

EXHIBIT 2002

UNITED STATES DISTRICT COURT
CENTRAL DISTRICT OF CALIFORNIA

CIVIL MINUTES - GENERAL

Case No.	SACV 22-1073-GW-DFMx	Date	June 22, 2023
Title	<i>Mitsubishi Electronic Corporation, et al. v. TCL Communication Technology Holdings Limited, et al.</i>		

Present: The Honorable	GEORGE H. WU, UNITED STATES DISTRICT JUDGE		
Javier Gonzalez	None Present		
Deputy Clerk	Court Reporter / Recorder		Tape No.
Attorneys Present for Plaintiffs:		Attorneys Present for Defendants:	
None Present		None Present	
PROCEEDINGS: IN CHAMBERS - FINAL RULING ON <i>MARKMAN</i> /CLAIM CONSTRUCTION			

Attached is the Court's Final Ruling on *Markman*/Claim Construction.

Initials of Preparer JG

Mitsubishi Electric Corporation and Sisvel International S.A.; Case No. 8:22-cv-01073-GW-(DFMx)
Final Ruling on *Markman*/Claim Construction

I. Introduction

Plaintiffs Mitsubishi Electric Corporation and Sisvel International S.A. (“MELCO” or “Plaintiffs”) brought this action against TCL Communications Technology Holdings Limited, TCT Mobile International Limited, TCT Mobile, Inc., TCT Mobile (US) Inc., and TCT Mobile (US) Holdings Inc. (“TCL” or “Defendants”), alleging infringement of U.S. Patent Nos. 9,635,656 (the “’656 Patent”); 9,713,068 (the “’068 Patent”); and 10,200,976 (the “’976 Patent”) (collectively, the “Asserted Patents”). *See generally*, Complaint, Docket No. 1. The parties raise several claim constructions disputes relating to the ’656, ’068, and ’976 Patents. They submitted an Amended Joint Claim Construction and Prehearing Statement. *See* Docket No. 51. The parties also filed the following claim construction briefs and supporting documents:

- Plaintiffs’ Opening Claim Construction Brief (Docket No. 53);
- Defendants’ Opening Claim Construction Brief (Docket No. 52);
- Plaintiffs’ Amended Responsive Claim Construction Brief (Docket No. 57);
- Defendants’ Responsive Claim Construction Brief (Docket No. 55).

The Court held a technology tutorial on June 15, 2023 and a claim construction hearing on June 22, 2023. The Court construes the disputed terms as stated herein.

II. Background

The Asserted Patents generally relate to wireless communication networks. For purposes of their claim construction disputes, the parties request construction of eight terms from the Asserted Patents.

A. The ’656 Patent

The ’656 Patent, titled “Data Communication Method, Communication System and Mobile Terminal,” issued on April 25, 2017. It relates to a Long Term Evolution (“LTE”) compliant communication system in which a mobile terminal may transmit scheduling request (“SR”) signals and acknowledgment/negative acknowledgement (“Ack/Nack”) signals using a shared physical channel. *See* ’656 Patent, Abstract, 15:20-28, and 18:50-54. A mobile terminal sends SR signals to a base station to request allocation of radio resources. *Id.* at 2:46-54. A mobile terminal sends an Ack/Nack signal to provide an indication as to whether the mobile terminal received data

correctly from the base station. *Id.* at 2:25-35. A mobile terminal sends a channel quality indicator (“CQI”) to provide an indication as to the quality of the received data or the quality of the downlink communication path, *i.e.* the path from the base station to the mobile terminal. *Id.*

SR, Ack/Nack, and CQI signals are transmitted on uplink channels, *i.e.* from a mobile terminal to a base station. *See, id.* at 2:46-54. The mobile terminal may send SR signals on a synchronous random access channel (“S-RACH”). *Id.*, Abstract and 4:47-55. When uplink data transmission is not being performed, the mobile terminal may transmit Ack/Nack and CQI signals using an Ack/Nack exclusive channel. *Id.* at 3:35-53. Typically, the system would need a multi-carrier method to simultaneously transmit data associated with two physical channels (the S-RACH and the Ack/Nack exclusive channel). *Id.* at 8:4-13. In other words, the system would need to transmit the SR signal and the Ack/Nack signal at different frequencies.

An increase in the number of physical channels (frequencies in use) increases the radio resource load of the system and increases the peak to average power ratio (“PAPR”). *Id.* at 8:4-13. Here, the ’656 Patent purports to reduce the resource load and PAPR by scheduling SR signal transmission for the same frequency slot as Ack/Nack signal transmission. *See id.* at 7:55-8:3. This is possible because the system stops transmitting the Ack/Nack signal, and only transmits the SR signal, when scheduled transmission times for the respective channels coincide. *Id.* Accordingly, the system may transmit both types of signals (SR and Ack/Nack or CQI) using one physical channel (at the same frequency). *Id.* at 15:20-28.

