

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

OPTIS CELLULAR TECHNOLOGY,  
LLC and PANOPTIS PATENT  
MANAGEMENT, LLC,

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Plaintiffs,

vs.

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KYOCERA CORPORATION, et al.,

§  
§  
§  
§

2:16-cv-0059-JRG-RSP  
Lead Case

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BLACKBERRY CORPORATION, et al.,

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§

2:16-cv-0060-JRG-RSP  
Consolidated

Defendants.

**CLAIM CONSTRUCTION  
MEMORANDUM AND ORDER**

On January 10, 2017, the Court held an oral hearing to determine the proper construction of the disputed claim terms in U.S. Patent Nos. 8,019,332 (the “332 Patent”), 8,102,833 (the “833 Patent”) 8,174,506 (the “506 Patent”), and 8,437,293 (the “293 Patent”) (collectively the “Asserted Patents”). The Court has considered the parties’ claim construction briefing (Dkt. Nos. 99, 100, and 101) and arguments. Based on the intrinsic and extrinsic evidence, the Court construes the disputed terms in this Memorandum Opinion and Order. *See Phillips v. AWH Corp.*, 415 F.3d

1303 (Fed. Cir. 2005); *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831 (2015).

## **BACKGROUND**

Plaintiffs Optis Cellular Technology, LLC and PanOptis Patent Management, LLC (“Plaintiffs”) assert the Asserted Patents against Defendants Blackberry Limited and Blackberry Corporation, (“Defendants”). Plaintiffs contend that three of the Asserted Patents, the ’332 Patent, the ’833 Patent and the ’293 Patent, are essential to the LTE standard for wireless communications. The ’506 Patent relates to the use of touch screens.

The ’332 Patent relates to use of the Physical Downlink Control Channel (PDCCH) for communications between user equipment (UE) such as a mobile station and a base station in a cellular communication network. The Abstract of the ’332 Patent recites:

A method for efficiently transmitting and receiving control information through a Physical Downlink Control Channel (PDCCH) is provided. When a User Equipment (UE) receives control information through a PDCCH, the received control information is set to be decoded in units of search spaces, each having a specific start position in the specific subframe. Here, a modulo operation according to a predetermined first constant value (D) is performed on an input value to calculate a first result value, and a modulo operation according to a predetermined first variable value (C) corresponding to the number of candidate start positions that can be used as the specific start position is performed on the calculated first result value to calculate a second result value and an index position corresponding to the second result value is used as the specific start position. Transmitting control information in this manner enables a plurality of UEs to efficiently receive PDCCHs without collisions.

’332 Patent Abstract. More particularly, the ’332 Patent describes UE receiving control information through the PDCCH. Multiple UEs may utilize the PDCCH of a base station. A particular UE is provided with a search space of the PDCCH. A particular UE need not decode all possible PDCCH positions to receive its PDCCH information, but rather just the UE’s particular positions of the PDCCH provided in the UE’s search space. ’332 Patent Abstract, 2:18-31.

The '833 Patent relates to a method of transmitting uplink control signals, in particular transmission acknowledgement (ACK) and not acknowledged (NACK) signals which indicate the receipt status of transmissions. The Abstract of the '833 Patent recites:

A method for transmitting uplink signals, which include ACK/NACK signals, control signals other than the ACK/NACK signals, and data signals, is disclosed. The method comprises serially multiplexing the control signals and the data signals; sequentially mapping the multiplexed signals within a specific resource region in accordance with a time-first mapping method, the specific resource region including a plurality of symbols and a plurality of virtual subcarriers; and arranging the ACK/NACK signals at both symbols near symbols to which a reference signal of the plurality of symbols is transmitted. Thus, the uplink signals can be transmitted to improve receiving reliability of signals having high priority.

'833 Patent Abstract. More particularly, the '833 Patent relates to multiplexing control signals (including ACK/NACK control signals and control signals other than ACK/NACK) and data signals. The multiplexed signals are mapped to a resource region. The ACK/NACK signals are mapped in a particular manner. '833 Patent Abstract, 2:14-27.

The '293 Patent relates to scheduling uplink requests between a mobile terminal and a base station. The Abstract of the '293 Patent recites:

Aspects of the present invention relate to the scheduling of resources in a telecommunication system that includes a mobile terminal and base station. In one embodiment, the mobile terminal sends an initial scheduling request to a base station. Subsequently, the mobile terminal does not transmit a scheduling request to the base station unless and until a scheduling request triggering event is detected.

'293 Patent Abstract. More particularly, the '293 Patent relates to a method for transmitting scheduling requests from the mobile terminal to the base station to allocate resources of the base station. A mobile terminal may transmit a first scheduling request to the base station. The mobile terminal may then receive a scheduling grant from the base station and data may correspondingly be transmitted to the base station. A scheduling request triggering event may subsequently occur,

in which case the mobile station may transmit a second scheduling request to the base station. '293 Patent Abstract, 3:1-22.

The '506 Patent relates to touch screens and the movement of objects, such as icons, on touch screens. The Abstract of the '293 Patent recites:

A method of displaying an object and a terminal capable of implementing the same. The method includes displaying an object movable on a touchscreen of a terminal at a first position on the touchscreen; and if a first touch action is carried out on the object, fixing the object to the first position.

'506 Patent Abstract. More particularly, a user may move an icon to a particular position of the screen in response to a first touch action, such as a drag and drop action. '506 Patent 4:41-54, Figure 4. A second touch action releases the icon allowing the icon to be moved to another position on the screen. *Id.* at 5:57-61.

### **LEGAL PRINCIPLES**

“It is a ‘bedrock principle’ of patent law that ‘the 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) (quoting *Innova/Pure Water Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). To determine the meaning of the claims, courts start by considering the intrinsic evidence. *Id.* at 1313; *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 861 (Fed. Cir. 2004); *Bell Atl. Network Servs., Inc. v. Covad Commc’ns Group, Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001). The intrinsic evidence includes the claims themselves, the specification, and the prosecution history. *Phillips*, 415 F.3d at 1314; *C.R. Bard, Inc.*, 388 F.3d at 861. The general rule—subject to certain specific exceptions discussed *infra*—is that each claim term is construed according to its ordinary and accustomed meaning as understood by one of

ordinary skill in the art at the time of the invention in the context of the patent. *Phillips*, 415 F.3d at 1312–13; *Alloc, Inc. v. Int’l Trade Comm’n*, 342 F.3d 1361, 1368 (Fed. Cir. 2003); *Azure Networks, LLC v. CSR PLC*, 771 F.3d 1336, 1347 (Fed. Cir. 2014) (“There is a heavy presumption that claim terms carry their accustomed meaning in the relevant community at the relevant time.”) (vacated on other grounds).

“The claim construction inquiry. . . begins and ends in all cases with the actual words of the claim.” *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1248 (Fed. Cir. 1998). “[I]n all aspects of claim construction, ‘the name of the game is the claim.’” *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1298 (Fed. Cir. 2014) (quoting *In re Hiniker Co.*, 150 F.3d 1362, 1369 (Fed. Cir. 1998)). A term’s context in the asserted claim can be instructive. *Phillips*, 415 F.3d at 1314. Other asserted or unasserted claims can also aid in determining the claim’s meaning, because claim terms are typically used consistently throughout the patent. *Id.* Differences among the claim terms can also assist in understanding a term’s meaning. *Id.* For example, when a dependent claim adds a limitation to an independent claim, it is presumed that the independent claim does not include the limitation. *Id.* at 1314–15.

“[C]laims ‘must be read in view of the specification, of which they are a part.’” *Id.* (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc)). “[T]he specification ‘is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.’” *Id.* (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)); *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002). But, “[a]lthough the specification may aid the court in interpreting the meaning of disputed claim language, particular embodiments and examples appearing in the specification will not generally be read into the claims.” *Comark Commc’ns, Inc.*

*v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998) (quoting *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988)); *see also Phillips*, 415 F.3d at 1323. “[I]t is improper to read limitations from a preferred embodiment described in the specification—even if it is the only embodiment—into the claims absent a clear indication in the intrinsic record that the patentee intended the claims to be so limited.” *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 913 (Fed. Cir. 2004).

The prosecution history is another tool to supply the proper context for claim construction because, like the specification, the prosecution history provides evidence of how the U.S. Patent and Trademark Office (“PTO”) and the inventor understood the patent. *Phillips*, 415 F.3d at 1317. However, “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.* at 1318; *see also Athletic Alternatives, Inc. v. Prince Mfg.*, 73 F.3d 1573, 1580 (Fed. Cir. 1996) (ambiguous prosecution history may be “unhelpful as an interpretive resource”).

Although extrinsic evidence can also be useful, it is “less significant than the intrinsic record in determining the legally operative meaning of claim language.” *Phillips*, 415 F.3d at 1317 (quoting *C.R. Bard, Inc.*, 388 F.3d at 862). Technical dictionaries and treatises may help a court understand the underlying technology and the manner in which one skilled in the art might use claim terms, but technical dictionaries and treatises may provide definitions that are too broad or may not be indicative of how the term is used in the patent. *Id.* at 1318. Similarly, expert testimony may aid a court in understanding the underlying technology and determining the particular meaning of a term in the pertinent field, but an expert’s conclusory, unsupported assertions as to a term’s definition are entirely unhelpful to a court. *Id.* Generally, extrinsic

evidence is “less reliable than the patent and its prosecution history in determining how to read claim terms.” *Id.* The Supreme Court recently explained the role of extrinsic evidence in claim construction:

In some cases, however, the district court will need to look beyond the patent’s intrinsic evidence and to consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period. *See, e.g., Seymour v. Osborne*, 11 Wall. 516, 546 (1871) (a patent may be “so interspersed with technical terms and terms of art that the testimony of scientific witnesses is indispensable to a correct understanding of its meaning”). In cases where those subsidiary facts are in dispute, courts will need to make subsidiary factual findings about that extrinsic evidence. These are the “evidentiary underpinnings” of claim construction that we discussed in *Markman*, and this subsidiary fact finding must be reviewed for clear error on appeal.

*Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 841 (2015).

#### **A. Departing from the Ordinary Meaning of a Claim Term**

There are “only two exceptions to [the] general rule” that claim terms are construed according to their plain and ordinary meaning: “1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of the claim term either in the specification or during prosecution.”<sup>1</sup> *Golden Bridge Tech., Inc. v. Apple Inc.*, 758 F.3d 1362, 1365 (Fed. Cir. 2014) (quoting *Thorner v. Sony Computer Entm’t Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012)); *see also GE Lighting Solutions, LLC v. AgiLight, Inc.*, 750 F.3d 1304, 1309 (Fed. Cir. 2014) (“[T]he specification and prosecution history only compel departure from the plain meaning in two instances: lexicography and disavowal.”). The standards for finding lexicography or disavowal are “exacting.” *GE Lighting Solutions*, 750 F.3d at 1309.

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<sup>1</sup> Some cases have characterized other principles of claim construction as “exceptions” to the general rule, such as the statutory requirement that a means-plus-function term is construed to cover the corresponding structure disclosed in the specification. *See, e.g., CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1367 (Fed. Cir. 2002).

To act as his own lexicographer, the patentee must “clearly set forth a definition of the disputed claim term,” and “clearly express an intent to define the term.” *Id.* (quoting *Thorner*, 669 F.3d at 1365); *see also Renishaw*, 158 F.3d at 1249. The patentee’s lexicography must appear “with reasonable clarity, deliberateness, and precision.” *Renishaw*, 158 F.3d at 1249.

To disavow or disclaim the full scope of a claim term, the patentee’s statements in the specification or prosecution history must amount to a “clear and unmistakable” surrender. *Cordis Corp. v. Boston Sci. Corp.*, 561 F.3d 1319, 1329 (Fed. Cir. 2009); *see also Thorner*, 669 F.3d at 1366 (“The patentee may demonstrate intent to deviate from the ordinary and accustomed meaning of a claim term by including in the specification expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope.”). “Where an applicant’s statements are amenable to multiple reasonable interpretations, they cannot be deemed clear and unmistakable.” *3M Innovative Props. Co. v. Tredegar Corp.*, 725 F.3d 1315, 1326 (Fed. Cir. 2013).

**B. Functional Claiming and 35 U.S.C. § 112, ¶ 6 (pre-AIA) / § 112(f) (AIA)<sup>2</sup>**

A patent claim may be expressed using functional language. *See* 35 U.S.C. § 112, ¶ 6; *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1347–49 & n.3 (Fed. Cir. 2015) (en banc in relevant portion). Section 112, Paragraph 6, provides that a structure may be claimed as a “means . . . for performing a specified function” and that an act may be claimed as a “step for performing a specified function.” *Masco Corp. v. United States*, 303 F.3d 1316, 1326 (Fed. Cir. 2002).

But § 112, ¶ 6 does not apply to all functional claim language. There is a rebuttable presumption that § 112, ¶ 6 applies when the claim language includes “means” or “step for” terms, and that it does not apply in the absence of those terms. *Masco Corp.*, 303 F.3d at 1326;

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<sup>2</sup> Because the applications resulting in the Asserted Patents were filed before September 16, 2012, the effective date of the AIA, the Court refers to the pre-AIA version of § 112.



