

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

MAXELL, LTD.,

Plaintiff,

v.

LENOVO GROUP LTD., LENOVO
(UNITED STATES) INC., AND
MOTOROLA MOBILITY LLC,
Defendants.

Case No. 6:21-cv-01169-ADA

JURY TRIAL DEMANDED

**PLAINTIFF MAXELL, LTD.'S
RESPONSIVE CLAIM CONSTRUCTION BRIEF**

TABLE OF CONTENTS

- I. INTRODUCTION 1
- II. SUBJECT MATTER OF THE ASSERTED PATENTS 2
- III. DESCRIPTION OF THE ASSERTED PATENTS AND THE PROPER CONSTRUCTION OF THE DISPUTED TERMS 3
 - A. The '292 Patent 3
 - 1. Background of the '292 Patent 3
 - 2. Level of Ordinary Skill in the Art for the '292 Patent 3
 - 3. Disputed Terms in the '292 Patent 4
 - B. The '209 Patent 8
 - 1. Background of the '209 Patent 8
 - 2. Level of Ordinary Skill in the Art for the '209 Patent 9
 - 3. Disputed Terms in the '209 Patent and Applicable Legal Standards.. 9
 - C. The '417 Patent 17
 - 1. Background of the '417 Patent 17
 - 2. Level of Ordinary Skill in the Art for the '417 Patent 18
 - 3. Disputed Terms in the '417 Patent 18
 - D. The '645 Patent 23
 - 1. Background of the '645 Patent 23
 - 2. Level of Ordinary Skill in the Art for the '645 Patent 24
 - 3. Disputed Term in the '645 Patent..... 24
 - E. The '695 Patent 28
 - 1. Background of the '695 Patent 28
 - 2. Level of Ordinary Skill in the Art for the '695 Patent 29
 - 3. Disputed Terms in the '695 Patent 29
 - F. The '212 Patent 33
 - 1. Background of the '212 Patent 33
 - 2. Level of Ordinary Skill in the Art for the '212 Patent 34
 - 3. “wherein the control unit . . . the external video processing apparatus/[display apparatus] . . . when a user issues an indication to receive/[transmit] video information by using the first radio communication unit from the video processing apparatus/[to the external display apparatus] . . . communication unit” 34
- IV. CONCLUSION 35

TABLE OF AUTHORITIES

	Page(s)
Cases	
<i>Am. Med. Sys., Inc. v. Biolitec, Inc.</i> , 618 F.3d 1354 (Fed. Cir. 2010).....	19
<i>Ancora Techs., Inc. v. LG Elecs., Inc.</i> , No. 1-20-CV-00034-ADA, 2020 U.S. Dist. LEXIS 150002 (W.D. Tex. Aug. 19, 2020)	19
<i>Atmel Corp. v. Info. Storage Devices, Inc.</i> , 198 F.3d 1374 (Fed. Cir. 1999).....	11
<i>Bancorp Servs., L.L.C. v. Hartford Life Ins. Co.</i> , 359 F.3d 1367 (Fed. Cir. 2004).....	23
<i>Catalina Mktg. Int’l, Inc. v. Coolsavings.com, Inc.</i> , 289 F.3d 801 (Fed. Cir. 2002).....	18
<i>Enfish, LLC v. Microsoft Corp.</i> , 822 F.3d 1327 (Fed. Cir. 2016).....	9, 11
<i>Finisar Corp. v. DirecTV Grp., Inc.</i> , 523 F.3d 1323 (Fed. Cir. 2008).....	17
<i>Freeny v. Fossil Group, Inc.</i> , No. 2:18-CV-00049-JRG-RSP, 2019 WL 2078783 (E.D. Tex. May 10, 2019).....	26
<i>Gestion Proche, Inc. v. Dialight Corp.</i> , No. 4:16-CV-00407, 2017 U.S. Dist. LEXIS 65617 (E.D. Tex. May 01, 2017).....	19
<i>IPXL Holdings, L.L.C. v. Amazon.com, Inc.</i> , 430 F.3d 1377 (Fed. Cir. 2005).....	31, 32, 34
<i>IQASR LLC v. Wendt Corp.</i> , 825 F.App’x 900, 904 (Fed. Cir. 2020)	22, 23
<i>Ishida Co., v. Taylor</i> , 221 F.3d 1310 (Fed.Cir.2000).....	10
<i>In re Katz Interactive Call Processing Patent Litig.</i> , 639 F.3d 1303 (Fed. Cir. 2011).....	26, 32, 34

<i>Kyocera Senco Indus. Tools Inc. v. Int’l Trade Comm’n</i> , 22 F.4th 1369 (Fed. Cir. 2022)	21
<i>Linear Tech. Corp. v. Int’l Trade Comm’n</i> , 566 F.3d 1049 (Fed. Cir. 2009).....	21, 22
<i>MasterMine Software, Inc. v. Microsoft Corp.</i> , 874 F.3d 1307 (Fed. Cir. 2017).....	31, 34
<i>Maxell Ltd. v. Huawei Device USA Inc.</i> , 297 F. Supp. 3d 668 (E.D. Tex. 2018).....	<i>passim</i>
<i>Micro Chem., Inc. v. Great Plains Chem. Co.</i> , 194 F.3d 1250 (Fed. Cir. 1999).....	10
<i>Mobile Telecomms. Techs., LLC v. Google Inc.</i> , No. 2:16-CV-2-JRG-RSP, 2016 WL 7338398 (E.D. Tex. Dec. 19, 2016).....	26
<i>MobileMedia Ideas LLC v. HTC Corp.</i> , No. 2:10-CV-112-JRG, 2012 WL 12894259 (E.D. Tex. Dec. 10, 2012).....	26
<i>Noah Sys., Inc. v. Intuit Inc.</i> , 675 F.3d 1302 (Fed. Cir. 2012).....	9, 14
<i>Ortho-McNeil Pharm., Inc. v. Mylan Labs., Inc.</i> , 520 F.3d 1358 (Fed. Cir. 2008).....	20, 22
<i>Primos, Inc., v. Hunter’s Specialties, Inc.</i> , 451 F.3d 841 (Fed. Cir. 2006).....	22
<i>Serrano v. Telular Corp.</i> , 111 F.3d 1578 (Fed.Cir.1997).....	10
<i>Shoes by Firebug LLC v. Stride Rite Children’s Grp., LLC</i> , 962 F.3d 1362 (Fed. Cir. 2020).....	18
<i>Sinorgchem Co., Shandong v. Int’l Trade Comm’n</i> , 511 F.3d 1132 (Fed. Cir. 2007).....	22
<i>Skky, Inc. v. MindGeek, s.a.r.l.</i> , 859 F.3d 1014 (Fed. Cir. 2017).....	9
<i>Spherix Inc. v. Vtech Telecomms. Ltd</i> , No. 3:13-CV-3494-M, 2015 WL 9311489 (N.D. Tex. Mar. 19, 2015).....	26
<i>SynQor, Inc. v. Artesyn Techs., Inc.</i> , 709 F.3d 1365 (Fed. Cir. 2013).....	24

U.S. Well Services, Inc. v. Halliburton Co.,
No. 6:21-cv-00367-ADA, 2022 WL 819548, at *9 (W.D. Tex. Jan. 17, 2022)31, 32, 34

UltimatePointer, L.L.C. v. Nintendo Co.,
816 F.3d 816 (Fed. Cir. 2016).....31, 34

Visible Connections, LLC v. Zoho Corp.,
418 F. Supp. 3d 155 (W.D. Tex. 2019).....32, 34

TABLE OF EXHIBITS

EXHIBIT NO.	DESCRIPTION
1.	Maxell's Disclosure of Revised Claim Terms and Proposed Claim Constructions, dated May 16, 2022
2.	Expert Report of Dr. Iain Richardson in Support of Maxell's Ltd.'s Claim Constructions Regarding U.S. Patent Nos. 7,551,209 and 7,952,645
3.	Defendants Proposed Claim Constructions, dated May 2, 2022
4.	U.S. Patent No. 5,283,632 ("Suzuki")
5.	U.S. Patent No. 5,617,141 ("Nishimura et al.")
6.	U.S. Patent No. 5,550,587 ("Miyadera")
7.	U.S. Patent No. 5,555,022 ("Haruki et al.")
8.	Omitted
9.	Inv. No. 337-TA-1215 - Appendix 1 to Complainant's Initial <i>Markman</i> Brief
10.	Bloomsbury Dictionary of Computing, 5th ed. (2002)
11.	Microsoft Computer Dictionary, 5th ed. (2002)
12.	IEEE Wiley Electrical & Electronics Engineering Dictionary (2004)
13.	IPR2018-00240; Patent Owner Response; Paper No. 6

I. INTRODUCTION

Lenovo's Opening Claim Construction Brief ("Op. Br.") is factually incorrect. Specifically, for seven of the fourteen disputed terms, Lenovo identifies a construction that is not what Maxell proposed. *See* Maxell's Disclosure of Revised Claim Terms and Proposed Claim Constructions, dated May 16, 2022 ("Ex. 1") for the "combining" term at 13, "corrector" terms at 15, and means-plus-function terms of the '209 Patent at 16-20. For this reason alone, half of Lenovo's brief and arguments miss the point and should be disregarded.

