UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF TEXAS
WACO DIVISION

TRENCHANT BLADE TECHNOLOGIES LLC Plaintiff, v. SAMSUNG AUSTIN SEMICONDUCTOR, LLC; SAMSUNG ELECTRONICS CO., LTD.; SAMSUNG ELECTRONICS AMERICA, INC.; and SAMSUNG SEMICONDUCTOR, INC., Defendants.	§	Case No. 6:21-cv-67 **JURY TRIAL DEMANDED**

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Trenchant Blade Technologies LLC ("Trenchant"), by and through its attorneys, for its Complaint against Defendants Samsung Electronics Co., Ltd. ("SEC"), Samsung Electronics America, Inc. ("SEA"), Samsung Semiconductor, Inc. ("SSI"), and Samsung Austin Semiconductor, LLC ("SAS") (collectively, "Samsung"), and demanding trial by jury, hereby alleges, on information and belief with regard to the actions of Samsung and on knowledge with regard to its own actions, as follows:

I. NATURE OF THE ACTION

1. This is an action for patent infringement arising under the patent laws of the United States, 35 U.S.C. §§ 271, *et seq*., to enjoin and obtain damages resulting from Defendants' unauthorized use, sale, and offer to sell in the United States, of products, methods, processes, services and/or systems that infringe Plaintiff's United States patents, as described herein.

2. Defendants, individually and collectively as a single business entity, manufacture, provide, use, sell, offer for sale, import, and/or distribute infringing products and services, and encourages others to use their products and services in an infringing manner, as set forth herein.

3. Plaintiff seeks past and future damages and prejudgment and post-judgment interest for Defendants' infringement of the Asserted Patents, as defined below.

II. PARTIES

4. Plaintiff Trenchant Blade Technologies LLC is a limited liability company organized and existing under the laws of the State of Texas, with its principal place of business located at 5204 Bluewater Drive, Frisco, Texas 75036.

5. Trenchant is the owner of the entire right, title, and interest of the Asserted Patents, as defined below, including the right to sue for and collect past, present, and future damages and to seek and obtain injunctive or any other relief for infringement.

6. Defendant Samsung Electronics Co., Ltd. is a Korea corporation with its principal place of business at 129 Samsung-Ro Yeongtong-gu, Gyeonggi-do 16677 Suwon-Shi, Republic of Korea. SEC may be served pursuant to FED. R. CIV. P. 4(f)(1).

7. Defendant Samsung Electronics America, Inc. is a New York corporation with its principal place of business at 85 Challenger Rd., Ridgefield Park, New Jersey 07660. SEA is a wholly owned subsidiary of SEC. SEA may be served

through its registered agent CT Corporation System, 1999 Bryan Street, Suite 900, Dallas, Texas 75201.

8. SEA is registered to do business in the State of Texas and has been since at least June 10, 1996.

9. Defendant Samsung Semiconductor, Inc. is a California corporation with its principal place of business at 3655 North First Street, San Jose, California 95134. SSI is a wholly owned subsidiary of SEA. SSI may be served through its registered agent National Registered Agents, Inc., 1999 Bryan St., Ste 900, Dallas, Texas 75201.

10. SSI is registered to do business in the State of Texas and has been since at least December 31, 1985.

11. Defendant Samsung Austin Semiconductor, LLC is a Delaware corporation with its principal place of business at 12100 Samsung Blvd., Austin, Texas 78754. SAS is a wholly owned subsidiary of SSI. SAS may be served through its registered agent CT Corporation System, 1999 Bryan Street, Suite 900, Dallas, Texas 75201.

12. SAS is registered to do business in the State of Texas and has been since at least August 5, 2005.

13. SEC exercises direction and control over the performance of SEA, SSI, and SES. SEA exercises direction and control over the performance of SSI and SES. SSI exercises direction and control over the performance of SAS. Alternatively,

Defendants form a joint business enterprise such that the performance by one Defendant is attributable to each other Defendant.

14. SEC, SEA, SSI, and SAS, individually and collectively as a common business enterprise, conduct business operations in the Western District of Texas at facilities located at least at 12100 Samsung Blvd., Austin, Texas 78754 ("Austin office").

15. SEC, SEA, SSI, and SAS, individually and collectively as a common business enterprise, develop, sell, and/or market Samsung products pertinent to this Complaint in the Western District of Texas and throughout the State of Texas, at Samsung's Austin office and through authorized sellers and sales representatives such as: AT&T Store at 4330 W Waco Drive, Waco, TX 76710; Verizon Authorized Retailer at 2812 W Loop 340, Suite# H-12, Waco, TX, 76711; Best Buy at 4627 S Jack Kultgen Expy., Waco, TX 76706; and Amazon.com.

III. JURISDICTION AND VENUE

16. This is an action for patent infringement which arises under the patent laws of the United States, in particular, 35 U.S.C. §§ 271, 281, 283, 284, and 285.

17. This Court has exclusive jurisdiction over the subject matter of this action under 28 U.S.C. §§ 1331, 1332, and 1338(a).

18. This Court has personal jurisdiction over Defendants in this action pursuant to due process and/or the Texas Long Arm Statute, by virtue of at least the substantial business each Defendant conducts in this forum, directly and/or through intermediaries, including but not limited to: (1) having committed acts within the

Western District of Texas giving rise to this action and having established minimum contacts with this forum such that the exercise of jurisdiction over each Defendant would not offend traditional notions of fair play and substantial justice; (2) having directed its activities to customers in the State of Texas and this District, solicited business in the State of Texas and this District, transacted business within the State of Texas and this District and attempted to derive financial benefit from residents of the State of Texas and this District, including benefits directly related to the instant patent infringement causes of action set forth herein; (3) having placed their products and services into the stream of commerce throughout the United States and having been actively engaged in transacting business in Texas and in this District; and (4) either individually, as members of a common business enterprise, and/or in conjunction with third parties, having committed acts of infringement within Texas and in this District.

19. Defendants have committed and continue to commit acts of infringement in this District directly and through third parties by, among other things, making, selling, advertising (including through websites), offering to sell, distributing, and/or importing products and/or services that infringe the Asserted Patents as defined below.

20. Each Defendant has, directly or through its distribution network, purposefully and voluntarily placed infringing products in the stream of commerce knowing and expecting them to be purchased and used by consumers in Texas.

21. Each Defendant has committed direct infringement in Texas.

22. Each Defendant has committed indirect infringement based on acts of direct infringement in Texas.

23. Each Defendant has transacted, and as of the time of filing of the Complaint, continues to transact business within this District.

24. Defendants derive substantial revenues from their infringing acts in this District, including from their manufacture and sale of infringing products in the United States.

25. Venue is proper against SEC in this District pursuant to 28 U.S.C. § 1391(c)(3) because SEC is a foreign corporation not resident in the United States and venue is proper in any district against a foreign corporation.

26. Venue is proper against SEA, SSI, and SAS in this District pursuant to 28 U.S.C. § 1400(b) because each has committed acts of infringement in this District and each maintains a regular and established place of business in this District, at least at Samsung's Austin office.

IV. COUNTS OF PATENT INFRINGEMENT

27. Plaintiff alleges that Defendants have infringed and continue to infringe the following United States patents (collectively, the "Asserted Patents"):

United States Patent No. 6,720,619 (the "'619 Patent") (Exhibit A)
United States Patent No. 7,056,821 (the "'821 Patent") (Exhibit B)
United States Patent No. 7,494,846 (the "'846 Patent") (Exhibit C)

COUNT ONE
INFRINGEMENT OF U.S. PATENT 6,720,619

28. Plaintiff incorporates by reference the allegations in all preceding paragraphs as if fully set forth herein.

29. The '619 Patent, entitled "SEMICONDUCTOR-ON-INSULATOR CHIP INCORPORATING PARTIALLY-DEPLETED, FULLY-DEPLETED, AND MULTIPLE-GATE DEVICES," was filed on December 13, 2002 and duly and legally issued by the United States Patent and Trademark Office on April 13, 2004.

30. The '619 Patent claims patent-eligible subject matter and is valid and enforceable.

Technical Description and Background

31. The '619 Patent is directed to field effect transistors. Transistors are semiconductor devices that are formed on wafers, which are made by foundries. Wafers contain multiple chips which are designed by chip designers. Individual chips are cut from wafers and packaged. Those chips go into a variety of consumer products, such as smartphones, tablets, personal computers, and automobile parts and components.

32. Specifically, the '619 Patent claims an improved partially depleted silicon-on-insulator device design. The '619 Patent notes that, while "remarkable progress has recently been achieved in PD-SOI technology[,] significant design burden is faced by its users because of floating body effects. In PD-SOI devices, charge carriers generated by impact ionization near the drain/source region accumulate near the source/drain region of the transistor. When sufficient carriers accumulate in the floating body, which is formed right below the channel region, the body potential is effectively altered. Floating body effects occur in PD-SOI devices because of charge build-up in the floating body region. This results in kinks in the device current-

voltage (I-V) curves, thereby degrading the electrical performance of the circuit. In general, the body potential of a PD-SOI device may vary during static, dynamic, or transient device operation, and is a function of many factors like temperature, voltage, circuit topology, and switching history. Therefore, circuit design using PD-SOI devices is not straightforward, and there is a significant barrier for the adoption of PD-SOI technology or the migration from bulk-Si design to PD-SOI design." '981 Patent, 1:40-60. The '619 Patents notes several "traditional" ways exist to suppress floating body effects but faults multiple shortcomings that exist with these methods. '619 Patent, 1:61-2:32.

