

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

MONOLITHIC POWER SYSTEMS, INC.,)	
)	
Plaintiff,)	
)	
v.)	C.A. No. 24-166-JFM
)	
NENGDA MICROELECTRONICS)	JURY TRIAL DEMANDED
(SHENZHEN) CO., LTD. and NENGDA)	
SEMICONDUCTOR TECHNOLOGY)	
(SHENZHEN) CO., LTD.,)	
)	
Defendants.)	

**FIRST AMENDED COMPLAINT FOR
PATENT INFRINGEMENT**

Pursuant to Fed. R. Civ. Proc. 15(a)(1)(B), Plaintiff Monolithic Power Systems, Inc. (“MPS” or “Plaintiff”) files this First Amended Complaint against Defendants Nengda Microelectronics (Shenzhen) Co., Ltd. (“Nengda Microelectronics”), and Nengda Semiconductor Technology (Shenzhen) Co., Ltd. (“Nengda Semiconductor”) (collectively, “Nengda” or “Defendants”) and hereby alleges as follows:

THE NATURE OF THE ACTION

1. This is a civil action for patent infringement.
2. MPS is a world leader in the design, development, manufacture, and sale of semiconductor products, including power management solutions such as power converters, that are needed to power many everyday electronic devices like smart phones and laptop computers. Founded in 1997, MPS has achieved significant growth year over year and great financial success due to its unmatched technical innovation and ability to offer high-performance products

that are used in consumer electronics, automotive, communications, and storage products. MPS's mission is to reduce total energy consumption in its customers' systems with practical, energy-efficient solutions. To continue to innovate, MPS has invested significant resources to develop a large patent portfolio covering its semiconductor products, including its power conversion products.

3. Defendants compete directly against MPS for customers of power conversion products, including products that are designed for the same applications as MPS's products.

4. Defendants have infringed and continues to infringe MPS's U.S. Patent No. 9,590,608 ("the '608 Patent"), and U.S. Patent No. 9,041,377 ("the '377 Patent") (collectively, "the MPS Patents") related to power conversion, true and correct copies of which are attached hereto as Exhibits 1–2, respectively. Defendants have infringed and continues to infringe the MPS Patents by: making, using, selling, offering for sale, and/or importing into the United States infringing components and components specially made for use in an infringing device; and inducing others to do the same.

THE PARTIES

5. Monolithic Power Systems, Inc. is a corporation organized and existing under the laws of Delaware, having its principal place of business at 5808 Lake Washington Boulevard NE, Kirkland, WA 98033.

6. Upon information and belief, Nengda Microelectronics is organized under the laws of the People's Republic of China with its principal place of business at Room 2409, Block 3, Building 2, Dachong Business Center (Phase I), No. 9676 Shennan Avenue, Dachong Community, Yuehai Street, Nanshan District, Shenzhen, China. Upon information and belief, Nengda Microelectronics also does business under the trade name "IPG Semi."

7. Upon information and belief, Nengda Semiconductor is organized under the laws of the People's Republic of China with its principal place of business at Room 1201, Block 3, Building 2, Dachong Business Center (Phase I), No. 9676 Shennan Avenue, Dachong Community, Yuehai Street, Nanshan District, Shenzhen, China.

SUBJECT MATTER JURISDICTION

8. This Court has subject matter jurisdiction over the patent infringement claims asserted in this case under 28 U.S.C. §§ 1331 and 1338(a).

