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Paper 55
Entered: July 28, 2016

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ARRIS GROUP, INC. and COX COMMUNICATIONS, INC.,
Petitioner,

v.

C-CATION TECHNOLOGIES, LLC,
Patent Owner.

Case IPR2015-00635[1]
Patent 5,563,883

Before BARBARA A. BENOIT, LYNNE E. PETTIGREW, and MIRIAM L. QUINN, *Administrative Patent Judges*.

PETTIGREW, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

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[1] Cox Communications, Inc., who filed a Petition in IPR2015-01796, has been joined as a petitioner in this proceeding.

I. INTRODUCTION

In this *inter partes* review, instituted pursuant to 35 U.S.C. § 314, ARRIS Group, Inc. and Cox Communications, Inc. challenge the patentability of certain claims of U.S. Patent No. 5,563,883 (Ex. 1001, "the '883 patent"), owned by C-Cation Technologies, LLC ("Patent Owner"). We have jurisdiction under 35 U.S.C. § 6(c). This Final Written Decision is entered pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons discussed below, Petitioner has shown by a preponderance of the evidence that claims 1, 3, and 4 of the '883 patent are unpatentable.

A. Procedural History

ARRIS Group, Inc. filed a Petition for *inter partes* review of claims 1, 3, and 4 of the '883 patent. Paper 2 ("Pet."). Patent Owner filed a Preliminary Response in both unredacted (confidential) form (Paper 16) and redacted form (Paper 18), along with a Motion to Seal its Preliminary Response and Certain Associated Exhibits (Paper 17). On July 31, 2015, we instituted an *inter partes* review of claims 1, 3, and 4 of the '883 patent on asserted grounds of unpatentability and granted Patent Owner's Motion to Seal. Paper 19 ("Institution Decision" or "Dec.").

Subsequent to institution, Cox Communications, Inc. filed a Petition and a Motion for Joinder with the instant proceeding. *Cox Commc'ns, Inc. v. C-Cation Techs., LLC*, Case IPR2015-01796, Papers 1, 3. We instituted an *inter partes* review and granted the Motion, joining Cox Communications, Inc. with ARRIS Group, Inc. (collectively, "Petitioner") in this *inter partes* review. Paper 26.

Patent Owner filed a Patent Owner Response to the Petition in both unredacted (confidential) form (Paper 28, "PO Resp.") and redacted form

(Paper 30), along with a Motion to Seal the Patent Owner Response and Exhibit 2028 (Paper 29). Petitioner filed a Reply to the Patent Owner Response. Paper 38 ("Pet. Reply").

Petitioner filed a Motion to Exclude Exhibit 2028 (Paper 41), Patent Owner filed an Opposition to the Motion to Exclude (Paper 47), and Petitioner filed a Reply (Paper 48). Patent Owner filed a Motion to Exclude Exhibits 1005–07, 1014, 1015, 1018, 1019, and 1026–34 (Paper 43), Petitioner filed an Opposition to the Motion to Exclude (Paper 46), and Patent Owner filed a Reply (Paper 49). Patent Owner also filed objections to Exhibits 1035–1038. Paper 50.

An oral hearing was held on April 26, 2016. A transcript of the hearing has been entered into the record. Paper 54 ("Tr.").

B. Related Matters

The parties indicate that Patent Owner has asserted the '883 patent against Petitioner ARRIS Group, Inc. and other defendants in *C-Cation Technologies, LLC v. Time Warner Cable Inc.*, No. 2:14-cv-00059 (E.D. Tex.), and against Petitioner Cox Communications, Inc. and other defendants in *C-Cation Technologies, LLC v. Atlantic Broadband Group LLC*, No. 1:15-cv-00295 (D. Del.). Pet. 2; Paper 40, 1.

The '883 patent has been the subject of other petitions for *inter partes* review. In *Cisco Systems, Inc. v. C-Cation Technologies, LLC*, Case IPR2014-00454 (PTAB Aug. 29, 2014) (Paper 12), and *Unified Patents Inc. v. C-Cation Technologies, LLC*, Case IPR2015-01045 (PTAB Oct. 7, 2015) (Paper 15), the Board denied institution of *inter partes* review. In *ARRIS Group, Inc. v. C-Cation Technologies, LLC*, Case IPR2014-00746 (PTAB Nov. 24, 2014) (Paper 22), the Board instituted *inter partes* review of

claim 14 of the ’883 patent, and subsequently granted Patent Owner’s request for adverse judgment (Paper 28).

C. The ’883 Patent

The ’883 patent “pertains generally to methods and apparatus for facilitating the two-way multi-media communication based on a shared transmission media such as coaxial cable-TV network, and more specifically to methods and apparatus for signalling channel management and protocol.” Ex. 1001, 1:7–12.

Figure 1 of the ’883 patent is reproduced below:

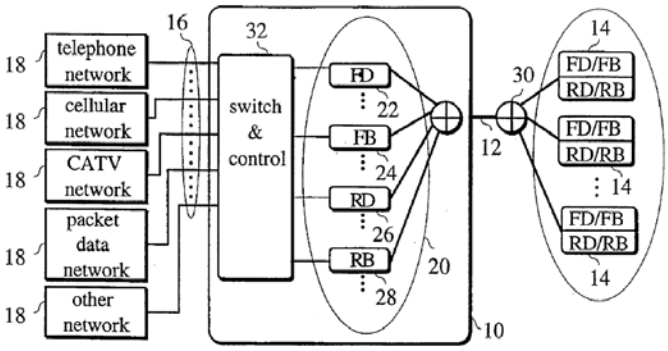


Figure 1

Figure 1 illustrates a multiple access communication system architecture comprising central controller 10, shared transmission media 12, and a plurality of remote terminals 14. *Id.* at 5:8–11. Central controller 10 interfaces with wide area networks 18 via a pool of communication channels 16. *Id.* at 5:12–14. A pool of communication channels 20—including forward signalling channels 22, forward traffic bearer channels 24, reverse signalling channels 26, and reverse traffic bearer channels 28—support communications between central controller 10 and remote terminals 14. *Id.* at 5:15–21.

The ’883 patent describes a method for dynamic signalling channel allocation, assignment of remote terminals to signalling channels, and terminal reassignment. *Id.* at 2:38–51. Figure 6 of the ’883 patent, as annotated by Petitioner to include reference numbers (*see* Ex. 1023), is reproduced below.

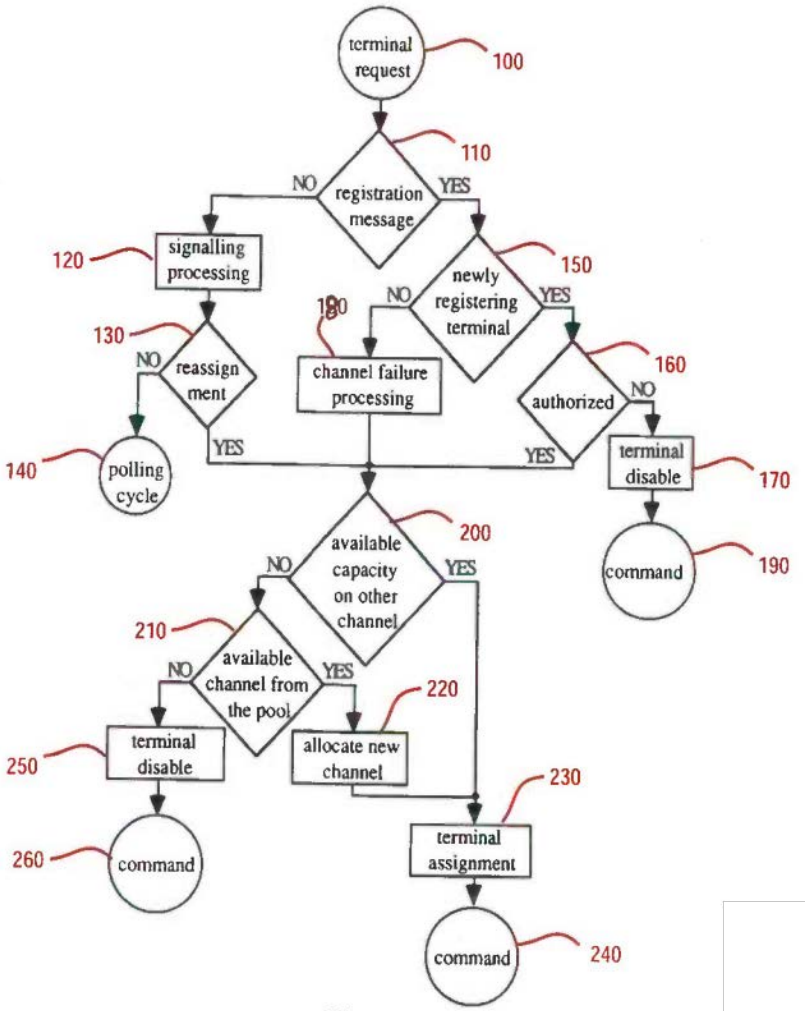


Figure 6

Figure 6 is a logic flow diagram illustrating a process for terminal registration, channel allocation, terminal assignment, and terminal reassignment. *Id.* at 8:16–18. In a preferred embodiment, the central controller receives a registration message from a remote terminal and, if the remote terminal is newly registering and authorized, checks for available