33. The '619 patent improves upon the prior art by disclosing a new technology "for implementing FD-SOI devices not by reducing the silicon body thickness, but by rearranging the planar transistor geometry, channel length, or channel width." '619 Patent, 3:46-56. The inventive device is produced "on a silicon layer having a thickness in the range of 10 angstroms to 2000 angstroms" using a "new method [that] maintains the manufacturing simplicity of the PD-SOI technology, and benefits from FD-SOI's and FinFET's immunity to floating-body effects, thus greatly lowering the design and manufacturing entry barrier for SOI technology." *Id*.

34. A chip designer designs its own chips that go into consumer products. A "fabless" chip designer uses and/or contracts with foundries to manufacture chips. A foundry manufactures chips for its customers, which may include chip customer companies. A chip customer company then incorporates those chips into its consumer

products. For example, Samsung is a foundry, chip designer, and consumer product company. Samsung has several large foundry customers including U.S.-based companies and companies with ties to and/or offices in Texas.

35. Samsung owns and operates fabrication facilities in Korea and the U.S., including but not limited to a facility in Austin, Texas (S2-line), which manufacturers at least some of the '619 Accused Products, as defined below. See Ex. E (Overview of Samsung Austin Semiconductor, https://www.samsung.com/us/sas/Company/History).

Direct Infringement

36. Defendants, individually and collectively as a common business enterprise and without authorization or license from Plaintiff, have been and are directly infringing the '619 Patent, either literally or equivalently, as infringement is defined by 35 U.S.C. § 271, including through making, using (including for testing purposes), designing, manufacturing, importing, distributing, selling, and offering for sale chips, processors, and other electronic devices and products that infringe one or more claims of the '619 Patent. Defendants are thus liable for direct infringement pursuant to 35 U.S.C. § 271.

37. Exemplary infringing products include but are not limited to Samsung processors and chips made by or incorporating Samsung's bulk FinFET technologies, such as its 14nm, 11nm, 10nm, 8nm, 7nm, and 5nm bulk FinFET technologies, including but not limited to the 14LPU, 11LPP, 10LPE, 10LPP, 10LPU, SLPP, and 7LPP nodes and similar Samsung products employing the '619 Patent. Exemplary

infringing products also include but are not limited to processors and chips incorporating the FinFET technology, including but not limited to the Samsung Exynos 5 Octa processor, Samsung Exynos 5430 processor, Samsung Exynos 7 Octa processor, Samsung Exynos 7270 processor, Samsung Exynos 7420 Octa chip, Samsung Exynos 7872 processor, Samsung Exynos 7 Dual processor, Samsung Exynos 8 Octa processor, Samsung Exynos 8890 processor, Samsung Exynos 8 Octa processor, Samsung Exynos 7 Series processor, Samsung Exynos 9610 processor, Samsung Exynos 9 Series processor, Samsung Exynos 8895 processor, Samsung Exynos 9810 processor, Samsung Exynos 9825 processor, and similar Samsung chips processors, products, and devices made using the FinFET process and technology and/or employing the '619 Patent, as well as all consumer products and electronic devices that incorporate the FinFET chips, including but not limited to smartphones such as the Galaxy A7, Galaxy Tab S2, Galaxy S6, Galaxy S6 Edge, Galaxy S6 Active, Galaxy S6 Edge+, Galaxy J5 Prime, Galaxy S8, Galaxy S8 Active, Galaxy S8+, Galaxy S9, Galaxy S9+, Galaxy Note 5, Galaxy Note 8, and Galaxy Note 9, computers such as the Samsung Chromebook 2, Chromebook Plus V2, Chromebook Plus V2, Chromebook 4, Chromebook 4+, Galaxy Tab S7, Notebook 7, Notebook 9, Galaxy Tab S6, Galaxy Book Flex, Galaxy Book Ion, and Galaxy Book S, tablets such as the Galaxy Tab Active2, Galaxy Tab S2, and Galaxy Tab A 10.1, smartwatches such as the Gear Sport, Gear S3 frontier, and Gear S3 classic, automotive products such as the Exynos Auto for vehicles, all foundry products employing the '619 Patent manufactured by Samsung for third parties, and similar Samsung products

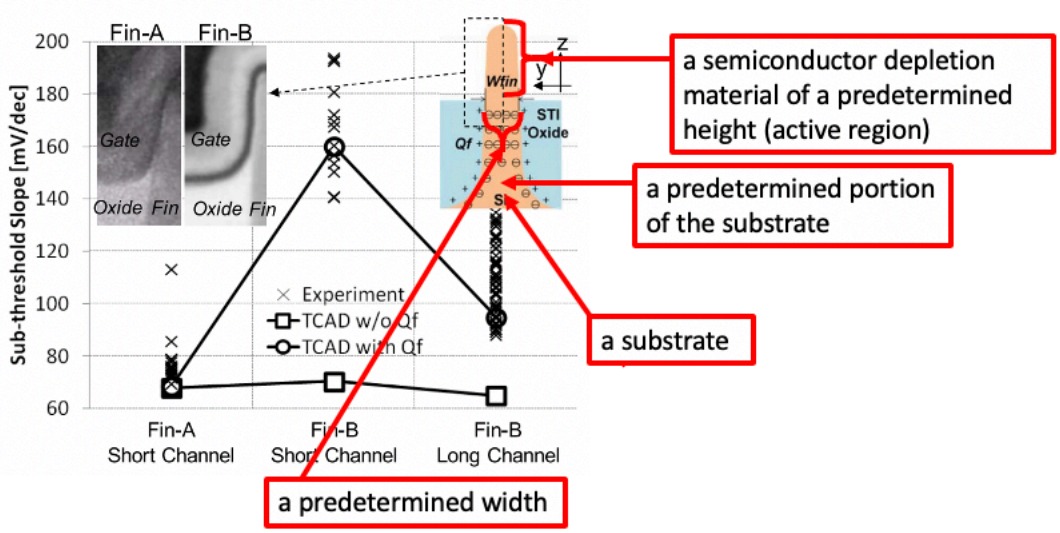
employing the '619 Patent. (Exhibit D, Overview of Samsung's FinFET Technology); https://www.samsung.com/semiconductor/minisite/exynos/technology/finfet-process/).

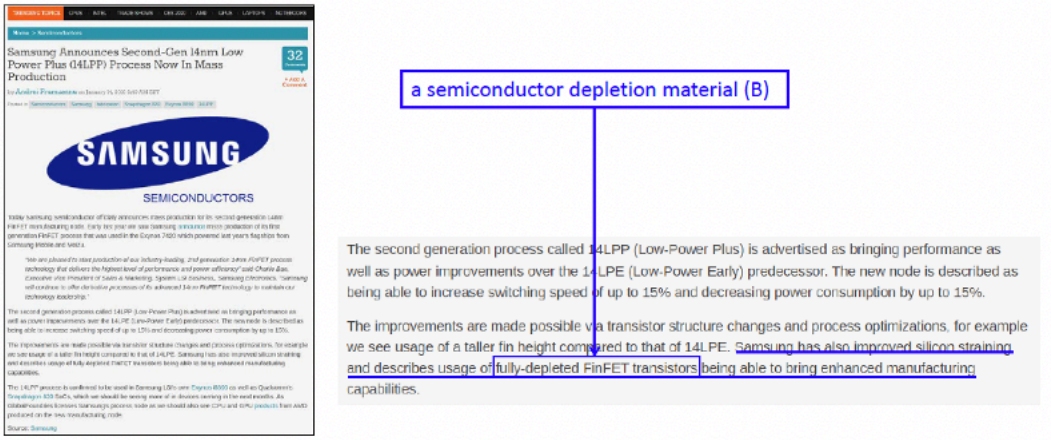
38. Plaintiff names these exemplary infringing instrumentalities to serve as notice of Defendants' infringing acts, but Plaintiff reserve the right to name additional infringing products, known to or learned by Plaintiff or revealed during discovery, and include them in the definition of '619 Accused Products.

39. As a specific, nonlimiting example, Defendants are liable for direct infringement pursuant to 35 U.S.C. § 271 for the manufacture, sale, offer for sale, importation, or distribution of the Samsung Exynos 7420 Octa chip. The exact structure of the Samsung Exynos 7420 Octa chip is not publicly available and Plaintiff expressly reserves the right to amend or revise its pleadings based on information revealed in the course of discovery. Samsung has described the structure of the Exynos 7420 Octa chip in published materials, including but not limited to in Kim et al., "Investigation of Fixed Oxide Charge and Fin Profile Effects on Bulk FinFET Device Characteristics," IEEE Electronic Device Letters, Vol. 34, Issue 12, Dec. 2013. These publications describe the structure of the Samsung Exynos 7420 Octa chip. The Samsung Exynos 7420 Octa chip meets all limitations of claim 1 of the '619 Patent, either literally or under the doctrine of equivalents, as described therein.

