

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CRADLEPOINT, INC., DELL INC.,
SIERRA WIRELESS, INC., THALES DIS AIS DEUTSCHLAND GMBH,
Petitioner,

v.

SISVEL INTERNATIONAL S.A.,
Patent Owner.

IPR2020-01070
Patent 7,433,698 B2

Before TERRENCE W. McMILLIN, AMANDA F. WIEKER, and
MONICA S. ULLAGADDI, *Administrative Patent Judges*.

McMILLIN, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
Denying Motion to Amend Claims
35 U.S.C. §§ 316(d), 318(a)

I. INTRODUCTION

A. *Background and Summary*

Cradlepoint, Inc., Dell Inc., Sierra Wireless, Inc., and Thales DIS AIS Deutschland GmbH (collectively “Petitioner”) filed a Petition requesting an *inter partes* review of claims 10, 11, 13, 17, and 24 of U.S. Patent No. 7,433,698 B2 (Ex. 1001, “the ’698 patent”). Paper 6 (“Pet.”). Sisvel International S.A. (“Patent Owner”) filed a Response. Paper 27 (“Resp.”). Petitioner filed a Reply. Paper 33 (“Reply”). Patent Owner filed a Sur-reply. Paper 36 (“Sur-reply”).

Pursuant to 35 U.S.C. § 316(d), Patent Owner filed a Motion to Amend and Request for Preliminary Guidance in which substitute claims 36–40 were proposed. Paper 28. Petitioner filed an Opposition to the Motion to Amend. Paper 32. The Board issued Preliminary Guidance on the Motion to Amend indicating our initial, non-binding views on the proposed substitute claims. Paper 35. Patent Owner filed a Revised Motion to Amend in which revised substitute claims 36–40 were proposed contingent upon a finding of unpatentability of the original challenged claims. Paper 37 (“Mot. Amend”). Petitioner filed an Opposition to the Revised Motion to Amend. Paper 42 (“Opp. Amend”). Patent Owner filed a Reply in Support of its Revised Motion to Amend. Paper 46 (“Reply Amend”). Petitioner filed a Sur-reply in Opposition to the Revised Motion to Amend. Paper 49 (“Sur-reply Amend”). Oral argument was heard on October 20, 2021, and a transcript was entered into the record. Paper 52 (“Tr.”).

We have jurisdiction to conduct this *inter partes* review under 35 U.S.C. § 6. This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons discussed herein, we

determine that Petitioner has shown, by a preponderance of the evidence, that claims 10, 11, 13, 17, and 24 of the '698 patent are unpatentable. And, the Revised Motion to Amend is denied.

B. Related Matters

The parties identify the following matters related to the '698 patent:

Sisvel International SA et al. v. ZTE (USA), Inc. et al., Case No. 3:19-cv-01694 (N.D. Tex.) (filed July 15, 2019);

Sisvel International SA v. Dell Inc., Case No. 1:19-cv-01247 (D. Del.) (filed July 1, 2019);

Sisvel International SA v. AnyData Corporation, Case No. 1:19-cv-01140 (D. Del.) (filed June 20, 2019);

Sisvel International SA v. Blu Products, Inc., Case No. 1:19-cv-01141 (D. Del.) (filed June 20, 2019, transferred to S.D. Fla. as Case No. 1:20-cv-20813);

Sisvel International SA v. Cradlepoint, Inc., Case No. 1:19-cv-01142 (D. Del.) (filed June 20, 2019);

Sisvel International SA v. Honeywell International, Inc., Case No. 1:19-cv-01143 (D. Del.) (filed June 20, 2019);

Sisvel International SA v. Verifone Systems, Inc., Case No. 1:19-cv-01144 (D. Del.) (filed June 20, 2019);

Sisvel International SA v. Xirgo Technologies, LLC, Case No. 1:19-cv-01145 (D. Del.) (filed June 20, 2019);

Sisvel International SA et al. v. Tesla, Inc., Case No. 1:19-cv-02288 (D. Del.) (filed Dec. 17, 2019);

Sisvel International S.A. v. Blu Products, Inc., Case No. 1:20-cv-20813 (S.D. Fla.) (filed Feb. 25, 2020); and

u-blox AG et al. v. Sisvel International SA et al., Case No. 3:20-cv-00494 (S.D. Cal.) (filed Mar. 16, 2020). Pet. vi–vii; Paper 7, 1–2.

Patent Owner also identifies IPR2020-01071 (pertaining to related U.S. Patent No. 8,364,196) as a related matter. Paper 7, 2.

C. The '698 Patent

The '698 patent is titled, “Cell Reselection Signalling Method.” Ex. 1001, code (54). The disclosed invention “relates to methods pertaining to cell reselection in a cellular telecommunication system,” whereby “a connection setup rejection message is used to direct a mobile communication means to attempt a new connection with certain parameter values such as a certain carrier frequency.” *Id.* at code (57) (Abstract). The '698 patent addresses problems associated with performance of handovers of mobile stations under conditions of cell congestion or channel congestion. *Id.* at 2:21–47, 4:26–31.

A channel reselection signalling method using a connection rejection message is illustrated in Figure 2 of the '698 patent, reproduced below.

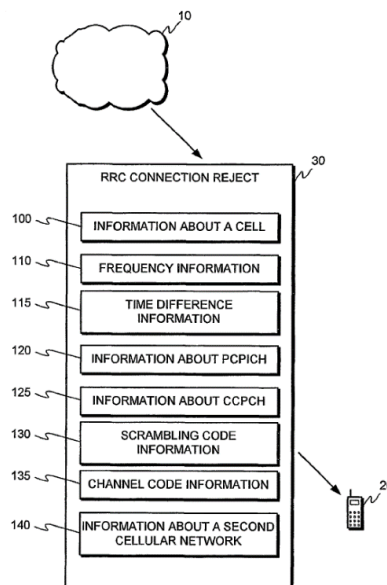


Fig. 2

Figure 2 illustrates a channel reselection signalling method in a cellular telecommunications network. *Id.* at 4:49–56. In the channel reselection signalling method illustrated in Figure 2, “network 10 indicates, in [] connection rejection message 30 to mobile station 20, information about the value of at least one parameter relating to connection setup for use in a new connection setup attempt.” *Id.* Information indicated in connection rejection message 30 may include information 100 about a preferred channel for the next connection attempt, and frequency information 110. *Id.* at 4:59–67.

Figure 3 of the '698 patent, reproduced below, illustrates a further method for channel reselection.

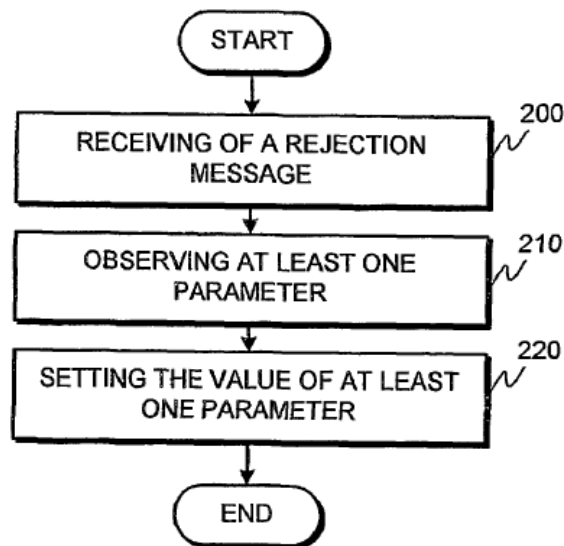


Fig. 3

Figure 3 illustrates “a channel reselection method in a mobile communication means of a cellular telecommunication system.” *Id.* at 5:16–22. The method illustrated in Figure 3 includes steps of receiving connection rejection message 200, observing at least one parameter of connection rejection message 210, and setting the value of at least one

parameter for a new connection attempt at least in part on the basis of information in at least one parameter of the connection rejection message 220. *Id.* at 5:22–29. The “connection setup rejection message is used to direct [the] mobile communication means to attempt a new connection with certain parameter values, such as a certain carrier frequency.” *Id.* at 3:8–11.

D. Challenged Claims

Petitioner challenges claims 10, 11, 13, 17, and 24 of the '698 patent. Of these, claim 10 is the only independent claim. Claim 10 recites:

10. A channel reselection method in a mobile communication means of a cellular telecommunication system, the method comprising the steps of:
receiving a connection rejection message;
observing at least one parameter of said connection rejection message; and
setting a value of at least one parameter for a new connection setup attempt based at least in part on information in at least one frequency parameter of said connection rejection message.

Ex. 1001, 8:34–43.

E. Prior Art and Asserted Grounds

Claims Challenged	35 U.S.C. §¹	Reference(s)
10, 13, 17	102(b)	Kallin ²
10, 13, 17	102(e)	Kissee ³
10, 11, 13, 17, 24	103(a)	Ericsson ⁴
10, 13, 17	102(a)	C.S0005 ⁵
10, 11, 13, 17, 24	103(a)	TS 25.331v.3.1.0, ⁶ Kallin
10, 11, 13, 17, 24	103(a)	TS 25.331v.3.1.0, Kissee
10, 11, 13, 17, 24	103(a)	TS 25.331v.3.1.0, C.S0005

Pet. 14–15. Petitioner relies on declarations by Dr. R. Michael Buehrer. Ex. 1004, 1020, 1024, 1028. Dr. Buehrer was cross-examined by Patent Owner and a transcript of his deposition was entered into the record. Ex. 2007. Patent Owner relies on declarations by Mr. Regis Bates. Ex. 2001,

¹ Because the application leading to the '698 patent was filed before March 16, 2013, patentability is governed by the versions of 35 U.S.C. §§ 102 and 103 preceding the Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112–29, 125 Stat. 284 (2011).

² U.S. Patent 5,287,545, issued Feb. 15, 1994 (Ex. 1005).

³ U.S. Patent 6,567,665 B1, issued May 20, 2003 (Ex. 1006).

⁴ *Specification of RRC Procedure: RRC Connection Establishment*, TSGR2#6(99)813, Ericsson/TSG-RAN Working Group 2, 1–5 (Aug. 16–20, 1999) (Ex. 1007).

⁵ *Upper Layer (Layer 3) Signaling Standard for cdma2000 Spread Spectrum Systems*, 3rd Generation Partnership Project 2 (3GPP2) C.S0005–0 Version 1.0, 1–1 to 3–445 (July 1999) (Ex. 1008).

⁶ *3rd Generation Partnership Project; Technical Specification Group Radio Access Network; RRC Protocol Specification (3G TS 25.331 version 3.1.0 Release 1999)*, 3G TS 25.331 V3.1.0, 3rd Generation Partnership Project (3GPP), 1–282 (January 2000) (Ex. 1009).

2006, 2008. Mr. Bates was cross-examined by Petitioner and a transcript of his deposition was entered into the record. Ex. 1023.

II. ANALYSIS OF CHALLENGE TO ISSUED CLAIMS

A. *Legal Principles*

In order for a prior art reference to serve as an anticipatory reference, it must disclose every limitation of the claimed invention, either explicitly or inherently. *In re Schreiber*, 128 F.3d 1473, 1477 (Fed. Cir. 1997).

Anticipation “requires that every element and limitation of the claim was previously described in a single prior art reference, either expressly or inherently, so as to place a person of ordinary skill in possession of the invention.” *Sanofi-Synthelabo v. Apotex, Inc.*, 550 F.3d 1075, 1082 (Fed. Cir. 2008) (citing *Schering Corp. v. Geneva Pharms., Inc.*, 339 F.3d 1373, 1379 (Fed. Cir. 2003); *Cont’l Can Co. USA v. Monsanto Co.*, 948 F.2d 1264, 1267–69 (Fed. Cir. 1991)). “[U]nless a reference discloses within the four corners of the document not only all of the limitations claimed but also all of the limitations arranged or combined in the same way as recited in the claim, it cannot be said to prove prior invention of the thing claimed and, thus, cannot anticipate under 35 U.S.C. § 102.” *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1371 (Fed. Cir. 2008).

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 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) objective evidence of nonobviousness.⁷ *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

“In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)). This burden of persuasion never shifts to Patent Owner. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (discussing the burden of proof in *inter partes* review).

We analyze the challenges presented in the Petition in accordance with the above-stated principles.

B. Level of Ordinary Skill in the Art

With regard to the level of skill in the art, Petitioner contends:

A person of ordinary skill in the art (POSITA) at the time of the alleged invention (January 17, 2000) 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), including experience with cellular telecommunication systems, including designing or implementing user equipment or network equipment or signaling protocols therefor. (Ex. 1004, [Buehrer Decl.] ¶¶ 22–24.) A POSITA’s skill set would have included designing or configuring physical, link, and network layers of user equipment (e.g., mobile phones) and network equipment (e.g., base stations) to enable bi-directional communications according to various protocols, including the RRC protocol. (*Id.*)

⁷ We are not presented with any objective evidence of obviousness to consider.

Pet. 18. Patent Owner contends:

A person having ordinary skill at the time of invention—January 17, 2000—in the relevant art would be one with a bachelor’s degree in electrical engineering, computer sciences, or telecommunications, along with three to five or more years of practical experience in the field. A combination of more experience in the field and less education or more education and less experience in the field would also suffice. (Ex. 2001 [Bates Decl.] at ¶ 27; Ex. 2006 at 22.)

Resp. 8. Patent Owner acknowledges that “Patent Owner’s proposed level of skill in the art is similar to Petitioners’ proposal,” but “Patent Owner includes the qualification that a combination of more experience in the field and less education, or more education and less experience in the field would also suffice. *Id.* In support of this qualification, Patent Owner argues, “Petitioners’ expert, Dr. Buehrer, admitted that it would be possible for experience to replace education for a person of ordinary skill in the art.” *Id.* (citing Ex. 2007, 28:15–29:13).

We do not find it necessary to resolve the differences between the contentions of the parties as to the appropriate level of skill in the art. Neither party explicitly applies or relies on its specific proposed level of skill in the art in support of its contentions relating to patentability. At oral argument, Petitioner’s counsel stated that there was no material dispute relating to the level of ordinary skill in the art. Tr. 7:18–23; *see also* Paper 51, 11 (“The results of the invalidity analysis are the same regardless of [the] definition used.”). In its Reply, Petitioner acknowledged, “[r]egardless of which POSITA definition is adopted, a POSITA’s understanding of the ’698 patent and prior art, reasons for making the combinations, and expectations of success would have been the same.”

Reply 2. Patent Owner agrees, “a POSITA’s understanding would have been the same.” Sur-reply 1. And, Patent Owner’s technical expert, Mr. Bates, acknowledged the differences between the contentions of the parties relating to the level of ordinary skill in the art are insignificant. Ex. 2006 (Bates Decl.) ¶ 22 (“[A]pplying Petitioner’s level of skill would not change my opinions.”). We agree and would make the same factual findings and reach the same ultimate conclusions with respect to both the challenged claims and the revised substitute claims under either of the contentions of the parties. To the extent necessary to conducting our analysis of the arguments and evidence in this proceeding, we adopt Patent Owner’s contention as to the level of ordinary skill in the art. It is the broader of the two and consistent with the level of skill reflected in the Specification and prior art.

C. *Claim Construction*

Claim construction in this proceeding is governed by 37 C.F.R. § 42.100(b), which provides:

In an *inter partes* review proceeding, a claim of a patent, or a claim proposed in a motion to amend under §42.121, shall be construed using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b), including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.

Under the standard set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–19 (Fed. Cir. 2005) (en banc), claim terms are given their ordinary and customary meaning, as would have been understood by a person of ordinary skill in the art at the time of the invention, in light of the language of the claims, the specification, and the prosecution history of record. *See Thorner*

v. Sony Comput. Ent. Am. LLC, 669 F.3d 1362, 1365–66 (Fed. Cir. 2012). There is a “heavy presumption,” however, that a claim term carries its ordinary and customary meaning. *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002) (citation omitted).

We are also guided by the principle that we only construe claim terms if, and to the extent that, it is necessary for the purpose of the proceeding. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co. Ltd.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (“[W]e need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy.’”) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

In the Petition, Petitioner submits that the only terms requiring express construction in claims 10, 11, 13, 17 and 24 are “mobile communication means,” which is recited in the preamble of independent claim 10, and “RRC CONNECTION REJECT message,” which is recited in dependent claim 11. Pet. 18–20. Patent Owner agrees with the constructions submitted by Petitioner. Resp. 9. Patent Owner does not contend that the preamble is limiting or dispute Petitioner’s showing that the asserted art discloses the preamble of claim 10. *See generally* Resp. And, Patent Owner does not dispute Petitioner’s showing with regard to claim 11. *Id.* As there does not appear to be any material dispute between the parties related to the meaning of “mobile communication means” or “RRC CONNECTION REJECT message,” it is not necessary to construe these terms. *See* Pet. 19–20; Resp. 9; Reply 2–3.

