IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

APTIV TECHNOLOGIES LIMITED *Plaintiff,* v. **MICROCHIP TECHNOLOGY, INC.,** *Defendant.*	**Case No. 1:23-cv-00307-JDW**

MEMORANDUM

Aptiv Technologies Limited sued Microchip Technology, Inc., alleging that Microchip infringed six of Aptiv's patents. These patents relate to technology for Apple CarPlay. The Parties have presented disputes over the meaning over the meaning of seven disputed claim terms stemming from the following patents: (1) U.S. Patent No. 9,460,037 ('037 Patent); (2) U.S. Patent No. 9,619,420 ('420 Patent); (3) U.S. Patent No. 10,545,899 ('899 Patent); (4) U.S. Patent No. 11,176,072 ('072 Patent); and (5) U.S. Patent No. 11,681,643 ('643 Patent). I held a *Markman* hearing on June 21, 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.*,

415 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. Conceptronic, 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 a claim is subject to means-plus-function treatment, 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).[1] 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,

[1] An *en banc* Federal Circuit joined the potion of the *Williamson* decision discussing the applicability of Section 112. *See Williamson*, 892 F.3d at 1347-49 & n.3.

read in light of the specification, 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. "connecting the consumer device via the second USB port to the USB hub via the first USB port through the USB routing switch and the USB bridge"[2]

Aptiv's Construction	Microchip's Construction	Court's Construction
"connecting the consumer device via the second USB port to the USB host via the first USB port through the USB routing switch and the USB bridge"	Plain and ordinary meaning	"connecting the consumer device via the second USB port to the USB host via the first USB port through the USB routing switch and the USB bridge"
"connecting the consumer device via the second USB port to the USB host via the first USB port through the USB routing switch and the USB bridge"	Plain and ordinary meaning	"connecting the consumer device via the second USB port to the USB host via the first USB port through the USB routing switch and the USB bridge"

Aptiv says that the claim language contains an obvious error in need of revision because the patent should recite a connection from the consumer device to the "USB host," not the "USB hub." I may correct an error in a patent claim only when it is "evident from the face of the patent." *H-W Tech., L.C. v. Overstock.com, Inc.*, 758 F.3d 1329, 1333 (Fed. Cir. 2014). I can only order such a correction when it is "(1) ... not subject to reasonable debate based on consideration of the claim language and the specification and (2) the prosecution history does not suggest a different interpretation of the claims." *Novo Indus., L.P. v. Micro Molds Corp.*, 350 F.3d 1348, 1357 (Fed. Cir. 2003).

[2] I only identify the independent claim where a term first appears, but my construction applies to relevant dependent claims as well. This term appears in Claim 13 of the '420 Patent.

The language of the claim and specification make clear that there's a scrivener's error in the claim. Claim 13 is a method claim for determining when the consumer device is operating as a host (and therefore controlling the infotainment unit) or a device (and therefore under the infotainment unit's control). The invention requires communication between the USB host and the consumer device, which happens across a bridge when both are in host mode. As written, Claim 13 does not allow for that connection between the consumer device and the vehicle's infotainment system (the USB *host*). Instead, the claim language connects the consumer device to the USB *hub* via the first USB port. The written connection does not allow for "bidirectional initiation of communication between the USB *host* and the consumer device" because the connection stops short of the host (ending at the hub). ('420 Patent at 10:53-54.)

Aptiv's proposal fixes this issue and is consistent with the invention that the patent discloses. The remainder of the claims provide for communication between the consumer device and the host via the first USB port. The specification summarizes the invention as "provid[ing] a system which is configured to enable a vehicle's embedded USB Host system to connect to mobile devices through a USB Hub, regardless of whether the mobile devices are configured to act as USB Hosts or USB Devices …." ('420 Patent at 4:3-7.) Without this correction, the patent's entire purpose is frustrated.

The need for correction isn't subject to reasonable debate. Microchip proffers a configuration, but it's inconsistent with the claim language. The claim requires that the

"first USB port" be "connected to [a] USB host." ('420 Patent at 10:42-43.) In Microchip's diagram, the first USB port is **within** the routing switch, not connected to it. There's some indirect link between the first USB port and the USB host, but that's not consistent with what the claim language requires. The question is not simply whether Microchip's configuration is operable. What matters is whether a configuration *faithful to the claim language* is operable. Microchip hasn't conceived of such a configuration, nor can I. As a result, the claim language and specification make clear on the face of the patent that I should revise the claim language.

