IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

APTIV TECHNOLOGIES AG,	)	
	)	
Plaintiff,	)	
	)	
v.	)	C.A. No. 23-307-JDW
	)	
MICROCHIP TECHNOLOGY INC.,	)	
	)	
Defendant.	)	

JOINT CLAIM CONSTRUCTION CHART

Pursuant to paragraph 8 of the Scheduling Order (D.I. 34), Plaintiff Aptiv Technologies AG ("Aptiv") and Defendant Microchip Technology Inc. ("Microchip") hereby submit the following Joint Claim Construction Chart providing the parties' proposed constructions for certain terms, phrases, or clauses contained in the asserted claims of U.S. Patent Nos. 9,460,037 ("'037 patent"), 9,619,420 ("'420 patent"), 9,645,962 ("'962 patent"), 10,545,899 ("'899 patent"), 11,176,072 ("'072 patent"), and 11,681,643 ("'643 patent") (collectively, the "Aptiv Asserted Patents").

Agreed-Upon Constructions

Asserted Claim(s)[1] and Patent(s)	Claim Terms or Phrases	Agreed-Upon Construction
’420 patent, claim 20	“wherein said USB routing switch is configured to simultaneously provide the second communication path between said first USB port and said third USB port”	“wherein said USB routing switch is configured to simultaneously provide the third communication path between said first USB port and said third USB port”
’037 patent, cl. 1 ’072 patent, cl. 1	“embedded Universal Serial Bus (USB) Host” / “embedded USB host”	“USB host physically embedded in a vehicle”

[1] The parties only identify the independent claim where a term first appears but the proposed construction applies to relevant dependent claims as well.

Disputed Constructions

No.	Asserted Claim(s)[2] and Patent(s)	Claim terms or phrases	Aptiv's Proposed Construction	Aptiv's Intrinsic Evidence Support	Microchip's Proposed Construction	Microchip's Intrinsic Evidence Support
1	'420 patent, claim 13	"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"	"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"	'420 Patent, claims 1, 7,13. '037 Patent[3] at 5:46-6:13 & Fig. 4, 7:11-17 & Fig. 5, 7:26-60 & Fig. 7. '420 Patent File History (APTIV_10000622), 11/25/16 Notice of Allowability at APTIV_10000840, -843-844. '420 Patent File History (APTIV_10000622), 9/19/16 Specification at APTIV_10000650-659.	Plain and ordinary meaning	'420 patent, cl. 13; *id.*, Figs. 1-2, 4-6, 8; *id.*, 1:58-2:16, 4:13-5:2, 5:21-31, 5:46-6:18, 7:11-25, 8:39-44; APTIV_10000650-59; APTIV_10000836-43.

[2] The parties only identify the independent claim where a term first appears but the proposed construction applies to relevant dependent claims as well.

[3] The specifications of the Aptiv Asserted Patents are substantially similar for purposes of the disputes presented herein. Aptiv thus cites to the '037 Patent specification throughout, for ease of reference.

No.	Asserted Claim(s)[2] and Patent(s)	Claim terms or phrases	Aptiv's Proposed Construction	Aptiv's Intrinsic Evidence Support	Microchip's Proposed Construction	Microchip's Intrinsic Evidence Support
2	'420 patent, claim 13	"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 hub"	"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 hub"	'420 Patent, claims 1, 7,13. '037 Patent at 5:46-6:13 & Fig. 4, 7:11-17 & Fig. 5, 7:26-60 & Fig. 7. '420 Patent File History (APTIV_10000622), 11/25/16 Notice of Allowability at APTIV_10000840, -843-844. '420 Patent File History (APTIV_10000622), 9/19/16 Specification at APTIV_10000650-659.	Plain and ordinary meaning	'420 patent, cl. 13; *id.*, Figs. 1-2, 4-6, 8; *id.*, 1:58-2:16, 4:13-5:2, 5:21-31, 5:46-6:18, 7:11-25, 8:39-44; APTIV_10000650-59; APTIV_10000836-43.
3	'420 patent, claim 18	"a USB hub including a first USB port and a second USB port"	"a USB hub interconnected to a first USB port and a second USB port"	'420 Patent, claims 1, 7, 13, 18. '037 Patent at 5:46-6:13 & Fig. 4, 7:11-17 & Fig. 5.	Plain and ordinary meaning	'420 patent, cl. 18; *id.*, Figs. 1-2, 4-6; *id.*, 1:58-2:16, 4:13-5:2, 5:21-31, 5:46-6:18, 7:11-25, 8:39-44; APTIV_10000650-59; APTIV_10000836-43;

