

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE**

MONTEREY RESEARCH, LLC,	)	
	)	
Plaintiff,	)	
	)	C.A. No. _____
v.	)	
	)	<b>JURY TRIAL DEMANDED</b>
STMICROELECTRONICS N.V. and	)	
STMICROELECTRONICS, INC.,	)	
	)	
Defendants.	)	

**COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiff Monterey Research, LLC (“Monterey”), for its Complaint for Patent Infringement against Defendants STMicroelectronics N.V. (“ST N.V.”) and STMicroelectronics, Inc. (“ST Inc.”) (collectively, “ST” or “ST Defendants”), alleges as follows:

**INTRODUCTION**

1. Monterey is an intellectual property and technology licensing company. Monterey’s patent portfolio comprises over 2,700 active and pending patents worldwide, including approximately 2,000 active United States patents. Monterey’s patent portfolio stems from technology developed by a number of leading high-technology companies, including Cypress Semiconductor Corporation, Advanced Micro Devices, Fujitsu, NVX Corporation, and Ramtron. Those companies developed key innovations that 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 ST Defendants, jointly and severally, 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. ST’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, motherboards, desktop computers, servers, laptop computers, videogame consoles, and other products that include ST semiconductor devices and integrated circuits.

3. The ST Defendants have infringed and continue to infringe Monterey's patents. Moreover, despite Monterey notifying them of infringement, the ST Defendants have thus far refused to license those patents and, instead, 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 CASE**

4. This action arises under 35 U.S.C. § 271 for the ST Defendants' infringement of Monterey's United States Patent Nos. 6,534,805 ("the '805 patent"); 6,651,134 ("the '134 patent"); 7,495,951 ("the '951 patent"); and 6,459,625 ("the '625 patent") (collectively, "the Patents-in-Suit").

#### **THE PARTIES**

5. Plaintiff Monterey is a Delaware limited liability company with offices in New Jersey and California. Monterey maintains a registered agent for service in Delaware: Intertrust Corporate Services Delaware Ltd. located at 200 Bellevue Parkway, Suite 210, Wilmington, Delaware 19808.

6. Defendant ST Inc. is a Delaware corporation with a principal place of business at 750 Canyon Drive, Suite 300, Coppell, Texas 75019. ST Inc. is a publicly traded company that may be served through its registered agent for service, The Corporation Trust Company, 1209 Orange Street, Wilmington, Delaware 19801.

7. Defendant ST N.V. is a corporation organized under the laws of the Netherlands, with a corporate office at WTC Schiphol Airport, Schiphol Boulevard 265, 1118 BH Schiphol, the

Netherlands. ST N.V. is a publicly traded company and is the parent corporation of defendant ST Inc.

### **JURISDICTION AND VENUE**

8. 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.*

9. Personal jurisdiction exists over each ST Defendant.

10. Personal jurisdiction exists over ST Inc. at least because ST Inc. is a Delaware corporation organized under the laws of the State of Delaware. ST Inc. also has a registered agent for service of process in Delaware. In addition, ST Inc. 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 Delaware 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, ST Inc. has transacted and conducted business in the State of Delaware and with Delaware 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, ST Inc., directly and/or through intermediaries, 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 Delaware. *See, e.g.*, [https://www.st.com/content/st\\_com/en.html](https://www.st.com/content/st_com/en.html). At least for those reasons, ST Inc. has the requisite minimum contacts within the forum such that the exercise of jurisdiction over ST Inc. would not offend traditional notions of fair play and substantial justice.

