

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
TEXARKANA DIVISION**

PANTECH CORPORATION and	§	
PANTECH WIRELESS, LLC,	§	
	§	
Plaintiffs,	§	
	§	
v.	§	NO. 5:22-CV-00113-RWS-JBB
	§	
LG ELECTRONICS, INC., and	§	
LG ELECTRONICS U.S.A., INC.,	§	
	§	
Defendants.	§	

CLAIM CONSTRUCTION MEMORANDUM OPINION AND ORDER

Pantech Corporation and Pantech Wireless, LLC (together, “Pantech”) allege infringement by LG Electronics, Inc., and LG Electronics U.S.A., Inc., (together, “LGE”) of claims from U.S. Patents 9,136,924, 9,575,631, and 9,854,545. The ’924 Patent and ’545 Patent concern wireless communications. *See* ’924 Patent at 1:20–22 (explaining the patent relates “to a wireless communication system that uses multiple input multiple output (MIMO) in both a transmitting end and a receiving end”); ’545 Patent at 1:40–42 (noting “a desire for a scheme for effective synchronization in a wireless communication using a plurality of [component carrier]s”). The ’631 Patent concerns a multitasking mobile terminal. *See* ’631 Patent at 2:52–54 (“The present invention provides a method for selecting a work process of a multitasking mobile terminal through an icon corresponding to the work process.”).

The parties dispute the scope of seven terms and phrases from the three patents. Having considered the parties’ briefing and arguments of counsel during a September 12, 2023 hearing, the Court resolves the disputes as follows.

I. GENERAL LEGAL STANDARDS

“[T]he claims of a patent define the invention to which the patentee is entitled the right to exclude.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc). As such, if the parties dispute the scope of the claims, the court must determine their meaning. *See, e.g., Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1317 (Fed. Cir. 2007) (Gajarsa, J., concurring in part); *see also Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 390 (1996), *aff’g*, 52 F.3d 967, 976 (Fed. Cir. 1995) (en banc).

Claim construction, however, “is not an obligatory exercise in redundancy.” *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997). Rather, “[c]laim construction is a matter of [resolving] disputed meanings and technical scope, to clarify and when necessary to explain what the patentee covered by the claims” *Id.* A court need not “repeat or restate every claim term in order to comply with the ruling that claim construction is for the court.” *Id.*

When construing claims, “[t]here is a heavy presumption that claim terms are to be given their ordinary and customary meaning.” *Aventis Pharm. Inc. v. Amino Chems. Ltd.*, 715 F.3d 1363, 1373 (Fed. Cir. 2013) (citing *Phillips*, 415 F.3d at 1312–13). Courts must therefore “look to the words of the claims themselves . . . to define the scope of the patented invention.” *Id.* (citations omitted). The “ordinary and customary meaning of a claim term 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.” *Phillips*, 415 F.3d at 1313. This “person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.” *Id.*

Intrinsic evidence is the primary resource for claim construction. *See Power-One, Inc. v.*

Artesyn Techs., Inc., 599 F.3d 1343, 1348 (Fed. Cir. 2010) (citing *Phillips*, 415 F.3d at 1312). For certain claim terms, “the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words.” *Phillips*, 415 F.3d at 1314; *see also Medrad, Inc. v. MRI Devices Corp.*, 401 F.3d 1313, 1319 (Fed. Cir. 2005) (“We cannot look at the ordinary meaning of the term . . . in a vacuum. Rather, we must look at the ordinary meaning in the context of the written description and the prosecution history.”). But for claim terms with less-apparent meanings, courts consider “those sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean . . . [including] the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art.” *Phillips*, 415 F.3d at 1314.

II. THE LEVEL OF ORDINARY SKILL IN THE ART

The level of ordinary skill in the art is the skill level of a hypothetical person who is presumed to have known the relevant art at the time of the invention. *In re GPAC*, 57 F.3d 1573, 1579 (Fed. Cir. 1995). In resolving the appropriate level of ordinary skill, courts consider the types of and solutions to problems encountered in the art, the speed of innovation, the sophistication of the technology, and the education of workers active in the field. *Id.* Importantly, “[a] person of ordinary skill in the art is also a person of ordinary creativity, not an automaton.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007).

Here, although neither party proffers a level of ordinary skill for analysis in their briefing, Pantech’s three experts each opine on the question. Charles Mauro, Pantech’s expert on the ’631 Patent, concludes:

a person of ordinary skill in the art would be an individual with either undergraduate or graduate level education in human factors engineering theory and practice with specific training in human computer interaction design for modern mobile devices including wireless communications terminals. They should have a minimum of one year of industry experience in the design and user testing of modern mobile GUI systems and have designed production modern mobile GUI utilizing common screen design interaction elements.

Mauro Rep., Dkt. No. 134-7 ¶ 27. Dr. Todor Cooklev, Pantech’s expert on the ’924 Patent, explains “[a] POSITA in the field of the ’924 Patent would have had a bachelor’s degree in electrical engineering, or equivalent training, and approximately two years of experience working in the field of networking and wireless devices.” Cooklev Rep., Dkt. No. 134-4 ¶ 27. Pantech’s expert regarding the ’545 Patent, Peter Rysavy, proffers an identical level of skill. *See* Rysavy Rep., Dkt. No. 134-2 ¶ 30 (“[A]t the time of the ’545 Patent, a [skilled artisan] would have a bachelor’s degree in electrical engineering, or equivalent training, and approximately two years of experience working in the field of wireless networking.”). Because LGE does not challenge these levels of skill, the Court adopts them for the purpose of construing the seven disputed terms.