No.	Asserted Claim(s)[2] and Patent(s)	Claim terms or phrases	Aptiv's Proposed Construction	Aptiv's Intrinsic Evidence Support	Microchip's Proposed Construction	Microchip's Intrinsic Evidence Support
				'420 Patent File History (APTIV_10000622), 9/19/16 Specification at APTIV_10000650-659.		APTIV_10000466-68; APTIV_10000474-75; APTIV_10000495-99; APTIV_10000509-16.
4	'420 patent, claim 19	"wherein the USB hub includes a third USB port"	"wherein the USB hub is interconnected to a third USB port"	'420 Patent, claims 1, 7, 13, 18. '037 Patent at 5:46-6:13 & Fig. 4, 7:11-17 & Fig. 5. '420 Patent File History (APTIV_10000622), 9/19/16 Specification at APTIV_10000650-659.	Plain and ordinary meaning	'420 patent, cls. 18-19; *id.*, Figs. 1-2, 4-6; *id.*, 1:58-2:16, 4:13-5:2, 5:21-31, 5:46-6:18, 7:11-25, 8:39-44; APTIV_10000650-59; APTIV_10000836-43; APTIV_10000466-68; APTIV_10000474-75; APTIV_10000495-99; APTIV_10000509-16.
5	'037 patent, cl. 1 '899 patent, cl. 1	"a USB Hub having a plurality of USB Ports and interconnected to the embedded USB Host system . . . a USB routing switch	Not indefinite	'037 Patent, claim 1. '899 Patent, claim 1. '037 Patent at 1:66-2:11, 2:16-37 & Fig. 3,	Indefinite[4]	'037 patent, cls. 1-4, 6-8; *id.*, Abstract; *id.*, 1:57-2:15, 4:31-54, 5:46-6:26, 6:64-7:25; *id.*, Figs. 4-6;

[4] In light of the 10-term limit for claim construction briefing, Microchip is not pursuing all the indefiniteness arguments at this time, but Microchip reserves its right to pursue those arguments later in the case, including through a summary judgment motion, pursuant to the Court's instruction at the status conference held on October 19, 2023.

No.	Asserted Claim(s)[2] and Patent(s)	Claim terms or phrases	Aptiv's Proposed Construction	Aptiv's Intrinsic Evidence Support	Microchip's Proposed Construction	Microchip's Intrinsic Evidence Support
		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 . . ." / "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		3:46-64, 5:46-6:13 & Fig. 4. '037 Patent File History (APTIV_10000153), 10/27/15 Response to Office Action at APTIV_10000431. '037 Patent File History (APTIV_10000153), 2/9/16 Final Office Action at APTIV_10000448. '037 Patent File History (APTIV_10000153), 4/11/16 Response at APTIV_10000463, -466-468. '037 Patent File History (APTIV_10000153), 6/6/16 Amendment at		'899 patent, cls. 1, 3-5; *id.*, Abstract; *id.*, 1:61-2:18, 4:16-61, 5:49-6:30, 7:1-29; *id.*, Figs. 4-6; APTIV_10000466-68; APTIV_10000474-75; APTIV_10000495-99; APTIV_10000509-17.

No.	Asserted Claim(s)[2] and Patent(s)	Claim terms or phrases	Aptiv's Proposed Construction	Aptiv's Intrinsic Evidence Support	Microchip's Proposed Construction	Microchip's Intrinsic Evidence Support
		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 . . . "		APTIV_10000492, -495-498. '037 Patent File History (APTIV_10000153), 6/20/16 Examiner-Initiated Interview Summary at APTIV_10000517. '037 Patent File History (APTIV_10000153), 6/20/16 Notice of Allowability at APTIV_10000510-511, 514. '899 Patent File History (APTIV_10001252), 7/31/19 Final Office Action at APTIV_10002954-2955. '899 Patent File History		