*Williamson*, 792 F.3d at 1348. The presumption stands or falls according to whether one of ordinary skill in the art would understand the claim with the functional language, in the context of the entire specification, to denote sufficiently definite structure or acts for performing the function. *See Media Rights Techs., Inc. v. Capital One Fin. Corp.*, 800 F.3d 1366, 1372 (Fed. Cir. 2015) (§ 112, ¶ 6 does not apply when “the claim language, read in light of the specification, recites sufficiently definite structure” (quotation marks omitted) (citing *Williamson*, 792 F.3d at 1349; *Robert Bosch, LLC v. Snap-On Inc.*, 769 F.3d 1094, 1099 (Fed. Cir. 2014))); *Williamson*, 792 F.3d at 1349 (§ 112, ¶ 6 does not apply when “the words of the claim are understood by persons of ordinary skill in the art to have sufficiently definite meaning as the name for structure”); *Masco Corp.*, 303 F.3d at 1326 (§ 112, ¶ 6 does not apply when the claim includes an “act” corresponding to “how the function is performed”); *Personalized Media Communications, L.L.C. v. International Trade Commission*, 161 F.3d 696, 704 (Fed. Cir. 1998) (§ 112, ¶ 6 does not apply when the claim includes “sufficient structure, material, or acts within the claim itself to perform entirely the recited function . . . even if the claim uses the term ‘means.’” (quotation marks and citation omitted)).

When it applies, § 112, ¶ 6 limits the scope of the functional term “to only the structure, materials, or acts described in the specification as corresponding to the claimed function and equivalents thereof.” *Williamson*, 792 F.3d at 1347. Construing a means-plus-function limitation involves multiple steps. “The first step . . . is a determination of the function of the means-plus-function limitation.” *Medtronic, Inc. v. Advanced Cardiovascular Sys., Inc.*, 248 F.3d 1303, 1311 (Fed. Cir. 2001). “[T]he next step is to determine the corresponding structure disclosed in the specification and equivalents thereof.” *Id.* A “structure disclosed in the specification is ‘corresponding’ structure only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim.” *Id.* The focus of the “corresponding structure”

inquiry is not merely whether a structure is capable of performing the recited function, but rather whether the corresponding structure is “clearly linked or associated with the [recited] function.”

*Id.* The corresponding structure “must include all structure that actually performs the recited function.” *Default Proof Credit Card Sys. v. Home Depot U.S.A., Inc.*, 412 F.3d 1291, 1298 (Fed. Cir. 2005). However, § 112 does not permit “incorporation of structure from the written description beyond that necessary to perform the claimed function.” *Micro Chem., Inc. v. Great Plains Chem. Co.*, 194 F.3d 1250, 1258 (Fed. Cir. 1999).

For § 112, ¶ 6 limitations implemented by a programmed general purpose computer or microprocessor, the corresponding structure described in the patent specification must include an algorithm for performing the function. *WMS Gaming Inc. v. Int’l Game Tech.*, 184 F.3d 1339, 1349 (Fed. Cir. 1999). The corresponding structure is not a general purpose computer but rather the special purpose computer programmed to perform the disclosed algorithm. *Aristocrat Techs. Austl. Pty Ltd. v. Int’l Game Tech.*, 521 F.3d 1328, 1333 (Fed. Cir. 2008).

### AGREED TERMS

In the Joint Claim Construction Chart, the parties agreed to the following terms:

<b>Term</b>	<b>Agreed Construction</b>
“search space of the PDCCH” / “search space” (’332 Patent Claims 1, 5, 6, and 10)	a region that the UE needs to attempt to decode to receive a PDCCH
“means for transmitting...to [a/the] base station” (’293 Patent Claim 20)	<p>This claim term should be governed by 35 U.S.C. § 112(6) and the parties identify one or more of the following structure(s), act(s), or materials correspond to this claim term:</p> <p><b>Structure:</b> FIG. 7 (700 incl. “Transceiver” and antenna), col. 9:53-55, and/or equivalents thereof.</p> <p><b>Function:</b> “transmitting to a/the base station”</p>

<p>“means for receiving...from the base station” (’293 Patent Claim 20)</p>	<p>This claim term should be governed by 35 U.S.C. § 112(6) and the parties identify one or more of the following structure(s), act(s), or materials correspond to this claim term:</p> <p><b>Structure:</b> FIG. 7 (700 incl. “Transceiver” and antenna), col. 8:23-24, 9:53-55, and/or equivalents thereof.</p> <p><b>Function:</b> “receiving from the base station”</p>
<p>“triggering event detection means for determining whether a scheduling request triggering event has occurred” (’293 Patent Claim 20)</p>	<p>This claim term should be governed by 35 U.S. C. § 112(6) and the parties identify one or more of the following structure(s), act(s), or materials correspond to this claim term:</p> <p><b>Structure:</b> a data processor executing software, as described in connection with data processor 706 and software 708 of FIG. 7 and at col. 9:48-53, implementing the algorithm described in FIG. 6b, in FIG. 5 and step 616 of FIG. 6a, and at cols. 6:16-32, 6:36-45, 6:57-7:3, 7:5-14, 7:42-8:2, 8:29-33, 8:41-9:10</p> <p><b>Function:</b> “determining whether a scheduling request triggering event has occurred”</p>
<p>“means for comparing the transmit buffer status information transmitted to the base station with new information concerning the status of the transmit buffer” (’293 Patent Claim 21)</p>	<p>This claim term should be governed by 35 U.S.C. § 112(6) and the parties identify one or more of the following structure(s), act(s), or materials correspond to this claim term:</p> <p><b>Structure:</b> a data processor executing software, as described in connection with data processor 706 and software 708 of FIG. 7 and at col. 9:48-53, implementing the algorithm described in FIG. 5, at cols. 6:16-26, 6:62-66, 7:64-8:2, and the comparison described at 8:57-60 (“comparing information in the buffer status report stored in step 612 to newly generated information reflecting the status of the current state of the transmit buffer”)</p> <p><b>Function:</b> “comparing the transmit buffer status information transmitted to the base</p>

	station with new information concerning the status of the transmit buffer”
“means for determining whether second data that is available for transmission from the mobile terminal to the base station has a higher priority than the first data” (’293 Patent Claim 22)	<p>This claim term should be governed by 35 U.S.C. § 112(6) and the parties identify one or more of the following structure(s), act(s), or materials correspond to this claim term:</p> <p><b>Structure:</b> a data processor executing software, as described in connection with data processor 706 and software 708 of FIG. 7 and at col. 9:48-53, implementing the algorithm described in FIG. 5 and step 658 of FIG. 6b, and at cols. 6:36-45, 6:62-66, 7:61-8:2, 8:55-63</p> <p><b>Function:</b> “determining whether second data that is available for transmission from the mobile terminal to the base station has a higher priority than the first data”</p>
“means for determining whether the amount of time that has elapsed since the first SR was transmitted exceeds a threshold” (’293 Patent Claim 23)	<p>This claim term should be governed by 35 U.S.C. § 112(6) and the parties identify one or more of the following structure(s), act(s), or materials correspond to this claim term:</p> <p><b>Structure:</b> a data processor executing software, as described in connection with data processor 706 and software 708 of FIG. 7 and at col. 9:48-53, implementing the algorithm described in FIG. 5 and step 662 of FIG. 6b, and at cols. 6:36-45, 6:62-66, 7:2-3, 9:7-10</p> <p><b>Function:</b> “determining whether the amount of time that has elapsed since the first SR was transmitted exceeds a threshold”</p>

(Dkt. No. 102-1 at 1, 23-31.) Though not identified in the final joint claim chart, the parties identified the following term in the briefing as agreed:

<b>Term</b>	<b>Agreed Construction</b>
“a processor serially multiplexing first control signals and data signals...” (’833 Patent Claim 8)	No construction necessary.

(Dkt. No. 99 at 15; Dkt. No. 100 at 18.)

## **DISPUTED TERMS**

1. **“set of PDCCH candidates within a search space” / “set of PDCCH candidates of the search space”** [’332 Patent Claims 1, 5, 6, 10]

<b>Plaintiffs’ Proposed Construction</b>	<b>Defendants’ Proposed Construction</b>
No construction necessary. PanOptis proposes that the term be construed in accordance with its plain and ordinary meaning.	one or more UE-specific PDCCH positions within a region that the UE needs to attempt to decode to receive a PDCCH

The parties dispute whether the “set” has to be “UE-specific.” In other words, does the search space for one UE have to be specific to that UE and without overlap with another UE?

### **Positions of the Parties**

Plaintiffs contend that a set of PDCCH (Physical Download Control Channel) candidates are simply candidates for PDCCH. Plaintiffs contend that the asserted claims provide details for determining which set of PDCCH candidates to decode based on Control Channel Elements (CCE), the total number of CCEs, and the claimed calculations / constants. (Dkt. No. 99 at 5.) Plaintiffs contend that nothing in the claim requires the PDCCH candidates to be UE specific. Plaintiffs contend that though the patent is designed to minimize collisions between the search space of one UE and another, the patent explicitly contemplates that there is a non-zero probability that two different UEs may use the same PDCCH. Specifically, for support, Plaintiffs point to the statement that there is a “probability that UEs having two different UE IDs use the same PDCCH decoding region” and the accompanying tables that list such probabilities. (*Id.* (quoting ’332 Patent 13:20-22 and citing 13:14-19:65 and accompanying tables).)

Defendants contend that the ’332 Patent makes clear that the allocating of different PDCCH candidates to different UEs is the purpose of the invention. Specifically, Defendants contend that the patent describes the “present invention” as relating to “efficiently” transmitting and receiving

information through the PDCCH. '332 Patent 1:23-26. Defendants contend that the patent then explains that information is “more efficiently” transmitted “if different PDCCH decoding regions (or spaces) are allocated to different UEs” and the UEs “do not have an overlapping PDCCH decoding region.” *Id.* at 5:43-47. Defendants also point to a portion of the passage:

These two methods are similar in that the overlapping PDCCH decoding region can be reduced if the search space of each UE has a different start position. Accordingly, an embodiment of the present invention suggests that different UE search spaces be set to have different start positions as described above to minimize overlapping of search spaces that UEs need to attempt to decode in order to receive a PDCCH. Reducing overlapping of PDCCH decoding regions in this manner increases the number of UEs to which the base station can simultaneously transmit control information through scheduling.

*Id.* at 6:1-11.

Defendants contend that the specification disparages prior art solutions in which UEs must decode common (“overlapping”) PDCCH regions:

However, the number of combinations of PDCCH regions for transmission of control information may be great. Excessive UE processing performance may be required for the UE to decode all PDCCH regions.

*Id.* at 2:4-7; *see also id.* 5:27-40 (“The number of all possible regions ... may be too great....”).

Defendants also point to the statements that “the number of UEs that are simultaneously controllable is restricted” “if all different UEs decode the same limited PDCCH decoding region.”

*Id.* at 5:35-42. Defendants also point to the statement that “overlapping of PDCCH decoding regions can be minimized.” *Id.* at 12:56-59. Defendants state that the Federal Circuit has found that disparagement of alternatives excludes such alternatives from the scope of the claim. *See UltimatePointer, LLC v. Nintendo Co., Ltd.*, 816 F.3d 816, 822 (Fed. Cir. 2016).

As to Plaintiffs’ contention that there is a probability that overlap may occur, Defendants contend that such inadvertent collisions do not negate the clear disclaimer of methods that decode

a common search space. (Dkt. No. 100 at 8.) Defendants contend that their construction does not exclude the possibility of inadvertent overlap, it merely requires that each UE decode PDCCH positions designed to be specific. (*Id.* (citing Negus Decl. as explaining how UE specific PDCCH positions differ from a common search space even in light of possible collisions).) Defendants contend that the specification teaches that notwithstanding the minimized possibility of inadvertent overlap, the patent requires the use of UE-specific PDCCH candidates, rather than a search space common across UEs. (*Id.* at 8-9.)

In reply, Plaintiffs contend that Defendants' expert (Negus) states that for a search space to be UE-specific, "the 'region' and the 'PDCCH positions' therein must be 'UE-specific.'" (Dkt. No. 101 at 1 (quoting Negus Decl.)) Plaintiffs contend that this restrictive reading directly conflicts with the patent specification which is concerned with reducing overlap, not eliminating it:

These two methods are similar in that the overlapping PDCCH decoding region can be *reduced* if the search space of each UE has a different start position. Accordingly, an embodiment of the present invention suggests that different UE search spaces be set to have different start positions as described above to minimize overlapping of search spaces that UEs need to attempt to decode in order to receive a PDCCH. *Reducing* overlapping of PDCCH decoding regions in this manner increases the number of UEs to which the base station can simultaneously transmit control information through scheduling.

'332 Patent 6:1-11 (emphasis added). Plaintiffs state that nowhere does the specification contemplate complete elimination of overlap. Plaintiffs contend that Defendants have not pointed to clear disavowal mandating complete elimination of overlap. (Dkt. No. 101 at 1-2.)

Plaintiffs contend that Defendants have created the term "common" search spaces, arguing that the patent requires UE-specific PDCCH candidates, rather than a search space "common" across UEs. Plaintiffs state that Defendants have defined "common" search space as one that has

“overlap” without a distinction as to the degree of overlap. (*Id.* at 2.) Plaintiffs contend that this conflicts with the specification which describes using different start positions to *reduce* the overlap. *Id.* Plaintiffs contend that Defendants argue “inadvertent overlap” may occur but that Defendants do not state how this is somehow different from what Defendants call a “common” search space. Plaintiffs contend that under Defendants’ construction, there can be no overlap, inadvertent or otherwise. (Dkt. No. 101 at 2.)

