

**UNITED STATES INTERNATIONAL TRADE COMMISSION  
WASHINGTON, D.C.**

**In the Matter of**

**CERTAIN MAGNETORESISTIVE  
RANDOM ACCESS MEMORY (MRAM)  
DEVICES, PRODUCTS CONTAINING  
SAME AND COMPONENTS THEREOF**

**Investigation No. 337-TA-\_\_\_\_\_**

**VERIFIED COMPLAINT OF AVALANCHE TECHNOLOGY, INC.  
UNDER SECTION 337 OF THE TARIFF ACT OF 1930, AS AMENDED**

**COMPLAINANT**

Avalanche Technology, Inc.  
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**PROPOSED RESPONDENTS**

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## TABLE OF SUPPORTING MATERIALS

### EXHIBITS

<u>Exhibit No.</u>	<u>Description</u>
1.	Non-certified Copy of U.S. Patent No. 9,318,179
2.	Non-certified Copy of U.S. Patent No. 9,419,210
3.	Non-certified Copy of U.S. Patent No. 11,678,586
4.	Non-certified Copy of U.S. Patent No. 10,490,737
5.	Certified Copy of Patent Assignment Reel/Frame 59436/0203
6.	Certified Copy of Patent Assignment Reel/Frame 57213/0050
7.	Certified Copy of Patent Assignment Reel/Frame 57217/0674
8.	Certified Copy of Patent Assignment Reel/Frame 51930/0396
9.	Certified Copy of Patent Assignment Reel/Frame 53156/0223
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11.	Certified Copy of Patent Assignment Reel/Frame 35165/0586
12.	Non-certified Copy of Patent Assignment Reel/Frame 48466/0403
13.	Everspin Technologies, Inc. SEC 10-K Filing, dated December 31, 2024, available at <a href="https://investor.everspin.com/static-files/c954d86e-6a57-4f47-baa7-10a80a74ddce">https://investor.everspin.com/static-files/c954d86e-6a57-4f47-baa7-10a80a74ddce</a>
14.	List of Everspin Accused Products
15.	Everspin EXpanded Serial Peripheral Interface (xSPI) Industrial STT-MRAM Persistent Memory, EMxxLXB v1.6, available at <a href="https://www.everspin.com/sites/default/files/EMxxLXB%20Datasheet%20v1.6_0.pdf">https://www.everspin.com/sites/default/files/EMxxLXB%20Datasheet%20v1.6_0.pdf</a>
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17.	Everspin 256Mb ST-DDR3 Spin-transfer Torque MRAM, EMD3D256M08BS1/16BS1 Revision 1.3 10/2018, available at

- [https://www.everspin.com/sites/default/files/EMD3D256MxxBS1\\_datasheet\\_v1.0\\_020918.pdf](https://www.everspin.com/sites/default/files/EMD3D256MxxBS1_datasheet_v1.0_020918.pdf)
18. Everspin 1Gb Non-Volatile ST-DDR4 Spin-transfer Torque MRAM, EMD4E001GAS2 Revision 1.3 10/2022, available at [https://www.everspin.com/sites/default/files/EMD4E001GAS2\\_1.3\\_10102022.pdf](https://www.everspin.com/sites/default/files/EMD4E001GAS2_1.3_10102022.pdf)
  19. Everspin EXpanded Serial Peripheral Interface (xSPI) Industrial STT-MRAM Persistent Memory, EMxxLX v3.4, available at <https://www.everspin.com/supportdocs/EM064LXQADG13CS1T?npath=3843>
  20. Everspin Intel FPGA Based EMxxLX Evaluation Platform User Guide, November 2023 v1.3
  21. Everspin AMD (Xilinx) FPGA based EMxxLX Evaluation Platform User Guide, November 2023 v1.1
  22. Everspin AXE5 Eagle Intel FPGA Based EMxxLX Evaluation Platform User Guide, November 2024 v1.0
  23. Everspin CYC5000 Intel FPGA Based EMxxLX Evaluation Platform User Guide, November 2024 v1.0
  24. MA\_EDB Certus Pro NX Educational Board Hardware Manual
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  28. U.S. Patent No. 11,678,586 Infringement Claim Chart
  29. U.S. Patent No. 10,490,737 Infringement Claim Chart
  30. Mouser Electronics Invoice, dated 3/7/2025
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  33. DigiKey Invoice, dated 3/11/2025
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36. Images of 1st Gen IBM FlashCore Module
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38. Ebay Order Information, dated 8/28/2025
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40. Everspin Investor Presentation December 2025
41. Company Interview – Everspin Technologies, Inc., dated 7/13/2020
42. GlobalFoundries Inc. SEC Form 20-F, dated December 31, 2024
43. Everspin Spin-transfer Torque MRAM Technology, available at <https://www.everspin.com/spin-transfer-torque-mram-technology>
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45. Everspin PERSYST xSPI for Industrial IoT and Embedded Systems, available at <https://www.everspin.com/persyst-xspi-industrial-iot-and-embedded-systems>
46. MRAM-info, Leading the Charge in MRAM: An Interview with Everspin's CEO, dated September 4, 2024, available at <https://www.mram-info.com/leading-charge-mram-interview-everspins-ceo>
47. CONFIDENTIAL - U.S. Patent No. 9,318,179 Domestic Industry Claim Chart
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49. CONFIDENTIAL - U.S. Patent No. 11,678,586 Domestic Industry Claim Chart
50. CONFIDENTIAL - U.S. Patent No. 10,490,737 Domestic Industry Claim Chart
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69. R.A. Duine, Kyung-Jin Lee, Stuart S.P. Parkin, and M.D. Stiles, "Synthetic antiferromagnetic spintronics," *Nature Physics*, Volume 14, Issue 3, pp. 217–219 (2018). <https://doi.org/10.1038/s41567-018-0050-y>.

70. Cross-sectional Transmission Electron Microscope image of Everspin's Part No. EM064LXQADG13IS1T, 5 nm
71. Yi Liu, Jiangang Yu, Huicai Zhong, "Strong antiferromagnetic interlayer exchange coupling in [Co/Pt]/Ru/[Co/Pt] structures with perpendicular magnetic anisotropy," Journal of Magnetism and Magnetic Materials, Volume 473, pp. 381-386 (March 2019).
72. Avalanche Datasheet: High Performance Serial Persistent SRAM Memory (AS1004204, AS1008204, AS1016204, AS3004204, AS3008204, AS3016204), Revision T
73. 3 Key things to know about STT-MRAM-#1 What is it?, available at <https://www.avalanche-technology.com/key-things-to-know-about-stt-mram-what-is-it/>
74. CONFIDENTIAL - Group 1 (process flow)
75. CONFIDENTIAL - Group 2 (process flow)
76. CONFIDENTIAL - Group 3 (process flow)
77. Yiming Huai, Huadong Gan, & Zihui Wang, et al., "High performance perpendicular magnetic tunnel junction with Co/Ir interfacial anisotropy for embedded and standalone STT-MRAM applications," Applied Physics Letters, Volume 112, Issue 9, pp. 092402-3 (2018). <https://doi.org/10.1063/1.5018874>.
78. Avalanche Datasheet: Space Grade Parallel Persistent SRAM Memory (AS301GB32, AS304GB32), Revision X

## APPENDICIES

<u>Appendix Item</u>	<u>Description</u>
A.	Certified Copy of Prosecution History of U.S. Patent No. 9,318,179
B.	Certified Copy of Prosecution History of U.S. Patent No. 9,419,210
C.	Certified Copy of Prosecution History of U.S. Patent No. 11,678,586
D.	Non-certified Copy of Prosecution History of U.S. Patent No. 10,490,737
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F.	Prosecution History of Priority Provisional Application No. 61/483,314 for U.S. Patent No. 10,490,737 and U.S. Patent No. 11,678,586
G.	Prosecution History of Priority Provisional Application No. 61/138,493 for U.S. Patent No. 11,678,586
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## I. INTRODUCTION

1. Complainant Avalanche Technology, Inc. (“Avalanche” or “Complainant”) respectfully requests that the United States International Trade Commission institute an investigation pursuant to Section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337, to remedy the unlawful importation into the United States, sale for importation into the United States, and/or sale within the United States after importation by the owner, importer, or consignee (or agents thereof), of certain Magnetoresistive Random Access Memory (MRAM) devices, products containing the same, and components thereof that infringe valid and enforceable patents owned by Avalanche.

2. Proposed Respondent Everspin Technologies, Inc. (“Everspin”) has engaged in unfair acts in violation of Section 337 through and in connection with the unlicensed importation into the United States, sale for importation into the United States, and/or sale within the United States after importation of certain MRAM devices, products containing the same, and components thereof that infringe certain claims of U.S. Patent No. 9,318,179 (“the 179 Patent”), U.S. Patent No. 9,419,210 (“the 210 Patent”), U.S. Patent No. 11,678,586 (“the 586 Patent”), and U.S. Patent No. 10,490,737 (“the 737 Patent”) (collectively “the Asserted Patents”). Respondent’s products infringe the claims of the Asserted Patents as follows:

U.S. Patent No	Asserted Claims
U.S. Patent No. 9,318,179	1, 2, 3, 4, 6, 9, 10, 11, 12, 13, 14
U.S. Patent No. 9,419,210	1, 2, 3, 4, 6, 9, 10, 11, 12, 13, 14
U.S. Patent No. 11,678,586	1, 4, 5, 6, 7, 10, 11, 12
U.S. Patent No. 10,490,737	11, 12, 13, 14, 15, 17, 18

3. Non-certified copies of each of the Asserted Patents are attached as **Exhibits 1-4**.<sup>1</sup> Avalanche owns all right, title, and interest in the Asserted Patents. Certified copies of the recorded assignments for each of the Asserted Patents (where available) are attached as **Exhibits 5-11** and a non-certified copy of the recorded assignment for Patent Assignment Reel/Frame 48466/0403 is attached as **Exhibit 12**. Certified copies of the prosecution histories for the 179, 210, and 586 Patents and a non-certified copy of the prosecution history for the 737 Patent are attached as **Appendices A-D**.

4. Avalanche seeks as relief, a permanent limited exclusion order barring from entry into the United States certain MRAM devices, products containing same, and components thereof that have been or would be imported into the United States, sold for importation into the United States, and/or sold within the United States after importation by or on behalf of Respondent Everspin. Avalanche also seeks as relief, a permanent cease and desist order prohibiting the importation, sale, offer for sale, advertising, marketing, distribution, or the solicitation of any sale by Respondent of certain MRAM devices, products containing same, and components thereof that infringe one or more of the Asserted Patents.

5. As further set forth below, pursuant to Commission Rule 210.12(a)(6)(i), a domestic industry as defined in 19 U.S.C. § 1337(a)(1)(2) and (3) exists in the United States as the result of Avalanche's domestic activities related to the technology of the Asserted Patents and products that practice the Asserted Patents.

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<sup>1</sup> Avalanche has ordered certified copies of the patents-in-suit, recorded assignments, and prosecution histories. Avalanche has received only the certified copies of the prosecution histories for the 179, 210, and 586 Patents and all certified copies of the recorded assignments for the 179, 210, and 586 Patents. Avalanche will submit the remaining certified versions of these documents as soon as they are received.

## II. COMPLAINANT

6. Complainant Avalanche is a pioneer in the development of STT-MRAM technology. Avalanche was incorporated in Delaware in 2006, and its headquarters and operating facility are at 3450 West Warren Avenue in Fremont, California, 94538 (“Fremont”). Through its facilities and employees in Fremont, Avalanche designs, develops, and commercializes novel, high-performance, STT-MRAM devices for the industrial and aerospace/defense markets. The company’s revolutionary perpendicular magnetic tunnel junction (pMTJ) MRAM devices are engineered for fast write speeds, high endurance, low power, and long data retention. Avalanche’s standalone STT-MRAM devices combine persistence, speed, and endurance in a single memory solution while its embedded MRAM products allow MRAM to be integrated directly into systems on chip (“SoCs”) and microcontrollers, eliminating the need for separate Flash or EEPROM devices, providing lower cost, improved power efficiency, and simpler design processes.

7. Avalanche’s state of the art STT-MRAM product portfolio spans industrial temperature ranges through automotive qualification and into radiation-tolerant space applications, allowing its patented technology to be used across diversified platforms and include radiation tolerances suitable for low and medium earth orbits missions, geostationary orbit missions, and high-altitude avionics. Avalanche’s Space-grade products deliver solutions that meet all five criteria required for space missions: “Survive. Retain. Endure. Commit. Proven.” Avalanche’s Space-grade products are used in spacecraft command-and-data-handling (C&DH) processors, payload data processing units, and solid-state data recorders.

8. Avalanche’s STT-MRAM products also provide the ability to remove batteries and supercapacitors from the memory subsystems, enabling simpler board designs and improved reliability. Avalanche’s STT-MRAM technology is the frontrunner to replace traditional Flash

and SRAM for unified memory architectures in future SoCs, delivering high performance and low power with a path to continued scalability.

### **III. THE PROPOSED RESPONDENTS**

9. On information and belief, Everspin Technologies, Inc. is Delaware corporation, with its principal place of business at 5670 W. Chandler Boulevard, Chandler, Arizona, 85226. Everspin commercializes Magnetoresistive Random Access Memory (MRAM) products including STT-MRAM.

10. According to its SEC form 10-K for the fiscal year ending December 31, 2024 (**Exhibit 13**), Everspin manufactures its MRAM products including the Accused STT-MRAM Products, using both captive and third-party manufacturing capabilities by purchasing complementary metal-oxide semiconductor (CMOS) wafers from semiconductor foundries overseas and then performing back end of line (BEOL) processing at its facility in Chandler, Arizona. **Ex. 13** at 4.

11. As set forth below, on information and belief, Everspin imports into the United States, sells for importation into the United States, and/or sells within the United States after importation, STT-MRAM products and MRAM devices, products containing same, and components thereof that infringe the Asserted Patents.

