

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

UNIFIED PATENTS INC.,
Petitioner,

v.

IRON OAK TECHNOLOGIES, LLC,
Patent Owner.

Case IPR2018-00486
Patent 5,966,658

Before PATRICK R. SCANLON, BEVERLY M. BUNTING, and
ARTHUR M. PESLAK, *Administrative Patent Judges*.

PESLAK, *Administrative Patent Judge*.

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

I. INTRODUCTION

Petitioner, Unified Patents, Inc. (“Unified”), filed a Petition (Paper 1, “Pet.”) requesting an *inter partes* review of claims 1, 3, 4, 8, and 11 (the “challenged claims”) of U.S. Patent No. 5,966,658 (Ex. 1001, “the ’658 Patent”). Patent Owner, Iron Oak Technologies, LLC (“Iron Oak”), timely filed a Preliminary Response (Paper 7, “Prelim. Resp.”). Taking into account the arguments presented in Iron Oak’s Preliminary Response, we determined that the information presented in the Petition established that there was a reasonable likelihood that Unified would prevail in challenging claims 1, 3, 4, 8, and 11 of the ’658 Patent as unpatentable under 35 U.S.C. § 103(a).¹ On July 17, 2018, we instituted this *inter partes* review, as to all of the challenged claims and grounds presented in the Petition. Paper 8 (“Decision to Institute” or “Dec.”).

During the course of trial, Iron Oak filed a Patent Owner Response (Paper 10, “PO Resp.”) and Unified filed a Reply to the Patent Owner Response (Paper 12, “Pet. Reply”). Iron Oak did not request leave to file a sur-reply. An oral hearing was held on April 10, 2019, and a transcript of the hearing is included in the record. Paper 20 (“Tr.”).

We have authority under 35 U.S.C. § 6. This is a Final Written Decision under 35 U.S.C. § 318(a) as to the patentability of claims 1, 3, 4, 8, and 11 of the ’658 Patent. For the reasons discussed below, we conclude that Unified has demonstrated by a preponderance of the evidence that claims 1, 3, 4, 8, and 11 are unpatentable under 35 U.S.C. § 103(a).

¹ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 287–88 (2011), revised 35 U.S.C. § 103, effective March 16, 2013. Because the application from which the ’658 Patent issued was filed before this date, the pre-AIA version of § 103 applies.

A. Related Matters

The '658 Patent is the subject of the following civil actions:

- 1) *Iron Oak Technologies, LLC v. Dell Inc.*, No. 3:18-cv-1542 (N.D. Tex.);
- 2) *Iron Oak Technologies, LLC v. Sharp Electronics Corp.*, No. 3:17-cv-2699 (N.D. Tex.);
- 3) *Iron Oak Technologies, LLC v. Lenovo (United States) Inc.*, No. 3:18-cv-01539 (N.D. Tex.);
- 4) *Iron Oak Technologies, LLC v. Acer America Corp.*, No. 3:18-cv-1543 (N.D. Tex.);
- 5) *Iron Oak Technologies, LLC v. Samsung Electronics America, Inc.*, No. 3:17-cv-1259 (N.D. Tex.);
- 6) *Iron Oak Technologies, LLC v. Fujitsu America Inc.*, No. 3:16-cv-3319 (N.D. Tex.);
- 7) *Iron Oak Technologies, LLC v. Toshiba America Information Systems Inc.*, No. 3:16-cv-3320 (N.D. Tex.);
- 8) *Iron Oak Technologies, LLC v. Asustek Computer Inc.*, No. 3:16-cv-3322 (N.D. Tex.); and
- 9) *Iron Oak Technologies, LLC v. Microsoft Corp.*, No. 3:18-cv-0222 (N.D. Tex.).

Paper 19, 3–4.

The '658 Patent is subject to *inter partes* review in *Samsung Electronics Co., Ltd. v. Iron Oak Techs., LLC*, IPR2018-01554 and *Microsoft Corp. v. Iron Oak Technologies, LLC*, IPR2019-00107. Paper 19, 4.

B. The '658 Patent (Ex. 1001)

The '658 Patent issued on October 12, 1999, and is titled “Automated Selection of a Communication Path.” Ex. 1001, [54]. The '658 Patent issued from U.S. Patent Application No. 08/718,951, filed on September 26, 1996. *Id.* at [21], [22].²

The '658 Patent generally “relates to mobile communications, and more particularly to the automated selection of a communication path.” *Id.* at 1:6–8. The '658 Patent describes that “a plurality of alternate communication paths may be available to a mobile communications device.” *Id.* at 1:18–19. Among the types of communication paths disclosed are “a network of satellite-based or land-based transceivers, a public switched telephone network (PSTN), a mobile telecommunications switching office (MTSO), or *any other suitable element for communications.*” *Id.* at 1:21–25, 2:44–63, Fig. 1 (emphasis added).

Figure 1, reproduced below, illustrates a system for selecting an alternate communication path for transmitting a message between vehicle 12 and remote location 14 over alternate communication paths. *Id.* at 3:23–25.

² The parties agree that the '658 Patent expired on September 26, 2016. Pet. 15; PO Resp. 4.

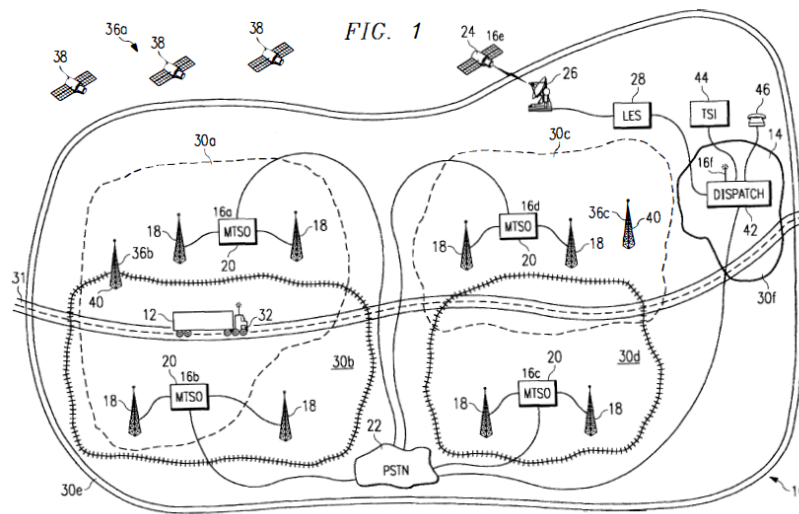


Figure 1 illustrates system 10 for selecting one of a plurality of communication paths. Ex. 1001, 3:1–2.

The '658 Patent provides that “[c]ommunication over a communication path **16** may be implemented in a voice channel, control channel, paging channel, part of a seized voice or data channel.” *Id.* at 4:28–31.

The '658 Patent describes that

[w]hen selecting a communication path **16**, processor **72** may consider the functional characteristics of each communication path **16** (e.g., cost of communication, ability to deliver voice and/or data, ability to confirm receipt, propagation delay, speed, current load, or capacity). Processor **72** may also consider the various parameters for the communication (e.g., priority, preferred cost, preferred transmission time, amount of information to be communicated, type of communication, or confirmation of receipt).

Id. at 5:55–64.

The functional characteristics of the communication path and the various parameters for the communication are deemed “communication attributes.” *Id.* at 5:65. In one disclosed embodiment, processor 72 selects a

communication path based on “the geographical position of the vehicle **12** and the priority of communication” as the communication attribute. *Id.* at 5:66–6:3, Figs. 4, 5. In a second disclosed embodiment, “each communication attribute corresponds to a characteristic of a communication path **16**.” *Id.* at 6:4–6, Figs. 6, 7.

The ’658 Patent describes

In operation, mobile unit **32** may receive a request for communication from either a user . . . or a sensor **82**. Such a request for communication may specify various parameters for the communication, including priority, preferred cost, preferred transmission time, amount of information to be communicated, type of communication (e.g., data and/or voice), confirmation of receipt, and the like. This information may be conveyed in the form of one or more communication attributes. . . . Furthermore, processor **72** may retrieve data, such as table **104** [Fig. 4] or table **120** [Fig. 6], relating to various alternate communication paths **16** from memory **74**. Using this information, processor **72** selects the most appropriate communication path **16** for communication.

Id. at 9:52–66.

C. Challenged Claims

Of the challenged claims, claims 1 and 8 are independent and are reproduced below.

1. An apparatus for automatically selecting one of a plurality of communication paths, the apparatus comprising:
a memory operable to store a plurality of ordered lists of communication paths, each ordered list associated with one of a plurality of communication attributes, each communication attribute representing a separate priority for communication; and
a processor operable to receive a request for communication, the request indicating a communication attribute, the processor further operable to automatically

select a communication path from an ordered list associated with the indicated communication attribute.

8. A method for automatically selecting one of a plurality of communication paths, the method comprising:
- storing a plurality of ordered lists of communication paths, each ordered list associated with one of a plurality of communication attributes each communication attribute representing a separate priority for communication;
 - receiving a request for communication, the request indicating a communication attribute; and
 - selecting a communication path from an ordered list associated with the indicated communication attribute.

Ex. 1001, 16:31–43, 17:3–13.

D. Instituted Grounds of Unpatentability

We instituted trial of claims 1, 3, 4, 8, and 11 of the '658 Patent based on the following grounds of unpatentability. Dec. 30; Pet. 18–55.

Reference[s]	Basis	Claims Challenged
Eriksson ³	§ 103	1, 3, 4, 8, and 11
Eriksson and Schellinger ⁴	§ 103	1, 3, 4, 8, and 11

³ U.S. Patent No. 5,448,750, issued Sept. 5, 1995 (Ex. 1002, “Eriksson”).

⁴ U.S. Patent No. 5,842,122, issued Nov. 24, 1998 (Ex. 1009, “Schellinger”).

II. ANALYSIS

A. Principles of Law

Unified bears the burden of establishing the unpatentability of each claim by a preponderance of the evidence. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). This burden of persuasion never shifts to Iron Oak. *Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015). Accordingly, all of our findings and conclusions are based on a preponderance of the evidence.

A claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007).

