

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

MONTEREY RESEARCH, LLC,

Plaintiff,

v.

BROADCOM INCORPORATED,
BROADCOM CORPORATION, AND
BROADCOM PTE. LTD.,

Defendants.

Civil Action No. 6:21cv541

JURY TRIAL DEMANDED

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Monterey Research, LLC (“Monterey”), for its Complaint for Patent Infringement against defendants Broadcom Incorporated (“Broadcom Inc.”), Broadcom Corporation, (“Broadcom Corp.”), Broadcom Pte. Limited (“Broadcom Ltd.”) (collectively, “Broadcom” or “Broadcom Defendants”) alleges as follows:

INTRODUCTION

1. Monterey is an intellectual property and technology licensing company. Monterey’s patent portfolio comprises over 1,600 active and pending patents worldwide, including approximately 1,200 active United States patents. Monterey’s patent portfolio stems from technology developed from a number of leading high-technology companies, including Cypress Semiconductor Corporation. Those innovations have greatly enhanced the capabilities of computer systems, increased electronic device processing power, and reduced electronic device power consumption. Among other things, those inventions produced significant technological advances, including smaller, faster, and more efficient semiconductors and integrated circuits.

2. The Broadcom Defendants, jointly and severally, have infringed and continue to infringe Monterey's patents. Moreover, despite Monterey notifying them of infringement, the Broadcom Defendants have thus far refused to license those patents or even engage in discussions with Monterey. Instead, they have continued to make, use, sell, offer to sell, and/or import Monterey's intellectual property within the United States without Monterey's permission.

NATURE OF THE ACTION

3. This action arises under 35 U.S.C. § 271 for Broadcom's infringement of Monterey's United States Patent Nos. 6,459,625 ("the '625 patent") and 6,651,134 ("the '134 patent") (collectively, "the Patents-in-Suit").

THE PARTIES

4. Plaintiff Monterey is a Delaware limited liability company with offices in New Jersey and California.

5. Defendant Broadcom Inc. is a Delaware corporation with a regular and established place of business at 2901 Via Fortuna Drive, Austin, Texas 78746. Broadcom Inc. is a publicly traded company. Broadcom Inc. wholly owns and/or controls subsidiaries LSI Corporation, Avago Technologies U.S. Inc., and Avago Technologies Wireless (U.S.A.) Manufacturing LLC.

6. Defendant Broadcom Corp. is a California corporation with a regular and established place of business at 2901 Via Fortuna Drive, Austin, Texas 78746. Broadcom Corp. is a subsidiary of Broadcom Inc. Broadcom Corp. may be served through its registered agent for service: Corporation Service Company, 211 E. 7th Street Suite 620 Austin, TX 78701.

7. Defendant Broadcom Ltd. is a company organized under the laws of the Republic of Singapore, with a place of business at 1 Yishun Avenue 7, Singapore 768923. Broadcom Ltd. was formerly known as Broadcom Limited, and Broadcom Inc. is the successor to Broadcom Limited. Broadcom Ltd. is a wholly-owned subsidiary of Broadcom Inc.

8. Broadcom Inc. exercises control over Broadcom Corp. and Broadcom Ltd., and acts collectively with those entities to infringe Monterey's patents by making, using, selling, offering for sale, and/or importing products (including importing products made by a patented process) throughout the United States, including within this District. Broadcom's customers incorporate those products into downstream products that are made, used, sold, offered for sale, and/or imported throughout the United States, including within this District. Those downstream products include, but are not limited to, smartphones, tablets, televisions, smartwatches, and other products that include Broadcom semiconductor devices and integrated circuits.