Claim 3 recites:

3. A mobile terminal configured to:

transmit ***a quality notification signal*** for notifying down link communication quality to a base station, and

transmit a scheduling request signal with which to make a request for allocation of radio resources to said base station before transmitting transmission data to said base station, wherein said mobile terminal includes:

a transmitter configured to transmit said quality notification signal to said base station, and to transmit said scheduling request signal to said base station; and

a controller configured to perform a first control process that includes, when the mobile terminal has not been allocated a radio resource for transmitting said transmission data, transmitting said scheduling request signal to said base station, and a second control process that includes, ***when a transmission of said quality notification signal coincides with that of said scheduling request signal in said transmitter, stopping transmitting said quality***

notification signal during a time interval during which said transmitter transmits said scheduling request signal.

'656 Patent, Claim 3 (emphasis added to show disputed terms).

B. The '068 Patent

The '068 Patent, titled "Mobile Communication System" issued on June 18, 2017. It relates to an LTE compliant system involving communications via closed subscriber group ("CSG") cells. CSG cells are cells in a public network that only certain, registered subscribers may access. *See id.* at 5:21-52. Systems in buildings such as apartments, schools, and offices, may include large numbers of CSG cells. *Id.* at 6:36-45. CSG cells may also be installed in places that non-CSG cells cannot reach to allow communication with user equipment ("UE") through the CSG cells. *Id.* at 6:52-55. When a UE is within reach of many CSG cells, the system may continue to search for and identify CSG cells, regardless of whether a subscriber is registered and may actually use the CSG cells. *Id.* at 7:5-17. This overinclusive search and identification process can cause communication delays and tax system resources. *Id.* The '068 Patent purports to solve this problem by first checking which CSG cells a user may access and then performing the search and identification process on only those accessible cells. *Id.* at 8:12-32.

Claim 3 recites:

3. User equipments in a mobile communication system comprising user equipments, base stations provided to *cells for specific subscribers* that are accessible by said user equipments, a radio network controller managing an access made by said user equipments to said cells for specific subscribers, and a tracking area for tracking a location of said user equipments, the user equipments comprising units configured to:

request an update of said tracking area to said radio network controller through *said base stations manually selected by said user equipments*;

add said cells for specific subscribers to which said base stations are provided to a list of cells for specific subscribers authorized to access in response to said update of said tracking area being accepted by said radio network controller; and

receive a signal indicating that said radio network controller accepted said update of said tracking area to said user equipments through said base stations manually selected by said user equipments.

'068 Patent, Claim 3 (emphasis added to show disputed terms).

C. The '976 Patent

The '976 Patent, titled "Communication System and Communication Terminal Device Using Associated and Non-Associated Cells" issued on February 5, 2019. It relates to flexible

frequency allocation in an LTE advanced (“LTE-A”) system. ’976 Patent at 10:49-52. LTE-A supports frequency bandwidths larger than frequency bandwidths supported by LTE systems; however, higher frequency bands are not necessarily available at all times or across all resources. *Id.* at 10:22-31. Typically, in conventional systems, uplink and downlink resources occupy the same frequency band. *Id.* at 10:37-41. This convention presents inefficiencies in LTE-A systems, in which higher bands may be available for a discrete resource. *Id.* Accordingly, the ’976 Patent purports to provide a system configured to allocate a frequency band for paired uplink and downlink resources as well as a separate frequency band for only a downlink resource, to allow for flexible frequency allocation. *Id.* 11:29-39.

Claim 2 recites:

2. A communication terminal device performing radio communication with a base station device, wherein

the communication terminal device performs uplink communication using ***an associated cell configured by the base station to include a resource for uplink and a resource for downlink***, the resource for uplink being allocated to the uplink communication to the base station device, the resource for downlink being allocated to the downlink communication from the base station device, and

the communication terminal device performs downlink communication using the associated cell and ***a non-associated cell configured by the base station to include only another resource for downlink, the other resource for downlink being allocated to the downlink communication from the base station device.***

’976 Patent, Claim 2 (emphasis added to show disputed terms).

III. Legal Standard

Claim construction is an interpretive issue “exclusively within the province of the court.” *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372 (1996). It is “a question of law in the way that we treat document construction as a question of law,” with subsidiary fact-finding reviewed for clear error to Fed. R. Civ. P. 52(a)(6). *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 135 S.Ct. 831, 837-40 (2015). The claim language itself is the best guide to the meaning of a claim term. *See Vederi, LLC v. Google, Inc.*, 744 F.3d 1376, 1382 (Fed. Cir. 2014). This is because the claims define the scope of the claimed invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005). But a “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.” *Id.* at 1313. Thus, claims “must be read in view of the specification,” which is

“always highly relevant to the claim construction analysis.” *Phillips*, 415 F.3d at 1315 (internal quotations omitted).

