

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ZTE (USA) Inc.,
Petitioner

v.

WSOU INVESTMENTS, LLC D/B/A BRAZOS LICENSING AND
DEVELOPMENT
Patent Owner

Case IPR2023-00498
U.S. Patent No. 8,767,614

PATENT OWNER'S PRELIMINARY RESPONSE TO THE PETITION

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	RELATED PROCEEDINGS	1
III.	LEVEL OF ORDINARY SKILL IN THE ART	1
IV.	PETITIONER FAILED TO ESTABLISH the CITED PRIMARY REFERENCES QUALIFY AS PRIOR ART	2
	A. Chun has not been shown to qualify as prior art.....	3
	B. Yang has not been shown to qualify as prior art.....	5
V.	CLAIM CONSTRUCTION	7
	A. Special Master’s Recommended Claim Constructions	8
	B. The “means for” terms	9
	C. “buffer information report”	12
VI.	PETITIONER HAS NOT MET ITS THRESHOLD BURDEN	14
	A. Chun has not been shown to render obvious the “buffer information report” limitations.....	15
	B. Yang has not been shown to render obvious the “indication” limitations	19
	C. Yang has not been shown to render obvious the “buffer information report” limitations.....	20
	D. Petitioner’s challenges of the dependent claims are all tainted by its deficient challenges of the independent claims.....	22
VII.	CONCLUSION.....	22

I. INTRODUCTION

WSOU Investments, LLC d/b/a/ Brazos Licensing and Development (the “Patent Owner” or “WSOU”) submits this Preliminary Response to the Petition for *Inter Partes* Review (“Pet.” or “Petition”) of United States Patent No. 8,767,614 (“the ’614 Patent” or “Ex. 1001”) filed by ZTE (USA) Inc. (“Petitioner”). In view of the reasons presented herein, the Petition should be denied in its entirety as failing to meet the threshold burden of proving there is a reasonable likelihood that at least one challenged claim is unpatentable.

II. RELATED PROCEEDINGS

The ’614 patent is involved in the following proceedings: (1) *WSOU Investments, LLC v. ZTE Corporation et al.*, 6:22-cv-00136 (Feb. 8, 2022 W.D. Tex.); and (2) *WSOU Investments, LLC v. Oneplus Technology (Shenzhen) Co., Ltd.*, 6:20-cv-00953 (Oct. 14, 2020 W.D. Tex.).

III. LEVEL OF ORDINARY SKILL IN THE ART

The Petition proposes a person of ordinary skill in the art at the time of the ’614 patent (a “POSITA”) “would have had at least a bachelor’s degree in electrical engineering, computer engineering, or a related engineering discipline and three years of industry experience in the field of telecommunications, or equivalent experience, education, or both.” Pet. 15–16 (citing Ex. 1003, 46). Patent Owner does not offer a competing definition at this stage because Petitioner has not met its burden to prove unpatentability of any challenged claim even if it were appropriate to apply Petitioner’s proposed definition for a POSITA.

IV. PETITIONER FAILED TO ESTABLISH THE CITED PRIMARY REFERENCES QUALIFY AS PRIOR ART

As a threshold matter, Petitioner failed to establish that either Chun (Ex. 1005) or Yang (Ex. 1008) qualifies as prior art as to the '614 patent. Because both Chun and Yang postdate the filing date of the '614 patent, Petitioner has the burden to prove that both primary references are entitled to the earlier filing date of the respective provisional application to which those references claim priority. To establish a published patent application is entitled to the earlier filing date of a provisional application, an IPR petitioner must prove (1) the disclosure of the provisional application provides adequate written description and enablement support, pursuant to Section 112, for the claims of the published patent application; and (2) the subject matter relied upon in the published patent application has adequate written description and enablement support, pursuant to Section 112, in the provisional application. *See Dynamic Drinkware LLC v. National Graphics Inc.*, 800 F.3d 1375, 1378 (2015); *Amgen Inc. v. Sanofi*, 872 F.3d 1367, 1380 (Fed. Cir. 2017); MPEP § 2136.03. Petitioner failed to meet its burden of proof in both respects.