Patent Owner also argues that “connection rejection message” which is recited in all the challenged claims and “frequency parameter” which is recited in claims 10, 13, 17, and 24 require construction. Petitioner argues

that no express constructions of “connection rejection message” and “frequency parameter” are needed. Reply 3–6. There are material disputes between the parties as to the construction of “connection rejection message” and “frequency parameter.” *See* Resp. 10–12; Reply 3–6; Sur-reply 2–4.

1. “connection rejection message”

With regard to “connection rejection message,” “Patent Owner proposes that this term should be construed as ‘a message from a GSM or UMTS telecommunications network rejecting a connection request from a mobile station.’” Resp. 10. Petitioner contends, “[n]o express construction is needed” and “[t]he plain and ordinary meaning, *i.e.*, a message that rejects a connection, should apply.” Reply 3.

There is no textual basis in the claim language for requiring a GSM or UMTS telecommunications network. Claim 10’s language is not plainly limited to GSM or UMTS telecommunications networks. Patent Owner identifies no disclaimer or explicit definition of “connection rejection message” in the ’698 patent that justifies importing a requirement for a GSM or UMTS telecommunications network. Patent Owner attempts to support its construction with this sentence from the Specification of the ’698 patent: “The invention is applicable in many different cellular telecommunication systems, such as the UMTS system or the GSM system.” Resp. 10 (citing Ex. 1001, 7:41–43). However, this language clearly is permissive, not mandatory. At most, this sentence explains that the cellular telecommunication system *can be* a UMTS system or GSM system; not that the cellular telecommunication system *must be* a UMTS system or GSM system.

Patent Owner further argues that “[s]ince the ’698 patent does not disclose that the invention is applicable to any networks other than the GSM

and UMTS networks, and only discusses 3G networks, the invention is thus limited to these two 3G networks.”⁸ *Id.* This, however, is explicitly contradicted by the sentence that immediately follows the sentence Patent Owner quotes. The next sentence in the Specification reads, “[t]he invention is applicable in any such cellular telecommunication system, in which the cellular telecommunication network sends a rejection message as a response to a connection setup request from a mobile station, if the network is unable to provide the requested connection.” Ex. 1001, 7:43–47. In addition, the ’698 patent Specification provides that the message names used for such “rejection message[s]” should not be construed in a limiting manner. *Id.* at 7:56–60 (“[T]he various message names such as the CONNECTION SETUP REJECT message name are intended to be examples only, and the invention is not limited to using the message names recited in this specification.”).⁹

We reject Patent Owner’s proposed construction because we find no support for limiting the meaning of “connection rejection message,” as the Specification explicitly states that the invention should not be limited as proposed by Patent Owner.¹⁰ Although the claims may encompass a

⁸ Even if supported by the ’698 patent, the fact that embodiments (or even every embodiment) discusses only 3G networks does not support reading that limitation into the claims. See *Aventis Pharma S.A. v. Hospira, Inc.*, 675 F.3d 1324, 1330 (Fed. Cir. 2012) (“[I]t is . . . not enough that the only embodiment, or all of the embodiments, contain a particular limitation’ to limit a claim term beyond its ordinary meaning.” (quoting *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002))).

⁹ In the Preliminary Response, Patent Owner acknowledges that, “[t]he ’698 patent uses the terms ‘connection setup rejection message’ and ‘connection rejection message’ interchangeably.” Prelim. Resp. 2 n.1.

¹⁰ There is other language in the Specification that indicates that the invention should not be limited to any particular telecommunications network. The Specification states, “the term mobile station is intended to

message from a GSM or UMTS telecommunications network, Patent Owner fails to demonstrate that a narrow construction requiring such a network is warranted. We apply the plain meaning of “connection rejection message” as a message that rejects a connection.

2. *“frequency parameter”*

With regard to “frequency parameter,” “Patent Owner proposes that this term should be construed as ‘frequency information comprising multiple channels.’” Resp. 11. Petitioner contends, “[n]o express construction is needed” and “[t]his term should be given its plain and ordinary meaning, *i.e.*, a parameter related to frequency.” Reply 5.

There is no textual basis in the claims for requiring that the frequency information comprise multiple channels. Patent Owner identifies no disclaimer or explicit definition of “frequency parameter” in the ’698 patent that justifies importing a requirement that the frequency information comprise multiple channels.

In support of its argument, first, Patent Owner argues, “[t]his construction is supported by the specification of the ’698 patent, which refers separately to channels and frequencies.” Resp. 11 (citing Ex. 1001, 4:26–47). We do not discern and Patent Owner does not explain how separately referring to channels and frequencies supports its proposed construction. And, we discern no support for Patent Owner’s proposed construction in the passage from the Specification that Patent Owner cites.

cover any mobile communications means” and “the term radio network controller in the claims is intended to cover all corresponding functional entities regardless of the term used for the entity in the particular telecommunication system.” Ex. 1001, 4:45–47, 7:53–56 (explaining that radio network controller should not be limited to the corresponding functional entity in the GSM system).

As noted, we discern no definition of “frequency parameter” in the ’698 patent. But, there is a definition of the term “channel.” The Specification of the ’698 patent states: “in the following explanation and especially in the claims the term channel is used to cover a cell as well as a specific channel according to specific frequency, code, etc. parameters.” Ex. 1001, 4:31–34. This definition suggests that a specific frequency parameter can relate to a specific channel rather than comprising multiple channels as in Patent Owner’s proposed construction. The remainder of the cited passage from the Specification of the ’698 patent shows that, in the context of this patent, “frequency parameter” should not be limited to “frequency information comprising multiple channels,” because a frequency parameter can relate to “a new frequency in the same cell or a different cell” or to “a new cell with the same or a different frequency.” *See id.* at 4:34–45.

Second, Patent Owner argues that the use of “channel” and “reception frequency” in claim 13 “indicat[es] that ‘channel’ is a subset of reception frequency.” Resp. 11. Again, Patent Owner provides no explanation or reasoning as to how this supports its construction of “frequency parameter” in the context of the ’698 patent and claims. Claim 13 recites:

The method of claim 10, further comprising the steps of:
setting a reception frequency based on the value of said at least
one frequency parameter of said connection rejection
message;
selecting a channel transmitting on said reception frequency;
and
initiating a connection setup procedure.

Ex. 1001, 8:52–58. We discern no support in claim 13 for limiting “frequency parameter” to mean “frequency information comprising multiple channels.” In the context of claim 13, a “frequency parameter” on which a

“reception frequency” is based could be used to select “a channel transmitting on said reception frequency” even if the “frequency parameter” was frequency information relating to a single channel. We apply the plain meaning of “frequency parameter” as a parameter related to frequency.

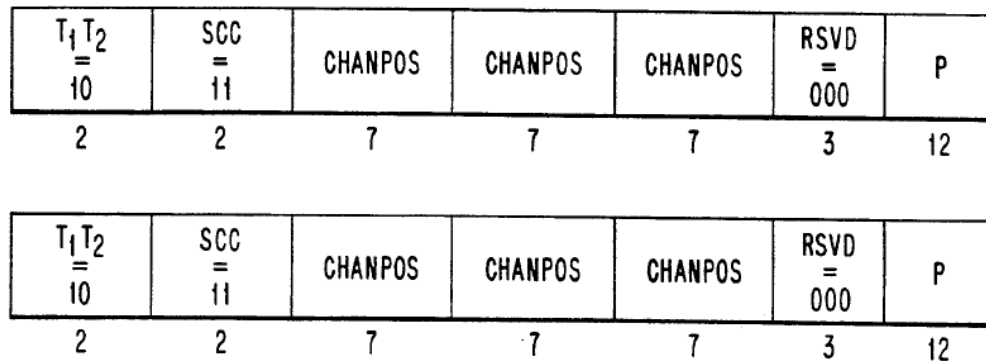
D. Overview of the Asserted References

1. Kallin (Ex. 1005)

Kallin issued on February 15, 1994 (Ex. 1005, code (45)) and is prior art to the '698 patent under 35 U.S.C. § 102(b), because it was patented more than one year prior to the PCT filing date of January 17, 2001, which is the earliest claimed priority date for the '698 patent (Ex. 1001, code (22), 1:4–7). Patent Owner does not contest the prior art status of Kallin. *See generally* Resp. Kallin was not a reference cited during examination of the application for the '698 patent. Ex. 1001, code (56); *see also* Pet. 8.

Kallin is titled “Method of and apparatus for advanced directed retry” (Ex. 1005, code (54)) and is directed to a cellular mobile radiotelephone call access method that uses a “directed retry message” sent in response to an attempted call access in a first cell experiencing congestion (Ex. 1005, Abstract). Kallin describes a process for redirecting a mobile station that sends a service request to a cell of a cellular mobile radiotelephone system at a time when all of the voice channels of the cell are occupied. *Id.* at 2:21–25. The mobile station is redirected by a switching center (e.g., a switching center in a conventional cellular mobile radiotelephone system) that sends to the mobile station a directed retry message as illustrated in Figure 1b, reproduced below. *Id.* at 2:35–38.

Fig. 1b



“Figure 1b is a representation of a directed retry message sent from a mobile services center to a mobile station.” *Id.* at 2:1–3. The directed retry message in Figure 1b is formatted as two 40-bit words of identical format divided into segments. *Id.* at 2:39–48. The main portion of the directed retry message, consisting of three 7-bit segments, identifies three channels of three neighboring cells in terms of an offset relative to a first access channel used in the system.” *Id.* at 2:50–53. The second word of the directed retry message is in the same form as the first word, but identifies three additional channels, for a total of six. *Id.* at 2:54–56. “In response to the directed retry message, the mobile station monitors received signal strengths on each of the identified channels and selects the strongest received channel to reattempt its previous service request.” *Id.* at 56–60.

More particularly, a call access method that uses a directed retry message includes operations illustrated in Figure 5 of Kallin, reproduced below. *Id.* at 2:12–14.

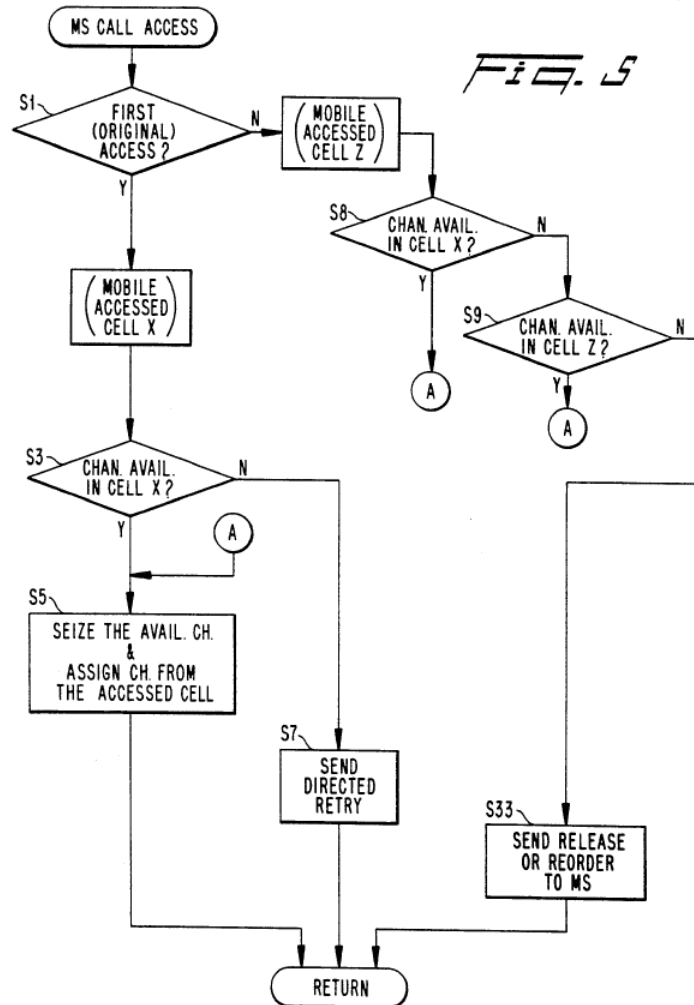


FIG. 5 is a flowchart representation of a call access method that uses a directed retry message. *Id.* at 2:12–14. When an access request is received, it is determined (step S1) whether the access is an original access or a directed retry access. *Id.* at 5:5–7. If it is an original access, an idle channel is sought in the cell (cell X) in which the mobile station is located (step S3). *Id.* at 5:7–10. “If a channel is available, it is seized and assigned to the mobile station (step S5); otherwise, a directed retry message is sent to the mobile station (step S7).” *Id.* at 5:10–13.

If the access attempt is a directed retry access, an idle channel is sought in the neighboring cell selected by the mobile station in response to

the directed retry message (cell Z). *Id.* at 5:14–18. First, cell X is checked for available voice channels. *Id.* at 5:18–19. If congestion has been alleviated in cell X with the result that an idle channel is found (step S8), the channel is seized and assigned to the mobile station (step S5). *Id.* at 5:18–23. If no channel is available in cell X, cell Z is checked (step S9) and, if a channel is available in cell Z, the channel is seized and assigned to the mobile station (step S5). *Id.* at 5:23–26. To avoid unduly burdening the operation of cell Z, the number of channels in cell Z that may be reserved for directed retries may be limited to a proportion of the channels allocated to cell Z. *Id.* at 5:34–43.

“If an idle channel cannot be found in either original cell X or the selected neighbor cell Z, then a reorder or release message is sent to the mobile station to inform the caller that service is temporarily unavailable (step 33).” *Id.* at 27–30.

2. *Kissee (Ex. 1006)*

Kissee issued on May 20, 2003 (Ex. 1006, code (45)) and is prior art to the ’698 patent under 35 U.S.C. § 102(e), because Kissee was filed on July 28, 1999, prior to the priority date of January 17, 2000, which is the earliest claimed priority date for the ’698 patent, and prior to the PCT filing date of January 17, 2001, claimed for the ’698 patent. Ex. 1001, codes (22), (30) 1:4–7; Ex. 1006, code (22). Patent Owner does not contest the prior art status of Kissee. *See generally* Resp. Kissee was not a reference cited during examination of the application for the ’698 patent. Ex. 1001, code (56); *see also* Pet. 8.

Kissee is titled “Method and apparatus for redirecting calls in a wireless communications system” (Ex. 1006, code (54)) and is directed to a method and apparatus for redirecting calls in an overloaded cell in a wireless

communications system (*id.* at 1:10–13). Kisse describes a process for redirecting a call with the following steps: (1) a mobile station sends an origination or page response to a serving BSS (base substation) in a serving cell, and a MACA (mobile assisted channel allocation) report; (2) in response to these signals from the mobile station, an origination or page response with MACA information appended is sent to a MSC (mobile service switching center), and the MSC uses the MACA information to identify an adjacent cell to which the mobile station is to be redirected; (3) a directed retry message with the best adjacent channel information is sent to the BSS serving the mobile station from the MSC; and (4) the directed retry message is then relayed from the BSS DCCH (digital control channel) to the mobile station. *Id.* at 3:65–67, 14:3–30. The directed retry message contains adjacent channel information used by the mobile station to reselect an adjacent cell. *Id.* In particular, the directed retry message includes a list of one or more cells selected by the MSC based on information returned from the mobile station. *Id.*

3. *Ericsson (Ex. 1007)*

Ericsson is titled “Specification of RRC procedure: RRC connection establishment.” Ex. 1007, 1. Petitioner asserts “‘Ericsson’ is a document submitted for decision at a working group meeting in Sophia Antipolis on August 16-20, 1999” and “[i]t was label[l]ed as TSGR2#6(99)813 and published by 3GPP, and is prior art under pre-AIA 35 U.S.C. §§ 102(a) and 102(b) based on the ’698 patent’s PCT filing date [January 17, 2001 (Ex. 1001, code (22), 1:4–7)].” Pet. 9. Petitioner provides evidence that Ericsson “was publicly accessible at least by August 16, 1999.” *Id.* at 9–10 (citing Ex. 1013 (Affidavit of John Meredith, 3 GPP’s Specifications Manager); Ex. 1014 (Declaration of Craig Bishop, a former 3GPP Principal

Standards Engineer)). Patent Owner does not contest the prior art status of Ericsson. *See generally* Resp. Ericsson was cited during examination of the application for the '698 patent. Ex. 1001, code (56); *see also* Pet. 10 (“Ericsson was applied during prosecution, and Applicant never contested its eligibility as prior art.”) and Ex. 1002 (file history of the '698 patent), 328.