The question of obviousness is resolved on the basis of underlying factual determinations, including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) when in evidence, objective indicia of non-obviousness (i.e., secondary considerations). *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

As the Supreme Court explained in *KSR*, an invention “composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.” 550 U.S. at 418. Rather, “it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.” *Id.* When identifying this reason,

“there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *Id.* (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)). Accordingly, the U.S. Court of Appeals for the Federal Circuit has made clear that a petitioner in an *inter partes* review proceeding cannot “satisfy its burden of proving obviousness” by “employ[ing] mere conclusory statements” and “must instead articulate specific reasoning, based on evidence of record” to support an obviousness determination. *In re Magnum Oil Tools Int’l*, 829 F.3d 1364, 1380–81 (Fed. Cir. 2016).

We analyze the asserted grounds based on obviousness with these principles in mind. Because Iron Oak does not provide evidence regarding secondary considerations, our determination is based on the first three *Graham* factors. *See* PO Resp.

B. Level of Ordinary Skill in the Art

Unified submits that a person of ordinary skill in the art for the ’658 Patent would have had at least a Master’s Degree in electrical engineering, computer science, or a related subject, or at least a Bachelor’s Degree in electrical engineering, computer science, or a related subject and three years of experience working with wireless networks and telephone systems. Pet. 13. Iron Oak does not dispute or comment on Unified’s assertion of the level of ordinary skill in the art or offer its own proposal regarding the level of ordinary skill in the art. *See* PO Resp.

We adopt Unified’s proposed definition of the level of ordinary skill in the art because it appears reasonable and consistent with the ’658 Patent. We note that the asserted prior art of record also reflects this level of ordinary skill in the art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355

(Fed. Cir. 2001); *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995); *In re Oelrich*, 579 F.2d 86, 91 (CCPA 1978).

C. Claim Construction

Because the '658 Patent is expired, we apply the claim construction standard set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005). *See Wasica Fin. GmbH v. Cont'l Auto Sys., Inc.*, 853 F.3d 1272, 1279 (Fed. Cir. 2017). Under the claim construction procedures articulated in *Phillips*, claim construction begins with the language of the claims. *Phillips*, 415 F.3d at 1312–14. The “words of a claim ‘are generally given their ordinary and customary meaning,’” which is “the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.” *Id.* at 1312–13. The specification is “‘the single best guide to the meaning of a disputed term’ and . . . acts as a dictionary when it expressly defines terms used in the claims or when it defines terms by implication.” *Id.* at 1321. Although the prosecution history “often lacks the clarity of the specification and thus is less useful for claim construction purposes,” it is another source of intrinsic evidence that can “inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be.” *Id.* at 1317. Extrinsic evidence, such as expert testimony and dictionaries, may be useful in educating the court regarding the field of the invention or helping determine what a person of ordinary skill in the art would understand claim terms to mean. *Id.* at 1318–19. However, extrinsic evidence in general is viewed as less reliable than intrinsic evidence. *Id.*

Unified proposes a construction for “communication paths.” Pet. 16–18. Iron Oak proposes its own construction of “communication path,” as well as “request for communication” and “communication attribute.” PO Resp. 4–11. In our Decision on Institution, we preliminarily construed “communication path.” Dec. 12. Now, based on the final trial record before us, we determine that express construction of “communication path” is necessary for purposes of this Final Written Decision, but do not find it necessary to provide express constructions of “request for communication” and “communication attribute.” See *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (noting that “we need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy’”).

Communication Path

In the Decision to Institute, we preliminarily construed “communication path” as “any suitable element over which communications are transmitted or received.” Dec. 9–12. Unified agrees that our preliminary construction is correct. Pet. Reply 1; Ex. 1014 ¶ 5–7; Tr. 11:10–19. Iron Oak requests that we construe “communication path” as a “path for communication uniquely identified by the elements over which communications are transmitted or received.” PO Resp. 4. Iron Oak, however, does not directly address our preliminary construction of this term. *Id.* at 4–11. Now, in view of the complete record, and for the reasons explained below, we do not adopt Iron Oak’s proposed construction and maintain our preliminary construction of this term for the purposes of this Final Written Decision.

We begin by reviewing Iron Oak’s contentions in support of its proposed construction. Iron Oak argues that “the ’658 patent clearly contemplates that communication paths, even if using the same technology are differentiated by their own ‘unique characteristics.’” PO Resp. 5 (citing Ex. 1001, 1:20–21, 25–26, 3:47–50, 11:29–67). Iron Oak further argues that “the ’658 Patent makes it clear that the manner in which communication paths are identifiable is through the elements in the path over which the communications conducted over that path are transmitted or received.” *Id.* at 5–6 (citing Ex. 1001, 1:18–37, 3:27–45). With reference to Figure 1 of the ’658 Patent, Iron Oak argues that although paths 16a–16d are land-based cellular networks, each can be distinguished because each “is comprised of land-based cellular elements different from the elements” in the other paths. *Id.* at 7. Iron Oak further argues that “technology and implementation may be used to partially differentiate one communication path from another” but “cannot be used to differentiate any of paths 16a-16d from other paths within the group because paths 16a-16d all incorporate the same technology and implementation.” *Id.* at 8. According to Iron Oak, the paths can “be differentiated from each other based on the elements that comprise the path since the elements that comprise path 16a . . . differ from those that comprise any of the other paths.” *Id.*

Unified contends that Iron Oak’s construction is not supported. Pet. Reply 3. Unified argues that Iron Oak “construes ‘communication path’ by merely repeating those words and baldly adding an unrecited limitation,” i.e., “uniquely identified by the elements over which communications are transmitted or received.” *Id.* Unified further argues that such a limitation “can only be justified by clear disclaimer.” *Id.* (citing *Straight Path IP*

Group, Inc. v. Sipnet EU S.R.O., 806 F.3d 1356, 1361 (Fed. Cir. 2015)).

Unified reviews the portions of the Specification of the '658 Patent relied on by Iron Oak and asserts that the disclosure is permissive. *Id.* at 4. For example, Unified argues that column 3 “explains how each communication path ‘**may be** one or a combination of’ various telephone lines, radio, or ‘any other suitable communication path,’ as well as Figure 1, which shows ‘exemplary communication paths 16a-16f.’” *Id.* (citing Ex. 1001, 3:27–36, 46–47). According to Unified, “none of these portions of the specification qualify as clear disclaimer” because of the use of permissive language. *Id.* (citing *i4i Ltd. P’ship v. Microsoft Corp.*, 589 F.3d 831, 844 (Fed. Cir. 2010)).

We first consider the claim language as a whole. *In re Power Integrations, Inc.*, 884 F.3d 1370, 1376 (Fed. Cir. 2018) (“[C]laim construction must begin with the words of the claims themselves.” (internal citation and quotations omitted)). We initially note that Iron Oak does not offer evidence or argument directed to any language from independent claims 1 or 8 that supports its proposed construction. See PO Resp. 4–9. Claim 1 recites in the preamble “[a]n apparatus for automatically selecting one of a plurality of communication paths” (Ex. 1001, 16:31–32), and claim 8 similarly recites “[a] method for automatically selecting one of a plurality of communication paths.” *Id.* at 17:3–4. Although the body of claim 1 recites “a memory operable to store . . . lists of communication paths” and “processor . . . further operable to select a communication path” and claim 8 similarly recites “storing . . . lists of communication paths” and “selecting a communication path,” neither claim 1 nor claim 8 further recites any meaningful limitations to the term “communication path.” Additionally, we

note that a “communication path” in both claim 1 and claim 8 is selected based on “communication attributes.” Ex. 1001, 16:40–43, 17:12–13. Reading claim 1 and claim 8 as a whole suggests that a list of “communication paths” is maintained for selection of a particular “communication path” based on a “communication attribute,” and does not suggest that the communication path is “uniquely identified by the elements over which communications are transmitted or received,” as Iron Oak suggests.

Next we consider the Specification of the ’658 Patent. Iron Oak supports its proposed construction by directing us to various passages of the Specification. PO Resp. 4–9. We note that “a claim is not limited to the embodiments described in the specification unless the patentee has demonstrated a ‘clear intention’ to limit the claim’s scope with ‘words or expressions of manifest exclusion or restriction.’” *i4i*, 598 F.3d at 844 (internal citations omitted). We, thus, review the passages of the Specification relied on by Iron Oak to determine if these passages demonstrate “a clear intention” to limit the scope of the claim term “communication path” with “words or expressions of manifest exclusion or restriction.” *Id.*

Iron Oak begins by contending that “communication paths, even if using the same technology, are differentiated by their own ‘unique characteristics.’” PO Resp. 5 (citing Ex. 1001, 1:20–21, 1:25–26, 3:47–50, 11:23–67). Iron Oak, however, does not direct us to any express disclosure in the ’658 Patent that “characteristics” should be conflated with “elements.” *See id.* We note that the ’658 Patent, in fact, uses “unique” or “uniquely” in connection with the “characteristics” of the communication paths. For

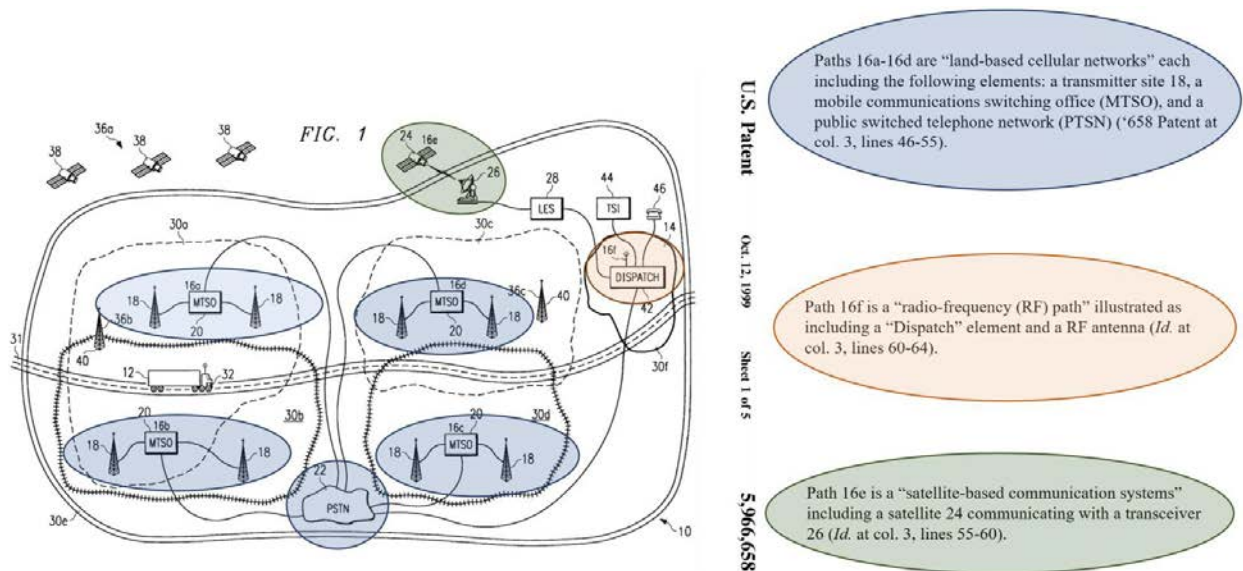
example, Iron Oaks relies on the following passages describing that “[d]ifferent communication paths 16 may be available for communication in the various regions” (Ex. 1001, 11:23–24), and “[e]ach communication path 16 in a region may have its own unique characteristics” (*id.* at 11:28–29) such as “relatively long propagation delay, low-cost of transmission, capability to communicate data signals only and poor reliability” (*id.* at 11:31–33). None of these passages, however, define communication path or otherwise demonstrate a clear intention to limit the scope of communication path as requested by Iron Oak.

