

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CRADLEPOINT, INC.,
HONEYWELL INTERNATIONAL, INC., SIERRA WIRELESS, INC.,
TCL COMMUNICATION TECHNOLOGY HOLDINGS LIMITED,
TCT MOBILE INTERNATIONAL LIMITED, TCT MOBILE, INC.,
TCT MOBILE (US) INC., TCT MOBILE (US) HOLDINGS INC., and
THALES DIS AIS DEUTSCHLAND GMBH,
Petitioner,

v.

3G LICENSING S.A.,
Patent Owner

IPR2021-00584
Patent 7,551,625 B2

Before BARBARA A. PARVIS, MONICA S. ULLAGADDI, and
AARON W. MOORE, *Administrative Patent Judges*.

ULLAGADDI, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

Cradlepoint, Inc., Honeywell International, Inc., Sierra Wireless, Inc., TCL Communication Technology Holdings Limited, TCT Mobile International Limited, TCT Mobile, Inc., TCT Mobile (US) Inc., TCT Mobile (US) Holdings, Inc., and Thales DIS AIS Deutschland GmbH (collectively “Petitioner”)¹ filed a Petition (Paper 8, “Petition” or “Pet.”) requesting an *inter partes* review of claims 16–19, 21, 22, 39, 40, and 42 (the “challenged claims”) of U.S. Patent No. 7,551,625 B2 (Ex. 1001, “the ‘625 patent”) pursuant to 35 U.S.C. §§ 311–319, accompanied by the supporting Declarations of Dr. Apostolos K. Kakaes (Ex. 1003) (“the Kakaes Declaration”) and Mr. Craig Bishop (Ex. 1021) (“the Bishop Declaration”). 3G Licensing S.A. (“Patent Owner”) filed a Preliminary Response. Paper 12 (“Preliminary Response” or “Prelim. Resp.”).

In an email to the Board (Ex. 3001), Petitioner requested additional briefing to address what it characterized as Patent Owner’s “unforeseeable claim construction.” We held a conference call with the parties on July 26, 2021, and authorized each party to file 8 pages of additional arguments in our Order of July 27, 2021 (Paper 13). We limited the additional arguments to matters of “Patent Owner’s proposed construction of ‘E-AGCH’” and “priority issues that Petitioner contends are intertwined with the aforementioned claim construction.” Paper 13, 2–3 (citing Ex. 1001, code (30)). Pursuant to our authorization, Petitioner filed a Preliminary Reply

¹ Petitioner originally included ZTE Corporation and ZTE (USA) Inc. (“ZTE”) and Dell, Inc.—ZTE and Patent Owner entered into a settlement agreement and Dell, Inc. and Patent Owner entered into a settlement agreement. Papers 19, 36. As such, we terminated the proceeding as to ZTE and Dell and reconstituted Petitioner as the remaining entities absent ZTE and Dell. *Id.*

(Paper 15, “Pre-Reply”) and Patent Owner filed a Preliminary Sur-Reply (Paper 16, “Pre-Sur-Reply”).

Upon review of these papers and the record, we instituted *inter partes* review, pursuant to 35 U.S.C. § 314, as to the challenged claims based on the challenges set forth in the Petition. Paper 20 (“Institution Decision” or “Inst. Dec.”).

Subsequent to institution, Patent Owner filed a Patent Owner Response (Paper 32, “PO Resp.”), Petitioner filed a Reply to Patent Owner’s Response (Paper 44, “Pet. Reply”), and Patent Owner filed a Sur-Reply (Paper 46, “Sur-Reply”). On June 16, 2022, we held an oral hearing. A transcript of the hearing is of record. Paper 52 (“Tr.”).

For the reasons that follow, we conclude that Petitioner has proven by a preponderance of the evidence that the challenged claims of the ’625 patent are unpatentable.

II. BACKGROUND

A. *Real Parties in Interest*

Petitioner identifies the following entities as real parties in interest:

Cradlepoint, Inc., Dell Inc., Honeywell International, Inc., Sierra Wireless, Inc., TCL Communication Technology Holdings Limited, TCT Mobile International Limited, TCT Mobile, Inc., TCT Mobile (US) Inc., TCT Mobile (US) Holdings Inc., Thales DIS AIS Deutschland GmbH, ZTE Corporation, and ZTE (USA) Inc. (collectively “Petitioner”), as well as Dell Marketing L.P., Dell Products L.P., Dell Technologies Inc., Denali Intermediate Inc., Thales DIS AIS USA, LLC, Sierra Wireless America, Inc., Telefonaktiebolaget LM Ericsson, and Ericsson Inc.

Paper 14, 2–3.² Patent Owner identifies itself, 3G Licensing S.A., as the real party in interest. Paper 10, 2.

B. Related Matters

As required by 37 C.F.R. § 42.8(b)(2), the parties identify judicial matters that would affect, or be affected by, a decision in this proceeding. In particular, the parties indicate that the '625 patent has been asserted in the following district court cases:

Case Number	Venue	Filing Date
3:20-cv-01289	N.D. Tex.	May 18, 2020
1:20-cv-00649	D. Del.	May 15, 2020
1:20-cv-00651	D. Del.	May 15, 2020
1:20-cv-00652	D. Del.	May 15, 2020
1:20-cv-00653	D. Del.	May 15, 2020
1:20-cv-00654	D. Del.	May 15, 2020
1:20-cv-00655	D. Del.	May 15, 2020
1:20-cv-00656	D. Del.	May 15, 2020
1:20-cv-00658	D. Del.	May 15, 2020
1:20-cv-00659	D. Del.	May 15, 2020
1:20-cv-22051	S.D. Fla.	May 15, 2020
1:20-cv-22054	S.D. Fla.	May 15, 2020

C. The '625 Patent

The '625 patent issued from Application No. 11/097,011, filed on March 31, 2005, which claims foreign priority to Korean Patent Application

² ZTE Corporation, ZTE (USA) Inc., and Dell, Inc. were terminated as to this proceeding. *Supra* n.1.

No. KR10-2004-0022960 (“the Korean Application”), filed on April 2, 2004. Ex. 1001, codes (21), (22), (30). In Sections III.C and III.D below, we discuss which of these two dates is the priority date of the challenged claims of the ’625 patent.

The ’625 patent concerns a “method of scheduling an uplink packet transmission channel in a mobile communication system.” Ex. 1001, code (54). The ’625 patent discloses a base station (Node B) that sends a scheduling assignment over a downlink channel—an Enhanced Absolute Grant Channel (E-AGCH)—to a user equipment (UE), specifying “how much transmission power or a level of data rate transmission [the] UE is permitted to transmit.” *Id.* at 2:38–42, 3:14–20. The scheduling assignment may include (1) a UE identifier (UEID) for identifying a UE that receives the scheduling assignment; and (2) scheduling content specifying, for example, scheduled power, duration, and priority, for the uplink packet transmission. *Id.* at 2:42–49, 3:21–27. After receiving the scheduling assignment from Node B, the UE may transmit an uplink data packet to Node B on an E-DCH of 3GPP WCDMA³ according to the contents of the scheduling assignment. *See, e.g., id.* at 1:23–31, 3:11–12, claims 1, 16, 39.

According to the ’625 patent, in an E-AGCH, one or more scheduling assignments can be transmitted from Node B via “shared channel(s)” to one UE, group(s) of UEs, or all the UEs. *Id.* at 3:42–45. As such, “[t]he scheduling assignment includes contents and UE IDs of each UE, UE IDs of specified group(s), or an UE ID that applies to all the UEs uniformly.” *Id.* at 4:63–65. The ’625 patent discloses that “[u]nder E-AGCH, a scheduling

³ E-DCH refers to an “Enhanced Uplink Dedicated Channel” and 3GPPWCDMA refers to the “3rd Generation Partnership Project, Wideband Code Division Multiple Access.” Ex. 1001, 1:24–25.

assignment is received by all UEs in a shared channel” without regard to “which UE the scheduling assignment is directed,” but “the scheduling assignment would apply only to the UEs having the IDs corresponding to the IDs designated in the scheduling assignment.” *Id.* at 4:48–53.

D. Illustrative Claim

Petitioner challenges claims 16–19, 21, 22, 39, 40, and 42 of the ’625 patent. Pet. 4. Claims 16 and 39 are independent. Claim 16 is illustrative and reproduced below.

16. A method of scheduling an uplink packet transmission channel for user equipment (UE), the method comprising:

- receiving a scheduling assignment in an Enhanced Absolute Grant Channel (E-AGCH), wherein the scheduling assignment comprises an identifier for a plurality of UE;
- acquiring the contents of the scheduling assignment; and,
- transmitting an uplink data packet on an Enhanced Uplink Dedicated Channel (E-DCH) according to the contents of the scheduling assignment.