signalling channels for the remote terminal. *Id.* at 8:18–23. Some factors for determining signalling channel availability include "the number of remote terminals using the signalling data channel, the traffic requirements, past collision count, channel error status, and bandwidth of the signalling data channel." *Id.* at 8:35–39. If there are available signalling data channels in the forward and reverse directions, either from among signalling data channels already in use or newly allocated signalling data channels from the pool, the registering remote terminal will be assigned to those channels. *Id.* at 8:41–50. The central controller will complete the registration process by commanding the remote terminal to tune to the assigned channels. *Id.* at 8:50–53. "At any time, the central controller can initiate the terminal re-assignment process if deemed appropriate for the varying traffic demand or other system dynamics." *Id.* at 8:32–34.

D. Illustrative Claim

Independent claim 1 of the '883 patent is illustrative of the subject matter of the challenged claims:

> 1. In a multiple access communication system comprising a central controller, a shared transmission means for signalling data and user information, and a plurality of remote terminals, a method of allocating signalling data channels between said central controller and said plurality of remote terminals from a plurality of communication channels and of assigning remote terminals comprising the steps of:
>
> (a) establishing communications between said central controller and said plurality of remote terminals via a plurality of signalling data channels, each of said remote terminals being initially assigned to a pair of predetermined signalling data channels;
>
> (b) monitoring the status of a plurality of the signalling data channels in use between said central controller and said

> plurality of remote terminals for the usability of said signalling data channels;
>
> (c) determining whether one of said plurality of remote terminals needs to be reassigned to a different signalling data channel other than said predetermined signalling data channel;
>
> (d) determining whether a different and suitable signalling data channel is available other than said predetermined channel; and
>
> (e) reassigning by said central controller said remote terminal to a different and suitable signalling data channel for communication henceforward.

Ex. 1001, 14:27–53.

E. Asserted Grounds of Unpatentability

We instituted an *inter partes* review of claims 1, 3, and 4 on the following grounds of unpatentability (Dec. 23):

References	Basis	Challenged Claim(s)
MPT 1343,[2] MPT 1347,[3] and MPT 1327[4]	35 U.S.C. § 103(a)	1 and 4
MPT 1343, MPT 1347, MPT 1327, Zdunek,[5] and Dufresne[6]	35 U.S.C. § 103(a)	3

[2] MPT 1343 PERFORMANCE SPECIFICATION: SYSTEM INTERFACE SPECIFICATION FOR RADIO UNITS TO BE USED WITH COMMERCIAL TRUNKED NETWORKS OPERATING IN BAND III SUB-BANDS 1 AND 2 (1991) (Ex. 1006, "MPT 1343").
[3] MPT 1347 RADIO INTERFACE SPECIFICATION FOR COMMERCIAL TRUNKED NETWORKS OPERATING IN BAND III, SUB-BANDS 1 AND 2 (1991) (Ex. 1007, "MPT 1347").
[4] MPT 1327 A SIGNALLING STANDARD FOR TRUNKED PRIVATE LAND MOBILE RADIO SYSTEMS (1991) (Ex. 1005, "MPT 1327").
[5] U.S. Patent No. 4,870,408, issued Sept. 26, 1989 (Ex. 1008, "Zdunek").
[6] U.S. Patent No. 4,920,533, issued Apr. 24, 1990 (Ex. 1009, "Dufresne").

II. DISCUSSION

A. Claim Construction

The ’883 patent has expired. Pet. 6; PO Resp. 19; Dec. 13. For claims of an expired patent, the Board’s claim construction analysis is similar to that of a district court. *See In re Rambus, Inc.*, 694 F.3d 42, 46 (Fed. Cir. 2012). In this context, claim terms “are generally given their ordinary and customary meaning” as understood by a person of ordinary skill in the art in question at the time of the invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc). “In determining the meaning of the disputed claim limitation, we look principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence.” *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (citing *Phillips*, 415 F.3d at 1312–17). Extrinsic evidence is “less significant than the intrinsic record in determining the legally operative meaning of claim language.” *Phillips*, 415 F.3d at 1317 (internal quotation marks omitted).

In our Institution Decision, we determined that no claim terms required express construction for purposes of deciding whether to institute trial. Dec. 13. Petitioner asserts in the Petition that all claim terms should have their ordinary and customary meaning. Pet. 6. Patent Owner submits that no claim terms require express construction, but complains that the Petition fails to apply the ordinary and customary meaning of the claims. PO Resp. 20. In its Reply, Petitioner contends that Patent Owner, despite urging that no express construction is necessary, nevertheless engages in claim construction by reading limitations into the claim and resorting to

extrinsic evidence to rewrite the claims. Pet. Reply 6. To the extent it is necessary for us to construe claim terms in this decision, we do so below in the context of analyzing whether the prior art renders the claims unpatentable.

B. Principles of Law

To prevail in challenging Patent Owner's claims, Petitioner must demonstrate by a preponderance of the evidence that the claims are unpatentable. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). A claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time of the invention to a person having ordinary skill in the art. *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 ordinary skill in the art; and (4) objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). The level of ordinary skill in the art is reflected by the prior art of record. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001); *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995).

C. Asserted Obviousness Grounds Based on the MPT Specifications

Petitioner contends that claims 1 and 4 are unpatentable under 35 U.S.C. § 103(a) as obvious over MPT 1343, MPT 1347, and MPT 1327 (collectively, "the MPT Specifications"). Pet. 19–51. Petitioner also contends that claim 3 is unpatentable under 35 U.S.C. § 103(a) as obvious over the MPT Specifications, as applied to claim 1, and further in view of

Zdunek and Dufresne. *Id.* at 51–60. In support of these asserted grounds of unpatentability, Petitioner explains how the references teach all of the limitations of the challenged claims and provides a rationale for combining the teachings of the MPT Specifications with each other and also with Zdunek and Dufresne. *Id.* at 17–19, 54, 56–57. Petitioner also relies on the testimony of Mr. Stuart Lipoff. Ex. 1002 ¶¶ 85–211.

In response, Patent Owner argues that the MPT Specifications are not "printed publication[s]" under 35 U.S.C. § 102(b) and therefore not eligible as prior art in an *inter partes* review under 35 U.S.C. § 311(b). PO Resp. 23–26. Patent Owner also argues that the MPT Specifications fail to disclose certain limitations of claim 1, the only independent claim at issue in this proceeding. *Id.* at 34–51. For support, Patent Owner relies on the testimony of Dr. Chris Heegard. Ex. 2023 ¶¶ 91–127.

Having reviewed the parties' arguments and supporting evidence, we determine that Petitioner has shown by a preponderance of the evidence that (i) the MPT Specifications are printed publications within the meaning of 35 U.S.C. § 102(b), (ii) claims 1 and 4 are unpatentable under 35 U.S.C. § 103(a) as obvious over the MPT Specifications, and (iii) claim 3 is unpatentable under § 103(a) as obvious over the MPT Specifications, Zdunek, and Dufresne.