40. The Samsung Exynos 7420 Octa chip is a multiple-gate device structure comprising a substrate and a semiconductor depletion material with a first

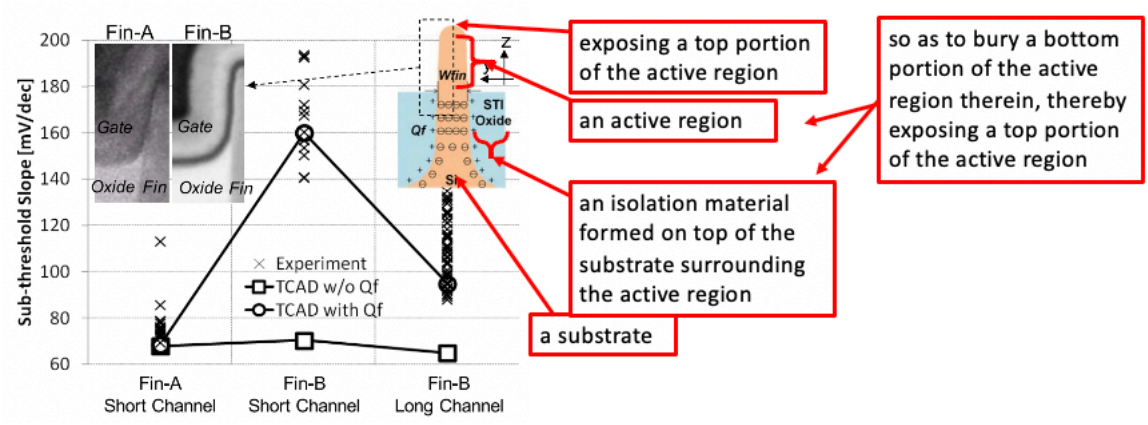
predetermined height and width overlying a predetermined portion of the substrate to form an active region:



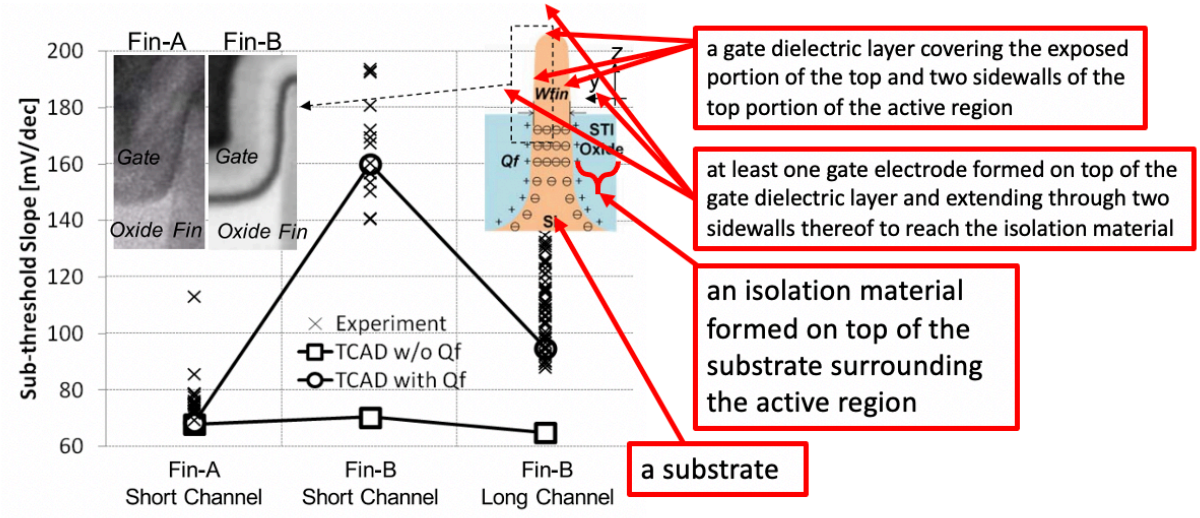


Samsung's Announcement at 2016 (https://www.anandtech.com/show/9959/samsung-announces-14lpp-mass-production)

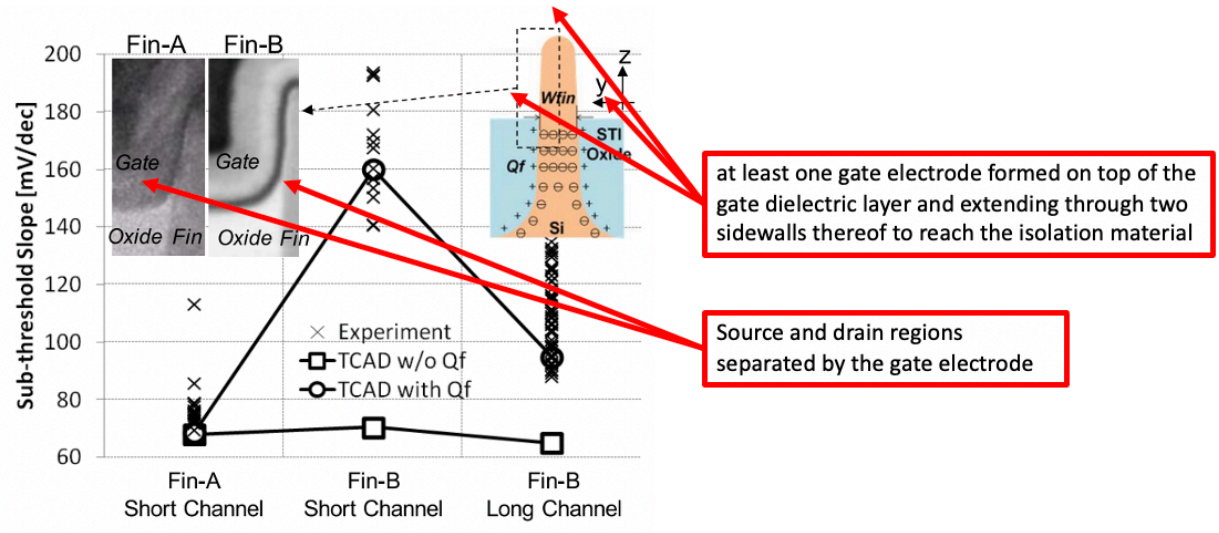
41. The Samsung Exynos 7420 Octa chip further comprises an isolation material formed on top of the substrate surrounding the active region so as to bury a bottom portion of the active region therein, thereby exposing a top portion of the active region:



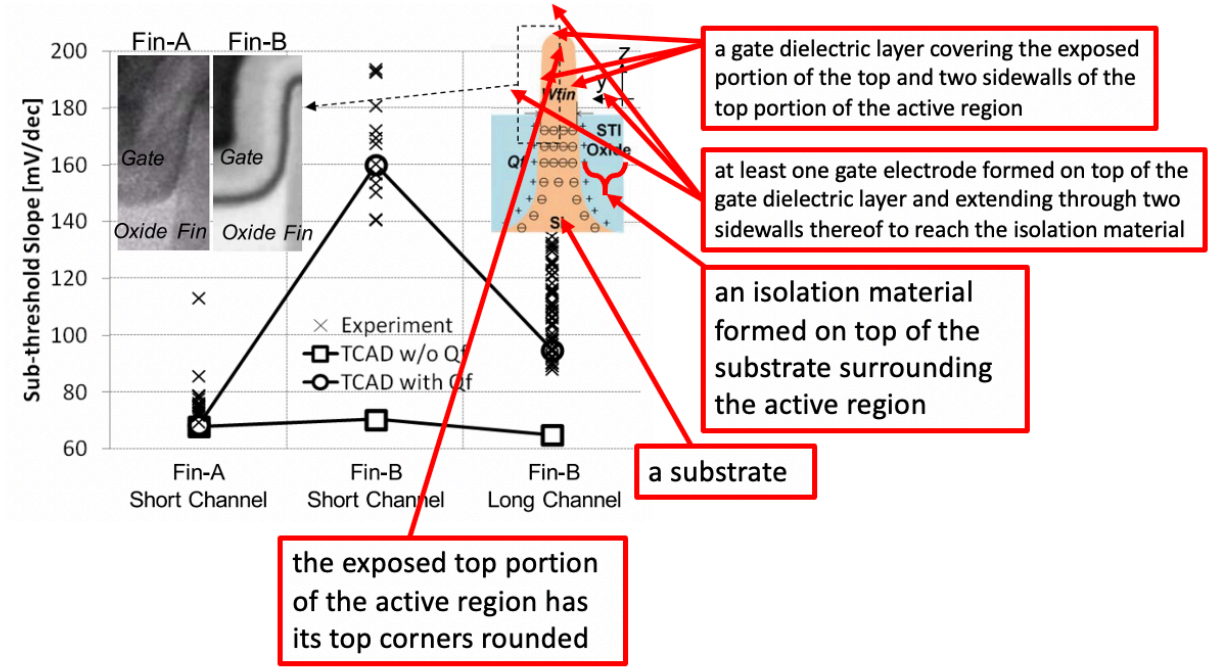
42. The Samsung Exynos 7420 Octa chip further comprises a gate dielectric layer covering the exposed portion of the top and two sidewalls of the top portion of the active region, and at least one gate electrode formed on top of the gate dielectric layer and extending through two sidewalls thereof to reach the isolation material:



43. The Samsung Exynos 7420 Octa chip is a multi-gate device although only one gate is shown by the publication. The source and drain regions of each gate of the multi-gate Samsung Exynos 7420 Octa chip are separated by the gate electrode:



44. The exposed top region of the active region has its top corners rounded:



Willful Infringement

45. Defendants have had actual knowledge of the '619 Patent and their infringement thereof at least as of receipt of Plaintiff's notice letter dated April 9, 2020.

46. Defendants have had actual notice of the '619 Patent and their infringement thereof at least as of service of Plaintiff's Complaint.

47. Defendants have numerous lawyers and other active agents of Defendants and of its owned and controlled subsidiaries who regularly review patents and published patent applications relevant to technology in the fields of the patents-in-suit, specifically including patents directed to semiconductor devices issued to competitors such as Taiwan Semiconductor Manufacturing Company, Ltd., the original assignee of the '619 Patent.

48. Defendants themselves have been issued over 117,000 patents held in the name of one of the Defendants or a related entity, many of which are patents prosecuted in the USPTO in the same technology area as the '619 Patent, giving Defendants intimate knowledge of the art in fields relevant to this civil action. As a non-limiting example, Samsung's U.S. Application No. 11/622,103 cites the '619 Patent and Samsung would have been aware of the '619 Patent during the prosecution of Samsung's '103 Application. The timing, circumstances and extent of Defendants obtaining actual knowledge of the '619 Patent prior to the commencement of this lawsuit will be confirmed during discovery.

49. Defendants' infringement of the Asserted Patents was either known or was so obvious that it should have been known to Defendants.