When Lenovo did brief the correct constructions, it only provided a surface-level analysis. First, Lenovo does not identify the level of skill in the art that applies to any of the patents when analyzing whether a term should be given its plain and ordinary meaning or when a person of ordinary skill in the art would consider the disclosed structure to be sufficient to implement a claimed function. Second, despite Maxell clearly explaining the significance of prior *Markman* rulings by Judge Schroeder during the meet and confer process, Lenovo glosses over the context and guidance of those rulings that support Maxell's proposed constructions. *See* Op. Br. at 2-7 (disputed terms for the '292 Patent). Third, Lenovo points to blocks in a Figure of a patent and repeatedly shouts "black-box," when a reading of the specification plainly shows that there is sufficient structure. *See id.* at 8-14 (disputed terms for the '209 Patent). Fourth, Lenovo forgets to address the same limitations in dependent claims that Lenovo wants to import into the independent claim that must necessarily be broader. *Id.* at 16-18 (disputed terms for the '417 Patent). Fifth, Lenovo does not analyze the numerous disclosures describing the CPU's function in the specification when arguing to import three figures' worth of flow charts into the claim based on a partial reading of the specification. *Id.* at 19-22. Sixth, Lenovo points to little to no legal authority for imposing a sequence of steps in an apparatus claim. *Id.* at 23-25. Seventh,

Lenovo does not understand the full scope of the claim limitations when arguing that a capability of a component is actually a method step, when it is not. *Id.* at 26-31. Finally, Lenovo does not cite to a single piece of extrinsic evidence, expert testimony, or prosecution histories of the asserted patents to support any of their arguments of indefiniteness or injection of limitations into the claims. Put simply, Lenovo’s surface-level analysis should be rejected.

In contrast, Maxell’s brief addresses the correct constructions of both sides and faithfully follows the canons of claim construction. Further, Maxell’s proposed constructions are supported by intrinsic evidence, extrinsic evidence, expert testimony (where applicable), and provide meanings that would have been understood by one of ordinary skill in the art. Accordingly, Maxell respectfully requests that the Court adopt Maxell’s proposed constructions for the reasons discussed below.

II. SUBJECT MATTER OF THE ASSERTED PATENTS

Maxell has asserted the following eight patents in this case: U.S. Patent Nos. 8,098,695 (“the ’695 Patent”); 7,577,417 (“the ’417 Patent”); 7,551,209 (“the ’209 Patent”); 6,928,292 (“the ’292 Patent”); 9,420,212 (“the ’212 Patent”); 7,952,645 (“the ’645 Patent”); 8,059,177 (“the ’177 Patent”); and 7,072,673 (“the ’673 Patent”).

The asserted patents represent significant improvements across core technologies of modern mobile devices, including power management, audio processing, GPS and location functions, camera functions, image processing for pictures and videos, color correction techniques, and Bluetooth communications—essentially touching upon the core features of modern smartphones. While these features are critical in smartphones and tablets today, the inventions disclosed in the asserted patents date back to the early 2000s. Indeed, Lenovo has recognized the value of Maxell’s portfolio and has licensed it for their laptop computers but

refuses to do so for their smartphones despite having incorporated these same features in both classes of products.

III. DESCRIPTION OF THE ASSERTED PATENTS AND THE PROPER CONSTRUCTION OF THE DISPUTED TERMS

A. The '292 Patent

1. Background of the '292 Patent

Maxell's '292 Patent relates to a mobile handset (such as a smartphone) that uses both GPS and cellular signals to determine the handset's position with a higher degree of accuracy than conventional devices available at the time. '292 Patent at Abstract. Specifically, at the time the '292 Patent was filed (March 12, 2002), it was known that GPS signal strength diminished indoors due to "blockage by ceilings, walls, and the like," preventing the accurate determination of a handset's position. *See, e.g., id.* at 1:30-40. When outside, tall buildings and other outdoor obstructions also reduced accuracy of position calculation (*id.* at 1:41-47), and cellular position determination was also problematic, particularly when a handset was too close to a cellular base station or when too few such stations were available. *Id.* at 1:48-57.

The '292 Patent's inventors solved these problems by using both GPS and cellular radio signals to identify the location of a mobile handset. For example, the '292 Patent discloses determining a position of the handset based on the GPS signals and then calculating the reliability of the determined position. *See id.* at 3:44-59. The '292 Patent also discloses doing the same for cellular signals. *See id.* at 4:22-35. Next, the GPS position, the cellular position, the GPS reliability calculation, and the cellular reliability calculation are used to determine a position of a mobile handset with higher accuracy. *See id.* at 4:36-56.

2. Level of Ordinary Skill in the Art for the '292 Patent

A POSITA has a working knowledge of cellular and GPS wireless communications,

gained through an undergraduate degree in Electrical/Computer Engineering or an equivalent degree, and at least two years of experience in the field of wireless communications.

3. Disputed Terms in the '292 Patent

a) “combin[ing] / [ed]”

Maxell's Proposed Construction	Lenovo's Proposed Construction
a determination based on merging of a plurality of inputs, wherein one of the inputs can have no effect on the determination	Merg[ing] / [ed]

Lenovo's arguments for its construction of “combining” and “combined” lean heavily on the Eastern District of Texas's prior construction for this term, urging that “this Court should pay deference to Judge Schroeder's prior ruling.” Op. Br. at 3. Maxell agrees.¹

However, Lenovo's proposed construction does not capture that ruling in full. For instance, Lenovo's construction ignores the guidance in Judge Schroeder's opinion that “a factor could be set to ‘0’ to provide ‘no effect’ for certain factors.” *See Maxell Ltd. v. Huawei Device USA Inc.*, 297 F. Supp. 3d 668, 692 (E.D. Tex. 2018).²

In other words, the *Huawei* court reasoned, “combining” in the context of the '292 Patent entails “merging” the position results based on GPS signals, the position results based on cellular signals, the reliability of the GPS position results, and the reliability of the cellular position results—*i.e.*, the four “factors” referenced in the court's opinion. *See id.*; *see also* '292 Patent at 3:12-16 (disclosing using combining positioning result L_{gps} , positioning result L_{cell} , reliability W_{gps} , and reliability W_{cell} for position calculation).

As Judge Schroeder recognized,

¹ Indeed, Maxell's proposal here differs from its proposal in the prior case (“a determination based on one or more inputs”), both for its accounting of the “merging” construction and for its express inclusion of the “no effect” embodiment discussed here.

² Unless indicated otherwise, all instances of emphasis correspond to emphasis added by Maxell.

Although combining all four inputs is preferable, the specification notes that the GPS position results (or the cellular position results) supplied to the combining unit may not be accurate. ... When this occurs, the reliability value corresponding to the inaccurate GPS or cellular position is set to 0, so that when the GPS/cellular position and reliability values are combined in the mathematical function, the inaccurate GPS or cellular position has no effect on the position calculation result.

Huawei, 297 F. Supp. 3d at 692 (citing '292 Patent at 3:64-4:3, 4:36-42).

Judge Schroeder's recognition that either the GPS or cellular positioning factor could have "no effect" by being "set to 0" is significant. As the '292 Patent's specification teaches, when determining the handset's position by GPS is "impossible," "the GPS reliability calculation unit 204 preferably outputs a value of 0 as the reliability 205 so that the GPS-based position calculation result 202 has no effect on further processing." '292 Patent at 3:64-4:3; *see also id.* at 4:36-42 (discussing similar "no effect" scenario for cellular-based positioning).

Far from "stretching the claims beyond what was envisioned by the applicants" or "eviscerat[ing] the patent's fundamental feature," Op. Br. at 4, Maxell's proposal embraces the "no effect" embodiments expressly taught by the specification by clarifying that "one of the inputs can have no effect on the determination." *See* '292 Patent at 3:64-4:3 ("the GPS-based position calculation result 202 has no effect on further processing"), 4:36-42 ("the position calculation result 302 using the cellular signals has no effect on further processing"). This portion of Maxell's proposal also incorporates Judge Schroeder's guidance that "a factor could be set to '0' to provide 'no effect' for certain factors." *See Huawei*, 297 F. Supp. 3d. at 692.

Maxell's proposal here is not, as Lenovo avers, "an effort to cover any scenario where one input has 'no effect' on the determination of position." Op. Br. at 4. Rather, it is an effort to accurately capture the claimed invention, consistent with all the guidance from the term's prior construction, supported by the specification, to cover a handset that merges a plurality of inputs,

wherein one of those inputs can have no effect on further processing. Because Lenovo’s proposal fails to fully include the claimed invention, and ignores the prior guidance, it should be rejected.

At bottom, Lenovo’s argument that “a determination made on GPS data alone or cellular data alone does not fall within the scope of the claimed invention” (Op. Br. at 5) stands at odds with the specification’s express teaching that both the “GPS-based position calculation result” and the “position calculation result... using the cellular signals” could have “no effect” on the position determination. *See* ’292 Patent at 3:64-4:3, 4:36-42.

Accordingly, Maxell’s proposed construction harmonizes both the prior construction for “combining” / “combined” and the guidance that accompanied it: “a determination based on merging of³ a plurality of inputs, wherein one of the inputs can have no effect on the determination” (*e.g.*, by using a “0” value in the combination to have “no effect” on further processing). As Maxell’s proposal embraces this prior construction, there is nothing “inconsistent” with Maxell’s prior briefing on this patent, as Lenovo incorrectly argues. *See* Op. Br. at 3.