Notably absent from the Petition is any citation to any alleged expert analysis for either of the two legal requirements necessary to establish that Chun (Ex. 1005) and Yang (Ex. 1008) are each entitled to the earlier filing date of the respective Provisionals to which those references purport to claim priority (Ex. 1006 and 1009, respectively). This omission is rather glaring, given the declaration attached to the Petition appears to otherwise copy from the Petition nearly verbatim in addressing the challenges to claims 1–24 of the '614 patent. Also absent from the Petition is any

argument or explanation accompanying the partial quotations offered in the Petition as allegedly establishing the requisite disclosure in the respective provisional applications. Petitioner has not met the applicable burden here merely by its counsel's selection of a handful of unexplained and ultimately unavailing quotations from the provisional applications in question (Exs. 1006 and 1009).

A. Chun has not been shown to qualify as prior art

For the legal requirement that the disclosure of the provisional application must be shown to provide adequate support, pursuant to Section 112, first paragraph, for the claims of the printed patent publication, Petitioner opted to only address claim 1 of Chun. Pet. 3 (“The Chun provisional supports Chun’s claim 1.”). In doing so, Petitioner at least failed to establish that the Chun provisional (Ex. 1006) has adequate support for the claim 1 limitation, “generating, by the relay node, at least one parameter to improve a transmission of the received data to a network.” Ex. 1005, p. 8 (claim 1). In purporting to address this claim language, the Petition merely reproduces the following two partial quotations from the Chun provisional, without offering any accompanying explanation or expert analysis of the same:

“RNB report[s] its Buffer capability to DNB.” Ex-1006, 78.

“When DL buffer of RNB is full or above some threshold (percent, or configured absolute value), the RNB report this to DNB.” Ex-1006, *Id.*

Pet. 4 (citing Ex. 1006, 78).

In the very least, Petitioner overlooks that the claim language in question (recited in claim 1 of Chun) is not directed to a relay node *reporting* or *transmitting*

information, but rather it is directed to the relay node newly *generating* a specific parameter itself (sometime prior to its transmission). The Petition lacks any argument or explanation as to how the cited passage provides sufficient Section 112 support for the distinct concept of a relay node *generating* the claimed “parameter” in question. Moreover, the Petition fails to specify what exactly in the quoted sentences constitutes the claimed “parameter” (as recited in claim 1 of Chun). The two proffered quotations themselves are unavailing as they mention nothing about whether and how Chun’s RNB itself *generates* anything satisfying the claimed “parameter” term.

Petitioner also appears to have overlooked that claim 1 of Chun differentiates *generating the parameter* from *transmitting/reporting the generated parameter* by reciting both as distinct requirements. Ex. 1005, p. 8 (claim 1). It cannot be said, therefore, that a parameter transmitted/reported by the relay node is necessarily a parameter that the relay node had previously generated, else the generating step (of Chun’s claim 1) would be rendered superfluous by the transmitting step. Petitioner’s improper conflation of the generating and transmitting steps recited in Chun’s claim 1 is laid bare by Petitioner citing exclusively, without any accompanying argument or explanation, to the same two sentences of the Chun provisional for both the “generating” and the “transmitting” steps as they pertain to the claimed “parameter.” *Compare* Pet. 4 *with* Pet. 5.

In addition, the Petition lacks any analysis or explanation even purporting to establish, *based on the sole two cited sentences of the Chun provisional*, that the

reported information satisfies the qualifying requirement of a “parameter” generated by the relay node “to improve a transmission of the received data to a network,” as recited in claim 1 of Chun (Ex. 1005). Indeed, the sole two quoted sentences of the Chun provisional lack any description as to the purpose, if any, the reported information might serve. Petitioner’s unexplained citation to Chun (Ex. 1005) is unavailing because the written description support must come from the Chun provisional (Ex. 1006). *See Dynamic Drinkware*, 800 F.3d at 1378; *Amgen*, 872 F.3d at 1380; MPEP § 2136.03.

Accordingly, the Board should deny institution because the Petitioner failed to establish, within the Petition itself, that the Chun reference (Ex. 1005) qualifies as prior art. Because the identified deficiency concerning Chun impacts the majority of the Petition, the PTAB can and should exercise its discretion under 35 U.S.C. § 314 to deny institution of *inter partes* review for inefficient use of the PTAB’s time and resources. *See SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1356 (2018) and *Harmonica Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1367 (Fed. Cir. 2016). The PTAB can and does consider the number of challenges reasonably likely to fail that would require review compared to those reasonably likely to succeed when determining whether instituting review is an efficient use of the PTAB’s resources.

