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Paper 9
Entered: April 8, 2015

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

T-MOBILE USA, INC. and T-MOBILE US, INC.,
Petitioner,

v.

MOBILE TELECOMMUNICATIONS TECHNOLOGIES, LLC.,
Patent Owner.

Case IPR2015-00017
Patent 5,590,403

Before MIRIAM L. QUINN, MEREDITH C. PETRAVICK, and SCOTT A. DANIELS, *Administrative Patent Judges.*

QUINN, *Administrative Patent Judge.*

DECISION
Denying Institution of *Inter Partes* Review
37 C.F.R. § 42.108

T-Mobile USA, Inc. and T-Mobile US, Inc. ("Petitioner") filed a Petition to institute *inter partes* review of claims 1, 10, and 11 of Patent 5,590,403 ("the '403 patent") pursuant to 35 U.S.C. §§ 311–319. Paper 7 ("Pet."). Mobile Telecommunications Technologies, LLC. ("Patent Owner") timely filed a Preliminary Response. Paper 8 ("Prelim. Resp."). We have jurisdiction under 35 U.S.C. § 314.

For the reasons that follow, we deny the Petition.

I. BACKGROUND

A. RELATED MATTERS

Petitioner identifies that the patent-at-issue is the subject matter of several district court litigation cases. Pet. 1.

B. ASSERTED GROUNDS

Petitioner contends that claims 1, 10, and 11 ("the challenged claims") are unpatentable under 35 U.S.C. § 102 and § 103 based on the following specific grounds (Pet. 4, 3–7, 15–57):

Reference[s]	**Basis**	**Claims challenged**
Linquist[1]	§ 102	1, 10, and 11
Uddenfeldt[2]	§ 102	1, 10, and 11
Gilhousen[3]	§ 102	1 and 10

[1] U.S. Patent No. 5,423,056 (Exhibit 1004) ("Linquist").
[2] U.S. Patent No. 5,109,528 (Exhibit 1005) ("Uddenfelt").
[3] U.S. Patent No. 5,109,390 (Exhibit 1006) ("Gilhousen").

Reference[s]	Basis	Claims challenged
Linquist and Uddenfeldt	§ 103	10 and 11

C. THE '403 PATENT (EX. 1001)

The '403 patent, titled "Method and System for Efficiently Providing Two Way Communication Between a Central Network and Mobile Unit," issued on December 31, 1996, based on an application filed on November 12, 1992. It relates to "providing two-way communication capability between a central network and a mobile unit over a relatively large area" to allow for rapid communication of large messages and efficient use of system resources. Ex. 1001, 1:10–14. The patent describes that to extend transmitter coverage, simulcast technology is positioned to cover extended areas and operates on substantially the same frequencies and transmitting the same information. *Id.* at 1:44–53. Where the coverage areas overlap, the patent describes that destructive interference of signals occurs. *Id.* at 1:64 – 2:3. The patent further describes some of the design techniques involved in a simulcast system that may overcome the destructive interference, e.g., using synchronization of carrier frequencies and offsetting. *See id.* at 2:5–65. While these techniques may result in successful data reception, the baud rate in simulcast operation is limited, thus also limiting the system throughput. *Id.* at 3:45–50.

One embodiment of the '403 patent involves a method of delivering a message to mobile units that "would increase information throughput and system efficiency." *Id.* at 10:19–23, 61–62. The method is depicted in Figure 7, and is described with respect to the communication system illustrated in Figure 6 (*id.* at 7:47–48), reproduced below.