Thus, Maxell agrees that Judge Schroeder’s construction remains correct but submits that this construction should also account for the “no effect” embodiment in the ’292 Patent’s specification. Because only Maxell’s construction does so, it should be adopted over Lenovo’s.⁴

b) “GPS/cellular positioning results combining means for combining the GPS-based position result and the cellular-based position result with the GPS positioning reliability and the cellular positioning reliability”

Maxell’s Proposed Construction	Lenovo’s’ Proposed Construction
Function: combining the GPS-based position result and the cellular-based position result with the GPS positioning reliability and the cellular positioning reliability	Function: combining the GPS based position result and the cellular-based position result with the GPS positioning reliability and the cellular positioning

³ Lenovo omitted this bolded language from its quote of Maxell’s proposal. *See* Op. Br. at 2.

⁴ Maxell would agree to Lenovo’s proposed constructions for this term with the understanding that Judge Schroeder’s guidance in *Huawei*, 297 F. Supp. 3d. at 692, also applies here (*i.e.*, that either the GPS-based or cellular-based data can have “no effect” on the position determination).

<p>Structure: GPS/cellular positioning results combining unit 400 of a mobile handset that perform weighted mean algorithm described in Fig. 2 (block 606), Figure 3 (block 400) including the scenario where one of the GPS-based position or cellular-based position has no effect on the result due to lack of reliability as disclosed at 3:65-4:3, 4:36-42, or equivalents thereof</p>	<p>reliability</p> <p>Structure: GPS / Cellular Positioning Results Combining Unit 400 of a mobile handset performing the weighted mean algorithm disclosed in Figure 3 block 400, Figure 2 block 606, and at 3:12-17, 3:64-4:3, 4:36-56, or equivalents thereof</p>
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For this second term of the '292 Patent, Lenovo again asks this Court to defer to Judge Schroeder's prior ruling in *Huawei*. See Op. Br. at 6. As with the prior term, the issue for the "combining means" thus turns on whether the "no effect" embodiment described in the specification should be embraced (as advanced by Maxell) or ignored (as urged by Lenovo).

For instance, Lenovo argues that in *Huawei*, "Maxell urged Judge Schroeder to adopt a similarly broad construction." *Id.* Not so. The dispute in *Huawei* for this term centered around whether a "processor" could constitute part of the corresponding structure for this means term. See *Huawei*, 297 F. Supp. 3d at 693. Here again, Lenovo ignores Judge Schroeder's explanation that "the reliability outputs are set to zero so that the GPS or cellular position has no result, as can be seen from the [patent's] disclosure. The weighted mean approach is still described as being used, though one of the weightings may be 0." *Id.* at 694 (citing '292 Patent at 3:64-4:3, 4:36-42, 4:49-56, FIG. 2, FIG. 3).

Maxell's proposal captures this guidance from the opinion in *Huawei*. Specifically, Maxell seeks to include in the corresponding structure "the scenario where one of the GPS-based position or cellular-based position has no effect on the result due to lack of reliability," which embraces Judge Schroeder's recognition that "the GPS or cellular position has no result." *Id.*

Maxell's proposal also comports with the intrinsic evidence. See '292 Patent at 3:64-4:3 ("no effect" of GPS position); see also *id.* at 4:36-42 ("no effect" of cellular position). Lenovo itself recognizes this scenario: "The specification explains that even in a situation where either a GPS or cellular location result is unreliable or impossible to determine, that value is still

combined, **but its reliability would be set to a value of zero** so that a bad data point does not contaminate the final position determination.” Op. Br. at 6 (citing ’292 Patent at 3:64-4:3) (emphasis added). Maxell therefore does not desire to “relitigate” the same position it took in *Huawei*. Instead, as with the prior term, Maxell merely seeks to include all of the guidance from the prior construction of the “combining means”—not just the portions that Lenovo likes.

Maxell is also not seeking a construction that would “ignore or disregard any of the factors.” Op. Br. at 7. Like Lenovo’s, Maxell’s proposal still uses all values in the combination—but unlike Lenovo’s proposal, it accounts for the scenario where one of those values is “set to zero so that the GPS or cellular position has no result.” *See Huawei*, 297 F. Supp. 3d at 694.

Accordingly, Maxell’s proposed structure is correct because it includes the “scenario where one of the GPS-based position or cellular-based position has no effect on the result due to lack of reliability.”

B. The ’209 Patent

1. Background of the ’209 Patent

The ’209 Patent generally relates to the field of art of image processing, and specifically an imaging apparatus that captures pictures or video and has a “white balance function.” ’209 Patent at 1:14-17. A “white balance function,” also referred to as white balancing of an image or white balance correction, processes an image such that color in different portions of an image is balanced with white portions of an image. Richardson⁵ Decl. (Ex. 2) at ¶¶ 52-54. The inventors of the ’209 Patent recognized that in certain circumstances where an object is being recorded, it was “difficult to accurately separate the white balance deviation of the achromatic portion of the object from the chromatic portion which is slightly colored.” ’209 Patent at 2:41-44.

⁵ Dr. Iain Richardson is an expert in the field of image processing and has submitted an expert declaration in support of Maxell’s proposed constructions. *See* Ex. 2 (“Richardson Decl.”)

Accordingly, the inventors solved the problems in the art with a white balance correction technique that takes into account the distance of the object being captured, the zoom value, and the brightness of the object being photographed to create an optimal white balance scheme. *Id.* at 3:35-65; *see also id.* at 12:24-15:3.

2. Level of Ordinary Skill in the Art for the '209 Patent

A POSITA has a working knowledge of image processing systems gained through a degree in Electrical/Computer Engineering, computer science, or an equivalent degree, and at least two years of experience in the field of image processing.

3. Disputed Terms in the '209 Patent and Applicable Legal Standards

For each of the four disputed terms of the '209 Patent, Lenovo points to blocks in a single figure of the '209 Patent and sets forth a blanket assertion of indefiniteness based on the same “black-box” theory. But a term may be indefinite for lack of structure only “if a person of ordinary skill in the art would be unable to recognize the structure in the specification and associate it with the corresponding function in the claim.” *Noah Sys., Inc. v. Intuit Inc.*, 675 F.3d 1302, 1312 (Fed. Cir. 2012). A patentee “need not disclose details of structures well known in the art” so long as some structure is disclosed. *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1339-40 (Fed. Cir. 2016).

“To determine whether a claim recites sufficient structure, it is sufficient if the claim term is used in common parlance or by persons of skill in the pertinent art to designate structure.” *Skky, Inc. v. MindGeek, s.a.r.l.*, 859 F.3d 1014, 1019 (Fed. Cir. 2017) (quotations omitted). Sufficient disclosure may take the form of an algorithm for performing the claimed function “in any understandable terms including as a mathematical formula, in prose, or as a flow chart, or in any other manner that provides sufficient structure.” *Noah Sys.*, 675 F.3d at 1312; *see also*

Enfish, 822 F.3d at 1340 (“[t]he fact that this algorithm relies, *in part*, on techniques known to a person of skill in the art does not render the composite algorithm insufficient under § 112 ¶ 6”).

Further, a means-plus-function claim encompasses all structure in the specification corresponding to that element, including those disclosed in alternative embodiments. *Micro Chem., Inc. v. Great Plains Chem. Co.*, 194 F.3d 1250, 1258 (Fed. Cir. 1999). “Disclosed structure includes that which is described in a patent specification, including any alternative structures identified.” *Ishida Co., v. Taylor*, 221 F.3d 1310, 1316 (Fed.Cir.2000) (*quoting Serrano v. Telular Corp.*, 111 F.3d 1578, 1583 (Fed.Cir.1997)).

As shown below, Lenovo’s proposals are incorrect.

a) **“object distance detecting means for detecting distance to an object”**

Maxell’s Actual Proposed Construction⁶	Lenovo’s Proposed Construction
Function: detecting distance to an object	Function: detecting distance to an object
Structure: object distance detecting circuit 11 or equivalents thereof	Structure: indefinite

The ’209 Patent specification explicitly discloses that the agreed-to function of “detecting a distance” is performed by the object distance detecting circuit 11, which is why Maxell’s proposed construction identifies this as the structure. ’209 Patent at 5:35-39. This is the same structure that Lenovo proposed as an alternative structure until changing it on May 17, 2022, after the deadline to submit revised proposed constructions. *See* Lenovo’s Proposed Constructions (“Ex. 3”) at 9. Lenovo now argues that the “object distance detecting circuit 11” is a “black-box” and nothing in the specification describes what circuit 11 is. Op. Br. at 8-9. This assertion is incorrect.

For example, the specification discloses that “object distance detecting circuit 11 **detects a distance to the object** to which a focal point has been set by the focusing lens of the camera

⁶ Defendants identify and argue against the wrong proposed construction. *See* Op. Br. at 8. Maxell includes its actual proposed construction herein. *See* Ex. 1 at 16.

lens 1 and **forms distance information (assumed to be an object distance detection value D here)** from a result of the detection.” ’209 Patent at 5:35-39 (emphases added); *see also* Richardson Decl. ¶ 61. In addition, the specification discloses an object distance is output to the white balance control amount adjustment value setting circuit 9. ’209 Patent at 6:29-33; *see also* Richardson Decl. ¶ 62. The ’209 Patent further discloses “distance sensors that output distance information as an object distance detection value, sensors that output focal distance as an object distance detection value, and sensors that output focal distance information or position of the focus lens as an object distance detection value.” Richardson Decl. ¶¶ 64-73 (citing ’209 Patent at 15:36-39 and confirming, based on the intrinsic evidence cited in Exs. 4-7, that such distance sensors were known).