B. Yang has not been shown to qualify as prior art

Petitioner likewise failed to establish that Yang (Ex. 1008) qualifies as prior art. For example, certain deficiencies arise from Petitioner’s inconsistent citations to the Yang Provisional (Ex. 1009) in alleging that reference provides sufficient

support for claim 1 of Yang (Ex. 1008). Regarding Yang’s claim 1 limitation “determining a buffer status of a buffer for data to be transmitted on a communications channel allocated from network resources controlled by a communications controller,” Petitioner reproduces, without explanation, a partial quotation from the Yang Provisional directed to “buffer status information provided by the RN.” Pet. 11 (quoting Ex. 1009, ¶29).

It would appear from Petitioner’s unexplained quotation that Petitioner maintains the “buffer” recited in claim 1 of Yang (Ex. 1008) is sufficiently disclosed in the Yang Provisional (Ex. 1009) by a buffer within the relay node (RN). That the “buffer” Petitioner referenced in Petitioner’s unexplained citation is located at the relay node (RN) is further expressly confirmed elsewhere in the Yang provisional: “the RN detects that *it has buffers* that are full (or almost full) or empty (or almost empty).” Ex. 1009, ¶ 23 (emphasis added); *see also id.*, ¶ 25 (“The buffer status information may provide information about the status of each buffer at the RN.”).

At a minimum, Petition failed to show sufficient support in the Yang Provisional for Yang’s claim 1 requirement that the *same* “buffer” applies to distinct determining steps—*e.g., in both* (1) “determining a buffer status of *a buffer*” and in (2) “determining a consumption rate or a filling rate for *the buffer*.” To be clear, this explicit requirement arises from the term “the buffer” (recited in the second determining step of Yang’s claim 1) deriving its antecedent basis from “a buffer” (recited in first determining step of Yang’s claim 1 as “determining a buffer status of a buffer ...”).

The Petition cites exclusively to the following statement in the Yang Provisional for the second determining step of Yang’s claim 1: “[t]he expected consumption rate *of a UE* may be obtained from recent data throughput history for the UE or a channel quality indicator reported from the UE.” *Id.*, (citing Ex. 1009, ¶ 29). Petitioner offers its partial quotation of the Yang Provisional without any accompanying explanation and without citing to any allegedly supportive expert testimony. *Id.*

The Petition lacks any specific articulation, based on evidence of record, as to how an expected consumption rate *of a singular user equipment (UE)* provides adequate support (under Section 112, first paragraph) for the distinguishable limitation, “determining a consumption rate ... *for the buffer*” *of the distinct relay node (RN)*. That the consumption rate *of a given UE* is distinguishable from the consumption rate *of the RN buffer* is confirmed, for example, by Yang describing its RN as servicing multiple UEs at the same time. *See, e.g.*, Ex. 1008, ¶¶ 4–5.

V. CLAIM CONSTRUCTION

The standard for claim construction applicable here is the “ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” 37 C.F.R. §42.100(b) (effective November 13, 2018); 83 Fed. Reg. No. 197, 51340 (Oct. 11, 2018). This is the same standard applied by Article III courts. *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005). The proper standard primarily focuses on intrinsic evidence to interpret the claim terms. *Id.* at 1317; *see also* 37 C.F.R. § 42.100(b).

It is well-established that a petition cannot prove invalidity through application of an incorrect claim construction. *See, e.g., Mentor Graphics Corp., v. Synopsys, Inc.*, IPR2014-00287, 2015 WL 3637569, (Paper 31) at *11 (P.T.A.B. June 11, 2015), *aff'd sub nom. Synopsys, Inc. v. Mentor Graphics Corp.*, 669 Fed. Appx. 569 (Fed. Cir. 2016) (denying petition as tainted by reliance on an incorrect claim construction); *Vivint, Inc. v. Alarm.com Inc.*, 754 F. App'x 999, 1005 (Fed. Cir. 2018) (vacating and remanding, in part, because Board had adopted and applied certain incorrect claim constructions); *Int'l Bus. Machines Corp. (IBM) v. Iancu*, 759 F. App'x 1002, 1005–06 (Fed. Cir. 2019) (finding that the Board's interpretation of key claim limitations was incorrect resulting in the Board's decisions having errors). As will be shown, the Petition is tainted by its application of erroneous and undefended claim constructions.

