

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
MIDLAND-ODESSA DIVISION**

ADVANCED CLUSTER SYSTEMS, INC.,

Plaintiff,

v.

ADVANCED MICRO DEVICES, INC.,

Defendant.

Civil Action No. 7:24-CV-00244

JURY TRIAL DEMANDED

COMPLAINT

Plaintiff Advanced Cluster Systems, Inc. (“ACS”), by and through its undersigned counsel, hereby complains of Defendant Advanced Micro Devices, Inc. (“AMD”), and alleges as follows:

NATURE OF THE ACTION

1. This is a civil action for infringement of ACS’s United States Patent Nos. 10,333,768, 11,563,621, 11,570,034, 11,811,582, and 12,021,679 (the “Patents-in-Suit”) under the patent laws of the United States, 35 U.S.C. § 100, *et seq.*

THE PARTIES

2. Plaintiff ACS is a corporation incorporated under the laws of California and has its principal place of business at 220 Newport Center Drive, #11-202, Newport Beach, California 92660.

3. On information and belief, Defendant AMD is a corporation duly organized and existing under the laws of the State of Delaware, having a regular and established place of business in the Western District of Texas, including at 7171 Southwest Parkway, Austin, Texas 78735; 7000 West William Cannon Drive, Austin, TX 78735; and 1340 Airport Commerce Drive, Austin,

TX 78741.¹ AMD may be served through its registered agent, The Corporation Trust Corporation, located at Corporation Trust Center, 1209 Orange Street, Wilmington, Delaware, 19801.

JURISDICTION AND VENUE

4. ACS asserts claims for patent infringement arising under the patent laws of the United States, 35 U.S.C. § 100, *et seq.* This Court has subject matter jurisdiction of these claims under, *inter alia*, 28 U.S.C. §§ 1331 and 1338(a).

5. AMD is subject to this Court's specific and general personal jurisdiction consistent with the principles of due process and/or the Texas Long Arm Statute, TEX. CIV. PRAC. & REM. CODE § 17.041 *et seq.* This Court has general and specific personal jurisdiction over AMD at least because AMD has committed acts within the State of Texas and the Western District of Texas giving rise to this action, including, on information and belief, developing, making, using, marketing, selling, offering for sale, importing into the United States, and/or testing the infringing products, transacting and conducting business in the State of Texas and in the Western District of Texas, and transacting and conducting business with residents of the State of Texas and of the Western District of Texas.

6. ACS's causes of action arise, at least in part, from AMD's contacts with and activities in and/or directed at this District and the State of Texas. AMD has systematic and continuous business activities in this District. As described below, AMD has committed acts of patent infringement giving rise to this action within this District.

¹ See, e.g., <https://www.amd.com/en/corporate/locations.html>; <https://ir.amd.com/news-events/press-releases/detail/414/amd-opens-new-austin-campus> ("AMD [...] today officially opened the doors of its new 'Lone Star' campus in Austin, Texas [...] in a ceremony to officially open the new 870,000 square foot, 58-acre Austin campus at 7171 Southwest Parkway.") (all web pages cited herein and in the accompanying charts were last visited on or about September 23, 2024).

7. Personal jurisdiction exists generally over AMD because AMD has sufficient minimum contacts with the forum as a result of business conducted within the State of Texas and the Western District of Texas and/or has engaged in continuous and systematic activities in the Western District of Texas, and AMD is registered with the Secretary of State to do business in the State of Texas. Personal jurisdiction also exists over AMD because it makes, uses, sells, offers for sale, imports, advertises, makes available, and/or markets products or processes within the State of Texas and the Western District of Texas that infringe one or more claims of the Patents-in-Suit, as alleged more particularly below.

8. For example, as alleged more particularly below, AMD has infringed and continues to infringe the Patents-in-Suit within the State of Texas and the Western District of Texas by making, using, selling, licensing, offering for sale, and/or importing or exporting in, into, or out of the Western District of Texas and elsewhere in the State of Texas, products and services covered by claims in the Patents-in-Suit, including without limitation products that, when made or used, practice the claimed methods and systems of the Patents-in-Suit. AMD, directly and through intermediaries, makes, uses, sells, offers for sale, imports, ships, distributes, advertises, promotes, and/or otherwise commercializes such infringing products and services in or into the Western District of Texas and the State of Texas. AMD regularly conducts and solicits business in, engages in other persistent courses of conduct in, and/or derives substantial revenue from goods and services provided to residents of the Western District of Texas and the State of Texas.

9. Venue in this District is proper under 28 U.S.C. §§ 1400(b) and 1391(b) and (c) because AMD is subject to personal jurisdiction in the Western District of Texas and has committed acts of infringement in the Western District of Texas, either directly or through respective agents. AMD makes, uses, sells, and/or offers to sell infringing products or processes

within the Western District of Texas, has a continuing presence within the Western District of Texas, and has the requisite minimum contacts with the Western District of Texas such that this venue is a fair and reasonable one. Upon information and belief, AMD has transacted, and at the time of the filing of this Complaint, is continuing to transact business within the Western District of Texas.

10. AMD has a regular and established place of business in the Western District of Texas, including at their 870,000 square foot, 58-acre Austin campus located at 7171 Southwest Parkway, Austin, TX 78735;² at 7000 West William Cannon Drive, Austin, TX 78735; and at 1340 Airport Commerce Drive, Austin, TX 78741.³ As of December 2023, AMD had more than 3,500 employees in Austin.⁴ Currently, as of September 2024, AMD has over 100 job postings for Austin.⁵

11. On information and belief, AMD makes, uses, sells, tests, offers to sell, and/or imports infringing products into and/or within the Western District of Texas, including at its Austin locations. AMD maintains a permanent and/or continuing presence within the Western District of Texas at its Austin locations, and has the requisite minimum contacts with the Western District of Texas such that this venue is a fair and reasonable one. Upon information and belief, AMD has transacted and, at the time of the filing of this Complaint, is continuing to transact business within the Western District of Texas.

² See, e.g., <https://www.amd.com/en/corporate/locations.html>; <https://ir.amd.com/news-events/press-releases/detail/414/amd-opens-new-austin-campus>.

³ See <https://www.amd.com/en/corporate/locations.html>.