Moreover, the ’209 Patent also discloses that “a microcomputer” executing software may also be used for operations related to detecting a distance. ’209 Patent at 15:50-55. The specification also discloses detecting based on zoom magnification. Richardson Decl. ¶¶ 74-76 (citing to ’209 Patent at 7:31-56, 10:16-22). Thus, contrary to Lenovo’s assertion, the ’209 Patent’s specification clearly describes that the structure for the claimed “object distance detecting means” is a circuit that detects a distance based on, for example, focal distance, position of a focus lens, zoom magnification, and/or using distance sensors or a microcomputer.

Atmel Corp. v. Info. Storage Devices confirms, “the knowledge of one skilled in the particular art may be used to understand what structure(s) the specification discloses.” *Atmel Corp. v. Info. Storage Devices, Inc.*, 198 F.3d 1374, 1382 (Fed. Cir. 1999). Consistent with *Atmel*, Dr. Richardson relies on extrinsic evidence to confirm that a person of ordinary skill in the art would have recognized with reasonable certainty that the disclosed circuit is sufficient to perform the claimed function because a patentee “need not disclose details of structures well

known in the art.” *See Enfish*, 822 F.3d at 1339-40. Accordingly, Maxell’s proposed construction should be accepted.

b) “zoom value detecting means for detecting a zoom value of an optical system”

Maxell’s Actual Proposed Construction⁷	Lenovo’s Proposed Construction
Function: detecting a zoom value	Function: detecting a zoom value
Structure: zoom value detecting circuit 12 or equivalents thereof	Structure: indefinite

Lenovo’s “black-box” indefiniteness argument for “zoom value detecting means for detecting a zoom value of an optical system” follows the same flawed logic. Once again, the ’209 Patent’s specification explicitly explains that the function of detecting a zoom value is performed by “zoom value detecting circuit 12.” ’209 Patent at 5:39-43. This structure is also the same structure that Lenovo proposed as an alternative structure. *See* Ex. 3 at 9. The ’209 Patent explains that “zoom value detecting circuit 12 detects a zoom value (magnification, focal distance, angle of view, etc.) according to the zoom lens of the camera lens 1 and forms zoom value information (assumed to be a zoom magnification E here).” ’209 Patent at 5:39-43; *see also* Richardson Decl. ¶¶ 80-82.

The ’209 Patent also discloses that zoom magnitude can be detected using various parameters “such as focal distance f , angle of view θ , zoom lens position P , or the like.” ’209 Patent at 15:25-28; *see also* Richardson Decl. ¶ 83. Thus, sufficient known structure is disclosed to perform the claimed function of detecting a zoom value because the disclosures in the specification are consistent with known circuits (*e.g.* microcomputer, signal processing circuit) in cameras that could detect zoom value information (*e.g.*, lens position, focal distance) of a lens

⁷ Defendants identify and argue against the wrong proposed construction. *See* Op. Br. at 9; *see also* Ex. 1 at 17.

when the camera is operated. Richardson Decl. ¶¶ 84-89 (citing Exs. 4-7 each of which disclose examples of zoom detection circuits in cameras at the time of the invention of the '209 Patent.)

Therefore, Lenovo's indefiniteness argument should be rejected.

c) "object brightness detection means for detecting brightness of the object"

Maxell's Actual Proposed Construction⁸	Lenovo's Proposed Construction
Function: detecting brightness of the object	Function: detecting brightness of an object
Structure: object brightness detecting circuit 13 or equivalents thereof	Structure: indefinite

Different term; same "black-box" argument by Lenovo. Op. Br. at 10. The '209 Patent discloses that the function of detecting brightness of the object is performed by an "object brightness detecting circuit 13." '209 Patent at 5:43-46 ("object brightness detecting circuit 13 detects brightness...."). Not only is this the same structure that Lenovo proposed in this case (Ex. 3 at 10), but the same counsel that represent Lenovo and serve as lead counsel in this case agreed in a prior litigation with Maxell that this same term—in a parent patent—is definite and has sufficient structure that includes "object brightness detecting circuit 13." *See* Appx. 1 to *Markman* Brief in Inv. No. 337-TA-1215 ("Ex. 9") at 1.

Further, the '209 Patent explicitly discloses that the object brightness detecting circuit 13 can detect brightness information using a CCD "image pickup device" and/or "information obtained from various sensors such as illuminance sensor, luminance sensor, and the like." '209 Patent at 15:33-36, 5:13-26; Richardson Decl. ¶¶ 93-94 (relying on a book he authored in 2002 (Ex. 2 at Appendix B) to explain that image pickup devices and sensors were known). In view of these disclosures, a person of ordinary skill in the art would recognize that the '209 Patent discloses sufficient structure. Richardson Decl. ¶¶ 95-97.

⁸ Defendants identify and argue against the wrong proposed constructions. *See* Op. Br. at 10. Maxell includes its actual proposed construction herein. *See* Ex. 1 at 18.

d) **“white balance controlling means for detecting an achromatic portion ..., and controlling gain of the chrominance signal ...”**

Maxell’s Actual Proposed Construction⁹	Lenovo’s Proposed Construction
<p>Function: detecting an achromatic portion of the object based on a chrominance signal generated from an output signal of an imaging element through the optical system and controlling gain of the chrominance signal in accordance with a shift amount of white balance detected from the achromatic portion</p> <p>Structure: white balance control amount adjustment value setting circuit 9 <u>and/or white balance control circuit 8</u>, or equivalents thereof¹⁰</p>	<p>Function 1: detecting an achromatic portion of the object based on a chrominance signal generated from an output signal of an imaging element through the optical system</p> <p>Structure 1: indefinite</p> <p>Function 2: controlling gain of the chrominance signal in accordance with a shift amount of white balance detected from the achromatic portion</p> <p>Structure 2: indefinite</p>

First and foremost, like with many other terms, Lenovo’s brief argues against the wrong proposed construction. Therefore, Lenovo’s argument is inapplicable to the dispute between the parties and should be disregarded.

In addition, Maxell’s proposed construction identifies the same structure that Lenovo once offered. *See* Ex. 3 at 9-10. While Lenovo concedes that the “structure in the specification that can perform the two recited functions is the white balance control amount adjustment value setting circuit 9 and/or the white balance control circuit 8” (Op. Br. at 12), Lenovo is seeking a summary judgment of invalidity under 35 U.S.C. § 112(a) by arguing that these disclosed circuits do not “**enable one of ordinary skill** to configure them [circuits 8 and 9] to perform the claimed function.” Op. Br. at 12 (emphasis added). In the context of a means-plus-function analysis, the proper inquiry is not whether something is enabled but whether “a person of ordinary skill in the art would be unable to recognize the structure in the specification and associate it with the corresponding function in the claim.” *Noah Sys.*, 675 F.3d at 1312. Here, all agree that a recognized structure is disclosed.

⁹ Defendants identify and argue against the wrong proposed constructions. *See* Op. Br. at 11-14; *see also* Ex. 1 at 19.

¹⁰ In view of the concessions in the Op. Br., Maxell revises its proposed construction to include both structures identified by Lenovo. Op. Br. at 12.

Lenovo also admits that the '209 Patent discloses that the white balance control amount adjustment value setting circuit 9 and/or the white balance control circuit 8 can be implemented by “execut[ing] software of a microcomputer or the like.” Op. Br. at 12 (citing '209 Patent at 15:50-55). Maxell agrees that one example the specification gives of implementing these circuits is by using a microcomputer to execute software, and this structure is incorporated in Maxell's proposed construction as one of statutorily allowed “equivalent thereof.”

Next, Lenovo argues that “nothing in the specification describes any algorithm or circuit arrangement by which the white balance control amount adjustment value setting circuit 9 **can form information for adjusting a control amount of white balance control and set it.**” *Id.* (emphasis added). But none of (1) forming information; (2) adjusting a control amount of white balance control; or (3) set a control amount are part of the claimed functions required to be implemented by this structure. *See* '209 Patent, claim 1. Instead, the agreed to claimed functions are: (1) detecting an achromatic portion of the object based on a chrominance signal generated from an output signal of an imaging element through the optical system; and (2) controlling gain of the chrominance signal in accordance with a shift amount of white balance detected from the achromatic portion.

When the specification of the '209 Patent is reviewed in view of the agreed functions, it becomes clear that there is adequate disclosure. For example, for the **first function of “detecting an achromatic portion,”** the '209 Patent discloses the following mechanism as one example of how an achromatic portion can be detected:

The digital luminance signal and digital color difference signals (R–Y) and (B–Y) are formed from the digital primary color signals R, G, and B to which the foregoing correcting process has been performed as mentioned above and outputted to the encoder 6. By using the **digital color difference signals** (R–Y) and (B–Y), by a method similar to the conventional technique, an achromatic (white) portion of the object is extracted, and white balance deviation of the

achromatic portion is detected and supplied as white balance deviation information A to the white balance control circuit 8.

'209 Patent at 6:5-23 (emphasis added); *see also* Richardson Decl. ¶¶ 100-102 (citing '209 Patent at 6:5-23 and relying on a book he authored in 2002 to explain that the specification discloses known techniques, such as using digital color difference signals (R-Y) and (B-Y) to extract an achromatic portion of the object and that these processes can be performed in signal processing circuit 5). The '209 Patent provides additional details on detecting an achromatic portion by disclosing performing color separating, base converting, adding/subtracting processes to color difference signals, and thereby “forming luminance and colour difference information and comparing chrominance and/or luminance information to a threshold in order to detect the achromatic portion.” Richardson Decl. ¶¶ 103-104 (citing '209 Patent at 1:59-2:11).