11. Personal jurisdiction exists over ST N.V. at least because ST N.V. 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 Delaware 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. ST N.V., which controls ST Inc., is a global operating company that has transacted and conducted business in the State of Delaware and with Delaware residents with respect to the products and instrumentalities that practice one of more claims of the Patents-in-Suit. Among other things, ST N.V., directly and/or through intermediaries, uses, sells, ships, distributes, imports into, offers for sale, and/or advertises or otherwise promotes their products throughout the United States, including in the State of Delaware. *See, e.g.*, [https://www.st.com/content/st\\_com/en.html](https://www.st.com/content/st_com/en.html). For example, ST N.V. has committed and continues to commit acts of direct infringement in the State of Delaware by selling its products online, including through sales on Arrow and other online platforms. *See, e.g.*, [https://www.arrow.com/en/products/search?q=STMicroelectronics&filters=Manufacturer\\_name:STMicroelectronics;&selectedType=manufacturer](https://www.arrow.com/en/products/search?q=STMicroelectronics&filters=Manufacturer_name:STMicroelectronics;&selectedType=manufacturer). At least for those reasons, ST N.V. has the requisite minimum contacts within the forum such that the exercise of jurisdiction over ST N.V. would not offend traditional notions of fair play and substantial justice.

12. Venue is proper in this Court pursuant to 28 U.S.C. §§ 1391(b) and (c) and 1400(b). ST Inc. resides in this district and has committed acts of infringement in this district. ST N.V. is a foreign corporation that has committed acts of infringement in this district by, among other things, selling and offering for sale in this district (and elsewhere) infringing products made, used, developed, tested, and otherwise practiced by ST N.V. Additionally, ST Inc. has acted in conjunction with and under the control of ST N.V. by, among other things, selling and offering for sale in this district (and elsewhere) infringing products made, used, developed, tested, and otherwise practiced by ST N.V. Venue is further proper based on the facts alleged in the preceding and subsequent paragraphs, which

Monterey incorporates by reference as if fully set forth herein.

**THE PATENTS-IN-SUIT**

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

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

14. 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.

15. 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. 6,534,805**

16. The '805 patent, titled "SRAM Cell Design," was duly and properly issued by the United States Patent and Trademark Office ("USPTO") on March 18, 2003. On October 14, 2014, the USPTO issued an Ex Parte Reexamination Certificate for the '805 patent, which confirmed the patentability of the '805 patent. A true and correct copy of the '805 patent and the Ex Parte Reexamination Certificate for the '805 patent is attached hereto as Exhibit B.

17. Monterey is the owner and assignee of the '805 patent; owns all right, title, and interest in the '805 patent; and holds the right to sue and recover damages for infringement thereof, including past infringement.

**C. 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 C.

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.

**D. U.S. Patent No. 7,495,951**

20. The '951 patent, titled "Resistive Memory Cell Array with Common Plate," was duly and properly issued by the USPTO on February 24, 2009. A true and correct copy of the '951 patent is attached hereto as Exhibit D.

21. Monterey is the owner and assignee of the '951 patent; owns all right, title, and interest in the '951 patent; and holds the right to sue and recover damages for infringement thereof, including past infringement.

**FACTUAL BACKGROUND**

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

23. 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.

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

25. The ST 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 ST

Defendants optimize their manufacturing process for their customers and optimize their products for integration into downstream products. The ST 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.

26. The ST Defendants also provide marketing and/or technical support services for their products from their facilities in the United States. For example, the ST Defendants maintain a website that advertises their products, including identifying the applications for which they can be used and providing specifications for their products. *See, e.g.*, [https://www.st.com/content/st\\_com/en.html](https://www.st.com/content/st_com/en.html). The ST Defendants' publicly-available website also contains user manuals, product documentation, and other materials related to their products. *See, e.g.*, [https://www.st.com/content/st\\_com/en.html](https://www.st.com/content/st_com/en.html). For example, the ST Defendants' website contains a knowledge base, software help center, support forum, technical resources, and tools for design support. *See, e.g.*, [https://www.st.com/content/st\\_com/en/support/support-home.html](https://www.st.com/content/st_com/en/support/support-home.html).