⁴ See <https://www.statesman.com/story/business/real-estate/2023/12/04/amd-semiconductor-lease-extension-austin-texas-vital-hub/71742105007/#:~:text=AMD%20employs%20more%20than%203%2C500,home%20to%20AMD's%20Austin%20operations>.

⁵ See <https://careers.amd.com/careers-home/jobs?stretchUnits=MILES&stretch=10&location=Austin,%20TX&lat=30.26715&lng=-97.74306&woe=7>.

12. AMD purposefully directs or controls the sale of the Accused Products, including, on information and belief, for sale in Texas and elsewhere in the United States, and expects and intends that the Accused Products will be so sold in the Western District of Texas. AMD purposefully places the Accused Products—whether by itself or through subsidiaries, affiliates, or third parties—into an international supply chain, knowing that the Accused Products will be sold in the United States, including in Texas and in the Western District of Texas. Therefore, AMD also facilitates the sale of the Accused Products in Texas. On information and belief, AMD is aware that Texas is a termination point of its established distribution channels for the Accused Products.

13. On information and belief, current AMD employees with knowledge relevant to the claims in this case are located in the Western District of Texas and within the State of Texas. For example, searches of LinkedIn® reveal over 4000 individuals located in Texas that, on information and belief, list AMD as their current employer. On information and belief, further searching reveals 6 current employees of AMD who list job titles or job experience related to MI210 processors, 5 who list job titles or job experience related to MI250 processors, 35 who list job titles or job experience related to MI325 processors, 4 who list job titles or job experience related to the AMD Instinct™ MI300X Platform, and 20 who list job titles or job experience related to the AMD Instinct™ Processors, all of which products are among the Accused Products. Exemplary current AMD employees located in Austin, TX that, on information and belief, have information relevant to the Accused Products include: (1) Javier Montalvo,⁶ BKC Release Manager for MI300X, MI 3250X, MI250, and M210, which includes all components including firmware, software, and tools

⁶ See <https://www.linkedin.com/in/montalvojavier>.

necessary for the MI300X product; (2) Ethan Cruz,⁷ Thermal Mechanical Engineer with experience as AMD's lead thermal-mechanical engineer for Accelerated Computing, driving the thermal development of all AMD Instinct products MI100 through MI300 and beyond; (3) Gration Dsilva,⁸ GPU Hardware Engineer – Platform Power Delivery with experience as a member of Datacenter GPU Systems engineering team, leading platform power delivery design and architecture for Instinct MIXX GPU platforms; (4) William Myrhang,⁹ Sr. Product Marketing Manager for Cloud and Datacenter GPUs/Accelerators targeting AI/ML and HPC, products including AMD Instinct MI200 series (MI250/MI210) and the new AMD Instinct MI300 series accelerators (MI300X/MI300A); (5) Abhijit Kuvar,¹⁰ Lead Hardware Design and Validation Engineer at AMD GPU Data Center BU with experience developing and validating Platform Hardware for the World's First Exascale Supercomputer – “Frontier”, built with AMD Instinct™ MI250X Accelerator GPU, Instinct™ MI300A APUs that will power the El Capitan Supercomputer, and AMD Instinct™ MI300X GPUs; (6) Nicolas Malaya,¹¹ Fellow, High Performance Computing with experience as AMD's technical lead for the Centers of Excellence (COE) for the Frontier and El Capitan Exascale Supercomputers, and also Exascale application performance; (7) Vamsi Krishna Alla,¹² Chief Engineer for AMD's Instinct class of products, Data Center GPU; and (8) Micky Kowlessar,¹³ Director Systems Engineering, Artificial Intelligence Group (AIG) for products including MI300 APU, MI300 GPU, and MI300 CPUs, targeting the High Performance Compute (HPC) and ML/AI markets. Further research and discovery may

⁷ See <https://www.linkedin.com/in/ethancruz>.

⁸ See <https://www.linkedin.com/in/gration-dsilva>.

⁹ See <https://www.linkedin.com/in/wkmyrhang>.

¹⁰ See <https://www.linkedin.com/in/abhijitkuvar>.

¹¹ See <https://www.linkedin.com/in/nicholasmalaya>.

¹² See <https://www.linkedin.com/in/vamsi-krishna-alla-02a54962>.

¹³ See <https://www.linkedin.com/in/mickykowlessar>.

produce additional current AMD employees with information relevant to the Accused Products and infringement of the Patents-in-Suit, but the above results show substantial numbers of current AMD employees with knowledge relevant to the claims in this case are located in the Western District of Texas and within the State of Texas.

14. On information and belief, former AMD employees with knowledge relevant to the claims in this case are located in the Western District of Texas and within the State of Texas. For example, searches of LinkedIn® reveal over 7900 individuals located in Texas who, on information and belief, list AMD as a past employer. On information and belief, additional LinkedIn® searches reveal 6 current employees of AMD who list job titles or job experience related to MI210 processors, 6 who list job titles or job experience related to MI250 processors, 27 who list job titles or job experience related to MI300 processors, 1 who lists job titles or job experience related to MI400 processors, 4 who list job titles or job experience related to the AMD Instinct™ MI300X Platform, and 19 who list job titles or job experience related to the AMD Instinct™ Processors, all of which products are among the Accused Products. Exemplary former AMD employees located in Austin, TX that, on information and belief, have information relevant to the Accused Products include: (1) Valentin Y,¹⁴ now at Dell, but was previously at AMD as Application Developer – Server/GPU System Infrastructure Validation with experience orchestrating the configuration and provisioning of Dell PowerEdge servers tailored to support AMD’s Instinct Accelerators and performing performance measurements on AMD’s MI100/MI200/M210 GPUs to ensure peak efficiency; (2) Sean Sun,¹⁵ now at Samsung Austin Research and Development Center (SARC), but was previously at AMD as Director of Silicon

¹⁴ See <https://www.linkedin.com/in/valentinyslas>.

¹⁵ See <https://www.linkedin.com/in/seanxsun>.