Ex. 1001, 7:40–48.

E. Asserted Grounds

Petitioner presents the challenges summarized in the chart below. Pet.

4.

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
16–19, 21, 22, 39	102(a) ⁴	Meeting45 ⁵
16–19, 21, 22, 39	103(a)	Meeting45, Meeting39 ⁶
40, 42	103(a)	Meeting45, Meeting45bis ⁷
16–19, 21, 22, 39, 40, 42	102(e)	Chen ⁸
16–19, 21, 22, 39, 40, 42	103(a)	Chen

III. ANALYSIS

A. Legal Standards

A patent 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 the

⁴ The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (“AIA”), included revisions to 35 U.S.C. §§ 102 and 103 that became effective after the effective filing date of the challenged claims. Therefore, we apply the pre-AIA version of 35 U.S.C. §§ 102 and 103.

⁵ TDoc R2-042730, *Inclusion of e.g. physical layer model, MAC architecture, detail Node B scheduler mechanism and QoS Control principles*, 3GPP TSG-RAN2 Meeting #45, Shin-Yokohama, Japan (uploaded Dec. 3, 2004) (Ex. 1004, “Meeting45”).

⁶ TDoc R1-041512, *Introduction of E-DCH*, by Ericsson, 3GPP TSG-RAN WG1 Meeting #39, Yokohama, Japan (uploaded Nov. 21, 2004) (Ex. 1005, “Meeting39”).

⁷ TDoc R2-050136, *E-DCH Priority Based Scheduling*, 3GPP TSG-RAN WG2 Meeting #45bis, Sophia Antipolis, France (uploaded Jan. 7, 2005) (Ex. 1007, “Meeting45bis”).

⁸ US 7,155,236 B2, filed on Aug. 21, 2003 and issued Dec. 26, 2006 (Ex. 1006, “Chen”).

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 ordinary skill in the art; and (4) when in evidence, objective evidence of nonobviousness.⁹ *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros., Inc. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987).

“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*, 815 F.3d at 1363 (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”)). The burden of persuasion 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. Videotek, Inc.*, 545 F.3d 1316, 1326–27 (Fed. Cir. 2008)) (discussing the burdens of proof in an *inter partes* review). Furthermore, petitioner cannot satisfy its burden of proving obviousness by employing “mere conclusory statements.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016).

⁹ Patent Owner does not present objective evidence of nonobviousness.

Thus, to prevail in an *inter partes* review, petitioner must explain how the prior art discloses the challenged claims or how the proposed combinations of prior art would have rendered the challenged claims unpatentable. We analyze the challenges presented in the Petition in accordance with the above-stated principles.

B. Level of Ordinary Skill in the Art

Petitioner contends that “[a] person of ordinary skill in the art (‘POSITA’) at the time of the alleged invention (March 2005) would have had a bachelor’s degree in electrical engineering or a similar discipline, with at least three years of relevant industry or research experience (or additional education),” and that “[t]he relevant experience would include a working understanding of the development of new and then-existing wireless cellular communications standards.” Pet. 17 (citing Ex. 1003 ¶ 40).

In its Preliminary Response, Patent Owner contended that “[a] person having ordinary skill at the time of the invention in the relevant art would be one with a bachelor’s degree in electrical engineering or computer sciences and telecommunications networks, along with at least three or more years of practical experience in mobile communications.” Prelim. Resp. 12 (citing Ex. 2001 ¶ 24). We adopted Petitioner’s definition of the level of ordinary skill in the art as it was “consistent with the Specification of the ’625 patent and asserted prior art of record,” noting that “[o]ur preliminary findings and conclusions would not change under either definition.” Inst. Dec. 9.

Patent Owner does not set forth a new level of ordinary skill in the art or reiterate the definition from its Preliminary Response but notes that, “[a]s the Board noted in its institution decision, apart from the disagreement about the earliest priority date of the ’625 patent, there is no substantial difference

between the parties’ definitions of the level of ordinary skill in the art.” PO Resp. 7 (citing Inst. Dec. 9).

We adopt Petitioner’s definition of the level of skill in the art, which is consistent with the Specification of the ’625 patent and asserted prior art of record.

C. Claim Construction

In *inter partes* review proceedings based on petitions filed on or after November 13, 2018, such as this one, we construe claims using the same claim construction standard that would be used in a civil action under 35 U.S.C. § 282(b), as articulated in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc), and its progeny. *See* 37 C.F.R. § 42.100(b).

Independent claims 16 and 39 recite “receiving a scheduling assignment in an Enhanced Absolute Grant Channel (E-AGCH).” In its Petition, Petitioner asserts that “[n]one of the terms in the challenged claims require construction beyond their plain and ordinary meaning.” Pet. 5.

In the Preliminary Response, Patent Owner proposed that E-AGCH should be construed as “a single common grant channel capable of assigning multiple identifiers to a single UE that transmits scheduling grants to a single user equipment, groups of user equipment, or all user equipment on the channel.” Prelim. Resp. 15 (citing Ex. 2001 ¶ 54). In the Institution Decision, we determined that the E-AGCH disclosed in the ’625 patent had “the same definition as disclosed in the 3GPP standard documents,” and that it requires an absolute grant. Inst. Dec. 15.

1. Patent Owner’s Revised Construction of E-AGCH

Patent Owner now revises its proposed construction of E-AGCH such that, according to Patent Owner, the construction

makes clear that the channel supports the use of multiple identifiers for a single UE and that the channel itself does not do the assigning: “*a single common grant channel that transmits scheduling grants to a single user equipment, groups of user equipment, or all user equipment on the channel, said channel supporting a single UE being assigned multiple identifiers.*” [Patent Owner asserts that] [t]his rewording is meant only to clarify that the channel **supports** a UE being assigned multiple identifiers for the purpose of issuing scheduling assignments to either (1) a single UE, (2) groups of individual UE that are not **all** UE on the channel, or (3) all of the UE on the channel.

PO Resp. 11 (first emphasis added).

Petitioner points out that “Patent Owner’s declarant does not offer any testimony on this revised proposed construction and instead continues to rely on the original construction for his opinions.” Pet. Reply 14, n.7 (citing Ex. 1039, 103:1–9 (“Q. [MS. MERRILL] And is [Paragraph 54 of Exhibit 2001] the same proposed definition [for E-AGCH] on which you’re relying for purposes of your second declaration in Exhibit 2006? A. [MR. LIPOFF] Yes, it is.”); Ex. 2001 ¶ 54; Ex. 2006). Irrespective of this, Patent Owner’s arguments in support of its revised construction are unavailing for the reasons discussed below.

2. “E-AGCH” was a Term of Art Having an Accepted Meaning Known to a POSITA as of March 31, 2005

As noted above, we determined at institution that “E-AGCH as disclosed in the ’625 patent [has] the same definition as disclosed in the 3GPP standard documents” and thus “require[s] an absolute grant.” Inst. Dec. 15.

Patent Owner disputes our preliminary determinations that:

(1) the term E-AGCH was an established term of art with a plain and ordinary to meaning at the time of invention, (2) [] this plain and ordinary meaning derives from the 3GPP references, and (3)

[] the patentee used that term in the '625 patent in accordance with the 3GPP's definition.

PO Resp. 2 (Inst. Dec. 20); *see id.* (citing Ex. 1001, Fig. 2, 3:14–20, 3:42–44, 3:61–62, 4:19–22; Ex. 1008, Figs. 1, 2, 7, 8, claims 1, 2). Patent Owner asserts that the “term ‘E-AGCH’ did not have any single accepted meaning at the time of the invention here, regardless of whether it should be labeled a ‘term of art.’” *Id.* at 8 (emphasis omitted).

The parties disagree as to whether the term had an accepted meaning at the time of filing the application underlying the '625 patent at issue in this proceeding, March 31, 2005.

Meeting39 defines “[t]he E-DCH Absolute Grant Channel (E-AGCH) [a]s a fixed rate (30 kbps, SF=256) downlink physical channel carrying the uplink E-DCH *absolute grant*.” Ex. 1005, 46 (emphasis added); *see* Ex. 1004, 11, 22; Ex. 1007, 1; Ex. 1012, 47. Meeting45 discloses that “Absolute Grants . . . are valid for one UE, for a group of UEs or for all UEs” and that, “the absolute scheduling grant contains at least the identity . . . of the UE (or group of UEs) for which the grant is intended and the maximum resources the UE(s) may use.” Ex. 1004, 21; *see also* Ex. 1010, 1 (“Absolute scheduling grants, received on a shared channel . . . containing (at least) the identity of the UE (or group of UEs) for which the grant is intended and an upper limit on the amount of uplink resources the UE(s) may use.”); Ex. 1011, 25 (“A shared channel is used to transmit the absolute scheduling grants” and “[t]he absolute scheduling grant contains at least the identity of the UE (except if sent [to] all UEs) (or group of UEs) for which the grant is intended and the maximum resources the UE(s) may use.”). All of these documents predate the filing of the application underlying the '625 patent.

