IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
AUSTIN DIVISION

NETWORK SYSTEM TECHNOLOGIES, LLC,	§	
	§	
Plaintiff,	§	
	§	
v.	§	
	§	
QUALCOMM INCORPORATED;	§	Civil Action No. 1:22-cv-1331-DAE
QUALCOMM TECHNOLOGIES, INC.;	§	
ARTERIS, INC.,	§	**JURY TRIAL DEMANDED**
	§	
Defendants.	§	

FIRST AMENDED COMPLAINT

Plaintiff Network System Technologies, LLC ("NST" or "Plaintiff"), by and through its attorneys, demands a trial by jury on all issues so triable, and for its complaint against Qualcomm Incorporated, Qualcomm Technologies, Inc., and Arteris, Inc. (collectively, "Defendants"), alleges as follows:

NATURE OF THE ACTION

1. This is a civil action for patent infringement under the patent laws of the United States, Title 35, United States Code, Section 271, *et seq.*, involving the follow United States Patents (collectively, "Asserted Patents") and seeking damages and injunctive relief as provided in 35 U.S.C. §§ 281 and 283-285.

U.S. Patent No. 7,366,818 (Exhibit 1, "'818 patent")
U.S. Patent No. 7,373,449 (Exhibit 2, "'449 patent")
U.S. Patent No. 7,594,052 (Exhibit 3, "'052 patent")
U.S. Patent No. 7,769,893 (Exhibit 4, "'9893 patent")
U.S. Patent No. 8,072,893 (Exhibit 5, "'2893 patent")
U.S. Patent No. 8,086,800 (Exhibit 6, "'800 patent")

THE PARTIES

2. Plaintiff is a limited liability company formed under the laws of Delaware, with a

principal place of business at 533 Congress Street, Portland, ME 04101. Plaintiff is the owner by assignment of the Asserted Patents.

3. On information and belief, Qualcomm Incorporated is a corporation organized and existing under the laws of Delaware, having a principal place of business at 5775 Morehouse Drive, San Diego, California 92121. On information and belief, Qualcomm Incorporated has a business location in this Judicial District at 9600 N. Mopac, Suite 900, Stonebridge Plaza II, Austin, Texas 78759.[1] On information and belief, Qualcomm Incorporated may be served in Texas at least via its registered agent, Prentice Hall Corp System, 211 E. 7th Street, Suite 620, Austin, Texas 78701.

4. On information and belief, Qualcomm Technologies, Inc. ("Qualcomm Technologies") is a corporation organized and existing under the laws of Delaware, having a principal place of business at 5775 Morehouse Drive, San Diego, California 92121. On information and belief, Qualcomm Technologies is a wholly-owned subsidiary of, and is controlled and directed by, Qualcomm Incorporated and "operates, along with its subsidiaries, substantially all of Qualcomm's engineering, research and development functions, and substantially all of its products and services businesses."[2] On information and belief, Qualcomm Technologies has a business location in this Judicial District at 9600 N. Mopac, Suite 900, Stonebridge Plaza II, Austin, Texas 78759.[3] On information and belief, Qualcomm Technologies may be served in Texas at least via its registered agent, Corporation Service Company d/b/a CSC-Lawyers Incorporating Service Company, 211 E. 7th Street, Suite 620, Austin, Texas 78701.

[1] https://www.qualcomm.com/company/facilities/offices?country=USA (last visited December 19, 2022) (identifying a Qualcomm office at this address in Austin, Texas).
[2] https://www.qualcomm.com (last visited December 19, 2022).
[3] https://www.qualcomm.com/company/facilities/offices?country=USA (last visited December 19, 2022) (identifying a Qualcomm office at this address in Austin, Texas).

5. Qualcomm Incorporated and Qualcomm Technologies are referred to collectively hereinafter as "Qualcomm" or "the Qualcomm Defendants."

6. On information and belief, Arteris, Inc. ("Arteris") is a corporation organized and existing under the laws of Delaware, having a principal place of business at 595 Millich Drive, Suite 200, Campbell, California 95008. On information and belief, Arteris has a business location in this Judicial District at 9601 Amberglen Boulevard, Suite 117, Austin, Texas 78729.[4] On information and belief, Arteris may be served in Texas at least via its registered agent, CT Corporation System, 1999 Bryan Street, Suite 900, Dallas, Texas 75201.

7. Qualcomm and Arteris are referred to collectively hereinafter as "Defendants."

8. On information and belief, the Defendants are engaged in making, using, offering for sale, selling, importing, or otherwise providing, within the United States and in particular the State of Texas and this Judicial District, directly or indirectly, system-on-a-chip products ("SoCs"), and/or related products and services, with features and functionalities that infringe the Asserted Patents.

JURISDICTION AND VENUE

9. This Court has jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331 and 1338(a).

10. Jurisdiction and venue for this action are proper in this Judicial District.

11. This Court has personal jurisdiction over Defendants at least because, through a respective Defendant's own acts and/or through the acts of each other Defendant acting as its agent,

[4] https://ir.arteris.com (last visited December 19, 2022) (identifying an "Austin Branch" of Arteris at this address in Austin, Texas); https://www.arteris.com (last visited December 19, 2022) (identifying this address in Austin, Texas for Arteris and associating this Austin address with an email address regarding Arteris sales in the Americas); https://ir.arteris.com/node/7391/html (last visited December 19, 2022) (2021 SEC Form 10-K for Arteris states that Arteris leases an office in Austin, Texas).

representative, or alter ego, they (i) have a presence or regular and established place of business in the State of Texas and this Judicial District; (ii) have purposefully availed themselves of the rights and benefits of the laws of the State of Texas and this Judicial District; (iii) have done and are doing substantial business in the State of Texas and this Judicial District, directly or through intermediaries, both generally and, on information and belief, with respect to the allegations in this Complaint, including their one or more acts of infringement in the State of Texas and this Judicial District; (iv) maintain continuous and systematic contacts in the State of Texas and this Judicial District; and/or (v) place products alleged to be infringing in this Complaint in the stream of commerce, directly or through intermediaries, with awareness that those products are likely destined for use, offer for sale, sale, and/or importation in the State of Texas and this Judicial District.

12. For example, Defendants have authorized retailers and distributors in the State of Texas and this Judicial District for the products alleged to be infringing in this Complaint, and Defendants have derived substantial revenues from their infringing acts occurring within the State of Texas and this Judicial District.

13. Defendants have established sufficient minimum contacts with the State of Texas and this Judicial District such that they should reasonably and fairly anticipate being brought into court in the State of Texas and this Judicial District without offending traditional notions of fair play and substantial justice; and Defendants have purposefully directed activities at residents of the State of Texas and this Judicial District. Moreover, the patent infringement claims alleged herein arise out of or are related to one or more of the foregoing activities. On information and belief, a substantial part of the events giving rise to Plaintiff's claims, including acts of patent infringement, have occurred in the State of Texas and this Judicial District.

14. Venue is proper in this Judicial District as to Defendants under 28 U.S.C. §§ 1391(b) and 1400(b).

15. Venue is proper as to the Qualcomm Defendants because, on information and belief, they have committed acts of infringement and both share a regular and established place of business in this Judicial District, as identified above in paragraphs 3–4. 28 U.S.C. § 1400(b). The Qualcomm Defendants have admitted that they have a regular and established place of business at this location in this Judicial District.[5] Further, on information and belief, Qualcomm's business at this location in Austin, Texas relates to SoCs.[6]

16. Venue is proper as to Arteris because, on information and belief, it has committed acts of infringement and has a regular and established place of business in this Judicial District, as identified above in paragraph 6. 28 U.S.C. § 1400(b). Further, on information and belief, Arteris's business at this location in Austin, Texas relates to SoCs.[7]

[5] Qualcomm Incorporated and Qualcomm Technologies, Inc.'s Answer, Defenses, and Counterclaims, *Future Link Systems, LLC v. Qualcomm Inc. et al.*, 6:21-cv-00265, Dkt. 17 at 1, 3 (W.D. Tex. May 28, 2021) (noting that "Qualcomm" refers to both Qualcomm Incorporated and Qualcomm Technologies collectively—"Defendants Qualcomm Incorporated and Qualcomm Technologies, Inc. (collectively, 'Qualcomm')"—and stating that "***Qualcomm*** admits that it had an office located at 9600 N. Mopac Expressway, Ste. 900, Stonebridge Plaza II, Austin, Texas 78759" (emphasis added)); Qualcomm Incorporated's and Qualcomm Technologies, Inc.'s Answer and Affirmative Defenses to Plaintiff's Original Complaint for Patent Infringement, *Liberty Patents, LLC v. Broadcom Inc. et al.*, 6:20-cv-00970, Dkt. 65 at 1, 7 (W.D. Tex. Jan. 19, 2021) (noting that "Qualcomm" refers to both Qualcomm Incorporated and Qualcomm Technologies collectively—"Defendants Qualcomm Incorporated and Qualcomm Technologies, Inc. (collectively, 'Qualcomm')"—and "admit[ting] that ***Qualcomm*** has a place of business in this District at 9600 N. Mopac, Suite 900, Stonebridge Plaza II, Austin, Texas 78759" (emphasis added)). *See also* https://therealdeal.com/texas/2022/11/01/qualcomm-scoops-90k-sq-ft-in-alexandria-austin-office/ (last visited December 19, 2022 ("Qualcomm scoops 90K-sq-ft in Alexandria Austin office").

[6] *See, e.g.*, https://qualcomm.wd5.myworkdayjobs.com/en-US/External/job/Sr-SoC-Architecture---Automotive-Platform-Architect_3021891?locations=4019e639566e0101f246681c33120000 (last visited Dec. 19, 2022) (job posting for "Sr. SoC Architecture – Automotive Platform Architect" in Austin, Texas).

[7] *See, e.g.*, https://www.arteris.com/careers?p=job/oeKpifwp&nl=1 (last visited December 19, 2022) (job posting for "Senior Field Application Engineer - Network-on-chip" in Austin, Texas, with a job description related to "System-on-Chips," a responsibility of being "an expert on interconnects for System-on-Chips," and a requirement of "5 years of front-end digital SoC experience"); https://www.arteris.com/careers?p=job/opZBjfw2&nl=1 (last visited December 19, 2022) (job posting for an engineer in Austin, Texas for working on "solutions for … SoC designs," with a responsibility of "expertise on complex SoC projects").

JOINDER AND RELATIONSHIP AMONG DEFENDANTS

17. Joinder is proper under at least Federal Rule of Civil Procedure 20 and 35 U.S.C. § 299 at least because Defendants' infringing conduct alleged herein arises out of the same transaction, occurrence, or series of transactions or occurrences relating to the making, using, importing into the United States, offering for sale, or selling of the same accused product or process, or portions thereof, and questions of fact common to all Defendants will arise in this action.

18. On information and belief, Qualcomm makes, uses, imports, offer for sale, and/or sells accused SoC products that include Arteris SoC technology and/or derivatives thereof. Also, on information and belief, Arteris indirectly infringes based on Qualcomm making, using, importing, offering for sale, and/or selling those accused SoC products. Thus, the Qualcomm accused SoC products are common to all Defendants' infringement of the Asserted Patents, and the factual question of infringement will thus substantially overlap for all Defendants.

19. Further, on information and belief, Qualcomm purchased, purchases, or otherwise obtained or obtains, SoC technology from Arteris, and there are licensing or technology agreements between Qualcomm and Arteris.

20. Additionally, Qualcomm hired approximately 43 Arteris engineers and acquired certain Arteris SoC technology and IP in 2013, licensed such SoC technology and IP back to Arteris, and provides improvements to, and engineering support for, such SoC technology and IP to Arteris.[8] On information and belief, the Qualcomm accused SoC products incorporate certain Arteris SoC technology, and/or derivatives thereof.

21. On information and belief, the 2013 acquisition was a wholesale acquisition of a

[8] *See, e.g.*, https://www.arteris.com/press-releases/qualcomm-arteris-asset-acquisition-2013_oct_31 (last visited December 19, 2022); https://www.eetimes.com/qualcomm-buys-arteris-tech-team/ (last visited December 19, 2022).

substantial part of Arteris's NoC business, engineering team, and technology by Qualcomm for nearly one-quarter of a billion dollars. As Arteris reported on its own website at the time, "Qualcomm Technologies, Inc. ('Qualcomm'), a subsidiary of Qualcomm Incorporated, has acquired certain technology assets from Arteris and hired personnel formerly employed by Arteris" and "Qualcomm has agreed to make certain FlexNoC updates available to Arteris based upon an agreed upon schedule and provide certain engineering support to Arteris."[9] As was reported at the time in an article titled "Qualcomm acquires Arteris' NoC tech assets, team": "Terms of the deal were not disclosed, though Deep Chip reported a rumored $224 million price tag last week, which it said 'seems high.'"[10]

22. Among the 43 Arteris engineers hired was Philippe Martin, who was Arteris' Chief Technical Officer from March 2003 to September 2012 and a "Corporate Application Manager and Senior fellow" from January 2012 to September 2013.[11] In October 2013, as part of Qualcomm's acquisition of Arteris, Mr. Martin became Qualcomm's Senior Director of Technology, where he remailed for the next 7 years and 8 months, until he left Qualcomm in May 2021.[12] On information and belief, given Mr. Martin's leadership role over technology as Chief Technical Officer at Arteris, his role as Qualcomm's Senior Director of Technology was similarly a leadership-level role and he would have had oversight over most, if not all, aspects of the accused infringing Network on Chip technology at both Arteris and Qualcomm.

23. Mr. Martin, while he was still Arteris' Chief Technical Officer, co-authored a chapter of a book published in 2009 titled NETWORKS-ON-CHIPS Theory and Practice. Exhibit

[9] https://www.arteris.com/press-releases/qualcomm-arteris-asset-acquisition-2013_oct_31(last visited August 7, 2023).
[10] https://www.fiercewireless.com/tech/qualcomm-acquires-arteris-noc-tech-assets-team (last visited August 7, 2023).
[11] https://www.linkedin.com/in/philippe-martin-4b863b/ (last visited August 7, 2023).
[12] *Id.*

7, Goossens Decl., ¶ 22. The chapter that Mr. Martin authored, entitled "Networks-on-Chip-Based Implementation: MPSoC for Video Coding Applications," evidenced a deep understanding of Philips' Network on Chip ("NoC") technology by Arteris' CTO, Mr. Martin, including certain aspects related to the technology described in the Asserted Patents. *Id.* That chapter included citations to references [9]–[17], and [24]–[25], which are Philips research papers related to Philips' NoC technology, including certain aspects related to the technology described in the Asserted Patents. *Id.* Each of these twelve Philips research papers cited in the Arteris-authored book chapter were authored by one or more inventors of the Asserted Patents. *Id.* These references indicate Mr. Martin and Arteris' in-depth knowledge of Philips NoC technology, including the subject matter of the Asserted Patents, by 2009. Goossens Decl. ¶ 22–23. The book chapter, and its internal citations to papers authored by the Philips inventors, indicate Mr. Martin and Arteris had knowledge of Philips', and the Asserted Patents', approach to Quality of Service ("QoS") in NoCs, including certain aspects related to the technology described in the Asserted Patents. *Id.* On information and belief, Mr. Martin's in-depth knowledge of Philips' NoC technology, including the subject matter of the Asserted Patents, would have followed him from Arteris to Qualcomm, when he joined the latter in 2013.

24. On information and belief, as part of this acquisition of Arteris by Qualcomm, certain intellectual property, including issued patents and pending patent applications, were assigned to Qualcomm. For example, U.S. Patent Application No. 11/518,384, U.S. Patent No. 8,645,557 and U.S. Patent No. 9,471,538 were originally assigned to Arteris and subsequently re-assigned to Qualcomm in or about October 2013 as part of the Qualcomm acquisition of Arteris.

25. Underscoring the importance of this nearly-one-quarter-of-a-billion-dollar acquisition of Arteris by Qualcomm, Arteris explained on its website at the time of the 2013

acquisition:

> "Arteris NoC technology has been and will continue to be a key enabler for creating larger and more complex chips in a shorter amount of time at a lower cost," said K. Charles Janac, President and CEO, Arteris. "This acquisition of our technology assets represents a validation of the value of Arteris' Network-on-Chip interconnect IP technology."[13]

26. Further underscoring the importance of this nearly-one-quarter-of-a-billion-dollar acquisition of Arteris by Qualcomm, Arteris explained on its website (until as recently as May 2021) that "Arteris-developed NoC technology is the backbone of [Qualcomm] Snapdragon application processors & LTE modems, [Qualcomm] Atheros wireless connectivity SoCs, and [Qualcomm] CSR IoT products."[14]

27. On information and belief, given the substantial price of the Arteris acquisition, the significant importance of the acquired Arteris technology as the "backbone" of Qualcomm's products, and the fiduciary duty that Qualcomm owed its shareholders, Qualcomm conducted substantial technical and legal diligence commensurate with a transaction of the size and importance of the Arteris acquisition. On information and belief, such diligence would have included a thorough analysis of Arteris' intellectual property, including the prosecution histories of patent applications and patents to be assigned from Arteris to Qualcomm, which included U.S. Patent Application No. 11/518,384, U.S. Patent No. 8,645,557 and U.S. Patent No. 9,471,538—each of which cited one or more of the Asserted Patents, as explained in more detail below. On information and belief, this diligence would have further included interviews with patent

[13] https://www.arteris.com/press-releases/qualcomm-arteris-asset-acquisition-2013_oct_31 (last visited August 7, 2023).
[14] https://web.archive.org/web/20210514110614/https://www.arteris.com/customers (last visited August 7, 2023).

prosecution counsel, the named inventors of such patents and patent applications, as well as such inventors' supervisors and project leads to gain a thorough understanding of the status and value of these patents and applications, and whether any potential patent infringement issues were revealed in connection with the mapping of competitors' patents, such as the Asserted Patents, onto Arteris patents and patent applications that cover Arteris' Network on Chip ("NoC") technology being acquired by Qualcomm for $224 million.

28. On information and belief, given the substantial $224 million price of the Arteris acquisition, the significant importance of the acquired Arteris technology as the "backbone" of Qualcomm's products, and the fiduciary duty that Qualcomm owed its shareholders, Qualcomm's diligence would have further included thorough analysis and assessment of potential patent infringement by Arteris and the Arteris Network on Chip ("NoC") technology to be acquired by Qualcomm. Such diligence would have included interviews with the 43 Arteris engineers that Qualcomm hired as part of the acquisition, including key employees such as Arteris' Chief Technical Officer, Philippe Martin, to learn the full scope of such employees knowledge of competing NoC technologies and associated intellectual property—such as Philips' NoC technology and the Asserted Patents—and any partnerships that Arteris might have explored with competitors such as Philips and the information that Arteris learned from Philips.

29. On information and belief, the aforementioned diligence would have revealed to Qualcomm no later than October 2013 the multiple pre-2010 meetings, disclosure of Philips NoC technical information to Arteris, and potential collaboration between Arteris and Philips discussed in the next section. This diligence would have also revealed to Qualcomm no later than October 2013 that Arteris was aware of, and interested in, the technology described in one or more Asserted Patents, as discussed in the next section. This diligence would have also revealed to Qualcomm

no later than October 2013 that Arteris had knowledge that Arteris, Arteris' customers, and/or Arteris' end users infringed the Asserted Patents, or was willfully blind to such infringement, as discussed in the next section. On information and belief, discovery in this Case, including from Arteris, Qualcomm, Mr. Martin, and other sources, will further confirm the details of Qualcomm's diligence, and the information it learned as part of that diligence, as well as information that Qualcomm learned from the ongoing employment of 43 Arteris engineers, including Arteris' Chief Technical Offer, Mr. Martin, about Arteris' knowledge that it, its customers, and/or its end users infringed the Asserted Patents, or was willfully blind to such infringement, prior to the December 2022 filing of the original Complaint in this Case (Dkt. 1).

THE ASSERTED PATENTS

30. The Asserted Patents result from extensive research and development by Philips Semiconductors, a subsidiary of Koninklijke Philips N.V. ("Philips") that included VLSI Technology, Inc., which Philips acquired in 1999. Prior to being spun off in 2006 as NXP Semiconductors N.V. ("NXP"), Philips Semiconductors was one of the largest semiconductor companies in the world. Each of the Asserted Patents predate the NXP spin-off and were retained by Philips until all right, title, and interest in the Asserted Patents were transferred to Plaintiff.

31. Dr. Kees Gerard Willem Goossens is a named inventor on five of the six Asserted Patents, namely, U.S. Patent Nos. 7,366,818; 7,373,449; 7,594,052; 7,769,893; and 8,086,800. Dr. Goossens is familiar with the technology described in all six Asserted Patents, as well as certain facts demonstrating Arteris' knowledge thereof, and submitted a Declaration in support of this Amended Complaint (herein, "Goossens Decl."), which is attached hereto as Exhibit 7. The other named inventors on the Asserted Patents include Andrei Rădulescu, John Dielissen, and Edwin Rijpkema. All inventors of the Asserted Patents were employees of Philips at the time of

inventions. Goossens Decl. ¶ 4–6.

32. The inventions disclosed in the Asserted Patents relate to Philips' development of Network on Chip ("NoC") technology. Goossens Decl. ¶ 7.

33. At some point prior to the NXP spinout in 2006, Dr. Goossens and other Philips researchers met with Arteris' then-CEO, Alain Fanet and others from Arteris. Goossens Decl. ¶ 8. Alain Fanet is the Founder of Arteris and was the CEO of Arteris from 2003 to 2008. *Id.* The total attendance at this meeting was approximately 5–8 people. *Id.* During this meeting, attendees discussed Philips' NoC technology, including certain aspects related to the technology described in one or more of the Asserted Patents. *Id.* On information and belief, further discovery in this Case, including from Philips, NXP, Arteris, and Alain Fanet, will confirm that these pre-2007 meetings discussed the inventions disclosed in one or more of the Asserted Patents. *See id.* On information and belief, further discovery in this Case, including from Philips, NXP, Arteris, and Alain Fanet, will further confirm that based on that based on the pre-2010 meetings described herein and in the next paragraph, and based on other evidence to be uncovered during discovery, Arteris had knowledge that it, its customers, and/or its end users infringed the Asserted Patents, or was willfully blind to such infringement, prior to the December 2022 filing of the original Complaint in this Case (Dkt. 1). *See id.*

34. Dr. Goossens' meeting with Arteris was followed by multiple exchanges between Arteris and Philips' Central Technology Organization ("CTO") prior to Dr. Goossens' departure from Philips/NXP in 2010. Goossens Decl. ¶ 6, 9. The purpose of these exchanges was evaluating Arteris technology for Philips' requirements on SoC interconnects, and more specifically, for possible use of Arteris technology in Philips' SoCs. Goossens Decl. ¶ 9. On information and belief, these exchanges involved disclosure and discussion of Philips' NoC technology, including

certain aspects related to the technology described in one or more of the Asserted Patents. *Id.* On information and belief, these meetings would have required Philips to give Arteris information on the requirements that a NoC would have to satisfy, especially requirements on Quality of Service ("QoS"), which is related to the technology described in one or more of the Asserted Patents. *Id.* On information and belief, further discovery in this Case, including from Philips, NXP, and Arteris, will confirm that these 2010 or earlier meetings discussed the inventions disclosed in one or more of the Asserted Patents. *See id.* On information and belief, further discovery in this Case, including from Philips, NXP, and Arteris, will further confirm that, based on the pre-2010 meetings described herein and in the preceding paragraph, and based on other evidence to be uncovered during discovery, Arteris had knowledge that it, its customers, and/or its end users infringed the Asserted Patents, or was willfully blind to such infringement, prior to the December 2022 filing of the original Complaint in this Case (Dkt. 1). *See id.*

35. Dr. Goossens attended MPSoC 2005 in Relais de Margaux, France. Goossens Decl. ¶ 10. MPSoC 2005 was the 5th International Forum on Application-Specific Multi-Processor SoC. *Id.* On July 12, 2005, at MPSoC 2005, Alain Fanet presented on "NoC: the Arch key of IP integration methodology" on behalf of Arteris. Goossens Decl. ¶ 11. As noted above, Alain Fanet is the Founder of Arteris and was the CEO of Arteris from 2003 to 2008. Alain Fanet's presentation indicated that Arteris was aware of, and interested in, the technology described in one or more Asserted Patents, including such patents' approach to Quality of Service ("QoS"). Goossens Decl. ¶ 11–14 .

36. Immediately after Alain Fanet's presentation, and during the same session at MPSoC 2005, Dr. Goossens presented on "Systems on Chips: Personal Computers or correct performance?" on behalf of Philips Research. Goossens Decl. ¶ 13. Dr. Goossens' presentation

discussed subject matter relevant to one or more of the Asserted Patents and noted that "QoS is hot topic." Goossens Decl. ¶ 13–14 .

37. On information and belief, based on Alain Fanet's July 2005 presentation, the great interest in QoS at the time, and based on other evidence to be uncovered during discovery, Arteris was aware of, and interested in, the technology described in one or more Asserted Patents, including such patents' approach to Quality of Service ("QoS"). Goossens Decl. ¶ 11–14. On information and belief, further discovery in this Case, including from Arteris and Alain Fanet, will confirm that at or around the time of these presentations, Arteris had knowledge of the inventions disclosed in one or more of the Asserted Patents. *See id.* On information and belief, further discovery in this Case, including from Arteris and Alain Fanet, will further confirm that Arteris had knowledge that it, its customers, and/or its end users infringed the Asserted Patents, or was willfully blind to such infringement, prior to the December 2022 filing of the original Complaint in this Case (Dkt. 1). *See id.*

38. In 2005, Arteris published a white paper titled "A comparison of Network-on-Chip and Buses." Goossens Decl. ¶ 15. On information and belief, this Arteris paper, and other evidence to be uncovered during discovery, indicates Arteris had knowledge of Philips' NoC technology, which was the first and pre-eminent NoC that used technological approaches described in the 2005 Arteris paper. Goossens Decl. ¶ 15–16. On information and belief, this Arteris paper, and other evidence to be uncovered during discovery, further indicates Arteris was aware of, and interested in, the technology described in one or more of the Asserted Patents at or around the time this paper was published. *Id.* On information and belief, further discovery in this Case, including from Arteris, will confirm that at or around the time of this paper, Arteris had knowledge of the inventions disclosed in one or more of the Asserted Patents. *See id.* On information and belief,

further discovery in this Case, including from Arteris, will further confirm that Arteris had knowledge that it, its customers, and/or its end users infringed the Asserted Patents, or was willfully blind to such infringement, prior to the December 2022 filing of the original Complaint in this Case (Dkt. 1). *See id.*

39. Dr. Goossens attended MPSoC 2006 in Estes Park, Colorado, USA. Goossens Decl. ¶ 17. MPSoC 2006 was the 6th International Forum on Application-Specific Multi-Processor SoC. *Id.* On August 17, 2006, at MPSoC 2006, Dr. Goossens presented on "Quality of Service for an Uncertain World" on behalf of Philips Research. Goossens Decl. ¶ 17–18.

40. Later that same day, at MPSoC 2006, Alain Fanet presented on "Q[uality] o[f] S[ervice] profiling using NoC Adaptive Design Information System" on behalf of Arteris. Goossens Decl. ¶ 19. As noted above, Alain Fanet is the Founder of Arteris and was the CEO of Arteris from 2003 to 2008. On information and belief, Alain Fanet's presentation, and other evidence to be uncovered during discovery, indicates Arteris had knowledge of Philips' NoC technology, which was the first and pre-eminent NoC that used technological approaches described in such presentation. Goossens Decl. ¶ 19–21. On information and belief, this Arteris presentation, and other evidence to be uncovered during discovery, indicates Arteris was aware of, and interested in, the technology described in one or more of the Asserted Patents at or around the time of this presentation. *Id.* On information and belief, further discovery in this Case, including from Arteris and Alain Fanet, will confirm that at or around the time of this presentation, Arteris had knowledge of the inventions disclosed in one or more of the Asserted Patents. *See id.* On information and belief, further discovery in this Case, including from Arteris, will further confirm that Arteris had knowledge that it, its customers, and/or its end users infringed the Asserted Patents, or was willfully blind to such infringement, prior to the December 2022 filing of the original

Complaint in this Case (Dkt. 1). *See id.*

41. In 2009, a book titled NETWORKS-ON-CHIPS Theory and Practice was published. Goossens Decl. ¶ 22. Chapter 11 of this book, entitled "Networks-on-Chip-Based Implementation: MPSoC for Video Coding Applications," was co-authored by Arteris' then-Chief Technical Officer, Philippe Martin. *Id.* References [9]–[17], and [24]–[25] of chapter 11 are citations to Philips research papers related to Philips' NoC technology, including certain aspects related to the technology described in the Asserted Patents. *Id.* Each of these twelve Philips research papers cited in the Arteris-authored book chapter were authored by one or more inventors of the Asserted Patents. *Id.* These references indicate Arteris' in-depth knowledge of Philips NoC technology, including the subject matter of the Asserted Patents, by 2009. Goossens Decl. ¶ 22–23. The book chapter, and its internal citations to papers authored by the Philips inventors, indicate Arteris had knowledge of Philips', and the Asserted Patents', approach to Quality of Service ("QoS") in NoCs, including certain aspects related to the technology described in the Asserted Patents. *Id.* On information and belief, this Arteris-authored book chapter, and other evidence to be uncovered during discovery, indicates Arteris was aware of, and interested in, the technology described in one or more of the Asserted Patents at or around the time this book was published. *Id.* On information and belief, further discovery in this Case, including from Arteris, will confirm that at or around the time of this Arteris-authored book chapter, Arteris had knowledge of the inventions disclosed in one or more of the Asserted Patents. *See id.* On information and belief, further discovery in this Case, including from Arteris, will further confirm that Arteris had knowledge that it, its customers, and/or its end users infringed the Asserted Patents, or was willfully blind to such infringement, prior to the December 2022 filing of the original Complaint in this Case (Dkt. 1). *See id.*

U.S. Patent No. 7,366,818

42. Plaintiff is the lawful owner of all right, title, and interest in United States Patent No. 7,366,818 (the "'818 patent"), entitled "INTEGRATED CIRCUIT COMPRISING A PLURALITY OF PROCESSING MODULES AND A NETWORK AND METHOD FOR EXCHANGING DATA USING SAME," including the right to sue and to recover for infringement thereof. The '818 patent was duly and legally issued on April 29, 2008, naming Andrei Radulescu and Kees Gerard Willem Goossens as inventors. A copy of the '818 patent is attached hereto as Exhibit 1.