Plaintiffs also object to Defendants’ statements that having UE-specific candidates “requires that each UE decode PDCCH positions designed to be specific to that UE (e.g., by calculating the positions using the UE’s unique ID.” (*Id.* (quoting Dkt. No. 100 at 8).) Plaintiffs contend, however, that such a limitation is unnecessary as the claims provide detailed limitations of which candidates the UE is required to decode:

decoding a set of PDCCH candidates within a search space of the PDCCH at the subframe  $k$ , wherein each of the set of PDCCH candidates comprises  $L$  control channel elements (CCEs), wherein the  $L$  CCEs corresponding to a specific PDCCH candidate among the set of PDCCH candidates of the search space at the subframe  $k$  are contiguously located from a position given by using a variable of  $Y_k$  for the subframe  $k$  and a modulo  $C$  operation, wherein  $C$  is determined as  $\text{floor}(N/L)$ , wherein  $N$  represents a total number of CCEs in the subframe  $k$ , and wherein  $Y_k$  is defined by:

$$Y_k = (A * Y_{k-1}) \bmod D,$$

wherein  $A$ , and  $D$  are predetermined constant values.

*Id.* at 20:40-49 (claim 1).

### **Analysis**

The specification does not teach that the search space for each UE is non-overlapping with the search space for another UE. Rather, the specification clearly teaches that overlap is desired to be minimized. Thus, the overlap “can be *reduced* if the search space of each UE has a different start position.” ’332 Patent 6:2-3 (emphasis added). Similarly, the disclosed embodiment states



that such starting positions “*minimize overlapping* of search spaces that UEs need to attempt to decode.” *Id.* at 6:6-7 (emphasis added). Likewise, “[r]educing overlapping PDCCH decoding regions” improves the efficiency. *See Id.* at 6:8-11. Thus, the specification is clear that the search spaces do not have to be completely non-overlapping, rather the specification merely teaches reducing such overlap. The specification further provides a number of mathematical expressions and variables that can be selected, again so that “overlapping of PDCCH decoding regions can be minimized.” *Id.* at 12:49-65. The performance of the various variables is described as “the number of hits” and “the determined number of hits [is] used as a probability that UEs having two different UE IDs use the same PDCCH decoding region (i.e., as a criterion for determining performance).” *Id.* at 12:66-13:1, 13:20-22. The specification then provides a number of variable parameters and values and associated probabilities in Tables 2-4. In this context, it is clear that overlapping regions are not eliminated but rather explicitly designed to only be reduced. The specification therefore does not support Defendants’ construction. Furthermore, as pointed out by Plaintiffs, the claim itself provides explicit details regarding the candidates within a search space by the claimed variables and formula presented. This also counsels against Defendants’ construction. The Court rejects Defendants’ contention that the search space must be UE specific such that there can be no overlap of search spaces.

**The Court finds that “set of PDCCH candidates within a search space” / “set of PDCCH candidates of the search space” have their plain and ordinary meanings and no further construction is required.**

## **2. Mapping Terms**

**“mapping” / “mapped”** [’833 Patent Claims 1, 8]

<b>Plaintiffs' Proposed Construction</b>	<b>Defendants' Proposed Construction</b>
No construction necessary. PanOptis proposes that the term be construed in accordance with its plain and ordinary meaning.	placing / placed

**“mapping the multiplexed signals to”** [’833 Patent Claims 1, 8]

<b>Plaintiffs' Proposed Construction</b>	<b>Defendants' Proposed Construction</b>
No construction necessary. PanOptis proposes that the term be construed in accordance with its plain and ordinary meaning.	placing the multiplexed signals, after placing the first control signals and the data signals, in

**“mapping ACK/NACK control signals to”** [’833 Patent Claims 1, 8]

<b>Plaintiffs' Proposed Construction</b>	<b>Defendants' Proposed Construction</b>
No construction necessary. PanOptis proposes that the term be construed in accordance with its plain and ordinary meaning.	placing ACK/NACK control signals, after placing the multiplexed signals, in

The primary dispute between the parties relates to whether “mapping” is limited to “placing.”

### **Positions of the Parties**

Plaintiffs contend that the one of skill in the art would understand these terms because mapping is discussed at length in the ’833 specification. (Dkt. No. 99 at 7-8.) Plaintiffs state that the patent discusses the “mapping” of information sequences to a two-dimensional matrix with reference to Figures 3 through 5. (*Id.* at 8 (citing ’833 Patent 5:53-6:8, 6:37-41, 6:66-7:10, 7:33-37, 7:44-51, and Figs. 6-9).) Plaintiffs contend that the mapping can be seen in the figures where information sequences are mapped to different positions of the matrix. Plaintiffs also contend that the ’833 Patent discusses “mapping” ACK/NACK signals when the ACK or NACK overwrite other control and data signals. (*Id.* (citing ’833 Patent 6:12-18).) Plaintiffs contend that the “mapping” of the ACK/NACK signals is also shown in Figures 6 through 9 where differently-shaded ACK/NACK signals overwrite the data signals which were “mapped in the time-frequency

region in accordance with the time-first mapping method.” (*Id.* (citing ’833 Patent 7:8-12).) Plaintiffs contend that claims 1 and 8 use the word “mapping” in this same sense when describing mapping signals to the two-dimensional resource matrix of the claims.

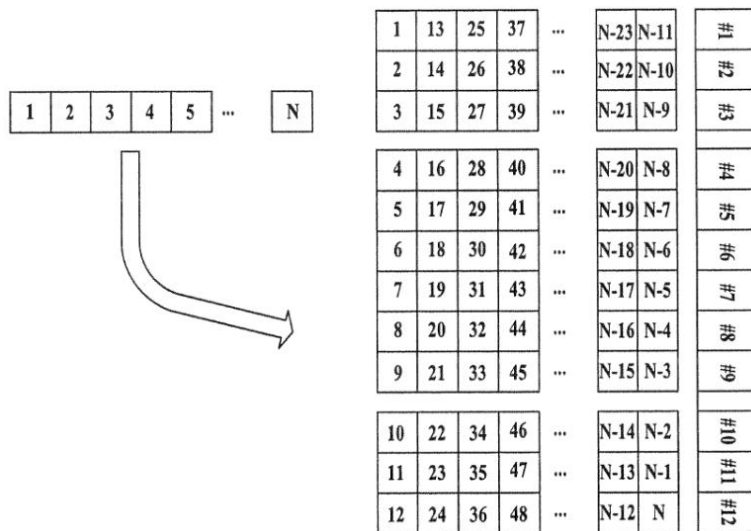
Plaintiffs object to Defendants’ replacement of “mapping” with “placing.” Plaintiffs contend that since the words “placing” and “mapping” both appear in the claims, the patentee has indicated an intention for the words to have separate meanings. (*Id.* at 8-9.) Specifically, Plaintiffs state that the claims distinguish the “placing” of control and data signals when “serially multiplexing” from the “mapping” to a two-dimension matrix. Plaintiffs state that “mapping” is used throughout the specification to refer to mapping to a two-dimension matrix, as well as “time first” or “time-frequency mapper/mapping” (*Id.* at 9 (citing ’833 Patent 5:53-62).)

As to “mapping” / “mapped,” Defendants contend that the terms have multiple possible meanings that are mutually exclusive, thus requiring construction. Defendants contend that the specification teaches that “mapping” means “placing.” (Dkt. No. 100 at 10.) Defendants contend that the term could mean a variety of things such as “representing,” “used in conjunction with,” or “placing.” (*Id.* (citing Negus Decl.)) Defendants also contend that “mapping” could mean making a map or planning in detail. (*Id.* (citing dictionary evidence).) Defendants contend only “placing” is consistent with the specification. (*Id.* (citing Negus Decl.))

Defendants contend that “placing” and “mapping” are used interchangeably in the patent. Defendants contend, for example, that some limitations that use “placing” in the recited claim steps are described in the specification as “mapping.” Defendants point to ’833 patent, claim 1 (“serially multiplexing first control signals and data signals in a mobile station, wherein the first control signals are *placed* at a front part of the multiplexed signals and the data signals are placed at a rear part of the multiplexed signals”) as compared to ’833 Patent 8:38-40 (“Serial multiplexing means

that the control signals are *mapped* with sequential indexes directly after the data signals are *mapped* with them, or vice versa.”). (*Id.* at 11 (emphasis added).)

Defendants contend that the intrinsic evidence describes the “mapping,” “placing,” and “inserting” of signals as performing the same operations—specifically, movement of data in memory. (*Id.*) At the oral hearing, Defendants again clarified that “placing” means moving of data in memory. (Dkt. No. 107 at 24-25.) Defendants contend that the ’833 Patent describes a step that involves “mapping” information as “inserting” the information. (Dkt. No. 100 at 11 (citing ’833 patent, col. 4:31-37 as using phrase “in other words” to describe “mapping” as “inserting”).) Defendants also contend that the step of “mapping ACK/NACK control signals” is repeatedly described in the specification as involving “insert[ing]” the ACK/NACK signals. (*Id.* (citing ’833 Patent 3:40-43, 6:22-27, 6:56-60, 7:31-32, 7:41-44).) Defendants further contend that Figure 3 of the ’833 Patent, “illustrat[es] an example of mapping information sequences” (’833 Patent 3:25-28), and uses an arrow to visually illustrate that “mapping” information to a resource matrix involves “placing” that information:



’833 Patent Figure 3.

Defendants contend that the presumption that different words have different meanings “is overcome where...the evidence indicates that the patentee used the two terms interchangeably.” (Dkt. No. 100 at 12 (quoting *Baran v. Med. Device Techs., Inc.*, 616 F.3d 1309, 1316 (Fed. Cir. 2010)).) Defendants contend that Plaintiffs have not pointed to any evidence indicating that the terms carry differing meanings. As to Plaintiffs’ contention that “placing,” not “mapping” is used when “serially multiplexing,” Defendants contend that the specification explicitly defines “serially multiplexing” as performing mapping. (*Id.* at 12 (citing ’833 Patent 8:38-40).)

In reply, Plaintiffs contend that Defendants’ change of “mapping” to “placing” is not innocuous because page 11 of Defendants’ brief makes clear that Defendants intend to argue that “placing” requires “movement of data in memory.” (Dkt. No. 101 at 3 (citing Dkt. 100 at 11 and Negus Decl. at ¶ 77).) Plaintiffs contend that neither the claims nor the specification ever mention moving data in memory in the context of mapping. (*Id.*)

Plaintiffs contend that the specification discusses mapping signals in a resource region that includes a plurality of symbols and subcarriers, sometimes called the time-frequency region. (*Id.* (citing numerous passages of the ’833 Patent).) Plaintiffs contend that the ’833 Patent explains that information symbols can be transmitted through SC-FDMA symbols and subcarriers that “can be represented by a matrix structure . . . called a time-frequency mapper.” ’833 Patent 5:46-51. Plaintiffs point to Figure 6, as an example of the mapper assigning each signal in data stream 602 to a particular time-frequency slot for transmission (*see* ’833 Patent Figure 4 and col. 5:66-6:2), based on time-frequency matrix 603. (*Id.* at (citing ’833 Patent 6:63-7:1 and Akl Decl. at ¶ 12).)

Plaintiffs contend that “mapping” in the context of the ’833 Patent, thus, entails establishing a relationship between signals to be transmitted and the particular time-frequency slots on which those signals are to be transmitted. (*Id.* at 3-4 (citing Akl Decl. at ¶¶ 11-15).) Plaintiffs

state that had the patentee intended mapping to mean moving data in memory, e.g., “storing,” he could have described the time-frequency mapper as containing or storing the symbols to be transmitted, rather than as representing the relationship between the symbols and the subcarriers and SC-FDMA symbols used for their transmission. (*Id.* at 4 (citing Akl Decl. ¶¶ 12-13).) Plaintiffs contend that this is consistent with Defendants’ own expert’s descriptions of how “mapping” would typically be understood in the context of wireless communications. (*Id.* (citing Negus Decl. at ¶¶ 73-74 (“mapped to” may mean “represented by” such as in LTE where bits are “mapped to” “modulation symbols”), ¶ 76 (providing another example from LTE where “the mapping between uplink logical channels and uplink transport channels’ . . . indicates that ‘the following connections between logical channels and transport channels exist.’”))).)

At the oral hearing, Plaintiffs further contended that the figures and specification make clear that any insertion of the data in the actual data stream is done before the “mapping” to a two-dimensional matrix. In particular, Plaintiffs noted that in Figure 6, the insertion of ACK/NACK is done in the data stream 602. Plaintiffs contend that this serial data stream 602 is then merely “represented” by a two-dimensional matrix, as indicated by the arrow of the Figure, not that the data must be moved to two-dimensional locations in a matrix in memory. (Dkt. No. 107 at 33-34 (citing ’833 Patent 6:63-66, Figure 6).)

As to the longer second and third terms, Plaintiffs contend that Defendants’ claim construction additions to the second and third terms unnecessarily repeat language from other parts of the claim. (Dkt. No. 99 at 9.) Thus, Plaintiffs contend that the primary dispute for the second and third terms devolves into the “mapping” dispute of the first term and that Defendants cannot replace “mapping” with “placing.” (Dkt. No. 101 at 5.) Defendants note that as a “general rule” steps are not ordinarily construed to be in order unless the claim recites an order. Defendants

contend, however, that their constructions clarify that the claimed steps must be performed sequentially, in the order set forth in the claims. Defendants contend their constructions are consistent with the claims and specification. (Dkt. No. 100 at 16 (citing Negus Decl.)) Defendants contend that their constructions are provided to clarify that an order exists. (*Id.*) The parties did not provide oral argument on the second and third terms.

### **Analysis**

The primary issue raised by the parties is directed toward whether “mapping” is limited to “placing” and whether “placing” in turn requires some concept of “movement of data in memory.”

Note, Defendants’ expert declaration states:

Here, in the context of the subject matter of the claims and in light of the ’833 patent’s intrinsic evidence, it is my opinion that one of ordinary skill would understand that “mapping” information or for information to be “mapped” involves actually moving data in memory. The claims already use the term “plac[ing]” to capture this concept, but I believe that one of ordinary skill would understand that “inserting” would also have a similar meaning.