JURISDICTION AND VENUE

9. This Court has jurisdiction over the subject matter of this action under 28 U.S.C. §§ 1331 and 1338(a) at least because this action arises under the patent laws of the United States, including 35 U.S.C. § 271 *et seq.*

10. This Court has personal jurisdiction over each Broadcom Defendant in this action.

11. This Court has personal jurisdiction over Broadcom Inc. and Broadcom Corp. at least because each has a regular and established place of business in the State of Texas. Broadcom Corp. also has a registered agent for service of process in Texas. In addition, Broadcom Inc. and Broadcom Corp. have each committed, aided, abetted, contributed to and/or participated in the commission of acts of infringement giving rise to this action within the State of Texas, including in this District and elsewhere, by, *inter alia*, directly and/or indirectly making, using, selling, offering for sale, importing products (including importing products made by a patented process) and/or practicing methods that practice one or more claims of the Patents-in-Suit. Furthermore, Broadcom Inc. and Broadcom Corp. have transacted and conducted business in the State of Texas, including in this District and elsewhere, and with Texas residents by making, using, selling, offering to sell, and/or importing (including importing products made by a patented process) products and instrumentalities that practice one or

more claims of the Patents-in-Suit. Among other things, Broadcom Inc. and Broadcom Corp., directly and/or through subsidiaries, affiliates, and/or intermediaries (including distributors, retailers, and others), use, sell, ship, distribute, import into, offer for sale, and/or advertise or otherwise promote their products throughout the United States, including in the State of Texas. *See, e.g.*, www.broadcom.com. Moreover, Broadcom Inc. and Broadcom Corp. have purposefully and voluntarily placed its infringing products into the stream of commerce with the expectation that those products will be purchased and used by customers and/or consumers in the State of Texas, including in this District. At least for those reasons, Broadcom Inc. and Broadcom Corp. have the requisite minimum contacts within the forum such that the exercise of jurisdiction over Broadcom Inc. and Broadcom Corp. would not offend traditional notions of fair play and substantial justice.

12. This Court has personal jurisdiction over Broadcom Ltd. at least because it has committed, aided, abetted, contributed to and/or participated in the commission of acts of infringement giving rise to this action within the State of Texas, including in this District and elsewhere, by, *inter alia*, directly and/or indirectly making, using, selling, offering for sale, importing products and/or practicing methods that practice one or more claims of the Patents-in-Suit. Furthermore, Broadcom Ltd. transacted and conducted business in the State of Texas, including in this District and elsewhere, and with Texas residents with respect to the products and instrumentalities accused of infringing the Patents-in-Suit. Among other things, Broadcom Ltd., directly and/or through subsidiaries, affiliates, and/or intermediaries (including distributors, retailers, and others), uses, sells, ships, distributes, imports into, offers for sale, and/or advertises or otherwise promotes its products throughout the United States, including in the State of Texas. *See, e.g.*, www.broadcom.com. Moreover, Broadcom Ltd. has purposefully and voluntarily placed its infringing products into the stream of commerce with the expectation that those products will be

purchased and used by customers and/or consumers in the State of Texas, including in this District. In addition, or in the alternative, this Court has personal jurisdiction over Broadcom Ltd. under Federal Rule of Civil Procedure 4(k)(2). At least for those reasons, Broadcom Ltd. has the requisite minimum contacts within the forum such that the exercise of jurisdiction over Broadcom Ltd. would not offend traditional notions of fair play and substantial justice.

13. Venue is proper in this District pursuant to 28 U.S.C. §§ 1391(b) and (c) and 1400(b). Broadcom has transacted and continues to transact business in this District. Broadcom also has committed and continues to commit acts of direct and/or indirect infringement in this District by, among other things, making, using, offering to sell, selling, and importing products that infringe the Asserted Patents. Broadcom Inc. and Broadcom Corp. have a regular and established place of business in this District, including at least at 2901 Via Fortuna Dr., Austin, Texas 78746 (Travis County).

Locations

14.

