Susan D. Pitchford (OSB No. 98091)
sdp@chernofflaw.com
CHERNOFF VILHAUER LLP
111 SW Columbia Street, Suite 725
Portland, OR 97201
Telephone: (503) 227-5631
Facsimile: (503) 228-4373

Bradley W. Caldwell (*pro hac vice* forthcoming)
bcaldwell@caldwellcc.com
Warren J. McCarty, III (*pro hac vice* forthcoming)
wmccarty@caldwellcc.com
Jason D. Cassady (*pro hac vice* forthcoming)
jcassady@caldwellcc.com
John Austin Curry (*pro hac vice* forthcoming)
acurry@caldwellcc.com
R. Seth Reich Jr. (*pro hac vice* forthcoming)
sreich@caldwellcc.com
CALDWELL CASSADY & CURRY P.C.
2121 N Pearl Street, Suite 1200
Dallas, TX 75201
Telephone: (214) 888-4848
Facsimile: (214) 888-4849
Attorneys for Plaintiff

UNITED STATES DISTRICT COURT

DISTRICT OF OREGON

PORTLAND DIVISION

BESANG INC., Plaintiff, v. **INTEL CORPORATION,** Defendant.	CIVIL ACTION NO. _____ **COMPLAINT FOR PATENT INFRINGEMENT** JURY TRIAL DEMANDED

Intel v. BeSang
IPR2023-00991
Exhibit 1013

PLAINTIFF'S ORIGINAL COMPLAINT

Plaintiff BeSang Inc. ("BeSang" or "Plaintiff") files this Original Complaint against Defendant Intel Corporation ("Intel" or "Defendant") for patent infringement under 35 U.S.C. § 271. Plaintiff alleges, based on its own personal knowledge with respect to its own actions and based upon information and belief with respect to all others' actions, as follows:

THE PARTIES

1. Plaintiff BeSang is a corporation organized and existing under the laws of the state of Oregon, having a principal place of business at 1915 NE Stucki Avenue, Suite 400, Hillsboro, Oregon 97006.

2. Defendant Intel is a corporation organized and existing under the laws of the state of Delaware, having a principal place of business at 2200 Mission College Boulevard, Santa Clara, California 95054. On information and belief, Intel is registered to do business in the state of Oregon, and it can be served through its registered agent, CT Corporation System, at 780 Commercial Street, Suite 100, Salem, Oregon 97301.

JURISDICTION AND VENUE

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

4. This Court has personal jurisdiction over Defendant. On information and belief, Defendant conducts business, has committed acts of patent infringement, and has induced acts of patent infringement by others in this District and elsewhere in the United States. On information and belief, Intel places, has placed, and contributed to placing its products into the stream of

commerce through established distribution channels knowing or understanding that such products would be sold and used in the United States, including in this District.

5. Venue is proper in this District pursuant to 28 U.S.C. § 1400(b), because Defendant has committed acts of infringement and has regular and established places of business in this District.

6. On information and belief, Intel manufactured NAND flash memory and other memory products in the United States and in other countries throughout the world. Intel sold its products to customers, including customers in this District, in the computer, networking and storage, consumer electronics, solid-state drives and mobile telecommunication markets.

7. On information and belief, Intel has regular and established places of business in this District. For example, Intel has seven distinct business locations in the District, located at: 3585 SW 198th Ave., Aloha, Oregon 97078; 6200 NW Casper Pl., Building 12, Hillsboro, Oregon 97124; 5200 NE Elam Young Pkwy., Hillsboro, Oregon 97124; 2111 NE 25th Ave., Hillsboro, Oregon 97124; Evergreen Pkwy., Hillsboro, Oregon 97124, 2501 NE Century Blvd., Hillsboro, Oregon 97124, and Century Blvd. & Croeni Rd., Hillsboro, Oregon 97124.[1]

8. On information and belief, Intel maintains its largest concentrations of facilities and employees in this District. Intel's facilities in Hillsboro, Oregon are its primary semiconductor design, development, and production facilities. Intel employs over 22,000 employees in Oregon,

[1] Intel, *U.S. Campus Locations*, https://www.intel.com/content/www/us/en/support/contact-intel.html?tab=campus-locations#support-us-locations (last visited Jan. 18, 2023).

spanning across manufacturing, hardware, and software departments.[2] Intel works with and supports more than 500 suppliers in the state of Oregon.[3]

ASSERTED PATENT

9. On May 27, 2008, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,378,702 ("the '702 Patent"), entitled "Vertical Memory Device Structures." A copy of the '702 Patent is attached as Exhibit A. BeSang Inc. owns all rights, title, and interest in the '702 Patent and possesses all rights of recovery.

10. The '702 Patent is valid and enforceable. *See generally* Ex. A.

11. The '702 Patent is directed to patentable subject matter. Particularly, the '702 Patent is directed to a novel, tangible semiconductor memory structure. The inventive, tangible claimed structures of the '702 Patent provide increased circuit density in integrated circuits, which reduces cost-per-bit and improves memory performance. The claimed inventions provide specific concrete solutions to the technical problem of increasing circuit density in semiconductor memory structures. *See generally* Ex. A.

12. The claimed elements of the inventions of the '702 Patent individually and as an ordered combination are not well-understood, routine, or conventional. For example, the claimed, tangible semiconductor structures of the '702 Patent provide increased circuit density in integrated circuits without necessarily requiring memory structures to be made smaller. *See generally* Ex. A.

FACTUAL ALLEGATIONS

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[2] Intel, *Intel in Oregon*, https://www.intel.com/content/www/us/en/corporate-responsibility/intel-in-oregon.html (last visited Jan. 18, 2023).
[3] Intel, *Oregon Rise Report*, https://www.intel.com/content/www/us/en/corporate-responsibility/oregon-rise-report.html (last visited Jan. 18, 2023).

13. Semiconductor memory in computers and other electronic devices is used for digital data storage. Semiconductor memory typically refers to devices in which data is stored within metal-oxide-semiconductor ("MOS") transistors in memory cells and can be categorized as volatile or nonvolatile memory.

14. For example, a solid-state drive ("SSD") is a printed circuit board that contains, among other components, a plurality of individual memory chips, such as NAND flash memory chips. NAND flash memory is a type of nonvolatile memory that is able to retain data without power. One NAND chip may consist of billions of memory cells where data is stored.

15. Traditionally, the memory cells in a NAND memory chip were laterally oriented, forming a horizontal array above and parallel to the substrate. This type of NAND memory is commonly known as "planar NAND" or "2D NAND."

16. In 2D NAND, the array of memory cells can only extend in two dimensions, and the array consumes a significant amount of area on the chip. Therefore, the capacity of 2D NAND memory is constrained by the number of memory cells that can fit within finite width and length dimensions. As the manufacturing equipment and technologies required to support such high density became increasingly expensive with each new generation of smaller devices, "[p]lanar NAND flash memory [was] nearing its practical scaling limits, posing significant challenges for the memory industry."[4]

17. Dr. Sang-Yun Lee incorporated BeSang in 2003 to develop, in part, three-dimensional (3D) integrated circuit technologies to overcome the above-mentioned deficiencies of the 2D solutions. Dr. Lee is the President and CEO of BeSang.

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[4] Intel Newsroom, *Micron and Intel Unveil New 3D NAND Flash Memory* (Mar. 26, 2015), https://newsroom.intel.com/news-releases/micron-and-intel-unveil-new-3d-nand-flash-memory/ (last visited Jan. 18, 2023).