FIG. 6

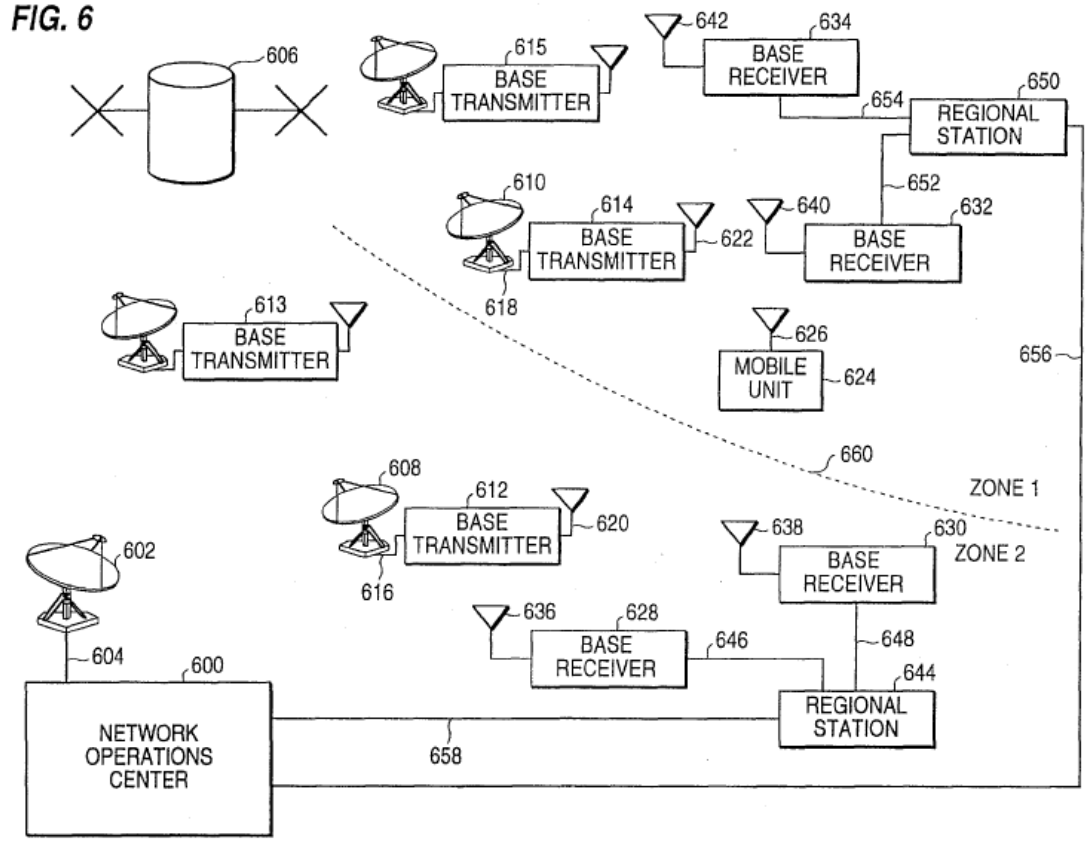


Figure 6 illustrates a system having two zones (Zone 1 and Zone 2), where each zone includes multiple base transmitters (Zone 1 includes base transmitters 614, 615, and Zone 2 includes base transmitters 612, 613). *Id.* at 9:5–8, 40–50; Fig. 6. The patent describes a method by which network operations center 600 generates a system information signal of several blocks of information that includes an electronic message to be delivered to mobile unit 624. *Id.* at 10:23–27. Then the signal is transmitted to satellite 606 and further to base transmitters 612, 614. *Id.* at 10:28–39. These base transmitters 612, 614 transmit the signal, which includes the message to the mobile unit, in simulcast during a first time period. *Id.* at 10:40–46. The patent describes that the simulcast transmission is useful when the location of the mobile unit is unknown and broad coverage is desired. *Id.* at

10:46–49.

The '403 patent further describes a second time interval for transmitting the signal, which includes the message, by the base transmitter in Zone 1, if the location of mobile unit 624 is known. *Id.* at 10:50–56. During this second time interval, the transmitter in Zone 2 could deliver a different message to a different mobile unit. *Id.* at 10:56–60. The patent describes that the second time interval transmission "would increase information throughput and system efficiency." *Id.* at 10:61–62.

The patent also describes that, although simulcast may provide uniform transmitter coverage for a region, overlap areas of zones operating in simulcast, each zone transmitting different signals, may experience interference. *Id.* at 10:7–18. To deliver messages to mobile units in an overlap region and to balance the volume of message traffic between zones, the patent describes a method of dynamically changing the zonal assignments of various base transmitters. *Id.* at 23:43–54. According to this method, a zone is redefined by assigning transmitters to another zone, changing thus the zone boundaries and the high traffic overlap region. *See id* at 24:21–25.

D. ILLUSTRATIVE CLAIMS

Challenged claims 1 and 10 are independent and are reproduced below.

> 1. A method for information transmission by a plurality of transmitters to provide broad communication capability over a region of space, the information transmission occurring during at least both a first time period and a second time period and the plurality of

transmitters being divided into at least a first and second set of transmitters, the method comprising the steps of:

(a) generating a system information signal which includes a plurality of blocks of information;

(b) transmitting the system information signal to the plurality of transmitters;

(c) transmitting by the first and second sets of transmitters a first block of information in simulcast during the first time period;

(d) transmitting by the first set of transmitters a second block of information during the second time period; and

(e) transmitting by the second set of transmitters a third block of information during the second time period.

10. A method of communicating messages between a plurality of base transmitters and mobile receivers within a region of space divided into a plurality of zones with each zone having at least one base transmitter assigned thereto, the communication method comprising the steps of:

(a) transmitting substantially simultaneously a first information signal and a second information signal to communicate messages to the mobile receivers, the first information signal being transmitted in simulcast by a first set of base transmitters assigned to a first zone, and the second information signal being transmitted in simulcast by a second set of base transmitters assigned to a second zone;

(b) dynamically reassigning one or more of the base transmitters in the first set of base transmitter assigned to the first zone to the second set of base transmitters assigned to the second zone as a function of the messages to be communicated in an area, thereby creating an updated first set of base transmitters and an updated second set of base transmitters; and

> (c) transmitting substantially simultaneously a third information signal and a fourth information signal, the third information signal being transmitted in simulcast by the updated first set of base transmitters, and the fourth information signal being transmitted in simulcast by the updated second set of base transmitters to communicate additional messages to said mobile receivers.

II. ANALYSIS

A. CLAIM INTERPRETATION

For claims of an expired patent, the Board's claim interpretation analysis is similar to that of a district court. *See In re Rambus Inc.*, 694 F.3d 42, 46 (Fed. Cir. 2012). Claim terms are given their ordinary and customary meaning, as they would be understood by one of ordinary skill in the art in question at the time of the invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc). Although we construe the claims in light of the specification, limitations discussed in the specification may not be read into the claims. *Intervet Inc. v. Merial Ltd.*, 617 F.3d 1282, 1287 (Fed. Cir. 2010); *Abbott Labs. v. Sandoz, Inc.*, 566 F.3d 1282, 1288 (Fed. Cir. 2009). We may rely on dictionary definitions when construing claim terms, so long as the dictionary definition does not contradict any definition found in or ascertained by a reading of the patent documents. *See Advanced Fiber Tech. (AFT) Trust v. J & L Fiber Servs.*, Inc., 674 F.3d 1365, 1374–75 (Fed. Cir. 2012) (internal citations omitted). With these tenets in mind, we now turn to an analysis of claim terms recited in the expired '403 patent.

Petitioner and Patent Owner have proposed constructions for various terms. *See* Pet. 6–13; Prelim. Resp. 3–11 (arguing that "Markman Orders are irrelevant [in this proceeding] because they are based on the litigation

positions of the parties."). We do not construe every term proposed by the parties if the construction is not helpful in our determination of whether to institute trial. We address the construction of relevant claim terms.