III. THE DISPUTED TERMS FROM U.S. PATENT 9,854,545

A. Background

The ’545 Patent relates to “a method and apparatus for configuring UL synchronization with respect to at least one Component Carrier (CC).” ’545 Patent at 1:25–27. Generally, a “component carrier” is a frequency bandwidth that can be used either alone or with other component carriers for data transmission. *See, e.g.*, ’545 Patent fig.1 (showing “n” component carriers over a frequency range); *id.* at 2:62–64 (explaining “a plurality of CCs may be bound and used as a single system band, and may be referred to as a carrier aggregation (CA)”).

The patent describes the technical problem to be solved as properly synchronizing

transmitters and receivers in light of propagation delay. More specifically,

[the] time when the electric wave is received by the receiver may be affected by a distance between the transmitter and the receiver, an ambient propagation environment, and the like, and may vary over time when the receiver moves. When the receiver is not accurately aware of a point in time when a signal transmitted from the transmitter is to be received, the receiver may fail to receive the signal, or may receive a signal distorted due to the propagation delay and may fail to perform communication.

'545 Patent at 5:19–29.

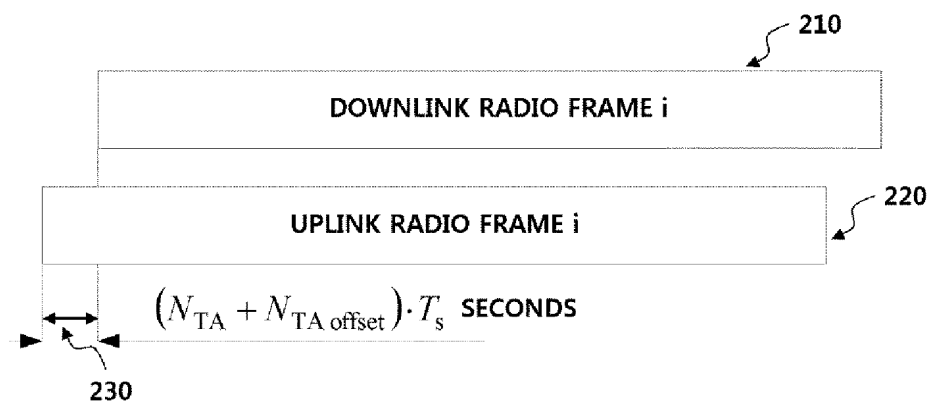


FIG. 2 of the '545 Patent

To help address that problem, the patent teaches calculating a timing advance (TA) value for each user equipment (UE). As the '545 Patent explains with reference to FIG. 2 (above):

In general, a [uplink] UL radio frame i 220 may need to be transmitted at the same point in time as a point in time when a [downlink] DL radio frame i 210 is transmitted, so as to perform communication between an eNB and a UE. However, a time difference may exist between the UE and the eNB due to propagation delay and the like.

Accordingly, a TA may be applied to enable the UE to transmit the UL radio frame i 220 a little earlier than the DL frame i 210 by taking the propagation delay into consideration, so that synchronization between the eNB and the UE may be obtained.

'545 Patent at 6:23–33.

Only Claim 2 and Claim 3 are at issue. Claim 2 recites a method implemented by a user equipment, such as a smartphone, for synchronization using a TA value:

2. A method for establishing an uplink (UL) synchronization by a User Equipment (UE), the method comprising:
 - receiving a Radio Resource Control (RRC) signaling including a UL timing group information set, which has been set by an evolved NodeB (eNB);
 - configuring one or more UL timing groups based on the UL timing group information set, the one or more UL timing groups each comprising one or more UL CCs;
 - transmitting a Random Access Preamble (RAP) through one or more UL CCs, each of the one or more UL CCs transmitting an RAP being set as a delegate CC in the respective UL timing group;
 - receiving a Random Access Response (RAR) including a Timing Advanced (TA) value for UL CCs in the respective UL timing group, wherein each TA value is transmitted from the eNB for the respective UL timing group based on the transmitted RAP associated with a delegate CC of the respective UL timing group; and
 - applying each TA value to CCs in the respective UL timing group.

'545 Patent at 27:20–28:6. Claim 3 is directed to a UE that can implement the method and includes substantially similar language. *See id.* at 28:7–32.

The parties have two disputes with respect to these claims. First, they dispute the scope of “evolved NodeB” (and “eNB”) and, more specifically, whether the applicant defined these terms to have a meaning other than their plain meaning to a skilled artisan. Second, they dispute the meaning of the phrase “wherein each TA value is transmitted from the eNB for the respective UL timing group based on the transmitted RAP associated with a delegate CC of the respective UL timing group,” which appears in the second-to-last limitation of each claim.

B. “eNB” / “evolved NodeB (eNB)” (’545 Patent, Claims 2, 3)

Pantech’s Construction	LGE’s Construction
“base station”	Plain and ordinary meaning

The parties’ dispute concerns lexicography. Specifically, while the parties agree the plain meaning of this term to a skilled artisan relates to 4G/LTE base stations, Pantech asserts “the patentee’s description of the invention in the claims and the specification . . . amounts to a definition that includes 3G base stations.” Dkt. No. 134 at 1. LGE, however, points to the Court’s prior construction in *Pantech Corp. v. OnePlus Tech (Shenzhen) Co., Ltd.*, No. 5:22-cv-00069-RWS-JBB (*OnePlus*), where the Court rejected similar arguments for these terms in a related patent.¹

Pantech relies on both intrinsic and extrinsic evidence. *See* Dkt. No. 134 at 2–3. For the former, Pantech points to two excerpts from the specification. First, the patent explains:

The eNB or a cell may refer to a fixed station where communication with the UE is performed, and may also be referred to as a Node-B, a base transceiver system (BTS), an access point, and the like.