Ericsson describes a proposal for specification of the RRC (Radio Resource Control) connection establishment procedure. Ex. 1007, 1. During a RRC connection establishment procedure between a UE (User Equipment) and a UTRAN (UMTS Terrestrial Radio Access Network), the network may accept the RRC connection, or the network may reject the RRC connection. *Id.* Upon reception of a RRC CONNECTION REQUEST message from the UE, the UTRAN transmits a RRC CONNECTION REJECT message when the UTRAN rejects the requested RRC connection. *Id.* at 1–3. When the UE receives the RRC CONNECTION REJECT message, the UE may, after a waiting period, transmit a new RRC CONNECTION REQUEST message on the uplink, or the UE may enter idle mode, at which point the procedure ends and a connection failure may be indicated. *Id.* at 3.

4. C.S0005 (Ex. 1008)

C.S0005 is titled “Upper Layer (Layer 3) Signaling Standard for cdma2000 Spread Spectrum Systems” and dated July, 1999. Ex. 1008, 1. Petitioner asserts C.S0005 “is a standard published by the 3rd Generation Partnership Project 2 (‘3GPPP2’), and is prior art under Pre-AIA 35 U.S.C. §§ 102(a) and 102(b) based on the '698 patent’s PCT filing date [January 17, 2001 (Ex. 1001, code (22), 1:4–7)].” Pet. 10–11. Petitioner provides evidence that C.S0005 “was publicly accessible by October 31, 1999 on 3GPPP2’s website.” *Id.* at 11 (citing Ex. 1015 (Declaration of Dr. Raziq

Yaqub, a member of 3GPPP2)). Patent Owner does not contest the prior art status of C.S0005. *See generally* Resp. C.S0005 was not a reference cited during examination of the application for the '698 patent. Ex. 1001, code (56); *see also* Pet. 11.

C.S0005 describes signalling (e.g., messaging) flowing between mobile stations and base stations in a CDMA2000 network. Ex. 1008, 2-27, 2-28, Fig. 2.6-1. C.S0005 describes messages that are used to support both service negotiation (procedures used by a mobile station and a base station to establish a service configuration) and service option negotiation (procedures used by the mobile station and base station to establish a service configuration, similar to service negotiation, but allowing less flexibility for specifying attributes of the service configuration), including the following messages: an Origination Message, a General Page Message, a Page Response Message, and a Channel Assignment Message. *Id.* at 1-18, 2-174, 2-175.

The Origination Message is used by the mobile station to propose an initial service. *Id.* at 2-175. The General Page Message is used by the base station to propose an initial service configuration. *Id.* The Page Response Message is used by the mobile station to accept or to reject the initial service configuration proposed by the base station in the General Page Message, or to propose an alternative initial service configuration. *Id.* The Channel Assignment Message is used by the base station to accept or to reject the initial service configuration proposed by the mobile station in an Origination Message or a Page Response Message, and to indicate which type of negotiation, either service negotiation or service option negotiation, is to be used during a call. *Id.* at 2-111, 2-133, 2-175. When the mobile station

receives the Channel Assignment Message, Layer 3 sends a dedicated channel assignment indication to Layer 2. *Id.* at 2-110, 2-132.

5. *TS 25.331v.3.1.0 (Ex. 1009)*

TS 25.331v.3.1.0 is a “Technical Specification” of the 3rd Generation Partnership Project (3GPP) and dated 1999. Ex. 1009, 1. Petitioner asserts TS 25.331v.3.1.0 “is prior art under pre-AIA 35 U.S.C. §§ 102(a) and 102(b) based on the ’698 patent’s PCT filing date [January 17, 2001 (Ex. 1001, code (22), 1:4–7)].” Pet. 13. Petitioner provides evidence that TS 25.331v.3.1.0 “was publicly accessible at least by January 14, 2000.” *Id.* at 13–14 (citing Ex. 1013 (Affidavit of John Meredith, 3 GPP’s Specifications Manager); Ex. 1014 (Declaration of Craig Bishop, a former 3GPP Principal Standards Engineer)). Patent Owner does not contest the prior art status of TS 25.331v.3.1.0. *See generally* Resp. TS 25.331v.3.1.0 was not a reference cited during examination of the application for the ’698 patent. Ex. 1001, code (56); *see also* Pet. 14.

TS 25.331v.3.1.0 is titled “Technical Specification Group Radio Access Network; RRC Protocol Specification” (Ex. 1009, 1) and describes the RRC (Radio Resource Control) protocol for the UE-UTRAN (User Equipment–Universal Mobile Telecommunications System Terrestrial Radio Access Network) radio interface, and the information to be transported in a transparent container between source RNC (Radio Network Controller) and target RNC in connection to a SRNC (Serving Radio Network Controller) relocation (*id.* at 16–18). During a RRC Connection Establishment between a UE (User Equipment) and a UTRAN (UMTS Terrestrial Radio Access Network), the network may accept the RRC connection (Fig. 6 of TS 25.331v.3.1.0, reproduced below), or the network may reject the RRC connection (Fig. 7 of TS 25.331v.3.1.0, reproduced below). *Id.* at 18, 33.

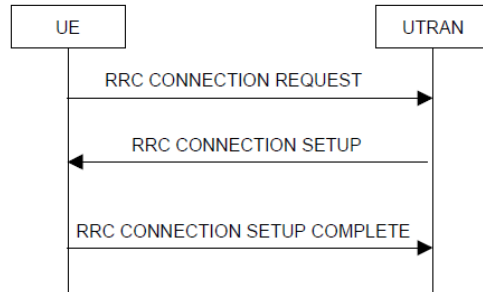


Figure 6: RRC Connection Establishment, network accepts RRC connection

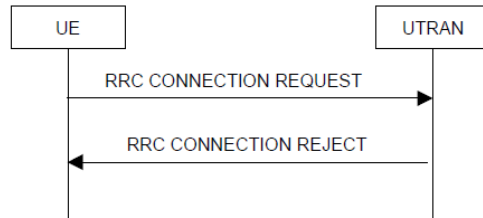


Figure 7: RRC Connection Establishment, network rejects RRC connection

Figures 6 and 7 depict communication in RRC connection establishment, with Figure 6 illustrating a case where the UTRAN network accepts the RRC connection, and Figure 7 illustrating a case where the UTRAN network rejects the RRC connection. *Id.* at 33. As shown in Figure 7, upon reception of a RRC CONNECTION REQUEST message, the UTRAN transmits a RRC CONNECTION REJECT message when the requested RRC connection cannot be accepted. *Id.* at 33–34, 140. When the UE receives the RRC CONNECTION REJECT message, it compares a value in the received RRC CONNECTION REJECT message with a value in the last RRC CONNECTION REQUEST message sent by the UE, and if the values are different, the UE ignores the rest of the message. *Id.* at 35. If, however, the values are identical, the UE may transmit, after a waiting time, a new RRC CONNECTION REQUEST message on the uplink, or the UE may enter idle mode, at which point the procedure ends and a connection failure may be indicated. *Id.*

E. Discussion of Unpatentability of the Challenged Claims

1. Summary of Arguments

Petitioner contends that Kallin, Kisse, and C.S0005 anticipate claims 10, 13, and 17 of the '698 patent. Pet. 15. In support, Petitioner provides an element-by-element mapping of Kallin, Kisse, and C.S0005 to each limitation of claims 10, 13, and 17. Pet. 20–35, 44–52. Patent Owner's contrary argument is a single paragraph asserting that Kallin, Kisse, and C.S0005 do not anticipate claims 10, 13, and 17, because these references fail to disclose a “connection rejection message” under Patent Owner's proposed construction of this term. Resp. 12. We reject Patent Owner's argument as it is predicated on its proposed construction which we reject as overly narrow. *See supra* Part II.C.1 (rejecting Patent Owner's proposed construction); *see infra* Parts II.E.2, 3, 5.

Petitioner also contends that claims 10, 11, 13, 17, and 24 would have been obvious in light of Ericsson. Pet. 15, 35–43. Patent Owner argues that this ground fails, because Ericsson does not teach or suggest a frequency parameter in a connection rejection message as required by independent claim 10. Resp. 12–15. We find Patent Owner's argument persuasive. *See infra* Part II.E.4.

Petitioner further contends that claims 10, 11, 13, 17, and 24 would have been obvious in view of TS 25.331v.3.1.0 in view of either Kallin, Kisse, or C.S0005. Pet. 15, 52–72. Patent Owner argues that each of these combinations fail, because a skilled artisan “would not have been motivated to add a frequency related field to the RRC CONNECTION REJECT message in TS 25.331v.3.1.0.” Resp. 15, 18. We reject Patent Owner's argument and find that claims 10, 11, 13, 17, and 24 would have been

obvious in view of TS 25.331v.3.1.0 in view of either Kallin, Kisse, or C.S0005. *See infra* Part II.E.6.

2. *Consideration of Alleged Anticipation by Kallin*

We begin our consideration of the patentability of the challenged claims with a consideration of whether Kallin anticipates claims 10, 13, and 17. Specifically, we consider the arguments and evidence presented by the Petitioner relating to the limitations of claims 10, 13, and 17. Pet. 15, 20–27. Patent Owner’s sole contrary argument is based on a construction of the term “connection rejection message,” which we have rejected. Resp. 12; *see also supra* Part II.C.1.

a. *Asserted Anticipation of Claim 10 by Kallin*

Our element-by-element consideration of whether Kallin anticipates claim 10 of the ’698 patent follows.

10. *A channel reselection method in a mobile communication means of a cellular telecommunication system, the method comprising the steps of:*

Petitioner contends that, “[t]o the extent the preamble is limiting,^[11] Kallin discloses it.” Pet. 21. The Petition states, “Kallin . . . discloses selecting a channel to reattempt a previous service request (claimed ‘channel reselection method’).” *Id.* (citing Ex. 1005, 1:55–64, 2:21–60, 4:12–5:33, 6:65–7:9 (claim 1), 7:47–60 (claim 8), 8:14–37 (claim 12); Ex. 1004 (Buehrer Decl.) ¶ 141). Cited claim 1 of Kallin recites:

A call access ***method in a cellular mobile radiotelephone system*** having a plurality of established cells each in communication with an exchange, comprising the steps of:

¹¹ We need not determine whether the preamble of claim 10 is limiting, because Petitioner’s undisputed showing that all the elements of the preamble are disclosed by Kallin is persuasive.

sending a directed retry message in response to an attempted call access in a first cell experiencing congestion;
detecting as a *directed retry call access attempt a subsequent retry in a second cell of said attempted call access*; and
if a traffic channel allocated to said first cell is available,
assigning from said second cell said traffic channel allocated to said first cell.

Ex. 1005, 6:65–7:9 (emphases added). Claim 1 of Kallin discloses all the elements recited in the preamble of claim 10 of the '698 patent. And, the additional passages cited by Petitioner further support the finding that Kallin discloses all the elements of the preamble of claim 10. Patent Owner does not dispute Petitioner's showing relating to the preamble of claim 10. *See generally* Resp.

We are persuaded by Petitioner's undisputed showing with regard to the preamble of claim 10 that Kallin discloses all the elements of the preamble.

receiving a connection rejection message;

Petitioner relies on the disclosure in Kallin of a “directed retry message” that is received by the mobile station for this limitation. *See* Pet. 22–23 (citing Ex. 1005, 1:36–40, 2:12–14, 2:34–38, 4:29–34, 5:3–13, Fig. 5; Ex. 1004 (Buehrer Decl.) ¶¶ 143–144). In the passages cited by Petitioner, Kallin states:

The switching center . . . send[s] a “directed retry” instruction to the mobile station attempting access together with a list of the frequencies of all of the congested cell's neighboring cells.

* * *

[T]he switching center 15 in a conventional cellular mobile radiotelephone system will send to the mobile station a directed retry message as illustrated in FIG. 1*b*.

* * *

In response to a mobile access request of the type illustrated in FIG. 3, if the cell in which the mobile station is located is experiencing congestion, the mobile services center will then send a directed retry message of the type illustrated in FIG. 1b.

* * *

The essentials of the call access method of the present invention will first be explained with reference to steps in S1-S9 and S33 in FIG. 5. When an access request is received, it is first ascertained in step S1 whether the access is an original access or a directed retry access. If the access is an original access, an idle channel is sought in the cell (“cell X”) in which the mobile station is located (S3). If a channel is available, it is seized and assigned to the mobile station in step S5; otherwise, a directed retry message is sent to the mobile station in step S7.

Ex. 1005, 1:36–40, 2:34–38, 4:29–34, 5:3–13. Dr. Buehrer’s Declaration provides: “Kallin explains that when a mobile station MS attempts to access the system at a time of congestion such that there is no channel available (i.e., the connection is being rejected), the switching center 15 (or mobile services center) of the system will send a *directed retry* message” and “the MS receives the directed retry message (the claimed ‘receiving a connection rejection message’).” Ex. 1004 ¶¶ 143–144.

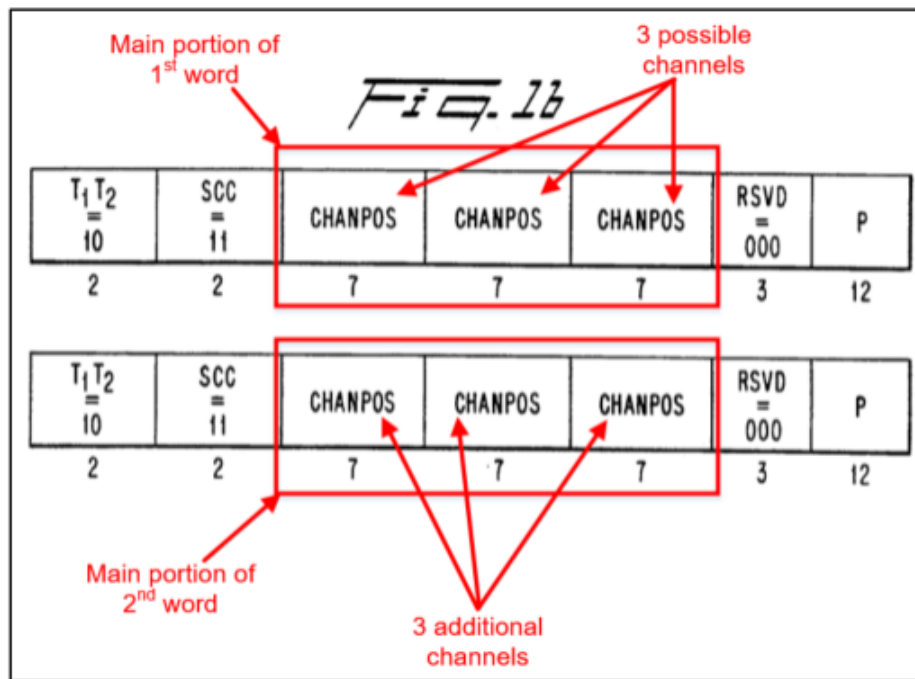
Petitioner’s showing with regard to this limitation is well-supported and persuasive. We find Kallin discloses “receiving a connection rejection message” as recited in claim 10.

observing at least one parameter of said connection rejection message; and

To establish Kallin discloses this limitation, Petitioner contends that “Kallin’s mobile station observes the directed retry message, which includes

... 7-bit frequency parameters.” Pet. 25 (citing Ex. 1005, 2:39–60; Ex. 1004 (Buehrer Decl.) ¶ 148). Petitioner relies on Kallin’s disclosure that “[i]n response to the directed retry message, the mobile station monitors received signal strengths on each of the identified channels and selects the strongest received channel to reattempt its previous service request” (Ex. 1005, 2:56–60) and states, “[t]his means that Kallin’s mobile station observes the 7-bit frequency parameters (claimed ‘observing at least one parameter’).” *Id.* at 24.

Petitioner relies on Figure 1b of Kallin and the related description to show the formatting and content of the directed retry message. *Id.* at 23–24. The Petition includes an annotated version of Figure 1b, reproduced below.