Design Engineering, RDNA/CDNA Product Performance Power Attainment & Analysis for products including MI200 (Frontier) and high performance MI300 series for both HPC and ML; (3) Tarun Nakra,¹⁶ now at Samsung Semiconductor, but was previously at AMD as Fellow Silicon Design Engineer with experience as SoC Performance Architect, Performance Technical lead for AMD Instinct MI Accelerators; (4) Jonathan Ha,¹⁷ now at Penguin Solutions, but was previously at AMD as Director, Product Management & Marketing – Data Center GPUs with experience leading team of product marketing managers to drive enablement, awareness and demand for AMD Instinct GPUs/accelerators and the ROCm open compute platform and launch of Instinct MI250/MI210 GPU accelerators and ROCm 5; and (5) Tom Dolbear,¹⁸ now at Uhnder, but formerly at AMD as Senior Director Product Development with experience developing AMD Instinct MI100, MI200 and MI300 products for datacenter and over 26 years of total experience at AMD. Further research and discovery may produce additional current AMD employees with information relevant to the Accused Products and infringement of the Patents-in-Suit, but the above results show substantial numbers of former AMD employees with knowledge relevant to the claims in this case are located in the Western District of Texas and within the State of Texas.

15. For at least the above reasons, venue is appropriate and convenient in the Western District of Texas. ACS reserves the right to amend or supplement its initial contentions regarding jurisdiction and venue as set forth herein, based upon further discovery.

THE PATENTS-IN-SUIT

16. ACS realleges and reincorporates by reference the allegations set forth in paragraphs 1-15 of this complaint.

¹⁶ See <https://www.linkedin.com/in/tarun-nakra-018b3b26>.

¹⁷ See <https://www.linkedin.com/in/jonathanwha>.

¹⁸ See <https://www.linkedin.com/in/tom-dolbear-02a2566>.

17. United States Patent No. 10,333,768, titled “Cluster Computing” (“the ’768 patent”), is a valid, enforceable patent that the United States Patent and Trademark Office duly and lawfully issued on June 25, 2019, in full compliance with Title 35 of the United States Code. A true and correct copy of the ’768 patent is attached to this complaint as Exhibit A.

18. ACS is the assignee of the ’768 patent with ownership of all substantial rights in the ’768 patent, including the right to exclude others and to enforce, sue, and recover damages for past and future infringements.

19. The claims of the ’768 patent when viewed as a whole, including as an ordered combination, are not merely the recitation of well-understood, routine, or conventional technologies or components at the time of invention.

20. United States Patent No. 11,563,621, titled “Cluster Computing” (“the ’621 patent”), is a valid, enforceable patent that the United States Patent and Trademark Office duly and lawfully issued on January 24, 2023, in full compliance with Title 35 of the United States Code. A true and correct copy of the ’621 patent is attached to this complaint as Exhibit B.

21. ACS is the assignee of the ’621 patent with ownership of all substantial rights in the ’621 patent, including the right to exclude others and to enforce, sue, and recover damages for past and future infringements.

22. The claims of the ’621 patent when viewed as a whole, including as an ordered combination, are not merely the recitation of well-understood, routine, or conventional technologies or components at the time of invention.

23. United States Patent No. 11,570,034, titled “Cluster Computing” (“the ’034 patent”), is a valid, enforceable patent that the United States Patent and Trademark Office duly

and lawfully issued on January 31, 2023, in full compliance with Title 35 of the United States Code. A true and correct copy of the '034 patent is attached to this complaint as Exhibit C.

24. ACS is the assignee of the '034 patent with ownership of all substantial rights in the '034 patent, including the right to exclude others and to enforce, sue, and recover damages for past and future infringements.

25. The claims of the '034 patent when viewed as a whole, including as an ordered combination, are not merely the recitation of well-understood, routine, or conventional technologies or components at the time of invention.

26. United States Patent No. 11,811,582, titled "Cluster Computing" ("the '582 patent"), is a valid, enforceable patent that the United States Patent and Trademark Office duly and lawfully issued on November 7, 2023, in full compliance with Title 35 of the United States Code. A true and correct copy of the '582 patent is attached to this complaint as Exhibit D.

27. ACS is the assignee of the '582 patent with ownership of all substantial rights in the '582 patent, including the right to exclude others and to enforce, sue, and recover damages for past and future infringements.

28. The claims of the '582 patent when viewed as a whole, including as an ordered combination, are not merely the recitation of well-understood, routine, or conventional technologies or components at the time of invention.

29. United States Patent No. 12,021,679, titled "Cluster Computing" ("the '679 patent"), is a valid, enforceable patent that the United States Patent and Trademark Office duly and lawfully issued on June 25, 2024, in full compliance with Title 35 of the United States Code. A true and correct copy of the '679 patent is attached to this complaint as Exhibit E.

30. ACS is the assignee of the '679 patent with ownership of all substantial rights in the '679 patent, including the right to exclude others and to enforce, sue, and recover damages for past and future infringements.

31. The claims of the '679 patent when viewed as a whole, including as an ordered combination, are not merely the recitation of well-understood, routine, or conventional technologies or components at the time of invention.

32. ACS has complied with the marking requirements of 35 U.S.C. § 287(a), and therefore is entitled to past damages.

33. Computer clusters include a group of two or more computers, microprocessors, and or processor cores (“nodes”) that intercommunicate so that the nodes can accomplish a task as though they were a single computer. Prior to the inventions disclosed and claimed in the Patents-in-Suit, most software application programs were unable to benefit from the advantages offered by cluster computing, even if running on a group of computers that could act as a cluster. This is because the software application programs were not designed to benefit from the advantages offered by computer clusters. For example, many software application programs were coded to perform tasks serially, were designed to recognize and send instructions to only a single node in a cluster, or included a kernel that was designed to communicate with a single node. Wolfram Research Mathematica[®] is an example of a software application program with a kernel that was designed to communicate with a single node.

34. Prior to the inventions disclosed and claimed in the Patents-in-Suit, one method used to improve the performance of software application programs with a kernel designed to communicate with a single node was to utilize a form of distributed computing called grid computing. Grid computing included a plurality of computer nodes that did not communicate with

one another as peers. One node served as a master node that managed a plurality of slave nodes. Each slave node functioned independently, and intermediate results of one slave node did not affect other jobs in progress on other nodes. Slave nodes communicated only with the master node, and not directly with other slave nodes. An example of grid computing applied to a software application program with a kernel designed to communicate with a single node was Wolfram Research gridMathematica. Distributed computing architectures like grid computing could be optimized only for workloads that consisted of many independent jobs of packets of work that did not need to share data between the jobs during the computational process.