1. "simulcast" phrases

Petitioner proposes that "transmit . . . in simulcast" (and similar phrases) must be construed as: "transmitting the same information at the same time from a plurality of transmitters by modulating a plurality of carrier signals by the same information signal." Pet. 9. Petitioner relies on its positions developed in the district court litigation. *Id* at 10. Petitioner further seeks a construction that deviates from the district court construction by adding to the construction the details of modulating the information onto a carrier signal. Pet. 11. Patent Owner argues that "simulcast" means "that the first and second set of transmitters transmit the first block of information at the same time." Prelim. Resp. 7. Patent Owner relies on a dictionary definition of "simulcast," but provides no intrinsic support for its proposed construction. *Id.*

The term "simulcast" is recited in the claims to denote a manner of transmission by the recited transmitters. The Background of the Invention describes "simulcast technology" as providing "multiple transmitters, operating on substantially the same frequencies and transmitting the same information." Ex. 1001, 1:44–46. The Specification further describes that the transmitters depicted in Figure 6 (base transmitters 612 and 614) "are broadcasting identical signals on the same frequencies in simulcast." *Id.* at 10:3–6. In describing various embodiments, the Specification repeatedly uses the term "simulcast" without offering a more specific definition. *See id*. at 10:45–46; 11:45–47 (stating that "several zones are operated in

simulcast to simultaneously transmit identical information to a large geographic area"). Two general requirements emerge from these descriptions and the claim language. First, there is a simultaneous transmission. Second, claim 1 recites "transmitting by the first and second sets of transmitters a first block of *information* in simulcast," and, therefore, the information transmitted must be the same. Claim 10, however, recites the "first information signal being transmitted in simulcast," and similar language regarding the second, third, and fourth information signal. Therefore, the *signal* transmitted must be the same. We see no need to infuse the construction with the specific technique of modulation, which is not called for by the claim language. And the portions of the Specification cited in support are insufficient to compel including details of the described embodiments as part of the claim construction of "simulcast."

Based on the record before us, we construe "simulcast" as "transmitting the same information at the same time." No other words of the phrases in which "simulcast" is recited need be construed at this time.

2. "set[s] of transmitters" and "set of base transmitters"

Petitioner proposes that each of the above phrases means "set[s] of at least two [base] transmitters." Pet. 8. Patent Owner does not offer a construction for these phrases.

First, the Specification does not provide a definition for these terms. Instead, the Specification, and the claim language, use the terms according to their plain and ordinary meaning. Second, there appears to be no distinction between use of the word "set" in independent claims 1 and 10. Accordingly, the phrases have a meaning consistent across both claims. As

evidence of the plain and ordinary meaning of the word "set," we note that a dictionary defines the noun as "a group of articles of uniform design" (e.g., a set of dishes), and "a group formed by classification" (e.g., a set of ideas). *Definition set, 39(a), 44(a)*, WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY, UNABRIDGED (1993) (Exhibit 3001). This definition is consistent with the use of the word in the claims and the specification: *a group* of transmitters. Furthermore, the recited "updated first *set of base transmitters*" and the "updated second *set of base transmitters*" each transmits in simulcast. Consequently, the "set" must include a group (i.e., more than one), consistent with the plain and ordinary meaning.

According to the foregoing, consistent with the ordinary meaning of the words, we construe "set of transmitters" as "a group of transmitters, and we construe "a set of base transmitters" as "a group of base transmitters."

B. ANTICIPATION GROUND BASED ON LINQUIST (EX. 1004)

Petitioner contends that Linquist anticipates claims 1, 10, and 11. Pet. 19–34. To support its contention, Petitioner relies on a declaration by Dr. Behnaam Aazhang, who adopts paragraphs 17–65 of the Declaration of Dr. Apostolos Kakaes, who testified on another related proceeding. *See* Ex. 1018 ¶ 20 (adopting Dr. Kakaes's Declaration as if it were his own and incorporating by reference paragraphs 17–65).

1. Overview of Linquist

Linquist is directed to a location detection system that operates with an existing paging system to determine location and to divide the system, adaptively, into cells for delivery of messages to select cells. Ex. 1004, 1:10–14. In particular, Linquist describes a paging system with antenna

towers providing a relatively even coverage for transmission, in a simulcast manner, of paging information. *Id.* at col. 3, l. 51–60; col. 4, ll. 2–8. Figure 1, reproduced below, depicts antenna towers 16, 18, and 20 (also referred to as "sticks") transmitting paging messages to personal location units (PLUs). *Id.* at col. 4, ll. 22–32.