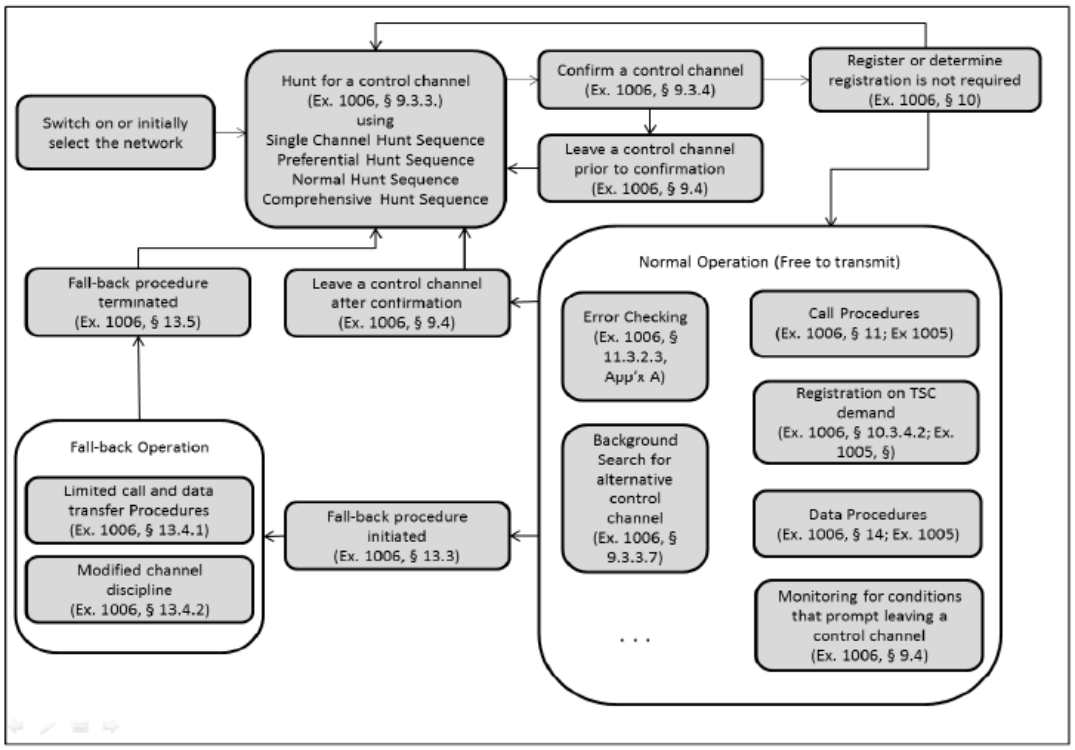
1. Summary of the MPT Specifications

The MPT Specifications (MPT 1343, MPT 1347, and MPT 1327), documents published by the United Kingdom Department of Trade and Industry, Radiocommunications Agency, provide standards for communications in trunked radio networks. *See* Ex. 1005, 1 (cover), 4 (Foreword); Ex. 1006, 1 (cover), 4 (Foreword); Ex. 1007, 1 (cover), 5

(Foreword). The MPT Specifications define interrelated aspects of a trunked radio system, and the three documents reference one another explicitly. *See, e.g.*, Ex. 1006 § 1.1 ("MPT 1343 is designed to be read in association with MPT 1327."); *id.* § 2 (MPT 1343 referring to MPT 1327 and MPT 1347 as "associated documents"); Ex. 1005, 4 (MPT 1327 Foreword referring to MPT 1343 and MPT 1347); Ex. 1007, 5 (MPT 1347 Foreword stating that "[a] companion specification, MPT 1343, contains the requirement to be met by radio units to be used with these networks").

MPT 1343 provides definitions of various terms used in the MPT Specifications. Ex. 1006 § 3.1. For example, a "radio unit" is "[a] mobile or other user station contacting a system by normal land mobile radio in accordance with the specification." *Id.* A "trunking system controller," or "TSC," is defined as "[t]he central control intelligence necessary to enable the trunking system to function according to MPT 1327." *Id.* A "control channel" is defined as "[a] forward channel and return channel being used for the transmission of messages conforming to MPT 1327 with the primary purpose of enabling the [TSC] to control radio units." *Id.*

Together, the MPT Specifications describe processes for establishing and maintaining communications in a standards-compliant MPT-based network. The following figure from the Petition illustrates how certain sections of the MPT Specifications interrelate to one another to define specific system use cases:



Flowchart illustrating functionality defined by
MPT Specifications (Pet. 10)

When a radio unit in an MPT-compliant system is switched on or is initially selecting a network for connection, the radio unit attempts to "acquire a control channel emanated by the selected network." Ex. 1006 § 9.3.3.1. Depending on various circumstances, such as the way the radio unit is configured and the information retained in its memory, the radio unit executes one or more control channel hunting procedures to locate an "appropriate control channel." *Id.* For instance, when a radio unit is switched on and has valid registration information stored in memory from a prior use on a network, the radio unit executes a "single channel hunt sequence" and tunes to the control channel indicated in the previous record. *Id.* § 9.3.3.2.2. The radio then attempts to confirm the control channel by testing the channel in accordance with MPT 1343 § 9.3.4 before any

transmissions on the control channel are allowed. *Id.* § 9.3.3.2.2. For example, during control channel confirmation, the radio unit compares the LAB sub-field of the control channel's system identification code (indicating the category of radio units allowed on that control channel) with the radio unit's own categorization stored in its read only memory. *Id.* § 9.3.4.2.5. The radio unit also monitors the codeword error rate of the control channel and compares it against threshold requirements. *Id.* § 9.3.4.3. If the error check fails, the radio unit returns to the control channel hunting procedures. *Id.* § 9.4.1. If the testing succeeds, the hunt sequence is considered complete and the control channel is confirmed. *Id.* § 9.3.4.4.

Once the control channel is confirmed, the radio determines whether it is required to register before it is able to transmit freely. *Id.* § 10.2.3. The radio unit makes this determination based on the current system mode as well as on data retained in memory and broadcast on control channels. *Id.* If the radio unit determines registration is not required, the radio is free to initiate calls, and normal operation proceeds. *Id.* If registration is required, however, the radio unit checks to see if it holds a successful registration. *Id.* If it does not hold a successful registration record, the radio unit executes the registration procedures of MPT 1343 § 10.2.4. *Id.* The TSC accepts, denies, or fails the registration attempt. *Id.* § 10.2.4; Ex. 1005 § 8.2.1.2. If registration is denied or failed, the radio unit defaults back to the control channel hunting procedures. Ex. 1006 §§ 10.2.4.1.2, 10.2.4.1.3. If registration is accepted, the radio unit enters normal operation on the network and is free to transmit. *Id.* § 10.2.3. During normal operation, a radio unit monitors its control channel for a variety of conditions to

determine whether it must leave that control channel and return to control channel hunting procedures. *Id.* § 9.4.1.

In the event of network failure, the network may implement a fall-back procedure to provide reduced network capability until normal function is restored. *Id.* § 13. When fall-back operation is signaled, each radio unit relapses to a pre-programmed channel. *Id.* § 13.1. Modified procedures and limited call procedures are utilized while in fall-back mode. *Id.* § 13.4. A radio unit will exit from fall-back mode and enter the control channel acquisition procedures upon receiving a message from the network signaling exit from fall-back operation or a user initiating selection of a different network. *Id.* § 13.5.

2. The MPT Specifications are Printed Publications

The parties dispute whether the MPT Specifications qualify as prior art "printed publications" under 35 U.S.C. §§ 102(b) and 311(b). Pet. 16–17; PO Resp. 23–26; Pet. Reply 3–5. The determination whether a document is a "printed publication" involves a case-by-case inquiry into the facts and circumstances surrounding its disclosure to members of the public. *In re Klopfenstein*, 380 F.3d 1345, 1350 (Fed. Cir. 2004). The key inquiry is whether the reference was made "sufficiently accessible to the public interested in the art" before the critical date. *In re Cronyn*, 890 F.2d 1158, 1160 (Fed. Cir. 1989). "A given reference is 'publicly accessible' upon a satisfactory showing that such document has been 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." *Suffolk Techs., LLC v. AOL Inc.*, 752 F.3d 1358, 1364 (Fed. Cir. 2014) (quoting *Bruckelmyer v. Ground Heaters, Inc.*, 445 F.3d 1374, 1378 (Fed.