18. In 2004, Dr. Lee filed the application that would become the ’702 Patent to claim his inventions. The ’702 Patent teaches the use of vertical memory cells, which allows the memory array to expand in a third dimension, as well as putting logic circuitry underneath the memory array, which further increases density and helps achieve faster performance. For example, the specification of the ’702 Patent describes that “[i]n FIG. 1, a logic circuit 114 including sense amplifier and column/row selectors may be implemented in base semiconductor substrate 103 while nonvolatile memory devices are implemented in first FLD layer 101.” Ex. A at 38 (’702 Patent 5:60–63). Figure 1 of the ’702 Patent depicts the substrate 103 under the layer 101. *See id.* at 2 (’702 Patent Fig. 1).

19. Dr. Lee assigned all right, title, and interest in the ’702 Patent to BeSang on December 15, 2010. This assignment was recorded at the United States Patent and Trademark Office.

20. BeSang soon became a recognized pioneer in the semiconductor industry for its development of 3D memory technologies. BeSang successfully created prototypes of 3D memory devices, utilizing facilities at the Stanford Nanofabrication Facility in California and the National NanoFab Center in Korea.

21. By 2009, BeSang’s 3D memory technology achieved critical acclaim. For example, EE Times listed BeSang as one of the 60 emerging start-ups on its Silicon 60 List.[5] In the same year, the well-known business consulting firm Frost & Sullivan described BeSang’s 3D memory

[5] Peter Clarke, *EE Times Updates List of Emerging Startups to Version 8.0* (Feb. 2, 2009), https://www.edn.com/ee-times-updates-list-of-emerging-startups-to-version-8-0/ (last visited Jan. 18, 2023).

technology as having "clear-cut winning edges" compared to other technologies.[6] The Global Semiconductor Alliance praised BeSang's technology as "anticipated to eventually change the semiconductor industry standard from two-dimensional (2D) device shrinking to 3D stacking."[7]

22. BeSang's 3D memory technology also gained recognition from the academic world. Dr. Simon Sze, Member of the U.S. National Academy of Engineering and co-inventor of the floating-gate transistor for nonvolatile memory cells in 1967, stated in interviews that "[b]efore BeSang's design came, all other past attempts were pseudo 3D,"[8] and that "BeSang's 3D IC is a very attractive technology."[9]

23. The '702 Patent has been cited by more than three hundred patents. The family of the '702 Patent has been cited during prosecution of patents owned by dozens of companies, including Intel's own patent applications.[10]

24. In U.S. Application No. 16/636,202, Intel, as the applicant, disclosed the '702 Patent's published application as relevant prior art in an Information Disclosure Statement dated February 3rd, 2020. In U.S. Application No. 17/132,981, Intel again disclosed the '702 Patent's published application as relevant prior art in an Information Disclosure Statement dated July 7th,

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[6] Peter Clarke, *Frost & Sullivan Tips BeSang as 3-D IC Winner* (Mar. 20, 2009), https://www.eetimes.com/frost-sullivan-tips-besang-as-3-d-ic-winner/ (last visited Jan. 18, 2023).

[7] GSA Forum at 17, *Exploring the Potential of Emerging Semiconductor Technology: Private Sh owing* (June 2011), https://www.gsaglobal.org/wp-content/uploads/2019/04/201102_GSA_Foru m.pdf (last visited Jan. 18, 2023).

[8] EET Asia, *World's First 3D Chip Technology Surfaces* (Aug. 13, 2008), https://archive.eetasia. com/www.eetasia.com/ART_8800539348_480100_NT_11f84e48.HTM (last visited Jan. 18, 2023).

[9] Ann Steffora Mutschler, *Stanford, Korean Nanofab Center, Oregon-Based Semi Startup Claim 3D IC Breakthrough*, https://www.edn.com/stanford-korean-nanofab-center-oregon-based-semi-startup-claim-3d-ic-breakthrough/ (last visited Jan. 18, 2023).

[10] *See* prosecution history of U.S. Patent Application No. 16/636,202 (granted as U.S. Patent No. 10,991,435); prosecution history of U.S. Patent Application No. 17/132,981 (published as U.S. Patent Pub. No. 2022/0199624A1).

2022. In that same Information Disclosure Statement, Intel identified another prior art reference created by Dr. Lee and owned by BeSang—U.S. Patent Application Publication No. 2012/0003808.

25. Intel is a worldwide semiconductor solution provider that manufactured computer memory and data storage devices including 3D NAND flash memory products. Intel sold many products that were or incorporated Intel's infringing 3D NAND technology, such as Intel's 32-layer 3D NAND memory chip, 64-layer 3D NAND memory chip, 96-layer 3D NAND memory chip, 128-layer 4D NAND memory chip, and 144-layer 3D NAND memory chip, amongst various other series and models of Intel's 3D NAND products incorporating these chips ("the Intel Accused Products").[11]

26. On information and belief, Intel had been designing, manufacturing, and selling the Intel Accused Products since at least 2016. On information and belief, SK hynix NAND Product Solutions Corp. (d/b/a Solidigm) recently acquired Intel's NAND business and facilities.[12] For the sake of clarity, however, this Complaint relates to Intel's infringing acts.

27. Before Intel introduced 3D NAND products, Intel was aware of BeSang's innovations and technology. For example, in May 2010, BeSang's president and the named inventor of the '702 Patent, Dr. Sang-Yun Lee, made a presentation at the IEEE IMW Workshop on the topic of "3D IC Architecture for High Density Memories." The presentation described how

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[11] Intel's products incorporating these memory chips include, but are not limited to, Intel's SSD 545s, SSD 600p, SSD 660p, SSD 665p, SSD 670p, SSD 760p, SSD D3-S4510, SSD D3-S4520, SSD D3-S4610, SSD D3-S4620, SSD D5-P4320, SSD D5-P4326, SSD D5-P4420, SSD D5-P5316, SSD D5-P5530, SSD D7-P5500, SSD D7-P5510, SSD D7-P5520, SSD D7-P5600, SSD D7-P5620, SSD DC P3520, SSD DC P4101, SSD DC P4500, SSD DC P4510, SSD DC S3520, SSD DC P4511, SSD DC P4610, SSD E 5420, SSD DC E 6000p, SSD Pro 6000p, and SSD Pro 7600p.

[12] Intel, *SK hynix to Acquire Intel NAND Memory Business* (Oct. 20, 2020), https://www.sec.gov/Archives/edgar/data/50863/000119312520272580/d76122dex991.htm (last visited Jan. 18, 2023).

to make logic circuits under the array. Dr. Pranav Kalavade, Fellow and Chief 3D NAND Architect at Intel, attended the workshop. In May 2012, Dr. Lee made another presentation at the IMW Workshop discussing a similar topic. This workshop was attended by and organized by Dr. Kalavade from Intel.

28. Before Intel introduced its 3D NAND products, the parties engaged in discussions about BeSang's inventions. During the span of several years, the parties held in-person meetings, telephone conversations, and email exchanges. For example, in June of 2014, BeSang shared with Intel details about the limitations of conventional memory technologies and explained how BeSang's 3D technology unlocked the ability to produce memory cells with higher density and lower costs. BeSang shared a presentation that emphasized, amongst other things, the benefits of placing the logic circuits under the memory array, which is described in the '702 Patent.

29. Throughout 2014, representatives from BeSang and Oregon-based representatives of Intel discussed a potential joint foundry collaboration between the two companies that would focus on developing 3D cache memory products. At this same time, BeSang was referred to and spoke with a Senior Director of Intel's "Foundational IP" development team about BeSang's 3D memory technology covered by the '702 Patent.

