IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

APTIV TECHNOLOGIES LTD., Plaintiff and Counter Defendant, v. MICROCHIP TECHNOLOGY INC., Defendant and Counter Plaintiff.	Civil Action No. 1:23-cv-00307 (JDW) **RESTRICTED – CONFIDENTIAL SOURCE CODE** **JURY TRIAL DEMANDED**

APTIV'S ~~INITIAL~~SUPPLEMENTAL INFRINGEMENT CONTENTIONS

Plaintiff and Counter Defendant Aptiv Technologies Limited ("Aptiv") hereby ~~provides~~supplements its disclosures pursuant to paragraph 6C of the Court's Scheduling Order (D.I. 34) and paragraph 4(c) of the Default Standard for Discovery, Including Discovery of Electronically Stored Information ("Default Standard").

I. Aptiv's Asserted Claims

Aptiv contends that Microchip Technology Inc. ("Microchip") infringes the following claims (the "Asserted Claims" of the "Aptiv Asserted Patents"):

- U.S. Patent No. 9,619,420, claims 1-20
- U.S. Patent No. 9,645,962, claims 1-19
- U.S. Patent No. 9,460,037, claims 1-17
- U.S. Patent No. 10,545,899, claims 1-6
- U.S. Patent No. 11,176,072, claim 1
- U.S. Patent No. 11,681,643, claims 1-15

II. Microchip's Accused Products

Microchip directly infringes the Asserted Claims by making, using, offering to sell,

and/or selling each of its Multi-Host Sandia, Multi-Host Olympus, Multi-Host Teton, and Adaro products in the United States, and/or importing each of those products into the United States (collectively, the "Microchip Accused Products). The following are illustrative descriptions of the Microchip Accused Products.

A. Multi-Host Sandia

Microchip's Sandia product family includes three configurations: (1) the FlexConnect configuration, which supports CarPlay but has "non-persistent USB functionality" (MCHP_00396326 at MCHP_00396333); (2) the Dual Upstream configuration, which supports CarPlay and "meets the overall system needs of USB persistence," but requires "two upstream ports" and thus comes with "drawbacks" including "two different pair cables, two head-unit ports to support the media [breakout box], and a larger [bill of materials] driven by the two USB paths" (*id.* at MCHP_00396334); and (3) the Multi-Host configuration, which supports CarPlay with persistent USB and a single USB path (*id.* at MCHP_00396334-396335). The Microchip Accused Products only include the third category of Sandia products, which are referred to herein as the "Multi-Host Sandia" products.

The Multi-Host Sandia products were the first Microchip products to support CarPlay with persistent USB and a single USB path. As Microchip stated in its internal documents, "[t]his architecture has the advantage of utilizing a single USB path and hence a single port and normal USB cable, which all contribute to an optimal [bill of materials]. In addition, the head-unit is always a USB host, which promotes easier system implementation and maintenance." *Id.* at MCHP_00396335.

Microchip Replacement Ex. 1072, p. 2
Microchip v. Aptiv
IPR2024-00230

The Multi-Host Sandia products include at least USB4912,[1] USB4914, and USB4916. *Id.* at MCHP_00396336; *see also* MCHP_00415266 at MCHP_00415268 ("The USB4912MH product has been confirmed by automotive OEMs and Tier 1 suppliers. This device is a natural extension of Microchip's Hub offering and covers the single port requirement. As a result, Microchip Multi-Host solutions will be available with 1, 2, and 4 port options, providing optimal product selection and a common attach methodology to the head unit platforms that may be used throughout an OEM's vehicle portfolio.").

B. Multi-Host Olympus

The Olympus product family includes Dual Upstream and Multi-Host configurations. *See* MCHP_00294764 at MCHP_00294769. The Microchip Accused Products only include products in the latter category, which are referred to herein as the "Multi-Host Olympus" products. The Multi-Host Olympus products implement the same multi-host functionality provided by the Multi-Host Sandia products. *See id.* at MCHP_00294771-294772; *see also id.* at MCHP_00294773 ("For Olympus, the primary differentiation from Sandia-1 is providing support for USB Power Delivery specifications and incorporating unique silicon features that match the automotive needs for consumer media systems, often referred to as Break-Out-Boxes inside Microchip.").

The Multi-Host Olympus products include at least USB24913P, USB24913C, USB24915P, and UB24915C. *See id.* at MCHP_00294769.