Cir. 2006)). "[O]nce accessibility is shown, it is unnecessary to show that anyone actually inspected the reference." *In re Lister*, 583 F.3d 1307, 1314 (Fed. Cir. 2009).

The MPT Specifications cited in the Petition were published in 1991. The version of MPT 1327 relied on in the Petition indicates on its cover page that the document was first published in January 1988 and reprinted and revised in November 1991. Ex. 1005, 1. Similarly, the cover pages of the versions of MPT 1343 and MPT 1347 cited in the Petition indicate they were first published in January 1988 and August 1988, respectively, and revised and reprinted in September 1991. Ex. 1006, 1; Ex. 1007, 1. Each document also bears a UK copyright notice showing the same publication dates as the cover pages. Ex. 1005, 3; Ex. 1006, 3; Ex. 1007, 3.

Petitioner contends that the MPT Specifications were publicly accessible well before July 18, 1993, the § 102(b) critical date of the '883 patent. Pet. 16–17. In support of its position, Petitioner provides the 1991–92 Annual Report of the Radiocommunications Agency ("RA"), the UK agency that published the MPT Specifications. Ex. 1010. According to the Annual Report, the RA published eleven new or revised MPT standards, including MPT 1327, MPT 1343, and MPT 1347, between April 1, 1991, and March 31, 1992. *Id.* at 24, 35. The specific publication dates set forth in the Report accord with the dates on the cover pages of the MPT Specifications relied on by Petitioner. *Id.* at 35. Moreover, the Report states that the MPT standards "continue to be available free of charge from [the RA's] Library." *Id.* at 24. The Report also provides a mailing address and telephone number for the RA's Information and Library Service to allow

requests for free copies of various publications, including the MPT Specifications. *Id.* at 33.

Patent Owner contends the MPT Specifications were not sufficiently accessible to the public as of the critical date. PO Resp. 24. According to Patent Owner, Petitioner has provided no evidence that the MPT Specifications were ever disseminated to anyone. *Id.* But proof of actual dissemination or viewing of a reference is not required in order to establish public accessibility. *See Lister*, 583 F.3d at 1314.

Patent Owner also asserts that Petitioner has failed to provide evidence of the availability of the MPT Specifications to individuals other than those who already knew of their existence, or how interested persons of ordinary skill could have located the MPT Specifications or the Annual Report. PO Resp. 24. We are not persuaded by Patent Owner's argument. Rather, we agree with Petitioner that the record is replete with evidence showing those working in the field were aware of the RA's development of the MPT standards and how to obtain copies of them. *See* Pet. Reply 4–5. For example, a PCT application published in 1993 identifies MPT 1327, MPT 1343, and MPT 1347 as describing a "trunking technique" for mobile radio systems. Ex. 1018, 2. Another PCT application published in 1993 refers to MPT 1327 and MPT 1343 as "*de facto* standards in Europe for private mobile radio networks." Ex. 1019, 2.

Further, as Petitioner points out, the MPT Specifications were cited in United States patents and a published EPO application, and mentioned in books as well. *See* Ex. 1026 (listing MPT 1327 among the Other Publications on the face of the patent); Ex. 1027, 2:47–54 (citing MPT 1327); Ex. 1028, 4:36–42 (citing MPT 1327); Ex. 1029, 3:9–27

(discussing MPT 1327); Ex. 1030, 297, 300 (discussing MPT Specifications); Ex. 1031 (mentioning MPT 1327 and MPT 1343). Although these references either refer to the 1988 version of the MPT Specifications, or do not specifically identify the 1991 version, they nevertheless support Petitioner's assertion that persons of ordinary skill in the art were aware of the RA's work in publishing and maintaining the MPT standards and knew how to obtain them. An order from the Federal Communications Commission explaining comments from Motorola, Ericsson, and Philips, among others, regarding the suggested use of MPT 1327 in the United States further supports Petitioner's position. Ex. 1032, 3876.

We also are not persuaded by Patent Owner's contention that the Board in other cases has found similar evidence insufficient to establish public accessibility. *See* PO Resp. 25–26. Unlike the asserted reference in *Samsung Electronics Co. v. Rembrandt Wireless Technologies, LP*, Case IPR2014-00514, slip op. at 7–9 (PTAB Sept. 9, 2014) (Paper 18), the MPT Specifications are not draft standards, and there is no evidence that the MPT Specifications, available for free from the RA's library, were password protected. The circumstances here are also unlike those in *Groupon Inc. v. Blue Calypso, LLC*, Case CBM2013-00033, slip op. at 25–30 (PTAB Dec. 17, 2014) (Paper 51), *aff'd in relevant part*, 815 F.3d 1331, 1349–51 (Fed. Cir. 2016), which involved an undated, undistributed university departmental technical report mentioned publicly on a professor's list of publications. In contrast, the evidence in the instant proceeding establishes that ordinarily skilled artisans working in the field knew the RA had set standards regarding trunked radio and made them freely available.

For the foregoing reasons, we determine Petitioner has demonstrated by a preponderance of the evidence that the MPT Specifications were publicly accessible as of the critical date. Therefore, the MPT Specifications qualify as prior art printed publications within the meaning 35 U.S.C. §§ 102(b) and 311(b).

3. Obviousness of Claim 1

As an initial matter, we adopt Petitioner's proposed level of ordinary skill in the art as a person with an undergraduate degree in electrical engineering, or an equivalent education experience, and three or more years working in a relevant field employing digital communications technology to deliver telecommunication services, or alternatively a relevant field involving the manufacture of telecommunication products. *See* Pet. 9 (citing Ex. 1002 ¶ 31). Patent Owner's proposed level of ordinary skill in the art, *see* Ex. 2023 ¶ 25, is, according to Patent Owner's expert, "essentially the same" as Petitioner's proposal, *id.* ¶ 27.

We also agree with Petitioner that a person of ordinary skill in the art at the time of the alleged invention of the '883 patent would have understood that the MPT Specifications define portions of an interrelated trunked radio system, such that their teachings naturally would have been combined to form an MPT-compliant network. *See* Pet. 17. The three documents relied on by Petitioner—MPT 1327, MPT 1343, and MPT 1347—explicitly reference one another. *See, e.g.*, Ex. 1006 §§ 1.1, 2; Ex. 1005, 4 (Foreword); Ex. 1007, 5 (Foreword). In addition, those skilled in the art before the critical date of the '883 patent referred to MPT 1327, MPT 1343, and MPT 1347 as "associated documents." Ex. 1018, 2. Patent Owner does not challenge Petitioner's assertion that a person of ordinary skill in the art

would have been motivated to combine the teachings of the MPT Specifications. Based on our review of the record, we agree with and adopt the rationale presented in the Petition for combining the MPT Specifications in the manner asserted. *See* Pet. 17–18; Ex. 1002 ¶¶ 170–72.

We now turn to Petitioner's contentions regarding how the MPT Specifications disclose all of the limitations of claim 1. Petitioner relies on two separate modes of operation described in the MPT Specifications to demonstrate that the MPT Specifications render the challenged claims obvious. *See* Pet. 24. The first is the single channel hunt sequence followed by normal operation on a control channel, which Petitioner contends describes all the limitations of claim 1. *Id.* at 26–29, 32–33, 35–36, 38–41, 43–45. Patent Owner argues the Petition fails to show that this process includes steps (c) and (e) of claim 1. PO Resp. 34–48. As will be explained in detail below, we agree with Petitioner that the single channel hunt sequence followed by normal operation, as described in the MPT Specifications, meets all the limitations of claim 1.

