

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

JOHN MEZZALINGUA ASSOCIATES, LLC,
Petitioner,

v.

DALI WIRELESS INC.,
Patent Owner.

Case IPR2020-01432
Patent 9,820,171 B2

Before KARL D. EASTHOM, MELISSA A. HAAPALA, and
SHARON FENICK, *Administrative Patent Judges*.

FENICK, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. Background

John Mezzalingua Associates, LLC (“Petitioner”) filed a Petition to institute an *inter partes* review of claims 1–20 (“challenged claims”) of U.S. Patent No. 9,820,171 B2 (Ex. 1002, “the ’171 patent”) pursuant to 35 U.S.C. §§ 311–319. Paper 3 (“Pet.”). Dali Wireless Inc. (“Patent Owner”) filed a Preliminary Response. Paper 10 (“Prelim. Resp.”). With our authorization (Paper 11), Petitioner filed a Reply relating to our discretion under 35 U.S.C. § 314(a), Paper 12 (“Reply”), and Patent Owner filed a Sur-Reply, Paper 14 (“Sur-Reply”). We have authority under 35 U.S.C. § 6(b)(4) and 35 U.S.C. § 314.

The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted “unless . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.”

Upon consideration of the Petition, Preliminary Response, and additional briefing we decline to exercise discretion to deny institution under 35 U.S.C. § 314(a), and we determine that Petitioner has not demonstrated a reasonable likelihood that it would prevail in showing the unpatentability of at least one challenged claim of the ’171 patent. Accordingly, for the reasons that follow, we do not institute *inter partes* review.

B. Real Parties in Interest

Petitioner indicates that John Mezzalingua Holdings, LLC, JMA Wireless LTD, Teko Telecom Srl, XRN, LLC, and CellH, LLC are

additional real parties in interest. Pet. 1. Patent Owner indicates no additional real parties in interest. Paper 5, 1.

C. Related Proceedings

The parties inform us that the '171 patent was asserted against Petitioner in the following district court case: *Dali Wireless, Inc. v. John Mezzalingua Associates, LLC d/b/a JMA Wireless*, 1:19-cv-02367-RGA (D. Del.) (“the related district court proceeding”). Pet. 1; Paper 4, 1. Petitioner additionally describes a concurrently-filed petition for *inter partes* review for U.S. Patent No. 10,334,499 B2 as a related matter. Pet. 1 (referring to IPR2020-01430).

D. The '171 Patent

The '171 patent describes a Reconfigurable Distributed Antenna System that provides flexibility to manage, control, re-configure, enhance and facilitate the radio resource efficiency, usage and performance of the distributed wireless network. Ex. 1002, 5:64–6:1. Figure 1, reproduced below, shows an embodiment of the Reconfigurable Distributed Antenna System.