PERSONAL JURISDICTION AND VENUE

9. This Court has personal jurisdiction over Defendants, because Defendants have regularly conducted and continue to conduct business in the United States, in the State of Delaware, and in this judicial district. On information and belief, Defendants have committed infringing activities in Delaware and in this judicial district by making, using, offering for sale, and/or selling in the United States and/or importing into the United States, products and systems that infringe upon the MPS Patents, or by placing such infringing products and systems into the stream of commerce with the awareness, knowledge, and intent that they would be used, offered for sale, or sold by others in this judicial district and/or purchased by consumers in this district. As discussed further below, Defendants are involved in the supply chain in Asia, including marketing and selling to contract manufacturers in Asia, which manufactures products for U.S.-based end companies (with whom Defendants work on the "design in" process), which products Defendants know (or are willfully blind to the fact that they) are then sold throughout the U.S. As a result, Defendants' interaction with contract manufacturers and designing-in products for U.S.-based brand companies leads to the reasonably foreseeable result that Defendants' Accused Products are incorporated into end products sold in the U.S. including this District. Defendants

directly interact with and benefit from Delaware through their coordination with affiliate Delaware corporation Reed Semiconductor.

10. Venue is proper as to Defendants pursuant to 28 U.S.C. §§ 1391(b)–(c) and 1400(b) because they are foreign corporations subject to venue in any judicial district, including the District of Delaware, and have committed, and continue to commit, acts of infringement in this District.

THE MPS PATENTS

11. On March 7, 2017, the U.S. Patent and Trademark Office duly and legally issued U.S. Patent No. 9,590,608 (“the ’608 Patent”), entitled “Bootstrap Refresh Control Circuit, Voltage Converter and Associated Method,” listing Li Xu as the inventor, from a patent application filed August 11, 2015. The ’608 Patent claims priority from China Patent Application, No. 20141039070.8, filed on August 11, 2014. A true and correct copy of the ’608 Patent is attached hereto as Exhibit 1 and incorporated herein by reference.

12. On May 26, 2015, the U.S. Patent and Trademark Office duly and legally issued U.S. Patent No. 9,041,377 (“the ’377 Patent”), entitled “Pseudo Constant On Time Control Circuit and Step Down Regulator,” listing Rui Wang and Zhengwei Zhang as the inventors, from a patent application filed June 29, 2012. The ’377 Patent claims priority from China Patent Application, No. 201110181295.3, filed on June 30, 2011. A true and correct copy of the ’377 Patent is attached hereto as Exhibit 2 and incorporated herein by reference

13. The ’608 Patent and ’377 Patent are also referred to herein as the “MPS Patents.”

14. MPS exclusively owns all rights, title, and interest in the MPS Patents necessary to bring this action, including the right to recover past and future damages.

15. Defendants are not currently licensed to practice the MPS Patents.

16. The MPS Patents are valid and enforceable.

FACTUAL BACKGROUND

17. Monolithic Power Systems, Inc. (“MPS”) was founded in 1997 by Michael Hsing in Los Gatos, California, USA.

18. Since its founding, MPS has become an industry-leading fabless semiconductor company that designs, develops, markets, and sells semiconductor products, including power conversion products.

19. MPS has achieved significant growth year over year and great financial success due to its unmatched technical innovation. MPS has a large patent portfolio covering its semiconductor products including its power conversion products. MPS marks the products practicing its patents by, among other things, noting such products are “patent protected” on the datasheets that MPS provides to its customers and potential customers.

20. MPS’s power conversion products are used and incorporated into a wide range of electronic devices that require varying levels of power. MPS offers a large portfolio of Power Management buck/stepdown converters, boost/step-up converters, buck/boost converters, and flyback converters. By combining a power-optimized IC process, packaging technology, monolithic design and system expertise, MPS provides high-efficiency, small-sized power management products. These products are easy to use with either built-in trim options for adjustability or software (digital) programmability for many key features.

21. MPS’s buck converter family offers input ranges from 2V to 100V and output current up to 30A. With a wide input voltage range, MPS products are used in all kinds of applications and support a variety of bus voltages. MPS’ boost and buck/boost converter family offers input ranges from 0.6V to 36V, output ranges from 1.8V to 55V, and switch current limit

up to 22A.

22. MPS has been awarded numerous U.S. patents for the electronic components it has developed, recognizing MPS's groundbreaking research and innovation.