### **IV. THE TECHNOLOGY AND PRODUCTS AT ISSUE**

12. Pursuant to 19 C.F.R. § 210.12(a)(12), the category of products accused are memory chips utilizing Spin Transfer Torque Magnetic Random Access Memory (“STT-MRAM”) technology, a form of non-volatile memory which relies on the magnetic orientation of magnetic tunnel junction (MTJ) cells to store individual bits of data. Also accused are products containing these STT-MRAM devices and components thereof, such as wafer dies comprising the MTJs, which are the core of an STT-MRAM device.

13. Complainant currently accuses the following families of Everspin products (collectively “Everspin Accused Products”) that practice the technology claimed by the Asserted Patents: PERSYST xSPI Octal Interface MRAM devices, PERSYST xSPI Quad Interface MRAM devices, and STT-DDR devices. These product families include various generations, memory sizes, and configurations. Upon information and belief, all Everspin Accused Products are configured and operate in substantially the same way with respect to the Asserted Patents, and all Everspin Accused Products infringe each of the Asserted Patents. The list of Everspin Accused Products and corresponding Everspin part numbers is provided as **Exhibit 14**. Exemplary manuals and technical materials for the Everspin Accused Products are included as **Exhibits 15-24**.

14. Avalanche has diligently endeavored to provide a complete list of the infringing Everspin products in this Complaint. However, without discovery, Avalanche cannot exhaustively identify all devices sold for importation into the United States, imported, and/or sold within the United States after importation that infringe or are used to infringe the Avalanche Asserted Patents. Avalanche reserves its right to supplement its allegations and/or its contentions to add accused products in the future if necessary.

## **V. THE PATENTS-IN-SUIT AND NON-TECHNICAL DESCRIPTION OF THE INVENTIONS**

### **A. Overview and Ownership of the Asserted Patents**

15. U.S. Patent No. 9,318,179 is entitled “Spin-Transfer Torque Magnetic Random Access Memory with Perpendicular Magnetic Anisotropy Multilayers” and names Yiming Huai, Jing Zhang, Rajiv Yadav Ranjan, Yuchen Zhou, and Roger Klas Malmhall as inventors. A non-certified copy of the 179 Patent is attached as **Exhibit 1**. As required by Commission Rule 210.12(a)(9)(i), a certified copy of the 179 Patent has been ordered, and once received, will be

substituted for the attached non-certified copy. The 179 Patent issued on April 19, 2016, based on U.S. App. No. 14/657,608; filed March 13, 2015. The 179 Patent was previously published as U.S. Patent Pub. No. 2015/0188036 on July 2, 2015. The 179 Patent claims priority to U.S. Provisional Application No. 61/382,815, filed on September 14, 2010. The 179 Patent expires on September 2, 2031.

16. The 179 Patent contains 20 claims, including 1 independent claim and 19 dependent claims. The claims of the 179 Patent are valid, enforceable, and currently in full force and effect.

17. Avalanche owns by assignment the entire right, title, and interest to and in the 179 Patent. As required by Commission Rule 210.12(a)(9)(ii), certified copies of the assignment records for the 179 Patent are attached as **Exhibits 5-11**.

18. As required by Commission Rule 210.12(c)(1), Avalanche has filed a certified copy of the prosecution history of the 179 Patent as **Appendix A**. Avalanche has also filed as **Appendix E** the prosecution history of priority provisional application No. 61/382,815 leading to the issuance of the 179 Patent and as **Appendix H** the prosecution history of the priority application for the 179 Patent.

19. U.S. Patent No. 9,419,210 is entitled “Spin-Transfer Torque Magnetic Random Access Memory with Perpendicular Magnetic Anisotropy Multilayers” and names Yiming Huai, Jing Zhang, Rajiv Yadav Ranjan, Yuchen Zhou, and Roger Klas Malmhall as inventors. A non-certified copy of the 210 Patent is attached as **Exhibit 2**. As required by Commission Rule 210.12(a)(9)(i), a certified copy of the 210 Patent has been ordered, and once received, will be substituted for the attached non-certified copy. The 210 Patent issued on August 16, 2016, based on U.S. Application No. 15/072,254, filed March 16, 2016. The 210 Patent was previously

published as U.S. Patent Pub. No. 2016/0197269 on July 7, 2016. The 210 Patent claims priority to U.S. Provisional Application No. 61/382,815, filed September 14, 2010. The 210 Patent expires on September 2, 2031.

20. The 210 Patent contains 20 claims, including 1 independent claim and 19 dependent claims. The claims of the 210 Patent are valid, enforceable, and currently in full force and effect.

21. Avalanche owns by assignment the entire right, title, and interest to and in the 210 Patent. As required by Commission Rule 210.12(a)(9)(ii), certified copies of the assignment records for the 210 Patent are attached as **Exhibits 5-11**.

22. As required by Commission Rule 210.12(c)(1), Avalanche has filed a certified copy of the prosecution history of the 210 Patent as **Appendix B**. Avalanche has also filed as **Appendix E** the prosecution history of priority provisional application No. 61/382,815 leading to the issuance of the 210 Patent and as **Appendices H through I** the prosecution histories of priority applications for the 210 Patent.

23. U.S. Patent No. 11,678,586 is entitled “Memory System Having Thermally Stable Perpendicular Magneto Tunnel Junction (MTJ) and a Method of Manufacturing Same” and names Yiming Huai, Yuchen Zhou, Jing Zhang, Roger Klas Malmhall, Ioan Tudosa, and Rajiv Yadav Ranjan as inventors. A non-certified copy of the 586 Patent is attached as **Exhibit 3**. As required by Commission Rule 210.12(a)(9)(i), a certified copy of the 586 Patent has been ordered, and once received, will be substituted for the attached non-certified copy. The 586 Patent issued on June 13, 2023, based on U.S. Application No. 13/737,897, filed January 9, 2013. The 586 Patent was previously published as U.S. Patent Pub. No. 2013/0119498 on May 16, 2013 and as U.S. Patent Pub. No. 2019/0148622 on May 16, 2019. The 586 Patent claims

priority to U.S. Provisional Application No. 61/483,314, filed on May 6, 2011, and U.S. Provisional Application No. 61/138,493, filed on December 17, 2008. The 586 Patent expires on July 10, 2029.

24. The 586 Patent contains 13 claims, including 3 independent claims and 10 dependent claims. The claims of the 586 Patent are valid, enforceable, and currently in full force and effect.

25. Avalanche owns by assignment the entire right, title, and interest to and in the 586 Patent. As required by Commission Rule 210.12(a)(9)(ii), certified copies of the assignment records for the 586 Patent are attached as **Exhibits 5-10**.

26. As required by Commission Rule 210.12(c)(1), Avalanche has filed a certified copy of the prosecution history of the 586 Patent as **Appendix C**. Avalanche has also filed as **Appendices F and G** the prosecution history of priority provisional application No. 61/483,314 and No. 61/138,493, respectively, leading to the issuance of the 586 Patent and as **Appendices J through O** the prosecution histories of priority applications for the 586 Patent.

27. U.S. Patent No. 10,490,737 is entitled “Magnetic memory element including magnesium perpendicular enhancement layer” and names Zihui Wang and Yiming Huai as inventors. A non-certified copy of the 737 Patent is attached as **Exhibit 4**. As required by Commission Rule 210.12(a)(9)(i), a certified copy of the 737 Patent has been ordered, and once received, will be substituted for the attached non-certified copy. The 737 Patent issued on November 26, 2019, based on U.S. App. No. 16/287,974, filed February 27, 2019. The 737 Patent was previously published as U.S. Patent Pub. No. 2019/0198752 on June 27, 2019. The 737 Patent claims priority to U.S. Provisional Application No. 61/483,314, filed on May 6, 2011,

and U.S. Provisional Application No. 61/382,815, filed on September 14, 2010. The 737 Patent expires on December 10, 2030.

28. The 737 Patent contains 26 claims, including 3 independent claim and 23 dependent claims. The claims of the 737 Patent are valid, enforceable, and currently in full force and effect.

29. Avalanche owns by assignment the entire right, title, and interest to and in the 737 Patent. Certified copies (where available) of the assignment records for the 737 Patent are attached as **Exhibits 5-9** and a non-certified copy of Patent Assignment Reel/Frame 48466/0403 is attached as (**Exhibit 12**). As required by Commission Rule 210.12(a)(9)(ii), a certified copy of Patent Assignment Reel/Frame 48466/0403 for the 737 Patent have been ordered, and once received, will be substituted for the attached non-certified copies.

30. Avalanche has filed a non-certified copy of the prosecution history of the 737 Patent as **Appendix D**. As required by Commission Rule 210.12(c)(1), a certified copy of the prosecution history of the 737 Patent has been ordered, and once received, will be substituted for the attached non-certified copy. Avalanche has also filed as **Appendices E and F** the prosecution history of priority provisional application No. 61/382,815 and No. 61/483,314, respectively, leading to the issuance of the 737 Patent and as **Appendices H through K and P through W** the prosecution histories of priority applications for the 737 Patent.

## **B. Non-Technical Description of 179 Patent<sup>2</sup>**

31. The 179 Patent is directed to a novel spin-transfer torque magnetic random access memory (STT-MRAM) element “having magnetic tunnel junctions (MTJs) with ferromagnetic multilayers whose magnetization is oriented perpendicular to the plane of the substrate, and having lower programming current density while maintaining higher thermal stability.” 179 Patent at 1:24-30. STT-MRAM is a non-volatile memory type that uses the magnetic orientation of electrons, rather than electric charge, to store data. It works by passing current through a Magnetic Tunnel Junction (“MTJ”) — a tiny structure comprising at least two ferromagnetic metal layers separated by a thin insulating barrier, to flip the magnetic state of a “free layer” in the MTJ from one direction to another, each direction representing a '0' or '1'.

32. The inventions of the 179 Patent address limitations with other types of prior inferior MRAM devices and also prior inferior implementations of STT-MRAM. For example, the patent recognizes that the problems with magnetic-field-switched MRAM devices, one type of MRAM, include that they require high write currents, have complex cell architectures, and exhibit poor scalability. *Id.* at 1:42-46. STT-MRAM technology overcomes these hurdles by directly passing a current through the MTJ, resulting in a lower required switching current, smaller size, reduced manufacturing costs, and simpler cell architecture. *Id.* at 1:50-56.

33. An important challenge in implementing STT-MRAM is reducing the current required to switch the magnetization of the free layer while maintaining high thermal stability, which is a requirement for reliable data retention. *Id.* at 1:56-60. Prior art STT-MRAM relied on

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<sup>2</sup> All non-technical descriptions of the Asserted Patents are presented to provide a general background of the claimed inventions. Such statements are not intended to be used, nor should be used, for purposes of patent claim interpretation. Avalanche presents these statements subject to, and without waiver of, its right to argue that claim terms should be construed in a particular way, as contemplated by claim interpretation jurisprudence and the relevant evidence.

Cobalt/Iron/Boron alloys as the “free” magnetic layer, which intrinsically provide a degree of “perpendicular anisotropy” — a property in thin magnetic films where the magnetic orientation naturally tends to align perpendicular (out-of-plane) to the film's surface, rather than in-plane (parallel with the surface). *Id.* at 2:6-21. However, a single magnetic layer presents problems. If the layer is too thin it may become superparamagnetic and unstable. *Id.* at 2:21-22. If the layer is too thick, the anisotropy can become in-plane rather than perpendicular and can also affect thermal stability. *Id.* at 2:22-24.

34. The inventions claimed in the 179 Patent are intended to address these problems by providing an MTJ that can be manufactured simply and provides reduced switching current and greater thermal stability. *Id.* at 2:32-41.

35. The 179 Patent inventions address these issues by, *inter alia*, disclosing and claiming an improved STT-MRAM with MTJs that have a composite free layer made up of one or more repeats of a bilayer unit comprising a nonmagnetic insulating layer and an iron-rich ferromagnetic layer. *Id.* at Abstract. The novel multilayer stacked approach enhances anisotropy by leveraging multiple interfaces, enabling lower switching current density while sustaining high thermal stability. *See, e.g., id.* at 3:45-54. In addition, the 179 Patent inventions disclose and claim a magnetic pinned layer (which can also comprise one or more bilayer units) and a tunnel barrier layer formed between the composite free layer and the magnetic pinned layer, as well as a magnetic fixed layer that is coupled to the magnetic pinned layer through an anti-ferromagnetic coupling layer. *See, e.g., id.* at 7:18-29. This magnetic fixed layer has a second fixed magnetization direction that is substantially perpendicular to a layer plane thereof and is substantially opposite to the fixed magnetization direction of the magnetic pinned layer. *Id.* The 179 Patent further describes and claims that the bilayer structure of the free layer and the pinned

layer can further include another layer — a “(boron) absorption layer” that can capture boron atoms diffusing from the CoFeB layers. This absorption layer can help make “multi-layer perpendicular anisotropy more thermally stable and helps produce higher effective perpendicular anisotropy in the magnetic layer.” *Id.* at 4:20-29.

36. By introducing multilayer stacks with interfacial anisotropy, the claimed STT-MRAM elements provide significantly reduced switching current density while maintaining high thermal stability suitable for reliable STT-MRAM products. *See, e.g., id.* at 3:45-54. These implementations were new and not well-known, routine, or conventional at the time of the 179 Patent inventions. The 179 Patent provides technical—not merely conceptual—solutions to recognized, but unsolved STT-MRAM implementation issues.

### **C. Non-Technical Description of 210 Patent**

37. The 210 Patent, which is a continuation of the 179 Patent, relates to a “spin transfer torque (STT) magnetic random access memory (MRAM), and, more particularly, to an STTMRAM element having magnetic tunnel junctions (MTJs) with ferromagnetic multilayers whose magnetization is oriented perpendicular to the plane of the substrate, and having lower programming current density while maintaining higher thermal stability.” 210 Patent at 1:28-34.

