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ON SEMICONDUCTOR CORP. and
SEMICONDUCTOR COMPONENTS
INDUSTRIES, LLC

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
(SAN JOSE DIVISION)

POWER INTEGRATIONS, INC.,

Plaintiff,

v.

ON SEMICONDUCTOR CORP. AND
SEMICONDUCTOR COMPONENTS
INDUSTRIES, LLC,

Defendants.

Case No. 16-cv-06371-BLF

**SECOND AMENDED COMPLAINT OF
ON SEMICONDUCTOR CORP. AND
SEMICONDUCTOR COMPONENTS
INDUSTRIES, LLC FOR PATENT
INFRINGEMENT AND DECLARATORY
JUDGMENT**

(DEMAND FOR TRIAL BY JURY)

ON SEMICONDUCTOR CORP. AND
SEMICONDUCTOR COMPONENTS
INDUSTRIES, LLC,

Plaintiff,

v.

POWER INTEGRATIONS, INC.,

Defendants.

Case No. 17-cv-03189-BLF

ON Semiconductor Corporation and Semiconductor Components Industries, LLC (collectively, “ON”) brings this civil action against Power Integrations, Inc. (“Power Integrations”) and hereby avers and complains as follows:

THE PARTIES

1. ON Semiconductor Corporation is a Delaware corporation with its principal place of business at 5005 East McDowell Road, Phoenix, Arizona, 85008.

2. Semiconductor Components Industries, LLC is a Delaware limited liability company with its principal place of business at 5005 East McDowell Road, Phoenix, Arizona, 85008.

Semiconductor Components Industries, LLC is the principal domestic operating subsidiary of ON Semiconductor Corporation and does business under the name of ON Semiconductor. ON Semiconductor designs, manufactures, and markets a comprehensive portfolio of semiconductor products, including AC-DC controllers and regulators.

3. Power Integrations, Inc. (“Power Integrations”) is incorporated under the laws of the state of Delaware, and has a regular and established place of business at 5245 Hellyer Avenue, San Jose, California, 95138. Power Integrations may be served through its registered agent at 5245 Hellyer Avenue, San Jose, California, 95138.

JURISDICTION AND VENUE

4. This action arises under the United States patent laws, 35 U.S.C. §§ 101, et seq., and includes a request for declaratory relief under 28 U.S.C. §§ 2201 and 2202.

5. This Court has subject matter jurisdiction under 28 U.S.C. §§ 1331, 1338, and 2201, and 35 U.S.C. § 1, et seq.

6. Power Integrations is subject to general personal jurisdiction in this judicial district. This Court has personal jurisdiction over Power Integrations because Power Integrations has purposely availed themselves of the privilege of conducting activities within this State and judicial District. For example, Power Integrations maintains continuous and systematic contacts with this District, including maintaining its principal place of business in San Jose, California.

7. Power Integrations is subject to specific personal jurisdiction in this judicial district for its infringement of U.S. Patent No. 6,333,624, U.S. Patent No. 6,429,709, U.S. Patent No. RE39,933, U.S. Patent No. RE41,908, U.S. Patent No. RE45,862, U.S. Patent No. 6,597,221, U.S. Patent No. 7,944,272, and U.S. Patent No. 7,447,601 at least because Power Integrations has placed and continues to place the accused products into the stream of commerce that are sold in this district, and has therefore purposefully availed itself of the privilege of conducting business in this judicial district.

8. Power Integrations is also subject to specific personal jurisdiction in this judicial district for ON's declaratory judgment claims concerning U.S. Patent No. 6,249,876, at least because of Power Integrations's patent enforcement contacts with the jurisdiction, demonstrating that Power Integrations has purposefully availed itself of the privilege of conducting business in this judicial district.

9. Venue is proper in this district under each of 28 U.S.C. §§ 1391(b), 1391(c), and 1400(b). Power Integrations has its principal place of business in this district and has committed acts of infringement in this district.

INFRINGEMENT OF ON's PATENTS

10. ON re-alleges and incorporates by reference each of Paragraphs 1-9 above.

11. After a full and fair examination, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 6,333,624, entitled "Circuit and Method for a Switching Power Supply with Primary Side Transformer Sensing" (hereinafter, "the '624 patent") on December 25, 2001. A true and correct copy of the '624 patent is attached as Exhibit A.

12. After a full and fair examination, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 6,429,709, entitled "Power Converter and Method for Controlling" (hereinafter, "the '709 patent") on August 6, 2002. A true and correct copy of the 709 patent is attached as Exhibit B.

13. After a full and fair examination, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. RE39,933, entitled "Power Conversion Integrated Circuit

and Method for Programming” (hereinafter, “the ’933 patent”) on December 4, 2007. A true and correct copy of the ’933 patent is attached as Exhibit C. The ’933 patent is a reissue of U.S. Patent No. 5,859,768 (“the ’768 patent”) and claims 1-20 of the ’768 patent also appear in claims 1-20 of the ’933 patent.

14. After a full and fair examination, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. RE41,908, entitled “Power Conversion Integrated Circuit and Method for Programming” (hereinafter, “the ’908 patent”) on November 2, 2010. A true and correct copy of the ’908 patent is attached as Exhibit D.

15. After a full and fair examination, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. RE45,862, entitled “Power Conversion Integrated Circuit and Method for Programming” (hereinafter, “the ’862 patent”) on January 19, 2016. A true and correct copy of the ’862 patent is attached as Exhibit E.

16. After a full and fair examination, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 6,597,221, entitled “Power Converter Circuit and Method for Controlling” (hereinafter, “the ’221 patent”) on July 22, 2003. A true and correct copy of the ’221 patent is attached as Exhibit F.

17. After a full and fair examination, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,944,272, entitled “Constant Current Circuit” (hereinafter, “the ’272 patent”) on May 17, 2011. A true and correct copy of the 272 patent is attached as Exhibit G.

18. After a full and fair examination, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,447,601, entitled “Power Supply Controller Method and Structure” (hereinafter, “the ’601 patent”) on November 4, 2008. A true and correct copy of the ’601 patent is attached as Exhibit H.

19. Semiconductor Components Industries, LLC owns title and all rights to the ’624, ’709, ’933, ’768, ’908, ’862, ’221, ’272, and ’601 patents, including the right to prevent others from making, having made, using, offering for sale, importing, or selling products and services covered

by those patents; the right to enforce those patents against Power Integrations; and the right to collect damages for all relevant times.