50. Notwithstanding this knowledge, Defendants have knowingly or with reckless disregard infringed the '619 Patent. Defendants continued to commit acts of infringement despite being on notice of infringement and aware of an objectively high

likelihood that their actions constitute infringement of Plaintiff's valid patent rights, either literally or equivalently.

51. Defendant is therefore liable for willful infringement and Plaintiff accordingly seeks enhanced damages pursuant to 35 U.S.C. §§ 284 and 285.

Indirect, Induced, and Contributory Infringement

52. Defendants, directly and/or through its subsidiaries, affiliates, agents, and/or business partners, have committed and continue to commit acts of indirect infringement of at least one claim of the '619 Patent, pursuant to 35 U.S.C. §§ 271(b) and (c) by actively inducing or contributing to the acts of direct infringement performed by others in the United States, the State of Texas, and the Western District of Texas.

53. Defendants have induced and continue to induce through affirmative acts each other, their distributors, manufacturers, testers, customers, and/or end users, such as designers of Defendants' chips and end users of Defendants' chips to directly infringe the '619 Patent by making, using, selling, and/or importing the Accused Products, with the specific intent to induce acts constituting infringement, and knowing that the induced acts constitute patent infringement, either literally or equivalently.

54. Defendants have knowingly contributed to direct infringement by their customers through affirmative acts and by having imported, sold, and/or offered for sale, and knowingly importing, selling, and/or offering to sell within the United States the '619 Accused Products which are not suitable for substantial non-

infringing use and which are especially made or especially adapted for use by its customers in an infringement of the asserted patent.

55. The affirmative acts of inducement by Defendants include, but are not limited to, any one or a combination of: (i) designing infringing chips for manufacture according to specification; (ii) collaborating on and/or funding the development of the infringing chips and/or technology; (iii) soliciting and sourcing the manufacture of infringing chips; licensing and transferring technology and know-how to enable the manufacture of infringing chips; (v) enabling and encouraging the use, sale, or importation of infringing chips by its customers; (vi) advertising the infringing chips and/or technology; and (vii) providing data sheets, technical guides, demonstrations, software and hardware specifications, installation guides, product specifications, user manuals, marketing materials, and instructions, including on Defendants' website, https://www.samsung.com.

56. Defendants have contributed and continue to contribute to the direct infringement of the '619 Patent by each other, their customers, and other third parties; and Defendants, their customers, and other third parties do directly infringe.

57. Defendants import, export, make or sell parts, components, or intermediate products to customers and third parties that, once assembled, infringe the '619 Patent by the sale and/or use of the assembled processors and/or devices.

58. Defendants make, use, sell, and/or offer to sell infringing semiconductor devices and/or processor chips, which are especially made to design and specification, and are not staple products or commodities with substantial non-infringing use.

59. Defendants knew that the induced conduct would constitute infringement and intended that infringement at the time of committing the aforementioned acts, such that the acts and conduct have been and continue to be committed with the specific intent to induce infringement, or deliberately avoiding learning of the infringing circumstances at the time of committing these acts so as to be willfully blind to the infringement that was induced.

60. As a result of Defendants' infringement, Plaintiff has suffered monetary damages, and is entitled to an award of damages adequate to compensate it for such infringement which, by law, can be no less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 US.C. § 284.

61. Plaintiff has incurred and will continue to incur substantial damages, including monetary damages.

62. Plaintiff has been and continues to be irreparably harmed by Defendants' infringement of the '619 Patent.

63. Therefore, Plaintiff is entitled to an injunction, actual and/or compensatory damages, reasonable royalties, pre-judgment and post-judgment interest, enhanced damages, and costs.

COUNT TWO
INFRINGEMENT OF U.S. PATENT 7,056,821

64. Plaintiff incorporates by reference the allegations in all preceding paragraphs as if fully set forth herein.

65. The '821 Patent, entitled "METHOD FOR MANUFACTURING DUAL DAMASCENE STRUCTURE WITH A TRENCH FORMED FIRST," was filed on

August 17, 2004 and duly and legally issued by the United States Patent and Trademark Office on June 6, 2006.

66. The '821 Patent claims patent-eligible subject matter and is valid and enforceable.

Technical Description and Background

67. The '821 Patent is directed to an integrated circuit having a dual damascene structure. At the time of invention, the "dual damascene process is currently developed for forming via plugs and metal interconnects at the same time." '821 Patent, 1:14-26. Conventional methods "is to form a trench following a via. This method, however, conceals some problems… the metal layer [is] exposed to air before the sacrificial layer is filled. Using copper as the metal layer dramatically affects the quality of the devices, since copper is inclined to oxidize… Moreover, micro trenches and fences issues commonly occur in the conventional process…that affect the subsequent processes. For example, fences cause poor coverage capability of barrier layers and electrochemical plating (ECP) deposition. Fences, for instance, further result in unsteady electrical properties, as well as poor reliability of devices. In addition, the dielectric layer is generally constituted by porous low-k materials, through which residual NH-group components in the substrate readily pass to neutralize with the photoresist layer, and consequently react to be photoresist scum. Therefore the photoresist is not developed and patterned well, which also leads to a decrease in the production yield." '821 Patent, 1:27-2:14.

68. The '821 Patent "provide[s] a method for manufacturing a dual damascene structure with a trench formed first, in order to reduce Q-time when copper is exposed to the air and also to simplify the process by omitting a post-baking step following etching a via. [The] invention improve[s] the surface quality of the photoresist layer for etching a via by planarizing the sacrificial layer. The photolithography process thus has a wider control window. No photoresist scum issue is caused by neutralization of the photoresist with NH— group components due to the greater open area of the trench. The photoresist is therefore patterned and transferred more clearly and more precisely. [The] invention [also] reduc[es] micro trenches and fences by means of a sacrificial layer with substantially the same etching rate selectivity as an inter-metal dielectric layer; both of which and the photoresist are consequently easily stripped by a wet or dry cleaning process or by a wet or dry etching process." '821 Patent, 2:18-58.

Direct Infringement

69. Defendants, individually and collectively as a common business enterprise and without authorization or license from Plaintiff, have been and are directly infringing the '821 Patent, either literally or equivalently, as infringement is defined by 35 U.S.C. § 271, including through making, using (including for testing purposes), designing, manufacturing, importing, distributing, selling, and offering for sale chips, processors, and other electronic devices and products that are made by a method that infringe one or more claims of the '821 Patent. Defendants further provide services that practice methods that infringe one or more claims of the '821

Patent. Defendants are thus liable for direct infringement pursuant to 35 U.S.C. § 271.

70. Exemplary infringing products include but are not limited to Samsung processors and chips made by or incorporating Samsung's bulk FinFET technologies, such as its 14nm, 11nm, 10nm, 8nm, 7nm, and 5nm bulk FinFET technologies, including but not limited to the 14LPU, 11LPP, 10LPE, 10LPP, 10LPU, SLPP, and 7LPP nodes and similar Samsung products employing the '821 Patent. Exemplary infringing products also include but are not limited to processors and chips incorporating the FinFET technology, including but not limited to the Samsung Exynos 5 Octa processor, Samsung Exynos 5430 processor, Samsung Exynos 7 Octa processor, Samsung Exynos 7270 processor, Samsung Exynos 7420 Octa chip, Samsung Exynos 7872 processor, Samsung Exynos 7 Dual processor, Samsung Exynos 8 Octa processor, Samsung Exynos 8890 processor, Samsung Exynos 8 Octa processor, Samsung Exynos 7 Series processor, Samsung Exynos 9610 processor, Samsung Exynos 9 Series processor, Samsung Exynos 8895 processor, Samsung Exynos 9810 processor, Samsung Exynos 9825 processor, and similar Samsung chips processors, products, and devices made using the FinFET process and technology and/or employing the '821 Patent. Exemplary infringing products also include but are not limited to Samsung DRAMs made by the 1y nm and 1z nm processes, including but not limited to the Samsung DDR4 DRAM, DDR5 DRAM, LPDDR4X SDRAM, GDDR6 DRAM, LPDDR5 DRAM, HBM2E DRAM, and similar Samsung products employing the '821 Patent. Exemplary infringing products also include but are not

limited to all consumer products and electronic devices that incorporate the infringing Samsung processors, chips, and memories, including but not limited to smartphones such as the Galaxy A7, Galaxy Tab S2, Galaxy S6, Galaxy S6 Edge, Galaxy S6 Active, Galaxy S6 Edge+, Galaxy J5 Prime, Galaxy S8, Galaxy S8 Active, Galaxy S8+, Galaxy S9, Galaxy S9+, Galaxy Note 5, Galaxy Note 8, and Galaxy Note 9, computers such as the Samsung Chromebook 2, Chromebook Plus V2, Chromebook Plus V2, Chromebook 4, Chromebook 4+, Galaxy Tab S7, Notebook 7, Notebook 9, Galaxy Tab S6, Galaxy Book Flex, Galaxy Book Ion, and Galaxy Book S, tablets such as the Galaxy Tab Active2, Galaxy Tab S2, and Galaxy Tab A 10.1, smartwatches such as the Gear Sport, Gear S3 frontier, and Gear S3 classic, automotive products such as the Exynos Auto for vehicles, all foundry products employing the '821 Patent manufactured by Samsung for third parties, and similar Samsung products employing the '821 Patent. (Exhibit D, Overview of Samsung's FinFET Technology); https://www.samsung.com/semiconductor/minisite/exynos/technology/finfet-process/).

71. Plaintiff names these exemplary infringing instrumentalities to serve as notice of Defendants' infringing acts, but Plaintiff reserve the right to name additional infringing products, known to or learned by Plaintiff or revealed during discovery, and include them in the definition of '821 Accused Products.