43. The '818 patent has 7 claims: 1 independent claim and 6 dependent claims.

44. The '818 patent covers SoCs that have an interface that comprises a dropping means for dropping data exchanged by two modules and where the interface can control the dropping of data and therefore completion of message transactions.

45. The claims of the '818 patent, including claim 1 (reproduced below), recite at least these inventive concepts of the '818 patent.

> 1. Integrated circuit comprising a plurality of processing modules (M, S) said modules being disposed on the same chip, and a network (N; RN) arranged for providing at least one connection between a first and at least one second module (M, S),
>
> wherein said modules communicate via a network on chip, and
>
> wherein said connection supports transactions comprising outgoing messages from the first module to the second modules and return messages from the second modules to the first module, the integrated circuit comprising at least one dropping means (DM) for dropping data exchanged by said first and second module (M, S), and
>
> at least one interface means (ANIP, PNIP) for managing the interface between a module (M, S) and the network (N, RN),

> wherein said interface means (ANIP, PNIP) comprises a first dropping means (DM) for dropping data, and
>
> wherein the dropping of data and therefore the transaction completion can be controlled by the interface means.

(Exhibit 1, ’818 patent at claim 1.) The subject matter described and claimed by the ’818 patent, including the integrated circuit of claim 1, was an improvement in the functionality, performance, and efficiency of integrated circuits and the connections and communication networks thereof and was novel and not well-understood, routine, or conventional at the time of the ’818 patent.

46. Defendants had knowledge of the ’818 patent at least as of the December 19, 2022, date of the original Complaint (Dkt. 1).

47. The ’818 patent was developed and patented by Philips Semiconductors, one of the largest semiconductor companies in the world. Because of the size and prominence of Philips in the tight-knit semiconductor industry, industry participants, including, on information and belief, Defendants, monitored patenting activity by Philips and reviewed, and were aware of shortly after their publication, at least the U.S. published patent applications and patents obtained by Philips in the semiconductor space, including the ’818 patent. On information and belief, such industry participants, including Defendants, considered Philips’ U.S. published patent applications and patents in the semiconductor space, including the ’818 patent, and such Philips’ U.S. published patent applications and patents’ actual or potential applicability to their own current products and product roadmaps, including the products described herein.

48. The ’818 patent is widely and publicly known, and frequently referenced, in the tight-knit semiconductor industry, having been cited during prosecution of approximately 76 patent applications assigned to industry leaders such as Intel Corporation, Arm Limited, NEC

Corporation, IBM Corporation, and others.[15]

49. On information and belief, the '818 patent, or the application therefor, or a patent or application related to the '818 patent, was cited during prosecution of at least one patent application that was then or later assigned to or prosecuted by Arteris or a predecessor to or affiliate of Arteris.

50. The U.S. publication of the '818 patent's application, U.S. Patent Publication No. 2006/0041888, was cited, after the '818 patent had been granted, during the prosecution of U.S. Patent Application No. 11/518,384, entitled "SYSTEM FOR MANAGING MESSAGES TRANSMITTED IN AN ON-CHIP INTERCONNECT NETWORK," an application originally assigned to Arteris SA or Arteris SAS, with a filing date of September 8, 2006 and purported priority date of July 26, 2006.[16] Further, the cited reference was identified as "pertinent to" U.S. Patent Application No. 11/518,384.[17]

51. On information and belief, Arteris SA is a predecessor to, or is otherwise presently or previously affiliated with, Defendant Arteris. On information and belief, Arteris SAS is a predecessor to, or is otherwise presently or previously affiliated with Defendant Arteris. On information and belief Arteris SA and/or Arteris SAS have shared knowledge (e.g., institutional knowledge) with Arteris regarding competition and intellectual property, such as patent prosecution and patents, including the '818 patent. For example, on information and belief, Arteris SA and/or Arteris SAS have coordinated multi-national patent prosecution with Defendant Arteris. As a further example, on information and belief, common patent counsel have been shared between Defendant Arteris and Arteris SA and/or Arteris SAS, or respective patent counsel for the

[15] https://patents.google.com/patent/US7366818B2/en?oq=7%2c366%2c818 (last visited December 19, 2022).
[16] *See* https://patents.google.com/patent/US20080028090A1/en?oq=US20080028090A1 (last visited December 19, 2022); Notice of References Cited dated Nov. 23, 2009, File History of U.S. Pat. App. No. 11/518,384.
[17] Office Action dated Nov. 23, 2009, File History of U.S. Pat. App. No. 11/518,384.

companies have communicated regarding patents and patent prosecution. Further, on information and belief, Defendant Arteris and Arteris SA and/or Arteris SAS have had common employees, such as: employees that hold positions both in Defendant Arteris and in Arteris SA and/or Arteris SAS; employees that hold a single dual position both for Defendant Arteris and for Arteris SA and/or Arteris SAS; and employees that have migrated from Arteris SA and/or Arteris SAS to Defendant Arteris. Therefore, the knowledge of Arteris SA and/or Arteris SAS, at least insofar as it relates to knowledge of patent prosecution and patents, including the '818 patent, may be imputed to Defendant Arteris. For convenience, Arteris SA and/or Arteris SAS may be referred to below as Arteris's "predecessors."

52. On information and belief, Arteris and its predecessors sought to obtain valid and enforceable patents for themselves.

53. Therefore, on information and belief, Arteris and its predecessors were aware of, and considered and analyzed the inventions described and claimed in, all patents and patent applications cited during the prosecution of their own patent applications.

54. On information and belief, Arteris and its predecessors sought to develop their products and product roadmaps, including the products described herein, in ways that would not infringe U.S. patents in the semiconductor space.

55. Therefore, on information and belief, Arteris and its predecessors monitored U.S. published patent applications and patents obtained by Philips in the semiconductor space in around the years 2006-2012.

56. On information and belief, Arteris and its predecessors were aware of and considered the '818 patent, and its actual or potential applicability to their own current products and product roadmaps, including the products described herein.

57. On information and belief, Arteris has expertise in the subject matter of the U.S. Patent Application No. 11/518,384, and the '818 patent and possesses sufficient technical competence to understand the scope of such patents and application.

58. On information and belief, Arteris additionally had knowledge of one or more of the Asserted Patents, including the '818 patent, by virtue of the numerous pre-2010 meetings between Philips and Arteris, as well as the multiple presentations and publications by Arteris' leadership, including its CEO and its Chief Technical Officer, evidencing in-depth knowledge of Philips' NoC Technology, including the subject matter of the Asserted Patents, as discussed above in paragraphs 30–41.

59. By virtue of Philips' and the '818 patent's fame in the semiconductor industry, the patent's inclusion in the Philips Semiconductor portfolio, Arteris's desire to obtain valid and enforceable patents, Arteris's desire to develop non-infringing products and product roadmaps, the numerous pre-2010 meetings between Philips and Arteris, as well as the multiple presentations and publications by Arteris' leadership, including its CEO and its Chief Technical Officer, evidencing in-depth knowledge of Philips' NoC Technology and the subject matter of the Asserted Patents, and Arteris's knowledge of the '818 patent via citation during prosecution of the aforementioned patents and patent application, Arteris had actual knowledge of the '818 patent around the time it issued or its U.S. application published.[18]

60. On information and belief, the '818 patent, or the application therefor, or a patent or application related to the '818 patent, was cited during prosecution of at least one patent application that was then or later assigned to or prosecuted by Qualcomm.

61. The U.S. publication of the '818 patent's application, U.S. Patent Publication No.

[18] *See Elm 3DS Innovations, Ltd. Liab. Co. v. Samsung Elecs. Co.*, Civil Action No. 14-1430-LPS-CJB, 2015 U.S. Dist. LEXIS 130699, at *5-8 (D. Del. Sep. 29, 2015).

2006/0041888, was cited, after the '818 patent had been granted, during the prosecution of U.S. Patent Application No. 11/518,384, entitled "SYSTEM FOR MANAGING MESSAGES TRANSMITTED IN AN ON-CHIP INTERCONNECT NETWORK," which is assigned to Qualcomm, with a filing date of September 8, 2006 and purported priority date of July 26, 2006.[19] Further, the cited reference was identified as "pertinent to" U.S. Patent Application No. 11/518,384.[20]

62. As explained above in paragraphs 20–29, U.S. Patent Application No. 11/518,384 was acquired by Qualcomm as a part of its 2013 wholesale acquisition of a substantial part of Arteris's NoC business, engineering team, and technology for nearly one-quarter of a billion dollars. As explained above in paragraph 27, on information and belief, given the substantial price of the Arteris acquisition, the significant importance of the acquired Arteris technology as the "backbone" of Qualcomm's products, and the fiduciary duty that Qualcomm owed its shareholders, Qualcomm conducted substantial technical and legal diligence, which included a thorough analysis of Arteris' intellectual property, including the prosecution histories of patent applications and patents to be assigned from Arteris to Qualcomm, which included U.S. Patent Application No. 11/518,384, which cited the '818 patent, as explained in the preceding paragraph. On information and belief, this diligence would have further included interviews with patent prosecution counsel, the named inventors of such patents and patent applications, as well as such inventors' supervisors and project leads to gain a thorough understanding of the status and value of these patents and applications, including U.S. Patent Application No. 11/518,384, and whether any potential patent infringement issues were revealed in connection with the mapping of competitors' patents, such as the Asserted Patents, including the '818 patent, onto Arteris patents

[19] *See* Notice of References Cited dated Nov. 23, 2009, File History of U.S. Pat. App. No. 11/518,384.
[20] Office Action dated Nov. 23, 2009, File History of U.S. Pat. App. No. 11/518,384.

and patent applications that cover Arteris' Network on Chip ("NoC") technology being acquired by Qualcomm for $224 million.

63. On information and belief, Qualcomm sought to obtain valid and enforceable patents for itself.

64. Therefore, Qualcomm was aware of, and considered and analyzed the inventions described and claimed in, all patents and patent applications cited during the prosecution of its own patent applications, including for patents and patent applications that it acquired.

65. On information and belief, Qualcomm sought to develop its products and product roadmaps, including the products described herein, in ways that would not infringe U.S. patents in the semiconductor space.

66. Therefore, on information and belief, Qualcomm monitored U.S. published patent applications and patents obtained by Philips in the semiconductor space in around the years 2006-2012.

67. On information and belief, Qualcomm was aware of and considered the '818 patent, and its actual or potential applicability to its own current products and product roadmaps, including the products described herein.

68. On information and belief, Qualcomm has expertise in the subject matter of the U.S. Patent Application No. 11/518,384 and the '818 patent and possesses sufficient technical competence to understand the scope of such application and patent.

69. As explained above in paragraphs 20–29, Qualcomm wholesale acquired a substantial part of Arteris's NoC business, engineering team, and technology for nearly one-quarter of a billion dollars. As explained above in paragraphs 28-29, on information and belief, given the substantial price of the Arteris acquisition, the significant importance of the acquired

Arteris technology as the "backbone" of Qualcomm's products, and the fiduciary duty that Qualcomm owed its shareholders, Qualcomm conducted substantial technical and legal diligence, which included thorough analysis and assessment of potential patent infringement by Arteris and the Arteris Network on Chip ("NoC") technology to be acquired by Qualcomm. Such diligence would have included interviews with the 43 Arteris engineers that Qualcomm hired as part of the acquisition, including key employees such as Arteris' Chief Technical Officer, Philippe Martin, to learn the full scope of such employees knowledge of competing NoC technologies and associated intellectual property—such as Philips' NoC technology and the Asserted Patents, including the '818 patent—and any partnerships that Arteris might have explored with competitors such as Philips and the information that Arteris learned from Philips. As also noted above in paragraph 29, on information and belief, the aforementioned diligence would have revealed to Qualcomm no later than October 2013 the multiple pre-2010 meetings, disclosure of Philips NoC technical information to Arteris, and potential collaboration between Arteris and Philips discussed above in paragraphs 30–41. This diligence would have also revealed to Qualcomm no later than October 2013 that Arteris was aware of, and interested in, the technology described in one or more Asserted Patents, including the '818 patent, as discussed above in paragraphs 30–41. This diligence would have also revealed to Qualcomm no later than October 2013 that Arteris had knowledge that Arteris, Arteris' customers, and/or Arteris' end users infringed the Asserted Patents, including the '818 patent, or was willfully blind to such infringement, as discussed above in paragraphs 30–41. On information and belief, discovery in this Case, including from Arteris, Qualcomm, Mr. Martin, and other sources, will further confirm the details of Qualcomm's diligence, and the information it learned as part of that diligence, as well as information that Qualcomm learned from the ongoing employment of 43 Arteris engineers, including Arteris' Chief Technical Offer, Mr. Martin, about

Arteris' knowledge that it, its customers, and/or its end users infringed the Asserted Patents, including the '818 patent, or was willfully blind to such infringement, prior to the December 2022 filing of the original Complaint in this Case (Dkt. 1).

70. By virtue of Philips' and the '818 patent's fame in the semiconductor industry, the patent's inclusion in the Philips Semiconductor portfolio, Qualcomm's desire to obtain valid and enforceable patents, Qualcomm's desire to develop non-infringing products and product roadmaps, Qualcomm's knowledge of the '818 patent via citation in the aforementioned patent application, and Qualcomm's substantial technical and legal diligence in connection with its wholesale acquisition of a substantial part of Arteris's NoC business, engineering team, and technology by Qualcomm for nearly one-quarter of a billion dollars, Qualcomm had actual knowledge of the '818 patent around the time it issued or its U.S. application published, and in no event later than the October 11, 2013 execution date of the assignment of U.S. Patent Application No. 11/518,384 to Qualcomm.[21]

U.S. Patent No. 7,373,449

71. Plaintiff is the lawful owner of all right, title, and interest in United States Patent No. 7,373,449 (the "'449 patent"), entitled "APPARATUS AND METHOD FOR COMMUNICATING IN AN INTEGRATED CIRCUIT," including the right to sue and to recover for infringement thereof. The '449 patent was duly and legally issued on May 13, 2008, naming Andrei Radulescu and Kees Gerard Willem Goossens as inventors. A copy of the '449 patent is attached hereto as Exhibit 2.

72. The '449 patent has 18 claims: 2 independent claims and 16 dependent claims.

73. The '449 patent covers SoCs that have a resource manager that manages network

[21] *See Elm 3DS Innovations, Ltd. Liab. Co. v. Samsung Elecs. Co.*, Civil Action No. 14-1430-LPS-CJB, 2015 U.S. Dist. LEXIS 130699, at *5-8 (D. Del. Sep. 29, 2015).

resources by determining whether the resources (i.e., communication channels and connection properties) are available.

74. The claims of the ’449 patent, including claim 10 (reproduced below), recite at least these inventive concepts of the ’449 patent.

> 10. Method for exchanging messages in an integrated circuit comprising a plurality of modules, the messages between the modules being exchanged over connections via a network, wherein said connections comprises a set of communication channels each having a set of connection properties, any communication channel being independently configurable, wherein said connection through the network supports transactions comprising at least one of outgoing messages from the first module to the second module and return messages from the second module to the first module and further comprising the steps of:
>
> the first module issuing a request for a connection with the second module to a communication manager, wherein the request comprises desired connection properties associated with the sets of communication channels;
>
> the communication manager forwarding the request to a resource manager;
>
> the resource manager determining whether a target connection with the desired connection properties is available;
>
> the resource manager responding with the availability of the target connection to the communication manager; and
>
> the target connection between the first and second module being established based on the available properties of said communication channels of said connection.

(Exhibit 2, ’449 patent at claim 10.) The subject matter described and claimed by the ’449 patent, including the method for exchanging messages in an integrated circuit of claim 10, was an improvement in the functionality, performance, and efficiency of integrated circuits and the connections and communication networks thereof and was novel and not well-understood, routine, or conventional at the time of the ’449 patent.

75. Defendants had knowledge of the ’449 patent at least as of the December 19, 2022,

date of the original Complaint (Dkt. 1).

76. The ’449 patent was developed and patented by Philips Semiconductors, one of the largest semiconductor companies in the world. Because of the size and prominence of Philips in the tight-knit semiconductor industry, industry participants, including, on information and belief, Defendants, monitored patenting activity by Philips and reviewed, and were aware of shortly after their publication, at least the U.S. published patent applications and patents obtained by Philips in the semiconductor space, including the ’449 patent. On information and belief, such industry participants, including Defendants, considered Philips’ U.S. published patent applications and patents in the semiconductor space, including the ’449 patent, and such Philips U.S. published patent applications and patents’ actual or potential applicability to their own current products and product roadmaps, including the products described herein.

77. The ’449 patent is widely and publicly known, and frequently referenced, in the tight-knit semiconductor industry, having been cited during prosecution of approximately 76 patent applications assigned to industry leaders such as Intel Corporation, Arm Limited, NEC Corporation, IBM Corporation, and others.[22]

78. On information and belief, the ’449 patent, or the application therefor, or a patent or application related to the ’449 patent, was cited during prosecution of at least one patent application that was then or later assigned to or prosecuted by Arteris or a predecessor to or affiliate of Arteris.

79. The U.S. publication of the ’449 patent’s application, U.S. Patent Publication No. 2006/0041889, was cited and analyzed, after the ’449 patent had been granted, during the prosecution of U.S. Patent No. 8,645,557, entitled “SYSTEM OF INTERCONNECTIONS FOR

[22] https://patents.google.com/patent/US7373449B2/en?oq=7%2c373%2c449 (last visited December 19, 2022).

EXTERNAL FUNCTIONAL BLOCKS ON A CHIP PROVIDED WITH A SINGLE CONFIGURABLE COMMUNICATION PROTOCOL," which was originally assigned to Arteris SA or Arteris SAS, with an issue date of February 4, 2014, filing date of July 6, 2006, and purported priority date of April 12, 2006.[23] On information and belief, the applicant of U.S. Patent No. 8,645,557 was aware of the '449 patent because the U.S. publication of the '449 patent was repeatedly asserted in the Office Actions dated September 17, 2010, March 2, 2011, and November 28, 2011, and analyzed in Office Action Responses during prosecution of U.S. Patent No. 8,645,557.[24]

80. The '449 patent was cited during the prosecution of U.S. Patent Application No. 11/518,384, entitled "SYSTEM FOR MANAGING MESSAGES TRANSMITTED IN AN ON-CHIP INTERCONNECT NETWORK," an application originally assigned to Arteris SA or Arteris SAS, with a filing date of September 8, 2006 and purported priority date of July 26, 2006.[25] On information and belief, the applicant analyzed and considered the '449 patent because the applicant filed a Notice of Abandonment after receiving an Office Action rejecting all claims over the '449 patent.[26]

81. On information and belief, as explained above in paragraph 51, the knowledge of Arteris SA and/or Arteris SAS (referred to as Arteris's "predecessors" for convenience) may be imputed to Arteris, at least insofar as it relates to knowledge of patent prosecution and patents, including the '449 patent.

[23] *See* https://patents.google.com/patent/US8645557B2/en?oq=US8645557B2 (last visited December 19, 2022); Office Actions dated Mar. 9, 2010, Sept. 17, 2010, Mar. 2, 2011, and Nov. 28, 2011, File History of U.S. Pat. No. 8,645,557; Notices of References Cited dated Mar. 9, 2010, Nov. 28, 2011, Aug. 9, 2012, and Mar. 29, 2013, File History of U.S. Pat. No. 8,645,557; Office Action Responses dated Sept. 7, 2010, Feb. 14, 2011, Aug. 2, 2011, and May 25, 2012, File History of U.S. Pat. No. 8,645,557.
[24] *Id.*
[25] Office Action dated Nov. 23, 2009, File History of U.S. Pat. App. No. 11/518,384.
[26] Notice of Abandonment dated July 23, 2010, File History of U.S. Pat. App. No. 11/518,384.

82. On information and belief, Arteris and its predecessors sought to obtain valid and enforceable patents for themselves.

83. Therefore, on information and belief, Arteris and its predecessors were aware of, and considered and analyzed the inventions described and claimed in, all patents and patent applications cited during the prosecution of their own patent applications.

84. On information and belief, Arteris and its predecessors sought to develop their products and product roadmaps, including the products described herein, in ways that would not infringe U.S. patents in the semiconductor space.

85. Therefore, on information and belief, Arteris and its predecessors monitored U.S. published patent applications and patents obtained by Philips in the semiconductor space in around the years 2006-2012.

86. On information and belief, Arteris and its predecessors were aware of and considered the ’449 patent, and its actual or potential applicability to their own current products and product roadmaps, including the products described herein.

87. On information and belief, Arteris has expertise in the subject matter of the U.S. Patent No. 8,645,557, U.S. Patent Application No. 11/518,384, and the ’449 patent and possesses sufficient technical competence to understand the scope of such patents and application.

88. On information and belief, Arteris additionally had knowledge of one or more of the Asserted Patents, including the ’449 patent, by virtue of the numerous pre-2010 meetings between Philips and Arteris, as well as the multiple presentations and publications by Arteris’ leadership, including its CEO and its Chief Technical Officer, evidencing in-depth knowledge of Philips’ NoC Technology, including the subject matter of the Asserted Patents, as discussed above in paragraphs 30–41.

89. By virtue of Philips' and the '449 patent's fame in the semiconductor industry, the patent's inclusion in the Philips Semiconductor portfolio, Arteris's desire to obtain valid and enforceable patents, Arteris's desire to develop non-infringing products and product roadmaps, the numerous pre-2010 meetings between Philips and Arteris, as well as the multiple presentations and publications by Arteris' leadership, including its CEO and its Chief Technical Officer, evidencing in-depth knowledge of Philips' NoC Technology and the subject matter of the Asserted Patents, and Arteris's knowledge of the '449 patent via citation during prosecution of the aforementioned patents and patent application, Arteris had actual knowledge of the '449 patent around the time it issued or its U.S. application published, and in no event later than the September 17, 2010 issue date of the Office Action for Arteris' U.S. Patent No. 8,645,557.

90. On information and belief, the '449 patent, or the application therefor, or a patent or application related to the '449 patent, was cited during prosecution of at least one patent application that was then or later assigned to or prosecuted by Qualcomm.

91. The U.S. publication of the '449 patent's application, U.S. Patent Publication No. 2006/0041889, was cited and analyzed, after the '449 patent had been granted, during the prosecution of U.S. Patent No. 8,645,557, entitled "SYSTEM OF INTERCONNECTIONS FOR EXTERNAL FUNCTIONAL BLOCKS ON A CHIP PROVIDED WITH A SINGLE CONFIGURABLE COMMUNICATION PROTOCOL," which is assigned to Qualcomm, with an issue date of February 4, 2014, filing date of July 6, 2006, and purported priority date of April 12, 2006.[27] On information and belief, Qualcomm was aware of the '449 patent because the U.S.

[27] *See* https://patents.google.com/patent/US8645557B2/en?oq=US8645557B2 (last visited December 19, 2022); Office Actions dated Mar. 9, 2010, Sept. 17, 2010, Mar. 2, 2011, and Nov. 28, 2011, File History of U.S. Pat. No. 8,645,557; Notices of References Cited dated Mar. 9, 2010, Nov. 28, 2011, Aug. 9, 2012, and Mar. 29, 2013, File History of U.S. Pat. No. 8,645,557; Office Action Responses dated Sept. 7, 2010, Feb. 14, 2011, Aug. 2, 2011, and May 25, 2012, File History of U.S. Pat. No. 8,645,557.

publication of the ’449 patent was repeatedly asserted in the Office Actions dated September 17, 2010, March 2, 2011, and November 28, 2011, and analyzed in Office Action Responses during prosecution of U.S. Patent No. 8,645,557.[28]

92. The ’449 patent was cited during the prosecution of U.S. Patent Application No. 11/518,384, entitled “SYSTEM FOR MANAGING MESSAGES TRANSMITTED IN AN ON-CHIP INTERCONNECT NETWORK,” which is assigned to Qualcomm, with a filing date of September 8, 2006 and purported priority date of July 26, 2006.[29] On information and belief, Qualcomm analyzed and considered the ’449 patent because when U.S. Patent Application No. 11/518,384 was assigned to Qualcomm, it had been abandoned after receiving an Office Action rejecting all claims over the ’449 patent.[30]

93. As explained above in paragraphs 20–29, U.S. Patent No. 8,645,557 and U.S. Patent Application No. 11/518,384 were acquired by Qualcomm as a part of its 2013 wholesale acquisition of a substantial part of Arteris’s NoC business, engineering team, and technology for nearly one-quarter of a billion dollars. As explained above in paragraph 27, on information and belief, given the substantial price of the Arteris acquisition, the significant importance of the acquired Arteris technology as the “backbone” of Qualcomm’s products, and the fiduciary duty that Qualcomm owed its shareholders, Qualcomm conducted substantial technical and legal diligence, which included a thorough analysis of Arteris’ intellectual property, including the prosecution histories of patent applications and patents to be assigned from Arteris to Qualcomm, which included U.S. Patent No. 8,645,557 and U.S. Patent Application No. 11/518,384, which cited the ’449 patent, as explained in the preceding paragraphs. On information and belief, this

[28] *Id.*
[29] Office Action dated Nov. 23, 2009, File History of U.S. Pat. App. No. 11/518,384.
[30] Notice of Abandonment dated July 23, 2010, File History of U.S. Pat. App. No. 11/518,384.

diligence would have further included interviews with patent prosecution counsel, the named inventors of such patents and patent applications, as well as such inventors' supervisors and project leads to gain a thorough understanding of the status and value of these patents and applications, including U.S. Patent No. 8,645,557 and U.S. Patent Application No. 11/518,384, and whether any potential patent infringement issues were revealed in connection with the mapping of competitors' patents, such as the Asserted Patents, including the '449 patent, onto Arteris patents and patent applications that cover Arteris' Network on Chip ("NoC") technology being acquired by Qualcomm for $224 million.

94. On information and belief, Qualcomm sought to obtain valid and enforceable patents for itself.

95. Therefore, Qualcomm was aware of, and considered and analyzed the inventions described and claimed in, all patents and patent applications cited during the prosecution of its own patent applications, including for patents and patent applications that it acquired.

96. On information and belief, Qualcomm sought to develop its products and product roadmaps, including the products described herein, in ways that would not infringe U.S. patents in the semiconductor space.

97. Therefore, on information and belief, Qualcomm monitored U.S. published patent applications and patents obtained by Philips in the semiconductor space in around the years 2006-2012.

98. On information and belief, Qualcomm was aware of and considered the '449 patent, and its actual or potential applicability to its own current products and product roadmaps, including the products described herein.

99. On information and belief, Qualcomm has expertise in the subject matter of the

U.S. Patent No. 8,645,557, U.S. Patent Application No. 11/518,384, and the ’449 patent and possesses sufficient technical competence to understand the scope of such patents and application.

100. As explained above in paragraphs 20–29, Qualcomm wholesale acquired a substantial part of Arteris’s NoC business, engineering team, and technology for nearly one-quarter of a billion dollars. As explained above in paragraphs 28-29, on information and belief, given the substantial price of the Arteris acquisition, the significant importance of the acquired Arteris technology as the “backbone” of Qualcomm’s products, and the fiduciary duty that Qualcomm owed its shareholders, Qualcomm conducted substantial technical and legal diligence, which included thorough analysis and assessment of potential patent infringement by Arteris and the Arteris Network on Chip (“NoC”) technology to be acquired by Qualcomm. Such diligence would have included interviews with the 43 Arteris engineers that Qualcomm hired as part of the acquisition, including key employees such as Arteris’ Chief Technical Officer, Philippe Martin, to learn the full scope of such employees’ knowledge of competing NoC technologies and associated intellectual property—such as Philips’ NoC technology and the Asserted Patents, including the ’449 patent—and any partnerships that Arteris might have explored with competitors such as Philips and the information that Arteris learned from Philips. As also noted above in paragraph 29, on information and belief, the aforementioned diligence would have revealed to Qualcomm no later than October 2013 the multiple pre-2010 meetings, disclosure of Philips NoC technical information to Arteris, and potential collaboration between Arteris and Philips discussed above in paragraphs 30–41. This diligence would have also revealed to Qualcomm no later than October 2013 that Arteris was aware of, and interested in, the technology described in one or more Asserted Patents, including the ’449 patent, as discussed above in paragraphs 30–41. This diligence would have also revealed to Qualcomm no later than October 2013 that Arteris had knowledge that

Arteris, Arteris' customers, and/or Arteris' end users infringed the Asserted Patents, including the '449 patent, or was willfully blind to such infringement, as discussed above in paragraphs 30–41. On information and belief, discovery in this Case, including from Arteris, Qualcomm, Mr. Martin, and other sources, will further confirm the details of Qualcomm's diligence, and the information it learned as part of that diligence, as well as information that Qualcomm learned from the ongoing employment of 43 Arteris engineers, including Arteris' Chief Technical Offer, Mr. Martin, about Arteris' knowledge that it, its customers, and/or its end users infringed the Asserted Patents, including the '449 patent, or was willfully blind to such infringement, prior to the December 2022 filing of the original Complaint in this Case (Dkt. 1).