Id. at 23. Figure 1b of Kallin depicts “a directed retry message sent from a mobile services center to a mobile station.” Ex. 1005, 2:1–3. Based on Figure 1b and the related disclosure in Kallin, Petitioner argues:

As shown, the directed retry message may include two 40-bit words that are each divided into segments including a

preamble, main portion, and postamble. (Ex. 1005, 2:39–50.) The main portion of the first word may include three 7-bit segments that identify “three channels of three neighboring cells in terms of an offset relative to a first access channel used in the system.” (Ex. 1005, 2:50–53, Fig. 1*b*.) Similarly, the main portion of the second word may identify three additional channels, so that the directed retry message provides a total of six 7-bit segments, which are each a frequency parameter because each identifies a different possible channel (channels translate into frequencies). (Ex. 1005, 2:53–56, 1:36–50, 4:29–37; Ex. 1004, ¶ 146.) Any one of Kallin’s 7-bit frequency parameters in the directed retry message corresponds to the claimed “at least one parameter of said connection rejection message.” (Ex. 1004, ¶ 146.)

Pet. 24. Petitioner’s showing with regard to this limitation is well-supported and persuasive. We find Kallin discloses “observing at least one parameter of said connection rejection message” as recited in claim 10.

setting a value of at least one parameter for a new connection setup attempt based at least in part on information in at least one frequency parameter of said connection rejection message.

With regard to this limitation, Petitioner argues:

Kallin discloses that, in response to receiving the 7-bit frequency parameters of the directed retry message (claimed “at least one frequency parameter of said connection rejection message”), the mobile station monitors a signal strength on each candidate channel identified in the 7-bit frequency parameters. (Ex. 1005, 1:36–43, 2:56–60, 4:34–37.) The mobile station then selects the channel corresponding to the strongest signal. (*Id.*) The selected channel is subsequently used by the mobile station to reattempt access to a network. (*Id.*) Before using the selected channel, Kallin’s mobile station sets a value (e.g., channel number) identifying the selected channel for the reattempt access procedure (claimed “value of at least one parameter for a new connection setup attempt”). (Ex. 1004, ¶ 149.) Accordingly, Kallin’s mobile station sets a

value (e.g., channel number) identifying the selected channel for a reattempt access procedure (claimed “setting a value of at least one parameter for a new connection setup attempt”) based on information identifying the candidate channels from the 7-bit frequency parameters of the directed retry message (claimed “based at least in part on information in at least one frequency parameter of said connection rejection message”). (*Id.*)

Pet. 25–26. Petitioner’s showing with regard to this limitation is well-supported and persuasive. We find Kallin discloses “setting a value of at least one parameter for a new connection setup attempt based at least in part on information in at least one frequency parameter of said connection rejection message” as recited in claim 10.

With regard to claim 10, Patent Owner argues that the “directed retry message” of Kallin is not a “connection rejection message.” *See* Resp. 12. Patent Owner argues “Kallin discloses a directed retry message for use in 1G cellular networks called the Advanced Mobile Phone System (AMPS)” and not a “connection rejection message” “[u]nder Patent Owner’s proposed construction.” *Id.* However, this argument is predicated on Patent Owner’s claim construction argument limiting the term “connection rejection message” to “a message from a GSM or UMTS telecommunications network rejecting a connection request from a mobile station” that we have rejected. *See supra* Part II.C.1.

We also note that Kallin does not state that its method is limited to any particular cellular network or network system. Petitioner’s declarant, Dr. Buehrer, states, “Kallin is directed towards two fundamental problems in mobile wireless systems: congestion and interference.” Ex. 1004 ¶ 100. And, Patent Owner appears to acknowledge that the 1G cellular network

operates in accordance with the method set forth in claim 10. *See* Prelim.

Resp. 8. The Preliminary Response states:

The 1G cellular network in North America, called the Advanced Mobile Phone System (AMPS), was an analog system that was initially deployed in 1983 in the United States. (Ex. 2001 at ¶ 39.) In the 1G AMPS network, the central mobile switching center (“MSC”) communicates possible channels to the mobile station (the user’s phone) in a “directed retry message.” (*Id.*) The mobile station then selects the channel with the strongest signal. (*Id.*)

Id. Applying the plain meaning of “connection rejection message” as a message that rejects a connection, we disagree with the argument that Kallin does not disclose a “connection rejection message” as recited in claim 10 because it is directed to the 1G cellular network.

Based on this record and considering claim 10 of the ’698 patent and Kallin, we determine that Petitioner’s unpatentability showing is factually and legally sound. We find that Petitioner has shown that challenged claim 10 is anticipated by Kallin.

b. Asserted Anticipation of Claim 13 by Kallin

Petitioner provides an element-by-element showing that Kallin anticipates claim 13. Pet. 26–27. Claim 13 recites:

13. The method of claim 10, further comprising the steps of:
setting a reception frequency based on the value of said at least one frequency parameter of said connection rejection message;
selecting a channel transmitting on said reception frequency;
and
initiating a connection setup procedure.

Ex. 1001, 8:52–58. With regard to the first additional step recited in claim 13, Petitioner contends:

Kallin discloses monitoring received signal strengths of frequencies (claimed “reception frequency”) indicated by the 7-bit frequency parameters of the directed retry message to determine a strongest frequency. (Ex. 1005, 1:40-43, 2:56-60, 4:34- 37.) This means Kallin’s mobile station performed a step of setting multiple reception frequencies based on values of the 7-bit frequency parameters of the directed retry message, thereby meeting the claimed “setting a reception frequency based on the value of said at least one frequency parameter of said connection rejection message.” (Ex. 1004 [Buehrer Decl.], ¶¶ 150-151.)

Pet. 26. With regard to the second additional step of claim 13 (“selecting a channel transmitting on said reception frequency”), Petitioner contends that “Kallin teaches that determining a strongest received frequency results in selecting a corresponding channel for requesting service in a reattempt to establish a connection to the network.” *Id.* at 26–27 (citing Ex. 1005, 1:34–50, 2:21–60, 4:29–37, claims 1, 8, 12; Ex. 1004 (Buehrer Decl.), ¶ 152.) With regard to the third and last additional step of claim 13, Petitioner contends that “Kallin’s disclosure to reattempt a request to access the network meets the claimed “initiating a connection setup procedure.” *Id.* at 27 (citing Ex. 1005, 1:40–43, 2:56-60, 4:34–37; Ex. 1004 (Buehrer Decl.) ¶ 153.) We find that Petitioner’s contentions as to anticipation of claim 13 by Kallin are well-supported by the cited evidence.

Patent Owner relies on its argument that Kallin does not disclose a “connection rejection message” as recited in claim 10 in contesting Petitioner’s showing as to claim 13. Resp. 12 (“For the same reasons that Kallin, Kisse, and C.S0005 do not anticipate claim 10, they do not anticipate claims 13 and 17.”). For the reasons previously stated (*see supra* Part II.E.2.a. (i.e., the immediately preceding discussion of claim 10 and Kallin)), we do not agree with this argument.

We determine that Petitioner’s unpatentability showing as to claim 13 and Kallin is factually and legally sound. We find that Petitioner has shown that challenged claim 13 is anticipated by Kallin.

c. Asserted Anticipation of Claim 17 by Kallin

Petitioner provides a showing that Kallin anticipates claim 17. Pet. 27. Claim 17 recites:

*17. The method of claim 10, further comprising the step of:
setting a reception frequency based on the value of said at least one frequency parameter of said connection rejection message.*

Ex. 1001, 9:13–17. Claim 17 recites the first step of claim 13. Accordingly, Petitioner relies on its showings as to claims 10 and 13 to establish that Kallin anticipates claim 17. Pet. 27.

Patent Owner relies on its argument that Kallin does not disclose a “connection rejection message” as recited in claim 10 in contesting Petitioner’s showing as to claim 17. Resp. 12 (“For the same reasons that Kallin, Kisse, and C.S0005 do not anticipate claim 10, they do not anticipate claims 13 and 17.”). For the reasons previously stated (*see supra* Part II.E.2.a. (i.e., the preceding discussion of claim 10 and Kallin)), we do not agree with this argument.

We determine that Petitioner’s unpatentability showing as to claim 17 and Kallin is factually and legally sound. We find that Petitioner has shown that challenged claim 17 is anticipated by Kallin.

d. Summary as to Anticipation of Claims 10, 13, and 17 by Kallin

We find that Kallin discloses all the elements of claims 10, 13, and 17 of the ’698 patent combined in the same way as recited in these claims.

Accordingly, Petitioner has met its burden of showing, by a preponderance of evidence, that Kallin anticipates claims 10, 13, and 17.

3. *Consideration of Alleged Anticipation by Kisse*

Petitioner asserts that claims 10, 13, and 17 are anticipated by Kisse. Pet. 15, 27–35. Petitioner generally contends that Kisse is similar to Kallin as they relate to claims 10, 13, and 17. Pet. 27–28. The Petition states:

Kisse relates to a protocol for connecting a mobile station to a network in a 2G system that is analogous to the RRC protocol of the 3G system described by the '698 patent's specification. (Ex. 1004 [Buehrer Decl.], ¶ 155.) Kisse's 2G system is similar to Kallin's 1G system, but Kisse discloses that the network, instead of the mobile station, identifies a best cell for a connection and sends a rejection message (e.g., directed retry message) including a frequency parameter that indicates the channel for the best cell, so that the mobile station simply tunes to that channel for reattempting a connection. (Ex. 1006, Abstract, 2:58-3:12, 7:18-56, 8:20-40, 10:51- 12:11, 13:39-58, 14:15-51, 15:5-8, 15:22-43, 15:57-16:16, 16:31-49.) The following demonstrates that the cell reselection process disclosed in Kisse anticipates independent claim 10 and dependent claims 13 and 17. (Ex. 1004 [Buehrer Decl.], ¶ 156.)

Id. Patent Owner's contrary argument is based on a construction of the term "connection rejection message" which we have rejected. Resp. 12; *see also supra* Part II.C.1.

a. *Asserted Anticipation of Claim 10 by Kisse*

Our element-by-element consideration of whether Kisse anticipates claim 10 of the '698 patent follows.

10. *A channel reselection method in a mobile communication means of a cellular telecommunication system, the method comprising the steps of:*

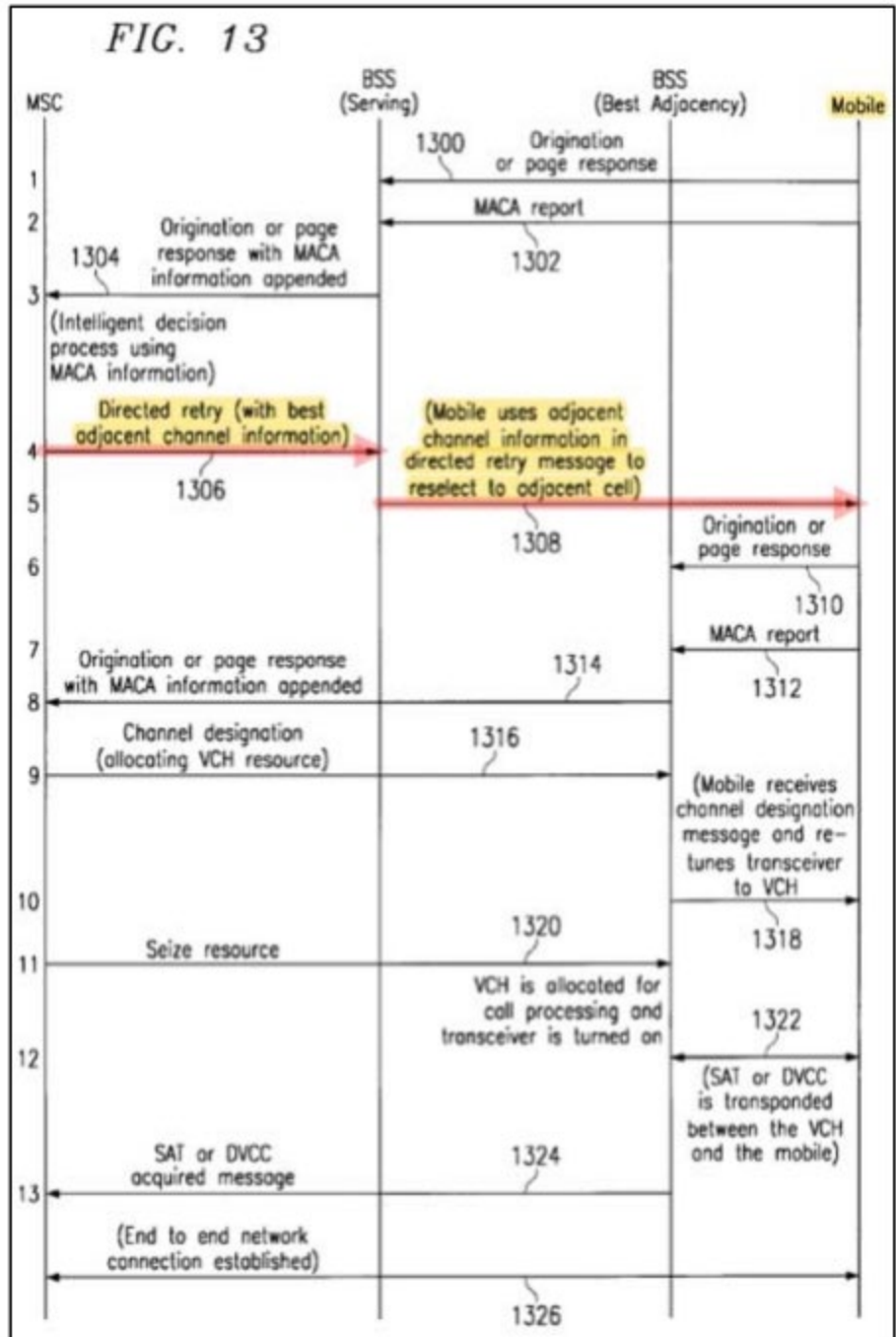
Petitioner contends that, "[e]ven if limiting, Kisse discloses this preamble." Pet. 28. The Petition states:

Kissee discloses “a method and apparatus for redirecting calls in an overloaded cell in a wireless communications system.” (Ex. 1006, 1:7-13, 2:45-65.) Referring to Figs. 1-4, Kissee describes mobile stations 124, 126, 300, 400 (each is a claimed “mobile communications means”) of a cellular system 102 (claimed “cellular telecommunication system”). (Ex. 1006, 4:18-6:61, Figs. 1-4; Ex. 1004 [Buehrer Decl.], ¶ 157.) Referring to Figs. 4 and 8-17 depicting mobile station 400, example messages, and flow charts for the network and mobile stations, Kissee discloses the mobile stations selecting a channel to reattempt a connection (claimed “channel reselection method”). (Ex. 1006, Abstract, 2:51-3:12, 3:36-4:13, 7:18-56, 8:20-40, 10:51-12:11, 13:39-58, 14:15-51, 15:5-8, 15:22-43, 15:57-16:16, 16:31-49, Figs. 4, 8-17; Ex. 1004 [Buehrer Decl.], ¶ 157.)

Id. at 28–29 (citation to claim construction part of Petition relating to “mobile communication means” omitted). Petitioner’s contention that Kissee discloses the preamble of claim 10 is well-supported by the cited evidence. We find Kissee discloses the preamble of claim 10.

receiving a connection rejection message;

Petitioner relies on the disclosure in Kissee of a “directed retry message” that is received by the mobile station for this limitation. *See* Pet. 29–30 (citing Ex. 1006, code 57 (Abstract), 2:51–65, 7:9–35, 8:17–24, 10:51–11:36 (“[d]irected retry message 800 is used to force a mobile station to reject [the current digital control channel (DCCH)] in the serving cell and re-attempt access on an alternate control channel”), 14:3–30, 16:7–9, 16:28–37, Figs. 4, 8, 13, 14, 16, 17 (step 1704); Ex. 1004 (Buehrer Decl.) ¶¶ 159–161.) Petitioner provides an annotated Figure 13, reproduced below, that “shows the mobile station receiving the directed retry message (claimed ‘receiving a connection rejection message’).” *Id.* (see steps 4 (reference no. 1306) and 5 (reference no. 1308)).



Annotated Figure 13 depicts “a message flow diagram illustrating a process for redirecting a call.” Ex. 1006, 3:65–67.

Petitioner’s showing with regard to this limitation is well-supported and persuasive. We find Kissee discloses “receiving a connection rejection message” as recited in claim 10.

observing at least one parameter of said connection rejection message; and

Petitioner contends that “[b]ecause Kissee’s mobile station observes retry channel 812 as well as other information elements (e.g., protocol discriminator) of the directed retry message, Kissee discloses” this limitation. Pet. 31–32 (citing Ex. 1006, 10:51–11:36; Ex. 1004 (Buehrer Decl.) ¶ 165). Petitioner provides an annotated Figure 8, reproduced below, to show Kissee discloses a directed retry message that includes various parameters including retry channel 812. *Id.* at 31.

