

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

COMMSCOPE TECHNOLOGIES LLC,
Petitioner,

v.

DALI WIRELESS, INC.,
Patent Owner.

IPR2023-00466
Patent 9,197,358 B2

Before KARL D. EASTHOM, BARBARA A. BENOIT, and
SHARON FENICK, *Administrative Patent Judges*.

FENICK, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

A. *Background and Summary*

CommScope Technologies LLC (“Petitioner”) filed a Petition (Paper 2, “Pet.”) requesting institution of *inter partes* review of claims 7–9, 11, 15, 17, 18, 20, and 21 (“the challenged claims”) of U.S. Patent No. 9,197,358 B2 (Ex. 1001, “the ’358 patent”). Dali Wireless, Inc. (“Patent Owner”) filed a Preliminary Response (Paper 6, “Prelim. Resp.”).

An *inter partes* review may be instituted only if “the information presented in the petition . . . and any [preliminary] response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a) (2018). For the reasons below, Petitioner has established a reasonable likelihood that it would prevail in showing the unpatentability of at least one of the challenged claims. Accordingly, we institute an *inter partes* review of the challenged claims on all grounds raised in the Petition.

B. *Real Parties in Interest*

Petitioner identifies CommScope Technologies LLC, CommScope, Inc. of North Carolina, CommScope, Inc, and CommScope Holding Company, Inc. as real parties in interest. Pet. 1.

Patent Owner identifies only itself as a real party in interest. Paper 3 (Patent Owner’s Mandatory Notices), 1.

C. *Related Matters*

Petitioner and Patent Owner each identify as related matters the following district court cases: *Dali Wireless, Inc. v. AT&T Corp.*, 2:22-cv-12 (E.D. Tex.); *Dali Wireless, Inc. v. T-Mobile US, Inc.*, 2:22-cv-414 (E.D. Tex.) (together with the previous case, “the Eastern District of Texas cases”); and *Dali Wireless, Inc. v. Corning Optical Communications LLC*,

No. 20-cv-6469-EMC (N.D. Cal.) (transferred from W.D.N.C. where it was No. 3-19-cv-00714) (“the Northern District of California case”). Pet. 1–2; Paper 3, 1.

Petitioner additionally identifies an *inter partes* review petition (IPR2021-00492) (“the prior IPR”) that challenged the ’358 patent. Pet. 2; Exhibits 1023–1025.

D. The ’358 Patent

The ’358 patent, titled “Method and System for Soft Frequency Reuse in a Distributed Antenna System,” describes using soft frequency reuse (SFR) or fractional frequency reuse (FFR) techniques in a Distributed Antenna System (DAS) as part of a distributed wireless network. Ex. 1001, codes (54), (57), 1:39–47. In one embodiment, the ’358 patent describes a method for “routing and switching operator RF signals” via Digital Remote Units (DRUs), which are remote antenna units geographically distributed to be physically close to wireless subscribers, in order to reduce access distance, and cover dead spots in wireless communications systems. *Id.* at 1:27–29, 1:50–57, 2:59, 6:53–59. These DRUs are in communication with one or more Digital Access Units (DAUs), which may be themselves coupled to Base Transceiver Stations (BTS). *Id.* at 1:55–57, 2:59–63, 11:51–64. The DRUs of the DAS may be separated into geographically separate cells, with one or more DRUs providing service in each cell. *Id.* at 9:42–51, 10:57–59.

In order to mitigate inter-cell interference for users near the cell boundaries, frequency reuse techniques are combined with DAS techniques; these frequency reuse techniques “effectively reduce inter-cell interference by geographically spacing . . . competing transmissions farther apart, which benefits users near the cell boundaries.” *Id.* at 5:49–54, 6:49–52, 7:3–9:4,

Figs. 1A–1F. For example, in an FFR scheme, the bandwidth is split into an inner and outer region, with coverage for the central portion of each cell provided by the same region of the bandwidth, and the spectrum allocated to the outer regions divided among the different cells, with coverage for peripheral portions of a cell provided by a fraction of the outer region portion of the bandwidth. *Id.* at 7:32–50, 19:23–20:7, Figs. 1B, 1E, 9.

Figure 1B, reproduced below, illustrates fractional frequency use in three cells according to the invention. *Id.* at 4:66–67, 7:38–40.

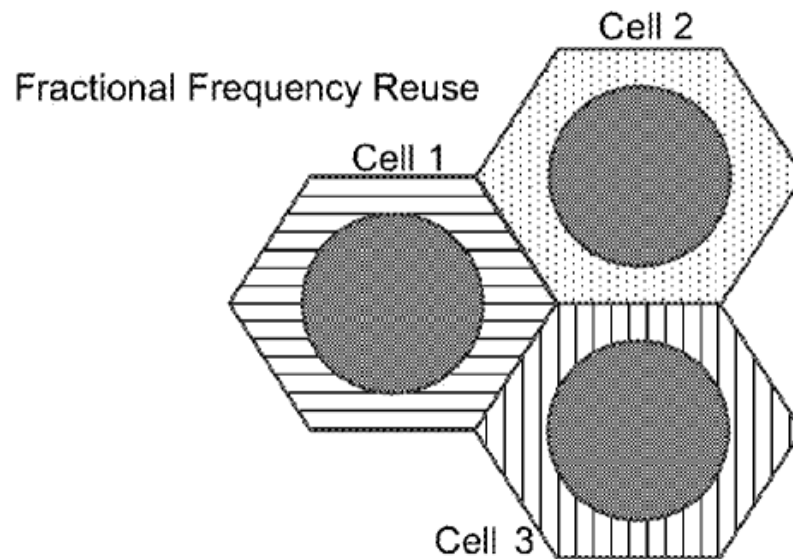


FIG. 1B

Figure 1B illustrates three hexagonal cells, each pair of the cells sharing an edge and all three cells sharing a corner, and shows an inner region (circular) in each cell. The spectrum allocated to the inner regions of the cells is completely reused in each cell, and the spectrum allocated to the outer regions of the cells is divided among the three cells. *Id.* at 7:40–46.

In an SFR scheme, coverage in the central portion of a cell is provided by all frequencies in the allocated frequency spectrum, while coverage over peripheral portions of the cell is provided only by a portion of the frequency spectrum. *Id.* at 7:51–8:44, 18:48–19:8, Figs. 1C, 1F, 8.

To provide this coverage, where one DRU is used for each cell, the DRU transmits at a first level for the portion of the frequency spectrum that covers only the central portion of a cell, and at a higher power level for the portion of the frequency spectrum that covers both the central and the peripheral portions of the cell. *Id.* at 7:57–61, 8:1–12, 10:56–59, 11:16–32. To mitigate inter-cell interference, in different cells the frequencies transmitted at higher power are grouped into subbands with little or no overlap between the subbands. *Id.* at 7:61–65, 8:23–32, 8:34–44, Fig. 1F. “Thus, at the intersections between cells, since different portions of the available frequency band are being utilized, interference is reduced.” *Id.* at 8:32–34.