20. Power Integrations has offered and continues to offer infringing semiconductors, including but not limited to the LinkZero-LP series of integrated circuits, including those having product name LNK574/576, TOPSwitch-HX series of integrated circuits, LYTSwitch-4 integrated circuit, InnoSwitch-CE integrated circuit, and LYTSwitch-3 integrated circuit for sale, through intermediaries (including distributors, retailers, and others), in this district and elsewhere.

EXISTENCE OF AN ACTUAL CONTROVERSY

21. ON re-alleges and incorporates by reference each of Paragraphs 1-20 above.

22. An actual controversy exists within the jurisdiction of this Court under 28 U.S.C. §§ 2201 and 2202.

23. On information and belief, Power Integrations is the owner of U.S. Patent No. 6,249,876, entitled “Frequency Jittering Control for Varying the Switching Frequency of a Power Supply” (“the ’876 patent”), by assignment from named inventors Balu Balakrishnan, Alex Djenguerian, and Leif Lund. The ’876 patent bears an issuance date of June 19, 2001. A copy of the ’876 patent is attached to this Complaint as Exhibit I.

24. Power Integrations has accused ON of infringing the ’876 patent. Specifically, Balu Balakrishnan, President and CEO of Power Integrations and named inventor on the ’876 patent, sent an e-mail to Keith Jackson, President and Chief Executive Officer of ON, alleging that ON infringes the ’876 patent in connection with its manufacture, sale, and/or offers to sell ON’s AC-DC controller with the model number NCP1246. A copy of the text of the e-mail (with e-mail addresses redacted) is attached to this Complaint as Exhibit J.

25. Power Integrations has a history of asserting the ’876 patent. *See, e.g., Power Integrations, Inc. v. Fairchild Semiconductor Int’l, Inc.*, Case No. 1:04-CV-1371 (D. Del. filed Oct. 20, 2004) (asserting the ’876 patent); *Power Integrations, Inc. v. Fairchild Semiconductor, Int’l Inc.*, Case No. 1:08-CV-0309 (D. Del. filed May 23, 2008) (asserting the ’876 patent); and *Power*

Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc. et al., Case No. 3:15-CV-04854 (N.D. Cal. filed October 21, 2015) (asserting the '079 and '876 patents).

26. In light of the specific allegation of infringement in Mr. Balakrishnan's e-mail, and Power Integrations's history of filing suit for patent infringement on the '876 patent against other semiconductor companies, the circumstances show a substantial controversy between parties with adverse legal interests of sufficient immediacy and reality to warrant the issuance of a declaratory judgment. Therefore, an actual controversy within this Court's jurisdiction exists under 28 U.S.C. § 2201.

COUNT ONE

INFRINGEMENT OF U.S. PATENT NO. 6,333,624

27. ON re-alleges and incorporates by reference each and every allegation of paragraphs 1-26 as though fully set forth herein.

28. The '624 patent is valid and enforceable.

29. Power Integrations has at no time, expressly or impliedly, been licensed under the '624 patent.

30. Upon information and belief, Power Integrations has been and is now directly infringing, literally or under the doctrine of equivalents, one or more claims of the '624 patent through at least the acts of making, using, selling, offering for sale, and/or importing in the United States infringing power supply controllers that include the features of one or more claims of the '624 patent. More particularly, and without limitation, Power Integrations's LinkZero-LP series of integrated circuits, including those having product name LNK574/576, infringe at least claim 6 of the '624 patent. Upon information and belief, Power Integrations's LinkZero-LP series of integrated circuits, including those having product name LNK574/576, include a switching regulator coupled for receiving a first feedback signal and a variable reference signal to provide the switching transistor drive signal. Upon information and belief, Power Integrations's LinkZero-LP series of integrated circuits, including those having product name LNK574/576, include a

compensation circuit coupled for receiving a current reference signal representative of the inductor current for generating the variable reference signal.

31. Upon information and belief, Power Integrations has been and is now actively inducing infringement of one or more claims of the '624 patent, either literally or under the doctrine of equivalents.

32. Power Integrations has known of the '624 patent since at least September 25, 2014.

33. On information and belief, Power Integrations has intended, and continues to intend, to induce patent infringement by third parties and has knowledge that the inducing acts would cause infringement or has been willfully blind to the possibility that its inducing acts would cause infringing acts. For example, Power Integrations is aware that the features claimed in the '624 patent are features of the power supply controller products and are necessarily used by purchasers of the power supply controller products and, therefore, that Power Integrations's customers will infringe the '624 patent by using the power supply controller products or incorporating the power supply controller products in other products, and that subsequent sales of such products would also be a direct infringement. More particularly, and without limitation, Power Integrations is aware that the features claimed in the '624 patent are present in the LinkZero-LP series of integrated circuits, including those having product name LNK574/576, and that such features are necessarily used by purchasers of the LinkZero-LP series of integrated circuits and, therefore, that Power Integrations's customers will infringe the '624 patent by using the LinkZero-LP series of integrated circuits or incorporating the LinkZero-LP series of integrated circuits in other products, and that subsequent sales of such products would also be a direct infringement.

34. On information and belief, Power Integrations's intentional actions induce others to directly infringe, and those actions are undertaken with the specific intent that they will, in fact, induce direct infringement and with full knowledge that Power Integrations's products infringe one or more claims of the '624 patent both literally and under the doctrine of equivalents. By way of example only, Power Integrations sells and delivers the infringing LinkZero-LP series of integrated circuits, including those having product name LNK574/576 devices to U.S. distributors including Mouser

Electronics located in Mansfield, TX and thereafter induce Mouser Electronics to sell and offer for sale the infringing products to customers in the United States, thereby directly infringing the '624 patent.

