interpretation of “mandatory channel.” The Board should consider the overlooked evidence and argument, modify its FWD to adopt Petitioners’ plain meaning construction, and re-assess its patentability findings in view of that construction.

A. The Board Overlooked Evidence Demonstrating that a Single MIMO-Implemented Channel Is Not a Multi-Channel System.

The challenged claims’ preamble recites three techniques for transmitting a plurality of wireless packets simultaneously, one of which is by using “a single wireless channel determined to be idle and MIMO.” EX1001, 12:13-19. Petitioners argued that the “single wireless channel determined to be idle and MIMO” technique, as its plain language dictates, covers a single channel over which two or more wireless packets are sent using MIMO technology and therefore the challenged claims should not be limited to multi-channel systems because doing so was inconsistent with the claims’ plain language which clearly covers single channel systems. Petition, 27-30; Petitioners’ Preliminary Reply, 2-

3; Reply, 20-21; EX1003 (“Williams-Opening”), ¶¶90; EX1062 (“Williams-Reply”), ¶¶13-14; FWD, 14 (identifying Petitioners’ reliance on the preamble’s single channel technique as support for their plain meaning construction).

Petitioners’ understanding of the preamble’s “single wireless channel determined to be idle and MIMO” technique, *i.e.*, that it required use of only a single channel, was wholly consistent with the ’551 Patent which explains that MIMO is a wireless transmission technology that uses digital signal processing and multiple antennas to send multiple wireless packets “at the same time *on the same wireless channel.*” EX1001, 1:61-63 (cited in Reply at 21); *see also* Williams-Opening, ¶¶39-41 (explaining MIMO advantageously allows multiple packets to be transmitted simultaneously over a single channel); Williams-Reply, ¶18. Likewise, Petitioners’ understanding was consistent with Patent Owner’s and its expert’s understanding of MIMO, both of whom agreed that a single MIMO-implemented channel transmits multiple wireless packets simultaneously on a single wireless channel. POPR, 18 (conceding preamble “may be performed using a *single channel* with MIMO transmission”); POR, 64 (“As the ’551 Patent teaches, MIMO technology permits multiple data streams in a *single channel...*”) (emphasis original); Sur-Reply, 17 (similar); EX1061, 21:6-22 (“Certainly a use of MIMO is to have a single channel, single frequency channel to use to allow simultaneous transmission.”). Indeed, Petitioners said in the Reply that “the

parties agree” that “MIMO requires only a single channel” (Reply, 21), and Patent Owner did not dispute that statement either in its Sur-Reply or at the oral hearing.

Despite the parties’ agreement that transmitting a plurality of wireless packets using “a single wireless channel determined to be idle and MIMO” occurs on a *single* wireless channel, the Board explicitly found that a system using a single MIMO-implemented channel is actually a *multichannel* communication system: “We find that a MIMO channel, e.g., the claimed ‘mandatory channel,’ and MIMO sub-channels comprise a wireless ‘multichannel communication system.’ FWD, 17-18. The Board then relied on this finding to justify construing “mandatory channel” as restricting the claims to multichannel systems despite one transmission technique recited in the claims’ preamble being “a *single* wireless channel ... and MIMO.” Respectfully, the Board’s fact finding regarding MIMO misapprehended the evidence, is clearly erroneous, and must be modified.

Although the Board correctly explained that MIMO creates “sub-channels” within a single wireless channel (FWD, 17), it clearly erred in concluding that those sub-channels somehow converted the single wireless channel into a multichannel system. No party made such an argument, and the record contains no evidence on which the Board could base its decision.

