

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE**

**L2 MOBILE TECHNOLOGIES LLC,**

*Plaintiff,*

v.

**TCL ELECTRONICS HOLDINGS LIMITED,  
et al.,**

*Defendants.*

**Case No. 1:22-cv-01306-JDW**

**MEMORANDUM**

L2 Mobile Technologies LLC sued TCL Electronics Holding Limited and several related entities, alleging that TCL infringed three of L2's patents. Both patents relate to devices used in telecommunication connections. The Parties have presented disputes over the meaning of six disputed claim terms stemming from the following patents: (1) U.S. Patent No. 8,179,913 ('913 Patent) and (2) U.S. Patent No. 8,054,777 ('777 Patent). I held a *Markman* hearing on February 6, 2024 and now resolve the disputed constructions.

**I. LEGAL STANDARD**

**A. General Principles Of Claim Construction**

"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. AWS Corp.*, F. 3d 1303, 1312 (Fed. Cir. 2005) (quote omitted). Claim construction is a matter of law. *See Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 574 U.S. 318, 325 (2015). "[T]here is no magic

formula or catechism” for construing a patent claim, nor is a court “barred from considering any particular sources or required to analyze sources in any specific sequence[.]” *Phillips*, 415 F. 3d at 1324. Instead, a court is free to attach the appropriate weight to appropriate sources “in light of the statutes and policies that inform patent law.” *Id.* (citation omitted).

A court generally gives the words of a claim “their ordinary and customary meaning,” which is the “meaning the term would have to a person of ordinary skill in the art at the time of the invention, i.e., as of the effective filing date of the patent application.” *Id.* at 1312-13 (quotations omitted). Usually, a court first considers the claim language; then the remaining intrinsic evidence; and finally, the extrinsic evidence in limited circumstances. *See Interactive Gift Exp., Inc. v. Compuserve, Inc.*, 256 F.3d 1323, 1331-32 (Fed. Cir. 2001). While “the claims themselves provide substantial guidance as to the meaning of particular claim terms[.]” a court also must consider the context of the surrounding words. *Phillips*, 415 F. 3d at 1314. In addition, the patent specification “is always highly relevant to the claim construction analysis and indeed is often the single best guide to the meaning of a disputed term.” *AstraZeneca AB v. Mylan Pharms. Inc.*, 19 F.4th 1325, 1330 (Fed. Cir. 2021) (quotation omitted). But, while a court must construe claims to be consistent with the specification, it must “avoid the danger of reading limitations from the specification into the claim . . . .” *Phillips*, 415 F.3d at 1323. This is a “fine” distinction. *Comark Communications, Inc. v. Harris Corp.*, 156

F.3d 1182, 1186-87 (Fed. Cir. 1998). In addition, “even when the specification describes only a single embodiment, the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using ‘words or expressions of manifest exclusion or restriction.’” *Hill-Rom Svcs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1372 (Fed. Cir. 2014) (quotation omitted) (cleaned up).

A court may refer to extrinsic evidence only if the disputed term’s ordinary and accustomed meaning cannot be discerned from the intrinsic evidence. *See Vitronics Corp. v. Conceptoronic, Inc.*, 90 F.3d 1576, 1584 (Fed. Cir. 1996). Although a court may not use extrinsic evidence to vary or contradict the claim language, extrinsic materials “may be helpful to explain scientific principles, the meaning of technical terms, and terms of art that appear in the patent and prosecution history.” *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 980 (Fed. Cir. 1995). Extrinsic evidence is used “to ensure that the court’s understanding of the technical aspects of the patent is consistent with that of a person of skill in the art[.]” *Phillips*, 415 F.3d at 1318. The Federal Circuit has cautioned against relying upon expert reports and testimony that is generated for the purpose of litigation because of the likelihood of bias. *Id.*; *see also Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 595 (1993) (“Expert evidence can be both powerful and quite misleading because of the difficulty in evaluating it.”) (quotation omitted).

## **B. Construction Of Means-Plus-Function Limitations**

When construing claim terms, a court must consider whether they are “means-plus-function” limitations. 35 U.S.C. § 112(f) governs the interpretation of means-plus-function claim terms:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

35 U.S.C. § 112(f). For patents that predate the America Invents Act, the same standard applies under 35 U.S.C § 112, ¶ 6.