38. The inventions of the 210 Patent address limitations with other types of prior inferior MRAM devices and also prior inferior implementations of STT-MRAM. For example, the patent recognizes that the problems with magnetic-field-switched (toggle) MRAM devices, one type of MRAM, include that they require high write currents, have complex cell architectures, and exhibit poor scalability. *Id.* at 1:44-50. STT-MRAM technology overcomes these hurdles by directly passing a current through the MTJ, resulting in a lower required switching current, smaller size, reduced manufacturing costs, and simpler cell architecture. *Id.* at 1:50-56.

39. An important challenge in implementing STT-MRAM is reducing the current required to switch the magnetization of the free layer while maintaining high thermal stability, which is a requirement for reliable data retention. *Id.* at 1:56-60. Prior art STT-MRAM relied on Cobalt/Iron/Boron alloys as the “free” magnetic layer, which intrinsically provide a degree of “perpendicular anisotropy” - a property in thin magnetic films where the magnetic orientation naturally tends to align perpendicular (out-of-plane) to the film's surface, rather than in-plane (parallel with the surface). *Id.* at 2:22-25. However, a single magnetic layer presents problems. If the layer is too thin it may become superparamagnetic and unstable. *Id.* at 2:21-22. If the layer is too thick, the anisotropy can become in-plane rather than perpendicular and can also affect thermal stability. *Id.* at 2:25-28.

40. The inventions claimed in the 210 Patent are intended to address these problems by providing an MTJ that can be manufactured simply and provides reduced switching current and greater thermal stability. *Id.* at 2:39-45.

41. The 210 Patent inventions address these issues by, *inter alia*, disclosing and claiming an improved STT-MRAM with MTJs that have a composite free layer made up of one or more repeats of a bilayer unit comprising a nonmagnetic insulating layer and an iron-rich ferromagnetic layer. The novel multilayer stacked approach enhances anisotropy by leveraging multiple interfaces, enabling lower switching current density while sustaining high thermal stability. *See, e.g., id.* at 3:45-54. In addition, the 210 Patent inventions disclose and claim a magnetic pinned layer which can also comprise one or more bilayer units, and a tunnel barrier layer formed between the composite free layer and the magnetic pinned layer, as well as a magnetic fixed layer that is coupled to the magnetic pinned layer through an anti-ferromagnetic coupling layer. *See, e.g., id.* at 7:18-29. This magnetic fixed layer has a second fixed

magnetization direction that is substantially perpendicular to a layer plane thereof and is substantially opposite to the fixed magnetization direction of the magnetic pinned layer. *Id.* The 210 Patent further describes and claims that the bilayer structure of the free layer and the pinned layer can further include another layer – a “boron absorption layer” that can capture boron atoms diffusing from the CoFeB layers. This absorption layer can help make “multi-layer perpendicular anisotropy more thermally stable and helps produce higher effective perpendicular anisotropy in the magnetic layer.” *Id.* at 4:20-30.

42. By introducing multilayer stacks with interfacial anisotropy, the claimed STT-MRAM elements provide significantly reduced switching current density while maintaining high thermal stability suitable for reliable STT-MRAM products. *See, e.g., id.* at 3:45-54. These implementations were new and not well-known, routine, or conventional at the time of the 210 Patent inventions. The 210 Patent provides technical—not merely conceptual—solutions to recognized, but unsolved STT-MRAM implementation issues.

#### **D. Non-Technical Description of 586 Patent**

43. The 586 Patent describes and claims further improvements to a “memory system having spin transfer torque (STT) switched magneto tunnel junctions (MTJs).” 586 Patent at 1:24-31. In particular, the 586 Patent further addresses the limitations in prior art STT-MRAM chips with perpendicular magnetic tunnel junctions (pMTJs) – *i.e.*, where the magnetization orientation of the MTJ is perpendicular to the material layers of the MTJ. As the 586 Patent recognizes, one of the challenges with implementing STT-MRAM is the desirability of reducing the current required “to switch the magnetization of the free layer while maintaining high thermal stability, which is required for long-term data retention.” *Id.* at 2:1-5. The inventors recognized that although perpendicular anisotropy in MTJs –a property in thin magnetic films where the magnetic orientation naturally tends to align perpendicular (out-of-plane) to the film's

surface, rather than in-plane (parallel with the surface) –is an effective way to lower switching current and maintain high magnetic thermal stability, there were known limits with this approach. *Id.* at 2:16-19. For example, integrating conventional perpendicular anisotropy materials, such as FePt, introduced high magnetic damping which leads to undesirably high switching current density. *Id.* at 2:20-22. Also, during manufacturing, conventional MTJs required higher temperatures, which could degrade performance and make the process of fabricating the MTJ layers more demanding and complicated. *Id.* at 2:22-28.

44. To address these problems, the 586 Patent discloses and claims an STT-MRAM element with a novel perpendicular MTJ architecture and manufacturing methodology that enables an STT-MRAM with reduced effective damping, enhanced perpendicular anisotropy, and increased performance without resorting to high-temperature processing. *See, e.g., id.* at 2:40-56. The novel structure of the STT-MRAM element of the claimed invention includes a free layer architecture comprising two ferromagnetic free sub-layers with perpendicular magnetic anisotropy, separated by a thin perpendicular enhancement layer (PEL) which enhances perpendicular anisotropy, magnetic stiffness, and favorable crystalline texture while reducing damping. *See, e.g., id.* at 5:4-28. The novel structure of the claimed element further includes a reference (pinned) layer that comprises perpendicular reference sub-layers separated by a second PEL, as well as a third reference sub-layer on the opposite side of the spacer which carries magnetization opposite to the first reference sub-layer, canceling net dipolar fields on the free layer and enabling symmetric, low-power switching. *See, e.g., id.* at 5:4-28, 6:49-63.

45. Collectively, these novel features lower switching current density by reducing effective damping and optimizing perpendicular anisotropy, while preserving or improving thermal stability and performance for the STT-MRAM element.

### **E. Non-Technical Description of 737 Patent**

46. The 737 Patent describes and claims further improvements to a “magnetic random access memory (MRAM) device, and more particularly, to a spin transfer torque MRAM device including at least a perpendicular enhancement layer in its memory element.” 737 Patent at 2:8-11.

47. The patent recognizes that one of the advantages with STT-MRAM over other types of non-volatile memories is its scalability, *i.e.*, the ability to reduce the size of each individual memory unit, which enables denser and larger memory sizes. *Id.* at 2:64-65. As the size of the perpendicular magnetic tunneling junction (MTJ) is reduced, so is the current required to switch the magnetization direction, thus reducing power consumption. However, this reduction in size also degrades the thermal stability of the magnetic layers required for data retention. *Id.* at 2:65-3:5.

48. Thus, the inventors recognized a need for an “STT-MRAM device that has a thermally stable perpendicular MTJ memory element and that can be inexpensively manufactured.” *Id.* at 3:6-9. The patented inventions disclose an STT-MRAM element having a MTJ structure “formed between an optional seed layer and an optional cap layer. The MTJ structure comprises a magnetic free layer structure and a magnetic reference layer structure with an insulating tunnel junction layer interposed therebetween, and a magnetic fixed layer separated from the magnetic reference layer structure by an anti-ferromagnetic coupling layer.” *Id.* at 3:16-24. The patent discloses that the magnetic free layer structure “may comprise one or more magnetic free layers having a same variable magnetization direction perpendicular to the layer planes thereof.” *Id.* at 3:25-27. The 737 Patent further discloses that the seed layer can “facilitate the optimal growth of magnetic layers formed thereon to increase perpendicular anisotropy,” and serve as a bottom electrode to the MTJ. *Id.* at 7:30-36.

**F. Foreign and Domestic Counterparts to the Asserted Patents**

49. Pursuant to Commission Rule 210.12(a)(9)(v), there are no foreign patents, foreign patent applications (not already issued as a patent), or foreign or domestic patent applications that have been denied, abandoned or withdrawn, corresponding to the 179 Patent. There is one domestic continuation-in-part patent application 18/927,997 that is a Docketed New Case.

50. There are no foreign patents, foreign or domestic patent applications (not already issued as a patent), or foreign or domestic patent applications that have been denied, abandoned or withdrawn, corresponding to the 210 Patent.

51. There are no foreign patents, foreign or domestic patent applications (not already issued as a patent), foreign patent applications that have been denied, abandoned or withdrawn, or domestic patent applications that have been denied or withdrawn, corresponding to the 586 Patent. There has been one domestic divisional patent application 13/277,187 that was abandoned.

52. There are no foreign patents, foreign or domestic patent applications (not already issued as a patent), foreign patent applications that have been denied, abandoned or withdrawn, or domestic patent applications that have been denied or withdrawn, corresponding to the 737 Patent. There has been one domestic continuation-in-part patent application 13/277,187 that was abandoned.

**G. Licenses to the Asserted Patents**

53. Pursuant to Commission Rule 210.12(a)(9)(iii), Avalanche has attached as Confidential **Exhibit 25** a list that identifies certain entities who have obtained licenses to the Asserted Patents. The Everspin Accused Products and features identified in the claim charts of **Exhibits 26-29** are not covered by any Avalanche license.

## VI. UNLAWFUL AND UNFAIR ACTS OF PROPOSED RESPONDENTS

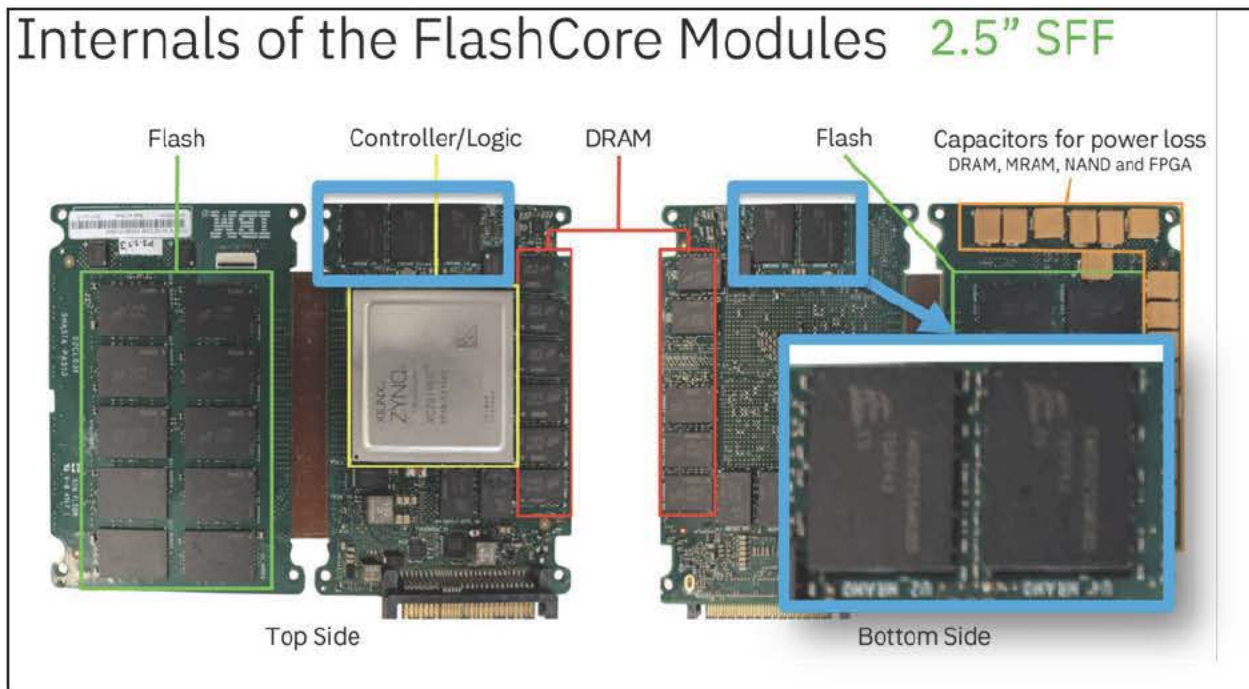
### A. Specific Instances of Unfair Importation and Sale

54. On information and belief, the Everspin STT-MRAM devices, wafers containing those devices and/or components thereof are manufactured overseas and then sold for importation into the United States by Everspin or on its behalf, imported into the United States by Everspin or on its behalf, and/or sold in the United States after importation by Everspin or on its behalf.

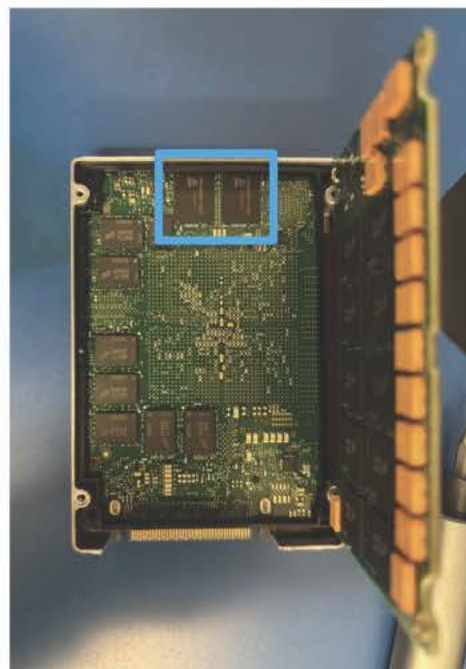
55. For example, the Everspin 64Mb STT-MRAM device, Everspin's Part No. EM064LXQADG13IS1T, was purchased from third party retailer Mouser Electronics on March 6, 2025, for shipment to Fremont, CA. **Ex. 30** (3/6/2025 Mouser Electronics Invoice). The invoice for the purchased Everspin 64Mb STT-MRAM devices indicates that the products were imported into the United States. As shown in **Ex. 30**, the purchased Everspin 64Mb STT-MRAM devices' Country of Origin ("COO:") is Taiwan ("TW"). Further, all Everspin products include a trace code that identifies the assembly location and the date of manufacture. **Ex. 31** (10/20/2021 Everspin Product and Process Change Notice) at 1. Notably, all assembly locations for Everspin's CMOS wafer fab suppliers are outside the United States (i.e., Thailand, China, Philippines, and Taiwan). **Ex. 31** at 1. This trace code also denotes the wafer fabrication supplier for all products manufactured after at least January 18, 2022. *Id.* As shown in **Exhibit 32** (Image of Everspin 64Mb STT-MRAM device), the Everspin 64Mb STT-MRAM device trace code indicates it was assembled on the 10<sup>th</sup> work week ("FS182310") of 2023 ("FS182310"), in Taiwan ("F2182310"). *See Ex. 31* at 1 (indicating "Assembly Location Code" "S = OSE – Taiwan"). Thus, the invoice and trace code information show that Respondent imports the product, sells it for importation, and/or sells it within the United States after importation.