The same is true for the second claimed function of “controlling gain of the chrominance signal in accordance with a shift amount of white balance detected from the achromatic portion.” Specifically, the '209 Patent discloses setting up a feedback control to correct white balance deviation that is used to change the gains of primary color signals. '209 Patent at 2:9-22; Richardson Decl. ¶ 105. The specification further discloses that controlling the gains of primary color signals based on a result of a comparison of object distance and a threshold. *See* Richardson Decl. ¶¶ 106-108 (citing '209 Patent at 1:50-57; 2:1-15; 5:52-61, 6:59-67, 7:6-26). Thus, the specification describes examples of how white balance control circuit 8 performs the first function to detect the “achromatic portion,” namely by receiving white balance deviation information A of the achromatic portion, which is extracted based on “digital color difference signals (R-Y) and (B-Y)” from signal processing circuit 5. '209 Patent at 6:17-24; *see also* Richardson Decl. ¶¶ 106-108. “As an additional example, a person of ordinary skill in the art would be able to set a threshold value or range corresponding to white portion, calculate color

difference signals, and extract luminance signals, or chrominance signals that fall within the range or threshold.” Richardson Decl. ¶ 109.

The specification also explains that white balance control circuit 8 performs the second function to “control gains of said chrominance signals” by (1) forming a white balance control signal indicative of the white balance control amount based on white balance deviation information A, and then (2) forming a gain control signal B, of primary color signals R and B, according to the adjusted white balance control signal. ’209 Patent at 15:40-49; Richardson Decl. ¶¶ 110-112. Thus, Lenovo’s indefiniteness argument should be rejected because a person of ordinary skill in the art would recognize that the specification sets forth extensive structure. *See Finisar Corp. v. DirectTV Grp., Inc.*, 523 F.3d 1323, 1340 (Fed. Cir. 2008) (“[t]his court permits a patentee to express that algorithm in any understandable terms including as a mathematical formula, in prose, or as a flow chart, or in any other manner that provides sufficient structure”).

C. The ’417 Patent

1. Background of the ’417 Patent

At the time of the invention of the ’417 Patent, conventional mobile terminals (such as cellular phones) controlled the clock speed¹¹ of a central processing unit (CPU) depending on conditions like power source voltage and ambient temperature. ’417 Patent at 1:26-32. But these phones failed to account for the actual use of the phone in determining clock speed. *Id.* Because increased clock speed increased battery consumption, *id.* at 2:49-54, conventional devices available at the time ran the risk of draining the phone’s battery even when the phone was in a standby condition or otherwise not being used. *Id.* at 1:33-39.

¹¹ The clock speed or clock signal of a CPU controls its processing speed. ’417 Patent at 2:38-42.

The inventors of the '417 Patent solved this problem by providing a novel CPU that could control its clock speed based on the manner in which the device is being used. For example, when the mobile terminal executes certain types of processing (such as image decoding when recording a photograph), the clock signal increases, leading to increased processing capability but faster battery power consumption. *Id.* at 2:55-58. When that processing finishes, however, the clock speed decreases, thereby reducing power consumption. *Id.* at 2:58-61. In this way, a mobile terminal is able to “attain both enhancement in processing speed and reduction in current [battery] consumption,” thereby conserving battery power. *Id.* at 1:43-52.

2. Level of Ordinary Skill in the Art for the '417 Patent

A POSITA has a working knowledge of power management, gained through a degree in Electrical/Computer Engineering or an equivalent degree, and at least one year of experience in the field of power management.

3. Disputed Terms in the '417 Patent

a) The Preamble of Claim 1 Is Not Limiting.

The preamble of claim 1 of the '417 Patent does not limit the claim's scope. Contrary to Lenovo's argument, “antecedent basis alone is not determinative of whether a preamble is limiting.” *See Shoes by Firebug LLC v. Stride Rite Children's Grp., LLC*, 962 F.3d 1362, 1368 (Fed. Cir. 2020). One must look beyond Lenovo's surface-level discussion to determine whether it is limiting. Upon closer examination, it is plain that the preamble here is not limiting because the claim's body “defines a structurally complete invention.” *See Catalina Mktg. Int'l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 810 (Fed. Cir. 2002).

Lenovo also appears to argue—though without support from legal authority—that claim 1's preamble should also be limited because its words “are structural requirements of the mobile

terminal of the claim.” Op. Br. at 15. This is incorrect. Though the preamble recites that the claimed mobile terminal is “capable of being changed from an open condition into a closed condition,” the body of the claim—not the preamble—is what makes clear that this is a “structural requirement.” Indeed, the claim’s body provides limitations reciting the mobile phone’s clock control “when the mobile terminal is in the open condition” and “when the mobile terminal is in the closed condition.” Anything the preamble might say is thus merely superfluous of the limitations recited in the body of the claim, which defines a “structurally complete” invention on its own. *See Catalina Mktg.*, 289 F.3d at 808.

Put differently, “the claim body adequately addresses the use of” the open and closed conditions. *See Ancora Techs., Inc. v. LG Elecs., Inc.*, No. 1-20-CV-00034-ADA, 2020 U.S. Dist. LEXIS 150002, at *20 (W.D. Tex. Aug. 19, 2020). “[T]he preamble does not provide essential context or definition for understanding” the open and closed conditions because the body completely describes their importance to the invention. *See id.* (citing *Am. Med. Sys., Inc. v. Biolitec, Inc.*, 618 F.3d 1354, 1359 (Fed. Cir. 2010)). Further, when, as here, “[d]eletion of the preamble does not affect the definition or operation of the claimed invention,” the preamble does not limit the claim. *Gestion Proche, Inc. v. Dialight Corp.*, No. 4:16-CV-00407, 2017 U.S. Dist. LEXIS 65617, at *6 (E.D. Tex. May 01, 2017).

Accordingly, the preamble of the ’417 Patent is not limiting.

b) “closed condition”

Maxell’s Proposed Construction	Lenovo’s Proposed Construction
Plain and ordinary meaning.	Plain and ordinary meaning, <i>i.e.</i> , folded.

The parties agree that “closed condition” should be given its plain and ordinary meaning, but Lenovo would artificially limit that plain meaning to “folded.” Maxell contends that the term

should include the full scope set forth in the specification, and not the single “folded” embodiment that Lenovo focuses on.

The single sentence from the ’417 Patent that Lenovo points to in support of its proposed construction reveals the flaws in rewriting “closed condition” as “folded.” *See* Op. Br. at 16. That sentence makes clear that it applies only for a single embodiment: “[t]he cellular phone **shown in FIG. 4** comprises a folding condition detector 700 for detecting whether the cellular phone is in a folded (closed) condition or in an unfolded (open) condition.” ’417 Patent at 5:35-38 (emphasis added). Claim 1 is directed to a different embodiment, which does not include the “folding condition detector” of the Figure 4 embodiment. *See id.* at 6:61-7:11 (claim 1).

Once again, Lenovo fails to look beyond this single sentence in the specification to support its proposal. In fact, the ’417 Patent’s specification describes the “closed condition” as a particular processing state of the mobile terminal (*e.g.*, a “standby” mode or other locked state of the device), not as a **physical** state of the mobile terminal (*e.g.*, folded). *See, e.g., id.* at 5:51-53 (“in the closed condition, the cellular phone is often on standby (waiting) for cellular phone communications....”); *see also* ’417 Patent at 4:41-43 (“during a standby (waiting) period for communications by the cellular phone ...”), 4:60-62 (“during a standby (waiting) period for communications by the cellular phone....”). Accordingly, Lenovo’s proposal would exclude the specification’s teaching that equates the claimed closed condition with a “standby” mode.

Lenovo also ignores claim 7, which depends from claim 1 and recites “wherein the mobile terminal has a folded structure.” ’417 Patent at 8:15-16. Under the principle of claim differentiation, Lenovo’s efforts to limit claim 1 to the same “folded” structure should be rejected because they would render dependent claim 7 “meaningless.” *See Ortho-McNeil Pharm., Inc. v. Mylan Labs., Inc.*, 520 F.3d 1358, 1362 (Fed. Cir. 2008).

Further, the extrinsic evidence is consistent with the '417 Patent's use of "closed condition" to include a processing state like "standby" mode where the phone is "closed" or otherwise inaccessible. *See* Ex. 10 (Bloomsbury Dictionary of Computing, 5th ed. (2002)) at 66 (defining "close" as "to shut down access to a file or disk drive"); Ex. 11 (Microsoft Computer Dictionary, 5th ed. (2002)) at 104 (defining "closed file" as "A file not being used by an application... Compare open file"); Ex. 12 (IEEE Dictionary (2004)) at 116 (defining "closed" as "Blocking, or otherwise obstructing" and "Not accessible to all").

This meaning of a "closed condition" becomes particularly clear when compared to the literature's definitions of an "open" condition. *See* Ex. 11 (Microsoft Computing Dictionary, 5th ed. (2002)) at 377 (defining "open" as "Of, pertaining to, or providing accessibility" and "To make an object, such as a file, accessible."); Ex. 12 (IEEE Dictionary (2004)) at 530 (defining "open" to mean "Not blocking or otherwise obstructing" and "Accessible to all").