23. The MPS Patents are just one example of MPS's work on the cutting-edge of electronic component design.

DEFENDANTS' INFRINGEMENT

24. Defendants have directly and indirectly infringed, and continue to infringe, one or more claims of the MPS Patents through making, using, offering for sale, and/or selling in the United States and/or importing into the United States, products and systems that infringe upon the MPS Patents (i.e., the Accused Products), and inducing others to do the same, including their downstream customers.

25. "Accused Products" are step-down converter products accused of meeting the claim limitations of the MPS Patents. Defendants design and manufacture power converters that infringe the MPS Patents in the United States. The infringing converters have applications in many types of devices designed and manufactured by Defendants' customers, including various electronic devices. The "Accused Products" also include evaluation boards that have Defendants' step-down converter products implemented by Defendants on a systems-level board in combination with other necessary electronic components, that Defendants make, use, offer for sale, sell and/or import to their customers in the United States, for their evaluation of Defendants' step-down converter products, as part of the design-in process.

26. Exhibit 3, demonstrating how exemplary Accused Products meet the claim limitations of the '608 Patent, is incorporated herein by reference.

27. Exhibit 4, demonstrating how exemplary Accused Products meet the claim

limitations of the '377 Patent, is incorporated herein by reference.

28. Defendants sell Accused Products both directly through their own sales force and website, and indirectly through distributors such as Digipart.

29. The Accused Products are available for direct purchase from Defendants' websites. Defendants directly assist their customers with purchasing the Accused Products, once interested customers contact Defendants through their websites, either by chat or the inquiry form.

30. Further, in concert with distributors and customers, Defendants cause or induce infringing Accused Products to be made, used, offered to be sold, sold within the United States, or imported into the United States. Defendants' downstream customers for infringing products include United States companies Microsoft, Meta, Amazon Web Services, and Hewlett Packard Enterprises ("HPE") Aruba Networking. Defendants are aware these companies are located in the United States, and sell product within the United States, including products that incorporate Defendants' Accused Products.

31. Upon information and belief, in concert with contract manufacturers, suppliers, and/or assembly facilities, Defendants sell all or a substantial portion of the components of products that practice the claimed inventions, or components of the claimed inventions especially made or especially adapted for the use in the claimed invention, in the form of a finished electronic device.

32. Upon information and belief, Defendants actively induce the combination of such components into a product that practices the claimed inventions, and/or knowingly sell one or more components of MPS's patented inventions intending those components to be combined in a manner that infringe the MPS Patents.

33. Specifically, Defendants have designed and continue to design and manufacture power converters that practice the MPS Patents, whether alone, or in combination with other components in a finished electronic device. The Accused Products include, as non-limiting examples, products identified in Exhibit 3-4.

34. Further, upon information and belief, Defendants sell at least one component, specifically designed for use in a patented invention to contract manufacturers. Those contract manufacturers then assemble the components received from Defendants into infringing products. Specifically, some contract manufacturers with whom Defendants coordinate to make infringing products include Taiwan-based manufacturers Accton, Foxconn, Quanta, and Wiwynn.

35. Upon information and belief, these infringing products are then sold to Defendants' branded customers, who incorporate the Accused Products into their products, which are finished electronic devices. Defendants actively induce such infringement by providing datasheets and other technical and marketing materials that actively encourage Defendants' customers to incorporate and implement the Accused Products in an infringement manner. Defendants' customers' products are then imported into and sold in the United States. For example, Defendants work with contract manufacturer Accton to knowingly provide infringing products to HPE Aruba Networking for its branded networking products, which are sold in the United States, including in Delaware. Defendants either know or are willfully blind to the fact that U.S.-based HPE Aruba Networking sells products in the U.S. For example, the "Contact Sales" web page for HPE Aruba Networking defaults to a "Country/Region" of "United States."