35. The Patents-in-Suit are directed to an advanced, parallel mesh computing framework that makes supercomputing performance available to mainstream software. The disclosed inventions enable software application programs to benefit from the advantages offered by computer clusters by, amongst other things, providing systems and methods for allowing cluster nodes to directly communicate with one another, and not just to a master node, via a communications network to perform calculations and processing on a larger scale and/or with improved speed.

FACTUAL BACKGROUND

36. ACS realleges and reincorporates by reference the allegations set forth in paragraphs 1-35 of this Complaint.

37. Plaintiff ACS was founded in 2004 by Zvi Tannenbaum. Mr. Tannenbaum has a degree in electronics from the Israeli Air Force Technical School in Haifa, Israel, and devoted over 27 years to the electronic test industry prior to forming ACS. Mr. Tannenbaum's passion for supercomputers led him to create ACS in 2004, with the mission of building innovative parallel

programming tools for high-performance computing applications running on multicore, clusters, and supercomputers.

38. To accomplish his mission, Mr. Tannenbaum partnered with Dr. Dean E. Dauger, Founder and President of Dauger Research, Inc. Dr. Dauger is an accomplished scientist with extensive experience in high-performance computing. He holds a B.S. in Mathematical Physics from Harvey Mudd College, an M.S. in Physics from the University of California, Los Angeles (“UCLA”) and a Ph.D. in Physics, also from UCLA. While at UCLA, Dr. Dauger co-invented the first easy-to-use, high-performance cluster using a network of Macintosh computers, which garnered worldwide recognition.

39. Dr. Dauger has won multiple American Institute of Physics software contests, and he coauthored the original, award-winning Kai’s Power Tools image-processing package for Adobe® Photoshop®. Dr. Dauger has also authored articles published in a variety of journals including the IEEE Journal of Computing in Science and Engineering, Journal of Computational Physics, Journal of Computer Physics Communications, and IEEE International Conference on Cluster Computing.

40. Through their partnership, Dr. Dauger and Mr. Tannenbaum developed groundbreaking systems and methods to improve parallel programming and supercomputing functionality, some of which were commercialized.

41. For example, Dr. Dauger and Mr. Tannenbaum developed a Supercomputing Engine Technology™ (SET™) product. SET is based on Message Passing Interface (“MPI”) technology. Thus, SET is an MPI-based library that significantly simplifies parallel programming and allows a wide range of software writers to scale their code efficiently on a multitude of cores. ACS began selling SET in 2010.

42. During the development phase of SET, the SET parallelization approach was applied to Wolfram Research Mathematica, providing it with supercomputing-style parallelization. The resulting product was commercialized as SEMTM (Supercomputing Engine for Mathematica). SEM was a software add-on for use with Mathematica that created a standard way for each Mathematica kernel in a cluster to communicate directly with every other kernel. In contrast to typical Mathematica grid implementations that were solely master-slave or server-client implementations, SEM enabled all kernels to communicate collectively. ACS began selling SEM in 2008. Enabling Mathematica kernels to be harnessed together in this manner was a new approach to handling supercomputing challenges at that time.

43. Dr. Dager and Mr. Tannenbaum's innovative systems and methods at issue in this action are described and claimed in the Patents-in-Suit.

44. ACS is informed and believes, and thereon alleges that AMD was making, using, testing, selling, offering for sale, and/or importing into the United States commercial products incorporating its infringing technology at least as early as 2021. For example, by September 21, 2021, AMD was making, using, and testing commercial products incorporating its infringing technology, including at least is MI250 and MI250X Accelerators.¹⁹

45. ACS is informed and believes, and thereon alleges that in November 2021, AMD subsequently offered for sale within the United States its MI250X and MI250 Accelerators.²⁰

¹⁹ <https://www.amd.com/en/products/accelerators/instinct/mi200.html> at n.3, 4.

²⁰ <https://ir.amd.com/news-events/press-releases/detail/1032/new-amd-instinct-mi200-series-accelerators-bring>; <https://ir.amd.com/news-events/press-releases/detail/1034/amd-processors-accelerating-performance-of-top>.

46. ACS is informed and believes, and thereon alleges also that in and around March 22, 2022, AMD was making, using, testing, and/or offering for sale commercial products incorporating its infringing technology that included its MI210 Accelerator.²¹

47. ACS is informed and believes, and thereon alleges that AMD subsequently began making, using, testing, and/or offering for sale additional products infringing, or especially adapted for infringing ACS's patented technology, including its MI300 Series Accelerators. For example, on November 11, 2023, AMD Performance Lab conducted measurement tests on AMD's MI300X and MI300A Accelerators,²² and on December 6, 2023, AMD issued a press release announcing the availability of its MI300X and MI300A Accelerator and MI300X platform products.²³

48. ACS is informed and believes, and thereon alleges that AMD has made, used, offered to sell, and/or sold within the United States, and/or has imported into the United States server and workstation products that utilize AMD's MI300X Accelerators, including at least AMD's INSTINCT™ MI300X Platform, and all products including or related to AMD's INSTINCT™ MI300X Platform and all products including or related to AMD INSTINCT™ Accelerator Qualified Servers incorporating any of the Accused AMD Accelerator Products,²⁴ as well as any products incorporating those items and any products that are substantially similar to those items (the "Accused AMD Server Products").

49. ACS is informed and believes, and thereon alleges that AMD has made, used, offered to sell, and/or sold within the United States, and/or has imported into the United States

²¹ <https://ir.amd.com/news-events/press-releases/detail/1056/amd-instinct-expands-ecosystem-and-delivers>.

²² <https://www.amd.com/en/products/accelerators/instinct/mi300.html> at n.1, 9 (respectively).

²³ <https://www.amd.com/en/newsroom/press-releases/2023-12-6-amd-delivers-leadership-portfolio-of-data-center-a.html>.