Power Integrations maintains a website in which it promotes the sale of and identifies that LinkZero-LP series of integrated circuits, including those having product name LNK574/576, are available for sale in the United States by Mouser Electronics (<https://ac-dc.power.com/sales/distributors/mouser/>), thereby inducing acts of direct infringement. Power Integrations further induces third parties to design the accused products into power supplies and other products to be used in the United States, by, for example, providing datasheets, application notes, design notes, and other collateral on their Internet website available to customers and instructing those customers how to incorporate the LinkZero-LP series of integrated circuits, including those having product name LNK574/576, into a power supply. *See, e.g.*, https://ac-dc.power.com/sites/default/files/product-docs/linkzero-lp_family_datasheet.pdf. In addition, Power Integrations employs sales representatives and field applications engineers that interact with and work directly with customers to assist them in designing complete power supplies or other products that, upon information and belief, Power Integrations knows or has reason to believe are intended to be sold worldwide, including in the United States.

35. On information and belief, Power Integrations has been and is now contributing to the infringement of the '624 patent, either literally or under the doctrine of equivalents.

36. On information and belief, Power Integrations has been aware, since first learning of the '624 patent, that its power supply controllers that include the claimed features of the '624 patent are a material part of the patented invention, are not a staple article or commodity of commerce suitable for substantial non-infringing use, and are especially made and/or adapted for use in infringing the '624 patent, at least because the claimed features of the '624 patent are necessarily used by purchasers of its power supply controllers. More particularly, and without limitation, Power Integrations is aware that the LinkZero-LP series of integrated circuits, including those having product name LNK574/576, are a material part of the patented invention, are not a staple article or commodity of commerce suitable for substantial non-infringing use, and are especially

made and/or adapted for use in infringing the '624 patent, at least because the claimed features of the '624 patent are necessarily used by purchasers of its power supply controllers.

37. On information and belief, Power Integrations's customers have in fact directly infringed the '624 patent by making, using, offering to sell, selling, and importing in the United States infringing devices that incorporate a Power Integrations power supply controller chip that includes the claimed features of the '624 patent. These devices meet each and every limitation of at least one claim of the '624 patent either literally or equivalently. Power Integrations has knowledge of these infringing uses by its customers. Specifically, and without limitation, Power Integrations's customers have directly infringed the '624 patent by making, using, offering to sell, selling, and importing in the United States the LinkZero-LP series of integrated circuits, including those having product name LNK574/576.

38. ON has been irreparably harmed by Power Integrations's infringement of the '624 patent and will continue to be harmed unless and until Power Integrations's infringement is enjoined by this Court.

39. Power Integrations's infringement of the '624 has been willful as Power Integrations has had knowledge of the '624 since at least September 2014. Upon information and belief, Power Integrations's decision to continue to knowingly infringe the '624 patent is willful, deliberate, and consciously wrongful, and Power Integrations has no good reason to believe its infringing conduct is defensible. Upon information and belief, Power Integrations's acts of infringement have been, and continue to be, willful so as to warrant the enhancement of damages awarded as a result of their infringement. In particular, despite knowing of ON Semiconductor's patent rights, Power Integrations continue to infringe the '624 patent by making, using, selling, offering for sale and/or importing at least LinkZero-LP series of integrated circuits, including those having product name LNK574/576, and contributing to and inducing others to do the same, knowing the products contain infringing circuitry.

40. As a result of Power Integrations's infringement, ON has suffered and will continue to suffer damages in an amount to be proved at trial.

COUNT TWO

INFRINGEMENT OF U.S. PATENT NO. 6,429,709

41. ON re-alleges and incorporates by reference each and every allegation of paragraphs 1-40 as though fully set forth herein.

42. The '709 patent is valid and enforceable.

43. Power Integrations has at no time, expressly or impliedly, been licensed under the '709 patent.

44. Upon information and belief, Power Integrations has been and is now directly infringing, literally or under the doctrine of equivalents, one or more claims of the '709 patent through at least the acts of making, using, selling, offering for sale, and/or importing in the United States infringing power supply controllers that include the features of one or more claims of the '709 patent. More particularly, and without limitation, the use of Power Integrations's LinkZero-LP series of integrated circuits, including those having product name LNK574/576, infringe at least claim 12 of the '709 patent. Upon information and belief, the use of Power Integrations's LinkZero-LP series of integrated circuits, including those having product name LNK574/576, includes performing the steps of comparing an input voltage to a first reference signal to provide a first compare signal. Upon information and belief, the use of Power Integrations's LinkZero-LP series of integrated circuits, including those having product name LNK574/576, includes performing the steps of comparing the input voltage to a second reference signal after receiving the first compare signal to provide a second compare signal, and passing the control signal from the first node to the second node after receiving the second compare signal.

45. Upon information and belief, Power Integrations has been and is now actively inducing infringement of one or more claims of the '709 patent, either literally or under the doctrine of equivalents.

46. Power Integrations has known of the '709 patent since at least September 25, 2014.

47. On information and belief, Power Integrations has intended, and continues to intend, to induce patent infringement by third parties and has knowledge that the inducing acts would cause

infringement or has been willfully blind to the possibility that its inducing acts would cause infringing acts. For example, Power Integrations is aware that the features claimed in the '709 patent are features of the power supply controller products and are necessarily used by purchasers of the power supply controller products and, therefore, that Power Integrations's customers will infringe the '709 patent by using the power supply controller products or incorporating the power supply controller products in other products, and that subsequent sales of such products would also be a direct infringement. More particularly, and without limitation, Power Integrations is aware that the features claimed in the '709 patent are present in the LinkZero-LP series of integrated circuits, including those having product name LNK574/576, and that such features are necessarily used by purchasers of the LinkZero-LP series of integrated circuits and, therefore, that Power Integrations's customers will infringe the '709 patent by using the LinkZero-LP series of integrated circuits or incorporating the LinkZero-LP series of integrated circuits in other products, and that subsequent sales of such products would also be a direct infringement.

48. On information and belief, Power Integrations's intentional actions induce others to directly infringe, and those actions are undertaken with the specific intent that they will, in fact, induce direct infringement and with full knowledge that Power Integrations's products infringe one or more claims of the '709 patent both literally and under the doctrine of equivalents. By way of example only, Power Integrations sells and delivers the infringing LinkZero-LP series of integrated circuits, including those having product name LNK574/576 devices to U.S. distributors including Mouser Electronics located in Mansfield, TX and thereafter induce Mouser Electronics to sell and offer for sale the infringing products to customers in the United States, thereby directly infringing the '709 patent. Power Integrations maintains a website in which it promotes the sale of and identifies that LinkZero-LP series of integrated circuits, including those having product name LNK574/576, are available for sale in the United States by Mouser Electronics (<https://ac-dc.power.com/sales/distributors/mouser/>), thereby inducing acts of direct infringement. Power Integrations further induces third parties to design the accused products into power supplies and other products to be used in the United States, by, for example, providing datasheets, application notes, design notes, and other collateral on their Internet

website available to customers and instructing those customers how to incorporate the LinkZero-LP series of integrated circuits, including those having product name LNK574/576, into a power supply. *See, e.g.*, https://ac-dc.power.com/sites/default/files/product-docs/linkzero-lp_family_datasheet.pdf. In addition, Power Integrations employs sales representatives and field applications engineers that interact with and work directly with customers to assist them in designing complete power supplies or other products that, upon information and belief, Power Integrations knows or has reason to believe are intended to be sold worldwide, including in the United States.