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

27. Before filing this action, Monterey, through its agent IPValue Management, Inc. ("IPValue"), notified the ST Defendants about Monterey's patent portfolio and ST's infringement thereof. Among other things, Monterey, through its agent IPValue, identified Monterey patents to the

ST Defendants; alleged that they infringed Monterey patents, including identifying exemplary infringing products; and offered to license Monterey patents to them. By way of example and not limitation:

a. On November 19, 2018, Monterey sent a letter to the ST Defendants, notifying them of their infringement of certain Monterey patents, including the '625 and '805 patents. Among other things, Monterey identified representative ST products that utilize those patents, expressly charged that the ST Defendants and their customers infringed those patents, and explained that the ST Defendants required a license from Monterey. Monterey identified IPValue as Monterey's appointed agent and requested a meeting with the ST Defendants.

b. On December 6, 2018, Monterey sent a letter to the ST Defendants, notifying them of their infringement of additional Monterey patents, including the '134 patent. Among other things, Monterey identified representative ST products that utilize those patents, expressly charged that the ST Defendants and their customers infringed those patents, and explained that the ST Defendants required a license from Monterey. Monterey again identified IPValue as Monterey's appointed agent and requested a meeting with the ST Defendants.

c. On March 5, 2019, Monterey met in-person with the ST Defendants and presented the ST Defendants with detailed infringement claim charts of certain Monterey patents. Among other things, Monterey's presentation identified specific Monterey patents including the '625, '805, and '134 patents (as well as exemplary patent claims); identified representative ST products that utilize those patents; identified where every element of each of those exemplary patent claims was found in the representative products of the ST Defendants; expressly charged that the ST Defendants and their customers infringed those patents; and explained that the ST Defendants required a license from Monterey.



d. Following the March 5, 2019 meeting, Monterey repeatedly asked the ST Defendants to schedule a next meeting. The ST Defendants did not agree to meet again until September 5, 2019. At the September 5, 2019 meeting, Monterey met in-person with the ST Defendants. At that meeting, it was clear that the ST Defendants had no intention of taking a license to the Monterey patents.

28. Despite Monterey's repeated efforts—which have continued for well over a year—the ST Defendants still have not engaged in any meaningful discussions to end their infringement of the Patents-in-Suit and have not taken a license to them. Instead, the ST Defendants continue to knowingly, intentionally, and willfully infringe Monterey's patents directly, contributorily, and by inducement, to obtain their significant benefits without a license from Monterey. Monterey thus has no other choice but to seek relief through litigation.

**COUNT ONE**  
**INFRINGEMENT OF THE '625 PATENT**

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

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

31. The '625 patent is valid and enforceable.

32. 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.

33. 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 concerned the 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.

34. 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, resulting in, among other things, minimizing the layout area of the sub-circuits in the periphery area.

35. ST products use the three metal layer or more metallization in their memory device's periphery area. This has enabled ST to, among other things, decrease their memory device's periphery area. Memory devices containing an infringing periphery area are found integrated in ST products, including their 32-bit microcontrollers. Specifically, at least the ST products which are manufactured with a 90 nm process node have infringing three metal layer or more metallization in their memory devices' periphery area and other infringing features that use the technology of the '625 patent.

36. The ST Defendants have directly infringed, and continue to directly infringe, one or more claims of the '625 patent under 35 U.S.C. § 271(a), 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, but not limited to, products that use the three metal layer or more metallization in their integrated memory device's periphery area, such as the SPC570S40E1 power architecture microcontroller; other ST 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 ("the Accused '625 Products").

37. As one non-limiting example, the ST Defendants infringe claim 10 of the '625 patent. For example, the SPC570S40E1 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 SPC570S40E1), 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 SPC570S40E1);

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 of the SRAM of the SPC570S40E1);

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 of the SRAM of the SPC570S40E1); 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 of the SRAM of the SPC570S40E1).

38. Claim 10 of the '625 patent applies to each Accused '625 Product at least because each of those products contain the same or similar three metal layer or more metallization in their memory device's periphery area as the ST SPC570S40E1.

39. The ST Defendants have known of the '625 patent and their infringement of that patent since at least as early as November 19, 2018.