That the parties did not argue that MIMO sub-channels “somehow differ[] in function from channels” (FWD, 17) was due to the fact that, consistent with the

'551 Patent itself (EX1001, 1:61-63), no party (or their expert) considered a MIMO sub-channel to be an independent frequency channel, *i.e.*, what the parties interpreted the term “channel” to mean in this proceeding. POPR, 14-15. Just as a single highway divided into multiple lanes nonetheless remains a single highway, a single MIMO-implemented channel with multiple sub-channels nonetheless remains a single frequency channel. And contrary to the Board’s decision (FWD, 18), the difference between MIMO and SISO was not that MIMO uses multiple channels and SISO uses a single channel, but that MIMO uses signal processing and multiple antennas to simultaneously send a plurality of packets over a single channel whereas SISO uses a single antenna and can send only one packet at a time. Williams-Opening, ¶75; EX1001, 1:61-63.

Simply put, a system using a single MIMO-implemented channel to transmit a plurality of packets is indisputably still a single channel system (*e.g.*, Williams-Opening, ¶¶39-41; Williams-Reply, ¶18), confirming Petitioners’ argument that the preamble broadly covers transmissions that occur on *either* a single MIMO-implemented channel or multiple channels (either with or without MIMO) (*e.g.*, Petition, 27-30; Reply, 20-21).

The Board’s misunderstanding of how MIMO works was foreshadowed in the Institution Decision when the Board wrongly concluded that the Ho reference “describes MIMO as including at least two channels.” Institution Decision, 20.

Petitioners' Reply at page 21 explained that the Board's interpretation of Ho was wrong and further explained that "the parties agree" that "MIMO requires only a single channel." Petitioners also identified the Board's erroneous understanding of MIMO at the hearing and explained that the parties' experts agreed that MIMO does not require at least two channels. Paper 30, 30:7-31:3; EX1063, 38.

In footnote 14 of the FWD, the Board attempted to explain away Petitioners' description of MIMO as somehow limited to Ho, but Petitioners' Reply at page 21 was explicit that Ho only corroborated what was undisputed: "MIMO requires only a single channel." The Reply at 21 cited evidence confirming this technical fact, including testimony from both parties' experts, and the Board either overlooked or misapprehended that evidence.

Because the Board overlooked the *undisputed fact* that the preamble's "a single wireless channel determined to be idle and MIMO" technique requires use of only *a single wireless channel*, the Board's claim construction is incorrect and rehearing is required to reassess the invalidity of the claims under the correct construction.

B. The Board Overlooked Evidence Demonstrating that "Power Leakage" Occurs in Single Channel Systems.

The Board "determine[d] that construing the claimed invention to cover only a 'single wireless channel' would be contrary to the purpose of the invention, which is to prevent leakage between multiple channels." FWD, 20. This finding

overlooked several aspects of Petitioners’ evidence and argument, as well as express disclosures from the ’551 Patent.

First, if the Board believed Petitioners sought to construe the challenged claims “to cover *only*” a single wireless channel, that belief misapprehended Petitioners’ argument. Throughout the trial, Petitioners argued that the challenged claims were broad and covered *both* transmissions over a single MIMO-implemented channel and transmissions over multiple wireless channels (with and without MIMO). Petition, 27-30; Petitioners’ Preliminary Reply, 2-3; Reply, 25; Paper 30, 32:9-14; EX1063, 41 (“Petitioners Do Not Seek to *Limit* the Claims to a Single Wireless Channel”) (emphasis in original). Contrary to the FWD (at 20), Petitioners never sought to “constru[e] the claimed invention to cover *only* a ‘single wireless channel.’” But that does not mean the claims—properly construed—are not invalidated by a single channel system, they clearly are when that single channel uses MIMO to transmit a plurality of packets simultaneously.

Second, the Board’s determination that the “purpose of the invention,” *i.e.*, to reduce power leakage, is limited to multichannel systems overlooked Petitioners’ evidence that the problem of “power leakage” *is not limited to multichannel systems*. Specifically, as the Reply explained at pages 26-28 and Petitioners highlighted at the hearing (Paper 30, 32:24-34:7, 78:4-79:7; EX1063, 42-43), the ’551 Patent says that power leakage occurs “not only in case of simultaneous

transmission using multiple wireless channels but also *in a conventional case* where wireless packets are transmitted by *using one wireless channel...*” EX1001, 3:27-32. The Reply at pages 27-28 cited testimony from Dr. Williams in which he explained how setting a “mandatory channel” in this “conventional” *single channel* case reduces power leakage. Williams-Reply, ¶¶37-42. The FWD overlooked both the ’551 Patent’s statement that power leakage occurs in “conventional” single channel systems and Dr. Williams’ corresponding testimony.