49. On information and belief, Power Integrations has been and is now contributing to the infringement of the '709 patent, either literally or under the doctrine of equivalents.

50. On information and belief, Power Integrations has been aware, since first learning of the '709 patent, that its power supply controllers that include the claimed features of the '709 patent are a material part of the patented invention, are not a staple article or commodity of commerce suitable for substantial non-infringing use, and are especially made and/or adapted for use in infringing the '709 patent, at least because the claimed features of the '709 patent are necessarily used by purchasers of its power supply controllers. More particularly, and without limitation, Power Integrations is aware that the LinkZero-LP series of integrated circuits, including those having product name LNK574/576, are a material part of the patented invention, are not a staple article or commodity of commerce suitable for substantial non-infringing use, and are especially made and/or adapted for use in infringing the '709 patent, at least because the claimed features of the '709 patent are necessarily used by purchasers of its power supply controllers.

51. On information and belief, Power Integrations's customers have in fact directly infringed the '709 patent by making, using, offering to sell, selling, and importing in the United States infringing devices that incorporate a Power Integrations power supply controller chip that includes the claimed features of the '709 patent. These devices meet each and every limitation of at least one claim of the '709 patent either literally or equivalently. Power Integrations has knowledge of these infringing uses by its customers. Specifically, and without limitation, Power Integrations's customers have directly infringed the '709 patent by making, using, offering to sell, selling, and

importing in the United States the LinkZero-LP series of integrated circuits, including those having product name LNK574/576.

52. ON has been irreparably harmed by Power Integrations's infringement of the '709 patent and will continue to be harmed unless and until Power Integrations's infringement is enjoined by this Court.

53. Power Integrations's infringement of the '709 has been willful as Power Integrations has had knowledge of the '709 since at least September 2014. Upon information and belief, Power Integrations's decision to continue to knowingly infringe the '709 patent is willful, deliberate, and consciously wrongful, and Power Integrations has no good reason to believe its infringing conduct is defensible. Upon information and belief, Power Integrations's acts of infringement have been, and continue to be, willful so as to warrant the enhancement of damages awarded as a result of their infringement. In particular, despite knowing of ON Semiconductor's patent rights, Power Integrations continues to infringe the '709 patent by making, using, selling, offering for sale and/or importing at least LinkZero-LP series of integrated circuits, including those having product name LNK574/576, and contributing to and inducing others to do the same, knowing the products contain infringing circuitry.

54. As a result of Power Integrations's infringement, ON has suffered and will continue to suffer damages in an amount to be proved at trial.

COUNT THREE

INFRINGEMENT OF U.S. PATENT NO. RE39,933

55. ON re-alleges and incorporates by reference each and every allegation of paragraphs 1-54 as though fully set forth herein.

56. The '933 patent is valid and enforceable.

57. Power Integrations has at no time, expressly or impliedly, been licensed under the '933 patent.

58. Upon information and belief, Power Integrations has been and is now directly infringing, literally or under the doctrine of equivalents, one or more claims of the '933 patent

through at least the acts of making, using, selling, offering for sale, and/or importing in the United States infringing power supply controllers that include the features of one or more claims of the '933 patent. More particularly, and without limitation, Power Integrations's TOPSwitch-HX series of integrated circuits infringe at least claim 14 of the '933 patent. Upon information and belief, the use of Power Integrations's TOPSwitch-HX series of integrated circuits, includes performing the steps of controlling a pulse-width modulated output signal of the power converter in response to a feedback signal. Upon information and belief, the use of Power Integrations's TOPSwitch-HX series of integrated circuits, includes performing the steps of setting a memory state according to a comparison between a control signal and a first reference signal where the memory state controls the mode of operation of the power converter.

59. Upon information and belief, Power Integrations has been and is now actively inducing infringement of one or more claims of the '933 patent, either literally or under the doctrine of equivalents.

60. Power Integrations has known of the '768 patent, including claims 1-20 of the '768 patent, since at least August 2007. The '768 patent has been cited as a reference in at least eight issued patents of Power Integrations, the first of which issued on August 7, 2007. Because the '933 patent includes claims 1-20 of the '768 patent, Power Integrations has known of claims 1-20 of the '933 patent since at least August 7, 2007 and has known of the remainder of the claims '933 patent since at least the filing date of this lawsuit on August 11, 2016.

61. On information and belief, Power Integrations has intended, and continues to intend, to induce patent infringement by third parties and has knowledge that the inducing acts would cause infringement or has been willfully blind to the possibility that its inducing acts would cause infringing acts. For example, Power Integrations is aware that the features claimed in the '933 patent are features of the power supply controller products and are necessarily used by purchasers of the power supply controller products and, therefore, that Power Integrations's customers will infringe the '933 patent by using the power supply controller products or incorporating the power supply controller products in other products, and that subsequent sales of such products would also

be a direct infringement. More particularly, and without limitation, Power Integrations is aware that the features claimed in the '933 patent are present in the TOPSwitch-HX series of integrated circuits and that such features are necessarily used by purchasers of the TOPSwitch-HX series of integrated circuits and, therefore, that Power Integrations's customers will infringe the '933 patent by using the TOPSwitch-HX series of integrated circuits or incorporating the TOPSwitch-HX series of integrated circuits in other products, and that subsequent sales of such products would also be a direct infringement.