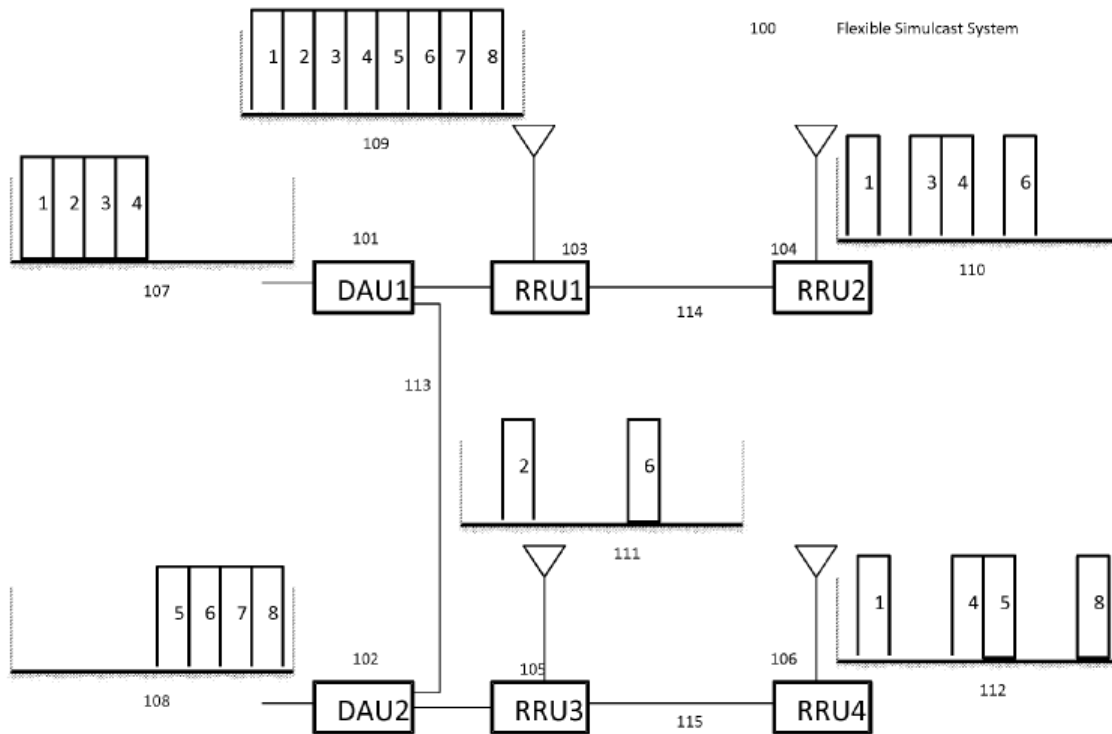


Figure 1: Flexible Simulcast Downlink Example

Figure 1 is a block diagram showing the basic structure and example of a Flexible Simulcast downlink transport scenario. *Id.* at 5:36–39, 6:1–4. Flexible Simulcast System 100 system employs a Digital Access Unit (“DAU”) that serves as an interface to a base station (“BTS”). *Id.* at 6:6–8. The DAU is, at one end, connected to the BTS, and, on the other end, is connected to multiple radio head units (“RRUs”). *Id.* at 6:8–10. Software settings within each RRU1, RRU2, RRU3, and RRU4 are configured to enable particular carriers to be present in each respective downlink output signal 109, 110, 111, 112 (e.g., Carriers 1-8 in RRU1, Carriers 2 and 6 in RRU3). *See id.* at 6:37–65.

An embodiment of the basic structure of embedded software control modules that manage key functions of the DAU and RRU is depicted in Figure 7, reproduced below.

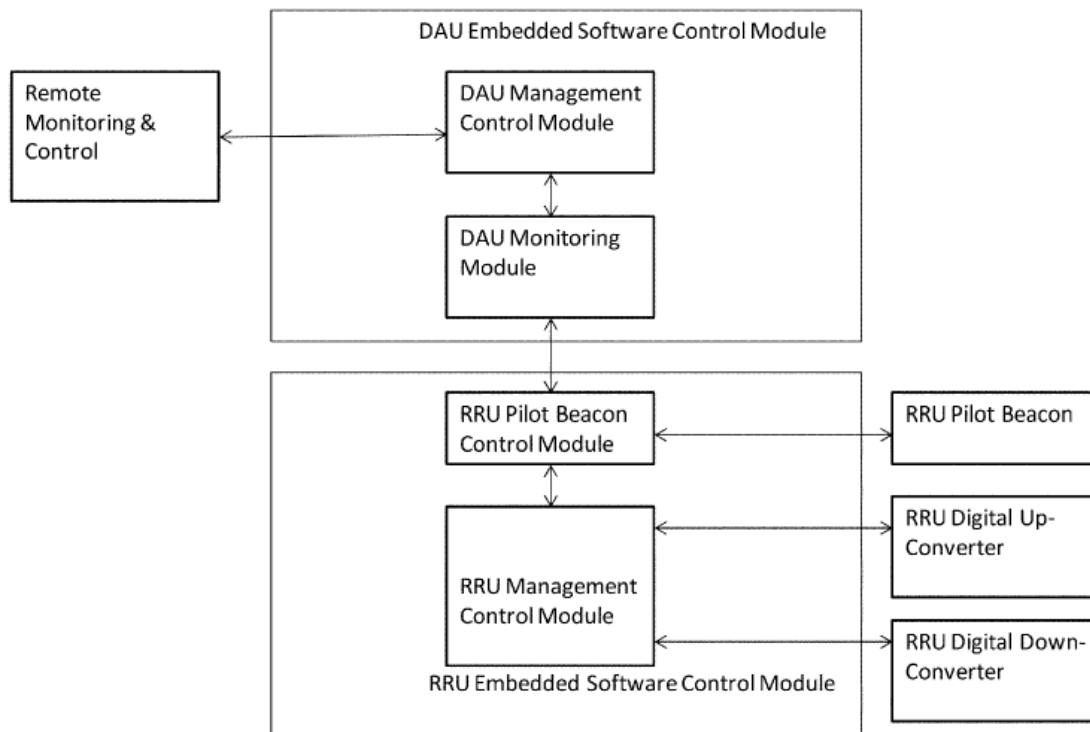


Figure 7: Embedded Software Control Modules

Id. at 5:56–59. Figure 7 illustrates DAU Embedded Software Control Module and RRU Embedded Software Control Module. *Id.* at 11:41–44. One key function of the modules is to determine and/or set the appropriate number of radio resources (such as RF carriers, CDMA codes or TDMA time slots) assigned to a particular RRU or group of RRUs to meet desired capacity and throughput objectives. *Id.* at 11:44–49. The DAU embedded software control module comprises a DAU Monitoring module that detects which carriers and corresponding time slots are active for each RRU. *Id.* at 11:49–52. The DAU embedded software control module also comprises a DAU Management Control module, which communicates with the RRU over a fiber optic link control channel via a control protocol with the RRU Management Control module. *Id.* at 11:52–56. In turn, the RRU Management Control module sets the individual parameters of all the RRU