72. As a specific, nonlimiting example, Defendants are liable for direct infringement pursuant to 35 U.S.C. § 271 for the manufacture, sale, offer for sale, importation, or distribution of the Samsung Exynos 7420 Octa chip. The exact

structure and method of manufacture of the Samsung Exynos 7420 Octa chip is not publicly available and Plaintiff expressly reserves the right to amend or revise its pleadings based on information revealed in the course of discovery. Samsung has described the structure and method of manufacture of the Exynos 7420 Octa chip in Lee at al., "Robust Porous SiOCH (k-2.5) for 28nm and Beyond Technology Node," 2011 IEEE International Interconnect Technology Conference, and U.S. Patent 8,709,942, "Methods for Fabricating Semiconductor Devices." These publications describe a method that is used to manufacture the Samsung Exynos 7420 Octa chip. The Samsung Exynos 7420 Octa chip is made by a method that meets all limitations of claim 1 of the '821 Patent, either literally or under the doctrine of equivalents, as described therein.

73. The Samsung Exynos 7420 Octa chip is a manufactured dual damascene structure with a trench formed first, made by providing a substrate having a plurality of semiconductor devices and forming a first metal layer on the substrate:

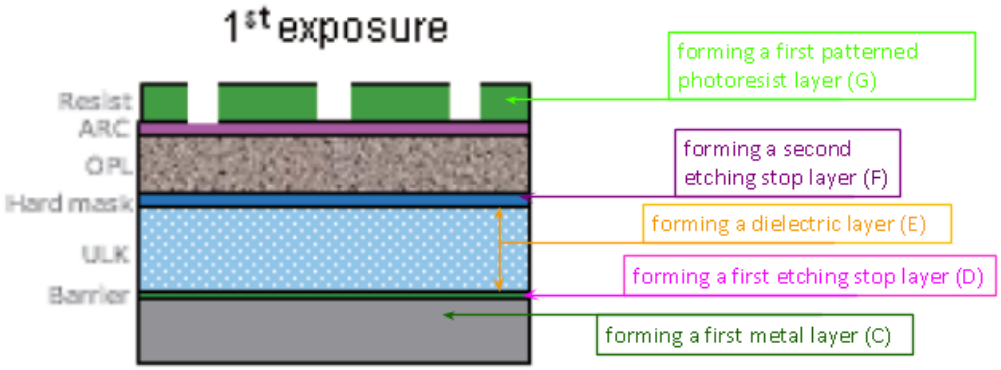


Fig 3: Schematic Drawing of the Samsung's Trench First Dual Damascene using Hardmask (Samsung VLSI 2013)

74. The Samsung Exynos 7420 Octa chip is made by forming a first etching stop layer on the first metal layer and forming a dielectric layer on the first etching stop layer:

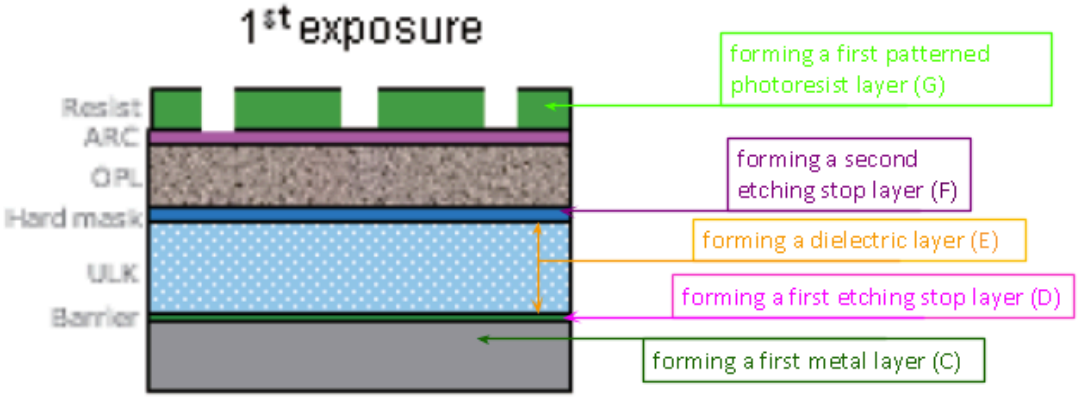


Fig 3: Schematic Drawing of the Samsung's Trench First Dual Damascene using Hardmask (Samsung VLSI 2013)

75. The Samsung Exynos 7420 Octa chip is made by forming a second etching stop layer on the dielectric layer and forming a first patterned photoresist layer on the second etching stop layer:

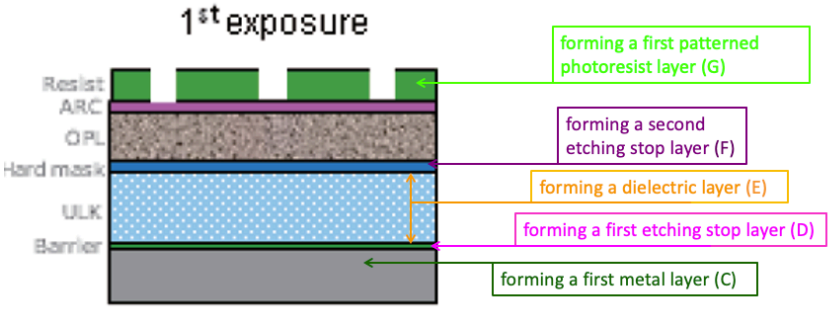


Fig 3: Schematic Drawing of the Samsung's Trench First Dual Damascene using Hardmask (Samsung VLSI 2013)

76. The Samsung Exynos 7420 Octa chip is made by forming a second etching layer on the dielectric layer and forming a first patterned photoresist layer on the second etching stop layer:

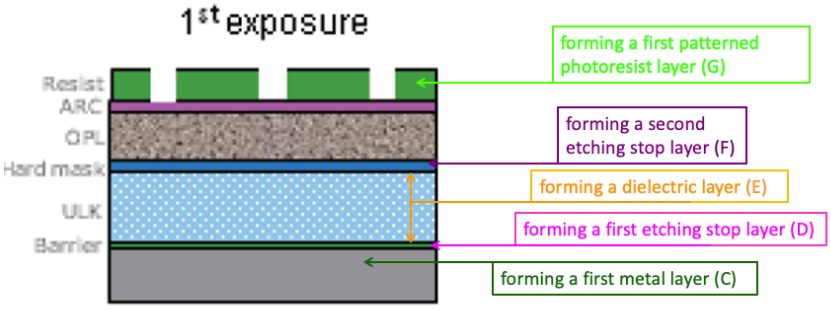


Fig 3: Schematic Drawing of the Samsung's Trench First Dual Damascene using Hardmask (Samsung VLSI 2013)

77. The Samsung Exynos 7420 Octa chip is made by forming a trench by etching through the second etching stop layer and stopping in the dielectric layer at a predetermined depth:

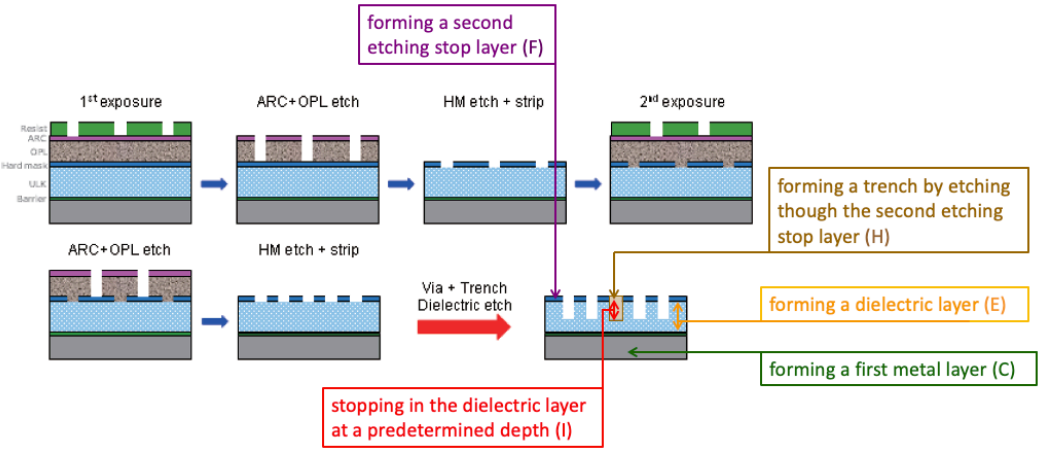


Fig 4: Schematic Drawing of the Samsung's Trench First Dual Damascene using Hardmask (Samsung VLSI 2013)

78. The Samsung Exynos 7420 Octa chip is made by filling with a sacrificial layer into the trench, planarizing the sacrificial layer, and forming a

second patterned photoresist layer on the sacrificial layer:

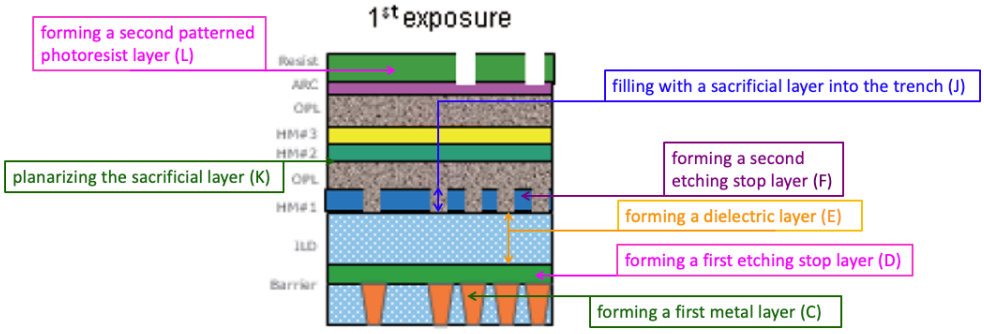


Fig 5: Schematic Drawing of the Samsung's Trench First Dual Damascene using Hardmask (Samsung VLSI 2013)