FIG. 1

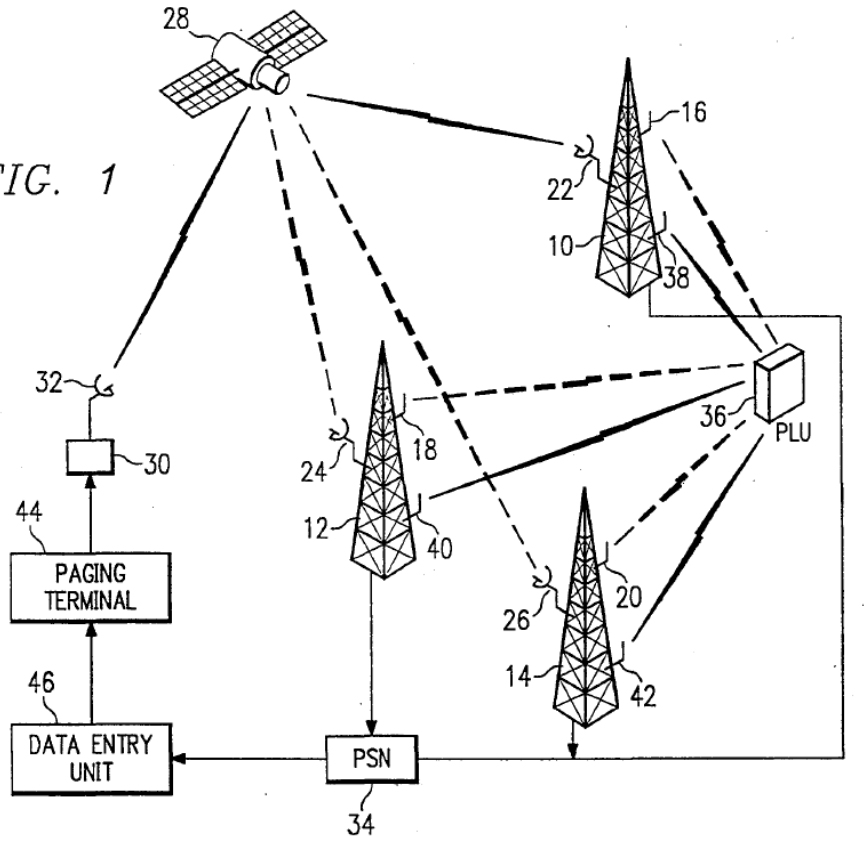


Figure 1 shows PLU 36, which stores the call sign or identifier (ID) of a paging transmitter associated with the antenna from which the PLU receives the information. *Id.* at col. 4, ll. 36–41. A PLU transmits its location or the last received ID to the system, upon request. *Id.* at col. 4, ll. 63–68. The system determines the general location of a PLU using the received ID. *Id.* at col. 5, ll. 4–12. Knowing the sticks in the general

vicinity of the PLU, the system can determine a hub (defining a locale) in which the PLU resides and can route the messages to that hub. *Id.* at col. 5, ll. 15–36; col. 14, ll. 39–47. This avoids having to route the messages to all the hubs in the network. *Id*.

Linquist also describes a method of transmission relevant to the unknown mobility of the PLU and unverified PLU's location. *Id.* at col. 5, ll. 40–50. For example, Linquist describes a sequence of transmissions, aimed at increasing the system throughput by determining the PLU's location as follows: transmit the location ID by all transmitters, transmit requests for location information to PLUs with unknown location by all transmitters, and, after the locations have been received, transmit the message through the transmitter and stick covering each PLU. *See id.* at col. 8, ll. 6–40.

Additionally, Linquist describes with respect to Figure 12, reproduced below, that the coverage area of adjacent sticks overlaps, resulting in ambiguity in the location of a PLU in the overlap region. *Id.* at col. 15, ll. 3–23.

FIG. 12.

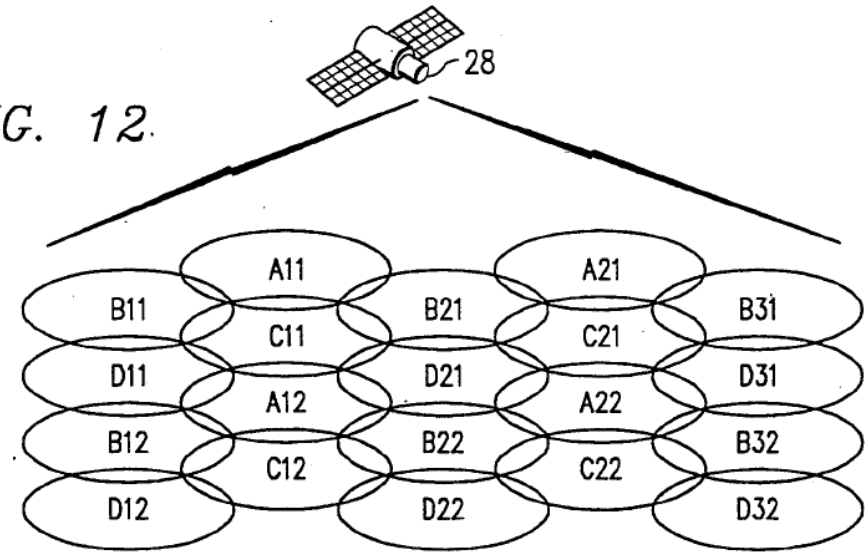


Figure 12 illustrates a grid arrangement with cells arranged in a matrix, i.e., A-cells, B-cells, C-cells, and D-cells. *Id.* at col. 15, ll. 30–34. Linquist's overlapping cells are controlled to be sequentially turned on and off to deliver the messages to the PLUs in overlapping zones. *Id.* at col. 15, ll. 18–29, 34–37. Linquist describes two embodiments of overlapping cell control. *Id.* at col. 15, ll. 34–40. The first embodiment involves turning on one group of cells at a time: "first turn on the A-cells, followed by the B-cells, followed by the C-cells, and then by the D-cells." *Id.* at col. 15, ll. 35–37. The second embodiment involves turning on two overlapping cell areas through orthogonal coding: "turn on all of the A- and B-cells, followed by turning on all of the C- and D-cells." *Id.* at col. 15, ll. 52–55.

Furthermore, Linquist describes various methods of message transmission that take advantage of the simulcast and cellular modes of communication. *Id.* at figs. 13–15; col. 15, l. 30 – col. 16, l. 31. Linquist describes that in simulcast mode, messages are broadcast to all the sticks for retransmission, and that in cellular mode, batch messages are directed to particular cells. *Id.* at col. 16, ll. 2–11. One example of a transmission sequence that illustrates these modes of communications is illustrated in Figure 15, reproduced below.