Austin Terrace

2901 Via Fortuna Drive
Austin, Texas
78746
United States

[Get Directions](#) 

Plano, Texas

CA Technologies
5465 Legacy Dr, Suite 700
Plano, Texas
75024
United States

[Get Directions](#) 

Plano, Texas

5465 Legacy Drive
Plano, Texas
75024
United States

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(<https://www.broadcom.com/company/contact#locations>.) Broadcom Ltd. is a foreign corporation that has committed acts of infringement in this District, and venue is proper in any district in which

Broadcom Ltd. is subject to personal jurisdiction. By way of further example, Broadcom develops certain infringing products within this District, such as, for example, physical layer products; manages certain enterprise customer accounts, including accounts in the server, store, and networking product categories, from this District, including its Austin, Texas location; and employs full-time personnel such as sales personnel and engineers in this District, including in Austin, Texas. Venue is further proper based on the facts alleged in the preceding paragraphs, which Monterey incorporates by reference as if fully set forth herein.

THE PATENTS-IN-SUIT

15. Monterey incorporates by reference the preceding paragraphs as if fully set forth herein.

A. U.S. Patent No. 6,459,625

16. The '625 patent, titled "Three Metal Process for Optimizing Layout Density," was duly and properly issued by the USPTO on October 1, 2002. A true and correct copy of the '625 patent is attached hereto as Exhibit A.

17. Monterey is the owner and assignee of the '625 patent; owns all right, title, and interest in the '625 patent; and holds the right to sue and recover damages for infringement thereof, including past infringement.

B. U.S. Patent No. 6,651,134

18. The '134 patent, titled "Memory Device with Fixed Length Non Interruptible Burst" was duly and properly issued by the USPTO on November 18, 2003. A true and correct copy of the '134 patent is attached hereto as Exhibit B.

19. Monterey is the owner and assignee of the '134 patent; owns all right, title, and interest in the '134 patent; and holds the right to sue and recover damages for infringement thereof, including past infringement.

FACTUAL BACKGROUND

20. Monterey incorporates by reference the preceding paragraphs as if fully set forth herein.

21. The Patents-in-Suit stem from the research and design of innovative and proprietary technology developed by leading high-technology companies, including Cypress Semiconductor Corporation (“Cypress”). Cypress is an American multinational company and pioneer of cutting-edge semiconductor technology. Founded in 1982, Cypress has made substantial investments in researching, developing, and manufacturing high-quality semiconductor devices, integrated circuits, and products containing the same.

22. The Patents-in-Suit are directed to inventive technology relating to semiconductor devices, integrated circuits, and/or products containing the same.

23. The Broadcom Defendants work closely with their customers, OEMs, foundry suppliers, distributors, and/or other third parties to make, use, sell, offer to sell, and/or import semiconductor devices, integrated circuits, and/or products containing the same. Among other things, the Broadcom Defendants optimize their manufacturing process for their customers and optimize their products for integration into downstream products. The Broadcom Defendants’ affirmative acts in furtherance of the manufacture, use, sale, offer to sell, and importation of their products in and/or into the United States include, but are not limited to, any one or combination of: (i) designing specifications for manufacture of their products; (ii) collaborating on, encouraging, and/or funding the development of processes for the manufacture of their products; (iii) soliciting and/or sourcing the manufacture of their products; (iv) licensing, developing, and/or transferring technology and know-how to enable the manufacture of their products; (v) enabling and encouraging the use, sale, or importation of their products in the United States; and (vi) advertising their products and/or downstream products incorporating them in the United States.

24. Broadcom also provides marketing and/or technical support services for its products from its facilities in the United States. For example, Broadcom maintains a website that advertises its products, including identifying the applications for which they can be used and specifications for its products. *See, e.g.*, www.broadcom.com. Broadcom makes available user manuals, product documentation, and other materials related to its products to residents of this District and to the United States as a whole. For example, Broadcom provides development content for specific chip products and applications; catalogs of hardware, software, and tools documentation; relevant support articles; various software code and tools; and case-specific technical assistance.