The eNB or the cell may be construed as an inclusive concept indicating a portion of an area covered by a radio network controller (RNC) in WCDMA, and the like, and the concept may include various cell coverage areas, such as a megacell, macrocell, a microcell, a picocell, a femtocell, and the like.

’545 Patent at 4:5–14. Second, the patent states “a base station may be referred to as an eNB.” *Id.* at 8:19–20. For extrinsic evidence, Pantech points to its expert’s opinion that “[a] person of ordinary skill in the art would understand from these statements that the patentee is using the term ‘eNB’ to refer to a base station, and is not limiting the term to a specific type of wireless technology or cellular network.” Dkt. No. 134 (citing Rysavy Rep., Dkt. No. 134-2 ¶ 35).

¹ The patent at issue was U.S. Patent 11,012,954, which claims priority to and shares the same disclosure as the ’545 Patent. *See* ’954 Patent at [63].

For the same reasons set forth in *OnePlus*, the Court agrees with LGE. In *OnePlus*, the Court explained:

the excerpts on which Pantech relies are not sufficiently clear and explicit to be lexicography. *See Thorner v. Sony Comput. Entm't Am. LLC*, 669 F.3d 1362, 1367–68 (Fed. Cir. 2012) (“Both [lexicography and disavowal] require a clear and explicit statement by the patentee.”). At most, the specification shows an eNB may be referred to as a Node-B, base station, or access point—not the other way around. And while two of the excerpts on which Pantech relies stress the term should be construed “inclusively,” *see* ’954 Patent at 4:18–20, 4:24–27, such a statement without more does not give rise to lexicography.

Cause No. 5:22-cv-00069, Dkt. No. 51 at 16 (brackets in original).

Nor is Mr. Rysavy’s opinion on the matter persuasive. According to Rysavy, “[a] person of ordinary skill in the art would understand from [column 4, lines 5–14] that the patentee is using the term ‘eNB’ to refer to a base station, and is not limiting the term to a specific type of wireless technology or cellular network.” Rysavy Rep., Dkt. No. 134-2 ¶ 35. The basis for his conclusion comes from the two sentences that follow: (1) “a person of ordinary skill in the art would also understand that a ‘Node-B’ commonly refers to a base station in a 3G cellular network, and a ‘base transceiver system (BTS)’ commonly refers to base stations in 2G (i.e., GSM) cellular networks”; and (2) “[a] person of ordinary skill in the art would also understand that an ‘access point’ is a generic term that could refer to a base station in a number of different cellular technologies, and is not limited to a 2G, 3G, or 4G network.” *See id.* The Court agrees with both propositions, but neither supports Pantech’s construction. To the contrary, the specification states “eNB” “may be referred to” as these things, not that “eNB” *refers* to these things.

Because Pantech fails to show the applicant clearly and unmistakably changed the plain meaning of “eNB” with lexicography, the Court will give this term a “plain and ordinary meaning” construction.

C. “wherein each TA value is transmitted from the eNB for the respective UL timing group based on the transmitted RAP associated with a delegate CC of the respective UL timing group” (’545 Patent, Claims 2, 3)

Pantech’s Construction	LGE’s Construction
Plain and ordinary meaning	“wherein each TA value is transmitted from the eNB for the respective UL timing group in response to the transmitted RAP through its delegate CC of the respective UL timing group”

Claim 2 recites:

2. A method for establishing an uplink (UL) synchronization by a User Equipment (UE), the method comprising:

...

transmitting a Random Access Preamble (RAP) through one or more UL CCs, each of the one or more UL CCs transmitting an RAP being set as a delegate CC in the respective UL timing group;

receiving a Random Access Response (RAR) including a Timing Advanced (TA) value for UL CCs in the respective UL timing group, wherein each TA value is transmitted from the eNB for the respective UL timing group *based on the transmitted RAP associated with a delegate CC of the respective UL timing group*

’545 Patent at 27:20–28:6 (emphasis added); *see also id.* at 28:7–32 (Claim 3). Generally, a “delegate CC” is a CC used for RAP transmission on behalf of a group of CCs. *See id.* at 11:16–17 (“When the UL timing group is generated, the UE 480 may select a delegate CC for each group (step S434)”). A delegate CC may be chosen based on any number of technical characteristics, such as the CC with the lowest or highest center frequency value, a center frequency value closest a mean value, or the broadest frequency band. *Id.* at 11:22–27.

With respect to Claims 2 and 3, the parties dispute whether the “delegate CC” in the fourth limitation must be the same “delegate CC” in the “transmitting” limitation. *See Hr’g Tr.*, Dkt. No.

207 at 13 (“the central dispute here is whether the same delegate CC needs to be used both going up in the RAP as well as going back down in the [RAR]”).

According to LGE, the patent disavows any claim scope in which the RAR is transmitted on anything other than the delegate CC used to transmit the RAP. For support, LGE points to two excerpts from the Summary, Dkt. No. 144 at 12 (citing ’545 Patent at 2:30–44, 2:59–3:7), and two excerpts from the written description, *id.* at 13 (citing ’545 Patent at 22:27–31, 25:54–58). It says “the only way to give meaning to the [disputed term] is to construe the limitation to require that the transmission of the TA value for each respective UL timing group is ‘in response to’ the RAP and ‘through its [one or more] delegate CC[s] of the respective UL timing group.’” *Id.* at 14. LGE asserts Pantech’s “plain meaning interpretation” renders a portion of the limitation superfluous. *Id.*

In its reply, Pantech contends the two paragraphs from the Summary on which LGE relies are directed to “aspects” of the invention and include features not found in Claims 2 and 3, suggesting these claims are directed to different embodiments. Dkt. No. 151 at 2. Moreover, says Pantech, “the specification discloses embodiments in which the eNB transmits the RAR and TA value through CCs other than the delegate CC that transmits the RAP.” *Id.* (citing ’545 Patent at 14:11–13, 15:18–20).