Iron Oak next contends that the “’658 Patent makes it clear that the manner in which communication paths are identifiable is through the elements in the path over which the communications conducted over that path are transmitted or received.” PO Resp. 5. Iron Oak cites to column 1, lines 18–37 of the ’658 Patent Specification. *Id.* at 6. This passage of the Specification provides, *inter alia*, that a “communication path *may* be uniquely defined by any one or a combination of the following: a network or satellite-based or land-based transceivers, public switched telephone network (PTSN), a mobile-telecommunications switching office (MTSO), or any other suitable element for communication.” Ex. 1001, 1:20–25 (emphasis added).⁵ Iron Oak also cites to column 3, lines 27–45 of the ’658 Patent. PO Resp. 6. This passage of the specification provides, *inter alia*, that “each communication path *may* be one or a combination.” Ex. 1001, 3:27–28 (emphasis added). Each cited portion, thus, describes various items

⁵ As noted above, our construction of this term in the Decision to Institute is “any suitable element over which communications are transmitted or received.” This passage of the Specification, in our view, supports our construction in the Decision to Institute. *See* Dec. 4, 12.

that *may* be used to define a communication path. *Id.* None of the cited portions define communication path or otherwise demonstrate a clear intention to limit the scope of communication path, as requested by Iron Oak.

Iron Oak next provides an annotated version of Figure 1 of the '658 Patent (PO Resp. 7) which is reproduced below:



The drawing reproduced above is Figure 1 of the '658 Patent with coloring to highlight communication paths and annotations with references to the Specification added by Iron Oak.

Based on its annotated version of Figure 1 of the '658 Patent, Iron Oak argues that communication paths shown in Figure 1 "are identified in the patent specification by the elements that comprise the path" and that the land-based cellular network path 16a can be distinguished from land-based cellular network 16b "because it is comprised of land-based cellular elements different from the elements in path 16b." *Id.* The portions of the Specification cited in the ovals added to Figure 1 by Iron Oak do not even use the term "element" but describe items that may be included in a communication path. *See* Ex. 1001, 3:46–64. A review of Figure 1 of the

'658 Patent indicates that paths 16a–16d are in geographically distinct locations and could be uniquely identified by geographic location, as contemplated in the '658 Patent, thus, indicating that “elements” are not required to uniquely identify each of the communication paths. *See id.* 7:46–49 (“[M]obile unit **32** or dispatch **42** may use one or more position fixes provided by a positioning system **36** . . . in order to select a communication path **16**.”). Neither Figure 1, as annotated by Iron Oak, nor the portions of the Specification of the '658 Patent cited in Iron Oak's annotated figure define communication path or otherwise demonstrate a clear intention to limit the scope of communication path to be “uniquely identified by the elements over which communications are transmitted or received,” as requested by Iron Oak.

Iron Oak next argues that the “[t]he proposition that communication paths are uniquely identifiable by the ‘elements’ that comprise the path is entirely consistent with the statement in the specification that ‘each communication path may be characterized or *defined* by certain characteristics related to the technology, implementation and/or provider of the path.’” PO Resp. 8 (citing Ex. 1001, 3:54–65) (emphasis added). Iron Oak argues, without citation to evidence, that more than these items are required because these items do not “uniquely” identify the paths 16a–16d shown in Figure 1 of the '658 Patent. *Id.* at 8–9. We disagree. Instead, we understand this passage of the Specification as providing that a communication path may be defined by characteristics and does not provide that “elements” are required to “uniquely” define a communication path. Our understanding is supported by the description in the Specification that “[e]ach such communication path may be uniquely defined by any one or a

combination of the following: a network of satellite-based or land-based transceivers, a public switched telephone network (PSTN), a mobile telecommunications switching office (MTSO), or any other suitable element for communications.” Ex. 1001, 1:20–25. The passage of the Specification cited by Iron Oak (Ex. 1001, 3:54–65) does not require that “elements” uniquely define a communication path but it is nonetheless useful because it describes that paths are “defined” by characteristics. Our understanding is further supported by description in the specification that a suitable communication path is one “that allows vehicle **12** to transmit or receive signals from remote location **14**” and that a communication path “may be characterized or defined by certain characteristics related to the technology, implementation, and/or provider of the path.” *Id.* at 3:33–35, 64–66.

In construing patent claims, the Federal Circuit also directs that we “should . . . consult the patent’s prosecution history.” *Microsoft Corp. v. Proxyconn, Inc.*, 789 F.3d 1292, 1298 (Fed. Cir. 2015); *see also TriVascular Inc. v. Samuels*, 812 F.3d 1056, 1063 (Fed. Cir. 2016) (applying prosecution disclaimer in the context of the broadest reasonable interpretation of patent claims). Iron Oak, however, does not direct us to any part of the prosecution history of the ’658 Patent in support of its claim construction arguments or otherwise argue that prosecution history disclaimer supports its proposed construction. PO Resp. 4–9.

U.S. Patent No. 5,173,933 (“Jabs”) (Ex. 1013) was cited by the Examiner during prosecution of the ’658 Patent. Jabs defines “communication medium . . . as any of various transmission means to accomplish the connection of the outgoing telephone call between the calling party at the telecommunication station and the called party outside of

the oceangoing vessel. Exemplary communication media include satellite communications, cellular lines, and land lines” *Id.* at 3:41–48. Thus, Jabs defines the term “communication media” in a manner consistent with the examples of “communication paths” provided in the ’658 Patent and consistent with our construction of “communication path” in the Decision to Institute. This consistency is further supported by arguments made by the applicant during prosecution of the application resulting in the ’658 Patent. In arguing against a rejection of pending claims based on Jabs, applicant submitted that Jabs does not “disclose, teach, or suggest a ‘communication attribute’” as claimed. Ex. 1005, 17. However, in doing so, applicant did not dispute that Jabs’ communication media correspond to the claimed “communication paths.” This portion of the prosecution history, thus, supports the construction of “communication path” that we adopted in the Decision to Institute rather than Iron Oak’s proposed construction. *See* Dec. 10–11.

Iron Oak also refers to extrinsic evidence in the form of a technical dictionary definition of “path.” PO Resp. 9. Specifically, Iron Oak argues that “path” is defined as “the route a telecommunication signal follows through a circuit or through the air.” *Id.* (citing Ex. 1012, 4). This argument is not convincing. Instead, we are more persuaded by the testimony of Unified’s declarant that “neither Newton’s Dictionary nor the ’643 patent (separately or together) specify that among different communication paths, each must be “uniquely identified by the elements over which communications are transmitted or received.” Ex. 1014 ¶¶ 15–16.

Based on the foregoing, we decline to adopt Iron Oak’s proposed construction of “communication path” because it is not supported by

sufficient intrinsic or extrinsic evidence that defines communication path or otherwise demonstrates a clear intention to limit the scope of communication path as “uniquely” defined by the elements of the path. Further, based on the complete record and for purposes of this Final Written Decision, we maintain our preliminary construction of “communication path,” and conclude that a communication path is “any suitable element over which communications are transmitted or received” for the reasons provided in our Decision to Institute. This construction is consistent with the ’658 Patent Specification which provides that a “communication path may be uniquely defined by any one or a combination of the following: a network of satellite-based or land-based transceivers, a public switched telephone network . . . a mobile communication switching office . . . , or any other suitable element for communications.” See Ex. 1001, 1:20–25. As discussed above, Unified agrees with this claim construction.

Request for Communication

Next, Iron Oak requests that we construe a “request for communication” as “a request that a certain communication be made.” PO Resp. 10. In support of this construction, Iron Oak contends that the Specification of the ’658 Patent describes “a process that begins with the device receiving a ‘request for communication’ and ends with the device sending the content of the communication over a communication path that was selected as the most appropriate path for the communication.” *Id.* (citing Ex. 1001, 1:10–39, 9:51–10:5, Fig. 5, 7). Iron Oak does not direct us to any portion of the prosecution history of the ’658 Patent in support of this construction. *Id.*

Unified counters that the portions of the Specification cited by Iron Oak “simply repeat what is in the claim: that a ‘request for communication’ is made.” Pet. Reply 8–9 (citing Ex. 1001, 9:51–53, Fig. 5 (step 202), Fig. 7 (step 302)). Further, Unified submits that “[t]hese portions do not specify or require a request relating to a ‘**certain** communication.’” *Id.* at 9 (citing Ex. 1014 ¶ 17). According to Unified, none of the passages of the Specification cited by Iron Oak amount to the type of disclaimer required “to add words to the claim that do not exist.” *Id.* Unified contends that we should give the phrase “request for communication” the plain and ordinary meaning of “a request that communication occur.” *Id.* Unified asserts that the plain and ordinary meaning is consistent with the ’658 Patent and the understanding that one of ordinary skill in the art would have had. *Id.* (citing Ex. 1001, 7:33–37, 12:44–47, 14:58–62; Ex. 1014 ¶¶ 18–19). For the following reasons, we agree with Unified that “request for communication” should be given its plain and ordinary meaning and do not adopt Iron Oak’s proposed construction.