C. Multi-Host Teton

Multi-Host Teton (also referred to as "MH Teton") is a later generation product family

[1] As explained in further detail in the accompanying claim charts, Microchip is not accused of infringing claims 2, 8, 16, 17, 19, or 20 of U.S. Patent No. 9,619,420 or any claims of U.S. Patent Nos. 9,645,962, 9,460,037, or 10,545,899 in connection with USB4912.

Microchip Replacement Ex. 1072, p. 3
Microchip v. Aptiv
IPR2024-00230

derived from the Multi-Host Sandia. Each of the products in the Multi-Host Teton family has "MH-Teton's **M**ulti-**H**ost functionality" that provided vehicle manufacturers with "a migration path from 'Sandia.'" MCHP_00294793 at MCHP_00294798. With Multi-Host Teton, Microchip "carried forward key functionality from Sandia that [enabled its] automotive customers to support Apple's CarPlay within MH-Teton. This 'Multi-host' technology enables persistent host (Head Unit) access to the unused USB3.1 downstream ports while CarPlay is being deployed." *Id.* at MCHP_00294802.

The Multi-Host Teton products include at least USB7002, USB7050, USB7051, USB7052, USB7056, USB7006, and USB7016. *See id.* at MCHP_00294796, MCHP_294839.

D. Adaro

Adaro is a later generation product family derived from the Multi-Host Teton. "Like [with] MH-Teton, [Microchip] carried forward key functionality from Sandia that [enabled its] automotive customers to support Apple's CarPlay within Adaro. This 'Multi-host' technology enables persistent host (Head Unit) access to the unused USB3.1 downstream ports while CarPlay is being deployed." MCHP_00295061 at MCHP_00295070.

The Adaro products include at least ~~USB7250, USB7251, USB7251D,~~ USB7252~~,~~ ~~USB7250-88, USB7202,~~ and USB7206~~, and USB7256.~~ .[2] *Id.* at MCHP_00295070; MCHP_00205437 at MCHP_00205569 (Table 216).

III. Indirect Infringement

Microchip also indirectly infringes the Asserted Claims by inducement and contributory

[2] Microchip represents in its 10/18/23 supplemental response to Interrogatory No. 2 that it does not make, use, offer to sell, or sell the following products: USB7202, USB7250, USB7250-88, USB7252, USB7251D, USB7250-88, USB7202, and USB7256. In view of that representation, Aptiv does not include those products in the Microchip Accused Products.

infringement.

A. Induced Infringement

Microchip infringes the Asserted Claims under 35 U.S.C. § 271(b) by actively inducing its customers, auto manufacturers, and/or infotainment system end users to directly infringe those claims, knowing the induced acts constitute infringement. Specifically, Microchip has actively induced its customers, auto manufacturers, and/or infotainment system end users to infringe the Asserted Claims by advertising how the Microchip Accused Products can be used in an infringing manner on its website and reference documents, and advertising and advising its customers and auto manufacturers how to incorporate the Microchip Accused Products into an infotainment system and/or automobile in a manner that infringes those claims.

For example, Microchip deliberately designed the Microchip Accused Products, starting with its Multi-Host Sandia products, to copy the functionality provided by Aptiv's Dual Role Hub product, which is an embodiment of the Asserted Claims. To illustrate: Microchip learned of Aptiv's (then Unwired) Dual Role Hub product as early as April 2014, and immediately identified Unwired as a potential "competitive threat." *See, e.g.*, Microchip_265670 at Microchip_265670. Microchip then investigated the Unwired product. *See, e.g.*, Microchip_265960; Microchip_267155; Microchip_265774. By July 2014, Microchip had "begun to understand what [Unwired's] architecture is." Microchip_268113 at Microchip_268113. But Microchip did not think that "car makers would commit to an ASIC [application-specific integrated circuit] from a small company like Unwired." *Id.* at Microchip_268114. That changed in September 2014 when Aptiv (then Delphi) acquired Unwired. *See, e.g.*, Microchip_274715 at Microchip_274717 (planning to develop a solution "[i]n part in response to the Unwired solution, which [Microchip] had dismissed when they were

a small standalone company"). But by December, Microchip was still unable to develop a solution that provided the same functionality as the Dual Role Hub. *See, e.g.*, Microchip_270811 at Microchip_270811-270812. Microchip was specifically working on a "solution similar to Unwired['s]." Microchip_274715 at Microchip_274715. That solution was the Multi-Host Sandia product family (and was later incorporated into the Multi-Host Olympus, Multi-Host Teton, and Adaro product families). *See, e.g.*, Microchip_278264 at Microchip_278288.