62. On information and belief, Power Integrations's intentional actions induce others to directly infringe, and those actions are undertaken with the specific intent that they will, in fact, induce direct infringement and with full knowledge that Power Integrations's products infringe one or more claims of the '933 patent both literally and under the doctrine of equivalents. By way of example only, Power Integrations sells and delivers the TOPSwitch-HX series of integrated circuits to U.S. distributors including Mouser Electronics located in Mansfield, TX and thereafter induce Mouser Electronics to sell and offer for sale the infringing products to customers in the United States, thereby directly infringing the '933 patent. Power Integrations maintains a website in which it promotes the sale of and identifies that the TOPSwitch-HX series of integrated circuits are available for sale in the United States by Mouser Electronics (<https://ac-dc.power.com/sales/distributors/mouser/>), thereby inducing acts of direct infringement. Power Integrations further induces third parties to design the accused products into power supplies and other products to be used in the United States, by, for example, providing datasheets, application notes, design notes, and other collateral on their Internet website available to customers and instructing those customers how to incorporate the TOPSwitch-HX series of integrated circuits into a power supply. *See, e.g.,* https://ac-dc.power.com/sites/default/files/product-docs/topswitch-hx_family_datasheet.pdf and <https://www.power.com/sites/default/files/product-docs/an43.pdf>. In addition, Power Integrations employs sales representatives and field applications engineers that interact with and work directly with customers to assist them in designing complete power supplies or other products that, upon information

and belief, Power Integrations knows or has reason to believe are intended to be sold worldwide, including in the United States.

63. On information and belief, Power Integrations has been and is now contributing to the infringement of the '933 patent, either literally or under the doctrine of equivalents.

64. On information and belief, Power Integrations has been aware, since first learning of the '933 patent, that its power supply controllers that include the claimed features of the '933 patent are a material part of the patented invention, are not a staple article or commodity of commerce suitable for substantial non-infringing use, and are especially made and/or adapted for use in infringing the '933 patent, at least because the claimed features of the '933 patent are necessarily used by purchasers of its power supply controllers. More particularly, and without limitation, Power Integrations is aware that the TOPSwitch-HX series of integrated circuits are a material part of the patented invention, are not a staple article or commodity of commerce suitable for substantial non-infringing use, and are especially made and/or adapted for use in infringing the '933 patent, at least because the claimed features of the '933 patent are necessarily used by purchasers of its power supply controllers.

65. On information and belief, Power Integrations's customers have in fact directly infringed the '933 patent by making, using, offering to sell, selling, and importing in the United States infringing devices that incorporate a Power Integrations power supply controller chip that includes the claimed features of the '933 patent. These devices meet each and every limitation of at least one claim of the '933 patent either literally or equivalently. Power Integrations has knowledge of these infringing uses by its customers. Specifically, and without limitation, Power Integrations's customers have directly infringed the '933 patent by making, using, offering to sell, selling, and importing in the United States the TOPSwitch-HX series of integrated circuits.

66. ON has been irreparably harmed by Power Integrations's infringement of the '933 patent and will continue to be harmed unless and until Power Integrations's infringement is enjoined by this Court.

67. As a result of Power Integrations's infringement, ON has suffered and will continue to suffer damages in an amount to be proved at trial.

COUNT FOUR

INFRINGEMENT OF U.S. PATENT NO. RE41,908

68. ON re-alleges and incorporates by reference each and every allegation of paragraphs 1-67 as though fully set forth herein.

69. The '908 patent is valid and enforceable.

70. Power Integrations has at no time, expressly or impliedly, been licensed under the '908 patent.

71. Upon information and belief, Power Integrations has been and is now directly infringing, literally or under the doctrine of equivalents, one or more claims of the '908 patent through at least the acts of making, using, selling, offering for sale, and/or importing in the United States infringing power supply controllers that include the features of one or more claims of the '908 patent. More particularly, and without limitation, Power Integrations's LYTSwitch-4 integrated circuit infringes at least claim 26 of the '908 patent. Upon information and belief, Power Integrations's LYTSwitch-4 integrated circuit includes a terminal coupled for receiving a mode control signal which controls on-state and off-state of the power supply regulator circuit. Upon information and belief, Power Integrations's LYTSwitch-4 integrated circuit includes a regulator circuit having a first input coupled for receiving a feedback signal, and an output for providing a pulse-width modulated switching signal in response to the feedback signal, the regulator circuit including (a) a first comparator having an input coupled for receiving the mode control signal, and an output having first or second states depending on a comparison between the mode control signal and a first reference value, (b) a second comparator having an input coupled for receiving the mode control signal, and an output having first or second states depending on a comparison between the mode control signal and a second reference value different from the first reference value, and (c) a logic circuit having a first input coupled to the output of the first comparator, a second input coupled to the output of the second comparator, the logic circuit decoding the outputs of the first

and second comparators and setting the regulator circuit to a non-operational off-state, wherein the regulator circuit is provided in a monolithic integrated circuit package and the terminal is coupled to a pin of the monolithic integrated circuit package.

72. Upon information and belief, Power Integrations has been and is now actively inducing infringement of one or more claims of the '908 patent, either literally or under the doctrine of equivalents.

73. Power Integrations has known of the '908 patent since at least the filing date of this lawsuit on August 11, 2016.

74. On information and belief, Power Integrations has intended, and continues to intend, to induce patent infringement by third parties and has knowledge that the inducing acts would cause infringement or has been willfully blind to the possibility that its inducing acts would cause infringing acts. For example, Power Integrations is aware that the features claimed in the '908 patent are features of the power supply controller products and are necessarily used by purchasers of the power supply controller products and, therefore, that Power Integrations's customers will infringe the '908 patent by using the power supply controller products or incorporating the power supply controller products in other products, and that subsequent sales of such products would also be a direct infringement. More particularly, and without limitation, Power Integrations is aware that the features claimed in the '908 patent are present in the LYTSwitch-4 integrated circuit and that such features are necessarily used by purchasers of the LYTSwitch-4 integrated circuit and, therefore, that Power Integrations's customers will infringe the '908 patent by using the LYTSwitch-4 integrated circuit or incorporating the LYTSwitch-4 integrated circuit in other products, and that subsequent sales of such products would also be a direct infringement.