B. Indefiniteness Disputes

Microchip challenges six terms from the patents as indefinite. Microchip argues that:

1. The USB Hub cannot both "have" and "be connected to" a plurality of ports;

2. "Efficient communications" is an undefined term of degree;

3. The '643 Patent fails to disclose additional claimed differences between the USB Hub and USB bridge;

4. "Signal detection circuit" is a means-plus-function term with no corresponding structure;

5. "Routing logic circuit" is a coined term without a known meaning; and

6. The '037 Patent fails to disclose what combination of embedded and consumer devices is claimed.

To demonstrate indefiniteness, the Microchip must offer clear and convincing evidence. *See Halliburton Energy Servs., Inc. v. M-I LLC*, 514 F.3d 1244, 1249-50 (Fed. Cir. 2008). Microchip hasn't carried this burden for any of the disputed terms.

1. "a USB Hub having a plurality of USB Ports and interconnected to the embedded USB Host system . . . a USB routing switch interconnected to the USB Bridge, the USB Hub, and the plurality of USB Ports, wherein the USB routing switch is configured to connect a first USB Port of the plurality of USB Ports to the USB Hub through the USB Bridge . . . , and wherein the USB routing switch is configured to connect the first USB Port directly to the USB Hub . . ." [3]

"providing a USB hub having a plurality of USB ports interconnected to the USB host . . . automatically configuring the USB routing switch to connect a first USB Port of the plurality of USB ports to the USB hub through the USB bridge . . . ; and automatically configuring the USB routing switch to initiate bidirectional communication with the USB host, wherein the USB routing switch is configured to connect the first USB port directly to the USB hub . . . "[4]

Aptiv's Construction	Microchip's Construction	Court's Construction
Not indefinite	Indefinite	Not indefinite

This dispute turns on the Parties' competing definitions of "having." Using the Manual of Patent Examining Procedure (MPEP), Microchip argues that "having" must mean "to include as parts." Under its reading, because the claim "recite[s] a USB hub

[3] This term appears in Claim 1 of the '037 Patent.
[4] This term appears in Claim 1 of the '899 Patent.

that *has* (i.e., includes as parts) a 'first USB port' and (b) is *connected* to that same port" the claim is "nonsensical." (D.I. 198 at 20 (emphasis in original).) Aptiv, sourcing its definition from Merriam Webster, defines "having" more broadly as "possessing." Using Aptiv's definition, there's no inconsistency because the hub possesses or controls those ports.

The intrinsic evidence offers no guidance that I can find. To Microchip, the claim's use of the terms "having" and "interconnected to" must mean that the terms have different meanings. In principle, that's a fair presumption. *See Bd. of Regents of the Univ. of Texas Sys. v. BENQ Am. Corp.*, 533 F.3d 1362, 1371 (Fed. Cir. 2008). But adopting Aptiv's definition of "possessing"/"controlling" wouldn't merge the two terms. "Possessing" creeps closer to "interconnected to" but it isn't the same thing. "Possessing" includes an aspect of control or direction that "interconnected to" might not.

Turning to the extrinsic evidence, both Parties define "having" based on dictionaries. Some prior art supports Aptiv's definition. Using a manual known in the prior art (the USB Specification Revision 2.0), Aptiv's expert Dr. Andrews opines that "possessing" is the proper definition. But this portion of the USB Specification states only that "ports" are "*of a hub*." (D.I. 165-40 ¶ 39 (emphasis in original).) Dr. Andrews doesn't adequately square the circle to explain why "of," "having," and "possessing" are one and the same.

I weigh that weak extrinsic evidence against Microchip's proffer, which lacks any extrinsic evidentiary support. *First*, the MPEP's definition pertains to a different issue: when the word "having" in a claim is a "closed" transitional term (meaning that infringement is avoided by the addition of unclaimed elements) and when it is an "open" one. *See Lampi Corp. v. Am. Power Prod., Inc.*, 228 F.3d 1365, 1376 (Fed. Cir. 2000). In other words, this definition is relevant when parties are arguing whether "having" means "including and not limited to" versus "consisting only of." *See BridgeLux, Inc. v. Cree, Inc.*, No. C 06-6495 PJH, 2008 WL 3843072, at *6 (N.D. Cal. Aug. 15, 2008). That's not what is at issue here. And Microchip doesn't explain why I should import that framework into construing this claim.