(Dkt. No. 100-2 (Negus Decl.) at ¶ 77.) Moreover, Defendants’ briefing and oral argument further make clear that Defendants construe “placing” to require actual movement of data in memory.

(Dkt. No. 100 at 11; Dkt. No. 107 at 24-25.)

The claims, however, explicitly use both “mapping” and “placing.” As noted by Plaintiffs, generally the use of two differing words in the same claim would imply the words have different meanings. *Ethicon Endo-Surgery, Inc. v. U.S. Surgical Corp.*, 93 F.3d 1572, 1579 (Fed. Cir. 1996); *CAE Screenplates, Inc. v. Heinrich Fiedler GmbH & Co. KG*, 224 F.3d 1308, 1317 (Fed. Cir. 2000). Though such an interpretation may be overcome by the intrinsic evidence, that is not the case here. The parties do not dispute that “placing” is merely a type of mapping, and that, as understood by those in skilled in the art, “mapping” may carry a broader meaning not limited to

movement of data in memory. As acknowledged by Defendants at the oral hearing, in the relevant art, “mapping” carries a broader meaning of “establishing a relationship.” (Dkt. No. 107 at 28-29.) This also conforms to the extrinsic evidence provided by Defendants’ own expert. (Dkt. No. 100-2 at ¶73-76 (Negus Decl).)

The Court finds that the intrinsic record also establishes that “mapping” is used in the context of the broader meaning that includes the concepts of establishing a relationship or correlation. Defendants argue that the “mapping” and “placing” are used interchangeably with regard to “serially multiplexing” (the claims reference “placing” and the specification references “mapped”) and thus, “mapping” is limited to “placing.” However, that the specification uses the broader “mapped” (’833 Patent 6:41-44, 8:38-40) in some places with regard to serial multiplexing and claims 1 and 8 utilize the more narrow “placed” with reference to serial multiplexing does not mean that all uses of “mapped” are meant to only carry the narrower meaning. And, this does not mean that the uses of “mapped,” outside of the serial multiplexing concept, are limited to “placing.” The more natural reading of the claims and specification is that when the more narrow meaning is intended, “place” is used. Thus, moving data into a stream via multiplexing may be a type of mapping, but not all mapping is limited to such moving or “placing.” In fact, Defendants have pointed to no clear language in the intrinsic record of lexicography, disavowal, or disclaimer mandating that “mapping” be limited to “placing.” See *GE Lighting Solutions*, 750 F.3d at 1309; *Cordis Corp.*, 561 F.3d at 1329. Thus, Defendants have not shown why the “mapping” must be physical movement in memory as opposed to some other means of correlating the data to a matrix arrangement. As to the use of “inserting,” Defendants again have only pointed to examples of insertion being a type of mapping, not that mapping is limited to insertion.



As to Defendants' identification of the figures, though Figures 3, 6 and 9 show arrows, it does not mean the data is necessarily moved into such specified row and column formations as opposed to merely being correlated to such a configuration. Again, Defendants have not identified passages that indicate that the figure requires physical placement in memory in such an arrangement as opposed to merely mapping to the particular matrix arrangement. In contrast, the specification describes the mapping of information sequences into a matrix structure as being "represented by a matrix structure." '833 Patent 5:45-53. That the data is "represented" by a matrix structure does not mandate physical movement. As noted by Defendants' own expert, mapping in the ordinary course carries a broader meaning in which data may be "represented" by or correlated in certain fashions. (Dkt. No. 100-2 ¶ 73.) The actual movement of data in memory has neither been identified by Defendants nor is it discussed within the specification with respect to the matrix mapping. As noted by Plaintiffs, to the extent data is "placed" in a data stream, such placement is shown by the information stream 602 of Figure 6 in which the ACK/NACK signals are stated to be inserted through multiplexing. It is after this placing that a mapping to a matrix is performed. In context of the specification as a whole, the arrow of Figure 6 does not indicate that the data is then physically moved into a two-dimensional matrix in memory, but rather as the patent states, the serial data stream is merely "represented by a matrix structure." '833 Patent 5:48, 6:49-7:5, Figure 6.

As to the order of the method steps of the claims, it does not appear that there is an actual conflict between the parties with regard to claimed steps. Plaintiffs agree that, for example in claim 1, the "mapping the multiplexed signals to" of step (b) is performed after step (a) and that the "mapping ACK/NACK control signals to" of step (c) is performed after step (b). (*See* Dkt. No. 99 at 9.) Defendants' inclusion of the order of operation will help provide clarity to the claims.

The Court construes “mapping” / “mapped” to have their plain and ordinary meanings, no further construction required.

The Court construes “mapping the multiplexed signals to” to mean “after placing the first control signals and the data signals [in step (a)], mapping the multiplexed signals to.”<sup>3</sup>

The Court construes “mapping ACK/NACK control signals to” to mean “after mapping the multiplexed signals [in step (b)], mapping ACK/NACK control signals to.”<sup>4</sup>

3. “serially multiplexing first control signals and data signals, wherein the first control signals are placed at a front part of the multiplexed signals and the data signals are placed at a rear part of the multiplexed signals” [’833 Patent Claims 1, 8]

<b>Plaintiffs’ Proposed Construction</b>	<b>Defendants’ Proposed Construction</b>
No construction necessary. PanOptis proposes that the term be construed in accordance with its plain and ordinary meaning.	placing data signals with sequential indexes directly after first control signals in a multiplexed signal

The parties dispute whether the term should be derived from passages in the specification (’833 Patent 6:41-44 and 8:38-40) which use “directly after” and “sequential.”

### **Positions of the Parties**

Plaintiffs contend that the term itself sets forth what is required and that one of ordinary skill in the art would understand the term in context of the ’833 Patent specification. Plaintiffs contend that “multiplexing” generally means combining a signal from several sources into a single one, and “serially” generally means occurring sequentially or one after the other. (Dkt. No. 99 at 10 (citing extrinsic dictionary evidence).) Plaintiffs contend the meaning of this term is further evident from the “wherein” portion of the term: “wherein the first control signals are placed in a

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<sup>3</sup> The language “step (a)” is relevant to claim 1.

<sup>4</sup> The language “step (b)” is relevant to claim 1.

front part of the multiplexed signals and the data signals are placed at a rear part of the multiplexed signals.” Plaintiffs contend that the specification passages cited to by Defendants relate to how serially multiplexing affects the “mapping” of the control and data signals. Plaintiffs contend that, in contrast, the claims explicitly relate to how serially multiplexed signals are “placed.” (Dkt. No. 101 at 6.)

Plaintiffs contend that the specification describes the signals: “when the control information and the data information are multiplexed, they are serially connected with each other” and that ACK/NACK information may be inserted “among the serially multiplexed data.” (Dkt. No. 99 at 11 (citing ’833 6:49-60).) Plaintiffs further point to Figure 6 as demonstrating what it means for control signals and data signals to be multiplexed serially with control symbols, 1 through  $N_C$ , in front of data signals, 1 through  $N_D$ :



’833 Patent 6:60-63, Figure 6.

Plaintiffs object to Defendants’ construction as importing two limitations from the specific embodiments of the specification: (1) the placement of data and control signals “directly after” one another, and (2) the use of “sequential indexes.” (Dkt. No. 99 at 11-12.) As to “directly after,” Plaintiffs contend that the claim itself describes the arrangement as control signals are “at a front part” and data signals are “at a rear part,” but there is no requirement that they be “directly after” one another. As to “sequential indexes,” Plaintiffs contend that not only are limitations being incorporated from the specification, but further, Defendants misinterpret the relevant specification passage. Plaintiffs point to the passage:

Serial multiplexing means that the control signals are mapped with sequential indexes directly after the data signals are mapped with them, or vice versa.

'833 Patent 8:38-40. Plaintiffs state that this passage describes serial multiplexing as mapping “with sequential indexes.” Plaintiffs contend that Defendants’ construction, rather than modifying the mapping to be “with sequential indexes,” describes the “data signals” as having sequential indexes.

Defendants contend that the specification explicitly defines “serially multiplexing” to include the “directly after” and “sequential indexes” concepts:

Serial multiplexing means that the control signals are mapped with sequential indexes directly after the data signals are mapped with them, or vice versa.

*Id.* at 8:38-40. Defendants also contend an analogous term is similarly defined:

In this case, "multiplexed serially" means that the data information is mapped with a sequence corresponding to the multiplexed result directly after the control information is mapped with the sequence, or vice versa.

*Id.* at 6:41-44. Defendants contend that these are express definitional statements to which the patentee is bound. (Dkt. No. 100 at 13.) Defendants contend that these two definitions are equivalent and emphasize that “serially multiplexing” should be construed in this manner. Defendants contend that their constructions are directly from these statements (with the replacement of “placing” for “mapping” as discussed in the prior terms). Defendants contend that these passages are not “specific embodiments” but rather express definitions:

The one embodiment of the present invention suggests that the channel coded data and control signals are multiplexed serially. Serial multiplexing means that the control signals are mapped with sequential indexes directly after the data signals are mapped with them, or vice versa.

'833 Patent 8:36-40. Defendants contend that Plaintiffs have not shown any embodiment that does not incorporate the “directly after” and “with sequential indexes” limitations.

Neither party provided argument on this term at the oral hearing. (Dkt. No. 107 at 39.)

### **Analysis**

To act as his own lexicographer, the patentee must “clearly set forth a definition of the disputed claim term,” and “clearly express an intent to define the term.” *GE Lighting Solutions*, 750 F.3d at 1309 (quoting *Thorner*, 669 F.3d at 1365); *see also Renishaw*, 158 F.3d at 1249. The full passages in question make clear that, here, the patentee acted as a lexicographer with regard to “serially multiplexing.” First the specification states:

According to one embodiment of the present invention, the control information is multiplexed serially with the data information, and is mapped with a multiplexing region in accordance with the aforementioned time-first mapping method. In this case, "multiplexed serially" means that the data information is mapped with a sequence corresponding to the multiplexed result directly after the control information is mapped with the sequence, or vice versa.

'833 Patent 6:37-44. Then, at the end of the specification, in a somewhat conclusion-like paragraph it is stated:

The one embodiment of the present invention suggests that the channel coded data and control signals are multiplexed serially. Serial multiplexing means that the control signals are mapped with sequential indexes directly after the data signals are mapped with them, or vice versa. Meanwhile, the multiplexed signals can sequentially be mapped within a specific resource region in accordance with the time-first mapping method, wherein the specific resource region includes a plurality of symbols (for example, 12 SC-FDMA symbols) and a plurality of virtual subcarriers.

'833 Patent 8:37-44. Plaintiff contends that the “wherein...” language of the claim provides the meaning of serially multiplexing. However, as provided in the passages above, “serially multiplexing” as used in the '833 Patent relates to control signals and data signals being mapped in sequence directly after one another or vice-versa. The wherein clause, still carries relevance as the clause defines which information is placed in the front part of the multiplexed signals: “wherein

the first control signals are placed at a front part of the multiplexed signals and the data signals are placed at a rear part of the multiplexed signals.”

Having found the specification definitional, the Court finds the language of the specification more proper than Defendants’ construction. As noted by Plaintiffs, Defendants’ construction could be read to mean the “data signals” have “sequential indexes.” The sequential concept of the quoted passages describes how the mapping is done, not what the data and control signals have. Further, it is noted that one passage states that the mapping is done with “sequential indexes” whereas the other passage just states “a sequence corresponding to....” In both cases, the concept described is that the mapping has a sequence in which the data signals/information and control signals/information are “directly after” each other or vice versa. The passages indicate that the multiplexing is done in sequence with data or control signals “directly after” the other, but no specific order (note the “vice-versa”). The “wherein” clause of the claim then provides which one is first as claimed: the control signals are placed in front of the data signals. Finally, it is noted that as defined in the specification, serial multiplexing relates to a mapping process, and it is the wherein clause that constrains the mapping to placing the signals in a particular location of the multiplexed signals.

**The Court finds that “serially multiplexing first control signals and data signals wherein the first control signals are placed at a front part of the multiplexed signals and the data signals are placed at a rear part of the multiplexed signals” means that “first control signals and data signals are mapped with a sequence in which one is directly after the other, wherein the first control signals are placed at a front part of the multiplexed signals and the data signals are placed at a rear part of the multiplexed signals.”**

4. “the ACK/NACK control signals overwrite some of the multiplexed signals . . . from the last row of the specific columns” [’833 Patent Claims 1, 8]

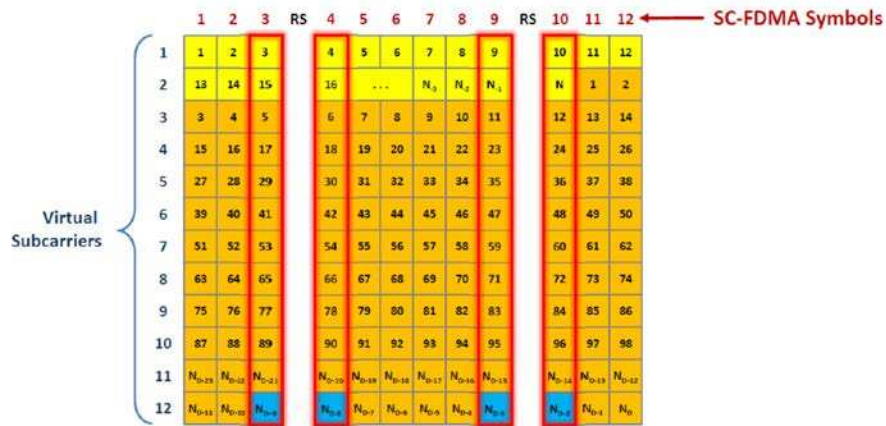
Plaintiffs’ Proposed Construction	Defendants’ Proposed Construction
No construction necessary. PanOptis proposes that the term be construed in accordance with its plain and ordinary meaning.	the multiplexed signals placed at step (b) in the last row of the specific columns of the 2-dimensional resource matrix are skipped and the ACK/NACK control signals are placed in the last row of the specific column of the 2-dimensional resource matrix

The parties dispute (1) whether the use of the word “from” has meaning different from Defendants’ use of “in” and (2) whether “overwrite” is given a specific meaning in the patent.