Digital Up-Converters to enable or disable specific radio resources from being transmitted by a particular RRU or group of RRUs, and also sets the individual parameters of all the RRU Digital Down-Converters to enable or disable specific uplink radio resources from being processed by a particular RRU or group of RRUs. *Id.* at 11:56–63.

An algorithm operating within the DAU Monitoring module detects which carriers and corresponding time slots for each carrier are active for each RRU and provides information to the DAU Management Control module to help identify when a particular downlink carrier is loaded by a percentage greater than a predetermined threshold. *Id.* at 11:64–12:5. If that occurs, the DAU Management Control Module adaptively modifies the system configuration to deploy additional radio resources for use by a particular RRU that needs those radio resources within its coverage area. *Id.* at 12:5–10. At the same time, the DAU Management Control module adaptively modifies the system configuration to remove certain radio resources for use by a particular RRU that no longer needs those radio resources within its coverage area. *Id.* at 12:10–16.

E. The Asserted Grounds of Unpatentability

Petitioner challenges the patentability of claims 1–20 of the '171 patent based on the following asserted grounds:

Reference(s)	Basis	Claims Challenged
Oh ¹	§ 102	1, 2, 14–16
Oh, Cannon ²	§ 103	1, 2, 14, 16
Oh, Fischer ³	§ 103	5–13, 19, 20

¹ Oh et al., US 7,286,507 B1, iss. Oct 23, 2007 (Ex. 1003).

² Cannon et al., US 2010/0177760 A1, pub. July 15, 2010 (Ex. 1004).

³ Fischer, US 2007/0008939 A1, pub. Jan. 11, 2007 (Ex. 1005).

Reference(s)	Basis	Claims Challenged
Oh, Wu ⁴	§ 103	3, 4, 17, 18

Petitioner also relies on the declaration of James A. Proctor, Jr, Ex. 1018.

F. Illustrative Claim

Claims 1 and 15 of the challenged claims of the '171 patent are independent. Claim 1 illustrates the claimed subject matter:

1. A method for routing and switching signals comprising:
 - providing a plurality of remote radio units, each remote radio unit configured to transmit one or more downlink signals and to receive one or more uplink signals;
 - providing at least one digital access unit configured to communicate with the plurality of remote radio units;
 - translating the uplink and downlink signals between RF and base band;
 - packetizing the uplink and downlink base band signals, wherein the packetized signals correspond to a plurality of carriers, each remote radio unit configured to receive or transmit a respective subset of the plurality of carriers;
 - routing and switching the packetized signals among the plurality of remote radio units via the at least one digital access unit;
 - reconfiguring at least one of the plurality of remote radio units by increasing or decreasing the number of carriers in the respective subset of the plurality of carriers; and thereafter
 - routing and switching the packetized signals among the plurality of remote radio units via the at least one digital access unit according to a result of the reconfiguring.

Ex. 1002, 12:48–13:3.

⁴ Wu et al., US 2010/0128676 A1, pub. May 27, 2010 (Ex. 1006).

II. ANALYSIS

A. Person of Ordinary Skill in the Art

Petitioner asserts that a person of ordinary skill in the art “would have at least: (1) a bachelor’s degree in electrical engineering; and (2) a minimum of 3-4 years of industry experience in wireless communications networks and engineering,” and that “an individual with an advanced degree in electrical engineering would require less industry experience (e.g., 1-2 years).” Pet. 7; Ex. 1018 ¶ 42. Patent Owner argues that “the above POSITA at the time of the ’171 patent would also have industry experience dealing with wireless devices such as remote units and antennas.” Prelim. Resp. 15. Other than specifying the type of industry experience required for one of ordinary skill in the art, Patent Owner does not appear to disagree with applying Petitioner’s proposed level of skill. *See id.* On the present record, we adopt Petitioner’s provided definition for the level of skill of a person of ordinary skill in the art as reasonable and consistent with the prior art.