101. By virtue of Philips' and the '449 patent's fame in the semiconductor industry, the patent's inclusion in the Philips Semiconductor portfolio, Qualcomm's desire to obtain valid and enforceable patents, Qualcomm's desire to develop non-infringing products and product roadmaps, Qualcomm's knowledge of the '449 patent via citation during the prosecution of the aforementioned patent and patent application, and Qualcomm's substantial technical and legal diligence in connection with its wholesale acquisition of a substantial part of Arteris's NoC business, engineering team, and technology by Qualcomm for nearly one-quarter of a billion dollars, Qualcomm had actual knowledge of the '449 patent around the time it issued or its U.S. application published, and in no event later than the October 11, 2013 execution date of the assignments of U.S. Patent No. 8,645,557 and U.S. Patent Application No. 11/518,384 to Qualcomm.[31]

U.S. Patent No. 7,594,052

102. Plaintiff is the lawful owner of all right, title, and interest in United States Patent

[31] *See Elm 3DS Innovations, Ltd. Liab. Co. v. Samsung Elecs. Co.*, Civil Action No. 14-1430-LPS-CJB, 2015 U.S. Dist. LEXIS 130699, at *5-8 (D. Del. Sep. 29, 2015).

No. 7,594,052 ("'052 patent"), entitled "INTEGRATED CIRCUIT AND METHOD OF COMMUNICATION SERVICE MAPPING," including the right to sue and to recover for infringement thereof. The '052 patent was duly and legally issued on September 22, 2009, naming Andrei Radulescu and Kees Gerard Willem Goossens as inventors. A copy of the '052 patent is attached hereto as Exhibit 3.

103. The '052 patent has 7 claims: 3 independent claims and 4 dependent claims.

104. The '052 patent covers SoCs that offer differentiated intermodular communication services based on connections with corresponding properties. The covered SoCs map a requested communication service to a connection based on communication and connection properties.

105. The claims of the '052 patent, including claim 6 (reproduced below), recite at least these inventive concepts of the '052 patent.

> 6. Method of communication service mapping in an integrated circuit, having a plurality of processing modules (M, S), wherein at least one first of said processing modules (M) requests at least one communication service to at least one second processing module (S) based on specific communication properties and at least one communication service identification, wherein said at least one communication service identification comprises at least one communication thread or at least one address range, said address range for identifying one or more second processing modules (S) or a memory region within said one or more second processing modules (S), comprising the steps of:
>
> coupling said plurality of processing modules (M, S) by an interconnect means (N) and
>
> enabling a connection based communication having a set of connection properties,
>
> controlling the communication between said at least one first of said plurality of processing modules (M) and said interconnect means (N) by at least one network interface (NI) associated to said at least one first of said processing modules,
>
> mapping the requested at least one communication service based on said specific communication properties to a connection based on a set of connection properties according to said at least one communication service identification.

(Exhibit 3, '052 patent at claim 6.) The subject matter described and claimed by the '052 patent,

including the method of communication service mapping in an integrated circuit of claim 6, was an improvement in the functionality, performance, and efficiency of integrated circuits and the connections and communication networks thereof and was novel and not well-understood, routine, or conventional at the time of the ’052 patent.

106. Defendants had knowledge of the ’052 patent at least as of the December 19, 2022, date of the original Complaint (Dkt. 1).

107. The ’052 patent was developed and patented by Philips Semiconductors, one of the largest semiconductor companies in the world. Because of the size and prominence of Philips in the tight-knit semiconductor industry, industry participants, including, on information and belief, Defendants, monitored patenting activity by Philips and reviewed, and were aware of shortly after their publication, at least the U.S. published patent applications and patents obtained by Philips in the semiconductor space, including the ’052 patent. On information and belief, such industry participants, including Defendants, considered Philips’ U.S. published patent applications and patents in the semiconductor space, including the ’052 patent, and such Philips U.S. published patent applications and patents’ actual or potential applicability to their own current products and product roadmaps, including the products described herein.

108. The ’052 patent is widely and publicly known, and frequently referenced, in the tight-knit semiconductor industry, having been cited during prosecution of approximately 19 patent applications assigned to industry leaders such as Samsung Electronics Co., Texas Instruments Incorporated, and others.[32]

109. On information and belief, the ’052 patent or the application therefor, or a patent or application related to the ’052 patent, was cited during prosecution of at least one patent application

[32] https://patents.google.com/patent/US7594052B2/en?oq=7%2c594%2c052 (last visited December 19, 2022).

that was then or later assigned to or prosecuted by Arteris or a predecessor to or affiliate of Arteris.

110. The U.S. publication of the '052 patent's application, U.S. Patent Publication No. 2007/0186018, was cited by Arteris on October 4, 2022, after the '052 patent had been granted, during the prosecution of U.S. Patent Application No. 17/665,578, entitled "SYSTEM AND METHOD FOR SYNTHESIS OF CONNECTIVITY TO AN INTERCONNECT IN A MULTI-PROTOCOL SYSTEM-ON-CHIP (SoC)," assigned to Arteris, with a filing date of February 6, 2022 and purported priority date of February 12, 2021.[33]

111. The U.S. publication of the '052 patent's application, U.S. Patent Publication No. 2007/0186018, was cited by Arteris on October 4, 2022, after the '052 patent had been granted, during the prosecution of U.S. Patent Application No. 17/116,344, issued as U.S. Patent No. 11,657,203 entitled "MULTI-PHASE TOPOLOGY SYNTHESIS OF A NETWORK-ON-CHIP (NoC)," assigned to Arteris, with a filing date of December 9, 2020 and purported priority date of December 27, 2019.[34]

112. The U.S. publication of the '052 patent's application, U.S. Patent Publication No. 2007/0186018, was cited by Arteris on October 4, 2022, after the '052 patent had been granted, during the prosecution of U.S. Patent Application No. 17/129,950, issued as U.S. Patent No. 11,601,357, entitled "SYSTEM AND METHOD FOR GENERATION OF QUALITY METRICS FOR OPTIMIZATION TASKS IN TOPOLOGY SYNTHESIS OF A NETWORK," assigned to Arteris, with a filing date of December 22, 2020 and purported priority date of December 22, 2020.[35]

[33] *Id.*; Information Disclosure Statement dated Oct. 4, 2022, File History of U.S. Pat. App. No. 17/665,578.
[34] https://patents.google.com/patent/US11657203B2/en?oq=11%2c657%2c203 (last visited Aug. 3, 2023); Information Disclosure Statement dated Oct. 4, 2022, File History of U.S. Pat. App. No. 17/116,344.
[35] https://patents.google.com/patent/US11601357B2/en?oq=11%2c601%2c357 (last visited Aug. 3, 2023); Information Disclosure Statement dated Oct. 4, 2022, File History of U.S. Pat. App. No. 17/129,950.

113. The U.S. publication of the ’052 patent’s application, U.S. Patent Publication No. 2007/0186018, was cited by Arteris on October 4, 2022, after the ’052 patent had been granted, during the prosecution of U.S. Patent Application No. 16/872,096, issued as U.S. Patent No. 11,665,776, entitled “SYSTEM AND METHOD FOR SYNTHESIS OF A NETWORK-ON-CHIP FOR DEADLOCK-FREE TRANSFORMATION,” assigned to Arteris, with a filing date of May 11, 2020 and purported priority date of December 27, 2019.[36]

114. The U.S. publication of the ’052 patent’s application, U.S. Patent Publication No. 2007/0186018, was cited by Arteris on October 4, 2022, after the ’052 patent had been granted, during the prosecution of U.S. Patent Application No. 17/683,361, issued as U.S. Patent No. 11,675,942, entitled “OPTIMIZATION OF PARAMETERS FOR SYNTHESIS OF A TOPOLOGY USING A DISCRIMINANT FUNCTION MODULE,” assigned to Arteris, with a filing date of March 1, 2022 and purported priority date of December 26, 2020.[37]

115. The U.S. publication of the ’052 patent’s application, U.S. Patent Publication No. 2007/0186018, was cited against Arteris on June 23, 2022 by a European Search Report, after the ’052 patent had been granted, during the prosecution of European Patent Application No. 22156657.3, issued as European Patent No. 4,044,563, entitled “SYSTEM AND METHOD FOR SYNTHESIS OF CONNECTIVITY TO AN INTERCONNECT IN A MULTI-PROTOCOL SYSTEM-ON-CHIP (SOC),” assigned to Arteris, with a filing date of February 14, 2022 and purported priority date of February 12, 2021.[38]

116. On information and belief, as explained above in paragraph 51, the knowledge of

[36] https://patents.google.com/patent/US11665776B2/en?oq=11%2c665%2c776 (last visited Aug. 3, 2023); Information Disclosure Statement dated Oct. 4, 2022, File History of U.S. Pat. App. No. 16/872,096.
[37] https://patents.google.com/patent/US11675942B2/en?oq=11%2c675%2c942 (last visited Aug. 3, 2023); Information Disclosure Statement dated Oct. 4, 2022, File History of U.S. Pat. App. No. 17/683,361.
[38] https://patents.google.com/patent/EP4044563A1/en?oq=oEP+4%2c044%2c563 (last visited Aug. 3, 2023).

Arteris SA and/or Arteris SAS (referred to as Arteris's "predecessors" for convenience) may be imputed to Arteris, at least insofar as it relates to knowledge of patent prosecution and patents, including the '052 patent.

117. On information and belief, Arteris and its predecessors sought to obtain valid and enforceable patents for themselves.

118. Therefore, on information and belief, Arteris and its predecessors were aware of, and considered and analyzed the inventions described and claimed in, all patents and patent applications cited during the prosecution of their own patent applications.

119. On information and belief, Arteris and its predecessors sought to develop their products and product roadmaps, including the products described herein, in ways that would not infringe U.S. patents in the semiconductor space.

120. Therefore, on information and belief, Arteris and its predecessors monitored U.S. published patent applications and patents obtained by Philips in the semiconductor space in around the years 2006-2012.

121. On information and belief, Arteris and its predecessors were aware of and considered the '052 patent, and its actual or potential applicability to their own current products and product roadmaps, including the products described herein.

122. On information and belief, Arteris has expertise in the subject matter of the U.S. Patent Application Nos. 17/665,578, 17/116,344, 17/129,950, 16/872,096, 17/683,361, European Patent No. 4,044,563, and the '052 patent and possesses sufficient technical competence to understand the scope of such applications and patents.

123. On information and belief, Arteris additionally had knowledge of one or more of the Asserted Patents, including the '052 patent, by virtue of the numerous pre-2010 meetings

between Philips and Arteris, as well as the multiple presentations and publications by Arteris' leadership, including its CEO and its Chief Technical Officer, evidencing in-depth knowledge of Philips' NoC Technology, including the subject matter of the Asserted Patents, as discussed above in paragraphs 30–41.

124. By virtue of Philips' and the '052 patent's fame in the semiconductor industry, the patent's inclusion in the Philips Semiconductor portfolio, Arteris's desire to obtain valid and enforceable patents, Arteris's desire to develop non-infringing products and product roadmaps, the numerous pre-2010 meetings between Philips and Arteris, as well as the multiple presentations and publications by Arteris' leadership, including its CEO and its Chief Technical Officer, evidencing in-depth knowledge of Philips' NoC Technology and the subject matter of the Asserted Patents, and Arteris's knowledge of the '052 patent via citation during prosecution of the aforementioned patent applications, Arteris had actual knowledge of the '052 patent around the time it issued or its U.S. application published, and in no event later than the October 4, 2022 Information Disclosure Statement in U.S. Patent Application No. 17/665,578.[39]

125. On information and belief, Qualcomm sought to develop its products and product roadmaps, including the products described herein, in ways that would not infringe U.S. patents in the semiconductor space.

126. Therefore, on information and belief, Qualcomm monitored U.S. published patent applications and patents obtained by Philips in the semiconductor space in around the years 2006-2012.

127. On information and belief, Qualcomm was aware of and considered the '052 patent, and its actual or potential applicability to its own current products and product roadmaps, including

[39] *See Elm 3DS Innovations, Ltd. Liab. Co. v. Samsung Elecs. Co.*, Civil Action No. 14-1430-LPS-CJB, 2015 U.S. Dist. LEXIS 130699, at *5-8 (D. Del. Sep. 29, 2015).

the products described herein.

128. On information and belief, Qualcomm has expertise in the subject matter of the ’052 patent and possesses sufficient technical competence to understand the scope of such patent.

129. Arteris’s NoC business, engineering team, and technology for nearly one-quarter of a billion dollars. As explained above in paragraphs 28-29, on information and belief, given the substantial price of the Arteris acquisition, the significant importance of the acquired Arteris technology as the “backbone” of Qualcomm’s products, and the fiduciary duty that Qualcomm owed its shareholders, Qualcomm conducted substantial technical and legal diligence, which included thorough analysis and assessment of potential patent infringement by Arteris and the Arteris Network on Chip (“NoC”) technology to be acquired by Qualcomm. Such diligence would have included interviews with the 43 Arteris engineers that Qualcomm hired as part of the acquisition, including key employees such as Arteris’ Chief Technical Officer, Philippe Martin, to learn the full scope of such employees knowledge of competing NoC technologies and associated intellectual property—such as Philips’ NoC technology and the Asserted Patents, including the ’052 patent—and any partnerships that Arteris might have explored with competitors such as Philips and the information that Arteris learned from Philips. As also noted above in paragraph 29, on information and belief, the aforementioned diligence would have revealed to Qualcomm no later than October 2013 the multiple pre-2010 meetings, disclosure of Philips NoC technical information to Arteris, and potential collaboration between Arteris and Philips discussed above in paragraphs 30–41. This diligence would have also revealed to Qualcomm no later than October 2013 that Arteris was aware of, and interested in, the technology described in one or more Asserted Patents, including the ’052 patent, as discussed above in paragraphs 30–41. This diligence would have also revealed to Qualcomm no later than October 2013 that Arteris had knowledge that

Arteris, Arteris' customers, and/or Arteris' end users infringed the Asserted Patents, including the '052 patent, or was willfully blind to such infringement, as discussed above in paragraphs 30–41. On information and belief, discovery in this Case, including from Arteris, Qualcomm, Mr. Martin, and other sources, will further confirm the details of Qualcomm's diligence, and the information it learned as part of that diligence, as well as information that Qualcomm learned from the ongoing employment of 43 Arteris engineers, including Arteris' Chief Technical Offer, Mr. Martin, about Arteris' knowledge that it, its customers, and/or its end users infringed the Asserted Patents, including the '052 patent, or was willfully blind to such infringement, prior to the December 2022 filing of the original Complaint in this Case (Dkt. 1).

130. By virtue of Philips' and the '052 patent's fame in the semiconductor industry, the patent's inclusion in the Philips Semiconductor portfolio, Qualcomm's desire to develop non-infringing products and product roadmaps, and Qualcomm's substantial technical and legal diligence in connection with its wholesale acquisition of a substantial part of Arteris's NoC business, engineering team, and technology by Qualcomm for nearly one-quarter of a billion dollars, Qualcomm had actual knowledge of the '052 patent around the time it issued or its U.S. application published, and in no event later than the date of this Complaint.

U.S. Patent No. 7,769,893

131. Plaintiff is the lawful owner of all right, title, and interest in United States Patent No. 7,769,893 ("'9893 patent"), entitled "INTEGRATED CIRCUIT AND METHOD FOR ESTABLISHING TRANSACTIONS," including the right to sue and to recover for infringement thereof. The '9893 patent was duly and legally issued on August 3, 2010, naming Kees Gerard Willem Goossens as inventor. A copy of the '9893 patent is attached hereto as Exhibit 4.

132. The '9893 patent has 11 claims: 2 independent claims and 9 dependent claims.

133. The ’9893 patent covers SoCs that use an address translation unit, which is part of a network interface, for address mapping, where the address translation unit determines both the location of a message receiving module and a location within the message receiving module.

134. The claims of the ’9893 patent, including claim 4 (reproduced below), recite at least these inventive concepts of the ’9893 patent.

> 4. A method for exchanging messages in an integrated circuit comprising a plurality of modules, the messages between the plurality of modules being exchanged via a network wherein a message issued by an addressing module M comprises:
>
> first information indicative of a location of an addressed message receiving module S within the network and is comprised of (1) a connection identifier identifying two or more message receiving modules S and (2) an identifier of a passive network interface means associated with the addressed message receiving module S, and second information indicative of a particular location within the addressed message receiving module S, such as a memory, or a register address, the method including the steps of:
>
> (a) issuing from said addressing module M a message request including said first information, said second information, and data and/or connection properties to an address translation unit included as part of an active network interface module associated with said addressing module M,
>
> (b) arranging, at said address translation unit, the first and the second information comprising said issued message as a single address,
>
> (c) determining, at said address translation unit, which message receiving module S is being addressed in said message request issued from said addressing module M based on said single address, and
>
> (d) further determining, at said address translation unit, the particular location within the addressed message receiving module S based on said single address.

(Exhibit 4, ’9893 patent at claim 4.) The subject matter described and claimed by the ’9893 patent, including the method for exchanging messages in an integrated circuit of claim 4, was an improvement in the functionality, performance, and efficiency of integrated circuits and the connections and communication networks thereof and was novel and not well-understood, routine,

or conventional at the time of the ’9893 patent.

135. Defendants had knowledge of the ’9893 patent at least as of the December 19, 2022, date of the original Complaint (Dkt. 1).

136. The ’9893 patent was developed and patented by Philips Semiconductors, one of the largest semiconductor companies in the world. Because of the size and prominence of Philips in the tight-knit semiconductor industry, industry participants, including, on information and belief, Defendants, monitored patenting activity by Philips and reviewed, and were aware of shortly after their publication, at least the U.S. published patent applications and patents obtained by Philips in the semiconductor space, including the ’9893 patent. On information and belief, such industry participants, including Defendants, considered Philips’ U.S. published patent applications and patents in the semiconductor space, including the ’9893 patent, and such Philips U.S. published patent applications and patents’ actual or potential applicability to their own current products and product roadmaps, including the products described herein.

137. The ’9893 patent is widely and publicly known, and frequently referenced, in the tight-knit semiconductor industry, having been cited during prosecution of approximately 76 patent applications assigned to industry leaders such as Intel Corporation, Arm Limited, NEC Corporation, IBM Corporation, and others.[40]

138. On information and belief, the ’9893 patent, or the application therefor, or a patent or application related to the ’9893 patent, was cited during prosecution of at least one patent application that was then or later assigned to or prosecuted by Arteris or a predecessor to or affiliate of Arteris.

139. The U.S. publication of the ’9893 patent’s application, U.S. Patent Publication No.

[40] https://patents.google.com/patent/US7769893B2/en?oq=7%2c769%2c893 (last visited December 19, 2022).

2006/0095920, was cited during the prosecution of U.S. Patent Application No. 11/518,384, entitled "SYSTEM FOR MANAGING MESSAGES TRANSMITTED IN AN ON-CHIP INTERCONNECT NETWORK," an application originally assigned to Arteris SA or Arteris SAS, with a filing date of September 8, 2006 and purported priority date of July 26, 2006.[41] Further, the cited reference was identified as "pertinent to" U.S. Patent Application No. 11/518,384.[42]

140. The U.S. publication of the '9893 patent's application, U.S. Patent Publication No. 2006/0095920, was cited, after the '9893 patent had been granted, during the prosecution of U.S. Patent No. 9,471,538, entitled "NETWORK ON A CHIP SOCKET PROTOCOL," which was originally assigned to Arteris SAS, with an issue date of October 18, 2016 and filing date of September 25, 2012.[43]

141. The U.S. publication of the '9893 patent's application, U.S. Patent Publication No. 2006/0095920, was cited, after the '9893 patent had been granted, in the International Search Report of January 10, 2014 for International Patent Publication No. WO/2014/052261 A1 (PCT Application No. PCT/US2013/061295), entitled "NETWORK ON A CHIP SOCKET PROTOCOL," which was originally assigned to Arteris SAS, with a filing date of September 24, 2013.[44]

142. On information and belief, as explained above in paragraph 51, the knowledge of Arteris SA and/or Arteris SAS (referred to as Arteris's "predecessors" for convenience) may be imputed to Arteris, at least insofar as it relates to knowledge of patent prosecution and patents, including the '9893 patent.

[41] Notice of References Cited dated Nov. 23, 2009, File History of U.S. Pat. App. No. 11/518,384.
[42] Office Action dated Nov. 23, 2009, File History of U.S. Pat. App. No. 11/518,384.
[43] https://patents.google.com/patent/US7769893B2/en?oq=7%2c769%2c893 (last visited December 19, 2022); Information Disclosure Statement dated Aug. 8, 2014, File History of U.S. Pat. No. 9,471,538.
[44] https://patents.google.com/patent/WO2014052261A1/en?oq=WO%2f2014%2f052261 (last visited Aug. 3, 2023).

143. On information and belief, Arteris and its predecessors sought to obtain valid and enforceable patents for themselves.

144. Therefore, on information and belief, Arteris and its predecessors were aware of, and considered and analyzed the inventions described and claimed in, all patents and applications cited during the prosecution of their own patent applications.

145. On information and belief, Arteris and its predecessors sought to develop their products and product roadmaps, including the products described herein, in ways that would not infringe U.S. patents in the semiconductor space.

146. Therefore, on information and belief, Arteris and its predecessors monitored U.S. published patent applications and patents obtained by Philips in the semiconductor space in around the years 2006-2012.

147. On information and belief, Arteris and its predecessors were aware of and considered the ’9893 patent, and its actual or potential applicability to their own current products and product roadmaps, including the products described herein.

148. On information and belief, Arteris has expertise in the subject matter of the U.S. Patent Application No. 11/518,384, U.S. Patent No. 9,471,538, International Patent Publication No. WO/2014/052261 A1, and the ’9893 patent and possesses sufficient technical competence to understand the scope of such patents and application.

149. On information and belief, Arteris additionally had knowledge of one or more of the Asserted Patents, including the ’9893 patent, by virtue of the numerous pre-2010 meetings between Philips and Arteris, as well as the multiple presentations and publications by Arteris’ leadership, including its CEO and its Chief Technical Officer, evidencing in-depth knowledge of Philips’ NoC Technology, including the subject matter of the Asserted Patents, as discussed above

in paragraphs 30–41.

150. By virtue of Philips' and the '9893 patent's fame in the semiconductor industry, the patent's inclusion in the Philips Semiconductor portfolio, Arteris's desire to obtain valid and enforceable patents, Arteris's desire to develop non-infringing products and product roadmaps, the numerous pre-2010 meetings between Philips and Arteris, as well as the multiple presentations and publications by Arteris' leadership, including its CEO and its Chief Technical Officer, evidencing in-depth knowledge of Philips' NoC Technology and the subject matter of the Asserted Patents, and Arteris's knowledge of the '9893 patent via citation during prosecution of the aforementioned patents and patent application, Arteris had actual knowledge of the '9893 patent around the time it issued or its U.S. application published, and in no event later than the November 23, 2009 Office Action for U.S. Patent Application No. 11/518,384.[45]

151. On information and belief, the '9893 patent, or the application therefor, or a patent or application related to the '9893 patent, was cited during prosecution of at least one patent application that was then or later assigned to or prosecuted by Qualcomm.

152. The '9893 patent was cited by Qualcomm during the prosecution of U.S. Patent No. 8,861,410, entitled "METHOD AND APPARATUS FOR SCALABLE NETWORK TRANSACTION IDENTIFIER FOR INTERCONNECTS," assigned to Qualcomm, with an issue date of October 14, 2014 and filing date of October 31, 2011.[46]

153. The '9893 patent was cited by Qualcomm during the prosecution of U.S. Patent No. 8,838,861, entitled "METHODS AND APPARATUSES FOR TRACE MULTICAST ACROSS A BUS STRUCTURE, AND RELATED SYSTEMS," assigned to Qualcomm, with an issue date

[45] *See Elm 3DS Innovations, Ltd. Liab. Co. v. Samsung Elecs. Co.*, Civil Action No. 14-1430-LPS-CJB, 2015 U.S. Dist. LEXIS 130699, at *5-8 (D. Del. Sep. 29, 2015).
[46] https://patents.google.com/patent/US7769893B2/en?oq=7%2c769%2c893 (last visited December 19, 2022); Information Disclosure Statement dated Oct. 24, 2011, File History of U.S. Pat. No. 8,861,410.

of September 16, 2014, filing date of June 25, 2012, and purported priority date of May 9, 2012.[47]

154. The U.S. publication of the '9893 patent's application, U.S. Patent Publication No. 2006/0095920, was cited, after the '9893 patent had been granted, during the prosecution of U.S. Pat. No. 9,471,538, entitled "NETWORK ON A CHIP SOCKET PROTOCOL," which is assigned to Qualcomm, with an issue date of October 18, 2016 and filing date of September 25, 2012.[48]

155. The U.S. publication of the '9893 patent's application, U.S. Patent Publication No. 2006/0095920, was cited during the prosecution of U.S. Patent Application No. 11/518,384, entitled "SYSTEM FOR MANAGING MESSAGES TRANSMITTED IN AN ON-CHIP INTERCONNECT NETWORK," which is assigned to Qualcomm, with a filing date of September 8, 2006 and purported priority date of July 26, 2006.[49] Further, the cited reference was identified as "pertinent to" U.S. Patent Application No. 11/518,384.[50]

156. The U.S. publication of the '9893 patent's application, U.S. Patent Publication No. 2006/0095920, was cited in the January 10, 2014 International Search Report for Japanese Patent Application No. 2015/533265, issued as Japanese Patent No. 6,144,348, entitled "NETWORK ON A CHIP SOCKET PROTOCOL," which is assigned to Qualcomm, with a filing date of September 24, 2013 and a purported priority date of September 25, 2012.[51]

157. As explained above in paragraphs 20–29, U.S. Patent Application No. 11/518,384 and U.S. Pat. No. 9,471,538 were acquired by Qualcomm as a part of its 2013 wholesale acquisition of a substantial part of Arteris's NoC business, engineering team, and technology for

[47] https://patents.google.com/patent/US7769893B2/en?oq=7%2c769%2c893 (last visited December 19, 2022); Information Disclosure Statement dated June 22, 2012, File History of U.S. Pat. No. 8,838,861.
[48] https://patents.google.com/patent/US7769893B2/en?oq=7%2c769%2c893 (last visited December 19, 2022); Information Disclosure Statement dated Aug. 8, 2014, File History of U.S. Pat. No. 9,471,538.
[49] Notice of References Cited dated Nov. 23, 2009, File History of U.S. Pat. App. No. 11/518,384.
[50] Office Action dated Nov. 23, 2009, File History of U.S. Pat. App. No. 11/518,384.
[51] https://patentscope.wipo.int/search/en/detail.jsf?docId=JP274260957&_fid=WO2014052261 (last visited Aug. 3, 2023); https://patents.google.com/patent/JP6144348B2/en?oq=JP6144348 (last visited Aug. 3, 2023).

nearly one-quarter of a billion dollars. As explained above in paragraph 27, on information and belief, given the substantial price of the Arteris acquisition, the significant importance of the acquired Arteris technology as the "backbone" of Qualcomm's products, and the fiduciary duty that Qualcomm owed its shareholders, Qualcomm conducted substantial technical and legal diligence, which included a thorough analysis of Arteris' intellectual property, including the prosecution histories of patent applications and patents to be assigned from Arteris to Qualcomm, which included U.S. Patent Application No. 11/518,384 and U.S. Pat. No. 9,471,538, which cited the '9893 patent, as explained in the preceding paragraphs. On information and belief, this diligence would have further included interviews with patent prosecution counsel, the named inventors of such patents and patent applications, as well as such inventors' supervisors and project leads to gain a thorough understanding of the status and value of these patents and applications, including U.S. Patent Application No. 11/518,384 and U.S. Pat. No. 9,471,538, and whether any potential patent infringement issues were revealed in connection with the mapping of competitors' patents, such as the Asserted Patents, including the '9893 patent, onto Arteris patents and patent applications that cover Arteris' Network on Chip ("NoC") technology being acquired by Qualcomm for $224 million.