**Positions of the Parties**

Plaintiffs contend that other than “ACK/NACK,” this term includes common words that would be understandable to a jury. Plaintiffs object to Defendants’ construction on multiple grounds.

First, Plaintiffs contend that the claim requires that ACK/NACK control signals are mapped “*from* the last row of the specific columns” but Defendants change the claim to require mapping “*in* the last row.” (Dkt. No. 99 at 13.) Plaintiffs contend the 2D matrix of its tutorial illustrates the distinction:



(Dkt. No. 99 at 13.) Plaintiffs contend that when a mobile station has four ACK/NACK signals to transmit, it can do so according to the claim requirements by overwriting the columns adjacent to the reference symbols (“RS” in the figure) from the last row as shown in blue (cells at row 12, columns 3, 4, 9 and 10). Plaintiffs contend that, in this example, mapping “from” the last row is the same as mapping “in” the last row (row 12 in the example above). If, however, the mobile station has more than four ACK/NACK signals, Plaintiffs contend that the claim language requires mapping “from” the last row of those columns, so that after mapping the four blue squares shown above, additional ACK/NACK could be mapped to rows above (e.g., rows 11, 10, and so on, as needed). Plaintiffs contend the use of the word “from” has significance and is consistent with the earlier description in the claims where the multiplexed signals are mapped to the 2-dimensional resource matrix “from the first column of the first row to the last column of the first row, the first column of the second row to the last column of the second row, and so on.” Plaintiffs contend that, thus, Defendants’ revision of the claim term “from the last row” to “in the last row” is incorrect.

Second, Plaintiffs object to Defendants’ construction on the grounds that Defendants unnecessarily state that “the multiplexed signals” are “the multiplexed signals placed at step (b).”

Third, Plaintiffs contend that Defendants replace the term “overwritten” with an unnecessary and confusing description and that the term “overwritten” is readily understandable to a lay jury and would be to one of ordinary skill in the art as well. (Dkt. No. 99 at 14 (citing Akl. Decl. ¶44).) Plaintiffs note that the specification states:

In this case, “overwritten” means that specific information mapped in the resource region is skipped and the corresponding region is mapped. Also, “overwritten” means that the length of the entire information is maintained equally even after specific information is inserted. This overwriting procedure may be represented by puncturing.



'833 Patent 6:15-21. Plaintiffs contend that Defendants improperly import one example of “overwrite” where information is “skipped and the corresponding region is mapped” (which Defendants change to “placed”), and ignores the additional description of this overwriting as being represented by “puncturing.” Plaintiffs contend that one of ordinary skill would be familiar with the term “overwrite” and its description as “puncturing” in this context. (Dkt. No. 99 at 14 (citing Akl. Decl. ¶44).)

Defendants, citing to the same passage, contend the '833 Patent provides an explicit definition to which the patentee is bound:

In this case, "overwritten" means that specific information mapped in the resource region is skipped and the corresponding region is mapped. Also, "overwritten" means that the length of the entire information is maintained equally even after specific information is inserted. This overwriting procedure may be represented by puncturing.

'833 Patent 6:15-21. Defendants contend that Plaintiffs object that Defendants do not include the second and third sentences. Defendants contend, however, that neither the second nor third sentence affect the scope of “overwriting.” Specifically, Defendants state that the second sentence is included within Defendants’ construction and the third sentence is merely a non-limiting example. (Dkt. No. 100 at 17.)

As to replacing “from” with “in,” Defendants contend that the express definition refers to mapping information “in” a resource region. '833 Patent 6:12-21. Defendants note that Plaintiffs’ expert (Akl) states that: “The '833 claim consistently uses the term ‘from’ to denote a mapping that begins ‘from’ a position and continues to other rows etc.” (Dkt. No. 100 at 17 (quoting Akl Decl. ¶ 45).) Defendants contend, however, that the '833 Patent does not limit the claimed phrase to such mapping, and the express definition uses “in.” Defendants further contend that a plain reading of the term is equally consistent with “multiplexed signals ... from the last row” meaning

that the multiplexed signals are located “in” the last row, as compared to Plaintiffs’ interpretation that “from” means “beginning from.” (*Id.* at 18, n. 5.) Defendants contend that their construction encompasses the narrower case proposed by Plaintiffs. At the oral hearing, Defendants made clear that their use of “in” does not limit the term to only overwriting in the last row. Rather, Defendants acknowledged that the overwriting may also include other rows, as the claim just requires some overwriting in the last row. (Dkt. No. 107 at 45.)

In reply, Plaintiffs state that both parties’ arguments reference the same paragraph in the specification (’833 Patent 6:12-21) but Defendants exclude the description of overwriting as “puncturing.” Plaintiffs state that the specification repeatedly refers to “puncturing” in connection with overwriting ACK/NACK. (Dkt. No. 101 at 5 (citing ’833 Patent 1:35-40, 1:57-63, 3:40-43, 4:67-5:2, 6:20-21, 6:63-66, 7:31-32, 7:40-43, 7:66-8:2; Figs. 2, 6-9).) Plaintiffs state that should the Court decide to construe this term, the construction should reflect the full breadth of the patent’s description (which expressly includes puncturing), not just the first sentence. At the oral hearing, Plaintiffs were agreeable to a construction posed by the Court of:

(1) some of the multiplexed signals are skipped and the corresponding ACK/NACK signals are mapped, and (2) the length of the entire information is maintained equally even after the ACK/NACK control signals are inserted, starting from the last row of the specific columns of the 2-dimensional resource matrix,

except Plaintiffs sought to add “or punctured” to the language of “skipped.” (Dkt. No. 107 at 40-41.)

Plaintiffs also state that Defendants contend that the allegedly “express definition of ‘overwritten’ refers to mapping information ‘in’ a resource region.” (*Id.* (quoting Dkt. No. 100 at 18).) Plaintiffs contend, however, that the claim requires mapping ACK/NACK signals to “the 2-dimensional resource matrix” which includes rows/columns that correspond to SC-FDMA

subcarriers/symbols, and the specification's reference to mapping "in a resource region" says nothing about mapping "from" specific rows in a resource region. Plaintiffs contend that the full language of the claims demonstrates that the patentee chose to use the word "from" to describe a specific mapping sequence "from" a particular column or row.

### **Analysis**

The primary dispute between the parties focuses on the meaning of "overwrite." Plaintiffs contend that the passage in question refers to not just "skipping" data but also "puncturing." However, the passage in question more directly characterizes the overwriting more generally as a skipping and insertion by mapping process (for example inserting ACK/NACK). Puncturing is described as a type of this skipping/mapping process:

In this case, "overwritten" means that specific information mapped in the resource region is skipped and the corresponding region is mapped. Also, "overwritten" means that the length of the entire information is maintained equally even after specific information is inserted. This overwriting procedure may be represented by puncturing.

'833 Patent 6:15-21. In this passage, overwriting is described as having two components: first, skipping certain information and mapping other information, and second, maintaining the length of the information as equal even after new information is inserted. This entire overwriting procedure is described as being represented by "puncturing." Plaintiffs have not shown that as used in the intrinsic record, "puncturing" carries a differing meaning that does not include insertion of new data while the length of the data is maintained.

As to the parties' dispute over "from" and "in," the claim language itself references "from." Defendants have acknowledged that the claim language does not limit the overwriting to only the last row, rather the claim language only requires overwriting of some of the multiplexed signals "from the last row." (Dkt. No. 107 at 45.) The claim language itself merely requires that the

“ACK/NACK” signals overwrite “some” of the signals “from the last row of the specific columns.” The claim language does not mandate that the ACK/NACK signals can only overwrite the last row of the column. Similarly, the claim language itself does not mandate that the overwriting must start in the last row. Plaintiffs contend that the earlier use of “from” in the claim is in the format of “*from* the first column of the first row to the last column of the first row, the first column of the second row *to* the last column of the second row, and so on.” However, such passage merely shows that it is clear that when the claim was limited to a “from X to Y” format such language was used. Here, the claim language is broader, only stating that the ACK/NACK control signals overwrite some of the multiplex signals “from” the last row of the specific column of the matrix. The claim language recited does not mandate the starting location sought by Plaintiffs. Further, Plaintiffs have not demonstrated that the intrinsic evidence provides clear statements of lexicography or disclaimer requiring a starting location. *See GE Lighting Solutions*, 750 F.3d at 1309; *Cordis Corp.*, 561 F.3d at 1329.

The Court’s construction utilizes the explicit definitional language of the specification (’833 Patent 6:15-21) in context of the actual claim language.

**The Court finds that “the ACK/NACK control signals overwrite some of the multiplexed signals, mapped to the 2-dimensional resource matrix [at step (b)] from the last row of the specific columns” means that “(1) some of the multiplexed signals, from the last row of the specific columns of the 2-dimensional resource matrix, are skipped and the corresponding ACK/NACK signals are mapped, and (2) the length of the entire information is maintained equally even after the ACK/NACK control signals are inserted.”**

5. “scheduling request triggering event” [’293 Patent Claims 1, 2, 20]

<b>Plaintiffs’ Proposed Construction</b>	<b>Defendants’ Proposed Construction</b>
No construction necessary. PanOptis proposes that the term be construed in accordance with its plain and ordinary meaning.	a change to the buffer status information compared to what has been transmitted previously

The parties dispute whether the triggering event is limited to detecting a change to the buffer status information.

**Positions of the Parties**

Plaintiffs state that in context of the specification, one of ordinary skill in the art would understand the term. (Dkt. No. 99 at 18-19 (citing Akl Decl. at ¶ 49).) Plaintiffs contend that the ’293 Patent recognizes that a scheduling request is a “basic uplink scheduling concept.” ’293 Patent 2:4-8. Plaintiffs also point to a passage, in the Summary, that describes an object of the patent “to provide improved systems and methods for triggering uplink scheduling requests.” ’293 Patent 2:65-67. Plaintiffs contend that a “scheduling request triggering event” is simply an event that triggers a scheduling event such as the exemplary events described in the specification. (Dkt. No. 99 at 19.)

Plaintiffs object to Defendants’ construction as reading in one of several exemplary embodiments, specifically the comparison of the buffer status information of ’293 Patent 3:33-37. Plaintiffs contend this paragraph begins with “[i]n some embodiments” and the paragraph also references “in this or other embodiments.” *Id.* at 3:23, 3:33. Plaintiffs further point to other embodiments such as triggering a scheduling request based on arrival of data to an empty buffer: “when data arrives to an empty buffer in the UE, the UE should always transmit an SR at its next SR opportunity.” *Id.* at 6:67-7:2. Plaintiffs also point to triggering events that occur when “the amount of time that has elapsed since the last SR was transmitted exceeds a threshold.” *Id.* at 9:7-

10. Plaintiffs contend that neither of these events relate to a comparison of the buffer status information. Plaintiffs contend that the passage at 3:33-36 does not disavow other triggering events, including those mentioned in the specification. Plaintiffs state there is no clear statement of disavowal.

Plaintiffs further contend that Defendants' construction is contradicted by claim differentiation as dependent claims 2, 13, and 21 recite the very limitation Defendants seek to add: "The method according to claim 1, wherein ... determining whether a scheduling request triggering event has occurred comprises comparing the transmit buffer status information transmitted to the base station with new information concerning the status of the transmit buffer" (claim 2).

Defendants contend that the term is not a term of art and has no plain meaning. (Dkt. No. 100 at 19 (citing Negus Decl. at ¶ 117).) Defendants contend that the intrinsic evidence teaches that all embodiments relate to a change in the buffer status information. At the oral hearing, Defendants proposed broadening their construction to "a change to buffer status information." (Dkt. No. 107 at 60.)

Defendants contend that the '293 patent purports to disclose "improved systems and methods for triggering uplink scheduling requests" ('293 patent 2:65-67) and the alleged "improvement" of the patent is realized by causing a scheduling request to be transmitted "only when certain predefined conditions are met" (*id.* 6:16-21). Defendants contend that the patent is clear that these predefined conditions reflect changes to the buffer status information. Defendants point to the statement that "[e]mbodiments of the present invention define an alternative SR triggering mechanism that is based on changes in transmit buffer status" (*id.* at. 6:10-12) and point to Figure 6b as depicting changes in buffer status that may trigger a scheduling request.

Defendants state that the specification makes clear that the claimed invention does not encompass any event that triggers a scheduling request because such a broad construction would capture the prior art. Rather, Defendants contend the patent discloses using a narrower set of “predefined conditions.” Defendants contend that those predefined conditions reflect changes in the buffer status. (Dkt. No. 100 at 20.)

Defendants point to: “[e]mbodiments of the present invention define an alternative SR triggering mechanism that is based on changes in transmit buffer status.” ’293 patent 6:10-12. Defendants contend that the specification describes different examples of how to determine changes in buffer status such as describing change in priority, buffering size, or elapsed time. (Dkt. No. 100 at 20 (citing ’293 patent 6:36-43).) Defendants contend that the exemplary language cited by Plaintiffs does not indicate that a change in buffer status is one example of a scheduling request triggering event; rather, it describes one exemplary method for determining that the buffer status has changed. (*Id.* at 20-21 (citing ’293 Patent 3:33-37 (“[T]he step of determining whether a scheduling request triggering event has occurred includes: comparing the transmit buffer status information ... with new information ...”).) Similarly, Defendants contend that the dependent claims recite different methods for determining change in buffer status, but do not provide narrower definitions of what a scheduling request triggering event is. Defendants contend that the patent makes clear that although different criteria may indicate a change in buffer status, the scheduling request triggering event is always a change in buffer status, regardless of the means used to detect that change or the criteria that caused it. (Dkt. No. 100 at 21.)