30. On information and belief, before 2015, Intel was aware of the '702 Patent.

31. In 2015, Intel announced it would be releasing its first 3D NAND flash memory technology.[13] According to Intel, the 3D NAND structure "enables more storage in a smaller space, bringing significant cost savings, low power usage and high performance."[14]

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[13] Intel Newsroom, *Micron and Intel Unveil New 3D NAND Flash Memory* (Mar. 26, 2015), https://newsroom.intel.com/news-releases/micron-and-intel-unveil-new-3d-nand-flash-memory/ (last visited Jan. 18, 2023).
[14] *Id.*

32. Intel incorporated this 3D NAND flash memory technology into its products at least as early as 2016, including the SSD 600p Series drive, which used 32-layer 3D NAND memory chips.[15] Intel continued to manufacture and sell 3D NAND products, including the Intel Accused Products.

33. On information and belief, the Intel Accused Products all use a "CMOS under array" structure, which means having CMOS control circuits underneath the memory array in order to lower costs, "reduce die sizes[,] and deliver improved performance when compared to competitive approaches."[16]

34. After Intel released its 3D NAND products, BeSang and Intel representatives, including the General Manager of Intel Foundry and the Vice President and Managing Director of Intel Capital, continued to engage in discussions regarding BeSang's 3D memory technology. In 2017, BeSang proposed that BeSang and Intel enter into a license agreement or other collaboration arrangement. Intel refused.

35. Intel has known of the existence of the '702 Patent and its patent family prior to this lawsuit, or Intel subjectively believed that there was a high probability that the '702 Patent existed and took deliberate actions to avoid learning of the '702 Patent. Intel also has known of the existence of the '702 Patent at least by no later than the filing and service of this Complaint.

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[15] Nathan Kirsch, *Intel SSD 600p Series 512GB NVMe SSD Review* (Nov. 24, 2016), https://www.legitreviews.com/intel-ssd-600p-series-512gb-nvme-ssd-review_188324 (last visited Jan. 18, 2023).

[16] Intel Newsroom, *Micron and Intel Extend Their Leadership in 3D NAND Flash Memory* (May 21, 2018), https://newsroom.intel.com/news-releases/micron-intel-extend-their-leadership-3d-nand-flash-memory/ (last visited Jan. 18, 2023).

36. Intel has known that the acts complained of below constituted infringement of the ’702 Patent, or at least subjectively believed that there was a high probability of infringement of the ’702 Patent but took deliberate steps to avoid confirming the same.

37. Intel does not have any rights to the ’702 Patent.

38. In the interest of providing detailed averments of infringement, BeSang has identified below at least one claim of the ’702 Patent to demonstrate infringement. However, the selection of claims should not be considered limiting, and additional claims of the ’702 Patent that are infringed by Intel will be disclosed in compliance with the Court’s schedule.

COUNT ONE: INTEL’S INFRINGEMENT OF THE ’702 PATENT

39. BeSang incorporates by reference the preceding paragraphs as if fully set forth herein.

40. U.S. Patent No. 7,378,702 (“the ’702 Patent”), entitled “Vertical Memory Device Structures,” was legally and duly issued on May 27, 2008, naming Dr. Sang-Yun Lee as the sole inventor. *See* Ex. A.

41. BeSang owns all rights, title, and interest in the ’702 Patent, and holds all substantial rights pertinent to this suit, including the right to sue and recover for all past, current, and future infringement.

42. BeSang has complied with all statutory requirements, including the requirements of 35 U.S.C. § 287, to pursue and recover for any infringement of the ’702 Patent.

43. The Intel Accused Products practice one or more claims of the ’702 Patent, including, for example, claim 13 of the ’702 Patent. *See* Ex. A at 41 (’702 Patent 12:24–34).

44. Claim 13 of the ’702 Patent recites:

> [preamble] A semiconductor memory structure, comprising:

[13a] a substrate having electrical devices formed therein, and

[13b] further having a dielectric layer disposed above the electrical devices;

[13c] a stackable add-on layer having a plurality of vertically oriented semiconductor memory cells; and

[13d] the stackable add-on layer being bonded to the dielectric layer; and

[13e] wherein the memory cells are nonvolatile memory cells having at least one transistor.

45. For purposes of showing infringement of the '702 Patent, all series and models of Intel Accused Products share a similar structure and infringe in the same way.

46. The Accused Products are all 3D NAND products designed by Intel and share a common structure.

47. The Accused Products all include stacking layers of data storage cells—using a floating gate architecture—vertically to create storage devices.

48. The Accused Products all contain a "CMOS under array" ("CuA") structure, which places periphery circuitry under the memory array.[17]

49. Dr. Pranav Kalavade, Fellow and Chief 3D NAND Architect at Intel, has publicly discussed the common aspects of Intel's memory products. In 2019, Dr. Kalavade stated the "two basic things" that describe Intel's "areal density leadership" were CMOS under Array and vertically stacked floating gate memory cells.[18]

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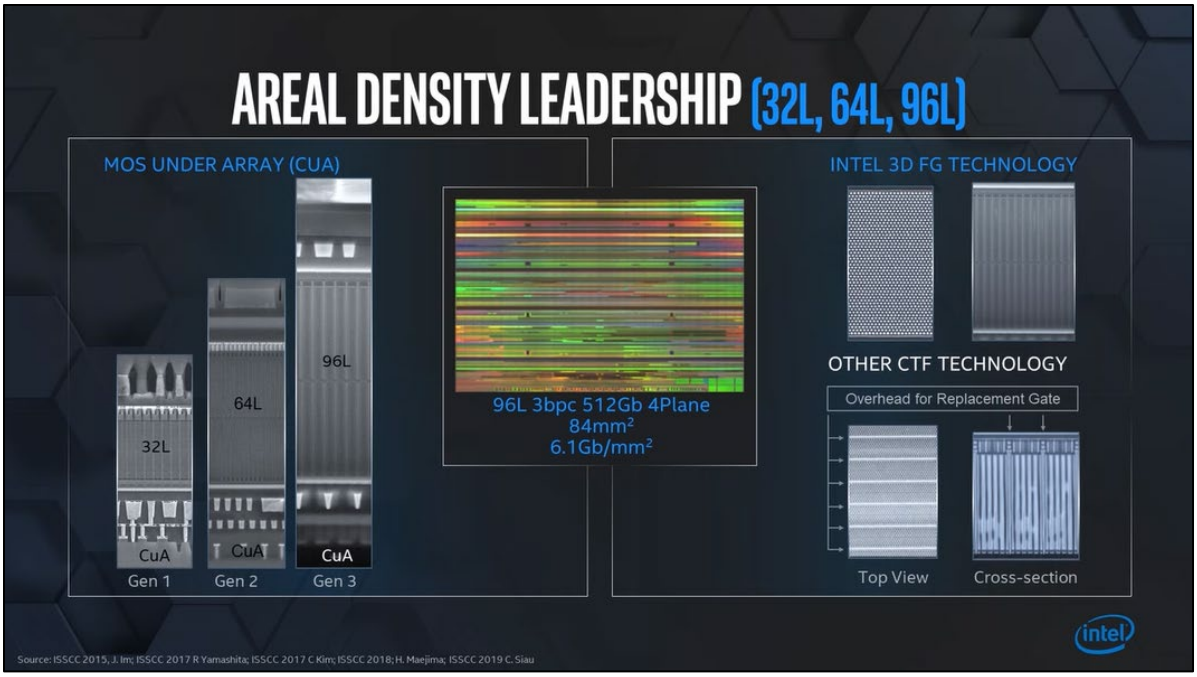
[17] *See, e.g.*, Intel Newsroom, *Micron and Intel Extend Their Leadership in 3D NAND Flash Memory* (May 21, 2018), https://newsroom.intel.com/news-releases/micron-intel-extend-their-leadership-3d-nand-flash-memory/#gs.hwxlwg (last visited Jan. 18, 2023).