Figure 1F of the '358 patent, reproduced below with annotations in color, illustrates the transmit/receive power as a function of frequency according to SFR:

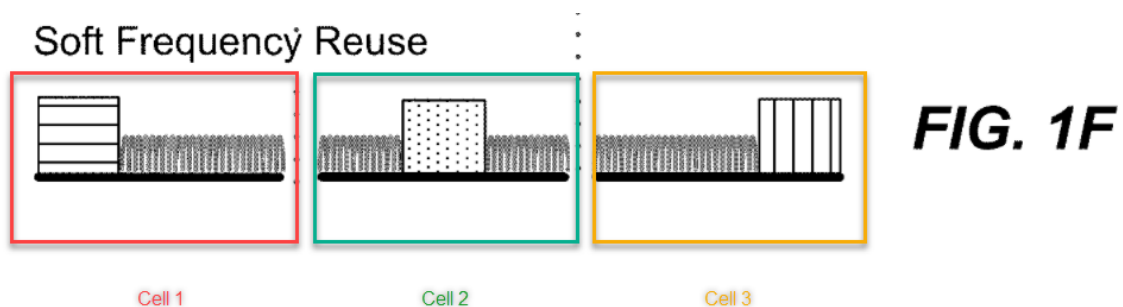


Figure 1F illustrates the use of the same frequency spectrum across three different cells. *Id.* at 5:7–9, 8:26–32. In a first cell, as illustrated at the left in the red box, the first part of the spectrum, approximately one-third of the

spectrum (shaded with horizontal lines), is transmitted at a higher power, while the remaining two-thirds is transmitted at a lower power. *Id.* at 8:26–32, Fig. 1F. In the second cell, as illustrated in the center in the green box, a different portion of the spectrum is transmitted at a higher power (shaded with dots), and in the third cell, as illustrated at right in the orange box, a third portion of the spectrum (shaded with vertical lines) is transmitted at a higher power. *Id.* Thus, areas reached by only the higher power transmissions, at the edge of the cells will have less inter-cell interference, as no adjoining areas of two cells are covered by the same portion of the frequency spectrum at the higher transmission power. *Id.* at 8:32–34. This is illustrated in Figure 1C, reproduced below:

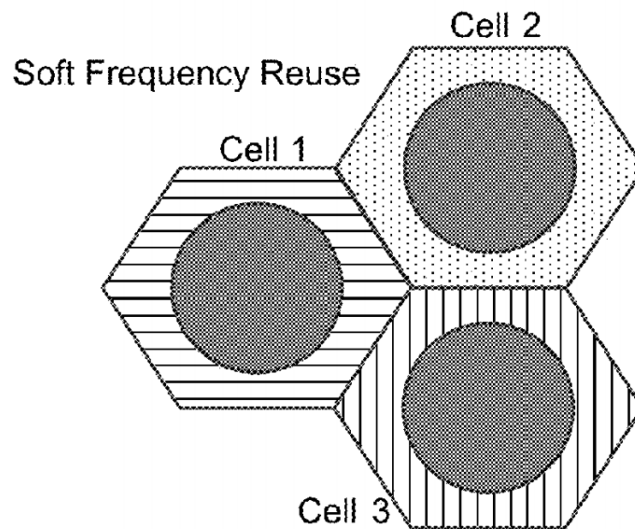


FIG. 1C

“Figure 1C illustrates the power and frequency assignments in the different cells of a system with SFR for a reuse factor of 3.” *Id.* at 7:55–57. As can be seen in Figures 1C and 1F, the peripheral portions of the different cells are covered by different portions of the frequency spectrum, shaded to correspond with Figure 1F. *Id.* at 8:1–9.

E. Illustrative Claims

Of the challenged claims, claims 7 and 15 are independent. Claims 7 and 15, reproduced below with bracketed identifiers added as used by Petitioner, are illustrative.

7. [7A] A method of distributing communications frequencies, the method providing:

[7B] providing a set of communications units;

[7C] transmitting and receiving, from a first communications unit of the set of communications units:

a first set of frequencies characterized by a first frequency band and a first geographic footprint; and

a second set of frequencies characterized by a second frequency band different from the first frequency band and a second geographic footprint larger than and at least partially surrounding the first geographic footprint; and

[7D] transmitting, and receiving, from a second communications unit of the set of communications units:

a third set of frequencies including one or more frequencies in the first frequency band and a third geographical footprint; and

a fourth set of frequencies including one or more frequencies in a third frequency band and a fourth geographical footprint larger than and at least partially surrounding the third geographical footprint.

15. [15A] A communications system comprising:

[15B] a host unit;

[15C] a first communications unit coupled to the host unit and operable to transmit and receive communications using a first set of frequencies in a first frequency range and associated

with a first geographical footprint and a second set of frequencies in a second frequency range and associated with a second geographical footprint larger than the first geographical footprint; and

[15D] a second communications unit coupled to the host unit and operable to transmit and receive communications using one or more of the first set of frequencies in a region associated with a third geographical footprint and a third set of frequencies in a third frequency range and associated with a fourth geographical footprint larger than the third geographical footprint.

Ex. 1001, 21:54–22:7, 22:35–50.

F. Prior Art and Asserted Grounds

Petitioner raises the following grounds of unpatentability with respect to the challenged claims:

Claim(s) Challenged	35 U.S.C. §¹	Reference(s)/Basis
7– 9, 11	102	Xu ²
8, 15, 20, 21	103	Xu, alone or in combination with Schwartz ³
17, 18	103	Xu, Schwartz, Huawei ⁴

¹ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 287–88 (2011), amended 35 U.S.C. §§ 102, 103. Because the effective filing date for the claims of the ’358 patent appears to be before the effective date of the applicable AIA amendment, we refer to the pre-AIA version of these statutes. *See* Ex. 1001, code (60) (provisional application filing date of May 18, 2012). Our institution determination would not change under the post-AIA version of these statutes.

² Xu, X., Zhang, R., Ghafoor, S.A., & Hanzo, L., Imperfect Digital-Fiber-Optic-Link-Based Cooperative Distributed Antennas With Fractional Frequency Reuse in Multicell Multiuser Networks, 60 IEEE TRANS. VEHICULAR TECH., 4439–4449 (2011) (Ex. 1005).

³ Schwartz et al., US 6,353,600 B1 (iss. Mar. 5, 2002) (Ex. 1008).

⁴ 3GPP, TSG-RAN R1-050841, “Further Analysis of Soft Frequency Reuse Scheme” (Ex. 1006).

Claim(s) Challenged	35 U.S.C. § ¹	Reference(s)/Basis
7, 9, 11	102	Ericsson ⁵
7–9, 11, 15, 17, 18, 20, 21	103	Ericsson, alone or in combination with Schwartz
7–9, 11, 15, 17, 18, 20, 21	103	Ericsson, Stratford ⁶
7–9, 11, 15, 17, 18, 20, 21	103	Stratford, Ericsson

Pet. 1.