40. The ST Defendants have induced infringement of, and continue to induce infringement of, one or more claims of the '625 patent under 35 U.S.C. § 271(b), either literally and/or under the doctrine of equivalents, by, among other things, actively inducing others, including their 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. The ST Defendants knowingly and intentionally instruct their customers, OEMs, foundry suppliers, distributors, and/or other third parties to infringe at least through user manuals, product documentation, and other materials, such as those located on the ST Defendants' website at [https://www.st.com/content/st\\_com/en.html](https://www.st.com/content/st_com/en.html). Additional non-limiting examples include the materials found on the ST Defendants' website at [https://www.st.com/content/st\\_com/en/products/automotive-microcontrollers/spc5-32-bit-automotive-mcus/spc5-p-performance-mcus/spc57-0s-line-mcus/spc570s40e1.html](https://www.st.com/content/st_com/en/products/automotive-microcontrollers/spc5-32-bit-automotive-mcus/spc5-p-performance-mcus/spc57-0s-line-mcus/spc570s40e1.html).

41. The ST Defendants have contributed to the infringement of, and continue to contribute to the infringement of, one or more claims of the '625 patent under 35 U.S.C. § 271(c), 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.

42. Monterey has sustained and is entitled to recover damages as a result of the ST Defendants' past and continuing infringement.

43. The ST Defendants' infringement of the '625 patent has been knowing, deliberate, and willful, since at least as early as November 19, 2018, the date of Monterey's letter to the ST Defendants and therefore the date on which the ST Defendants knew of the '625 patent and that their conduct constituted and resulted in infringement of the '625 patent. Monterey continued to put the ST Defendants on notice of the '625 patent and the ST Defendants' infringement thereof, including without limitation through communications on March 5, 2019 and yet again through this complaint. The ST Defendants nonetheless have committed—and continue to commit—acts of direct and indirect infringement despite knowing that their 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 the ST Defendants, and/or even though the ST Defendants otherwise knew or should have known that their actions constituted an unjustifiably high risk of infringement of that valid and enforceable patent. The ST Defendants' conduct in light of these circumstances is egregious. The ST Defendants' 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 '805 PATENT**

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

45. Monterey is the assignee and lawful owner of all right, title, and interest in and to the

'805 patent.

46. The '805 patent is valid and enforceable.

47. The '805 patent is generally directed to static random access memory ("SRAM") cell design, particularly to optimizing SRAM cell design using a simpler geometric layout.

48. As semiconductor structure size continued to shrink with time, one exemplary issue with the prior art of the '805 patent was increased difficulties in manufacturing. Specifically, the then-existing memory cells contained complex geometric designs which required numerous processing steps and larger cell sizes. Generally, more processing steps lead to increased manufacturing costs and reduced profits.

49. The '805 patent teaches, among other things, an improved memory cell layout which allows the features to be arranged in such a way as to minimize cell size. For example, the single local interconnect layer of the '805 patent allows for a thinner product and fewer processing steps.

50. ST products use SRAM with a six-transistor ("6T") and/or eight-transistor ("8T") cell design. ST's 6T and 8T SRAM contain a single local interconnect layer. This has resulted in, among other things, ST's ability to decrease the size of its SRAM area and to decrease the number of manufacturing steps.

51. The ST Defendants have directly infringed, and continue to directly infringe, one or more claims of the '805 patent under 35 U.S.C. § 271(a), 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 '805 patent, including, but not limited to, all ST devices incorporating SRAM with a 6T and/or 8T cell design, such as the SPC750S40E1 automotive microcontroller device; all other products that include SRAM with 6T or 8T cells, including embedded SRAM; and all other semiconductor devices,

integrated circuits, and products with similar infringing technology (“the Accused ’805 Products”).

52. As one non-limiting example, the ST Defendants infringe claim 8 of the ’805 patent. For example, the SPC750S40E1 automotive microcontroller device contains:

- a. a memory cell (e.g., SRAM cell of the SPC750S40E1) comprising a plurality of substantially oblong active regions formed in a semiconductor substrate and arranged substantially in parallel with one another, and a plurality of substantially oblong local interconnects (e.g., structures formed at the polysilicon layer on top of the substrate of the SPC750S40E1) above said substrate that extend only partially across the memory cell and are arranged substantially in parallel with one another and substantially perpendicular to said active regions; and
- b. a single local interconnect layer (e.g., metal 1 (“M1”) layer of the SPC750S40E1) comprising local interconnects (e.g., structures formed at the M1 layer of the SPC750S40E1) corresponding to bitlines (e.g., those formed at the metal 3 (“M3”) layer of the SPC750S40E1) and a global word-line (e.g., those formed at the metal 2 (“M2”) layer of the SPC750S40E1).

