

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

K.MIZRA LLC,

Plaintiff,

v.

SILICON MOTION TECHNOLOGY
CORPORATION AND
SILICON MOTION INC.,

Defendants.

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CIVIL ACTION NO. 2:24-cv-101

JURY TRIAL DEMANDED

PLAINTIFF’S FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff K.Mizra LLC files this First Amended Complaint against Defendants Silicon Motion Technology Corporation and Silicon Motion Inc. for infringement of U.S. Patent Nos. 8,183,887 (the “887 Patent”), 8,693,556 (the “556 Patent”), 9,111,608 (the “608 Patent”), 9,160,466 (the “466 Patent”), 9,437,279 (the “279 Patent”), and 10,331,379 (the “379 Patent”), collectively, the “Asserted Patents.”

THE PARTIES

1. Plaintiff K.Mizra LLC (“K.Mizra”) is a Delaware Limited Liability Company at 777 Brickell Avenue, #500-96031, Miami, Florida 33131.
2. On information and belief, Silicon Motion Technology Corporation (“SMTC”) is a corporation organized and existing under the laws of the Cayman Islands with its principal place of business located at Flat C, 19/F, Wing Cheong Commercial Building Nos 19-25 Jervois Street, Hong Kong Island, Hong Kong.
3. On information and belief, Silicon Motion Inc. (“SMI Taiwan”) is a corporation organized and existing under the laws of Taiwan with its principal place of business located at 8/F,

No. 36, Taiyuan Street, Zhubei City, Hsinchu County, 302082, Taiwan. SMI Taiwan is a significant subsidiary of SMTC.

4. SMTC is the ultimate parent of the companies that do business as Silicon Motion, including SMI Taiwan. Collectively those companies operate under the name Silicon Motion. <https://www.siliconmotion.com/> (SMTC and its subsidiaries collectively referred to as “Silicon Motion” or the “Company” in this complaint). SMTC’s 2023 Annual Report describes the operations of the “Company,” which collectively includes SMTC and its subsidiaries in the following statement:

Silicon Motion Technology Corporation (‘SMTC’, collectively with its subsidiaries the ‘Company’) is the global leader in supplying NAND flash controllers for solid state storage devices. The Company is a world leading supplier of SSD controllers for servers, PCs and other client devices and is a leading merchant supplier of eMMC and UFS embedded storage controllers used in smartphones, IoT devices and other applications. The Company also supplies customized high-performance and specialized industrial and automotive SSD solutions. Our customers include most of the NAND flash vendors, storage device module makers and leading OEMs. For further information on Silicon Motion, visit us at www.siliconmotion.com.

SMTC 2023 Annual Report at F-9.

5. Silicon Motion’s website also states that it was “founded in 1995 in San Jose, California and now operates from corporate offices in Hong Kong, Taiwan, and the US.” <https://www.siliconmotion.com/company/overview>.

JURISDICTION AND VENUE

6. This is an action for patent infringement arising under the patent laws of the United States, 35 U.S.C. §§ 1, *et seq.* This Court has jurisdiction over this action pursuant to 28 U.S.C. §§ 1331 and 1338(a) and 1367.

7. This Court has specific and personal jurisdiction over SMTC and SMI Taiwan consistent with the requirements of the Due Process Clause of the United States Constitution and the Texas Long Arm Statute (*see* Tex. Civ. Prac. & Rem. Code §§17.041 *et seq.*) because, among other things, (i) SMTC and SMI Taiwan have done and continue to do business in Texas, and (ii) SMTC and SMI Taiwan have committed and continue to commit, directly or through intermediaries (including subsidiaries, distributors, affiliates, retailers, suppliers, integrators, customers, and others), acts of patent infringement in this State and this District. Such acts of infringement include making, using, offering to sell, and/or selling Accused Products (collectively, as particularly identified and described throughout this Complaint) in this State and this District and/or importing Accused Products into this State and this District and/or inducing others to commit acts of patent infringement in this State and this District. SMTC and SMI Taiwan have purposefully and voluntarily placed, and are continuing to place, one or more Accused Products into the stream of commerce through established distribution channels (including the Internet) with the expectation and intent that such products will be sold to and purchased by consumers in the United States, this State, and this District; and with the knowledge and expectation that such products (whether in standalone form or as integrated in downstream products) will be imported into the United States, this State, and this District.

8. SMTC and SMI Taiwan have derived substantial revenue from their infringing acts occurring within this State and this District. They have substantial business in this State and this

District, including: (i) at least part of their infringing activities alleged herein; and (ii) regularly doing or soliciting business, engaging in other persistent conduct, and/or deriving substantial revenue from infringing goods offered for sale, sold, and imported, and services provided to Texas residents directly or vicariously through and/or in concert with their alter egos, intermediaries, agents, distributors, importers, customers, subsidiaries, and/or consumers.

9. SMTC and SMI Taiwan are engaged in making, using, selling, offering for sale, and/or importing products, such as SSD controllers used in PCs and other electronic devices and eMMC/UFS controllers used in smartphones and IoT devices, to and throughout the United States, including this District. SMTC and SMI Taiwan also induce their subsidiaries, distributors, affiliates, retailers, suppliers, integrators, and customers in the making, using, selling, offering for sale, and/or importing such products to and throughout the United States, including this District. To this end, SMTC, SMI Taiwan, and their foreign and U.S.-based subsidiaries act together as part of SMTC and SMI Taiwan's global network of sales and manufacturing emissaries. At least SMI Taiwan and SMI USA (defined below) have operated as agents or alter egos of SMTC or have otherwise acted vicariously for SMTC. And at least SMI USA has operated as an agent or alter ego of SMI Taiwan or has otherwise acted vicariously for SMI Taiwan. The companies operating as Silicon Motion act in concert and in orchestrated fashion, subject to agreements that are far nearer than arm's length, in order to implement a distribution channel of infringing products within this District and the United States.

10. SMTC and SMI Taiwan maintain a substantial corporate presence in the United States via at least their U.S.-based subsidiary and customers. SMTC's 2023 Annual Report identifies its U.S.-based subsidiary as Silicon Motion, Inc. ("SMI USA"), stating that "[t]he address of our United States operating subsidiary, SMI USA, is 690 N. McCarthy Blvd. Suite 200,

Milpitas, CA 95035”. SMTC 2023 Annual Report at 25. SMI USA is a corporation organized under the laws of the State of California and is a wholly-owned subsidiary of SMTC. And SMI Taiwan has the same name as that California corporation—Silicon Motion, Inc.—yet is a separate Taiwanese corporation. *Id.* at 24. Moreover, SMTC further describes SMI Taiwan as “the Company’s largest operating company.” *Id.* at F-20. Thus, on information and belief, SMTC and SMI Taiwan do a significant amount of business in the United States through their affiliates or subsidiaries such as SMI USA.

11. Alone and through at least the activities of its U.S.-based affiliates and subsidiaries (e.g., SMI USA), SMTC and SMI Taiwan conduct business in the United States and this District, including importing, distributing, and selling controllers that are incorporated into devices, systems, and processes that infringe the Asserted Patents. *See Trois v. Apple Tree Auction Center, Inc.*, 882 F.3d 485, 490 (5th Cir. 2018) (“A defendant may be subject to personal jurisdiction because of the activities of its agent within the forum state....”); *see also Cephalon, Inc. v. Watson Pharmaceuticals, Inc.*, 629 F. Supp. 2d 338, 348 (D. Del. 2009) (“The agency theory may be applied not only to parents and subsidiaries, but also to companies that are ‘two arms of the same business group,’ operate in concert with each other, and enter into agreements with each other that are nearer than arm’s length.”).

12. Through importation, offers to sell, sales, distributions, and related agreements to transfer ownership of the Accused Products (e.g., controllers) with distributors and customers operating in and maintaining significant business presences in the United States, SMTC and SMI Taiwan conduct extensive business in the United States, this State, and this District. For example, Silicon Motion’s 2023 Annual Report states, “[t]o supplement our direct sales, we have

independent electronics distributors and sales reps located throughout the world.” *See* SMTC 2023 Annual Report at 27.

13. This Court has personal jurisdiction over SMTC and SMI Taiwan, directly or through intermediaries (e.g., subsidiaries, distributors, affiliates, retailers, suppliers, integrators, customers, and others), including their U.S.-based affiliates and subsidiaries, *e.g.*, SMI USA. Through direction and control of such affiliates and subsidiaries, SMTC and SMI Taiwan have committed acts of direct and/or indirect patent infringement within this State and elsewhere within the United States giving rise to this action and/or have established minimum contacts with this forum such that the exercise of personal jurisdiction over SMTC and SMI Taiwan would not offend traditional notions of fair play and substantial justice. SMI USA is a wholly-owned subsidiary of SMTC. On information and belief, the primary business of SMI USA is the research, development, support, and/or sale of SMTC and SMI Taiwan’s Accused Products in the United States. As such, SMTC and SMI Taiwan have a direct financial interest in their U.S.-based subsidiaries and affiliates, and vice versa.

14. On information and belief, and as further provided herein, SMTC and SMI Taiwan control and otherwise direct and authorize activities of their U.S.-based subsidiary or affiliate, SMI USA. Such directed and authorized activities include, SMI USA using, offering for sale, selling, and/or importing the Accused Products, their components, and/or products containing the same that incorporate and/or perform the fundamental technologies covered by the Asserted Patents. SMTC and SMI Taiwan’s U.S.-based subsidiary or affiliate is expressly authorized to import, distribute, offer to sell, and sell the Accused Products on behalf of SMTC and SMI Taiwan. For example, on information and belief, and as further provided for herein, SMTC and SMI Taiwan research, design, develop, and manufacture controllers, and then direct their U.S.-based

subsidiary/affiliate to import, distribute, offer for sale, and sell the Accused Products in the United States. *See, e.g., United States v. Hui Hsiung*, 778 F.3d 738, 743 (9th Cir. 2015) (finding that the sale of infringing products to third parties rather than for direct import into the U.S. did not “place [defendants’] conduct beyond the reach of United States law [or] escape culpability under the rubric of extraterritoriality”). SMTC and SMI Taiwan’s U.S.-based subsidiary/affiliate also provides, on their behalf, marketing and technical support services for the Accused Products from their facilities in the United States.

15. According to Silicon Motion’s February 2023 Company Profile, their “Worldwide Top Tier Customers & Market Play” includes dozens of US-based (and Texas-based and/or with substantial operations, offices, and employees in Texas) clients that incorporate Silicon Motion’s controllers into their products such as Micron, Dell, Western Digital, Microsoft, Tesla, Amazon, HP, Xbox, and Google.



https://www.siliconmotion.com/download/3k1/a/SMI%20company%20profile_202308website.pdf at 8.

16. On information and belief, and as provided for herein, because SMTC and SMI Taiwan’s U.S.-based subsidiary/affiliate,¹ distributors, and sales representative are authorized by them to import, distribute, offer to sell, and sell Accused Products and/or to perform the fundamental technologies covered by the Asserted Patents. SMTC and SMI Taiwan’s U.S.-based subsidiary/affiliate’s corporate presence in the United States and their distributors’ and sales representatives’ presence in the United States gives them substantially the same business advantages they would enjoy if they conducted their business through their own offices and personnel.

¹ SMI USA’s facilities include “Sales & Marketing, management” as the “primary use.” 2023 Annual Report at 30.

17. In addition, SMTC and SMI Taiwan have knowingly induced, and continue to knowingly induce, infringement within this District by advertising, marketing, offering for sale and/or selling Accused Products (such as controllers) that incorporate the fundamental technologies covered by the Asserted Patents. Such advertising, marketing, offering for sale and/or selling of Accused Products is directed to subsidiaries, affiliates, manufacturers, integrators, suppliers, distributors, resellers, partners, consumers, customers, and/or end users, and this includes providing instructions, user manuals, advertising, and/or marketing materials facilitating, directing and encouraging use, sale, or importation of the Accused Products with SMTC's and SMI Taiwan's knowledge thereof.