56. As another example, an Everspin 32Mb STT-MRAM device, Everspin's Part No. EM032LXQADG13IS1T, was purchased from third party retailer DigiKey on March 11, 2025, for shipment to Alamo, CA. **Ex. 33** (3/11/2025 DigiKey Invoice). The invoice for the purchased Everspin 32Mb STT-MRAM devices indicates that the products were imported into the United States. As shown in **Exhibit 33**, the purchased Everspin 32Mb STT-MRAM devices' Country of Origin ("COO:") is "TAIWAN, PROVINCE OF CHINA." Further, all Everspin products include a trace code that identifies the assembly location and the date of manufacture. **Ex. 31** (10/20/2021 Everspin Product and Process Change Notice) at 1. This trace code also denotes the wafer fabrication supplier for all products manufactured after at least January 18, 2022. *Id.* As shown in **Exhibit 34** (Image of Everspin 32Mb STT-MRAM device), the Everspin 32Mb STT-MRAM device trace code indicates it was assembled on the 19<sup>th</sup> work week ("FS002319") of 2023 ("FS002319"), in Taiwan ("FS002319"). *See Ex. 31* at 1 (indicating "Assembly Location Code" "S = OSE – Taiwan"). Thus, the invoice and trace code information show that Respondent imports the product, sells it for importation, and/or sells it within the United States after importation.

57. As another example, a 1<sup>st</sup> Gen IBM FlashCore Module (IBM 2078-AES2 9.6TB 2.5" NVMe Flash Core Module) was purchased from third party retailer Alta Technologies on August 26, 2025. **Ex. 35** (08/26/2025 Alta Technologies Order Confirmation Email). The 1st Gen IBM FlashCore Module product label states the product was "Made in China." **Ex. 36** (Images of 1st Gen IBM FlashCore Module). As shown in **Exhibit 37** (IBM FlashCore Module Product Guide) and **Exhibit 36** (Images of 1<sup>st</sup> Gen IBM FlashCore Module), the 1<sup>st</sup> Gen IBM FlashCore Module contains five embedded Everspin 256Mb STT-MRAM devices, Everspin's Part No. EMD3D256M08G1 (shown below, in blue):



Ex. 37 (IBM FlashCore Module Product Guide) at 12 (annotated).



Ex. 36 (Images of 1<sup>st</sup> Gen IBM FlashCore Module) (annotated).

Further, all Everspin products include a trace code that identifies the assembly location of the product. Ex. 31 (10/20/2021 Everspin Product and Process Change Notice) at 1. As shown in

**Exhibit 36** (Images of 1<sup>st</sup> Gen IBM FlashCore Module), the trace codes of the embedded Everspin 256Mb STT-MRAM devices indicate they were assembled in Taiwan (“T002010”). See **Ex. 31** at 1 (indicating “Assembly Location Code” “S = OSE – Taiwan”). Thus, the product label and trace code information show that Respondent imports the product, sells it for importation, and/or sells it within the United States after importation.

58. As another example, a 3<sup>rd</sup> Gen IBM FlashCore Module (IBM 38.4 TB 2.5" NVMe Flash Core Module 3.0) was purchased from a third party seller (via online retailer Ebay) on August 28, 2025 for shipment to Danville, CA. **Ex. 38** (08/28/2025 Ebay Order Information). The 3rd Gen IBM FlashCore Module product label states the product was “Made in China.” **Ex. 39** (Images of 3rd Gen IBM FlashCore Module). As shown in **Exhibit 37** (IBM FlashCore Module Product Guide) and **Exhibit 39** (Images of 3<sup>rd</sup> Gen IBM FlashCore Module), the 3<sup>rd</sup> Gen IBM FlashCore Module contains at least two embedded Everspin 1Gb STT-MRAM devices, Everspin’s Part No. EMD4E001G16G2 (shown below, in blue):



**Ex. 39** (Images of 3<sup>rd</sup> Gen IBM FlashCore Module) (annotated).

Further, all Everspin products include a trace code that identifies the assembly location of the product. **Ex. 31** at 1 (10/20/2021 Everspin Product and Process Change Notice). As shown in **Exhibit 39** (Images of 3<sup>rd</sup> Gen IBM FlashCore Module), the trace codes of the embedded Everspin 1Gb STT-MRAM devices indicate they were assembled in Taiwan (“T002150”). See **Ex. 31** at 1 (indicating “Assembly Location Code” “S = OSE – Taiwan”). Thus, the product label and trace code information show that Respondent imports the product, sells it for importation, and/or sells it within the United States after importation.

59. Further, on information and belief, all the above exemplary Everspin STT-MRAM devices or infringing components thereof were manufactured outside of the United States and were imported into the United States or sold for importation into the United States and embedded into products that are subsequently imported into the United States. The trace codes of

the above Everspin STT-MRAM devices indicate that GlobalFoundries is the wafer fabrication supplier for at least the 32Mb and 64Mb Everspin STT-MRAM devices (e.g., “FS182310”). See **Ex. 31** (10/20/2021 Everspin Product and Process Change Notice) at 1 (indicating “CMOS Wafer Fab Supplier Code” “F = GlobalFoundries”); **Ex. 32** (Image of Everspin 64Mb STT-MRAM device); **Ex. 34** (Image of Everspin 32Mb STT-MRAM device). GlobalFoundries is a semiconductor wafer manufacturer and is the exclusive manufacturing partner of Everspin for its STT-MRAM products, including the 1Gb and 256Mb Everspin STT-MRAM devices. **Ex. 40** (Everspin 2025 Investor Presentation) at 14 (“12” STT-MRAM 28/22/16nm” is “Manufactured fully at GF”); **Ex. 41** (07/13/2020 Company Interview – Everspin) at 3 (“So this technology is the basis for our discrete STT-MRAM products, our 256 megabit and 1 gigabit. GF [GlobalFoundries] is our exclusive manufacturing partner for those.”). GlobalFoundries’s manufacturing facilities are primarily located outside the United States, in Germany and Singapore, and are exclusively located outside the United States for the 28 CMOS and 40 CMOS fabrication processes, both of which are used to manufacture Everspin STT-MRAM devices. **Ex. 42** (2025 GlobalFoundries Form 20-F) at 45; **Ex. 41** (07/13/2020 Company Interview – Everspin) at 3 (“We’ve transferred our MRAM technology to GF’s 40-nanometer and 28-nanometer CMOS technology nodes and their 22-nanometer FDX platform. So this technology is the basis for our discrete STT-MRAM products, our 256 megabit and 1 gigabit.”). Only these locations are used for fabrication of Everspin STT-MRAM devices. **Ex. 40** (Everspin 2025 Investor Presentation) at 3 (showing “STT FAB” locations only in “Dresden” [Germany] and “Singapore”). Additionally, **Exhibit 40** (Everspin 2025 Investor Presentation) at 3 confirms that packaging and testing is conducted in Taiwan, consistent with the Everspin product trace code

information. Thus, this information shows that Respondent imports the product, sells it for importation, and/or sells it within the United States after importation.

**B. Infringement Of the 179 Patent**

**1. Direct Infringement of the 179 Patent**

60. On information and belief, Everspin imports, sells for importation, offers to sell, sells, and/or uses in the United States after importation Everspin Accused Products that directly infringe the 179 Patent, literally or under the doctrine of equivalents.

61. The Everspin Accused Products include at least the products described in Section IV and listed in **Exhibit 14** (Everspin Accused Product List), each of which infringe at least claims 1, 2, 3, 4, 6, 9, 10, 11, 12, 13, and 14 of the 179 Patent, literally or under the doctrine of equivalents.

62. First, as described above, on information and belief, Everspin imports and/or sells for importation into the United States each of the Everspin Accused Products. *See* §VI(A) *supra*.

63. Next, on information and belief, Everspin sells and/or offers for sale each of the Everspin Accused Products within the United States. As shown below, Everspin's website directs customers in the United States to call its sales office at 5670 W. Chandler Blvd., Suite 130, Chandler, Arizona 85226 to purchase the Everspin Accused Products. **Ex. 43** (Everspin Spin-transfer Torque MRAM Technology), *available at* <https://www.everspin.com/spin-transfer-torque-mram-technology>.

## World-Wide Sales Offices

### USA/Canada/South and Central America

5670 W. Chandler Blvd., Suite 130  
Chandler, Arizona 85226

Worldwide: +1-877-480-MRAM (6726)

Tel: +1-480-347-1111

Fax: +1 480-347-1175

64. Also, Everspin's website directs customers to "Buy or Sample" the Everspin Accused Products in the United States where it further directs customers to the "Eastern US," "Central US," and "Western US" regions and provides contact information for Everspin sales team members (Tom Brumbaugh, Ross Glover, Tony Suzer), Representatives (Allied Enterprises, Crestone Technology Group, Cypress Designs, Electronic Component Sales, EMA Sales, G2 Sales, Industrial Representatives, Intellimark Associates, MicroElec Technical, Millenium Alliance Group, MindShare Technical Sales, TAI Corp, Tech Coast Sales), Distributors (Edge Electronics), and Global Distributors (Die and Wafer Products, Arrow Electronics, Digi-Key Electronics, Future Electronics, Mouser Electronics). **Ex. 44** (Everspin Sales Offices, Representatives and Distributors), *available at* [https://www.everspin.com/sales#tab\\_dis-na](https://www.everspin.com/sales#tab_dis-na).

65. Further, Everspin advertises the following Everspin Accused Products that it calls "xSPI Evaluation Boards" sold by third-party distributors that it claims are "based on Everspin's unique industrial STT MRAM technology": xSPI Intel FPGA MRAM Evaluation Board, xSPI AMD/Xilinx FPGA MRAM Evaluation Board, EMxxLX MRAM Evaluation Boards from MikroE, MAS Elettronica Educational Certus Pro NX with EMxxLX Support, Arrow AXE-5 Eagle Host Board, and Arrow CYC5000 IoT / Maker Host Board. **Ex. 45** (Everspin PERSYST

xSPI for Industrial IoT and Embedded Systems), *available at* <https://www.everspin.com/persyst-xspi-industrial-iot-and-embedded-systems>. On information and belief, Everspin sells these xSPI Evaluation Boards to third-party distributors (Trenz Electronic, MikroE, and Arrow Electronics) who then sell to customers in the United States. Everspin's website provides a link to order these xSPI Evaluation Boards from the third-party distributors. *Id.*

66. To the extent that Everspin tests or uses the xSPI Evaluation Boards in the United States after importation, Everspin thereby uses the Everspin Accused Products. *See Ex. 19* (EXpanded Serial Peripheral Interface (xSPI) Industrial STT-MRAM Persistent Memory datasheet), *available at* <https://www.everspin.com/supportdocs/EM064LXQADG13CS1T?npath=3843>.

67. A representative claim chart comparing the independent claim of the 179 Patent to the Everspin Accused Products is attached as **Exhibit 26**.

## **2. Indirect Infringement of the 179 Patent**

68. On information and belief, Everspin has knowingly and intentionally induced and continues to knowingly and intentionally induce others to import, sell for importation, sell, offer for sale, and/or use one or more of the Everspin Accused Products in a manner that directly infringes one or more claims of the 179 Patent. This induced infringement includes acts of encouraging, instructing, and aiding one or more persons in the United States to make, sell, or offer to sell one or more of the Everspin Accused Products, during or after such article's importation into the United States, in a manner that infringes the 179 Patent, and/or to import such items into the United States. On information and belief, Everspin has committed and continues to commit each of the foregoing acts with the specific intent that the Everspin Accused Products be made, used, offered for sale, sold, and/or imported in a manner that infringes the 179 Patent.

69. Contemporaneously with the filing of this Complaint, Complainant provided Everspin with a copy of this Complaint and non-confidential exhibits to this Complaint along with a copy of the parallel district court complaint. For at least this reason, and on information and belief, Everspin was aware of the 179 Patent or acted with willful blindness as to its existence at least as a result of the filing of this Complaint and of Complainant's parallel district court complaint alleging infringement of the Asserted Patents . On information and belief, Everspin knew or should have known that its encouraging, instructing, and aiding of others in any and/or all of the foregoing acts would result in direct infringement of the 179 Patent.

70. For example, on information and belief, Everspin encourages, instructs, and/or aids one or more persons, including but not limited to Global Foundries, to manufacture Everspin Accused Products and to import, offer to sell, sell, and/or use domestically after importation Everspin Accused Products. **Ex. 13** at 58 (Excerpt of Everspin's SEC 10-K Filing), *available at* <https://investor.everspin.com/static-files/c954d86e-6a57-4f47-baa7-10a80a74ddce>. Everspin's SEC 10-K also states, "[Global Foundries] possesses the exclusive right to manufacture the Company's discrete and embedded STT-MRAM devices" and that "[i]f [Global Foundries] manufactures, sells, or transfers to customers wafers containing production quantified STT-MRAM devices that utilize certain design information, [Global Foundries] will be required to pay [Everspin] a royalty."