36. Upon information and belief, Defendants have had knowledge of the MPS

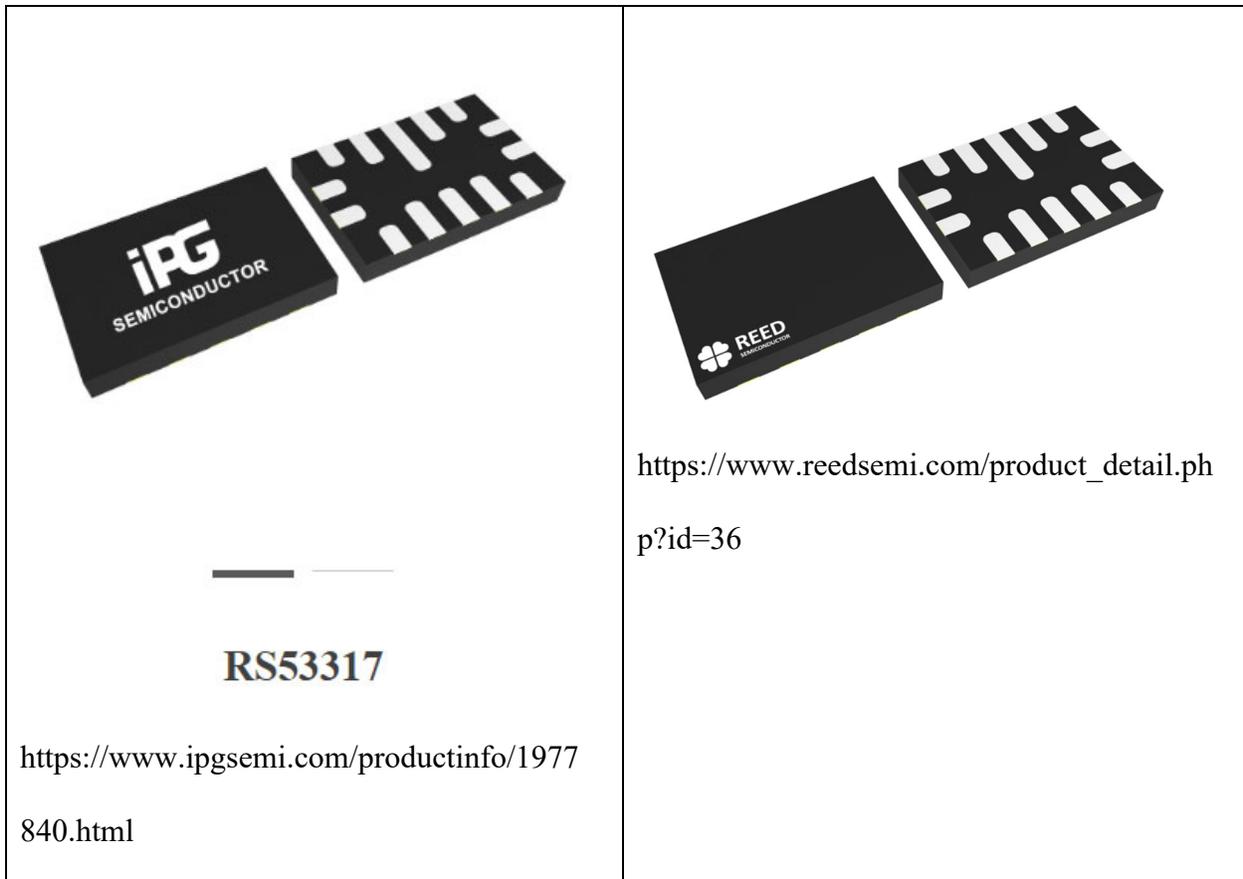
Patents since their issuance, because, as active competitors to MPS, Defendants would have periodically investigated MPS's patent portfolio.