Although claims are read in light of the specification, limitations from the specification must not be imported into the claims. *Abbott Labs. v. Sandoz, Inc.*, 566 F.3d 1282, 1288 (Fed. Cir. 2009). “[T]he line between construing terms and importing limitations can be discerned with reasonable certainty and predictability if the court’s focus remains on understanding how a person of ordinary skill in the art would understand the claim terms.” *Phillips*, 415 F.3d at 1323.

The prosecution history may lack the clarity of the specification, but it is “another established source of intrinsic evidence.” *Vederi*, 744 F.3d at 1382. “Like the specification, the prosecution history provides evidence of how the PTO and the inventor understood the patent.” *Phillips*, 415 F.3d at 1317 (citations omitted). “Furthermore, like the specification, the prosecution history was created by the patentee in attempting to explain and obtain the patent.” *Id.* “Yet because the prosecution history represents an ongoing negotiation between the PTO and the applicant, rather than the final product of that negotiation, it often lacks the clarity of the specification and thus is less useful for claim construction purposes.” *Id.*

Claim construction usually involves resolving disputes about the “ordinary and customary meaning” that the words of the claim would have had “to a person of ordinary skill in the art in question at the time of the invention.” *Phillips*, 415 F.3d at 1312-13 (internal quotations and citations omitted). But in some cases, claim terms will not be given their ordinary meaning because the specification defines the term to mean something else. “[A] claim term may be clearly redefined without an explicit statement of redefinition,” so long as a person of skill in the art can ascertain the definition by a reading of the patent documents. *Id.* at 1320; *see also Trustees of Columbia Univ. in City of New York v. Symantec Corp.*, 811 F.3d 1359, 1364 (Fed. Cir. 2016).

Where the patent itself does not make clear the meaning of a claim term, courts may look to “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 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 (internal quotations omitted). Sometimes, the use of “technical words or phrases not commonly understood” may give rise to a factual dispute, the determination of which will precede the ultimate legal question of the significance of the facts to the construction “in the context of the specific patent claim under review.” *Teva*, 135 S. Ct. at 849. “In some cases,

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. “In such circumstances, general purpose dictionaries may be helpful.” *Id.*

IV. Discussion

A. Agreed Upon Claim Terms

The parties have not agreed upon any constructions.

B. Disputed Claim Terms

1. “quality notification signal” (’656 Patent, Claim 3)

Plaintiffs’ Proposed Construction	Defendants’ Proposed Construction
No construction necessary.	Channel Quality Indication (CQI) signal.

Plaintiffs argue this term is readily understandable. Docket No. 53 at 12. Plaintiffs further argue that Defendants’ construction unduly limits the claim scope by importing the 3GPP term, CQI. *Id.* Plaintiffs argue that a CQI signal is just one type of quality notification signal and that descriptions of the CQI in the specification should not be read to limit claim 3. *Id.* at 12-13. Defendants argue that Plaintiffs improperly contend this term includes other types of signals, including precoding matrix indicator (“PMI”) and rank indication (“RI”) signals, as set forth in Plaintiffs’ infringement contentions. Docket No. 52 at 15. Defendants argue that the specification supports their narrow construction and does not teach PMI or RI signals. *Id.* at 15-16 (citing ’656 Patent at 2:32-35 and 2:42-46).

Affirmative constructions are necessary in only two situations: (1) when a patentee defines the term in the specification, or (2) when the patentee disavows the full scope of a term in the specification or during prosecution. *Thorner v. Sony Comput. Ent. Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012). Here, the specification provides a definition for the term “quality notification signal,” consistent with claim 3. Claim 3 teaches that the quality notification signal is sent uplink (from mobile terminal to base station) and that it includes information regarding downlink channel quality. *See* ’656 Patent, Claim 3. The specification provides: “[w]hen receiving data, via a downlink, from a base station, a mobile terminal transmits a signal . . . indicating either the quality of the received data or the quality of the downlink communication path to the base station via an uplink.” Accordingly, per the specification, a “quality notification signal” is “a signal indicating

either the quality of the received data or the quality of the downlink communication path.” *See Phillips*, 415 F.3d at 1315 (The claims “must be read in view of the specification,” which is “always highly relevant to the claim construction analysis.”)