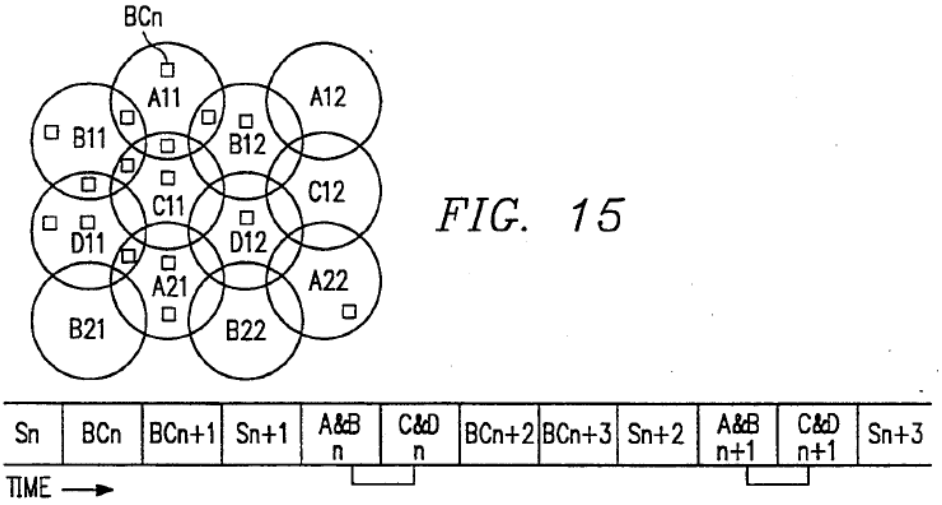


FIG. 15

Figure 15 depicts a message string comprising simulcast-mode time periods (S_n,S_{n+1}, and S_{n+2}) and cellular-mode time periods (e.g., BC_n and BC_{n+1}). *Id.* at col. 16, l. 62 – col. 17, l. 2. Linquist states that multiple messages can be transmitted to the different building cell sites during the BC_n time period. *Id.* The message string of Figure 15 also depicts cellular-mode time periods for transmission to A- and B-cells, and C- and D-cells, sequentially. *Id.* at col. 17, ll. 2–6. By adaptively converting between simulcast and cellular mode and arranging the messages to be transmitted during the cellular mode, the system optimizes efficiency of transmission. *Id.* at col. 17, ll. 16–20.

2. Analysis Concerning the Anticipation Ground Based on Linquist

Claim 1

Claim 1 recites the step (c): "transmitting at the same time the first block of information from both the first and second groups of transmitters in the first time period." Ex. 1001, 33:22–24. Petitioner contends that Linquist

discloses this limitation through three examples. Pet. 23–24. The first example, Example I, relies on Linquist's disclosure of "plurality of hubs with multiple antenna towers/sticks in each" as disclosing the "first set and second set of transmitters." *Id.* at 23. Petitioner states that Linquist routes messages for a receiver to all the hubs, when the hub in which the receiver is located is not known. *Id.* Therefore, we understand Petitioner's position as alleging that the messages for the receiver correspond to a "first block of information," and that a plurality of hubs corresponds to the "first set and second set of transmitters." To support this argument, Petitioner relies on Linquist's disclosures in 14:4–5, 14:39–45, 22:58–23:3, 3:49–57, Figure 11, and Aazhang Decl., Ex. 1018 at ¶ K29.

Patent Owner argues that Example I, which allegedly involves *two* different hubs, does not disclose limitation 1(c). Prelim. Resp. 27–29. We agree with Patent Owner that the Linquist passages cited by Petitioner fail to disclose that two (or any number of) hubs transmit the same block of information during the same time period. Furthermore, we agree with Patent Owner that the cited portions of columns 22 and 23 of Linquist do not disclose that the same block of information is transmitted during the same time period to two hubs. *See* Prelim. Resp. 28. Patent Owner does not address the evidence presented in the cited paragraph in the Declaration of Dr. Aazhang, Ex. 1018. We note, however, that Petitioner challenges claim 1 on the basis of anticipation, not obviousness. The cited paragraph of Dr. Aazhang involves his opinion that one or ordinary skill in the art would understand that Linquist's system "can" be controlled in a certain manner to transmit a message in simulcast "system-wide in the first time period" when the location of the receiver is not known. *See* Ex. 1018 ¶ K29. This

opinion, however, goes beyond the cited passages of Linquist, and the Petition does not explain how Linquist's paging transmission at the hubs constitutes a "system-wide" transmission in simulcast.

We find the absence of explanation fundamental to our determination that Petitioner has not shown a reasonable likelihood of prevailing, in light of the express disclosure in Linquist that "it is only necessary to transmit the messages to the hub in which the PLU 36 is located" and that the manner in which the location of the PLUs is determined relies on the each PLU storing the last received ID (call sign) of a transmitting antenna, which the antenna transmits on periodic basis, typically every 15 or 30 minutes. Ex. 1001 4:36–44, 5:4–6, 21–24. Linquist discloses a variety of ways to identify the location of the PLU, one of which includes the user phoning in a change of location to a different hub. Ex. 1001, 5:26–28. Another way is for a PLU that is traveling to a different hub to update its location with the latest location ID, without any transmitter making a request for a location. *See* Ex. 1001, 8:61–9:2. Petitioner does not identify what message constitutes the "first block of information," much less how different hubs would transmit the same message to a PLU with unknown location. Dr. Aazhang's Declaration fares no better. The cited paragraph of the Declaration merely states that Linquist routes a "message" for a PLU "system-wide" or to all the hubs, when the PLU's location is unknown. Ex. 1018 ¶ K29. This testimony is conclusory and not supported by Linquist, as stated above. Therefore, we are not persuaded that the Petition explains or supports sufficiently Petitioner's contention that Linquist's multiple hubs disclose the transmitting step recited in limitation 1(c) of claim 1. *See* 37 C.F.R. § 42.104(b)(4) ("the petition must set forth . . . *[h]ow* the construed claim is

unpatentable under the statutory grounds identified in paragraph (b)(2) of this section.") (emphasis added).