18. Using established channels and chains of distribution, SMTC and SMI Taiwan provide Accused Products to be used as components in a variety of end-products that are made, used, sold, and imported into the United States and this District. SMTC and SMI Taiwan knew or should have known that by purposefully placing the Accused Products into the stream of commerce, those Accused Products would be sold and used in the United States and this District.

19. On information and belief, SMTC, SMI Taiwan, and/or its agents or alter egos provide the Accused Products for sale and use in the United States. Silicon Motion's Annual Report acknowledges revenue from the United States and notes that it maintains direct sales personnel in the United States. *See* SMTC's 2023 Annual Report at 18, 26-27, F-5.

20. Additionally, SMTC and SMI Taiwan provide Accused Products to be used as components in many end-products sold, used, and imported into the United States and this District. For example, Silicon Motion states in its March 2023 Company Profile that "All NAND Makers adopt SMI SSD controllers for PC OEM SSD" including Kioxia, Micron, Samsung, SK Hynix, Solidigm, and Western Digital which are incorporated in end products from PC OEMs such as HP,

Dell, Lenovo, Asus, and Acer. These PC OEMs sell, use, or import various end-products in the United States and this District that use the Accused Products as components. *See also supra* at ¶15.

21. Upon information and belief, several large retailers with locations throughout the United States and in this District, currently sell and have sold the products from the PC OEMs containing the infringing SSD controllers to customers in the United States and in this District, directly and through retailers such as Best Buy and Walmart.

22. Upon information and belief, SMTC and SMI Taiwan encourage and instruct users of the Accused Products in an infringing manner. *See, e.g.*, <https://www.siliconmotion.com/support/contact>.

23. SMTC and SMI Taiwan have, thus, in the many ways described above, availed themselves of the benefits and privileges of conducting business in the United States and this District and willingly subjected themselves to the exercise of this Court's personal jurisdiction. Indeed, SMTC and SMI Taiwan have sufficient minimum contacts with this forum through their transaction of substantial business in this State and this District and their commission of acts of patent infringement as alleged in this Complaint that are purposefully directed towards this State and District. Further, SMTC and SMI Taiwan's supply chain, supply agreements, partnership agreements, and other documents evidencing their knowledge of, and intentions related to, directing and supplying the Accused Products to the United States (and Texas) and/or supplying customers with the Accused Products that they know will be imported into the United States (and Texas) by said customers, is within the proprietary possession of SMTC and SMI Taiwan, and therefore not publicly-available. *See e.g., Flagg v. Stryker Corp.*, 647 F. App'x 314, 318 (5th Cir. 2016) (information relevant to the pleadings and claims that is in possession of the defendant is subject to discovery, and not appropriate for a motion to dismiss).

24. Alternatively, the Court maintains personal jurisdiction over SMTC and SMI Taiwan under Federal Rule of Civil Procedure 4(k)(2).

25. Venue is proper in this District pursuant to 28 U.S.C. § 1391 because, among other things, SMTC and SMI Taiwan are not residents of the United States, and thus may be sued in any judicial district, including this one, pursuant to 28 U.S.C. § 1391(c)(3). *See In re HTC Corp.*, 889 F.3d 1349, 1357 (Fed. Cir. 2018) (holding that “[t]he Court’s recent decision in *TC Heartland* does not alter” the alien-venue rule.).

THE PATENTS-IN-SUIT

26. K.Mizra is the sole and exclusive owner of all right, title, and interest in the ’887 Patent, the ’556 Patent, the ’608 Patent, the ’446 Patent, the ’279 Patent, and the ’379 Patent, and holds the exclusive right to take all actions necessary to enforce its rights in, and to, the Asserted Patents, including the filing of this patent infringement lawsuit. K.Mizra also has the right to recover all damages for past, present, and future infringements of the Asserted Patents and to seek injunctive relief as appropriate under the law.

27. The ’887 Patent is titled, “High speed signaling system with adaptive transmit pre-emphasis.” The ’887 Patent lawfully issued on May 22, 2012, and stems from U.S. Patent Application No. 12/693,285, which was filed on January 25, 2010.

28. The ’556 Patent is titled, “Communication channel calibration for drift conditions.” The ’556 Patent lawfully issued on April 8, 2014, and stems from U.S. Patent Application No. 13/846,413, which was filed on March 18, 2013.

29. The ’608 Patent is titled, “Strobe-offset control circuit.” The ’608 Patent lawfully issued on August 18, 2015, and stems from U.S. Patent Application No. 14/230,558, which was filed on March 31, 2014.

30. The '466 Patent is titled, "Periodic calibration for communication channels by drift tracking." The '466 Patent lawfully issued on October 13, 2015, and stems from U.S. Patent Application No. 14/535,006, which was filed on November 6, 2014.

31. The '279 Patent is titled, "Memory controller with clock-to-strobe skew compensation." The '279 Patent lawfully issued on September 6, 2016, and stems from U.S. Patent Application No. 14/951,190 which was filed on November 24, 2015.

32. The '379 Patent is titled, "Memory controller for micro-threaded memory operations." The '379 Patent lawfully issued on June 25, 2019, and stems from U.S. Patent Application No. 15/486,068, which was filed on April 12, 2017.

33. K.Mizra has complied with the requirements of 35 U.S.C. § 287, to the extent necessary and/or applicable, and is entitled to collect pre- and post-filing damages for Defendants' infringements of the Asserted Patents.

34. The claims of the Asserted Patents are directed to patent eligible subject matter under 35 U.S.C. § 101. They are not directed to an abstract idea, and the technologies covered by the claims comprise systems and/or consist of ordered combinations of features and functions that, at the time of invention, were not, alone or in combination, well-understood, routine, or conventional.

DEFENDANTS' KNOWLEDGE OF THEIR INFRINGEMENT

35. K.Mizra's predecessor-in-interest of the Asserted Patents, Rambus, met with Silicon Motion at least around September 13, 2018, and identified at least the '466 Patent, '279 Patent, '887 Patent, and '556 Patent as being infringed by exemplary Silicon Motion products, and further included claim charts demonstrating infringement by Silicon Motion products. Moreover, on or around January 2023, Rambus further notified Silicon Motion of its infringement of the '466

Patent, '279 Patent, '887 Patent, '556 Patent, '379 Patent, and '608 Patent, including identifying exemplary infringing Silicon Motion products. In addition, K.Mizra sent a letter to SMTC around February 15, 2024, identifying Silicon Motion's infringement of the Asserted Patents via exemplary accused product categories.

36. The Accused Products addressed in the Counts below include, but are not limited to, the exemplary products identified in Rambus's and K.Mizra's communications with Silicon Motion. SMTC's and SMI Taiwan's past and continuing sales of the Accused Products (i) willfully infringe the Asserted Patents, and (ii) impermissibly usurp the significant benefits of K.Mizra's patented technologies without fairly compensating K.Mizra.

37. At an absolute minimum, SMTC and SMI Taiwan had knowledge of their infringement of the Asserted Patents by the filing of the original complaint on February 15, 2024.

**SMTC'S AND SMI TAIWAN'S LIABILITY FOR THEIR
SUBSIDIARIES'/AFFILIATES' CONDUCT**

38. Plaintiff incorporates the preceding paragraphs herein by reference.

39. The counts of patent infringement listed below allege direct infringement of the Asserted Patents. To the extent the actions of SMTC's subsidiaries or affiliates (i.e., SMI Taiwan or SMI USA) or SMI Taiwan's subsidiaries or affiliates (i.e., SMI USA) result in direct infringement, SMTC or SMI Taiwan remain liable for the acts of those subsidiaries/affiliates (as detailed below) under vicarious liability based on agency principles;² or, in the alternative, where

² Silicon Motion's argument in its motion to dismiss (Dkt. No. 30) that the Federal Circuit has precluded any vicarious liability theory for a subsidiary on theories other than alter ego (e.g., agency) is incorrect. *See, e.g., British Telcoms. PLC v. IAC/InteractiveCorp*, 356 F. Supp. 3d 405, 409-10 (D. Del. 2019); *Two-Way Media LLC v. Akamai Techs., Inc.*, No. CC-8-116, 2009 U.S. Dist. LEXIS 132461, at *7 (S.D. Tex. Jan. 24, 2009); *Intellectual Ventures I LLC v. Toshiba Corp.*, 66 F. Supp. 3d 495, 498 (D. Del. 2014).

those subsidiaries/affiliates act as an alter ego of SMTC or SMI Taiwan; or in the alternative because SMTC or SMI Taiwan directly participated in the direct infringement alleged.

40. SMTC's subsidiaries, i.e., SMI Taiwan and SMI USA, act as SMTC's agents in making, using, selling, and importing the Accused Products. And SMI Taiwan's affiliate, SMI USA, acts as SMI Taiwan's agent in making, using, selling, and importing the Accused Products. SMTC's subsidiaries, including SMI Taiwan and SMI USA, act as SMTC's agents, and SMI USA acts as SMI Taiwan's agent because they act with actual authority where SMTC or SMI Taiwan assigns the subsidiaries'/affiliate's tasks and controls the means and details of the process by which the agent will accomplish those tasks. For example, SMTC describes SMI USA as "our United States operating subsidiary," thus responsible for SMTC's and SMI Taiwan's tasks in the United States, yet still subject to control by SMTC or SMI Taiwan ("our United States operating subsidiary"). SMTC 2023 Annual Report at 25. Moreover, SMTC describes SMI USA as being responsible for "our business operations in the Americas and Europe." *Id.* at 43. Likewise, SMTC describes SMI Taiwan as "our Taiwan operating subsidiary," thus responsible for SMTC's operations, yet still subject to control by SMTC ("our ... operating subsidiary"). *Id.* at 25. SMTC further describes SMI Taiwan as "the Company's largest operating company." *Id.* at F-20. Thus, SMI Taiwan is responsible for SMTC's operational tasks.

41. As discussed above, SMTC refers to itself collectively with all of its subsidiaries (which includes SMI Taiwan and SMI USA) as the "Company." According to SMTC, the Company is a world leading supplier of SSD controllers for servers, PCs and other client devices and is a leading merchant supplier of eMMC and UFS embedded storage controllers used in smartphones, IoT devices and other applications. SMTC 2023 Annual Report at F-9. The Company also supplies customized high-performance and specialized industrial and automotive SSD

solutions. *Id.* Its customers include most of the NAND flash vendors, storage device module makers and leading OEMs. *Id.* Thus, by SMTC’s own acknowledgement, its subsidiaries (which include SMI Taiwan and SMI USA) participate in infringing activities, which include the making, using, selling, and importing of the Accused Products as the agent of SMTC or SMI Taiwan.

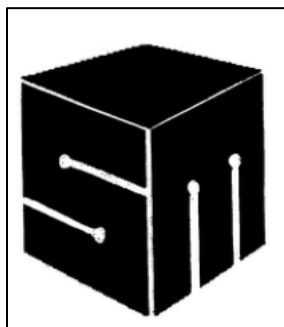
42. In SMTC’s 2023 Annual Report, it makes no distinction between itself and its subsidiaries (which include SMI Taiwan and SMI USA), referring to the collective whole in a variety of ways including as the “Company.” *See* SMTC 2023 Annual Report at 1 (“Unless otherwise indicated, references in this annual report on Form 20-F (this ‘annual report’) to: ... ‘we,’ ‘us,’ ‘our company,’ the ‘Company,’ ‘our,’ ‘SMTC’ and ‘Silicon Motion’ are to Silicon Motion Technology Corporation and its subsidiaries.”). Accordingly, the various SMTC subsidiaries act as SMTC’s and SMI Taiwan’s agents. Indeed, for example, SMI USA only employs sales, marketing, and management employees (*supra* FN1)—SMI USA doesn’t manufacture, design, assemble, or otherwise create the Accused Products.