158. On information and belief, Qualcomm sought to obtain valid and enforceable patents for itself.

159. Therefore, Qualcomm was aware of, and considered and analyzed the inventions described and claimed in, all patents and patent applications cited during the prosecution of its own patent applications, including for patents and patent applications that it acquired.

160. On information and belief, Qualcomm sought to develop its products and product roadmaps, including the products described herein, in ways that would not infringe U.S. patents in

the semiconductor space.

161. Therefore, on information and belief, Qualcomm monitored U.S. published patent applications and patents obtained by Philips in the semiconductor space in around the years 2006-2012.

162. On information and belief, Qualcomm was aware of and considered the ’9893 patent, and its actual or potential applicability to its own current products and product roadmaps, including the products described herein.

163. On information and belief, Qualcomm has expertise in the subject matter of the U.S. Patent No. 8,861,410, U.S. Patent No. 8,838,861, U.S. Pat. No. 9,471,538, U.S. Patent Application No. 11/518,384, Japanese Patent No. 6,144,348, and the ’9893 patent and possesses sufficient technical competence to understand the scope of such patents and application.

164. As explained above in paragraphs 20–29, Qualcomm wholesale acquired a substantial part of Arteris’s NoC business, engineering team, and technology for nearly one-quarter of a billion dollars. As explained above in paragraphs 28-29, on information and belief, given the substantial price of the Arteris acquisition, the significant importance of the acquired Arteris technology as the “backbone” of Qualcomm’s products, and the fiduciary duty that Qualcomm owed its shareholders, Qualcomm conducted substantial technical and legal diligence, which included thorough analysis and assessment of potential patent infringement by Arteris and the Arteris Network on Chip (“NoC”) technology to be acquired by Qualcomm. Such diligence would have included interviews with the 43 Arteris engineers that Qualcomm hired as part of the acquisition, including key employees such as Arteris’ Chief Technical Officer, Philippe Martin, to learn the full scope of such employees knowledge of competing NoC technologies and associated intellectual property—such as Philips’ NoC technology and the Asserted Patents, including the

’9893 patent—and any partnerships that Arteris might have explored with competitors such as Philips and the information that Arteris learned from Philips. As also noted above in paragraph 29, on information and belief, the aforementioned diligence would have revealed to Qualcomm no later than October 2013 the multiple pre-2010 meetings, disclosure of Philips NoC technical information to Arteris, and potential collaboration between Arteris and Philips discussed above in paragraphs 30–41. This diligence would have also revealed to Qualcomm no later than October 2013 that Arteris was aware of, and interested in, the technology described in one or more Asserted Patents, including the ’9893 patent, as discussed above in paragraphs 30–41. This diligence would have also revealed to Qualcomm no later than October 2013 that Arteris had knowledge that Arteris, Arteris’ customers, and/or Arteris’ end users infringed the Asserted Patents, including the ’9893 patent, or was willfully blind to such infringement, as discussed above in paragraphs 30–41. On information and belief, discovery in this Case, including from Arteris, Qualcomm, Mr. Martin, and other sources, will further confirm the details of Qualcomm’s diligence, and the information it learned as part of that diligence, as well as information that Qualcomm learned from the ongoing employment of 43 Arteris engineers, including Arteris’ Chief Technical Offer, Mr. Martin, about Arteris’ knowledge that it, its customers, and/or its end users infringed the Asserted Patents, including the ’9893 patent, or was willfully blind to such infringement, prior to the December 2022 filing of the original Complaint in this Case (Dkt. 1).

165. By virtue of Philips’ and the ’9893 patent’s fame in the semiconductor industry, the patent’s inclusion in the Philips Semiconductor portfolio, Qualcomm’s desire to obtain valid and enforceable patents, Qualcomm’s desire to develop non-infringing products and product roadmaps, Qualcomm’s knowledge of the ’9893 patent via citation during the prosecution of the aforementioned patents and patent application, and Qualcomm’s substantial technical and legal

diligence in connection with its wholesale acquisition of a substantial part of Arteris's NoC business, engineering team, and technology by Qualcomm for nearly one-quarter of a billion dollars, Qualcomm had actual knowledge of the '9893 patent around the time it issued or its U.S. application published, and in no event later than the October 24, 2011 Information Disclosure Statement in U.S. Patent No. 8,861,410.[52]

U.S. Patent No. 8,072,893

166. Plaintiff is the lawful owner of all right, title, and interest in United States Patent No. 8,072,893 ("'2893 patent"), entitled "INTEGRATED CIRCUIT WITH DATA COMMUNICATION NETWORK AND IC DESIGN METHOD," including the right to sue and to recover for infringement thereof. The '2893 patent was duly and legally issued on December 6, 2011, naming John Dielissen and Edwin Rijpkema as inventors. A copy of the '2893 patent is attached hereto as Exhibit 5.

167. The '2893 patent has 12 claims: 5 independent claims and 7 dependent claims.

168. The '2893 patent covers SoCs that improve data communication speed and frequency synchronization between processing units through the use of packetized data (comprising N data elements) and introduction of a delay (of M*N cycles) on a communication channel for communication synchronization, with such delay correlated to the size (N) of the data packet.

169. The claims of the '2893 patent, including claim 10 (reproduced below), recite at least these inventive concepts of the '2893 patent.

> 10. A method of designing an integrated circuit comprising a plurality of functional blocks, and a data communication network comprising a plurality of network stations being interconnected via a plurality of communication channels for

[52] *See Elm 3DS Innovations, Ltd. Liab. Co. v. Samsung Elecs. Co.*, Civil Action No. 14-1430-LPS-CJB, 2015 U.S. Dist. LEXIS 130699, at *5-8 (D. Del. Sep. 29, 2015).

> communicating data packages between the functional blocks, each data package comprising N data elements including a data element comprising routing information for the network stations, N being an integer of at least two, the plurality of network stations comprising a plurality of data routers and a plurality of network interfaces, each of the data routers being coupled to a functional block via a network interface; the method comprising the acts of:
>
> identifying a first communication channel between a first network station and a second network station that has a data transfer delay exceeding a predefined delay threshold; and
>
> in response to the identifying act, inserting M*N data storage elements into the data communication network, M being a positive integer, for introducing a delay of M*N cycles on the first communication channel.

(Exhibit 5, ’2893 patent at claim 10.) The subject matter described and claimed by the ’2893 patent, including the method of designing an integrated circuit of claim 10, was an improvement in the functionality, performance, and efficiency of integrated circuits and the connections and communication networks thereof and was novel and not well-understood, routine, or conventional at the time of the ’2893 patent.

170. Defendants had knowledge of the ’2893 patent at least as of the December 19, 2022, date of the original Complaint (Dkt. 1).

171. The ’2893 patent was developed and patented by Philips Semiconductors, one of the largest semiconductor companies in the world. Because of the size and prominence of Philips in the tight-knit semiconductor industry, industry participants, including, on information and belief, Defendants, monitored patenting activity by Philips and reviewed, and were aware of shortly after their publication, at least the U.S. published patent applications and patents obtained by Philips in the semiconductor space, including the ’2893 patent. On information and belief, such industry participants, including Defendants, considered Philips’ U.S. published patent applications and patents in the semiconductor space, including the ’2893 patent, and such Philips U.S. published patent applications and patents’ actual or potential applicability to their own current

products and product roadmaps, including the products described herein.

172. The ’2893 patent is widely and publicly known, and frequently referenced, in the tight-knit semiconductor industry, having been cited during prosecution of approximately 13 patent applications assigned to industry leaders such as Intel Corporation and others.[53]

173. On information and belief, Arteris and its predecessors sought to develop their products and product roadmaps, including the products described herein, in ways that would not infringe U.S. patents in the semiconductor space.

174. Therefore, on information and belief, Arteris and its predecessors monitored U.S. published patent applications and patents obtained by Philips in the semiconductor space in around the years 2006-2012.

175. On information and belief, Arteris and its predecessors were aware of and considered the ’2893 patent, and its actual or potential applicability to their own current products and product roadmaps, including the products described herein.

176. On information and belief, Arteris has expertise in the subject matter of the ’2893 patent and possesses sufficient technical competence to understand the scope of such patent.

177. On information and belief, Arteris additionally had knowledge of one or more of the Asserted Patents, including the ’2893 patent, by virtue of the numerous pre-2010 meetings between Philips and Arteris, as well as the multiple presentations and publications by Arteris’ leadership, including its CEO and its Chief Technical Officer, evidencing in-depth knowledge of Philips’ NoC Technology, including the subject matter of the Asserted Patents, as discussed above in paragraphs 30–41.

178. By virtue of Philips’ and the ’2893 patent’s fame in the semiconductor industry, the

[53] https://patents.google.com/patent/US8072893B2/en?oq=8%2c072%2c893 (last visited December 19, 2022).

patent's inclusion in the Philips Semiconductor portfolio, and Arteris's desire to develop non-infringing products and product roadmaps, the numerous pre-2010 meetings between Philips and Arteris, as well as the multiple presentations and publications by Arteris' leadership, including its CEO and its Chief Technical Officer, evidencing in-depth knowledge of Philips' NoC Technology and the subject matter of the Asserted Patents, Arteris had actual knowledge of the '9893 patent around the time it issued or its U.S. application published, and in no event later than the date of this Complaint.

179. On information and belief, Qualcomm sought to develop its products and product roadmaps, including the products described herein, in ways that would not infringe U.S. patents in the semiconductor space.

180. Therefore, on information and belief, Qualcomm monitored U.S. published patent applications and patents obtained by Philips in the semiconductor space in around the years 2006-2012.

181. On information and belief, Qualcomm was aware of and considered the '2893 patent, and its actual or potential applicability to its own current products and product roadmaps, including the products described herein.

182. On information and belief, Qualcomm has expertise in the subject matter of the '2893 patent and possesses sufficient technical competence to understand the scope of such patent.

183. As explained above in paragraphs 20–29, Qualcomm wholesale acquired a substantial part of Arteris's NoC business, engineering team, and technology for nearly one-quarter of a billion dollars. As explained above in paragraphs 28-29, on information and belief, given the substantial price of the Arteris acquisition, the significant importance of the acquired Arteris technology as the "backbone" of Qualcomm's products, and the fiduciary duty that

Qualcomm owed its shareholders, Qualcomm conducted substantial technical and legal diligence, which included thorough analysis and assessment of potential patent infringement by Arteris and the Arteris Network on Chip ("NoC") technology to be acquired by Qualcomm. Such diligence would have included interviews with the 43 Arteris engineers that Qualcomm hired as part of the acquisition, including key employees such as Arteris' Chief Technical Officer, Philippe Martin, to learn the full scope of such employees knowledge of competing NoC technologies and associated intellectual property—such as Philips' NoC technology and the Asserted Patents, including the '2893 patent—and any partnerships that Arteris might have explored with competitors such as Philips and the information that Arteris learned from Philips. As also noted above in paragraph 29, on information and belief, the aforementioned diligence would have revealed to Qualcomm no later than October 2013 the multiple pre-2010 meetings, disclosure of Philips NoC technical information to Arteris, and potential collaboration between Arteris and Philips discussed above in paragraphs 30–41. This diligence would have also revealed to Qualcomm no later than October 2013 that Arteris was aware of, and interested in, the technology described in one or more Asserted Patents, including the '2893 patent, as discussed above in paragraphs 30–41. This diligence would have also revealed to Qualcomm no later than October 2013 that Arteris had knowledge that Arteris, Arteris' customers, and/or Arteris' end users infringed the Asserted Patents, including the '2893 patent, or was willfully blind to such infringement, as discussed above in paragraphs 30–41. On information and belief, discovery in this Case, including from Arteris, Qualcomm, Mr. Martin, and other sources, will further confirm the details of Qualcomm's diligence, and the information it learned as part of that diligence, as well as information that Qualcomm learned from the ongoing employment of 43 Arteris engineers, including Arteris' Chief Technical Offer, Mr. Martin, about Arteris' knowledge that it, its customers, and/or its end users infringed the Asserted Patents,

including the ’2893 patent, or was willfully blind to such infringement, prior to the December 2022 filing of the original Complaint in this Case (Dkt. 1).

184. By virtue of Philips’ and the ’2893 patent’s fame in the semiconductor industry, the patent’s inclusion in the Philips Semiconductor portfolio, and Qualcomm’s desire to develop non-infringing products and product roadmaps, Qualcomm had actual knowledge of the ’2893 patent around the time it issued or its U.S. application published, and in no event later than the date of this Complaint.

U.S. Patent No. 8,086,800

185. Plaintiff is the lawful owner of all right, title, and interest in United States Patent No. 8,086,800 (“’800 patent”), entitled “INTEGRATED CIRCUIT AND METHOD FOR BUFFERING TO OPTIMIZE BURST LENGTH IN NETWORKS ON CHIPS,” including the right to sue and to recover for infringement thereof. The ’800 patent was duly and legally issued on December 27, 2011, naming Andrei Radulescu and Kees Gerard Willem Goossens as inventors. A copy of the ’800 patent is attached hereto as Exhibit 6.

186. The ’800 patent has 21 claims: 4 independent claims and 17 dependent claims.

187. The ’800 patent covers SoCs that employ data buffering at requesting (master) and responding (slave) modules and where each module has a network interface with a wrapper that buffers data into optimal amounts for transfer.

188. The claims of the ’800 patent, including claim 10 (reproduced below), recite at least these inventive concepts of the ’800 patent.

> 10. A method for buffering data in an integrated circuit having a plurality of processing modules being connected with an interconnect through interface units, wherein a first processing module communicates to a second processing module using transactions, the method comprising the acts of:

configuring the first processing module having a first memory as a master the provides requests;

configuring the second processing module having a second memory as a slave the provides responses to the requests;

connecting the master to a master interface unit of the interface units;

connecting the master interface unit to the interconnect so that the master interface unit is between the master and the interconnect;

connecting the slave to a slave interface unit of the interface units;

connecting the slave interface unit to the interconnect so that the slave interface unit is between the slave and the interconnect;

determining by a master determination unit of the master interface unit a first optimal amount of data to be buffered by a master wrapper of the master interface unit;

determining by a slave determination unit of the slave interface unit a second optimal amount of data to be buffered by a slave wrapper of the slave interface unit;

buffering by the slave wrapper of the slave interface unit data from the slave to be transferred over the interconnect until a first optimal amount of data is buffered;

transferring the buffered data from the slave wrapper to the master wrapper when said first optimal amount of data has been buffered by the slave wrapper;

buffering by the master wrapper of the master interface unit data from the master to be transferred over the interconnect until a second optimal amount of data is buffered by the master wrapper;

transferring the buffered data from the master wrapper to the slave wrapper when said second optimal amount of data has been buffered by the master wrapper,

wherein at least one of the first determination unit and the second determination unit is further configured to determine an optimal moment for sending the data in said first wrapper or said second wrapper according to communication properties of the communication between the master and the slave, wherein the communication properties include ordering of data transport, flow control including when a remote buffer is reserved for a connection, then a data producer will be allowed to send data only when it is guaranteed that space is

> available for the produced data at the remote buffer, throughput where a lower bound on throughput is guaranteed, latency where an upper bound for latency is guaranteed, lossiness including dropping of data, transmission termination, transaction completion, data correctness, priority, and data delivery.

(Exhibit 6, '800 patent at claim 10.) The subject matter described and claimed by the '800 patent, including the method for buffering data in an integrated circuit of claim 10, was an improvement in the functionality, performance, and efficiency of integrated circuits and the connections and communication networks thereof and was novel and not well-understood, routine, or conventional at the time of the '800 patent.

189. Defendants had knowledge of the '800 patent at least as of the December 19, 2022, date of the original Complaint (Dkt. 1).

190. The '800 patent was developed and patented by Philips Semiconductors, one of the largest semiconductor companies in the world. Because of the size and prominence of Philips in the tight-knit semiconductor industry, industry participants, including, on information and belief, Defendants, monitored patenting activity by Philips and reviewed, and were aware of shortly after their publication, at least the U.S. published patent applications and patents obtained by Philips in the semiconductor space, including the '800 patent. On information and belief, such industry participants, including Defendants, considered Philips' U.S. published patent applications and patents in the semiconductor space, including the '800 patent, and such Philips U.S. published patent applications and patents' actual or potential applicability to their own current products and product roadmaps, including the products described herein.

191. On information and belief, Arteris and its predecessors sought to develop their products and product roadmaps, including the products described herein, in ways that would not infringe U.S. patents in the semiconductor space.

192. Therefore, on information and belief, Arteris and its predecessors monitored U.S.

published patent applications and patents obtained by Philips in the semiconductor space in around the years 2006-2012.

193. On information and belief, Arteris and its predecessors were aware of and considered the ’800 patent, and its actual or potential applicability to their own current products and product roadmaps, including the products described herein.

194. On information and belief, Arteris has expertise in the subject matter of the ’800 patent and possesses sufficient technical competence to understand the scope of such patent.

195. On information and belief, Arteris additionally had knowledge of one or more of the Asserted Patents, including the ’800 patent, by virtue of the numerous pre-2010 meetings between Philips and Arteris, as well as the multiple presentations and publications by Arteris’ leadership, including its CEO and its Chief Technical Officer, evidencing in-depth knowledge of Philips’ NoC Technology, including the subject matter of the Asserted Patents, as discussed above in paragraphs 30–41.

196. By virtue of Philips’ and the ’800 patent’s fame in the semiconductor industry, the patent’s inclusion in the Philips Semiconductor portfolio, Arteris’s desire to develop non-infringing products and product roadmaps, and the numerous pre-2010 meetings between Philips and Arteris, as well as the multiple presentations and publications by Arteris’ leadership, including its CEO and its Chief Technical Officer, evidencing in-depth knowledge of Philips’ NoC Technology and the subject matter of the Asserted Patents, Arteris had actual knowledge of the ’800 patent around the time it issued or its U.S. application published, and in no event later than the date of this Complaint.

197. On information and belief, Qualcomm sought to develop its products and product roadmaps, including the products described herein, in ways that would not infringe U.S. patents in

the semiconductor space.

198. Therefore, on information and belief, Qualcomm monitored U.S. published patent applications and patents obtained by Philips in the semiconductor space in around the years 2006-2012.

199. On information and belief, Qualcomm was aware of and considered the ’800 patent, and its actual or potential applicability to its own current products and product roadmaps, including the products described herein.

200. On information and belief, Qualcomm has expertise in the subject matter of the ’800 patent and possesses sufficient technical competence to understand the scope of such patent.

201. As explained above in paragraphs 20–29, Qualcomm wholesale acquired a substantial part of Arteris’s NoC business, engineering team, and technology for nearly one-quarter of a billion dollars. As explained above in paragraphs 28-29, on information and belief, given the substantial price of the Arteris acquisition, the significant importance of the acquired Arteris technology as the “backbone” of Qualcomm’s products, and the fiduciary duty that Qualcomm owed its shareholders, Qualcomm conducted substantial technical and legal diligence, which included thorough analysis and assessment of potential patent infringement by Arteris and the Arteris Network on Chip (“NoC”) technology to be acquired by Qualcomm. Such diligence would have included interviews with the 43 Arteris engineers that Qualcomm hired as part of the acquisition, including key employees such as Arteris’ Chief Technical Officer, Philippe Martin, to learn the full scope of such employees knowledge of competing NoC technologies and associated intellectual property—such as Philips’ NoC technology and the Asserted Patents, including the ’800 patent—and any partnerships that Arteris might have explored with competitors such as Philips and the information that Arteris learned from Philips. As also noted above in paragraph

29, on information and belief, the aforementioned diligence would have revealed to Qualcomm no later than October 2013 the multiple pre-2010 meetings, disclosure of Philips NoC technical information to Arteris, and potential collaboration between Arteris and Philips discussed above in paragraphs 30–41. This diligence would have also revealed to Qualcomm no later than October 2013 that Arteris was aware of, and interested in, the technology described in one or more Asserted Patents, including the ’800 patent, as discussed above in paragraphs 30–41. This diligence would have also revealed to Qualcomm no later than October 2013 that Arteris had knowledge that Arteris, Arteris’ customers, and/or Arteris’ end users infringed the Asserted Patents, including the ’800 patent, or was willfully blind to such infringement, as discussed above in paragraphs 30–41. On information and belief, discovery in this Case, including from Arteris, Qualcomm, Mr. Martin, and other sources, will further confirm the details of Qualcomm’s diligence, and the information it learned as part of that diligence, as well as information that Qualcomm learned from the ongoing employment of 43 Arteris engineers, including Arteris’ Chief Technical Offer, Mr. Martin, about Arteris’ knowledge that it, its customers, and/or its end users infringed the Asserted Patents, including the ’800 patent, or was willfully blind to such infringement, prior to the December 2022 filing of the original Complaint in this Case (Dkt. 1).

202. By virtue of Philips’ and the ’800 patent’s fame in the semiconductor industry, the patent’s inclusion in the Philips Semiconductor portfolio, Qualcomm’s desire to develop non-infringing products and product roadmaps, and Qualcomm’s substantial technical and legal diligence in connection with its wholesale acquisition of a substantial part of Arteris’s NoC business, engineering team, and technology by Qualcomm for nearly one-quarter of a billion dollars, Qualcomm had actual knowledge of the ’800 patent around the time it issued or its U.S. application published, and in no event later than the date of this Complaint.

BACKGROUND OF DEFENDANTS' INFRINGING CONDUCT

203. Plaintiff incorporates by reference the allegations contained in paragraphs 1 to 202 above.

204. SoCs are widely used in consumer electronics or computing devices, including smartphones, laptops, tablets, and embedded systems such as vehicle infotainment devices and advanced driver assistance systems. SoCs are complex integrated circuits that may incorporate multiple processors, memory units, and interfaces onto a single chip.

205. As SoCs have developed over time, more processing cores and other IP blocks were incorporated into SoCs, resulting in increased intermodular connections and a greater need for intra-SoC communication efficiency. Thus, intra-SoC communication designs have moved from prior interconnect technologies (e.g., bus or point-to-point designs) to network interconnects, which provide advantages compared to other forms of intra-SoC communication, such as fewer wires, lower routing congestion, and decreased SoC die area, all leading to: smaller devices; increased IP block density, which results in more powerful devices; increased power efficiency, which enables better battery life; decreased thermal load, which leads to longer system life; and improved system performance. Therefore, interconnect efficiency—driven by the pioneering innovations claimed in the Asserted Patents—is now a dominant factor in determining overall SoC system performance, size, and cost.

206. As discussed above, the Asserted Patents relate to fundamental innovations in SoCs, including how the multitude of processors, memories, and other functional units residing on an SoC are interconnected and communicate with each other.

207. Qualcomm is a leading semiconductor company that provides SoCs, and Arteris is

a provider of interconnect technology for SoCs.[54] Qualcomm provides Snapdragon SoCs, and on information and belief, Snapdragon SoCs include Arteris interconnect technology and/or a derivative thereof.[55] Thus, on information and belief, Qualcomm makes, uses, sells, offers for sale, and/or imports, or has otherwise made, used, sold, offered for sale, and/or imported, SoCs including Arteris interconnect technology and/or a derivative thereof.

208. As set forth in the charts appended hereto, the Snapdragon SoCs, including their incorporation of Arteris interconnect technology and/or a derivative thereof, infringe each of the Asserted Patents.

209. On information and belief, Qualcomm's products that infringe the Asserted Patents (collectively, "Qualcomm Accused Products") include the following:[56]

Qualcomm Accused Products
• Snapdragon processors • Qualcomm integrated circuits containing Arteris interconnect technology and/or a derivative thereof • Phones, tablets, computers, laptops and Chromebooks containing Snapdragon processors or other Qualcomm integrated circuits containing Arteris interconnect technology and/or a derivative thereof • Vehicles and components thereof containing Snapdragon processors or other Qualcomm integrated circuits containing Arteris interconnect technology and/or a derivative thereof, including, for example, the Snapdragon Automotive Platform, Snapdragon Ride Platform, Snapdragon Cockpit Platform, Snapdragon

[54] *See* https://www.arteris.com/about-arteris (last visited December 19, 2022).
[55] https://web.archive.org/web/20210514110614/https:/www.arteris.com/customers (last visited December 19, 2022) (identifying Qualcomm as an Arteris customer and stating that "Arteris-developed NoC technology is the backbone of Snapdragon application processors & LTE modems, Atheros wireless connectivity SoCs, and CSR IoT products"); https://www.eetimes.com/qualcomm-buys-arteris-tech-team (last visited December 19, 2022) ("Qualcomm has been a customer of Arteris for about three years. It uses its FlexNoc 'in most of its chips,' [Arteris President] Janac said."); *see also* https://news.thomasnet.com/fullstory/arteris-flexnoc-network-on-chip-technology-designed-into-majority-of-mobile-socs-20009449 (last visited December 19, 2022) (Arteris FlexNoC was incorporated into over 60% of SoCs deployed in smartphones and tablets).
[56] https://web.archive.org/web/20210514110614/https:/www.arteris.com/customers (last visited December 19, 2022) (identifying Qualcomm as an Arteris customer and stating that "Arteris-developed NoC technology is the backbone of Snapdragon application processors & LTE modems, Atheros wireless connectivity SoCs, and CSR IoT products").

Car-to-Cloud Platform Snapdragon Auto Connectivity Platform and Snapdragon Digital Chassis • Virtual Reality, Augmented Reality and wearable products containing Snapdragon processors or other Qualcomm integrated circuits containing Arteris interconnect technology and/or a derivative thereof, including, for example, the Snapdragon XR and Snapdragon Wear • IoT, Audio, Wireless Network and Smart Home products containing Snapdragon processors or other Qualcomm integrated circuits containing Arteris interconnect technology and/or a derivative thereof, including, for example, Modem SoCs, Atheros SoCs and CSR IoT products[57]

210. The Qualcomm Accused Products additionally include the "Accused Qualcomm Instrumentalities" listed in Appendix A1 to NST's May 26, 2023 Disclosures of Asserted Claims and Infringement Contentions. The above-listed Qualcomm Accused Products are non-limiting. Additional products of Qualcomm may infringe the Asserted Patents, and the above-listed Qualcomm Accused Products may infringe additional patents.

211. Qualcomm has infringed and continues to infringe the Asserted Patents by making, using, selling, offering to sell, and/or importing, without license or authority, the Qualcomm Accused Products as alleged herein, which embody or use the inventions claimed in the Asserted Patents literally or under the doctrine of equivalents.

212. Comparison of claims of the Asserted Patents to an exemplary product of the Qualcomm Accused Products are attached as Exhibit 8 ('818 patent), Exhibit 9 ('449 patent), Exhibit 10 ('052 patent), Exhibit 11 ('9893 patent), Exhibit 12 ('2893 patent), and Exhibit 13 ('800 patent), which are incorporated herein by reference.

[57] https://web.archive.org/web/20210514110614/https:/www.arteris.com/customers (last visited December 19, 2022) (identifying Qualcomm as an Arteris customer and stating that "Arteris-developed NoC technology is the backbone of Snapdragon … modems, Atheros wireless connectivity SoCs, and CSR IoT products").

213. Qualcomm has induced infringement and continues to induce infringement of the Asserted Patents by actively and knowingly inducing others to make, use, sell, offer to sell, and/or import, without license or authority, the Qualcomm Accused Products as alleged herein, which embody or use the inventions claimed in the Asserted Patents literally or under the doctrine of equivalents.

214. As explained above in paragraphs 46, 75, 106, 135, 170, and 189, Qualcomm has had knowledge of each of the Asserted Patents, and Qualcomm had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, since at least the December 19, 2022, date of the original Complaint (Dkt. 1).

215. As further explained in paragraphs 69-70, 100-101, 129-130, 164-165, 183-184, and 201-202, Qualcomm had knowledge of each of the Asserted Patents, and Qualcomm had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, prior to the December 19, 2022, date of the original Complaint (Dkt. 1). As explained in these paragraphs, Qualcomm's pre-suit knowledge for each patent results from a combination of factors, including Philips' and the Asserted Patents' fame in the semiconductor industry, the Asserted Patents' inclusion in the Philips Semiconductor portfolio, Qualcomm's desire to obtain valid and enforceable patents, Qualcomm's desire to develop non-infringing products and product roadmaps, Qualcomm's knowledge of the Asserted Patents via citation during prosecution of patents and patent applications either originally assigned to Qualcomm or purchased by Qualcomm from Arteris, and Qualcomm's substantial technical and legal diligence in connection with its wholesale acquisition of a substantial part of Arteris's NoC business, engineering team, and technology by Qualcomm for nearly one-quarter of a billion dollars.