As to excluding embodiments, Defendants contend that the “triggering a scheduling request based on arrival of data to an empty buffer” scenario (’293 patent col. 6:67-7:2) is described as an “exception” to the rule that scheduling requests are transmitted in response to a

change in buffer status, and is in fact distinguished from the use of a scheduling request triggering event. (Dkt. No. 100 at 21 (citing '293 patent 6:67-7:2 (“[O]ne exception to the rule is that when data arrives to an empty buffer in the UE, the UE should always transmit an SR ....”) and Figure 6a (showing separate steps for checking “Buffer empty?” and “Triggering Event?”)).)

### Analysis

Defendants seek to limit the triggering event to “a change to the buffer status information compared to what has been transmitted previously,” or alternatively, “a change to the buffer status information.” However, the specification does not teach clear language of lexicography, a disavowal, or a disclaimer mandating such requirements. *See GE Lighting Solutions*, 750 F.3d at 1309; *Cordis Corp.*, 561 F.3d at 1329. The language that Defendants seek is presented as merely an “example:”

[a]ccording to embodiments of the present invention, the UEs are configured to transmit an SR only when certain predefined conditions are met, ***such as, for example***, changes in the UE's transmit buffer content compared to what has been reported previously or what has been transmitted previously.

'293 Patent 6:16-21 (emphasis added). This passage describes the trigger events as “certain predefined conditions” and prefaces the language Defendants would mandate with “such as, for example.” The explicit use of “such as, for example” to describe what Defendants’ seek to include counters Defendants’ contention that a clear disclaimer exists.

Moreover, the language sought by Defendants more properly reads to conflict with other examples in the specification. For example, the specification states:

In some embodiments, the step of determining whether a scheduling request triggering event has occurred includes: (a) determining whether additional data that became available for transmission to the base station after the first SR was transmitted has a higher priority than the initial data; (b) ***determining whether the amount of time that has elapsed since the first SR was transmitted exceeds a threshold***; and/or (c) determining whether the difference between the current



amount of data in the transmit buffer and a previous, non-zero amount of data that was in the transmit buffer exceeds a threshold. In this or other embodiments, the step of determining whether a scheduling request triggering event has occurred includes: comparing the transmit buffer status information transmitted to the base station with new information concerning the status of the transmit buffer.

'293 Patent 3:23-37 (emphasis added). One of the potential trigger events, event (b) (“determining whether the amount of time that has elapsed since the first SR was transmitted exceeds a threshold”), is clearly excluded by Defendants’ construction as the amount of time since the transmission of the first SR may be independent of the buffer status. Figure 6b also illustrates such a time based embodiment. As shown in Figure 6b, the time based threshold trigger event may be a separate trigger, not dependent upon a change in buffer status. '293 Patent Figure 6b, 9:7-10. A construction that excludes embodiments is rarely correct. *See Accent Packaging, Inc. v. Leggett & Platt, Inc.*, 707 F.3d 1318, 1326 (Fed. Cir. 2013) (holding that a construction that excludes the preferred embodiment “is rarely, if ever, correct.”). The specification also describes an example triggering event being the arrival of data to an empty buffer: “when data arrives to an empty buffer in the UE, the UE should always transmit an SR at its next SR opportunity.” '293 Patent 6:67-7:2. Such a triggering event does not require a comparison of what has been transmitted previously, and would be excluded by at least Defendants’ “compared to...” construction. That such an event is described as “an exception” does not change that a scheduling request is triggered by that event.

Further, it is noted that elsewhere the method of the “invention” is described “in one aspect” in a passage that references just a scheduling triggering event, without reference to the event being based on a buffer status change. '293 Patent 3:1-22. The patent also provides a more general discussion of the trigger event that again does not conform to Defendants’ construction:

Several alternatives and combinations of the examples above can be constructed. The present invention provides an improvement in that, instead of configuring the UE to transmit an SR whenever the UE has data to transmit, the UE is configured

to transmit an SR only when it has data to transmit AND some other event has occurred (e.g., a certain amount of time has elapsed since the last SR was transmitted, the amount of data in the buffer grew by at least a certain amount since the most recent transmission of data or a status report, or the transmit buffer was empty just prior to it receiving the data).

*Id.* at 7:4-14. Finally, though not a binding rule, claim differentiation further supports the Plaintiffs’ position. In context of the intrinsic record as a whole, the intrinsic record does not support Defendants’ contention that the claim language is limited to a trigger event based on a change in the buffer status. Rather, the specification more broadly teaches that the trigger event is merely a predefined condition that triggers the scheduling request. ’293 Patent 6:16-21, 2:65-67, 3:22-37, 6:67-7:2, 7:4-14, 9:7-10, Figure 6b. At the oral hearing the Court proposed the construction adopted below and Plaintiffs agreed to such construction. (Dkt. No. 107 at 50.)

**The Court construes “scheduling request trigger event” to mean “a predefined condition that triggers a scheduling request.”**

**6. “data processor” [’293 Patent Claims 12-15]**

<b>Plaintiffs’ Proposed Construction</b>	<b>Defendants’ Proposed Construction</b>
<p>This claim term should not be governed by 35 U.S.C. § 112(6). No construction necessary. PanOptis proposes that the term be construed in accordance with its plain and ordinary meaning.</p>	<p>This term is subject to 35 U.S.C. § 112(6).</p> <p><b>Function:</b>  “cause the mobile terminal to transmit a first scheduling request (SR) to a base station in response to data arriving at an empty transmit buffer in the mobile terminal,” “cause the mobile terminal to transmit to the base station transmit buffer status information in response to receiving a scheduling grant (SG) from the base station,” “determine whether a scheduling request triggering event has occurred,” and “cause the mobile terminal transmit a second SR to the base station at a next opportunity in response to determining that a triggering event has occurred”</p>

	<p><b>Structure:</b>  a data processor executing software, as described in connection with data processor 706 and software 708 of FIG. 7 and at col. 9:48-53, implementing the algorithm described in FIG. 6b, in FIG. 5 and steps 604, 606, 608, 616, and 618 of FIG. 6a, and at cols. 6:16-32, 6:36-7:3, 7:5-14, 7:24-8:2, 8:15-21, 8:32-8:39, 8:46-9:10</p>
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The parties dispute whether the term is a means-plus-function term subject to 35 U.S.C. §112, ¶ 6. If a means-plus-function term, the parties agree to the function and structure.

**Positions of the Parties**

Plaintiffs contend that the term does not utilize “means” and does not utilize any other “nonce” word and therefore triggers a rebuttable presumption that 35 U.S.C. §112, ¶ 6 does not apply. (Dkt. No. 99 at 21 (citing *Williamson*, 792 F.3d at 1349).) Plaintiffs further contend that one skilled in the art would understand that the term recites sufficiently definite meaning as the name for structure. (Dkt. No. 99 at 22 (citing Akl Decl. at ¶ 52).) Plaintiffs further cite to a variety of cases from this District that have found “processor” terms to be structure connoting terms. (*Id.* (citing *Syncpoint Imaging, LLC v. Nintendo of Am. Inc.*, No. 2-15-cv-00247-JRG-RSP, 2016 WL 55118 at \*18 Case 2:16-cv-00059-JRG-RSP (E.D. Tex. Jan. 5, 2016)(“processor...for”); *Smartflash LLC v. Apple Inc.*, 6:13-CV-447-JRG-KNM, 2015 WL 4208754 at \*3 (E.D. Tex. July 7, 2015)(“processor”); *E-Watch Inc. v. Apple, Inc.*, 2:13-CV-1061-JRG-RSP, 2015 WL 1387947 at \*12 (E.D. Tex. Mar. 25, 2015)(“processor”)).)

Plaintiffs contend that the specification uses the term consistent with the understanding of one in the art. (Dkt. No. 99 at 22 (citing ’293 Patent 3:47-63, Figure 3).) Plaintiffs further contend that even Defendants’ corresponding structure begins with “a data processor executing

software....” Plaintiffs further contend that unlike the “black box” of *Williamson*, the claims themselves describe how the structure is configured, specifically “is configured to:”

- (a) cause the mobile terminal to transmit a first scheduling request (SR) to a base station in response to data arriving at an empty transmit buffer in the mobile terminal;
- (b) cause the mobile terminal to transmit to the base station transmit buffer status information in response to receiving a scheduling grant (SG) from the base station; and
- (c) perform steps (c1)-(c2) while at least some of the first data is waiting to be transmitted to the base station and after transmitting the buffer status information, but prior to transmitting any subsequent SRs to the base station: (c1) determine whether a scheduling request triggering event has occurred; and (c2) cause the mobile terminal transmit a second SR to the base station at a next opportunity in response to determining that a triggering event has occurred.

'293 Patent claim 12.

Plaintiffs further point to multiple extrinsic evidence dictionaries as indicating that the term was known to connote structure. (Dkt. No. 99 at 23.)

Defendants contend that this Court has recently held that a claim reciting a processor “defined only by the function that it performs” does not recite sufficient structure, and must be construed as a means-plus-function limitation. (Dkt. No. 100 at 22 (citing *St. Isidore Research, LLC v. Comerica Inc.*, No. 2:15-cv-1390-JRG-RSP, 2016 WL 4988246 \*14 (E.D. Tex. Sept. 19, 2016)).)

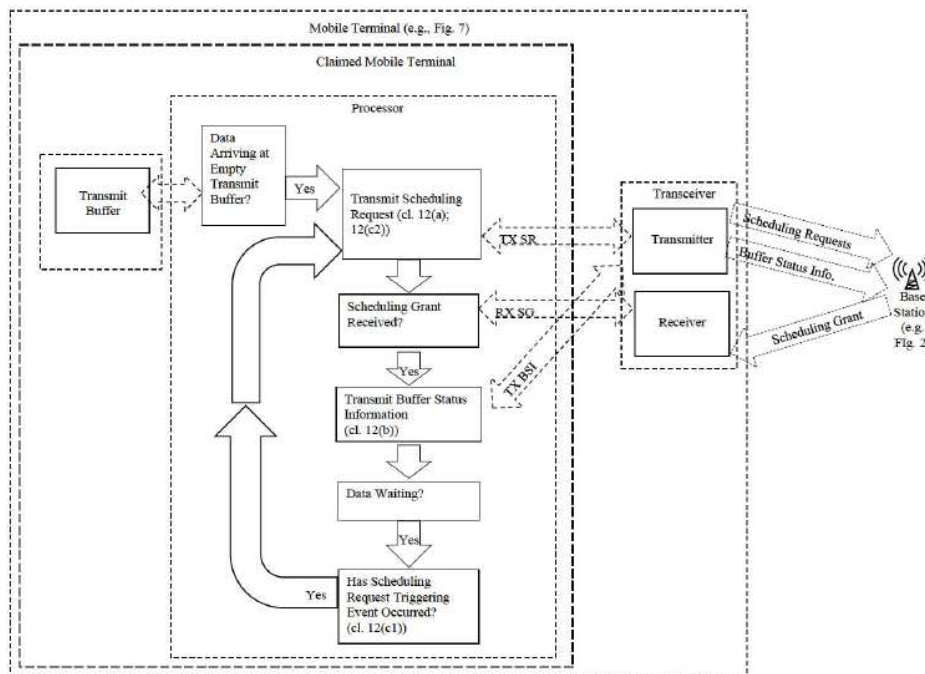
Defendants contend that like *St. Isidore*, the “data processor” term of the '293 Patent is defined only according to the function it performs (functions which the parties agree to), it does not describe how the processor performs the functions. Defendants further contend that the claims do not describe how the processor interacts with other components to perform any of the claim functions. (Dkt. No. 100 at 22.)

Defendants state that Plaintiffs miss the relevant point by contending that “data processor” refers to a “specific structure or class of structure.” Defendants contend that the claims do not call out a generic “data processor,” but rather, a data processor configured to perform certain special functions. (*Id.* at 23.) Defendants contend that the claims, on their face, provide absolutely no detail as to how the claimed data processor performs any functions. (*Id.* at 23-24.) Defendants assert that in claim 12, the claim merely states a processor is configured to perform the two “cause” functions, function (a) and function (b) of the claim. Defendants contend that the claims do not identify how the processor “causes” the mobile terminal to do anything. (*Id.* at 24.) Defendants further state that there are no specifics about how the processor interacts with other components of the system. (*Id.*)

In reply, Plaintiffs note that *St. Isidore* acknowledges that this “Court notes that in many instances, the term ‘processor’ itself connotes sufficient structure and is not a ‘nonce’ or ‘functional’ word.” *St. Isidore*, 2016 WL 4988246, at \*14. Plaintiffs further cite to yet another ruling from this Court (in addition to those mentioned above) which held that “processor” terms were not governed by 35 U.S.C. §112, ¶ 6. *Adv. Mktg. Sys., LLC, v. CVS Pharmacy, Inc.*, 6:15-cv-137-JRG-KNM, 2016 WL 1741396 at \*19-20 (E.D. Tex. May 3, 2016).