**BROADCOM'S PRE-SUIT KNOWLEDGE OF MONTEREY'S PATENTS AND
CHARGE OF INFRINGEMENT**

25. Before filing this action, Monterey, through its agent IPValue Management, Inc. (“IPValue”), notified Broadcom about the Patents-in-Suit and Broadcom’s infringement thereof. Among other things, Monterey identified the Patents-in-Suit to Broadcom; alleged that Broadcom infringed the Patents-in-Suit, including identifying exemplary infringing products; sought to engage Broadcom in discussions regarding Broadcom’s use of Monterey’s intellectual property (including the Patents-in-Suit); and offered to license the Patents-in-Suit to Broadcom. For example:

a. On May 23, 2018, Monterey sent a letter to Broadcom, notifying Broadcom of its infringement of certain Monterey patents, including the ’625 patent. Among other things, Monterey identified representative Broadcom products that utilize that patent, expressly charged that Broadcom and its customers infringed that patent, and explained that Broadcom required a license from Monterey. Monterey requested a meeting with Broadcom.

b. Broadcom, however, did not respond to Monterey’s May 23, 2018 letter.

c. On July 11, 2018, Monterey sent a follow-up letter to Broadcom. That letter attached Monterey’s May 23, 2018 letter; identified Broadcom products that were covered by

Monterey's patents; and requested a meeting with Broadcom to further discuss Broadcom's infringement.

d. On July 24, 2018—two weeks later—Broadcom sent an e-mail acknowledging its receipt of the July 11, 2018 letter and stated that it would review the issues raised therein. Broadcom, however, did not provide any availability for Monterey's requested meeting.

e. On August 1, 2018, Broadcom replied that it was premature to meet and, once again, did not provide any availability for Monterey's requested meeting.

f. On September 6, 2018, Broadcom stated that it would not engage in any meaningful discussions concerning Monterey's patents and would not proceed with negotiations.

g. On September 13, 2018, Monterey sent a follow-up e-mail to Broadcom, requesting that the discussions proceed, since Broadcom still had not yet responded to Monterey's infringement allegations. As with Monterey's prior correspondence, Broadcom did not respond to Monterey's September 13, 2018 e-mail.

h. On September 28, 2018, Monterey sent another e-mail requesting that Broadcom proceed with potential licensing discussions of Monterey's patents.

i. On November 9, 2018, Broadcom confirmed that it was not interested in engaging in discussions.

j. On February 6, 2019, Monterey sent another letter to Broadcom following up on prior communications and notifying Broadcom of its infringement of additional Monterey patents, including the '134 patent. Among other things, Monterey identified representative Broadcom products that utilize that patent and explained that Broadcom required a license from Monterey.

k. Broadcom, however, did not respond to Monterey's February 6, 2019 letter.

l. On February 15, 2019, Monterey sent Broadcom a letter suggesting a meeting to discuss Broadcom's infringement.

m. On June 4, 2019, Monterey sent another e-mail including an article in *Business Wire* discussing a recent license Monterey had granted to Samsung, and inquiring if Broadcom was willing to engage in good-faith discussions to acquire a license to Monterey's patents.

n. Broadcom did not respond to the June 4, 2019 e-mail.

o. On May 4, 2021, Monterey sent another letter to Broadcom following up on prior communications and notifying Broadcom of its infringement of additional Monterey patents. Among other things, Monterey identified representative Broadcom products that utilize those patents, expressly charged that Broadcom and its customers infringed those patents, and explained that Broadcom required a license from Monterey. Monterey again requested a meeting with Broadcom.

p. Broadcom, however, did not respond to Monterey's May 4, 2021 letter.

q. Despite the numerous letters and related prior and subsequent communications, at no time prior to Monterey's filing of this Complaint, did Broadcom deny infringing any element of any claim of the Patents-in-Suit, nor did Broadcom identify any alleged prior art to any of the Patents-in-Suit.

26. Despite Monterey's repeated efforts—which have continued for well over three years—Broadcom still has not engaged in any meaningful discussions to end its infringement of the Patents-in-Suit. Indeed, despite Monterey's diligent efforts to arrange a meeting with Broadcom,

Broadcom has refused to meet with Monterey. Instead, Broadcom continues to, directly and indirectly, knowingly, intentionally, and willfully infringe Monterey's patents.