Defendants do not propose the above construction; rather, Defendants insist the Court adopt their “channel quality indication (CQI) signal” construction. In support, Defendants cite portions of the specification that provide: “the quality information indicating the quality of the received data or the quality of the downlink communication path is referred to as a CQI” and “[a] CQI is a signal with which the mobile terminal notifies the downlink channel’s state (the communication path’s state) which the mobile terminal has measured to the base station, and the base station uses the CQI for downlink scheduling.” *Id.* at 2:32-35 and 2:42-46. These portions merely confirm that the quality notification signal is “a signal indicating either the quality of the received data or the quality of the downlink communication path,” and then provides that this type of signal may be referred to as a CQI. Thus, the term CQI is a technical name¹ for the signal that provides no additional information regarding the meaning of “quality notification signal.” “[C]laims are construed as an aid to the decision-maker, by restating the claims in non-technical terms.” *Abbott Lab’ys v. Sandoz, Inc.*, 544 F.3d 1341, 1360 (Fed. Cir. 2008) (citing *Multiform Desiccants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1477 (Fed.Cir.1998)). Accordingly, the Court declines to adopt Defendants’ construction as unhelpful to the trier of fact.

Defendants also raise Plaintiffs’ infringement contentions and appear to seek a construction expressly excluding PMI and RI signals. Whether the PMI and RI signals meet the Court’s construction is a question of fact. *See SRI Int’l v. Matsushita Elec. Corp. of Am.*, 775 F.2d 1107, 1118 (Fed. Cir. 1985). The Court will not resolve this factual infringement question at the claim construction stage. The parties may reserve their arguments, to the extent necessary, for the summary judgment stage of the case. *See id.*

For the foregoing reasons, the Court construes “quality notification signal” as “a signal indicating either the quality of the received data or the quality of the downlink communication path.”

¹ It also appears that CQI is a term of art under the 3GPP standard. *See* Docket No. 53 at 13. Neither party provides extrinsic evidence in support of a definition for “quality notification signal” as consistent with the definition for CQI under the 3GPP standard. Moreover, as discussed above, the intrinsic evidence adequately defines the term “quality notification signal.” *See Phillips*, 415 F.3d at 1314 (explaining that extrinsic evidence is not necessary when the patent itself sufficiently clarifies the meaning of the term at issue).

2. “when a transmission of said quality notification signal coincides with that of said scheduling request signal in said transmitter” (’656 Patent, Claim 3)

Plaintiffs’ Proposed Construction	Defendants’ Proposed Construction
No construction necessary.	When the [quality notification signal] is transmitted by the transmitter simultaneously with the transmission of the scheduling request signal. ²

Plaintiffs argue that the term “simultaneously” is inaccurate because claim 3 teaches staggered transmission of the signals. Docket No. 53 at 15. Defendants argue that the specification supports their construction that “coincides” means “simultaneously with.” Docket No. 52 (citing ’656 Patent at 16:7-18 and 18:23-26). Defendants also point to a dictionary definition supporting their position. *See* Docket No. 52-9. In their response, Defendants further argue that the “stopping transmitting” language is not inconsistent with “simultaneously” because something must be first being transmitted in order to stop it. Docket No. 55 at 7-8. Plaintiffs argue the dictionary definition is unnecessary. Docket No. 57 at 10. Plaintiff further argue “simultaneously” is either superfluous because it means the same thing as “coincides” or it is incorrect. *Id.* Plaintiffs also argue that the specification teaches that simultaneous transmission occurs in just one embodiment and that coincidental transmission would include that embodiment but also other embodiments in which transmission overlaps less precisely during the same time period. *Id.* at 10-11.

Here, the specification describes the transmission as being scheduled to occur “at the same timing.” ’656 Patent at 16:7-20. For instance, the specification teaches:

After, in ST604, determining the transmission timing of the uplink scheduling request signal SR, at the same time when the mobile terminal UE1 transmits the uplink scheduling request signal SR by using the S-RACH, the mobile terminal, in ST605, ***stops the transmission of a predetermined Ack/Nack symbol*** (or LB) of the uplink Ack/Nack exclusive channel or a CQI symbol (or LB), ***which the mobile terminal was originally scheduled to transmit at the same timing***, and ***suspends the transmission*** while the mobile terminal transmits the uplink scheduling request signal SR (symbol DTX or DTX of LB). This stop (DTX) of the transmission of the Ack/Nack symbol is performed by 20 the modulating unit 10 under the control of the control unit 15.

Id. (emphasis added). Both parties reference the language, “at the same tim[e],” to articulate their positions. Docket No. 52 at 17-18; Docket No. 57 at 10. Accordingly, the Court would find that

² Defendants agreed to eliminate the “same channel” requirement from their proposed construction. Docket No. 55 at 7. Accordingly, the Court does not address arguments related to the “same channel” dispute.