With respect to Meeting45, Patent Owner argues that, “[p]rior to its publication, a change request is simply that—merely a request to change the standard” and that “[a]t the time Meeting45 was submitted, there is no evidence that the terminology had been known or used by anyone outside of the requester itself.” PO Resp. 9. Patent Owner asserts that “[a] single change request cannot establish the baseline knowledge and lexicology of a person of ordinary skill in the art, as Petitioner argues.” *Id.*

Petitioner persuasively responds that “Meeting45, published by at least December 3, 2004, specifies in the ‘Reason for Change’ *on its face* that it was authored by the RAN2 Working Group and documents the group’s (not the requestor’s) *already-agreed* changes to the standard discussed over two meetings.” Pet. Reply 7 (quoting Ex. 1004, 1 (“25.309 should be updated to reflect the *decisions* taken during RAN2#44 and RAN2#45. In particular the physical layer model, MAC architecture, *detail on the Node B scheduler mechanism* and the QoS control principles *have to be included in the TS.*” (emphasis added by Petitioner))). Petitioner also points out Patent Owner’s Declarant’s testimony that acknowledges this point: “[t]his change request is a 3GPP working document, which is summarizing -- a consensus was -- which was reached during meeting 45.” *Id.* (citing Ex. 1039, 79:5–18).

The record also shows that these 3GPP documents were available before the priority date. Petitioner argues, and we agree, that “3GPP expert Craig Bishop . . . confirmed this through his *unrebutted testimony and supporting evidence*, which also demonstrates Meeting45 was published on the 3GPP website by at least December 3, 2004.” *Id.* (citing Ex. 1021 ¶¶ 54–67) (emphasis added); *see* Ex. 1039, 39:4–18 (Mr. Lipoff testifying that he

had no reason to dispute the dates of public accessibility for Meeting39, Meeting45, and Meeting45bis set forth by Petitioner).

Accordingly, Patent Owner does not sufficiently support its argument that the construction is supported by only “[a] single change request [that] cannot establish the baseline knowledge and lexicology of a person of ordinary skill in the art.” *Id.*

We note that Patent Owner does not present any evidence supporting its contention that there was no “single accepted meaning” for E-AGCH “at the time of the invention.” *See* PO Resp. 8. Patent Owner does not present, *for example*, any other “accepted meaning” for E-AGCH as of March 31, 2005. *Id.* Nor does it persuasively argue, for example, why the usage and description of the term in the documents accompanying the 3GPP TS 25.211 v6.2.0 (2004-09) standard was not sufficient to constitute a definition.

We determine that the usage and description of the term E-AGCH in documents accompanying the 3GPP TS 25.211 v6.2.0 (2004-09) standard along with at least one later version—3GPP TS 25.211 v6.7.0 cited by Patent Owner in its infringement complaint (*see, e.g.*, Ex. 1017, 3)—are consistent and that E-AGCH would have been known and understood by a POSITA to carry the meaning set forth therein as of the filing date of the application underlying the ’625 patent, March 31, 2005.¹⁰ We further conclude that one of skill in the art would have understood that the patentee used that term in the ’625 patent in accordance with the 3GPP’s definition.

¹⁰ We cite 3GPP TS 25.211 v6.7.0 cited by Patent Owner not to support our determination that E-AGCH is a term of art and would have had a particular meaning to a POSITA, but to demonstrate how the definition, description, and usage of this term remained consistent in later versions of the standard.

3. *The Record does not Include Evidence of Lexicography
or Disavowal for the Claim Term E-AGCH*

Patent Owner contests our preliminary finding that the record lacked evidence of lexicography or disavowal with respect to the term E-AGCH. PO Resp. 7–8 (citing Inst. Dec. 14–15, 20). Patent Owner contends that “there is ample evidence that the *patentee here was acting as his own lexicographer*” and cites the ’625 patent to support its argument that the claimed E-AGCH is not limited to absolute grant scheduling assignments:

An Enhanced Absolute Grant Channel (E-AGCH) is a downlink channel used by a base station (Node B) to send a scheduling command to an user equipment (UE). In other words, Node B transmits a command as to how much transmission power or a level of data rate transmission an UE is permitted to transmit. This is also known as an uplink scheduling assignment or scheduling assignment.

Id. at 9–10 (quoting Ex. 1001, 3:14–20) (citing Inst. Dec. 15) (emphasis added).

According to Patent Owner, “[t]he only ‘evidence’ Petitioners have provided that the ’625 patent’s term must be dedicated solely to absolute grants is that the channel name includes the words ‘absolute grant.’” PO Resp. 10 (citing Inst. Dec. 15). Patent Owner argues that “there is no **limitation** in the ’625 patent that the channel must be dedicated solely to such grants” and that “[i]nstead, the plain language of the specification **explicitly provides a definition for the term** that is broader.” *Id.* (citing Ex. 1001, 3:14–20). We address whether the E-AGCH requires an absolute grant below in Section III.C.4.

We are not persuaded that the disclosures of the ’625 patent cited by Patent Owner “‘clearly set forth a definition of the disputed claim term’ other than its plain and ordinary meaning.” *See Thorner v. Sony Comput.*

Entm't Am. LLC, 669 F.3d 1362, 1365 (Fed. Cir. 2012) (quoting *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002)). “We depart from the plain and ordinary meaning of claim terms based on the specification in only two instances: lexicography and disavowal.” *Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1371 (Fed. Cir. 2014) (citing *Thorner*, 669 F.3d at 1365). “‘To act as its own lexicographer, a patentee must clearly set forth a definition of the disputed claim term other than its plain and ordinary meaning’ and must ‘clearly express an intent to redefine the term.’” *Id.* (quoting *Thorner*, 669 F.3d at 1365). “Disavowal requires that ‘the specification [or prosecution history] make[] clear that the invention does not include a particular feature,’ or is clearly limited to a particular form of the invention.” *Id.* at 1372 (alterations in original) (internal citations omitted).

Petitioner argues, and we agree, that Patent Owner’s cited excerpt does not make clear “that the inventor is redefining a known term” and instead appears to discuss, “without any suggestion that the discussion is complete—particular characteristics of the *already-known* E[-]AGCH.” Pet. Reply 11 (emphasis added). Petitioner asserts that “all of the discussion (although not a complete description) is consistent with the 3GPP’s E-AGCH.” *Id.* (citing Ex. 1004, 20). Petitioner disputes that the 3GPP-defined E-AGCH differs from the E-AGCH of the ’625 patent:

Patent Owner claims that the 3GPP-defined E-AGCH is somehow narrower than the ’625 patent’s E-AGCH because the 3GPP version does not “support[] issuing scheduling assignments to three identities: (1) an individual UE, (2) a group of UEs, or (3) all UEs on the channel.” . . . [T]his requirement of the ’625 specification (which is, relevantly, found nowhere in the Korean application) was taken almost verbatim from the **3GPP’s** own December 3, 2004 description of the E-AGCH in

Meeting45” thus, “Patent Owner’s argument thus inadvertently highlights evidence *corroborating* that the applicant copied the 3GPP’s own description for the EAGCH into the ’625 patent.”

Id. at 11–12 (citing PO Resp. 10 (citing Ex. 1007, 2)).

Patent Owner’s argument that the E-AGCH of the ’625 patent differs from that of the 3GPP standard because it “supports issuing scheduling assignments to *three identities*: (1) an individual UE, (2) a group of UEs, or (3) all UEs on the channel,” whereas “the 3GPP E[-]AGCH supports issuing scheduling assignments to *only two identities* (a ‘group identity’ and an ‘individual identity’)” is unavailing because it is unsupported by the record. PO Resp. 10 (citing Ex. 1007, 2; *comparing* Ex. 1001, Fig. 2, 3:42–44, 3:61–62, 4:19–22 *with*, Ex. 1008, 7–8) (emphases added). At best, the portions of the ’625 patent cited by Patent Owner disclose that “each UE can have more than one identifier.” Ex. 1001, 3:61–62. Nowhere does the ’625 patent clearly express an intent to redefine E-AGCH so as to require *three identifiers or three identities* to issue scheduling assignments to an individual UE, a group of UEs, or all UEs on the channel, or in any way support limiting E-AGCH to three identities *instead of two identities*. See *e.g., id.* at claim 17 (reciting that “one or two identifiers are allocated to each UE”). To redefine a term of art, there must be a clear expression of intent. *Hill-Rom*, 755 F.3d at 1371.