²⁴ <https://www.amd.com/content/dam/amd/en/documents/products/accelerators/instinct/amd-instinct-solution-catalog.pdf>

accelerator products especially adapted for use in server and workstation products, including AMD's MI210, MI250, MI250X, MI300X, and MI300A, as well as any products incorporating those items, and any products that are substantially similar to those items (the "Accused AMD Accelerator Products").

50. Collectively, the Accused AMD Server Products and Accused AMD Accelerator Products are referred to herein as the Accused Products.

**FIRST CLAIM FOR RELIEF
INFRINGEMENT OF THE '768 PATENT**

51. ACS realleges and reincorporates by reference the allegations set forth in paragraphs 1-50 of this Complaint.

52. ACS is informed and believes, and thereon alleges that AMD has directly infringed and continues to infringe, literally and/or through the doctrine of equivalents, at least one claim of the '768 patent by making, using, selling, offering for sale, and/or importing one or more of the Accused Products, in violation of 35 U.S.C. § 271(a). AMD continues to engage in acts of direct infringement of the '768 patent.

53. Exhibit F1 provides a claim chart demonstrating how the Accused AMD Server Products and Accused AMD Accelerator Products practice claim 1 of the '768 patent. Exhibit F2 provides a claim chart demonstrating how the Accused AMD Server Products and Accused AMD Accelerator Products are configured in a manner that practice claim 35 of the '768 patent.

54. AMD is aware of the '768 patent and the infringement of the '768 patent by the Accused Products at least as of the filing of this Complaint. To the extent that AMD continues to infringe the '768 patent after the filing of this Complaint, it does so in willful disregard of ACS's patent rights. AMD's continued infringement of the '768 patent is deliberate and willful, entitling ACS to an award of treble damages, reasonable attorney fees, and costs in bringing this action.

55. ACS is informed and believes, and thereon alleges that, at least as of the filing date of this Complaint, AMD has actively, knowingly, and intentionally induced infringement of at least claims 1 and 35 of the '768 patent in violation of 35 U.S.C. § 271(b). ACS is informed and believes, and thereon alleges that AMD makes, uses, sells, offers for sale, and/or imports one or more of the Accused Products for or on behalf of third parties such as customers, users, system builders, partners, and retailers/distributors, knowing and intending that the Accused Products will be used by the third parties in a manner that practices at least claims 1 and 35 of the '768 patent as shown in Exhibits F1 and F2, respectively. For example, AMD published and provided marketing materials, technical specifications, whitepapers, datasheets, user manuals, and development and testing information, and other resources on its website²⁵ that instructed and encouraged third parties to integrate the Accused Products into products using AMD's technology that were then made, used, sold, offered for sale and/or imported into the United States.²⁶ AMD also provides a website to inform customers with the servers and workstations that support the Accused AMD Accelerator Products,²⁷ case studies of customer success stories,²⁸ and supporting documentation for the Instinct™ Accelerators.²⁹ These activities were designed to bring infringing products that incorporate AMD's Accused Products to market in the United States. As a result of AMD's

²⁵ See, e.g., <http://amd.com/>, <https://www.amd.com/en/products/accelerators/instinct.html>, and pages linked thereon.

²⁶ E.g., <https://www.amd.com/en/where-to-buy/accelerators/instinct.html#partner> and <https://www.amd.com/content/dam/amd/en/documents/products/accelerators/instinct/amd-instinct-solution-catalog.pdf>.

²⁷ E.g., https://www.amd.com/en/where-to-buy/accelerators/instinct.html#sortCriteria=%40amd_partner%20ascending.

²⁸ E.g., https://www.amd.com/en/resources/case-studies.html#sortCriteria=%40amd_release_date%20descending&f-amd_form_factor=Servers&f-amd_product_type=Accelerators.

²⁹ E.g., https://www.amd.com/en/search/documentation/hub.html#sortCriteria=%40amd_release_date%20descending&f-amd_product_type=Accelerators&f-amd_product_brand=Instinct.

activities, the Accused Products have been used in a manner that directly infringes the '768 patent. AMD continues to engage in acts of inducement of infringement of the '768 patent.

56. ACS is informed and believes, and thereon alleges that AMD has directly infringed literally and/or through the doctrine of equivalents claims 1 and 35 of the '768 patent by making, using, selling, offering for sale, and/or importing one or more of the Accused Products, in violation of 35 U.S.C. § 271(a).

57. As a consequence of AMD's infringement of the '768 patent, ACS has been damaged and is entitled to monetary relief in an amount to be determined at trial.

58. Unless enjoined, AMD and/or others acting on behalf of AMD will continue their infringing acts, thereby causing additional irreparable injury to ACS for which there is no adequate remedy at law.

59. ACS reserves the right to amend or supplement the initial infringement contentions set forth herein and in Exhibits F1 and F2, including the list of Accused Products, based upon further discovery. Further, ACS may amend or supplement any of its infringement contentions in view of any claim construction ruling(s) by the Court or any position taken by any party in this or any other related action. ACS therefore expressly reserves the right to amend or to supplement its identification of asserted claims and Accused Products, as well as its claim charts, based on further investigation and discovery.

**SECOND CLAIM FOR RELIEF
INFRINGEMENT OF THE '621 PATENT**

60. ACS realleges and reincorporates by reference the allegations set forth in paragraphs 1-50 of this Complaint.

61. ACS is informed and believes, and thereon alleges that AMD has directly infringed and continues to infringe, literally and/or through the doctrine of equivalents, at least one claim of

the '621 patent by making, using, selling, offering for sale, and/or importing one or more of the Accused Products, in violation of 35 U.S.C. § 271(a). AMD continues to engage in acts of direct infringement of the '621 patent.

62. Exhibit G provides a claim chart demonstrating how the Accused AMD Server Products and Accused AMD Accelerator Products practice claim 1 of the '621 patent.

63. AMD is aware of the '621 patent and the infringement of the '621 patent by the Accused Products at least as of the filing of this Complaint. To the extent that AMD continues to infringe the '621 patent after the filing of this Complaint, it does so in willful disregard of ACS's patent rights. AMD's continued infringement of the '621 patent is deliberate and willful, entitling ACS to an award of treble damages, reasonable attorney fees, and costs in bringing this action.