Petitioner also contends that the second mode of operation—the fall-back procedure described in the MPT Specifications—includes all the steps recited in claim 1. Pet. 29–31, 33–34, 36–37, 42–43, 45–46. In response, Patent Owner submits that its arguments regarding the single channel hunt sequence followed by normal operation apply equally to Petitioner's mapping of the fall-back procedure to steps (c) and (e) of claim 1. PO Resp. 50 n.18 (asserting that Petitioner's argument regarding the fall-back procedure is deficient as to step (c) for the same reasons the single channel hunt sequence does not perform step (c)); *id.* at 50–51 (asserting that Petitioner's position concerning the fall-back procedure's disclosure of

step (e) is deficient for the same reasons its position concerning the single channel hunt sequence is deficient because Petitioner relies on the same disclosures in the MPT Specifications for both modes of operation). Additionally, Patent Owner presents another argument directed only to Petitioner's contentions regarding the fall-back procedure, based on an alleged relationship between steps (b) and (c). *Id.* at 48–50. Because we find that the first mode of operation relied on by Petitioner meets all the limitations of claim 1, we need not consider Petitioner's contentions regarding the fall-back procedure or Patent Owner's arguments in response. Accordingly, the discussion that follows focuses on the parties' contentions with respect to the single channel hunt sequence followed by normal operation.

a. Preamble and steps (a) and (b)

Petitioner asserts that the MPT Specifications describe a "multiple access communication system" (based on a slotted Aloha random access protocol) comprising a "central controller" (TSC in the MPT Specifications), a "shared transmission means" (airwaves), and a "plurality of remote terminals" (radio units), as recited in the preamble of claim 1.[7] Pet. 20–23 (citing, e.g., Ex. 1005, §§ 1.3.2, 1.3.3.1, 7.2.2, 8.1, 8.2; Ex. 1006, §§ 3.1, 4.1, 4.1.1, 4.1.2, 5.1.1, 5.1.2, 8.2.2.2). Petitioner also asserts that the MPT Specifications describe a "method of allocating signalling data channels" (MPT control channels) "from a plurality of communication channels" (channels in the MPT system which may be flexibly allocated as control

[7] Petitioner contends that the preamble is non-limiting. We need not decide whether the preamble is limiting because Petitioner demonstrates that the MPT Specifications disclose all the features in the preamble.

channels or traffic channels). *Id.* at 23 (citing Ex. 1006 §§ 3.1, 9.1). In Petitioner's analysis, each MPT control channel corresponds to a "pair" of "signalling data channels," as recited in the claim, because each control channel carries signalling messages and comprises both a forward channel and a return channel. *Id.* at 24–25 (citing Ex. 1006 § 3.1 (definition of "control channel")).

When an MPT radio unit switches on, and the radio holds a valid record of a channel number on which the radio unit most recently was confirmed, the radio tunes to that control channel according to the single channel hunt sequence. Ex. 1006 § 9.3.3.2.2. Thus, according to Petitioner, remote terminals are "initially assigned to a pair of predetermined signalling data channels," as recited in step (a) of claim 1. Pet. 29. Petitioner asserts that after control channel confirmation and successful registration, normal operation ensues, so that communications between the central controller (i.e., TSC) and remote terminals (i.e., radio units) via a plurality of signalling data channels (i.e., MPT control channels) have been established, as required by step (a). *Id.* at 27–28.

Step (b) of claim 1 recites "monitoring the status of a plurality of the signalling data channels in use between said central controller and said plurality of remote terminals for the usability of said signalling data channels." Petitioner submits that the disclosed MPT system in normal operation meets this limitation because a radio unit monitors its current control channel, e.g., by carrying out error checking measurements, and must leave the channel when a codeword sample error event occurs. *Id.* at 32–33 (citing Ex. 1006 §§ 9.3.4.3, 9.4.1; Ex. 1007 § 9.4.4).

Patent Owner does not dispute Petitioner's contentions that the single channel hunt sequence followed by normal operation defined in the MPT Specifications discloses the preamble and steps (a) and (b) of claim 1. *See* PO Resp. 34–48; Pet. Reply 1. For the reasons set forth in the Petition, summarized above, we agree with Petitioner that the MPT Specifications describe the preamble and steps (a) and (b) of claim 1.

b. Step (c)

Step (c) of claim 1 recites "determining whether one of said plurality of remote terminals needs to be reassigned to a different signalling data channel other than said predetermined signalling data channel." Petitioner takes the position that because a radio unit leaves the current control channel when it determines that a codeword sample error event has occurred (as noted above in connection with step (b)), "a determination has been made that the radio unit needs to be assigned to a different control channel other than the current control channel." Pet. 35 (citing Ex. 1006, § 9.4.1; Ex. 1002 ¶ 140).

In response, Patent Owner argues that "the plain language of step (c) requires a determination whether action *directed to* a remote terminal needs to be taken." PO Resp. 35 (emphasis added). In other words, Patent Owner continues, the remote terminal is the object of the determination and the object of the action based on the determination. *Id.* at 35–36. Thus, in Patent Owner's view, a person of ordinary skill in the art would understand the claim language to mean "a determination is made whether a remote terminal 'needs to be reassigned,' not that a remote terminal determines whether 'to reassign' itself." *Id.* at 36 (citing Ex. 2023 ¶ 95) (emphasis omitted). Patent Owner further argues that this alleged plain meaning is

confirmed by the written description of the ’883 patent, which “explains that channel reassignment is ‘initiated’ and ‘controlled’ by the central controller, not by the remote terminals.” *Id.* (citing Ex. 1001, 3:43–47, 8:32–34; Ex. 2023 ¶ 94). Finally, Patent Owner alleges that extrinsic evidence, in the form of attorney argument and an opinion from Mr. Lipoff, Petitioner’s expert, in prior district court proceedings, shows that the central controller must perform step (c). *Id.* at 36–37 & n.12 (citing Ex. 2028 ¶ 365; Ex. 2021, 82:22–83:4).

As Petitioner asserts, Patent Owner essentially is making a claim construction argument. *See* Pet. Reply 7. Petitioner submits that Patent Owner’s proposed construction is in conflict with the plain language of the claim and improperly imports an embodiment from the specification into the claim. *Id.* at 8. Moreover, Petitioner argues that the extrinsic evidence cannot override the plain language of the claim. *Id.* at 13. For the following reasons, we agree with Petitioner that under a proper construction, the claim does not require step (c) to be performed by the central controller, and indeed step (c) may be performed by the remote terminal.

We begin with the language of the claims. The method recited in claim 1 has five steps, of which only one—step (e)—explicitly states that it must be performed by specific equipment, i.e., the central controller. Ex. 1001, 14:51–53 (“reassigning by said central controller”); *see* Pet. Reply 9. Other claims have similar limitations requiring certain method steps to be performed by either the central controller or a remote terminal. *E.g.*, Ex. 1001, 14:59–15:5 (claim 2), 16:10–15 (claim 7). Thus, when the patentee wished to limit steps of the method to being performed by a specific apparatus, it knew how to do so. *See* Pet. Reply 9. It follows that the claim

language itself does not require step (c) to be performed by the central controller or any other particular piece of equipment. Furthermore, nothing in the claim language precludes the remote terminal from making a determination about itself that it needs to be reassigned to a different signalling channel. As Petitioner asserts, even if the plain language of step (c) requires a determination whether action directed to a remote terminal needs to be taken, a person of ordinary skill in the art would have understood that a remote terminal executing software in accordance with the MPT Specifications could make such a determination about itself. Pet. Reply 10 (citing Ex. 1002 ¶¶ 83, 142, 146).

Patent Owner's reference to the written description of the '883 patent does not help its cause. Although the text cited by Patent Owner indicates that the central controller determines whether a remote terminal needs to be reassigned, *see* Pet. 36 (citing Ex. 1001, 3:43–47, 8:32–34), it is improper to read limitations from a preferred embodiment into the claims absent a clear indication in the intrinsic record that the patentee intended the claims to be so limited. *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 913 (Fed. Cir. 2004). Patent Owner does not direct us to any disavowal of the full scope of step (c) in the specification or in the prosecution history, nor does Patent Owner identify any definitions set out in the '883 patent that would limit the scope of step (c) to something other than its ordinary meaning. *See Thorner v. Sony Comput. Entm't Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012) (identifying the only two exceptions to the general rule that claim terms generally are given their plain and ordinary meaning). Thus, nothing in the written description of the '883 patent restricts the meaning of the claim language in a way that precludes the remote terminal from

determining whether it needs to be reassigned to a different signalling channel, as permitted by the plain language of step (c).