As to the term of art, E-AGCH, it is clear from the teachings of Meeting45 and Meeting45bis that there are two identities, a group identity and an individual identity (Ex. 1007, 2; Ex. 1004, 21), that support sending Absolute Grants “by the Serving E-DCH cell . . . [that] are valid for one UE, for a group of UEs or for all UEs” and that “can have an associated duration” (Ex. 1004, 21). Likewise, the ’625 patent Specification discloses

that “scheduling assignment(s) can be transmitted from Node B via shared channel(s) to an UE, group(s) of UEs, or all the UEs.” Ex. 1001, 3:42–44. The ’625 patent also discloses that an “Enhanced Absolute Grant Channel (E-AGCH) is a downlink channel used by a base station (Node B) to send a scheduling command to an user equipment (UE) . . . as to how much transmission power or a level of data rate transmission an UE is permitted to transmit.” *Id.* at 3:15–19.

It is not apparent from the cited portions of the ’625 patent Specification that patentee intended to redefine the term of art, E-AGCH, as the cited portions are substantially similar to the 3GPP TS 25.211 standards documents discussed above. None of the cited disclosures of the ’625 patent supports Patent Owner’s proposed construction. *See generally* Ex. 1001. Like in *Hill-Rom*, there is neither “disclaimer or lexicography” nor “words of manifest exclusion or restriction.” *Hill-Rom*, 755 F.3d at 1372.

For the foregoing reasons, we see no clear expression of an intent to depart from the meaning of this term as it would have been understood by a POSITA. We consider E-AGCH as disclosed in the ’625 patent to have the same definition as disclosed in the 3GPP standard documents discussed above and thus to also require an absolute grant. *Infra* § III.C.4.

4. *The Claim Term E-AGCH Should be Limited to Transmitting Absolute Grants*

Patent Owner contends that, even if the term E-AGCH is construed to “pertain solely to absolute grants, thus requiring the Korean Application to disclose the concept of an absolute grant,” Patent Owner’s expert testifies that the ’625 patent and the Korean Application disclose the “superset” of grants, which would have been understood to encompass both absolute and relative grants. PO Resp. 15 (citing Ex. 2001 ¶¶ 21–26, 40, Exs. C, D).

Petitioner responds that:

Patent Owner's attempt to broaden "Enhanced *Absolute Grant* Channel" to make it a generic "common grant channel" that transmits any type of grant is not supported by the '625 patent, which never refers to a 'common grant,' and contains no language that would support a new or different definition for this term of art.

Pet. Reply 14 (citing Pet. Reply § V.C).

Petitioner has the better position. We determine that E-AGCH requires transmitting absolute grants, as is consistent with the disclosure of Meeting45. We disagree that the term E-AGCH can be properly interpreted as a "common grant channel" that encompasses transmitting relative grants, as Patent Owner asserts.

Patent Owner also argues that the term "absolute grant" is "a term that is not found in the claims of the '625 patent," that "written support is not necessary for this term," and that, even if support is necessary "***it can readily be found in references to 'scheduling grants.'***" PO Sur-Reply 1. Patent Owner's assertions are problematic because an absolute grant *is* a necessary part of an Enhanced *Absolute Grant* Channel (E-AGCH), written description *is* necessary, and, as we discuss in further detail below, the Korean Application refers to schedule assignments and scheduling commands, not scheduling grants as Patent Owner contends. To make an absolute grant optional would be, in effect, to ascribe no meaning to the word "Absolute" in "Enhanced Absolute Grant Channel" and Patent Owner does not point to any authority that would support such a conclusion.

We determine whether the Korean Application provides written description support for the claim term E-AGCH in Section III.D below.

5. *Whether the Record Supports a Conclusion that E-AGCH is Limited to Single Channel as in Patent Owner’s Claim Construction*

Patent Owner disputes our preliminary determination that the claim term E-AGCH is not limited to a single channel. PO Resp. 12 (citing Inst. Dec. 20). This determination is relevant to the challenges applying Chen, as Patent Owner distinguishes Chen on the basis that it discloses “*multiple* channels to accomplish the same task of issuing scheduling assignments to different selections of UE,” instead of a single channel. *Id.* at 17 (citing Ex. 1006, Fig. 6, 18:22–26; Ex. 2001 ¶ 68).

As we determine that claims 16–19, 21, 22, and 39 are unpatentable over Meeting 45 and claims 40 and 42 are unpatentable over Meeting45 and Meeting45bis by a preponderance of the evidence (*infra* §§ III.F, III.H), we need not specifically determine the unpatentability of these claims based on the § 102 and § 103 challenges applying Chen. *See Boston Sci. Scimed, Inc. v. Cook Grp. Inc.*, 809 F. App’x 984, *4 (Fed. Cir. 2020); *see also Beloit Corp. v. Valmet Oy*, 742 F.2d 1421, 1423 (Fed. Cir. 1984) (holding that once a dispositive issue is decided, there is no need to decide other issues). Accordingly, we need not determine whether E-AGCH is limited to a single channel. *See Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (holding that “only those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy”); *see also Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co. Matal*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (citing *Vivid Techs.* in the context of an *inter partes* review).

D. Priority Date

Petitioner contends that the challenged claims are not entitled to a priority date of April 2, 2004—the filing date of the Korean Application listed on the face of the '625 patent—because the Korean Application does not provide adequate written description support for “E-AGCH.” Pet. 14–16 (citing Ex. 1001, 3:14–16; Ex. 1003 ¶ 107). “E-AGCH” is recited in each of the challenged independent claims of the '625 patent. Petitioner argues that “the Korean application makes only passing reference to generic ‘downlink channels to be used for transmitting scheduling commands’ in its discussion of the ‘conventional technology in the field,’” but it “lacks any disclosure of the claimed ‘E-AGCH’” “nor even a functional equivalent thereof” and “does not reasonably convey to one skilled in the art that the inventors had possession of that claim element at the time of filing of the Korean application.” *Id.* at 15–16 (citing Ex. 1003 ¶¶ 86–88, 91, 108–113; Ex. 1008 ¶ 7). Petitioner argues that, accordingly, “*March 31, 2005* (the date of filing of the U.S. application for the '625 patent) is the correct priority date for the challenged claims.” *Id.* at 17 (emphasis added); *see id.* at 14.

Patent Owner contends that “[t]he majority of Petitioners’ grounds for invalidity of the challenged claims . . . are based on the Meeting45, Meeting39, and Meeting45bis references (collectively, the ‘3GPP references’), which post-date the *April 2, 2004* priority date of the '625 patent.” PO Resp. 1 (Inst. Dec. 4) (emphasis added). Patent Owner further contends “that the Enhanced Absolute Grant Channel (‘E-AGCH’) taught by the '625 patent has sufficient written description [in] the underlying Korean Application.” *Id.* at 1–2; *see id.* at 2 (citing Ex. 2001 ¶¶ 55, 60–67; Inst. Dec. 1, 4). Patent Owner further contends that:

the characteristics of the E-AGCH as disclosed by the '625 patent are supported as follows: (1) a single common grant channel; (2) support for a UE having multiple identifiers; and (3) using the multiple identifiers assigned to a single UE to issue scheduling grants to individual UE, groups of UE, or all of the UE on the channel.

Id. at 16 (Ex. 1008, Figs. 1, 2, claims 1, 2; Ex. 2001 ¶ 40; Ex. 2006 ¶¶ 61–65); *see id.* (citing Inst. Dec. 20; Ex. 2006 ¶¶ 21–26).

In support of Patent Owner's assertion that a POSITA would have understood the Korean Application to provide written description support for E-AGCH, Mr. Lipoff testifies that:

A POSITA would be aware of the influence of DOCSIS protocols on the development of protocols to support high speed packet switched data enhancements to 3GPP WCDMA and would understand that the Korean patent need not qualify the general concept of scheduling commands (i.e., grants) as either absolute or relative but instead for understand that the mention of a grant in a 3GPP WCDMA context would apply to subsets of the general concept of a grant included both absolute and relative types.

For example an excerpt from a 2002 reference describing DOCSIS service flows introduces the request/grant scheduling mechanism and throughout the reference never qualifies a "grant" as "absolute" or "relative" . . .

That absolute and relative grants are subsets of scheduling grants is further supported by *3GPP specifications appearing four months after the priority date of the Korean Application*. 3GPP Specification 25.309 v0.3.0 illustrates the breakdown in a manner already understood in the industry:

9 Node B controlled scheduling

9.1 General Principle

The Node B controlled scheduling is based on uplink and downlink control together with a set of rules on how the UE shall behave with respect to this signaling. In the downlink, a resource indication (scheduling grant) is required to indicate

to the UE the maximum amount of uplink resources it may use.