71. For further examples, on information and belief, Everspin provides the Everspin Accused Products to reseller customers, such as Trenz Electronic, MikroE, MAS Elettronica, and Arrow Electronics, with the intent that such reseller customers will sell and/or offer for sale Everspin Accused Products within the United States, which sales constitute acts of direct infringement. For the reasons described above, on information and belief, Everspin commits

these acts with the specific knowledge and intent that the Everspin Accused Products will be sold and/or offered for sale in a manner that infringes. **Ex. 45** (Everspin PERSYST xSPI for Industrial IoT and Embedded Systems), *available at* <https://www.everspin.com/persyst-xspi-industrial-iot-and-embedded-systems>.

72. Everspin also provides the Everspin Accused Products to customers so that such customers will incorporate the Everspin Accused Products in downstream devices and subsequently sell, offer for sale, and/or use such products containing the Everspin Accused Products in an infringing manner. For the reasons described above, on information and belief, Everspin commits these acts with the specific knowledge and intent that the Everspin Accused Products and products containing the Everspin Accused Products will be sold and/or offered for sale in a manner that infringes. For example, Everspin's SEC 10-K for the fiscal year ending December 31, 2024, states "[w]e have licensed GLOBALFOUNDRIES to offer embedded MRAM in the solutions they manufacture for their customers providing high-performance non-volatile embedded memory." **Ex. 13** at 5 (Excerpt of Everspin's SEC 10-K Filing), *available at* <https://investor.everspin.com/static-files/c954d86e-6a57-4f47-baa7-10a80a74ddce>. Everspin's SEC 10-K also states, "[w]e have licensed base MRAM design technology (EAR99) for use in radiation tolerant aerospace applications to customers for their custom designs." *Id.* Additionally, an interview with Everspin's President and Chief Executive Officer, Sanjeev Aggarwal, states "A typical process flow for a radiation-hardened wafer with several devices would be for the DIB customer to build the radiation-hardened periphery in the silicon and ship these incomplete wafers to Everspin to build MRAM on them. Completed wafers with Everspin MRAM integrated into this silicon are then shipped back to the DIB customer for packaging and test." **Ex. 46** at 3-4 (MRAM-info, *Leading the Charge in MRAM: An Interview with Everspin's CEO*,

dated September 4, 2024), *available at* <https://www.mram-info.com/leading-charge-mram-interview-everspins-ceo>. Also, IBM's FlashCore Module uses the Everspin Accused Products. **Ex. 37** at 15 (IBM FlashCore Module Product Guide, copyright 2024), *available at* <https://www.redbooks.ibm.com/redpapers/pdfs/redp5725.pdf> ("The first generation of FCM drives were built by using 64-layer TLC flash memory and an Everspin Magnetoresistive Random Access Memory (MRAM) cache into a U.2 form factor.").

73. Additionally, Everspin encourages, instructs, and/or aids one or more persons, to import, offer to sell, sell, or use domestically Everspin Accused Products and/or Everspin Accused Products comprising the same that were manufactured abroad by advertising the following xSPI Evaluation Boards sold by third-party distributors that it claims is "based on Everspin's unique industrial STT MRAM technology": xSPI Intel FPGA MRAM Evaluation Board, xSPI AMD/Xilinx FPGA MRAM Evaluation Board, EMxxLX MRAM Evaluation Boards from MikroE, MAS Elettronica Educational Certus Pro NX with EMxxLX Support, Arrow AXE-5 Eagle Host Board, and Arrow CYC5000 IoT / Maker Host Board. **Ex. 45** (Everspin PERSYST xSPI for Industrial IoT and Embedded Systems), *available at* <https://www.everspin.com/persyst-xspi-industrial-iot-and-embedded-systems>. Everspin provides links to purchase the Everspin Accused Products from these third-party distributors. *Id.* Everspin also instructs one or more persons on use of such xSPI Evaluation Boards by also citing User Guides and a Manual. *Id.*; **Exs. 20-24** (User Guides for xSPI Intel FPGA MRAM Evaluation Board, xSPI AMD/Xilinx FPGA MRAM Evaluation Board, Arrow AXE-5 Eagle Host Board, and Arrow CYC5000 IoT / Maker Host Board; Manual for MAS Elettronica Educational Certus Pro NX with EMxxLX Support).

74. Everspin encourages, instructs, and/or aids one or more persons, to import, offer to sell, sell, or use Everspin Accused Products by advertising that customers can “Buy or Sample” the Everspin Accused Products in the United States where it further directs customers to the “Eastern US,” “Central US,” and “Western US” regions and provides contact information for Representatives (Allied Enterprises, Crestone Technology Group, Cypress Designs, Electronic Component Sales, EMA Sales, G2 Sales, Industrial Representatives, Intellimark Associates, MicroElec Technical, Millenium Alliance Group, MindShare Technical Sales, TAI Corp, Tech Coast Sales), Distributors (Edge Electronics), and Global Distributors (Die and Wafer Products, Arrow Electronics, Digi-Key Electronics, Future Electronics, Mouser Electronics). **Ex. 44** (Everspin Sales Offices, Representatives and Distributors), *available at* [https://www.everspin.com/sales#tab\\_dis-na](https://www.everspin.com/sales#tab_dis-na).

75. On information and belief, Everspin contributes to the infringement of one or more of the Asserted Claims of the 179 Patent by offering to sell or selling and/or importing a patented component, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement and not a staple article or commodity of commerce suitable for substantial non-infringing use. The Everspin Accused Products are a material part of practicing at least claims 1, 2, 3, 4, 6, 9, 10, 11, 12, 13, and 14 of the 179 Patent, have no substantial non-infringing uses, are not a staple article of commerce, and are especially made and adapted for use in an infringing manner. For example, the Everspin Accused Products are specifically manufactured and designed and intended to include a magnetic tunneling junction with perpendicular magnetic anisotropy.

76. For another example, Everspin contributes to the infringement of one or more of the Asserted Claims of the 179 Patent by offering to sell or selling through its website the

Everspin Accused Products. Everspin’s website directs customers to “Buy or Sample” the Everspin Accused Products in the United States where it further directs customers to the “Eastern US,” “Central US,” and “Western US” regions and provides contact information for Everspin sales team members (Tom Brumbaugh, Ross Glover, Tony Suzer), Representatives (Allied Enterprises, Crestone Technology Group, Cypress Designs, Electronic Component Sales, EMA Sales, G2 Sales, Industrial Representatives, Intellimark Associates, MicroElec Technical, Millenium Alliance Group, MindShare Technical Sales, TAI Corp, Tech Coast Sales), Distributors (Edge Electronics), and Global Distributors (Die and Wafer Products, Arrow Electronics, Digi-Key Electronics, Future Electronics, Mouser Electronics). **Ex. 44** (Everspin Sales Offices, Representatives and Distributors), *available at* [https://www.everspin.com/sales#tab\\_dis-na](https://www.everspin.com/sales#tab_dis-na).

### **C. Infringement of the 210 Patent**

#### **1. Direct Infringement of the 210 Patent**

77. On information and belief, Everspin imports, sells for importation, offers to sell, sells, and/or uses in the United States after importation Accused Products that directly infringe the 210 Patent, literally or under the doctrine of equivalents.

78. The Everspin Accused Products include at least the products listed in Section IV, each of which infringe at least claims 1, 2, 3, 4, 6, 9, 10, 11, 12, 13, and 14 of the 210 Patent, literally or under the doctrine of equivalents.

79. First, as described above, on information and belief, Everspin imports and/or sells for importation into the United States each of the Everspin Accused Products. *See* §VI(A) *supra*.

80. Next, on information and belief, Everspin sells and/or offers for sale each of the Everspin Accused Products within the United States. As shown below, Everspin’s website directs customers in the United States to call its sales office at 5670 W. Chandler Blvd., Suite

130, Chandler, Arizona 85226 to purchase the Everspin Accused Products. **Ex. 43** (Everspin Spin-transfer Torque MRAM Technology), *available at* <https://www.everspin.com/spin-transfer-torque-mram-technology>.

## World-Wide Sales Offices

### USA/Canada/South and Central America

5670 W. Chandler Blvd., Suite 130  
Chandler, Arizona 85226

Worldwide: +1-877-480-MRAM (6726)

Tel: +1-480-347-1111

Fax: +1 480-347-1175

81. Also, Everspin's website directs customers to "Buy or Sample" the Everspin Accused Products in the United States where it further directs customers to the "Eastern US," "Central US," and "Western US" regions and provides contact information for Everspin sales team members (Tom Brumbaugh, Ross Glover, Tony Suzer), Representatives (Allied Enterprises, Crestone Technology Group, Cypress Designs, Electronic Component Sales, EMA Sales, G2 Sales, Industrial Representatives, Intellimark Associates, MicroElec Technical, Millenium Alliance Group, MindShare Technical Sales, TAI Corp, Tech Coast Sales), Distributors (Edge Electronics), and Global Distributors (Die and Wafer Products, Arrow Electronics, Digi-Key Electronics, Future Electronics, Mouser Electronics). **Ex. 44** (Everspin Sales Offices, Representatives and Distributors), *available at* [https://www.everspin.com/sales#tab\\_dis-na](https://www.everspin.com/sales#tab_dis-na).

82. Further, Everspin advertises the following Everspin Accused Products that it calls "xSPI Evaluation Boards" sold by third-party distributors that it claims are "based on Everspin's unique industrial STT MRAM technology": xSPI Intel FPGA MRAM Evaluation Board, xSPI

AMD/Xilinx FPGA MRAM Evaluation Board, EMxxLX MRAM Evaluation Boards from MikroE, MAS Elettronica Educational Certus Pro NX with EMxxLX Support, Arrow AXE-5 Eagle Host Board, and Arrow CYC5000 IoT / Maker Host Board. **Ex. 45** (Everspin PERSYST xSPI for Industrial IoT and Embedded Systems), *available at* <https://www.everspin.com/persyst-xspi-industrial-iot-and-embedded-systems>. On information and belief, Everspin sells these xSPI Evaluation Boards to third-party distributors (Trenz Electronic, MikroE, and Arrow Electronics) who then sell to customers in the United States. Everspin's website provides a link to order these xSPI Evaluation Boards from the third-party distributors. *Id.*

83. To the extent that Everspin tests or uses the xSPI Evaluation Boards in the United States after importation, Everspin thereby uses the Everspin Accused Products. *See Ex. 19* (EXpanded Serial Peripheral Interface (xSPI) Industrial STT-MRAM Persistent Memory datasheet), *available at* <https://www.everspin.com/supportdocs/EM064LXQADG13CS1T?npath=3843>.

84. A representative claim chart comparing the independent claim of the 210 Patent to the Everspin Accused Products is attached as **Exhibit 27**.

## **2. Indirect Infringement of the 210 Patent**

85. On information and belief, Everspin has knowingly and intentionally induced and continues to knowingly and intentionally induce others to import, sell for importation, sell, offer for sale, and/or use one or more of the Everspin Accused Products in a manner that directly infringes one or more claims of the 210 Patent. This induced infringement includes acts of encouraging, instructing, and aiding one or more persons in the United States to make, sell, or offer to sell one or more of the Everspin Accused Products, during or after such article's importation into the United States, in a manner that infringes the 210 Patent, and/or to import such items into the United States. On information and belief, Everspin has committed and

continues to commit each of the foregoing acts with the specific intent that the Everspin Accused Products be made, used, offered for sale, sold, and/or imported in a manner that infringes the 210 Patent.

86. Contemporaneously with the filing of this Complaint, Complainant provided Everspin with a copy of this Complaint and non-confidential exhibits to this Complaint along with a copy of the parallel district court complaint. For at least this reason, and on information and belief, Everspin was aware of the 210 Patent or acted with willful blindness as to its existence at least as a result of the filing of this Complaint and of Complainant's parallel district court complaint alleging infringement of the Asserted Patents. On information and belief, Everspin knew or should have known that its encouraging, instructing, and aiding of others in any and/or all of the foregoing acts would result in direct infringement of the 210 Patent.

87. For example, on information and belief, Everspin encourages, instructs, and/or aids one or more persons, including but not limited to Global Foundries, to manufacture Everspin Accused Products and to import, offer to sell, sell, and/or use domestically after importation Everspin Accused Products. **Ex. 13** at 58 (Excerpt of Everspin's SEC 10-K Filing), *available at* <https://investor.everspin.com/static-files/c954d86e-6a57-4f47-baa7-10a80a74ddce>. Everspin's SEC 10-K also states, "[Global Foundries] possesses the exclusive right to manufacture the Company's discrete and embedded STT-MRAM devices" and that "[i]f [Global Foundries] manufactures, sells, or transfers to customers wafers containing production quantified STT-MRAM devices that utilize certain design information, [Global Foundries] will be required to pay [Everspin] a royalty." *Id.*

88. For further examples, on information and belief, Everspin provides the Everspin Accused Products to reseller customers, such as Trenz Electronic, MikroE, MAS Elettronica, and

Arrow Electronics, with the intent that such reseller customers will sell and/or offer for sale Everspin Accused Products within the United States, which sales constitute acts of direct infringement. For the reasons described above, on information and belief, Everspin commits these acts with the specific knowledge and intent that the Everspin Accused Products will be sold and/or offered for sale in a manner that infringes. **Ex. 45** (Everspin PERSYST xSPI for Industrial IoT and Embedded Systems), *available at* <https://www.everspin.com/persyst-xspi-industrial-iot-and-embedded-systems>.