Accordingly, "closed condition" should be given its plain and ordinary meaning.

c) "specific processing"

Maxell's Proposed Construction	Lenovo's Proposed Construction
Plain and ordinary meaning, <i>i.e.</i> , "processing for specific application processing."	Indefinite or "processing for image decoding, address retrieval processing, and application processing such as kana-kanji conversion processing used in entering characters."

For the term "specific processing," the dispute centers on whether this term should be limited to a single example in the specification (Lenovo's position), or whether it should be accorded its plain and ordinary meaning, taking into account the specification as a whole (Maxell's position).

The first cite Lenovo offers to support its construction reveals the flaws in its reasoning. That cite makes clear that it is only one "example" of the claimed invention: "the specific processing refers to, **for example**, processing for image decoding, address retrieval processing,

and application processing such as kana-kanji conversion processing used in entering characters.” ’417 Patent at 2:65-3:2 (emphasis added). There can be no lexicography in situations, like here, where the specification expressly indicates that the embodiment at issue is just one example of the claimed invention. *See Linear Tech. Corp. v. Int’l Trade Comm’n*, 566 F.3d 1049, 1058 (Fed. Cir. 2009) (“claims generally should not be narrowed to cover only the disclosed embodiments or examples in the specification.”).

But Lenovo ignores the words *for example*, and as such its reliance on *Kyocera* and *Linear Technology* are inapplicable. *See Kyocera Senco Indus. Tools Inc. v. Int’l Trade Comm’n*, 22 F.4th 1369, 1378 (Fed. Cir. 2022) (“Nothing about this statement [in the specification] suggests the ‘bottom position’ is merely an example of a driven position.”); *Linear Tech.*, 566 F.3d at 1054 (no indication of the words “for example” used in construing the term at issue).

Sinorgchem is equally unavailing. Contrary to the misleading quote offered by Lenovo, *Sinorgchem* does not deal with the words *for example*; instead, the Federal Circuit found that “vague language cannot override the express definitional language.” *See Sinorgchem Co., Shandong v. Int’l Trade Comm’n*, 511 F.3d 1132, 1137-38 (Fed. Cir. 2007). There is nothing “vague” about the ’417 Patent’s use of “for example.”

Lenovo’s construction also violates claim differentiation in two ways. First, Lenovo’s proposal ignores the language of dependent claim 2, which states “the specific processing is a processing having an effect on a response to a request from the user.” ’417 Patent at 7:12-14. Because that language is absent from Lenovo’s proposal, it cannot be correct. *See Primos, Inc., v. Hunter’s Specialties, Inc.*, 451 F.3d 841, 848 (Fed. Cir. 2006).

Second, Lenovo’s construction closely mimics the words of dependent claim 3: “wherein the specific processing is an image decoding processing or an address retrieval processing or a

character conversation processing.” ’417 Patent at 7:15-18. Again, claim differentiation counsels against the construction Lenovo advances here, which renders claim 3 meaningless. *See Ortho-McNeil Pharm.*, 520 F.3d at 1362.

This term is also not indefinite. Lenovo builds its alternative indefiniteness arguments upon a faulty foundation: that “specific processing” is a “coined term.” Op. Br. at 18. It is not. The mere fact that “specific processing,” in Lenovo’s view, is not a “term of art” does not make that term indefinite, and that is not what *IQASR* held. Indeed, in holding that the term “magnetic fuzz” was indefinite, even *IQASR* acknowledged that, “[t]he failure to define [a] term is ... not fatal, for if the meaning of the term is fairly inferable from the patent, an express definition is not necessary.” *IQASR LLC v. Wendt Corp.*, 825 F.App’x 900, 904 (Fed. Cir. 2020) (quoting *Bancorp Servs., L.L.C. v. Hartford Life Ins. Co.*, 359 F.3d 1367, 1373 (Fed. Cir. 2004)).

Such is the case here, where the meaning of “specific processing” is “fairly inferable” from the ’417 Patent. For example, the patent repeatedly refers to specific types of application processing such as those involving processing of user input. Although “processing for image decoding, address retrieval processing, and application processing” are among those examples, ’417 Patent at 2:65-67, the patent also refers more generally to “processing in response to the input” from a user, *Id.* at 2:17-22. Thus, only Maxell’s proposal captures the full scope of the plain and ordinary meaning of this term.

D. The ’645 Patent

1. Background of the ’645 Patent

At the time of the invention of the ’645 Patent, visual display signal processing posed unique problems in the field of mobile apparatuses, which were limited in both processing power and battery life. ’645 Patent at 1:31-37. Images viewed on mobile apparatuses were difficult to

view if the images were not color-corrected in accordance with optimal viewing conditions to account for, for example, focusing on surrounding areas and/or sunny conditions. *Id.* at 1:37-56.

The '645 Patent discloses techniques of image enhancement by processing a signal using a detector and controller to distinguish between pattern portions, including in a no-picture area, and picture areas in a video image signal. *Id.* at 1:60-63. Once the video image signal is analyzed to detect the pattern portion and non-pattern portions, the '645 Patent discloses a corrector to control the visual display signal processing such that certain portions of the video signals are corrected while others are not based on the detection, which enhances viewing experience, limits the use of processing power, and improves battery performance. *Id.* at 1:64-67.

2. Level of Ordinary Skill in the Art for the '645 Patent

See supra at §IV.B.2.

3. Disputed Term in the '645 Patent

a) “a corrector which corrects the video signal input to the input unit”

Maxell's Actual Proposed Construction ¹²	Lenovo's Proposed Construction
Function: correct the video input signal input to the input unit. Structure: CPU 7 or equivalents thereof.	Function: correct the video input signal to the input unit Structure: CPU 7, I/F unit 155, modulator 152, algorithms of Fig. 13, 17, and 18, or CPU 7, memory 9, I/F unit 155, and RGB gain adjuster 1510, as described in col. 13:54–15:3 and Figs. 22–24, or statutory equivalents thereof

Maxell's proposed construction identifies the precise structure disclosed in the specification and accounts for alternative structures. Lenovo's proposed construction imports irrelevant structures and even excludes an embodiment. “A claim construction that excludes the preferred embodiment is rarely, if ever, correct.” *SynQor, Inc. v. Artesyn Techs., Inc.*, 709 F.3d 1365, 1378-9 (Fed. Cir. 2013) (quotations omitted).

¹² Defendants identify and argue against the wrong proposed construction. *See* Op. Br. at 19-21. Maxell includes its actual proposed construction herein. *See* Ex. 1 at 15.

For example, the '645 Patent repeatedly and consistently identifies CPU 7 as the structure that performs the function of “correct[ing] the video input signal input to the input unit”:

- “The CPU 7 reads out new characteristic data from the I/F register 1550, generates new correction data, and updates correction data in the I/F register 1550.” '645 Patent at 8:67-9:3 (emphasis added).
- “The modulator 152 modulates the luminance, hue and saturation on the basis of the correction data generated by the CPU 7.” *Id.* at 10:5-7 (emphasis added).
- “If the CPU 7 judges the compression factor to be high on the basis of header information of an image file before decoding or judges the receiving state to be poor on the basis of the bit error rate or the like . . . consequently the degree of correction may be weakened to prevent the block noise from being emphasized. On the contrary, if the CPU 7 judges the compression factor to be low . . . the degree of correction may be strengthened.” *Id.* at 12:44-54 (emphasis added).
- “[T]he CPU 7 conducts generation and update processing of correction data in response to the INT 141 supplied from the scene change detector 1552 has been described. Alternatively, the CPU 7 may conduct generation and update processing when a specific picture such as an I picture or an IDR (Instantaneous Decoding Refresh) picture has been generated when an encoded image is decoded.” *Id.* at 13:3-9 (emphasis added).
- “The illuminance detected by the illuminance sensor 7 is input to the CPU 7. If the illuminance is at least a predetermined value, the CPU 7 outputs a control signal to order the RGB gain adjuster 1510 to correct the output gradation.” *Id.* at 13:60-63 (emphasis added).

See also *id.* at 5:50-54 (“CPU 7 reads out characteristic data”), 14:32-40 (CPU 7 calculates ratios to perform corrections). Reading these disclosures in the '645 Patent, a POSITA would recognize that the video correction functions are directly linked with CPU 7. Richardson Decl. ¶¶ 114-116. Thus, Maxell’s proposed construction identifies CPU 7 as the disclosed structure.

Lenovo argues that the disclosed structure of “CPU 7” is insufficient because Maxell is merely pointing to a “general purpose computer” and under *WMS Gaming*, a proper construction must necessarily identify an algorithm. Op. Br. at 21. But the '645 Patent does not disclose CPU 7 to be limited to only a general purpose computer. While it is correct that the '645 Patent discloses that CPU 7 conducts general process of a telephone ('645 Patent at 4:8-9), the general

process of a telephone is not the specific structure that is tied to the claimed function. Instead, in the relevant part dealing with the subject of video correction and processing, the '645 Patent explains that CPU 7 “conducts video decoding processing and audio decoding processing.” See '645 Patent, 4:37-38; *see also* Richardson Decl. ¶¶ 117-119 (citing to Figs. 34 and 44 disclosing the CPU being a video processor). Thus, reading the entirety of the '645 Patent, a person of ordinary skill in the art would recognize that the disclosed structure of CPU 7 for purposes of performing video corrections is not a general purpose computer but is a video/audio processor as **explicitly** disclosed in the '645 Patent. Richardson Decl. ¶¶ 117-119.