II. ANALYSIS

A. Legal Standards

“In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)). This burden never shifts to Patent Owner. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (citing *Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1326–1327 (Fed. Cir. 2008)) (discussing the burden of proof in *inter partes* review). Furthermore, Petitioner must explain with particularity how the prior art would have rendered the challenged claims unpatentable. 35 U.S.C. § 312(a)(3); 37 C.F.R. § 42.104(b)(4) (2023) (“The petition must specify where each element of the claim is found in the prior art patents or printed publications relied upon.”).

⁵ 3GPP, TSG_RAN R1-050764, “Inter-cell Interference Handling for E-UTRA” (Ex. 1007).

⁶ Stratford et al., US 6,785,558 B1 (iss. Aug. 31, 2004) (Ex. 1009).

To establish anticipation, each and every element in a claim, arranged as recited in the claim, must be found in a single prior art reference. *See Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1369 (Fed. Cir. 2008); *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1383 (Fed. Cir. 2001). Although the elements must be arranged or combined in the same way as in the claim, “the reference need not satisfy an *ipsissimis verbis* test,” i.e., identity of terminology is not required. *In re Gleave*, 560 F.3d 1331, 1334 (Fed. Cir. 2009); *accord In re Bond*, 910 F.2d 831, 832 (Fed. Cir. 1990).

A claim is unpatentable under 35 U.S.C. § 103 if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) when presented, objective indicia relating to obviousness.⁷ *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

Additionally, the obviousness inquiry typically requires an analysis of “whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR*, 550 U.S. at 418 (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) (requiring “articulated

⁷ The record at this point contains no contentions regarding such objective indicia relating to obviousness.

reasoning with some rational underpinning to support the legal conclusion of obviousness’’)). Petitioner cannot satisfy its burden of proving obviousness by employing “mere conclusory statements,” but “must instead articulate specific reasoning, based on evidence of record, to support the legal conclusion of obviousness.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016).

B. Level of Ordinary Skill in the Art

Petitioner argues that:

A person of ordinary skill in the art (“POSA”) would have had a bachelor’s degree in electrical engineering and a minimum of 3-4 years of industry experience in wireless communications networks and engineering, including some knowledge of or experience with distributed antenna systems. An individual with a master’s degree in electrical engineering would require less industry experience (e.g., 1-2 years).

Pet. 19 (citing Ex. 1003 (Declaration of Dr. Anthony Acampora) ¶ 24). Patent Owner proposes substantially the same level of skill, but does not require the industry experience in wireless communications networks and engineering to include “some knowledge of or experience with [distributed antenna systems].” Prelim. Resp. 8–9 (citing Ex. 2001 (Declaration of Dr. Daniel Foty) ¶ 13); Ex. 1025, 9–10).

For purposes of this Decision, we apply Petitioner’s definition of the level of ordinary skill in the art. Our decision would not be different if we adopted Patent Owner’s proposed level of skill.

C. Claim Construction

We construe claim terms according to the standard set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–1317 (Fed. Cir. 2005) (en banc), i.e., as construed in a civil action under 35 U.S.C. § 282(b). *See* 37 C.F.R. § 42.100(b). Under *Phillips*, claim terms are afforded “their ordinary and

customary meaning.” *Phillips*, 415 F.3d at 1312. “[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention.” *Phillips*, 415 F.3d at 1313. “Importantly, the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.” *Phillips*, 415 F.3d at 1313. An inventor may rebut that presumption by providing a definition of the term in the specification “with reasonable clarity, deliberateness, and precision.” *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994). In the absence of such a definition, limitations are not to be read from the specification into the claims. *In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993).

1. “communications unit[s]”

The method of claim 7 includes the step of “providing *a set of communications units*” and recites “transmitting and receiving” sets of frequencies “from *a first communications unit of the set of communications units*” and “from *a second communications unit of the set of communications units*.” Ex. 1001, 21:54–22:7 (emphasis added). Similarly, the communications system of claim 15 comprises a host unit, “*a first communications unit coupled to the host unit*,” and “*a second communications unit coupled to the host unit*.” *Id.* at 22:35–50 (emphasis added). Dependent claims 8, 9, and 11 additionally contain recitations regarding “communications unit[s].” *Id.* at 22:8–12, 22:17–19. The parties differ on the proper construction of “communications unit[s]” in the challenged claims.

Petitioner argues that the term “communications unit” should be understood to encompass “multiple separate remote antenna units or DRUs.”

Pet. 18–19. Petitioner cites the ’358 patent specification describing that “[t]he first communications unit can include a central DRU and a plurality of peripheral DRUs disposed adjacent [to] the central DRU.” *Id.* at 18–19 (quoting Ex. 1001, 3:43–46). Petitioner cites additional portions of the ’358 patent specification that describe that the first or second communications unit “can include” a plurality of DRUs. *Id.* (quoting Ex. 1001, 4:29–30, 4:43–46). Petitioner additionally cites portions of the ’358 patent specification describing that the cells it describes may be served by more than one antenna or DRU. *Id.* (citing Ex. 1001, 5:49–60, 9:48–59, 10:43–49).

Patent Owner contends that Petitioner fails to advance a rationale for its proposed claim construction, and that the claims require that only one “remote unit” or DRU be included in any recited “communication unit.” Prelim. Resp. 9–12. Patent Owner argues that claims such as claim 8, which recites that a “set of communications units includes a plurality of remote units in communication with a host unit,” “make clear” that a communication unit is analogous to a single remote unit. *Id.* at 10–11 (citing claims 7, 8, and 15 of the ’358 patent). Patent Owner additionally asserts that claim 16 “recites that [the first and second] communications units are each a single DRU.” *Id.* at 11. Patent Owner additionally argues that allowing a frequency “transmitt[ed] . . . from a first communication[s] unit” to be transmitted by multiple units (antenna units or DRUs, per Petitioner’s construction) “contravenes the claim’s plain language.” *Id.* at 11–12. Patent Owner asserts that “[t]he claims state that [the] frequencies must be provided from *one* radio unit” and cites its declarant. *Id.* at 11 (citing Ex. 2001 ¶ 113). However, this does not appear to be supported by testimony from Dr. Foty, and this portion of the declaration states only that a single

communications unit is recited in the claims as creating and managing two separate sets of frequencies, and, in a conclusory fashion that the use of multiple antennae per cell “is facially not the same thing as the single communications unit.” Ex. 2001 ¶¶ 111–115.

Although Patent Owner acknowledges that the specification describes embodiments where cells utilize more than one DRU, Patent Owner asserts that each claim need not read on every embodiment and that, in this case, only the single DRU embodiment is intended. *Id.* at 12. Patent Owner additionally argues that this is consistent with a decision in the prior IPR. *Id.* at 9–10.