	INFORMATION ELEMENT	TYPE
802	PROTOCOL DISCRIMINATOR	M
804	MESSAGE TYPE	M
806	LAST TRY	M
808	RCF AND AUTH	0
810	DTX SUPPORT	0
812	RETRY CHANNEL	0
814	SUBADDRESS	0

FIG. 8

Annotated Figure 8 depicts “a directed retry message.” Ex. 1006, 3:49. Petitioner argues, “[a]mong the various parameters, it includes an information element called retry channel 812 that specifies a channel of ‘the target cell to which the mobile station is to be redirected’” and “[r]etry channel 812 of Kissee’s directed retry message is a claimed “at least one parameter of said connection rejection message.” Pet. 31 (citing Ex. 1006, 11:20–36, 14:19–30, 16:31–40; Ex. 1004 (Buehrer Decl.) ¶ 163.) Petitioner

further contends, “Kissee’s mobile station accesses and uses the channel information in the directed retry message to select the target cell.” *Id.* (citing Ex. 1006, 14:23–25, 16:7–16, 16:31–40).

Petitioner’s showing with regard to this limitation is well-supported and persuasive. We find Kissee discloses “observing at least one parameter of said connection rejection message” as recited in claim 10.

setting a value of at least one parameter for a new connection setup attempt based at least in part on information in at least one frequency parameter of said connection rejection message.

With regard to this limitation, Petitioner argues:

Kissee’s retry channel 812, which includes hyperband information (identifying an allocated frequency band) and channel information, is the claimed “frequency parameter” because it includes frequency-related information. (Ex. 1006, 11:20-36, 16:2-13, 16:32-37; Ex. 1004 [Buehrer Decl.], ¶ 166.) Kissee’s mobile station uses this information to set a channel for a target cell. (Ex. 1006, 11:20-36, 14:19-30, 16:7-13, 16:32-43; Ex. 1004 [Buehrer Decl.], ¶ 166.) This set channel (claimed “value”) is then used to reattempt a network connection by sending a new message (e.g., origination or page response message) to the target cell. (Ex. 1006, 14:31-34, 16:32-45; Ex. 1004 [Buehrer Decl.], ¶ 166.) Kissee also discloses setting optional parameters and reattempting access on the target cell to complete an end-to-end network connection in response to receiving the directed retry message. (Ex. 1006, 16:7-16.) Accordingly, Kissee’s mobile station sets a channel or other optional parameter(s) (claimed “setting a value of at least one parameter”) for reattempting a network connection (claimed “new connection setup attempt”) based on channel information in retry channel 812 of the directed retry message (claimed “based at least in part on information in at least one frequency parameter of said connection rejection message”). (Ex. 1004 [Buehrer Decl.], ¶ 166.)

Pet. 32–33.

Petitioner's showing with regard to this limitation is well-supported and persuasive. We find Kisse discloses "setting a value of at least one parameter for a new connection setup attempt based at least in part on information in at least one frequency parameter of said connection rejection message" as recited in claim 10.

With regard to claim 10, Patent Owner argues that the "directed retry message" of Kisse is not a "connection rejection message." *See* Resp. 12. Patent Owner argues "Kisse discloses a directed retry message for use in 2G digital AMPS cellular network" and not a "connection rejection message" "[u]nder Patent Owner's proposed construction." *Id.* However, this argument is predicated on Patent Owner's claim construction argument limiting the term "connection rejection message" to "a message from a GSM or UMTS telecommunications network rejecting a connection request from a mobile station" that we have rejected. *See supra* Part II.C.1. Applying the plain meaning of "connection rejection message" as a message that rejects a connection, we do not agree with the argument that Kisse lacks a "connection rejection message" as recited in claim 10 because it is not directed to a GSM or UMTS telecommunications network.

We also note that Kisse explicitly states that it is applicable "other types of communications systems" including GSM systems. Ex. 1006, 17:3–7 ("[T]he present invention may be used in code division multiple access (CDMA) communications systems or global system for mobile communication (GSM) systems."). And, Petitioner presents evidence that UMTS is a CDMA system. *See* Ex. 1024 (Buehrer Decl.) ¶¶ 54 ("[T]he system in TS 25.331v.3.1.0 is a UMTS system, which was a well-known type of CDMA system at the time of the alleged invention (January 2000)."), 61 ("[B]oth cdma2000 and UMTS are 3G networks and both use CDMA.");

see also Ex. 1024, B-173 (“The *Universal Mobile Telecommunication System* (UMTS) is a system that is capable of providing a variety of mobile services to a wide range of global communication standards.”). Therefore, we disagree with Patent Owner’s argument regarding Kissee for the additional reason that Kissee discloses that it is applicable to other types of telecommunication networks explicitly including GSM.

Based on this record and considering claim 10 of the ’698 patent and Kissee, we determine that Petitioner’s unpatentability showing is factually and legally sound. We find that Petitioner has shown that challenged claim 10 is anticipated by Kissee.

b. Asserted Anticipation of Claim 13 by Kissee

Petitioner provides an element-by-element showing that Kissee anticipates dependent claim 13. Pet. 33–34. With regard to the first additional step recited in claim 13 (“setting a reception frequency based on the value of said at least one frequency parameter of said connection rejection message”), Petitioner contends:

Kissee’s retry channel 812 includes two parts of information: hyperband and channel. (Ex. 1006, 11:20-28.) The hyperband information identifies an allocated frequency band (e.g., 800 MHz or 1900 MHz) to use when obtaining a frequency based on the channel information and channel definitions for the allocated frequency band. (Ex. 1006, 11:28-31; Ex. 1004 [Buehrer Decl.], ¶ 167.) Kissee discloses tuning to the channel in retry channel 812 and subsequently receiving a channel designation message on the tuned-to frequency to complete the network connection. (Ex. 1006, 14:19-51, 16:7-16, Figs. 13, 16 (step 1612).) By describing that (i) channels define frequencies, (ii) setting a channel based on channel definitions and the channel information, and (iii) tuning to the channel to receive a channel designation message, Kissee discloses setting a reception frequency based on the channel (which is set from the channel information) of retry channel 812 of the directed

retry message (claimed “setting a reception frequency based on the value of said at least one frequency parameter of said connection rejection message”). (Ex. 1006, 11:20-31, 14:19-51, 16:7-16; Ex. 1004 [Buehrer Decl.], ¶ 168.)

Id. With regard to the second additional step of claim 13 (“selecting a channel transmitting on said reception frequency”), Petitioner contends that “Kissee discloses using the channel information in retry channel 812 to select a target channel for a target cell and that the channel uses the reception frequency defined by the channel.” *Id.* at 34 (Ex. 1006, 11:20–36, 14:23–51, 14:23–34, 16:9–13, 16:38–45; Ex. 1004 (Buehrer Decl.) ¶ 169.) With regard to the third and last additional step of claim 13, Petitioner contends that “Kissee’s disclosure to reattempt a request to access the network” meets the claimed “initiating a connection setup procedure.” *Id.* (citing Ex. 1006, 14:31–51, 16:9–16, 16:43–49, Figs. 13 (steps 1310–1326), 17 (steps 1708–1714); Ex. 1004 (Buehrer Decl.) ¶ 170). We find that Petitioner’s contentions as to anticipation of claim 13 by Kissee are well-supported.

Patent Owner relies on its argument that Kissee does not disclose a “connection rejection message” as recited in claim 10 in contesting Petitioner’s showing as to claim 13. Resp. 12 (“For the same reasons that Kallin, Kissee, and C.S0005 do not anticipate claim 10, they do not anticipate claims 13 and 17.”). For the reasons previously stated (*see supra* Part II.E.3.a. (i.e., the immediately preceding discussion of claim 10 and Kissee)), we do not agree with this argument.

We determine that Petitioner’s unpatentability showing as to claim 13 and Kissee is factually and legally sound. We find that Petitioner has shown that challenged claim 13 is anticipated by Kissee.

c. Asserted Anticipation of Claim 17 by Kisse

Petitioner provides a showing that Kisse anticipates claim 17. Pet. 35. Claim 17 recites the first step of claim 13. Accordingly, Petitioner relies on its showings as to claims 10 and 13 to establish that Kisse anticipates claim 17. *Id.*

Patent Owner relies on its argument that Kisse does not disclose a “connection rejection message” as recited in claim 10 in contesting Petitioner’s showing as to claim 17. Resp. 12 (“For the same reasons that Kallin, Kisse, and C.S0005 do not anticipate claim 10, they do not anticipate claims 13 and 17.”). For the reasons previously stated (*see supra* Part II.E.3.a. (i.e., the preceding discussion of claim 10 and Kisse)), we do not agree with this argument.

We determine that Petitioner’s unpatentability showing as to claim 17 and Kisse is factually and legally sound. We find that Petitioner has shown that challenged claim 17 is anticipated by Kisse.

d. Summary as to Anticipation of Claims 10, 13, and 17 by Kisse

We find that Kisse discloses all the elements of claims 10, 13, and 17 of the ’698 patent combined in the same way as recited in these claims. Accordingly, Petitioner has met its burden of showing, by a preponderance of evidence, that Kisse anticipates claims 10, 13, and 17.

4. Consideration of Alleged Obviousness in view of Ericsson

Petitioner asserts that claims 10, 11, 13, 17, and 24 would have been obvious in view of Ericsson. Pet. 15, 35–43. Patent Owner argues that Ericsson does not disclose including a frequency parameter in a connection rejection message for a new connection setup attempt. Resp. 12–15. With regard to Ericsson, the Petition states:

Ericsson describes four messages of the RRC connection

establishment procedure, of which two messages—RRC CONNECTION SETUP and RRC CONNECTION REJECT—are received by the UE [user equipment]. (Ex. 1007, 1–3 (section 2.1).) And below this statement, Ericsson lists nine IEs—one of which is “Frequency info.” (Ex. 1007, 4 (section 2.5.4).) Ericsson teaches that, if “Frequency info” is included in an RRC message, the UE shall store a frequency as the active frequency and tune to that frequency. (*Id.*; Ex. 1004 [Buehrer Decl.], ¶ 179.) The above disclosures teach a POSITA to incorporate information in a “Frequency info” element into the RRC CONNECTION REJECT message (claimed “information in at least one frequency parameter of said connection rejection message”) to cause the UE to store the frequency and tune to that frequency. (Ex. 1004 [Buehrer Decl.], ¶¶ 179-180.)

Pet. 38–39. We agree with Patent Owner that the cited passages in Ericsson do not support Petitioner’s argument that Ericsson discloses including a frequency parameter in a connection rejection message for a new connection setup attempt.

Ericsson describes a procedure in which a UE (user equipment) sends a RRC CONNECTION REQUEST message to the UTRAN (UMTS Terrestrial Radio Access Network) and receives in response either a RRC CONNECTION SETUP message or a RRC CONNECTION REJECT message. Ex. 1007, 1 Figs. 1, 2. As indicated in section 2.1.6.1 titled “Message RRC CONNECTION REJECT contents to use,” the only parameter in this message that is discussed and that the UE potentially uses (i.e., observes and sets a value) is “IE [information element] ‘wait time.’” *Id.* at 3. And, the only actions which are taken by the UE in response to this connection rejection message are to “wait at least the time stated in the IE ‘wait time’” or “enter idle mode.” *Id.* Although Ericsson does refer to “Frequency info” in section 2.5.4, we are not directed to any teaching or

suggestion to use this information as a parameter in the connection rejection message. *Id.* at 4.

In its Reply, Petitioner relies on the following passage in Ericsson: “[w]hen any of the following IEs are received by the UE in any RRC message, the UE shall perform the actions specified below, unless specified otherwise.” Reply 9 (citing Ex. 1007, 4 (Section 2.5 (“Default actions for IEs”))). Petitioner characterizes this statement as “the critical teaching in Ericsson *linking* the RRC CONNECTION REJECT message to the Frequency info IE” in section 2.5.4. *Id.* We do not find this argument effective. The passage Petitioner cites contains the explicit statement that the actions shall be performed “unless specified otherwise” and, as shown above, Ericsson does specify otherwise in section 2.1.6.1. Ex. 2007, 3. Moreover, Petitioner still does not point to any teaching or suggestion in Ericsson to include the “Frequency info” in section 2.5.4 as a parameter in the connection rejection message. Section 2.5.4 of Ericsson presents including “Frequency info” only in the alternative. Section 2.5.4 states both “[i]f the IE ‘Frequency info’ is included” and “[i]f the IE ‘Frequency info’ is not included.” Ex. 1007, 4. But, Petitioner does not direct our attention to any teaching or suggestion in Ericsson of affirmatively including the “Frequency info” in the “RRC CONNECTION REJECT” message and we discern no such teaching or suggestion in Ericsson. Accordingly, we agree with Patent Owner that Ericsson fails to teach or suggest all the limitations of independent claim 10.

With regard to dependent claims 11, 13, 17, and 24, Patent Owner relies on its arguments relating to claim 10, with which we agree. Resp. 15 (“For the same reasons that Ericsson does not render obvious claim 10, it does not render obvious dependent claims 11, 13, 17 and 24.”).

We find that Ericsson does not teach or suggest “setting a value of at least one parameter for a new connection setup attempt based at least in part on information in at least one frequency parameter of said connection rejection message” as recited in claim 10. Accordingly, we conclude that Petitioner has not met its burden of showing, by a preponderance of evidence, that Ericsson alone renders obvious claims 10, 11, 13, 17, and 24.¹²

5. *Consideration of Alleged Anticipation by C.S0005*

Petitioner asserts that claims 10, 13, and 17 are anticipated by C.S0005. Pet. 15, 44–52. Patent Owner’s contrary argument is based on a construction of the term “connection rejection message” which we have rejected. Resp. 12; *see also supra* Part II.C.1.

a. *Asserted Anticipation of Claim 10 by C.S0005*

Our element-by-element consideration of whether C.S0005 anticipates claim 10 of the ’698 patent follows.

10. *A channel reselection method in a mobile communication means of a cellular telecommunication system, the method comprising the steps of:*

¹² Patent Owner argues that Petitioner’s assertion that Ericsson teaches incorporating frequency parameter information into the RRC CONNECTION REJECT message is contrary to findings of the Examiner and the Board during prosecution of the ’698 patent. Resp. 13. Patent Owner is correct. The Examiner found that Ericsson “**is silent** on sending a frequency parameter.” Ex. 1002, 335. On appeal of an obviousness rejection based on Ericsson and another reference not asserted here that the Examiner contended taught sending a frequency parameter (*id.*), the Board reversed and found that, in Ericsson, “[n]o frequency parameter is sent as a part of the RRC connection reject message.” *Id.* at 429. Our analysis is in accord with the Examiner’s and the Board’s analysis of Ericsson during prosecution of the ’698 patent.

Petitioner contends that, “[e]ven if limiting, C.S0005 discloses this preamble.” Pet. 45. The Petition states:

C.S0005 describes various messages between the mobile station and base station for mobile station call processing in cdma2000 systems. (Ex. 1008, 2-27.) C.S0005’s mobile station for cdma2000 systems corresponds to the claimed “mobile communication means of a cellular telecommunication system.” (*Supra* IV.D.1; Ex. 1004 [Buehrer Decl.], ¶ 192.)

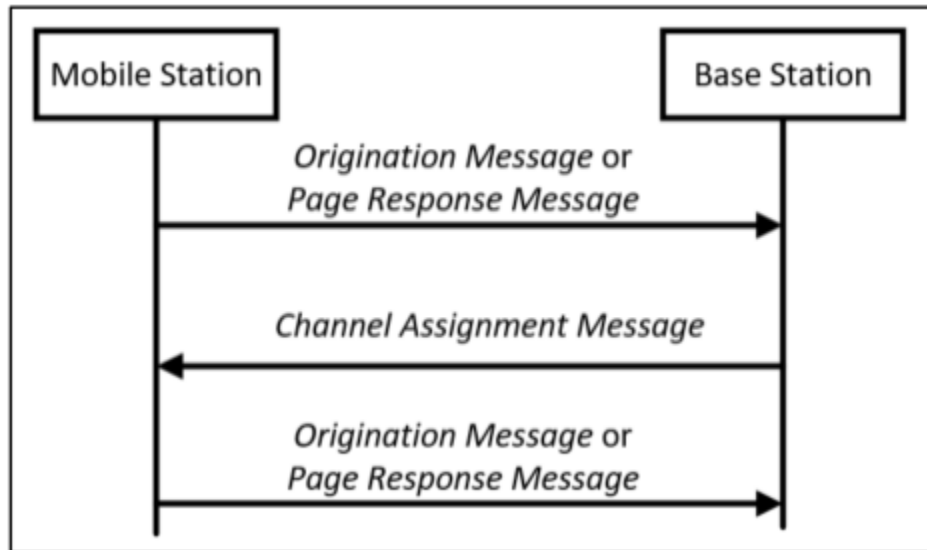
* * *

As explained below, processes of C.S0005 result in changing a channel used by the mobile station (Ex. 1008, 2-110—2-114, 3-113), and therefore are the claimed “channel reselection method.” (Ex. 1004 [Buehrer Decl.], ¶ 193.)