The Court agrees with Pantech. For one, the Court disagrees with LGE that Pantech’s construction renders claim language superfluous. On its face, the disputed language requires that transmission of the TA value from the eNB to be “based on” the transmitted RAP. Moreover, because the phrase “associated with a delegate CC” modifies “transmitted RAP,” the most natural way to read the disputed language is a reference to the RAP from the “transmitting” limitation, which is “associated with a delegate CC” in that step. *See* ’545 Patent 27:29–31 (requiring each of the UL CCs transmitting a RAP to be set as a “delegate CC”); *see also id.* at 28:21–22 (same). In other

words, the claims require the TA value to be transmitted from the eNB for the respective UL timing group *in response to* the transmitted RAP associated with a delegate CC of the respective UL timing group.

But that does not mean the specification clearly and unmistakably disavows any embodiment that does not transmit the RAR through a delegate CC of the respective UL timing group. For one, both Figure 5 and Figure 6 show embodiments that do not require the RAR to be received through the delegate CC. For both figures, the specification explains the eNB “may calculate a TA value for each group . . . *based on the received RAP signal* for transmission to UE”—language that tracks the disputed phrase. *See* ’545 Patent at 15:8–10 (referring to FIG. 5), 16:35–37 (referring to FIG. 6). Shortly after that language, the specification separately explains “the eNB *may* transmit the RAR message through a predetermined CC, and *may* transmit the RAR message through all CC’s in the corresponding UL timing group.” *See id.* at 15:10–13, 16:37–40 (emphasis added). And notably, although both Figures 5 and 6 expressly show transmission of the RAP “through [the] delegate CC,” *id.* at fig.5 (item S540), fig.6 (item S640), neither shows the RAR transmitted back through a delegate CC, *id.* at fig.5 (item S550), fig.6 (item S650).

Disavowal must be clear and unmistakable. *See Thorner*, 669 F.3d at 1367–68 (“Both [lexicography and disavowal] require a clear and explicit statement by the patentee.”). Because LGE has not shown such clear and unmistakable disavowal here, the Court rejects LGE’s position and will give this term a “plain and ordinary meaning” construction.

IV. THE DISPUTED TERMS FROM U.S. PATENT 9,136,924

A. Background

The ’624 Patent relates to high-capacity wireless transmission using a Multiple Input Multiple Output (MIMO) scheme, which transmits information through the same frequency band. ’924

Patent at 1:20–11, 4:52–56. This generally requires providing the transmitting device with substantial information about the propagation channel, which reduces the bandwidth available for useful data exchange. *See id.* at 4:57–64 (noting “a MIMO wireless communication system may need to provide, to a transmitting device, information associated with a propagation channel . . . which requires a large amount of feedback overhead”). But instead of transmitting all the required information between the UEs and base station, both the UEs and base station store identical “codebooks” containing matrices of the information. This allows the UEs and base station to indicate which information to use (or not use) by identifying the stored matrices using lower overhead indices. *See id.* at 4:57–64 (explaining a system may provide “information associated with a precoder or a precoding matrix” which “requires a relatively small amount of feedback overhead”).

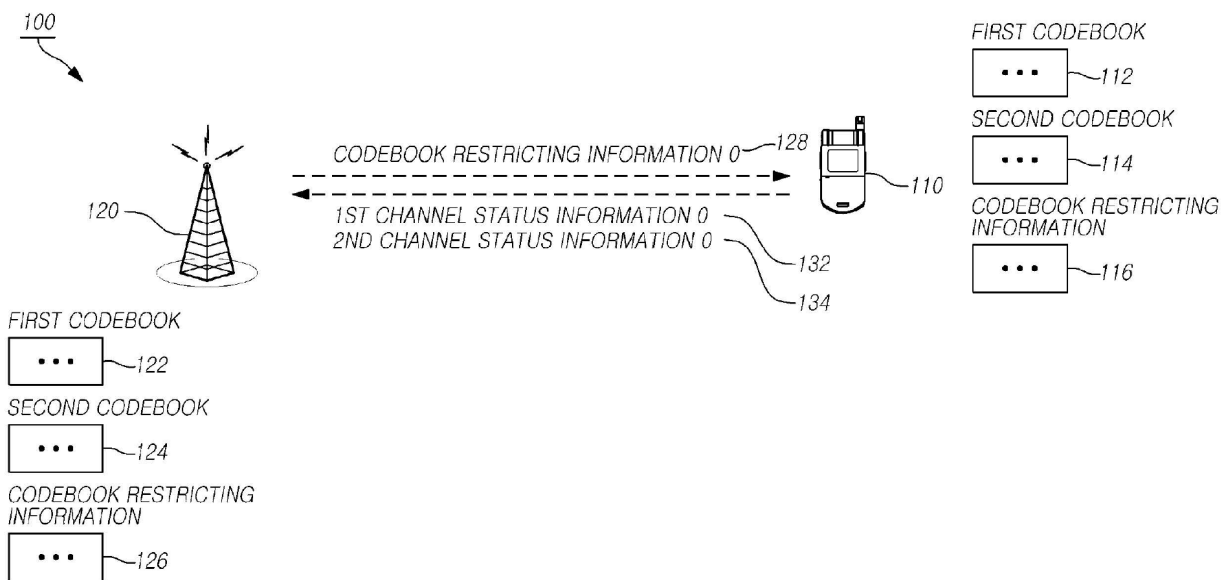


FIG. 2 of the '924 Patent

Figure 2 (above) shows an example of the information flow between a UE (110) and a base station (120). The base station transmits a reference signal (not shown), and the UE chooses a channel using the reference signal. Based on the chosen channel, the UE determines acceptable

precoding matrices, excluding any “restricted” precoding matrices identified in previously sent codebook restricting information (128), and reports channel status information (132, 134) to the base station. The base station then determines precoding matrices of the precoders based on the channel status information using the station’s codebooks and precodes data symbols using those matrices. *See generally* ’924 Patent at 5:40–6:36.