On the present record and for the purpose of this Decision, we agree with Petitioner that the proper construction of “communications unit” encompasses multiple DRUs or antenna units. Although Patent Owner is correct that not every embodiment needs to be reflected in every claim, and indeed, some embodiments may not appear in any claim, we do not agree that there is evidence supporting Patent Owner’s argument that the construction of “communications unit” should be narrowed to the embodiment requiring only one DRU/antenna. The cited claims do not indicate that multiple units may not transmit at the sets of frequencies recited. Additionally, although Patent Owner cites claim 16 as requiring that each communications unit is a single DRU, if that were a correct reading of claim 16, it is not clear what the claim recitation would add, as it would not narrow the prior recitation of a “communications unit” from claim 15. Such interpretations are disfavored. *See Cat Tech LLC v. TubeMaster, Inc.*, 528 F.3d 871, 885 (Fed. Cir. 2008) (refusing to adopt a claim construction that would render a claim limitation meaningless); *Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 950 (Fed. Cir. 2006) (explaining that “claims are interpreted

with an eye toward giving effect to all terms in the claim”). Additionally, claim 16 uses the inclusive “comprises” in its recitations, which is an open-ended term and does not exclude the possibility of other DRUs in a communication unit. *See Genentech, Inc. v. Chiron Corp.*, 112 F.3d 495, 501 (Fed. Cir. 1997) (“‘Comprising’ is a term of art used in claim language which means that the named elements are essential, but other elements may be added and still form a construct within the scope of the claim.”).

Although Patent Owner argues inconsistency with a prior PTAB decision on the ’358 patent, that decision was based not on a determination that the claims necessarily require that a “communication unit” must include only one antenna, but rather with reference to assertions made by the petitioner in that proceeding regarding the operation of a single antenna from among many antennae in one cell. *Corning Optical Commc’ns LLC v. Dali Wireless Inc.*, IPR2021-00492, Paper 8 at 21–22 (PTAB September 7, 2021) (Decision Denying Institution) (Ex. 1025); *see also Corning Optical Commc’ns LLC v. Dali Wireless Inc.*, IPR2021-00492, Paper 14 at 10–11 (PTAB April 20, 2022) (Decision Denying Request for Rehearing) (“Our discussion of a single antenna per DRU in the Decision, therefore, merely reflected Petitioner’s contentions as presented in the Petition, not a claim construction.”) (emphasis added).

The specification of the ’358 patent specifically describes that a “first communications unit can include a first plurality of digital remote units and the second communications unit comprises a second plurality of digital remote units.” Ex. 1001, 4:43–46; *see id.* at 3:46–48. We agree with Petitioner that, in light of these statements and in the absence of any indication that the challenged claims relate only an embodiment in which a communications unit includes only one DRU or antenna unit, the proper

construction of the term “communications unit” encompasses more than one DRU or antenna unit.

Our determination is consistent the claim construction order that issued in the Eastern District of Texas cases on May 18, 2023 (after the Petition and Preliminary Response). *See* Ex. 1037, 13–14; 37 C.F.R. § 42.100(b) (“Any prior claim construction determination concerning a term of the claim in a civil action . . . that is timely made of record in the *inter partes* review proceeding will be considered.”).

Our determination is preliminary and for the purposes of this Decision; the parties may address it further in future briefing in accordance with our rules.

2. “[a] method of distributing communications frequencies” and “the first frequency band and the second frequency band”

Neither Petitioner nor Patent Owner explicitly requests the construction of any additional claims. However, certain arguments implicate claim construction.

Two claim construction orders have issued from district courts. In addition to the order in the Eastern District of Texas cases, referred to above (Ex. 1037), a claim construction order issued in the Northern District of California case (Ex. 1026).

The Northern District of California case claim construction order covers the terms “distributing communication frequencies” (recited in the preamble of claim 7) and “geographic footprint” (recited in challenged claims 7, 9, 11, 15). Ex. 1026, 35–41. The Eastern District of Texas cases claim construction order, in addition to addressing the term “communication unit,” also reaches conclusions regarding the term “distributing communications frequencies,” “geographic footprint,” “host unit” (recited in

claims 8 and 15), and “the first frequency band and the second frequency band” (recited in claim 20). Ex. 1037, 14–20. With respect to “distributing communications frequencies,” the claim construction order in the Eastern District of Texas cases reviews the conclusions of the Northern District of California case claim construction order and agrees with the reasoning and conclusion of that order. *Id.* at 14–17.

The Northern District of California case claim construction order concludes, regarding the preamble of claim 7, that the preamble is limiting and that “distributing” in the preamble “essentially implicates a DAS.” Ex. 1026, 38. Patent Owner does not request construction of this term, but presents arguments relating to certain grounds based on this construction. Prelim. Resp. 7, 31–32. As we institute on grounds that do not implicate this claim construction, we do not provide a construction in this Decision. *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (requiring construction of “only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy”); *see Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (applying to *inter partes* reviews). We note, however, that the parties may choose to address this in the course of the proceeding in accordance with our rules.

Additionally, with respect to claim 20, Petitioner argues that “the first frequency band” and “the second frequency band” recited in claim 20 lack antecedent bases and are indefinite. Pet. 42, 64. This issue was addressed in the Eastern District of Texas cases claim construction order that construed “the first frequency band and the second frequency band” as “the first frequency range and the second frequency range.” Ex. 1037, 19–20. For the purposes of this Decision, we agree with and adopt the reasoning and

conclusion of the Eastern District of Texas claim construction order. Again, this determination is preliminary and for the purposes of this Decision; the parties may address it further in future briefing in accordance with our rules.

3. *Additional Claim Construction*

At this point in the proceeding, no additional construction is necessary. *See Vivid Techs.*, 200 F.3d at 803.

D. *Claims 7–9 and 11 – Anticipation by Xu*

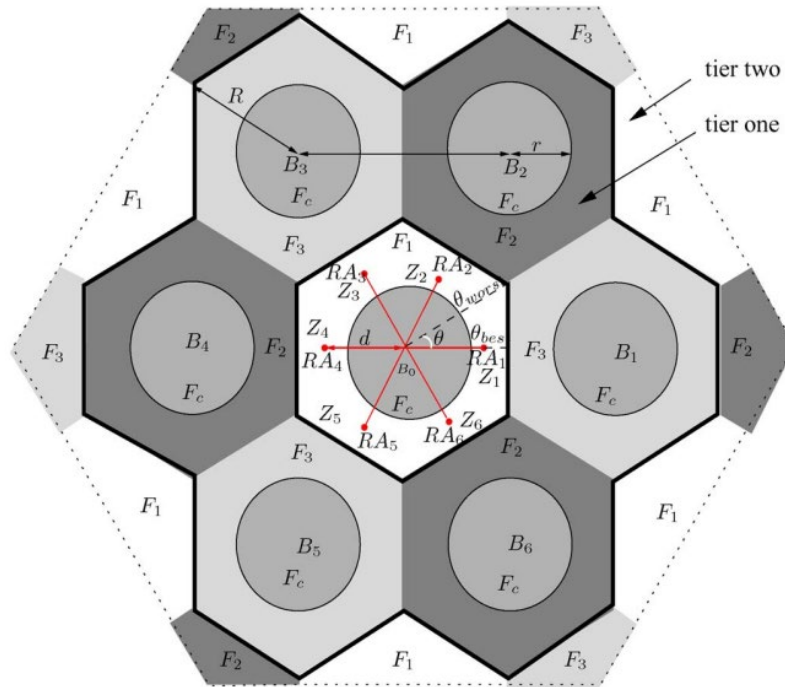
Petitioner argues that claims 7–9 and 11 are unpatentable as anticipated by Xu. Pet. 22–32. Patent Owner presents arguments that Xu does not teach or suggest the “communications units” recited in claim 7. Prelim. Resp. 23–26.