Second, Microchip stretches the definition found in the MPEP. The MPEP states only that: "[t]ransitional phrases such as 'having' must be interpreted in light of the specification to determine whether open or closed claim language is intended." Manual of Patent Examining Procedure § 2111.03 (9th ed. rev. 2022). But other than that explanation, the MPEP does not define "having." It does not say that "having" means "includes as parts." Microchip reads between the lines to get to its definition. And even that reading is inconsistent with how some courts using the MPEP have defined "having." *See, e.g.*, *Larami Ltd. v. Ohio Art Co.*, 270 F. Supp. 2d 555, 559–60 (D.N.J.), *dismissed*, 81 F. App'x 328 (Fed. Cir. 2003). Even if I do land on the same definition as Microchip from reading the MPEP, that can't carry its burden. I "owe no deference to the

authors of the MPEP regarding the definition of claim terms." *AFG Indus., Inc. v. Cardinal IG Co.*, 239 F.3d 1239, 1245 (Fed. Cir. 2001).

Microchip's argument asks me to follow its trail until I end up at an illogical result. But this flips a central presumption of claim construction on its head. "[W]here the claim is susceptible of both an absurd construction and a reasonable construction, courts 'should attempt to construe the claims to preserve their validity ... reading them in light of the specification.'" *Grupo Bimbo, S.A. B. De C.V. v. Snak King Corp.*, No. CV1302147ABVBKX, 2014 WL 12591935, at *10 (C.D. Cal. Dec. 2, 2014) (quoting *See Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1356 (Fed. Cir. 1999)). Microchip cannot manufacture a nonsensical result.

The Parties briefed this issue as one of indefiniteness. I hold that the term is not indefinite. However, at this stage, it is unclear to me if "having" requires further construction. Thus, I will not construe the term unless or until the Parties re-raise this issue.

2. "providing efficient communications among USB components of a data communication system"[5]

Aptiv's Construction	Microchip's Construction	Court's Construction
Not indefinite	Indefinite	Not indefinite

The Parties dispute whether the term "efficient" renders the claim indefinite. Microchip argues that the claim is indefinite because there's no context for a POSITA to

[5] This term appears in Claim 1 of the '072 Patent.

discern what degree of efficiency is required. Aptiv counters that "efficient" is only a laudatory term that describes the effect of implementing the invention.

Claim language constitutes "a statement of purpose and intended result" when it does not "call[] for 'a manipulative difference in the steps of the claim.'" *L'Oreal USA, Inc. v. Olaplex, Inc.*, 844 F. App'x 308, 324 (Fed. Cir. 2021) (quoting *Bristol-Myers Squibb Co. v. Ben Venue Labs., Inc.*, 246 F.3d 1368, 1376 (Fed. Cir. 2001)). Purpose language "identifie[s] a property in only very general terms and appear[s] in the very same claim that state[s] the other more concrete requirements." *Id.* For a method claim, like this one, what matters is whether the language "inform[s] the mechanics of how the [method] is executed." *Minton v. Nat'l Ass'n of Sec. Dealers, Inc.*, 336 F.3d 1373, 1381 (Fed. Cir. 2003).

The intrinsic evidence is limited, but it supports Aptiv's reading. The term appears only in Claim 1 of the patent. The challenged term appears in the "very same claim" that recites a series of detailed steps. *L'Oreal USA, Inc.*, 844 F. App'x at 324. Therefore, a natural reading of this method claim is that, if someone performs all the steps, what results is "efficient communications."

This case is distinguishable from those where the context of the patent failed to inform a POSITA "about the scope of the invention with reasonable certainty," rendering the term indefinite. *Nautilus, Inc.*, 572 U.S. at 901. For example, in *Interval Licensing*, the specification and the prosecution history "at best muddled" the the term "unobtrusive

manner," rather than clarifying it. *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1372 (Fed. Cir. 2014). In contrast, the other limitations in Claim 1 clarify rather than obscure. To be sure, this case is not as cut-and-dry as one cited by Aptiv. *See Syntex (U.S.A.) LLC v. Apotex, Inc.*, 407 F.3d 1371, 1378 (Fed. Cir. 2005). In that case, the Federal Circuit found that the term "'in a stabilizing amount' simply describes the intended result of using the weight to volume ratios recited in the claims." *Id.* The difference here is that there is no defined metric in the same limitation. It is the surrounding limitations that lead to the conclusion that the disputed term is one of intended result.