53. Claim 8 of the ’805 patent applies to each Accused ’805 Product at least because each of those products contain the same or similar structures as the SPC750S40E1.

54. The ST Defendants have known of the ’805 patent and their infringement of that patent since at least as early as November 19, 2018.

55. The ST Defendants have induced infringement of, and continue to induce infringement of, one or more claims of the ’805 patent under 35 U.S.C. § 271(b), either literally and/or under the doctrine of equivalents, by, among other things, actively inducing others, including their customers, to make, use, sell, offer to sell, and/or import in or into the United States without authorization the Accused ’805 Products, as well as products containing the same. The ST

Defendants knowingly and intentionally instruct their customers, OEMs, foundry suppliers, distributors, and/or third parties to infringe at least through user manuals, product documentation, and other materials, such as those located on the ST Defendants' website at [https://www.st.com/content/st\\_com/en.html](https://www.st.com/content/st_com/en.html). Additional non-limiting examples include the materials found on the ST Defendants' website at [https://www.st.com/content/st\\_com/en/products/automotive-microcontrollers/spc5-32-bit-automotive-mcus/spc5-p-performance-mcus/spc57-0s-line-mcus/spc570s40e1.html](https://www.st.com/content/st_com/en/products/automotive-microcontrollers/spc5-32-bit-automotive-mcus/spc5-p-performance-mcus/spc57-0s-line-mcus/spc570s40e1.html).

56. The ST Defendants have contributed to the infringement of, and continue to contribute to the infringement of, one or more claims of the '805 patent under 35 U.S.C. § 271(c), 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 '805 Products, which constitute a material part of the invention of the '805 patent, knowing the Accused '805 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.

57. Monterey has sustained and is entitled to recover damages as a result of the ST Defendants' infringement.

58. The ST Defendants' infringement of the '805 patent has been knowing, deliberate, and willful, since at least as early as November 19, 2018, the date of Monterey's letter to the ST Defendants and therefore at least the date on which the ST Defendants knew of the '805 patent and that their conduct constituted and resulted in infringement of the '805 patent. Monterey continued to put the ST Defendants on notice of the '805 patent and the ST Defendants' infringement thereof, including without limitation through communications on March 5, 2019 and yet again through this complaint. The ST Defendants nonetheless have committed—and continue to commit—acts of direct



and indirect infringement despite knowing that their actions constituted infringement of the valid and enforceable '805 patent, despite a risk of infringement that was known or so obvious that it should have been known to the ST Defendants, and/or even though the ST Defendants otherwise knew or should have known that their actions constituted an unjustifiably high risk of infringement of that valid and enforceable patent. The ST Defendants' conduct in light of these circumstances is egregious. The ST Defendants' knowing, deliberate, and willful infringement of the '805 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 THREE**  
**INFRINGEMENT OF THE '134 PATENT**

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

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

61. The '134 patent is valid and enforceable.

62. 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, and similar versions of the JEDEC DDRx standards.

63. 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.

64. 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.

65. ST products use memory devices that are compliant with the JEDEC standards JESD79-3F DDR3 SDRAM, JESD79-4A DDR4 SDRAM, JESD209-3 LPDDR3, JESD209-4 LPDDR4 and similar versions of the JEDEC DDRx standards that incorporate the innovations of the '134 patent's non-interruptible fixed burst length.

66. The ST Defendants have directly infringed, and continue to directly infringe, one or more claims of the '134 patent under 35 U.S.C. § 271(a), 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, but not limited to, products that comply with the JEDEC standards JESD79-3F DDR3 SDRAM, JESD79-4A DDR4 SDRAM, JESD209-3 LPDDR3, JESD209-4 LPDDR4 and similar versions of the JEDEC DDRx standards that use non-interruptible burst read or write operations, such as the STA1295, SPEAr300, SPEAr310, SPEAr320, SPEAr320s, and SPEAr600; other ST semiconductor devices, integrated circuits, and products that are compliant with JESD79-3F DDR3 SDRAM, JESD79-4A DDR4 SDRAM, JESD209-3 LPDDR3, JESD209-4 LPDDR4 or similar versions; and all other semiconductor devices, integrated circuits, and products with similar infringing technology ("the Accused '134 Products").