With regards to Example II, Petitioner contends that, within the same hub, Linquist transmits simulcast messages by A- and B-cells (first set of transmitters) and by C- and D-cells (second set of transmitters), thereby disclosing limitation 1(c). Pet. 23–24. Petitioner relies on various citations in Linquist, and, in particular, Linquist's disclosures with respect to Figures 12 and 13. Patent Owner challenges Example II on the basis that Petitioner's evidence does not show transmission in simulcast *from* either multiple hubs or multiple sticks. Prelim. Resp. 29. This argument is not persuasive. Although Figures 12 and 13 of Linquist illustrate transmissions in simulcast *to* the antennas, *see* Ex. 1001, 14:38–46, Linquist discloses that a simulcast message is re-transmitted *from* the antennas in the conventional paging manner. *See id.* at 4:30–35. No argument has been presented that the re-transmissions of *simulcast* messages by the Linquist sticks are not also in *simulcast* mode.

Patent Owner presents an additional argument that Example II does not disclose the 1(c), 1(d), and 1(e) limitations. Prelim. Resp. 29–32. In summary, Patent Owner contends that Petitioner identifies two different sets of transmitters in Linquist, when claim 1 (and also claim 10) requires that the same set of transmitters perform certain functions at specified time periods. *Id.* We agree with Patent Owner's contention that Petitioner's identification of the set of transmitters in Example II is insufficient. We are careful in our review to note whether the transmitters identified in Example II must also meet limitations 1(d) and 1(e). These identified transmitters must be reasonably likely to perform the recited functions in the claim as a

whole in order for Petitioner to show anticipation. *See Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1370 (Fed. Cir. 2008) (to be anticipating the elements disclosed in a prior art reference must be those elements "arranged as in the claim.").

To show that Linquist discloses limitations 1(d) and 1(e), Petitioner must show that the transmitters in Example II, the A- and B-cell transmitters, identified as the first set of transmitters transmit a block of information *while* the second set, C- and D-cell transmitters, transmit a different block of information. Linquist describes, according to Petitioner, that each group of transmitters transmit batch messages in the same frame in a cellular mode. Pet. 25. Patent Owner contends that these groups of transmitters do not transmit at the same time. Prelim. Resp. 30–31. We agree. Patent Owner has argued persuasively that Linquist's Figure 15 illustrates that the batch messages transmitted in cellular mode are transmitted in consecutive, but neither concurrent nor overlapping, time periods. *Id.* Patent Owner has also persuaded us that Linquist describes the groups of cells turning on and off at different times, and, therefore, these groups of transmitters cannot be found to transmit any message simultaneously. *See id.* at 31. We are persuaded that the Petition does not explain sufficiently how the on and off switching of the identified groups of cells meet the claim requirement that the second and third blocks of information are transmitted during the same time period. *See* 37 C.F.R. § 42.104(b)(4).

With regard to Example III, the Petition also fails to make the requisite showing. Petitioner identifies overlapping cell-sites as the "first and second set of transmitters" to show that Linquist discloses limitation

1(c). Nevertheless, in its assertion concerning limitations 1(d) and 1(e), Petitioner does not set forth how the overlapping cell-sites and building cell-sites transmit the second and third blocks of information during the same time period. Indeed, the Petition does not include an Example III with respect to limitations 1(d) and 1(e). Accordingly, we are not persuaded that Petitioner's assertions regarding Example III are reasonably likely to show anticipation of claim 1 by Linquist.

Claim 10

Patent Owner argues that Linquist does not "dynamically reassign" the recited base transmitters as required by the claim. Prelim. Resp. 33–40. Patent Owner argues that the "reassigning" limitation means "moving the correspondence of the one or more of the base transmitters from one group of base transmitters to another, resulting in two updated groups." *Id.* at 8–9, 33. We have no reason to disagree with Patent Owner's proposed interpretation of the limitation, and note that Petitioner did not provide a construction for the phrase.

Petitioner asserts that Linquist discloses the "dynamically reassign" limitation because a database in Linquist is updated when a PLU moves to a new hub or sticks in the hub, such that the PLU becomes associated with the new area and messages intended for that PLU are routed to the new hub. Pet. 30–31. Patent Owner challenges the assertion because such an update of the database would not result in an updated hub, i.e., an updated set of base transmitters as required by claim 10. Prelim. Resp. 34–35, 38–39. We agree that Petitioner has failed to explain how the updated database associating the PLU with a different hub results in the recited updated set of base transmitters. At best, we are persuaded that Linquist shows assigning

the PLU to a different stick or hub, but not assigning either a stick or a hub to a different hub or other group of transmitters. Patent Owner has argued persuasively that the passages relied on by Petitioner fail to show that Linquist's sticks are reassigned as required by claim 10.

Accordingly, we are not persuaded that Petitioner has demonstrated a reasonable likelihood of prevailing in its contention that claim 10 is anticipated by Linquist.

Claim 11

Claim 11 depends from claim 10. Petitioner asserts that Linquist discloses the limitations recited in claim 11. Pet. 34. In particular, Petitioner relies on the argument presented with respect to claim 10, addressed above, that Linquist's system "*updates its database with the new location* associated with the PLU and routes messages intended for thePLU to sticks covering the new area." *Id.* Petitioner also asserts that the system "must" monitor the number of mobile receivers, "likely at a central controlling unit," in order for Linquist's system to determine how to turn on and off the transmitters at the proper time. *Id.* None of the presented arguments present sufficient evidence to persuade us that Petitioner has a reasonable likelihood of prevailing. First, we determined that Petitioner had failed to show sufficient evidence that the database in Linquist assigns either a stick or a hub to a different hub or other group of transmitters, as required by claim 10. Second, allegations that Linquist "must" monitor the number of receivers in overlap areas, without express evidence that it does, is insufficient to show that Linquist discloses this limitation. For example, Linquist discloses that alternating-turn-on/off procedure is performed "whenever overlapping RF fields are present," (Ex. 1004, 15:18–23) but

does not provide that any number of receivers are detected in any of the overlapping areas for this procedure to be initiated.