Further, even if CPU 7 is considered to be a general purpose computer with respect to performing claimed video corrections—which it is not—CPU 7 can serve as sufficient structure for “functions [that] can be achieved by any general purpose computer without specific programming.” *In re Katz Interactive Call Processing Patent Litig.*, 639 F.3d 1303, 1316 (Fed. Cir. 2011). Examples of such functions include functions such as “receiving,” “storing,” and “processing” data. *See id.*; *see also Mobile Telecomms. Techs., LLC v. Google Inc.*, No. 2:16-CV-2-JRG-RSP, 2016 WL 7338398, at *39 (E.D. Tex. Dec. 19, 2016) (no algorithm needed for “adding”).¹³ As noted above, the '645 Patent discloses that while performing video corrections CPU 7 performs the functions of “reading out new characteristic data,” “generating new correction data,” “updating correction data,” “judging a compression factor . . . on the basis of

¹³ *See also Freeny v. Fossil Group, Inc.*, No. 2:18-CV-00049-JRG-RSP, 2019 WL 2078783, at *8 (E.D. Tex. May 10, 2019) (“the recited function of ‘recording’ is coextensive with the disclosed structure”); *Huawei*, 297 F. Supp. 3d at 722 (addressing function of “outputting” and “receiving”); *Spherix Inc. v. Vtech Telecomms. Ltd.*, No. 3:13-CV-3494-M, 2015 WL 9311489, at *17 (N.D. Tex. Mar. 19, 2015) (“functions of ‘displaying’ and ‘transmitting’ are coextensive with the disclosed structure”); and *MobileMedia Ideas LLC v. HTC Corp.*, No. 2:10-CV-112-JRG, 2012 WL 12894259, at *13 (E.D. Tex. Dec. 10, 2012) (“The image processing unit 14c indicates a general-purpose microprocessor. However, the broad function of “processing” does not impose a requirement for any particular type of processing of the image information. Thus, realization of the ‘processing’ function does not require special programming.”)

header information of an image file,” “outputting a control signal,” and/or “calculating ratios,” all of which are functions that a person of ordinary skill in the art would recognize to be able being performed without requiring an algorithm.

Lenovo also argues that the phrase “determines correction data according to a predetermined algorithm,” automatically indicates that an algorithm is required. This, however, is only one of the many examples disclosed in the ’645 Patent. Moreover, this “predetermined algorithm” and additional exemplary algorithms are actually identified in the ’645 Patent. *See* Richardson Decl. ¶¶ 123-128 (relying on disclosures in the ’645 Patent at 8:67-9:3, 12:44-54, 13:1-9, 14:32-40 to explain how multiple examples of algorithms performed by CPU 7 are disclosed).

Lastly, Lenovo’s proposed construction is also incorrect because it incorporates unnecessary components such as IF unit 155, modulator 152, RGB gain adjustor 1510, and imports multiple figures (Figs. 13, 17, 18, 22, 23, and 24), each of which are explicitly disclosed in the patent as examples. Richardson Decl. ¶¶ 121-122. Further, these components are all within Picture Quality Enhancement Circuit (“PQEC”) 15. *See* ’645 Patent at Fig. 1 (identifying PQEC circuit 15) and Fig. 2 (showing circuit 15 including IF unit 155 and modulator 152); *see also id.* at Fig. 22 (showing circuit 15 including RGB Gain Adjustor 1510). But the ’645 Patent explicitly discloses an embodiment that does **not** require PQEC 15 and the entirety of the functions of PQEC 15 would simply be performed by CPU 7. ’645 Patent at 12:63-67 (“the whole of the picture quality enhancement processing may be conducted in a software form in the CPU 7 **without using the picture quality enhancement circuit 15.**”) (emphasis added).

Thus, Lenovo’s proposed construction is also incorrect because it excludes the embodiment in which PQEC and/or any components therein are simply implemented by CPU 7.

- b) **“a corrector which changes correction characteristics according to a result of detection output from the characteristic point detector, and corrects the video signal input to the input unit”**

Maxell’s Actual Proposed Construction ¹⁴	Lenovo’s Proposed Construction
Function: changes correction characteristics according to a result of detection output from the characteristic point detector Structure: CPU 7 or equivalents thereof	Function: changes correction characteristics according to a result of detection output from the characteristic point detector, and corrects the video signal input to the input unit Structure: CPU 7, I/F unit 155, modulator 152, algorithms of Figs. 13, 17, and 18, or statutory equivalents thereof

Lenovo refers back to its arguments with respect to the term “a corrector which corrects the video signal input to the input unit,” and argues that this term should also be limited to the same narrowing structure. *See* Op. Br. at 22. Thus, for the same reasons as identified above, Lenovo’s proposed construction should be rejected. *See supra* pp. 24-27; *see also* Richardson Decl. ¶¶ 131-134 (citing ’645 Patent at 5:46-58, 8:67-9:3, 13:3-9, and 13:60-66 and explaining how CPU 7 is the structure disclosed to change correction characteristics by performing functions of reading and/or updating).

E. The ’695 Patent

1. Background of the ’695 Patent

In order to play audio and voice signals in multiple formats, decoders in conventional devices at the time of the ’695 Patent (which claims priority to November 4, 1998) required built-in memory to store code for decompressing signals in each of those multiple formats. ’695 Patent at 2:5-8. This caused conventional audio decoders to consume considerable space, making them difficult to integrate into existing products. *Id.* at 2:11-17. In addition, conventional decoders were inflexible: they could not easily be updated to include new or revised decoding instructions. *Id.*

¹⁴ Defendants identify and argue against the wrong proposed construction. *See* Op.Br. at 22. Maxell includes its actual proposed construction herein. *See* Ex. 1 at 15.

The '695 Patent's inventors solved this problem by designing a decoder that could pull the necessary code and other information for decompressing and decoding signals of different formats from outside. *Id.* at 7:53-8:13, 9:47-67. A controller detects a change in the format or type of compression and encoding and transfers the necessary code for decompressing and decoding audio signals to the audio decoder's memory. *Id.* For example, the new code may come from an external network, such as the Internet (*id.* at 8:4-13, 10:37-42) or from another memory location (*id.* at 7:53-8:13, 9:47-67). This allows the decoder of the '695 Patent to have the flexibility to process audio signals of numerous formats, without requiring large circuitry to store program code for each format type.

2. Level of Ordinary Skill in the Art for the '695 Patent

A POSITA has a working knowledge of audio signal processing, gained through an undergraduate degree in Electrical/Computer Engineering, Computer Science, or an equivalent degree, and at least two years of experience in the field of audio signal processing.

3. Disputed Terms in the '695 Patent

a) "a demultiplexer for extracting the one audio data sequence . . . from a header information of each audio data sequence"

Maxell's Proposed Construction	Lenovo's Proposed Construction
Plain and ordinary meaning	Requires a specific order of steps . . . <i>See Op. Br.</i> at 23

Maxell agrees with Lenovo that the claimed demultiplexer is capable of performing multiple operations. Maxell disagrees, however, that these operations must be carried out in a particular order or that they be reworded as in Lenovo's proposal.

First, the claim is directed to an apparatus claim not to a method claim with a series of steps. So imposing a sequence of steps to an apparatus claim makes no sense. *See Rice v. Honeywell Int'l, Inc.*, No. C.A. 6:05-CV-330, 2006 WL 3420247, at *10 (E.D. Tex. Nov. 21, 2006) ("Claim 1 is clearly directed to apparatus and not a method. Thus, the focus is on the

structure of the power producing system and not on any sequence of steps conducted by a system in producing power or attaining a particular operating condition.”). Second, Lenovo builds its arguments from a mistaken assumption: that the entire “audio data sequence” referenced in this limitation must be extracted prior to extracting the sequence’s header information (which identifies the method of compression and encoding for that particular data sequence). Nothing in the patent requires the extraction to occur in this order.

In fact, the claims suggest that the header information may be read simultaneously with the audio data sequence or even prior to extraction of the audio data sequence. Indeed, the data sequence to be extracted (*e.g.*, PES packet, audio access unit, or audio elementary stream) depends upon “a property or attribute information of each packet,” which can be embedded within a header. For example, the headers contain various properties or attributes such as stream ID, time stamp, and other parameters like sampling frequency, bit rate, frame length, etc. *See* ’695 Patent at 5:3-12, 5:13-18, Figs. 2a-2e. Thus, the demultiplexer may need to detect and process the headers first to extract the relevant property or attribute.

In addition, the ’695 Patent’s specification plainly shows that the header file containing a “stream ID” that identifies the type of audio format¹⁵ can be obtained in Step S5 at the same time other information (such as the presentation time stamp) is obtained in Step S10. *See id.* at 7:26-28 (“While, the demultiplexer 10, in the step S5 following to the steps S[3] and S4, obtains the presentation time stamp (PTS) from the PES header.”), FIG. 4 (showing Step S5 (obtain stream_ID) and Step S10 (obtain PTS) occurring in parallel), FIG. 9 (same). Thus, neither the claims nor the specification have a “sequential nature,” and *Mantech* is inapplicable.

¹⁵ Lenovo’s brief identifies the wrong header file. Lenovo points to the “Audio_h” header in Fig. 2e as containing the specified audio format, but the specification makes clear that the “stream ID” of Fig. 2d contains this information.’695 Patent at 5:6-8 (“The stream ID, being a description of contents of the PES, corresponds to an encoded format when it is for audio.”), Fig. 2d.