67. As one non-limiting example, the ST Defendants infringe claim 1 of the '134 patent since the SPEAr320 semiconductor device contains LPDDR3 SDRAM memory controllers that operate in conformance with JEDEC's LPDDR3 SDRAM standard. For example, the ST SPEAr320

contains a circuit comprising:

- a. a memory comprising a plurality of storage elements (e.g., banks of storage elements of the SPEAr320);
- 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 SPEAr320);
- 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 SPEAr320) in response to an external address signal (e.g., read and/or write signals of the SPEAr320), a clock signal (e.g., clock signal of the SPEAr320), and one or more control signals (e.g., control signal of the SPEAr320);
- 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 SPEAr320).

68. Claim 1 of the '134 patent applies to each Accused '134 Product at least because each of those products either complies with the same JEDEC LPDDR3 SDRAM standard, or similar versions of the JEDEC standard, which result in infringing features (e.g., non-interruptible burst oriented read or write operations of the Accused '134 Products) found in the JESD209-3 LPDDR3 SDRAM standard.

69. The ST Defendants have known of the '134 patent and their infringement of that patent since at least as early as December 6, 2018.

70. The ST Defendants have induced infringement of, and continue to induce infringement of, one or more claims of the '134 patent under 35 U.S.C. § 271(b), either literally

and/or under the doctrine of equivalents, by, among other things, actively inducing others, including their 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. The ST Defendants knowingly and intentionally instruct their customers, OEMs, foundry suppliers, distributors, and/or other third parties to infringe at least through user manuals, product documentation, and other materials, such as those located on the ST Defendants' website at [https://www.st.com/content/st\\_com/en.html](https://www.st.com/content/st_com/en.html). A more specific non-limiting example includes the materials found on the ST Defendants' website at [https://www.st.com/content/st\\_com/en/products/microcontrollers-microprocessors/legacy-mpus/spear-arm-926-microprocessors/spear320.html](https://www.st.com/content/st_com/en/products/microcontrollers-microprocessors/legacy-mpus/spear-arm-926-microprocessors/spear320.html).

71. The ST Defendants have contributed to the infringement of, and continue to contribute to the infringement of, one or more claims of the '134 patent under 35 U.S.C. § 271(c), 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.

72. Monterey has sustained and is entitled to recover damages as a result of the ST Defendants' infringement.

73. The ST Defendants' infringement of the '134 patent has been knowing, deliberate, and willful, since at least as early as December 6, 2018, the date of Monterey's letter to the ST Defendants and therefore at least the date on which the ST Defendants knew of the '134 patent and that their conduct constituted and resulted in infringement of the '134 patent. Monterey continued to put the

ST Defendants on notice of the '134 patent and the ST Defendants' infringement thereof, including without limitation through communications on March 5, 2019 and yet again through this complaint. The ST Defendants nonetheless have committed—and continue to commit—acts of direct and indirect infringement despite knowing that their 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 the ST Defendants, and/or even though the ST Defendants otherwise knew or should have known that their actions constituted an unjustifiably high risk of infringement of that valid and enforceable patent. The ST Defendants' conduct in light of these circumstances is egregious. The ST Defendants' 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.

**COUNT FOUR**  
**INFRINGEMENT OF THE '951 PATENT**

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

75. Monterey is the assignee and lawful owner of all right, title, and interest in and to the '951 patent.

76. The '951 patent is valid and enforceable.

77. The '951 patent is generally directed to resistive memory devices, and particularly to a novel method of applying electrical potential across electrodes to change the state of the resistive memory device.

78. The '951 patent explains that the data storing mechanism of a memory cell is based on the presence or absence of electric charge accumulated in the capacitor. Resistive memory devices can adopt a low-resistance (“programmed”) state and a high resistance (“erased”) state by application

of electric potentials across the capacitor. The level of current indicates whether the device is in its high or low resistance state.