My conclusion is supported by the fact that Microchip does not explain how the term "efficient" leads to a manipulative difference in the steps of Claim 1 even though at the *Markman* hearing I gave Microchip ample opportunity to do so. *See L'Oreal USA, Inc.*, 844 F. App'x at 324. Rather, Microchip argues that because the term is not included in a preamble or "whereby" clause, Aptiv is reading "efficient" out of the patent. But Microchip overreads the importance of a "whereby" clause. *See generally Hoffer v. Microsoft Corp.*, 405 F.3d 1326, 1330 (Fed. Cir. 2005). Even when a term does not appear in a "whereby" clause, it might only describe purpose. *See, e.g.*, *Bristol-Myers Squibb Co.*, 246 F.3d at 1376. Thus, as Aptiv advocates, I may read Claim 1 to refer to the communication steps described in the receiving/routing limitations in the claim.

The uncontested extrinsic evidence reinforces Aptiv's position. Aptiv offers expert testimony that there's no "common metric for efficiency in the context of USB network

communications," so a POSITA would understand this term to be qualitative rather than requiring a degree of quantity. (D.I. 164-40 ¶ 48.) Microchip does not proffer any evidence to the contrary. If a POSITA could not have measured "efficient" to a certain degree, it is not clear why "efficient" needs to be defined to a degree in the patent to avoid indefiniteness.

3. "wherein the USB hub and USB bridge have different components and functionality"[6]

Aptiv's Construction	Microchip's Construction	Court's Construction
Not indefinite	Indefinite	Not indefinite

Aptiv says a POSITA is on notice that any difference in components or functionality would meet this claim language. I agree. The plain language of the claim informs those skilled in the art about the scope of the invention with reasonable certainty. *See Nautilus, Inc.*, 572 U.S. at 901. If the USB hub and bridge do not have the exact same components and do not have the exact same functionality, the claim language is satisfied.

Microchip argues that because a POSITA would already understand hubs and bridges to be different (and therefore to have different components and functionality), the claim language must disclose *additional* differences to avoid rendering the claim language superfluous, and because the patent doesn't define those differences, Microchip says that the claim is indefinite.

[6] This term appears in Claims 1, 5, and 10 of the '643 Patent.

But the presumption against surplusage when construing claim language is not an inflexible mandate. Indeed, "surplusage may exist in some claims." *ERBE Elektromedizin GmbH v. Canady Tech. LLC*, 629 F.3d 1278, 1286 (Fed. Cir. 2010). "[W]here neither the plain meaning nor the patent itself commands a difference in scope between two terms, they may be construed identically." *Power Mosfet Techs., L.L.C. v. Siemens AG*, 378 F.3d 1396, 1410 (Fed. Cir. 2004); *Pickholtz v. Rainbow Techs., Inc.*, 284 F.3d 1365, 1373 (Fed. Cir. 2002) (no difference between the terms "computer" and "computer system").

The prosecution history also undermines Microchip's argument. The patent examiner added this language "for allowance" to "add[] the limitation that prior arts fail to teach." (D.I. 116-1, Ex. 35 at APTIV_10004384.) I give this statement weight. An unpublished Federal Circuit case is instructive. *See Tinnus Enterprises, LLC v. Telebrands Corp.*, 733 F. App'x 1011, 1020 (Fed. Cir. 2018). In that case, the prosecution history revealed that the examiner added the language for allowance to define a capability that the prior art did not teach. The Federal Circuit concluded that "[t]he examiner's own remarks confirm that the claim language informs a person of ordinary skill of the objective boundaries of the claim term." *Id.* There is a presumption "that an examiner would not introduce an indefinite term into a claim when he/she chooses to amend the claim for the very purpose of putting the application in a condition for allowance." *Id.* (citing *Northern Telecom, Inc. v. Datapoint Corp.*, 908 F.2d 931, 939 (Fed. Cir. 1990)).

I find the Federal Circuit's reasoning persuasive. Following *Tinnus*, I find merit in Aptiv's argument that because the patent examiner added this language for allowance, the term is not indefinite. Microchip hasn't carried its burden in convincing me that this arguably repetitive language invalidates the claim.

4. "signal detection circuit"[7]

Aptiv's Construction	Microchip's Construction	Court's Construction
35 U.S.C. § 112(6) does not apply; not indefinite.	Indefinite means-plus-function term. Function: determining whether a connected device is operating in host mode. Corresponding structure: none.	35 U.S.C. § 112(6) does not apply; not indefinite.