43. The Company’s CEO, Wallace C. Kou, acts as the chief operating decision maker (“CODM”) for the Company as a whole. *See* SMTC 2023 Annual Report at F-29. As described in its Annual Report, “[t]he fact that the Company operates in only one reportable segment is because the decisions on allocation of resources and other operational decisions are made by the CODM based on his direct involvement with the Company’s operations and product development.” *Id.* (emphasis added). Thus, the CEO of SMTC acts as the CEO of the Company as a whole, making decisions on the allocation of resources, product development, and other operational decisions via direct involvement with the Company, including its subsidiaries. The complete statement is reproduced here (and it is repeated in SMTC’s annual reports for each of the relevant time periods (e.g., 2018-2023)):

The Company is the global leader and pioneer in developing NAND flash controllers for solid state storage devices. The Company currently operates as one reportable segment. The chief operating decision maker (“CODM”) is the Chief Executive Officer. The fact that the Company operates in only one reportable segment is because the decisions on allocation of resources and other operational decisions are made by the CODM based on his direct involvement with the Company’s operations and product development.

The Company groups its products into two categories, based on the markets in which they may be used. The following summarizes the Company’s revenue by product category:

44. In addition, SMTC, SMI Taiwan, and SMI USA use trademarks that indicate that they operate generally as one company, i.e., Silicon Motion, and thus that SMI Taiwan and SMI USA are the agents of SMTC and that SMI USA is the agent of SMI Taiwan. For example, SMI USA is the owner of the trademark in the logo used throughout Silicon Motion’s business:

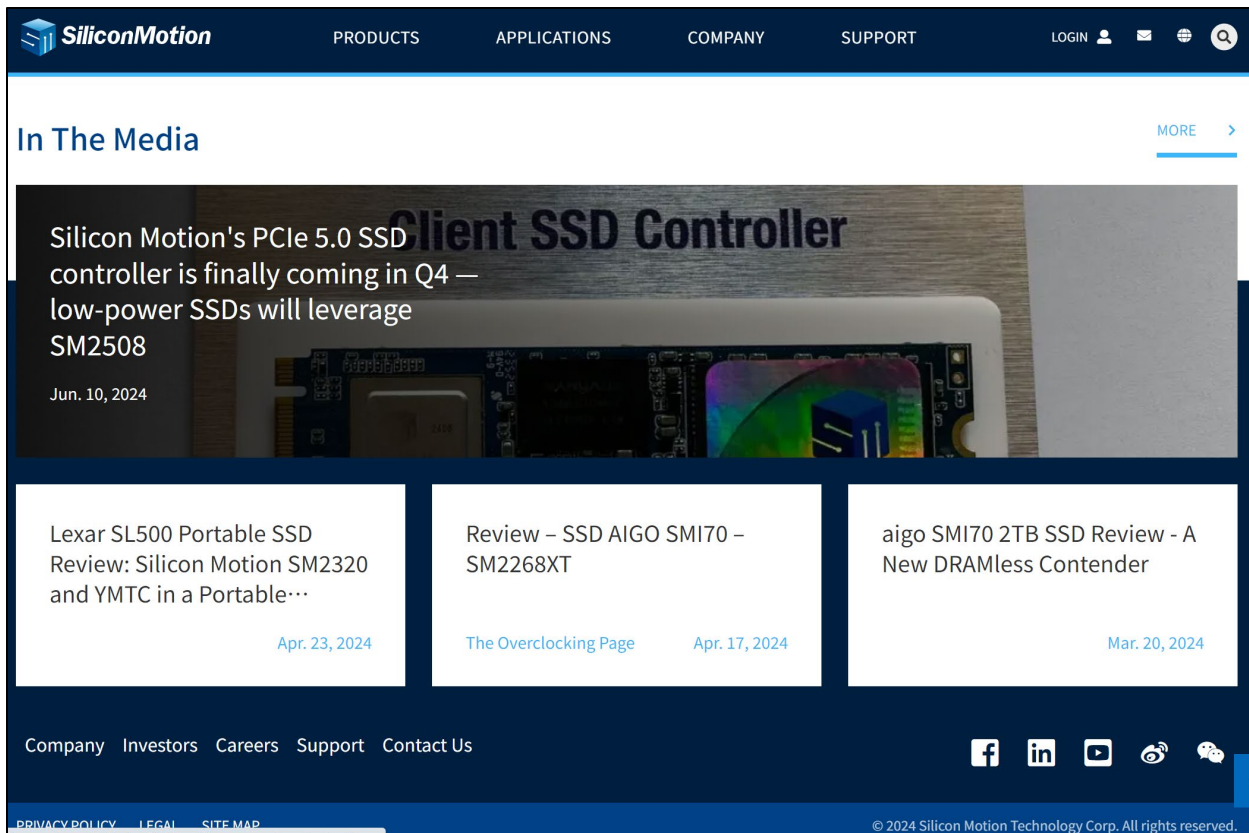


▼ Current Owner(s) Information	
Owner Name:	Silicon Motion, Inc.
Owner Address:	Suite 200 690 N. McCarthy Blvd. Milpitas, CALIFORNIA UNITED STATES 95035
Legal Entity Type:	CORPORATION

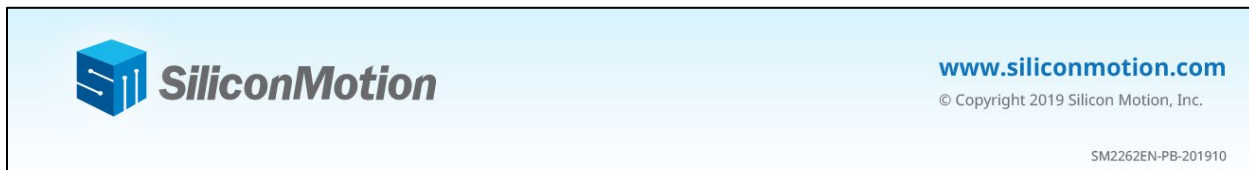
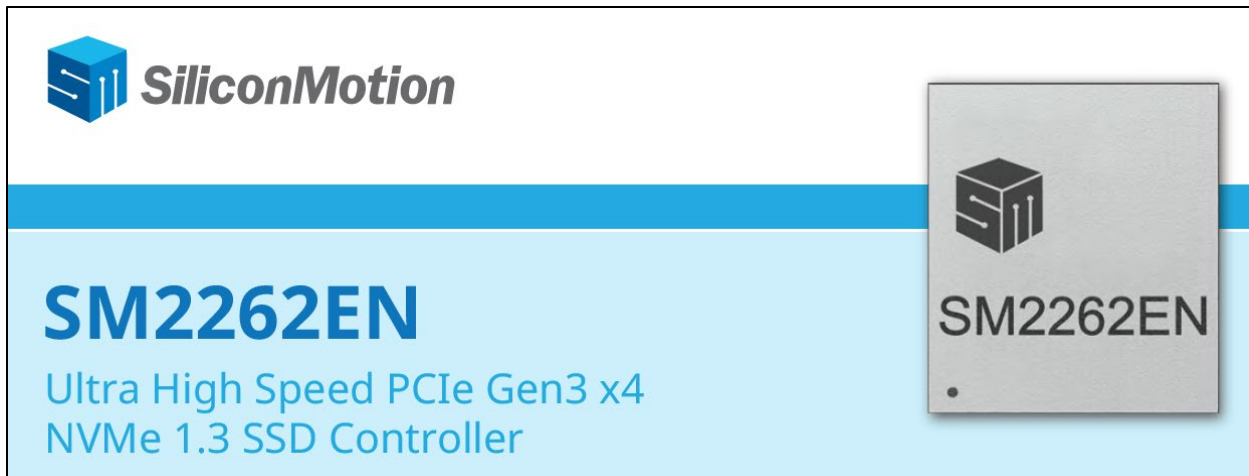
https://tsdr.uspto.gov/#caseNumber=76125858&caseSearchType=US_APPLICATION&caseType=DEFAULT&searchType=statusSearch.

For example, that same mark is pervasively used on Silicon Motion’s website:

<https://www.siliconmotion.com/>, which is copyrighted by SMTC.




45. That mark is also used in the Product Briefs that are copyrighted by SMI Taiwan as shown below (copyright to Silicon Motion, Inc.).



SM2262EN Product Brief (available at <https://www.siliconmotion.com/products/client/detail>).

46. As another example of trademark sharing, the below mark is also registered to SMI USA. It is simply the text “Silicon Motion,” using standard characters without claim to any particular font style, size, or color.

	Current Owner(s) Information	
	Owner Name:	Silicon Motion, Inc.
	Owner Address:	690 N. McCarthy Blvd. Suite 200 Milpitas, CALIFORNIA UNITED STATES 95035
	Legal Entity Type:	CORPORATION

https://tsdr.uspto.gov/#caseNumber=75174979&caseSearchType=US_APPLICATION&caseType=DEFAULT&searchType=statusSearch.


47. That mark is used pervasively by SMTC, SMI Taiwan, and SMI USA. For example, the Accused Products are described and sold as Silicon Motion products on SMTC’s website. *See, e.g.,* <https://www.siliconmotion.com/products/client/detail> (“Silicon Motion’s client SSD turnkey solutions cover the spectrum of performance, cost, and form factors.”) (website copyrighted by SMTC).

48. As another example, the same Product Brief cited above for the SM2262EN (copyrighted by SMI Taiwan) describes that the product uses “Silicon Motion’s proprietary” technology.

The SM2262EN is a complete merchant ASIC/firmware solution supporting 3D NAND from all major NAND suppliers. Leveraging Silicon Motion’s proprietary NANDXtend™ error-correcting code (ECC) technology, the SM2262EN enhances the endurance and retention of 3D NAND and provide a comprehensive data protection through SRAM ECC and End to End data path protection.

SM2262EN Product Brief (available at <https://www.siliconmotion.com/products/client/detail>).

49. Moreover, SMI Taiwan uses SMI USA’s trademark “Silicon Motion” in its own trademarks as shown below.



▼ Current Owner(s) Information	
Owner Name:	Silicon Motion, Inc.
Owner Address:	8F-1, No36 Taiyuan St., Jhubei City Hsinchu County 302 TAIWAN
Legal Entity Type:	CORPORATION

https://tsdr.uspto.gov/#caseNumber=87185922&caseSearchType=US_APPLICATION&caseType=DEFAULT&searchType=statusSearch.



▼ Current Owner(s) Information	
Owner Name:	Silicon Motion, Inc.
Owner Address:	8F-1, No36 Taiyuan St., Jhubei City Hsinchu County 302 TAIWAN
Legal Entity Type:	CORPORATION

50. In addition, SMI Taiwan and SMI USA both use the same legal name, Silicon Motion, Inc. further holding themselves out as the same company, but SMI Taiwan is a company incorporated in Taiwan, and SMI USA is a California Corporation.

51. If SMTC’s subsidiaries SMI Taiwan and SMI USA do not act with SMTC’s actual authority, they nevertheless act with SMTC’s apparent authority for at least the reasons pleaded above for actual authority. If SMI USA does not act with SMI Taiwan’s actual authority, it nevertheless acts with SMI Taiwan’s apparent authority for at least the reasons pleaded above for actual authority.