A. Special Master's Recommended Claim Constructions

Petitioner cites to and purports to apply (with certain modifications) the recommended claim constructions set forth in the Special Master's Report and Recommendation Regarding Claim Construction in *WSOU Investments LLC D/B/A Brazos Licensing and Dev., v. Oneplus Technology (Shenzhen) Co., Ltd.*, 6-20-cv-00952, Dkt. 93 (W.D. Tex. May 24, 2022). *See* Pet. 16 (citing Ex. 1012). Petitioner did not submit into the record here any indication as to whether the district court ever adopted the recommended claim constructions of the Special Master. Nor did the Petition explain, with citation to any legal authority, why the Board should adopt or even consider the Special Master's recommended claim constructions.

B. The “means for” terms

Independent claims 6, 12, and 18 each recite respective “means for” terms. Petitioner’s counsel appears to have inadvertently copied from its own draft of the declaration attached to the Petition in asserting: “[f]or the purpose of this Inter Partes Review, my understanding is that Petitioner proposes the following constructions and I have been asked to apply them.” *Compare* Pet. 18 with Ex. 1003, ¶ 31. The table below reproduces Petitioner’s proposed means-plus-function constructions for the “means for” terms of claims 6, 12, and 18. As explained further below, the Petition lacks any defense of the alleged correctness of the claim constructions applied therein for the “means for” terms of the ’614 patent.

Term	Petitioner’s Proposed Construction
“means for causing sending of a buffer information report to a system station <u>from a node for relaying communications between at least one user station and the system station</u> ;” ¹ (claim 6)	not indefinite, subject to 35 USC § 112 ¶ 6; Function: causing sending of a buffer information report to a system station from a node for relaying communications between at least one user station and the system station; Structure: pursuant to “ <i>In re Katz</i> ”, the data processing unit 32, memory 31, and input/output interface 34 in Fig. 3, and equivalents. Ex. 1001, 6:4–9.
“means for causing sending of an indication to the system station” (claim 6)	subject to 35 USC § 112 ¶ 6; Function: causing sending of an indication to the system station;

¹ The underlining here indicates the portion of the term Petitioner seeks to construe in addition to what is considered in the Special Master’s Report and Recommendation.

	Structure: pursuant to “ <i>In re Katz</i> ”, the data processing unit 32, memory 31, and input/output interface 34 in Fig. 3, and equivalents. Ex. 1001, 6:4–9.
“means for receiving a buffer information report from a node for relaying communications between at least one user station and a system station” (claim 12)	subject to 35 USC § 112 ¶ 6; Function: receiving a buffer information report from a node for relaying communications between at least one user station and a system station; Structure: “serving base station [20]” Ex. 1001, 7:44.
“control means for processing an indication that the node for relaying has different buffering capabilities than the user station, for determining the buffering capabilities of the node for relaying based on the received buffer information report and the indication, and for controlling communications between the system station and the node for relaying accordingly” (claims 12 and 18)	subject to 35 USC § 112 ¶ 6; Function: [1] processing an indication that the node for relaying has different buffering capabilities than the user station, [2] determining the buffering capabilities of the node for relaying based on the received buffer information report and the indication, and [3] controlling communications between the system station and the node for relaying accordingly; Structure: “processor 14,” and “memory 15,” in Fig. 1, and equivalents. Ex. 1001, 5:65–67.

Pet. 18–19.

The Petition lacks any argument or evidence in support of the constructions for the “means for” terms allegedly applied in the Petition. Nor does the Petition explain why the Board should adopt or even consider the Special Master’s recommended claim constructions, even in the absence of a showing that the district court ever adopted such recommendations in a claim construction order. Further, if

all the computer-implemented “means for” claim terms of the ’614 patent are indeed subject to 35 USC § 112 ¶ 6, as Petitioner contends, then the burden rests with Petitioner to explain why none of them invoke the requirement that the corresponding structure must include an algorithm.² Petitioner failed to do so.