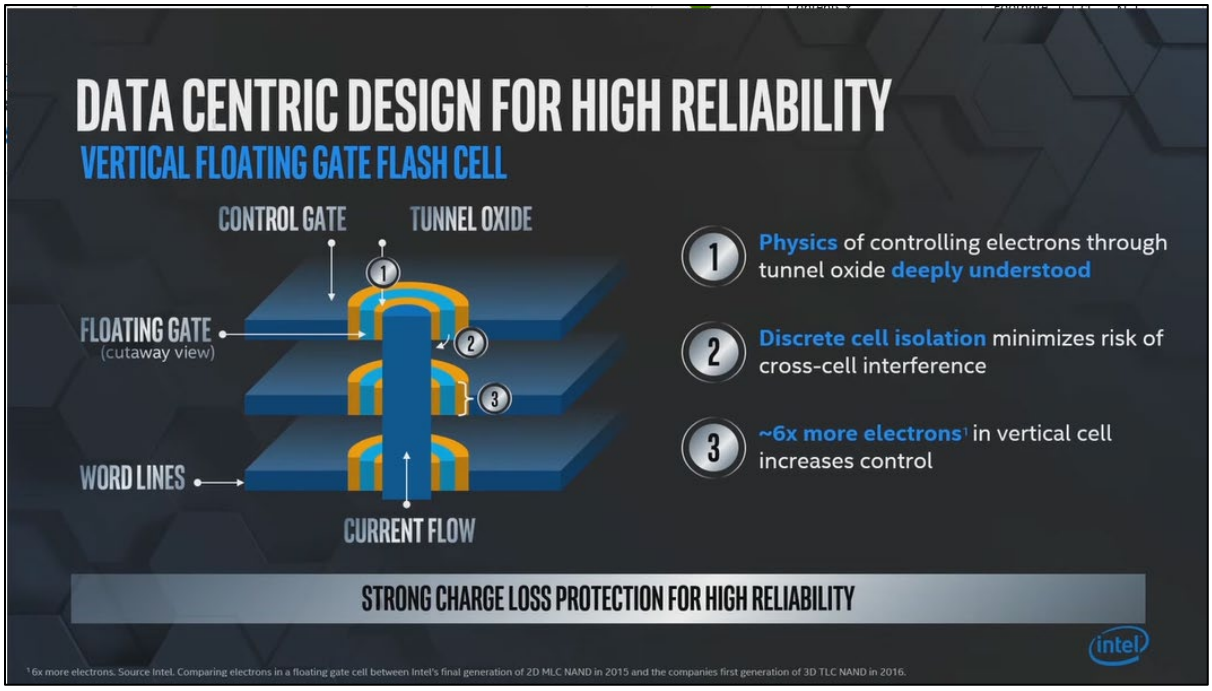
[18] Intel, *Areal Density is Key to Intel 3D NAND SSD Success* (Dec. 2, 2019), https://www.youtube.com/watch?v=8ywLIC7hTME (last visited Jan. 18, 2023) (at 0:14) ("What we deliver is areal density leadership. Intel makes the densest NAND bar none. . . . There are two basic things under this.").



Presentation by Dr. Pranav Kalavade[19]

50. As further described by Dr. Kalavade, the Accused Products all have memory cells using a vertical floating gate architecture. For example, as shown below, the Accused Products all have floating gate memory cells connected through vertically oriented channels.

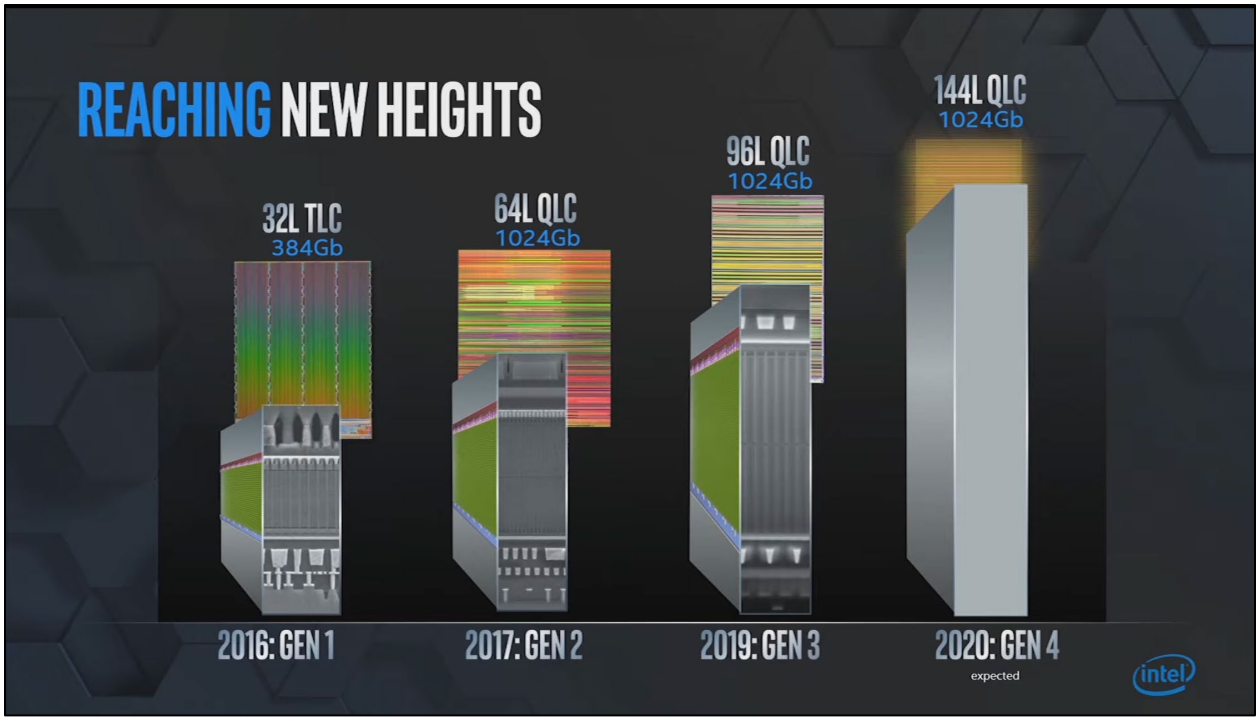
[19] *Id.*



Presentation by Dr. Pranav Kalavade[20]

51. The Intel 3D NAND product generations all contain the same features and architectures described above. For example, as shown in the below Intel presentation, each generation of Intel Accused Products include CMOS under Array and vertically stacked floating gate memory cells.

[20] Intel, *The Advantages of Floating Gate Technology* (Dec. 2, 2019), https://www.youtube.com/watch?v=nCmWHFk6gus (last visited Jan. 18, 2023) (at 0:18) ("So this is a classic cross section of a 3D NAND string[.]").