79. The Samsung Exynos 7420 Octa chip is made by forming a via by etching the sacrificial layer and the dielectric layer and removing the sacrificial layer and the second patterned photoresist layer:

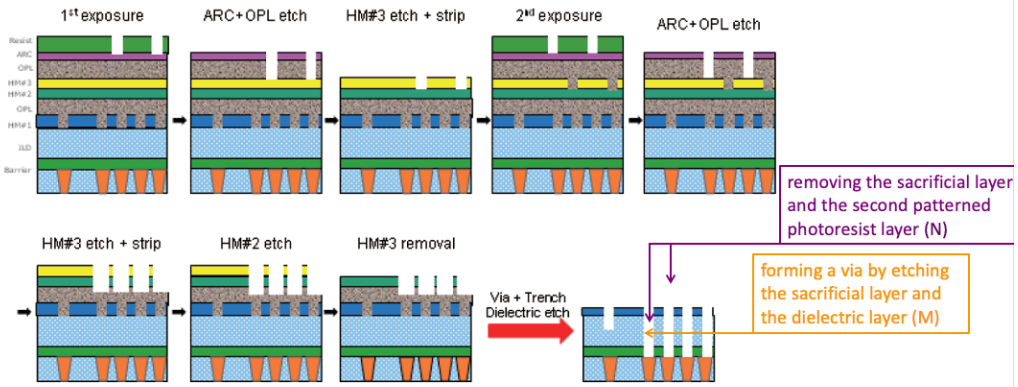


Fig 6: Schematic Drawing of the Samsung's Trench First Dual Damascene using Hardmask (Samsung Patent US 8,709,942 B2)

80. The Samsung Exynos 7420 Octa chip is made by etching the first etching stop layer to expose the first metal layer:

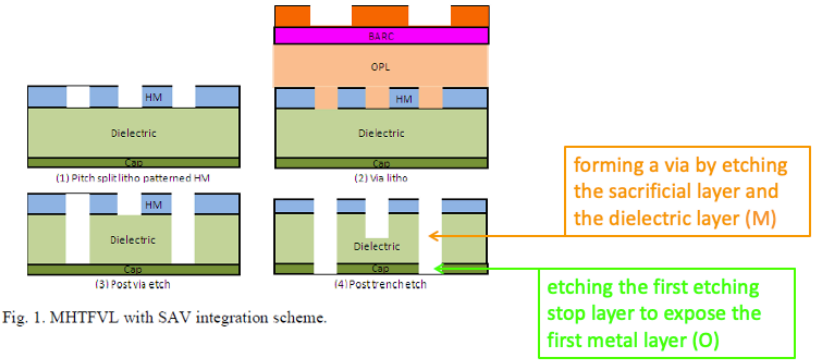
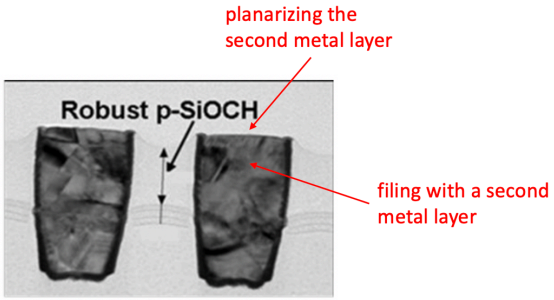


Fig. 1. MHTFVL with SAV integration scheme.

Fig 7: Schematic Drawing of the Samsung's Trench First Dual Damascene using Hardmask (Ref. to Samsung VLSI 2013)

81. The Samsung Exynos 7420 Octa chip is made by filling with a second metal layer and planarizing the second metal layer:



Willful Infringement

82. Defendants have had actual knowledge of the '821 Patent and their infringement thereof at least as of receipt of Plaintiff's notice letter dated April 9, 2020.

83. Defendants have had actual notice of the '821 Patent and their infringement thereof at least as of service of Plaintiff's Complaint.

84. Defendants have numerous lawyers and other active agents of Defendants and of its owned and controlled subsidiaries who regularly review patents and published patent applications relevant to technology in the fields of the patents-in-suit, specifically including patents directed to semiconductor devices issued to competitors such as Taiwan Semiconductor Manufacturing Company, Ltd., the original assignee of the '821 Patent.

85. Defendants themselves have been issued over 117,000 patents held in the name of one of the Defendants or a related entity, many of which are patents prosecuted in the USPTO in the same technology area as the '821 Patent, giving Defendants intimate knowledge of the art in fields relevant to this civil action. The timing, circumstances and extent of Defendants obtaining actual knowledge of the '821 Patent prior to the commencement of this lawsuit will be confirmed during discovery.

86. Defendants' infringement of the Asserted Patents was either known or was so obvious that it should have been known to Defendants.

87. Notwithstanding this knowledge, Defendants have knowingly or with reckless disregard infringed the '821 Patent. Defendants continued to commit acts of infringement despite being on notice of an objectively high likelihood that their actions constitute infringement of Plaintiff's valid patent rights, either literally or equivalently.

88. Defendant is therefore liable for willful infringement and Plaintiff accordingly seeks enhanced damages pursuant to 35 U.S.C. §§ 284 and 285.

Indirect, Induced, and Contributory Infringement

89. Defendants, directly and/or through its subsidiaries, affiliates, agents, and/or business partners, have committed and continue to commit acts of indirect infringement of at least one claim of the '821 Patent, pursuant to 35 U.S.C. §§ 271(b) and (c) by actively inducing or contributing to the acts of direct infringement performed by others in the United States, the State of Texas, and the Western District of Texas.

90. Defendants have induced and continue to induce through affirmative acts each other, their distributors, manufacturers, testers, customers, and/or end users, such as designers of Defendants' chips and end users of Defendants' chips to directly infringe the '821 Patent by making, using, selling, and/or importing the Accused Products, with the specific intent to induce acts constituting infringement, and knowing that the induced acts constitute patent infringement, either literally or equivalently.

91. Defendants have knowingly contributed to direct infringement by their customers through affirmative acts and by having imported, sold, and/or offered for sale, and knowingly importing, selling, and/or offering to sell within the United States the '821 Accused Products which are not suitable for substantial non-infringing use and which are especially made or especially adapted for use by its customers in an infringement of the asserted patent.

92. The affirmative acts of inducement by Defendants include, but are not limited to, any one or a combination of: (i) designing infringing chips for manufacture

according to specification; (ii) collaborating on and/or funding the development of the infringing chips and/or technology; (iii) soliciting and sourcing the manufacture of infringing chips; licensing and transferring technology and know-how to enable the manufacture of infringing chips; (v) enabling and encouraging the use, sale, or importation of infringing chips by its customers; (vi) advertising the infringing chips and/or technology; and (vii) providing data sheets, technical guides, demonstrations, software and hardware specifications, installation guides, product specifications, user manuals, marketing materials, and instructions, including on Defendants' website, https://www.samsung.com.

93. Defendants have contributed and continue to contribute to the direct infringement of the '821 Patent by each other, their customers, and other third parties; and Defendants, their customers, and other third parties do directly infringe.

94. Defendants import, export, make or sell parts, components, or intermediate products to customers and third parties that, once assembled, infringe upon the '821 Patent by the sale and/or use of the assembled processors and/or devices.

95. Defendants make, use, sell, and/or offer to sell infringing semiconductor devices and/or processor chips, which are especially made to design and specification, and are not staple products or commodities with substantial non-infringing use.

96. Defendants knew that the induced conduct would constitute infringement and intended that infringement at the time of committing the aforementioned acts, such that the acts and conduct have been and continue to be

committed with the specific intent to induce infringement, or deliberately avoiding learning of the infringing circumstances at the time of committing these acts so as to be willfully blind to the infringement that was induced.

97. As a result of Defendants' infringement, Plaintiff has suffered monetary damages, and is entitled to an award of damages adequate to compensate it for such infringement which, by law, can be no less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 US.C. § 284.

98. Plaintiff has incurred and will continue to incur substantial damages, including monetary damages.

99. Plaintiff has been and continues to be irreparably harmed by Defendants' infringement of the '821 Patent.

100. Therefore, Plaintiff is entitled to an injunction, actual and/or compensatory damages, reasonable royalties, pre-judgment and post-judgment interest, enhanced damages, and costs.

COUNT THREE
INFRINGEMENT OF U.S. PATENT 7,494,846

101. Plaintiff incorporates by reference the allegations in all preceding paragraphs as if fully set forth herein.

102. The '846 Patent, entitled "DESIGN TECHNIQUES FOR STACKING IDENTICAL MEMORY DIES," was filed on March 9, 2007 and duly and legally issued by the United States Patent and Trademark Office on February 24, 2009.

103. The '846 Patent claims patent-eligible subject matter and is valid and enforceable.

Technical Description and Background

104. The '846 Patent is directed to a memory having two stacked, identical semiconductor dies. According to the '846 Patent, "there are physical limitations to the density that can be achieved in two dimensions. One of these limitations is the minimum size needed to make these components. Also, when more devices are put into one chip, more complex designs are required. An additional limitation comes from the significant increase in the number and length of interconnections between devices as the number of devices increases. When the number and length of interconnections increase, both circuit RC delay and power consumption increase." '846 Patent, 1:20-34.

105. A solution to the two-dimensional density issue is the use of three-dimensional integrated circuits with stacked dies. The '846 Patent notes "[t]hrough-silicon vias (TSV) are often used in 3DIC and stacked dies," but "when used for stacking memory dies, TSVs suffer shortcomings. Typically, in the process for forming memory dies, it is preferred to have low inventory, short cycle time, low fabrication cost (which means only one mask set is preferred), and full sharing of input/output (I/O) pads. Therefore, it is preferred that [stacked] memory dies have exactly the same design, and can be fabricated using a same set of masks. Since memory dies need to have unique addresses in order to distinguish from each other, the identical memory dies cannot be simply stacked one on top of the other." '846 Patent, 1:48-66.