First, Unified is correct that Iron Oak’s proposed construction seeks to add words to the claims. Essentially, Iron Oak requests that we narrow the scope of “a request for communication” to “a request for a *specific* communication.” Second, the portions of the Specification cited by Iron Oak do not support the proposed construction. Column 9, line 51 to column 10, line 5 describes, *inter alia*, that “mobile unit 32 may receive a request for communication,” that the request for communication “may specify various parameters for the communication,” and that the information relating to the parameters “may be conveyed in the form of one or more communication attributes.” Ex. 1001, 9:52–60. The cited passage describes a request for

communication but it does not define a request for communication with respect to “a certain communication,” as Iron Oak asserts. Column 1, lines 10 to 39 describes various communication paths but does not mention the phrase “request for communication” let alone define the phrase as requested by Iron Oak. *See id.* 1:10–39. Figure 5 and 7 are flow charts detailing various processing steps including receiving a request for communication. *Id.* at Figs. 5, 7. However, neither figure provides support for Iron Oak’s proposed construction. For these reasons, we find that Iron Oak’s proposed construction is not suggested by the claim language or otherwise sufficiently supported by intrinsic evidence, and we decline to adopt this construction. Rather, we conclude that the term “request for communication” should be given its plain and ordinary meaning of a request that communication occur.

Communication Attribute

Iron Oak requests that we construe “communication attribute” as “a characteristic of either: (i) the requested communication or (ii) a communication path to be used for the requested communication.” PO Resp. 10. In support of this construction, Iron Oak argues that the ’658 Patent describes two types of communication attributes. *Id.* According to Iron Oak, “[o]ne type reflects parameters for the requested communication.” *Id.* (citing Ex. 1001, 4:48–33, 5:60–6:8, 13:56–57). Further, according to Iron Oak, “[t]he other type reflects a characteristic of the communication path to be used for the requested communication.” *Id.* (citing Ex. 1001, 13:59–66). Iron Oak does not direct us to any portion of the prosecution history of the ’658 Patent in support of this construction. *Id.*

Unified counters that the Specification of the ’658 Patent “provides several embodiments of [communication attributes] without indicating that

any of them are intended to limit scope.” Pet. Reply 10 (citing Ex. 1001, 5:66–6:6, 7:37–40, 9:54–60, 11:38–40). According to Unified, embodiments cannot “serve to limit claim scope.” *Id.* (citing *Phillips*, 415 F.3d at 1313). Unified contends that we should give the term “communication attribute” the plain and ordinary meaning of “a characteristic associated with communication.” *Id.* at 11. Unified asserts that the plain and ordinary meaning is consistent with the ’658 Patent and the understanding that one of ordinary skill in the art would have had. *Id.* (citing Ex. 1001, 7:37–40, 9:54–60; Ex. 1014 ¶¶ 20–23). For the following reasons, we agree with Unified that “communication attribute” should be given its plain and ordinary meaning and do not adopt Iron Oak’s proposed construction.

Iron Oak is correct that the Specification describes two broad categories or types of communication attributes. See PO Resp. 11. Figure 4 of the ’658 Patent illustrates one embodiment where a communication path is selected based on a characteristic of the communication, which in the case of Figure 4, is priority of communication. Ex. 1001, 11:5–8, 11:37–40, Fig. 4. Figure 6 illustrates a second embodiment where a communication path is selected based on various characteristics of the communication path. *Id.* 13:28–31, 13:35–14:7, Fig. 6. Iron Oak, however, does not direct us to any portion of the Specification that indicates a clear intent to limit “communication attributes” to the two categories of communication attributes described in the Specification of the ’658 Patent. We, therefore, find that Iron Oak’s proposed construction is not suggested by the claim language or sufficiently supported by intrinsic evidence and decline to adopt this construction. Rather, we conclude that “communication attribute”

should be given its plain and ordinary meaning of an attribute or characteristic related to a communication.

D. Obviousness over Eriksson Alone

Unified contends that claims 1, 3, 4, 8, and 11 are unpatenable under 35 U.S.C. § 103(a) over Eriksson alone.⁶ Pet. 28–55. Unified explains how Eriksson teaches or suggests each element of the challenged claims and offers reasoning as to why one of ordinary skill in the art would have been prompted to modify the teachings of Eriksson. *Id.* Unified offers declaration testimony from Dr. Zygmunt Haas in support of its position. Ex. 1003 ¶¶ 51–125.

Iron Oak contends, based on its proposed construction of “communication path,” that Eriksson does not disclose “communication paths” as recited in independent claims 1 and 8. PO Resp. 12–14. Iron Oak supports this contention by arguing that Eriksson’s channels do not constitute communication paths because “the elements used for base-to-mobile unit communications are the same for each of the various channels.” *Id.* at 12. Iron Oak next contends that Eriksson does not disclose or suggest “a memory operable to store a plurality of ordered lists of communication paths” because “the lists of channels taught by Eriksson are not lists of ‘communication paths.’” *Id.* at 14. Iron Oak further contends that Eriksson

⁶ As the Federal Circuit has explained, “a patent can be obvious in light of a single prior art reference if it would have been obvious to modify that reference to arrive at the patented invention.” *Arendi S.A.R.L. v. Apple Inc.*, 832 F.3d 1355, 1361 (Fed. Cir. 2016) (citing *Takeda Chem. Indus., Ltd. v. Alphapharm Pty, Ltd.*, 492 F.3d 1350, 1357 (Fed. Cir. 2007); *SIBIA Neurosciences, Inc. v. Cadus Pharm. Corp.*, 225 F.3d 1349, 1356 (Fed. Cir. 2000)).

does not disclose “a processor operable to receive a request for communication.” *Id.* at 14–15. In support of this contention, Iron Oak argues that “the signal that Eriksson’s base station receives is a signal requesting the base station to allocate a specific frequency channel for communications to subsequently occur.” *Id.* at 14–15. According to Iron Oak, the request for channel allocation “is not a ‘request for communication’ because the allocation of a channel will not result in any specific communication of any specific information.” *Id.* at 15. Iron Oak next contends that regardless of whether Eriksson’s signal is a request for communication, “the signal received at Eriksson’s base station is not one ‘indicating a communication attribute.’” *Id.* at 15–16. Iron Oak asserts that the Petition’s reliance on the transmission loss of Eriksson’s querying signal as corresponding to the recited “communication attribute” is misplaced because “nothing in the Petition or Eriksson shows that the transmission loss indicated by the received querying signal has any relation whatsoever to the characteristics of any subsequent communications between the base unit and the mobile unit.” *Id.* at 16.

We begin our analysis with a brief overview of Eriksson. We then address the parties’ respective contentions with respect to the challenged claims.

1. Overview of Eriksson (Ex. 1002)

Eriksson is a United States Patent issued from an application filed April 22, 1992. Ex. 1002, 1. Eriksson is directed to “[a] method for adaptively allocating channels for connections between base station and mobiles.” *Id.* at [57]. Figures 1, 2a, and 2b of Eriksson are reproduced below:

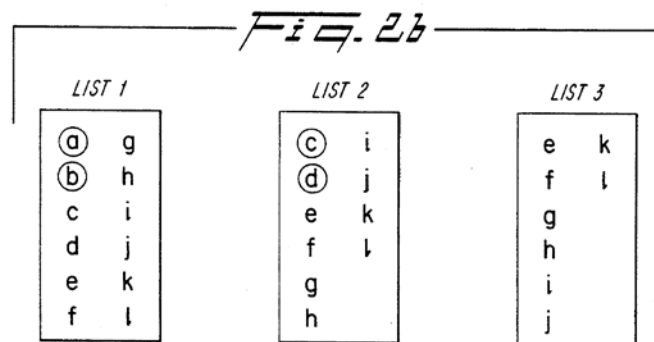
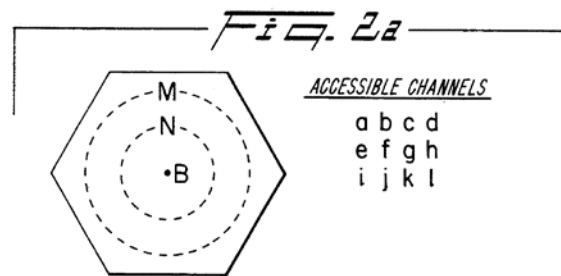
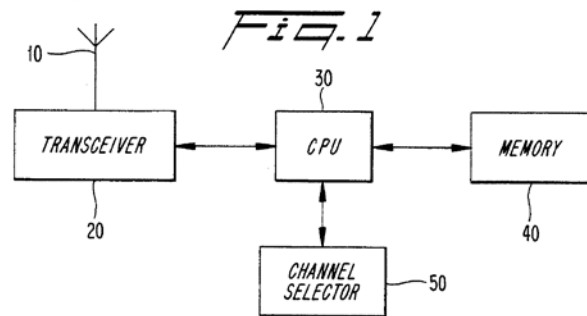


Figure 1 is a block diagram of an embodiment of a cellular base station. Ex. 1002, 5:31–32. Figure 2a is an exemplary embodiment of a partitioned cell. *Id.* at 5:33–34. Figure 2b is an exemplary embodiment of priority lists of channels according to Figure 2a. *Id.* at 5:35–36.