Plaintiffs further contend that even if “data processor,” in isolation, did not connote structure, the claim here recites the precise details of how the unit functions, similar to language found in *St. Isidore* to connote structure. Specifically, Plaintiffs note that in *St. Isidore*, this Court found that one of the disputed terms (“transaction processing module”) was not subject to 35 U.S.C. §112, ¶ 6 because the “claim as a whole discloses a series of steps the module performs when it is in operation. That is, Claim 1 discloses an algorithm.” *St. Isidore*, 2016 WL 4988246, at \*13 (identifying a five-part “step-wise description of the operation of the ‘module’” which

“forms an algorithm” that “connotes structure.”). Plaintiffs contend that the same reasoning applies to the “data processor” here as the claim recites step-wise functions of “causing the mobile terminal” to perform the functions of parts (a) and (b) of the claim and performing subparts (c1) and (c2) under certain conditions. (Dkt. No. 101 at 8.) Plaintiffs further note that the claim describes how the “data processor” interacts with other components within the claimed mobile terminal. (Dkt. No. 101 at 8.) Plaintiffs point to a figure provided as part of their expert’s supplemental declaration in which the interaction is drawn graphically:



(Dkt. No. 101-1 (Akl Supp. Decl. Appendix B) at 15.)<sup>5</sup> Plaintiffs contend that this demonstrates how the claim language itself provides the interaction of the components. (Dkt. No. 101 at 8.)

<sup>5</sup> Defendants have moved to strike the supplemental declaration of Plaintiffs’ expert as being untimely since it was filed accompanying Plaintiffs’ reply claim construction brief. (Dkt. No. 104.) In particular, Defendants contend the supplemental declaration (1) unfairly delays disclosure of Plaintiffs’ expert’s opinions until after responsive declarations are served by the Defendants and (2) contains subject matter that could have fairly been anticipated by Plaintiffs and provided in Plaintiffs’ opening materials. (Dkt. No.

## Analysis

There is a rebuttable presumption that 35 U.S.C. § 112, ¶ 6 applies when the claim language includes “means” or “step for” terms, and that it does not apply in the absence of those terms. *Williamson*, 792 F.3d at 1347–49 & n.3. The presumption stands or falls according to whether one of ordinary skill in the art would understand the claim with the functional language, in the context of the entire specification, to denote sufficiently definite structure or acts for performing the function. *See Media Rights Techs.*, 800 F.3d at 1372 (§ 112, ¶ 6 does not apply when “the claim language, read in light of the specification, recites sufficiently definite structure” (quotation marks omitted) (citing *Williamson*, 792 F.3d at 1349); *Williamson*, 792 F.3d at 1349 (§ 112, ¶ 6 does not apply when “the words of the claim are understood by persons of ordinary skill in the art to have sufficiently definite meaning as the name for structure”). This Court has generally found that “processor” connotes structure to those in the electronic arts as opposed to being a nonce word. *See Syncpoint Imaging*, 2016 WL 55118 at \*18; *Smartflash* 2015 WL 4208754 at \*3; *E-Watch Inc.* 2015 WL 1387947 at \*12; *Adv. Mktg. Sys.* 2016 WL 1741396 at \*19-20. Even *St. Isidore*,

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104 at 1-3.) In response, Plaintiffs contend that Defendants refused to provide expert declarations before the briefs were due. Plaintiffs contend the parties then agreed to a process in which Defendants provided expert declarations after the opening brief, but with the explicit disclaimer that an expert declaration may be served with the reply brief:

...but only for the purpose of rebutting any new expert opinions submitted with BlackBerry’s responsive brief that could not be fairly anticipated by PanOptis’ expert in support of the opening brief. To be clear, a reply expert declaration should not be used to simply raise new evidence not cited in the opening declaration.

(Dkt. No. 94 at 2.) Defendants’ responsive brief and expert declaration raised the concept that “place” as used in Defendants’ construction of “mapping” requires moving data in memory. Such a position appears to squarely fall within the parties’ agreement as to the purposes of a supplemental declaration. Similarly, the assertions Defendants present regarding the processor term, at a minimum, raise questions regarding the applicability of the agreement. (*See* Dkt. No. 105 at 3.) Defendants were offered the opportunity for a sur-reply and a deposition after the supplemental declaration to address any prejudice but declined the opportunity. (*Id.* at 4). The parties elected to follow a process regarding claim construction extrinsic evidence not necessarily encouraged by this Court’s local patent rules. However, the parties agreed to proceed in that manner, and thus, the Court **DENIES** Defendants’ motion to strike.

cited by Defendants, states “the Court notes that in many instances, the term ‘processor’ itself connotes sufficient structure and is not a ‘nonce’ or ‘functional’ word” and “the Court has typically found ‘processor’ to connote sufficient structure to avoid the application of 35 U.S.C. § 112, ¶ 6 in different circumstances.” *St. Isidore*, 2016 WL 4988246, at \*14-15.

Defendants’ reliance on *St. Isidore* is misguided, because the rationale for the *St. Isidore* holding is not present in the current record for multiple reasons. First, Defendants have not pointed to an intrinsic record that establishes that “processors” is meant here to generically be anything that manipulates data as opposed to connoting structure representing what is generally known as a processor. Thus, for example, Figures 7 and 8 describe the data processor as part of structural elements such as a transmit buffer, storage unit and transceiver in user equipment. Second, the claims and specification provide specific connection and interaction with other structural components. Claim 12 states that a processor causes transmissions from the mobile terminal to a base station in response to activity at the transmit buffer and receiving a grant at the transceiver from the base station. In this regard, the extrinsic evidence offered by Plaintiffs, including Plaintiffs’ expert (Akl), better supports how one of skill in the art would understand the term as opposed to Defendants’ arguments and evidence. Similarly, as shown in Figure 7, the processor is connected to a storage unit, a transmit buffer, and a transceiver, clearly indicating usage in a manner connoting structure. Third, the term in question is more like the term that *St. Isidore* held to connote structure (the “transaction processing module”) as the claim provides explicit further detail as to how functional claimed elements are carried out. For example, (1) the step (a) “cause the mobile terminal to transmit a first scheduling request” element occurs “in response to data arriving at an empty transmit buffer,” (2) the step (b) “cause the mobile terminal to transmit to the base station transmit buffer status information” element occurs “in response to receiving a



scheduling grant (SG) from the base station, (3) the step (c2) element “cause the mobile terminal transmit a second SR to the base station at a next opportunity” element occurs “in response to determining that a triggering event has occurred, and (4) steps (c1) and (c2) are performed “while at least some of the first data is waiting to be transmitted to the base station and after transmitting the buffer status information, but prior to transmitting any subsequent SRs to the base station.” Based on the intrinsic and extrinsic evidence, the Court finds that the term is not a nonce word, the term would be understood by one skilled in the art to connote structure, and the claim provides more than merely a functional limitation.

**The Court finds that “data processor” is not governed by 35 U.S.C. § 112, ¶ 6 and has its plain and ordinary meaning with no further construction required.**

**7. “a position fixing button that is separate from the first and second touching actions”**  
 [’506 Patent Claims 1, 8, 10]

<b>Plaintiffs’ Proposed Construction</b>	<b>Defendants’ Proposed Construction</b>
a virtual or physical button for fixing the position of an object that is separate from the first and second touching actions	software object for position fixing displayed on the touch screen that is not touched in the first and second touching actions

The parties dispute whether “a position fixing button” is limited to software objects or may include physical buttons. The parties also dispute whether the button “is separate” from the touching actions versus “not touched” in the touching actions.

**Positions of the Parties**

Plaintiffs object to Defendants’ attempt to limit the term to a “software object” (i.e., a virtual button). Plaintiffs contend that the plain meaning of “button” is agnostic to software versus physical buttons. Plaintiffs contend there is no unmistakable and clear disavowal or disclaimer that mandates limiting the term. (Dkt. No. 101 at 9 (citing *Unwired Planet, LLC v. Apple Inc.*, 829 F.3d

1353, 1538 (Fed. Cir. 2016)).) Plaintiffs contend that Defendants' argument boils down to a contention that the claims should be limited because all the disclosed embodiments utilize a software button. Plaintiffs contend that the Federal Circuit has repeatedly held just the opposite. (*Id.*)

Further, Plaintiffs assert that the specification teaches a user interaction with the touch screen via virtual buttons, physical buttons or a keypad: "Besides the touchscreen 140, the input unit 150 (e.g., key pads, buttons, etc.) enables the terminal user to input various commands and information." '506 Patent 4:4-9, Figure 1. Plaintiffs contend that the patent further teaches that the input unit 150 may be omitted "to simplify the mobile terminal." *Id.* Plaintiffs contend that the specification teaches that virtual buttons, via a touch screen, may be used instead of the input unit 150 for simplification, as shown in exemplary embodiments. Plaintiffs contend, however, that the specification does not provide lexicography or disavowal of claim scope excluding physical buttons, particularly in light of the explicit identification of physical buttons. (Dkt. No. 99 at 25.)

Plaintiffs also object to Defendants' use of "*is not touched*" in the first and second touching actions." Plaintiffs contend that the claim language in question requires a button "that is *separate* from the first and separate touching actions." Plaintiffs contend this claim language does not suggest the "is not touched" limitation proposed by Defendants. Rather, Plaintiffs contend, the claim language merely requires that the manipulating the "position fixing button" is not the same action or combination of actions that are claimed as the first and second touching actions. (Dkt. No. 99 at 25.)

Defendants contend that the intrinsic evidence repeatedly and consistently describes the position fixing button as a software button on the touch screen. Defendants contend that the claim language "manipulation of position fixing button...is separate from the first and second touching

actions” would be superfluous if the position fixing button is a physical button, because a physical button would necessarily always be separate from touching actions which exclusively occur on the touch screen. (Dkt. No. 100 at 25.) Defendants also point to the specification “objects and other advantages” of the alleged invention which are described as implemented by fixing the position of an object “if a first touch action is carried out on the object.” ’506 Patent 2:10-18; *see also id.* 2:22-24, 2:28-30, 2:34-35. Defendants also point to the statement “one of touch actions of the terminal user ... is carried out ... to perform the position fixation of the object.” *Id.* 5:3-7. Defendants contend that the specification never suggests anything other than a touch action may be used to effect position fixing.

In response to Plaintiffs’ reference to the physical buttons of input unit 150, Defendants contend that the specification does not suggest using such buttons to perform position fixing. Defendants further contend that the patent does not teach that the physical buttons or key pads are used to perform any of the disclosed methods. (Dkt. 100 at 26.) Defendants contend that the mere fact that the patent teaches physical buttons may also exist does not negate the fact that the patent only teaches software buttons are used for the position fixing.

As to the “is not touched” dispute, Defendants contend that the first and second touching actions are a “dragging and dropping touching action” and “touching the at least one object for a predetermined time period,” respectively. Defendants contend that neither of these actions includes activation of a virtual position fixing button. Defendants contend it is unclear how touching the position fixing button could be part of the claimed first and second actions. (Dkt. No. 100 at 26.)

### **Analysis**

Defendants have pointed to no clear language in the intrinsic record of lexicography, disavowal, or disclaimer mandating that “button” being limited to software buttons. *See GE*

*Lighting Solutions*, 750 F.3d at 1309; *Cordis Corp.*, 561 F.3d at 1329. Rather, Defendants merely point to an embodiment of the specification. However, even a single embodiment is not necessarily enough to read a limitation into the claim from the specification. *Arlington Indus., Inc. v. Bridgeport Fittings, Inc.*, 632 F.3d 1246, 1254 (Fed. Cir. 2011) (“[E]ven where a patent describes only a single embodiment, claims will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using words of expressions of manifest exclusion or restriction.”) (citation omitted).

Moreover, here the patent explicitly references “button” in the context of a hardware button: “[b]esides the touchscreen 140, the input unit 150 (e.g., key pads, buttons, etc.) enables the terminal user to input various commands and information.” ’506 Patent 4:4-6, Figure 1. In fact, at the oral hearing, Defendants acknowledged that the only reference to “button” in the specification is a hardware button, and the specification does not ever reference something on the screen as a “button.” (Dkt. No. 107 at 78-80, 87.) Defendants contend that the patent teaches that the input unit 150 is not used. However, the patent is clear that such non-use is optional: “[i]f the touchscreen 140 alone is sufficient to receive user commands and information, the input unit 150 or a part thereof *may be* omitted from the mobile terminal 100 to simplify the mobile terminal 100.” ’506 Patent 4:6-9. In context of the specification as a whole, the claimed “position fixing button” is not limited to only a software button.

As to the second issue (“separate” versus “not touched”), Defendants have not identified anything in the intrinsic record that mandates “separate” includes “not touched.” Defendants merely state that it is “unclear how touching the position fixing button could be part of the claimed first and second actions.” The more proper question, though, is what is required by the claim language and the intrinsic record? Defendants have not provided rationale for changing the explicit

claim language which merely requires a position fixing button separate from the first and second touching actions. As to Defendants' contention at the hearing that the "separate" language would be meaningless if Plaintiffs' construction is adopted, the Court disagrees. As construed herein, the button may be either software or physical. The "separate" claim language thus still has importance.

**The Court construes "a position fixing button that is separate from the first and second touching actions" to mean "a software object or physical button for fixing the position of an object, the software object or physical button being separate from the first and second touching actions."**

8. “fixed and not moveable” [’506 Patent Claims 1, 8, 10]

<b>Plaintiffs’ Proposed Construction</b>	<b>Defendants’ Proposed Construction</b>
No construction necessary. PanOptis proposes that the term be construed in accordance with its plain and ordinary meaning.	appears stationary on screen and cannot be moved relative to other objects on screen with just one touching action  Alternatively: “stationary on screen and cannot be moved with just one touching action” <sup>6</sup>

The parties dispute whether the term requires that the object cannot be moved with just one touching action.