Petitioner also asks the Board to construe certain “means for” terms recited in claims 12 and 18 that were not addressed in the aforementioned Special Master’s Report and Recommendation Regarding Claim Construction. Yet again, the Petition lacks any argument or evidence in defense of the constructions purportedly applied in the Petition for the “means for” terms of claims 12 and 18. For example, the Petition does not even allege, much less with supportive argument and evidence, that the distinct “means for” terms of claims 12 and 18 are subject to the rare exception set forth in *In re Katz*. See *In re Katz Interactive Call Processing Patent Litigation*, 639 F.3d 1303, 1316 (Fed. Cir. 2011) (“*In re Katz*”). This omission in the Petition is rather glaring, given the Petition expressly invokes (again without argument or explanation) the rare *In re Katz* exception in its proposed construction for other “means for” terms recited in claim 6. Pet. 16–17. Even if Petitioner had offered a bald assertion that the “means for” terms of claims 12 and 18 invoke the *In re Katz* exception, which Petitioner did not do, this alone would not sufficiently establish

² See, e.g., *WMS Gaming, Inc. v. Int’l Game Tech.*, 184 F.3d 1339, 1348–49 (Fed. Cir. 1999) (“computer-implemented means-plus-function term is limited to the corresponding structure disclosed in the specification and equivalents thereof, and the corresponding structure is the algorithm.”); *Atmel Corp. v. Information Storage Devices, Inc.*, 198 F.3d 1374, 1381 (Fed. Cir. 1999).

that the rare exception applies here, such that the corresponding structure need not include a disclosed algorithm.

Invalidity of a duly issued patent cannot be established through application of undefended claim constructions which merely presume, without any accompanying argument, evidence, legal analysis, or expert testimony, that none of the “means for” terms of the ’614 patent is constrained in scope by corresponding disclosed algorithmic structure. Patent Owner should not be expected to consider what Petitioner might have timely argued in its Petition in defense of the claim constructions purportedly applied therein. And binding precedent precludes the Board from doing so. *Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1381 (Fed. Cir. 2016) (instructing that the Board is not “free to adopt arguments on behalf of petitioners that could have been, but were not, raised by the petitioner.”).

C. “buffer information report”

The Petition fails to defend or even acknowledge its tacit, overbroad interpretation of the “buffer information report” term repeatedly recited in every claim of the ’614 patent challenged in the Petition. As explained further below, among other deficiencies, the Petitioner advances meritless obviousness theories premised on the undefended and incorrect claim interpretation that the “buffer information report” term encompasses reporting on the present *fullness* of a *relay node* buffer. The burden rests with Petitioner to defend such a claim construction within the Petition. Petitioner’s failure to do so is itself sufficient grounds for denying institution, particularly given how prominently the challenged claims all

feature the “buffer information report” term. The burden does not shift to Patent Owner to explain why Petitioner’s tacit and undefended claim construction is incorrect. Nevertheless, Patent Owner offers the following analysis of the intrinsic evidence if only to underscore dispositive legal deficiencies of the Petition.

With reference to FIG. 4, the ’614 patent describes the “buffer information report” as being generated (at step 102) by the relay node based on a buffer report format used by at least one user station. Ex. 1001, 7:12–14. Such generation—by the relay node—of new buffer information in a buffer report format is readily distinguishable, for example, from the relay node merely forwarding on a separately described buffer status report (BSR) generated at a user station/equipment. Indeed, nowhere does the ’614 patent equate its “buffer information report” (a term newly coined by the ’614 patent) with a BSR generated by a user station/equipment. On the contrary, the ’614 patent makes the distinction explicit by defining a BSR (a term the patentee opted to not recite in the claims) as “[t]he particular reports generated and sent in the uplink to the serving base station *by the user equipment.*” Ex. 1001, 2:30–32 (emphasis added).

The ’614 patent defines the claimed “buffer information report” not only in terms of *where* it is generated and *how*, but also in terms of *what* it must contain. The ’614 consistently and repeatedly qualifies the “buffer information report” as at least containing information relating to user station buffering *capabilities* in terms of buffer size available at the user station/equipment. *See, e.g., id.*, 4:10–11; 6:56–60; 7:15–25. This qualification is consistent with other claim limitations in which

the relay node communicates to the system station that the relay node “has different buffering capabilities than the user station.” *See, e.g.*, 10:62–63 (claim 1); 11:21–22 (claim 6); 11:60–61 (claim 12); 12:11–12 (claim 13); 12:51–52 (claim 18). The qualification is also consistent with certain dependent claims, including those which recite that the claimed “indication” defines buffer capabilities of the relay node as a function of the buffer size of the user equipment (as indicated in the buffer information report) and the buffer extension factor. *See, e.g.*, 11:1–6 (claim 3); 11:40–45 (claim 9).

As explained further below, the Petition premises all its obviousness theories on an overbroad and undefended interpretation of the “buffer information report” claim term, without providing any explanation as to how Petitioner’s interpretation allegedly comports with and is supported by the intrinsic evidence. Petitioner’s deficiency in this respect provides an independent and fully dispositive basis to deny institution.