Accordingly, we are not persuaded that Petitioner has demonstrated a reasonable likelihood of prevailing in its contention that claim 11 is anticipated by Linquist.

C. ANTICIPATION GROUNDS BASED ON UDDENFELDT (EX. 1005)

1. Overview of Uddenfeldt

Uddenfeldt is directed to a "method in which the responsibility for transmitting message information to a mobile station is handed over from at least a first base station transmitter to at least a second base station transmitter." Ex. 1005, 1:10–14. In particular, Uddenfeldt describes that a mobile may be best served by another base station because (1) the mobile moves to another area, (2) traffic conditions, or (3) changed radio reception conditions. *Id.* at 10:46–51. One way to determine handover responsibility is to determine the location of the mobile by estimating the radio propagation times of signals received at three or more base stations from a particular mobile. *Id.* at 10:52–56. The knowledge of the mobile's location enables the system to select what base station is suitable for use as a new base station when handing over the responsibility. *Id.* at 10:56–59. Uddenfeldt further describes that during the handover, at least two of the base transmitters send the same message information to a mobile. *Id.* at 13:7–9.

2. Analysis Concerning the Anticipation Ground Based on Uddenfeldt

Claim 1

Petitioner alleges that Uddenfeldt discloses the "first set and second set of transmitters" because Uddenfeldt describes two or more cells that have two or more transmitters that transmit the same information. Pet. 38 (citing to Ex. 1005, 9:2–10 as support for the proposition that "base transmitters in the cells C_m and C_n simultaneously transmit [a] radio signal with information other than messages ("first block of information").") . Patent Owner reasons that according to Petitioner, two different cells, such as C_m and C_n of Figure 2 of Uddenfeldt, are alleged to disclose the "first set and second set of transmitters," and that Petitioner has identified that transmitting identity information corresponds to the "first block of information" that claim 1 requires. Prelim. Resp. 41–42. According to Patent Owner, the transmission of identity, however, constitutes transmission by each cell of *different* information, contrary to what limitation 1(c) requires. *Id.* at 42–43. Petitioner does not rely on any other type of information described in Uddenfeldt as disclosing the "first block of information" recited in limitation 1(c). Therefore, we are persuaded by Patent Owner's argument that Petitioner's identification of transmitting identity information by the cell transmitters does not show sufficiently that Uddenfeldt discloses limitation 1(c). Therefore, we determine that Petitioner has failed to show how Uddenfeldt discloses limitation 1(c). *See* 37 C.F.R. § 42.104(b)(4).

Claim 10

Patent Owner argues that Uddenfeldt does not "dynamically reassign" the recited base transmitters as required by the claim. Prelim. Resp. 43–50.

According to Patent Owner, none of the handover methods disclosed in Uddenfeldt discloses moving the correspondence of the one or more base transmitters from one cell to another cell, thereby updating the cells as required in claim 10(b). *Id.* at 45–46. We agree. Patent Owner explains persuasively that none of the Examples I, II, and III identified by Petitioner would result in updated cells in accordance with the claim language in claim 10 that recites "thereby creating an updated first set of base transmitters and an updated second set of base transmitters." *Id.* at 46–50. Accordingly, we determine that Petitioner has failed to show how Uddenfeldt discloses the "dynamically reassign" limitation of claim 10. *See* 37 C.F.R. § 42.104(b)(4).

Claim 11

Petitioner asserts that Uddenfeldt anticipates claim 11. Pet. 45. Patent Owner argues that because Uddenfeldt does not anticipate claim 10, it cannot anticipate claim 11. Based on our determination regarding the failure of Petitioner to show sufficient evidence with regard to claim 10, we determine that Petitioner has failed to demonstrate a reasonable likelihood of prevailing that claim 11 is anticipated by Uddenfeldt.

D. ANTICIPATION GROUNDS BASED ON GILHOUSEN (EX. 1006)

1. Overview of Gilhousen

Gilhousen is directed to a receiver design for "enhancing the reliability and communications in the cellular telephone environment." Ex. 1006, 1:9–12. Gilhousen describes a system that utilizes CDMA modulation techniques for communication between the mobile units or mobile telephones and the cell-sites. *Id.* at 9:42–45. A special receiver,

called the searcher receiver, constantly scans to determine the existence, the location in the time domain, and the relative signal strengths of signals in the multiple path environment. *Id.* at 5:38–43. The searcher receiver provides control over the data receivers in tracking the best signals available on differing paths. *Id.* at 5:43–45. In each cell site, a modem is assigned to a mobile unit as needed. *Id.* at 5:51–53. In a soft handoff, a new cell-site modem is assigned to a mobile unit, while the old cell-site continues to service the call. *Id.* at 5:56–59. When the mobile unit is located in a transition area, the call can be switched back and forth between cell-sites as signal strength dictates. *Id.* at 5:59–62. Multiple receivers in the mobile unit in a diversity function are involved in the handoff process. *Id.* at 5:65–68.

Each cell site transmits a pilot signal, which the mobile units use to determine the strongest channel. *Id.* at 6:6–33. The mobile unit continues to scan to determine if the pilot signal first received is stronger than pilot signals from neighboring cell sites. *Id.* at 6:40–45. When the mobile unit enters a new cell site, a handoff is initiated––a control message from the mobile unit to the cell site identifies the new cell site. *Id.* at 6:62–7:11. The handoff is complete when the mobile unit sends a control message after it acquires the setup channel information from the new cell site and the mobile unit starts listening to the signal from the new cell site. *Id.* at 7:24–30.