No.	Asserted Claim(s)[2] and Patent(s)	Claim terms or phrases	Aptiv's Proposed Construction	Aptiv's Intrinsic Evidence Support	Microchip's Proposed Construction	Microchip's Intrinsic Evidence Support
				(APTIV_10001252), 9/3/19 Response at APTIV_10002975-2976, -2979-2980. '899 Patent File History (APTIV_10001252), 9/20/19 Examiner-Initiated Interview Summary at APTIV_10002986. '899 Patent File History (APTIV_10001252), 9/23/19 Amendment at APTIV_10002997-2998, -3001-3002. '899 Patent File History (APTIV_10001252), 10/7/19 Notice of Allowability at APTIV_10003012. <u>References Cited During Prosecution of</u>		

No.	Asserted Claim(s)[2] and Patent(s)	Claim terms or phrases	Aptiv's Proposed Construction	Aptiv's Intrinsic Evidence Support	Microchip's Proposed Construction	Microchip's Intrinsic Evidence Support
				the Aptiv Asserted Patents: U.S. Patent Application No. 2006/0227759 ("Bohm"), Fig. 3. USB Spec. Rev. 2.0 at 20, 22-23, 29, 30. US Patent No. 6,957,287 at 6:22-67 & Fig. 5. U.S. Patent Application No. 2004/243755 at 5. US Patent Application No. 2007/0067553, Claim 1.		
6	'072 patent, cl. 1	"providing efficient communications among USB components of a data communication system"	Not indefinite	'037 Patent at 3:18-45, 3:46-67, 4:3-11. '072 Patent File History (APTIV_10003036), 2/18/21 Non-Final Office Action at	Indefinite	'072 patent, cl. 1; '037 patent, cl. 1; '420 patent, cl. 1; '899 patent, cl. 1; '962 patent, cl. 1; '643 patent, cl. 1.

No.	Asserted Claim(s)[2] and Patent(s)	Claim terms or phrases	Aptiv's Proposed Construction	Aptiv's Intrinsic Evidence Support	Microchip's Proposed Construction	Microchip's Intrinsic Evidence Support
				APTIV_10004034-4035. '072 Patent File History (APTIV_10003036), 5/17/21 Amendment and Response at APTIV_10004101-4104. '072 Patent File History (APTIV_10003036), 5/25/21 Suppl. Amendment and Response at APTIV_10004111, -4114-4117. '072 Patent File History (APTIV_10003036), 8/12/21 Notice of Allowability at APTIV_10004132-4134.		
7	'643 patent,	"wherein the USB hub and USB bridge have	Not indefinite	'643 Patent, Claims 1, 5 & 10.	Indefinite	'072 patent, cl. 1; '037 patent, cl. 1; '420

No.	Asserted Claim(s)[2] and Patent(s)	Claim terms or phrases	Aptiv's Proposed Construction	Aptiv's Intrinsic Evidence Support	Microchip's Proposed Construction	Microchip's Intrinsic Evidence Support
	cls. 1, 5, 10	different components and functionality"		'037 Patent at Fig. 4, Fig. 6, Fig. 7, 4:22-30, 4:31-35, 4:37-42, 4:45-54, 5:58-6:2, 6:5-13, 6:40-55, 6:64-7:4, 7:18-25, 7:26-8:38. '643 Patent File History (APTIV_10004165), 9/15/2022 Non-Final Rejection at APTIV_10004234-4235. '643 Patent File History (APTIV_10004165), 10/28/2022 Response to Non-Final Rejection at APTIV_10004256-4258. '643 Patent File History (APTIV_10004165), 12/16/2022 Examiner-Initiated Interview		patent, cl. 1; '899 patent, cl. 1; '962 patent, cl. 1; '643 patent, 1:63-2:20, 5:24-32, 5:49-17, 7:15-8:42; *id.*, Figs. 4-7; *id.*, cls. 1, 5, 10.