VI. PETITIONER HAS NOT MET ITS THRESHOLD BURDEN

Petitioner has the burden of proof to establish entitlement to relief. “Review shall not be instituted unless the Board decides that the information presented in the petition demonstrates that there is a reasonable likelihood that at least one of the claims challenged in the petition is unpatentable.” 37 CFR § 42.108(c). The Petition should be denied as failing to meet this threshold evidentiary burden for institution.

Of the claims challenged in the Petition, only claims 1, 6, 7, 12, 13, and 18 are written in independent form. The Petition purports to present the following

grounds of purported invalidity based solely on redundant theories of obviousness under 35 U.S.C. § 103:

Ground	References	Challenged Claims
1	Chun	1, 2, 4–5
2	Chun, Kovacs	6–8, 10–14, 16, 18, 19, 21, 23, 24
3	Chun, Kovacs, Sammour	17, 22
4	Chun, Yang	3, 9
5	Chun, Kovacs, Yang	15, 20
6	Yang	1–4, 7–10
7	Yang, Kovacs	6, 12–16, 18–21, 23–24
8	Yang, Kovacs, Sammour	17, 22

A. Chun has not been shown to render obvious the “buffer information report” limitations

All claims challenged in the Petition recite limitations directed to a “buffer information report” element. For example, claim 1 recites “sending a buffer information report to a system station from a node for relaying communications between at least one user station and the system station, the report being generated based on a report format used for uplink reporting by a user station.” The other independent claims all recite analogous limitations introducing the same “buffer information report” term. See Ex. 1001, 11:15–19 (claim 6), 11:30–28 (claim 7), 11:54–58 (claim 12), 12:5–9 (claim 13), and 12:45–49 (claim 18). In each instance,

the “buffer information report” is transmitted from a relay node (recited as “a node for relaying communications between at least one user station and [a/the] system station”) to a system station, with certain claims reciting limitations from the perspective of the relay node transmitting the “buffer information report” and other claims reciting limitations from the perspective of the system station receiving the same.

As the term itself plainly expresses, the “buffer information report” contains information reporting on buffer capabilities. *See* § V.C, *supra*. It is clear from the teachings of the ’614 patent and from the context of the claims that the “buffer information report” does not refer to the buffer capabilities of the *system station*, as it would serve no purpose for the relay node to report this information to the system station. *Id.* The sole theory of the Petition, however, points to a paragraph in Chun describing the buffer status of a component Petitioner alleges is the claimed system station.

For the claim 1 limitation, “sending a buffer information report to a system station from a node for relaying communications between at least one user station and the system station . . . ,” the Petition mischaracterizes Chun as follows: “[i]nformation used by BSRs form [sic]³ terminals is described as ‘an amount of data stored in the buffer.’” Pet. 20 (citing Ex. 1005, ¶85). Petitioner fails to elaborate on which element in Chun contains the buffer being described on the cited passage of Chun. This omission was perhaps deliberate.

³ It is assumed “form” is a clerical error in this context and was meant to be “from.”

The cited paragraph of Chun makes plain at the outset that it is describing what the relay node (RN) receives from the donor eNB (DeNB): “[a]ccording to the present invention, the RN may *receive data from* the DeNB, and may relay it to the terminal.” Ex. 1005, ¶ 85 (emphasis added). The remainder of paragraph 85 of Chun addresses this same direction of communication from the DeNB to the RN, and is reproduced below for ease of reference:

In this case, if the DeNB transmits an exceed [sic] amount of data to the RN within a short period of time, this may cause a serious problem for a management of the memory in the RN. Therefore, according to the present invention, information indicating an amount of transmitting data from the DeNB, may be notified to the RN. Further, information indicating an amount of data stored in the buffer, may also be notified to the RN. In addition, any of [the] information described above may also be notified to the RN by the DeNB such that an appropriate amount of memory or buffer in the RN can be allocated.

Id. As shown above, the statement “information indicating an amount of data stored in the buffer” (*id.*) plainly pertains to a notification of the DeNB to the RN concerning an amount of data presently stored in a *buffer of the DeNB*. *Id.* The RN uses this information to allocate an appropriate amount of memory/buffer in the RN for *receiving* all the data presently being buffered in the DeNB in preparation for transmission of the same by the DeNB *to the RN*.