The specification suggests the reporting of channel status information from the UE happens repeatedly. For example, with reference to the embodiment shown in Figure 4, the patent discusses “a feedback period or interval” of the channel status information. *Id.* at 14:62–15:3.

The parties’ sole dispute concerns Claim 17, which is directed to a method implemented by a receiving device, and Claim 23, which claims the receiving apparatus. For purposes of resolving the dispute, Claim 17 is representative:

17. A communication method of a receiving device in a wireless communication system, the method comprising:

receiving codebook restricting information including at least one of a first bit sequence to restrict at least one precoding matrix from a first precoding matrix group and a second bit sequence to restrict at least one precoding matrix from a second precoding matrix group, each bit of the first bit sequence corresponding to one precoding matrix of the first precoding matrix group, respectively, the at least one precoding matrix of the first precoding matrix group being restricted from being used as a precoding matrix of a first precoder, each bit of the second bit sequence corresponding to one precoding matrix of the second precoding matrix group, respectively, and the at least one precoding matrix of the second precoding matrix group being restricted from being used as a precoding matrix of a second precoder; and

transmitting, to a transmitting device, 1st channel status information indicating the precoding matrix of the first precoder and 2nd channel status information indicating the precoding

matrix of the second precoder, the precoding matrix of the first precoder and the precoding matrix of the second precoder being selected, based on the codebook restricting information, from among precoding matrices that are not restricted,

wherein a period of transmitting the information relating to the precoding matrix of the first precoder and a period of transmitting the information relating to the precoding matrix of the second precoder are different from each other.

'924 Patent at 22:40–23:3. More simply, (1) the UE receives “codebook restricting information” that specifies precoding matrixes the UE may not use; and (2) the UE transmits to the base station first and second channel status information for *unrestricted* precoding matrices. The parties dispute the last limitation of the claim, which requires the reporting periods for the first and second channel status information to be different.

**B. “period of transmitting the information relating to the precoding matrix . . .”
(’924 Patent, Claims 17, 23)**

Pantech’s Construction	LGE’s Construction
Plain and ordinary meaning	“time interval between periodically transmitting the information relating to the precoding matrix . . .”

The parties present two disputes about this phrase. First, they dispute whether “period” refers to an interval of time between successive occurrences as opposed to, for example, a length of time for transmission. Second, they dispute, if “period” does refer to a time interval, whether the interval must be regular.

According to LGE, the intrinsic record shows “period” refers to a time interval between cyclical transmissions of information. Dkt. No. 144 at 5 (citing ’924 Patent at 14:62–16:3). LGE asserts the specification’s use of “period” and “term” interchangeably shows feedback was provided repeatedly across long cycles. *Id.* LGE relies on the specification to argue the period must

be regular. *Id.* (citing '924 Patent at 6:23–29 and pointing out that the specification discloses an “interval” may be “regular or irregular,” but the specification does not disclose a period can be irregular). Pantech argues “[t]here is no reason to depart from the plain and ordinary meaning for this term,” Dkt. No. 134 at 8, and suggests that “plain meaning” refers to *both* a length of time and a time interval, *id.* at 9.

The Court agrees with LGE that the “period of transmitting” is a “time interval” rather than a length of time. The only reference to a “period of transmitting” in the specification relates to the reporting of the channel status information to the base station. Specifically, the patent explains:

[a] feedback period or interval of the 1st channel status information and the 2nd channel status information may be different from each other. For example, the 1st channel status information may be fed back to the base station 420 based on a short term, and the 2nd channel status information may be fed back to the base station 420 based on a long term. In other words, a long period/long term and a short period/short term are relative terms, and the long period/long term indicates a period that is longer than the short period/short term.

'924 Patent at 14:62–15:3. In contrast, the specification makes no reference to the amount of time it takes to transmit the channel status information.

That said, the Court disagrees the “period of transmitting” must be “regular.” The specification uses “interval,” “period,” and “term” synonymously (*see, e.g.*, '924 Patent at 14:62–67), and refers to an “interval” being either regular or irregular. *Id.* at 6:23–25 (“For the channel estimation, a predetermined signal or symbol may be inserted into a frequency-domain grid at regular or 25 irregular intervals.”). Accordingly, the Court construes this phrase as “time interval between successive transmissions of the information relating to the precoding matrix . . .,” but expressly rejects that the “period of transmission” must be regular.

V. THE DISPUTED TERMS FROM U.S. PATENT 9,575,631

A. Background

The '631 Patent “provides a method for selecting a work process of a multitasking mobile terminal.” '631 Patent at 2:52–54. The patent, which has a 2006 effective filing date, notes that,

[a]s the performance of microprocessors built in the mobile terminals is improved, a plurality of work processes can be performed concurrently. For example, an MP3 music file can be played during a phone call, or a short message service (SMS) message can be sent while an MP3 music file is played.