For another example, Microchip has long known that the Microchip Accused Products infringe the Aptiv Asserted Patents. To illustrate: the first patent application in the Aptiv Asserted Patent family published on March 26, 2015 (Pub. No. 2015/0089092 A1) ("the '092 Published Application"). Microchip has known that Aptiv was seeking a patent related to its Dual Role Hub product since at least April 22, 2016. *See, e.g.*, Microchip_297649 at Microchip_297650. Microchip has been aware of the '092 Published Application specifically since at least April 29, 2016. *See, e.g.*, Microchip_298236. Microchip has known since at least May 2, 2016, that the subject matter claimed in the '092 Published Application reads on the Microchip Accused Products. *See, e.g.*, Microchip_298239 ("Subject: Unwired Patent Claim": "Do you think we could run into issues with the claims regarding Sandia?"). In addition, Microchip knew that the Microchip Accused Products would be used in an infringing manner because they were designed to directly compete with Aptiv's Dual Role Hub, and thus were designed to support the same core functionality provided by the claimed inventions of the Aptiv Asserted Patents.

B. Contributory Infringement

Microchip also infringes the Asserted Claims under 35 U.S.C. § 271(c) by offering for

sale in, selling in, and/or importing into the United States the Microchip Accused Products to be incorporated into infringing hub modules and/or vehicles, or for use in infringing methods, knowing the Microchip Accused Products to be especially made or especially adapted for such infringing uses and not a staple article or commodity of commerce suitable for substantial noninfringing use. As shown by the illustrative examples above, Microchip deliberately designed the Microchip Accused Products to copy the functionality provided by Aptiv's Dual Role Hub product that embodies the Aptiv Asserted Patents, knew of the Aptiv Asserted Patents, and knew that the Microchip Accused Products infringe those patents. As such, the Microchip Accused Products are especially made or adapted for infringing uses and are not staple articles or commodities of commerce suitable for substantial noninfringing uses.

IV. Infringement Under the Doctrine of Equivalents

Aptiv contends that Microchip literally infringes each of the Asserted Claims. However, even if Microchip does not literally infringe any of the Asserted Claims, it infringes those claims under the doctrine of equivalents. To the extent the Microchip Accused Products or use of the Microchip Accused Products (including as part of a hub module or vehicle) do not literally meet any element of the Asserted Claims, they meet those elements under the doctrine of equivalents because any difference between the claim elements and Microchip Accused Products is insubstantial, and the Microchip Accused Products perform substantially the same function in substantially the same way to obtain substantially the same result as the claim elements.

V. Paragraph 4(c) Disclosures

Pursuant to paragraph 4(c) of the Default Standard, attached hereto as Exhibits A-F are initial claim charts providing illustrative examples relating each Microchip Accused Product to the Asserted Claims, including illustrative examples of Microchip's actions relevant to its

Microchip Replacement Ex. 1072, p. 7
Microchip v. Aptiv
IPR2024-00230

induced and contributory infringement, as well as further details regarding Aptiv's theories under the doctrine of equivalents.

Aptiv's investigation and fact discovery are ongoing. The parties have not yet taken any depositions, engaged in claim construction disclosures or briefing, or begun expert discovery. Accordingly, Aptiv makes these disclosures solely on the basis of information presently available to it at this time and without the benefit of full discovery, and reserves the right to amend and supplement these disclosures consistent with the Scheduling Order, Default Standard, and Fed. R. Civ. P. 26(e).

~~Moreover, Microchip produced a substantial number of core technical documents on August 18, 2023, well after its deadline for doing so, and has thus hampered Aptiv's preparation of these initial infringement contentions. Aptiv therefore also reserves the right to supplement or amend these disclosures in view of Microchip's August 18 production.~~

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Microchip Replacement Ex. 1072, p. 8
Microchip v. Aptiv
IPR2024-00230