Accordingly, there is no merit to Petitioner’s undefended attorney argument, offered without citation to any allegedly supportive expert testimony, that Chun’s

reference to “an amount of data stored in the buffer” (*id.*) pertains to an amount of data stored *in the buffer of end-user terminals* opposite the RN from the DeNB. *Cf.* Pet. 20 (citing Ex. 1005, ¶85). Nor can there be any reasonable dispute that the cited description of Chun concerns communications *from* the DeNB *to* the RN and thus is plainly distinguishable from the claim language in question: “sending a buffer information report to a system station from a node for relaying communications between at least one user station and the system station.”

Petitioner also fails to defend its tacit claim interpretation that the term “buffer information report” encompasses reporting an amount of actual data presently stored in buffer, much less an amount of data presently stored in a buffer of Chun’s DeNB (which Petitioner relies on as allegedly satisfying the “system station” element). The “buffer information report” term is recited in the claims and described in the ’614 patent in the context of *buffer capabilities*—i.e., the maximum amount of data that may be buffered. *See, e.g.,* Ex. 1001, 7:11–41; 11:1–6. Consistent with the written description, the claims of the ’614 patent recite the “buffer information report” in the context of being sent from and generated by a relay node. Petitioner appears to concede the point. *See* Pet. 16–17 n. 2. Thus, the “buffer information report” limitations are plainly distinguishable from a notification from a DeNB to an RN indicating an actual amount of data presently being buffered by the DeNB in preparation for transmission to the RN. *See* Ex. 1005, ¶85.

While Ground 2 of the Petition purports to rely on Kovacs in combination with Chun in raising challenges to independent claims 6, 7, 12, 13 and 18, the

Petition does not rely on Kovacs for the above-referenced “buffer information report” limitations. In addressing independent claim 6, for example, the Petition asserts “Chun discloses the function of [6A] as explained for [1A] (Section V.A.2).” Pet. 28. The Petition cites Kovacs only as allegedly disclosing the corresponding structure Petitioner had identified. *Id.*

Accordingly, for each of the reasons discussed herein, and for the additional reasons concerning Petitioner’s failure to establish Chun qualifies as prior art (§ IV, *supra*), Grounds 1 and 2 of the Petition should be denied as failing to meet Petitioner’s threshold evidentiary burden.

B. Yang has not been shown to render obvious the “indication” limitations

Among other deficiencies, Petitioner failed to establish it is more likely than not that the cited portions of Yang would have rendered obvious the “indication” limitations. Claim 1 recites certain “indication” limitations (in what the Petitioner refers to as limitation [1c]) as follows: “sending an indication to the system station that the node for relaying has different buffering capabilities than the user station.” Note that the claim language requires an indication concerning the relative difference in “buffering capabilities” between the “user station” and the “node for relaying.”

According to Petitioner, Yang discloses limitation [1c] ostensibly because Yang discloses its relay node transmits an expected consumption or fill rate for the relay node; and Petitioner alleges this rate allegedly “provides an indication of different capabilities that the donor eNB uses to compute the expected time to buffer

starvation.” Pet. 58 (citing Ex. 1008, ¶58 and Ex. 1003, 168). Notably absent from Petitioner’s bald assertion (repeated verbatim in the attached declaration without any explanatory underpinning) is any reference to a relative comparison of the buffering capabilities of a relay node vis-à-vis a user station, as required by limitation [1c]. Nor does Petitioner’s analysis of limitation [1c] cite to any passage of Yang as allegedly disclosing the buffering capabilities of a user station, so as to facilitate such a comparative indication.

Petitioner cites to its analysis for limitation [1c], or simply repeats the same analysis, in addressing what Petitioner characterizes as similar claim language recited in the other independent claims challenged in the Petition. See Pet. 68 (claim 6), 71–72 (claim 12), 74 (claim 13), 76 (claim 18). Petitioner’s challenge of the remainder of independent claims based on Yang is thus tainted by deficiencies analogous to those addressed above. The Petition does not purport to rely on any other cited reference in combination with Yang in addressing the “indication” limitations recited in the independent claims (and hence all claims challenged in the Petition).

Accordingly, for each of the additional reasons discussed above, the Petition is deficient and should be denied.