Rehearing is needed for the Board to re-assess its claim construction determination knowing that (1) Petitioners did not seek to *limit* the claims to *only* single channel systems, and (2) the ’551 Patent explicitly says power leakage occurs in *both* single channel and multichannel systems.

C. The Board Overlooked the Relevance of Patent Owner’s Admissions to the European Patent Office.

The Reply demonstrated how Patent Owner made statements during prosecution of a related European application that were incompatible with the arguments it advanced before the Board regarding the meaning of “mandatory channel.” Reply, 29-31. For example, the Reply explained that despite now alleging that interpreting the claims to cover a “single-channel system would render the claim language a nullity” (POR, 13), Patent Owner told the EPO: “The fact that, *in case of only one channel, this channel is defined as the mandatory channel* does not lead to any inconsistencies.” Reply, 30 (quoting EX1059, 130).

Petitioners highlighted Patent Owner’s European statements during the oral hearing. Paper 30, 27:15-28:8, 31:4-25, 34:26-35:17, 79:17-80:23; EX1063, 45-47. And Petitioners cited Federal Circuit precedent confirming that foreign prosecution statements are relevant where, as here, the foreign patent and the U.S. patent “are related and share a familial relationship.” Reply, 29.

Other than noting that Petitioners cited the European prosecution history to support their claim construction position (FWD, 15) and that Patent Owner believed the prosecution history was not relevant (FWD, 16), the Board did not address the European prosecution history and therefore either overlooked it or, at a minimum, misapprehended its significance. *In re NuVasive, Inc.*, 842 F.3d 1376, 1383 (Fed. Cir. 2016) (“[I]t is not adequate to summarize and reject arguments without explaining why the PTAB accepts the prevailing argument.”).

Although the Federal Circuit has cautioned against indiscriminate reliance on foreign prosecution statements, it nonetheless consistently looks to those statements to assess whether a patentee is seeking a claim construction in the United States that differs from that it advocated for in a foreign jurisdiction. For example, in both Federal Circuit cases that the Board cited in passing (FWD, 15-16)—*Caterpillar Tractor v. Barco, S.P.A.*, 714 F.2d 1110 (Fed. Cir. 1983) and *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286 (Fed. Cir. 2014)—the Federal Circuit ***considered the foreign statements***. In *Caterpillar*, the Court looked to statements

the patentee made to the German patent office to assess whether the district court erred in its doctrine of equivalents analysis. Likewise, in *Apple*, the Court found a patentee's statements to the Japanese patent office relevant to claim construction given the close relationship between the Japanese patent and the U.S. patent. Here, the relationship between the '551 Patent and Patent Owner's European patent could not be closer—they claim priority to the same application, share an identical specification, and Patent Owner's statements describing its European claims occurred when those claims were *identical* to the challenged claims. Reply, 29.

Given the Federal Circuit's guidance on foreign prosecution statements' relevance and the close relationship between the '551 Patent and Patent Owner's European patent, the Board should modify its FWD to take Patent Owner's foreign statements into account.

Finally, any suggestion that the statements Patent Owner made were dependent on unique aspects of European law falls flat. As Petitioners explained at the oral hearing, the statements made were in response to a clarity rejection which requires an applicant's claims be "clear and concise," a requirement that directly parallels with section 112's requirement that claims "particularly point[] out and distinctly claim[] the subject matter which the applicant regards as his invention." Paper 30, 79:27-80:12. An applicants' statement clarifying the meaning of its claims—even if made to the EPO—is exceedingly relevant to claim construction.

D. The Board Should Reconsider Its Patentability Findings for Grounds 1, 3 and 4.

If the Board modifies its FWD and adopts Petitioners' proposed construction of "mandatory channel," then it must modify its patentability findings too.