52. Alternatively, SMTC's subsidiaries are all its agents under the theory of ratification, where a principal may be liable if it retains the benefits of a transaction after acquiring full knowledge of the underlying circumstances. As already pleaded above, Silicon Motion holds itself out as a singular company encompassing all of SMTC's subsidiaries. According to its Annual Report, that singular company is a world leading supplier of SSD controllers for servers, PCs and other client devices and is a leading merchant supplier of eMMC and UFS embedded storage controllers used in smartphones, IoT devices and other applications. SMTC 2023 Annual Report at F-9. The Company also supplies customized high-performance and specialized industrial and automotive SSD solutions. *Id.* Its customers include most of the NAND flash vendors, storage device module makers and leading OEMs. *Id.* SMTC retains the benefits of its subsidiaries transactions in making, using, selling, offering to sell, or importing the Accused Products as reflected in SMTC's 2023 Annual Report, while being fully aware of those subsidiaries making, using, selling, offering to sell, or importing the Accused Products. As shown in SMTC's 2023 Annual Report, SMTC calculates its "Net Sales," "Cost of Sales," "Gross Profits," "Operating Expenses," "Operating Income," "Non-Operating Income (Expenses)," and "Net Income," for example, by aggregating those line items into one entry for SMTC and all of its subsidiaries. *See id.* at F-5. Accordingly, SMTC retains the benefits of its subsidiaries' actions in the form of the financial results of their actions. Moreover, SMTC has been aware of its subsidiaries' infringement of the patents-in-suit as detailed in the individual counts below, and SMTC has not objected to or repudiated any of the benefits, e.g., the revenue, it receives from that infringement.

53. SMTC is alternatively vicariously liable for the actions of its subsidiaries, i.e., SMI Taiwan and SMI USA, because those subsidiaries function as its alter egos. SMI Taiwan is also

alternatively vicariously liable for the actions of its subsidiary or affiliate, i.e., SMI USA, because SMI USA functions as its alter ego.

54. The daily operations of SMTC and its subsidiaries, including SMI Taiwan and SMI USA, are not separate. The Company's CEO, Wallace C. Kou, acts as the chief operating decision maker ("CODM") for the Company. *See* SMTC 2023 Annual Report at F-29. As described in its Annual Report, "[t]he fact that the Company operates in only one reportable segment is because the decisions on allocation of resources and other operational decisions are made by the CODM based on his direct involvement with the Company's operations and product development." *Id.* Thus, the CEO of SMTC acts as the CEO of the Company as a whole, making decisions on the allocation of resources, product development, and other operational decisions via direct involvement with the subsidiaries. Moreover, SMTC explains that it employs Mr. Robert Fan as its Senior Vice President of Global Sales, despite its many subsidiaries around the world such as SMI USA and SMI Taiwan, showing that the daily operation of sales is not separate among the entities. *See id.* at 43. Moreover, as discussed above, SMTC further describes SMI Taiwan as "the Company's largest operating company," indicating that the operations of SMTC are not separate from SMI Taiwan. *Id.* at F-20.

55. In addition, formal barriers, if any, are limited between SMTC and its subsidiaries' management. This is illustrated by the Company's CEO, Wallace C. Kou, acting as CODM for the Company. Furthermore, the same Mr. Fan that SMTC employs as its Senior Vice President of Global Sales also holds himself out as being the President of SMI USA. *See* Exhibit A. This shows that the parent and subsidiary have common directors or officers. And the Chief Financial Officer of SMTC, Jason Tsai, has his office at the same address as SMI USA: 690 N. McCarthy Blvd. Suite 200, Milpitas, CA 95035, USA. *See* SMTC's 2023 Annual Report at cover page. This also

shows that SMTC uses SMI USA's property as its own. And again, SMTC describes SMI Taiwan as "the Company's largest operating company," which shows a lack of formal barriers between SMTC and SMI Taiwan, given that SMI Taiwan is tasked with carrying out the operations for the Company as a whole. *Id.* at F-20.

56. Also, SMTC and its subsidiaries file consolidated financial statements. As noted above, the Form 20-F filed by SMTC is filed on behalf of all of its subsidiaries. *See* SMTC 2023 Annual Report at 1 ("Unless otherwise indicated, references in this annual report on Form 20-F (this 'annual report') to: ... 'we,' 'us,' 'our company,' the 'Company,' 'our,' 'SMTC' and 'Silicon Motion' are to Silicon Motion Technology Corporation and its subsidiaries."). And in the same report, SMTC calculates its "Net Sales," "Cost of Sales," "Gross Profits," "Operating Expenses," "Operating Income," "Non-Operating Income (Expenses)," and "Net Income," for example, by aggregating those line items into one entry for SMTC and all of its subsidiaries. *See id.* at F-5; *see also id.* at F-1 (titled "SILICON MOTION TECHNOLOGY CORPORATION AND SUBSIDIARIES INDEX TO CONSOLIDATED FINANCIAL STATEMENTS").

57. In addition, SMTC wholly owns all of its subsidiaries. *See* SMTC 2023 Annual Report at 25.

58. SMTC and its subsidiaries also hold each other out as being the same corporation. *See* SMTC 2023 Annual Report at 1 ("Unless otherwise indicated, references in this annual report on Form 20-F (this 'annual report') to: ... 'we,' 'us,' 'our company,' the 'Company,' 'our,' 'SMTC' and 'Silicon Motion' are to Silicon Motion Technology Corporation and its subsidiaries.").

59. SMTC and its subsidiaries share trademarks (as discussed above) without any distinction between the companies.

60. Additional facts that may further show alter ego on the same factors discussed above or on other factors are within the proprietary possession of SMTC and SMI Taiwan and therefore not publicly-available. *See e.g., Flagg v. Stryker Corp.*, 647 F. App'x 314, 318 (5th Cir. 2016) (information relevant to the pleadings and claims that is in possession of the defendant is subject to discovery, and not appropriate for a motion to dismiss). This includes information on additional alter ego factors such as whether the parent and the subsidiary have common business departments; the parent finances the subsidiary; the parent caused the incorporation of the subsidiary; the subsidiary operates with grossly inadequate capital; the parent pays the salaries and other expenses of the subsidiary; the subsidiary receives no business except that given to it by the parent; and the subsidiary does not observe the basic corporate formalities, such as keeping separate books and records and holding shareholder and board meetings.

61. SMTC and SMI Taiwan are alternatively vicariously liable for the infringing acts of its subsidiaries because they directly participated in the direct infringement of the patents-in-suit by their subsidiaries / affiliates. For example, SMTC has sold all of Silicon Motion's products. As shown in SMTC's 2023 Annual Report, SMTC calculates its "Net Sales," "Cost of Sales," "Gross Profits," "Operating Expenses," "Operating Income," "Non-Operating Income (Expenses)," and "Net Income," for example, by aggregating those line items into one entry for SMTC and all of its subsidiaries. *See* SMTC's 2023 Annual Report at F-5. Thus, SMTC has directly participated in the sales of all Silicon Motion products, including any that SMTC may argue are attributable to its subsidiaries. Likewise, SMI Taiwan is "the Company's largest operating company," indicating that it also directly participates in infringing activities such as making, using, selling, offering to sell or importing Accused Products by its subsidiaries / affiliates such as SMI USA. *Id.* at F-20.

62. SMTC also directly participates in the sales of those products via its marketing activities such as through its website. <https://www.siliconmotion.com/>.

63. Thus, SMTC and SMI Taiwan are liable for the acts of their subsidiaries/affiliates under vicarious liability based on general agency principles; or, in the alternative, where those subsidiaries/affiliates act as an alter ego of SMTC or SMI Taiwan; or in the alternative because SMTC and SMI Taiwan directly participated in the direct infringement. To the extent any allegations related to any of those legal theories support another theory, those allegations are hereby incorporated into each other.

COUNT I

(INFRINGEMENT OF U.S. PATENT NO. 8,183,887)

64. Plaintiff incorporates the preceding paragraphs herein by reference.

65. This cause of action arises under the patent laws of the United States, and, in particular, 35 U.S.C. §§ 271, *et seq.*

66. K.Mizra is the owner of all substantial rights, title, and interest in and to the '887 Patent including the right to exclude others and to enforce, sue, and recover damages for past and future infringements.

67. The '887 Patent is valid, enforceable, and was duly and legally issued by the United States Patent and Trademark Office on May 22, 2012, after full and fair examination.

68. SMTC and SMI Taiwan have and continue to directly and/or indirectly infringe (by inducing infringement) one or more claims of the '887 Patent in this District and elsewhere in Texas and the United States by making, using, selling, offering to sell, and/or importing, and by actively inducing others to make, use, sell, offer to sell, and/or import, Silicon Motion products, their components and processes, and/or products containing the same that incorporate the fundamental technologies covered by the '887 Patent, including, but not limited to, the Silicon

Motion SSD controllers having a PCIe 3.0 or later Interface, including Silicon Motion's Client, Enterprise, and Automotive SSD Controllers, Flash Card Controllers and FerriSSDs, such as for example the SM2262EN / SM2262 Ultra High Speed PCIe Gen3 x 4 NVMe 1.3 SSD Controller (collectively, the "'887 Accused Products").

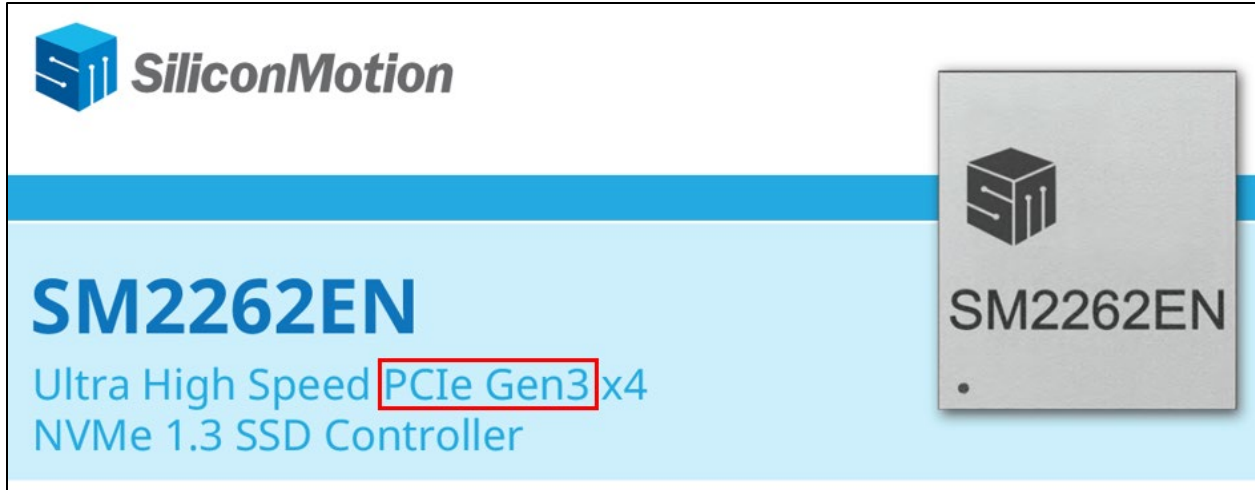
Direct Infringement (35 U.S.C. § 271(a))

69. SMTC and SMI Taiwan have directly infringed and continue to directly infringe one or more claims of the '887 Patent in this District and elsewhere in Texas and the United States.

70. SMTC and SMI Taiwan (either individually or vicariously through subsidiaries/affiliates as discussed above) have directly infringed and continue to directly infringe, at least claim 19 of the '887 Patent³ as set forth under 35 U.S.C. § 271(a) by making, using, offering for sale, selling, and/or importing the '887 Accused Products.

71. By way of illustration only, the '887 Accused Products meet each and every element of claim 19 of the '887 Patent. The '887 Accused Products comprise an apparatus that is an SSD Controller with a PCIe interface. For example, the SM2262EN includes a PCIe interface as shown below.

³ Throughout this Complaint, wherever K.Mizra identifies specific claims of the Asserted Patents as infringed, K.Mizra expressly reserves the right to identify additional claims and products in its infringement contentions in accordance with applicable local rules and the Court's case management order. Specifically identified claims throughout this Complaint are provided for notice pleading only.