“coincides” means “occurs at the same time.” Defendants’ construction appears incorrect because the specification does not use the word “simultaneously” other than in the one embodiment the parties discuss. *See id.* at 18:23-26. Generally, courts should not limit constructions to single embodiments. *See Thorner*, 669 F.3d at 1366–67. Finally, though the Court does not make much of the general purpose dictionary definition Defendants cite, it appears consistent with the specification. *See* Docket No. 52-9 (defining “coincide” as “to occur at the same time . . .”).

The Court also addresses the parties’ technical disputes regarding this limitation of the ’656 Patent. First, the parties disagree regarding whether the signals must actually be in transmission at the same time versus merely scheduled to transmit at the same time. Claim construction is appropriate because the claim language does not necessarily resolve this dispute. *See O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co., Ltd.*, 521 F.3d 1351, 1360 (Fed. Cir. 2008). The specification teaches that “the mobile terminal . . . stops the transmission of a predetermined Ack/Nack . . . or a CQI symbol . . ., which the mobile terminal was **originally scheduled to transmit** at the same timing, and suspends the transmission while the mobile terminal transmits the . . . SR” ’656 Patent at 16:7-20 (emphasis added). This disclosure teaches temporarily preventing a scheduled transmission as opposed to stopping a transmission already in progress. Similarly, the specification teaches, “the mobile terminal **does not transmit** an Ack/Nack signal and/or a CQI signal . . . while transmitting an SR” *Id.* at 15:20-28 (emphasis added). In other embodiments, the specification appears to support Defendants’ interpretation. For instance, the Abstract discloses that “the transmission of the Ack/Nack signal is stopped” while “an Ack/Nack signal is being transmitted” *Id.*, Abstract. Similarly, the specification discloses, “stopping the response signal transmission process during a time interval during which the mobile terminal transmits the scheduling request signal.” *Id.* at 7:67-8:3. Therefore, the Court would find that “coincides,” within the context of claim 3, means “is scheduled to transmit or is transmitting at the same time.”

Second, Plaintiffs argue that “coincides” includes a less precise overlap in transmission timing. The Court is unsure what Plaintiffs mean by “less precise overlap,” and the specification does not support Plaintiffs’ interpretation. Though the specification discloses “a time interval during which the mobile terminal transmits the scheduling request signal,” this means only that the Ack/Nack or CQI signal cannot transmit “at the same time,” *i.e.*, during the same time interval, when the SR signal transmits. It does not support some other, less precise, overlap in transmission. As discussed above, the specification teaches that transmission of the quality notification signal

and the Ack/Nack signals are scheduled to occur “at the same tim[e].” *Id.* at 16:7-20. The Court would adopt this language instead of some less precise overlap.

For these reasons, the Court construes “when a transmission of said quality notification signal coincides with that of said scheduling request signal in said transmitter” as “when a transmission of said quality notification signal is scheduled to transmit or is transmitting at the same time as that of said scheduling request signal in said transmitter.”

3. “stopping transmitting said quality notification signal during a time interval during which said transmitter transmits said scheduling request signal” (’656 Patent, Claim 3)

Plaintiffs’ Proposed Construction	Defendants’ Proposed Construction
No construction necessary.	Suspending the transmission of said [quality notification signal] during a time interval when the transmitter is also transmitting a scheduling request signal. ³

According to Plaintiff, “stopping transmitting” means staggering the two signals when they are scheduled to transmit at the same time. Docket No. 53 at 17. Defendants propose using the term “suspending” because, according to Defendants, the signals are already being transmitted when they are stopped. *See* Docket No. 52 at 18.

The specification does not support Defendants’ interpretation that transmission must only be in progress in order to be stopped. In fact, the specification uses the term “suspends” to suggest that transmission of a scheduled Ack/Nack signal be delayed until transmission of an SR signal, scheduled to transmit at the same time, is complete. *See* ’656 Patent at 16:7-20. Also, as discussed above “coincides” encompasses situations when the signals are *scheduled* to transmit at the same time. *See* § IV.B.2, *supra*. This language suggests that transmission could be in progress, but does not have to be already in progress, to be stopped. Thus, while the term “suspending” appears accurate and consistent with the specification, Defendants’ characterization is not correct. Accordingly, the Court would adopt Defendants’ proposed construction with the understanding that “suspending” means either temporarily preventing a scheduled transmission or stopping an active transmission. Again, the parties’ dispute is really not about the words “stop” or “suspend” but about what is being “stopped” or “suspended.” As discussed above with respect to the term

³ Defendants agreed to eliminate the “same channel” language from this proposed construction. *See* n.1, *supra*.

“coincides,” the Court finds that the specification teaches either that a scheduled transmission is “stopped” or that a transmission already in progress is stopped. *See* § IV.B.2, *supra*.

For the foregoing reasons, the Court construes “stopping transmitting said quality notification signal during a time interval during which said transmitter transmits said scheduling request signal” as “suspending transmission of said quality notification signal during a time interval during which said transmitter transmits said scheduling request signal.”