216. Indeed, as explained above in paragraphs 27-29, on information and belief, given

the substantial price of the Arteris acquisition, the significant importance of the acquired Arteris technology as the "backbone" of Qualcomm's products, and the fiduciary duty that Qualcomm owed its shareholders, Qualcomm conducted substantial technical and legal diligence, which included a thorough analysis of Arteris' intellectual property, including the prosecution histories of patent applications and patents to be assigned from Arteris to Qualcomm, a thorough analysis and assessment of potential patent infringement by Arteris and the Arteris Network on Chip ("NoC") technology to be acquired by Qualcomm. Such diligence would have included interviews with patent prosecution counsel, the named inventors of such patents and patent applications, the 43 Arteris engineers that Qualcomm hired as part of the acquisition, including key employees such as Arteris' Chief Technical Officer, Philippe Martin, to learn the full scope of such employees knowledge of competing NoC technologies and associated intellectual property—such as Philips' NoC technology and the Asserted Patents—and any partnerships that Arteris might have explored with competitors such as Philips and the information that Arteris learned from Philips. As also noted above in paragraph 29, on information and belief, the aforementioned diligence would have revealed to Qualcomm no later than October 2013 the multiple pre-2010 meetings, disclosure of Philips NoC technical information to Arteris, and potential collaboration between Arteris and Philips discussed above in paragraphs 30–41. This diligence would have also revealed to Qualcomm no later than October 2013 that Arteris was aware of, and interested in, the technology described in one or more Asserted Patents, as discussed above in paragraphs 30–41. This diligence would have also revealed to Qualcomm no later than October 2013 that Arteris had knowledge that Arteris, Arteris' customers, and/or Arteris' end users infringed the Asserted Patents, or was willfully blind to such infringement, as discussed above in paragraphs 30–41. On information and belief, discovery in this Case, including from Arteris, Qualcomm, Mr. Martin, and other sources,

will further confirm the details of Qualcomm's diligence, and the information it learned as part of that diligence, as well as information that Qualcomm learned from the ongoing employment of 43 Arteris engineers, including Arteris' Chief Technical Offer, Mr. Martin, about Arteris' knowledge that it, its customers, and/or its end users infringed the Asserted Patents, or was willfully blind to such infringement, prior to the December 2022 filing of the original Complaint in this Case (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Qualcomm's knowledge of, and knowing infringement of, the Asserted Patents.

217. Moreover, as shown in the charts appended as Exhibit 8 ('818 patent), Exhibit 9 ('449 patent), Exhibit 10 ('052 patent), Exhibit 11 ('9893 patent), Exhibit 12 ('2893 patent), and Exhibit 13 ('800 patent), and the materials cited therein, Qualcomm markets, advertises, offers for sale, and/or otherwise promotes the Qualcomm Accused Products and, on information and belief, does so to actively and knowingly induce, encourage, instruct, and aid one or more persons in the United States to make, use, sell, offer to sell and/or import the Qualcomm Accused Products. For example, Qualcomm, or an entity under Qualcomm's direction or control, advertises, offers for sale, and/or otherwise promotes the Qualcomm Accused Products on its website.[58] Qualcomm, or one or more related entities, further publishes and distributes product briefs, data sheets, manuals, guides, test reports, specifications, videos, and other authorized resources for the Qualcomm

[58] *See, e.g.*, https://www.qualcomm.com/snapdragon (last visited December 19, 2022); https://www.qualcomm.com/products/technology/processors/mobile-processors (last visited December 19, 2022);; https://www.qualcomm.com/products/application/automotive (last visited December 19, 2022); https://www.qualcomm.com/products/application/smartphones (last visited December 19, 2022); https://www.qualcomm.com/products/application/mobile-computing (last visited December 19, 2022); https://www.qualcomm.com/products/application/wearables (last visited December 19, 2022); https://www.qualcomm.com/products/application/audio (last visited December 19, 2022); https://www.qualcomm.com/products/application/xr-vr-ar (last visited December 19, 2022);

Accused Products.[59] Therein, on information and belief, Qualcomm describes and touts the use of the subject matter claimed in the Asserted Patents, as described and alleged herein. On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Qualcomm's specific intent to induce infringement.

218. Qualcomm has contributorily infringed and continues to contributorily infringe the Asserted Patents by selling or offering to sell Qualcomm Accused Products, knowing them to be especially made or especially adapted for practicing the inventions of the Asserted Patents and not a staple article or commodity of commerce suitable for substantial non-infringing use.

219. As explained above in paragraphs 214-216 (which, in turn, cite paragraphs 27-29, 46, 69-70, 75, 100-101, 106, 129-130, 135, 164-165, 170, 183-184, 189, and 201-202), Qualcomm has had knowledge of each of the Asserted Patents, and Qualcomm had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, both before, and after, the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Qualcomm's knowledge of, and knowing infringement of, the Asserted Patents.

220. On information and belief, and as alleged above, Qualcomm has known of the existence of the Asserted Patents and their applicability to Qualcomm's Accused Products, and its acts of infringement have been willful and in disregard for the Asserted Patents, without any reasonable basis for believing that it had a right to engage in the infringing conduct, at least as of the dates of knowledge of the Asserted Patents alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1).

[59] *See, e.g.*, https://www.qualcomm.com/search?query=%22snapdragon%22&activeCategory=Documents (last visited December 19, 2022); https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/Snapdragon-8-plus-Gen-1-Product-Brief.pdf (last visited December 19, 2022).

221. As explained above in paragraphs 214-216 (which, in turn, cite paragraphs 27-29, 46, 69-70, 75, 100-101, 106, 129-130, 135, 164-165, 170, 183-184, 189, and 201-202), Qualcomm has had knowledge of each of the Asserted Patents, and Qualcomm had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, both before, and after, the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Qualcomm's knowledge of, and knowing infringement of, the Asserted Patents.

222. On information and belief, Arteris infringes the Asserted Patents based on its interconnect technology for SoCs, including its (1) interconnect semiconductor intellectual property ("IP") and (2) IP deployment technology (collectively, "Arteris interconnect technology" or "Arteris Accused Products").[60] On information and belief, Arteris Accused Products include the following:

Arteris Accused Products
• Arteris FlexNoC products • Arteris Ncore products • Arteris interconnect technology and derivatives thereof

223. The Arteris Accused Products additionally include the "Accused Arteris Instrumentalities" listed in Appendix A2 to NST's May 26, 2023 Disclosures of Asserted Claims and Infringement Contentions. The above-listed Arteris Accused Products are non-limiting. Arteris's infringement of the Asserted Patents may be based on additional or alternative products of Arteris, and the above-listed Arteris Accused Products may infringe additional patents.

224. Comparison of claims of the Asserted Patents to an exemplary product of the

[60] https://www.arteris.com/about-arteris (last visited December 19, 2022); https://www.arteris.com/products (last visited December 19, 2022).

Arteris Accused Products are attached as Exhibit 14 ('818 patent), Exhibit 15 ('449 patent), Exhibit 16 ('052 patent), Exhibit 17 ('9893 patent), Exhibit 18 ('2893 patent), and Exhibit 19 ('800 patent), which are incorporated herein by reference.

225. On information and belief, Arteris indirectly infringes the Asserted Patents by inducing infringement or contributing to infringement by Qualcomm and/or other entities that make, use, sell, offer to sell, and/or import SoCs that include Arteris interconnect technology.

226. Arteris has induced infringement and continues to induce infringement of the Asserted Patents by actively and knowingly inducing others to make, use, sell, offer to sell, and/or import, without license or authority, SoCs incorporating Arteris interconnect technology, including the Qualcomm Accused Products as alleged herein, which embody or use the inventions claimed in the Asserted Patents literally or under the doctrine of equivalents.

227. As explained above in paragraphs 46, 75, 106, 135, 170, and 189, Arteris has had knowledge of each of the Asserted Patents, and Arteris had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, since at least the December 19, 2022, date of the original Complaint (Dkt. 1).

228. As further explained in paragraphs 58-59, 88-89, 123-124, 149-150, 177-178, and 195-196, Arteris had knowledge of each of the Asserted Patents, and Arteris had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, prior to the December 19, 2022, date of the original Complaint (Dkt. 1). As explained in these paragraphs, Arteris' pre-suit knowledge for each patent results from a combination of factors, including Philips' and the Asserted Patents' fame in the semiconductor industry, the Asserted Patents' inclusion in the Philips Semiconductor portfolio, Arteris' desire to obtain valid and enforceable patents, the numerous pre-2010 meetings between Philips and Arteris, as well as the multiple

presentations and publications by Arteris' leadership, including its CEO and its Chief Technical Officer, evidencing in-depth knowledge of Philips' NoC Technology and the subject matter of the Asserted Patents as described in paragraphs 30-41, Arteris' desire to develop non-infringing products and product roadmaps, and Arteris' knowledge of the Asserted Patents via citation during prosecution of patents and patent applications.

229. Indeed, as explained above in paragraphs 30-41, on information and belief, Arteris had knowledge of the Asserted Patents, and Arteris' infringement thereof, by virtue of the numerous pre-2010 meetings between Philips and Arteris, as well as the multiple presentations and publications by Arteris' leadership, including its CEO and its Chief Technical Officer, evidencing in-depth knowledge of Philips' NoC Technology, including the subject matter of the Asserted Patents. As explained in these paragraphs, based on these meetings, presentations, and publications, Arteris had knowledge that it, its customers, and/or its end users infringed the Asserted Patents, or was willfully blind to such infringement, prior to the December 2022 filing of the original Complaint in this Case (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Qualcomm's knowledge of, and knowing infringement of, the Asserted Patents.

230. Moreover, as shown in the charts appended as Exhibit 14 ('818 patent), Exhibit 15 ('449 patent), Exhibit 16 ('052 patent), Exhibit 17 ('9893 patent), Exhibit 18 ('2893 patent), and Exhibit 19 ('800 patent), Arteris markets, advertises, offers for sale, and/or otherwise promotes the Arteris Accused Products and, on information and belief, does so to actively and knowingly induce, encourage, instruct, and aid one or more persons in the United States to make, use, sell, offer to sell and/or import SoCs incorporating Arteris interconnect technology, including the Qualcomm Accused Products. For example, Arteris, or an entity under Arteris's direction or

control, advertises, offers for sale, and/or otherwise promotes the Arteris Accused Products on its website.[61] Arteris, or one or more related entities, further publishes and distributes datasheets, presentations, technical papers, and videos for the Arteris Accused Products.[62] Therein, on information and belief, Arteris describes and touts the use of the subject matter claimed in the Asserted Patents, as described and alleged herein. On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Arteris' specific intent to induce infringement.

231. Arteris has contributorily infringed and continues to contributorily infringe the Asserted Patents by selling or offering to sell Arteris Accused Products, knowing them to be especially made or especially adapted for practicing the inventions of the Asserted Patents and not a staple article or commodity of commerce suitable for substantial non-infringing use.

232. As explained above in paragraphs 227-229 (which, in turn, cite paragraphs 30-41, 46, 58-59, 75, 88-89, 106, 123-124, 135, 149-150, 170, 177-178, 189, and 195-196), Arteris has had knowledge of each of the Asserted Patents, and Arteris had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, both before, and after, the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details

[61] *See, e.g.*, https://www.arteris.com/about-arteris (last visited December 19, 2022) (listing "[k]ey benefits of Arteris IP … interconnect solutions" and stating, for example, that the Arteris Accused Products "accelerate [SoC] semiconductor development and integration for a wide range of applications" and that "[c]ustomer results obtained by using Arteris IP products include lower power, higher performance, more efficient design reuse and faster SoC development, leading to lower development and production costs"); https://www.arteris.com/products (last visited December 19, 2022) (stating, for example, that Arteris's "interconnect IP is the communications backbone of your SoC, allowing you to make more complex chips in less time"); https://www.arteris.com/semiconductor-ip-products (last visited December 19, 2022) (stating, for example, that Arteris interconnect technology is "[t]he gold standard for SoC … interconnects").

[62] https://www.arteris.com/resources (last visited December 19, 2022); *see, e.g.*, https://www.arteris.com/hs-fs/hub/48858/file-14363521-pdf/docs/springer-appdrivennocarchitecture8.5x11.pdf (last visited December 19, 2022) (peer-reviewed technical journal article regarding Arteris interconnect technology, providing an Arteris product tutorial and touting that "the … methodology will not lead you astray, the flexibility of the Arteris library will fit your needs, and the associated tool framework will permit a clear description and validation of your NoC").

of Arteri's knowledge of, and knowing infringement of, the Asserted Patents.

233. On information and belief, and as alleged above, Arteris has known of the existence of the Asserted Patents and their applicability to Arteris' Accused Products, and its acts of infringement have been willful and in disregard for the Asserted Patents, without any reasonable basis for believing that it had a right to engage in the infringing conduct, at least as of the dates of knowledge of the Asserted Patents alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1).

234. As explained above in paragraphs 227-229 (which, in turn, cite paragraphs 30-41, 46, 58-59, 75, 88-89, 106, 123-124, 135, 149-150, 170, 177-178, 189, and 195-196), Arteris has had knowledge of each of the Asserted Patents, and Arteris had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, both before, and after, the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Arteris' knowledge of, and knowing infringement of, the Asserted Patents.

COUNT I – INFRINGEMENT OF U.S. PATENT NO. 7,366,818

235. Plaintiff incorporates by reference the allegations contained in paragraphs 1 to 234 above.

236. On information and belief, Qualcomm has made, used, offered for sale, sold, and/or imported products, including within this Judicial District, including at least the Qualcomm Accused Products, that infringe, either literally or under the doctrine of equivalents, one or more claims of the '818 patent in violation of 35 U.S.C. § 271(a), including claim 1. A comparison of claim 1 of the '818 patent to an exemplary product of the Qualcomm Accused Products is attached as Exhibit 8, which is incorporated herein by reference.

237. On information and belief, with knowledge of the ’818 patent, Qualcomm has actively induced and continues to induce the direct infringement of one or more claims of the ’818 patent, including claim 1, in violation of 35 U.S.C. § 271(b), by its customers and/or end users of its products, including at least the Qualcomm Accused Products, by selling, providing support for, providing instructions for use of, and/or otherwise encouraging its customers and/or end-users to directly infringe, either literally and/or under the doctrine of equivalents, one or more claims of the ’818 patent, including claim 1, with the intent to encourage those customers and/or end users to infringe the ’818 patent.

238. As explained above in paragraphs 214-216 (which, in turn, cite paragraphs 27-29, 46, 69-70, 75, 100-101, 106, 129-130, 135, 164-165, 170, 183-184, 189, and 201-202), Qualcomm has had knowledge of each of the Asserted Patents, and Qualcomm had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, both before, and after, the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Qualcomm’s knowledge of, and knowing infringement of, the Asserted Patents.

239. By way of example, on information and belief, Qualcomm actively induces infringement of the ’818 patent by encouraging, instructing, and aiding one or more persons in the United States, including but not limited to customers and/or end users who test, operate, and use Qualcomm’s products, including at least the Qualcomm Accused Products, to make, use, sell, offer to sell, and/or import Qualcomm’s products, including at least the Qualcomm Accused Products, in a manner that infringes at least one claim of the ’818 patent, including claim 1. For example, as described above, Qualcomm actively markets, advertises, offers for sale, and/or otherwise promotes the Qualcomm Accused Products by publishing and distributing data sheets, manuals,

and guides for the Qualcomm Accused Products. Therein, on information and belief, Qualcomm describes and touts the use of the subject matter claimed in the ’818 patent.

240. As shown in the charts appended as Exhibit 8 (’818 patent), Exhibit 9 (’449 patent), Exhibit 10 (’052 patent), Exhibit 11 (’9893 patent), Exhibit 12 (’2893 patent), and Exhibit 13 (’800 patent), and the materials cited therein, Qualcomm markets, advertises, offers for sale, and/or otherwise promotes the Qualcomm Accused Products and, on information and belief, does so to actively and knowingly induce, encourage, instruct, and aid one or more persons in the United States to make, use, sell, offer to sell and/or import the Qualcomm Accused Products. For example, Qualcomm, or an entity under Qualcomm’s direction or control, advertises, offers for sale, and/or otherwise promotes the Qualcomm Accused Products on its website.[63] Qualcomm, or one or more related entities, further publishes and distributes product briefs, data sheets, manuals, guides, test reports, specifications, videos, and other authorized resources for the Qualcomm Accused Products.[64] Therein, on information and belief, Qualcomm describes and touts the use of the subject matter claimed in the Asserted Patents, as described and alleged herein. On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Qualcomm’s specific intent to induce infringement.

241. On information and belief, with knowledge of the ’818 patent, Qualcomm also contributed to, and continues to contribute to, the infringement of one or more claims of the ’818

[63] *See, e.g.*, https://www.qualcomm.com/snapdragon (last visited December 19, 2022); https://www.qualcomm.com/products/technology/processors/mobile-processors (last visited December 19, 2022);; https://www.qualcomm.com/products/application/automotive (last visited December 19, 2022); https://www.qualcomm.com/products/application/smartphones (last visited December 19, 2022); https://www.qualcomm.com/products/application/mobile-computing (last visited December 19, 2022); https://www.qualcomm.com/products/application/wearables (last visited December 19, 2022); https://www.qualcomm.com/products/application/audio (last visited December 19, 2022); https://www.qualcomm.com/products/application/xr-vr-ar (last visited December 19, 2022);

[64] *See, e.g.*, https://www.qualcomm.com/search?query=%22snapdragon%22&activeCategory=Documents (last visited December 19, 2022); https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/Snapdragon-8-plus-Gen-1-Product-Brief.pdf (last visited December 19, 2022).

patent, including claim 1, in violation of 35 U.S.C. § 271(c), by offering to sell, selling, and/or importing the Qualcomm Accused Products, knowing them to be especially made or especially adapted for practicing the inventions of the ’818 patent and not a staple article or commodity of commerce suitable for substantial non-infringing use. This is evidenced by, among other things, the design, configuration, and functionality of the Qualcomm Accused Products, which are especially made or especially adapted for use in infringement of the ’818 patent when used for their normal and intended purpose. This is also evidenced by, among other things, Qualcomm’s informational and promotional materials described above, which describe the normal use and intended purpose of the Qualcomm Accused Products and demonstrate that the Qualcomm Accused Products are especially made or especially adapted for a use that infringes the ’818 patent.

242. As explained above in paragraphs 214-216 (which, in turn, cite paragraphs 27-29, 46, 69-70, 75, 100-101, 106, 129-130, 135, 164-165, 170, 183-184, 189, and 201-202), Qualcomm has had knowledge of each of the Asserted Patents, and Qualcomm had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, both before, and after, the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Qualcomm’s knowledge of, and knowing infringement of, the Asserted Patents.

243. On information and belief, as a result of Qualcomm’s inducement of, and/or contribution to, infringement, its customers and/or end users made, used, sold, offered for sale, or imported, and continue to make, use, sell, offer to sell, or import, Qualcomm’s products, including the Qualcomm Accused Products, in ways that directly infringe one or more claims of the ’818 patent, including claim 1. On information and belief, Qualcomm had actual knowledge of its customers’ and/or end users’ direct infringement at least by virtue of their sales, instruction, and/or

otherwise promotion of Qualcomm's products, including the Qualcomm Accused Products, at least as of the dates of knowledge of the '818 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1).

244. On information and belief, with knowledge of the '818 patent, Qualcomm has willfully, deliberately, and intentionally infringed the '818 patent, at least as of the dates of knowledge of the '818 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1), and continues to willfully, deliberately, and intentionally infringe the '818 patent. On information and belief, Qualcomm had actual knowledge of the '818 patent and Qualcomm's infringement of the '818 patent at least as of the dates of knowledge of the '818 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, after acquiring that knowledge, Qualcomm continued to directly and indirectly infringe the '818 patent as set forth above. On information and belief, Qualcomm knew or should have known that its conduct amounted to infringement of the '818 patent at least because Qualcomm was aware of the '818 patent and Qualcomm's infringement of the '818 patent at least as of the dates of knowledge of the '818 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1). Qualcomm was aware of its infringement by virtue of the '818 patent's fame in the semiconductor industry, Qualcomm's expertise in the subject matter of the '818 patent, Qualcomm's technical competence to understand the scope of the '818 patent, and Qualcomm's intimate familiarity with its Accused Products. Additionally, Qualcomm was aware of the '818 patent, and Qualcomm's infringement of the '818 patent, at least as of the December 19, 2022, date of the original Complaint (Dkt. 1) because Plaintiff notified Qualcomm of such.

245. As explained above in paragraphs 214-216 (which, in turn, cite paragraphs 27-29,

46, 69-70, 75, 100-101, 106, 129-130, 135, 164-165, 170, 183-184, 189, and 201-202), Qualcomm has had knowledge of each of the Asserted Patents, and Qualcomm had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, both before, and after, the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Qualcomm's knowledge of, and knowing infringement of, the Asserted Patents.

246. On information and belief, Qualcomm will continue to infringe the '818 patent unless and until it is enjoined by this Court. Qualcomm, by way of its infringing activities, has caused and continues to cause Plaintiff to suffer damages in an amount to be determined, and has caused and is causing Plaintiff irreparable harm. Plaintiff has no adequate remedy at law against Qualcomm's acts of infringement and, unless Qualcomm is enjoined from its infringement of the '818 patent, Plaintiff will continue to suffer irreparable harm.

247. Plaintiff is entitled to recover from Qualcomm damages at least in an amount adequate to compensate for its infringement of the '818 patent, which amount has yet to be determined, together with interest and costs fixed by the Court.

248. On information and belief, Arteris has made, used, offered for sale, sold, and/or imported products, including within this Judicial District, including at least the Arteris Accused Products, that indirectly infringe, either literally or under the doctrine of equivalents, one or more claims of the '818 patent in violation of 35 U.S.C. § 271, including claim 1. A comparison of claim 1 of the '818 patent to an exemplary product of the Arteris Accused Products is attached as Exhibit 14, which is incorporated herein by reference.

249. On information and belief, with knowledge of the '818 patent, Arteris has actively induced and continues to induce the direct infringement of one or more claims of the '818 patent,

including claim 1, in violation of 35 U.S.C. § 271(b), by its customers and/or end users of its products, including at least the Arteris Accused Products, by selling, providing support for, providing instructions for use of, and/or otherwise encouraging its customers and/or end-users to directly infringe, either literally and/or under the doctrine of equivalents, one or more claims of the ’818 patent, including claim 1, with the intent to encourage those customers and/or end users to infringe the ’818 patent.

250. As explained above in paragraphs 227-229 (which, in turn, cite paragraphs 30-41, 46, 58-59, 75, 88-89, 106, 123-124, 135, 149-150, 170, 177-178, 189, and 195-196), Arteris has had knowledge of each of the Asserted Patents, and Arteris had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, both before, and after, the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Arteris’ knowledge of, and knowing infringement of, the Asserted Patents.

251. By way of example, on information and belief, Arteris actively induces infringement of the ’818 patent by encouraging, instructing, and aiding one or more persons in the United States, including but not limited to customers and/or end users who test, operate, and use Arteris products, including at least the Arteris Accused Products, to make, use, sell, offer to sell, and/or import SoCs incorporating such Arteris products, including at least the Qualcomm Accused Products, in a manner that infringes at least one claim of the ’818 patent, including claim 1. For example, as described above, Arteris actively markets, advertises, offers for sale, and/or otherwise promotes the Arteris Accused Products by publishing and distributing data sheets, manuals, and guides for the Arteris Accused Products. Therein, on information and belief, Arteris describes and touts the use of the subject matter claimed in the ’818 patent.

252. As shown in the charts appended as Exhibit 14 ('818 patent), Exhibit 15 ('449 patent), Exhibit 16 ('052 patent), Exhibit 17 ('9893 patent), Exhibit 18 ('2893 patent), and Exhibit 19 ('800 patent), Arteris markets, advertises, offers for sale, and/or otherwise promotes the Arteris Accused Products and, on information and belief, does so to actively and knowingly induce, encourage, instruct, and aid one or more persons in the United States to make, use, sell, offer to sell and/or import SoCs incorporating Arteris interconnect technology, including the Qualcomm Accused Products. For example, Arteris, or an entity under Arteris's direction or control, advertises, offers for sale, and/or otherwise promotes the Arteris Accused Products on its website.[65] Arteris, or one or more related entities, further publishes and distributes datasheets, presentations, technical papers, and videos for the Arteris Accused Products.[66] Therein, on information and belief, Arteris describes and touts the use of the subject matter claimed in the Asserted Patents, as described and alleged herein. On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Arteris' specific intent to induce infringement.

253. On information and belief, with knowledge of the '818 patent, Arteris also contributed to, and continues to contribute to, the infringement of one or more claims of the '818 patent, including claim 1, in violation of 35 U.S.C. § 271(c), by offering to sell, selling, and/or

[65] *See, e.g.*, https://www.arteris.com/about-arteris (last visited December 19, 2022) (listing "[k]ey benefits of Arteris IP … interconnect solutions" and stating, for example, that the Arteris Accused Products "accelerate [SoC] semiconductor development and integration for a wide range of applications" and that "[c]ustomer results obtained by using Arteris IP products include lower power, higher performance, more efficient design reuse and faster SoC development, leading to lower development and production costs"); https://www.arteris.com/products (last visited December 19, 2022) (stating, for example, that Arteris's "interconnect IP is the communications backbone of your SoC, allowing you to make more complex chips in less time"); https://www.arteris.com/semiconductor-ip-products (last visited December 19, 2022) (stating, for example, that Arteris interconnect technology is "[t]he gold standard for SoC … interconnects").

[66] https://www.arteris.com/resources (last visited December 19, 2022); *see, e.g.*, https://www.arteris.com/hs-fs/hub/48858/file-14363521-pdf/docs/springer-appdrivennocarchitecture8.5x11.pdf (last visited December 19, 2022) (peer-reviewed technical journal article regarding Arteris interconnect technology, providing an Arteris product tutorial and touting that "the … methodology will not lead you astray, the flexibility of the Arteris library will fit your needs, and the associated tool framework will permit a clear description and validation of your NoC").

importing the Arteris Accused Products, knowing them to be especially made or especially adapted for practicing the inventions of the ’818 patent and not a staple article or commodity of commerce suitable for substantial non-infringing use. This is evidenced by, among other things, the design, configuration, and functionality of the Arteris Accused Products, which are especially made or especially adapted for use in infringement of the ’818 patent when used for their normal and intended purpose. This is also evidenced by, among other things, Arteris’s informational and promotional materials described above, which describe the normal use and intended purpose of the Arteris Accused Products and demonstrate that the Arteris Accused Products are especially made or especially adapted for a use that infringes the ’818 patent.

254. As explained above in paragraphs 227-229 (which, in turn, cite paragraphs 30-41, 46, 58-59, 75, 88-89, 106, 123-124, 135, 149-150, 170, 177-178, 189, and 195-196), Arteris has had knowledge of each of the Asserted Patents, and Arteris had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, both before, and after, the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Arteris’ knowledge of, and knowing infringement of, the Asserted Patents.

255. On information and belief, as a result of Arteris’s inducement of, and/or contribution to, infringement, its customers and/or end users made, used, sold, offered for sale, or imported, and continue to make, use, sell, offer to sell, or import, SoCs incorporating such Arteris products, including the Qualcomm Accused Products, in ways that directly infringe one or more claims of the ’818 patent, including claim 1. On information and belief, Arteris had actual knowledge of its customers’ and/or end users’ direct infringement at least by virtue of their sales, instruction, and/or otherwise promotion of Arteris’s products, including the Arteris Accused

Products, at least as of the dates of knowledge of the ’818 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1).

256. On information and belief, with knowledge of the ’818 patent, Arteris has willfully, deliberately, and intentionally infringed the ’818 patent, at least as of the dates of knowledge of the ’818 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1), and continues to willfully, deliberately, and intentionally infringe the ’818 patent. On information and belief, Arteris had actual knowledge of the ’818 patent and Arteris’s infringement of the ’818 patent at least as of the dates of knowledge of the ’818 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, after acquiring that knowledge, Arteris continued to indirectly infringe the ’818 patent as set forth above. On information and belief, Arteris knew or should have known that its conduct amounted to infringement of the ’818 patent at least because Arteris was aware of the ’818 patent and Arteris’s infringement of the ’818 patent at least as of the dates of knowledge of the ’818 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1). Arteris was aware of its infringement by virtue of the ’818 patent’s fame in the semiconductor industry, Arteris’s expertise in the subject matter of the ’818 patent, Arteris’s technical competence to understand the scope of the ’818 patent, and Arteris’s intimate familiarity with its Accused Products. Additionally, Arteris was aware of the ’818 patent, and Arteris’s infringement of the ’818 patent, at least as of the December 19, 2022, date of the original Complaint (Dkt. 1) because Plaintiff notified Arteris of such.

257. As explained above in paragraphs 227-229 (which, in turn, cite paragraphs 30-41, 46, 58-59, 75, 88-89, 106, 123-124, 135, 149-150, 170, 177-178, 189, and 195-196), Arteris has had knowledge of each of the Asserted Patents, and Arteris had knowledge that its affirmative acts

to encourage infringement in fact constituted patent infringement, both before, and after, the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Arteris' knowledge of, and knowing infringement of, the Asserted Patents.

258. On information and belief, Arteris will continue to infringe the '818 patent unless and until it is enjoined by this Court. Arteris, by way of its infringing activities, has caused and continues to cause Plaintiff to suffer damages in an amount to be determined, and has caused and is causing Plaintiff irreparable harm. Plaintiff has no adequate remedy at law against Arteris's acts of infringement and, unless Arteris is enjoined from its infringement of the '818 patent, Plaintiff will continue to suffer irreparable harm.

259. Plaintiff is entitled to recover from Arteris damages at least in an amount adequate to compensate for its infringement of the '818 patent, which amount has yet to be determined, together with interest and costs fixed by the Court.