**Positions of the Parties**

Plaintiffs contend the claim language is clear and understandable to both one skilled in the art and a jury. Plaintiffs object to Defendants’ construction as adding three limitations: (1) the object “appears” stationary, which adds confusion as to whether the object is actually fixed and not moveable or merely appears that way, (2) requiring “relative to other objects on screen,” which is in conflict with exemplary embodiments in which “it is assumed that only one object is displayed at a time on the touchscreen” (’506 Patent 4:31-32), and (3) that the object is fixed and not moveable by “just one touching action,” whereas Plaintiffs contend the term merely describes the position of an object on the touchscreen where it is “fixed” and “not moveable” until it is released and moved, as described in the remaining portions of the claim. (Dkt. No. 99 at 26.)

Plaintiffs contend that the term describes the state of the object on the screen and not “touching actions” which are separately and specifically described in the claim. (Dk.t No. 101 at 10.)

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<sup>6</sup> Defendants agreed to an alternative construction in the briefing to narrow the disputed issues. (Dkt. No. 100 at 28.)

Defendants contend its construction is consistent with the specification. Defendants contend that the interface permits a user to “fix” an object at a position, “such that after this fixation of the object ... the user may not move the object [] by touching and dragging the object[] away from the fixed position.” ’506 Patent 4:57-61. Defendants also state that after position fixation, a user may “release” the fixed object so that the object “is no longer fixed to [the] position and once again can be movable on the touchscreen” (*id.* at 5:57-61) and when the object is released, “[t]he step of moving the object ... can be performed any number of times as desired by the user, before the object is fixed to a particular position” (*id.* col. 4:64-5:2). Defendants contend that an object that is fixed to a position on the display appears stationary on the screen, and it is not movable so long as it remains fixed, however, the object may be moved if it is first released using a touching action different from the touching action used to move the object. (Dkt. No. 100 at 27 (citing ’506 Patent 5:57-6:12, 6:29-32).) Defendants contend, therefore, that when the object is fixed and not movable, it cannot be moved with just one touching action: at least a releasing touching action and a moving touching action must be performed. Defendants contend that even Plaintiffs acknowledge that a fixed object is not moveable “until it is released and moved,” in other words, at least two touching actions must occur. (*Id.* (citing Dkt. 99 at 26).)

Defendants contend that Plaintiffs have not stated what the ordinary meaning is. Further, Defendants contend that the meaning of the term, in the context of the patent, is more nuanced than any common language definition of “fixed” or “not moveable.” Defendants contend that although many display elements on a touch screen may be static and incapable of being moved by a user, the patent’s use of the terms “fixed” and “not moveable” refers specifically to objects whose position is controllable, but are optionally fixed until they are released for movement. (Dkt. No. 100 at 28 (citing ’506 Patent 4:41-5:7, 5:31-61).)

As to issues (1) and (2) above, Defendants agree to a construction that omits those phrases, i.e., “stationary on screen and cannot be moved with just one touching action.” (*Id.*)

### Analysis

Plaintiffs have raised valid concerns regarding Defendants’ use of “appears” and “relative to other objects on the screen.” The addition of “appears” does nothing to clarify the meaning of the term and merely raises ambiguity regarding whether something is meant to be different from “appears” fixed versus *being* fixed. As to “other objects,” as noted by Plaintiff, the ’506 Patent contemplates embodiments which include merely a single object on the screen. ’506 Patent 4:31-32. Defendants’ original construction conflicts with this disclosure. Defendants have agreed to an alternative construction which removes both the “appears” and “relative to other objects on the screen” limitations (Dkt. No. 100 at 28.) The Court finds that such limitations should not be contained in the claim construction.

The remaining issue is Defendants’ inclusion of “just one touching action.” Defendants acknowledge that the concept of “fixed” and “not moveable” relates “specifically to objects whose position is controllable, but are optionally fixed until they are released for movement.” (*Id.*) Defendants have not shown, though, why such a concept requires that objects cannot be moved with “just one touching action.” Defendants state that the specification describes a first action to release and a second action to move. However, Defendants have not pointed to clear language of lexicography, disavowal, or disclaimer mandating such requirements. *See GE Lighting Solutions*, 750 F.3d at 1309; *Cordis Corp.*, 561 F.3d at 1329. Moreover, as to the touching actions, the claim itself describes the requirements of the first and second touching actions. It is these limitations that describe the bounds and exclusions, if any, of the two actions, not the object that is “fixed and not moveable.” Defendants have not shown why the definition of the “fixed and not moveable” objects



should be further limited in a manner that defines the scope of the touching actions. At the oral hearing, Defendants did not articulate a problem that would result in understanding the plain and ordinary meaning if the term were not construed, other than Defendants’ contention that the disclosed embodiment requires two touch actions to move an object. (See Dkt. No. 107 at 93-96.) The disclosure of an embodiment in the specification does not mandate Defendants’ limitation of the clear claim language. See *Arlington Indus.*, 632 F.3d at 1254. By rejecting Defendants’ additional limitations, the Court has resolved the claim construction dispute. See *O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008) (“district courts are not (and should not be) required to construe every limitation present in a patent’s asserted claims.”); *Finjan, Inc. v. Secure Computing Corp.*, 626 F.3d 1197, 1207 (Fed. Cir. 2010) (“Unlike *O2 Micro*, where the court failed to resolve the parties’ quarrel, the district court rejected Defendants’ construction.”).

**The Court finds that “fixed and not moveable” has its plain and ordinary meaning and no further construction is necessary.**

**9. “release” / “releasing” [’506 Patent Claims 1,8, 10]**

<b>Plaintiffs’ Proposed Construction</b>	<b>Defendants’ Proposed Construction</b>
No construction necessary. PanOptis proposes that the term be construed in accordance with its plain and ordinary meaning.	enable / enabling the first touching action for

The parties dispute whether the “releasing” enables the first touching action.

**Positions of the Parties**

Plaintiffs contend the claim language is clear and understandable to both one skilled in the art and a jury. Plaintiffs contend that Defendants’ construction ignores the context of the claim.

Plaintiffs note that claim 1 states “to release the at least one object according to the second touching action such that the at least one object can be moved.” Plaintiffs contend that Defendants’ construction incorrectly suggests that the “first touching action” is being enabled by the “release” element. Plaintiffs contend this is incorrect, as it is the “object” that is being released such that it can be moved by the first touching action. Plaintiffs state that the claim does not teach or suggest that the “touching action” itself is “enabled” by this claim element. (Dkt. No. 99 at 27.)

Plaintiffs contend that “releasing” focuses on the action being taken on the object and that the claim language describes the “objects,” not the “touching actions” which are separately and specifically described in the claim. (Dkt. No. 101 at 10.)

Defendants contend their construction is consistent with the specification. Defendants contend that when the user fixes an object to the screen, the user may no longer perform a touching action on that object in order to change its position; in other words, the first touching action is disabled at that object’s position. (Dkt. No. 100 at 29 (citing ‘506 Patent 4:55-61, 5:49-53).) Defendants state that when the user releases the object, the first touching action is again enabled for that object, so that the user may move its position as many times as desired, unless its position is fixed again. (*Id.* (citing ‘506 Patent 4:41-54, 5:57-6:12, 6:29-32).) Defendants contend that the argument that the “object,” and not the “first touching action,” is released is thus consistent with Defendants’ construction as the significance of “releasing” an object is that the “first touching action” is enabled for use with that object.

Defendants contend that Plaintiffs have not identified what the ordinary meaning is and, in any event, while “fixing” and “releasing” a physical object may have a well understood meaning, the significance of those terms, when used to describe virtual objects, is less clear. Defendants contend that the specification uses the word “release” to describe at least two different

functionalities: a user may “drag and drop” an object by touching it at an initial position, moving it to a new position, and “releasing” the object at the new position. (*Id.* (citing ’506 Patent 4:48-54).) Defendants further contend that a user may also “release” an object by performing a touch action that cancels the position fixation of that object. (*Id.* (citing ’506 Patent 5:55-61).) Defendants contend construction of the term is thus necessary to clarify the meaning of the term within the context of the claims.

### **Analysis**

Defendants seek to require that the releasing activity (the second touching action) “enables” the claimed first touching action (a moving action). Though as described in the specification, the second touching action may enable the first touching action, the claim language does not require this limitation. Again, Defendants have not pointed to clear language of lexicography, disavowal, or disclaimer mandating such requirements. *See GE Lighting Solutions*, 750 F.3d at 1309; *Cordis Corp.*, 561 F.3d at 1329. Further, as to the functionality of the second action and its releasing, the claims provide the required limitations. For example, in claim 1, it is stated that the control unit is configured: “to release the at least one object according to the second touching action such that the at least one object can be moved.” ’506 Patent claim 1. Thus, the claim itself defines the functionality of the second touching action, further counseling against Defendants’ attempt to include different additional functionality. As claimed, the second touching action allows the object to be moved. The claim does not mandate the second touching action enabling the first touching action.

Defendants contend that while “fixing” and “releasing” an object might be well understood, the significance of the terms with relation to a screen is less clear. In context of the full intrinsic record, the Court disagrees with Defendants. Other than contending that a limitation should be

imported from the specification, Defendants have not demonstrated any lack of clarity of the actual claim language in light of the specification. At the oral hearing, Defendants further contended that “release” can have two meanings as demonstrated in the specification. First, releasing an object as it is being “dragged and dropped” (specifically the “drop” step), and second, “releasing an object so it can be moved.” (Dkt. No. 107 at 100-101.) However, such differing meanings do not raise a need to construe the term because the surrounding claim language makes clear that it is the “releasing an object so it can be moved” usage that is claimed, for example: “to release the at least one object according to the second touching action such that the at least one object can be moved” and “wherein the control unit is further configured to display differently a shape of the object when the position fixation of the object is released.” 506 Patent claim 1.

By rejecting Defendants’ additional limitations, the Court has resolved the claim construction dispute. *See O2 Micro.*, 521 F.3d at 1362; *Finjan, Inc.*, 626 F.3d at 1207.

**The Court finds that “release” / “releasing” have their plain and ordinary meaning and no further construction is necessary.**

**10. “fix[ing] the moved object to the second position on the touch screen” [’506 Patent Claims 1, 8, 10]**

<b>Plaintiffs’ Proposed Construction</b>	<b>Defendants’ Proposed Construction</b>
No construction necessary. PanOptis proposes that the term be construed in accordance with its plain and ordinary meaning.	disabl[ing] the first touching action at the second position on the touch screen

The parties dispute whether the “fixing” means that the “position fixing button” disables the first touching action.

## **Plaintiffs**

Plaintiffs contend the claim language is clear and understandable to both one skilled in the art and a jury. Plaintiffs object to Defendants' construction for adding "disabl[ing] the first touching action." Plaintiffs contend that similar to the "release" terms above, it is incorrect to state that "fix[ing] the moved object to the second position on the touch screen" disables the "first touching action." Plaintiffs contend, rather, that the term itself states what "fix[ing] the moved object . . ." achieves, namely "to fix the moved object to the second position on the touch screen." Plaintiffs contend that the object is fixed to the second position, and it cannot be moved by a first touching action or otherwise, but the first touching action itself is not "disabled." (Dkt. No. 99 at 28-29.)

Plaintiffs contend that "fixing" focuses on the action being taken on the object and that the claim language describes the "objects," not the "touching actions" which are separately and specifically described in the claim. (Dkt. No. 101 at 10.)

Defendants contend that "fixing" an object disables a touching action for changing the position of that object, ('506 patent 4:55-61, 5:49-53), and "releasing" the object again enables the position changing touching action for that object (*id.* at 4:41-54, 5:57-6:12, 6:29-32). (Dkt. No. 100 at 30.) Defendants contend that Plaintiffs' argument that the fixation does not disable the first touch action misunderstands Defendants' construction: the first touching action is not universally disabled as a result of fixation; it is only disabled for the fixed object. (*Id.*)

Defendants object to Plaintiffs' failure to identify what that ordinary meaning is. Defendants state that, in any event, while "fixing" and "releasing" a physical object may have a well understood meaning, the significance of those terms, when used to describe virtual objects, is less clear. (*Id.*) Defendants state that the position fixation of the '506 patent is purportedly the

improvement the patent claims over the prior art, and allegedly is not performed in the prior art. (*Id.*) Defendants contend that Plaintiffs do not explain how the term could have a “plain and ordinary meaning” within the context of user interfaces in light of this fact.

### **Analysis**

Defendants again seek to limit the claim to the particular embodiment described within the specification without proper guidance from the intrinsic record. *See GE Lighting Solutions*, 750 F.3d at 1309; *Cordis Corp.*, 561 F.3d at 1329. In addition, as claimed, the object is explicitly fixed “based on a manipulation of a position fixing button.” In contrast, Defendants would seek to have the fixing process also based on “disabling the first touching action.” The explicit guidance in the claim as to what the fixing of the object is based on further counsels against Defendants’ construction. By rejecting Defendants’ additional limitations, the Court has resolved the claim construction dispute. *See O2 Micro.*, 521 F.3d at 1362; *Finjan, Inc.*, 626 F.3d at 1207.

**The Court finds that “fix[ing] the moved object to the second position on the touch screen” has its plain and ordinary meaning and no further construction is necessary.**

### **CONCLUSION**

The Court adopts the constructions above for the disputed and agreed terms of the Asserted Patents. Furthermore, the parties should ensure that all testimony that relates to the terms addressed in this Order is constrained by the Court’s reasoning. However, in the presence of the jury the parties should not expressly or implicitly refer to each other’s claim construction positions and should not expressly refer to any portion of this Order that is not an actual construction adopted

by the Court. The references to the claim construction process should be limited to informing the jury of the constructions adopted by the Court.

**SIGNED this 8th day of February, 2017.**

  
ROY S. PAYNE  
UNITED STATES MAGISTRATE JUDGE