1. *Xu*

Xu is a paper that describes the use of the FFR technique in conjunction with a DAS operating in multiple cells with multiple users in order to improve performance at the edges of cells. Ex. 1005, 4439.⁸ Xu uses an example showing 19 hexagonal cells, stating as each assumed to have the same system configuration, shown in Figure 1, reproduced below.⁹ Ex. 1005, 4440.

⁸ We use the pagination in the original as opposed to the page numbers added in the exhibit.

⁹ We reproduce the figure from a separately-retrieved online version of the Xu reference, which is clearer than the version provided as Exhibit 1005. We have examined the reproduced figure and discern no differences between the reproduced figure and the version included in Exhibit 1005.



Xu's Figure 1 shows nineteen hexagonal cells relying on FFR in a DAS arrangement, with the center cell including remote antennae ("RA") RA₁ through RA₆ arranged around its periphery and a base station B₀ at its center. *Id.* Xu discloses that each cell has the same system configuration. *Id.* In a cell, the base station and the RAs each transmit. *Id.* at 4442. In each cell, the cell center is assigned frequency band F_c and the cell edge frequency band F_e. *Id.* at 4440. F_e is divided into three orthogonal frequency bands F_i, where *i* is 1, 2, or 3. *Id.* As shown in Figure 1, the edge of the center cell uses frequency F₁, while the six cells adjoining the center cell use edge frequencies F₂ or F₃, alternating around the center cell. *Id.* The 12 adjoining cells, shown only in part in Figure 1, are arranged so that no two cells with the same cell edge frequency band F_e abut one another. *Id.*

2. Claim 7

Without discussing whether the preamble of claim 7 is limiting, Petitioner argues that Xu discloses this preamble, as it discloses a method of

distributing communications frequencies. Pet. 23 (citing Ex. 1005, 4439, 4440, 4442; Ex. 1003 ¶ 150). Petitioner specifically argues that “[w]ithin each cell, Xu’s system transports wireless communications from a base station via a distributed antenna system (DAS) that implements a frequency reuse technique.” *Id.*

With reference to other grounds, Patent Owner presents certain arguments relying on the conclusion in the Northern District of California case claim construction order that the preamble of claim 7 is limiting and that “distributing” in the preamble “essentially implicates a DAS.” *Supra* § II.C.2. With respect to anticipation by Xu, Petitioner sufficiently shows for the purposes of institution that Xu discloses a method of distributing communications frequencies using a DAS, and thus if we were to find the preamble limiting and to agree that it implicates a DAS, Petitioner’s showing would be sufficient. Pet. 13, 22–23; Ex. 1003 ¶¶ 118–119.

For the first communications unit, Petitioner cites Xu’s cell that includes base station B₄ and six remote antennae, and for the second communications unit, Petitioner cites Xu’s cell including base station B₅ and six remote antennae. Pet. 24–27 (citing Ex. 1005, 4440; Ex. 1003 ¶¶ 149–153, 155–156). Petitioner argues that the seven antennae (including the base station antenna in each case) in each grouping transmit to user devices in the downlink direction and receive transmissions in the uplink direction. *Id.* at 26 (citing Ex. 1005, 4440; Ex. 1003 ¶ 157).

With respect to the sets of frequencies, Petitioner argues that the first set of frequencies and third set of frequencies recited in the claim are disclosed by the center cell frequency F_c, which is transmitted and received by the central antenna in each cell. Pet. 26–29 (citing Ex. 1003 ¶¶ 158, 164–166). In Xu, the radio coverage area of each central antenna in each cell

covers the central area of each respective cell and Petitioner argues that these areas disclose a first geographic footprint and a third geographic footprint. *Id.* Petitioner contends that the second set of frequencies is disclosed by the remote antennae arranged around the periphery of the cell including base station B₄, and that the second geographic footprint is the radio coverage area of these antennae. *Id.* at 26–27 (citing Ex. 1003 ¶¶ 159–160). Similarly, Petitioner argues that the fourth set of frequencies is disclosed by the remote antennae arranged around the periphery of the cell including base station B₅, and that the fourth geographic footprint is the radio coverage area of these antennae. *Id.* at 29 (citing Ex. 1003 ¶ 167). Petitioner argues that the central antenna transmits frequencies F_c in each cell, and thus that the third set of frequencies (F_c transmitted by the base station B₅) is disclosed as including frequencies in the first frequency band (F_c transmitted by base station B₄). *Id.* at 28–29 (citing Ex. 1003 ¶¶ 164–165). In each case, Petitioner argues that the geographic footprints of the transmission and reception of the remote antennae on the periphery is larger than and encompasses the geographic footprints of the transmission and reception of the central base station antennae, disclosing the recitations that the “second geographic footprint [is] larger than and at least partially surrounding the first geographic footprint” and the “fourth geographic footprint [is] larger than and at least partially surrounding the third geographic footprint.” *Id.* at 27, 29 (citing Ex. 1003 ¶¶ 160, 168).

Patent Owner argues that Xu does not anticipate claim 7 based on its claim construction position that a “communications unit” is limited to a single antenna unit. Prelim. Resp. 23–26 (citing Ex. 2001 ¶¶ 94, 114, 117). However, preliminarily and for the purposes of this Decision, we do not adopt this construction. *See supra* § II.C.1.

On the present record and for the purposes of institution, we determine that Petitioner shows that there is a reasonable likelihood that Petitioner would prevail in showing claim 7 of the '358 patent to be anticipated by Xu's disclosure of two cells in a DAS system that broadcast in a given frequency range in the center of each cell and in different frequency ranges at the periphery of the cells, as discussed above. Ex. 1005, 4439–42; Ex. 1003 ¶¶ 149–153, 155–160, 164–168.

3. *Claims 8, 9, and 11*

With respect to claim 8, requiring that “the set of communication units includes a plurality of remote units in communication with a host unit,” Petitioner argues that this is taught by Xu's disclosure that the base station (including host unit functionality) communicates with the RAs (remote units) via optical fiber. Pet. 30–31 (citing Ex. 1005, 4441 (Fig. 2); Ex. 1003 ¶¶ 171–172). With respect to claim 9, because the base station B₄ in Xu is included in the first geographic footprint (central area of the cell containing B₄), Petitioner argues Xu anticipates the claim 9 recitation that “the first geographic footprint includes a location of the first communications unit.” *Id.* at 31–32 (citing Ex. 1003 ¶ 175). And, in an argument similar to that provided with respect to claim 9, Petitioner argues that Xu anticipates claim 11's requirement that “the third geographical footprint includes a location of the second communications unit” because the base station B₅ in Xu is included in the third geographic footprint (central area of the cell containing B₅). *Id.* at 32 (citing Ex. 1003 ¶ 176).

Patent Owner does not present any additional arguments with respect to these contentions.

On the present record, and for purposes of institution, Petitioner has provided sufficient evidence to support its contention that claims 8, 9, and 11 are anticipated by Xu.