Nor does Patent Owner's reliance on statements and testimony from district court proceedings and the testimony of its expert change the meaning of the claim language of step (c). First, Patent Owner submits that Petitioner's expert, Mr. Lipoff, takes a position regarding step (c) in this proceeding that directly conflicts with his opinion during a district court litigation between Patent Owner and third parties. PO Resp. 21–22, 36–37 (citing Ex. 2028 ¶ 365). Patent Owner, however, misquotes Mr. Lipoff's district court expert report, adding words that significantly change the meaning. *See* Pet. Reply 15 (side-by-side comparison of Patent Owner's alleged quotation and Mr. Lipoff's expert report). We agree with Petitioner that the actual sentence from Mr. Lipoff's expert report is ambiguous as to whether any specific steps of claim 1, particularly step (c), are performed by the central controller.[8] *See id.*

Similarly, the statement made by Petitioner's district court counsel that the "central controller plays a key role in steps (a) through (e)" is at best ambiguous regarding the role of the central controller in performing the claimed steps. *See* Ex. 2021, 82:22–83:4; Pet. Reply 15–16 n.5. Indeed, Patent Owner's expert, Dr. Heegard, does not agree that all steps of claim 1 must be carried out by the central controller. *See* Ex. 1022, 88:7–90:2 (explaining that step (a) could be performed by the remote terminal or central controller because step (a) does not specify what equipment performs

[8] For the same reason, we are not persuaded by Patent Owner's argument that Mr. Lipoff's testimony directly conflicts with his district court testimony and therefore should be accorded no weight. *See* PO Resp. 21–22.

the step). And although Dr. Heegard testifies in this proceeding that a person of ordinary skill in the art would understand that the central controller performs step (c), he admits he previously testified that "[t]he only thing that definitely the central controller does is reassigning because it explicitly says that." Ex. 1022, 109:10–12; Ex. 1024, 67:21–23 (Dr. Heegard's district court deposition testimony).

For all of these reasons, the extrinsic evidence cited by Patent Owner is outweighed by the clear intrinsic evidence and cannot override the plain language chosen by the patentee. *See TIP Sys., LLC v. Phillips & Brooks/Gladwin, Inc.*, 529 F.3d 1364, 1375 (Fed. Cir. 2008) (citing *Phillips*, 415 F.3d at 1324); *Phillips*, 415 F.3d at 1318 ("[A] court should discount any expert testimony that is clearly at odds with the claim construction mandated by the claims themselves, the written description, and the prosecution history, in other words, with the written record of the patent." (citations and internal quotation marks omitted)).[9] As properly construed, step (c) of claim 1 may be performed by the remote terminal. Therefore, we agree with Petitioner that the single channel hunt sequence followed by normal operation defined in the MPT Specifications discloses step (c) when the radio unit determines it needs to be assigned to a different control channel after a codeword sample error event. *See* Pet. 35.

c. Step (d)

Step (d) of claim 1 recites "determining whether a different and suitable signalling data channel is available other than said predetermined

[9] We note that neither party argues the prosecution history has any bearing on the interpretation of step (c).

channel." Petitioner submits that the system described in the MPT Specifications meets this limitation when a radio unit leaves the current control channel upon occurrence of an error condition and enters the "preferential hunt sequence." *Id.* at 38 (citing Ex. 1006 § 9.4.1). In the mandatory "preferential area hunt stage" of that sequence, the radio unit samples control channels identified in its read/write memory. *Id.* at 39 (citing Ex. 1006 § 9.3.3.3). Before communicating on a new (i.e., different) control channel, the radio unit must confirm the channel by comparing the LAB sub-field of the control channel's system identification code with the radio unit's control category. *Id.* (citing Ex. 1006 § 9.3.4.2.5; Ex. 1002 ¶ 153). It also must perform error checking, a process that, according to Petitioner, determines whether the new control channel is available and suitable for use, as required by the claim. *Id.* at 40 (citing Ex. 1006 §§ 9.3.4.3, 9.3.4.4; Ex. 1002 ¶¶ 154–55).

Patent Owner does not dispute Petitioner's contentions regarding step (d). *See* PO Resp. 34–48; Pet. Reply 1. For the reasons summarized above, set forth in more detail in the Petition, *see* Pet. 38–40, we agree with Petitioner that the MPT Specifications describe step (d) of claim 1.

d. Step (e)

Step (e) of claim 1 recites "reassigning by said central controller said remote terminal to a different and suitable signalling data channel for communication henceforward." According to the plain language of the claim, this step must be performed by the central controller. Petitioner contends that the MPT Specifications meet this limitation when the TSC grants a new registration to the radio unit that has just confirmed a new control channel. Pet. 43–45. In Petitioner's view, the MPT Specifications

make clear that the TSC (i.e., the claimed central controller), when accepting or granting a registration request, decides whether the radio unit will be able to continue "communication henceforward," and therefore performs the "reassigning" step recited in the claim. *Id.* at 44.

Petitioner relies on the following detailed description of the registration process in the MPT Specifications as disclosing step (e) of claim 1. *See* Pet. 43–45; Ex. 1002 ¶¶ 164–66. After a new control channel (i.e., the different and suitable control channel recited in step (d)) has been confirmed, the radio unit cannot transmit freely on the new control channel unless it holds a successful registration record. Ex. 1006 § 10.2.3 ("Once confirmed on a control channel, the radio unit shall not transmit any message other than RQR, or an acknowledgement in response to an Ahoy . . . , unless it holds a successful registration . . . ."). If the radio unit determines it is required to register and does not hold a successful registration record, it attempts to register by generating an RQR message, complying with the random access protocol. *Id.*; Ex. 1005 § 8.2.1. The TSC then accepts, denies, or fails the registration attempt by returning an appropriate acknowledgement message. Ex. 1006 § 10.2.4.1; Ex. 1005 § 8.2.1. For instance, when the TSC accepts a registration, it sends an "ACK(QUAL = '0')" message to the radio unit. Ex. 1006 § 10.2.4.1.1; Ex. 1005 § 8.2.1.2. Only after the radio unit receives that registration acceptance message can the radio unit transmit freely on the new control channel. Ex. 1006 § 10.2.3 ("At any time that the radio unit holds a successful registration record . . . , it is free to transmit any message conforming to the requirements of this specification."); Ex. 1002 ¶ 166. According to Petitioner, one of ordinary skill in the art would have

understood that when a new registration is granted, that is a reassignment of the control channel, allowing the radio unit to transmit freely and permitting further communication over the newly acquired control channel henceforward. Pet. 45.

Patent Owner presents several arguments as to why the granting of a new registration by the TSC as set forth in the MPT Specifications cannot constitute "reassigning by said central controller" as recited in step (e). *See* PO Resp. 39–48. First, Patent Owner submits that the TSC does not perform a reassignment because an individual radio unit reassigns itself to a new control channel when it decides to leave its current control channel and locates a new control channel. *Id.* at 39, 47; *see* Tr. 43:12, 43:24–44:2. In other words, Patent Owner contends that the reassignment occurs before the radio unit requests registration from the TSC, so the TSC is not involved in the reassignment.

We disagree with this argument because step (e) requires the reassignment of the remote terminal to the new signalling channel to be "for communication henceforward." If an MPT radio unit is required to register after confirming a new control channel, it cannot communicate henceforward until it requests registration from the TSC and the TSC grants the registration request. Ex. 1006 § 10.2.3; *see* Pet. Reply 21. If the TSC does not grant registration, the radio unit may not communicate henceforward on the new control channel, and instead returns to control channel hunting procedures to search for a different control channel. Ex. 1006 §§ 10.2.4.1.2, 10.2.4.1.3.

Patent Owner and its expert, Dr. Heegard, agree with Petitioner that the purpose of the reassigning step is communication henceforward.

Ex. 1022, 94:14–95:16; Tr. 43:3–5. Dr. Heegard also states that the claim language means the remote terminal "should stop using the old channel and use the new channel" unless it is reassigned again. Ex. 1022, 94:14–95:16. And although counsel for Patent Owner suggested at the hearing that a registration request from the radio unit to the TSC is a form of communication that would satisfy the claim, Tr. 47:17–22, Dr. Heegard testifies to the contrary that "communication henceforward" does not encompass a transient channel use, Ex. 1022, 96:6–9, which a registration request would be if the TSC does not grant registration. Thus, the evidence of record supports Petitioner's contention that in the context of the MPT Specifications, reassignment of a radio unit (i.e., the claimed remote terminal) for communication henceforward does not occur until the TSC (i.e., the central controller) grants a registration request.