4. “cells for specific subscribers” (’068 Patent, Claim 3)

Plaintiffs’ Proposed Construction	Defendants’ Proposed Construction
No construction necessary.	Home-eNB (HeNB) and Home-NB (HNB) ⁴ cells that support wireless communication only for user equipments of the subscribers allowed to use the HeNB or HNB cells.

Plaintiffs argue this term is readily understandable. Docket No. 52 at 17. Plaintiffs first argue that Defendants’ proposed construction unduly narrows “cells” to “Home-eNB (HeNB) cells” even though the specification teaches that the invention may be practiced in many different systems. *Id.* at 18 (citing ’068 Patent at 71:11-15, 73:48-53, 97:3-8, and 97:67-98:6). Plaintiff next argues that Defendants’ construction conflates “subscribers” with “user equipments” even though the specification discloses that “subscribers” can mean either “user equipments” or “subscribers.” *Id.* at 18 (citing ’068 Patent at 7:29-32). Defendants propose a construction limiting “cells” to either Home-eNodeB (“HeNB”) cell or Home-NodeB (“HNB”) cells. Docket No. 52 at 19; Docket No. 55 at 9. Defendants further argue that user equipments access cells for specific subscribers. *Id.* (citing ’068 Patent at 7:37-40). Defendants clarify that their construction does not replace subscribers with user equipments but rather explains that HeNB cells support wireless communication only for specific user equipments allowed to use those cells. Docket No. 55 at 10.

Here, the specification repeatedly teaches:

While the LTE using a HeNB in which a CSG is described above, the present invention is also applicable to a UMTS using a HNB in which a CSG is used, a HeNB in which a CSG is not used, a HNB, and a base station having a small radius (also referred to as pico cell or macro cell).

’068 Patent at 71:11-15; *see also id.* at 73:48-52 and 97:3-8. Accordingly, “cells for specific subscribers” could be HeNB or HNB cells or small radius base stations. Plaintiffs do not describe

⁴ Defendants agreed to broaden their construction to include pre-LTE devices. *See* Docket No. 55 at 9.

any other types of cells that the disputed term should cover. The Court adopts a construction specifying these types of cells, consistent with the specification.

As to the “subscribers” versus “user equipments” dispute, claim 3 teaches, “[u]ser equipments in a mobile communication system comprising user equipments, base stations provided to cells for specific subscribers that are accessible by said user equipments” ’068 Patent, Claim 3. The specification provides:

A mobile communication system according to the present invention includes user equipments, base stations and a radio network controller, . . . , the base stations provided respectively to *cells for specific subscribers that are open only to specific ones of the user equipments or subscribers* and cells for non-specific users that are allowed to be used by non-specific ones of the user equipments or users and executing scheduling of assignment of radio resources to the user equipments, the radio network controller managing a desired tracking area in which the user equipments are located through a plurality of the base stations and performing paging on the user equipments, in which the user equipments access the cells for specific subscribers using access allowance information issued upon use of the cells for specific subscribers being allowed”

’068 Patent at 7:22-40 (emphasis added). Thus, from claim 3, either the base stations provided to the “cells for specific subscribers” or the cells themselves must be accessible by specified user equipments. *Id.* at Claim 3. However, from the way the claim is drafted it is unclear whether the “accessible” clause modifies “cells” or “base stations.” The specification defines “cells for specific subscribers as cells that “are open only to specific user equipments or subscribers.” *Id.* at 7:22-40. Given this disclosure from the specification, it would appear that in claim 3, the “accessible” clause modifies “cells.” Accordingly, the Court adopts a claim construction that specifically mentions the user equipments. Further, though the specification appears to use “cells for specific subscribers” to mean cells accessible by specified user equipments or subscribers, it is unclear how a subscriber would access a cell without user equipment.

For the foregoing reasons, the Court construes “cells for specific subscribers” as “HeNB cells, HNB cells, or small radius base stations for specific subscribers open only to user equipments of the subscribers allowed to use the cells.”

5. “said base stations manually selected by user equipment” (’068 Patent, Claim 3)

Plaintiffs’ Proposed Construction	Defendants’ Proposed Construction
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No construction necessary.	Manual selection of a base station by a user of user equipments.
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The parties appear to dispute whether a user performs the manual selection of the base stations or whether the equipment itself selects the base stations. Plaintiffs argue Defendants' construction is superfluous and unhelpful to the trier of fact. Docket No. 53 at 19-20. Plaintiffs further argue that Defendants' construction overlooks the multi-step manual selection process disclosed with reference to FIG. 22 of the '068 Patent. *Id.* at 21 (citing '068 Patent at Fig. 2 and 25:19-35). Defendants argue the specification supports their interpretation, *i.e.*, that a user performs the manual selection. Docket No. 55 at 11 (citing '068 Patent at 32:51-53). Defendants argue that Plaintiffs' interpretation is illogical because user equipment cannot perform a manual selection. *Id.*; *see also* Docket No. 52 at 20. In response, Plaintiffs argue that the embodiment Defendants cite pertains to selecting "a desired cell" but not "base stations." Docket No. 57 at 14. In response, Defendants argue that the embodiment described with reference to Fig. 22 includes many steps that exceed the scope of the claim limitation at issue. Docket No. 55 at 11-12.