In Eriksson's system, a base station receives a signal from a mobile device by means of transceiver 20. See Ex. 1002, Fig. 1, 6:3–13. The signal is processed by CPU 30 to establish a connection with the mobile device. *Id.* at 6:14–16. CPU 30 compares the power of the received signal to a

power value stored in memory and determines the transmission loss between the mobile and the base station. *Id.* at 6:16–19. Based on the calculated transmission loss, a list of channels in memory 40 is addressed to access available channels. *Id.* at 6:23–25. Figure 2a of Eriksson illustrates a cell with a base station B. *Id.* at 6:52–54. The concentric circles N and M represent boundaries between transmission loss intervals. *Id.* at 6:54–56. Figure 2b lists the channels available in each of the areas of the cell extending outward from base station B. *Id.* at 7:5–19. Based on the determined transmission loss, the CPU selects a channel from one of the lists shown in Figure 2b. *Id.* The channels in each list are in the order of preferred selection. *Id.*

2. *Analysis of Claims 1, 3, 4, 8, and 11*

i. *Claim 1*

a. *Preamble: “An apparatus for automatically selecting one of a plurality of communication paths”*

Unified begins its analysis of claim 1 by contending that Eriksson discloses the preamble⁷. Pet. 28–33 (citing Ex. 1002, 3:64–4:9, 4:35–38, 6:1–3, 7–26, 29–36, 45–48, 52–56, 7:5–19, 47–55, 60–62, 11:10–11, Figs. 1, 2a, 2b; Ex. 1003 ¶¶ 66–75). Unified first contends that Eriksson’s base station is an apparatus including antenna 10, transceiver 20, CPU 30, memory 40, and channel selector 50. *Id.* (citing Ex. 1002, 6:7–16, 23–26, 7:47–50, Fig. 1). Based on the disclosure of Eriksson and the knowledge of

⁷ Unified and Iron Oak treat the preamble as limiting. See Pet. 28–33; PO Resp. 12–14. The term “communication path” appears in the body of the claim as well as the preamble so we determine, for purposes of this Decision, that the preamble is limiting to the extent that it uses the term “communication path.”

one of ordinary skill in the art, Unified argues that Eriksson’s “channels” correspond to the recited “communication paths.” *Id.* at 31–32. In support of this argument, Unified, relying on the testimony of Dr. Haas, argues that a person of ordinary skill in the art (“POSA”) “would have understood that the channels of *Eriksson* are communication paths.” *Id.* at 31 (citing Ex. 1003 ¶ 73). Specifically, because Eriksson discloses “allocating channels for connections between base station and mobiles” (*id.* (citing Ex. 1002, Abstract)), Unified asserts “these [channels] are ‘communication paths.’” *Id.* Unified also points to passages in the Specification of the ’658 patent, as well as other portions of Eriksson, to support its position. *Id.* at 32 (citing Ex. 1001, 3:64–4:4, 4:4–9; Ex. 1002, 7:50–53; Ex. 1003 ¶ 74). Additionally, Unified contends that “a POSA would have understood a ‘channel’ to be a ‘communication path’ based on the ordinary usage of these terms.” *Id.* (citations omitted). Unified also contends that the CPU of Eriksson’s “base station automatically selects a list based on transmission loss associated with a mobile unit signal, and . . . automatically selects a channel for the connection.” *Id.* at 31 (citing Ex. 1002, 7:53–55).

Iron Oak contends that Eriksson’s channels do not correspond to the recited communication paths. PO Resp. 12–14. This contention is based on Iron Oak’s proposed construction of communication path as “a path for communication uniquely identified by the elements over which communications are transmitted or received.” *Id.* According to Iron Oak, “in Eriksson, a ‘channel’ is a frequency at which a communication between a base station and a mobile unit occurs” but “[n]othing in Eriksson teaches or suggests that the different channels taught by Eriksson correspond to different elements for communication.” *Id.* at 12 (citing Ex. 1005, 4:27–45,

5:5–17, 5:63–68). Stated differently, “[r]egardless of the channel (frequency) selected by the device of Eriksson, the communication occurs across the same elements and the route that the communication follows is the same.” *Id.* at 13.

In its Reply, Unified notes that its factual contentions in the Petition are based on a construction of communication path similar to our construction discussed above, reiterates its factual contentions from the Petition that Eriksson’s channels correspond to the recited communication paths, and notes that Iron Oak does not challenge the analysis in the Petition. Pet. Reply 11–12. Unified also contends that Eriksson alone “renders obvious ‘an apparatus for automatically selecting one of a plurality of communication paths’” even under Iron Oak’s proposed construction of “communication path.” *Id.* at 13 (citing Ex. 1014 ¶ 29). In support of this contention, Unified asserts that “Eriksson explains that multiple base stations may serve each mobile device in a cell, and its channel selection techniques may be implemented by a mobile switching center (MSC) connected to these base stations.” *Id.* at 18 (citing Ex. 1002, 5:57–60, 5:60–66, 6:1–3; Ex. 1014 ¶ 39). Based on this, Unified contends that a person of ordinary skill in the art “would have understood that one channel may be associated with one base station and another channel may be associated with another base station” and “the different communication paths . . . use different ‘elements’ (i.e., base stations) that are ‘uniquely identified’ because each channel is associated with a different base station.” *Id.* (citing

Ex. 1002, 5:55–57, 6:1–3, 6:26–56).⁸ For the following reasons, we determine that Unified presents persuasive arguments supported by convincing evidence to support a finding that Eriksson discloses the preamble of claim 1, including the recited communication paths, under either our construction or Iron Oak’s proposed construction of communication paths.

Eriksson discloses an apparatus in which each of a plurality of cells is “served by at least one base station” where the base station includes transceiver 20, CPU 30, memory 40, and channel selector 50. Ex. 1002, 5:56–57, Fig. 1. Eriksson’s base station, thus, corresponds to an apparatus as appearing in the preamble of claim 1. Ex. 1003 ¶ 67.

We note that Iron Oak does not address why Eriksson’s channels do not correspond to the recited communication paths under our construction of that term as set forth in the Decision to Institute and maintained herein. Further, Iron Oak does not squarely dispute the evidence presented by Unified in the Petition on this point. In particular, Unified’s expert, Dr. Haas, testifies by declaration that one of ordinary skill in the art “would have understood that the channels of *Eriksson* are communication paths.” Ex. 1003 ¶ 74. Dr. Haas supports this opinion with disclosure from Eriksson of “allocating channels for connections between base stations and mobiles” and selecting “a channel (‘communication path’) based on its characteristics.” *Id.* (citing Ex. 1002, Abstract, 7:50–53). Dr. Haas opines that this process is similar to the disclosure in the ’658 Patent of selecting “a ‘particular

⁸ As noted above, Iron Oak did not request leave to file a sur-reply and, thus, does not address Unified’s contentions and evidence submitted in the Petitioner Reply.

communication path 16’ . . . based on its ‘characteristics.’” *Id.* (citing Ex. 1001, 4:4–9). Relying on various dictionary definitions and prior art references, Dr. Haas further opines that one of ordinary skill in the art “would have understood a ‘channel’ to be a ‘communication path’ based on ordinary usage of these terms.” *Id.* ¶ 75 (citations omitted). We find Dr. Haas’s testimony on this point to be credible and this testimony was not directly disputed by Iron Oak. Further, the Specification of the ’658 Patent supports Dr. Haas’s testimony by describing that “[c]ommunication over a communication path **16** may be implemented in a voice channel, control channel, paging channel part of a seized voice or data channel, . . . or other suitable technology.” Ex. 1001, 4:28–33. Based on the evidence presented by Unified including the declaration testimony of Dr. Haas discussed above that one of ordinary skill would have understood a channel to be a communication path as well as the reference to channels in the Specification of the ’658 Patent (*see e.g.*, Ex. 1001, 4:28–33; Ex. 1003 ¶¶ 74–75), we find that Unified’s arguments and evidence establish that Eriksson’s channels correspond to communication paths as we have construed this term, because the channels constitute suitable elements over which communications are transmitted or received. *See e.g.*, Ex. 1002, Abstract, 6:23–26, 7:50–53.

We also agree with Unified’s alternative argument that Eriksson discloses “communication paths” under Iron Oak’s proposed construction of that term. *See* Pet. Reply 13, 17–19. Based on its contention that a communication path requires unique elements, Iron Oak contends that “[a]s taught in Eriksson, a ‘channel’ is a frequency at which a communication between a base station and a mobile occurs.” PO Resp. 12 (citing Ex. 1002, 4:27–45, 5:5–17, 5:63–68). Iron Oak then contends that “[n]othing in

Eriksson teaches or suggests that the different channels taught by Eriksson correspond to different elements for communication.” *Id.* Eriksson, however, discloses that “each cell [is] served by at least one base station,” and “[e]ach base station communicates with mobile stations located within its cell area over radio frequency channels when necessary; i.e., when a call is being transmitted or received.” Ex. 1002, 5:56–57, 63–66. Thus, different elements, i.e., one of multiple base stations in a cell, would be associated with different channels of Eriksson depending on which base station connected to the mobile unit. *See e.g.*, Ex. 1014 ¶ 39 (“[A] POSA would have understood that one channel may be associated with one base station and another channel may be associated with another base station.”). Therefore, even if we were to accept Iron Oak’s proposed construction of “communication path” as requiring different elements corresponding to different communication paths, we find persuasive the testimony of Unified’s declarant that one of ordinary skill in the art would have understood that one channel may be associated with one base station and another channel may be associated with another base station, and the passages of Eriksson cited by Unified in support of Dr. Haas’s testimony. *See e.g.*, Ex. 1002, 5:55–60, 5:60–66, 6:1–3, 6:26–56; Ex. 1014 ¶ 39.

For all of the foregoing reasons, we determine that Unified has established by a preponderance of the evidence that Eriksson discloses the preamble of claim 1.

b. “a memory operable to store a plurality of ordered lists of communication paths”

Unified contends that Eriksson discloses memory 40, which stores one or more lists of available channels as shown in Figure 2b of Eriksson. Pet.

36–37 (citing Ex. 1002, 6:7–16, 23–53, 7:5–19, 47–50; Ex. 1003 ¶¶ 79–80). Unified argues that the lists “include[] a plurality of channels, and the channels may be ordered within each list in accordance with their success during earlier connections.” *Id.* at 37 (citing Ex. 1002, 6:29–33, 43–45, 48–51, 7:5–19). Iron Oak does not squarely address the evidence cited by Unified in the Petition but contends that because “Eriksson’s ‘channels’ are not ‘communication paths’ the lists of channels taught by Eriksson are not lists of ‘communication paths’ as required by claim 1.” PO Resp. 14. As explained above in connection with the preamble, a preponderance of the evidence establishes that Eriksson’s channels correspond to the “communication paths” required by claim 1. Further, based on the portions of Eriksson cited by Unified discussed above, a preponderance of the evidence establishes that Eriksson’s memory 40 stores lists of available channels (“communication paths”) and channels in the lists “are ranked in accordance to their success at earlier connections.” *See e.g.*, Ex. 1002, 6:31–32, Fig. 2b; Ex. 1003 ¶¶ 79–80. Therefore, we determine that Unified has established by a preponderance of the evidence that Eriksson discloses the claim limitation “a memory operable to store a plurality of ordered lists of communication paths.”

c. “each ordered list associated with one of a plurality of communication attributes”

Unified contends that Eriksson discloses this claim limitation. Pet. 37–39 (citing Ex. 1002, 6:27–48, 50–51, 54–58, 7:5–19, Ex. 1003 ¶¶ 81–85). Unified specifically addresses this limitation by explaining that transmission loss increases as the distance of a mobile unit from Eriksson’s base station increases. *Id.* at 38 (citing Ex. 1002, 6:57–58; Ex. 1003 ¶ 83).