Patent Owner further argues that, in instances in which a radio unit does not need to seek a new registration, Mr. Lipoff acknowledges that a radio unit reassigns itself to a new channel. PO Resp. 45; *see* Ex. 2027, 218:19–220:17. According to Patent Owner, this cannot be reconciled with Petitioner's and Mr. Lipoff's position that when a radio unit is required to register upon confirming a new control channel, the TSC, not the radio unit, performs the reassignment. PO Resp. 45–46 (citing Ex. 2023 ¶ 110). Petitioner, however, does not rely on instances in which registration is not required. *See* Pet. Reply 23. In any event, we see no inconsistency, because reassignment is complete in both cases when the radio unit is capable of ongoing communication on the newly confirmed control channel. That is, a radio unit that does not require registration can communicate henceforward on a new control channel without involvement by the TSC, whereas a radio

unit that must register cannot communicate henceforward until the TSC accepts the registration request.

Patent Owner also argues the MPT Specifications do not disclose that the TSC's decision whether to grant a registration request is dependent upon the control channel on which it is received. PO Resp. 40. Similarly, Patent Owner argues the TSC cannot perform the reassigning step because it does not identify the new control channel. *See* Tr. 44:22–45:2. The claim language, however, does not require the central controller to determine the new signalling channel or to know the channel to which the remote terminal is being reassigned. The parties agree that the signalling channel referred to in step (e) is the one that is determined in step (d). Tr. 69:3–8, 79:20–24. Thus, step (e) only requires reassigning the *remote terminal* to that already determined channel. Although in the preferred embodiment of the '883 patent the central controller is involved in selecting the different and suitable signalling channel, the language of claim 1 does not require the central controller to perform all of the claimed steps.

Patent Owner's remaining arguments are unavailing. For instance, Patent Owner argues that Petitioner conflates the "reassigning" required by step (e) with registration of a remote terminal. PO Resp. 41. As support for this contention, Patent Owner and Dr. Heegard rely on the written description of the '883 patent, alleging that reassignment and registration are separate and distinct steps. *Id.* (citing Ex. 2023 ¶¶ 105–07). But as Petitioner explains, Dr. Heegard's understanding of the '883 patent is contrary to the patent's text. *See* Pet. Reply 17–19. The '883 patent states that channel assignment and reassignment are performed "[t]hrough the registration process." Ex. 1001, 3:47–50, 7:36–38. Thus, the '883 patent

describes reassignment as part of the registration process, not a separate and distinct step.

Patent Owner also relies on the fact that the TSC does not "send[] a command to a radio unit to tune to a particular channel." PO Resp. 39. We agree with Petitioner that this is irrelevant because step (e) does not require the issuance of a command, as Dr. Heegard admits. *See* Pet. Reply 22; Ex. 1022, 141:17–24.

We also are unpersuaded by Patent Owner's reliance on the prosecution history of the '883 patent. *See* PO Resp. 46–47. Patent Owner asserts that to distinguish claim 1 over the Grauel prior reference, the applicant added the requirement that reassigning be performed by the central controller. Ex. 2025, 228. Patent Owner further argues that radio units in the MPT Specifications are like the mobile stations in Grauel, which reassign themselves to appropriate control channels. PO Resp. 47. For the reasons set forth in the Reply, we agree with Petitioner that Grauel differs significantly from the MPT Specifications, and therefore the amendment and arguments made to distinguish Grauel do not lead to the inference that step (e) excludes the registration process performed by the TSC. *See* Pet. Reply 21–22.

We have considered all of the parties' arguments and supporting evidence as to whether the MPT Specifications disclose the "reassigning" limitation in step (e) of claim 1. For the foregoing reasons, we agree with Petitioner that the MPT Specifications meet this limitation when the TSC grants a registration to a radio unit after the radio unit has confirmed a new control channel.

e. Conclusion

For the reasons explained above, we are persuaded that the processes described in the MPT Specifications for the single channel hunt sequence followed by normal operation on a control channel perform all of the steps recited in method claim 1. We also agree with and adopt Petitioner's reasoning for why a person of ordinary skill in the art would have combined the MPT Specifications as asserted. *See* Pet. 17–18; Ex. 1002 ¶¶ 170–72. Therefore, Petitioner has shown by a preponderance of the evidence that claim 1 would have been obvious over the MPT Specifications—MPT 1343, MPT 1347, and MPT 1327.

4. Claim 4

Claim 4 depends from claim 1 and includes further limitations on the step of determining whether a remote terminal needs to be reassigned, i.e., step (c). Ex. 1001, 15:27–41. Petitioner explains how the MPT Specifications describe the additional limitations of claim 4. *See* Pet. 46–51. Patent Owner does not present any arguments regarding this claim, separate from its arguments for claim 1. *See* PO Resp. 51. We agree with and adopt Petitioner's analysis, *see* Pet. 46–51, and determine that Petitioner has shown by a preponderance of the evidence that claim 4 would have been obvious over the MPT Specifications—MPT 1343, MPT 1347, and MPT 1327.

5. Claim 3

Claim 3 depends from claim 1 and includes further limitations on the step of monitoring the status of signalling data channels, i.e., step (b). Ex. 1001, 15:13–26. Petitioner explains how the subject matter of claim 3 would have been obvious over the MPT Specifications in view of Zdunek,

which discloses a system in which aggregate traffic load requirements are calculated, and Dufresne, which describes monitoring collisions on a shared channel. Pet. 51–60 (citing, e.g., Ex. 1008, 2:39–44, 5:59–61; Ex. 1009, 1:5–16, 3:13–19, 3:36–51). The Petition also includes analysis as to why a person of ordinary skill in the art would have combined the teachings of Zdunek and Dufresne with those of the MPT Specifications. *Id.* at 54, 56–57. Patent Owner does not present any arguments regarding this claim, separate from its arguments for claim 1. *See* PO Resp. 51–52. We agree with and adopt Petitioner's analysis, *see* Pet. 51–60, and determine that Petitioner has shown by a preponderance of the evidence that claim 3 would have been obvious over MPT 1343, MPT 1347, MPT 1327, Zdunek, and Dufresne.

D. Petitioner's Motion to Exclude

Petitioner seeks to exclude Exhibit 2028, which is an expert report by Petitioner's expert, Mr. Lipoff, from a district court litigation to which Petitioner was not a party. Paper 29, 1. Petitioner argues that the Lipoff report is inadmissible at least because (i) it is hearsay for which no exception applies, (ii) it is being used in an improper attempt to impeach Mr. Lipoff's credibility, and (iii) it is incomplete because Patent Owner has redacted substantial portions from its text. *Id.* (citing FED. R. EVID. 106, 613(b), 802).

Under the circumstances in this case, we need not assess the merits of Petitioner's Motion to Exclude. As discussed above, even without excluding Exhibit 2028, we have determined that Petitioner has demonstrated by a preponderance of the evidence that the challenged claims are unpatentable. Accordingly, Petitioner's Motion to Exclude is *dismissed* as moot.

E. Patent Owner's Motion to Exclude

Patent Owner moves to exclude Exhibits 1005–07, 1010, 1014, 1015, 1018, 1019, and 1026–34. Paper 43 ("PO Mot. Excl."). Petitioner opposes the Motion. Paper 46 ("Pet. Opp."). Patent Owner filed a reply in support of its Motion. Paper 48. As movant, Patent Owner has the burden of showing that an exhibit is not admissible. 37 C.F.R. § 42.20(c).

1. Exhibits 1014, 1015, 1033, and 1034

As an initial matter, this Final Written Decision does not discuss or rely on Exhibits 1014, 1015, 1033, and 1034. For the reasons set forth herein, we determine that Petitioner has demonstrated by a preponderance of the evidence that the challenged claims are unpatentable, without need for Petitioner's additional arguments or evidence relating to those four exhibits. Accordingly, Patent Owner's Motion to Exclude Exhibits 1014, 1015, 1033, and 1034 is *dismissed* as moot.