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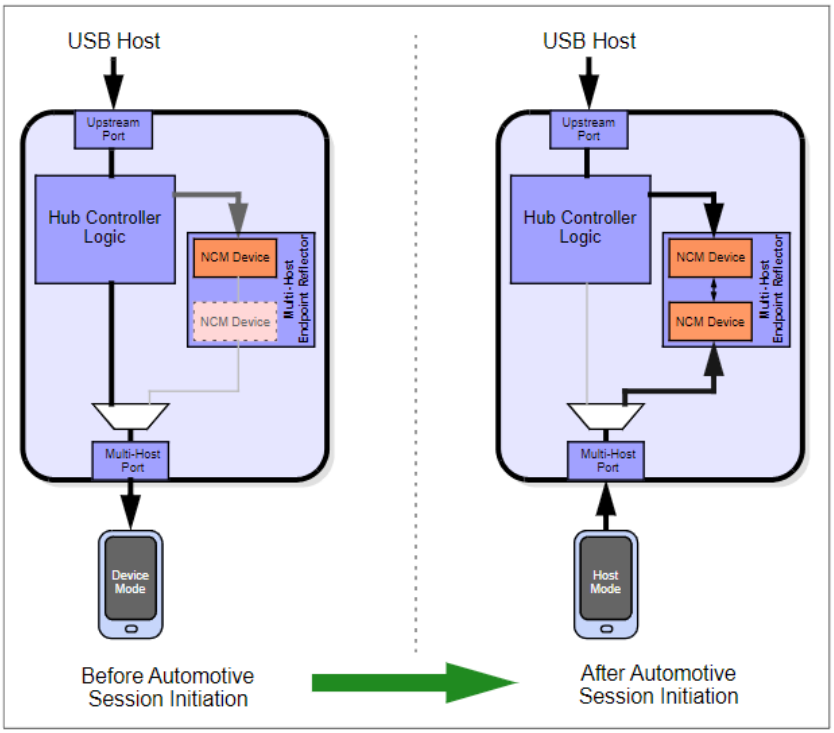
Aptiv Technologies Limited

Microchip Replacement Ex. 1072, p. 9
Microchip v. Aptiv
IPR2024-00230

		FIGURE 3: MULTI-HOST ENDPOINT REFLECTOR  Microchip_004880 at Microchip_004883. A person of ordinary skill in the art would understand that bypassing the USB bridge is performed by the USB routing switch connected to the port connected to the consumer device. Application notes for Multi-Host Olympus, Multi-Host Teton, and Adaro also contain a figure that corresponds to Figure 3 of the Application note for the Multi-Host Sandia products. *See* MCHP_00208022 at MCHP_00208026 (AN3562, Multi-Host Olympus); MCHP_00204667 at MCHP_00204671 (AN2771, Multi-Host Teton); MCHP_00206013 at MCHP_00206016 (AN2953, Adaro).
Dependent Claim 15		
[15.1]	The method according to claim 14, wherein the USB routing switch determines whether the second USB signal emanates from a USB device.	Microchip practices this element literally and/or under the doctrine of equivalents (including through testing of the Microchip Accused Products); actively induces module makers, car manufacturers, and/or their customers to practice this element literally and/or under the doctrine of equivalents; and offers to sell, sells, and/or imports into the United States the Microchip Accused Products to be used in methods that practice this element literally and/or under the doctrine of equivalents, knowing the Microchip Accused Products to be

		especially made or adapted for such use, as illustrated by the following examples. As explained with respect to element 10.3 above, each of the Microchip Accused Products is a USB hub configured to determine whether the USB signal emanates from a second USB host. A person of ordinary skill in the art would understand that the step of determining whether the consumer device is operating in the USB host mode or in the USB device mode is performed by the USB routing switch. To the extent Microchip asserts that it does not literally meet this limitation because the vehicle's head unit determines whether the consumer device is operating in USB host mode or USB device mode, it still meets this limitation under the doctrine of equivalents. The patent specification makes clear that this limitation does not preclude the routing switch from being controlled by the head unit, including in determining if the consumer device is operating in USB host mode or device mode. *See, e.g.*, '643 Patent at 4:45-57 ("***The USB Bridge is configured, based on signals from the Head Unit***, whether the consumer device which is connected to the USB port is acting as USB Host or USB Device. ***In the case where the consumer device is acting as USB Host, the USB Bridge controls the switching device to route the USB port to the Bridge.*** The Bridge processes the signals from the consumer device and provides them to the USB Hub, thereby rendering the consumer device compatible with the vehicle's embedded USB Host. ***In the case where the consumer device is acting as USB Device, the USB Bridge controls the switching device such that the switching device provides the signals to the USB Hub, effectively bypassing the Bridge***.") Thus, even assuming *arguendo* that the routing switch does not literally "determine" whether the consumer device is operating in USB host mode or device mode, because it is ultimately controlled by the head unit, the routing switch performs substantially the same function in substantially the same way to obtain substantially the same result as the claimed invention.