64. ACS is informed and believes, and thereon alleges that, at least as of the filing date of this Complaint, AMD has actively, knowingly, and intentionally induced infringement of at least claim 1 of the '621 patent in violation of 35 U.S.C. § 271(b). ACS is informed and believes, and thereon alleges that AMD makes, uses, sells, offers for sale, and/or imports one or more of the Accused Products for or on behalf of third parties such as customers, users, system builders, partners, and retailers/distributors, knowing and intending that the Accused Products will be used by the third parties in a manner that practices at least claim 1 of the '621 patent as shown in Exhibit G. For example, AMD published and provided marketing materials, technical specifications, whitepapers, datasheets, user manuals, and development and testing information, and other resources on its website³⁰ that instructed and encouraged third parties to integrate the Accused Products into products using AMD's technology that were then made, used, sold, offered for sale

³⁰ See, e.g., <http://amd.com/>, <https://www.amd.com/en/products/accelerators/instinct.html>, and pages linked thereon.

and/or imported into the United States.³¹ AMD also provides a website to inform customers with the servers and workstations that support the Accused AMD Accelerator Products,³² case studies of customer success stories,³³ and supporting documentation for the Instinct™ Accelerators.³⁴ These activities were designed to bring infringing products that incorporate AMD's Accused Products to market in the United States. As a result of AMD's activities, the Accused Products have been used in a manner that directly infringes the '621 patent. AMD continues to engage in acts of inducement of infringement of the '621 patent.

65. ACS is informed and believes, and thereon alleges that AMD has directly infringed literally and/or through the doctrine of equivalents claim 1 of the '621 patent by making, using, selling, offering for sale, and/or importing one or more of the Accused Products, in violation of 35 U.S.C. § 271(a).

66. As a consequence of AMD's infringement of the '621 patent, ACS has been damaged and is entitled to monetary relief in an amount to be determined at trial.

67. Unless enjoined, AMD and/or others acting on behalf of AMD will continue their infringing acts, thereby causing additional irreparable injury to ACS for which there is no adequate remedy at law.

³¹ *E.g.*, <https://www.amd.com/en/where-to-buy/accelerators/instinct.html#partner> and <https://www.amd.com/content/dam/amd/en/documents/products/accelerators/instinct/amd-instinct-solution-catalog.pdf>.

³² *E.g.*, https://www.amd.com/en/where-to-buy/accelerators/instinct.html#sortCriteria=%40amd_partner%20ascending.

³³ *E.g.*, https://www.amd.com/en/resources/case-studies.html#sortCriteria=%40amd_release_date%20descending&f-amd_form_factor=Servers&f-amd_product_type=Accelerators.

³⁴ *E.g.*, https://www.amd.com/en/search/documentation/hub.html#sortCriteria=%40amd_release_date%20descending&f-amd_product_type=Accelerators&f-amd_product_brand=Instinct.

68. ACS reserves the right to amend or supplement the initial infringement contentions set forth herein and in Exhibit G, including the list of Accused Products, based upon further discovery. Further, ACS may amend or supplement any of its infringement contentions in view of any claim construction ruling(s) by the Court or any position taken by any party in this or any other related action. ACS therefore expressly reserves the right to amend or to supplement its identification of asserted claims and Accused Products, as well as its claim charts, based on further investigation and discovery.

**THIRD CLAIM FOR RELIEF
INFRINGEMENT OF THE '034 PATENT**

69. ACS realleges and reincorporates by reference the allegations set forth in paragraphs 1-50 of this Complaint.

70. ACS is informed and believes, and thereon alleges that AMD has directly infringed and continues to infringe, literally and/or through the doctrine of equivalents, at least one claim of the '034 patent by making, using, selling, offering for sale, and/or importing one or more of the Accused Products, in violation of 35 U.S.C. § 271(a). AMD continues to engage in acts of direct infringement of the '034 patent.

71. Exhibit H1 provides a claim chart demonstrating how the Accused AMD Server Products and Accused Accelerator Products practice claim 1 of the '034 patent. Exhibit H2 provides a claim chart demonstrating how the Accused AMD Server Products and Accused AMD Accelerator Products are configured in a manner that practice claim 30 of the '034 patent.

72. AMD is aware of the '034 patent and the infringement of the '034 patent by the Accused Products at least as of the filing of this Complaint. To the extent that AMD continues to infringe the '034 patent after the filing of this Complaint, it does so in willful disregard of ACS's

patent rights. AMD's continued infringement of the '034 patent is deliberate and willful, entitling ACS to an award of treble damages, reasonable attorney fees, and costs in bringing this action.

73. ACS is informed and believes, and thereon alleges that, at least as of the filing date of this Complaint, AMD has actively, knowingly, and intentionally induced infringement of at least claims 1 and 30 of the '034 patent in violation of 35 U.S.C. § 271(b). ACS is informed and believes, and thereon alleges that AMD makes, uses, sells, offers for sale, and/or imports one or more of the Accused Products for or on behalf of third parties such as customers, users, system builders, partners, and retailers/distributors, knowing and intending that the Accused Products will be used by the third parties in a manner that practices at least claims 1 and 30 of the '034 patent as shown in Exhibits H1 and H2, respectively. For example, AMD published and provided marketing materials, technical specifications, whitepapers, datasheets, user manuals, and development and testing information, and other resources on its website³⁵ that instructed and encouraged third parties to integrate the Accused Products into products using AMD's technology that were then made, used, sold, offered for sale and/or imported into the United States.³⁶ AMD also provides a website to inform customers with the servers and workstations that support the Accused AMD Accelerator Products,³⁷ case studies of customer success stories,³⁸ and supporting

³⁵ See, e.g., <http://amd.com/>, <https://www.amd.com/en/products/accelerators/instinct.html>, and pages linked thereon.

³⁶ E.g., <https://www.amd.com/en/where-to-buy/accelerators/instinct.html#partner> and <https://www.amd.com/content/dam/amd/en/documents/products/accelerators/instinct/amd-instinct-solution-catalog.pdf>.

³⁷ E.g., https://www.amd.com/en/where-to-buy/accelerators/instinct.html#sortCriteria=%40amd_partner%20ascending.