This claim term lacks the term "means," so there's a rebuttable presumption that § 112(6) does not apply. *See Apex Inc. v. Raritan Computer, Inc.*, 325 F.3d 1364, 1373 (Fed. Cir. 2003). To rebut that presumption, Microchip must show that the "limitation, as understood by one of ordinary skill in the art, demonstrates that the claim term fails to recite sufficiently definite structure or else recites a function without reciting sufficient structure for performing that function." *Id.* It hasn't done so.

"[W]hen the structure-connoting term 'circuit' is coupled with a description of the circuit's operation, sufficient structural meaning generally will be conveyed to persons of

[7] This term appears in Claims 1 and 5 of the '643 Patent.

ordinary skill in the art." *Linear Tech. Corp. v. Impala Linear Corp.*, 379 F.3d 1311, 1320 (Fed. Cir. 2004). The term "circuit" itself connotes a structure. *Id.* In this case, the modifier "signal detection" "further narrows the scope of those structures covered by the claim and makes the term more definite." *Apex Inc.*, 325 F.3d at 1373 (quoting *Personalized Media Commc'ns, LLC v. Int'l Trade Comm'n*, 161 F.3d 696, 705 (Fed. Cir. 1998)).

The term "signal detection circuit" would have informed a POSITA that the claimed circuit performs signal reception and identification functions. Although Microchip's expert says that this term "does not indicate any particular structure," Aptiv's expert disagrees. (D.I. 164-48 ¶ 109.) Aptiv's expert, using the USB 2.0 Specification and an unrelated patent, concludes that "a POSITA would have understood [the] term to refer to this class of circuits that receive USB signals and determine whether those signals come from a USB device that is operating in host mode or a device that is operating in device mode." (D.I. 164-40 ¶ 71.) With this conflicting expert testimony, I find that Microchip has failed to rebut the presumption that § 112(6) does not apply. *See Elbex Video, Ltd. v. Axis Commc'ns, Inc.*, No. 05 CV 3345 (CBA), 2008 WL 5779782, at *30 (E.D.N.Y. Aug. 19, 2008).

Neither of Microchip's arguments to the contrary disturbs this finding. *First*, Microchip argues that Aptiv hasn't shown that "signal detection" was used in common parlance to modify "circuit," so this modifier doesn't inform a POSITA of the structure. But the standard does not require Aptiv to show that "signal detection circuit" is a prior

art term. *See Personalized Media Commc'ns, LLC*, 161 F.3d at 705. Rather, a POSITA putting together the terms "signal detection" and "circuit" would find a sufficiently definite structure because "signal detection" limits the type of circuit claimed. In a similar case, a judge in the Central District of California held that means-plus-function did not apply to the term "interface switching structure" even though that term had no generally understood meaning in the art but "interface" and "switch" did. *See Verizon California Inc. v. Ronald A. Katz Tech. Licensing*, P.A., 326 F. Supp. 2d 1060, 1096 (C.D. Cal. 2003). Microchip suggests that *Apex* requires me to look for an established definition of the claim term to conclude it's a structure. I disagree. The question is whether the claim as a whole—not particular words in it—connotes a structure that a POSITA would understand. The patent's description of the type of circuit is enough to inform a POSITA of the structure, and that's all that's required to avoid a means-plus-function application.

Second, Microchip argues that Aptiv hasn't shown that the structure performs the claimed function—determining whether the USB device operates as a host or device. But Aptiv's expert opines that based on the USB 2.0 Specification, a multi-host compatible system (such as the one disclosed in the patents) would "have compatible connectors (i.e., not USB-A and USB-B), and could detect the connection or disconnection of a USB host or a USB device." (D.I. 164-47 ¶ 16.) Microchip's expert might disagree, but this doesn't meet Microchip's burden. "[T]he question is not

whether [Aptiv] has shown that the language connotes structure but rather whether [Microchip] ha[s] satisfied its burden, imposed in *Apex*, of showing that the [term] fail[s] to connote a structure to one of skill in this art." *Diodem, LLC v. Lumenis, Inc.*, No. CV 03-2142 GAF (RCX), 2004 WL 5651051, at *35 (C.D. Cal. Aug. 17, 2004). In the face of Aptiv's expert's testimony, I do not read Microchip's expert's declaration as meeting this bar.

5. "routing logic circuit"[8]

Aptiv's Construction	Microchip's Construction	Court's Construction
Not indefinite	Indefinite	Not indefinite

The term "routing logic circuit" is sufficiently definite to inform a POISTA about the scope of the invention with reasonable certainty. Claim 1 recites a method for routing USB signals via a routing logic circuit. That circuit routes signals emanating from the consumer USB device to a USB port. It clarifies that the way the routing occurs depends on whether the consumer device is in host or device mode. Multiple figures in the patent illustrate the routing logic circuit in the context of the invention. (*See* '643 Patent at Figs. 4, 5, 6.) Aptiv offers expert testimony confirming that a POSITA would read this claim language to require circuitry that directs signals from one input/output interface to another.