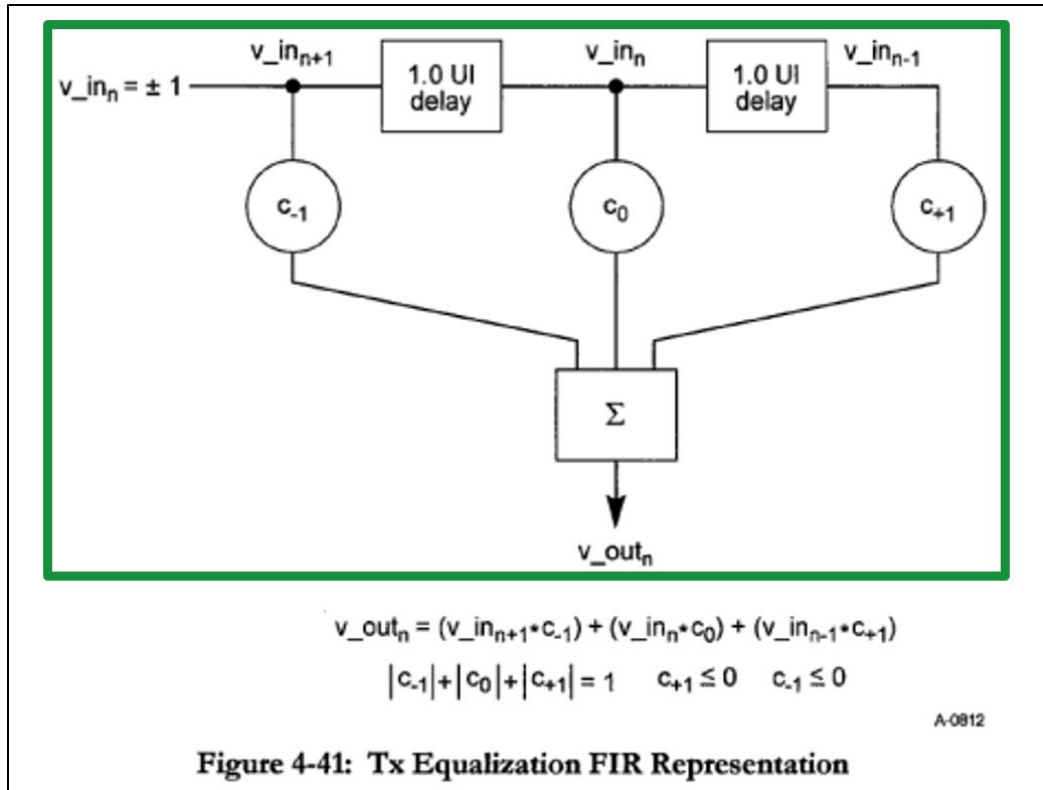
SM2262EN Ultra High Speed PCIe Gen3 x4 NVMe 1.3 SSD Controller (“Product Brief”) (available at: <https://www.siliconmotion.com/products/client/detail>)

72. The ’887 Accused Products comprise a set of drivers to transmit a digital sequence to a receiver, each driver controlled in association with one of a plurality of taps. For example, the ’887 Accused Products, including for example the SM2262EN, support PCIe 3.0. The PCIe3.0 specification indicates that an “8.0 GT/s transmitter shall implement a coefficient-based equalization mode.” PCI Express Base Specification Revision 3.0 (Nov. 10, 2010) at 334. PCIe 3.0 further provides that the transmitter “equalization coefficients are based on the following FIR filter relationship as shown in Figure 4-41.” *Id.* The coefficient-based equalization mode includes transmitting a digital sequence and further indicates that each driver is controlled in association with one of a plurality of taps.

4.3.3.5.1. 8.0 GT/s Transmitter Equalization

An 8.0 GT/s transmitter shall implement a coefficient-based equalization mode in order to support fine grained control over Tx equalization resolution. Additionally, a transmitter shall support a specified number of presets that give a coarser control over Tx equalization resolution. Both coefficient space and preset space are controllable via messaging from the receiver via an equalization procedure. The equalization procedure operates on the same physical path as normal signaling and is implemented via extensions to the existing protocol link layer.

Id. at 334.



Id. at 335.

73. The '887 Accused Products comprise an update circuit to update a tap weight associated with at least one of the plurality of taps responsive to feedback from the receiver. For example, the PCIe3.0 specification indicates this limitation by describing this functionality: “[b]oth coefficient space and preset space are controllable via messaging from the receiver via an equalization procedure.” *Id.* at 334.

74. The '887 Accused Products further meet the following limitation: “the feedback representing a setting for the at least one of the plurality of taps,” as indicated by “Bit 6:3 – Transmitted Preset”. *Id.* at 229. Furthermore, the '887 Accused Products further meet the following limitation: “the feedback adjusted to compensate for a target signal level,” as indicated by the formula shown below:

$$v_{out_n} = (v_{in_{n+1}} \cdot c_{-1}) + (v_{in_n} \cdot c_0) + (v_{in_{n-1}} \cdot c_{+1})$$

$$|c_{-1}| + |c_0| + |c_{+1}| = 1 \quad c_{+1} \leq 0 \quad c_{-1} \leq 0$$

Figure 4-41: Tx Equalization FIR Representation

Id. at 335.

75. Thus, at least for the above reasons, the '887 Accused Products meet all of the limitations of claim 19.

Indirect Infringement (Inducement – 35 U.S.C. § 271(b))

76. In addition and/or in the alternative to their direct infringement, SMTC and SMI Taiwan have indirectly infringed and continue to indirectly infringe one or more claims of the '887 Patent by knowingly and intentionally inducing others, including their subsidiaries, distributors, affiliates, retailers, suppliers, integrators, importers, customers, and/or consumers, to directly infringe by making, using, offering to sell, selling and/or importing into the United States the '887 Accused Products.

77. At a minimum, SMTC and SMI Taiwan had knowledge of the '887 Patent since at least September 2018, when Silicon Motion met with Rambus and received claim charts demonstrating infringement by Silicon Motion products as well as before the filing of the original complaint via the correspondence from K.Mizra, both as discussed in the pre-suit notice section above, and via the filing of the original complaint. Since receiving notice of their infringement, SMTC and SMI Taiwan have actively induced the direct infringement of their subsidiaries, distributors, affiliates, retailers, suppliers, integrators, importers, customers, and/or consumers as set forth under U.S.C. § 271(b). Such inducements have been committed with the knowledge, or with willful blindness to the fact, that the acts induced constitute infringement of the '887 Patent. Indeed, SMTC and SMI Taiwan have intended to cause, continue to intend to cause, and have

taken, and continue to take affirmative steps to induce infringement by, among other things, creating and disseminating advertisements and instructive materials that promote the infringing use of the '887 Accused Products; creating and/or maintaining established distribution channels for the '887 Accused Products into and within the United States; manufacturing the '887 Accused Products in conformity with U.S. laws and regulations; providing technical documentation for the '887 Accused Products, including white papers, product briefs, and descriptions of the features and technologies;⁴ promoting the incorporation of the '887 Accused Products into end-user products.

Damages

78. On information and belief, despite having knowledge of the '887 Patent and knowledge that it is directly and/or indirectly infringing one or more claims of the '887 Patent, SMTC and SMI Taiwan have nevertheless continued their infringing conduct and disregarded an objectively high likelihood of infringement. SMTC's and SMI Taiwan's infringing activities relative to the '887 Patent, e.g., their decision to continue infringing the '887 Patent, have been, and continue to be, willful, wanton, malicious, in bad-faith, deliberate, consciously wrongful, flagrant, characteristic of a pirate, and an egregious case of misconduct beyond typical infringement such that K.Mizra is entitled to enhanced damages under 35 U.S.C. § 284 up to three times the amount found or assessed.

79. K.Mizra has been damaged as a result of SMTC's and SMI Taiwan's infringing conduct described in this Count. SMTC and SMI Taiwan are, thus, liable to K.Mizra in an amount

⁴ See, e.g., <https://www.siliconmotion.com/products/client/detail>; <https://www.siliconmotion.com/products/enterprise/detail>; <https://www.siliconmotion.com/products/Portable/detail>; <https://www.siliconmotion.com/products/automotive/detail>; <https://www.siliconmotion.com/products/Flash-Card/detail>; <https://www.siliconmotion.com/product/Ferri-Embedded-Storage.html>; and the product briefs and white papers linked therefrom

that adequately compensates K.Mizra for SMI Taiwan's infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT II

(INFRINGEMENT OF U.S. PATENT NO. 8,693,556)

80. Plaintiff incorporates the preceding paragraphs herein by reference.

81. This cause of action arises under the patent laws of the United States, and, in particular, 35 U.S.C. §§ 271, *et seq.*

82. K.Mizra is the owner of all substantial rights, title, and interest in and to the '556 Patent including the right to exclude others and to enforce, sue, and recover damages for past and future infringements.

83. The '556 Patent is valid, enforceable, and was duly and legally issued by the United States Patent and Trademark Office on April 8, 2014, after full and fair examination.

84. SMTC and SMI Taiwan have and continue to directly and/or indirectly infringe (by inducing infringement) one or more claims of the '556 Patent in this District and elsewhere in Texas and the United States by making, using, selling, offering to sell, and/or importing, and by actively inducing others to make, use, sell, offer to sell, and/or import, Silicon Motion products, their components and processes, and/or products containing the same that incorporate the fundamental technologies covered by the '556 Patent, including, but not limited to, the Silicon Motion controllers having an LPDDR3 and/or LPDDR4 controller functionality, including Silicon Motion's Client and Enterprise SSD Controllers, such as the SM2270 (collectively, the "'556 Accused Products").

Direct Infringement (35 U.S.C. § 271(a))

85. SMTC and SMI Taiwan have directly infringed and continue to directly infringe one or more claims of the '556 Patent in this District and elsewhere in Texas and the United States.

86. SMTC and SMI Taiwan (either individually or vicariously through subsidiaries/affiliates as discussed above) have directly infringed and continue to directly infringe, at least claim 10 of the '556 Patent as set forth under 35 U.S.C. § 271(a) by making, using, offering for sale, selling, and/or importing the '556 Accused Products.

87. By way of illustration only, the '556 Accused Products meet each and every element of claim 10 of the '556 Patent. The '556 Accused Products comprise an integrated circuit. For example, the SM2270 comprises an integrated circuit.

88. The '556 Accused Products comprise an interface for a communication channel. The DRAM controller(s) in, for example, the SM2270, include an interface for a communication channel between the controller and the DRAM so that, e.g., signals can be sent from the controller to the DRAM and received by the controller from the DRAM.

89. The '556 Accused Products comprise logic to apply a parameter associated with transmission of data on the communication channel. For example, the '556 Accused Products, including for example the SM2270, support LPDDR3. The LPDDR3 specification indicates that it supports write leveling. *See* JESD No. 209-3C at 68. Through the application of the write leveling procedure, the controller adjusts the clock to data strobe signal timing relationship. This timing relationship is a parameter associated with the transmission of write data on the DQ bus which is part of the communication channel. The memory controller in the integrated circuit includes logic to apply the clock to strobe offset parameter to the data strobe signal and the transmitted write data.

90. The '556 Accused Products comprise logic to process a calibration sequence to establish an operation value that represents the parameter, and to transmit or receive data in accordance with the operation value. For example, the memory controller includes logic to process the calibration sequence to establish the operation value of the clock to data strobe offset parameter discussed in the preceding paragraph. *Id.* This includes logic to process the calibration sequence that includes, e.g., the controller sampling the feedback information sent by the DRAM relating to its sampling of the clock input with the rising edge of DQS and then either incrementing or decrementing the DQS_t and/or DQS_c delay settings, launching the next DQS/DQS# pulse, and eventually locking the strobe delaying settings to achieve write leveling. *Id.*

91. The '556 Accused Products comprise logic to determine adjustment information for the parameter, interspersed with said transmission or reception of data on the communication channel. Upon information and belief, write leveling is performed from time to time, interspersed with data transmission on the LPDDR3 channel, to account for temperature and voltage drift. LPDDR3 devices are subject to temperature drift rate (Tdriftrate) and voltage drift rate (Vdriftrate) in various applications. Upon information and belief, the memory controller in the integrated circuit includes logic to determine whether an adjustment of the operational value is necessary and to determine the amount of adjustment needed.