B. Claim Construction

In an *inter partes* review, the Board construes each claim “in accordance with 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). Under the same standard applied by district courts, claim terms take their plain and ordinary meaning as would have been understood by a person of ordinary skill in the art at the time of the invention and in the context of the entire patent disclosure.

Phillips v. AWH Corp., 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc).

“There are only two exceptions to this general rule: 1) when a patentee sets

out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution.” *Thorner v. Sony Comput. Entm’t Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012).

Petitioner requests that we construe the claim terms “translating the uplink and downlink signals between RF and base band,” which appears in claim 1. Pet. 8–10. Patent Owner addresses Petitioner’s proposed constructions construction and additionally discusses the construction of “digital access unit,” which appears in claims 1, 5–7, 15, and 19, “reconfiguring at least one of the plurality of radio units,” which appears in claim 1 and in similar form in claim 15, “load,” which appears in claims 3 and 7, and “determining a load for each remote radio unit,” which appears in claim 3. Prelim. Resp. 15–23.

1. “*reconfiguring at least one of the plurality of radio units*” (claim 1) and “*wherein . . . at least one remote radio unit of the plurality of remote radio units is reconfigured*” (claim 15)

Patent Owner argues that for these “reconfiguring” claim terms, the proper construction should be “adaptively readjusting the radio capacity of [at least] one remote unit by changing the configuration parameters of the at least one remote unit.” Prelim. Resp. 20. In support of its construction, Patent Owner asserts that its construction captures a novel feature of the invention “by clarifying that reconfiguration is achieved by adaptively readjusting the radio capacity of one or more remote radio units by changing configuration parameters.” *Id.* at 20–21 (citing Ex. 1002 3:52–55, 3:61–64, 7:13–18, 7:26–37, 8:24–48, 11:64–12:17, 12:31–36). Patent Owner proposes a similar construction here to the construction it proposed for

similar terms in *Dali Wireless Inc. v. CommScope Technologies LLC*, Case No. 1:19-cv-00952 (D. Del.), which concerns a parent patent of the '171 patent, U.S. Patent No. 8,682,338 B2 (Ex. 2005, “the '338 patent”)⁵. Ex. 3002, 7–8. In that district court proceeding, the court issued a claim construction order in which it determined that “‘reconfiguring each remote radio unit’ shall be given its plain and ordinary meaning, which is ‘changing the configuration of each remote unit.’” *Id.* at 1. The district court declined to read in Patent Owner’s proposed limitation that the reconfiguration must include adjustment of “the radio capacity of each remote unit by changing the configuration parameter of the remote radio units” because “the claim does not specify what change must be made to the configuration.” *Id.* at 8.

We agree with the district court’s analysis. The term “reconfiguring at least one of the plurality of remote radio units” does not require readjusting the radio capacity by changing configuration parameters. Patent Owner’s argument that its construction captures novel features of the invention (e.g., adaptive changes to radio capacity) reads in elements into this claim term that are not present. Although claim 1 requires the reconfiguring be done by “increasing or decreasing the number of carriers in the respective subset of the plurality of carriers,” our claim construction here focuses solely on the term “reconfiguring each remote radio unit.” We

⁵ The '171 patent issued from an application that was a divisional of an application that was a continuation of the patent that issued as the '338 patent. Ex. 1002 code (60); Ex. 2002, 10–18, 20. The '338 patent has a substantially similar disclosure to the '171 patent and the claims of the '171 patent were allowed by the Examiner with reference to the reasons for allowance of the '338 patent. Ex. 2005; Ex. 2002, 191–193.

therefore agree with the district court that the plain meaning of “reconfiguring” is “changing the configuration.” *See* Ex. 3002 1, 8.

Accordingly, we construe “reconfiguring at least one of the plurality of radio units” (claim 1) to be “changing the configuration of at least one of the plurality of radio units.” For the same reasons, we construe “wherein . . . at least one remote radio unit of the plurality of remote radio units is reconfigured” to be “wherein the configuration of at least one remote radio unit of the plurality of remote radio units is changed.”

We additionally note that the claim terms require that it is the remote radio unit itself that is changed because the “remote radio unit” is the direct object of the verb “reconfiguring.” This is consistent with the specification of the ’171 patent, which describes reconfiguring the RRUs themselves. *See e.g.*, Ex. 1002 7:30–45 (describing that Digital Up-Converters located within the RRU are dynamically software-programmable and can be re-configured to transport any specific frequency band, RF carriers, or RF channels which are available), 8:24–37 (describing that the Digital Up Converters present in the RRU can be dynamically software-reconfigured), 8:65–9:5 (describing that Digital Down-Converters present in each RRU are dynamically software-configured), 11:56–63 (describing setting individual parameters of the RRU Digital Up-Converters and Digital-Down Converters to enable or disable specific radio resources), 4:9–21 (describing that the present invention employs software-programmable Digital Up-Converters and Digital Down-Converters).