Id. Petitioner’s contention that C.S0005 discloses the preamble of claim 10 is well-supported by the cited evidence. We find that Petitioner has shown that C.S0005 discloses the preamble of claim 10.

receiving a connection rejection message;

Petitioner relies on the disclosure in C.S0005 of a “Channel Assignment Message” that is received by the mobile station for this limitation. *See* Pet. 44, 47; (citing Ex. 1008, 2-110—2-116, 2-175, 3-113—3-123; Ex. 1004 [Buehrer Decl.], ¶¶ 190, 195—196.) Petitioner provides a “drawing illustrat[ing] the signaling described in C.S0005” (*id.* at 44), reproduced below.



This drawing depicts the mobile station sending an “Origination Message or Page Response Message” to the base station and, in response, the mobile station receives a “Channel Assignment Message” from the base station. *Id.* at 46–47. C.S0005 states, “*Channel Assignment Message*: The base station can use this message to accept or to **reject** the initial service configuration proposed by the mobile station in an *Origination Message* or a *Page Response Message*.” Ex. 1008, 2-175 (emphasis added; italics in original). The Petition provides: “[t]he *Channel Assignment Message* corresponds to the claimed ‘connection rejection message’ because it rejects the mobile station’s attempt to communicate with the base station on the current channel by redirecting the mobile station to a different channel as explained further below with respect to the remaining claim elements.” Pet. 47 (citing Ex. 1004 (Buehrer Decl.) ¶ 197.)

Petitioner's showing with regard to this limitation is well-supported and persuasive. We find that Petitioner has shown that C.S0005 discloses "receiving a connection rejection message" as recited in claim 10.

observing at least one parameter of said connection rejection message; and

Petitioner contends that the Channel Assignment Message described in C.S0005 includes at least one parameter that is observed and acted upon by the mobile station. Pet. 48–49. The Petition states:

C.S0005 also discloses that the Channel Assignment Message includes an ASSIGN_MODE field. (Ex. 1008, 3-113—3-116.) If the ASSIGN_MODE field has a value of '001' or '101,' the Channel Assignment Message includes a RESPOND field that indicates whether "the mobile station is to retransmit an Origination Message or Page Response Message after processing this channel assignment." (Ex. 1008, 3-117—3-118, 3-122.) If the ASSIGN_MODE field has a value of '000,' '001,' '100,' or '101,' the Channel Assignment Message includes a FREQ_INCL record field. (Ex. 1008, 3-113—3-115, 2-110—2-116.) If FREQ_INCL equals '1,' the Channel Assignment Message has another field called Frequency assignment (CDMA_FREQ), which provides the CDMA Channel number corresponding to the CDMA frequency assignment for the CDMA Channel the mobile station is to use. (Ex. 1008, 3-116—3-123; Ex. 1004 [Buehrer Decl.], ¶ 198.)

If ASSIGN_MODE equals '001' and if FREQ_INCL equals '1,' the mobile station shall perform a number of actions, including setting CDMACH (the CDMA channel number stored by the mobile station) to CDMA_FREQ, tuning to the new Frequency Assignment, and measuring the strength of each pilot listed in the assignment. (Ex. 1008, 2-111, 1-23; Ex. 1004 [Buehrer Decl.], ¶ 198.) And, in this same assignment mode (ASSIGN_MODE='001'), if RESPOND equals '1,' the mobile station retransmits an Origination Message or Page Response Message after processing the channel assignment to set CDMACH to CDMA_FREQ and tune to the new Frequency Assignment. (Ex. 1008, 2-111—2-112, 3-113—3-118.)

Therefore, C.S0005 discloses observing at least the ASSIGN_MODE, FREQ_INCL, and CDMA_FREQ parameters of the Channel Assignment Message (claimed “observing at least one parameter of said connection rejection message”). (Ex. 1004 [Buehrer Decl.], ¶ 198.) Any of the ASSIGN_MODE, the FREQ_INCL, and the CDMA_FREQ parameters corresponds to the claimed “at least one parameter.” (*Id.*)

Id. Petitioner’s contention is supported by C.S0005.

Petitioner’s showing with regard to this limitation is well-supported and persuasive. We find that Petitioner has shown that C.S0005 discloses “observing at least one parameter of said connection rejection message” as recited in claim 10.

setting a value of at least one parameter for a new connection setup attempt based at least in part on information in at least one frequency parameter of said connection rejection message.

With regard to this limitation, Petitioner argues:

If ASSIGN_MODE equals ‘001,’ FREQ_INCL equals ‘1,’ and RESPOND equals ‘1,’ C.S0005’s mobile station performs multiple actions including: (i) storing the Frequency Assignment by setting CDMACH to CDMA_FREQ, (ii) tuning to the new Frequency Assignment, and (iii) retransmitting an Origination Message or Page Response Message. (Ex. 1008, 2-111—2-115, 3-113—3-123; Ex. 1004 [Buehrer Decl.], ¶ 199.) Setting CDMACH before tuning to the new Frequency Assignment and retransmitting the Origination Message or Page Response Message corresponds to the claimed “setting a value of at least one parameter for a new connection setup attempt.” (Ex. 1004 [Buehrer Decl.], ¶¶ 200-201.) And, because the CDMACH is set based on a value of ASSIGN_MODE, FREQ_INCL, and/or CDMA_FREQ parameters in the Channel Assignment Message, the setting of CDMACH is “based at least in part on information in at least one frequency parameter of said connection rejection message,” as claimed. (*Id.*, ¶ 201.)

Id. at 49–50.

Petitioner’s showing with regard to this limitation is well-supported and persuasive. We find that Petitioner has shown that C.S0005 discloses “setting a value of at least one parameter for a new connection setup attempt based at least in part on information in at least one frequency parameter of said connection rejection message” as recited in claim 10.

With regard to claim 10, Patent Owner argues that “C.S0005 discloses a Channel Assignment Message for use in a CDMA2000 network” which is not a “connection rejection message” as recited in claim 10. *See* Resp. 12. However, this argument is predicated on Patent Owner’s claim construction argument limiting the term “connection rejection message” to “a message from a GSM or UMTS telecommunications network rejecting a connection request from a mobile station” that we have rejected. *See supra* Part II.C.1. Applying the plain meaning of “connection rejection message” as a message that rejects a connection, we do not agree with the argument that C.S0005 does not disclose a “connection rejection message” as recited in claim 10 because it is not directed to a GSM or UMTS telecommunications network.

Based on this record and considering claim 10 of the ’698 patent and C.S0005, we determine that Petitioner’s unpatentability showing is factually and legally sound. We find that Petitioner has shown that challenged claim 10 is anticipated by C.S0005.

b. Asserted Anticipation of Claim 13 by C.S0005

Petitioner provides an element-by-element showing that C.S0005 anticipates dependent claim 13. Pet. 50–51. With regard to the first additional step recited in claim 13 (“setting a reception frequency based on the value of said at least one frequency parameter of said connection

rejection message”), Petitioner contends C.S0005 discloses “[s]etting the CDMACH and tuning to the new Frequency Assignment based on a value of ASSIGN_MODE, FREQ_INCL, and/or CDMA_FREQ in the *Channel Assignment Message*.” *Id.* at 50. The Petition states, “[i]f ASSIGN_MODE_r equals ‘001’ and if FREQ_INCL equals ‘1,’ C.S0005’s mobile station performs multiple actions, including setting CDMACH to CDMA_FREQ, tuning to the new Frequency Assignment, and measuring the strength of each pilot listed in the assignment.” *Id.* (citing Ex. 1008, 2-111).

With regard to the second additional step of claim 13 (“selecting a channel transmitting on said reception frequency”), Petitioner contends that “C.S0005’s mobile station stores the Frequency Assignment by setting CDMACH to CDMA_FREQ and tunes to the new frequency” and “[t]o set CDMACH to CDMA_FREQ or tune to the new frequency, CDMA_FREQ is first selected” as described in C.S0005 discloses this element. *Id.* at 51 (citing Ex. 1008, 2-111–2-115, 3-113–3-123; Ex. 1004 (Buehrer Decl.) ¶ 204.)

With regard to the third and last additional step of claim 13, Petitioner contends that “[w]hen ASSIGN_MODE equals ‘001’ and RESPOND equals ‘1,’ C.S0005’s mobile station retransmits an *Origination Message* or *Page Response Message* after processing the channel assignment to set CDMACH to CDMA_FREQ and tunes to the new Frequency Assignment” meets the claimed “initiating a connection setup procedure.” And Petitioner contends that this “[e]lement . . . is also met by C.S0005’s mobile station being configured to enter the Traffic Channel Initialization Substate of the Mobile Station Control on the Traffic Channel State after tuning to the new frequency in the *Channel Assignment Message*.” *Id.* at 51 (citing Ex. 1008, 2-111–2-114, 3-113–3-118; Ex. 1004 (Buehrer Decl.) ¶ 205). We find that

Petitioner's contentions as to anticipation of claim 13 by C.S0005 are well-supported.

Patent Owner relies on its argument that C.S0005 does not disclose a "connection rejection message" as recited in claim 10 in contesting Petitioner's showing as to claim 13. Resp. 12 ("For the same reasons that Kallin, Kisse, and C.S0005 do not anticipate claim 10, they do not anticipate claims 13 and 17."). For the reasons previously stated (*see supra* Part II.E.5.a. (i.e., the immediately preceding discussion of claim 10 and C.S0005)), we do not agree with this argument.

We determine that Petitioner's unpatentability showing as to claim 13 and C.S0005 is factually and legally sound. We find that Petitioner has shown that challenged claim 13 is anticipated by C.S0005.

c. Asserted Anticipation of Claim 17 by C.S0005

Petitioner provides a showing that C.S0005 anticipates claim 17. Pet. 52. Claim 17 recites the first step of claim 13. Accordingly, Petitioner relies on its showings as to claims 10 and 13 to establish that C.S0005 anticipates claim 17. *Id.*

Patent Owner relies on its argument that C.S0005 does not disclose a "connection rejection message" as recited in claim 10 in contesting Petitioner's showing as to claim 17. Resp. 12 ("For the same reasons that Kallin, Kisse, and C.S0005 do not anticipate claim 10, they do not anticipate claims 13 and 17."). For the reasons previously stated (*see supra* Part II.E.5.a. (i.e., the preceding discussion of claim 10 and C.S0005)), we do not agree with this argument.

We determine that Petitioner's unpatentability showing as to claim 17 and C.S0005 is factually and legally sound. We find that Petitioner has shown that challenged claim 17 is anticipated by C.S0005.

d. Summary as to Anticipation of Claims 10, 13, and 17 by C.S0005

We find that C.S0005 discloses all the elements of claims 10, 13, and 17 of the '698 patent combined in the same way as recited in these claims. Accordingly, Petitioner has met its burden of showing, by a preponderance of evidence, that C.S0005 anticipates claims 10, 13, and 17.

6. Consideration of Alleged Obviousness in View of TS 25.331v.3.1.0 and Kallin or Kisse or C.S0005

Petitioner contends that claims 10, 11, 13, 17, and 24 would have been obvious in view of TS 25.331v.3.1.0 and either Kallin, Kisse, or C.S0005. Pet. 15, 52–72. Petitioner relies on TS 25.331v.3.1.0 to describe the RRC protocol and the RRC CONNECTION REJECT message at the time of the alleged invention set forth in the challenged claims. *Id.* at 52, 65. Petitioner acknowledges that TS 25.331v.3.1.0 does not teach that the RRC CONNECTION REJECT message includes a frequency parameter. *See id.* at 53, 65. With regard to the three combinations of references that include TS 25.331v.3.1.0 (*see* Pet. 15 (Ground 5 (TS 25.331v.3.1.0 and Kallin), Ground 6 (TS 25.331v.3.1.0 and Kisse), and Ground 7 (TS 25.331v.3.1.0 and C.S0005))), Petitioner relies on the disclosures in Kallin, Kisse, and C.S0005 of a frequency parameter in a connection rejection message for these combinations. *See id.* at 57–60 (Kallin and Kisse), 65–70 (C.S0005).

With regard to the grounds including Kallin and Kisse, the Petition states:

It would have been obvious to modify th[e] RRC CONNECTION REJECT message [described in TS 25.331v.3.1.0] to include an additional information element (“Frequency-related IE”) having frequency-related information, in view of Kallin’s, or alternatively Kisse’s, teaching to include, in their similar directed retry messages, frequency parameters having information identifying channels (and thus at

least one frequency parameter) for reattempting a connection to a network for the purpose of efficiently establishing an RRC connection.

Id. at 53 (citing Ex. 1004 (Buehrer Decl.) ¶¶ 208, 233).

With regard to the ground including C.S0005, the Petition states:

It would have been obvious to modify th[e] RRC CONNECTION REJECT message [described in TS 25.331v.3.1.0] to include an additional information element (“Frequency-related IE”) having frequency-related information, in view of C.S0005’s teaching to include, in C.S0005’s similar *Channel Assignment Message*, frequency information (e.g., CDMA_FREQ) for connecting to a network.

Id. at 65 (citing Ex. 1004 (Buehrer Decl.) ¶ 256).

Thus, in the Petition, the three combinations rely on “a similar modification to the RRC CONNECTION REJECT message and RRC connection establishment procedure of TS 25.331v.3.1.0.” *Id.* at 66. In this regard the Petition further states, “[w]hile TS25.331-Kallin and TS25.331-Kissee rely on Kallin’s and Kissee’s teachings of a directed retry message with frequency-related information for a reattempt, TS25.331-C.S0005 relies on C.S0005’s teachings to send a comparable *Channel Assignment Message* with frequency-related information for reattempting a connection.” *Id.* (citing Ex. 1004 (Buehrer Decl.) ¶¶ 263–269).

The Petition provides an element-by-element mapping of the teachings of the cited references to the limitations of the challenged claims to establish that all the elements of the challenged claims are taught by the prior art. *See* Pet. 54–64 (TS 25.331v.3.1.0 with Kallin or Kissee), 66–72 (TS 25.331v.3.1.0 with C.S0005). With one exception, Patent Owner does not dispute that the cited references teach or suggest all the limitations of the cited claims. *See generally* Resp. The exception is that Patent Owner

disputes that C.S0005 teaches “providing multiple possible channels in different calls for the mobile station to select.” Resp. 20. Patent Owner argues, “[t]herefore, the combination of C.S0005 and TS 25.331 v.3.1.0 would not result in a frequency parameter containing multiple possible channels for selection by the mobile station as required by claim 10 of the ’698 patent.” *Id.* However, this argument is predicated on Patent Owner’s proposed construction of “frequency parameter” as meaning “frequency information comprising multiple channels” (*see id.* at 11) which we have rejected. *See supra* Part II.C.2 (claim construction of “frequency parameter”). Applying the plain and ordinary meaning of “frequency parameter” (*i.e.*, a parameter related to frequency), we find C.S0005 discloses a “frequency parameter” as recited in claim 10. *See supra* II.E.5.a. (analyzing anticipation of claim 10 by C.S0005). Based on the well-supported, persuasive, and largely undisputed showing in the Petition, we find that the combinations of (1) TS 25.331v.3.1.0 and Kallin; (2) TS 25.331v.3.1.0 and Kisse; and (3) TS 25.331v.3.1.0 and C.S0005 each teach or suggest all the limitations of claims 10, 11, 13, 17, and 24 of the ’698 patent.¹³

The primary dispute between the parties as to the combinations (1) TS 25.331v.3.1.0 and Kallin; (2) TS 25.331v.3.1.0 and Kisse; and

¹³ We need not discuss in detail Petitioner’s arguments and evidence showing that all the limitations of claims 10, 11, 13, 17, and 24 of the ’698 patent are taught or suggested by the combinations of (1) TS 25.331v.3.1.0 and Kallin; (2) TS 25.331v.3.1.0 and Kisse; and (3) TS 25.331v.3.1.0 and C.S0005 as this showing is not disputed. *See LG Elecs., Inc. v. Conversant Wireless Licensing S.A.R.L.*, 759 F.App’x 917, 925 (Fed. Cir. 2019) (“The Board is not required to address undisputed matters or arguments about limitations with which it was never presented.”) (quoting *In re NuVasive, Inc.*, 841 F.3d 966, 974, (Fed. Cir. 2016); *see also supra* Parts II.E.2, 3, 5.