92. The '556 Accused Products comprise logic to adjust the operation value for the parameter using said adjustment information. Upon information and belief, the memory controller in the integrated circuit includes logic to adjust the operation value according to the adjustment information.

93. Silicon Motion controllers with LPDDR4 controller functionality infringe in a similar way as discussed in the preceding paragraphs via their implementation of write leveling. *See, e.g.*, JEDEC Standard No. 209-4B at 186-187.

94. Thus, at least for the above reasons, the '556 Accused Products meet all of the limitations of claim 10.

Indirect Infringement (Inducement – 35 U.S.C. § 271(b))

95. In addition and/or in the alternative to their direct infringement, SMTC and SMI Taiwan have indirectly infringed and continue to indirectly infringe one or more claims of the '556 Patent by knowingly and intentionally inducing others, including their subsidiaries, distributors, affiliates, retailers, suppliers, integrators, importers, customers, and/or consumers, to directly infringe by making, using, offering to sell, selling and/or importing into the United States the '556 Accused Products.

96. At a minimum, SMTC and SMI Taiwan had knowledge of the '556 Patent since at least September 2018, when Silicon Motion met with Rambus and received claim charts demonstrating infringement by Silicon Motion products as well as before the filing of the original complaint via the correspondence from K.Mizra, both as discussed in the pre-suit notice section above, and via the filing of the original complaint. Since receiving notice of their infringement, SMTC and SMI Taiwan have actively induced the direct infringement of their subsidiaries, distributors, affiliates, retailers, suppliers, integrators, importers, customers, and/or consumers as set forth under U.S.C. § 271(b). Such inducements have been committed with the knowledge, or with willful blindness to the fact, that the acts induced constitute infringement of the '556 Patent. Indeed, SMTC and SMI Taiwan have intended to cause, continue to intend to cause, and have taken, and continue to take affirmative steps to induce infringement by, among other things,

creating and disseminating advertisements and instructive materials that promote the infringing use of the '556 Accused Products; creating and/or maintaining established distribution channels for the '556 Accused Products into and within the United States; manufacturing the '556 Accused Products in conformity with U.S. laws and regulations; providing technical documentation for the '556 Accused Products, including white papers, product briefs, and descriptions of the features and technologies;⁵ promoting the incorporation of the '556 Accused Products into end-user products.

Damages

97. On information and belief, despite having knowledge of the '556 Patent and knowledge that it is directly and/or indirectly infringing one or more claims of the '556 Patent, SMTC and SMI Taiwan have nevertheless continued their infringing conduct and disregarded an objectively high likelihood of infringement. SMTC's and SMI Taiwan's infringing activities relative to the '556 Patent, e.g., their decision to continue infringing the '556 Patent, have been, and continue to be, willful, wanton, malicious, in bad-faith, deliberate, consciously wrongful, flagrant, characteristic of a pirate, and an egregious case of misconduct beyond typical infringement such that K.Mizra is entitled to enhanced damages under 35 U.S.C. § 284 up to three times the amount found or assessed.

98. K.Mizra has been damaged as a result of SMTC's and SMI Taiwan's infringing conduct described in this Count. SMTC and SMI Taiwan are, thus, liable to K.Mizra in an amount that adequately compensates K.Mizra for SMI Taiwan's infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

⁵ See, e.g., <https://www.siliconmotion.com/products/client/detail>; <https://www.siliconmotion.com/products/enterprise/detail>; and the product briefs and white papers linked therefrom

COUNT III

(INFRINGEMENT OF U.S. PATENT NO. 9,111,608)

99. Plaintiff incorporates the preceding paragraphs herein by reference.

100. This cause of action arises under the patent laws of the United States, and, in particular, 35 U.S.C. §§ 271, *et seq.*

101. K.Mizra is the owner of all substantial rights, title, and interest in and to the '608 Patent including the right to exclude others and to enforce, sue, and recover damages for past and future infringements.

102. The '608 Patent is valid, enforceable, and was duly and legally issued by the United States Patent and Trademark Office on August 18, 2015, after full and fair examination.

103. SMTC and SMI Taiwan have and continue to directly and/or indirectly infringe (by inducing infringement) one or more claims of the '608 Patent in this District and elsewhere in Texas and the United States by making, using, selling, offering to sell, and/or importing, and by actively inducing others to make, use, sell, offer to sell, and/or import, Silicon Motion products, their components and processes, and/or products containing the same that incorporate the fundamental technologies covered by the '608 Patent, including, but not limited to, the Silicon Motion controllers having LPDDR4 controller functionality, including Silicon Motion's Client SSD Controllers, such as for example the SM2264 (collectively, the "'608 Accused Products").

Direct Infringement (35 U.S.C. § 271(a))

104. SMTC and SMI Taiwan have directly infringed and continue to directly infringe one or more claims of the '608 Patent in this District and elsewhere in Texas and the United States.

105. SMTC and SMI Taiwan (either individually or vicariously through subsidiaries/affiliates as discussed above) have directly infringed and continue to directly infringe,

at least claim 1 of the '608 Patent as set forth under 35 U.S.C. § 271(a) by making, using, offering for sale, selling, and/or importing the '608 Accused Products.

106. By way of illustration only, the '608 Accused Products meet each and every element of claim 1 of the '608 Patent. The '608 Accused Products comprise an integrated circuit (IC) memory controller. For example, the SM2264 comprises an integrated circuit (IC) memory controller.

107. The '608 Accused Products comprise a first pin to receive a first data signal. The DRAM controller in, for example, the SM2264, include a first pin to receive a first data signal at, e.g., one of the DQ pins.

108. The '608 Accused Products comprise a first adjustable delay element to delay the received first data signal and generate a first delayed data signal. For example, the '608 Accused Products, including for example the SM2264, support LPDDR4. The LPDDR4 specification indicates that it supports DQS-DQ Training, which is implemented because of the unmatched DQS-DQ paths. *See* JEDEC Standard No. 209-4 at 116. The un-matched DQS-DQ paths indicate that not only to the write data paths are trained to ensure proper data communication between the memory controller and the memory, but additionally the read data paths area similarly trained. *Id.* at 116, 125. Read DQS-DQ training uses a first adjustable delay element to variably delay the first data signal to align it for capture according to DQS.

109. The '608 Accused Products comprise a second pin to receive a second data signal at, e.g., another one of the DQ pins.

110. The '608 Accused Products comprise a second adjustable delay element to delay the received second data signal and generate a second delayed data signal according to the DQS-DQ training discussed above. Because the DQS and DQ paths are unmatched, the delay on the

individual DQ signals are individually trained. *See* JEDEC Standard No. 209-4 at 183 (Figs. 112-113). Thus, the '608 Accused Products comprise a second adjustable delay element that correlates to the second data signal received by the second pin.

111. The '608 Accused Products comprise a pin to receive a strobe signal, e.g., the DQS_t and/or DQS_c pins.

112. The '608 Accused Products comprise a first sampling circuit to sample the first delayed data signal based on the strobe signal. The DQS_t/DQS_c strobe signal is used by a first sampling circuit to sample the read DQ data on the first DQ pin in the memory controller after it has been appropriately delayed to account for the DQ/DQS mismatch for that DQ pin.

113. The '608 Accused Products comprise a second sampling circuit to sample the second delayed data signal based on the received strobe signal. The DQS_t/DQS_c strobe signal is used by a second sampling circuit to sample the read DQ data on the second DQ pin in the memory controller after it has been appropriately delayed to account for the DQ/DQS mismatch for that DQ pin.

114. Thus, at least for the above reasons, the '608 Accused Products meet all of the limitations of claim 1.

Indirect Infringement (Inducement – 35 U.S.C. § 271(b))

115. In addition and/or in the alternative to their direct infringement, SMTC and SMI Taiwan have indirectly infringed and continue to indirectly infringe one or more claims of the '608 Patent by knowingly and intentionally inducing others, including their subsidiaries, distributors, affiliates, retailers, suppliers, integrators, importers, customers, and/or consumers, to directly infringe by making, using, offering to sell, selling and/or importing into the United States the '608 Accused Products.

116. At a minimum, SMTC and SMI Taiwan had knowledge of the '608 Patent since at least January 2023, when it received correspondence from Rambus as well as before the filing of the original complaint via the correspondence from K.Mizra, both as discussed in the pre-suit notice section above, and via the filing of the original complaint. Since receiving notice of their infringement, SMTC and SMI Taiwan have actively induced the direct infringement of their subsidiaries, distributors, affiliates, retailers, suppliers, integrators, importers, customers, and/or consumers as set forth under U.S.C. § 271(b). Such inducements have been committed with the knowledge, or with willful blindness to the fact, that the acts induced constitute infringement of the '608 Patent. Indeed, SMTC and SMI Taiwan have intended to cause, continue to intend to cause, and have taken, and continue to take affirmative steps to induce infringement by, among other things, creating and disseminating advertisements and instructive materials that promote the infringing use of the '608 Accused Products; creating and/or maintaining established distribution channels for the '608 Accused Products into and within the United States; manufacturing the '608 Accused Products in conformity with U.S. laws and regulations; providing technical documentation for the '608 Accused Products, including white papers, product briefs, and descriptions of the features and technologies;⁶ promoting the incorporation of the '608 Accused Products into end-user products.

Damages

117. On information and belief, despite having knowledge of the '608 Patent and knowledge that it is directly and/or indirectly infringing one or more claims of the '608 Patent, SMTC and SMI Taiwan have nevertheless continued their infringing conduct and disregarded an objectively high likelihood of infringement. SMTC's and SMI Taiwan's infringing activities

⁶ See, e.g., <https://www.siliconmotion.com/products/client/detail> and the product briefs and white papers linked therefrom

relative to the '608 Patent, e.g., their decision to continue infringing the '608 Patent, have been, and continue to be, willful, wanton, malicious, in bad-faith, deliberate, consciously wrongful, flagrant, characteristic of a pirate, and an egregious case of misconduct beyond typical infringement such that K.Mizra is entitled to enhanced damages under 35 U.S.C. § 284 up to three times the amount found or assessed.

118. K.Mizra has been damaged as a result of SMTC's and SMI Taiwan's infringing conduct described in this Count. SMTC and SMI Taiwan are, thus, liable to K.Mizra in an amount that adequately compensates K.Mizra for SMI Taiwan's infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT IV

(INFRINGEMENT OF U.S. PATENT NO. 9,160,466)

119. Plaintiff incorporates the preceding paragraphs herein by reference.

120. This cause of action arises under the patent laws of the United States, and, in particular, 35 U.S.C. §§ 271, *et seq.*

121. K.Mizra is the owner of all substantial rights, title, and interest in and to the '466 Patent including the right to exclude others and to enforce, sue, and recover damages for past and future infringements.

122. The '466 Patent is valid, enforceable, and was duly and legally issued by the United States Patent and Trademark Office on October 13, 2015, after full and fair examination.

123. SMTC and SMI Taiwan have and continue to directly and/or indirectly infringe (by inducing infringement) one or more claims of the '466 Patent in this District and elsewhere in Texas and the United States by making, using, selling, offering to sell, and/or importing, and by actively inducing others to make, use, sell, offer to sell, and/or import, Silicon Motion products,

their components and processes, and/or products containing the same that incorporate the fundamental technologies covered by the '466 Patent, including, but not limited to, the Silicon Motion controllers that have flash memory controller functionality, such as for the SM2262EN, and Silicon Motion controllers that have DDR3, DDR4, DDR5, and/or LPDDR3 controller functionality, such as the SM2270. (collectively, the "'466 Accused Products").

Direct Infringement (35 U.S.C. § 271(a))

124. SMTC and SMI Taiwan have directly infringed and continue to directly infringe one or more claims of the '466 Patent in this District and elsewhere in Texas and the United States.