2. *Other terms*

For purposes of this Decision, we do not find it necessary to construe any other term. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor*

Co., 868 F.3d 1013, 1017 (Fed. Cir. 2017) (holding that “we need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy,’” (citation omitted)).

C. Principles of Law

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) objective evidence of nonobviousness, i.e., secondary considerations. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

“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, 1326–27 (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.A. § 312(a)(3); 37 C.F.R. § 42.104 (“The petition must specify where each element of the claim is found in the prior art patents or printed publications relied upon.”).

D. Asserted Anticipation Based on Oh

Petitioner asserts Oh anticipates claims 1, 2, and 14–16. Pet. 19–46. Patent Owner addresses these assertions in the Preliminary Response. Prelim. Resp. 30–45.

1. Overview of Oh

Oh is titled “Method and System for Dynamically Routing between a Radio Access Network and Distributed Antenna System Remote Antenna Units” and describes a DAS system that includes mapping data that correlates network coverage segments (such as cell sectors) with addresses for the remote antenna units, to distribute coverage as desired throughout the DAS. Ex. 1003, codes (54), (57). Oh includes a block diagram of a communications system in its Figure 1, reproduced below.

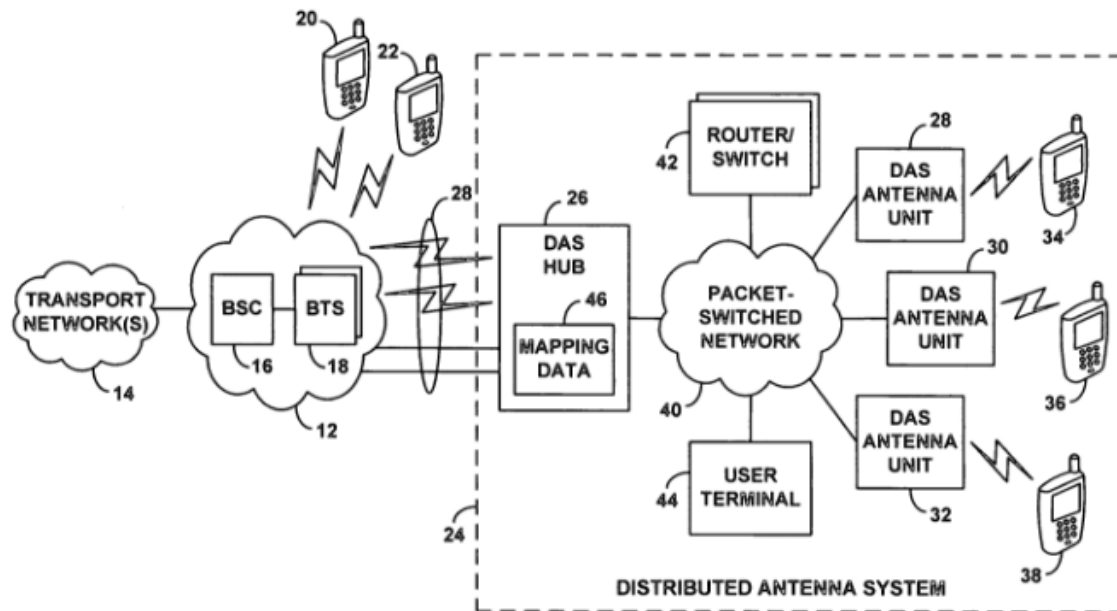


FIG. 1

Figure 1 of Oh illustrates DAS 24 that communicates with radio access network (RAN) 12, which is in RF communication with wireless devices 20 and 22. *Id.* at 4:33–46. RAN 12 defines coverage segments; each coverage segment may be a cell, cell sector, or other coverage area of RAN 12, or a particular carrier frequency or spreading code. *Id.* at 4:47–64. Each coverage segment “constitutes a mechanism in or through which the RAN communicates with client devices that it serves.” *Id.* at 4:47–50.

DAS 24 extends coverage of RAN 12. *Id.* at 4:65–5:1. DAS hub 26 in DAS 24 may be connected to RAN 12 and receive signals from BTSs 18 via, e.g., an antenna structure receiving signals from RAN 12, or directly via a fiber-optic cable. *Id.* at 4:40–46, 5:1–56. DAS hub 26 stores mapping data 46, which correlates RAN coverage segments of RAN 12 with addresses of DAS antenna units 28, 30, 32. *Id.* at 7:35–47. DAS hub 26 uses the mapping data 46 to determine one or more antenna unit addresses to

which it should route incoming (downlink) traffic from RAN 12 to DAS antenna units, and which coverage segments to transmit outgoing data from DAS antenna units to RAN 12. *Id.* at 7:42–53, 9:3–11, Fig. 2. DAS hub 26 and the DAS antenna units communicate via packet-switched network 40. *Id.* at 6:6–22.