For Ground 1, there is no dispute that the Shpak-Ho combination renders obvious claims 1, 3, 5, and 7 under Petitioners' proposed construction.

For Grounds 3 and 4, the Board's patentability determination was also based on its narrow interpretation of "mandatory channel." *E.g.*, FWD, 45 (Ground 3: "Petitioner's showing does not meet our construction of 'mandatory channel.'"), 50-51 (explaining Ground 4 fails for the same reasons as Grounds 1 and 3). Should the Board modify its FWD to adopt Petitioners' construction, it should reassess Grounds 3 and 4 as the Petition established both grounds render the challenged claims unpatentable under Petitioners' proposed construction.

III. IN EVALUATING GROUND 2, THE BOARD OVERLOOKED PETITIONERS' REPLY EVIDENCE.

The Petition alleged Lundby would have motivated POSAs to add a second channel to Shpak's primary channel "to augment the primary channel's bandwidth." Petition, 41-42. The Board agreed "augmented bandwidth 'provides a reason to use two channels instead of one,'" but found it "does not provide any reason to prevent transmission altogether based on the status of one of multiple channels." FWD, 36. The Board thus adopted Patent Owner's argument that

while POSAs would have modified Shpak’s access points to use a primary and secondary channel, they would not have held the secondary channel in reserve for augmentation purposes and would have instead used it as an independently available channel for access points in the system to use. POR, 40. But in doing so, the Board overlooked Petitioners’ evidence explaining why POSAs desiring to augment bandwidth would have held the secondary channel in reserve so that it would always be available when needed to augment the primary channel.

As the Reply explained: “The Petition’s implementation *ensures* the secondary channel can provide bandwidth-augmentation whenever needed because it is only used to augment the primary channel’s bandwidth.” Reply, 2-3 (citing Petition, 41-44, 46-47; Williams-Opening, ¶¶125-131, 133, 140-141). As Petitioners explained, Patent Owner’s alternate implementation—in which the secondary channel is used independent of the primary channel—does not prioritize bandwidth augmentation, it prioritizes channel independence. Reply, 2-3.

Petitioners explained why reserving the secondary channel for bandwidth augmentation would have better achieved the Petition’s bandwidth augmentation rationale, in which the bandwidth to be augmented is that between an access point and a client it serves. Reply, 3-8. That explanation was supported by detailed testimony from Dr. Williams. Williams-Reply, ¶¶52-65. The Board did not mention—much less address—either the Reply’s argument or Dr. Williams’

testimony despite both being highlighted at the oral hearing. Paper 30, 18:4-21:2; EX2063, 20-21.

At best, the Board identified a different way to implement Shpak-Lundby, *i.e.*, an implementation in which two channels are used independently, but bandwidth augmentation is not guaranteed. But, as Petitioners explained at page 8 of the Reply, the existence of an alternate implementation of Shpak-Lundby does not render the Shpak-Lundby implementation set forth in the Petition non-obvious. The Board's failure to consider Petitioners' evidence why its implementation of Shpak-Lundby would have better achieved the Petition's augmented bandwidth rationale was clearly erroneous. *Google Inc. v. Intell. Ventures II*, 701 F. App'x 946, 953 (Fed. Cir. 2017) (vacatur and remand proper where Board did not explain why it dismissed Petitioner's "expert testimony and evidence"). The Board should modify its FWD, consider Petitioners' reply evidence, and find POSAs would have implemented Shpak-Lundby as the Petition alleged.

IV. CONCLUSION

Petitioners respectfully request that the Board modify its FWD and issue a new FWD that finds claims 1-8 unpatentable.

Dated: March 7, 2022

Respectfully submitted,

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CERTIFICATE OF SERVICE UNDER 37 C.F.R. § 42.6 (e)(4)

I certify that on March 7, 2022, I will cause a copy of the foregoing document, including any exhibits filed therewith, to be served via electronic mail, as previously consented to by Patent Owner, upon the following:

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