- There are two types of grants:
- The absolute grants provide an absolute limitation of the maximum amount of UL resources the UE may use;
- The relative grants increase or decrease the resource limitation compared to the previously used value[.]

Ex. 2006 ¶¶ 24–26 (citing Ex. C, 1–2; Ex. D, 10–11) (emphasis added).

In order to obtain the benefit of the filing date of an earlier application, 35 U.S.C. § 120 requires that the earlier application include a disclosure that complies with the written description requirement of 35 U.S.C. § 112. *Lockwood v. Am. Airlines, Inc.*, 107 F.3d 1565, 1571–2 (Fed. Cir. 1997). To comply with the written description requirement, a specification “must describe the invention sufficiently to convey to a person of skill in the art that the patentee *had possession of the claimed invention* at the time of the application, i.e., that the patentee invented what is claimed.” *Lizardtech, Inc. v. Earth Res. Mapping, Inc.*, 424 F.3d 1336, 1345 (Fed. Cir. 2005) (emphasis added). The written description requirement “guards against the inventor’s overreaching by insisting that he recount his invention in such detail that his future claims can be determined to be encompassed within his original creation.” *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1561 (Fed. Cir. 1991). “[O]ne skilled in the art, reading the original disclosure, *must immediately discern the limitation at issue in the claims.*” *Purdue Pharma L.P. v. Faulding Inc.*, 230 F.3d 1320, 1323 (Fed. Cir. 2000) (emphasis added). “Entitlement to a filing date extends only to the subject matter that is disclosed; *not to that which is obvious . . .* Therefore the parent application must actually or inherently disclose the elements of the later-

filed claims.” *Research Corp. Techs., Inc. v. Microsoft Corp.*, 627 F.3d 859, 870 (Fed. Cir. 2010) (internal citations omitted) (emphasis added).

Even assuming, *arguendo*, that Patent Owner had sufficiently shown an equivalence between the scheduling assignments and scheduling commands that are set forth in the Korean Application and the argued scheduling grants, Patent Owner does not point to any authority that would support the proposition that disclosing the broader, more generic concept of a channel that transmits a scheduling command or scheduling assignment in the Korean Application (*see generally* Ex. 1008) is sufficient to provide written description support for the narrower, more specific a channel that transmits an absolute grant. *See* PO Resp. 15; *Purdue*, 230 F.3d 1320 at 1326 (“One cannot disclose a forest in the original application, and then later pick a tree out of the forest and say here is my invention.”). Rather, the specification must provide “guides or ‘blaze marks’ to single out” the claimed invention. *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1348 (Fed. Cir. 2010). We determine that the Korean Application does not “actually . . . disclose” the E-AGCH “of the later-filed claims.” *Research*, 627 F.3d at 870.

The record also does not support the finding that the Korean Application “inherently disclose[s]” the E-AGCH “of the later-filed claims.” *Id.* Petitioner discredits Mr. Lipoff’s testimony because it is based on DOCSIS (Ex. 2006, Ex. C), a cable standard, whereas the ’625 patent is related to wireless cellular communications, persuasively arguing that “even if a POSITA was aware of DOCSIS, the fact that another standard *doesn’t* use a particular term in its specifications reveals nothing about a POSITA’s understanding of the 3GPP standard’s scheduling commands.” Pet. Reply 19. Petitioner also persuasively argues that “while Mr. Lipoff, through his

own work in DOCSIS, might personally believe DOCSIS protocols somehow ‘influenced’ 3GPP, the record does not support that conclusion.” *Id.* at 21.

We determine that the fact that the cable standard, DOCSIS, does not qualify the term grant as either absolute or relative does not support a finding that a POSITA would have understood the term to “inherently disclose” both absolute and relative grants, particularly in the context of wireless cellular communications such as those governed by the 3GPP standard and disclosed in the ’625 patent. *See Research*, 627 F.3d at 870. We further determine that the fact that 3GPP Specification 25.309 v0.3.0 (Ex. 2006, Ex. D) indicates two types of grants, absolute grants and relative grants, *four months after* the filing of the Korean Application as Patent Owner acknowledges (*id.* ¶ 26), would not give us sufficient insight into what a POSITA would have understood in April of 2004, especially given the apparently rapidly evolving state of wireless cellular communications.

Because the Korean Application does not actually or inherently disclose an E-AGCH or provide support for a channel that transmits absolute grants, it does not provide sufficient written description to have conveyed to one skilled in the art that the inventors had possession of that claim element at the time of filing the Korean Application, April 2, 2004. Having reviewed the entire record developed during trial, we determine that the ’625 patent is not entitled to the filing date of the Korean Application. Instead, the priority date of the ’625 patent is its filing date, March 31, 2005.

Patent Owner’s Untimely Argument

Patent Owner also contends that Mr. Lipoff “opines that the Korean Application discloses the concept of absolute grants even though it refers only to ‘scheduling assignments,’” because “‘scheduling assignments’ are a

synonym for ‘scheduling grants’” and “*the only kind of assignment or grant known at the time of the Korean Application to persons of ordinary skill were absolute grants.*” PO Sur-Reply 4 (citing Ex. 2001 ¶ 65 (“The concept of scheduling grants—of which absolute grants are a subset—is a concept referenced throughout the Korean Application.”); Ex. 2006 ¶ 24 (“the Korean patent need not qualify the general concept of scheduling commands (i.e., grants) as either absolute or relative but instead . . . the mention of a grant in a 3GPP WCMA context would apply to subsets of the general concept of a grant includ[ing] both absolute and relative types”)) (emphasis added). This position is untimely, is not supported, and is at odds with the cited portions of Mr. Lipoff’s testimony (*see, e.g.*, Ex. 2001 ¶ 65; Ex. 2006 ¶ 24) and Patent Owner’s earlier position that “Patent Owner’s expert has testified that grants may be ‘absolute’ or they may be ‘relative’ *but that both types would be recognized by a POSITA at the time of invention as subsets of the superset of ‘grants.’*” PO Resp. 15 (citing Ex. 2001 ¶ 40) (emphasis added); *see* Tr. 26:8–27:6. As such, we do not now consider Patent Owner’s argument that “the only kind of assignment or grant known at the time of the Korean Application to persons of ordinary skill were absolute grants,” and even if we did, we would not find it persuasive for the reasons discussed above. PO Sur-Reply 4.

E. Public Accessibility

Petitioner asserts that Meeting45, Meeting39, and Meeting45bis qualify as prior art because each document was published and publicly available on the 3GPP website prior to March 31, 2005, the filing date of the U.S. application for the ’625 patent. Pet. 17 (citing Ex. 1021 ¶¶ 54–79). Petitioner cites the Bishop Declaration for establishing the public availability

of the documents and describing in detail how a member of the public can access such documents. *Id.* at 17–23 (citing Ex. 1021 ¶¶ 64, 70, 73, 77–79).

Patent Owner does not dispute Petitioner’s showing of public accessibility with respect to any of the cited references. *See generally* PO Resp. 17–18. For the reasons that follow, we find that Petitioner’s showing sufficiently demonstrates public availability and accessibility for Meeting45, Meeting39, and Meeting45bis prior to March 31, 2005.

1. Meeting45

Petitioner asserts that Meeting45 (Ex. 1004) “is a 3GPP change request document that was publicly available on the 3GPP FTP server no later than December 3, 2004.” Pet. 18 (citing Ex. 1021 ¶¶ 64, 77). In support of this assertion, Petitioner cites the Bishop Declaration, in which Mr. Bishop describes in detail how he searched for and found the Meeting45 document by navigating the 3GPP FTP website. Ex. 1021 ¶¶ 54–63. Based on this process, Mr. Bishop testifies that “by December 3, 2004, an interested POSITA using reasonable diligence could have located Meeting45 on the 3GPP website, downloaded the reference without providing any credentials, and disseminated the reference to others without restriction.” *Id.* ¶ 64. We have reviewed the relevant portions of Mr. Bishop’s Declaration and are persuaded that his testimony sufficiently demonstrates that Meeting45 was publicly available and accessible prior to March 31, 2005 (the earliest priority date to which the ’625 patent is entitled). *See id.* ¶¶ 54–63; *see also id.* ¶¶ 55–57 (testimony as to availability and accessibility of attachment distributed via email and stored on an email list archive).