Id. at 1:36–41. To that end, it teaches “a method for controlling a function of a work process through an activated pop-up menu in a multitasking mobile terminal that concurrently performs a plurality of work processes.” *Id.* at 2:55–58. In contrast, conventional methods terminated one process before initiating another. *See id.* at 1:61–64 (explaining, with reference to the prior art of FIG. 2, “[i]n steps S16 and S17, when the user wants to change the selected process into another new process, the selected work process is terminated”); *see also id.* at 2:16–21 (explaining, with reference to the prior art of FIG. 3, that after determining a second command for controlling a function has been received, the first process is terminated and the new function is controlled).

Of the independent claims, only Claim 1 is at issue. The claim, which includes each of the disputed terms, recites:

1. A method for controlling a **predetermined function** of a second work process during a first work process in a multitasking mobile terminal that performs the first work process and the second work process, the method comprising:
 displaying one icon in a designated portion of a display,
 wherein the displayed icon corresponds to the first work process;
 if the displayed icon corresponding to the first work process is selected, displaying a screen of the first work process in the

display;

in response to a first command for **sequentially displaying icons, performing sequential display of icons** such that an icon corresponding to the second work process is displayed, wherein the icon corresponding to the second work process is displayed in the designated portion of the display;

in response to a second command for changing to the second work process, replacing the screen of the first work process with a screen of the second work process;

controlling the multitasking of the second work process and the first work process;

in response to a third command for activating a **control menu** for controlling a **predetermined function** of the first work process, activating the **control menu** for controlling the **predetermined function** of the first work process; and

in response to a fourth command for controlling the **predetermined function** of the first work process through the activated **control menu**, controlling the **predetermined function** of the first work process through the activated **control menu**.

'631 Patent at 7:37–67 (disputed terms bolded).

B. “control menu” ('631 Patent, Claims 1, 3)

Pantech's Construction	LGE's Construction
“graphical tool that allows a second work process to continue while providing a user with options to control a first work process (e.g., a pop-up menu, a menu window, or the like)” ²	Plain and ordinary meaning

This dispute dates back to LGE's partial motion to dismiss based on 35 U.S.C. § 101. In response to that motion, Pantech urged a construction of “graphical tool that allows a second work

² Pantech proposed this construction at the hearing. In the briefing, Pantech argued for “plain and ordinary meaning (e.g., a pop-up menu, a menu window, or the like).” Dkt. No. 134 at 14.

process to continue while providing a user with options to control a first work process.” Dkt. No. 46 at 16. The Court accepted that construction for the limited purpose of resolving the motion. Report & Recommendation, Dkt. No. 153 at 22. Pantech again urged that construction at the claim-construction hearing as the “plain and ordinary meaning” for “control menu.” Hr’g Tr., Dkt. No. 207 at 54:24–55:8.

At the hearing, Pantech pointed to Figures 3, 4, and 7 of the patent and the related text. First, Pantech noted Figure 3, which shows prior art, teaches the user terminating one process (SMS message creation) to control another process (an MP3 player). Hr’g Tr., Dkt. No. 207 at 56:1–13. In contrast to Figure 3, Figure 4 shows the step of “concurrently perform[ing] [the] first work process and second work process,” which Pantech asserts is a key distinction over the prior art. *See id.* at 56:14–21 (calling concurrently performing both the first and second work process “part and parcel of the patent”). From there, Pantech moved to Figure 7, which it claimed “ties the control menu to the concurrent performance of the first work process and the second work process.” *Id.* at 56:23–57:6 (citing ’631 Patent at 5:50–58). Pantech also stresses the patent’s description of the present invention as “provid[ing] for controlling a function of a work process through activated pop-up menu in a multitasking mobile terminal that concurrently performs a plurality of work processes.” *Id.* at 57:24–58:2 (quoting ’631 Patent at 2:55–58).

LGE frames the issue as one of lexicography or disclaimer. Hr’g Tr., Dkt. No. 207 at 63:12–15. In its view, nothing on which Pantech relies amounts to clear lexicography or disclaimer. *Id.* at 63:16–22. It notes that Pantech’s expert agrees the patent does not assign any specific meaning to “control menu,” and the Background of the Invention refers to a “displayed menu window” as part of the conventional methodology. *See id.* at 64:3–25. LGE stresses it is the device itself doing the multitasking rather than the control menu. *Id.* at 66:1–4.

The Court agrees with LGE. First, Pantech presents no evidence as to the plain and ordinary meaning of “control menu.” Rather, it makes an implicit disclaimer or lexicography argument by pointing to the various parts of the intrinsic record and asserting a skilled artisan would recognize its construction of “control menu” based on that record rather than the meaning of the term itself. But the patent itself references prior-art control menus (i.e., menu windows) that do *not* concurrently perform the first and second processes, thereby undercutting Pantech’s position that the plain meaning of the term requires it. *See* ’631 Patent at 2:32–39 (noting that, “[i]n the conventional method for selecting the work process, when selecting a wo[r]k process that is concurrently performed, the user has to select a new work process through a displayed menu window,” and “in order to terminate a predetermined work process among a plurality of work processes that are concurrently performed and select a new work process, the user has to select the new work process through the menu window”). If the “plain and ordinary meaning” of “control menu” included the multitasking feature, there would be no prior art to overcome.