Unified contends that Eriksson discloses multiple lists of communication paths where each list is associated with an interval of transmission loss. *Id.* at 37 (citing Ex. 1002, 6:27–33, 36–40, 45–48, 7:16–19, Fig. 2b; Ex. 1003 ¶ 82). Unified asserts “Eriksson discloses that each of its ordered lists is associated with one transmission loss interval (the ‘claimed communication attribute’) out of a plurality of transmission loss intervals (the claimed ‘plurality of communication attributes’).” *Id.* at 39 (citing Ex. 1003 ¶ 85).

Iron Oak disputes that Eriksson’s transmission loss intervals correspond to the recited communication attributes. PO Resp. 16–17. Iron Oak argues that the ’658 Patent describes two categories of communication attributes, i.e., characteristics of the requested communication or characteristics of a communication path. *Id.* at 16. Iron Oak contends that, in Eriksson, the

base receives a querying signal from a mobile unit indicating that a connection needs to be established between the base station and the mobile unit. Based on the power of the received signal, the base unit then selects a list of channels for the connection and a channel from the selected list is selected for the connection that is provided to the mobile unit.

Id. at 11–12 (citing Ex. 1002, 9:65–10:24). Iron Oak next contends that the transmission loss of the querying signal does not correspond to either of the categories of communication attributes. *Id.* at 16. Iron Oak continues that “the transmission loss of any subsequent communications between Eriksson’s base unit and mobile unit will not necessarily be the same – or even related – to the transmission loss indicated by the querying signal received by the base station.” *Id.* at 16.

Unified counters that the “transmission loss interval [in Eriksson] is used by the base station to select the channel that will be allocated to the

mobile device for the requested communication,” the selected channels “have already been associated with a transmission loss interval,” and consequently, “the transmission loss interval is a characteristic of the selected channel (the selected ‘communication path’).” Pet. Reply 25. Unified contends that “Eriksson’s channel selection is related to subsequent communication; it is performed so that subsequent communication has acceptable quality for communication for the characteristic of the transmission loss interval associated with the chosen channel.” *Id.* at 26 (citing Ex. 1002, Abstract, 4:1–4, 4:10–12; Ex. 1014 ¶¶ 59–60). Unified also contends that the disclosure in column 6, lines 27–51 of Eriksson rebuts Iron Oak’s “unsupported contention that the transmission loss associated with the querying signal would somehow be substantially different than the transmission loss interval of the selected channel — Eriksson’s disclosure demonstrates a POSA would not have understood that the transmission loss would have no relation to the selected channel.” *Id.* at 26–27 (citing Ex. 1014 ¶¶ 59–61).

We understand Iron Oak’s position to be that Eriksson determines transmission loss intervals based on querying signals, and not on the transmission loss of the signal associated with the actual communication. Iron Oak, however, does not provide convincing evidence to support its assertion that the transmission loss associated with Eriksson’s querying signal “will not necessarily be the same – or even related to” the transmission loss of the subsequent communication signal. *See* PO Resp. 16. Further, Unified directs us to evidence that the transmission loss of the querying signal used to select the channel for subsequent communication in Eriksson is, in fact, related to the subsequent communications, because

Eriksson selects a channel that “has acceptable quality for communication” based on the calculated transmission loss, which satisfies both the ordinary meaning of “communication attribute” stated above and Iron Oak’s proposed construction of that term. *See* Ex. 1002, Abstract, 4:1–4, 4:10–12, Ex. 1014 ¶¶ 59–60. Consequently, we find, based on the evidence presented by Unified, that Eriksson selects a channel with acceptable quality for communication based on the transmission loss of the querying signal. We further determine that Unified has established by a preponderance of the evidence that Eriksson discloses the limitation “each ordered list associated with one of a plurality of communication attributes,” because the transmission loss of the querying signal in Eriksson is related to the transmission loss of the subsequent communication signal and thus constitutes a communication attribute.

d. “each communication attribute representing a separate priority for communication”

Unified explains that Eriksson discloses lists of channels available to mobile units “where each list corresponds to a particular transmission loss interval” and that “a list of channels is provided for each transmission loss interval.” Pet. 40–44 (citing Ex. 1002, 6:23–7:1, 7:5–26, Figs. 2a, 2b; Ex. 1003 ¶¶ 87–91). Unified further explains that “channels in each of the lists are ranked according to their success at earlier connections,” “[c]hannels are reserved if they have a rank above a certain threshold,” and “[c]hannels above a certain rank are reserved for high transmission loss connections.” *Id.* at 41–42 (citing Ex. 1002, 6:29–36, 7:20–26). Further, the highest ranked channels, “channels a and b [in list 1,] are reserved for these high transmission loss communications, and are not included in lists 2 or 3.”

Id. at 42 (citing Ex. 1002, 6:29–36, 7:5–10). Unified then asserts that one of ordinary skill in the art

would have understood that, in reserving the highest ranked channels in lists associated with the highest transmission loss communications and denying access to those channels to mobile units with lower transmission loss communications, *Eriksson* prioritizes the highest transmission loss communications by making the best system resources available for these weakest communications.

A POSA would have recognized that *Eriksson* teaches, or at least suggests, that it would be obvious to associate its transmission loss intervals with priorities.

Id. at 42–43 (Ex. 1003 ¶ 90).

In the Patent Owner Response, Iron Oak does not address this claim limitation or the evidence presented by Unified in the Petition. *See* PO Resp. 11–17.

Based on the evidence presented by Unified in the Petition that Eriksson ranks the channels and reserves the highest rank channels for the highest transmission loss communications (*See e.g.*, Ex. 1002, 6:29–36, 7:5–10, 7:20–26) and Unified’s declaration testimony that one of ordinary skill in the art would have recognized that Eriksson suggests that it would have been obvious to associate its transmission loss intervals with priorities (Ex. 1003, ¶¶ 87–91), we determine that Unified has established by a preponderance of the evidence that Eriksson discloses or suggests the limitation “each communication attribute representing a separate priority for communication.”

- e. *“a processor operable to receive a request for communication, the request indicating a communication attribute”*

Relying on the testimony of its declarant, Dr. Haas, Unified explains how Eriksson discloses this limitation. Pet. 45–47 (citing Ex. 1003 ¶¶ 94–98). Specifically, Unified argues that Eriksson’s antenna 10, at the base station, receives a signal from a mobile device, passes the signal to transceiver 20, and CPU 30 then processes the signal. *Id.* at 45–46 (citing Ex. 1002, 6:7–19, 23–26, 7:47–50). According to Unified, CPU 30 compares the power of the signal to a reference power and determines the transmission loss between the mobile unit and the base station. *Id.* Unified then asserts that “[t]he transmission loss of the signal (the claimed ‘request’) received from the mobile unit indicates (the claimed ‘indicating’) a transmission loss interval (the claimed ‘communication attribute’), because the determined transmission loss falls within one of the intervals associated with a list.” *Id.* at 46–47.

Iron Oak first contends that Eriksson does not disclose “a processor operable to receive a request for communication.” PO Resp. 14. Iron Oak bases this contention on its proposed construction of “request for communication” as “a request that a specific communication be made.” *Id.* According to Iron Oak, “the signal that Eriksson’s base station receives is a signal requesting the base station to allocate a specific frequency channel for communications to subsequently occur” and such an “allocation of the channel will not result in any specific communication of any specific information.” *Id.* at 14–15.

Unified responds that Iron Oak does not dispute that the evidence in the Petition establishes that Eriksson discloses “a request for communication” under the ordinary meaning of this term. Pet. Reply 21–22

(citing Pet. 45–47; Ex. 1014 ¶¶ 47–48). Alternatively, Unified contends that, even under Iron Oak’s proposed construction of the request for communication, “Eriksson still discloses or at least renders obvious ‘a processor operable to receive a request [that a specific] communication [be made].’” *Id.* at 22 (citing Ex. 1014 ¶ 1014). According to Unified, because Eriksson’s querying “signal is transmitted and received **when a connection needs to be established between the base station and the mobile**, a POSA would have understood or at least would have found obvious, that the signal is a request that a specific communication be made.” *Id.* at 23 (citing Ex. 1002, 6:10–16; Ex. 1014 ¶ 53). Unified further contends that “connections between a mobile device and a base station can be expensive in terms of both power for the mobile device and allocation of limited channels for the base station” and consequently, “if a connection needs to be established between a base station and mobile device, it is because a specific communication will occur.” *Id.* at 23–24 (citing Ex. 1002, Abstract, 4:15–32, 6:10–16, 6:59–7:4; Ex. 1014 ¶¶ 53–54).

Eriksson discloses that the process of determining a channel for a communication begins with its base station receiving a signal from a mobile device, CPU 30 determining the transmission loss for that signal, and ultimately selecting a channel for the communication based on the transmission loss. Ex. 1002, 6:1–26. We understand Iron Oak’s argument to be that the signal received from the mobile device is a querying signal that is used to select a channel over which the actual communication will occur. However, this process by Eriksson appears no different than what is disclosed in the ’658 Patent, which provides that “[m]obile communications device 50 may transmit querying signals to determine whether

communication paths 16 are currently available.” Ex. 1001, 5:24–26.

Therefore, under the ordinary and customary meaning of a “request for communication,” we determine that Unified presents convincing arguments and evidence to support a finding that Eriksson’s querying signal constitutes a request for communication, because, as explained by Unified, one of ordinary skill in the art would understand that the querying signal is sent by the mobile device in order to request that a channel be allocated so that a communication can occur. *See e.g.*, Pet. 45–47; Ex. 1002, Abstract, 4:15–32, 6:10–16, 6:59–7:4; Ex. 1003 ¶¶ 94–98. In addition, even if we were to adopt Iron Oak’s construction of a “request for communication,” we also find persuasive the additional evidence presented by Unified on this issue in connection with Petitioner’s Reply. Specifically, Dr. Haas’s declaration testimony that one of ordinary skill in the art would have understood that Eriksson’s querying signal is a request that a certain communication be made establishes, by a preponderance of the evidence, that Eriksson’s querying signal constitutes a “request for communication” under Iron Oak’s proposed construction of the term. Ex. 1014 ¶¶ 53–54.