75. On information and belief, Power Integrations's intentional actions induce others to directly infringe, and those actions are undertaken with the specific intent that they will, in fact, induce direct infringement and with full knowledge that Power Integrations's products infringe one or more claims of the '908 patent both literally and under the doctrine of equivalents. By way of example only, Power Integrations sells and delivers the LYTSwitch-4 integrated circuit to U.S. distributors including

Mouser Electronics located in Mansfield, TX and thereafter induce Mouser Electronics to sell and offer for sale the infringing products to customers in the United States, thereby directly infringing the '908 patent. Power Integrations maintains a website in which it promotes the sale of and identifies that the LYTSwitch-4 integrated circuit are available for sale in the United States by Mouser Electronics (<https://ac-dc.power.com/sales/distributors/mouser/>), thereby inducing acts of direct infringement. Power Integrations further induces third parties to design the accused products into power supplies and other products to be used in the United States, by, for example, providing datasheets, application notes, design notes, and other collateral on their Internet website available to customers and instructing those customers how to incorporate the LYTSwitch-4 integrated circuit into a power supply. *See, e.g.,* https://led-driver.power.com/sites/default/files/product-docs/lytswitch-4_family_datasheet.pdf and https://led-driver.power.com/system/files_force/product-docs/an59.pdf. In addition, Power Integrations employs sales representatives and field applications engineers that interact with and work directly with customers to assist them in designing complete power supplies or other products that, upon information and belief, Power Integrations knows or has reason to believe are intended to be sold worldwide, including in the United States.

76. On information and belief, Power Integrations has been and is now contributing to the infringement of the '908 patent, either literally or under the doctrine of equivalents.

77. On information and belief, Power Integrations has been aware, since first learning of the '908 patent, that its power supply controllers that include the claimed features of the '908 patent are a material part of the patented invention, are not a staple article or commodity of commerce suitable for substantial non-infringing use, and are especially made and/or adapted for use in infringing the '908 patent, at least because the claimed features of the '908 patent are necessarily used by purchasers of its power supply controllers. More particularly, and without limitation, Power Integrations is aware that the LYTSwitch-4 integrated circuit are a material part of the patented invention, are not a staple article or commodity of commerce suitable for substantial non-infringing use, and are especially made and/or adapted for use in infringing the '908 patent, at least

because the claimed features of the '908 patent are necessarily used by purchasers of its power supply controllers.

78. On information and belief, Power Integrations's customers have in fact directly infringed the '908 patent by making, using, offering to sell, selling, and importing in the United States infringing devices that incorporate a Power Integrations power supply controller chip that includes the claimed features of the '908 patent. These devices meet each and every limitation of at least one claim of the '908 patent either literally or equivalently. Power Integrations has knowledge of these infringing uses by its customers. Specifically, and without limitation, Power Integrations's customers have directly infringed the '908 patent by making, using, offering to sell, selling, and importing in the United States the LYTSwitch-4 integrated circuit.

79. ON has been irreparably harmed by Power Integrations's infringement of the '908 patent and will continue to be harmed unless and until Power Integrations's infringement is enjoined by this Court.

80. As a result of Power Integrations's infringement, ON has suffered and will continue to suffer damages in an amount to be proved at trial.

COUNT FIVE

INFRINGEMENT OF U.S. PATENT NO. RE45,862

81. ON re-alleges and incorporates by reference each and every allegation of paragraphs 1-80 as though fully set forth herein.

82. The '862 patent is valid and enforceable.

83. Power Integrations has at no time, expressly or impliedly, been licensed under the '862 patent.

84. Upon information and belief, Power Integrations has been and is now directly infringing, literally or under the doctrine of equivalents, one or more claims of the '862 patent through at least the acts of making, using, selling, offering for sale, and/or importing in the United States infringing power supply controllers that include the features of one or more claims of the '862 patent. More particularly, and without limitation, Power Integrations's InnoSwitch-CE

integrated circuit infringes at least claim 34 of the '862 patent. Upon information and belief, the use of Power Integrations's InnoSwitch-CE integrated circuit includes performing the steps of receiving a state control signal at a pin of the semiconductor package for controlling an operational state of a power conversion control circuit. Upon information and belief, the use of Power Integrations's InnoSwitch-CE integrated circuit includes performing the steps of comparing the state control signal to a first reference and to a second reference less than the first reference. Upon information and belief, the use of Power Integrations's InnoSwitch-CE integrated circuit includes performing the steps of generating a first value of a mode signal during a second value of the state control signal, the first value of the mode signal being dependent upon the comparing of the state control signal to the first reference and the second reference. Upon information and belief, the use of Power Integrations's InnoSwitch-CE integrated circuit includes performing the steps of setting the operational state of the power conversion control circuit to one of a plurality of operational states in response to the mode signal depending on whether the state control signal is greater than the first reference value, or the state control signal is between the first and second reference values, or the state control signal is less than the second reference value.

85. Upon information and belief, Power Integrations has been and is now actively inducing infringement of one or more claims of the '862 patent, either literally or under the doctrine of equivalents.

86. Power Integrations has known of the '862 patent since at least the filing date of this lawsuit on August 11, 2016.

87. On information and belief, Power Integrations has intended, and continues to intend, to induce patent infringement by third parties and has knowledge that the inducing acts would cause infringement or has been willfully blind to the possibility that its inducing acts would cause infringing acts. For example, Power Integrations is aware that the features claimed in the '862 patent are features of the power supply controller products and are necessarily used by purchasers of the power supply controller products and, therefore, that Power Integrations's customers will infringe the '862 patent by using the power supply controller products or incorporating the power

supply controller products in other products, and that subsequent sales of such products would also be a direct infringement. More particularly, and without limitation, Power Integrations is aware that the features claimed in the '862 patent are present in the InnoSwitch-CE integrated circuit and that such features are necessarily used by purchasers of the InnoSwitch-CE integrated circuit and, therefore, that Power Integrations's customers will infringe the '862 patent by using the InnoSwitch-CE integrated circuit or incorporating the InnoSwitch-CE integrated circuit in other products, and that subsequent sales of such products would also be a direct infringement.