2. Meeting39

Petitioner asserts that Meeting39 (Ex. 1005) “is a change request to 3GPP TS 25.211 v6.2.0” that “was publicly available on the 3GPP FTP

server no later than November 21, 2004.” Pet. 20–21 (citing Ex. 1021 ¶¶ 70, 78). In support of this assertion, Petitioner cites the Bishop Declaration, in which Mr. Bishop describes in detail how he searched for and found the Meeting39 document by navigating the 3GPP FTP website. Ex. 1021 ¶¶ 68–69. Mr. Bishop therefore opines that “by November 21, 2004, an interested POSITA using reasonable diligence could have located Meeting39 on the 3GPP website, downloaded the reference without providing any credentials, and disseminated the reference to others without restriction.” *Id.* ¶ 70. We have reviewed the relevant portions of Mr. Bishop’s Declaration and are persuaded that his testimony sufficiently demonstrates that Meeting39 was publicly available and accessible prior to March 31, 2005 (the earliest priority date to which the ’625 patent is entitled). *See id.* ¶¶ 68–70.

3. *Meeting45bis*

Petitioner asserts that Meeting45bis (Ex. 1007) “is a 3GPP ‘temporary document’ submitted to the same 3GPP working group as Meeting45 and was publicly available on the 3GPP FTP server no later than January 7, 2005.” Pet. 22 (citing Ex. 1021 ¶¶ 73, 79). In support of this assertion, Petitioner cites the Bishop Declaration, in which Mr. Bishop describes in detail how he searched for and found the Meeting45bis document by navigating the 3GPP FTP website. Ex. 1021 ¶¶ 71–72. Mr. Bishop therefore opines that “by January 7, 2005, an interested POSITA using reasonable diligence could have located Meeting45bis on the 3GPP website, downloaded the reference without providing any credentials, and disseminated the reference to others without restriction.” *Id.* ¶ 73. We have reviewed the relevant portions of Mr. Bishop’s Declaration and are persuaded that his testimony sufficiently demonstrates that Meeting45bis was publicly available and accessible prior to March 31, 2005 (the earliest

priority date to which the '625 patent is entitled). *See id.* ¶¶ 71–73; *see also id.* ¶¶ 74–76 (testimony as to availability and accessibility of attachment distributed via email and stored on an email list archive).

F. Challenge Based on Meeting45

Petitioner contends that claims 16–19, 21, 22, and 39 are unpatentable under 35 U.S.C. § 102(a) for anticipation based on Meeting45. Pet. 25–35. For the reasons that follow, we are persuaded that Petitioner has shown unpatentability of claims 16 and 39 over Meeting45 by a preponderance of the evidence.¹¹

1. Overview of Meeting45 (Ex. 1004)

Meeting45 is a change request document made by a 3GPP working group to TS 25.309 v6.0.0, which is a technical specification “of the overall support of FDD Enhanced Uplink” in UMTS Terrestrial Radio Access (UTRA). Ex. 1004, 1, 7. In relevant part, Meeting45 describes the “E-DCH: Enhanced DCH, a new dedicated transport channel type,” setting forth the characteristics and physical layer model of the uplink transport channel, whereby an “E-DCH Absolute Grant is transmitted by a single cell, the Serving E-DCH cell . . . on a physical channel called E-AGCH.” *Id.* at 7, 9–11. Meeting45 also describes “Node B controlled scheduling . . . based on uplink and downlink control together with a set of rules on how the UE shall

¹¹ Patent Owner does not argue that any of Meeting45, the combination of Meeting45 and Meeting39, and the combination of Meeting45 and Meeting45bis fails to disclose the claimed subject matter. Rather, Patent Owner argues that this challenge should fail because none of Meeting45, Meeting39, and Meeting45bis qualify as prior art under 35 U.S.C. § 102(a). *See generally* PO Resp. According to Patent Owner, the priority date for the challenged claims of the '625 patent is April 2, 2004, and each of Meeting45, Meeting39, and Meeting45bis was published after that date. *Id.*

behave with respect to this signaling.” *Id.* at 20. This section explains that “[i]n the downlink, a resource indication (Scheduling Grant) is required to indicate to the UE the maximum amount of uplink resources it may use” and “control the maximum allowed power ratio.” *Id.* at 5, 20. According to Meeting45, Scheduling Grants can be “Absolute Grants” (AG), which “provide an absolute limitation of the maximum amount of UL resources the UE may use”; “are valid for one UE, for a group of UEs or for all UEs”; and “can have an associated duration.” *Id.* at 20–21. According to Meeting45, an AG also “contains at least the identity (E-RNTI) of the UE (or group of UEs) for which the grant is intended and the maximum resources the UE(s) may use.” *Id.* at 21.

2. *Independent Claim 16*

“A method of scheduling an uplink packet transmission channel for user equipment (UE), the method comprising:”

Petitioner contends that Meeting45 discloses the preamble of claim 16 because “Meeting45 describes ‘Node B controlled scheduling,’ which ‘is based on uplink and downlink control together with a set of rules on how the UE shall behave with respect to this signaling.’” Pet. 25 (quoting Ex. 1004, 20) (citing Ex. 1003 ¶¶ 125–126).¹²

“receiving a scheduling assignment in an Enhanced Absolute Grant Channel (E-AGCH)”

Petitioner contends that Meeting45 discloses this limitation of claim 16 because “[i]n a section entitled ‘UE scheduling operation,’ Meeting45 further explains that ‘[t]he UE shall be able to receive Absolute Grant from

¹² We need not determine whether the preamble is limiting because we agree with Petitioner that the reference discloses the subject matter of the preamble.

the Serving E-DCH cell” and that an “‘Absolute Grant’ (scheduling assignment) ‘is transmitted by a single cell, the Serving E-DCH cell . . . on a physical channel called E-AGCH.” Pet. 27 (quoting Ex. 1004, 11, 21) (citing *id.* at 21–22; Ex. 1003 ¶ 132).

Patent Owner’s Argument

In its Sur-Reply, Patent Owner argues that in the ’625 patent, assignments made on the channel can be issued using three identifiers, each simultaneously assigned to a single UE: (1) one that identifies a UE individually, (2) one that identifies the UE as a member of a group, and (3) one universal identifier common to all UE on the channel. The E-AGCH of the ’625 patent has this functionality, whereas the 3GPP’s E-AGCH does not. (D.I. 32 at 12, 17-20.) The Meeting45 reference quoted by Petitioners does not indicate that the 3GPP E-AGCH has this functionality, nor discusses identifiers whatsoever[.]

Sur-Reply 14 (citing Inst. Dec. 32, 44; Ex. 2001 ¶ 55).

This argument that Meeting45 does not discuss identifiers was not originally set forth in Patent Owner’s Response and is therefore untimely. As such, we do not address this argument in this Decision.

“wherein the scheduling assignment comprises an identifier for a plurality of UE”

Petitioner contends that Meeting45 discloses this limitation of claim 16 because it discloses that “Absolute Grants . . . are valid for one UE, *for a group of UEs* or for all UEs” and that “‘the Absolute Grant contains at least the identity (E-RNTI) of the UE (*or group of UEs*) for which the grant is intended’ (*i.e.*, ‘an identifier for a plurality of UE’).” Pet. 28 (quoting Ex. 1004, 21) (citing Ex. 1003 ¶ 135). According to Petitioner, “Meeting45 also notes that ‘[g]roup identities or dedicated identities are not distinguished by the UE,’ and ‘[i]t is up to the UTRAN [radio network] to allocate the same identity to a group of UEs.’” *Id.* (quoting Ex. 1004, 21). Petitioner contends

that “[t]his means that an Absolute Grant intended for a group of UEs includes an identifier for the group of UEs as claimed.” *Id.* (citing Ex. 1003 ¶ 136).

“acquiring the contents of the scheduling assignment”

Petitioner contends that Meeting45 discloses this limitation of claim 16 because it “elaborates that the UE acquires the contents of the scheduling assignment when it explains that the UE acts on the scheduling assignment by ‘maintain[ing] a “Serving Grant” (SG)’ that ‘is set equal to the “Absolute Grant” value when one is received from the serving E-DCH cell.’” Pet. 29 (quoting Ex. 1004, 21) (citing Ex. 1003 ¶ 138).

“transmitting an uplink data packet on an Enhanced Uplink Dedicated Channel (E-DCH) according to the contents of the scheduling assignment”

Petitioner contends “Meeting45 discloses the ‘E-DCH,’ which it defines as the ‘Enhanced DCH, a new dedicated transport channel type or enhancements to an existing dedicated transport channel type.’” Pet. 29 (quoting Ex. 1004, 7) (citing Ex. 1003 ¶ 141). According to Petitioner,

Meeting45 also discloses the MAC architecture for the UE and explains that the “TSN field (6 bits) provides the transmission sequence number *on the E-DCH*” and the “*PDU* is forwarded . . . to layer 1 *for transmission*.” A POSITA would have understood that a PDU (Protocol Data Unit) is a packet, and therefore that packets are transmitted on the E-DCH in accordance with the instructions of the received Absolute Grant.