Here, manual selection refers to the process shown in Fig. 22 of the '068 Patent. The specification explains that to solve a problem where a communication issues leaves a UE without a whitelist, "3GPP proposes that the UE located outside the area of the non-CSG cell . . . starts manual search." '068 Patent at 24:55-25:3. However, 3GPP does not propose a specific manual search method. *Id.* at 25:13-14. Therefore, the '068 Patent purports to provide a specific manual search method, as shown in FIG. 22. *Id.* at 25:16-22. FIG. 22 shows a manual search method performed in part by a user in a CSG cell, an owner of the CSG cell, and a network operator:

The user performs user access registration with a UE in a CSG cell (here, Home-eNB), and then in Step ST2201, the owner of the CSG cell transmits, for example, an identification number of a UE (such as UE-ID and IMSI) to the core network for notifying the network operator that user access registration of the user equipment (UE) of the user with the CSG cell has been performed. In Step ST2202, the network operator who has received the identification number (such as UE-ID and IMSI) of the UE transmitted from the owner transmits an access allowance setting request from the core network to the CSG cell such that the UE can access the CSG cell. In Step ST2203, the CSG cell that has received the access allowance setting request performs setting to allow access from the UE.

'068 Patent at 25:22-35. Thus, the manual search method necessarily involves at least some user action, though it also includes actions from CSG cell owners and network operators. Similarly,

the specification teaches, “a desired cell among the one or the plurality of cells is manually selected by a user of the UE to establish the RRC connection.” *Id.* at 32:47-53. Thus, “manual selection” necessarily involves a user of the UE in at least some capacity. Further, allowing “manual selection” to encompass some automatic or solely equipment-performed process would render the limitation non-sensical. For claim 3 to make sense, especially when read in light of the specification, “manual selection” must encompass some user action. *See Carman Indus., Inc. v. Wahl*, 724 F.2d 932, 937 n.5 (Fed. Cir. 1983) (“Claims should be so construed, if possible, as to sustain their validity.”) (citations omitted).

For the foregoing reasons, the Court construes “manually selected by user equipment” as “selected by a process performed at least in part by a user of user equipment.”

6. “an associated cell configured by the base station to include a resource for uplink and a resource for downlink” (’976 Patent, Claim 2)

Plaintiffs’ Proposed Construction	Defendants’ Proposed Construction
No construction necessary.	A first type of cell that is controlled by a base station, where the first type of cell is configured with a resource for uplink and a resource for downlink, both assigned to a specific communication terminal device.

Plaintiffs argue this term is readily understandable. Docket No. 53 at 23. Plaintiffs further argue that Defendants’ construction is incorrect because it narrows “associated cell” to “a first type of cell” and it requires that the uplink and downlink resources be assigned to a specific communication terminal device. *Id.* Plaintiffs argue that the specification merely requires that an associated cell have downlink and uplink component carriers that are associated with each other; the specification imposes no other requirements. *Id.* at 25. Plaintiffs argue the “specific communication terminal” language is superfluous. *Id.* Defendants argue the specification discloses two types of cells because it refers to an “associated cell” as “cell1” and a “non-associated cell” as “cell2.” Docket No. 52 at 22 (citing ’976 Patent at 33:17-21 and 54:36-38). Each have different characteristics. *Id.* Defendants further argue the specification discloses a shared communication terminal. *Id.* at 23 (citing ’976 Patent at 11:15-17).

Here, the specification explains:

A cell1 is configured by a [first downlink component carrier] DL CC1 and a [first uplink component carrier] UL CC1. The carrier frequency of the UL CC1 to be associated with the DL CC1 is shown in the DL/UL link (link)

information of the cell. A cell2 is configured by only a [second downlink component carrier] DL CC2, where a UL CC is not configured. Therefore, it is indicated that a UL CC is not configured as the DL/UL link information of a cell. The cell1 corresponds to an associated cell, the DL CC1 corresponds to another resource for downlink, and the UL CC1 corresponds to a resource for uplink. The cell2 corresponds to a non-associated cell, and the DL CC2 corresponds to a resource for downlink.