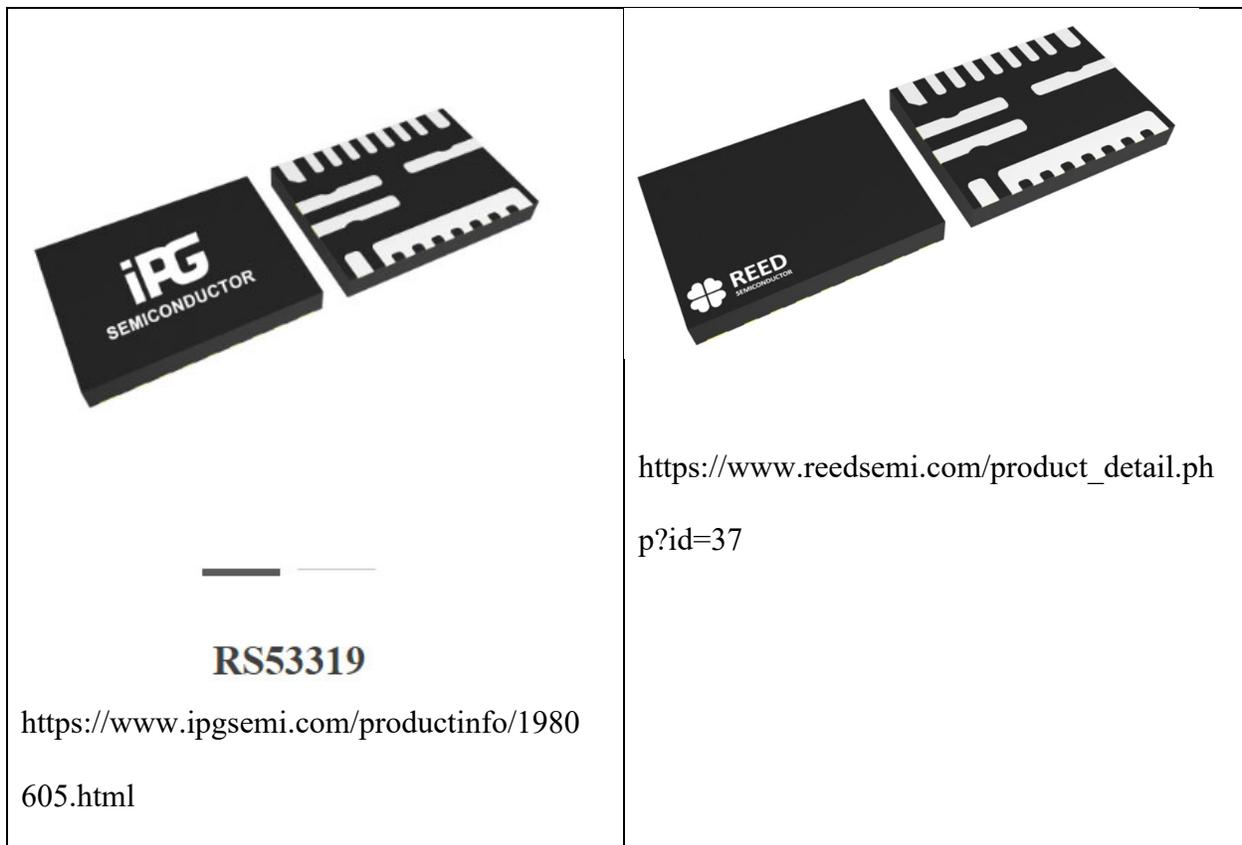
37. MPS has sued another company called Reed Semiconductor Corp. ("Reed") for patent infringement of the '608 Patent, and that case is pending in U.S. District Court for the District of Delaware as C.A. No. 23-1155-JFM ("the Reed '608 Patent Case"). MPS has also sued Reed on the '377 Patent in C.A. No. 1:24-cv-00165-JFM ("the Reed '377 Patent Case"). Before filing this case or the Reed '377 Patent Case, MPS requested that Reed consent to amending the complaint in the Reed '608 Patent case to include the allegations in this case and the Reed '377 Patent case, but Reed's counsel inexplicably refused. MPS intends to seek from Reed's counsel the excess costs, expenses, and attorneys' fees reasonably incurred in filing separate cases on these patents, pursuant to 28 U.S. Code § 1927.