2. *Analysis of Asserted Anticipation by Oh*

We have reviewed the parties’ assertions and supporting evidence. For the reasons discussed below, Petitioner does not demonstrate a reasonable likelihood of prevailing in its challenge to any of claims 1, 2, and 14–16 on the basis of anticipation by Oh.

a. *Independent Claim 1*

Petitioner asserts Oh discloses the “reconfiguring” limitation recited in claim 1. *See* Pet. 37–39; *see also id.* at 34–35 (discussing Petitioner’s assertions regarding the “each remote radio unit configured to” limitation recited in claim 1). Petitioner asserts that Oh discloses using a mapping table to add or remove carriers received and transmitted by a remote unit. *Id.* at 38. Petitioner asserts the mapping data can be modified by a system administrator or automatically to change the distribution of capacity by altering the correlations between RAN coverage segments (RF carriers) and remote unit IP addresses. *Id.* at 37–39 (citing Ex. 1003, code (57), 3:50–59, 9:49–53, 12:5–17, 14:9–17, Figs. 1–2; Ex. 1018 ¶¶ 141–149). Petitioner asserts that when the mapping table is changed to add (or remove) a correlation that did not previously exist, the number of carriers allocated to a remote is increased (or decreased). *Id.*

Patent Owner argues that Oh only provides a DAS hub that routes signals according to stored mapping data and does not discuss configuring or

setting any operational aspect of the remote radio unit itself. Prelim. Resp. 35–36. Patent Owner argues that the DAS antenna units (which Petitioner asserts corresponds to the remote radio unit heads) are pass-through devices with static configurations, and Oh does not disclose changing or altering any aspect of the DAS antenna units themselves. *Id.*

We agree with Patent Owner that Petitioner does not establish Oh discloses the “reconfiguring each remote radio unit” limitation. While Oh discloses that configuring and modifying the mapping data alters distribution of RAN coverage among the various DAS antenna units (*see e.g.*, Ex. 1003, 9:44–53), this modification of mapping data used to route traffic does not meet the claim limitation because it does not reconfigure (change) the DAS antenna units themselves. Therefore, we conclude Petitioner does not demonstrate a reasonable likelihood of prevailing in establishing that claim 1 is anticipated by Oh.

b. *Claims 2 and 14–16*

Petitioner’s arguments with respect to claims 2 and 14–16 as anticipated by Oh, with respect to the reconfiguring of a remote radio unit in those claims, refer to Petitioner’s arguments relating to claim 1, and therefore suffer from the same defect. Pet. 40–46. We thus determine that Petitioner has not demonstrated a reasonable likelihood that it would prevail in showing any of claims 2 and 14–16 are anticipated by Oh.

E. *Analysis of Asserted Obviousness over Oh and Cannon*

Petitioner asserts claims 1, 2, and 14–16 are obvious over Oh and Cannon. Pet. 46–54. Patent Owner addresses these assertions in the Preliminary Response. Prelim. Resp. 45–52.

1. Overview of Cannon

Cannon is titled “Systems and Methods for Improved Digital RF Transport in Distributed Antenna Systems” and describes a DAS system in which RF signals from a base station are transmitted to remote units, which reconstruct the RF signals from the signal and cause the reconstructed RF signals to be transmitted from an antenna. Ex. 1004 codes (54), (57), ¶ 20. Cannon includes a block diagram of its DAS system in its Figure 1, reproduced below.