Iron Oak next contends that

there is nothing that could support a finding that the transmission loss indicated by the querying signal is a characteristic of the channel selected by the base station based on that loss. It is not. Instead it is an aspect of a historically received signal and not an aspect of a communication to be made over a selected communication path.

PO Resp. 16–17.

However, as explained above in connection with the limitation “each ordered list associated with one of a plurality of communication attributes,” we determine that Unified presents persuasive arguments and evidence

establishing that the transmission loss of Eriksson's querying signal is related to a characteristic of the channel selected for the subsequent communication.

Based on the foregoing, we determine that Unified has established by a preponderance of the evidence that Eriksson discloses the limitation "a processor operable to receive a request for communication, the request indicating a communication attribute."

f. "the processor further operable to automatically select a communication path from an ordered list associated with the indicated communication attribute"

Again relying on the testimony of Dr. Haas, Unified argues that Eriksson discloses this limitation. Pet. 48–50 (citing Ex. 1002, 6:1–3, 10–26 6:27–51, 7:47–55, 11:10–11; Ex. 1003 ¶¶ 99–103). Unified explains that Eriksson discloses that after CPU 30 determines the transmission loss and a list is selected based on the transmission loss of the signal, "channel selector 50 selects a channel from the list for the connection by determining whether the channel meets a predefined quality criteria." Pet. at 47–48 (citing Ex. 1002, 7:50–53). CPU 30 "automatically selects a communication path, because CPU 30 . . . identifies the ordered list and sends the ordered list to channel selector 50 when a connection is to be established, and channel selector 50 then automatically selects the channel from the list." *Id.* at 48 (citing Ex. 1002, 7:47–53; Ex. 1003 ¶ 102). Iron Oak does not dispute that Eriksson discloses this limitation. See PO Resp. 11–18.

Based on the evidence cited by Unified discussed above that Eriksson's CPU identifies an ordered list based on transmission loss and sends the ordered list to channel selector 50, which automatically selects a

channel for the communication (See *e.g.*, Ex. 1002, 7:47–53; Ex. 1003 ¶ 102) we determine that Unified has established by a preponderance of the evidence that Eriksson discloses the limitation “the processor further operable to automatically select a communication path from an ordered list associated with the indicated communication attribute.”

g. Iron Oak’s Summary Concerning Eriksson

Iron Oak provides what it describes as a summary of its arguments concerning Eriksson. PO Resp. 17–18. Iron Oak first repeats its arguments that Eriksson’s channels do not correspond to the recited communication paths and that the transmission loss associated with Eriksson’s querying signal is not a communication attribute and argues that Unified “has not shown that it would have been obvious to modify Eriksson to correct for these critical deficiencies.” *Id.* at 17. As discussed above, we determine that a preponderance of the evidence establishes that Eriksson discloses these claim limitations and this argument, thus, is not persuasive based on the evidence before us.

Iron Oak then argues that “[t]he differences between the apparatus recited in claim 1 of the ’658 Patent and the apparatus of Eriksson are fundamental.” *Id.* at 18. According to Iron Oak, the fundamental differences are that Eriksson “selects a channel based on the power level of a ***previously received signal*** and not on any attribute of a to-be-made communication” and that Eriksson does this “by using historical information to prioritize channels for future communications.” *Id.* We understand this argument to be substantially similar to Iron Oak’s contention that the transmission loss (“power level”) of the querying signal does not correspond to either of the categories of communication attributes because it is a

characteristic of the querying signal and not of a requested communication. *Id.* at 16. As discussed above in Section II.D.2.i.c, we determine that a preponderance of the evidence establishes that the transmission loss of Eriksson’s querying signal corresponds to the recited communication attributes. Thus, this argument is not persuasive for the reasons stated above in Section II.D.2.i.c and because it is not commensurate with the scope of claim 1.

h. Summary of Analysis of Claim 1

Based on the evidence discussed above and considering all of Unified and Iron Oak’s contentions, we conclude that Unified has established by a preponderance of the evidence that claim 1 of the ’658 Patent is unpatentable over Eriksson.

ii. Claim 3

Unified contends that claim 3 of the ’658 Patent, which depends from claim 1, is unpatentable over Eriksson. Pet. 49–52 (citing Ex. 1002 6:27–51, 7:5–19, Figs. 2a, 2b; Ex. 1003 ¶¶ 105–111). Claim 3 provides that

wherein a first ordered list associated with a communication attribute representing a higher priority for communication includes more communication paths than a second ordered list associated with a communication attribute representing a lower priority for communication.

Ex. 1001, 16:37–52

Referring to Figure 2b of Eriksson, Unified contends that “List 1 is associated with the highest amount of transmission loss” and “includes all available channels for communication.” Pet. 51 (citing Ex. 1002, 7:5–8, Fig. 2b; Ex. 1003 ¶ 110). According to Unified, “*Eriksson* discloses that a first ordered list associated with a communication attribute representing a higher priority for communication includes more communication paths than a

second ordered list associated with a communication attribute representing a lower priority for communication.” *Id.* at 51–52 (citing Ex. 1003 ¶ 111).

Iron Oak does not address the evidence presented by Unified in support of its contention that claim 3 is unpatentable over Eriksson alone or present any other evidence in support of patentability, beyond its arguments and evidence for independent claim 1, addressed above. PO Resp. 19. Rather, Iron Oak contends that the patentability of claim 3 “should be confirmed for the same reasons that the patentability of claim 1 should be confirmed.” *Id.*

Figure 2b of Eriksson discloses three ordered lists of communication paths. Ex. 1002, Fig. 2b. List 1 includes the most communication paths to select from and is associated with the highest transmission loss, while the other lists represent lower transmission loss and include fewer communication paths than List 1. Ex. 1002, Fig. 2b, 6:29–33; Ex. 1003 ¶¶ 110–11. From this, we determine that a preponderance of the evidence establishes that List 1 is associated with a communication attribute representing a higher priority of communication than the attributes associated with List 2 or List 3, because the most channels are available indicating those communications have a higher priority. Therefore, we conclude that Unified has established by a preponderance of the evidence that claim 3 of the ’658 Patent is unpatentable over Eriksson alone.

iii. Claim 4

Unified contends that claim 4 of the ’658 Patent, which depends from claim 1, is unpatentable over Eriksson. Pet. 52–53 (citing Ex. 1002, 6:10–51, 7:50–55, 60–62, 11:10–11, Figs. 2a, 2b; Ex. 1003 ¶¶ 113–117). Claim 4 provides that

wherein the processor selects the first available communication path from the ordered list associated with the indicated communication attribute.

Ex. 1001, 16:53–55.

Unified contends that once a signal has been received by Eriksson’s CPU 30 and a transmission loss of the signal is determined, “a list in memory 40 is addressed to access available channels for the specific transmission loss associated with the received signal.” Pet. 52 (citing Ex. 1002, 6:16–26, Ex. 1003 ¶ 115). Unified next contends that after a list is selected, “channel selector 50 selects the channel for connection by determining whether the channel meets a predefined quality criteria.” *Id.* at 53 (citing Ex. 1002, 7:50–53). According to Unified, “*Eriksson* therefore discloses that CPU 30 (the claimed ‘processor’) selects the first ranked available channel that satisfies the predefined quality criteria (the claimed ‘first available communication path’).” *Id.* (citing Ex. 1003 ¶ 117).

Iron Oak does not address the evidence presented by Unified in support of its contention that claim 4 is unpatentable over Eriksson alone or present any other evidence in support of patentability, beyond its arguments and evidence for independent claim 1, addressed above. PO Resp. 19. Rather, Iron Oak contends that the patentability of claim 4 “should be confirmed for the same reasons that the patentability of claim 1 should be confirmed.” *Id.*

Eriksson specifically discloses that “[c]hannel selector 50 selects the channel for the connection by determining whether the channel meets predefined quality criteria The first channel [from the list] which satisfies the quality criteria is allocated for the connection.” Ex. 1002, 7:50–55, Fig. 3. Unified, thus, has established by a preponderance of the evidence

that Eriksson discloses a processor that “selects the first available communication path from the ordered list associated with the indicated communication attribute.” *See also* Ex. 1003 ¶¶ 116–117. Therefore, we conclude that Unified has established by a preponderance of the evidence that claim 4 of the ’658 Patent is unpatentable over Eriksson alone.

iv. *Claim 8*

Claim 8 is directed to “[a] method for automatically selecting one of a plurality of communication paths.” Ex. 1001, 17:3–4. The limitations of claim 8 are substantially similar to the limitations of claim 1. *Compare id.* at 17:3–21, *with id.* at 16:31–43. In support of its contention that claim 8 is unpatentable over Eriksson, Unified relies on the same supporting evidence as for claim 1. Pet. 55–56. In the Patent Owner Response, Iron Oak relies on the same contentions that it raised in connection with claim 1. PO Resp. 18. Therefore, for all the reasons stated above in connection with claim 1, we conclude that Unified has established by a preponderance of the evidence that claim 8 of the ’658 Patent is unpatentable over Eriksson alone.

v. *Claim 11*

Unified contends that claim 11, which depends from claim 8, is unpatentable over Eriksson. Pet. 55. The limitations of claim 11 are substantially similar to the limitations of claim 4. *Compare* Ex. 1001, 17:25–28, *with id.* at 16:53–55. In support of its contention that claim 11 is unpatentable over Eriksson alone, Unified relies on the same supporting evidence as for claim 4. Pet. 55. In the Patent Owner Response, Iron Oak relies on the same contentions that it raised in connection with claim 1. PO Resp. 18. Therefore, for all the reasons stated above in connection with claims 1 and 4, we conclude that Unified has established by a preponderance

of the evidence that claim 11 of the '658 Patent is unpatentable over Eriksson alone.