C. Yang has not been shown to render obvious the “buffer information report” limitations

Petitioner also failed at least to establish that Yang (either alone or in combination with the other identified references) would have rendered obvious the “buffer information report” limitations, including at least the claim language

referenced in the Petition as limitation [1a] (“sending a buffer information report to a system station from a node for relaying communications between at least one user station and the system station.”). In addressing limitation [1a], the Petition points to Yang’s so-called “buffer status information” and reproduces partial quotations from Yang concerning the same, without offering any accompanying argument and without citing any allegedly supportive expert testimony. Pet. 55 (citing Ex. 1008, 52). Petitioner’s bald reliance on Yang is deficient on its face.

At best, Petitioner’s partial quotations of Yang describe a distinguishable “buffer status information” that indicates the *amount* of data presently being buffered by the *relay node*. Ex. 1008, ¶¶ 52, 55 (“two-bits of information may be used to indicate the status of the buffer, with ‘00’ indicating that the buffer is empty, ‘01’ indicating that the buffer is almost empty (e.g., less than 15 percent filled), ‘10’ indicating that the buffer is almost filled (e.g., more than 85 percent filled), and ‘11’ indicating that the buffer is filled.”). Petitioner failed to defend its tacit claim construction that the “buffer information report” term encompasses reporting on the present *amount* of data being buffered by a *relay node buffer*.

By contrast, the ’614 patent qualifies its “buffer information report” (a term newly coined by the ’614 patent) as necessarily indicating buffer capabilities of the user station/equipment. *See* § V.C, *supra*. To be clear, in the context of the ’614 patent, buffering capabilities refers to the maximum amount of data that can be buffered, not an actual amount of data that is currently being buffered. *Id.* It follows that Petitioner failed to establish the claimed buffering *capabilities* of a *user*

station/equipment, as necessarily indicated in a “buffer information report,” is rendered obvious by Yang’s plainly distinguishable indication of the amount of data presently being buffered by a relay node. Id.

Accordingly, for each of the reasons discussed above, the Petition is deficient on the merits and should be denied.

D. Petitioner’s challenges of the dependent claims are all tainted by its deficient challenges of the independent claims.

Because Petitioner has failed to meet its burden to prove a reasonable likelihood that any challenged independent claim would have been obvious, Petitioner likewise has failed to establish a reasonable likelihood that any challenged dependent claim is unpatentable.

VII. CONCLUSION

For the foregoing reasons, Patent Owner respectfully requests that the Petition be denied in its entirety as failing to establish the primary cited references qualify as prior art and, further, by failing to establish a reasonable likelihood that at least one of the claims challenged is unpatentable.

Date: July 12, 2023

Respectfully submitted,

By: / Brett Mangrum /
Brett A. Mangrum (Reg. No. 64,783)
Sean Burdick (Reg. No. 51,513)
brett@mangrumlawgroup.com
sean@burdickpatents.com
Counsel for Patent Owner

CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(d), I certify that this Preliminary Response to Petition complies with the type-volume limitation of 37 C.F.R. § 42.24(b)(1) because it contains fewer than the limit of 14,000 words, as determined by the word-processing program used to prepare the brief, excluding the parts of the brief exempted by 37 C.F.R. § 42.24(a)(1).

Date: July 12, 2023

Respectfully submitted,

By: / Brett Mangrum /
Brett A. Mangrum (Reg. No. 64,783)
Sean Burdick (Reg. No. 51,513)
brett@mangrumlawgroup.com
sean@burdickpatents.com
Counsel for Patent Owner

CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. §§ 42.6(e), I certify that I caused to be served an electronic copy of the foregoing Patent Owner's Preliminary Response, along with any accompanying exhibits filed via the PTAB E2E system, to Petitioner's counsel at the following addresses identified in the Petition's consent to electronic service:

Lead Counsel

Lionel Lavenue (Reg. No. 46,859)

lionel.lavenue@finnegan.com

Finnegan, Henderson, Farabow, Garrett & Dunner, LLP

Backup Counsel

Kara A. Specht (Reg. No. 69,560); kara.specht@finnegan.com

Bradford C. Schulz (Reg. No. 75,006); bradford.schulz@finnegan.com

R. Maxwell Mauldin (Reg. No. 78,626); r.maxwell.mauldin@finnegan.com

Date: July 12, 2023

Respectfully submitted,

By: / Brett Mangrum /

Brett A. Mangrum (Reg. No. 64,783)

Sean Burdick (Reg. No. 51,513)

brett@mangrumlawgroup.com

sean@burdickpatents.com

Counsel for Patent Owner