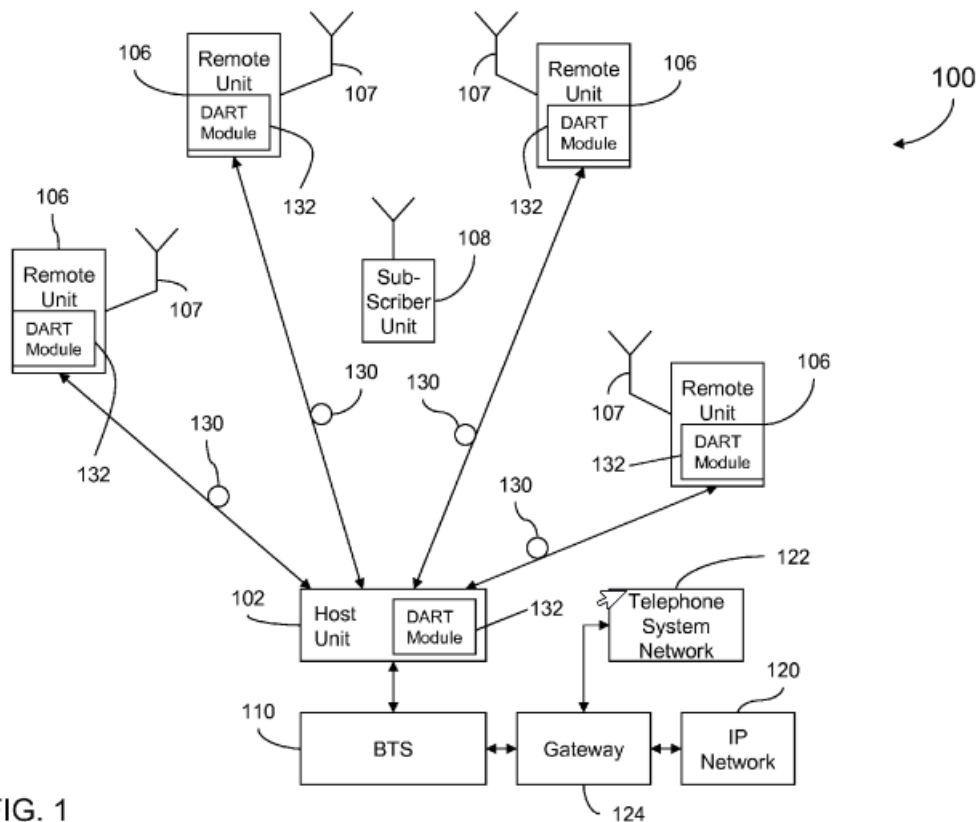


FIG. 1

Figure 1 depicts DAS 100, including host unit 102 and remote units 106. *Id.* ¶ 18. Host unit 102 is coupled to at least one base transceiver station (BTS) 110. *Id.* ¶ 19. Host unit 102 receives downlink signals from BTS 110 and generates transport signals for transmitting to one or more remote unit 106.

Id. ¶ 20. “[T]he downlink and uplink transport signals transmitted between host unit 102 and remote units 106 over communication links 130 are generated by digitizing the downlink and uplink RF signals, respectively.”

Id. ¶ 21. “In other words, the downlink and uplink transport signals are not analog RF signals but instead are digital data signals representing digital RF samples of a modulated RF signal.” *Id.* Thus, for example, if a communication is received as a modulated RF signal in the 900 MHz band, the host unit generates baseband digital samples of that modulated 900 MHz RF signal, which are sent to the remote unit, where they are converted from the digital version to an analog RF signal to be wirelessly radiated from the remote unit’s antenna. *Id.* A digital to analog radio frequency transceiver (DART) module performs this conversion. *Id.* at ¶¶ 22–25.

DART modules in remote units are specific for a particular frequency band, but may be reprogrammed to meet the changing needs of the end user. *Id.* at ¶¶ 25, 46.

2. Analysis of Asserted Obviousness Over Oh and Cannon

We have reviewed the parties’ assertions and supporting evidence. For the reasons discussed below, Petitioner does not demonstrate a reasonable likelihood of prevailing in its challenge to any of claims 1, 2, and 14–16 on the basis of obviousness over Oh and Cannon.

a. Claim 1

To show obviousness of claim 1 over Oh and Cannon, Petitioner relies in the alternative on Cannon to disclose the “reconfiguring” limitation recited in claim 1. *See* Pet. 51–53. Petitioner asserts that Cannon’s disclosure of reconfiguring the DART module of a radio unit teaches or suggests the reconfiguring of radio units in claim 1. *Id.* Petitioner argues

that one of ordinary skill “would be motivated to modify Oh by replacing its centralized mapping data with *Cannon’s concept of using decentralized configuration data stored at each remote unit*, based on Oh’s embodiment in which the mapping data is stored at any of the other nodes of network 40, which includes the remote units, *as a matter of conventional design choice.*” *Id.* at 52–53 (emphasis added) (citing Ex. 1018 ¶ 206.)