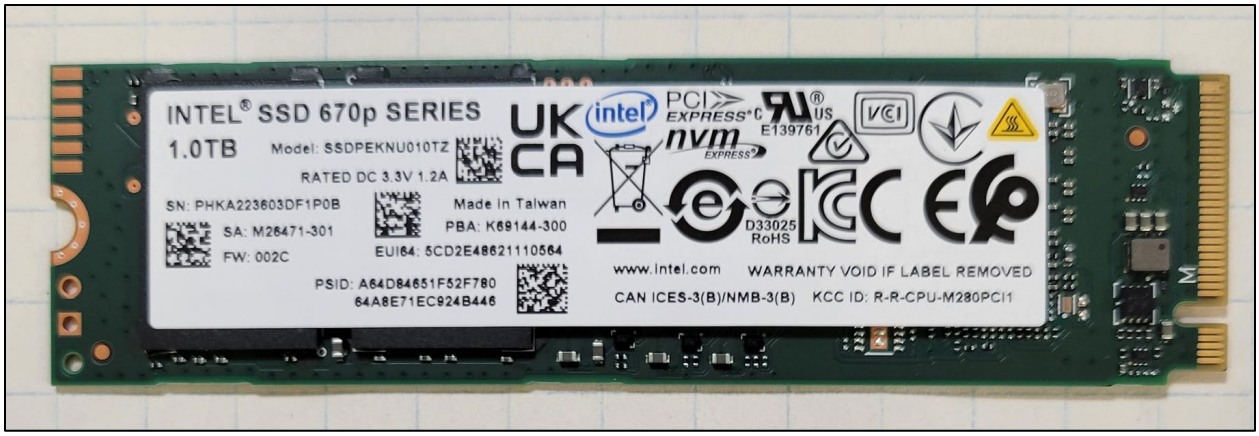
Presentation by Dr. Pranav Kalavade[21]

52. Intel's SSD 670p Series product was designed and manufactured with the structures and architectures common to all Intel's 3D NAND products. Accordingly, Intel's SSD 670p Series product is representative of all Intel Accused Products, and the infringing features present in Intel's SSD 670p Series product are common in all of the Intel Accused Products.

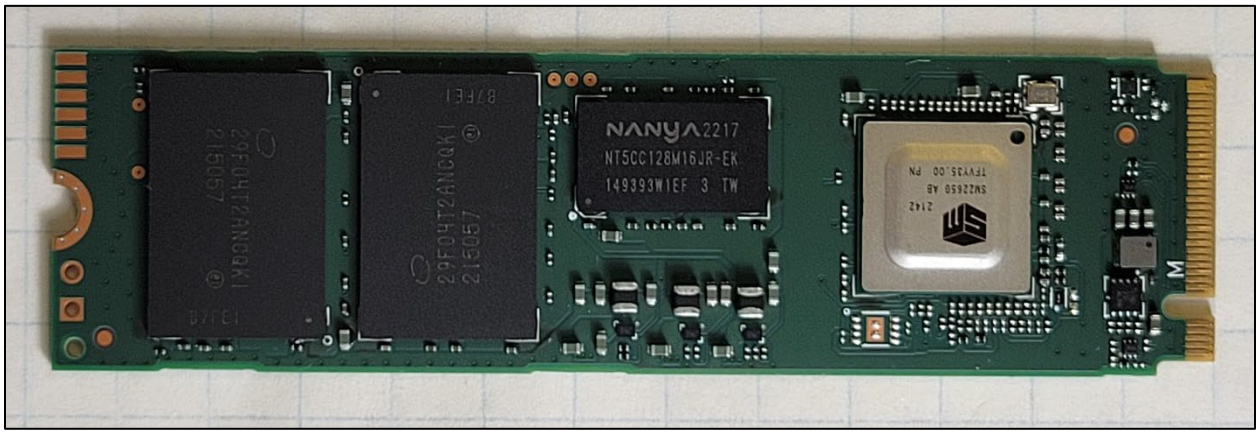
53. To the extent the preamble is considered a limitation, the Intel Accused Products contain a semiconductor memory structure. '702 Patent, claim 13, preamble.

54. For example, the memory chips in Intel's SSD 670p Series product are semiconductor memory structures. As shown below, the Intel SSD 670p Series product contains two Intel 3D NAND memory chips:

[21] Intel, *Areal Density is Key to Intel 3D NAND SSD Success* (Dec. 2, 2019), https://www.youtube.com/watch?v=8ywLIC7hTME (last visited Jan. 18, 2023) (at 2:04)

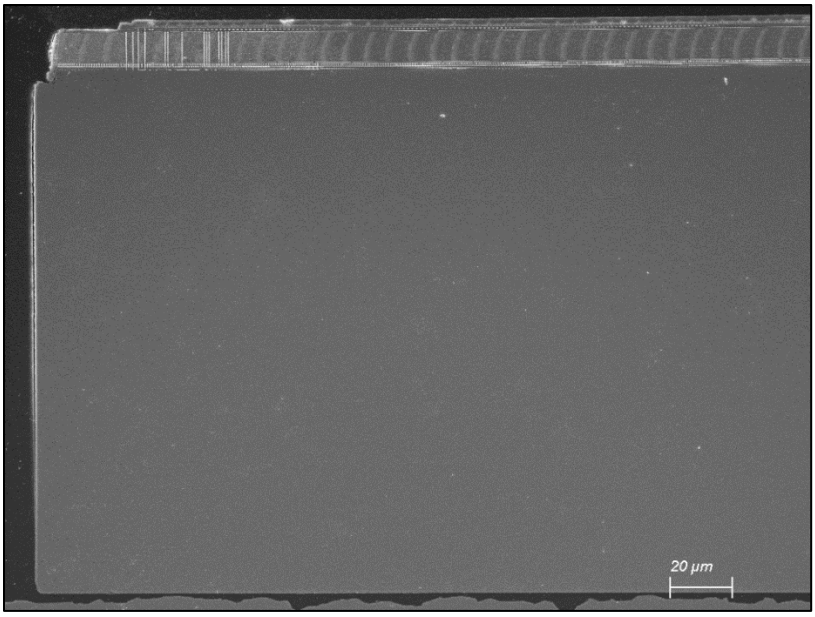


Intel's SSD 670p Series (Top)



Intel's SSD 670p Series (Bottom)

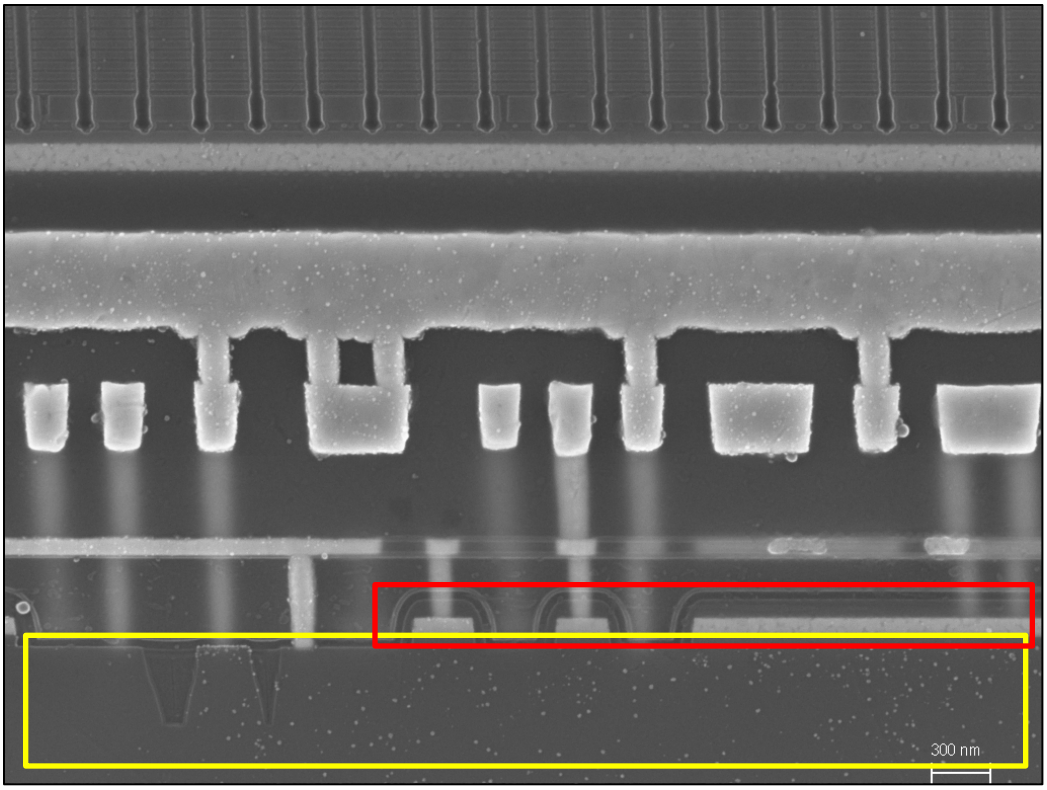
3D NAND Chip (29F04T2ANCQKI) Extracted from Intel's SSD 670p Series



Cross Section of Intel's 3D NAND Chip

55. The Intel Accused Products contain a substrate having electrical devices formed therein. '702 Patent, claim 13, element [13a].