COUNT ONE
INFRINGEMENT OF THE '625 PATENT

27. Monterey incorporates by reference the preceding paragraphs as if fully set forth herein.

28. Monterey is the assignee and lawful owner of all right, title, and interest in and to the '625 patent.

29. The '625 patent is valid and enforceable.

30. The '625 patent is directed to memory device layout, and particularly to systems for optimizing layout density in the periphery area of a memory device using a three-metal or more interconnect process.

31. The '625 patent explains that metallization can involve depositing a thin film of conductive metal on a memory device such that the electrical components are formed and electrically connected with the conductive metal. A periphery area of a memory device can include, for example, a plurality of electrical components such as transistors, resistors, capacitors and diodes formed in the silicon substrate during fabrication. Some types of previously known memory used a two-metal layer metallization process to electrically connect the electrical components in the periphery area of the memory. A problem with this two-metal layer metallization method was layout area consumed by the periphery area. The layout area for the traditional electrical connection systems and methods increased the size of the periphery area on the memory. The area on the memory that is not consumed by the periphery area can be, for example, reserved for the core cell area, allowing more core memory cells to be fabricated on the memory. It is therefore desirable to minimize the amount of periphery area consumed, thereby increasing the amount of information stored in the memory.

32. The '625 patent teaches, among other things, how to selectively place and electrically connect a plurality of electrical components to form sub-circuits and selectively electrically connect the sub-circuits, including using three or more metal layers, resulting in, among other things, minimizing the layout area of the sub-circuits in the periphery area.

33. Broadcom has directly infringed, and continues to directly infringe, one or more claims of the '625 patent under 35 U.S.C. § 271, either literally and/or under the doctrine of equivalents, by, among other things, making, using, selling, offering to sell, and/or importing in or into the United States without authorization products covered by one or more claims of the '625 patent, including, by way of example and not limitation, products that use three or more metal layers in their integrated memory device's periphery area, such as the BCM58713 and other products in the BCM5976, NL/NLA12000, BCM82181, BCM82109, BCM82381, BCM82328, BCM82864, BCM82332, BCM82793, BCM65500, BCM43012, XLP200, BCM53106, BCM53134, BCM5830X, BCM47755, BCM5315x, BCM53112, BCM53570, BCM47765, XLP500, BCM5316x, BCM53154, BCM3158x, BCM31584, BCM31588, BCM31586 product family; other Broadcom 28 nm and 90 nm process node semiconductor devices, integrated circuits, and products; and all other semiconductor devices, integrated circuits, and products with similar integrated memory devices containing a periphery area which uses the infringing technology (collectively, "the Accused '625 Products").

34. As one non-limiting example, Broadcom infringes claim 10 of the '625 patent. For example, the BCM58713 semiconductor device contains:

- a. a plurality of sub-circuits in a periphery area of a memory device (e.g., sub-circuits in the periphery of the SRAM of the BCM58713), wherein each sub-circuit includes at least one electrical circuit with a plurality of circuit components (e.g., electrical circuit with a

plurality of circuit components in the periphery of the SRAM of the BCM58713);

b. a first metal interconnect layer that partially connects the circuit components, wherein first metal layer lines are oriented in substantially one direction (e.g., metal layer connecting circuit components in the periphery of the SRAM of the BCM58713);

c. a second metal interconnect layer that completes the connection of the circuit components, and where the second metal interconnect layer lines are fabricated substantially perpendicular to the first metal layer lines (e.g., metal layer perpendicular to the first that completes the connection of the circuit components in the periphery of the SRAM of the BCM58713); and

d. a third metal interconnect layer that connects the plurality of sub-circuits, wherein the third metal interconnect layer lines are fabricated substantially parallel to the first metal layer lines (e.g., metal layer substantially parallel to the first that connects the plurality of sub-circuits in the periphery of the SRAM of the BCM58713).