E. Claims 8, 15, 20, and 21 – Obviousness Over Xu or Xu and Schwartz

Petitioner argues that claims 8, 15, 20, and 21 would have been obvious over Xu alone or in combination with Schwartz. Pet. 33–43. Patent Owner contends Petitioner’s showing is flawed. Prelim. Resp. 27–28.

1. Schwartz

Schwartz is directed to a cellular network architecture in which resources are dynamically allocated to remote cells according to demand. Ex. 1008, codes (54), (57), 3:22–29. Schwartz describes conventional networks as including a base station at the center of each cell to serve cellular traffic. *Id.* at 1:17–20. Schwartz suggests placing base station units into a centralized base-station site. *Id.* at 3:22–29, 6:24–30, Fig. 2. These units transmit the traffic to the remote cells via cellular-distribution links that may be optical fibers. *Id.* at 6:24–41.

2. Analysis

With reference to claim 8, Petitioner argues that one of ordinary skill would have known advantages of a “base station hotel” located distant from the cell site and centralized, including decreased size of equipment at the cells and efficiency, and that such a host unit would have taught or suggested the limitation of claim 8. Pet. 33–35 (citing, *inter alia*, Ex. 1003 ¶¶ 178–180).

Petitioner additionally argues that one of ordinary skill would have been motivated to combine Xu’s cell system with Schwartz’s centralized base-station site with its collection of base stations. *Id.* at 35–37, 40 (citing, *inter alia*, Ex. 1008, 6:24–41, Fig. 2; Ex. 1003 ¶¶ 182–183, 186, 189).

Petitioner argues that one of ordinary skill would have done so in order to reduce costs, enhance capacity, and meet dynamic capacity needs. *Id.* at 36–38 (citing, *inter alia*, Ex. 1008, 1:16–67; Ex. 1003 ¶¶ 184–185, 188).

Petitioner argues that one of ordinary skill in the art would have found a reasonable expectation of success in the combination. *Id.* at 40–41 (citing Ex. 1003 ¶ 190).

With respect to claim 15, similar reasoning is provided regarding the obviousness of a common host unit, either based on Xu alone or based on the combination of Xu and Schwartz. *Id.* at 41–42 (citing Ex. 1003 ¶¶ 194–208).

With respect to claims 20 and 21, Petitioner argues that Xu discloses that the first frequency range (F_3 in Petitioner’s mapping to Xu) and the second frequency range (F_c in Xu) are disclosed as being contiguous, and because these frequency ranges and the third frequency range (F_2 in Xu) include distinct frequencies. Pet. 42–43 (citing Ex. 1003 ¶¶ 209–210).

Patent Owner repeats its claim-construction-based argument that each of Xu and Schwartz “fail to disclose or teach using two footprints with different frequencies *from the same antenna unit* as described by the claims.” Prelim. Resp. 27–28 (emphasis added).

On the present record, and for purposes of institution, Petitioner has provided sufficient evidence to support its contention that claims 8, 15, 20, and 21 would have been obvious over Xu in combination with Schwartz. Petitioner describes Schwartz’s teachings regarding co-locating base stations for different cells and provides sufficiently a description of the combination of these teachings with Xu, including sufficient motivation and expectation of success for the combination. With respect to obviousness over Xu alone, we do not determine at this time whether Petitioner has sufficiently

addressed the reasonable expectation of success of the proposed combination of a base station hotel located remotely from the cell sites. *See* Pet. 33–35; Ex. 1003 ¶¶ 178–180.

F. Claims 17 and 18 – Obviousness Over Xu, Schwartz, and Huawei

Petitioner argues that claims 17 and 18 would have been obvious over Xu, Schwartz, and Huawei. Pet. 43–47. Patent Owner contends that Huawei is not prior art and that Petitioner’s showing is flawed. Prelim. Resp. 22, 28–29.

1. Huawei

Huawei discusses a SFR plan and describes transmitting one set of sub-carriers (“minor sub-carriers group”) at a first power, and a second set of sub-carriers (“major sub-carriers group”) at a higher power. Ex. 1006, 1. Huawei describes that in this way the major sub-carriers can be used to cover the whole cell area, but the minor sub-carriers only are available in the inner part of the cell. *Id.* Huawei includes Figure 1, reproduced below, that shows cells shaded to indicate the coverage by major and minor sub-carriers. *Id.*

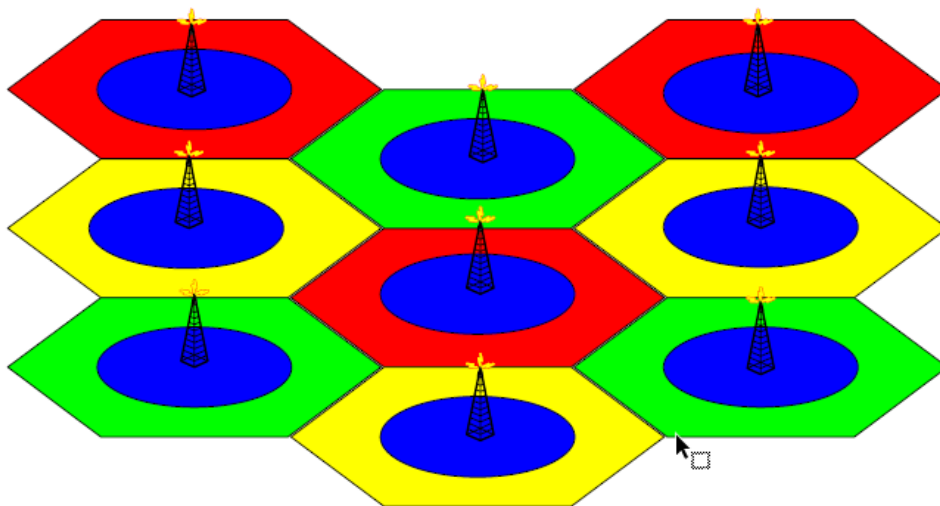


Figure 1, Cell deployment

As seen in Figure 1, cells are shown in a hexagonal layout, with major sub-carriers used in the whole cell area, with minor sub-carriers used in the inner part of the cell, shown as blue in Figure 1. *Id.* at 1–2.

2. *Status of Huawei as a Printed Publication*

Petitioner argues that Huawei was publicly available no later than August 25, 2005. Pet. 17. Petitioner cites Huawei itself and a declaration of Dr. Sylvia Hall-Ellis in support. *Id.* (citing Ex. 1006; Ex. 1022 ¶¶ 28, 66–69).

Huawei includes the legend “London, UK, August 29th – September 2nd 2005.” Ex. 1006, 1. Dr. Hall-Ellis testifies that she downloaded Huawei from the 3GPP working group website and that, as of May 18, 2012,¹⁰ one of ordinary skill would have known to consult the 3GPP organization’s website in “research, study, development, or design of systems using SMS and two-way messaging technologies.” Ex. 1022 ¶¶ 66–68. Dr. Hall-Ellis testifies that the 3GPP.org website was available to the public prior to the critical date, and that “persons interested [in] and ordinarily skilled in the subject matter or art exercising reasonable diligence” would have located Huawei “using the common search terms discussed above and/or reasonable diligence.” *Id.* ¶ 68. At this time, we do not see a reference to a discussion of “common search terms” in Dr. Hall-Ellis’ declaration. Dr. Hall-Ellis attaches as Attachment 3a to her declaration a draft agenda for the working group meeting including a reference to Ericsson. *Id.* ¶ 62, Attach. 3a (pp. 95–97).