38. Upon information and belief, Defendants and Reed are affiliated based on their selling of the same products, and the involvement of the same individuals in both sets of companies. For example, the Chief Executive Officer of Reed, Wenkai Wu, claims to be the majority shareholder of Nengda Microelectronics and was until recently listed as the President and Board Member of Nengda Microelectronics. Meanwhile, the President of Nengda Microelectronics, who is also the majority shareholder of Nengda Semiconductor, has been disclosed in Reed's initial disclosures as the Vice President of Research & Development at Reed with knowledge of the accused Reed products, at the same time that he is a principal of both Nengda entities. As a result, upon information and belief, Defendants have had knowledge of MPS Patents and their infringement since at least the filing of the Reed '608 Patent Case, because that filing would have prompted Defendants to investigate MPS's patent portfolio, including the MPS Patents.

39. For the same reasons, Nengda also had pre-suit knowledge of the '377 Patent since at least a January 29, 2024 e-mail to Reed's counsel identifying the '377 Patent and providing a draft complaint asserting infringement of the MPS Patent.

40. Examples of same products between Defendants (under Defendant Nengda Microelectronics' brand "iPG Semi") and Reed include the RS53319 and the RS53317. Defendants' and Reed's website product-pages for each of those products (as of March 14, 2024) include substantively identical schematics, features lists, descriptions, and applications. Even the chip images and layout appear identical apart from the branding changes:





41. Reed is incorporated in Delaware, and upon information and belief, Defendants coordinate with Reed and otherwise leverage their relationship with Reed to benefit from Reed's activities in the United States and Delaware.

42. Defendants have had knowledge of the MPS Patents at least as of the filing and service of the original Complaint.

43. Defendants' infringement has been and continues to be willful.

44. As shown in Exhibit 3, the exemplary RS53317 sync step-down converter infringes at least one claim of the '608 Patent.

45. As shown in Exhibit 4, the exemplary RS53319 sync step-down converter infringes at least one claim of the '377 Patent.

46. Upon information and belief, Defendants design and manufacture many different

power converter devices using similar designs, many or all of which utilize MPS's protected intellectual property.

47. Upon information and belief, Defendants' power converter devices are in relevant part substantially similar to the exemplary RS53317 sync step down converter shown in Exhibit 3 and the exemplary RS53319 sync step down converter shown in Exhibit 4. Exhibits 3-4 are thus illustrative of the manner in which the Accused Products meet the claim limitations of the MPS Patent.

COUNT I: INFRINGEMENT OF U.S. PATENT NO.
9,690,608

48. MPS incorporates by reference and re-alleges all of the foregoing paragraphs of this Complaint and exhibits attached hereto as if fully set forth herein.

49. The following allegations are based on publicly available information and a reasonable investigation of the structure and operation of the Accused Products. MPS reserves the right to modify this description, including, for example, on the basis of information about the Accused Products that it obtains during discovery.

50. Defendants have directly infringed the '608 Patent under 35 U.S.C. § 271(a). As alleged above and in Exhibit 3, the Accused Products including the exemplary product analyzed in Exhibit 3 meet each and every one of the claim limitations of at least one claim of the '608 Patent.

51. As alleged above, the products analyzed in Exhibit 3 are exemplary of the Accused Products.

52. As alleged above, Defendants have infringed and continue to infringe at least one claim of the '608 Patent by making, using, offering to sell, selling within the United States, and importing into the United States, the Accused Products. Defendants' infringement is and

continues to be willful.