35. Broadcom has known of the '625 patent and its infringement of that patent since at least as early as May 23, 2018.

36. Broadcom, knowing its products infringe the '625 patent and with the specific intent for others to infringe the '625 patent, has induced infringement of, and continues to induce infringement of, one or more claims of the '625 patent under 35 U.S.C. § 271, either literally and/or under the doctrine of equivalents, by, among other things, actively inducing others, including its customers, to make, use, sell, offer to sell, and/or import in or into the United States without authorization the Accused '625 Products, as well as products containing the same. Broadcom knowingly and intentionally instructs its customers, OEMs, foundry suppliers, distributors, and/or other third parties to infringe at least through user manuals, product documentation, design

specifications, layout files, formulas, and other materials, such as those located on Broadcom's website at www.broadcom.com. For example, Broadcom provides data sheets, development content, diagrams, white papers, and software instructing customers on uses of Broadcom's products that infringe the '625 patent. *See, e.g.,* <https://www.broadcom.com/support> and <https://www.broadcom.com/products/embedded-and-networking-processors/communications/bcm58713>. Additional non-limiting examples include the materials found on Broadcom's website at <https://docs.broadcom.com/docs/1211168571391> and <https://www.broadcom.com/blog/broadcom-s-28nm-technology-greater-performance-and-less-power-consumption-is-only-the-beginning>.

37. Broadcom has contributed to the infringement of, and continues to contribute to the infringement of, one or more claims of the '625 patent under 35 U.S.C. § 271, either literally and/or under the doctrine of equivalents, by, among other things, selling, offering to sell, and/or importing in or into the United States the Accused '625 Products, which constitute a material part of the invention of the '625 patent, knowing the Accused '625 Products to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use. *See, e.g.,* <https://www.broadcom.com/support> and <https://www.broadcom.com/products/embedded-and-networking-processors/communications/bcm58713>.

38. Monterey has sustained and is entitled to recover damages as a result of Broadcom's past and continuing infringement.

39. Broadcom's infringement of the '625 patent has been knowing, deliberate, and willful, since at least as early as May 23, 2018, the date of Monterey's letter to Broadcom and therefore the date on which Broadcom knew of the '625 patent and that its conduct constituted and

resulted in infringement of the '625 patent. And Monterey continued to identify the '625 patent and Broadcom's infringement thereof, through communications, including on July 11, 2018; February 6, 2019; May 4, 2021; and yet again through this complaint. Broadcom nonetheless has committed—and continues to commit—acts of direct and indirect infringement despite knowing that its actions constituted infringement of the valid and enforceable '625 patent, despite a risk of infringement that was known or so obvious that it should have been known to Broadcom, and/or even though Broadcom otherwise knew or should have known that its actions constituted an unjustifiably high risk of infringement of that valid and enforceable patent. Broadcom's conduct in light of these circumstances is egregious. Broadcom's knowing, deliberate, and willful infringement of the '625 patent entitles Monterey to increased damages under 35 U.S.C. § 284 and to attorney fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

COUNT TWO
INFRINGEMENT OF THE '134 PATENT

40. Monterey incorporates by reference the preceding paragraphs as if fully set forth herein.

41. Monterey is the assignee and lawful owner of all right, title, and interest in and to the '134 patent.

42. The '134 patent is valid and enforceable.

43. The '134 patent generally concerns memory devices, and is more specifically related to non-interruptible burst read and write access features, as described in JEDEC standards JESD79-3F DDR3 SDRAM, JESD79-4A DDR4 SDRAM, JESD209-3 LPDDR3, JESD209-4 LPDDR4, JESD212 GDDR5, JESD232 GDDR5X, JESD250 GDDR6, JESD235 HBM, JESD235A HBM1, or JESD235C HBM2 and similar versions of the JEDEC DDRx, JEDEC GDDRx, or JEDEC HBMx standards.