To determine whether Section 112, ¶ 6 governs a claim, the “essential inquiry” is “whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure.” *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1348 (Fed. Cir. 2015) (en banc).<sup>1</sup> If a claim term does not use the word “means,” there is a rebuttable presumption that means-plus-function claiming under Section 112, ¶ 6 does not apply. *See id.* at 1349. To rebut it, a challenger must demonstrate that a claim term either fails to “recite sufficiently definite structures” or recites “function without reciting sufficient structure for performing that function.” *Id.* “The ultimate question is whether the claim language, read in light of the specification,

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<sup>1</sup> An *en banc* Federal Circuit joined the portion of the *Williamson* decision discussing the applicability of Section 112. *See Williamson*, 892 F.3d at 1347-49 & n.3.

recites sufficiently definite structure to avoid [Section] 112, ¶ 6." *MTD Prods. Inc. v. Iancu*, 933 F.3d 1336, 1341 (Fed. Cir. 2019) (quote omitted).

Courts use a two-step process to construe means-plus-function limitations. First, the court must determine the claimed function. *See Kemco Sales, Inc. v. Control Papers Co.*, 208 F.3d 1352, 1361 (Fed. Cir. 2000). Second, the court must identify the corresponding structure that the specification discloses to perform that function. *See id.* When the specification discloses "distinct and alternative structures for performing the claimed function," the proper construction should embrace each one. *Creo Prods., Inc. v. Presstek, Inc.*, 305 F.3d 1337, 1346 (Fed. Cir. 2002). The structure disclosed in the patent specification that corresponds to the claimed function limits the scope of a means-plus-function claim. *See Med. Instrumentation & Diagnostics Corp. v. Elektra AB*, 344 F.3d 1205, 1219 (Fed. Cir. 2003).

### **C. Indefiniteness**

"Indefiniteness is a matter of claim construction, and the same principles that generally govern claim construction are applicable to determining whether allegedly indefinite claim language is subject to construction." *Kyowa Hakka Bio, Co., Ltd. v. Ajinomoto Co.*, No. CV 17-313, 2020 WL 3403207, at \*5 (D. Del. June 19, 2020) (internal quotations omitted). "The internal coherence and context assessment of the patent, and whether it conveys claim meaning with reasonable certainty, are questions of law." *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 789 F.3d 1335, 1342 (Fed. Cir. 2015). A party seeking to

prove indefiniteness must do so by clear and convincing evidence. *See BASF Corp. v. Johnson Matthey Inc.*, 875 F.3d 1360, 1365 (Fed. Cir. 2017); *see also Cox Commc'ns, Inc. v. Sprint Commc'n Co. LP*, 838 F.3d 1224, 1228 (Fed. Cir. 2016).

"A patent's specification must 'conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as [the] invention.'" *Teva*, 789 F.3d at 1340 (quoting 35 U.S.C. § 112, ¶ 2). A patent claim is indefinite if, "viewed in light of the specification and prosecution history, [it fails] to inform those skilled in the art about the scope of the invention with reasonable certainty." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014).

## II. CONSTRUCTION OF THE DISPUTED TERMS

### A. "Only reestablishing the receiving side of the RLC entity of the communications device"<sup>2</sup>

L2's Construction	TCL's Construction	Court's Construction
"reestablishing the receiving side without reestablishing the transmitter side"	"only changing the originally configured values for the RLC entity of the communications device in the receiving side, which is different from a reset procedure"	"reestablishing only the receiving side of the RLC entity of the communications device without reestablishing the transmitting side"

This term requires construction because it is unclear from the claim language whether "only" modifies "reestablishing" or "receiving side." I agree with L2's assertion that "only" differentiates receiver-side reestablishment from transmitter- or dual-side

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<sup>2</sup> This term appears in Claims 1 and 2 of the '777 Patent.

reestablishment and does not distinguish reestablishment procedures from reset procedures. This construction is consistent with other statements in the '777 Patent that exclude transmitter-side or dual-side reestablishment and apply to reestablishment on the receiving side only. (*E.g.*, '777 Patent at 2:15.)