53. As alleged above, Defendants have actively induced infringement under 35 U.S.C. § 271(b) of at least one claim of the '608 Patent. Specifically, Defendants understand, intend, and encourage their products to be incorporated into infringing downstream electronic products developed by Defendants' customers. Defendants sell the Accused Products to customers, either directly or indirectly, knowing and intending that the Accused Products will be implemented in an infringing manner as described in Defendants' datasheets. In fact, Defendants actively encourage such infringement by using their datasheets and other technical and marketing materials to inform downstream customers how to incorporate the Accused Products in an infringing manner. Defendants work directly with their customers to help them develop products that infringe with full knowledge of such infringement. Defendants' customers' products are manufactured by contract manufacturers, and then imported into the U.S. and/or sold throughout the U.S. by Defendants' downstream customers and their retailers.

54. As alleged above, Defendants have actively contributed to infringement under 35 U.S.C. § 271(c) of at least one claim of the '608 Patent, because the Accused Products constitute a material part of the infringing functionality of the '608 Patent, and are knowingly made by Defendants for use in an infringing downstream product. The Accused Products are not a staple article or commodity of commerce suitable for substantial noninfringing use because the datasheets and other technical and marketing materials created by Defendants for those products confirm that they must be implemented in a downstream device in an infringing manner. Defendants' customers' products are manufactured by contract manufacturers, and then imported into the U.S. and/or sold throughout the U.S. by Defendants' downstream customers and their retailers.

55. While both Reed and Defendants sell the same products, Defendants must be involved in the supply chain in Asia, including marketing and selling to contract manufacturers in Asia like Taiwan-based Accton, which manufactures products for U.S.-based HPE Aruba (with whom Defendants must work on the “design in” process), which products Defendants know (or are willfully blind to the fact that they) are then sold throughout the U.S. As a result, Defendants’ interaction with contract manufacturers and designing-in products for U.S.-based brand companies leads to the reasonably foreseeable result that Defendants’ Accused Products are incorporated into end products sold in the U.S. including this District.

56. Defendants’ infringement has damaged and continues to damage MPS in an amount yet to be determined, of at least a reasonable royalty.

57. As a consequence of Defendants’ infringement of the ’608 Patent, MPS has suffered and will continue to suffer irreparable harm and injury, for example, in the form of lost sales, lost profits and loss of market share. Unless enjoined, Defendants and/or others acting on behalf of Defendants will continue their infringing acts, thereby causing additional irreparable injury to MPS for which there is no adequate remedy at law. Specifically, Defendants’ actions will irreparably harm MPS’s position in the power converter market by causing MPS to lose customers.

COUNT II: INFRINGEMENT OF U.S. PATENT NO.
9,041,377

58. MPS incorporates by reference and re-alleges all of the foregoing paragraphs of this Complaint and exhibits attached hereto as if fully set forth herein.

59. The following allegations are based on publicly available information and a reasonable investigation of the structure and operation of the Accused Products. MPS reserves the right to modify this description, including, for example, on the basis of information about

the Accused Products that it obtains during discovery.

60. Defendants have directly infringed the '377 Patent under 35 U.S.C. § 271(a). As alleged above and in Exhibit 4, the Accused Products including the exemplary product analyzed in Exhibit 4 meet each and every one of the claim limitations of at least one claim of the '377 Patent.

61. As alleged above, the products analyzed in Exhibit 4 are exemplary of the Accused Products.

62. As alleged above, Defendants have infringed and continue to infringe at least one claim of the '377 Patent by making, using, offering to sell, selling within the United States, and importing into the United States, the Accused Products. Defendants' infringement is and continues to be willful.

63. As alleged above, Defendants have actively induced infringement under 35 U.S.C. § 271(b) of at least one claim of the '377 Patent. Specifically, Defendants understand, intend, and encourage their products to be incorporated into infringing downstream electronic products developed by Defendants' customers. Defendants sell the Accused Products to customers, either directly or indirectly, knowing and intending that the Accused Products will be implemented in an infringing manner as described in Defendants' datasheets. In fact, Defendants actively encourage such infringement by using their datasheets and other technical and marketing materials to inform downstream customers how to incorporate the Accused Products in infringing manner. Defendants work directly with their customers to help them develop products that infringe with full knowledge of such infringement. Defendants' customers' products are manufactured by contract manufacturers, and then imported into the U.S. and/or sold throughout the U.S. by Defendants' downstream customers and their retailers.