89. Everspin also provides the Everspin Accused Products to customers so that such customers will incorporate the Everspin Accused Products in downstream devices and subsequently sell, offer for sale, and/or use such products containing the Everspin Accused Products in an infringing manner. For the reasons described above, on information and belief, Everspin commits these acts with the specific knowledge and intent that the Everspin Accused Products and products containing the Everspin Accused Products will be sold and/or offered for sale in a manner that infringes. For example, Everspin’s SEC 10-K for the fiscal year ending December 31, 2024, states “[w]e have licensed GLOBALFOUNDRIES to offer embedded MRAM in the solutions they manufacture for their customers providing high-performance non-volatile embedded memory.” **Ex. 13** at 5 (Excerpt of Everspin’s SEC 10-K Filing), *available at* <https://investor.everspin.com/static-files/c954d86e-6a57-4f47-baa7-10a80a74ddce>. Everspin’s SEC 10-K also states, “[w]e have licensed base MRAM design technology (EAR99) for use in radiation tolerant aerospace applications to customers for their custom designs.” *Id.* Additionally, an interview with Everspin’s President and Chief Executive Officer, Sanjeev Aggarwal, states “A typical process flow for a radiation-hardened wafer with several devices would be for the DIB customer to build the radiation-hardened periphery in the silicon and ship these incomplete

wafers to Everspin to build MRAM on them. Completed wafers with Everspin MRAM integrated into this silicon are then shipped back to the DIB customer for packaging and test.”

**Ex. 46** at 3-4 (MRAM-info, *Leading the Charge in MRAM: An Interview with Everspin's CEO*, dated September 4, 2024), *available at* <https://www.mram-info.com/leading-charge-mram-interview-everspins-ceo>. Also, IBM’s FlashCore Module uses the Everspin Accused Products. **Ex. 37** at 15 (IBM FlashCore Module Product Guide, copyright 2024), *available at* <https://www.redbooks.ibm.com/redpapers/pdfs/redp5725.pdf> (“The first generation of FCM drives were built by using 64-layer TLC flash memory and an Everspin Magnetoresistive Random Access Memory (MRAM) cache into a U.2 form factor.”).

90. Additionally, Everspin encourages, instructs, and/or aids one or more persons, to import, offer to sell, sell, or use domestically Everspin Accused Products and/or Everspin Accused Products comprising the same that were manufactured abroad by advertising the following xSPI Evaluation Boards sold by third-party distributors that it claims is “based on Everspin’s unique industrial STT MRAM technology”: xSPI Intel FPGA MRAM Evaluation Board, xSPI AMD/Xilinx FPGA MRAM Evaluation Board, EMxxLX MRAM Evaluation Boards from MikroE, MAS Elettronica Educational Certus Pro NX with EMxxLX Support, Arrow AXE-5 Eagle Host Board, and Arrow CYC5000 IoT / Maker Host Board. **Ex. 45** (Everspin PERSYST xSPI for Industrial IoT and Embedded Systems), *available at* <https://www.everspin.com/persyst-xspi-industrial-iot-and-embedded-systems>. Everspin provides links to purchase the Everspin Accused Products from these third-party distributors. *Id.* Everspin also instructs one or more persons on use of such xSPI Evaluation Boards by also citing User Guides and a Manual. *Id.*; **Exs. 20–24** (User Guides for xSPI Intel FPGA MRAM Evaluation Board, xSPI AMD/Xilinx FPGA MRAM Evaluation Board, Arrow AXE-5 Eagle Host Board,

and Arrow CYC5000 IoT / Maker Host Board; Manual for MAS Elettronica Educational Certus Pro NX with EMxxLX Support).

91. Everspin encourages, instructs, and/or aids one or more persons, to import, offer to sell, sell, or use Everspin Accused Products by advertising that customers can “Buy or Sample” the Everspin Accused Products in the United States where it further directs customers to the “Eastern US,” “Central US,” and “Western US” regions and provides contact information for Representatives (Allied Enterprises, Crestone Technology Group, Cypress Designs, Electronic Component Sales, EMA Sales, G2 Sales, Industrial Representatives, Intellimark Associates, MicroElec Technical, Millenium Alliance Group, MindShare Technical Sales, TAI Corp, Tech Coast Sales), Distributors (Edge Electronics), and Global Distributors (Die and Wafer Products, Arrow Electronics, Digi-Key Electronics, Future Electronics, Mouser Electronics). **Ex. 44** (Everspin Sales Offices, Representatives and Distributors), *available at* [https://www.everspin.com/sales#tab\\_dis-na](https://www.everspin.com/sales#tab_dis-na).

92. On information and belief, Everspin contributes to the infringement of one or more of the Asserted Claims of the 210 Patent by offering to sell or selling and/or importing a patented component, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement and not a staple article or commodity of commerce suitable for substantial non-infringing use. The Everspin Accused Products are a material part of practicing at least claims 1, 2, 3, 4, 6, 9, 10, 11, 12, 13, and 14 of the 210 Patent, have no substantial non-infringing uses, are not a staple article of commerce, and are especially made and adapted for use in an infringing manner. For example, the Everspin Accused Products are specifically manufactured and designed and intended to include a magnetic tunneling junction with perpendicular magnetic anisotropy.

93. For another example, Everspin contributes to the infringement of one or more of the Asserted Claims of the 210 Patent by offering to sell or selling through its website the Everspin Accused Products. Everspin’s website directs customers to “Buy or Sample” the Everspin Accused Products in the United States where it further directs customers to the “Eastern US,” “Central US,” and “Western US” regions and provides contact information for Everspin sales team members (Tom Brumbaugh, Ross Glover, Tony Suzer), Representatives (Allied Enterprises, Crestone Technology Group, Cypress Designs, Electronic Component Sales, EMA Sales, G2 Sales, Industrial Representatives, Intellimark Associates, MicroElec Technical, Millenium Alliance Group, MindShare Technical Sales, TAI Corp, Tech Coast Sales), Distributors (Edge Electronics), and Global Distributors (Die and Wafer Products, Arrow Electronics, Digi-Key Electronics, Future Electronics, Mouser Electronics). **Ex. 44** (Everspin Sales Offices, Representatives and Distributors), *available at* [https://www.everspin.com/sales#tab\\_dis-na](https://www.everspin.com/sales#tab_dis-na).

#### **D. Infringement of the 586 Patent**

##### **1. Direct Infringement of the 586 Patent**

94. On information and belief, Everspin imports, sells for importation, offers to sell, sells, and/or uses in the United States after importation Accused Products that directly infringe the 586 Patent, literally or under the doctrine of equivalents.

95. The Everspin Accused Products include at least the products listed in Section IV, each of which infringe at least claims 1, 4, 5, 6, 7, 10, 11, and 12 of the 586 Patent, literally or under the doctrine of equivalents.

96. First, as described above, on information and belief, Everspin imports and/or sells for importation into the United States each of the Everspin Accused Products. *See* §VI(A) *supra*.

97. Next, on information and belief, Everspin sells and/or offers for sale each of the Everspin Accused Products within the United States. As shown below, Everspin’s website directs customers in the United States to call its sales office at 5670 W. Chandler Blvd., Suite 130, Chandler, Arizona 85226 to purchase the Everspin Accused Products. **Ex. 43** (Everspin Spin-transfer Torque MRAM Technology), *available at* <https://www.everspin.com/spin-transfer-torque-mram-technology>.

## World-Wide Sales Offices

### USA/Canada/South and Central America

5670 W. Chandler Blvd., Suite 130  
Chandler, Arizona 85226

Worldwide: +1-877-480-MRAM (6726)

Tel: +1-480-347-1111

Fax: +1 480-347-1175

98. Also, Everspin’s website directs customers to “Buy or Sample” the Everspin Accused Products in the United States where it further directs customers to the “Eastern US,” “Central US,” and “Western US” regions and provides contact information for Everspin sales team members (Tom Brumbaugh, Ross Glover, Tony Suzer), Representatives (Allied Enterprises, Crestone Technology Group, Cypress Designs, Electronic Component Sales, EMA Sales, G2 Sales, Industrial Representatives, Intellimark Associates, MicroElec Technical, Millenium Alliance Group, MindShare Technical Sales, TAI Corp, Tech Coast Sales), Distributors (Edge Electronics), and Global Distributors (Die and Wafer Products, Arrow Electronics, Digi-Key Electronics, Future Electronics, Mouser Electronics). **Ex. 44** (Everspin Sales Offices, Representatives and Distributors), *available at* [https://www.everspin.com/sales#tab\\_dis-na](https://www.everspin.com/sales#tab_dis-na).

99. Further, Everspin advertises the following Everspin Accused Products that it calls “xSPI Evaluation Boards” sold by third-party distributors that it claims are “based on Everspin’s unique industrial STT MRAM technology”: xSPI Intel FPGA MRAM Evaluation Board, xSPI AMD/Xilinx FPGA MRAM Evaluation Board, EMxxLX MRAM Evaluation Boards from MikroE, MAS Elettronica Educational Certus Pro NX with EMxxLX Support, Arrow AXE-5 Eagle Host Board, and Arrow CYC5000 IoT / Maker Host Board. **Ex. 45** (Everspin PERSYST xSPI for Industrial IoT and Embedded Systems), *available at* <https://www.everspin.com/persyst-xspi-industrial-iot-and-embedded-systems>. On information and belief, Everspin sells these xSPI Evaluation Boards to third-party distributors (Trenz Electronic, MikroE, and Arrow Electronics) who then sell to customers in the United States. Everspin’s website provides a link to order these xSPI Evaluation Boards from the third-party distributors. *Id.*

100. To the extent that Everspin tests or uses the xSPI Evaluation Boards in the United States after importation, Everspin thereby uses the Everspin Accused Products. *See Ex. 19* (EXpanded Serial Peripheral Interface (xSPI) Industrial STT-MRAM Persistent Memory datasheet), *available at* <https://www.everspin.com/supportdocs/EM064LXQADG13CS1T?npath=3843>.

101. A representative claim chart comparing the independent claims of the 586 Patent to the Everspin Accused Products is attached as **Exhibit 28**.

## **2. Indirect Infringement of the 586 Patent**

102. On information and belief, Everspin has knowingly and intentionally induced and continues to knowingly and intentionally induce others to import, sell for importation, sell, offer for sale, and/or use one or more of the Everspin Accused Products in a manner that directly infringes one or more claims of the 586 Patent. This induced infringement includes acts of encouraging, instructing, and aiding one or more persons in the United States to make, sell, or

offer to sell one or more of the Everspin Accused Products, during or after such article's importation into the United States, in a manner that infringes the 586 Patent, and/or to import such items into the United States. On information and belief, Everspin has committed and continues to commit each of the foregoing acts with the specific intent that the Everspin Accused Products be made, used, offered for sale, sold, and/or imported in a manner that infringes the 586 Patent.

103. Contemporaneously with the filing of this Complaint, Complainant provided Everspin with a copy of this Complaint and non-confidential exhibits to this Complaint along with a copy of the parallel district court complaint. For at least this reason, and on information and belief, Everspin was aware of the 586 Patent or acted with willful blindness as to its existence at least as a result of the filing of this Complaint and of Complainant's parallel district court complaint alleging infringement of the Asserted Patents. On information and belief, Everspin knew or should have known that its encouraging, instructing, and aiding of others in any and/or all of the foregoing acts would result in direct infringement of the 586 Patent.

104. For example, on information and belief, Everspin encourages, instructs, and/or aids one or more persons, including but not limited to GlobalFoundries, to manufacture Everspin Accused Products and to import, offer to sell, sell, and/or use domestically after importation Everspin Accused Products. **Ex. 13** at 58 (Excerpt of Everspin's SEC 10-K Filing), *available at* <https://investor.everspin.com/static-files/c954d86e-6a57-4f47-baa7-10a80a74ddce>. Everspin's SEC 10-K also states, "[GlobalFoundries] possesses the exclusive right to manufacture the Company's discrete and embedded STT-MRAM devices" and that "[i]f [GlobalFoundries] manufactures, sells, or transfers to customers wafers containing production quantified STT-

MRAM devices that utilize certain design information, [GlobalFoundries] will be required to pay [Everspin] a royalty.”

105. For further examples, on information and belief, Everspin provides the Everspin Accused Products to reseller customers, such as Trenz Electronic, MikroE, MAS Elettronica, and Arrow Electronics, with the intent that such reseller customers will sell and/or offer for sale Everspin Accused Products within the United States, which sales constitute acts of direct infringement. For the reasons described above, on information and belief, Everspin commits these acts with the specific knowledge and intent that the Everspin Accused Products will be sold and/or offered for sale in a manner that infringes. **Ex. 45** (Everspin PERSYST xSPI for Industrial IoT and Embedded Systems), *available at* <https://www.everspin.com/persyst-xspi-industrial-iot-and-embedded-systems>.

106. Everspin also provides the Everspin Accused Products to customers so that such customers will incorporate the Everspin Accused Products in downstream devices and subsequently sell, offer for sale, and/or use such products containing the Everspin Accused Products in an infringing manner. For the reasons described above, on information and belief, Everspin commits these acts with the specific knowledge and intent that the Everspin Accused Products and products containing the Everspin Accused Products will be sold and/or offered for sale in a manner that infringes. For example, Everspin’s SEC 10-K for the fiscal year ending December 31, 2024, states “[w]e have licensed GLOBALFOUNDRIES to offer embedded MRAM in the solutions they manufacture for their customers providing high-performance non-volatile embedded memory.” **Ex. 13** at 5 (Excerpt of Everspin’s SEC 10-K Filing), *available at* <https://investor.everspin.com/static-files/c954d86e-6a57-4f47-baa7-10a80a74ddce>. Everspin’s SEC 10-K also states, “[w]e have licensed base MRAM design technology (EAR99) for use in

radiation tolerant aerospace applications to customers for their custom designs.” *Id.* Additionally, an interview with Everspin’s President and Chief Executive Officer, Sanjeev Aggarwal, states “A typical process flow for a radiation-hardened wafer with several devices would be for the DIB customer to build the radiation-hardened periphery in the silicon and ship these incomplete wafers to Everspin to build MRAM on them. Completed wafers with Everspin MRAM integrated into this silicon are then shipped back to the DIB customer for packaging and test.” **Ex. 46** at 3-4 (MRAM-info, *Leading the Charge in MRAM: An Interview with Everspin's CEO*, dated September 4, 2024), *available at* <https://www.mram-info.com/leading-charge-mram-interview-everspins-ceo>. Also, IBM’s FlashCore Module uses the Everspin Accused Products. **Ex. 37** at 15 (IBM FlashCore Module Product Guide, copyright 2024), *available at* <https://www.redbooks.ibm.com/redpapers/pdfs/redp5725.pdf> (“The first generation of FCM drives were built by using 64-layer TLC flash memory and an Everspin Magnetoresistive Random Access Memory (MRAM) cache into a U.2 form factor.”).