³⁸ E.g., https://www.amd.com/en/resources/case-studies.html#sortCriteria=%40amd_release_date%20descending&f-amd_form_factor=Servers&f-amd_product_type=Accelerators.

documentation for the Instinct™ Accelerators.³⁹ These activities were designed to bring infringing products that incorporate AMD's Accused Products to market in the United States. As a result of AMD's activities, the Accused Products have been used in a manner that directly infringes the '034 patent. AMD continues to engage in acts of inducement of infringement of the '034 patent.

74. ACS is informed and believes, and thereon alleges that AMD has directly infringed literally and/or through the doctrine of equivalents claims 1 and 30 of the '034 patent by making, using, selling, offering for sale, and/or importing one or more of the Accused Products, in violation of 35 U.S.C. § 271(a).

75. As a consequence of AMD's infringement of the '034 patent, ACS has been damaged and is entitled to monetary relief in an amount to be determined at trial.

76. Unless enjoined, AMD and/or others acting on behalf of AMD will continue their infringing acts, thereby causing additional irreparable injury to ACS for which there is no adequate remedy at law.

77. ACS reserves the right to amend or supplement the initial infringement contentions set forth herein and in Exhibits H1 and H2, including the list of Accused Products, based upon further discovery. Further, ACS may amend or supplement any of its infringement contentions in view of any claim construction ruling(s) by the Court or any position taken by any party in this or any other related action. ACS therefore expressly reserves the right to amend or to supplement its identification of asserted claims and Accused Products, as well as its claim charts, based on further investigation and discovery.

³⁹ *E.g.*,

https://www.amd.com/en/search/documentation/hub.html#sortCriteria=%40amd_release_date%20descending&f-amd_product_type=Accelerators&f-amd_product_brand=Instinct.

**FOURTH CLAIM FOR RELIEF
INFRINGEMENT OF THE '582 PATENT**

78. ACS realleges and reincorporates by reference the allegations set forth in paragraphs 1-50 of this Complaint.

79. ACS is informed and believes, and thereon alleges that AMD has directly infringed and continues to infringe, literally and/or through the doctrine of equivalents, at least one claim of the '582 patent by making, using, selling, offering for sale, and/or importing one or more of the Accused Products, in violation of 35 U.S.C. § 271(a). AMD continues to engage in acts of direct infringement of the '582 patent.

80. Exhibit I provides a claim chart demonstrating how the Accused AMD Server Products and AMD Accelerator Products practice claim 1 of the '582 patent.

81. AMD is aware of the '582 patent and the infringement of the '582 patent by the Accused Products at least as of the filing of this Complaint. To the extent that AMD continues to infringe the '582 patent after the filing of this Complaint, it does so in willful disregard of ACS's patent rights. AMD's continued infringement of the '582 patent is deliberate and willful, entitling ACS to an award of treble damages, reasonable attorney fees, and costs in bringing this action.

82. ACS is informed and believes, and thereon alleges that, at least as of the filing date of this Complaint, AMD has actively, knowingly, and intentionally induced infringement of at least claim 1 of the '582 patent in violation of 35 U.S.C. § 271(b). ACS is informed and believes, and thereon alleges that AMD makes, uses, sells, offers for sale, and/or imports one or more of the Accused Products for or on behalf of third parties such as customers, users, system builders, partners, and retailers/distributors, knowing and intending that the Accused Products will be used by the third parties in a manner that practices at least claim 1 of the '582 patent as shown in Exhibit I. For example, AMD published and provided marketing materials, technical specifications,

whitepapers, datasheets, user manuals, and development and testing information, and other resources on its website⁴⁰ that instructed and encouraged third parties to integrate the Accused Products into products using AMD's technology that were then made, used, sold, offered for sale and/or imported into the United States.⁴¹ AMD also provides a website to inform customers with the servers and workstations that support the Accused AMD Accelerator Products,⁴² case studies of customer success stories,⁴³ and supporting documentation for the Instinct™ Accelerators.⁴⁴ These activities were designed to bring infringing products that incorporate AMD's Accused Products to market in the United States. As a result of AMD's activities, the Accused Products have been used in a manner that directly infringes the '582 patent. AMD continues to engage in acts of inducement of infringement of the '582 patent.

83. ACS is informed and believes, and thereon alleges that AMD has directly infringed literally and/or through the doctrine of equivalents claim 1 of the '582 patent by making, using, selling, offering for sale, and/or importing one or more of the Accused Products, in violation of 35 U.S.C. § 271(a).

84. As a consequence of AMD's infringement of the '582 patent, ACS has been damaged and is entitled to monetary relief in an amount to be determined at trial.

⁴⁰ See, e.g., <http://amd.com/>, <https://www.amd.com/en/products/accelerators/instinct.html>, and pages linked thereon.

⁴¹ E.g., <https://www.amd.com/en/where-to-buy/accelerators/instinct.html#partner> and <https://www.amd.com/content/dam/amd/en/documents/products/accelerators/instinct/amd-instinct-solution-catalog.pdf>.

⁴² E.g., https://www.amd.com/en/where-to-buy/accelerators/instinct.html#sortCriteria=%40amd_partner%20ascending.

⁴³ E.g., https://www.amd.com/en/resources/case-studies.html#sortCriteria=%40amd_release_date%20descending&f-amd_form_factor=Servers&f-amd_product_type=Accelerators.

⁴⁴ E.g., https://www.amd.com/en/search/documentation/hub.html#sortCriteria=%40amd_release_date%20descending&f-amd_product_type=Accelerators&f-amd_product_brand=Instinct.

85. Unless enjoined, AMD and/or others acting on behalf of AMD will continue their infringing acts, thereby causing additional irreparable injury to ACS for which there is no adequate remedy at law.

86. ACS reserves the right to amend or supplement the initial infringement contentions set forth herein and in Exhibit I, including the list of Accused Products, based upon further discovery. Further, ACS may amend or supplement any of its infringement contentions in view of any claim construction ruling(s) by the Court or any position taken by any party in this or any other related action. ACS therefore expressly reserves the right to amend or to supplement its identification of asserted claims and Accused Products, as well as its claim charts, based on further investigation and discovery.