Meeting45 further explains that the E-DCH Transport Format Combination (E-TFC) selection entity in the UE is “responsible for E-TFC selection *according to the scheduling information* (Relative Grants and Absolute Grants) received” and a packet is then “*transmitted . . . as instructed* by the E-TFC selection function.” Meeting45 explains that “Scheduling Grants” (including the “Absolute Grants” conveyed on the E-AGCH) are “are only to be used for the E-DCH TFC selection

algorithm (i.e. they do not to influence the TFC selection for the DCHs).”

Pet. 30 (citing Ex. 1004, 12–14, 20; Ex. 1003 ¶¶ 143, 144) (alterations in original).

Patent Owner does not specifically contest Petitioner’s arguments that Meeting45 discloses the limitations of claim 16. *See generally* PO Resp. We have reviewed the arguments and evidence, including the cited portions of Meeting45, and are persuaded that they disclose the limitations of claim 16. For the foregoing reasons, we are persuaded that Petitioner establishes unpatentability of independent claim 16 over Meeting45 by a preponderance of the evidence.

3. *Independent Claim 39*

Independent claim 39 recites substantially similar limitations as independent claim 16, except that it does not recite the “acquiring” limitation of claim 16. Accordingly, our analysis in Section III.F.2 is substantially applicable to independent claim 39, with the exception of the “acquiring” limitation.

Independent claim 39 also replaces “an uplink packet transmission channel for user equipment (UE),” as recited in claim 16, with “a plurality of uplink packet transmission channels for a corresponding plurality of user equipment (UE).” Petitioner addresses this limitation of claim 39 as follows:

Meeting45 discloses the “E-DCH,” an uplink packet transmission channel, which it defines as the “Enhanced DCH, a new dedicated transport channel type,” and further sets out its channel attributes and uplink physical layer model. As a “dedicated” channel, there is one E-DCH for each UE, and therefore a plurality of E-DCH uplink packet transmission channels for a corresponding plurality of user equipment . . . “There is only one CCTrCH [(Coded Composite Transport Channel)] of E-DCH type per UE.”

Pet. 34 (citing Ex. 1004, 7, 10–11; Ex. 1003 ¶ 151). Petitioner further points to its analysis of independent claim 16 in reiterating that “Meeting45 describes ‘Node B controlled scheduling,’ including an ‘Absolute Grant,’ which ‘provide[s] an absolute limitation of the maximum amount of UL resources the UE may use’ for transmission on the uplink, is ‘valid for one UE, for a group of UEs, or for all UEs,’ and ‘contains at least the identity (E-RNTI) of the UE (or group of UEs) for which the grant is intended.’” *Id.* at 34–35 (citing Ex. 1004, 7, 20–21; Ex. 1003 ¶ 152).

Patent Owner does not specifically contest Petitioner’s arguments that Meeting45 discloses the limitations of claim 39. *See generally* PO Resp. We have reviewed the arguments and evidence, including the cited portions of Meeting45, and are persuaded that they disclose the limitations of claim 39. For the foregoing reasons, we are persuaded that establishes unpatentability of independent claim 39 over Meeting45 by a preponderance of the evidence.

4. *Dependent Claims 17–19, 21, and 22*

Claim 17 recites “wherein one or two identifiers are allocated to each UE”

Petitioner contends that Meeting45’s “Absolute Grant contains at least the identity (E-RNTI) of the UE (or group of UEs) for which the grant is intended.” Pet. 31 (citing Ex. 1004, 21; Ex. 1003 ¶ 143). Meeting45 explains that “[o]ne identity (E-RNTI) is allocated to a UE at a time.” *Id.* (citing Ex. 1004, 21; Ex. 1003 ¶ 145; Pet. § V.A.1.c).

Claim 18 recites “wherein the scheduling contents include a scheduled power command for assigning a specified amount of power for the uplink packet transmission”

According to Petitioner, “Meeting45 explains that the ‘Absolute Grants provide an absolute limitation of the maximum amount of UL

resources the UE may use’ for uplink packet transmission.” Pet. 31–32 (citing Ex. 1004, 21; Ex. 1003 ¶ 146). Petitioner further contends that “Meeting45 discloses that an Absolute Grant controls ‘the maximum allowed *power ratio*’ between the physical channel that carries the E-DCH (the ‘E-DPDCH’) and another power-limited physical control channel (the ‘DPCCH’).” *Id.* at 32 (citing Ex. 1004, 20, 2, 5; Ex. 1003 ¶ 146). Petitioner contends that “[a] POSITA would have understood that providing a maximum allowance for this power ratio provides a ‘scheduled power command for assigning a specified amount of power’ (a maximum power limit) ‘for the uplink packet transmission’ on the E-DCH.” *Id.* (citing Ex. 1003 ¶ 146; Ex. 1001, 3:27–30 (“[S]cheduled power, also referred to as rate, defines a maximum amount of power that can be allotted for transmission of the uplink packet transmission”)).

Claim 19 recites “wherein the scheduling contents include a duration command for determining a length of period the scheduling assignment remains effective”

Petitioner contends that “Meeting45 discloses that ‘Absolute Grants . . . can have an associated duration.’” Pet. 32 (citing Ex. 1004, 21; Ex. 1003 ¶ 147).

Claim 21 recites “wherein the scheduling assignment includes a command granting or denying transmission in the E-DCH”

Petitioner contends that “Meeting45 discloses that an ‘Absolute Grant’ (*i.e.*, scheduling assignment) provides ‘the maximum amount of UL resources the UE may use’ for uplink transmission on the E-DCH.” Pet. 33 (citing Ex. 1004, 20; Ex. 1003 ¶ 148; Pet. § V.A.1.e).

Claim 22 recites “wherein each UE of a shared channel in the E-AGCH has at least one UE identifier”

Petitioner contends that Meeting45 teaches that “the Absolute Grant contains at least the identity (E-RNTI) of the UE (or group of UEs) for which the grant is intended.” Pet. 33 (citing Ex. 1004, 21; Ex. 1003 ¶ 149; Pet. § V.A.1.c). According to Petitioner, “Meeting45 explains that “[o]ne identity (E-RNTI) is allocated to a UE at a time.” *Id.* (citing Ex. 1004, 21; Ex. 1003 ¶ 149). Petitioner further contends that “Meeting45 discloses that ‘[g]roup identities or dedicated identities are not distinguished by the UE,’ and ‘[i]t is up to the UTRAN to allocate the same identity to a group of UEs.’” *Id.* (citing Ex. 1004, 21; Ex. 1003 ¶ 149).

Conclusion

Patent Owner does not specifically contest Petitioner’s arguments that Meeting45 discloses the limitations of claims 17–19, 21, and 22. *See generally* PO Resp. We have reviewed the arguments and evidence, including the cited portions of Meeting45, and are persuaded that they disclose the limitations of claims 17–19, 21, and 22. For the foregoing reasons, we are persuaded that Petitioner establishes unpatentability of claims 17–19, 21, and 22 over Meeting45 by a preponderance of the evidence.

G. Challenge Based on Meeting45 and Meeting39

Petitioner contends claims 16–19, 21, 22, and 39 are unpatentable under 35 U.S.C. § 103(a) for obviousness based on Meeting45 and Meeting39. Pet. 36–41. Petitioner explains that “while all of the limitations of claims 16-19, 21, 22, and 39, are disclosed by Meeting45 alone, to the extent that Patent Owner disputes that Meeting45 discloses the limitations of these claims . . . , the additional disclosure of Meeting39 also renders claims

16-19, 21, 22, and 39 obvious in combination with Meeting45.” *Id.* at 36; *see id.* at 36–41 (citing Ex. 1003 ¶¶ 161–170; Ex. 1004, 7–8; Ex. 1005, 10, 12, 15, 46, Fig. 2B; Ex. 1017, 3–5).

As we determine that claims 16–19, 21, 22, and 39 are unpatentable over Meeting 45 alone by a preponderance of the evidence (*supra* § III.F), we need not specifically determine the unpatentability of these claims over the combination of Meeting45 and Meeting39. *See Boston Sci. Scimed*, 809 F. App’x 984, *4; *Beloit*, 742 F.2d at 1423.

H. Challenge Based on Meeting45 and Meeting45bis

Petitioner contends that claims 40 and 42 are unpatentable under 35 U.S.C. § 103(a) for obviousness based on Meeting45 and Meeting45bis. Pet. 41–43. For the reasons that follow, we are persuaded that Petitioner establishes unpatentability of claims 40 and 42 over Meeting45 and Meeting45bis by a preponderance of the evidence. *Supra* n.9 (noting that Patent Owner argues only the prior art status—and not the subject matter—of Meeting45, Meeting45bis, and Meeting39).