2. Exhibits 1005–1007 (MPT Specifications) and Exhibit 1010 (Radiocommunications Agency Annual Report)

Patent Owner argues that Exhibits 1005, 1006, and 1007, the three MPT Specifications relied on as prior art by Petitioner in this proceeding, should be excluded as inadmissible hearsay under Federal Rule of Evidence 802. PO Mot. 1–2. According to Patent Owner, Petitioner relies on the publication dates on the exhibits to support the position that the documents were made publicly accessible between 1991 and 1992 and, therefore, relies on them for their truth. *Id.* Patent Owner also argues that Exhibit 1010, the 1991–92 Annual Report of the Radiocommunications Agency ("RA"), should be excluded as hearsay because Petitioner relies on

statements in it to show the MPT Specifications were publicly accessible between 1991 and 1992.

Even if the publication dates on the MPT Specifications and the statements in the RA Annual Report are hearsay for the purpose of establishing public accessibility of the MPT Specifications, we agree with Petitioner that the MPT Specifications and RA Annual Report fall under the "ancient documents" exception to the rule against hearsay. FED. R. EVID. 803(16). The publications are at least twenty years old, and Petitioner has established their authenticity, at least for the following reasons. *See id.*; Pet. Opp. 4–5.

First, the MPT Specifications and RA Annual Report are self-authenticating under Federal Rule of Evidence 902(5) as official publications "issued by a public authority," the UK Radiocommunications Agency. *See* Ex. 1005, 4 (Foreword) (referring to MPT 1343 and MPT 1347 as being "prepared by the Department of Trade and Industry, Radiocommunications Agency"); Ex. 1006, 1 (cover) (providing the RA's logo and stating "[t]he Radiocommunications Agency is an Executive Agency of the Department of Trade and Industry"); Ex. 1007, 1 (cover) (providing the RA's logo and stating "[t]he Radiocommunications Agency is an Executive Agency of the Department of Trade and Industry"); Ex. 1010, 1 (cover); Pet. Opp. 5–6.

We also agree with Petitioner that the MPT Specifications and RA Annual Report are authentic under Federal Rule of Evidence 901(b)(4) based on their distinctive characteristics. *See* FED. R. EVID. 901(b)(4) (providing as an example of authenticating evidence "[t]he appearance, contents, substance, internal patterns, or other distinctive characteristics of

the item, taken together with all the circumstances"); Pet. Opp. 7–8. For instance, Exhibits 1006, 1007, and 1010 all bear the logo of the Radiocommunications Agency on their covers. Exhibits 1005, 1006, and 1007 have a similar structure, including a Foreword, hyphenated page numbering, and similar section headings. And Exhibits 1005, 1006, 1007, and 1010 all refer to one another and to the same subject matter.

3. Exhibits 1018, 1019, and 1026–32

Patent Owner contends that Exhibits 1018, 1019, and 1026–32 should be excluded under Federal Rule of Evidence 401 for lack of relevance because they do not specify which version of the MPT Specifications they relate to, or they refer to the 1988 version rather than the 1991 version cited by Petitioner as prior art. PO Mot. 7–12. We are not persuaded. As discussed earlier, Petitioner relies on these exhibits to show that persons of ordinary skill in the art were well aware of the RA's work on the MPT Specifications and therefore would have been led to the RA to obtain copies of then-current MPT Specifications. *See* Pet. Opp. 12; Pet. Reply 4–5. Because these exhibits tend to make it more probable that a person skilled in the art was aware of the MPT Specifications, they are relevant under Rule 401.

Patent Owner also contends that Exhibits 1030 and 1031, which contain book excerpts, are not authenticated under Federal Rule of Evidence 901. We disagree. As Petitioner points out, the exhibits have distinctive characteristics such as library catalog numbers, copyright pages, and ISBNs, and the regular pattern of text and the appearance of books, thus establishing that they are what they purport to be under Rule 901(b)(4). *See, e.g.*, Ex. 1030, 5; Ex. 1031, 3.

F. Motions to Seal

We previously granted Patent Owner's Motion to Seal its Preliminary Response and Exhibits 2013, 2015, 2016, and 2017. Dec. 22; *see* Paper 17. This decision does not refer to any confidential information in those documents, which remain under seal.

Patent Owner also has filed an unopposed Motion to Seal the unredacted version of its Patent Owner Response (Paper 28) and Exhibit 2028. Paper 29 ("Mot."). Patent Owner filed a redacted public version of its Patent Owner Response (Paper 30), but no public version of Exhibit 2028. According to Patent Owner, Exhibit 2028 is a redacted version of an expert report by Mr. Lipoff served on Patent Owner by third parties in connection with a district court litigation between Patent Owner and the third parties. Mot. 1.

Patent Owner moves to seal its Patent Owner Response "for the sole reason that the response refers to and discusses content contained in Exhibit 2028." *Id.* at 2. Patent Owner, however, does not contend that the content referred to in the Patent Owner Response, a single paragraph from Exhibit 2028, is confidential. Indeed, the paragraph is quoted in Petitioner's Reply to the Patent Owner Response, which is a public document not subject to a motion to seal. *See* Pet. Reply 15 (citing Ex. 2028 ¶ 365). Accordingly, Patent Owner has not shown good cause for maintaining the Patent Owner Response under seal, and its Motion to Seal is *denied* with respect to the Patent Owner Response.

Regarding Exhibit 2028, Patent Owner represents that the redactions contained therein were agreed to by Patent Owner and the third parties "to avoid the disclosure to the public of confidential information of the [t]hird

[p]arties." Mot. 1–2 n.2. Even with the redactions, however, Patent Owner states that the third parties have requested that Patent Owner move to seal Exhibit 2028 to avoid disclosure of confidential material not redacted. *Id.* Accordingly, we find good cause exists to have Exhibit 2028 remain under seal, and we *grant* Patent Owner's Motion to Seal with respect to Exhibit 2028.

There is an expectation that information will be made public where the information is identified in a Final Written Decision, and that confidential information that is subject to a protective order ordinarily would become public 45 days after final judgment in a trial, unless a motion to expunge is granted. 37 C.F.R. § 42.56; Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,761 (Aug. 14, 2012). In rendering this Final Written Decision, we have not discussed in detail any confidential information, though we have referred to Exhibit 2028, which according to Patent Owner may contain confidential information of third parties.

In view of the foregoing, the confidential documents filed in the instant proceeding will remain under seal, at least until the time period for filing a notice of appeal has expired or, if an appeal is taken, the appeal process has concluded. The record for the instant proceeding will be preserved in its entirety, and the confidential documents will not be expunged or made public, pending appeal. Notwithstanding 37 C.F.R. § 42.56 and the Office Patent Trial Practice Guide, neither a motion to expunge confidential documents nor a motion to maintain these documents under seal is necessary or authorized at this time. *See* 37 C.F.R. § 42.5(b).

III. CONCLUSION

Based on the evidence and arguments, Petitioner has demonstrated by a preponderance of the evidence that (i) claims 1 and 4 of the '883 patent would have been obvious over MPT 1343, MPT 1347, and MPT 1327, and (ii) claim 3 of the '883 patent would have been obvious over MPT 1343, MPT 1347, MPT 1327, Zdunek, and Dufresne.

IV. ORDER

Accordingly, it is:

ORDERED that claims 1, 3, and 4 of U.S. Patent No. 5,563,883 have been shown to be unpatentable;

FURTHER ORDERED that Petitioner's Motion to Exclude is *dismissed*;

FURTHER ORDERED that Patent Owner's Motion to Exclude Exhibits 1014, 1015, 1033, and 1034 is *dismissed*;

FURTHER ORDERED that Patent Owner's Motion to Exclude Exhibits 1005–07, 1010, 1018, 1019, and 1026–32 is *denied*;

FURTHER ORDERED that Patent Owner's Motion to Seal its Patent Owner Response (Paper 28) is *denied*;

FURTHER ORDERED that Patent Owner's Motion to Seal Exhibit 2028 is *granted*; and

FURTHER ORDERED that, because this is a final written decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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