**FIFTH CLAIM FOR RELIEF
INFRINGEMENT OF THE '679 PATENT**

87. ACS realleges and reincorporates by reference the allegations set forth in paragraphs 1-8650 of this Complaint.

88. ACS is informed and believes, and thereon alleges that AMD has directly infringed and continues to infringe, literally and/or through the doctrine of equivalents, at least one claim of the '679 patent by making, using, selling, offering for sale, and/or importing one or more of the Accused Products, in violation of 35 U.S.C. § 271(a). AMD continues to engage in acts of direct infringement of the '679 patent.

89. Exhibit J provides a claim chart demonstrating how the Accused AMD Server Products and Accused AMD Accelerator Products practice claim 1 of the '679 patent.

90. AMD is aware of the '679 patent and the infringement of the '679 patent by the Accused Products at least as of the filing of this Complaint. To the extent that AMD continues to infringe the '679 patent after the filing of this Complaint, it does so in willful disregard of ACS's

patent rights. AMD's continued infringement of the '679 patent is deliberate and willful, entitling ACS to an award of treble damages, reasonable attorney fees, and costs in bringing this action.

91. ACS is informed and believes, and thereon alleges that, at least as of the filing date of this Complaint, AMD has actively, knowingly, and intentionally induced infringement of at least claim 1 of the '679 patent in violation of 35 U.S.C. § 271(b). ACS is informed and believes, and thereon alleges that AMD makes, uses, sells, offers for sale, and/or imports one or more of the Accused Products for or on behalf of third parties such as customers, users, system builders, partners, and retailers/distributors, knowing and intending that the Accused Products will be used by the third parties in a manner that practices at least claim 1 of the '679 patent as shown in Exhibit J. For example, AMD published and provided marketing materials, technical specifications, whitepapers, datasheets, user manuals, and development and testing information, and other resources on its website⁴⁵ that instructed and encouraged third parties to integrate the Accused Products into products using AMD's technology that were then made, used, sold, offered for sale and/or imported into the United States.⁴⁶ AMD also provides a website to inform customers with the servers and workstations that support the Accused AMD Accelerator Products,⁴⁷ case studies of customer success stories,⁴⁸ and supporting documentation for the InstinctTM Accelerators.⁴⁹

⁴⁵ See, e.g., <http://amd.com/>, <https://www.amd.com/en/products/accelerators/instinct.html>, and pages linked thereon.

⁴⁶ E.g., <https://www.amd.com/en/where-to-buy/accelerators/instinct.html#partner> and <https://www.amd.com/content/dam/amd/en/documents/products/accelerators/instinct/amd-instinct-solution-catalog.pdf>.

⁴⁷ E.g., https://www.amd.com/en/where-to-buy/accelerators/instinct.html#sortCriteria=%40amd_partner%20ascending.

⁴⁸ E.g., https://www.amd.com/en/resources/case-studies.html#sortCriteria=%40amd_release_date%20descending&f-amd_form_factor=Servers&f-amd_product_type=Accelerators.

⁴⁹ E.g., https://www.amd.com/en/search/documentation/hub.html#sortCriteria=%40amd_release_date%20descending&f-amd_product_type=Accelerators&f-amd_product_brand=Instinct.

These activities were designed to bring infringing products that incorporate AMD's Accused Products to market in the United States. As a result of AMD's activities, the Accused Products have been used in a manner that directly infringes the '679 patent. AMD continues to engage in acts of inducement of infringement of the '679 patent.

92. ACS is informed and believes, and thereon alleges that AMD has directly infringed literally and/or through the doctrine of equivalents claim 1 of the '679 patent by making, using, selling, offering for sale, and/or importing one or more of the Accused Products, in violation of 35 U.S.C. § 271(a).

93. As a consequence of AMD's infringement of the '679 patent, ACS has been damaged and is entitled to monetary relief in an amount to be determined at trial.

94. Unless enjoined, AMD and/or others acting on behalf of AMD will continue their infringing acts, thereby causing additional irreparable injury to ACS for which there is no adequate remedy at law.

95. ACS reserves the right to amend or supplement the initial infringement contentions set forth herein and in Exhibit J, including the list of Accused Products, based upon further discovery. Further, ACS may amend or supplement any of its infringement contentions in view of any claim construction ruling(s) by the Court or any position taken by any party in this or any other related action. ACS therefore expressly reserves the right to amend or to supplement its identification of asserted claims and Accused Products, as well as its claim charts, based on further investigation and discovery.

PRAYER FOR RELIEF

WHEREFORE, ACS prays for judgment in its favor against AMD for the following relief:

A. Pursuant to 35 U.S.C. § 271, a determination that AMD and its officers, agents, servants, employees, attorneys and all others in active concert and/or participation with them have infringed, directly and indirectly, each of the '768, '621, '034, '582, and '679 patents through the manufacture, use, testing, importation, offer for sale, and/or sale of infringing products and/or any of the other acts prohibited by 35 U.S.C. § 271;

B. Pursuant to 35 U.S.C. § 283, an injunction enjoining AMD and its officers, agents, servants, employees, attorneys and all others in active concert and/or participation with them from further infringing the '768, '621, '034, '582, and '679 patents through the manufacture, use, testing, sale, offer for sale, importation and/or any of the other acts prohibited by 35 U.S.C. § 271, including preliminary and permanent injunctive relief;

C. Pursuant to 35 U.S.C. § 284, an award compensating ACS for AMD's infringement of the '768, '621, '034, '582, and '679 patents through payment of not less than a reasonable royalty on AMD's sales of infringing products;

D. A judgment and order finding that Defendant's acts of infringement were egregious and willful and trebling damages under 35 U.S.C. § 284;

E. Pursuant to 35 U.S.C. § 285, a finding that this is an exceptional case, and an award of reasonable attorneys' fees and non-taxable costs;

F. An assessment of prejudgment and post-judgment interest and costs against AMD, together with an award of such interest and costs, pursuant to 35 U.S.C. § 284;

G. That this Court award such other and further relief as this Court may deem just.

DEMAND FOR A JURY TRIAL

Pursuant to Federal Rule of Civil Procedure 38(b), ACS hereby demands a trial by jury of all issues so triable.

Dated: September 26, 2024

Respectfully submitted,

/s/ William Ellerman

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