88. On information and belief, Power Integrations's intentional actions induce others to directly infringe, and those actions are undertaken with the specific intent that they will, in fact, induce direct infringement and with full knowledge that Power Integrations's products infringe one or more claims of the '862 patent both literally and under the doctrine of equivalents. By way of example only, Power Integrations sells and delivers the InnoSwitch-CE integrated circuit to U.S. distributors including Mouser Electronics located in Mansfield, TX and thereafter induce Mouser Electronics to sell and offer for sale the infringing products to customers in the United States, thereby directly infringing the '862 patent. Power Integrations maintains a website in which it promotes the sale of and identifies that the InnoSwitch-CE integrated circuit are available for sale in the United States by Mouser Electronics (<https://ac-dc.power.com/sales/distributors/mouser/>), thereby inducing acts of direct infringement. Power Integrations further induces third parties to design the accused products into power supplies and other products to be used in the United States, by, for example, providing datasheets, application notes, design notes, and other collateral on their Internet website available to customers and instructing those customers how to incorporate the InnoSwitch-CE integrated circuit into a power supply. *See, e.g.,* https://ac-dc.power.com/sites/default/files/product-docs/innoswitch-ce_family_datasheet.pdf. In addition, Power Integrations employs sales representatives and field applications engineers that interact with and work directly with customers to assist them in designing complete power supplies or other products that, upon information and belief, Power Integrations knows or has reason to believe are intended to be sold worldwide, including in the United States.

89. On information and belief, Power Integrations has been and is now contributing to the infringement of the '862 patent, either literally or under the doctrine of equivalents.

90. On information and belief, Power Integrations has been aware, since first learning of the '862 patent, that its power supply controllers that include the claimed features of the '862 patent are a material part of the patented invention, are not a staple article or commodity of commerce suitable for substantial non-infringing use, and are especially made and/or adapted for use in infringing the '862 patent, at least because the claimed features of the '862 patent are necessarily used by purchasers of its power supply controllers. More particularly, and without limitation, Power Integrations is aware that the InnoSwitch-CE integrated circuit is a material part of the patented invention, are not a staple article or commodity of commerce suitable for substantial non-infringing use, and are especially made and/or adapted for use in infringing the '862 patent, at least because the claimed features of the '862 patent are necessarily used by purchasers of its power supply controllers.

91. On information and belief, Power Integrations's customers have in fact directly infringed the '862 patent by making, using, offering to sell, selling, and importing in the United States infringing devices that incorporate a Power Integrations power supply controller chip that includes the claimed features of the '862 patent. These devices meet each and every limitation of at least one claim of the '862 patent either literally or equivalently. Power Integrations has knowledge of these infringing uses by its customers. Specifically, and without limitation, Power Integrations's customers have directly infringed the '862 patent by making, using, offering to sell, selling, and importing in the United States the InnoSwitch-CE integrated circuit.

92. ON has been irreparably harmed by Power Integrations's infringement of the '862 patent and will continue to be harmed unless and until Power Integrations's infringement is enjoined by this Court.

93. As a result of Power Integrations's infringement, ON has suffered and will continue to suffer damages in an amount to be proved at trial.

COUNT SIX

INFRINGEMENT OF U.S. PATENT NO. 6,597,221

94. ON re-alleges and incorporates by reference each and every allegation of paragraphs 1-93 as though fully set forth herein.

95. The '221 patent is valid and enforceable.

96. Power Integrations has at no time, expressly or impliedly, been licensed under the '221 patent.

97. Upon information and belief, Power Integrations has been and is now directly infringing, literally or under the doctrine of equivalents, one or more claims of the '221 patent through at least the acts of making, using, selling, offering for sale, and/or importing in the United States infringing power supply controllers that include the features of one or more claims of the '221 patent. More particularly, and without limitation, Power Integrations's DPA-Switch, TOPSwitch-HX (TOP252-262), and TOPSwitch-JX (TOP264-271) infringe at least claim 9 of the '221 patent. Upon information and belief, the Power Integrations's DPA-Switch, TOPSwitch-HX (TOP252-262), and TOPSwitch-JX (TOP264-271) are each an integrated circuit that includes a pulse generator for regulating an output voltage with pulses having duty cycles determined by an error signal. Upon information and belief, the Power Integrations's DPA-Switch, TOPSwitch-HX (TOP252-262), and TOPSwitch-JX (TOP264-271) include a first comparator for comparing the error signal with a reference signal representing a threshold duty cycle of the pulses, and having an output for disabling the pulse generator.

98. Upon information and belief, Power Integrations has been and is now actively inducing infringement of one or more claims of the '221 patent, either literally or under the doctrine of equivalents.

99. Power Integrations has known of the '221 patent since at least the filing date of the First Amended Complaint in this lawsuit on November 18, 2016.

100. On information and belief, Power Integrations has intended, and continues to intend, to induce patent infringement by third parties and has knowledge that the inducing acts would cause

infringement or has been willfully blind to the possibility that its inducing acts would cause infringing acts. For example, Power Integrations is aware that the features claimed in the '221 patent are features of the power supply controller products and are necessarily used by purchasers of the power supply controller products and, therefore, that Power Integrations's customers will infringe the '221 patent by using the power supply controller products or incorporating the power supply controller products in other products, and that subsequent sales of such products would also be a direct infringement. More particularly, and without limitation, Power Integrations is aware that the features claimed in the '221 patent are present in the DPA-Switch, TOPSwitch-HX (TOP252-262), and TOPSwitch-JX (TOP264-271) and that such features are necessarily used by purchasers of the DPA-Switch, TOPSwitch-HX (TOP252-262), and TOPSwitch-JX (TOP264-271) and, therefore, that Power Integrations's customers will infringe the '221 patent by using the DPA-Switch, TOPSwitch-HX (TOP252-262), and TOPSwitch-JX (TOP264-271) or incorporating the DPA-Switch, TOPSwitch-HX (TOP252-262), and TOPSwitch-JX (TOP264-271) in other products, and that subsequent sales of such products would also be a direct infringement.