125. SMTC and SMI Taiwan (either individually or vicariously through subsidiaries/affiliates as discussed above) have directly infringed and continue to directly infringe, at least claim 1 of the '466 Patent as set forth under 35 U.S.C. § 271(a) by making, using, offering for sale, selling, and/or importing the '466 Accused Products.

126. By way of illustration only, the '466 Accused Products perform a method of operation in a system that includes a receive component having circuitry to receive a digital signal in accordance with the requirements of claim 1 of the '466 Patent. The '466 Accused Products comprise a flash controller or a DRAM controller that performs that method. For example, the SM2262EN performs a method of operation, whereby it includes a receive component that receives digital signals from the flash memory.

127. The '466 Accused Products perform the step of subjecting the receive component to a first calibration during initialization to identify an initial value for a parameter affecting proper reception by the circuitry of the receive component of data communicated across a channel as part of the digital signal. For example, the '466 Accused Products, including for example the SM2264EN, operate to control flash memory. The Flash memory specification indicates that it

supports ZQCL or ZQ Calibration Long, which performs this step. *See* Open NAND Flash Interface Specification at 239. The ZQ Calibration Long command is used to perform the initial calibration during a power-up initialization or reset sequence. *Id.* This performs the step of subjecting the receive component (e.g., the controller) to a first calibration during initialization (e.g., ZQ Calibration Long) to identify an initial value for a parameter affecting proper reception by the circuitry of the receive component (e.g., the calibrated values) of data communicated across a channel as part of the digital signal (e.g., the data communicated from the flash to the controller).

128. The '466 Accused Products perform the step of periodically subjecting the receive component to a second calibration to update an existing value of the parameter for drift attributable to change in at least one of operating voltage or temperature. The Flash memory specification indicates that it supports ZQCS or ZQ Calibration Short, which performs this step. *See* Open NAND Flash Interface Specification at 240. The ZQ Calibration Short command is used to perform periodic calibrations to account for small voltage and temperature variations. *Id.*

129. The '466 Accused Products meet the limitation of wherein the existing value is dependent on the initial value and wherein the second calibration is constrained to occur during a time period that is shorter than a time period of the first calibration. In ZQ Calibration Short, a shorter timing window is provided to perform the reduced calibration and transfer of values. *See* Open NAND Flash Interface Specification at 240. The Flash memory specification further indicates that a longer time is required to calibrate the output driver and on-die termination circuits at initialization (which correlates to ZQCL) and relatively smaller time to perform periodic calibrations (which correlates to ZQCS). *Id.* at 88.

130. Silicon Motion controllers that have DDR3, DDR4, DDR5, and/or LPDDR3 controller functionality, such as for example SM2270, infringe in a similar way as discussed in the

preceding paragraphs via their implementation of ZQCL and ZQCS. *See, e.g.*, JEDEC Standard No. 79-3F at 107 (Section 5.5.1).

131. Thus, at least for the above reasons, the '466 Accused Products meet all of the limitations of claim 1.

Indirect Infringement (Inducement – 35 U.S.C. § 271(b))

132. In addition and/or in the alternative to their direct infringement, SMTC and SMI Taiwan have indirectly infringed and continue to indirectly infringe one or more claims of the '466 Patent by knowingly and intentionally inducing others, including their subsidiaries, distributors, affiliates, retailers, suppliers, integrators, importers, customers, and/or consumers, to directly infringe by making, using, offering to sell, selling and/or importing into the United States the '466 Accused Products.

133. At a minimum, SMTC and SMI Taiwan had knowledge of the '466 Patent since at least September 2018, when Silicon Motion met with Rambus and received claim charts demonstrating infringement by Silicon Motion products as well as before the filing of the original complaint via the correspondence from K.Mizra, both as discussed in the pre-suit notice section above, and via the filing of the original complaint. Since receiving notice of their infringement, SMTC and SMI Taiwan have actively induced the direct infringement of their subsidiaries, distributors, affiliates, retailers, suppliers, integrators, importers, customers, and/or consumers as set forth under U.S.C. § 271(b). Such inducements have been committed with the knowledge, or with willful blindness to the fact, that the acts induced constitute infringement of the '466 Patent. Indeed, SMTC and SMI Taiwan have intended to cause, continue to intend to cause, and have taken, and continue to take affirmative steps to induce infringement by, among other things, creating and disseminating advertisements and instructive materials that promote the infringing

use of the '466 Accused Products; creating and/or maintaining established distribution channels for the '466 Accused Products into and within the United States; manufacturing the '466 Accused Products in conformity with U.S. laws and regulations; providing technical documentation for the '466 Accused Products, including white papers, product briefs, and descriptions of the features and technologies;⁷ promoting the incorporation of the '466 Accused Products into end-user products.

Damages

134. On information and belief, despite having knowledge of the '466 Patent and knowledge that it is directly and/or indirectly infringing one or more claims of the '466 Patent, SMTC and SMI Taiwan have nevertheless continued their infringing conduct and disregarded an objectively high likelihood of infringement. SMTC's and SMI Taiwan's infringing activities relative to the '466 Patent, e.g., their decision to continue infringing the '466 Patent, have been, and continue to be, willful, wanton, malicious, in bad-faith, deliberate, consciously wrongful, flagrant, characteristic of a pirate, and an egregious case of misconduct beyond typical infringement such that K.Mizra is entitled to enhanced damages under 35 U.S.C. § 284 up to three times the amount found or assessed.

135. K.Mizra has been damaged as a result of SMTC's and SMI Taiwan's infringing conduct described in this Count. SMTC and SMI Taiwan are, thus, liable to K.Mizra in an amount that adequately compensates K.Mizra for SMI Taiwan's infringements, which, by law, cannot be

⁷ See, e.g., <https://www.siliconmotion.com/products/client/detail>; <https://www.siliconmotion.com/products/enterprise/detail>; <https://www.siliconmotion.com/products/Portable/detail>; <https://www.siliconmotion.com/products/automotive/detail>; <https://www.siliconmotion.com/products/UFS/detail>; <https://www.siliconmotion.com/products/eMMC/detail>; <https://www.siliconmotion.com/products/Flash-Card/detail>; <https://www.siliconmotion.com/products/USB-Flash-Drive/detail>; and the product briefs and white papers linked therefrom

less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT V

(INFRINGEMENT OF U.S. PATENT NO. 9,437,279)

136. Plaintiff incorporates the preceding paragraphs herein by reference.

137. This cause of action arises under the patent laws of the United States, and, in particular, 35 U.S.C. §§ 271, *et seq.*

138. K.Mizra is the owner of all substantial rights, title, and interest in and to the '279 Patent including the right to exclude others and to enforce, sue, and recover damages for past and future infringements.

139. The '279 Patent is valid, enforceable, and was duly and legally issued by the United States Patent and Trademark Office on September 6, 2016, after full and fair examination.

140. SMTC and SMI Taiwan have and continue to directly and/or indirectly infringe (by inducing infringement) one or more claims of the '279 Patent in this District and elsewhere in Texas and the United States by making, using, selling, offering to sell, and/or importing, and by actively inducing others to make, use, sell, offer to sell, and/or import, Silicon Motion products, their components and processes, and/or products containing the same that incorporate the fundamental technologies covered by the '279 Patent, including, but not limited to, the Silicon Motion controllers having DDR3, DDR4, DDR5, and/or LPDDR3 controller functionality, including Silicon Motion's Client, Enterprise, and Automotive SSD Controllers, such as for example the SM2258 (collectively, the "'279 Accused Products").

Direct Infringement (35 U.S.C. § 271(a))

141. SMTC and SMI Taiwan have directly infringed and continue to directly infringe one or more claims of the '279 Patent in this District and elsewhere in Texas and the United States.

142. SMTC and SMI Taiwan (either individually or vicariously through subsidiaries/affiliates as discussed above) have directly infringed and continue to directly infringe, at least claim 11 of the '279 Patent as set forth under 35 U.S.C. § 271(a) by making, using, offering for sale, selling, and/or importing the '279 Accused Products.

143. By way of illustration only, the '279 Accused Products meet each and every element of claim 11 of the '279 Patent. The '279 Accused Products comprise a memory controller integrated circuit (IC). For example, the SM2258 comprises a memory controller integrated circuit (IC).

144. The '279 Accused Products comprise first timing circuitry to outputting a first timing signal to a memory IC via a first timing signal line. For example, the '279 Accused Products, including for example the SM2258, support DDR3. The DDR3 specification indicates a source clock signal that requires first timing circuitry to output a first timing signal to a memory IC via a first timing signal line. *See* JESD79-3F at 42-45.

145. The '279 Accused Products comprise calibration circuitry to perform a timing calibration operation, including circuitry to: output a sequence of differently delayed calibration data timing signals to the memory IC via a second timing signal line. For example, the DDR3 specification indicates that the '279 Accused Products support write leveling. During write leveling, the controller repeatedly delays the data strobe signals (DQS – DQS#), which are sent over second timing signal line(s) via the DQS pins. *See* JESD79-3F at 13, 42.

146. The '279 Accused Products includes circuitry to identify one of the calibration data timing signals that compensates for a difference in signal propagation times over the first and second timing signal lines. For example, The DDR3 specification indicates that, in the write leveling process, the memory controller involved in the leveling must have adjustable delay setting

on DQS – DQS# to align the rising edge of DQS – DQS# with that of the clock at the DRAM pin. *Id.* at 42. The DRAM asynchronously feeds back CK – CK#, sampled with the rising edge of DQS-DQS#, through the DQ bus. *Id.* The controller samples the incoming DQ and decides to increment or decrement DQS – DQS# delay setting and launches the next DQS/DQS# pulse after some time, which is controller dependent. *Id.* at 43. Once a 0 to 1 transition is detected, the controller locks DQS – DQS# delay setting and write leveling is achieved for the device. *Id.* Thus, the '279 Accused Products also include circuitry to select, as a write timing delay, a delay value applied to generate the identified one of the calibration data timing signals. This is demonstrated by the locked DQS-DQS# delay setting.

147. The '279 Accused Products comprise write circuitry to perform a write operation, including circuitry to: output address/control signals to be sampled by the memory IC at a time or times corresponding to one or more transitions of the first timing signal. For example, The DDR3 specification indicates that the '279 Accused Products output command and address signals in conjunction with a write operation. *Id.* at 71. Those signals are to be sampled by the memory IC at a time or times corresponding to the transitions of the clock signal. *Id.* The '279 Accused Products also include circuitry to output first write data to the memory IC in association with the address/control signals. This data is output on the DQ line(s). *Id.* The '279 Accused Products also include circuitry to output a write data timing signal, delayed according to the write timing delay, to the memory IC via the second timing signal line to time reception of the write data therein. This write data timing signal is output as DQS signals on the DQS line(s). *Id.*

148. Silicon Motion controllers that have DDR4, DDR5, LPDDR3, and/or LPDDR4 controller functionality infringe in a similar way as discussed in the preceding paragraphs via their

implementation of write leveling. *See, e.g.*, JESD79-4D (DDR4) at 36-38; JESD79-5 (DDR5) at 191-192; JESD209-3C (LPDDR3) at 68; JESD209-4C (LPDDR4) at 213-216.

149. Thus, at least for the above reasons, the '279 Accused Products meet all of the limitations of claim 11.

Indirect Infringement (Inducement – 35 U.S.C. § 271(b))

150. In addition and/or in the alternative to their direct infringement, SMTC and SMI Taiwan have indirectly infringed and continue to indirectly infringe one or more claims of the '279 Patent by knowingly and intentionally inducing others, including their subsidiaries, distributors, affiliates, retailers, suppliers, integrators, importers, customers, and/or consumers, to directly infringe by making, using, offering to sell, selling and/or importing into the United States the '279 Accused Products.