64. As alleged above, Defendants have actively contributed to infringement under 35 U.S.C. § 271(c) of at least one claim of the '377 Patent, because the Accused Products constitute a material part of the infringing functionality of the '377 Patent, and are knowingly made by Defendants for use in an infringing downstream product. The Accused Products are not a staple article or commodity of commerce suitable for substantial noninfringing use because the datasheets and other technical and marketing materials created by Defendants for those products confirm that they must be implemented in a downstream device in an infringing manner. Defendants' customers' products are manufactured by contract manufacturers, and then imported into the U.S. and/or sold throughout the U.S. by Defendants' downstream customers and their retailers.

65. While both Reed and Defendants sell the same products, Defendants must be involved in the supply chain in Asia, including marketing and selling to contract manufacturers in Asia like Taiwan-based Accton, which manufactures products for U.S.-based HPE Aruba (with whom Defendants must work on the "design in" process), which products Defendants know (or are willfully blind to the fact that they) are then sold throughout the U.S. As a result, Defendants' interaction with contract manufacturers and designing-in products for U.S.-based brand companies leads to the reasonably foreseeable result that Defendants' Accused Products are incorporated into end products sold in the U.S. including this District.

66. Defendants' infringement has damaged and continues to damage MPS in an amount yet to be determined, of at least a reasonable royalty.

67. As a consequence of Defendants' infringement of the '377 Patent, MPS has suffered and will continue to suffer irreparable harm and injury, for example, in the form of lost sales, lost profits and loss of market share. Unless enjoined, Defendants and/or others acting on

behalf of Defendants will continue their infringing acts, thereby causing additional irreparable injury to MPS for which there is no adequate remedy at law. Specifically, Defendants' actions will irreparably harm MPS's position in the power converter market by causing MPS to lose customers.

DAMAGES

68. As a result of the Defendants' acts of infringement, MPS has suffered and continues to suffer actual and consequential damages. However, MPS does not yet know the full extent of the infringement and the amount of damages cannot be ascertained except through discovery and special accounting. To the fullest extent permitted by law, MPS seeks recovery of damages at least for reasonable royalties, lost profits, unjust enrichment, and benefits received by the Defendants as a result of using the patented technology. MPS further seeks any other damages to which MPS is entitled under law or in equity, including enhanced damages for the Defendants' willful infringement.

DEMAND FOR JURY TRIAL

69. MPS hereby demands a jury trial for all issues so triable.

PRAYER FOR RELIEF

WHEREFORE, MPS respectfully requests that this Court enter judgment in its favor as follows:

A. That Judgment be entered that Defendants have infringed one or more claims of the MPS Patents, literally and under the doctrine of equivalents;

B. That, in accordance with 35 U.S.C. § 283, Defendants and all their affiliates, employees, agents, officers, directors, attorneys, successors, and assigns and all those acting on behalf of or in active concert or participation with any of them, be preliminarily and permanently

enjoined from (1) infringing the MPS Patents and (2) making, using, selling, and offering for sale, or importing into the United States, and (3) exporting from the United States one or more components of, the Accused Products;

C. That MPS be awarded damages sufficient to compensate MPS for the Defendants' infringement and enhanced damages under 35 U.S.C. § 284; including an accounting of lost sales not presented at trial and an award of additional damages for any such lost sales;

D. That the case be found exceptional under 35 U.S.C. § 285 and that MPS be awarded its reasonable attorneys' fees;

E. That MPS be awarded its costs and expenses in this action;

F. That MPS be awarded damages for pre-issuance infringement under 35 U.S.C. §

154(d);

G. That MPS be awarded prejudgment and post-judgment interest; and

H. Such other and further relief as the Court may deem just and proper.

ASHBY & GEDDES

/s/ Andrew C. Mayo

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Dated: March 15, 2024

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