¹⁰ Petitioner and Patent Owner each appear to treat this as the correct priority date for prior art analysis; it is the date of the provisional application included in a claim of priority in the ’358 patent. Pet. 2; Ex. 1003 ¶ 28; Prelim. Resp. 2; Ex. 2001 ¶¶ 14, 67, 87; Ex. 1001 code (60).

Patent Owner argues that Petitioner has failed to show that Huawei was publicly available before the priority date. Prelim. Resp. 17–19 (discussing public availability of Ericsson), 21–22 (describing Patent Owner’s arguments regarding Huawei as the same as those with respect to Ericsson), 28–29. Patent Owner asserts that “Petitioner’s expert relied on the 3GPP.org website being well-known to POSAs without further analysis” and that the arguments were improperly incorporated by reference. *Id.* at 17. Patent Owner argues that “being posted on a well-known website is not enough” because thousands of submissions to the 3GPP website are stored on a FTP (file transfer protocol) site but no search functionality is provided or available. *Id.* at 17–18 (citing Ex. 2001 ¶ 136¹¹), 22 (citing Ex. 2001 ¶ 132¹²). Patent Owner’s declarant noted that the “formal document title inclusion” “implies [that] it was apparently presented to the same working group (WG) associated with GPP; this working group met in London (UK) on August 29 – September 2, 2005.” Ex. 2001 ¶ 100.

As discussed, Petitioner has the ultimate burden of persuasion to prove unpatentability by a preponderance of the evidence, and this burden does not shift. *Dynamic Drinkware*, 800 F.3d at 1378–1379. Petitioner also bears the initial burden of production to establish the existence of prior art that renders the claims unpatentable. *Id.* “A reference will be considered publicly accessible if it was ‘disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art exercising reasonable diligence, can locate it.’” *Blue Calypso, LLC v. Groupon, Inc.*, 815 F.3d 1331, 1348 (Fed. Cir. 2016) (quoting *Kyocera*

¹¹ We assume that this is a typographical error for paragraph 135.

¹² We assume that this is a typographical error for paragraph 131.

Wireless Corp. v. Int’l Trade Comm’n, 545 F.3d 1340, 1350 (Fed. Cir. 2008). As explained by the Federal Circuit, a “determination of whether a reference is a ‘printed publication’ under 35 U.S.C. § 102(b) involves a case-by-case inquiry into the facts and circumstances surrounding the reference’s disclosure to members of the public.” *In re Klopfenstein*, 380 F.3d 1345, 1350 (Fed. Cir. 2004).

At the institution phase of an *inter partes* review, it may be determinative whether the petitioner has presented “threshold” evidence that the prior art relied on is in fact a printed publication. *See Hulu, LLC v. Sound View Innovations, LLC*, IPR2018-01039, Paper 29 at 12–14 (PTAB Dec. 20, 2019) (precedential) (“*Hulu*”) (A “petition must identify, with particularity, evidence sufficient to establish a reasonable likelihood that the reference was publicly accessible before the critical date of the challenged patent and therefore that there is a reasonable likelihood that it qualifies as a printed publication”); *Argentum Pharm. LLC v. Research Corp. Tech., Inc.*, IPR2016-00204, Paper 19 at 11–12 (PTAB May 23, 2016) (informative). However, here, we institute on other grounds, and therefore the question of whether Petitioner has sufficiently established for the purposes of institution that Huawei is a printed publication is not determinative in determining whether to institute. The parties may provide additional argument and, to the extent provided for in the rules, rebuttal or supplemental information regarding this issue. *Hulu* at 7–8, 14–16.

Although we do not decide whether the evidence provided meets the threshold for showing that Huawei is a printed publication for the purposes of institution, we provide preliminary analysis of the unpatentability arguments made, for the benefit of the parties in continuing this proceeding.

3. *Parties' Positions and Preliminary Analysis*

Petitioner argues that because Huawei teaches a benefit from increasing the relative power of communications using frequencies associated with the periphery of a cell, as compared to the power of communications associated with the center of a cell, one of ordinary skill in the art would contemplate, in Xu, “adjusting . . . the power ratio of the communications . . . so that the power level of communications on the frequencies used by cell edge antenna units (RAs) of Xu is greater than the power level of communications on the frequencies used by the central base station antenna unit (e.g., at B₀) to obtain the benefit taught by Huawei which is to improve throughput in the cell edge areas.” Pet. 46 (citing Ex. 1003 ¶ 219).

But, on the present record, it appears Huawei’s power levels create the inner zones of Huawei (with the major sub-carrier thus able to “cover the whole cell area” and the minor sub-carrier “used only in the inner part of the cell”) as reflected in Huawei’s written disclosure and Figure 1, showing a single antenna at the center of every cell. *See* Ex. 1006, 1–2. This view is confirmed by Petitioner and its expert. Pet. 44 (“[In Huawei,] the major subcarriers of adjacent cells are orthogonal (not the same), while the minor subcarriers within each cell are the same and reused in each cell. *This is achieved by transmitting the minor subcarriers at lower power levels.*”) (internal citations omitted, emphasis added); Ex. 1003 ¶ 214.

Patent Owner again asserts its arguments that relate to claim construction. Prelim. Resp. 28. Additionally, as discussed above, Patent Owner argues that Petitioner does not sufficiently demonstrate that Huawei is prior art.

As we herein institute on the basis of the showing regarding the anticipation of claims 7–9 and 11 by Xu (Section II.D), the prior art status of Huawei, the claim construction, the disclosures and teachings of the prior art references, and the propriety of the combination may be further addressed by the parties during the proceeding.