44. The '134 patent provides a faster and more efficient way for burst read and write access over conventional DRAM devices existing when the patent was filed in early 2000. A conventional DRAM may need an interrupt to perform data refreshes. Prior to the '134 patent, DRAM memory devices had a burst mode that had the possibility of needing to continually perform interrupts to perform data refreshes.

45. The '134 patent teaches, among other things, a fixed burst memory that can have non-interruptible bursts, hide required DRAM refreshes inside a known fixed burst length, free up the address and control busses for multiple cycles, and operate at higher frequencies without needing interrupts to perform refreshes of data.

46. Broadcom has directly infringed, and continues to directly infringe, one or more claims of the '134 patent under 35 U.S.C. § 271, either literally and/or under the doctrine of equivalents, by, among other things, making, using, selling, offering to sell, and/or importing in or into the United States without authorization products covered by one or more claims of the '134 patent, including, by way of example and not limitation, products that use non-interruptible burst read or write operations, such as the BCM5871X and other products in the BCM4706, BCM49408, BCM55524, BCM56240, BCM58522, BCM58525, BCM58535, BCM58622, BCM58623, BCM58625, BCM58712, BCM58713, BCM5871X, BCM58800, BCM7241, BCM7242, BCM7251, BCM7251S, BCM7252, BCM7252S, BCM7260, BCM72604, BCM7366, BCM7421, BCM7422, BCM7438, BCM7444, BCM7445, BCM7468, BCM88680, LSISAS2208, MegaRAID SAS 9267-8i RAID Controller, MegaRAID SAS 9270-8i RAID Controller, MegaRAID SAS 9286CV-8e RAID Controller, MegaRAID SAS 9400 Series controllers, PS410T - QUAD-PORT 10GBASE-T PCIe Ethernet SmartNIC, STINGRAY PS1100R, XLP200 Series, the XLP300 Series, XLS1RD-NAS-IA, XLS1RD-SWG-IB, XLS4XX, BCM88690, BCM88820, BCM88800, BCM88480, BCM88280,

Jericho2, Jericho2c, Qumran2u, Qumran2c, Qumran2a, StrataDNX product lines; other semiconductor devices, integrated circuits, and products that practice JESD79-3F DDR3 SDRAM, JESD79-4A DDR4 SDRAM, JESD209-3 LPDDR3, JESD209-4 LPDDR4, JESD212 GDDR5, JESD232 GDDR5X, JESD250 GDDR6 JESD235 HBM, JESD235A HBM1, or JESD235C HBM2 or similar versions of JEDEC DDRx, JEDEC GDDRx, or JEDEC HBMx; and all other semiconductor devices, integrated circuits, and products with similar infringing technology (collectively, “the Accused ’134 Products”).

47. As one non-limiting example, Broadcom infringes claim 1 of the ’134 patent since the XLP300 Series semiconductor device contains DDR3 SDRAM memory controllers that operate in conformance with JEDEC’s DDR3 SDRAM standard. For example, the XLP300 Series contains a circuit comprising:

- a. a memory comprising a plurality of storage elements (e.g., banks of storage elements of the XLP300 Series);
- b. each configured to read and write data in response to an internal address signal (e.g., stored bits of memory bank addressed and defined by internal addresses of the XLP300 Series);
- c. a logic circuit configured to generate a predetermined number of said internal address signals (e.g., generating addresses based on bank addresses, row addresses, and column addresses of the XLP300 Series) in response to an external address signal (e.g., read or write signals of the XLP300 Series), a clock signal (e.g., clock signal of the XLP300 Series), and one or more control signals (e.g., control signal of the XLP300 Series);
- d. wherein said generation of said predetermined number of internal address signals is non-interruptible (e.g., burst reads or writes cannot be terminated or interrupted in the

XLP300 Series).