COUNT II – INFRINGEMENT OF U.S. PATENT NO. 7,373,449

260. Plaintiff incorporates by reference the allegations contained in paragraphs 1 to 259 above.

261. On information and belief, Qualcomm has made, used, offered for sale, sold, and/or imported products, including within this Judicial District, including at least the Qualcomm Accused Products, that infringe, either literally or under the doctrine of equivalents, one or more claims of the '449 patent in violation of 35 U.S.C. § 271(a), including claim 10. A comparison of claim 10 of the '449 patent to an exemplary product of the Qualcomm Accused Products is attached as Exhibit 9, which is incorporated herein by reference.

262. On information and belief, with knowledge of the '449 patent, Qualcomm has

actively induced and continues to induce the direct infringement of one or more claims of the ’449 patent, including claim 10, in violation of 35 U.S.C. § 271(b), by its customers and/or end users of its products, including at least the Qualcomm Accused Products, by selling, providing support for, providing instructions for use of, and/or otherwise encouraging its customers and/or end-users to directly infringe, either literally and/or under the doctrine of equivalents, one or more claims of the ’449 patent, including claim 10, with the intent to encourage those customers and/or end users to infringe the ’449 patent.

263. As explained above in paragraphs 214-216 (which, in turn, cite paragraphs 27-29, 46, 69-70, 75, 100-101, 106, 129-130, 135, 164-165, 170, 183-184, 189, and 201-202), Qualcomm has had knowledge of each of the Asserted Patents, and Qualcomm had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, both before, and after, the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Qualcomm’s knowledge of, and knowing infringement of, the Asserted Patents.

264. By way of example, on information and belief, Qualcomm actively induces infringement of the ’449 patent by encouraging, instructing, and aiding one or more persons in the United States, including but not limited to customers and/or end users who test, operate, and use Qualcomm’s products, including at least the Qualcomm Accused Products, to make, use, sell, offer to sell, and/or import Qualcomm’s products, including at least the Qualcomm Accused Products, in a manner that infringes at least one claim of the ’449 patent, including claim 10. For example, as described above, Qualcomm actively markets, advertises, offers for sale, and/or otherwise promotes the Qualcomm Accused Products by publishing and distributing data sheets, manuals, and guides for the Qualcomm Accused Products. Therein, on information and belief, Qualcomm

describes and touts the use of the subject matter claimed in the ’449 patent.

265. As shown in the charts appended as Exhibit 8 (’818 patent), Exhibit 9 (’449 patent), Exhibit 10 (’052 patent), Exhibit 11 (’9893 patent), Exhibit 12 (’2893 patent), and Exhibit 13 (’800 patent), and the materials cited therein, Qualcomm markets, advertises, offers for sale, and/or otherwise promotes the Qualcomm Accused Products and, on information and belief, does so to actively and knowingly induce, encourage, instruct, and aid one or more persons in the United States to make, use, sell, offer to sell and/or import the Qualcomm Accused Products. For example, Qualcomm, or an entity under Qualcomm’s direction or control, advertises, offers for sale, and/or otherwise promotes the Qualcomm Accused Products on its website.[67] Qualcomm, or one or more related entities, further publishes and distributes product briefs, data sheets, manuals, guides, test reports, specifications, videos, and other authorized resources for the Qualcomm Accused Products.[68] Therein, on information and belief, Qualcomm describes and touts the use of the subject matter claimed in the Asserted Patents, as described and alleged herein. On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Qualcomm’s specific intent to induce infringement.

266. On information and belief, with knowledge of the ’449 patent, Qualcomm also contributed to, and continues to contribute to, the infringement of one or more claims of the ’449 patent, including claim 10, in violation of 35 U.S.C. § 271(c), by offering to sell, selling, and/or

[67] *See, e.g.*, https://www.qualcomm.com/snapdragon (last visited December 19, 2022); https://www.qualcomm.com/products/technology/processors/mobile-processors (last visited December 19, 2022);; https://www.qualcomm.com/products/application/automotive (last visited December 19, 2022); https://www.qualcomm.com/products/application/smartphones (last visited December 19, 2022); https://www.qualcomm.com/products/application/mobile-computing (last visited December 19, 2022); https://www.qualcomm.com/products/application/wearables (last visited December 19, 2022); https://www.qualcomm.com/products/application/audio (last visited December 19, 2022); https://www.qualcomm.com/products/application/xr-vr-ar (last visited December 19, 2022);

[68] *See, e.g.*, https://www.qualcomm.com/search?query=%22snapdragon%22&activeCategory=Documents (last visited December 19, 2022); https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/Snapdragon-8-plus-Gen-1-Product-Brief.pdf (last visited December 19, 2022).

importing the Qualcomm Accused Products, knowing them to be especially made or especially adapted for practicing the inventions of the ’449 patent and not a staple article or commodity of commerce suitable for substantial non-infringing use. This is evidenced by, among other things, the design, configuration, and functionality of the Qualcomm Accused Products, which are especially made or especially adapted for use in infringement of the ’449 patent when used for their normal and intended purpose. This is also evidenced by, among other things, Qualcomm’s informational and promotional materials described above, which describe the normal use and intended purpose of the Qualcomm Accused Products and demonstrate that the Qualcomm Accused Products are especially made or especially adapted for a use that infringes the ’449 patent.

267. As explained above in paragraphs 214-216 (which, in turn, cite paragraphs 27-29, 46, 69-70, 75, 100-101, 106, 129-130, 135, 164-165, 170, 183-184, 189, and 201-202), Qualcomm has had knowledge of each of the Asserted Patents, and Qualcomm had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, both before, and after, the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Qualcomm’s knowledge of, and knowing infringement of, the Asserted Patents.

268. On information and belief, as a result of Qualcomm’s inducement of, and/or contribution to, infringement, its customers and/or end users made, used, sold, offered for sale, or imported, and continue to make, use, sell, offer to sell, or import, Qualcomm’s products, including the Qualcomm Accused Products, in ways that directly infringe one or more claims of the ’449 patent, including claim 10. On information and belief, Qualcomm had actual knowledge of its customers’ and/or end users’ direct infringement at least by virtue of their sales, instruction, and/or otherwise promotion of Qualcomm’s products, including the Qualcomm Accused Products, at least

as of the dates of knowledge of the ’449 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1).

269. On information and belief, with knowledge of the ’449 patent, Qualcomm has willfully, deliberately, and intentionally infringed the ’449 patent, at least as of the dates of knowledge of the ’449 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1), and continues to willfully, deliberately, and intentionally infringe the ’449 patent. On information and belief, Qualcomm had actual knowledge of the ’449 patent and Qualcomm’s infringement of the ’449 patent at least as of the dates of knowledge of the ’449 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, after acquiring that knowledge, Qualcomm continued to directly and indirectly infringe the ’449 patent as set forth above. On information and belief, Qualcomm knew or should have known that its conduct amounted to infringement of the ’449 patent at least because Qualcomm was aware of the ’449 patent and Qualcomm’s infringement of the ’449 patent at least as of the dates of knowledge of the ’449 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1). Qualcomm was aware of its infringement by virtue of the ’449 patent’s fame in the semiconductor industry, Qualcomm’s expertise in the subject matter of the ’449 patent, Qualcomm’s technical competence to understand the scope of the ’449 patent, and Qualcomm’s intimate familiarity with its Accused Products. Additionally, Qualcomm was aware of the ’449 patent, and Qualcomm’s infringement of the ’449 patent, at least as of the December 19, 2022, date of the original Complaint (Dkt. 1) because Plaintiff notified Qualcomm of such.

270. As explained above in paragraphs 214-216 (which, in turn, cite paragraphs 27-29, 46, 69-70, 75, 100-101, 106, 129-130, 135, 164-165, 170, 183-184, 189, and 201-202), Qualcomm

has had knowledge of each of the Asserted Patents, and Qualcomm had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, both before, and after, the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Qualcomm's knowledge of, and knowing infringement of, the Asserted Patents.

271. On information and belief, Qualcomm will continue to infringe the '449 patent unless and until it is enjoined by this Court. Qualcomm, by way of its infringing activities, has caused and continues to cause Plaintiff to suffer damages in an amount to be determined, and has caused and is causing Plaintiff irreparable harm. Plaintiff has no adequate remedy at law against Qualcomm's acts of infringement and, unless Qualcomm is enjoined from its infringement of the '449 patent, Plaintiff will continue to suffer irreparable harm.

272. Plaintiff is entitled to recover from Qualcomm damages at least in an amount adequate to compensate for its infringement of the '449 patent, which amount has yet to be determined, together with interest and costs fixed by the Court.

273. On information and belief, Arteris has made, used, offered for sale, sold, and/or imported products, including within this Judicial District, including at least the Arteris Accused Products, that indirectly infringe, either literally or under the doctrine of equivalents, one or more claims of the '449 patent in violation of 35 U.S.C. § 271, including claim 10. A comparison of claim 10 of the '449 patent to an exemplary product of the Arteris Accused Products is attached as Exhibit 15, which is incorporated herein by reference.

274. On information and belief, with knowledge of the '449 patent, Arteris has actively induced and continues to induce the direct infringement of one or more claims of the '449 patent, including claim 10, in violation of 35 U.S.C. § 271(b), by its customers and/or end users of its

products, including at least the Arteris Accused Products, by selling, providing support for, providing instructions for use of, and/or otherwise encouraging its customers and/or end-users to directly infringe, either literally and/or under the doctrine of equivalents, one or more claims of the ’449 patent, including claim 10, with the intent to encourage those customers and/or end users to infringe the ’449 patent.

275. As explained above in paragraphs 227-229 (which, in turn, cite paragraphs 30-41, 46, 58-59, 75, 88-89, 106, 123-124, 135, 149-150, 170, 177-178, 189, and 195-196), Arteris has had knowledge of each of the Asserted Patents, and Arteris had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, both before, and after, the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Arteris’ knowledge of, and knowing infringement of, the Asserted Patents.

276. By way of example, on information and belief, Arteris actively induces infringement of the ’449 patent by encouraging, instructing, and aiding one or more persons in the United States, including but not limited to customers and/or end users who test, operate, and use Arteris products, including at least the Arteris Accused Products, to make, use, sell, offer to sell, and/or import SoCs incorporating such Arteris products, including at least the Qualcomm Accused Products, in a manner that infringes at least one claim of the ’449 patent, including claim 10. For example, as described above, Arteris actively markets, advertises, offers for sale, and/or otherwise promotes the Arteris Accused Products by publishing and distributing data sheets, manuals, and guides for the Arteris Accused Products. Therein, on information and belief, Arteris describes and touts the use of the subject matter claimed in the ’449 patent.

277. As shown in the charts appended as Exhibit 14 (’818 patent), Exhibit 15 (’449

patent), Exhibit 16 ('052 patent), Exhibit 17 ('9893 patent), Exhibit 18 ('2893 patent), and Exhibit 19 ('800 patent), Arteris markets, advertises, offers for sale, and/or otherwise promotes the Arteris Accused Products and, on information and belief, does so to actively and knowingly induce, encourage, instruct, and aid one or more persons in the United States to make, use, sell, offer to sell and/or import SoCs incorporating Arteris interconnect technology, including the Qualcomm Accused Products. For example, Arteris, or an entity under Arteris's direction or control, advertises, offers for sale, and/or otherwise promotes the Arteris Accused Products on its website.[69] Arteris, or one or more related entities, further publishes and distributes datasheets, presentations, technical papers, and videos for the Arteris Accused Products.[70] Therein, on information and belief, Arteris describes and touts the use of the subject matter claimed in the Asserted Patents, as described and alleged herein. On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Arteris' specific intent to induce infringement.

278. On information and belief, with knowledge of the '449 patent, Arteris also contributed to, and continues to contribute to, the infringement of one or more claims of the '449 patent, including claim 10, in violation of 35 U.S.C. § 271(c), by offering to sell, selling, and/or importing the Arteris Accused Products, knowing them to be especially made or especially adapted

[69] *See, e.g.*, https://www.arteris.com/about-arteris (last visited December 19, 2022) (listing "[k]ey benefits of Arteris IP … interconnect solutions" and stating, for example, that the Arteris Accused Products "accelerate [SoC] semiconductor development and integration for a wide range of applications" and that "[c]ustomer results obtained by using Arteris IP products include lower power, higher performance, more efficient design reuse and faster SoC development, leading to lower development and production costs"); https://www.arteris.com/products (last visited December 19, 2022) (stating, for example, that Arteris's "interconnect IP is the communications backbone of your SoC, allowing you to make more complex chips in less time"); https://www.arteris.com/semiconductor-ip-products (last visited December 19, 2022) (stating, for example, that Arteris interconnect technology is "[t]he gold standard for SoC … interconnects").

[70] https://www.arteris.com/resources (last visited December 19, 2022); *see, e.g.*, https://www.arteris.com/hs-fs/hub/48858/file-14363521-pdf/docs/springer-appdrivennocarchitecture8.5x11.pdf (last visited December 19, 2022) (peer-reviewed technical journal article regarding Arteris interconnect technology, providing an Arteris product tutorial and touting that "the … methodology will not lead you astray, the flexibility of the Arteris library will fit your needs, and the associated tool framework will permit a clear description and validation of your NoC").

for practicing the inventions of the ’449 patent and not a staple article or commodity of commerce suitable for substantial non-infringing use. This is evidenced by, among other things, the design, configuration, and functionality of the Arteris Accused Products, which are especially made or especially adapted for use in infringement of the ’449 patent when used for their normal and intended purpose. This is also evidenced by, among other things, Arteris’s informational and promotional materials described above, which describe the normal use and intended purpose of the Arteris Accused Products and demonstrate that the Arteris Accused Products are especially made or especially adapted for a use that infringes the ’449 patent.

279. As explained above in paragraphs 227-229 (which, in turn, cite paragraphs 30-41, 46, 58-59, 75, 88-89, 106, 123-124, 135, 149-150, 170, 177-178, 189, and 195-196), Arteris has had knowledge of each of the Asserted Patents, and Arteris had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, both before, and after, the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Arteris’ knowledge of, and knowing infringement of, the Asserted Patents.

280. On information and belief, as a result of Arteris’s inducement of, and/or contribution to, infringement, its customers and/or end users made, used, sold, offered for sale, or imported, and continue to make, use, sell, offer to sell, or import, SoCs incorporating such Arteris products, including the Qualcomm Accused Products, in ways that directly infringe one or more claims of the ’449 patent, including claim 10. On information and belief, Arteris had actual knowledge of its customers’ and/or end users’ direct infringement at least by virtue of their sales, instruction, and/or otherwise promotion of Arteris’s products, including the Arteris Accused Products, at least as of the dates of knowledge of the ’449 patent alleged above, and no later than

the December 19, 2022, date of the original Complaint (Dkt. 1).

281. On information and belief, with knowledge of the ’449 patent, Arteris has willfully, deliberately, and intentionally infringed the ’449 patent, at least as of the dates of knowledge of the ’449 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1), and continues to willfully, deliberately, and intentionally infringe the ’449 patent. On information and belief, Arteris had actual knowledge of the ’449 patent and Arteris’s infringement of the ’449 patent at least as of the dates of knowledge of the ’449 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, after acquiring that knowledge, Arteris continued to indirectly infringe the ’449 patent as set forth above. On information and belief, Arteris knew or should have known that its conduct amounted to infringement of the ’449 patent at least because Arteris was aware of the ’449 patent and Arteris’s infringement of the ’449 patent at least as of the dates of knowledge of the ’449 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1). Arteris was aware of its infringement by virtue of the ’449 patent’s fame in the semiconductor industry, Arteris’s expertise in the subject matter of the ’449 patent, Arteris’s technical competence to understand the scope of the ’449 patent, and Arteris’s intimate familiarity with its Accused Products. Additionally, Arteris was aware of the ’449 patent, and Arteris’s infringement of the ’449 patent, at least as of the December 19, 2022, date of the original Complaint (Dkt. 1) because Plaintiff notified Arteris of such.

282. As explained above in paragraphs 227-229 (which, in turn, cite paragraphs 30-41, 46, 58-59, 75, 88-89, 106, 123-124, 135, 149-150, 170, 177-178, 189, and 195-196), Arteris has had knowledge of each of the Asserted Patents, and Arteris had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, both before, and after, the

December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Arteris' knowledge of, and knowing infringement of, the Asserted Patents.

283. On information and belief, Arteris will continue to infringe the '449 patent unless and until it is enjoined by this Court. Arteris, by way of its infringing activities, has caused and continues to cause Plaintiff to suffer damages in an amount to be determined, and has caused and is causing Plaintiff irreparable harm. Plaintiff has no adequate remedy at law against Arteris's acts of infringement and, unless Arteris is enjoined from its infringement of the '449 patent, Plaintiff will continue to suffer irreparable harm.

284. Plaintiff is entitled to recover from Arteris damages at least in an amount adequate to compensate for its infringement of the '449 patent, which amount has yet to be determined, together with interest and costs fixed by the Court.

COUNT III – INFRINGEMENT OF U.S. PATENT NO. 7,594,052

285. Plaintiff incorporates by reference the allegations contained in paragraphs 1 to 284 above.

286. On information and belief, Qualcomm has made, used, offered for sale, sold, and/or imported products, including within this Judicial District, including at least the Qualcomm Accused Products, that infringe, either literally or under the doctrine of equivalents, one or more claims of the '052 patent in violation of 35 U.S.C. § 271(a), including claim 6. A comparison of claim 6 of the '052 patent to an exemplary product of the Qualcomm Accused Products is attached as Exhibit 10, which is incorporated herein by reference.

287. On information and belief, with knowledge of the '052 patent, Qualcomm has actively induced and continues to induce the direct infringement of one or more claims of the '052

patent, including claim 6, in violation of 35 U.S.C. § 271(b), by its customers and/or end users of its products, including at least the Qualcomm Accused Products, by selling, providing support for, providing instructions for use of, and/or otherwise encouraging its customers and/or end-users to directly infringe, either literally and/or under the doctrine of equivalents, one or more claims of the ’052 patent, including claim 6, with the intent to encourage those customers and/or end users to infringe the ’052 patent.

288. As explained above in paragraphs 214-216 (which, in turn, cite paragraphs 27-29, 46, 69-70, 75, 100-101, 106, 129-130, 135, 164-165, 170, 183-184, 189, and 201-202), Qualcomm has had knowledge of each of the Asserted Patents, and Qualcomm had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, both before, and after, the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Qualcomm’s knowledge of, and knowing infringement of, the Asserted Patents.

289. By way of example, on information and belief, Qualcomm actively induces infringement of the ’052 patent by encouraging, instructing, and aiding one or more persons in the United States, including but not limited to customers and/or end users who test, operate, and use Qualcomm’s products, including at least the Qualcomm Accused Products, to make, use, sell, offer to sell, and/or import Qualcomm’s products, including at least the Qualcomm Accused Products, in a manner that infringes at least one claim of the ’052 patent, including claim 6. For example, as described above, Qualcomm actively markets, advertises, offers for sale, and/or otherwise promotes the Qualcomm Accused Products by publishing and distributing data sheets, manuals, and guides for the Qualcomm Accused Products. Therein, on information and belief, Qualcomm describes and touts the use of the subject matter claimed in the ’052 patent.

290. As shown in the charts appended as Exhibit 8 ('818 patent), Exhibit 9 ('449 patent), Exhibit 10 ('052 patent), Exhibit 11 ('9893 patent), Exhibit 12 ('2893 patent), and Exhibit 13 ('800 patent), and the materials cited therein, Qualcomm markets, advertises, offers for sale, and/or otherwise promotes the Qualcomm Accused Products and, on information and belief, does so to actively and knowingly induce, encourage, instruct, and aid one or more persons in the United States to make, use, sell, offer to sell and/or import the Qualcomm Accused Products. For example, Qualcomm, or an entity under Qualcomm's direction or control, advertises, offers for sale, and/or otherwise promotes the Qualcomm Accused Products on its website.[71] Qualcomm, or one or more related entities, further publishes and distributes product briefs, data sheets, manuals, guides, test reports, specifications, videos, and other authorized resources for the Qualcomm Accused Products.[72] Therein, on information and belief, Qualcomm describes and touts the use of the subject matter claimed in the Asserted Patents, as described and alleged herein. On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Qualcomm's specific intent to induce infringement.

291. On information and belief, with knowledge of the '052 patent, Qualcomm also contributed to, and continues to contribute to, the infringement of one or more claims of the '052 patent, including claim 6, in violation of 35 U.S.C. § 271(c), by offering to sell, selling, and/or importing the Qualcomm Accused Products, knowing them to be especially made or especially

[71] *See, e.g.*, https://www.qualcomm.com/snapdragon (last visited December 19, 2022); https://www.qualcomm.com/products/technology/processors/mobile-processors (last visited December 19, 2022);; https://www.qualcomm.com/products/application/automotive (last visited December 19, 2022); https://www.qualcomm.com/products/application/smartphones (last visited December 19, 2022); https://www.qualcomm.com/products/application/mobile-computing (last visited December 19, 2022); https://www.qualcomm.com/products/application/wearables (last visited December 19, 2022); https://www.qualcomm.com/products/application/audio (last visited December 19, 2022); https://www.qualcomm.com/products/application/xr-vr-ar (last visited December 19, 2022);

[72] *See, e.g.*, https://www.qualcomm.com/search?query=%22snapdragon%22&activeCategory=Documents (last visited December 19, 2022); https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/Snapdragon-8-plus-Gen-1-Product-Brief.pdf (last visited December 19, 2022).

adapted for practicing the inventions of the ’052 patent and not a staple article or commodity of commerce suitable for substantial non-infringing use. This is evidenced by, among other things, the design, configuration, and functionality of the Qualcomm Accused Products, which are especially made or especially adapted for use in infringement of the ’052 patent when used for their normal and intended purpose. This is also evidenced by, among other things, Qualcomm’s informational and promotional materials described above, which describe the normal use and intended purpose of the Qualcomm Accused Products and demonstrate that the Qualcomm Accused Products are especially made or especially adapted for a use that infringes the ’052 patent.

292. As explained above in paragraphs 214-216 (which, in turn, cite paragraphs 27-29, 46, 69-70, 75, 100-101, 106, 129-130, 135, 164-165, 170, 183-184, 189, and 201-202), Qualcomm has had knowledge of each of the Asserted Patents, and Qualcomm had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, both before, and after, the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Qualcomm’s knowledge of, and knowing infringement of, the Asserted Patents.

293. On information and belief, as a result of Qualcomm’s inducement of, and/or contribution to, infringement, its customers and/or end users made, used, sold, offered for sale, or imported, and continue to make, use, sell, offer to sell, or import, Qualcomm’s products, including the Qualcomm Accused Products, in ways that directly infringe one or more claims of the ’052 patent, including claim 6. On information and belief, Qualcomm had actual knowledge of its customers’ and/or end users’ direct infringement at least by virtue of their sales, instruction, and/or otherwise promotion of Qualcomm’s products, including the Qualcomm Accused Products, at least as of the dates of knowledge of the ’052 patent alleged above, and no later than the December 19,

2022, date of the original Complaint (Dkt. 1).

294. On information and belief, with knowledge of the ’052 patent, Qualcomm has willfully, deliberately, and intentionally infringed the ’052 patent, at least as of the dates of knowledge of the ’052 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1), and continues to willfully, deliberately, and intentionally infringe the ’052 patent. On information and belief, Qualcomm had actual knowledge of the ’052 patent and Qualcomm’s infringement of the ’052 patent at least as of the dates of knowledge of the ’052 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, after acquiring that knowledge, Qualcomm continued to directly and indirectly infringe the ’052 patent as set forth above. On information and belief, Qualcomm knew or should have known that its conduct amounted to infringement of the ’052 patent at least because Qualcomm was aware of the ’052 patent and Qualcomm’s infringement of the ’052 patent at least as of the dates of knowledge of the ’052 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1). Qualcomm was aware of its infringement by virtue of the ’052 patent’s fame in the semiconductor industry, Qualcomm’s expertise in the subject matter of the ’052 patent, Qualcomm’s technical competence to understand the scope of the ’052 patent, and Qualcomm’s intimate familiarity with its Accused Products. Additionally, Qualcomm was aware of the ’052 patent, and Qualcomm’s infringement of the ’052 patent, at least as of the December 19, 2022, date of the original Complaint (Dkt. 1) because Plaintiff notified Qualcomm of such.

295. As explained above in paragraphs 214-216 (which, in turn, cite paragraphs 27-29, 46, 69-70, 75, 100-101, 106, 129-130, 135, 164-165, 170, 183-184, 189, and 201-202), Qualcomm has had knowledge of each of the Asserted Patents, and Qualcomm had knowledge that its

affirmative acts to encourage infringement in fact constituted patent infringement, both before, and after, the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Qualcomm's knowledge of, and knowing infringement of, the Asserted Patents.

296. On information and belief, Qualcomm will continue to infringe the '052 patent unless and until it is enjoined by this Court. Qualcomm, by way of its infringing activities, has caused and continues to cause Plaintiff to suffer damages in an amount to be determined, and has caused and is causing Plaintiff irreparable harm. Plaintiff has no adequate remedy at law against Qualcomm's acts of infringement and, unless Qualcomm is enjoined from its infringement of the '052 patent, Plaintiff will continue to suffer irreparable harm.

297. Plaintiff is entitled to recover from Qualcomm damages at least in an amount adequate to compensate for its infringement of the '052 patent, which amount has yet to be determined, together with interest and costs fixed by the Court.

298. On information and belief, Arteris has made, used, offered for sale, sold, and/or imported products, including within this Judicial District, including at least the Arteris Accused Products, that indirectly infringe, either literally or under the doctrine of equivalents, one or more claims of the '052 patent in violation of 35 U.S.C. § 271, including claim 6. A comparison of claim 6 of the '052 patent to an exemplary product of the Arteris Accused Products is attached as Exhibit 16, which is incorporated herein by reference.

299. On information and belief, with knowledge of the '052 patent, Arteris has actively induced and continues to induce the direct infringement of one or more claims of the '052 patent, including claim 6, in violation of 35 U.S.C. § 271(b), by its customers and/or end users of its products, including at least the Arteris Accused Products, by selling, providing support for,

providing instructions for use of, and/or otherwise encouraging its customers and/or end-users to directly infringe, either literally and/or under the doctrine of equivalents, one or more claims of the ’052 patent, including claim 6, with the intent to encourage those customers and/or end users to infringe the ’052 patent.

300. As explained above in paragraphs 227-229 (which, in turn, cite paragraphs 30-41, 46, 58-59, 75, 88-89, 106, 123-124, 135, 149-150, 170, 177-178, 189, and 195-196), Arteris has had knowledge of each of the Asserted Patents, and Arteris had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, both before, and after, the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Arteris’ knowledge of, and knowing infringement of, the Asserted Patents.

301. By way of example, on information and belief, Arteris actively induces infringement of the ’052 patent by encouraging, instructing, and aiding one or more persons in the United States, including but not limited to customers and/or end users who test, operate, and use Arteris products, including at least the Arteris Accused Products, to make, use, sell, offer to sell, and/or import SoCs incorporating such Arteris products, including at least the Qualcomm Accused Products, in a manner that infringes at least one claim of the ’052 patent, including claim 6. For example, as described above, Arteris actively markets, advertises, offers for sale, and/or otherwise promotes the Arteris Accused Products by publishing and distributing data sheets, manuals, and guides for the Arteris Accused Products. Therein, on information and belief, Arteris describes and touts the use of the subject matter claimed in the ’052 patent.

302. As shown in the charts appended as Exhibit 14 (’818 patent), Exhibit 15 (’449 patent), Exhibit 16 (’052 patent), Exhibit 17 (’9893 patent), Exhibit 18 (’2893 patent), and Exhibit

19 ('800 patent), Arteris markets, advertises, offers for sale, and/or otherwise promotes the Arteris Accused Products and, on information and belief, does so to actively and knowingly induce, encourage, instruct, and aid one or more persons in the United States to make, use, sell, offer to sell and/or import SoCs incorporating Arteris interconnect technology, including the Qualcomm Accused Products. For example, Arteris, or an entity under Arteris's direction or control, advertises, offers for sale, and/or otherwise promotes the Arteris Accused Products on its website.[73] Arteris, or one or more related entities, further publishes and distributes datasheets, presentations, technical papers, and videos for the Arteris Accused Products.[74] Therein, on information and belief, Arteris describes and touts the use of the subject matter claimed in the Asserted Patents, as described and alleged herein. On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Arteris' specific intent to induce infringement.

303. On information and belief, with knowledge of the '052 patent, Arteris also contributed to, and continues to contribute to, the infringement of one or more claims of the '052 patent, including claim 6, in violation of 35 U.S.C. § 271(c), by offering to sell, selling, and/or importing the Arteris Accused Products, knowing them to be especially made or especially adapted for practicing the inventions of the '052 patent and not a staple article or commodity of commerce

[73] *See, e.g.*, https://www.arteris.com/about-arteris (last visited December 19, 2022) (listing "[k]ey benefits of Arteris IP … interconnect solutions" and stating, for example, that the Arteris Accused Products "accelerate [SoC] semiconductor development and integration for a wide range of applications" and that "[c]ustomer results obtained by using Arteris IP products include lower power, higher performance, more efficient design reuse and faster SoC development, leading to lower development and production costs"); https://www.arteris.com/products (last visited December 19, 2022) (stating, for example, that Arteris's "interconnect IP is the communications backbone of your SoC, allowing you to make more complex chips in less time"); https://www.arteris.com/semiconductor-ip-products (last visited December 19, 2022) (stating, for example, that Arteris interconnect technology is "[t]he gold standard for SoC … interconnects").