Because this is really an argument for lexicography or disclaimer, the intrinsic record must clearly and unmistakably show the “control menu” of Claim 1 includes the multitasking feature. *See Thorner*, 669 F.3d at 1367–68 (“Both [lexicography and disavowal] require a clear and explicit statement by the patentee.”). The Court, however, sees no such showing. According to the patent, it is the device, rather than the control menu, that performs the “multitasking.” *See* ’631 Patent at 2:55–58 (“The present invention also provides a method for controlling a function of a work process through an activated pop-up menu in a multitasking mobile terminal that concurrently performs a plurality of work processes.”); *see also id.* at 7:36–41 (reciting “[a] method for controlling a predetermined function of a second work process during a first work process *in a multitasking mobile terminal that performs the first work process and the second work process*” (emphasis

added)). Even the excerpt on which Pantech relies is vague as to what the “control menu” allows or prohibits, stating only that something else happens “[w]hen the pop-up menu is activated.” *See id.* at 5:50–58 (“When the pop-up menu is activated, a pop-up process for controlling the function of the MP3 play process is assigned to a temporary queue by using the activated pop-up menu, and the pop-up process is concurrently performed together with the creation of the SMS message.”).

Because Pantech has not shown clear and unmistakable lexicography or disclaimer, the Court will give “control menu” a “plain and ordinary meaning” construction.³ For clarity, the Court expressly rejects the notion that “plain and ordinary meaning” requires a menu that “allows a second work process to continue while providing a user with options to control a first work process.”

C. “predetermined function” (’631 Patent, Claims 1, 2)

Pantech’s Construction	LGE’s Construction
Plain and ordinary meaning (i.e., “a function among those selected in advance”)	Plain and ordinary meaning

In the briefing, the parties dispute the plain and ordinary meaning of this term, with LGE arguing Pantech’s parenthetical is unnecessary and complicated. *See* Dkt. No. 144 at 24. At the hearing, however, LGE agreed the term means “a function identified in advance” or “a function that is determined in advance.” Hr’g Tr., Dkt. No. 207 at 81:8–12. It objected to Pantech’s construction’s use of “among those” and “selected.” *See id.* at 81:1–82:6.

Problematically, neither party could articulate why this dispute matters. *See id.* at 82:7–12; *id.* at 95:10–14. For the sake of certainty, however, the Court adopts Pantech’s construction of “a function among those selected in advance.” For one, the Court sees no material difference between

³ Regarding Pantech’s argument that concurrently performing both the first and second work processes is “part and parcel” of the patented invention, that concept appears to be found in *other* claim language, such as the preamble, not the “control menu” term. *See also* Hr’g Tr., Dkt. No. 207 at 66:1–4 (LGE asserting this type of multitasking is found in the preamble.)

“determining” and “selecting.” Moreover, the claims’ recitation that the “predetermined function” is “of a [first or] second work process” suggests there are multiple functions from which the function is “predetermined.”

D. “sequentially displaying icons,” “performing sequential display of icons” (’631 Patent, Claims 1, 8)

Pantech’s Construction	LGE’s Construction
Plain and ordinary meaning	“displaying the next icon in place of the prior icon in a sequence”

The focus of the parties’ dispute is LGE’s requirement that the “next” icon be displayed “in place of” a prior icon. Pointing to Claim 9, Pantech accuses LGE’s construction of violating the doctrine of claim differentiation. Dkt. No. 134 at 16–17 (noting Claim 9’s requirement that “an icon to be displayed in the designated portion is replaced with an icon that is different from the icon corresponding to the second work process in response to the first command”). LGE counters that Pantech believes the simultaneous display of multiple icons that are sequentially arranged meets this limitation. Dkt. No. 144 at 27.

Other than the claims, the patent references the “sequential display” of icons three times. Two of those references are in the same paragraph, where the patent explains:

A first command of user for selecting the second work process that is concurrently performed together with the first work process of the mobile terminal is inputted through the user interface 50 to the second work process selecting unit 60. The second work process selecting unit 60 includes an icon activating unit 62 and a selecting unit 64. [Whenever] the first command of user is inputted, the icon activating unit 62 *sequentially displays icons* corresponding to the respective work processes of the mobile terminal through the display 80. A second command of user is inputted through 10 the user interface 50 to the selecting unit 64 so as to select the second work process concurrently performed together with the first work process among the *sequentially displayed icons*. The selecting unit 64 provides the work process corresponding to the selected icon to the multiprocessing 15 unit 70

in response to the second user command.

'631 Patent at 5:1–16 (emphasis added). The third reference explains “[t]he above-mentioned method for selecting the second work process according to the present invention can simply select the second work process by selecting the icons sequentially displayed while the first work process is performed.” *Id.* at 7:8–12.

These references, scant as they are, suggest “sequentially displaying icons” is not limited to “sequential in time,” which is an implicit requirement of LGE’s construction. It would be difficult, after all, to select the second work process from “among the sequentially displayed icons” if the device failed to present all icons for the available options for selection.

This holds true from the claim language as well. The method requires, “in response to a first command for sequentially displaying icons, performing sequential display of icons such that an icon corresponding to the second work process is displayed, wherein the icon corresponding to the second work process is displayed in the designated portion of the display.” ’631 Patent at 7:48–53. In other words, once the user wants to choose a “second work process,” the user first executes a command to cause the device to present icons for “second work processes,” and then selects the corresponding icon for the desired “second work process.”

LGE points to two excerpts from the specification and Figures 5A and 5B, Dkt. No. 144 at 26, but neither compels a different conclusion. The first explains “[whenever] the first command of user is inputted, the icons are displayed in turn.” ’631 Patent at 4:6–11. LGE focuses on “in turn,” which could be read as either “one after the other” or “in response.” *See in-turn*, <https://www.yourdictionary.com/in-turn>. The second excerpt describes Figures 5A and 5B, which show only a single icon at any time. But the “sequentially displaying” term appears nowhere within this description of these figures, so they are of limited help.