106. The '846 Patent addresses the problems identified in existing stacked dies by, among other steps, "programming the identification circuit of the second

semiconductor die to a different state from the identification circuit of the first semiconductor die and bonding the second semiconductor die onto the first semiconductor die." '846 Patent, 3:1-10. The inventive process "provides ability for stacking identical dies without the need of redistribution lines and/or interposers. This significantly reduces the design and manufacturing cost, the inventory and cycle time." '846 Patent, 3:29-32.

Direct Infringement

107. Defendants, individually and collectively as a common business enterprise and without authorization or license from Plaintiff, have been and are directly infringing the '846 Patent, either literally or equivalently, as infringement is defined by 35 U.S.C. § 271, including through making, using (including for testing purposes), designing, manufacturing, importing, distributing, selling, and offering for sale memories and other electronic hardware, devices, and products that are made by a method that infringe one or more claims of the '846 Patent. Defendants further provide services that practice methods that infringe one or more claims of the '846 Patent. Defendants are thus liable for direct infringement pursuant to 35 U.S.C. § 271.

108. Exemplary infringing products include but are not limited to the Samsung K4A8G045WB1, K4A8G085WB, K4A8G165WB, K4A8G045WC1, K4A8G085WC, K4A8G165WC, K4A8G045WD1, K4A8G085WD, K4AAG085WA, K4AAG165WA, K4AAG085WA, K4AAG165WA, K4A4G085WD, K4A4G165WD, K4A4G085WE, K4A4G165WE, K4A4G085WF, K4A4G165WF, K4A8G085WB,

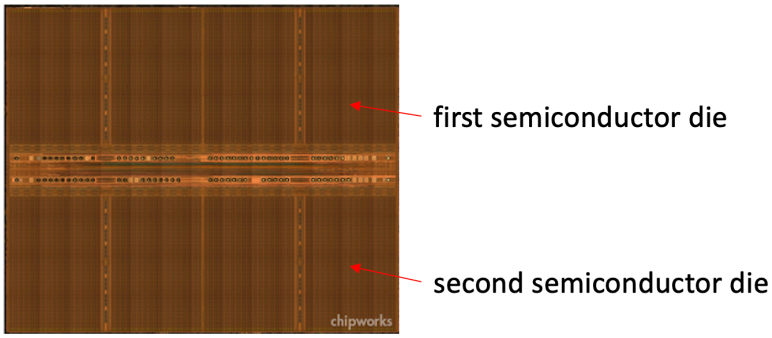
K4A8G165WB, K4A8G085WC, K4A8G165WC, K4AAG085WB, K4AAG165WB, K4AAG085WA, K4AAG165WA, and K4AAGO45WD-CRB DDR4 SDRAM and similar Samsung products employing the '846 Patent, as well as consumer products that incorporate the infringing Samsung memories, including but not limited to smartphones, computers, laptops, and other electronic devices including but not limited to the Galaxy A7, Galaxy Tab S2, Galaxy S6, Galaxy S6 Edge, Galaxy S6 Active, Galaxy S6 Edge+, Galaxy J5 Prime, Galaxy S8, Galaxy S8 Active, Galaxy S8+, Galaxy S9, Galaxy S9+, Galaxy Note 5, Galaxy Note 8, Galaxy Note 9, Samsung Chromebook 2, Chromebook Plus V2, Chromebook Plus V2, Chromebook 4, Chromebook 4+, Galaxy Tab S7, Notebook 7, Notebook 9, Galaxy Tab S6, Galaxy Book Flex, Galaxy Book Ion, and Galaxy Book S, tablets such as the Galaxy Tab Active2, Galaxy Tab S2, and Galaxy Tab A 10.1, all foundry products employing the '846 Patent manufactured by Samsung for third parties, and similar Samsung products employing the '846 Patent.

109. Plaintiff names these exemplary infringing instrumentalities to serve as notice of Defendants' infringing acts, but Plaintiff reserve the right to name additional infringing products, known to or learned by Plaintiff or revealed during discovery, and include them in the definition of '846 Accused Products.

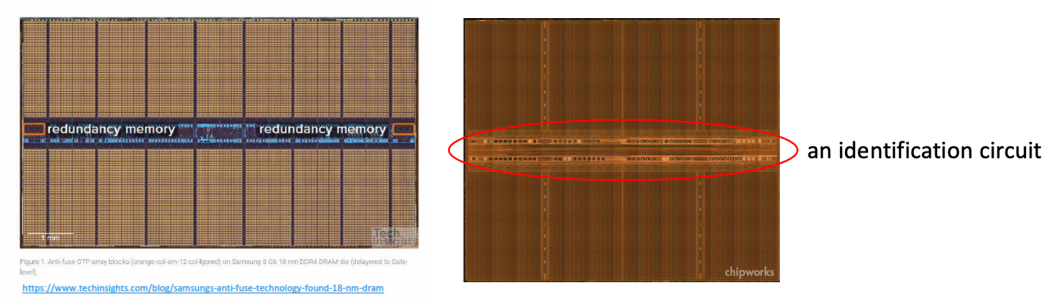
110. As a specific, nonlimiting example, Defendants are liable for direct infringement pursuant to 35 U.S.C. § 271 for the manufacture, sale, offer for sale, importation, or distribution of the Samsung K4AAGO45WD-CRB DDR4 SDRAM. The exact structure and method of manufacture of the Samsung K4AAGO45WD-CRB

DDR4 SDRAM is not publicly available and Plaintiff expressly reserves the right to amend or revise its pleadings based on information revealed in the course of discovery. Samsung has described the structure and method of manufacture of the Samsung K4AAGO45WD-CRB DDR4 SDRAM in published materials, including but not limited to Samsung DDR4 SDRAM datasheet (available at https://www.samsung.com/semiconductor/global.semi/file/resource/2018/05/20170731_TSV_DDR4_8Gb_B_die_Registered_DI_MM_Rev1.43_May.17.pdf) and U.S. Patent 7,916,511, "Semiconductor Memory Device Including Plurality of Semiconductor Memory Chips." Additional information regarding the structure and method of manufacture of the Samsung K4AAGO45WD-CRB DDR4 SDRAM is publicly available at https://www.techinsights.com/blog/samsungs-anti-fuse-technology-found-18-nm-dram. These publications describe a method that is used to manufacture the Samsung K4AAGO45WD-CRB DDR4 SDRAM. The Samsung K4AAGO45WD-CRB DDR4 SDRAM is made by a method that meets all limitations of claim 1 of the '846 Patent, either literally or under the doctrine of equivalents, as described therein.

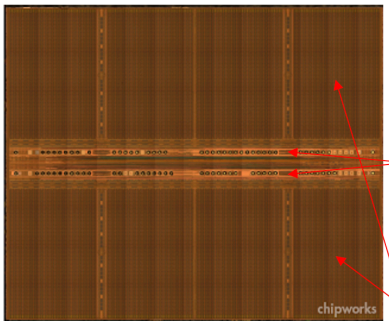
111. The Samsung K4AAGO45WD-CRB DDR4 SDRAM is a semiconductor structure made by a method comprising forming a first semiconductor die and a second semiconductor die identical to the first semiconductor die:



112. The first and second semiconductor dies comprise an identification circuit:



113. The first and second semiconductor dies comprise a plurality of input/output (I/O) conductive paths connected to memory circuit in the respective first and second semiconductor dies, wherein the plurality of I/O conductive paths comprises through-silicon vias:



114. The identification circuit of the second semiconductor die is programmed to a different state from the identification circuit of the first semiconductor die:

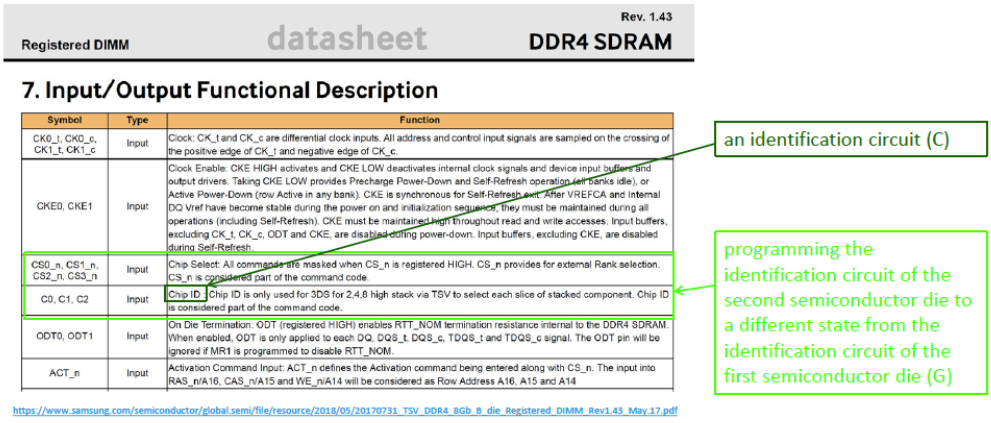


Fig 4: Samsung DDR4 SDRAM Datasheet

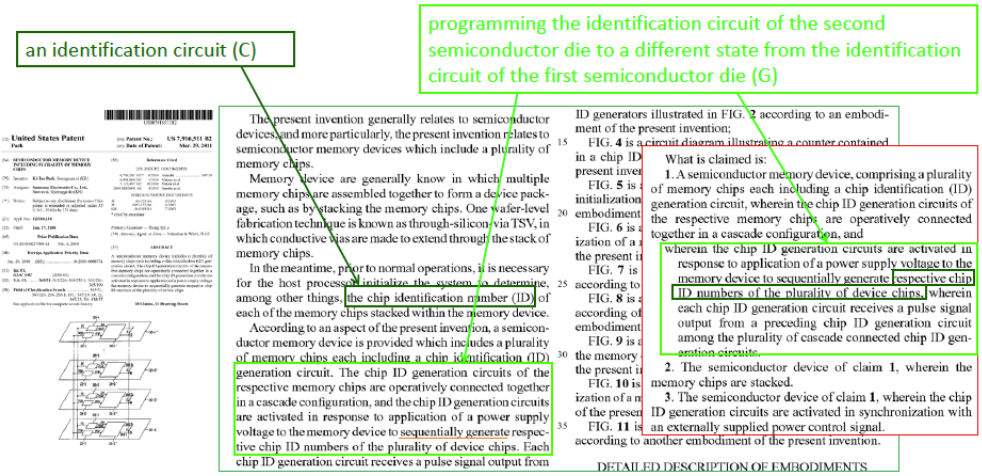
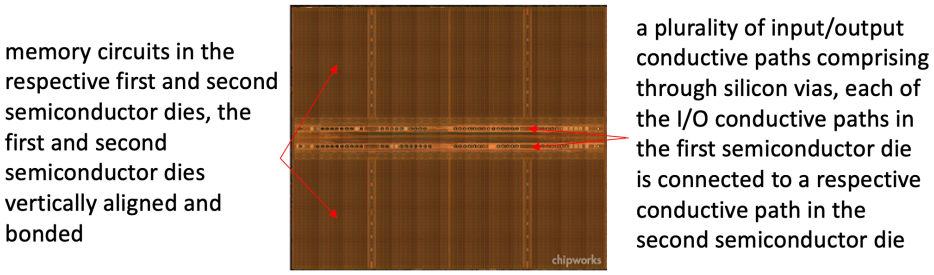


Fig 5: Samsung Patent US 7,916,511

115. The second semiconductor die is bonded onto the first semiconductor die, wherein the first and the second semiconductor dies are vertically aligned, and wherein each of the plurality of I/O conductive paths in the first semiconductor die is connected to a respective I/O conductive path in the second semiconductor die:



Willful Infringement

116. Defendants have had actual knowledge of the '846 Patent and their infringement thereof at least as of receipt of Plaintiff's notice letter dated April 9, 2020.

117. Defendants have had actual notice of the '846 Patent and their infringement thereof at least as of service of Plaintiff's Complaint.

118. Defendants have numerous lawyers and other active agents of Defendants and of its owned and controlled subsidiaries who regularly review patents and published patent applications relevant to technology in the fields of the patents-in-suit, specifically including patents directed to semiconductor devices issued to competitors such as Taiwan Semiconductor Manufacturing Company, Ltd., the original assignee of the '846 Patent.

119. Defendants themselves have been issued over 117,000 patents held in the name of one of the Defendants or a related entity, many of which are patents

prosecuted in the USPTO in the same technology area as the '846 Patent, giving Defendants intimate knowledge of the art in fields relevant to this civil action. As a non-limiting example, Samsung's U.S. Application No. 12/606,799 cites the '846 Patent and Samsung would have been aware of the '846 Patent during the prosecution of Samsung's '799 Application. The timing, circumstances and extent of Defendants obtaining actual knowledge of the '846 Patent prior to the commencement of this lawsuit will be confirmed during discovery.

120. Defendants' infringement of the Asserted Patents was either known or was so obvious that it should have been known to Defendants.

121. Notwithstanding this knowledge, Defendants have knowingly or with reckless disregard infringed the '846 Patent. Defendants continued to commit acts of infringement despite being on notice of an objectively high likelihood that their actions constitute infringement of Plaintiff's valid patent rights, either literally or equivalently.

122. Defendant is therefore liable for willful infringement and Plaintiff accordingly seeks enhanced damages pursuant to 35 U.S.C. §§ 284 and 285.

Indirect, Induced, and Contributory Infringement

123. Defendants, directly and/or through its subsidiaries, affiliates, agents, and/or business partners, have committed and continue to commit acts of indirect infringement of at least one claim of the '846 Patent, pursuant to 35 U.S.C. §§ 271(b) and (c) by actively inducing or contributing to the acts of direct infringement

performed by others in the United States, the State of Texas, and the Western District of Texas.

124. Defendants have induced and continue to induce through affirmative acts each other, their distributors, manufacturers, testers, customers, and/or end users, such as designers of Defendants' chips and end users of Defendants' chips to directly infringe the '846 Patent by making, using, selling, and/or importing the Accused Products, with the specific intent to induce acts constituting infringement, and knowing that the induced acts constitute patent infringement, either literally or equivalently.

125. Defendants have knowingly contributed to direct infringement by their customers through affirmative acts and by having imported, sold, and/or offered for sale, and knowingly importing, selling, and/or offering to sell within the United States the '846 Accused Products which are not suitable for substantial non-infringing use and which are especially made or especially adapted for use by its customers in an infringement of the asserted patent.

126. The affirmative acts of inducement by Defendants include, but are not limited to, any one or a combination of: (i) designing infringing chips for manufacture according to specification; (ii) collaborating on and/or funding the development of the infringing chips and/or technology; (iii) soliciting and sourcing the manufacture of infringing chips; licensing and transferring technology and know-how to enable the manufacture of infringing chips; (v) enabling and encouraging the use, sale, or importation of infringing chips; enabling and encouraging the use, sale, or

importation of infringing chip by its customers; (vi) advertising the infringing chips and/or technology; and (vii) providing data sheets, technical guides, demonstrations, software and hardware specifications, installation guides, product specifications, user manuals, marketing materials, and instructions, including on Defendants' website, https://www.samsung.com.

127. Defendants have contributed and continue to contribute to the direct infringement of the '846 Patent by each other, their customers, and other third parties, and Defendants, their customers, and other third parties do directly infringe.

128. Defendants import, export, make or sell parts, components, or intermediate products to customers and third parties that, once assembled, infringe upon the '846 Patent by the sale and/or use of the assembled processors and/or devices.

129. Defendants make, use, sell, and/or offer to sell infringing semiconductor devices and/or processor chips, which are especially made to design and specification, and are not staple products or commodities with substantial non-infringing use.

130. Defendants knew that the induced conduct would constitute infringement and intended that infringement at the time of committing the aforementioned acts, such that the acts and conduct have been and continue to be committed with the specific intent to induce infringement, or deliberately avoiding learning of the infringing circumstances at the time of committing these acts so as to be willfully blind to the infringement that was induced.

131. As a result of Defendants' infringement, Plaintiff has suffered monetary damages, and is entitled to an award of damages adequate to compensate it for such infringement which, by law, can be no less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 US.C. § 284.

132. Plaintiff has incurred and will continue to incur substantial damages, including monetary damages.

133. Plaintiff has been and continues to be irreparably harmed by Defendants' infringement of the '846 Patent.

134. Therefore, Plaintiff is entitled to an injunction, actual and/or compensatory damages, reasonable royalties, pre-judgment and post-judgment interest, enhanced damages, and costs.

V. NOTICE

135. Trenchant has complied with the notice requirement of 35 U.S.C. § 287 and does not currently distribute, sell, offer for sale, or make products embodying the Asserted Patents. This notice requirement has been complied with by all relevant persons at all relevant times.

136. Defendants have had actual knowledge of the Asserted Patents and their infringement thereof at least as of receipt of Plaintiff's notice letter dated April 9, 2020.

VI. JURY DEMAND

137. Plaintiff Trenchant demands a trial by jury of all matters to which it is entitled to trial by jury, pursuant to FED. R. CIV. P. 38.

VII. PRAYER FOR RELIEF

WHEREFORE, Plaintiff Trenchant prays for judgment and seeks relief against Defendants as follows:

A. A declaration that the '619 Patent is valid and enforceable;

B. A declaration that the '821 Patent is valid and enforceable;

C. A declaration that the '846 Patent is valid and enforceable;

D. A declaration that one or more claims of the '619 Patent is infringed by each of the Defendants, literally and/or under the doctrine of equivalents;

E. A declaration that one or more claims of the '821 Patent is infringed by each of the Defendants, literally and/or under the doctrine of equivalents;

F. A declaration that one or more claims of the '846 Patent is infringed by each of the Defendants, literally and/or under the doctrine of equivalents;

G. A declaration that one or more claims of the '619 Patent is indirectly infringed by each of the Defendants;

H. A declaration that one or more claims of the '821 Patent is indirectly infringed by each of the Defendants;

I. A declaration that one or more claims of the '846 Patent is indirectly infringed by each of the Defendants;

J. That the Court award damages adequate to compensate Plaintiff for the patent infringement that has occurred, together with prejudgment and post-judgment interest and costs, and an ongoing royalty for continued infringement;

K. That the Court permanently enjoin each Defendant, its officers, subsidiaries, agents, servants, and employees, and all persons in active concert with any of the foregoing from further infringement of the '619, '821, and '846 Patents pursuant to 35 U.S.C. § 283;

L. That the Court find this case to be exceptional pursuant to 35 U.S.C. § 285;

M. That the Court determined that Defendants' infringements were willful;

N. That the Court award enhanced damages against Defendants pursuant to 35 U.S.C. § 284;

O. That the Court award reasonable attorneys' fees; and

P. That the Court award such other relief to Plaintiff as the Court deems just and proper.

VIII. RESERVATION OF RIGHTS

Plaintiff's investigation is ongoing, and certain material information remains in the sole possession of Defendants or third parties, which will be obtained via discovery herein. Plaintiff expressly reserves the right to amend or supplement the causes of action set forth herein in accordance with FED. R. CIV. P. 15.

Dated: January 22, 2021

Respectfully Submitted,

/s/ Scott Breedlove

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