107. Additionally, Everspin encourages, instructs, and/or aids one or more persons, to import, offer to sell, sell, or use domestically Everspin Accused Products and/or Everspin Accused Products comprising the same that were manufactured abroad by advertising the following xSPI Evaluation Boards sold by third-party distributors that it claims is “based on Everspin’s unique industrial STT MRAM technology”: xSPI Intel FPGA MRAM Evaluation Board, xSPI AMD/Xilinx FPGA MRAM Evaluation Board, EMxxLX MRAM Evaluation Boards from MikroE, MAS Elettronica Educational Certus Pro NX with EMxxLX Support, Arrow AXE-5 Eagle Host Board, and Arrow CYC5000 IoT / Maker Host Board. **Ex. 45** (Everspin PERSYST xSPI for Industrial IoT and Embedded Systems), *available at* <https://www.everspin.com/persyst-xspi-industrial-iot-and-embedded-systems>. Everspin provides

links to purchase the Everspin Accused Products from these third-party distributors. *Id.* Everspin also instructs one or more persons on use of such xSPI Evaluation Boards by also citing User Guides and a Manual. *Id.*; **Exs. 20-24** (User Guides for xSPI Intel FPGA MRAM Evaluation Board, xSPI AMD/Xilinx FPGA MRAM Evaluation Board, Arrow AXE-5 Eagle Host Board, and Arrow CYC5000 IoT / Maker Host Board; Manual for MAS Elettronica Educational Certus Pro NX with EMxxLX Support).

108. Everspin encourages, instructs, and/or aids one or more persons, to import, offer to sell, sell, or use Everspin Accused Products by advertising that customers can “Buy or Sample” the Everspin Accused Products in the United States where it further directs customers to the “Eastern US,” “Central US,” and “Western US” regions and provides contact information for Representatives (Allied Enterprises, Crestone Technology Group, Cypress Designs, Electronic Component Sales, EMA Sales, G2 Sales, Industrial Representatives, Intellimark Associates, MicroElec Technical, Millenium Alliance Group, MindShare Technical Sales, TAI Corp, Tech Coast Sales), Distributors (Edge Electronics), and Global Distributors (Die and Wafer Products, Arrow Electronics, Digi-Key Electronics, Future Electronics, Mouser Electronics). **Ex. 44** (Everspin Sales Offices, Representatives and Distributors), *available at* [https://www.everspin.com/sales#tab\\_dis-na](https://www.everspin.com/sales#tab_dis-na).

109. On information and belief, Everspin contributes to the infringement of one or more of the Asserted Claims of the 586 Patent by offering to sell or selling and/or importing a patented component, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement and not a staple article or commodity of commerce suitable for substantial non-infringing use. The Everspin Accused Products are a material part of practicing at least claims 1, 4, 5, 6, 7, 10, 11, and 12 of the 586

Patent, have no substantial non-infringing uses, are not a staple article of commerce, and are especially made and adapted for use in an infringing manner. For example, the Everspin Accused Products are specifically manufactured and designed and intended to include a magnetic tunneling junction with perpendicular magnetic anisotropy.

110. For another example, Everspin contributes to the infringement of one or more of the Asserted Claims of the 586 Patent by offering to sell or selling through its website the Everspin Accused Products. Everspin's website directs customers to "Buy or Sample" the Everspin Accused Products in the United States where it further directs customers to the "Eastern US," "Central US," and "Western US" regions and provides contact information for Everspin sales team members (Tom Brumbaugh, Ross Glover, Tony Suzer), Representatives (Allied Enterprises, Crestone Technology Group, Cypress Designs, Electronic Component Sales, EMA Sales, G2 Sales, Industrial Representatives, Intellimark Associates, MicroElec Technical, Millenium Alliance Group, MindShare Technical Sales, TAI Corp, Tech Coast Sales), Distributors (Edge Electronics), and Global Distributors (Die and Wafer Products, Arrow Electronics, Digi-Key Electronics, Future Electronics, Mouser Electronics). **Ex. 44** (Everspin Sales Offices, Representatives and Distributors), *available at* [https://www.everspin.com/sales#tab\\_dis-na](https://www.everspin.com/sales#tab_dis-na).

## **E. Infringement of the 737 Patent**

### **1. Direct Infringement of the 737 Patent**

111. On information and belief, Everspin imports, sells for importation, offers to sell, sells, and/or uses in the United States after importation Accused Products that directly infringe the 737 Patent, literally or under the doctrine of equivalents.

112. The Everspin Accused Products include at least the products listed in Section IV, each of which infringe at least claims 11, 12, 13, 14, 15, 17, and 18 of the 737 Patent, literally or under the doctrine of equivalents.

113. First, as described above, on information and belief, Everspin imports and/or sells for importation into the United States each of the Everspin Accused Products. *See* §VI(A) *supra*.

114. Next, on information and belief, Everspin sells and/or offers for sale each of the Everspin Accused Products within the United States. As shown below, Everspin’s website directs customers in the United States to call its sales office at 5670 W. Chandler Blvd., Suite 130, Chandler, Arizona 85226 to purchase the Everspin Accused Products. **Ex. 43** (Everspin Spin-transfer Torque MRAM Technology), *available at* <https://www.everspin.com/spin-transfer-torque-mram-technology>.

## World-Wide Sales Offices

### USA/Canada/South and Central America

5670 W. Chandler Blvd., Suite 130  
Chandler, Arizona 85226

Worldwide: +1-877-480-MRAM (6726)

Tel: +1-480-347-1111

Fax: +1 480-347-1175

115. Also, Everspin’s website directs customers to “Buy or Sample” the Everspin Accused Products in the United States where it further directs customers to the “Eastern US,” “Central US,” and “Western US” regions and provides contact information for Everspin sales team members (Tom Brumbaugh, Ross Glover, Tony Suzer), Representatives (Allied Enterprises, Crestone Technology Group, Cypress Designs, Electronic Component Sales, EMA Sales, G2

Sales, Industrial Representatives, Intellimark Associates, MicroElec Technical, Millenium Alliance Group, MindShare Technical Sales, TAI Corp, Tech Coast Sales), Distributors (Edge Electronics), and Global Distributors (Die and Wafer Products, Arrow Electronics, Digi-Key Electronics, Future Electronics, Mouser Electronics). **Ex. 44** (Everspin Sales Offices, Representatives and Distributors), *available at* [https://www.everspin.com/sales#tab\\_dis-na](https://www.everspin.com/sales#tab_dis-na).

116. Further, Everspin advertises the following Everspin Accused Products that it calls “xSPI Evaluation Boards” sold by third-party distributors that it claims are “based on Everspin’s unique industrial STT MRAM technology”: xSPI Intel FPGA MRAM Evaluation Board, xSPI AMD/Xilinx FPGA MRAM Evaluation Board, EMxxLX MRAM Evaluation Boards from MikroE, MAS Elettronica Educational Certus Pro NX with EMxxLX Support, Arrow AXE-5 Eagle Host Board, and Arrow CYC5000 IoT / Maker Host Board. **Ex. 45** (Everspin PERSYST xSPI for Industrial IoT and Embedded Systems), *available at* <https://www.everspin.com/persyst-xspi-industrial-iot-and-embedded-systems>. On information and belief, Everspin sells these xSPI Evaluation Boards to third-party distributors (Trenz Electronic, MikroE, and Arrow Electronics) who then sell to customers in the United States. Everspin’s website provides a link to order these xSPI Evaluation Boards from the third-party distributors. *Id.*

117. To the extent that Everspin tests or uses the xSPI Evaluation Boards in the United States after importation, Everspin thereby uses the Everspin Accused Products. *See Ex. 19* (EXpanded Serial Peripheral Interface (xSPI) Industrial STT-MRAM Persistent Memory datasheet), *available at* <https://www.everspin.com/supportdocs/EM064LXQADG13CS1T?npath=3843>.

118. A representative claim chart comparing the independent claims of the 737 Patent to the Everspin Accused Products is attached as **Exhibit 29**.

## 2. Indirect Infringement of the 737 Patent

119. On information and belief, Everspin has knowingly and intentionally induced and continues to knowingly and intentionally induce others to import, sell for importation, sell, offer for sale, and/or use one or more of the Everspin Accused Products in a manner that directly infringes one or more claims of the 737 Patent. This induced infringement includes acts of encouraging, instructing, and aiding one or more persons in the United States to make, sell, or offer to sell one or more of the Everspin Accused Products, during or after such article's importation into the United States, in a manner that infringes the 737 Patent, and/or to import such items into the United States. On information and belief, Everspin has committed and continues to commit each of the foregoing acts with the specific intent that the Everspin Accused Products be made, used, offered for sale, sold, and/or imported in a manner that infringes the 737 Patent.

120. Contemporaneously with the filing of this Complaint, Complainant provided Everspin with a copy of this Complaint and non-confidential exhibits to this Complaint along with a copy of the parallel district court complaint. For at least this reason, and on information and belief, Everspin was aware of the 737 Patent or acted with willful blindness as to its existence at least as a result of the filing of this Complaint and of Complainant's parallel district court complaint alleging infringement of the Asserted Patents. On information and belief, Everspin knew or should have known that its encouraging, instructing, and aiding of others in any and/or all of the foregoing acts would result in direct infringement of the 737 Patent.

121. For example, on information and belief, Everspin encourages, instructs, and/or aids one or more persons, including but not limited to Global Foundries, to manufacture Everspin Accused Products and to import, offer to sell, sell, and/or use domestically after importation Everspin Accused Products. **Ex. 13** at 58 (Excerpt of Everspin's SEC 10-K Filing), *available at*

<https://investor.everspin.com/static-files/c954d86e-6a57-4f47-baa7-10a80a74ddce>. Everspin’s SEC 10-K also states, “[Global Foundries] possesses the exclusive right to manufacture the Company’s discrete and embedded STT-MRAM devices” and that “[i]f [Global Foundries] manufactures, sells, or transfers to customers wafers containing production quantified STT-MRAM devices that utilize certain design information, [Global Foundries] will be required to pay [Everspin] a royalty.”

122. For further examples, on information and belief, Everspin provides the Everspin Accused Products to reseller customers, such as Trenz Electronic, MikroE, MAS Elettronica, and Arrow Electronics, with the intent that such reseller customers will sell and/or offer for sale Everspin Accused Products within the United States, which sales constitute acts of direct infringement. For the reasons described above, on information and belief, Everspin commits these acts with the specific knowledge and intent that the Everspin Accused Products will be sold and/or offered for sale in a manner that infringes. **Ex. 45** (Everspin PERSYST xSPI for Industrial IoT and Embedded Systems), *available at* <https://www.everspin.com/persyst-xspi-industrial-iot-and-embedded-systems>.

123. Everspin also provides the Everspin Accused Products to customers so that such customers will incorporate the Everspin Accused Products in downstream devices and subsequently sell, offer for sale, and/or use such products containing the Everspin Accused Products in an infringing manner. For the reasons described above, on information and belief, Everspin commits these acts with the specific knowledge and intent that the Everspin Accused Products and products containing the Everspin Accused Products will be sold and/or offered for sale in a manner that infringes. For example, Everspin’s SEC 10-K for the fiscal year ending December 31, 2024, states “[w]e have licensed GLOBALFOUNDRIES to offer embedded

MRAM in the solutions they manufacture for their customers providing high-performance non-volatile embedded memory.” **Ex. 13** at 5 (Excerpt of Everspin’s SEC 10-K Filing), *available at* <https://investor.everspin.com/static-files/c954d86e-6a57-4f47-baa7-10a80a74ddce>. Everspin’s SEC 10-K also states, “[w]e have licensed base MRAM design technology (EAR99) for use in radiation tolerant aerospace applications to customers for their custom designs.” *Id.* Additionally, an interview with Everspin’s President and Chief Executive Officer, Sanjeev Aggarwal, states “A typical process flow for a radiation-hardened wafer with several devices would be for the DIB customer to build the radiation-hardened periphery in the silicon and ship these incomplete wafers to Everspin to build MRAM on them. Completed wafers with Everspin MRAM integrated into this silicon are then shipped back to the DIB customer for packaging and test.” **Ex. 23** at 3-4 (MRAM-info, *Leading the Charge in MRAM: An Interview with Everspin's CEO*, dated September 4, 2024), *available at* <https://www.mram-info.com/leading-charge-mram-interview-everspins-ceo>. Also, IBM’s FlashCore Module uses the Everspin Accused Products. **Ex. 37** at 15 (IBM FlashCore Module Product Guide, copyright 2024), *available at* <https://www.redbooks.ibm.com/redpapers/pdfs/redp5725.pdf> (“The first generation of FCM drives were built by using 64-layer TLC flash memory and an Everspin Magnetoresistive Random Access Memory (MRAM) cache into a U.2 form factor.”).