48. Broadcom has known of the '134 patent and its infringement of that patent since at least February 6, 2019.

49. Broadcom, knowing its products infringe the '134 patent and with the specific intent for others to infringe the '134 patent, has induced infringement of, and continues to induce infringement of, one or more claims of the '134 patent under 35 U.S.C. § 271, either literally and/or under the doctrine of equivalents, by, among other things, actively inducing others, including its customers, to make, use, sell, offer to sell, and/or import in or into the United States without authorization the Accused '134 Products, as well as products containing the same. Broadcom knowingly and intentionally instructs its customers, OEMs, foundry suppliers, distributors, and/or other third parties to infringe at least through user manuals, product documentation, design specifications, layout files, formulas, and other materials, such as those located on Broadcom's website at www.broadcom.com. For example, Broadcom provides data sheets, development content, diagrams, white papers, and software instructing customers on uses of Broadcom's products that infringe the '134 patent. *See, e.g.,* <https://www.broadcom.com/support> and <https://www.broadcom.com/products/embedded-and-networking-processors/communications/xlp300>. Additional non-limiting examples include the materials found on Broadcom's website at <https://docs.broadcom.com/doc/1211168571391>.

50. Broadcom has contributed to the infringement of, and continues to contribute to the infringement of, one or more claims of the '134 patent under 35 U.S.C. § 271, either literally and/or under the doctrine of equivalents, by, among other things, selling, offering to sell, and/or importing in or into the United States the Accused '134 Products, which constitute a material part of the invention of the '134 patent, knowing the Accused '134 Products to be especially made or especially

adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use. *See, e.g.*, <https://www.broadcom.com/products/embedded-and-networking-processors/communications/xlp300>.

51. Monterey has sustained and is entitled to recover damages as a result of Broadcom's past and continuing infringement.

52. Broadcom's infringement of the '134 patent has been knowing, deliberate, and willful, since at least as early as February 6, 2019, the date on which Broadcom was presented with the '134 patent infringement claim chart, knew of the '134 patent, and knew that its conduct constituted and resulted in infringement of the '134 patent. Monterey continued to put Broadcom on notice of the '134 patent and Broadcom's infringement thereof, including without limitation through communications on May 4, 2021 and yet again through this complaint. Broadcom nonetheless has committed—and continues to commit—acts of direct and indirect infringement despite knowing that its actions constituted infringement of the valid and enforceable '134 patent, despite a risk of infringement that was known or so obvious that it should have been known to Broadcom, and/or even though Broadcom otherwise knew or should have known that its actions constituted an unjustifiably high risk of infringement of that valid and enforceable patent. Broadcom's conduct in light of these circumstances is egregious. Broadcom's knowing, deliberate, and willful infringement of the '134 patent entitles Monterey to increased damages under 35 U.S.C. § 284 and to attorney fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

RELIEF REQUESTED

Wherefore, Monterey respectfully requests that this Court enter judgment against Broadcom as follows:

- A. that Broadcom has infringed each of the Patents-in-Suit;
- B. that Broadcom's infringement of each Patent-in-Suit is and has been willful;

- C. that Monterey be awarded damages adequate to compensate it for the patent infringement that has occurred, together with pre-judgment interest, post-judgment interest, and costs;
- D. that Monterey be awarded an accounting and additional damages for any infringing sales not presented at trial;
- E. that Monterey be awarded all other damages permitted by 35 U.S.C. § 284, including without limitation increased damages up to three times the amount of compensatory damages found;
- F. that this is an exceptional case and that Monterey be awarded its costs and reasonable attorneys' fees incurred in this action as provided by 35 U.S.C. § 285;
- G. that Broadcom as well as its officers, directors, agents, employees, representatives, attorneys, and all others acting in privity or in concert with it, its subsidiaries, divisions, successors and assigns be permanently enjoined from further infringement of each of the Patents-in-Suit;
- H. that, in the event a permanent injunction preventing further infringement of each of the Patents-in-Suit is not granted, Monterey be awarded a compulsory ongoing licensing fee for any such further infringement; and
- I. such other relief as this Court deems just and proper.

DEMAND FOR JURY TRIAL

Monterey hereby demands trial by jury on all claims and issues so triable.

Dated: May 28, 2021

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