No.	Asserted Claim(s)[2] and Patent(s)	Claim terms or phrases	Aptiv's Proposed Construction	Aptiv's Intrinsic Evidence Support	Microchip's Proposed Construction	Microchip's Intrinsic Evidence Support
				Summary at APTIV_10004281. '643 Patent File History (APTIV_10004165), 1/10/2023 Office Action with Amendment at APTIV_10004275-4276. '643 Patent File History (APTIV_10004165), 3/13/2023 Post Allowance Communication at APTIV_10004303-4304. '643 Patent File History (APTIV_10004165), 4/10/2023 RCE and IDS (Wurzburg (2007/0245058), Chen (2009/0185559), Chang		

No.	Asserted Claim(s)[2] and Patent(s)	Claim terms or phrases	Aptiv's Proposed Construction	Aptiv's Intrinsic Evidence Support	Microchip's Proposed Construction	Microchip's Intrinsic Evidence Support
				(2009/0268743), Motorola WO2004/012090, and Summons) at APTIV_10004358-4359. '643 Patent File History (APTIV_10004165), 4/21/2023 Examiner-Initiated Interview Summary at APTIV_10004390. '643 Patent File History (APTIV_10004386), 5/2/2023 Notice of Allowability at APTIV_10004384-4388.		
8	'643 patent, cls. 1, 5	"signal detection circuit"	35 U.S.C. § 112(6) does not apply; not indefinite.	'037 Patent at 7:11-19 & Fig. 5. '899 Patent File History (APTIV_10001252),	Indefinite means-plus-function term. Function: determining whether a connected device is operating in host mode.	'072 patent, cl. 1; '037 patent, cl. 1; '420 patent, cl. 1; '899 patent, cl. 1; '962 patent, cl. 1 ; '643 patent, 4:16-33, 6:23-

No.	Asserted Claim(s)[2] and Patent(s)	Claim terms or phrases	Aptiv's Proposed Construction	Aptiv's Intrinsic Evidence Support	Microchip's Proposed Construction	Microchip's Intrinsic Evidence Support
				3/6/2019 Office Action at APTIV_10002878. '072 Patent File History (APTIV_10003036), 2/18/2021 Office Action at 9. '643 Patent File History (APTIV_10004165), 9/15/2022 Office Action at APTIV_10004234. <u>References Cited During Prosecution of the Aptiv Asserted Patents</u>: US 7,502,878 ("Wright") at 5:62-65 & Fig. 5. USB Spec. Rev. 2.0 at 3, 20.	Corresponding structure: none.	67, 7:1-29; *id.*, cls. 1, 4, 5, 9, 10.
9	'643 patent,	"routing logic circuit"	Not indefinite.	'037 Patent at 7:11-19 & Fig. 5.	Indefinite	'072 patent, cl. 1; '037 patent, cl. 1; '420

No.	Asserted Claim(s)[2] and Patent(s)	Claim terms or phrases	Aptiv's Proposed Construction	Aptiv's Intrinsic Evidence Support	Microchip's Proposed Construction	Microchip's Intrinsic Evidence Support
	cls. 1, 5, 10			'643 Patent File History (APTIV_10004165), 5/2/23 Examiner-Initiated Interview Summary at APTIV_10004390. '643 Patent File History (APTIV_10004165), 5/2/23 Notice of Allowability at APTIV_10004384-4388.		patent, cl. 1; '899 patent, cl. 1; '962 patent, cl. 1; '643 patent, 4:58-61, 7:1-21; *id.*, cls. 1, 3, 5, 8, 10, 14; *id.*, Figs. 4-7.
10	'037 patent, cl. 16	"some combination of embedded devices and consumer devices that are USB Devices along with at least one that is the second USB Host"	Not indefinite.	'037 Patent, Claim 16. '037 Patent, Fig. 3, 2:18-25, 4:63-5:1, 8:63-67. '037 Patent File History (APTIV_10000153), 10/27/2015 Response at 4.	Indefinite	'037 patent, 8:67-9:9; *id.*, cl. 16.

No.	Asserted Claim(s)[2] and Patent(s)	Claim terms or phrases	Aptiv's Proposed Construction	Aptiv's Intrinsic Evidence Support	Microchip's Proposed Construction	Microchip's Intrinsic Evidence Support
				'037 Patent File History (APTIV_10000153), 6/20/2016 Examiner-Initiated Interview Summary at APTIV_10000517. '037 Patent File History (APTIV_10000153), 6/20/2016 Notice of Allowance at APTIV_10000513-515.		

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