TCL bases its proposed construction on a statement from the applicant during prosecution that TCL claims narrowed the claim scope to reestablishment, as opposed to reset, procedure. Although the applicant did distinguish between a reestablishment procedure and a reset procedure in his remarks responding to a non-final rejection, I disagree with TCL's assertion that doing so limited the patent to reestablishment but not reset. Indeed, in these same remarks, the applicant identified his invention as a single-sided procedure for reestablishing the receiving side. I understand this language as differentiating receiving-side reestablishment from transmitter- or dual-side reestablishment, not excluding reset procedures.

**B. “Reestablishing the receiving side”<sup>3</sup>**

<b>L2’s Construction</b>	<b>TCL’s Construction</b>	<b>Court’s Construction</b>
“executing a procedure that includes resetting state variables specified for the receiver side to their initial values and setting configurable parameters to their configured values”	“changing the originally configured values for the RLC entity in the receiving side, which is different from a reset procedure”	“executing a procedure that includes resetting the state variables specified for the receiver side to their initial value and setting the configurable parameters to their configured values”

I agree with L2 and find that the term should be construed by listing the discrete events that makeup a receiving side reestablishment procedure. L2’s proposed construction reflects how the 3G Radio Link Control (RLC) protocol defined the process at the time of invention (3GPP TS 25.322 V6.4.0), and that standard would have been known to a person of ordinary skill in the art (“POSITA”). The intrinsic evidence in this case tells me that L2’s conception of the term is correct and that there is no need to import TCL’s proposed negative limitation. During prosecution, the ‘777 patent applicant stated two elements of reestablishing the receiving side: resetting the state variables to their initial values and setting the configurable parameters to the newly configured values. (*See* ECF No. 71-7 at 13). Although the applicant also noted during prosecution that there is a difference between a reset and reestablishment procedure, there is no need to include this limitation for a POSITA to understand the term. Instead, the term,

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<sup>3</sup> This term appears in Claims 1 and 2 of the ‘777 Patent.

the specification, and the 3G standard inform a POSITA of the scope of the term without a negative limit.

**C. “Reset procedure”<sup>4</sup>**

<b>L2’s Construction</b>	<b>TCL’s Construction</b>	<b>Court’s Construction</b>
<p>No construction necessary; the proposed phrase is only in the preamble and thus nonlimiting.</p> <p>In the alternative, if the Court decides that the phrase requires construction, then: “a procedure that includes resetting certain state variables to their original values and resetting configurable parameters”</p>	<p>“a procedure triggered to recover a protocol error in which all state variables, timers and configured values are set to their original states or original configured values, which is different than a reset procedure”</p>	<p>Not limiting</p>

Preamble language that “merely states the purpose or intended use of an invention is generally not treated as limiting the scope of the claim.” *Pacing Tech., LLC v. Garmin Intern., Inc.*, 778 F.3d 1021, 1023-24 (Fed. Cir. 2015) (quote omitted). “However, when limitations in the body of the claim rely upon and derive antecedent basis from the preamble, then the preamble may act as a necessary component of the claimed invention.” *Id.* at 1024 (cleaned up; quote omitted). That is, the preamble is limiting if it “recites essential structure or steps, or if it is necessary to give life, meaning, and vitality to the claim.” *Catalina Mktg. Int’l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed.

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<sup>4</sup> This term appears in Claims 1 and 3 of the ‘913 Patent.

Cir. 2002) (quote omitted). There is no “litmus test” to determine whether preamble language is limiting. *Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 952 (Fed. Cir. 2006). Whether to treat a preamble term as a claim limitation is “determined on the facts of each case in light of the claim as a whole and the invention described in the patent.” *Storage Tech. Corp. v. Cisco Sys., Inc.*, 329 F.3d 823, 831 (Fed. Cir. 2003).

The preambles to these claims do not animate the claims and thus are not limiting. Indeed, the bodies of each claim lack any reference to the preambles. To the contrary, the body of each claim describes a complete system on its own. The language of the preamble is a descriptor, not a limitation on the claim’s reach. That the preambles and claims refer to “a variable of a Radio Link Control reset procedure” in the former and “a reset procedure variable” in the latter is not enough to show a limitation.

*First*, the plain language of the patent cuts against finding the preambles form antecedent bases for the claims. Using the indefinite article “a” instead of the definite article “the” to modify “variable” tells me that the variables at issue in the preambles and claims are not identical. I won’t find the preamble limiting when it reasonably speaks of a variable different from one mentioned in the claim.