124. Additionally, Everspin encourages, instructs, and/or aids one or more persons, to import, offer to sell, sell, or use domestically Everspin Accused Products and/or Everspin Accused Products comprising the same that were manufactured abroad by advertising the following xSPI Evaluation Boards sold by third-party distributors that it claims is “based on Everspin’s unique industrial STT MRAM technology”: xSPI Intel FPGA MRAM Evaluation Board, xSPI AMD/Xilinx FPGA MRAM Evaluation Board, EMxxLX MRAM Evaluation

Boards from MikroE, MAS Elettronica Educational Certus Pro NX with EMxxLX Support, Arrow AXE-5 Eagle Host Board, and Arrow CYC5000 IoT / Maker Host Board. **Ex. 45** (Everspin PERSYST xSPI for Industrial IoT and Embedded Systems), *available at* <https://www.everspin.com/persyst-xspi-industrial-iot-and-embedded-systems>. Everspin provides links to purchase the Everspin Accused Products from these third-party distributors. *Id.* Everspin also instructs one or more persons on use of such xSPI Evaluation Boards by also citing User Guides and a Manual. *Id.*; **Exs. 20-24** (User Guides for xSPI Intel FPGA MRAM Evaluation Board, xSPI AMD/Xilinx FPGA MRAM Evaluation Board, Arrow AXE-5 Eagle Host Board, and Arrow CYC5000 IoT / Maker Host Board; Manual for MAS Elettronica Educational Certus Pro NX with EMxxLX Support).

125. Everspin encourages, instructs, and/or aids one or more persons, to import, offer to sell, sell, or use Everspin Accused Products by advertising that customers can “Buy or Sample” the Everspin Accused Products in the United States where it further directs customers to the “Eastern US,” “Central US,” and “Western US” regions and provides contact information for Representatives (Allied Enterprises, Crestone Technology Group, Cypress Designs, Electronic Component Sales, EMA Sales, G2 Sales, Industrial Representatives, Intellimark Associates, MicroElec Technical, Millenium Alliance Group, MindShare Technical Sales, TAI Corp, Tech Coast Sales), Distributors (Edge Electronics), and Global Distributors (Die and Wafer Products, Arrow Electronics, Digi-Key Electronics, Future Electronics, Mouser Electronics). **Ex. 44** (Everspin Sales Offices, Representatives and Distributors), *available at* [https://www.everspin.com/sales#tab\\_dis-na](https://www.everspin.com/sales#tab_dis-na).

126. On information and belief, Everspin contributes to the infringement of one or more of the Asserted Claims of the 737 Patent by offering to sell or selling and/or importing a

patented component, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement and not a staple article or commodity of commerce suitable for substantial non-infringing use. The Everspin Accused Products are a material part of practicing at least claims 11, 12, 13, 14, 15, 17, and 18 of the 737 Patent, have no substantial non-infringing uses, are not a staple article of commerce, and are especially made and adapted for use in an infringing manner. For example, the Everspin Accused Products are specifically manufactured and designed and intended to include a magnetic tunneling junction with perpendicular magnetic anisotropy.

127. For another example, Everspin contributes to the infringement of one or more of the Asserted Claims of the 737 Patent by offering to sell or selling through its website the Everspin Accused Products. Everspin's website directs customers to "Buy or Sample" the Everspin Accused Products in the United States where it further directs customers to the "Eastern US," "Central US," and "Western US" regions and provides contact information for Everspin sales team members (Tom Brumbaugh, Ross Glover, Tony Suzer), Representatives (Allied Enterprises, Crestone Technology Group, Cypress Designs, Electronic Component Sales, EMA Sales, G2 Sales, Industrial Representatives, Intellimark Associates, MicroElec Technical, Millenium Alliance Group, MindShare Technical Sales, TAI Corp, Tech Coast Sales), Distributors (Edge Electronics), and Global Distributors (Die and Wafer Products, Arrow Electronics, Digi-Key Electronics, Future Electronics, Mouser Electronics). **Ex. 44** (Everspin Sales Offices, Representatives and Distributors), *available at* [https://www.everspin.com/sales#tab\\_dis-na](https://www.everspin.com/sales#tab_dis-na).

## **VII. HARMONIZED TARIFF SCHEDULE ITEM NUMBERS**

128. On information and belief, the Harmonized Tariff Schedule of the United States ("HTSUS") item numbers under which the infringing devices and components thereof may be

imported into the United States may be at least HTSUS 3818.00.00 (Chemical elements doped for use in electronics, in the form of discs, wafers or similar forms; chemical compounds doped for use in electronics); HTSUS 8473.30.11 (Memory modules suitable for use solely or principally with machines of heading 8471); and HTSUS 8542.32.00 (Memories). These classifications are intended for illustration only and are not intended to be restrictive of the accused products or of products subject to the relief requested.

### **VIII. RELATED LITIGATION**

129. The 179, 210, 586, and 737 Patents are the subject of a civil action in the United States District Court for the District of Delaware, filed on January 28, 2026, naming Everspin Technologies, Inc. as defendant.

130. As of the filing of this Complaint, the Asserted Patents are not the subject of any other Commission investigation, federal district court action, agency action, or foreign litigation or administrative proceedings.

### **IX. THE DOMESTIC INDUSTRY**

#### **A. United States Investments in the Domestic Industry**

131. A domestic industry, as set forth in 19 U.S.C § 1337(a)(2) and defined under 19 U.S.C. § 1337(a)(3), exists in the United States in relation to Avalanche’s products that are protected by the Asserted Patents.

#### **1. Technical Prong**

132. Avalanche makes significant and substantial investments in plant and equipment, labor and capital, and engineering, research, and development with respect to products that practice one or more claims of the Asserted Patents (the “Domestic Industry Product”).

133. The Avalanche Domestic Industry Products practice at least one claim of each of the Asserted Patents. Pursuant to 19 C.F.R. § 210.12(a)(9)(ix), **Exs. 47, 48, 49, and 50** are claim

charts demonstrating that the Domestic Industry Product practices the Asserted Patents. The following table identifies the Avalanche Domestic Industry Products with the corresponding practiced Asserted Patent and exemplary practiced claims.

Asserted Patent	Exemplary Practiced Claims
179 Patent	1, 3, 4, 6, 9, 10,11, 14
210 Patent	1, 3, 4, 6, 9, 10,11, 14
586 Patent	1, 4, 5, 6
737 Patent	11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 23, 24, 25, 26

134. A claim chart showing how the Avalanche Domestic Industry Product practices exemplary claims of the 179 Patent is attached as **Exhibit 47**. This claim chart provides a basis for the technical domestic industry relating to the 179 Patent.

135. A claim chart showing how the Avalanche Domestic Industry Product practices exemplary claims of the 210 Patent is attached as **Exhibit 48**. This claim chart provides a basis for the technical domestic industry relating to the 210 Patent.

136. A claim chart showing how the Avalanche Domestic Industry Product practices exemplary claims of the 586 Patent is attached as **Exhibit 49**. This claim chart provides a basis for the technical domestic industry relating to the 586 Patent.

137. A claim chart showing how the Avalanche Domestic Industry Product practices exemplary claims of the 737 Patent is attached as **Exhibit 50**. This claim chart provides a basis for the technical domestic industry relating to the 737 Patent.

138. The Domestic Industry Products are protected by additional claims of the Asserted Patents, and Avalanche may establish the technical prong of the domestic industry requirement through claims other than those exemplary claims explicitly charted herein.

## 2. Economic Prong

139. For each of the Asserted Patents, there is a domestic industry pursuant to 19 U.S.C. § 1337(a)(3)(A), (B), and (C) based on the continuing significant domestic investment in plant, equipment, labor, and capital by Avalanche, as well as the continuing substantial domestic investment in exploitation of the Asserted Patents through research, development, and engineering. Avalanche, since 2021 (and before) has significantly invested in designing, developing, creating, and commercializing the Domestic Industry Products. Below are images of Avalanche's Fremont, California facilities.





140. For example, through its facilities and employees in Fremont, California, Avalanche designs, develops, and commercializes its STT-MRAM Domestic Industry Products. These domestic facilities and labor are critical to Avalanche’s early research and development of Avalanche’s Domestic Industry STT-MRAM Products, including intensive materials and device research aimed at optimizing Avalanche’s proprietary Spin Programmable Memory (“SPMEM”™) and perpendicular Magnetic Tunnel Junction (“pMTJ”) architectures. Avalanche’s research and development engineers in Fremont perform extensive magnetic stack optimization, developing film compositions and switching mechanisms that enable nanosecond-level access speeds, ultra-low write currents, and exceptional endurance under extreme thermal and radiation conditions. These early stage domestic research and development efforts focus on materials engineering, and device characterization, and establish the foundation for Avalanche’s Domestic Industry STT-MRAM Products.

141. Avalanche also conducts device and circuit design and integration for the Domestic Industry STT-MRAM Products exclusively in Fremont, utilizing U.S. plant, equipment,

and labor. Avalanche's Fremont-based engineers perform circuit and process integration and design teams in Fremont create test vehicles and prototype wafers to validate cell performance, signal integrity, and process repeatability.

142. After the STT-MRAM cell design is verified, Avalanche employees in Fremont collaborate with strategic foundry partners to conduct pilot fabrication. From its Fremont facility, Avalanche engineers co-develop process control and metrology tools with equipment vendors to ensure reproducibility and manufacturability at commercial scale.

143. Avalanche's product qualification and reliability testing also takes place at its Fremont facility using U.S. labor and equipment. Avalanche's engineering teams in Fremont conduct comprehensive device qualification to validate the technology's performance, including electrical characterization, radiation tolerance, temperature cycling, and extended-endurance testing. Avalanche's sales and technical teams in Fremont also work with system on chip ("SoC") developers and Tier-1 foundries to integrate Avalanche's STT-MRAM technology into embedded applications, establishing long-term production and licensing revenue streams.

**a. Significant Investment in Plant and Equipment**

144. Pursuant to 19 U.S.C. § 1337(a)(3)(A), Avalanche has made and continues to make significant investments in plant and equipment in the U.S. directed to the Domestic Industry Products that practice each of the Asserted Patents, with the investments over the period from 2021 to present detailed in Confidential **Exhibit 51**. These investments in plant and equipment are directed to, among other functions, research and development, design, engineering, supply chain and operation management, sales, marketing, warranty, customer service, executive, intellectual property protection, and other business operations related to the Domestic Industry Products. Since 2017, Avalanche has leased facilities in Fremont, California for research, development, testing, and engineering. These facilities are where almost all of Avalanche's

employees are based. Avalanche has made significant tenant improvements, including laboratory build-outs, and specialized testing, development, and peripheral supporting equipment and capitalized tools. Avalanche has spent, and continues to spend, significant sums on facility costs for engineering, administration, sales, and marketing activities related to the Domestic Industry Products. Detailed confidential information about Avalanche's significant investments in its Domestic Industry Products is set forth in Confidential **Exhibit 51**, Declaration of Petro Estakhri.

**b. Significant Employment of Labor and Capital**

145. Pursuant to 19 U.S.C. § 1337(a)(3)(B), Avalanche has spent, and continues to spend, significant sums on domestic labor related to the Domestic Industry Products. For example, since 2021, Avalanche has employed engineering, administrative, sales, and marketing employees who have contributed to the design, development, testing, and sale of the Domestic Industry Products. Detailed confidential information about Avalanche's significant investments in labor relating to the Domestic Industry Products is set forth in Confidential **Exhibit 51**, Declaration of Petro Estakhri. **Confidential Exhibit 51**. These investments in the employment of labor and capital are directed to, among other functions, research and development, design, engineering, supply chain and operation management, sales, marketing, warranty, customer service, executive, intellectual property protection, and other business operations related to the Domestic Industry Products.

**c. Substantial Investment in Exploitation of the Asserted Patents**

146. Pursuant to 19 U.S.C. § 1337(a)(3)(C), Avalanche has engaged in and continues to engage in the exploitation of the Asserted Patents through significant domestic investments in research and development, design, engineering, supply chain and operation management, sales, licensing, marketing, warranty, customer service, executive, intellectual property protection, and other business operations related to the Domestic Industry Products. The expenditures described

above with respect to facilities and labor can also be described as Avalanche's U.S. investments in research and development and engineering of the Domestic Industry Products. The costs related to Avalanche's efforts to design and develop the Domestic Industry Products as well as research to exploit Avalanche's patented technology is set forth in Confidential **Exhibit 51**, Declaration of Petro Estakhri.

147. The foregoing domestic investments are significant and substantial under Section 337. These investments are significant and substantial both in absolute terms and relative to Avalanche's overall operations as described in Confidential **Exhibit 51**, Declaration of Petro Estakhri.

#### **X. RELIEF REQUESTED**

148. Complainant respectfully requests that the Commission:

Institute an investigation pursuant to Section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337, with respect to the proposed Respondent's violations of that section arising from the importation into the United States, sale for importation, and/or the sale within the United States after importation of certain MRAM memory elements, components thereof and products containing same that infringe the Asserted Patents;

Schedule and conduct a hearing pursuant to Section 337(c) for the purposes of: (i) receiving evidence and hearing argument concerning whether there has been a violation of Section 337, and (ii) following the hearing, determine that there has been a violation of Section 337;

Issue a permanent limited exclusion order directed to products manufactured by or for the proposed Respondent, its subsidiaries, related companies and agents pursuant to 19 U.S.C. § 1337(d) excluding entry into the United States of certain MRAM devices, products containing same, and components thereof that infringe the Asserted Patents;

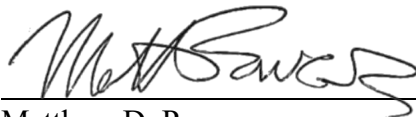
Issue a permanent cease and desist order pursuant to 19 U.S.C. § 1337(f) prohibiting the proposed Respondent, their subsidiaries, related companies and agents from conducting any of the following activities in the United States: importing, selling, marketing, advertising, distributing, offering for sale, transferring (except for exportation), soliciting United States agents or distributors, or aiding and abetting other entities in the importation, sale for importation, sale after importation, marketing, advertising, transfer (except for exportation), or distribution of certain MRAM devices, products containing same, and components thereof that infringe the Asserted Patents;

Impose a bond upon importation of certain MRAM devices, products containing same, and components thereof that infringe the Asserted Patents sufficient to protect Complainant from injury during the 60-day Presidential review period pursuant to 19 U.S.C. § 1337(j); and

Issue such other and further relief as the Commission deems just and proper under the law, based on the facts determined by the investigation and the authority of the Commission.

Dated: January 28, 2026

Respectfully submitted,



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