'976 Patent at 33:14-25. Thus, the terms "cell1" and "cell2" correspond to "associated cell" and "non-associated" cell. While Defendants are not wrong that there are two "types" of cells, Defendants' construction in this respect presents a distinction without a difference. The terms "associated cell" and "non-associated cell" adequately convey two cells with different characteristics. *See United States Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997) (Claim construction "is not an obligatory exercise in redundancy.").

The above quoted portion of the specification further describes the characteristics of the associated and non-associated cells. The associated cell (cell1) is configured with a resource for downlink and a resource for uplink. The non-associated cell (cell2) is configured only with another resource for downlink, different from the downlink resource for the associated cell. However, the Court finds no construction necessary because the claim language itself already provides "an associated cell configured by the base station to include a resource for uplink and a resource for downlink" and "a non-associated cell configured by the base station to include only another resource for downlink." *See Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1248 (Fed. Cir. 1998) (Claim construction "begins and ends" with the words of the claims.).

Finally, claim 2 itself uses the definite article, "the," for both "the communication terminal device" and "the base station." This signifies that the communication terminal device that performs the uplink communication using the associated cell is the same communication terminal device that performs the downlink communication using the associated cell and the non-associated cell. '976 Patent, Claim 2. Further construction to include the word "specific" does not provide any additional clarity as to the claim scope. *See United States Surgical Corp.*, 103 F.3d at 1568.

For the foregoing reasons, the Court declines to construe this term. Plain and ordinary meaning governs.

7. "a non-associated cell configured by the base station to include only another resource for downlink" ('976 Patent, Claim 2)

Plaintiffs' Proposed Construction	Defendants' Proposed Construction
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No construction necessary.	A second type of cell that is controlled by the same base station that also controls the associated cell, where the second type of cell is configured to communicate only by another resource for downlink.
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The parties raise similar arguments to those summarized above with respect to “an associated cell configured by the base station to include a resource for uplink and a resource for downlink.” As discussed above, construction is unnecessary because the claim language itself provides, “a non-associated cell configured by the base station to include only another resource for downlink.” See *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d at 1348. Similarly, claim 2 uses the definite article, “the,” for “the base station.” This signifies that the base station that controls the associated cell is the same base stations that controls the non-associated cell. ’976 Patent, Claim 2. Further construction to include the words “same” and “also” do not provide any additional clarity as to the claim scope. See *United States Sugical Corp.*, 103 F.3d at 1568.

For the reasons set forth above, the Court declines to construe this term. Plain and ordinary meaning governs.

8. “the other resource for downlink being allocated to the downlink communication from the base station device” (’976 Patent, Claim 2)

Plaintiffs’ Proposed Construction	Defendants’ Proposed Construction
No construction necessary.	The another resource for downlink being allocated to the downlink communication from the base station device.

Defendants argue “the other resource” must be construed as “the another resource” to resolve an antecedent basis problem. Docket No. 52 at 25. As taught by claim 2, “another resource for downlink” is clearly the same as “the other resource for downlink.” ’976 Patent, Claim 2 (“ . . . configured by the base station to include only **another resource for downlink, the other resource for downlink . . .**”) (emphasis added). This language does not present an antecedent basis problem. See, e.g., *Dareltech, LLC v. Samsung Elecs. Co.*, No. 4:18CV702, 2020 WL 1248500, at *4-5 (E.D. Tex. Mar. 16, 2020) (adopting parties’ agreed construction wherein “another” provided antecedent basis for “the other”). Neither party presents any sincere argument to the contrary. Accordingly, the Court declines to construe this term. Plain and ordinary meaning governs.

V. Conclusion

For the reasons stated, the Court construes the disputed terms as follows:

Term	Court's Construction
“quality notification signal”	“a signal indicating either the quality of the received data or the quality of the downlink communication path”
“when a transmission of said quality notification signal coincides with that of said scheduling request signal in said transmitter”	“when a transmission of said quality notification signal is scheduled to transmit or is transmitting at the same time as that of said scheduling request signal in said transmitter”
“stopping transmitting said quality notification signal during a time interval during which said transmitter transmits said scheduling request signal”	“suspending transmission of said quality notification signal during a time interval during which said transmitter transmits said scheduling request signal”
“cells for specific subscribers”	“HeNB cells, HNB cells, or small radius base stations for specific subscribers open only to user equipments of the subscribers allowed to use the cells”
“said base stations manually selected by user equipment”	“selected by a process performed at least in part by a user of user equipment”
“an/the associated cell configured by the base station to include a resource for uplink and a resource for downlink”	Plain and ordinary meaning.
“a non-associated cell configured by the base station to include only another resource for downlink”	Plain and ordinary meaning.
“the other resource for downlink being allocated to the downlink communication from the base station device”	Plain and ordinary meaning.