Contrary to Microchip's assertion, I am not persuaded that "routing logic circuit" is a coined term, which would limit its scope to what is disclosed in the specification. *See*

[8] This term appears in Claims 1, 5 and 10 of the '643 Patent.

Iridescent Networks, Inc. v. AT&T Mobility, LLC, 933 F.3d 1345, 1353 (Fed. Cir. 2019). "The absence of a commonly accepted meaning ... does not justify a narrow construction where the meaning may be ascertained from the constituent words." *Facebook, Inc. v. BlackBerry Ltd.*, No. 4:18-CV-05434-JSW, 2019 WL 6828359, at *9 (N.D. Cal. Dec. 13, 2019) (citing *Altiris, Inc. v. Symantec Corp.*, 318 F.3d 1363, 1372 (Fed. Cir. 2003)). When I read the claim language, the term "routing logic circuit" has a "plain and ordinary meaning ... in the context of the patent"—a circuit with routing logic. *Malvern Panalytical Inc. v. TA Instruments-Waters LLC*, 85 F.4th 1365, 1374 (Fed. Cir. 2023). Thus, even if I accept Microchip's attorney argument that "routing logic circuit" is not commonly used in the art, I won't limit the term to the specification. *See Altiris, Inc.*, 318 F.3d 1372. Because I reject Microchip's attempt to limit the term's scope, I also reject its contention that the term is indefinite.

6. "some combination of embedded devices and consumer devices that are USB Devices along with at least one that is the second USB Host"[9]

Aptiv's Construction	Microchip's Construction	Court's Construction
Not indefinite	Indefinite	Not indefinite "some combination including both embedded devices and consumer devices that are USB Devices along with at least one that is the second USB Host"

[9] This term appears in Claim 16 of the '037 Patent.

Microchip argues that the term is indefinite because a POSITA isn't on notice as to which combination(s) of embedded and consumer devices satisfy the claim limitation. In Aptiv's view, a POSITA is on notice that the combination could consist of just embedded devices, just consumer devices, or both. Based on the plain meaning of the word "and," the claim term requires that the combination of embedded devices and consumer devices include at least one of each type of device. As a result, this claim term is not indefinite as Microchip argues, but it also is not as broad as Aptiv posits.

What Aptiv has done is read the term as "some combination of embedded devices and**/or** consumer devices." But I must construe the term based on its plain and ordinary meaning and "not as the patentees wish they had written it." *Chef Am., Inc. v. Lamb-Weston, Inc.*, 358 F.3d 1371, 1374 (Fed. Cir. 2004). The Federal Circuit has held that there is a presumption that "and" should be given its plain and ordinary meaning (meaning "and" and not "or"), unless intrinsic evidence rebuts that presumption. *See Medgraph, Inc. v. Medtronic, Inc.*, 843 F.3d 942, 950 (Fed. Cir. 2016); *see also SuperGuide Corp. v. DirecTV Enterprises, Inc.*, 358 F.3d 870, 887 (Fed. Cir. 2004). The specification does not rebut that presumption. It describes an embodiment that supports "simultaneous active USB data connections between the Head Unit and *some combination of embedded and consumer USB devices* along with at least one device being in host mode." ('037 Patent at 8:64-66 (emphasis added)). The corresponding figure illustrates both non-removable devices in the vehicle's USB network and

consumer device ports. ('037 Patent at Fig.8.) None of this changes the fact that the claim requires a system that is configured to support a connection between the infotainment system and a combination consisting of both embedded and consumer devices.

The term "embedded devices" is not so ill-defined as to be indefinite. The only evidence Microchip proffers for this contention is Aptiv's uncorrected infringement contentions. Aptiv has now corrected those contentions, and there's no argument that the revised definition fails to inform a POSITA of the claim scope. Microchip has not come close to satisfying its heavy burden of demonstrating indefiniteness, so I will reject that argument.

III. CONCLUSION

I will construe the disputed claims as described above and will adopt the Parties' agreed-upon constructions. An appropriate Order follows.

BY THE COURT:

/s/ Joshua D. Wolson
JOSHUA D. WOLSON, J.

July 12, 2024