[74] https://www.arteris.com/resources (last visited December 19, 2022); *see, e.g.*, https://www.arteris.com/hs-fs/hub/48858/file-14363521-pdf/docs/springer-appdrivennocarchitecture8.5x11.pdf (last visited December 19, 2022) (peer-reviewed technical journal article regarding Arteris interconnect technology, providing an Arteris product tutorial and touting that "the … methodology will not lead you astray, the flexibility of the Arteris library will fit your needs, and the associated tool framework will permit a clear description and validation of your NoC").

suitable for substantial non-infringing use. This is evidenced by, among other things, the design, configuration, and functionality of the Arteris Accused Products, which are especially made or especially adapted for use in infringement of the ’052 patent when used for their normal and intended purpose. This is also evidenced by, among other things, Arteris’s informational and promotional materials described above, which describe the normal use and intended purpose of the Arteris Accused Products and demonstrate that the Arteris Accused Products are especially made or especially adapted for a use that infringes the ’052 patent.

304. As explained above in paragraphs 227-229 (which, in turn, cite paragraphs 30-41, 46, 58-59, 75, 88-89, 106, 123-124, 135, 149-150, 170, 177-178, 189, and 195-196), Arteris has had knowledge of each of the Asserted Patents, and Arteris had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, both before, and after, the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Arteris’ knowledge of, and knowing infringement of, the Asserted Patents.

305. On information and belief, as a result of Arteris’s inducement of, and/or contribution to, infringement, its customers and/or end users made, used, sold, offered for sale, or imported, and continue to make, use, sell, offer to sell, or import, SoCs incorporating such Arteris products, including the Qualcomm Accused Products, in ways that directly infringe one or more claims of the ’052 patent, including claim 6. On information and belief, Arteris had actual knowledge of its customers’ and/or end users’ direct infringement at least by virtue of their sales, instruction, and/or otherwise promotion of Arteris’s products, including the Arteris Accused Products, at least as of the dates of knowledge of the ’052 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1).

306. On information and belief, with knowledge of the ’052 patent, Arteris has willfully, deliberately, and intentionally infringed the ’052 patent, at least as of the dates of knowledge of the ’052 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1), and continues to willfully, deliberately, and intentionally infringe the ’052 patent. On information and belief, Arteris had actual knowledge of the ’052 patent and Arteris’s infringement of the ’052 patent at least as of the dates of knowledge of the ’052 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, after acquiring that knowledge, Arteris continued to indirectly infringe the ’052 patent as set forth above. On information and belief, Arteris knew or should have known that its conduct amounted to infringement of the ’052 patent at least because Arteris was aware of the ’052 patent and Arteris’s infringement of the ’052 patent at least as of the dates of knowledge of the ’052 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1). Arteris was aware of its infringement by virtue of the ’052 patent’s fame in the semiconductor industry, Arteris’s expertise in the subject matter of the ’052 patent, Arteris’s technical competence to understand the scope of the ’052 patent, and Arteris’s intimate familiarity with its Accused Products. Additionally, Arteris was aware of the ’052 patent, and Arteris’s infringement of the ’052 patent, at least as the December 19, 2022, date of the original Complaint (Dkt. 1) because Plaintiff notified Arteris of such.

307. As explained above in paragraphs 227-229 (which, in turn, cite paragraphs 30-41, 46, 58-59, 75, 88-89, 106, 123-124, 135, 149-150, 170, 177-178, 189, and 195-196), Arteris has had knowledge of each of the Asserted Patents, and Arteris had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, both before, and after, the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery

in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Arteris' knowledge of, and knowing infringement of, the Asserted Patents.

308. On information and belief, Arteris will continue to infringe the '052 patent unless and until it is enjoined by this Court. Arteris, by way of its infringing activities, has caused and continues to cause Plaintiff to suffer damages in an amount to be determined, and has caused and is causing Plaintiff irreparable harm. Plaintiff has no adequate remedy at law against Arteris's acts of infringement and, unless Arteris is enjoined from its infringement of the '052 patent, Plaintiff will continue to suffer irreparable harm.

309. Plaintiff is entitled to recover from Arteris damages at least in an amount adequate to compensate for its infringement of the '052 patent, which amount has yet to be determined, together with interest and costs fixed by the Court.

COUNT IV – INFRINGEMENT OF U.S. PATENT NO. 7,769,893

310. Plaintiff incorporates by reference the allegations contained in paragraphs 1 to 309 above.

311. On information and belief, Qualcomm has made, used, offered for sale, sold, and/or imported products, including within this Judicial District, including at least the Qualcomm Accused Products, that infringe, either literally or under the doctrine of equivalents, one or more claims of the '9893 patent in violation of 35 U.S.C. § 271(a), including claim 4. A comparison of claim 4 of the '9893 patent to an exemplary product of the Qualcomm Accused Products is attached as Exhibit 11, which is incorporated herein by reference.

312. On information and belief, with knowledge of the '9893 patent, Qualcomm has actively induced and continues to induce the direct infringement of one or more claims of the '9893 patent, including claim 4, in violation of 35 U.S.C. § 271(b), by its customers and/or end users of

its products, including at least the Qualcomm Accused Products, by selling, providing support for, providing instructions for use of, and/or otherwise encouraging its customers and/or end-users to directly infringe, either literally and/or under the doctrine of equivalents, one or more claims of the ’9893 patent, including claim 4, with the intent to encourage those customers and/or end users to infringe the ’9893 patent.

313. As explained above in paragraphs 214-216 (which, in turn, cite paragraphs 27-29, 46, 69-70, 75, 100-101, 106, 129-130, 135, 164-165, 170, 183-184, 189, and 201-202), Qualcomm has had knowledge of each of the Asserted Patents, and Qualcomm had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, both before, and after, the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Qualcomm’s knowledge of, and knowing infringement of, the Asserted Patents.

314. By way of example, on information and belief, Qualcomm actively induces infringement of the ’9893 patent by encouraging, instructing, and aiding one or more persons in the United States, including but not limited to customers and/or end users who test, operate, and use Qualcomm’s products, including at least the Qualcomm Accused Products, to make, use, sell, offer to sell, and/or import Qualcomm’s products, including at least the Qualcomm Accused Products, in a manner that infringes at least one claim of the ’9893 patent, including claim 4. For example, as described above, Qualcomm actively markets, advertises, offers for sale, and/or otherwise promotes the Qualcomm Accused Products by publishing and distributing data sheets, manuals, and guides for the Qualcomm Accused Products. Therein, on information and belief, Qualcomm describes and touts the use of the subject matter claimed in the ’9893 patent.

315. As shown in the charts appended as Exhibit 8 (’818 patent), Exhibit 9 (’449 patent),

Exhibit 10 ('052 patent), Exhibit 11 ('9893 patent), Exhibit 12 ('2893 patent), and Exhibit 13 ('800 patent), and the materials cited therein, Qualcomm markets, advertises, offers for sale, and/or otherwise promotes the Qualcomm Accused Products and, on information and belief, does so to actively and knowingly induce, encourage, instruct, and aid one or more persons in the United States to make, use, sell, offer to sell and/or import the Qualcomm Accused Products. For example, Qualcomm, or an entity under Qualcomm's direction or control, advertises, offers for sale, and/or otherwise promotes the Qualcomm Accused Products on its website.[75] Qualcomm, or one or more related entities, further publishes and distributes product briefs, data sheets, manuals, guides, test reports, specifications, videos, and other authorized resources for the Qualcomm Accused Products.[76] Therein, on information and belief, Qualcomm describes and touts the use of the subject matter claimed in the Asserted Patents, as described and alleged herein. On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Qualcomm's specific intent to induce infringement.

316. On information and belief, with knowledge of the '9893 patent, Qualcomm also contributed to, and continues to contribute to, the infringement of one or more claims of the '9893 patent, including claim 4, in violation of 35 U.S.C. § 271(c), by offering to sell, selling, and/or importing the Qualcomm Accused Products, knowing them to be especially made or especially adapted for practicing the inventions of the '9893 patent and not a staple article or commodity of

[75] *See, e.g.*, https://www.qualcomm.com/snapdragon (last visited December 19, 2022); https://www.qualcomm.com/products/technology/processors/mobile-processors (last visited December 19, 2022);; https://www.qualcomm.com/products/application/automotive (last visited December 19, 2022); https://www.qualcomm.com/products/application/smartphones (last visited December 19, 2022); https://www.qualcomm.com/products/application/mobile-computing (last visited December 19, 2022); https://www.qualcomm.com/products/application/wearables (last visited December 19, 2022); https://www.qualcomm.com/products/application/audio (last visited December 19, 2022); https://www.qualcomm.com/products/application/xr-vr-ar (last visited December 19, 2022);

[76] *See, e.g.*, https://www.qualcomm.com/search?query=%22snapdragon%22&activeCategory=Documents (last visited December 19, 2022); https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/Snapdragon-8-plus-Gen-1-Product-Brief.pdf (last visited December 19, 2022).

commerce suitable for substantial non-infringing use. This is evidenced by, among other things, the design, configuration, and functionality of the Qualcomm Accused Products, which are especially made or especially adapted for use in infringement of the ’9893 patent when used for their normal and intended purpose. This is also evidenced by, among other things, Qualcomm’s informational and promotional materials described above, which describe the normal use and intended purpose of the Qualcomm Accused Products and demonstrate that the Qualcomm Accused Products are especially made or especially adapted for a use that infringes the ’9893 patent.

317. As explained above in paragraphs 214-216 (which, in turn, cite paragraphs 27-29, 46, 69-70, 75, 100-101, 106, 129-130, 135, 164-165, 170, 183-184, 189, and 201-202), Qualcomm has had knowledge of each of the Asserted Patents, and Qualcomm had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, both before, and after, the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Qualcomm’s knowledge of, and knowing infringement of, the Asserted Patents.

318. On information and belief, as a result of Qualcomm’s inducement of, and/or contribution to, infringement, its customers and/or end users made, used, sold, offered for sale, or imported, and continue to make, use, sell, offer to sell, or import, Qualcomm’s products, including the Qualcomm Accused Products, in ways that directly infringe one or more claims of the ’9893 patent, including claim 4. On information and belief, Qualcomm had actual knowledge of its customers’ and/or end users’ direct infringement at least by virtue of their sales, instruction, and/or otherwise promotion of Qualcomm’s products, including the Qualcomm Accused Products, at least as of the dates of knowledge of the ’9893 patent alleged above, and no later than the December

19, 2022, date of the original Complaint (Dkt. 1).

319. On information and belief, with knowledge of the ’9893 patent, Qualcomm has willfully, deliberately, and intentionally infringed the ’9893 patent, at least as of the dates of knowledge of the ’9893 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1), and continues to willfully, deliberately, and intentionally infringe the ’9893 patent. On information and belief, Qualcomm had actual knowledge of the ’9893 patent and Qualcomm’s infringement of the ’9893 patent at least as of the dates of knowledge of the ’9893 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, after acquiring that knowledge, Qualcomm continued to directly and indirectly infringe the ’9893 patent as set forth above. On information and belief, Qualcomm knew or should have known that its conduct amounted to infringement of the ’9893 patent at least because Qualcomm was aware of the ’9893 patent and Qualcomm’s infringement of the ’9893 patent at least as of the dates of knowledge of the ’9893 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1). Qualcomm was aware of its infringement by virtue of the ’9893 patent’s fame in the semiconductor industry, Qualcomm’s expertise in the subject matter of the ’9893 patent, Qualcomm’s technical competence to understand the scope of the ’9893 patent, and Qualcomm’s intimate familiarity with its Accused Products. Additionally, Qualcomm was aware of the ’9893 patent, and Qualcomm’s infringement of the ’9893 patent, at least as of the December 19, 2022, date of the original Complaint (Dkt. 1) because Plaintiff notified Qualcomm of such.

320. As explained above in paragraphs 214-216 (which, in turn, cite paragraphs 27-29, 46, 69-70, 75, 100-101, 106, 129-130, 135, 164-165, 170, 183-184, 189, and 201-202), Qualcomm has had knowledge of each of the Asserted Patents, and Qualcomm had knowledge that its

affirmative acts to encourage infringement in fact constituted patent infringement, both before, and after, the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Qualcomm's knowledge of, and knowing infringement of, the Asserted Patents.

321. On information and belief, Qualcomm will continue to infringe the '9893 patent unless and until it is enjoined by this Court. Qualcomm, by way of its infringing activities, has caused and continues to cause Plaintiff to suffer damages in an amount to be determined, and has caused and is causing Plaintiff irreparable harm. Plaintiff has no adequate remedy at law against Qualcomm's acts of infringement and, unless Qualcomm is enjoined from its infringement of the '9893 patent, Plaintiff will continue to suffer irreparable harm.

322. Plaintiff is entitled to recover from Qualcomm damages at least in an amount adequate to compensate for its infringement of the '9893 patent, which amount has yet to be determined, together with interest and costs fixed by the Court.

323. On information and belief, Arteris has made, used, offered for sale, sold, and/or imported products, including within this Judicial District, including at least the Arteris Accused Products, that indirectly infringe, either literally or under the doctrine of equivalents, one or more claims of the '9893 patent in violation of 35 U.S.C. § 271, including claim 4. A comparison of claim 4 of the '9893 patent to an exemplary product of the Arteris Accused Products is attached as Exhibit 17, which is incorporated herein by reference.

324. On information and belief, with knowledge of the '9893 patent, Arteris has actively induced and continues to induce the direct infringement of one or more claims of the '9893 patent, including claim 4, in violation of 35 U.S.C. § 271(b), by its customers and/or end users of its products, including at least the Arteris Accused Products, by selling, providing support for,

providing instructions for use of, and/or otherwise encouraging its customers and/or end-users to directly infringe, either literally and/or under the doctrine of equivalents, one or more claims of the ’9893 patent, including claim 4, with the intent to encourage those customers and/or end users to infringe the ’9893 patent.

325. As explained above in paragraphs 227-229 (which, in turn, cite paragraphs 30-41, 46, 58-59, 75, 88-89, 106, 123-124, 135, 149-150, 170, 177-178, 189, and 195-196), Arteris has had knowledge of each of the Asserted Patents, and Arteris had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, both before, and after, the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Arteris’ knowledge of, and knowing infringement of, the Asserted Patents.

326. By way of example, on information and belief, Arteris actively induces infringement of the ’9893 patent by encouraging, instructing, and aiding one or more persons in the United States, including but not limited to customers and/or end users who test, operate, and use Arteris products, including at least the Arteris Accused Products, to make, use, sell, offer to sell, and/or import SoCs incorporating such Arteris products, including at least the Qualcomm Accused Products, in a manner that infringes at least one claim of the ’9893 patent, including claim 4. For example, as described above, Arteris actively markets, advertises, offers for sale, and/or otherwise promotes the Arteris Accused Products by publishing and distributing data sheets, manuals, and guides for the Arteris Accused Products. Therein, on information and belief, Arteris describes and touts the use of the subject matter claimed in the ’9893 patent.

327. As shown in the charts appended as Exhibit 14 (’818 patent), Exhibit 15 (’449 patent), Exhibit 16 (’052 patent), Exhibit 17 (’9893 patent), Exhibit 18 (’2893 patent), and Exhibit

19 ('800 patent), Arteris markets, advertises, offers for sale, and/or otherwise promotes the Arteris Accused Products and, on information and belief, does so to actively and knowingly induce, encourage, instruct, and aid one or more persons in the United States to make, use, sell, offer to sell and/or import SoCs incorporating Arteris interconnect technology, including the Qualcomm Accused Products. For example, Arteris, or an entity under Arteris's direction or control, advertises, offers for sale, and/or otherwise promotes the Arteris Accused Products on its website.[77] Arteris, or one or more related entities, further publishes and distributes datasheets, presentations, technical papers, and videos for the Arteris Accused Products.[78] Therein, on information and belief, Arteris describes and touts the use of the subject matter claimed in the Asserted Patents, as described and alleged herein. On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Arteris' specific intent to induce infringement.

328. On information and belief, with knowledge of the '9893 patent, Arteris also contributed to, and continues to contribute to, the infringement of one or more claims of the '9893 patent, including claim 4, in violation of 35 U.S.C. § 271(c), by offering to sell, selling, and/or importing the Arteris Accused Products, knowing them to be especially made or especially adapted for practicing the inventions of the '9893 patent and not a staple article or commodity of commerce

[77] *See, e.g.*, https://www.arteris.com/about-arteris (last visited December 19, 2022) (listing "[k]ey benefits of Arteris IP … interconnect solutions" and stating, for example, that the Arteris Accused Products "accelerate [SoC] semiconductor development and integration for a wide range of applications" and that "[c]ustomer results obtained by using Arteris IP products include lower power, higher performance, more efficient design reuse and faster SoC development, leading to lower development and production costs"); https://www.arteris.com/products (last visited December 19, 2022) (stating, for example, that Arteris's "interconnect IP is the communications backbone of your SoC, allowing you to make more complex chips in less time"); https://www.arteris.com/semiconductor-ip-products (last visited December 19, 2022) (stating, for example, that Arteris interconnect technology is "[t]he gold standard for SoC … interconnects").

[78] https://www.arteris.com/resources (last visited December 19, 2022); *see, e.g.*, https://www.arteris.com/hs-fs/hub/48858/file-14363521-pdf/docs/springer-appdrivennocarchitecture8.5x11.pdf (last visited December 19, 2022) (peer-reviewed technical journal article regarding Arteris interconnect technology, providing an Arteris product tutorial and touting that "the … methodology will not lead you astray, the flexibility of the Arteris library will fit your needs, and the associated tool framework will permit a clear description and validation of your NoC").

suitable for substantial non-infringing use. This is evidenced by, among other things, the design, configuration, and functionality of the Arteris Accused Products, which are especially made or especially adapted for use in infringement of the ’9893 patent when used for their normal and intended purpose. This is also evidenced by, among other things, Arteris’s informational and promotional materials described above, which describe the normal use and intended purpose of the Arteris Accused Products and demonstrate that the Arteris Accused Products are especially made or especially adapted for a use that infringes the ’9893 patent.

329. As explained above in paragraphs 227-229 (which, in turn, cite paragraphs 30-41, 46, 58-59, 75, 88-89, 106, 123-124, 135, 149-150, 170, 177-178, 189, and 195-196), Arteris has had knowledge of each of the Asserted Patents, and Arteris had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, both before, and after, the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Arteris’ knowledge of, and knowing infringement of, the Asserted Patents.

330. On information and belief, as a result of Arteris’s inducement of, and/or contribution to, infringement, its customers and/or end users made, used, sold, offered for sale, or imported, and continue to make, use, sell, offer to sell, or import, SoCs incorporating such Arteris products, including the Qualcomm Accused Products, in ways that directly infringe one or more claims of the ’9893 patent, including claim 4. On information and belief, Arteris had actual knowledge of its customers’ and/or end users’ direct infringement at least by virtue of their sales, instruction, and/or otherwise promotion of Arteris’s products, including the Arteris Accused Products, at least as of the dates of knowledge of the ’9893 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1).

331. On information and belief, with knowledge of the ’9893 patent, Arteris has willfully, deliberately, and intentionally infringed the ’9893 patent, at least as of the dates of knowledge of the ’9893 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1), and continues to willfully, deliberately, and intentionally infringe the ’9893 patent. On information and belief, Arteris had actual knowledge of the ’9893 patent and Arteris’s infringement of the ’9893 patent at least as of the dates of knowledge of the ’9893 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, after acquiring that knowledge, Arteris continued to indirectly infringe the ’9893 patent as set forth above. On information and belief, Arteris knew or should have known that its conduct amounted to infringement of the ’9893 patent at least because Arteris was aware of the ’9893 patent and Arteris’s infringement of the ’9893 patent at least as of the dates of knowledge of the ’9893 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1). Arteris was aware of its infringement by virtue of the ’9893 patent’s fame in the semiconductor industry, Arteris’s expertise in the subject matter of the ’9893 patent, Arteris’s technical competence to understand the scope of the ’9893 patent, and Arteris’s intimate familiarity with its Accused Products. Additionally, Arteris was aware of the ’9893 patent, and Arteris’s infringement of the ’9893 patent, at least as of the December 19, 2022, date of the original Complaint (Dkt. 1) because Plaintiff notified Arteris of such.

332. As explained above in paragraphs 227-229 (which, in turn, cite paragraphs 30-41, 46, 58-59, 75, 88-89, 106, 123-124, 135, 149-150, 170, 177-178, 189, and 195-196), Arteris has had knowledge of each of the Asserted Patents, and Arteris had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, both before, and after, the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery

in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Arteris' knowledge of, and knowing infringement of, the Asserted Patents.

333. On information and belief, Arteris will continue to infringe the '9893 patent unless and until it is enjoined by this Court. Arteris, by way of its infringing activities, has caused and continues to cause Plaintiff to suffer damages in an amount to be determined, and has caused and is causing Plaintiff irreparable harm. Plaintiff has no adequate remedy at law against Arteris's acts of infringement and, unless Arteris is enjoined from its infringement of the '9893 patent, Plaintiff will continue to suffer irreparable harm.

334. Plaintiff is entitled to recover from Arteris damages at least in an amount adequate to compensate for its infringement of the '9893 patent, which amount has yet to be determined, together with interest and costs fixed by the Court.

COUNT V – INFRINGEMENT OF U.S. PATENT NO. 8,072,893

335. Plaintiff incorporates by reference the allegations contained in paragraphs 1 to 334 above.

336. On information and belief, Qualcomm has made, used, offered for sale, sold, and/or imported products, including within this Judicial District, including at least the Qualcomm Accused Products, made or designed by processes that infringe, either literally or under the doctrine of equivalents, one or more claims of the '2893 patent in violation of 35 U.S.C. § 271(a) and/or § 271(g), including claim 10. A comparison of claim 10 of the '2893 patent to an exemplary product of the Qualcomm Accused Products made or designed by infringing processes is attached as Exhibit 12, which is incorporated herein by reference.

337. On information and belief, with knowledge of the '2893 patent, Qualcomm has actively induced and continues to induce the direct infringement of one or more claims of the '2893

patent, including claim 10, in violation of 35 U.S.C. § 271(b), by its suppliers, customers, and/or end users of its products, including at least the Qualcomm Accused Products, by selling, designing, providing support for, providing designs and/or specifications for, providing instructions for use of, and/or otherwise encouraging its suppliers, customers, and/or end-users to directly infringe, either literally and/or under the doctrine of equivalents, one or more claims of the ’2893 patent, including claim 10, with the intent to encourage those customers and/or end users to infringe the ’2893 patent.

338. As explained above in paragraphs 214-216 (which, in turn, cite paragraphs 27-29, 46, 69-70, 75, 100-101, 106, 129-130, 135, 164-165, 170, 183-184, 189, and 201-202), Qualcomm has had knowledge of each of the Asserted Patents, and Qualcomm had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, both before, and after, the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Qualcomm’s knowledge of, and knowing infringement of, the Asserted Patents.

339. By way of example, on information and belief, Qualcomm actively induces infringement of the ’2893 patent by encouraging, instructing, and aiding one or more persons in the United States, including but not limited to suppliers who supply and/or design components (for example, semiconductor IPs) of, test, operate, and/or use Qualcomm’s products, including at least the Qualcomm Accused Products or components thereof (for example, semiconductor IPs), to make, use, sell, offer to sell, and/or import Qualcomm’s products, including at least the Qualcomm Accused Products or components thereof (for example, semiconductor IPs), in a manner that infringes at least one claim of the ’2893 patent, including claim 10. For example, as described above, Qualcomm actively markets, advertises, offers for sale, and/or otherwise promotes the

Qualcomm Accused Products by publishing and distributing data sheets, manuals, and guides for the Qualcomm Accused Products. Additionally, on information and belief, Qualcomm provides its suppliers with specifications and/or designs for components, including by way of example, semiconductor IPs, for the Qualcomm Accused Products. Therein, on information and belief, Qualcomm describes, encourages, and touts the use of the subject matter claimed in the '2893 patent.

340. As shown in the charts appended as Exhibit 8 ('818 patent), Exhibit 9 ('449 patent), Exhibit 10 ('052 patent), Exhibit 11 ('9893 patent), Exhibit 12 ('2893 patent), and Exhibit 13 ('800 patent), and the materials cited therein, Qualcomm markets, advertises, offers for sale, and/or otherwise promotes the Qualcomm Accused Products and, on information and belief, does so to actively and knowingly induce, encourage, instruct, and aid one or more persons in the United States to make, use, sell, offer to sell and/or import the Qualcomm Accused Products. For example, Qualcomm, or an entity under Qualcomm's direction or control, advertises, offers for sale, and/or otherwise promotes the Qualcomm Accused Products on its website.[79] Qualcomm, or one or more related entities, further publishes and distributes product briefs, data sheets, manuals, guides, test reports, specifications, videos, and other authorized resources for the Qualcomm Accused Products.[80] Therein, on information and belief, Qualcomm describes and touts the use of the subject matter claimed in the Asserted Patents, as described and alleged herein. On

[79] *See, e.g.*, https://www.qualcomm.com/snapdragon (last visited December 19, 2022); https://www.qualcomm.com/products/technology/processors/mobile-processors (last visited December 19, 2022);; https://www.qualcomm.com/products/application/automotive (last visited December 19, 2022); https://www.qualcomm.com/products/application/smartphones (last visited December 19, 2022); https://www.qualcomm.com/products/application/mobile-computing (last visited December 19, 2022); https://www.qualcomm.com/products/application/wearables (last visited December 19, 2022); https://www.qualcomm.com/products/application/audio (last visited December 19, 2022); https://www.qualcomm.com/products/application/xr-vr-ar (last visited December 19, 2022);

[80] *See, e.g.*, https://www.qualcomm.com/search?query=%22snapdragon%22&activeCategory=Documents (last visited December 19, 2022); https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/Snapdragon-8-plus-Gen-1-Product-Brief.pdf (last visited December 19, 2022).

information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Qualcomm's specific intent to induce infringement.

341. On information and belief, with knowledge of the '2893 patent, Qualcomm also contributed to, and continues to contribute to, the infringement of one or more claims of the '2893 patent, including claim 10, in violation of 35 U.S.C. § 271(c), by providing specifications and/or designs for the Qualcomm Accused Products or components thereof (for example, semiconductor IPs), knowing them to be especially made or especially adapted for practicing the inventions of the '2893 patent and not a staple article or commodity of commerce suitable for substantial non-infringing use. This is evidenced by, among other things, the design, configuration, and functionality of the specifications and/or designs for Qualcomm Accused Products or components thereof (for example, semiconductor IPs), which are especially made or especially adapted for use in infringement of the '2893 patent when used for their normal and intended purpose. This is also evidenced by, among other things, the normal use and intended purpose of the specifications and/or designs for the Qualcomm Accused Products or components thereof (for example, semiconductor IPs), which demonstrate that the specifications and/or designs for the Qualcomm Accused Products or components thereof (for example, semiconductor IPs) are especially made or especially adapted for a use that infringes the '2893 patent.

342. As explained above in paragraphs 214-216 (which, in turn, cite paragraphs 27-29, 46, 69-70, 75, 100-101, 106, 129-130, 135, 164-165, 170, 183-184, 189, and 201-202), Qualcomm has had knowledge of each of the Asserted Patents, and Qualcomm had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, both before, and after, the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm

the details of Qualcomm's knowledge of, and knowing infringement of, the Asserted Patents.

343. On information and belief, as a result of Qualcomm's inducement of, and/or contribution to, infringement, its suppliers, customers, and/or end users designed, made, used, sold, offered for sale, or imported, and continue to make, use, sell, offer to sell, or import, Qualcomm's products, including the Qualcomm Accused Products or components thereof (for example, semiconductor IPs), in ways that directly infringe one or more claims of the '2893 patent, including claim 10. On information and belief, Qualcomm had actual knowledge of its suppliers', customers', and/or end users' direct infringement at least by virtue of their sales, instruction, and/or otherwise promotion of Qualcomm's products, including the Qualcomm Accused Products or components thereof (for example, semiconductor IPs), at least as of the dates of knowledge of the '2893 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1).

344. On information and belief, with knowledge of the '2893 patent, Qualcomm has willfully, deliberately, and intentionally infringed the '2893 patent, at least as of the dates of knowledge of the '2893 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1), and continues to willfully, deliberately, and intentionally infringe the '2893 patent. On information and belief, Qualcomm had actual knowledge of the '2893 patent and Qualcomm's infringement of the '2893 patent at least as of the dates of knowledge of the '2893 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, after acquiring that knowledge, Qualcomm continued to directly and indirectly infringe the '2893 patent as set forth above. On information and belief, Qualcomm knew or should have known that its conduct amounted to infringement of the '2893 patent at least because Qualcomm was aware of the '2893 patent and Qualcomm's

infringement of the ’2893 patent at least as of the dates of knowledge of the ’2893 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1). Qualcomm was aware of its infringement by virtue of the ’2893 patent’s fame in the semiconductor industry, Qualcomm’s expertise in the subject matter of the ’2893 patent, Qualcomm’s technical competence to understand the scope of the ’2893 patent, and Qualcomm’s intimate familiarity with its Accused Products. Additionally, Qualcomm was aware of the ’2893 patent, and Qualcomm’s infringement of the ’2893 patent, at least as of the December 19, 2022, date of the original Complaint (Dkt. 1) because Plaintiff notified Qualcomm of such.