1. Overview of Meeting45bis (Ex. 1007)

Meeting45bis is a 3GPP “temporary document” submitted to the same 3GPP working group as Meeting45 and similarly relates to the development of FDD Enhanced Uplink and E-DCH support and specifically addresses scheduling delay. Ex. 1007, 1–2. Meeting45bis describes that “multiple user identities can be used” on the UE “to allow users to perform transmissions with a minimum delay.” *Id.* at 2. Meeting45bis also describes that, by using two user entities, such as a group entity and an individual entity, and monitoring their absolute grants, all inactive users can be quickly prohibited from transmitting. *Id.* Meeting45bis proposes accordingly that “all UEs

should monitor the absolute grants for two identities.” *Id.*; *see also id.* at 3 (“Specify that the UE shall monitor two identities on the E-AGCH.”).

2. *Claim 40*

Petitioner contends that Meeting45 in combination with Meeting45bis discloses dependent claim 40. Pet. 42.

“wherein the content of the scheduling assignment includes information relating to uplink transmission, and wherein two identifiers are allocated to at least one UE”

Petitioner contends that “Meeting45 describes the process of Node B controlled scheduling using the E-AGCH and E-DCH, and Meeting45bis (titled ‘E-DCH Priority Based Scheduling’) describes priority-based scheduling grants on the E-AGCH” and “proposes that a UE should monitor two identities on the E-AGCH.” *Id.* at 41 (citing Ex. 1007, 2–3).

Motivation to Combine

Petitioner reasons that a POSITA would have been motivated to combine Meeting45 and Meeting45bis for the same reasons as those discussed above for the challenge based on the combination of Meeting45 and Meeting39. Pet. 41 (citing *id.* at 36–37; Ex. 1003 ¶¶ 171–173).

With respect to Petitioner’s rationale for combining Meeting45 and Meeting39, Petitioner reasons that “[a] POSITA would have combined Meeting45 with Meeting39 to produce the obvious, beneficial, and predictable results of a 3GPP UMTS system that incorporates the characteristics of the channels in the FDD mode of UTRA described in Meeting39 with the overall FDD Enhanced Uplink description in Meeting45.” Pet. 36–37 (citing Ex. 1003 ¶¶ 161–165). Petitioner explains that both references are directed to the same field of invention—“wireless communications using the FDD mode of UTRA”—and that “there would have been an explicit teaching, suggestion, and motivation to combine these

two 3GPP documents” because they “contain changes to technical specifications in 3GPP Release 6 that are explicitly intended to be read and considered together.” *Id.* at 37 (citing Ex. 1003 ¶¶ 163–165). Petitioner also explains that

The proposed combination would have been nothing more than the combination of prior art elements (Meeting45’s Node B controlled scheduling using Meeting39’s descriptions of E-AGCH and E-DCH) according to known methods (Meeting45 explicitly states that its scheduling mechanism uses E-AGCH to schedule uplink transmission on E-DCH) to yield predictable results (Node B controlled scheduling of the E-DCH in a 3GPP UMTS system).

Id. at 37–38 (citing Ex. 1003 ¶ 164). And, according to Petitioner, “[a] POSITA would have had a reasonable expectation of success in implementing this combination because the E-AGCH and E-DCH channels described in Meeting39 are the same E-AGCH and E-DCH channels Meeting45 indicates are used in its Node B controlled scheduling mechanism.” *Id.* at 38 (citing Ex. 1003 ¶¶ 164–165).

Petitioner also reasons that “[a] POSITA reviewing Meeting45bis would have been motivated to consider Meeting45bis with Meeting45, since both references propose changes to the same topics (E-AGCH and E-DCH scheduling) in the same specification (TS 25.309), and both were submitted to the same working group (TSG RAN2) within weeks of each other.” *Id.* And, according to Petitioner, “[a] POSITA would have had a reasonable expectation of success in implementing this combination because the enhancements to the scheduling grants on the E-AGCH described in Meeting45bis are intended to be applied to the scheduling grant scheme on the same E-AGCH in Meeting45.” *Id.* at 42 (citing Ex. 1003 ¶¶ 171–173).

We determine that Petitioner has provided sufficient reasoning, with rational underpinning, why a POSITA would have been motivated to combine Meeting45 with Meeting45bis in the manner Petitioner proposes, with a reasonable expectation of success.

Patent Owner does not specifically contest Petitioner's arguments that Meeting45 in combination with Meeting45bis discloses the subject matter of claim 40. *See generally* PO Resp. We have reviewed the cited portions of Meeting45 and Meeting45bis and are persuaded that they disclose or suggest the "wherein" limitation recited in claim 40. For the foregoing reasons, we are persuaded that Petitioner establishes unpatentability of dependent claim 40 over Meeting45 and Meeting45bis by a preponderance of the evidence.

3. Claim 42

Petitioner contends that Meeting45 in combination with Meeting45bis discloses dependent claim 42. Pet. 43.

"wherein the content of the scheduling assignment further includes a command granting or denying transmission in the E-DCH"

Petitioner contends that "Meeting45's disclosure of a command granting transmission in the E-DCH teaches this limitation." Pet. 43 (citing Ex. 1003 ¶ 178). Petitioner further contends that "Meeting45bis expressly discloses a scheduling assignment that denies transmission on the E-DCH" and quotes the following disclosure: "[w]hen the load increases and the network needs to prohibit inactive users from transmitting[,] the rate zero is allocated to the 'group' identity. This quickly prohibits all inactive users from transmitting." Pet. 43 (quoting Ex. 1007, 2). According to Petitioner, a "POSITA would have understood that allocating 'rate zero' is the same as denying transmission." *Id.* (citing Ex. 1003 ¶ 179).

Motivation to Combine

Petitioner relies on the same motivation to combine as set forth for claim 40. *Supra* § III.H.2. For the same reasons set forth with respect to claim 40, we determine that Petitioner’s motivation to combine Meeting45 with Meeting45bis in the manner Petitioner proposes has sufficient rational underpinning and a reasonable expectation of success.

Patent Owner does not specifically contest Petitioner’s arguments that Meeting45 in combination with Meeting45bis discloses this limitation of claim 42. *See generally* PO Resp. We have reviewed the cited portions of Meeting45 and Meeting45bis and are persuaded, that they disclose or suggest the “wherein” limitation of claim 42. For the foregoing reasons, we are persuaded that Petitioner establishes unpatentability of dependent claim 42 based on Meeting45 and Meeting45bis by a preponderance of the evidence.

I. Challenges Based On Chen

Petitioner contends that each of the challenged claims is unpatentable under 35 U.S.C. § 102(e) for anticipation based on Chen, as well as under 35 U.S.C. § 103(a) for obviousness based on Chen. Pet. 44–65.

As we determine that claims 16–19, 21, 22, and 39 are unpatentable over Meeting45 by a preponderance of the evidence, and because we determine that claims 40 and 42 are unpatentable over Meeting45 and Meeting45bis by a preponderance of the evidence, we decline to address the unpatentability of these claims over Chen. *See Boston Sci. Scimed*, 809 F. App’x 984; *Beloit*, 742 F.2d at 1423.

IV. CONCLUSION¹³

In summary:

Claims Challenged	35 U.S.C. §	Reference(s)/ Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
16–19, 21, 22, 39	102(a)	Meeting45	16–19, 21, 22, 39	
16–19, 21, 22, 39	103(a)	Meeting45, Meeting39 ¹⁴		
40, 42	103(a)	Meeting45, Meeting45bis	40, 42	
16–19, 21, 22, 39, 40, 42	102(e)	Chen ¹⁵		
16–19, 21, 22, 39, 40, 42	103(a)	Chen ¹⁶		
Overall Outcome			16–19, 21, 22, 39, 40, 42	

¹³ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner’s attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. See 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. See 37 C.F.R. § 42.8(a)(3), (b)(2).

¹⁴ As explained above, because we determine that claims 16–19, 21, 22, and 39 are unpatentable over Meeting45 by a preponderance of the evidence, we decline to address this ground.

¹⁵ As explained above, because we determine that claims 16–19, 21, 22, and 39 are unpatentable over Meeting45 and claims 40 and 42 are unpatentable over Meeting45 and Meeting45bis by a preponderance of the evidence, we decline to address this ground.

¹⁶ As explained above, because we determine that claims 16–19, 21, 22, and 39 are unpatentable over Meeting45 and claims 40 and 42 are unpatentable

V. IV. ORDER

For the reasons given, it is:

ORDERED that Petitioner has established based on a preponderance of evidence that claims 16–19, 21, 22, 39, 40, and 42 of the '625 patent are unpatentable as obvious under 35 U.S.C. § 103; and

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

over Meeting45 and Meeting45bis by a preponderance of the evidence, we decline to address this ground.

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