79. The '951 patent teaches, among other things, a novel method of changing the state of a resistive memory device. The method concerns applying an electrical potential from higher to lower potential across the electrodes in order to change the state of the resistive memory device from one state to the other. The direction of the potential is the same as the potential that would be applied to change the state of the resistive memory device from the other state to said one state. This method allows for programming, erasing, and reading of devices to achieve a high level of effectiveness and reliability.

80. ST products use embedded phase-change memory. For example, the AEC-Q100 Grade 0-compliant Phase-Change Memory can be found in ST's Stellar family of automotive microcontrollers. The embedded Phase-Change Memory cell can be set and reset to low and high resistance states.

81. The ST Defendants have directly infringed, and continue to directly infringe, one or more claims of the '951 patent under 35 U.S.C. § 271(a), 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 '951 patent, including, but not limited to, all ST processors and controllers including phase change memory, such as the Stellar family of automotive microcontrollers; other ST products including phase-change memory; and all other semiconductor devices, integrated circuits, and products using similar infringing technology ("the Accused '951 Products").

82. As one non-limiting example, the ST Defendants infringe claim 1 of the '951 patent. For example, the method used to change the state of the resistive memory device in the Stellar

automotive microcontroller:

- a. applies an electrical potential across the electrodes from higher to lower potential in the Stellar;
- b. in a direction from one electrode to the other to change the state of the resistive memory device from one state to the other in the Stellar; and
- c. such direction is the same as that in which the electrical potential would be applied across the electrodes to change the state of the resistive memory device from said other state to said one state in the Stellar.

83. Claim 1 of the '951 patent applies to each Accused '951 Product at least because each of those products contain the same or similar infringing phase-change memory devices.

84. The ST Defendants have induced infringement of, and continue to induce infringement of, one or more claims of the '951 patent under 35 U.S.C. § 271(b), either literally and/or under the doctrine of equivalents, by, among other things, actively inducing others, including their customers, to make, use, sell, offer to sell, and/or import (including import products made by a patented process) in or into the United States without authorization the Accused '951 Products, as well as products containing the same. The ST Defendants knowingly and intentionally instruct their customers, OEMs, foundry suppliers, distributors, and/or other third parties to infringe at least through user manuals, product documentation, and other materials, such as those located on the ST Defendants' website at [https://www.st.com/content/st\\_com/en.html](https://www.st.com/content/st_com/en.html). Additional non-limiting examples include the materials found on the ST Defendants' websites at [https://www.st.com/content/st\\_com/en/landing-page/stellar-32-bit-automotive-mcus.html](https://www.st.com/content/st_com/en/landing-page/stellar-32-bit-automotive-mcus.html).

85. The ST Defendants have contributed to the infringement of, and continue to contribute to the infringement of, one or more claims of the '951 patent under 35 U.S.C. § 271(c), 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 '951 Products, which constitute a material part of the invention of the '951 patent, knowing the Accused '951 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.

86. Monterey has sustained and is entitled to recover damages as a result of the ST Defendants' infringement.

87. The ST Defendants' infringement of the '951 patent has been knowing, deliberate, and willful, since at least as early as the date Monterey filed the complaint in this action and therefore at least the date by which the ST Defendants knew of the '951 patent and that their conduct constituted and resulted in infringement of the '951 patent. The ST Defendants nonetheless have committed—and continue to commit—acts of direct and indirect infringement despite knowing that their actions constituted infringement of the valid and enforceable '951 patent, despite a risk of infringement that was known or so obvious that it should have been known to the ST Defendants, and/or even though the ST Defendants otherwise knew or should have known that their actions constituted an unjustifiably high risk of infringement of that valid and enforceable patent. The ST Defendants' conduct in light of these circumstances is egregious. The ST Defendants' knowing, deliberate, and willful infringement of the '951 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 the ST Defendants as follows:

- A. that the ST Defendants have infringed each of the Patents-in-Suit;



- B. that the ST Defendants' infringement of each of the Patents-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 the ST Defendants as well as their officers, directors, agents, employees, representatives, attorneys, and all others acting in privity or in concert with them, their 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.

Respectfully submitted,

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