Ultimately, much like “control menu,” the only issue before the Court on this term is disclaimer or lexicography. That is, neither party contends the “plain and ordinary meaning” of “sequentially displaying” requires displaying one thing “in place of” another. Instead, LGE makes that contention based on excerpts from the intrinsic record, which the Court holds is not so clear and unmistakable to warrant LGE’s construction. Accordingly, the Court will give this term a “plain and ordinary meaning” construction, and clarifies that “plain meaning” does *not* require “displaying the next icon in place of the prior icon in a sequence.”

E. “displaying one icon in a designated portion of a display” (’631 Patent, Claim 1)

Pantech’s Construction	LGE’s Construction
Plain and ordinary meaning	“displaying a single icon in a designated portion of a display”

LGE argues disclaimer. Specifically, because during prosecution Pantech amended the claims to recite “one icon” rather than “an icon,” Pantech disclaimed any scope of “one icon” that includes *more* than one icon. Dkt. No. 144 at 28.

LGE’s argument concerns a September 2016 Reply to an “obviousness” rejection based on U.S. Patent 7,123,945 (Kokubo) and U.S. Published Application No. 2005/0183017 (Cain). In that Reply, Pantech amended Claim 1 to read:

1. (Currently Amended) A method for controlling a predetermined function of a second work process during a first work process in a multitasking mobile terminal that performs the first work process and the second work process, the method comprising:
displaying ~~[[an]]one icon corresponding to the first work process~~
in a designated portion of a display, wherein the displayed icon corresponds to the first work process and is displayed together with at least a part of a screen image of the first work process in the display;

if the displayed icon corresponding to the first work process is selected, displaying a screen of the first work process;

in response to a first command for ~~selecting the second work process~~ sequentially displaying icons, performing sequential display of icons such that an icon corresponding to the second work process is displayed, wherein the icon corresponding to the second work process is displayed in [[a]]the designated portion of the display

Reply, Dkt. No. 144-10 at 2; *see also id.* at 4–5 (similar amendments to Claim 10), *id.* at 5–6 (similar amendments to Claim 15). The Reply followed an interview with the examiner, and Pantech explained the independent claims were “amended to reflect the substance of the agreement reached during the Examiner interview.” *Id.* at 9; *see also id.* at 8 (thanking the Examiner for the interview, during which “Applicants’ representative discussed the amendments of independent claims 1, 10, and 15”).

LGE provides a plausible explanation for the amendment: During prosecution, the Examiner asserted Kobuko disclosed the first three limitations of Claim 1. Office Action (May 19, 2016), Dkt. No. 151-4 at 6. The Examiner mapped the displaying step to the icons in subdisplay 142, *id.*, which is shown in at least two figures as having multiple icons, *see* Kobuko figs.12–13 (item 142). Pantech and the Examiner then held their interview, after which Pantech amended “an icon” to “one icon.” As LGE asks, “why else would you ever switch the word ‘one’ for ‘an’ in that amendment . . . [i]f there wasn’t any intent to limit the term ‘an’ to ‘only one’”? Hr’g Tr., Dkt. No. 207 at 110:4–7. It’s a good question.

Nonetheless, this record does not rise to the level of disclaimer. Prosecution-history disclaimer may occur through argument or amendment, but in either case must be clear and unmistakable. *See Aylus Networks, Inc. v. Apple Inc.*, 856 F.3d 1353, 1359 (Fed. Cir. 2017). Here, Pantech did not articulate a clear reason for the change from “an” to “one”—two words with no apparent

difference in scope. Thus, the Court is left to infer the reason for the amendment and guess about the substance of the interview. While LGE's proffered explanation of the amendment is plausible, and maybe even likely, that does not render the alleged disclaimer "unmistakable." Accordingly, the Court rejects LGE's disclaimer argument and will give this term a "plain and ordinary meaning" construction.

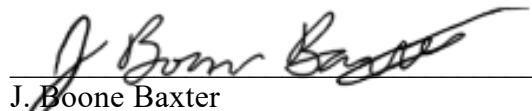
VI. CONCLUSION

U.S. Patent 9,854,545	
"eNB" / "evolved NodeB (eNB)" (Claims 2, 3)	Plain and ordinary meaning
"wherein each TA value is transmitted from the eNB for the respective UL timing group based on the transmitted RAP associated with a delegate CC of the respective UL timing group" (Claims 2, 3)	Plain and ordinary meaning
U.S. Patent 9,136,924	
"period of transmitting the information relating to the precoding matrix . . ." (Claims 17, 23)	"time interval between successive transmissions of the information relating to the precoding matrix . . ."
U.S. Patent 9,575,631	
"control menu" (Claims 1, 3)	Plain and ordinary meaning
"predetermined function" (Claims 1, 2)	"a function among those selected in advance"
"sequentially displaying icons" / "performing sequential display of icons" (Claims 1, 8)	Plain and ordinary meaning

“displaying one icon in a designated portion of a display” (Claim 1)	Plain and ordinary meaning
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The Court **ORDERS** each party not to refer, directly or indirectly, to its own or any other party’s claim-construction positions in the presence of the jury. Likewise, the Court **ORDERS** the parties to refrain from mentioning any part of this opinion, other than the actual positions adopted by the Court, in the presence of the jury. Neither party may take a position before the jury that contradicts the Court’s reasoning in this opinion. Any reference to claim construction proceedings is limited to informing the jury of the positions adopted by the Court.

SIGNED this the 23rd day of October, 2023.


 J. Boone Baxter
 UNITED STATES MAGISTRATE JUDGE