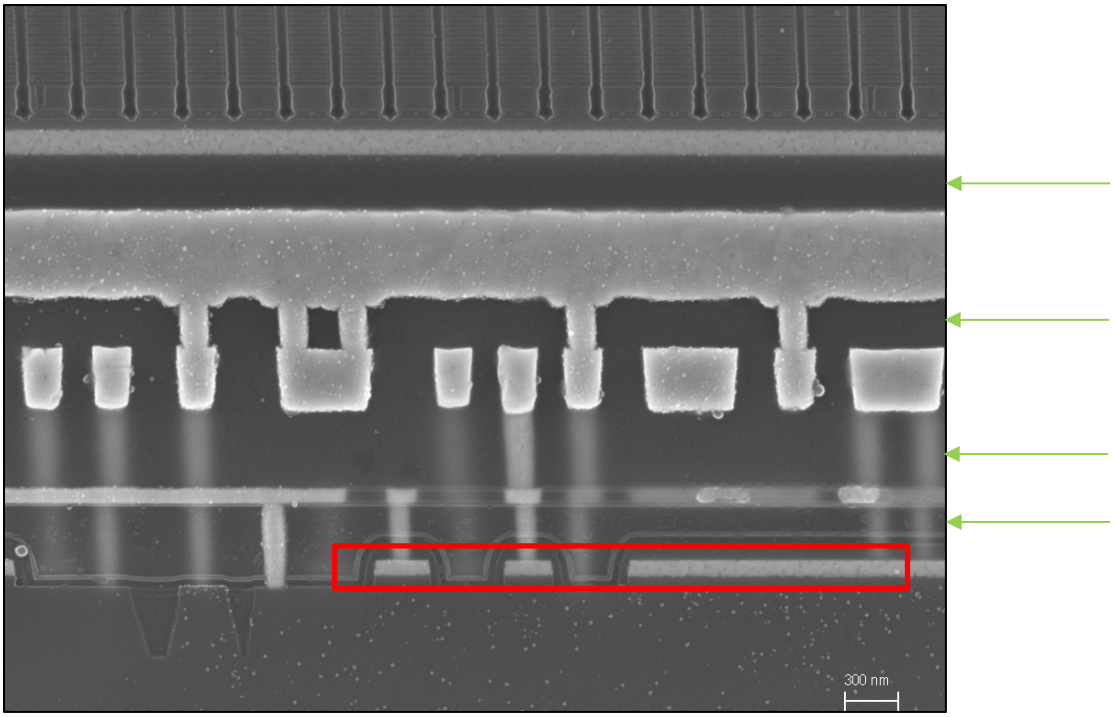
56. For example, the Intel Accused Products contain CMOS circuits (annotated in red) formed in the substrate (annotated in yellow):



Cross Section of Intel's 3D NAND Chip

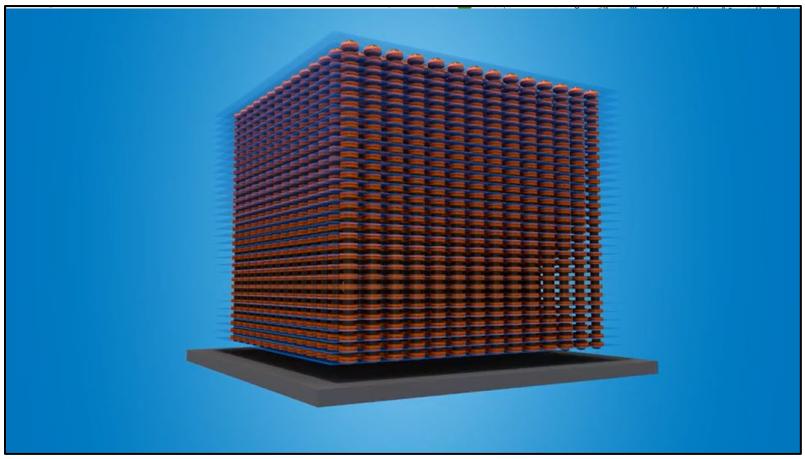
57. The Intel Accused Products contain a dielectric layer disposed above the electrical devices. '702 Patent, claim 13, element [13b].

58. For example, the Intel Accused Products contain a dielectric layer (annotated in green) disposed above the CMOS circuits (annotated in red):



Cross Section of Intel's 3D NAND Chip

59. Intel's marketing confirms that its 3D NAND memory products has "the circuitry that controls the memory, or CMOS, under the 3D NAND array."[22]