151. At a minimum, SMTC and SMI Taiwan had knowledge of the '279 Patent since at least September 2018, when Silicon Motion met with Rambus and received claim charts demonstrating infringement by Silicon Motion products as well as before the filing of the original complaint via the correspondence from K.Mizra, both as discussed in the pre-suit notice section above, and via the filing of the original complaint. Since receiving notice of their infringement, SMTC and SMI Taiwan have actively induced the direct infringement of their subsidiaries, distributors, affiliates, retailers, suppliers, integrators, importers, customers, and/or consumers as set forth under U.S.C. § 271(b). Such inducements have been committed with the knowledge, or with willful blindness to the fact, that the acts induced constitute infringement of the '279 Patent. Indeed, SMTC and SMI Taiwan have intended to cause, continue to intend to cause, and have taken, and continue to take affirmative steps to induce infringement by, among other things, creating and disseminating advertisements and instructive materials that promote the infringing

use of the '279 Accused Products; creating and/or maintaining established distribution channels for the '279 Accused Products into and within the United States; manufacturing the '279 Accused Products in conformity with U.S. laws and regulations; providing technical documentation for the '279 Accused Products, including white papers, product briefs, and descriptions of the features and technologies;⁸ promoting the incorporation of the '279 Accused Products into end-user products.

Damages

152. On information and belief, despite having knowledge of the '279 Patent and knowledge that it is directly and/or indirectly infringing one or more claims of the '279 Patent, SMTC and SMI Taiwan have nevertheless continued their infringing conduct and disregarded an objectively high likelihood of infringement. SMTC's and SMI Taiwan's infringing activities relative to the '279 Patent, e.g., their decision to continue infringing the '279 Patent, have been, and continue to be, willful, wanton, malicious, in bad-faith, deliberate, consciously wrongful, flagrant, characteristic of a pirate, and an egregious case of misconduct beyond typical infringement such that K.Mizra is entitled to enhanced damages under 35 U.S.C. § 284 up to three times the amount found or assessed.

153. K.Mizra has been damaged as a result of SMTC's and SMI Taiwan's infringing conduct described in this Count. SMTC and SMI Taiwan are, thus, liable to K.Mizra in an amount that adequately compensates K.Mizra for SMI Taiwan's infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

⁸ See, e.g., <https://www.siliconmotion.com/products/client/detail>; <https://www.siliconmotion.com/products/enterprise/detail>; <https://www.siliconmotion.com/products/automotive/detail>; and the product briefs and white papers linked therefrom

COUNT VI

(INFRINGEMENT OF U.S. PATENT NO. 10,331,379)

154. Plaintiff incorporates the preceding paragraphs herein by reference.

155. This cause of action arises under the patent laws of the United States, and, in particular, 35 U.S.C. §§ 271, *et seq.*

156. K.Mizra is the owner of all substantial rights, title, and interest in and to the '379 Patent including the right to exclude others and to enforce, sue, and recover damages for past and future infringements.

157. The '379 Patent is valid, enforceable, and was duly and legally issued by the United States Patent and Trademark Office on June 25, 2019, after full and fair examination.

158. SMTC and SMI Taiwan have and continue to directly and/or indirectly infringe (by inducing infringement) one or more claims of the '379 Patent in this District and elsewhere in Texas and the United States by making, using, selling, offering to sell, and/or importing, and by actively inducing others to make, use, sell, offer to sell, and/or import, Silicon Motion products, their components and processes, and/or products containing the same that incorporate the fundamental technologies covered by the '379 Patent, including, but not limited to, the Silicon Motion controllers having DDR4 functionality, including Silicon Motion's Client and Enterprise SSD Controllers, such as for example the SM2270 (collectively, the "'379 Accused Products").

Direct Infringement (35 U.S.C. § 271(a))

159. SMTC and SMI Taiwan have directly infringed and continue to directly infringe one or more claims of the '379 Patent in this District and elsewhere in Texas and the United States.

160. SMTC and SMI Taiwan (either individually or vicariously through subsidiaries/affiliates as discussed above) have directly infringed and continue to directly infringe,

at least claim 1 of the '379 Patent as set forth under 35 U.S.C. § 271(a) by making, using, offering for sale, selling, and/or importing the '379 Accused Products.

161. By way of illustration only, the '379 Accused Products meet each and every element of claim 1 of the '379 Patent. The '379 Accused Products comprise a memory controller to control a memory device, the memory device having a plurality of bank groups. For example, the SM2270 comprises a memory to control DDR4 memory, which includes a plurality of bank groups. *See, e.g.*, JESD79-4D at 5, 11 (discussing four bank groups and Bank Group Inputs).

162. The '379 Accused Products comprise circuitry to provide a clock signal to the memory device, the clock signal having clock transitions. For example, the '379 Accused Products, including for example the SM2270, support DDR4. The DDR4 specification indicates that the controller comprises circuitry to provide a clock signal to the memory device, the clock signal having clock transitions, e.g., CK, CK_t, and/or CK_c. *See id.* at 5, 190.

163. The '379 Accused Products comprise a command interface to transmit, to the memory device, row activation commands to instruct row activations and column access commands to instruct column accesses. The DDR4 specification indicates that the controller comprises a command interface to transmit, to the memory device, row activation commands to instruct row activations and column access commands to instruct column accesses, e.g., via RAS and CAS signals. *See id.* at 5, 190.

164. The '379 Accused Products comprise circuitry to schedule issuance of the row activation commands and the column access commands from the command interface. For the '379 Accused Products to properly operate, the row activation commands and column access commands must be separated by minimum time intervals. The '379 Accused Products have circuitry to issue commands such that these minimum separations occur. Commands to the DDR4 memory are

scheduled such that these minimum separations are satisfied. *See* JESD79-4D at Figs. 69, 71 (showing tCCD and tRRD timing, which are delays between row and column commands); *see also* Table 147.

165. The '379 Accused Products meet the limitation reciting a first interval, defined by a first number of clock transitions to transpire between back-to-back row activations to banks within a common bank group, is longer than a second interval, defined by a second number of clock transitions to transpire between back-to-back row activations to banks within different bank groups. The DDR4 specification indicates a tRRD_S interval that applies to consecutive activate commands to different bank groups. *Id.* at 88. The DDR4 specification indicates a tRRD_L interval that applies to consecutive activate commands to the different banks of the same bank group. *Id.* at 88. tRRD_S is short, whereas tRRD_L is long. *Id.*; *see also id.* at 238, Table 172.

166. The '379 Accused Products meet the limitation reciting a third interval, defined by a third number of clock transitions to transpire between back-to-back column accesses to banks within a common bank group, is longer than a fourth interval, defined by a fourth number of clock transitions to transpire between back-to-back column accesses to banks within different bank groups. The DDR4 specification indicates a tCCD_S interval that applies to consecutive CAS commands (or column commands) to different bank groups. *Id.* at 88. The DDR4 specification indicates a tCCD_L interval that applies to consecutive CAS commands to the same bank group. *Id.* at 88. tCCD_S is short, whereas tCCD_L is long. *Id.*; *see also id.* at 214, Table 154.

167. Thus, at least for the above reasons, the '379 Accused Products meet all of the limitations of claim 1.

Indirect Infringement (Inducement – 35 U.S.C. § 271(b))

168. In addition and/or in the alternative to their direct infringement, SMTC and SMI Taiwan have indirectly infringed and continue to indirectly infringe one or more claims of the '379 Patent by knowingly and intentionally inducing others, including their subsidiaries, distributors, affiliates, retailers, suppliers, integrators, importers, customers, and/or consumers, to directly infringe by making, using, offering to sell, selling and/or importing into the United States the '379 Accused Products.

169. At a minimum, SMTC and SMI Taiwan had knowledge of the '379 Patent since at least January 2023, when it received correspondence from Rambus as well as before the filing of the original complaint via the correspondence from K.Mizra, both as discussed in the pre-suit notice section above, and via the filing of the original complaint.

170. Since receiving notice of their infringement, SMTC and SMI Taiwan have actively induced the direct infringement of their subsidiaries, distributors, affiliates, retailers, suppliers, integrators, importers, customers, and/or consumers as set forth under U.S.C. § 271(b). Such inducements have been committed with the knowledge, or with willful blindness to the fact, that the acts induced constitute infringement of the '379 Patent. Indeed, SMTC and SMI Taiwan have intended to cause, continue to intend to cause, and have taken, and continue to take affirmative steps to induce infringement by, among other things, creating and disseminating advertisements and instructive materials that promote the infringing use of the '379 Accused Products; creating and/or maintaining established distribution channels for the '379 Accused Products into and within the United States; manufacturing the '379 Accused Products in conformity with U.S. laws and regulations; providing technical documentation for the '379 Accused Products, including white

papers, product briefs, and descriptions of the features and technologies;⁹ promoting the incorporation of the '379 Accused Products into end-user products.

Damages

171. On information and belief, despite having knowledge of the '379 Patent and knowledge that it is directly and/or indirectly infringing one or more claims of the '379 Patent, SMTC and SMI Taiwan have nevertheless continued their infringing conduct and disregarded an objectively high likelihood of infringement. SMTC's and SMI Taiwan's infringing activities relative to the '379 Patent, e.g., their decision to continue infringing the '379 Patent, have been, and continue to be, willful, wanton, malicious, in bad-faith, deliberate, consciously wrongful, flagrant, characteristic of a pirate, and an egregious case of misconduct beyond typical infringement such that K.Mizra is entitled to enhanced damages under 35 U.S.C. § 284 up to three times the amount found or assessed.

172. K.Mizra has been damaged as a result of SMTC's and SMI Taiwan's infringing conduct described in this Count. SMTC and SMI Taiwan are, thus, liable to K.Mizra in an amount that adequately compensates K.Mizra for SMI Taiwan's infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

CONCLUSION

173. K.Mizra is entitled to recover from SMTC and SMI Taiwan the damages sustained by K.Mizra as a result of SMTC's and SMI Taiwan's wrongful acts, and willful infringements, in an amount subject to proof at trial, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court.

⁹ See, e.g., <https://www.siliconmotion.com/products/client/detail>; <https://www.siliconmotion.com/products/enterprise/detail>; and the product briefs and white papers linked therefrom

174. K.Mizra has incurred and will incur attorneys' fees, costs, and expenses in the prosecution of this action. The circumstances of this dispute may give rise to an exceptional case within the meaning of 35 U.S.C. § 285, and K.Mizra is entitled to recover its reasonable and necessary attorneys' fees, costs, and expenses.

JURY DEMAND

175. K.Mizra hereby requests a trial by jury pursuant to Rule 38 of the Federal Rules of Civil Procedure.

PRAYER FOR RELIEF

176. K.Mizra respectfully requests that the Court find in its favor and against SMTC and SMI Taiwan, and that the Court grant K.Mizra the following relief:

- (i) A judgment that one or more claims of the Asserted Patents have been infringed, either literally and/or under the doctrine of equivalents, by SMTC and SMI Taiwan;
- (ii) A judgment that one or more claims of the Asserted Patents have been willfully infringed, either literally and/or under the doctrine of equivalents, by SMTC and SMI Taiwan;
- (iii) A judgment that SMTC and SMI Taiwan account for and pay to K.Mizra all damages and costs incurred by Plaintiff because of SMTC's and SMI Taiwan's infringing activities and other conduct complained of herein, including an accounting for any sales or damages not presented at trial;
- (iv) A judgment that SMTC and SMI Taiwan account for and pay to K.Mizra a reasonable, ongoing, post judgment royalty because of SMTC's and SMI Taiwan's infringing activities, including continuing infringing activities, and other conduct complained of herein;
- (v) A judgment that K.Mizra be granted pre-judgment and post judgment interest on the damages caused by SMTC's and SMI Taiwan's infringing activities and other conduct complained of herein;
- (vi) A judgment that this case is exceptional under the provisions of 35 U.S.C. § 285 and award enhanced damages; and
- (vii) Such other and further relief as the Court deems just and equitable.

Dated: July 26, 2024

Respectfully submitted,

/s/ Patrick J. Conroy

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