Patent Owner argues that the motivation to combine provided by Petitioner is insufficient to meet the Petitioner’s burden with respect to obviousness. Prelim. Resp. 48–49. Patent Owner contends that Petitioner “suggests upending the functionality of Oh by decentralizing its centralized system and trivializes this change in functionality by recasting it as ‘a matter of conventional design choice.’” *Id.* at 49. Patent Owner continues: “Petitioner offers no evidence for this claim, and none exists.” *Id.*

We recognize that “[t]o satisfy its burden of proving obviousness, a petitioner cannot employ mere conclusory statements.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016). As Petitioner acknowledges elsewhere, Oh’s system relies on the mapping table in order to route communication traffic between the DAS and the DAS antenna units. Ex. 1003 12:2–5, Fig. 5; *see* Pet. 21–22, 35–37. Using “Cannon’s concept of using decentralized configuration data stored at each remote unit,” as Petitioner suggests, would be a substantial change to this system. *See* Pet. 52–53. Petitioner argues that Oh suggests that mapping data could be stored elsewhere, however, this suggestion in Oh relates to the location of the centralized data, and not to decentralizing Oh’s centralized mapping. *See id.* at 52.

Calling a modification to Oh a “conventional design choice” does not adequately address the motivation of why one of ordinary skill in the art would have made a substantial change in the way Oh operates or the success of such a modification. *See Fanduel, Inc. v. Interactive Games LLC*, 966 F.3d 1334, 1343–44 (Fed. Cir. 2020) (finding a “gap” between the identification of a well-known concept and the “beneficial application of that concept” to another system is not filled by calling the addition “an obvious design choice”). We recognize that there may be situations in which using any of several predictable “known design options” is a simple design choice. *See e.g. ACCO Brands Corp. v. Fellowes, Inc.*, 813 F.3d 1361, 1366–1367 (where there are two alternatives consistently found in prior art, even where they result in “slightly different . . . behavior, each would be obvious); *Uber Techs., Inc. v. X One, Inc.*, 957 F.3d 1334, 1340 (Fed. Cir. 2020) (in a case with “only two identified, predictable solutions,” the substitution of one for the other would have been obvious). However, in this case, the record has no evidence or argument that decentralized system of Cannon could have been applicable to Oh with identified, predictable results. Petitioner’s expert cites Oh’s discussion of storing the mapping data “elsewhere (such as in another node on [the] packet-switched network,” however, this would relocate centralized mapping data, rather than decentralize the Oh system. Ex. 1018 ¶ 206. Generally, Petitioner’s descriptions of Oh confirm that the centralization of mapping data is a key part of the disclosure in Oh. Pet. 18–19, 20–23, 33–40. The Petition does not sufficiently show either that the use of Cannon’s decentralized system would have been a design choice for one of ordinary skill in the art, or that one of ordinary skill would have been

motivated to make the combination and have had a reasonable expectation of success.

Therefore, we agree with Patent Owner that, on this record, Petitioner does not demonstrate a reasonable likelihood of prevailing in its challenge to claim 1 on the basis of obviousness over Oh and Cannon.

b. *Claims 2, 14, and 16*

Petitioner's arguments for the obviousness of claims 2, 14, and 16 over Oh and Cannon rely on the same or substantially the same arguments as presented for claim 1. Pet. 53–54. Thus, for the same reason, Petitioner does not demonstrate a reasonable likelihood of prevailing in its challenge to claims 2, 14, and 16 on the basis of obviousness over Oh and Cannon.

F. *Asserted Obviousness Based on Oh and Fischer or Oh and Wu*

Petitioner asserts claims 5–13, 19, and 20 would have been obvious over a combination of Oh and Fischer, and that claims 3, 4, 17, and 18 would have been obvious over a combination of Oh and Wu. Pet. 55–75.

Petitioner's assertions with respect to these claims are based on arguments relating to the disclosures or teachings of Oh with respect to their independent base claims. *Id.* For the reasons discussed above, these arguments do not demonstrate a reasonable likelihood that Petitioner will prevail in showing any of claims 5–13, 19, and 20 would have been obvious over a combination of Oh and Fischer, or that any of claims claims 3, 4, 17, and 18 would have been obvious over a combination of Oh and Wu.

G. *35 U.S.C. § 325(d) Discretion*

Patent Owner asserts that we should exercise our discretion to decline institution under § 325(d) because the Petition relies on Oh and Cannon, which were each submitted in an information disclosure statement during

prosecution of the application that issued as the '171 patent, and because during that prosecution a reference was considered that incorporated Fischer. Prelim. Resp. 2–3, 23–30; Sur-Reply. Because we deny institution for the reasons explained above, Patent Owner's request to deny institution under § 325(d) is moot.

III. CONCLUSION

For the foregoing reasons, we do not institute an *inter partes* review.

IV. ORDER

In consideration of the foregoing, it is hereby

ORDERED that the Petition is denied as to the challenged claims of the '171 patent; and

FURTHER ORDERED that no *inter partes* review is instituted.

IPR2020-01432
Patent 9,820,171 B2

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