E. Obviousness over Eriksson and Schellinger

Unified alternately contends that claims 1, 3, 4, 8, and 11 would have been obvious over the combined teachings of Eriksson and Schellinger. Pet. 18. In particular, recognizing the potential for a narrow interpretation of “communication paths” that would undercut its contention that Eriksson’s channels correspond to the “communication paths” recited in independent claims 1 and 8, Unified alternatively contends that Schellinger discloses this limitation. Pet. 33–36 (citing Ex. 1009, 1:33–35, 2:67–3:6, 13–17, 19–26, 28–31, 39–51, 7:6–11, 9:7–17, 10:27–31, Fig. 2; Ex. 1003 ¶¶ 76–78). Specifically, Unified contends that, even if Eriksson’s channels do not correspond to the recited communication paths, “*Schellinger* discloses that the cordless, microcellular, and cellular systems provide different ‘paths’ through which the [portable cellular cordless (PCC)] can communicate” with priority given to “the cordless base station 115 [as] the first desired *path*.” Pet. 35 (citing Ex. 1009, 10:27–31). With respect to the proposed modification of Eriksson using Schellinger, Unified submits that it would have been obvious “to modify *Eriksson* to use a combination of one or more cordless, microcellular, and cellular systems within each of its lists, in light of the teachings of *Schellinger*.” *Id.* (citing Ex. 1003 ¶ 78). According to Unified, one of ordinary skill in the art would have been motivated to modify Eriksson in this way “to provide better service by providing a greater variety of channels from which to select based on signal quality,” and “to provide channels of lower cost systems for possible selection if they provide adequate signal quality.” *Id.* (citing Ex. 1003 ¶ 78). Unified concludes that

the modification of Eriksson with Schellinger “would have merely involved the substitution of one known element (e.g.,] the cellular channels of *Eriksson*) for another (e.g.,] the channels used by different systems in *Schellinger*) to obtain the predictable result of a system that allocates channels from multiple systems.” *Id.* at 35–36 (citing Ex. 1003 ¶ 78).

Iron Oak concedes that “Schellinger teaches dual communication paths.” PO Resp. 20. Iron Oak, however, contends that the combination of Eriksson and Schellinger would not “result in the subject matter of any challenged claim,” because “Schellinger selects which communication path it will use based on the presence (or absence) of a sufficiently strong signal from a base station and **not** based on a communication attribute indicated by a request for communication.” *Id.*

We begin our analysis with a brief overview of Schellinger. We then address the parties’ respective contentions with respect to the challenged claims.

1. Overview of Schellinger (Ex. 1009)

Schellinger is directed to “portable telephones, and more particularly to an improved portable telephone that may receive calls in both cordless and cellular telephone systems.” Ex. 1009, 1:9–11. Figure 1 of Schellinger is reproduced below:

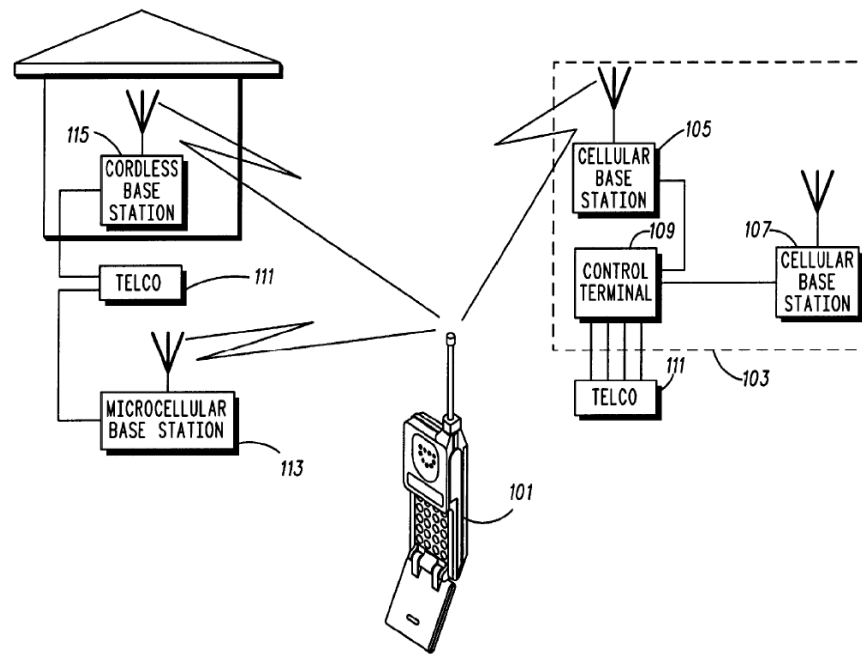


FIG. 1

Figure 1 is a block diagram illustrating the operation of a portable radiotelephone. Ex. 1009, 2:27–28.

Schellinger’s portable cellular cordless radiotelephone 101 can “communicate with a conventional cellular radiotelephone system **103**,” “with a microcellular base station **113** which is a cellular adjunct cell having lower power and limited capabilities,” and “communicate with and place radiotelephone calls via a cordless base station **115**, which provides private telephone line interconnection to TELCO [“public switched telephone network”] **111**.” *Id.* at 2:67–3:3, 3:13–15, 3:19–22. Schellinger also discloses that “the cordless base station **115** is the first desired *path* for a user’s telephone call and the conventional cellular . . . is the second choice.” *Id.* at 10:28–30 (emphasis added).

2. *Analysis*

In this proposed ground of unpatentability, Unified relies on Schellinger solely for disclosure of the limitation “communication path” and relies on Eriksson for all other claim limitations as discussed above in Section II.D.2.i in connection with the ground based on Eriksson alone. Pet. 18–28. We, thus, focus our analysis on the disclosure of Schellinger concerning this limitation and the reasons offered by Unified for combining Eriksson and Schellinger.

As discussed above, Schellinger specifically discloses separate communication paths for calls from cellular cordless telephone 101 using cordless base station 115, a conventional cellular system, or a microcellular system. Ex. 1009, 10:28–30. Iron Oak does not dispute that Schellinger discloses “communication paths” as recited in claims 1 and 8. PO Resp. 20; Tr. 40:15–16 (“Schellinger absolutely discloses multiple communication paths.”). Based on Schellinger’s disclosure of separate communication paths (Ex. 1009, 10:28–30), we determine that Unified establishes by a preponderance of the evidence that Schellinger discloses the recited communication paths.

We now turn to the reasons to combine Eriksson and Schellinger. As discussed above, Unified articulates that one of ordinary skill in the art would have combined Eriksson and Schellinger “to provide better service by providing a greater variety of channels from which to select based on signal quality” and “to provide channels of lower cost systems for possible selection if they provide adequate signal quality.” Pet. 35 (citing Ex. 1003 ¶ 78, Ex. 1009, 1:33–35, 3:28–31, 7:6–11, 9:7–17). Further, Unified contends that this combination would have been the substitution of one

known element for another “to obtain the predictable result of a system that allocates channels from multiple systems.” *Id.* at 35–36 (citing Ex. 1003 ¶ 78).

In the Patent Owner Response, Iron Oak does not squarely address the reasons articulated by Unified in support of the proposed combination. Rather, Iron Oak contends that “Schellinger selects which communication path it will use based on the presence (or absence) of a sufficiently strong signal from a base station and **not** based on a communication attribute indicated by a request for communication.” PO Resp. 20. Based on this, Iron Oak argues that “even if it were assumed to be obvious to replace the channels of Eriksson with the communication paths of Schellinger, that combination would still not result in the subject matter of any challenged claim.” *Id.* Unified correctly points out in the Petitioner Reply that Schellinger is not relied on in the Petition for selecting a communication path based on a communication attribute. Pet. Reply. 17. Rather, as discussed above, Unified relies on Eriksson for selecting a communication path based on a communication attribute. Further, we determine above, in Section II.D.2.i.f., that Unified establishes by a preponderance of the evidence that Eriksson discloses the limitation of selecting a communication path based on a communication attribute. Therefore, we are not persuaded by Iron Oak’s argument against the combination of Eriksson and Schellinger because it does not squarely address the combination articulated by Unified in the Petition.

Based on the Declaration testimony of Dr. Haas, Unified presents reasons that one of ordinary skill in the art would have combined the teachings of Eriksson and Schellinger. Pet. 35–36 (citing Ex. 1003 ¶ 78).

Iron Oak does not comment on or otherwise dispute the testimony of Dr. Haas on this point nor does Iron Oak dispute or argue against Unified's contention that modifying Eriksson to substitute Schellinger's paths for Eriksson's channels would be the substitution of one known element for another to obtain predictable results. *See* PO Resp. 19–20. Based on our review of Unified's argument and supporting evidence on the issue, we determine that Unified has articulated a rationale, based on undisputed evidence from Eriksson and Schellinger, for the combination of Eriksson and Schellinger that is reasonable and supported by rational underpinnings. *See KSR*, 550 U.S. at 416 (“The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.”). Therefore, we conclude that Unified has established by a preponderance of the evidence that independent claims 1 and 8 are unpatentable based on the combined teachings of Eriksson and Schellinger.

Unified does not rely on additional disclosure from Schellinger for its contentions that dependent claims 3, 4, and 11 are unpatentable over Eriksson and Schellinger. *See* Pet. 49–53, 55. Further, Iron Oak does not provide any separate reasons why the dependent claims are patentable over Eriksson and Schellinger. *See* PO Resp. 19–20. Therefore, for the reasons stated above in connection with whether claims 1, 3, 4, 8, and 11 are unpatentable over Eriksson alone, we conclude that Unified has established by a preponderance of the evidence that claims 3, 4, and 11 are unpatentable over Eriksson and Schellinger.

III. CONCLUSION

Based on the entire record before us, we conclude that Unified has established by a preponderance of the evidence that claims 1, 3, 4, 8, and 11 of the '658 Patent are unpatentable under 35 U.S.C. § 103(a).

IV. ORDER

For the foregoing reasons, it is hereby:

ORDERED that claims 1, 3, 4, 8, and 11 of U.S. Patent No. 5,966,658 are determined to be unpatentable under 35 U.S.C. § 103(a) in light of Eriksson;

FURTHER ORDERED that claims 1, 3, 4, 8, and 11 of U.S. Patent No. 5,966,658 are determined to be unpatentable under 35 U.S.C. § 103(a) in light of Eriksson and Schellinger; and

FURTHER ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of this Decision must comply with the notice and service requirements of 37 C.F.R. ¶ 90.2.

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Patent 5,966,658

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