345. As explained above in paragraphs 214-216 (which, in turn, cite paragraphs 27-29, 46, 69-70, 75, 100-101, 106, 129-130, 135, 164-165, 170, 183-184, 189, and 201-202), Qualcomm has had knowledge of each of the Asserted Patents, and Qualcomm had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, both before, and after, the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Qualcomm’s knowledge of, and knowing infringement of, the Asserted Patents.

346. On information and belief, Qualcomm will continue to infringe the ’2893 patent unless and until it is enjoined by this Court. Qualcomm, by way of its infringing activities, has caused and continues to cause Plaintiff to suffer damages in an amount to be determined, and has caused and is causing Plaintiff irreparable harm. Plaintiff has no adequate remedy at law against Qualcomm’s acts of infringement and, unless Qualcomm is enjoined from its infringement of the ’2893 patent, Plaintiff will continue to suffer irreparable harm.

347. Plaintiff is entitled to recover from Qualcomm damages at least in an amount adequate to compensate for its infringement of the ’2893 patent, which amount has yet to be

determined, together with interest and costs fixed by the Court.

348. On information and belief, Arteris has made, used, offered for sale, sold, and/or imported products, including within this Judicial District, including at least the Arteris Accused Products, made or designed by processes that infringe, either literally or under the doctrine of equivalents, one or more claims of the ’2893 patent in violation of 35 U.S.C. § 271(a) and/or § 271(g), including claim 1. A comparison of claim 1 of the ’2893 patent to an exemplary product of the Arteris Accused Products made or designed by infringing processes is attached as Exhibit 18, which is incorporated herein by reference.

349. On information and belief, with knowledge of the ’2893 patent, Arteris has actively induced and continues to induce the direct infringement of one or more claims of the ’2893 patent, including claim 10, in violation of 35 U.S.C. § 271(b), by its suppliers, customers, and/or end users of its products, including at least the Arteris Accused Products, by selling, designing, providing support for, providing designs and/or specifications for, providing instructions for use of, and/or otherwise encouraging its suppliers, customers, and/or end-users to directly infringe, either literally and/or under the doctrine of equivalents, one or more claims of the ’2893 patent, including claim 10, with the intent to encourage those customers and/or end users to infringe the ’2893 patent.

350. As explained above in paragraphs 227-229 (which, in turn, cite paragraphs 30-41, 46, 58-59, 75, 88-89, 106, 123-124, 135, 149-150, 170, 177-178, 189, and 195-196), Arteris has had knowledge of each of the Asserted Patents, and Arteris had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, both before, and after, the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details

of Arteris' knowledge of, and knowing infringement of, the Asserted Patents.

351. By way of example, on information and belief, Arteris actively induces infringement of the '2893 patent by encouraging, instructing, and aiding one or more persons in the United States, including but not limited to customers and/or end users who test, operate, and use Arteris products, including at least the Arteris Accused Products, to make, use, sell, offer to sell, and/or import SoCs incorporating such Arteris products, including at least the Qualcomm Accused Products, in a manner that infringes at least one claim of the '2893 patent, including claim 10. For example, as described above, Arteris actively markets, advertises, offers for sale, and/or otherwise promotes the Arteris Accused Products by publishing and distributing data sheets, manuals, and guides for the Arteris Accused Products. Therein, on information and belief, Arteris describes and touts the use of the subject matter claimed in the '2893 patent.

352. As shown in the charts appended as Exhibit 14 ('818 patent), Exhibit 15 ('449 patent), Exhibit 16 ('052 patent), Exhibit 17 ('9893 patent), Exhibit 18 ('2893 patent), and Exhibit 19 ('800 patent), Arteris markets, advertises, offers for sale, and/or otherwise promotes the Arteris Accused Products and, on information and belief, does so to actively and knowingly induce, encourage, instruct, and aid one or more persons in the United States to make, use, sell, offer to sell and/or import SoCs incorporating Arteris interconnect technology, including the Qualcomm Accused Products. For example, Arteris, or an entity under Arteris's direction or control, advertises, offers for sale, and/or otherwise promotes the Arteris Accused Products on its website.[81] Arteris, or one or more related entities, further publishes and distributes datasheets,

[81] *See, e.g.*, https://www.arteris.com/about-arteris (last visited December 19, 2022) (listing "[k]ey benefits of Arteris IP … interconnect solutions" and stating, for example, that the Arteris Accused Products "accelerate [SoC] semiconductor development and integration for a wide range of applications" and that "[c]ustomer results obtained by using Arteris IP products include lower power, higher performance, more efficient design reuse and faster SoC development, leading to lower development and production costs"); https://www.arteris.com/products (last visited December 19, 2022) (stating, for example, that Arteris's "interconnect IP is the communications backbone of your

presentations, technical papers, and videos for the Arteris Accused Products.[82] Therein, on information and belief, Arteris describes and touts the use of the subject matter claimed in the Asserted Patents, as described and alleged herein. On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Arteris' specific intent to induce infringement.

353. On information and belief, with knowledge of the '2893 patent, Arteris also contributed to, and continues to contribute to, the infringement of one or more claims of the '2893 patent, including claim 10, in violation of 35 U.S.C. § 271(c), by offering to sell, selling, and/or importing the Arteris Accused Products, knowing them to be especially made or especially adapted for practicing the inventions of the '2893 patent and not a staple article or commodity of commerce suitable for substantial non-infringing use. This is evidenced by, among other things, the design, configuration, and functionality of the Arteris Accused Products, which are especially made or especially adapted for use in infringement of the '2893 patent when used for their normal and intended purpose. This is also evidenced by, among other things, Arteris's informational and promotional materials described above, which describe the normal use and intended purpose of the Arteris Accused Products and demonstrate that the Arteris Accused Products are especially made or especially adapted for a use that infringes the '2893 patent.

354. As explained above in paragraphs 227-229 (which, in turn, cite paragraphs 30-41, 46, 58-59, 75, 88-89, 106, 123-124, 135, 149-150, 170, 177-178, 189, and 195-196), Arteris has

SoC, allowing you to make more complex chips in less time"); https://www.arteris.com/semiconductor-ip-products (last visited December 19, 2022) (stating, for example, that Arteris interconnect technology is "[t]he gold standard for SoC … interconnects").

[82] https://www.arteris.com/resources (last visited December 19, 2022); *see, e.g.*, https://www.arteris.com/hs-fs/hub/48858/file-14363521-pdf/docs/springer-appdrivennocarchitecture8.5x11.pdf (last visited December 19, 2022) (peer-reviewed technical journal article regarding Arteris interconnect technology, providing an Arteris product tutorial and touting that "the … methodology will not lead you astray, the flexibility of the Arteris library will fit your needs, and the associated tool framework will permit a clear description and validation of your NoC").

had knowledge of each of the Asserted Patents, and Arteris had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, both before, and after, the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Arteris' knowledge of, and knowing infringement of, the Asserted Patents.

355. On information and belief, as a result of Arteris's inducement of, and/or contribution to, infringement, its customers and/or end users made, used, sold, offered for sale, or imported, and continue to make, use, sell, offer to sell, or import, SoCs incorporating such Arteris products, including the Qualcomm Accused Products, in ways that directly infringe one or more claims of the '2893 patent, including claim 10. On information and belief, Arteris had actual knowledge of its customers' and/or end users' direct infringement at least by virtue of their sales, instruction, and/or otherwise promotion of Arteris's products, including the Arteris Accused Products, at least as of the dates of knowledge of the '2893 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1).

356. On information and belief, with knowledge of the '2893 patent, Arteris has willfully, deliberately, and intentionally infringed the '2893 patent, at least as of the dates of knowledge of the '2893 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1), and continues to willfully, deliberately, and intentionally infringe the '2893 patent. On information and belief, Arteris had actual knowledge of the '2893 patent and Arteris's infringement of the '2893 patent at least as of the dates of knowledge of the '2893 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, after acquiring that knowledge, Arteris continued to indirectly infringe the '2893 patent as set forth above. On information and belief, Arteris knew or should have known

that its conduct amounted to infringement of the ’2893 patent at least because Arteris was aware of the ’2893 patent and Arteris’s infringement of the ’2893 patent at least as of the dates of knowledge of the ’2893 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1). Arteris was aware of its infringement by virtue of the ’2893 patent’s fame in the semiconductor industry, Arteris’s expertise in the subject matter of the ’2893 patent, Arteris’s technical competence to understand the scope of the ’2893 patent, and Arteris’s intimate familiarity with its Accused Products. Additionally, Arteris was aware of the ’2893 patent, and Arteris’s infringement of the ’2893 patent, at least as of the December 19, 2022, date of the original Complaint (Dkt. 1) because Plaintiff notified Arteris of such.

357. As explained above in paragraphs 227-229 (which, in turn, cite paragraphs 30-41, 46, 58-59, 75, 88-89, 106, 123-124, 135, 149-150, 170, 177-178, 189, and 195-196), Arteris has had knowledge of each of the Asserted Patents, and Arteris had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, both before, and after, the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Arteris’ knowledge of, and knowing infringement of, the Asserted Patents.

358. On information and belief, Arteris will continue to infringe the ’2893 patent unless and until it is enjoined by this Court. Arteris, by way of its infringing activities, has caused and continues to cause Plaintiff to suffer damages in an amount to be determined, and has caused and is causing Plaintiff irreparable harm. Plaintiff has no adequate remedy at law against Arteris’s acts of infringement and, unless Arteris is enjoined from its infringement of the ’2893 patent, Plaintiff will continue to suffer irreparable harm.

359. Plaintiff is entitled to recover from Arteris damages at least in an amount adequate

to compensate for its infringement of the ’2893 patent, which amount has yet to be determined, together with interest and costs fixed by the Court.

COUNT VI – INFRINGEMENT OF U.S. PATENT NO. 8,086,800

360. Plaintiff incorporates by reference the allegations contained in paragraphs 1 to 359 above.

361. On information and belief, Qualcomm has made, used, offered for sale, sold, and/or imported products, including within this Judicial District, including at least the Qualcomm Accused Products, that infringe, either literally or under the doctrine of equivalents, one or more claims of the ’800 patent in violation of 35 U.S.C. § 271(a), including claim 10. A comparison of claim 10 of the ’800 patent to an exemplary product of the Qualcomm Accused Products is attached as Exhibit 13, which is incorporated herein by reference.

362. On information and belief, with knowledge of the ’800 patent, Qualcomm has actively induced and continues to induce the direct infringement of one or more claims of the ’800 patent, including claim 10, in violation of 35 U.S.C. § 271(b), by its customers and/or end users of its products, including at least the Qualcomm Accused Products, by selling, providing support for, providing instructions for use of, and/or otherwise encouraging its customers and/or end-users to directly infringe, either literally and/or under the doctrine of equivalents, one or more claims of the ’800 patent, including claim 10, with the intent to encourage those customers and/or end users to infringe the ’800 patent.

363. As explained above in paragraphs 214-216 (which, in turn, cite paragraphs 27-29, 46, 69-70, 75, 100-101, 106, 129-130, 135, 164-165, 170, 183-184, 189, and 201-202), Qualcomm has had knowledge of each of the Asserted Patents, and Qualcomm had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, both before, and

after, the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Qualcomm's knowledge of, and knowing infringement of, the Asserted Patents.

364. By way of example, on information and belief, Qualcomm actively induces infringement of the '800 patent by encouraging, instructing, and aiding one or more persons in the United States, including but not limited to customers and/or end users who test, operate, and use Qualcomm's products, including at least the Qualcomm Accused Products, to make, use, sell, offer to sell, and/or import Qualcomm's products, including at least the Qualcomm Accused Products, in a manner that infringes at least one claim of the '800 patent, including claim 10. For example, as described above, Qualcomm actively markets, advertises, offers for sale, and/or otherwise promotes the Qualcomm Accused Products by publishing and distributing data sheets, manuals, and guides for the Qualcomm Accused Products. Therein, on information and belief, Qualcomm describes and touts the use of the subject matter claimed in the '800 patent.

365. As shown in the charts appended as Exhibit 8 ('818 patent), Exhibit 9 ('449 patent), Exhibit 10 ('052 patent), Exhibit 11 ('9893 patent), Exhibit 12 ('2893 patent), and Exhibit 13 ('800 patent), and the materials cited therein, Qualcomm markets, advertises, offers for sale, and/or otherwise promotes the Qualcomm Accused Products and, on information and belief, does so to actively and knowingly induce, encourage, instruct, and aid one or more persons in the United States to make, use, sell, offer to sell and/or import the Qualcomm Accused Products. For example, Qualcomm, or an entity under Qualcomm's direction or control, advertises, offers for sale, and/or otherwise promotes the Qualcomm Accused Products on its website.[83] Qualcomm, or

[83] *See, e.g.*, https://www.qualcomm.com/snapdragon (last visited December 19, 2022); https://www.qualcomm.com/products/technology/processors/mobile-processors (last visited December 19, 2022);; https://www.qualcomm.com/products/application/automotive (last visited December 19, 2022);

one or more related entities, further publishes and distributes product briefs, data sheets, manuals, guides, test reports, specifications, videos, and other authorized resources for the Qualcomm Accused Products.[84] Therein, on information and belief, Qualcomm describes and touts the use of the subject matter claimed in the Asserted Patents, as described and alleged herein. On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Qualcomm's specific intent to induce infringement.

366. On information and belief, with knowledge of the '800 patent, Qualcomm also contributed to, and continues to contribute to, the infringement of one or more claims of the '800 patent, including claim 10, in violation of 35 U.S.C. § 271(c), by offering to sell, selling, and/or importing the Qualcomm Accused Products, knowing them to be especially made or especially adapted for practicing the inventions of the '800 patent and not a staple article or commodity of commerce suitable for substantial non-infringing use. This is evidenced by, among other things, the design, configuration, and functionality of the Qualcomm Accused Products, which are especially made or especially adapted for use in infringement of the '800 patent when used for their normal and intended purpose. This is also evidenced by, among other things, Qualcomm's informational and promotional materials described above, which describe the normal use and intended purpose of the Qualcomm Accused Products and demonstrate that the Qualcomm Accused Products are especially made or especially adapted for a use that infringes the '800 patent.

367. As explained above in paragraphs 214-216 (which, in turn, cite paragraphs 27-29,

https://www.qualcomm.com/products/application/smartphones (last visited December 19, 2022);
https://www.qualcomm.com/products/application/mobile-computing (last visited December 19, 2022);
https://www.qualcomm.com/products/application/wearables (last visited December 19, 2022);
https://www.qualcomm.com/products/application/audio (last visited December 19, 2022);
https://www.qualcomm.com/products/application/xr-vr-ar (last visited December 19, 2022);

[84] *See, e.g.*, https://www.qualcomm.com/search?query=%22snapdragon%22&activeCategory=Documents (last visited December 19, 2022); https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/Snapdragon-8-plus-Gen-1-Product-Brief.pdf (last visited December 19, 2022).

46, 69-70, 75, 100-101, 106, 129-130, 135, 164-165, 170, 183-184, 189, and 201-202), Qualcomm has had knowledge of each of the Asserted Patents, and Qualcomm had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, both before, and after, the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Qualcomm's knowledge of, and knowing infringement of, the Asserted Patents.

368. On information and belief, as a result of Qualcomm's inducement of, and/or contribution to, infringement, its customers and/or end users made, used, sold, offered for sale, or imported, and continue to make, use, sell, offer to sell, or import, Qualcomm's products, including the Qualcomm Accused Products, in ways that directly infringe one or more claims of the '800 patent, including claim 10. On information and belief, Qualcomm had actual knowledge of its customers' and/or end users' direct infringement at least by virtue of their sales, instruction, and/or otherwise promotion of Qualcomm's products, including the Qualcomm Accused Products, at least as of the dates of knowledge of the '800 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1).

369. On information and belief, with knowledge of the '800 patent, Qualcomm has willfully, deliberately, and intentionally infringed the '800 patent, at least as of the dates of knowledge of the '800 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1), and continues to willfully, deliberately, and intentionally infringe the '800 patent. On information and belief, Qualcomm had actual knowledge of the '800 patent and Qualcomm's infringement of the '800 patent at least as of the dates of knowledge of the '800 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, after acquiring that knowledge, Qualcomm continued to

directly and indirectly infringe the ’800 patent as set forth above. On information and belief, Qualcomm knew or should have known that its conduct amounted to infringement of the ’800 patent at least because Qualcomm was aware of the ’800 patent and Qualcomm’s infringement of the ’800 patent at least as of the dates of knowledge of the ’800 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1). Qualcomm was aware of its infringement by virtue of the ’800 patent’s fame in the semiconductor industry, Qualcomm’s expertise in the subject matter of the ’800 patent, Qualcomm’s technical competence to understand the scope of the ’800 patent, and Qualcomm’s intimate familiarity with its Accused Products. Additionally, Qualcomm was aware of the ’800 patent, and Qualcomm’s infringement of the ’800 patent, at least as of the December 19, 2022, date of the original Complaint (Dkt. 1) because Plaintiff notified Qualcomm of such.

370. As explained above in paragraphs 214-216 (which, in turn, cite paragraphs 27-29, 46, 69-70, 75, 100-101, 106, 129-130, 135, 164-165, 170, 183-184, 189, and 201-202), Qualcomm has had knowledge of each of the Asserted Patents, and Qualcomm had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, both before, and after, the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Qualcomm’s knowledge of, and knowing infringement of, the Asserted Patents.

371. On information and belief, Qualcomm will continue to infringe the ’800 patent unless and until it is enjoined by this Court. Qualcomm, by way of its infringing activities, has caused and continues to cause Plaintiff to suffer damages in an amount to be determined, and has caused and is causing Plaintiff irreparable harm. Plaintiff has no adequate remedy at law against Qualcomm’s acts of infringement and, unless Qualcomm is enjoined from its infringement of the

’800 patent, Plaintiff will continue to suffer irreparable harm.

372. Plaintiff is entitled to recover from Qualcomm damages at least in an amount adequate to compensate for its infringement of the ’800 patent, which amount has yet to be determined, together with interest and costs fixed by the Court.

373. On information and belief, Arteris has made, used, offered for sale, sold, and/or imported products, including within this Judicial District, including at least the Arteris Accused Products, that indirectly infringe, either literally or under the doctrine of equivalents, one or more claims of the ’800 patent in violation of 35 U.S.C. § 271, including claim 10. A comparison of claim 10 of the ’800 patent to an exemplary product of the Qualcomm Accused Products that incorporate an exemplary product of the Arteris Accused Products is attached as Exhibit 19, which is incorporated herein by reference.

374. On information and belief, with knowledge of the ’800 patent, Arteris has actively induced and continues to induce the direct infringement of one or more claims of the ’800 patent, including claim 10, in violation of 35 U.S.C. § 271(b), by its customers and/or end users of its products, including at least the Arteris Accused Products, by selling, providing support for, providing instructions for use of, and/or otherwise encouraging its customers and/or end-users to directly infringe, either literally and/or under the doctrine of equivalents, one or more claims of the ’800 patent, including claim 10, with the intent to encourage those customers and/or end users to infringe the ’800 patent.

375. As explained above in paragraphs 227-229 (which, in turn, cite paragraphs 30-41, 46, 58-59, 75, 88-89, 106, 123-124, 135, 149-150, 170, 177-178, 189, and 195-196), Arteris has had knowledge of each of the Asserted Patents, and Arteris had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, both before, and after, the

December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Arteris' knowledge of, and knowing infringement of, the Asserted Patents.

376. By way of example, on information and belief, Arteris actively induces infringement of the '800 patent by encouraging, instructing, and aiding one or more persons in the United States, including but not limited to customers and/or end users who test, operate, and use Arteris products, including at least the Arteris Accused Products, to make, use, sell, offer to sell, and/or import SoCs incorporating such Arteris products, including at least the Qualcomm Accused Products, in a manner that infringes at least one claim of the '800 patent, including claim 10. For example, as described above, Arteris actively markets, advertises, offers for sale, and/or otherwise promotes the Arteris Accused Products by publishing and distributing data sheets, manuals, and guides for the Arteris Accused Products. Therein, on information and belief, Arteris describes and touts the use of the subject matter claimed in the '800 patent.

377. As shown in the charts appended as Exhibit 14 ('818 patent), Exhibit 15 ('449 patent), Exhibit 16 ('052 patent), Exhibit 17 ('9893 patent), Exhibit 18 ('2893 patent), and Exhibit 19 ('800 patent), Arteris markets, advertises, offers for sale, and/or otherwise promotes the Arteris Accused Products and, on information and belief, does so to actively and knowingly induce, encourage, instruct, and aid one or more persons in the United States to make, use, sell, offer to sell and/or import SoCs incorporating Arteris interconnect technology, including the Qualcomm Accused Products. For example, Arteris, or an entity under Arteris's direction or control, advertises, offers for sale, and/or otherwise promotes the Arteris Accused Products on its website.[85] Arteris, or one or more related entities, further publishes and distributes datasheets,

[85] *See, e.g.*, https://www.arteris.com/about-arteris (last visited December 19, 2022) (listing "[k]ey benefits of Arteris

presentations, technical papers, and videos for the Arteris Accused Products.[86] Therein, on information and belief, Arteris describes and touts the use of the subject matter claimed in the Asserted Patents, as described and alleged herein. On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Arteris' specific intent to induce infringement.

378. On information and belief, with knowledge of the '800 patent, Arteris also contributed to, and continues to contribute to, the infringement of one or more claims of the '800 patent, including claim 10, in violation of 35 U.S.C. § 271(c), by offering to sell, selling, and/or importing the Arteris Accused Products, knowing them to be especially made or especially adapted for practicing the inventions of the '800 patent and not a staple article or commodity of commerce suitable for substantial non-infringing use. This is evidenced by, among other things, the design, configuration, and functionality of the Arteris Accused Products, which are especially made or especially adapted for use in infringement of the '800 patent when used for their normal and intended purpose. This is also evidenced by, among other things, Arteris's informational and promotional materials described above, which describe the normal use and intended purpose of the Arteris Accused Products and demonstrate that the Arteris Accused Products are especially made or especially adapted for a use that infringes the '800 patent.

IP … interconnect solutions" and stating, for example, that the Arteris Accused Products "accelerate [SoC] semiconductor development and integration for a wide range of applications" and that "[c]ustomer results obtained by using Arteris IP products include lower power, higher performance, more efficient design reuse and faster SoC development, leading to lower development and production costs"); https://www.arteris.com/products (last visited December 19, 2022) (stating, for example, that Arteris's "interconnect IP is the communications backbone of your SoC, allowing you to make more complex chips in less time"); https://www.arteris.com/semiconductor-ip-products (last visited December 19, 2022) (stating, for example, that Arteris interconnect technology is "[t]he gold standard for SoC … interconnects").

[86] https://www.arteris.com/resources (last visited December 19, 2022); *see, e.g.*, https://www.arteris.com/hs-fs/hub/48858/file-14363521-pdf/docs/springer-appdrivennocarchitecture8.5x11.pdf (last visited December 19, 2022) (peer-reviewed technical journal article regarding Arteris interconnect technology, providing an Arteris product tutorial and touting that "the … methodology will not lead you astray, the flexibility of the Arteris library will fit your needs, and the associated tool framework will permit a clear description and validation of your NoC").

379. As explained above in paragraphs 227-229 (which, in turn, cite paragraphs 30-41, 46, 58-59, 75, 88-89, 106, 123-124, 135, 149-150, 170, 177-178, 189, and 195-196), Arteris has had knowledge of each of the Asserted Patents, and Arteris had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, both before, and after, the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Arteris' knowledge of, and knowing infringement of, the Asserted Patents.

380. On information and belief, as a result of Arteris's inducement of, and/or contribution to, infringement, its customers and/or end users made, used, sold, offered for sale, or imported, and continue to make, use, sell, offer to sell, or import, SoCs incorporating such Arteris products, including the Qualcomm Accused Products, in ways that directly infringe one or more claims of the '800 patent, including claim 10. On information and belief, Arteris had actual knowledge of its customers' and/or end users' direct infringement at least by virtue of their sales, instruction, and/or otherwise promotion of Arteris's products, including the Arteris Accused Products, at least as of the dates of knowledge of the '800 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1).

381. On information and belief, with knowledge of the '800 patent, Arteris has willfully, deliberately, and intentionally infringed the '800 patent, at least as of the dates of knowledge of the '800 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1), and continues to willfully, deliberately, and intentionally infringe the '800 patent. On information and belief, Arteris had actual knowledge of the '800 patent and Arteris's infringement of the '800 patent at least as of the dates of knowledge of the '800 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1). On

information and belief, after acquiring that knowledge, Arteris continued to indirectly infringe the ’800 patent as set forth above. On information and belief, Arteris knew or should have known that its conduct amounted to infringement of the ’800 patent at least because Arteris was aware of the ’800 patent and Arteris’s infringement of the ’800 patent at least as of the dates of knowledge of the ’800 patent alleged above, and no later than the December 19, 2022, date of the original Complaint (Dkt. 1). Arteris was aware of its infringement by virtue of the ’800 patent’s fame in the semiconductor industry, Arteris’s expertise in the subject matter of the ’800 patent, Arteris’s technical competence to understand the scope of the ’800 patent, and Arteris’s intimate familiarity with its Accused Products. Additionally, Arteris was aware of the ’800 patent, and Arteris’s infringement of the ’800 patent, at least as of the December 19, 2022, date of the original Complaint (Dkt. 1) because Plaintiff notified Arteris of such.

382. As explained above in paragraphs 227-229 (which, in turn, cite paragraphs 30-41, 46, 58-59, 75, 88-89, 106, 123-124, 135, 149-150, 170, 177-178, 189, and 195-196), Arteris has had knowledge of each of the Asserted Patents, and Arteris had knowledge that its affirmative acts to encourage infringement in fact constituted patent infringement, both before, and after, the December 19, 2022, date of the original Complaint (Dkt. 1). On information and belief, discovery in this Case, including from Arteris, Qualcomm, and other sources, will further confirm the details of Arteris’ knowledge of, and knowing infringement of, the Asserted Patents.

383. On information and belief, Arteris will continue to infringe the ’800 patent unless and until it is enjoined by this Court. Arteris, by way of its infringing activities, has caused and continues to cause Plaintiff to suffer damages in an amount to be determined, and has caused and is causing Plaintiff irreparable harm. Plaintiff has no adequate remedy at law against Arteris’s acts of infringement and, unless Arteris is enjoined from its infringement of the ’800 patent, Plaintiff

will continue to suffer irreparable harm.

384. Plaintiff is entitled to recover from Arteris damages at least in an amount adequate to compensate for its infringement of the ’800 patent, which amount has yet to be determined, together with interest and costs fixed by the Court.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff Network System Technologies, LLC requests that the Court enter judgment for Plaintiff and against Defendants Qualcomm and Arteris and enter the following relief:

A. A judgment that Defendants infringe the following Asserted Patents:

U.S. Patent No. 7,366,818 (Exhibit 1, “’818 patent”)
U.S. Patent No. 7,373,449 (Exhibit 2, “’449 patent”)
U.S. Patent No. 7,594,052 (Exhibit 3, “’052 patent”)
U.S. Patent No. 7,769,893 (Exhibit 4, “’9893 patent”)
U.S. Patent No. 8,072,893 (Exhibit 5, “’2893 patent”)
U.S. Patent No. 8,086,800 (Exhibit 6, “’800 patent”)

B. A preliminary and permanent injunction restraining and enjoining Defendants, their officers, partners, agents, servants, employees, parents, subsidiaries, divisions, affiliate corporations, joint ventures, other related business entities and all other persons acting in concert, participation, or in privity with them, and their successors and assigns, from infringing the Asserted Patents;

C. An award of damages to Plaintiff arising from Defendants’ past and continuing infringement up until the date Defendants are finally and permanently enjoined from further infringement, including compensatory damages;

D. A determination that Defendants’ infringement of the Asserted Patents has been willful, and an award of treble damages to Plaintiff pursuant to 35 U.S.C. § 284;

E. A determination that this is an exceptional case and awarding Plaintiff’s attorneys’

fees pursuant to 35 U.S.C. § 285;

F. An order awarding Plaintiff costs and expenses in this action;

G. An order awarding Plaintiff pre- and post-judgment interest on its damages; and

H. Such other and further relief in law or in equity as this Court deems just and proper.

JURY DEMAND

Plaintiff respectfully requests a jury trial on all issues so triable.

Dated: August 7, 2023

Respectfully submitted,

/s/ *Daniel S. Stringfield w/ permission by William E. Davis, III*

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CERTIFICATE OF SERVICE

I hereby certify that all counsel of record are being served on August 7, 2023 with a copy of this document via the Court's CM/ECF system per Local Rule CV-5(a)(3).

/s/ William E. Davis, III