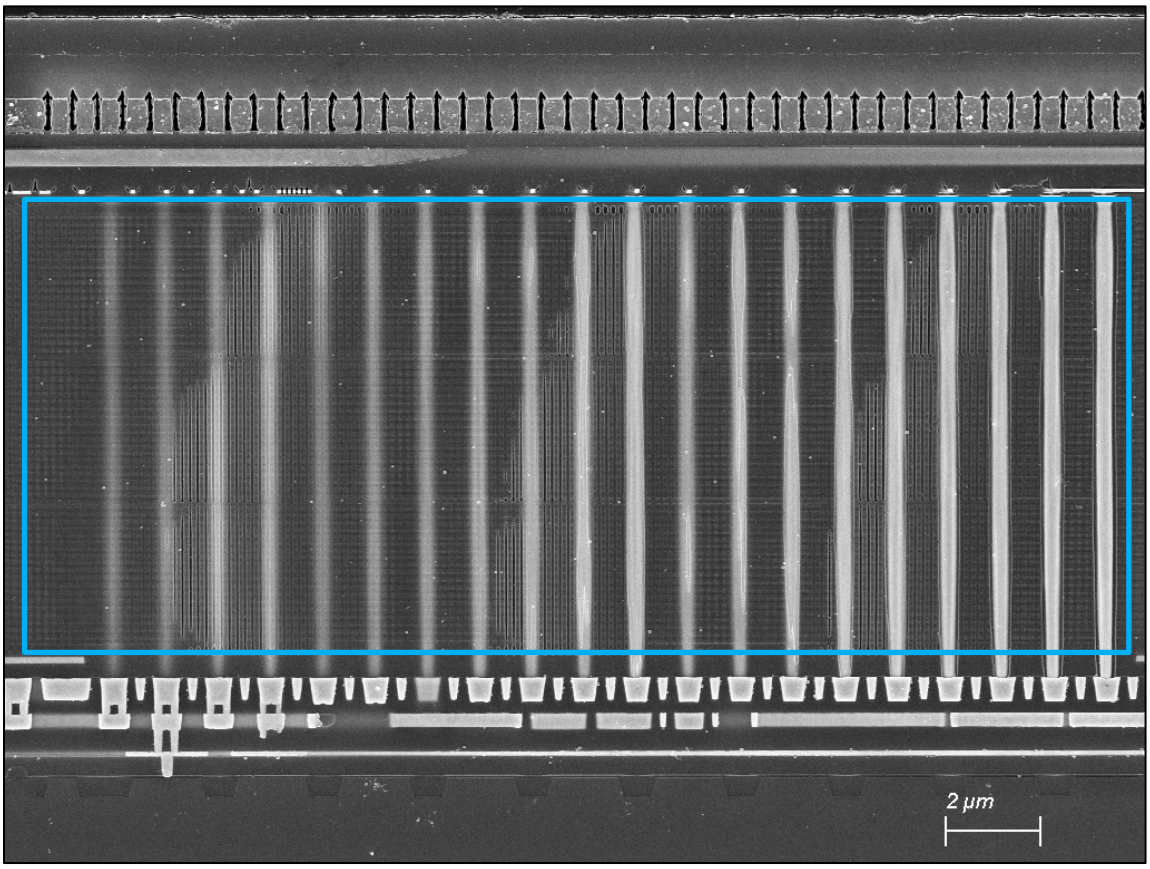


Intel 3D NAND Technology Video[23]

[22] Intel, *Intel 3D NAND Technology*, https://www.intel.com/content/www/us/en/products/docs/memory-storage/solid-state-drives/3d-nand-technology-animation.html (last visited Jan. 18, 2023) (at 1:30).
[23] *Id.* (at 1:47).

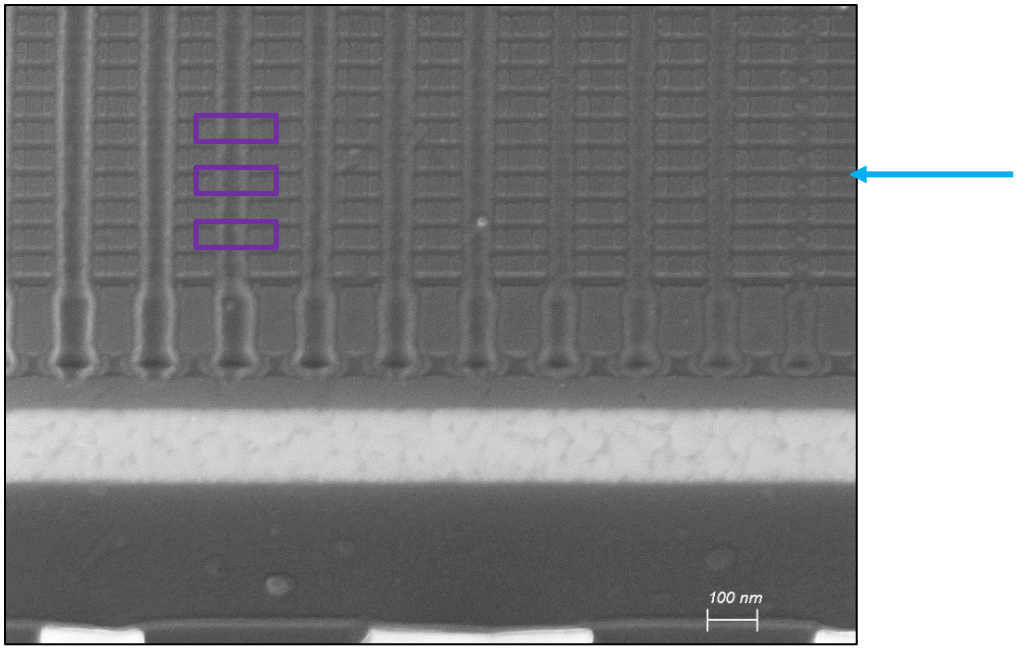
60. The Intel Accused Products contain a stackable add-on layer having a plurality of vertically oriented semiconductor memory cells. ’702 Patent, claim 13, element [13c].

61. For example, the Intel Accused Products contain an array of memory cells (annotated in blue).



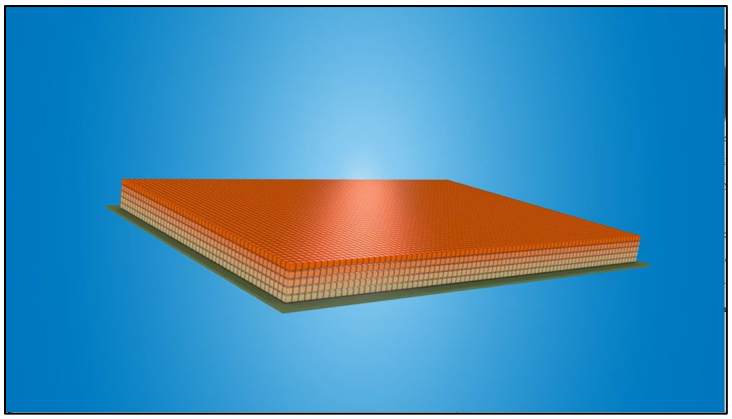
Cross Section of Intel’s 3D NAND Chip

62. The array of memory cells comprises a stackable add-on layer (annotated in blue). The memory array also has a plurality of vertically oriented semiconductor memory cells (examples annotated in purple):



Cross Section of Intel's 3D NAND Chip

63. Intel's marketing describes its 3D NAND technology as having "multiple layers" of memory cells that "are stacked up" to create more memory density.[24]

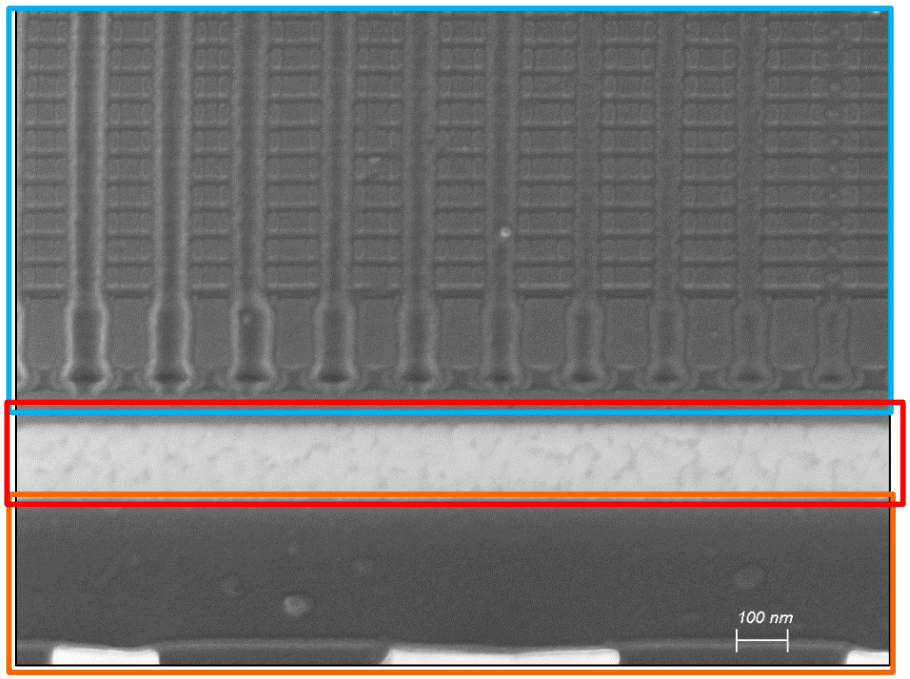


Intel 3D NAND Technology Video[25]

[24] Intel, *Intel 3D NAND Technology*, https://www.intel.com/content/www/us/en/products/docs/memory-storage/solid-state-drives/3d-nand-technology-animation.html (last visited Jan. 18, 2023) (at 0:36) ("Rather than a single layer of memory cells on a die, multiple layers are stacked up, creating more memory density. Just as the floors of a skyscraper allow for more population density in a smaller footprint, in 3D NAND, a stack of floors, or layers, are created to produce a die.").
[25] *Id.* (at 0:41).