2. *Analysis Concerning the Anticipation Ground Based on Gilhousen*

Claim 1

Petitioner alleges that Gilhousen discloses limitation 1(c) because when a call is initiated, all cell-sites in an area send a paging message to a

mobile unit to determine the particular cell-site that is communicating with the mobile unit. Pet. 48. According to Petitioner, Gilhousen's paging message corresponds to the "first block of information in simulcast," recited in claim 1. *Id.* Gilhousen, however, does not disclose that the same paging message is transmitted at the same time from two or more sets of transmitters, according to Patent Owner. Prelim. Resp. 52–54. We agree that Petitioner has not explained sufficiently how the paging message is transmitted in Gilhousen such that the message is transmitted during the *same* time period by the alleged cell-sites that constitute the recited sets of transmitters. We further agree with Patent Owner that Petitioner has not explained sufficiently the manner in which the paging message is transmitted such that Gilhousen can be said to disclose transmitting the first block of information in simulcast. None of the passages cited by Petitioner for limitation 1(c) describe the paging message transmission in detail sufficient to assess whether the paging message is transmitted in simulcast, i.e., transmitting the *same* information at the *same* time, per our construction of the term. *See supra* Section II.A.1. In contrast, in addition to pointing out the lack of information regarding the timing of the paging message transmission, Patent Owner has shown persuasively that Gilhousen's paging messages from each cell site include *different* information. *See* Prelim. Resp. 53–54 (addressing that Gilhousen does not address how the cell-sites transmit the paging message and that the setup channel transmission, which includes the paging message, includes cell-site identification, and, therefore, cannot be the same information). Accordingly, we determine that Petitioner has failed to show how Gilhousen discloses the 1(c) limitation. *See* 37 C.F.R. § 42.104(b)(4).

Claim 10

Patent Owner argues that Gilhousen does not "dynamically reassign" the recited base transmitters as required by the claim. Prelim. Resp. 55–59. According to Patent Owner, Petitioner's contention is that Gilhousen dynamically reassigns the new cell site to the second zone when the mobile device detects that the new cell site has a stronger signal. *Id.* at 56–57; *see* Pet. 53 ("Should one of the other cell sites in a first zone have a stronger signal received at the mobile unit, the system controller can dynamically reassign that other cell-site from the first zone to join the second set of cell sites originally assigned to the second zone"). Petitioner's contention, therefore, relies on reassignment of Gilhousen's mobile unit upon receiving a stronger signal from a cell site, and not as "a function of the messages to be communicated to an area," as recited in claim 10. Prelim. Resp. 56–57. We note that the Petition sets forth that the diversity combining feature of Gilhousen is used to improve quality and reliability of the telephone calls transmitted to the mobile unit. Pet. 53. Although the diversity combining feature provides the mechanism by which the receiver detects a stronger signal, Petitioner does not show that the diversity combining feature takes into consideration any aspect of calls or messages to be communicated to the area. At best, Gilhousen has been shown to provide a *result* of reliability and integrity of telephone calls to mobile units in general, but no showing has been made regarding how this reliability and integrity is involved in performing the dynamic reassignment that claim 10 calls for. Accordingly, we determine that Petitioner has failed to show how Gilhousen discloses the "dynamically reassign" limitation of claim 10. *See* 37 C.F.R. § 42.104(b)(4).

E. OBVIOUSNESS GROUNDS BASED ON LINQUIST AND UDDENFELDT

Petitioner asserts that in the event a limitation is not found to be anticipated by Linquist and Uddenfeldt, the combination of the teachings in these references would render claims 10 and 11 obvious. Pet. 56–57. In particular, with regards to the limitation regarding "dynamic reassignment," Petitioner asserts that Linquist discloses that transmitters in adjacent cell-sites with overlapping areas may turn off and on such that the PLU receives the messages from two paging transmitters. Pet. 57. Petitioner here cites to column 15, lines 40–44 of Linquist to support this assertion. Petitioner provides no explanation for how turning on and off Linquists' adjacent transmitters teaches or suggests a reassignment of the transmitters as a function of the messages to be communicated to an area, as required by claim 10. Furthermore, we determined above that neither Linquist nor Uddenfeldt had been shown sufficiently to meet the "dynamic reassignment" limitation. Petitioner's assertions in the Petition are insufficient to show that Linquist and Uddenfeldt teach or suggest the limitations of claim 10, alone or in combination.

Furthermore, we agree with Patent Owner that Petitioner has not asserted sufficient rationale for the alleged combination. *See* Prelim. Resp. 60. Petitioner alleges similarities between Linquist and Uddenfeldt, and that the resulting combination would have predictably yielded the claimed system. Pet. 56. The explanation is deficient, however, for two reasons. First, Petitioner cites no factual or evidentiary support for this assertion. Second, the alleged rationale does not address sufficiently *the reason* a person of ordinary skill in the art would combine the relevant teachings of Linquist and Uddenfeldt. A mere allegation that the combination would

have yielded a predictable result is insufficient to show the possible predictability of combining a technique of transmission through orthogonal coding from two adjacent cells, as disclosed in Linquist, with Uddenfeldt techniques of handover communications using time division multiplexing. *See KSR Int'l Co., v. Teleflex Inc.*, 550 US 398, at 416 (2007) ("The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results."). Without further explanation, Petitioner has failed to make the requisite showing of a sufficient rationale for the alleged combination.

Accordingly, we determine that Petitioner has failed to show that it would prevail in demonstrating a reasonable likelihood of prevailing in its contention that claims 10 and 11 would have been obvious over the combination of Linquist and Uddenfeldt.

III. CONCLUSION

For the foregoing reasons, we do not institute *inter partes* review of the '403 patent.

IV. ORDER

After due consideration of the record before us, it is

ORDERED that the Petition is *denied* and no trial is instituted.

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