(3) TS 25.331v.3.1.0 and C.S0005 relates to combining the teachings of Kallin, Kisse, and C.S0005 as to including a frequency parameter in a connection rejection message with the teachings of TS 25.331v.3.1.0 as to the RRC protocol and the RRC CONNECTION REJECT message. *See* Pet. 59–61, 68–70; Resp. 15–20; Reply 18–25; Sur-reply 8–12. With regard to the combinations including Kallin and Kisse, Patent Owner argues:

Petitioners do not provide a sufficient motivation for a POSITA [Person of Skill in the Art] to combine the TS 25.331 reference with either Kallin or Kisse to achieve the method of claims 10, 11, 13, 17, and 24 of the '698 patent. (Ex. 2006 [Bates Decl.] at ¶ 56.) In particular, a POSITA would not have been motivated to add a frequency related field to the RRC CONNECTION REJECT message in TS 25.331 v.3.1.0. (Ex. 2006 [Bates Decl.] at ¶ 58.)

Resp. 15. With regard to the combination including C.S0005, Patent Owner argues:

Petitioners do not provide a sufficient motivation for a POSITA to combine the TS 25.331 reference with C.S0005 to achieve the method of claims 10, 11, 13, 17, and 24 of the '698 patent. (Ex. 2006 [Bates Decl.] at ¶ 62.) In particular, a POSITA would not have been motivated to add a frequency related field to the RRC CONNECTION REJECT message in TS 25.331 v.3.1.0. (Ex. 2006 [Bates Decl.] at ¶ 64.)

Id. at 18. Patent Owner's argument relates to claim 10 and Patent Owner does not make any arguments specifically related to the other challenged claims. *See* Resp. 18 ("Claims 11, 13, 17 and 24 depend from claim 10. For the same reasons that the combination of TS 25.331 with either Kallin or Kisse does not render obvious claim 10, it does not render obvious claims 11, 13, 17 and 24."), 20 ("Claims 11, 13, 17 and 24 depend from claim 10. For the same reasons that the combination of TS 25.331 with C.S0005 does

not render obvious claim 10, it does not render obvious claims 11, 13, 17 and 24.”).

With regard to combining the relevant teachings of TS 25.331v.3.1.0 and Kallin and TS 25.331v.3.1.0 and Kisse, the Petition provides the following reasons why a skilled artisan would be motivated to make the specific combinations alleged:

- (1) “First, a POSITA would have been motivated to combine TS 25.331v.3.1.0 with either Kallin or Kisse in this manner **to enable the mobile station to more efficiently connect to the network (e.g., UTRAN) during times of congestion.**” Pet. 59 (citing Ex. 1005, 1:12–51, 2:21–38; Ex. 1006, 1:36–2:65; Ex. 1004 (Buehrer Decl.) ¶¶ 218, 243) (emphasis added).
- (2) “A POSITA would also have been motivated to allow the network **to control how the mobile station reattempts to connect for purposes of reducing interference.**” *Id.* (citing Ex. 1005, 1:7–51; Ex. 1006, 8:8–16; Ex. 1004 (Buehrer Decl.) ¶¶ 218, 243) (emphasis added).
- (3) “Further, modifying the RRC CONNECTION REJECT message to include the ‘Frequency-related IE’ **would have avoided the need for an additional signal to provide information for selecting a different cell thereby providing bandwidth and timing advantages that improve the user experience.**” *Id.* (citing Ex. 1006, 8:30–41; Ex. 1004 (Buehrer Decl.) ¶¶ 218, 243) (emphasis added).
- (4) “Kallin’s teaching that the directed retry message includes a main portion for identifying channels and/or frequencies for a reattempt (Ex. 1005, 1:34-45, 2:21-64, 4:30-37) and Kisse’s teaching that the directed retry message includes a channel for a best target cell (Ex. 1006, 11:20-36, 14:19-30, 16:32-37) **would have taught a POSITA**

- to include similar frequency-related information in the similar RRC CONNECTION REJECT message.”** *Id.* at 60 (citing Ex. 1004 (Buehrer Decl.) ¶¶ 217–219, 242–244) (emphasis added).
- (5) “TS25.331-Kallin and TS25.331-Kissee are also obvious because Kallin’s and Kissee’s techniques of using a directed retry message having frequency-related information for a connection reattempt **would improve TS 25.331v.3.1.0’s UE in the same way that Kallin’s and Kissee’s techniques were used to improve their respective mobile stations (which are TS 25.331v.3.1.0’s UE) by improving the success rate and speed of connecting to a network.”** *Id.* (citing Ex. 1006, 8:30–41; Ex. 1004 (Buehrer Decl.) ¶¶ 220, 245) (emphasis added).

Petitioner also contends that a skilled artisan would have had a reasonable expectation of success when combining TS 25.331v.3.1.0. and Kallin and TS 25.331v.3.1.0 and Kissee. Pet. 60–61. Specifically, the Petition states:

A POSITA would have had the programming and telecommunication network design skills for configuring the network to generate the modified RRC CONNECTION REJECT message and configuring the UE to set a value for the reattempt based on frequency-related information in the modified message. (Ex. 1004, ¶¶ 220, 245.)

* * *

A POSITA would have expected to successfully combine TS 25.331v.3.1.0 with either Kallin or Kissee given the POSITA’s skills and the simplicity of the combinations. [Ex. 1004 (Buehrer Decl.) ¶¶ 221, 246]. A POSITA would have expected TS25.331-Kallin and TS25.331- Kissee to result in a functional and improved RRC connection establishment procedure. (Ex. 1004 [Buehrer Decl.], ¶¶ 222, 247.)

Id.

With regard to combining the relevant teachings of TS 25.331v.3.1.0 and C.S0005, the Petition provides the following reasons why a skilled artisan would be motivated to make the specific combinations alleged:

- (1) “First, a POSITA would have been motivated to combine TS 25.331v.3.1.0 and C.S0005 in this manner to enable the mobile station **to connect to the network (e.g., UTRAN) more quickly and efficiently during times of congestion.**” Pet. 68 (citing Ex. 1004 (Buehrer Decl.) ¶ 270) (emphasis added).
- (2) “Modifying the RRC CONNECTION REJECT message to include the Frequency-related IE **would have avoided the need for an additional signal to provide information for selecting a different cell thereby providing bandwidth and timing advantages that improve the user experience.**” *Id.* (citing Ex. 1004 (Buehrer Decl.) ¶ 270) (emphasis added).
- (3) “[T]he *Channel Assignment Message* in cdma2000 systems is analogous to the RRC CONNECTION REJECT message in 3G UMTS systems. Both the claimed ‘RRC CONNECTION REJECT message’ and C.S0005’s *Channel Assignment Message* are rejection messages sent from a cellular network to a mobile station to reject the mobile station’s request to connect to the network. Therefore, a POSITA would have looked at the *Channel Assignment Message* in cdma2000 systems to consider improvements to (or implementations of) the RRC CONNECTION REJECT message in TS 25.331v.3.1.0. **C.S0005’s teaching that the *Channel Assignment Message* includes *FREQ_INCL* and *CDMA_FREQ* having frequency information for connecting to a network would have taught a POSITA to include similar data in the similar RRC CONNECTION REJECT**

message.” *Id.* at 68–69 (citing Ex. 1008, 2-97—2-98, 2-106—2-114, 2-175, 3-113, Fig. 2.6.3-1; Ex. 1009, 33-35, 140; Ex. 1004 (Buehrer Decl.) ¶¶ 265–269) (emphasis added).

- (4) TS25.331-C.S0005 is also obvious because C.S0005’s technique of using the Channel Assignment Message having `FREQ_INCL` and `CDMA_FREQ` for making a subsequent connection to the network **would improve TS 25.331v.3.1.0’s UE in the same way that C.S0005’s technique was used to improve similar mobile stations in cdma2000 systems by improving success rate and speed of connecting to a network.** *Id.* at 69 (citing Ex. 1004 (Buehrer Decl.) ¶ 271) (emphasis added).

Petitioner also contends that a skilled artisan would have had a reasonable expectation of success when combining TS 25.331v.3.1.0 and C.S0005.

Pet. 69–70. Specifically, the Petition states:

A POSITA would have had the programming and telecommunication network design skills for configuring the network to generate the modified RRC CONNECTION REJECT message and configuring the UE to set a value for the reattempt based on frequency-related information in the modified message. [Ex. 1004 (Buehrer Decl.) ¶ 271.]

* * *

A POSITA would have expected to successfully combine TS 25.331v.3.1.0 and C.S0005 given the POSITA’s skills and simplicity of the combination. [Ex. 1004 (Buehrer Decl.) ¶ 273.] A POSITA would have expected TS25.331-C.S0005 to result in a functional and improved RRC connection establishment procedure. [*Id.*]

Id. at 69–70. Thus, the showings for motivation to combine the relevant teachings of the cited references and for reasonable expectation of success

for the three asserted combinations of references are the same or similar. We find Petitioner's showing as to motivation to combine and reasonable expectation of success to be convincing and well-supported.

As noted above, with regard to all three asserted combinations of references, Patent Owner argues that a skilled artisan would not have been motivated to add a frequency related field to the RRC CONNECTION REJECT message in TS 25.331 v.3.1.0. Resp. 15, 18. Thus, the arguments of the parties relating to these combinations of references are the same or similar for all three asserted combinations of references.

With regard to the combinations of TS 25.331v.3.1.0 with Kallin and Kisse, Patent Owner argues that the differences in the network structures makes the network incompatible and, therefore, a skilled artisan would not be motivated to combine Kallin or Kisse with TS 25.331v.3.1.0. Reply 15–16. Specifically, Patent Owner argues that Kallin and Kisse are directed to 1G and 2G analog networks and that TS 25.331v.3.1.0 is directed to a 3G digital network. *Id.* In its Reply, Petitioner counters that its obviousness case does not rely on network compatibility and that Patent Owner's argument does not rebut any of its rationales for making the combination of teachings that Petitioner relies upon. Reply 18–23.

With regard to the combination TS 25.331v.3.1.0 and C.S0005, Patent Owner argues that the differences in the network standards make them incompatible. *See* Resp. 19 (“A POSITA would not have been motivated to combine the Channel Assignment Message of C.S0005 because the CDMA2000 network standards developed by 3GPP2 and the UMTS

standards developed by 3GPP are not compatible.”).¹⁴ Patent Owner does not explain why this is relevant to including a frequency parameter in a connection rejection message. *See id.*

We agree with Petitioner and do not find Patent Owner’s arguments to be persuasive or effective. Patent Owner does not explain persuasively why a skilled artisan would not have been motivated to take advantage of the benefits detailed by Petitioner of adding a frequency related field to the RRC CONNECTION REJECT message in TS 25.331 v.3.1.0 even in light of the differences in the networks and the standards. And, the proper consideration is what the references would have taught or suggested to those of ordinary skill in the art not whether the structure disclosed in a reference may be bodily incorporated into the structure of another reference. *See In re Keller*, 642 F.2d 413, 425 (CCPA 1981) (“The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference. . . . Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.”); *In re Nievelt*, 482 F.2d 965, 968 (CCPA 1973) (“Combining the teachings of references does not involve an ability to combine their specific structures.”). We find applicable the passage from *KSR*, 550 U.S. at 417, that says, “when a patent simply arranges old elements with each performing the same function it had been known to perform and yields no more than one would expect from such an arrangement, the combination is obvious.”

¹⁴ Patent Owner also makes arguments predicated on its proposed claim constructions of “connection rejection message” and “frequency parameter.” Resp. 19–20. We do not agree with these arguments as they rely on claim constructions that are too limited and which we have not adopted. *See supra* Part II.C.

With regard to Kallin and Kisse, Patent Owner also argues that the directed retry messages described in these references are not the “analog” of the RRC CONNECTION REJECT message of TS 25.331v.3.1.0, because of differences in the number of communications required between the mobile station and the network. *See* Resp. 16–17. Specifically, the Patent Owner argues:

[D]irected retry messages are not the “analog” of the RRC CONNECTION REJECT message used in 3G networks as Petitioners claim. (Ex. 2006 [Bates Decl.] at ¶ 59.) In the 1G AMPS network, the central mobile switching center (“MSC”) communicates possible channels to the mobile station (the user’s phone) in a “directed retry message.” (Ex. 2001 [Bates Decl.] at ¶ 39.) The mobile station then selects the channel with the strongest signal. (*Id.*) The 1G AMPS network also permits the mobile station to select a channel not suggested by the MSC if a stronger signal is located. (*Id.*) This process may involve several rounds of communication between the mobile station and the MSC, and the selection of the channel is left entirely up to the mobile station. (*Id.*) This is fundamentally different from the RRC CONNECTION REJECT message, in which the network directs the mobile station to a particular frequency and conducts no further communication. (Ex. 1001 at Abstract; 3:11-14; 3:18-19; 3:52-56; Ex. 2006 [Bates Decl.] at ¶ 59.)

In the 2G D-AMPS network the mobile unit sends information to the tower (specifically, through a base station controller or “BSC” that can control multiple towers), which then communicates with the network MSC regarding which channels are available. (Ex. 2001 [Bates Decl.] at ¶ 41.) The BSC/MSC can then direct the mobile station to a specific channel. (*Id.*) Similar to AMPS, if the mobile station has a stronger signal from a different channel it may communicate that information to the BSC, and the BSC may then direct the mobile station to that channel. (*Id.*) Like the 1G AMPS network, this process involves several rounds of communications between the mobile station and the MSC, and the decision of which channel to connect to is ultimately left to

the mobile station. (*Id.*) This is shown in Kisse. (Ex. 1006 at 4:57-61; 14:3-51; Fig. 13.)

Id. We first of all note that the challenged claims are not limited to any number of communications, but are open-ended “comprising” claims that can include any number of additional steps beyond the steps of “receiving,” “observing,” and “setting a value” as recited in claim 10.¹⁵ Ex. 1001, 8:34–44. And, even accepting this argument, if incorporating a single frequency parameter into the RRC CONNECTION REJECT message of TS 25.331v.3.1.0 as proposed by Petitioner would reduce the number of communications required, this would support making the combination for the reasons delineated by Petitioner.

After considering all the arguments and weighing all the evidence of the issue of motivation to combine the relevant teachings of the cited references, we are persuaded by Petitioner’s contentions and evidence on the issue of motivation to combine the relevant teachings of (1) TS 25.331v.3.1.0 and Kallin; (2) TS 25.331v.3.1.0 and Kisse; and (3) TS 25.331v.3.1.0 and C.S0005. We do not agree with Patent Owner’s arguments that the proposed combination would not have been obvious, and we do not discern that the proposed combination would have been beyond the capabilities of the skilled artisan. *See KSR*, 550 U.S. at 421 (“A person of ordinary skill is also a person of ordinary creativity, not an automaton.”). Patent Owner does not argue that combining the relevant teachings of the cited references as in the methods recited in the challenged claims would have been “uniquely challenging or difficult for one of ordinary skill in the

¹⁵ The only step in the method of claim 10 specifically related to a communication is the “mobile communication means . . . receiving a connection rejection message.” *See* Ex. 1001, 8:34–44.

art.” *See Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007) (citing *KSR*, 550 U.S. at 418–19). Based on the totality of the evidence, we find that including a frequency parameter in a connection rejection message as taught by Kallin, Kisse, or C.S0005 with the teachings of TS 25.331v.3.1.0 as to the RRC protocol and the RRC CONNECTION REJECT message would have been obvious to one of ordinary skill in the art with knowledge of the relevant teachings and suggestions of the cited art.

For these reasons, we conclude that Petitioner has met its burden of showing, by a preponderance of evidence, that claims 10, 11, 13, 17, and 24 of the ’698 patent would have been obvious in view of the combination of the relevant teachings of each of (1) TS 25.331v.3.1.0 and Kallin; (2) TS 25.331v.3.1.0 and Kisse; and (3) TS 25.331v.3.1.0 and C.S0005.