64. The Intel Accused Products contain the stackable add-on layer being bonded to the dielectric layer. ’702 Patent, claim 13, element [13d].

65. The memory array (annotated in blue) comprising the stackable add-on layer in the Intel Accused Products is bonded to the dielectric layer (annotated in orange). The stackable add-on layer in the Intel Accused Products is bonded to the dielectric layer through a conductive plane (annotated in red):

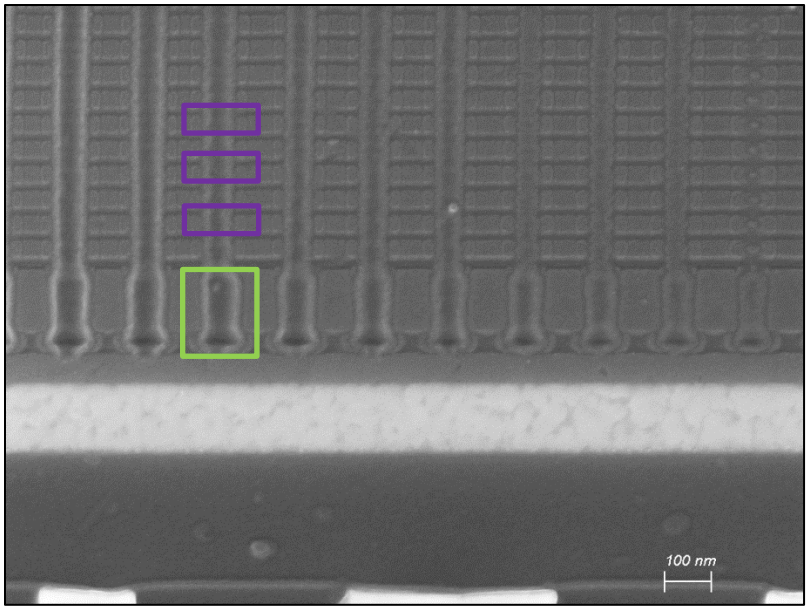


Cross Section of Intel’s 3D NAND Chip

66. The Intel Accused Products contain memory cells wherein the memory cells are nonvolatile memory cells having at least one transistor. ’702 Patent, claim 13, element [13e].

67. The memory cells in the Intel Accused Products are NAND cells, which are nonvolatile memory cells.

68. The nonvolatile memory cells (examples annotated in purple) have at least one transistor, such as the select gate source transistor (annotated in light green):



Cross Section of Intel's 3D NAND Chip

69. Accordingly, the Intel Accused Products contain each and every element in claim 13 of the '702 Patent.

70. Intel directly infringed alone or jointly, literally and/or under the doctrine of equivalents, because it made, used, offered for sale, sold, and/or imported the Intel Accused Products in the United States without BeSang's permission in violation of 35 U.S.C. § 271(a).

71. Intel indirectly infringed the '702 Patent because it has induced third parties, including customers, end users, computer manufacturers, data center operators, distributors, and/or retailers, to have made, use, offer for sale, sell, and/or import the Intel Accused Products without BeSang's permission in violation of 35 U.S.C. § 271(b).

72. Based on information and belief, third parties, including customers, end users, computer manufacturers, data center operators, distributors, and/or retailers, have directly infringed the '702 Patent by having made, using, offering for sale, selling, and/or importing the Intel Accused Products, including, for example, by manufacturing, configuring, using, and operating a device incorporating the Intel Accused Products.

73. Intel induced these third parties' direct infringement by advertising, encouraging, instructing, providing support for, and/or operating the Intel Accused Products for or on behalf of such third parties. For example, Intel publishes specifications, datasheets, instruction manuals, support materials, developer materials, marketing materials, and user guide materials that explain, advertise, instruct on, or provide support for the Intel Accused Products.

74. Intel took the above actions intending to cause infringing acts by these third parties.

75. If Intel did not know that the actions it encouraged constituted infringement of the '702 Patent, Intel was willfully blind as to its inducing infringement of others. Intel subjectively believed that there was a high probability that others would infringe the '702 Patent but took deliberate steps to avoid confirming that it was actively inducing infringement by others.

76. Intel knew of the '702 Patent before 2015. Intel was on notice of the '702 Patent before 2015.

77. Additionally, Intel has been on notice of the '702 Patent no later than the filing and service of this Complaint.

78. Intel has known that the acts complained of above constituted infringement of the '702 Patent, or at least should have known that its actions constituted an unjustifiably high risk of infringement, but took deliberate steps to avoid confirming the same.

79. BeSang has sustained damages owing to Intel's infringement of the '702 Patent.

80. Intel's infringement of the '702 Patent is exceptional and BeSang is entitled to recover reasonable attorneys' fees incurred in prosecuting this action in accordance with 35 U.S.C. § 285.

JURY DEMAND

Plaintiff hereby demands a trial by jury on all issues so triable.

PRAYER FOR RELIEF

WHEREFORE Plaintiff BeSang Inc. asks this Court for an order granting the following relief:

a. a judgment in favor of Plaintiff that Defendant has infringed, either literally and/or under the doctrine of equivalents, the ’702 Patent;

b. all equitable relief the Court deems just and proper as a result of Intel’s infringement;

c. a judgment and order finding that Defendant’s infringement has been willful;

d. a judgment and order requiring Defendant to pay Plaintiff its damages, costs, expenses, and any enhanced damages to which Plaintiff is entitled for Defendant’s infringement;

e. a judgment and order requiring Defendant to provide an accounting and to pay supplemental damages to Plaintiff, including without limitation, pre-judgment and post-judgment interest;

f. a judgment and order finding that this is an exceptional case within the meaning of 35 U.S.C. § 285 and awarding Plaintiff its reasonable attorneys’ fees against Defendant; and

g. any and all other relief as the Court may deem appropriate and just under the circumstances.

DATED: January 23, 2023

Respectfully submitted,

/s/ Susan D. Pitchford

Susan D. Pitchford (OSB No. 98091)
sdp@chernofflaw.com
CHERNOFF VILHAUER LLP
111 SW Columbia Street, Suite 725
Portland, OR 97201
Telephone: (503) 227-5631
Facsimile: (503) 228-4373

Bradley W. Caldwell (*pro hac vice* forthcoming)
bcaldwell@caldwellcc.com
Warren J. McCarty, III (*pro hac vice* forthcoming)
wmccarty@caldwellcc.com
Jason D. Cassady (*pro hac vice* forthcoming)
jcassady@caldwellcc.com
John Austin Curry (*pro hac vice* forthcoming)
acurry@caldwellcc.com
R. Seth Reich Jr. (*pro hac vice* forthcoming)
sreich@caldwellcc.com
James F. Smith (*pro hac vice* forthcoming)
jsmith@caldwellcc.com
Xu Zhou (*pro hac vice* forthcoming)
xzhou@caldwellcc.com
Bjorn A. Blomquist (*pro hac vice* forthcoming)
bblomquist@caldwellcc.com
CALDWELL CASSADY & CURRY P.C.
2121 N Pearl Street, Suite 1200
Dallas, TX 75201
Telephone: (214) 888-4848
Facsimile: (214) 888-4849

Attorneys for Plaintiff.