*Second*, to the extent that the claim term “variable” could be interpreted as referencing the preamble, neither party sought to have it so construed. There is no need to construe the term “reset procedure” when the Parties haven’t requested construction of the associated terms “variable” or “reset state variable.”

## D. Indefiniteness Disputes

Defendants argue that three terms from the patents in dispute are indefinite. They believe the modifier “accurately” is an undefined term of degree, that the term “control circuit” is a means-plus-function without a fixed meaning in the context of the claims, and that there is a discrepancy between how the term “the number of times a RESET protocol data unit (PDU) is scheduled to be transmitted” is described in the disputed claims and how the patented invention functions. To demonstrate indefiniteness, the Defendants must offer clear and convincing evidence. *See Halliburton Energy Servs., Inc. v. M-ILLC*, 514 F.3d 1244, 1249-50 (Fed. Cir. 2008). They haven’t carried this burden for any of the disputed terms.

### 1. “Accurately reestablishing the receiving side”<sup>5</sup>

L2’s Construction	TCL’s Construction	Court’s Construction
No construction necessary; the proposed term/phrase is only present in the preamble of the claim and therefore the claim term/phrase is nonlimiting.  Alternatively, “correctly reestablishing the receiving side”	Indefinite	Nonlimiting and not indefinite

There are two reasons that this term is not limiting. *First*, it appears in the preamble of the claim, and I conclude that it is not limiting. The preamble to Claim 2

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<sup>5</sup> This term appears in Claim 2 of the ‘777 Patent.

references a "Radio Link Control (RLC) entity having a transmitting side and a receiving side, utilized for accurately reestablishing the receiving side." ('777 Patent at Claim 2.) The claim limits then refer back to the receiving side and the transmitting side. Where language in a preamble is "intertwined" with language that provides an antecedent basis for language in claim limits, the language is limiting. *Bio-Rad Labs., Inc. v. 10X Inc.*, 967 F.3d 1353, 1371 (Fed. Cir. 2020). However, the phrase "accurately reestablishing the receiving side" is not intertwined with the language that provides an antecedent basis for the claims. Instead, it is an appositive clause that stands apart and provides only a statement of purpose. If I excised it from the preamble, nothing would change. Because it's not intertwined with the parts of the preamble that provide antecedent meaning, the phrase is not limiting.

*Second*, the modifier "accurately" is a binary term: reestablishment either is or is not performed. This does not denote an undefined degree that would render the term indefinite to a person of ordinary skill in the art. TCL insists that I must construe "accurately" to mean a sliding scale. But it ignores the possibility that "accurately" means "correctly." For example, if someone tells a friend that it is "accurate" to say that he liked a book, he does not use the term to indicate degree. He uses the term to mean "correct" instead of "incorrect." TCL does not address that possible interpretation, though. Without some evidence that a POSITA would consider the term "accurately" to mean a

matter of degree, rather than a binary outcome, TCL cannot satisfy its burden of showing by clear and convincing evidence that the term is indefinite.

For this reason, TCL's characterization of "accurately" as analogous to the term "minimal," which the Federal Circuit found to be an indefinite term of degree in *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1363-64 (Fed. Cir. 2018), fails. In that case, the Federal Circuit held that "minimal" lacks an objective boundary. That term represents an undefined point between some lower and upper bounds. But the same is not true for "accurately," at least not as it is used here, and I am not convinced by TCL's suggestion to the contrary.

## 2. "Control circuit"<sup>6</sup>

L2's Construction	TCL's Construction	Court's Construction
<p>No separate construction necessary.</p> <p>Alternatively, if the term is determined to be means-plus-function, it should be construed as follows:</p> <p><b>Function:</b> realizing functions of the communications device</p> <p><b>Structure:</b> hardware and/or software that includes a processor that executes program code accessible from a memory, as disclosed in Figures 1-3 and the text of the specification describing those figures</p>	<p>Indefinite, 112 ¶16</p> <p><b>Function:</b> "for realizing functions of the wireless communications device" ('777 patent) "for realizing functions of the communications device" ('913 patent)</p> <p><b>Structure:</b> none disclosed (Indefinite)</p>	<p>Not means-plus-function, and therefore not indefinite</p>

The limitations in which this term appears are not drafted in means-plus-function format; they do not employ language that connotes a means-plus-function limitation. There is therefore a rebuttable presumption that "control circuit" is not a means-plus-function claim term. *See Williamson*, 792 F.3d at 1349. To overcome this presumption, TCL must demonstrate that the term is insufficiently specific to describe a definite structure or that it describes only the structure's function without its composition.