III. CONSIDERATION OF THE REVISED MOTION TO AMEND

Because we conclude that Petitioner shows by a preponderance of the evidence that claims 10, 11, 13, 17, and 24 of the ’698 patent are unpatentable, we consider Patent Owner’s Revised Motion to Amend. *See* Mot. Amend 1 (“Patent Owner . . . respectfully submits this Revised Motion to Amend under 35 U.S.C. § 316(d) and 37 C.F.R. § 42.121 **contingent upon** a finding of unpatentability with respect to the original challenged claims 10, 11, 13, 17, and 24 (the “Challenged Claims”) of U.S. Patent No. 7,433,698.”) (emphasis added).

“Before considering the patentability of any substitute claims, . . . the Board first must determine whether the motion to amend meets the statutory and regulatory requirements set forth in 35 U.S.C. § 316(d) and 37 C.F.R. § 42.121.” *See Lectrosonics, Inc. v. Zaxcom, Inc.*, IPR2018-01129, Paper 15 at 4 (PTAB Feb. 25, 2019) (precedential). The Rules of Practice To Allocate the Burden of Persuasion on Motions To Amend in Trial

Proceedings Before the Patent Trial and Appeal Board, effective prior to Patent Owner filing its Motion to Amend, “assigns the burden of persuasion to the patent owner to show, by a preponderance of the evidence, that [the] motion to amend complies with” those statutory and regulatory requirements. 85 Fed. Reg. 82923, 82924 (Dec. 21, 2020); 37 C.F.R. 42.121(d)(1). Accordingly, a patent owner must provide a claim listing reproducing each proposed substitute claim, and must make an initial showing to demonstrate the following: (1) the amendment proposes a reasonable number of substitute claims; (2) the amendment responds to a ground of unpatentability involved in the trial; and (3) the amendment does not seek to enlarge the scope of the claims of the patent or introduce new subject matter. *See* 35 U.S.C. § 316(d); 37 C.F.R. § 42.121. In this instance, the parties dispute only the last of these requirements, namely, whether the proposed substitute claims seek to enlarge the scope of the claims of the patent. We address this issue below, determining that the proposed substitute claims do enlarge the scope of the claims of the patent and find that Patent Owner has not complied with the statutory and regulatory requirements set forth in 35 U.S.C. § 316(d) and 37 C.F.R. § 42.121.

It is the petitioner's burden to show, by a preponderance of the evidence, that any proposed substitute claims are unpatentable. 85 Fed. Reg. 82924; 37 C.F.R. § 42.121(d)(2). To determine whether a petitioner has proven the substitute claims are unpatentable, the Board focuses on “arguments and theories raised by the petitioner in its petition or opposition to the motion to amend.” *Nike, Inc. v. Adidas AG*, 955 F.3d 45, 51 (Fed. Cir. 2020).

For the reasons below, we find that proposed substitute claims 36–40 are unpatentable under 35 U.S.C. § 103(a).

A. Proposed Substitute Claims

Patent Owner proposes claim 36 as a substitute for original independent claim 10. Mot. Amend 2. Patent Owner additionally proposes claims 37–40 as substitutes for original dependent claims 11, 13, 17, and 24, respectively. *Id.* at 2–3.

Proposed substitute claim 36 is representative of the proposed substitute claims and is reproduced below, using underscoring to indicate text added to original claim 10 and striking through to indicate text removed from original claim 10. *See* Mot. Amend, Claims Appendix A.

~~10~~ 36. A channel reselection method in a mobile ~~communication means of a cellular telecommunication system~~ station of a telecommunications network implementing the RRC protocol, the method comprising the steps of:
receiving a connection rejection message containing a frequency parameter indicated by the telecommunications network implementing the RRC protocol;
observing ~~at least one parameter of the frequency~~ parameter contained within said connection rejection message;
and
setting a value of at least one frequency parameter for a new connection setup attempt ~~based at least in part on information in at least one frequency parameter of, the connection setup attempt using the frequency parameter contained within~~ said connection rejection message.

Id. Original independent claim 10 is reproduced below.

10. A channel reselection method in a mobile communication means of a cellular telecommunication system, the method comprising the steps of:
receiving a connection rejection message;
observing at least one parameter of said connection rejection message; and

setting a value of at least one parameter for a new connection setup attempt based at least in part on information in at least one frequency parameter of said connection rejection message.

Ex. 1001, 8:34–44. Thus, from the preamble of independent claim 10, “communication means of a cellular telecommunications system” is deleted and –station of a telecommunications network implementing the RRC protocol– is added. In the first limitation of claim 10, no language is deleted and –containing a frequency parameter indicated by the telecommunications network implementing the RRC protocol– is added. In the second limitation of claim 10, “at least one parameter” is deleted and –the frequency parameter contained within– is added. In the third and last limitation of claim 10, “based at least in part on information in at least one frequency parameter of” is deleted and –frequency– to modify “parameter” and –the connection setup attempt using the frequency parameter contained within– are added.

Each of the proposed substitute dependent claims is amended to depend from proposed substitute independent claim 36. Mot. Amend, Claims Appendix A. There are no additional amendments to claim 37, and claims 38–40 are only additionally amended to substitute –contained within– for “of” in the phrase “said at least one frequency parameter ~~of~~ contained within said connection rejection message.” *Id.*

B. Amendments to Claim 10 Enlarge the Scope

Patent Owner has failed to make an initial showing to demonstrate that the amendments to independent claim 10 do not seek to enlarge the scope of the claims of the patent. *See* 35 U.S.C. § 316(d)(3)(“An amendment under this subsection may not enlarge the scope of the claims of

the patent”); 37 C.F.R. §§ 42.121(a)(2)(ii)(“A motion to amend may be denied where: . . . [t]he amendment seeks to enlarge the scope of the claims of the patent”), 42.121(d)(1)(“A patent owner bears the burden of persuasion to show, by a preponderance of the evidence, that the motion to amend complies with the requirements of paragraphs (1) and (3) of 35 U.S.C. 316(d), as well as paragraph[] (a)(2) . . . of this section.”). Specifically, we find that the scope of the claims is enlarged by deleting from the last limitation of claim 10 the phrase “based at least in part on information in at least one frequency parameter of.”

In the Revised Motion to Amend, Patent Owner fails to address whether deleting the phrase “based at least in part on information in at least one frequency parameter of” enlarges the scope of the claims of the ’698 patent. *See* Mot. Amend 5–7 (the deletion of this language is not addressed in this section of the Revised Motion to Amend titled, “The Proposed Claims Do Not Enlarge the Scope of the Original Claims.”).

In its Opposition, Petitioner argues:

This amendment removes the requirement that the value be set based at least in part on information in at least one frequency parameter and replaces it with the broader concept of merely “using the frequency parameter.” Thus, substitute claim 36 is broader than original claim 10 because it does not specify how the frequency parameter is used. For example, if “using the frequency parameter” in the amended element merely entails using the existence of the frequency parameter to trigger the start of the new connection setup attempt, then the amended element would not necessarily require setting a value based on the frequency parameter. Thus, substitute claim 36 enlarges the scope of original claim 10, impacting all challenged claims. Therefore, the Revised MTA should be denied.

Opp. Amend 3–4.

In the Patent Owner's Reply in Support of the Revised Motion to Amend, Patent Owner argues:

Requiring use of the frequency parameter in the new connection setup attempt rather than setting a value "based at least in part on the information" in the frequency parameter provides further clarity, and does not broaden the scope of the claim. In fact, it *narrows* the scope of the claim.

Reply Amend 2. We agree with Patent Owner that adding to the third and last limitation of claim 10, "the connection setup attempt using the frequency parameter contained within" narrows the scope of the claim by adding an element that was not previously in the claim to the claim. However, we do not agree that deleting from the last limitation of claim 10 the phrase "based at least in part on information in at least one frequency parameter of" simply adds further clarity and does not broaden the scope of the claims.

In claim 10, the last limitation recites, "setting a value of at least one parameter for a new connection setup attempt based at least in part on information in at least one frequency parameter of said connection rejection message." Ex. 1001, 8:41–44. In proposed substitute claim 36, the last limitation recites, "setting a value of at least one frequency parameter for a new connection setup attempt, the connection setup attempt using the frequency parameter contained within said connection rejection message." Mot. Amend, Claims Appendix A. In claim 10, "setting a value of at least one parameter for a new connection setup attempt" is limited to being "based at least in part on information in at least one frequency parameter of said connection rejection message." In proposed substitute claim 36, "setting a value of at least one frequency parameter for a new connection setup attempt" is not limited to being "based at least in part on information

in at least one frequency parameter of said connection rejection message.” In proposed substitute claim 36, the value that is set need not be based, in whole or in part, on information in the connection rejection message and, thus, claim 36 is broader in this respect than claim 10. “A ‘claim is enlarged if it includes within its scope any subject matter that would not have infringed the original patent.’” *Hockerson-Halberstadt, Inc. v. Converse Inc.*, 183 F.3d 1369, 1374 (Fed. Cir. 1999) (quoting *In re Freeman*, 30 F.3d 1459, 1464 (Fed. Cir. 1994)); *Tillotson, Ltd. v. Walbro Corp.*, 831 F.2d 1033, 1037 n.2 (Fed. Cir. 1987) (“A . . . claim that is broader in any respect is considered to be broader than the original claims even though it may be narrower in other respects.”); *see also* 37 C.F.R. § 1.175(b) (“A claim is broadened if the claim is broadened in any respect.”).

We deny the Revised Motion to Amend on the basis that Patent Owner seeks to enlarge the scope of the claims. Thus, it is not necessary to discuss whether Patent Owner shows that the Revised Motion to Amend complies with the remaining statutory and regulatory requirements associated with a motion to amend.

C. The Proposed Substitute Claims are Unpatentable

Petitioner contends that proposed substitute claims 36–40 would have been obvious in view of the combination of the relevant teachings of each of (1) TS 25.331v.3.1.0 and Kallin; (2) TS 25.331v.3.1.0 and Kisse; and (3) TS 25.331v.3.1.0 and C.S0005. Opp. Amend 14–18. In its Opposition to the Revised Motion to Amend, Petitioner provides an element-by-element mapping of the cited art to the proposed substitute claims including accounting for the amendments to the claims. *See id.* In doing so, Petitioner relies heavily on its showing with regard to the original claims which we

have previously considered and concluded renders the original claims unpatentable. *See supra* Part II.E.6.

After considering both parties’ arguments and the evidence, we determine that Petitioner has met its burden of showing that the proposed substitute claims are unpatentable for essentially the same reasons that Petitioner has shown that the original claims are unpatentable. Patent Owner relies on the addition of the limitation “telecommunications network implementing the RRC protocol” to the proposed substitute claims to distinguish them from the art cited in the Petition. *See* Mot. Amend. 11–12 (“Proposed substitute claim 36 further limits original claim 10 by restricting the type of telecommunications network to one implementing the RRC protocol.”). However, Patent Owner acknowledges that “[t]he RRC protocol is specified in the 3GPP standards in specification TS 25.331[v.3.1.0.] for UMTS networks.” *Id.* at 12 (citing Ex. 1009 (TS 25.331v.3.1.0), 1; Ex. 2008 (Bates Decl.) ¶ 45), 22; *see also* Reply Amend 7 (Patent Owner further acknowledges, “a POSITA would readily understand that the RRC protocol is specified in the 3GPP standards in specification TS 25.331[v.3.1.0].”).

TS 25.331v.3.1.0 is titled, “3rd Generation Partnership Project; Technical Specification Group Radio Access Network; RRC Protocol Specification.” Ex. 1009, 1. TS 25.331v.3.1.0 states, “[t]he present document describes the Radio Resource Control [RRC¹⁶] protocol for the UE-UTRAN [User Equipment-UMTS Terrestrial Radio Access Network¹⁷] radio interface.” *Id.* at 16. Thus, the addition of the limitation “telecommunications network implementing the RRC protocol” to the

¹⁶ *See* Ex. 1009, 18 (definition of RRC).

¹⁷ *See* Ex. 1009, 18 (definitions of UE and UTRAN).

proposed substitute claims (alone or in addition to the other changes to the claims) does not overcome the art cited in the Petition, namely TS 25.331v.3.1.0, which Patent Owner admits teaches a UMTS system implementing the RRC protocol.

Patent Owner also relies on arguments previously advanced with regard to the original claims and which we have previously considered with regard to the original claims and with which we do not agree. *See* Reply Amend 4–5; *see also supra* Part II.E.6. Patent Owner again argues that “a POSITA would not have been motivated to combine TS 25.331 v. 3.1.0 with one of Kallin, Kissee or C.S0005 because they are directed to different and incompatible networks.” *Id.* at 4. Patent Owner also again argues that “none of Kallin, Kissee or C.S0005 teach a frequency parameter indicated by the network implementing the RRC protocol and contained within a connection rejection message.” *Id.* at 4–5. Patent Owner does not further explain these arguments or specify how they apply to the proposed substitute claims beyond the explanations previously provided in this proceeding with regard to the original claims. *See id.* at 4–5. We do not agree with these arguments as related to the proposed substitute claims for the same reasons discussed in detail in Part II, for the original claims. *See supra* Parts II.C., II.E.6.

We conclude that proposed substitute claims 36–40 would have been obvious in view of the combination of the relevant teachings of each of (1) TS 25.331v.3.1.0 and Kallin; (2) TS 25.331v.3.1.0 and Kissee; and (3) TS 25.331v.3.1.0 and C.S0005. We deny the Revised Motion to Amend on the basis that the proposed substitute claims are unpatentable.

IV. CONCLUSION¹⁸

We conclude that Petitioner has met its burden of showing, by a preponderance of evidence, that claims 10, 11, 13, 17, and 24 of the '698 patent are unpatentable. Claims 10, 13, and 17 are unpatentable on the following independent grounds: (1) anticipation by Kallin; (2) anticipation by Kisse; (3) anticipation by C.S0005; (4) obviousness in view of TS 25.331v.3.1.0 and Kallin; (5) obviousness in view of TS 25.331v.3.1.0 and Kisse; and (6) obviousness in view of TS 25.331v.3.1.0 and C.S0005. Claims 11 and 24 are unpatentable on the following independent grounds: (1) obviousness in view of TS 25.331v.3.1.0 and Kallin; (2) obviousness in view of TS 25.331v.3.1.0 and Kisse; and (3) obviousness in view of TS 25.331v.3.1.0 and C.S0005.

We deny the Revised Motion to Amend. The Revised Motion to Amend is denied on the following independent bases: (1) the proposed substitute claims enlarge the scope of the claims; and (2) the proposed substitute claims are unpatentable as obvious in view of the combination of the relevant teachings of each of (a) TS 25.331v.3.1.0 and Kallin; (b) TS 25.331v.3.1.0 and Kisse; and (c) TS 25.331v.3.1.0 and C.S0005.

¹⁸ 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).

V. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, based on a preponderance of the evidence, claims 10, 11, 13, 17, and 24 of U.S. Patent No. 7,433,698 B2 have been shown to be unpatentable;

FURTHER ORDERED that Patent Owner's revised Motion to Amend that includes proposed substitute claims 36–40 is *denied*; and

FURTHER ORDERED that, because this is a final written decision, 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.

In summary:

Claims	35 U.S.C. §	Reference(s)/Basis	Claims Shown Unpatentable	Claims Not shown Unpatentable
10, 13, 17	102(b)	Kallin	10, 13, 17	
10, 13, 17	102(e)	Kissee	10, 13, 17	
10, 13, 17, 24	103(a)	Ericsson		10, 13, 17, 24
10, 13, 17	102(a)	C.S0005	10, 13, 17	
10, 11, 13, 17, 24	103(a)	TS 25.331V.3.1.0, Kallin	10, 11, 13, 17, 24	
10, 11, 13, 17, 24	103(a)	TS 25.331V.3.1.0, Kissee	10, 11, 13, 17, 24	
10, 11, 13, 17, 24	103(a)	TS 25.331V.3.1.0, C.S0005	10, 11, 13, 17, 24	
Overall Outcome			10, 11, 13, 17, 24	

The table below summarizes our conclusions as to Petitioner's Motion to Amend the claims.

Motion to Amend Outcome	Claims
Original Claims Canceled by Amendment	
Substitute Claims Proposed in the Amendment	36–40
Substitute Claims: Motion to Amend Granted	
Substitute Claims: Motion to Amend Denied	36–40
Substitute Claims: Not Reached	

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