*G. Claims 7, 9, and 11 – Anticipation by Ericsson and
Claims 7–9, 11, 15, 17, 18, 20, and 21 – Obviousness over
Ericsson alone or over Ericsson and Schwartz*

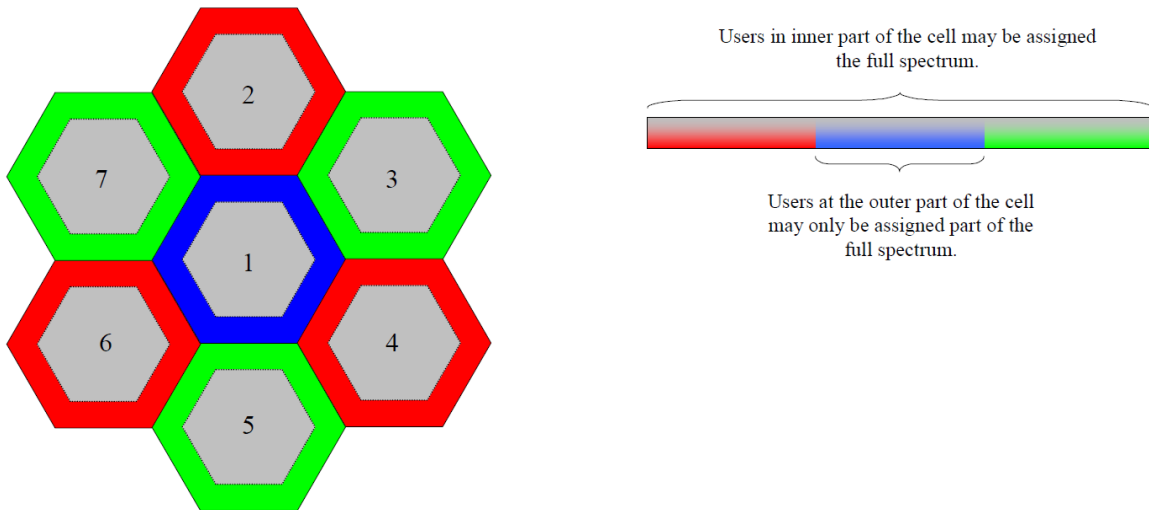
Petitioner argues that Ericsson anticipates claims 7, 9, and 11 (Pet. 47–56) and that claims 7–9, 11, 15, 17, 18, 20, and 21 would have been obvious over Ericsson alone or a combination of Ericsson and Schwartz (Pet. 56–65).

Patent Owner presents arguments against Petitioner’s assertions on unpatentability and challenging Petitioner’s showing regarding the prior art status of Ericsson. Prelim. Resp. 14–19, 29–33.

1. Ericsson

Ericsson discusses techniques for inter-cell interference handling in a cellular communication system. Ex. 1007, 1 (referencing E-UTRA, a cellular network standard); Ex. 1003 ¶ 224 (describing Ericsson as disclosing a cellular communication system); Ex. 2001 ¶ 101 (describing Ericsson as relating to standard cellular communications networks).

One technique discussed is fractional frequency reuse, with transmissions to and from users in the inner part of the cell assigned the full spectrum and transmissions to and from users in cell-edge areas assigned only a part of the full spectrum, in a way such that cell-edge users in adjacent cells are not assigned the same part of the full spectrum. Ex. 1007, 2. This is illustrated in Ericsson’s Figure 2, reproduced below.



As seen in Figure 2, users in the inner part of seven hexagonal cells are assigned the full spectrum (colored grey) while users in the edges are assigned parts of the full spectrum, with the cell-edge users of the center cell assigned one part of the spectrum (colored blue) while cell-edge users of adjacent cells assigned one of two other parts of the spectrum (colored blue and green) such that users in adjacent cell-edge areas of different cells are assigned different parts of the spectrum. *Id.*

2. *Status of Ericsson as Prior Art*

The status of Ericsson as prior art is supported by Petitioner with largely the same arguments presented with respect to Huawei and disputed by Patent Owner for the same reasons as those discussed with respect to Huawei. *See* Pet. 15 (citing Ex. 1007; Ex. 1022 ¶¶ 28, 62–65); Prelim. Resp. 15–19 (citing Ex. 2001 ¶ 136¹³); *supra* § II.F.2.

Again, as we institute on other grounds, the question of whether Petitioner has sufficiently established for the purposes of institution that Ericsson is a printed publication is not determinative. The parties may

¹³ See footnote 11.

provide additional argument and, to the extent provided for in the rules, rebuttal or supplemental information regarding this issue.

3. *Stratford*

Stratford describes the transportation of wireless communication signals between a base station hotel and remote sites using separately digitized RF carrier signals for each RF carrier within the broadband RF signal. Ex. 1009, code (57), 2:37–48, 6:52–7:4. Stratford discloses that the digitized carriers are not converted to analog format initially at the remote site, but stay in digital format until they arrive at the antenna units of the remote site. *Id.* at 2:47–58, 6:38–48.

4. *Preliminary Analysis*

As before, although we do not decide whether the evidence provided meets the threshold for showing that Ericsson is a printed publication for the purposes of institution, we provide certain preliminary analysis of the arguments made.

Patent Owner argues that the Petition does not address whether one of ordinary skill in the art could have “take[n] whatever suggestions are contained within the two scant paragraphs in Ericsson” to implement the method of claim 7 or the system of claim 15. Prelim. Resp. 30–31. However, Patent Owner’s general allegations do not point to any specific enablement issue in Ericsson’s disclosure. *See In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988) (detailing factors relevant to a determination of whether undue experimentation would be necessary for one of ordinary skill in the art). Although Petitioner has the burden of persuasion, which never shifts, on enablement, the burden of production regarding whether a prior art reference is enabling is on the patentee, and is not shifted to a patent challenger by a general allegation, even in an *inter partes* review. *See Apple*

Inc. v. Corephotonics, Ltd., 861 F. App'x 443, 449–450 (Fed. Cir. 2021). On the present record, the allegations propounded by Patent Owner in the Preliminary Response do not shift the burden to Petitioner on enablement.

Patent Owner argues that neither Ericsson nor Schwartz teaches or suggests the use of a DAS. Prelim. Resp. 32 (citing Ex. 2001 ¶¶ 143–145, 147, 148), 33 (citing Ex. 2001 ¶ 155). We note that this argument implicates the proper claim construction of the preamble of claim 7, as discussed above in Section II.C.2.

With respect to obviousness of claim 15, Petitioner agrees that Ericsson does not teach or suggest a DAS host unit, and appears to concede that claim 15 (and its dependent claims) are not obvious over Ericsson alone. Pet. 62, 65.

H. Claims 7–9, 11, 15, 17, 18, 20, and 21 – Obviousness over Two Combinations of Ericsson and Stratford

Petitioner contends that claims 7–9, 11, 15, 17, 18, 20, and 21 would have been obvious over a combination of Ericsson and Stratford (Pet. 65–74) and that claims 7–9, 11, 15, 17, 18, 20, and 21 would have been obvious over a different combination of Stratford and Ericsson (a different proposed combination of the two references) (Pet. 74–101). Patent Owner relies on its arguments regarding the public availability of Ericsson and its enablement contentions. Prelim. Resp. 33–35. We do not make any determination regarding whether Petitioner has sufficiently shown, for the purposes of institution, the public availability of Ericsson, and we do not determine whether Petitioner has shown a likelihood of success with respect to these grounds. With respect to the assertions regarding enablement of Ericsson, these are addressed above, at Section II.G.4.

III. CONCLUSION

We determine that Petitioner establishes a reasonable likelihood that it would prevail in showing that at least one of claims 7–9, 11, 15, 17, 18, 20, and 21 of the '358 patent is unpatentable. Accordingly, we institute an *inter partes* review of all challenged claims on all grounds asserted against those claims in the Petition.

IV. ORDER

It is

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 7–9, 11, 15, 17, 18, 20, and 21 of the '358 patent is instituted commencing on the entry date of this Decision; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of trial.

IPR2023-00466
Patent 9,197,358 B2

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