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<sup>6</sup> This term appears in Claim 2 of the '777 Patent and Claim 3 of the '913 Patent.

Both intrinsic and extrinsic evidence demonstrate that the term “control circuit” discloses a known structure. Figures 1 and 2 in the ‘777 Patent describe the control circuit. Figure 1 shows a control circuit that contains a CPU and memory, with program code in the memory. Figure 2 then illustrates the program code. These illustrations go beyond merely naming a control circuit as a requisite component of the patented invention. They instead demonstrate the specific subparts of the circuitry that enable the component to perform the role described in the patent specification.

In addition, at the time of the invention, the McGraw-Hill Dictionary of Scientific and Technical Terms defined the term “control circuit,” demonstrating that a “control circuit” was a known structure to those skilled in the art. *Control circuit, McGraw-Hill Dictionary Of Scientific And Technical Terms* 452 (5th ed. 1994). Other courts have concluded that the term “circuit” is itself a specific structure. *E.g., Mass. Inst. Of Tech. and Elec. For Imaging, Inc. v. Abacus Software*, 462 F.3d 1344, 1355 (Fed. Cir. 2006); *Core Wireless Licensing S.A.R.L. v. L.G. Elecs., Inc.*, No. 2:14-cv-0911, 2015 WL 6956722 (E.D. Tex. Nov. 9, 2015). It therefore makes sense that a term that is a descriptor-plus-“circuit” would also disclose enough structure. And that’s the case here.

Although TCL makes arguments to the contrary, it offers no evidence, even though the burden rests with it to demonstrate that the term is means-plus-function. Without evidence, it cannot carry that burden.

**3. “The number of times a RESET protocol data unit (PDU) is scheduled to be transmitted”<sup>7</sup>**

<b>L2’s Construction</b>	<b>TCL’s Construction</b>	<b>Court’s Construction</b>
This claim element does not require construction and is not indefinite.	Indefinite	Not indefinite

This claim term is consistent with both the inventor’s conception of the patented invention and the description in the ‘913 Patent’s specification. It describes the intended use of the reset state variable (which I have already noted is not a disputed term). This disputed term is a nonrestrictive appositive phrase that modifies the reset state variable; it does not appear in the claim language as a standalone phrase, so it is inaccurate to read the claim as stating that the reset state variable is, itself, the number of times a RESET PDU is scheduled to be transmitted. The term identifies the function of the reset state variable with specificity and in a manner that is consistent with the invention’s description in the patent specification, such that a POSITA would understand the term as holding a definite meaning.

TCL argues that the claim term is indefinite because it is inconsistent with the specification, but I disagree. The specification explains that the variable VT(RST) “is used to count the number of times a RESET PDU is scheduled to be transmitted before a reset procedure is completed.” (‘913 Patent at 2:8-10.) It also explains that the VT(RST) variable counts the number of times that the system receives an erroneous connection

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<sup>7</sup>This term appears in Claims 1 and 3 of the ‘913 Patent.

message. When the VT(RST) reaches a maximum value, the system terminates the reset procedure. (*See id.* at 2:10-16.) Thus, the system uses the VT(RST) variable to determine the number of times that the RESET PDU is scheduled to be transmitted because the remaining number of transmissions is the difference between the parameter MaxRST (the maximum number of tries that the system permits) and the variable VT(RST) (the number of tries the system has made). While the number of scheduled transmissions is not necessarily equal to the variable VT(RST), the variable is one part of the arithmetic equation that the system uses. That's the same thing that Claims 1 and 3 disclose—that the system **uses** a reset state variable to count the number of times that a RESET PDU is scheduled to be transmitted. Because there's no inconsistency, and because the system that the claims disclose is definite, I reject TCL's argument.

### **III. CONCLUSION**

I will construe the disputed terms as described above. The parties have not otherwise agreed upon any constructions. An appropriate Order follows.

**BY THE COURT:**

*/s/ Joshua D. Wolson*

JOSHUA D. WOLSON, J.

March 7, 2024