Lenovo’s reference to a PTAB decision from June 2018 also does not compel a different conclusion. First, the PTAB had applied the broadest reasonable interpretation standard, not the *Phillips* standard to be used here. Second, the interpretation assigned to the claims there came from the PTAB, not from any construction or statements advanced by Maxell. Indeed, Maxell’s statements in this proceeding are consistent with Maxell’s proposed construction. *See* Ex. 13 at 16 (arguing that plain and ordinary meaning should apply to this limitation) and 25 (distinguishing prior art without making any reference to a sequence of events).

b) “which is designated by [a/the] user”

Maxell’s Proposed Construction	Lenovo’s Proposed Construction
Plain and ordinary meaning	Indefinite

Lenovo’s indefiniteness argument for this term is based on the mistaken assumption that it “recite[s] both an apparatus and a method of using that apparatus.” Op. Br. at 26. Not so.

A POSITA would understand that claims 1 and 4 of the ’695 Patent do not require a user to take any steps. Rather, these claims merely reference the capability of the demultiplexer to extract a certain audio packet “which is designated by the user from said group of packets.” The claims make clear that this is simply a capability (and not an affirmative step by a user) by reciting that the demultiplexer is “for” (*i.e.*, capable of / programmed to) extracting particular audio data sequences. *See* ’695 Patent at 10:66, 11:41-44.

This is permissible. *See MasterMine Software, Inc. v. Microsoft Corp.*, 874 F.3d 1307, 1316 (Fed. Cir. 2017) (“While these claims make reference to user selection, they do not explicitly claim the user’s act of selection, but rather, claim the system’s capability to receive and respond to user selection.”). In other words, claims 1 and 4 “use permissible functional language to describe the capabilities of the claimed system.” *See id.*; *see also UltimatePointer, L.L.C. v. Nintendo Co.*, 816 F.3d 816, 827 (Fed. Cir. 2016) ([T]he ‘data generating’ limitations

only indicate that the associated structures have this capability (for example, the image sensor and processor in claim 1) and do not require that any data be actually generated by the user.”).

Many such claims have been found to be definite. For example, in *U.S. Well Services, Inc. v. Halliburton Co.*, the parties disputed whether the phrases “performing/performs electric motor diagnostics to prevent damage” and “performs electric motor diagnostics” made the asserted claims indefinite for reciting a method step in a system claim. No. 6:21-cv-00367-ADA, 2022 WL 819548, at *9 (W.D. Tex. Jan. 17, 2022). There, this Court noted that “claims are not indefinite mixed method-apparatus claims when the functional language of a claim merely describes the structure and capabilities of the claimed apparatus.” *Id.* at *10. The Court then concluded that the phrases did not render the claims indefinite “mixed” claims under *IPXL Holdings* because “a person of ordinary skill in the art would understand that the ‘performing/performs electric motor diagnostics’ term is defining the capabilities of the VFD (*i.e.*, the structure of the apparatus within the claimed system) by requiring that the VFD must be configured to perform electric motor diagnostics on the electric motor that each respective VFD is connected to in the system.” *Id.* at *11. In reaching its conclusion, the Court stated, “[t]o be sure, the claims are not directed at any user action. Instead, the claims and specification describe a programmed capability that allows the VFD to prevent motor damage.” *Id.*

IPXL Holdings’s conclusion (Op. Br. at 26) found claims indefinite based on a lack of clarity as to when these mixed claims would be infringed. *IPXL Holdings, L.L.C. v. Amazon.com, Inc.*, 430 F.3d 1377, 1384 (Fed. Cir. 2005) (“[I]t is unclear whether infringement of claim 25 occurs when one creates a system that allows the user to [practice the claimed method step], or whether infringement occurs when the user actually [practices the method step].”).

There is no similar ambiguity in claims 1 and 4 of the '695 Patent. Unlike the claims in *IPXL Holdings*, claims 1 and 4 do not recite “the user uses.” *Id.* at 1384. Likewise, the claim language used in *In re Katz* (Op. Br. at 26) was directed to user actions (*i.e.*, “wherein ... callers digitally enter data” and “wherein ... callers provide ... data”), not system capabilities. *In re Katz*, 639 F.3d at 1318. The same is true of *Visible Connections, LLC v. Zoho Corp.* (Op. Br. at 26), where the claim language explicitly required a method step performed by the user (*i.e.*, “wherein the host user [] selects”). *Visible Connections, LLC v. Zoho Corp.*, 418 F. Supp. 3d 155, 166 (W.D. Tex. 2019) The rulings in *IPXL Holdings*, *Katz*, and *Visible Connections* are narrow and do not apply to claims 1 and 4 of the '695 Patent, which recite a structure (a demultiplexer and an audio data decoder apparatus) and the capability of that structure to extract certain data sequences. As it is clear that infringement occurs when one makes, uses, offers to sell, or sells an apparatus with this capability, claims 1 and 4 of the '695 Patent do not mix method and apparatus claiming.

F. The '212 Patent

1. Background of the '212 Patent

Prior to the inventions disclosed in the '212 Patent, conventional techniques connected display apparatuses with each other by establishing analog connections to transmit video and audio signals. '212 Patent at 1:38-42. But as digital devices became more common, the inventors realized that there was a need for the ability to establish digital connections which allow the user to view high-quality videos while simultaneously connecting to the internet or home network. *Id.* at 1:42-48. The inventors of the '212 Patent solved this problem by creating and configuring devices with an arrangement of “a first radio communication unit,” “a second radio communication unit capable of connecting by radio to a network,” and “a connection assignment

control unit for controlling assignment of connection by radio transmission for each of the first and second radio communication units.” ’212 Patent at 1:50-56, 2:34-36. Accordingly, the ’212 Patent discloses a solution for facilitating simultaneous wireless communications.

2. Level of Ordinary Skill in the Art for the ’212 Patent

A POSITA has a working knowledge of wireless communications, gained through a degree in Electrical Engineering or an equivalent degree, and at least one year of experience in the field of wireless communications.

3. “wherein the control unit . . . the external video processing apparatus/[display apparatus] . . . when a user issues an indication to receive/[transmit] video information by using the first radio communication unit from the video processing apparatus/[to the external display apparatus] . . . communication unit”¹⁶

Maxell’s Proposed Construction	Lenovo’s Proposed Construction
Plain and ordinary meaning.	Indefinite

Lenovo’s argument for this term follows the same logic as the prior term, and is wrong for the same reason as discussed above.¹⁷ *See supra* at pp. 30-33. Again, these claim terms are merely referring to the *capability* of the control unit to control assignment of the transmission rate when a certain condition is met (*i.e.*, when a user issues an indication) by plainly stating that the “control unit controls the assignment . . . when a user issues an indication.” This is permissible. *See Microsoft Corp.*, 874 F.3d at 1316 (finding claims definite when, like here, they recite a “system’s capability to receive and respond to user selection.”); *see also Nintendo Co.*, 816 F.3d at 816. Many such claims have been found to be definite. *See supra* at p. 31 (discussing *Halliburton Co.*, 2022 WL 819548 at *9). Further, unlike the claims in *IPXL Holdings*, claims 1 and 4 of the ’212 Patent do not recite “the user uses” and there is no ambiguity as to when claims

¹⁶ *See* Certificate of Correction issued by the USPTO on December 14, 2021 for correct claims.

¹⁷ Notably, in another case involving a child of the ’212 Patent, same counsel as Lenovo’s counsel agreed that a similar claim term should get its “plain and ordinary meaning” and is not indefinite. Ex. 9 at 3. The same is true here.

1 and 4 are infringed. They are infringed when one makes, uses, offers to sell, or sells an apparatus with this capability of a control unit. Likewise, the claim language used in *In re Katz* (Op. Br. at 29) was directed to user actions (*i.e.*, “wherein ... callers digitally enter data” and “wherein ... callers provide ... data”), not system capabilities. *In re Katz*, 639 F.3d at 1318. The same is true of *Visible Connections, LLC v. Zoho Corp.* (Op. Br. at 29), where the claim language explicitly required a method step performed by the user (*i.e.*, “wherein the host user [] selects”). *Visible Connections, LLC*, 418 F. Supp. 3d at 166

The reexamination proceeding cited by Lenovo (Op. Br. at 30) also supports Maxell’s proposed construction because claims of the ’590 Patent were amended during reexamination to specifically add a limitation emphasizing the capability of the apparatus to respond to a user indication (*id.* at 31), and even those narrower claims were issued as definite by the USPTO.

Further, on the disputed claim term “a demultiplexer . . .” (*see* Op. Br. at 23), Lenovo argues that the Court should construe the term to require a “specific order of steps” in an apparatus claim. *Id.* But for these terms, Lenovo says that a mere capability renders the claim indefinite. Lenovo cannot have it both ways. Accordingly, Lenovo’s proposed construction should be rejected because these terms do not render the claims indefinite.

IV. CONCLUSION

As shown above, Defendants have only one goal during this claim construction process, *i.e.*, avoid liability by arguing indefiniteness or by importing limitations from the specification into the claims. Accordingly, Maxell respectfully requests that Lenovo’s proposed constructions be rejected and Maxell’s proposed constructions be adopted.

Dated: June 13, 2022

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CERTIFICATE OF SERVICE

I hereby certify that all counsel of record who are deemed to have consented to electronic service are being served this 13th day of June, 2022, with a copy of this document via the Court's CM/ECF system.

/s/ Jamie B. Beaber
Jamie B. Beaber