101. On information and belief, Power Integrations's intentional actions induce others to directly infringe, and those actions are undertaken with the specific intent that they will, in fact, induce direct infringement and with full knowledge that Power Integrations's products infringe one or more claims of the '221 patent both literally and under the doctrine of equivalents. By way of example only, Power Integrations sells and delivers the DPA-Switch, TOPSwitch-HX (TOP252-262), and TOPSwitch-JX (TOP264-271) to U.S. distributors including Mouser Electronics located in Mansfield, TX and thereafter induce Mouser Electronics to sell and offer for sale the infringing products to customers in the United States, thereby directly infringing the '221 patent. Power Integrations maintains a website in which it promotes the sale of and identifies that the DPA-Switch, TOPSwitch-HX (TOP252-262), and TOPSwitch-JX (TOP264-271) are available for sale in the United States by Mouser Electronics (<https://ac-dc.power.com/sales/distributors/mouser/>), thereby inducing acts of direct infringement. Power Integrations further induces third parties to design the accused products into power supplies and other products to be used in the United States, by, for example, providing

datasheets, application notes, design notes, and other collateral on their Internet website available to customers and instructing those customers how to incorporate the DPA-Switch, TOPSwitch-HX (TOP252-262), and TOPSwitch-JX (TOP264-271) into a power supply. *See, e.g.,* https://ac-dc.power.com/sites/default/files/product-docs/dpa_family_datasheet.pdf; https://ac-dc.power.com/system/files_force/product-docs/an31.pdf; https://ac-dc.power.com/sites/default/files/product-docs/topswitch-hx_family_datasheet.pdf; <https://www.power.com/sites/default/files/product-docs/an43.pdf>; https://ac-dc.power.com/sites/default/files/product-docs/topswitch-jx_family_datasheet.pdf; and <https://ac-dc.power.com/sites/default/files/product-docs/an47.pdf>. In addition, Power Integrations employs sales representatives and field applications engineers that interact with and work directly with customers to assist them in designing complete power supplies or other products that, upon information and belief, Power Integrations knows or has reason to believe are intended to be sold worldwide, including in the United States.

102. On information and belief, Power Integrations has been and is now contributing to the infringement of the '221 patent, either literally or under the doctrine of equivalents.

103. On information and belief, Power Integrations has been aware, since first learning of the '221 patent, that its power supply controllers that include the claimed features of the '221 patent are a material part of the patented invention, are not a staple article or commodity of commerce suitable for substantial non-infringing use, and are especially made and/or adapted for use in infringing the '221 patent, at least because the claimed features of the '221 patent are necessarily used by purchasers of its power supply controllers. More particularly, and without limitation, Power Integrations is aware that the DPA-Switch, TOPSwitch-HX (TOP252-262), and TOPSwitch-JX (TOP264-271) are a material part of the patented invention, are not a staple article or commodity of commerce suitable for substantial non-infringing use, and are especially made and/or adapted for use in infringing the '221 patent, at least because the claimed features of the '221 patent are necessarily used by purchasers of its power supply controllers.

104. On information and belief, Power Integrations's customers have in fact directly infringed the '221 patent by making, using, offering to sell, selling, and importing in the United States infringing devices that incorporate a Power Integrations power supply controller chip that includes the claimed features of the '221 patent. These devices meet each and every limitation of at least one claim of the '221 patent either literally or equivalently. Power Integrations has knowledge of these infringing uses by its customers. Specifically, and without limitation, Power Integrations's customers have directly infringed the '221 patent by making, using, offering to sell, selling, and importing in the United States the DPA-Switch, TOPSwitch-HX (TOP252-262), and TOPSwitch-JX (TOP264-271) circuits.

105. ON has been irreparably harmed by Power Integrations's infringement of the '221 patent and will continue to be harmed unless and until Power Integrations's infringement is enjoined by this Court.

106. As a result of Power Integrations's infringement, ON has suffered and will continue to suffer damages in an amount to be proved at trial.

COUNT SEVEN

INFRINGEMENT OF U.S. PATENT NO. 7,944,272

107. ON re-alleges and incorporates by reference each and every allegation of paragraphs 1-106 as though fully set forth herein.

108. The '272 patent is valid and enforceable.

109. Power Integrations has at no time, expressly or impliedly, been licensed under the '272 patent.

110. Upon information and belief, Power Integrations has been and is now directly infringing, literally or under the doctrine of equivalents, one or more claims of the '272 patent through at least the acts of making, using, selling, offering for sale, and/or importing in the United States infringing power supply controllers that include the features of one or more claims of the '272 patent. More particularly, and without limitation, Power Integrations's LYTSwitch-4 integrated circuit infringes at least claim 1 of the '272 patent. Upon information and belief, Power

Integrations's LYTSwitch-4 integrated circuit includes a constant current circuit with a temperature compensation circuit that is configured to output a first current that is temperature-compensated. The LYTSwitch-4 integrated circuit also includes a current supply circuit that supplies a second current to the temperature compensation circuit. The temperature compensation circuit of the LYTSwitch-4 integrated circuit includes a first transistor. The first transistor of the temperature compensation circuit of the LYTSwitch-4 integrated circuit generates a base-collector voltage that is obtained by multiplying a base-emitter voltage by a predetermined ratio. The temperature compensation circuit of the LYTSwitch-4 integrated circuit also includes a second transistor that is identical in conductivity type to the first transistor and includes a base-emitter voltage that is substantially equal to the base-emitter voltage of the of the first transistor of the temperature compensation circuit. The temperature compensation circuit of the LYTSwitch-4 integrated circuit also includes a first resistor with one end of the first resistor connected to a collector of the first transistor and the other end of the first resistor connected to a base of the second transistor. The temperature compensation circuit of the LYTSwitch-4 integrated circuit also includes a second resistor with one end of the second transistor connected to an emitter of the first transistor and the other end connected to an emitter of the second transistor. The first current of the temperature compensation circuit of the LYTSwitch-4 integrated circuit is output according to a current in the collector of the second transistor in the temperature compensation circuit. The second current supplied by the current supply circuit of the LYTSwitch-4 integrated circuit is supplied to a connection point in the temperature compensation circuit between the base of the second transistor and the first resistor to generate between both ends of the first resistor a voltage varying substantially in proportion to temperature. The current supply circuit of the LYTSwitch-4 integrated circuit includes a third transistor and a fourth transistor having emitter areas that are different from each other. The current supply circuit of the LYTSwitch-4 integrated circuit also includes a fifth resistor having a temperature coefficient that is substantially equal to a temperature coefficient of the first resistor of the temperature compensation circuit. The ends of the fifth resistor of the current supply circuit of the LYTSwitch-4 integrated circuit are applied with a differential

voltage between a base-emitter voltage of the third transistor and a base-emitter voltage of the fourth transistor. The second current supplied by the current supply circuit of the LYTSwitch-4 integrated circuit is supplied according to the current flowing through the fifth resistor of the current supply circuit.

111. Upon information and belief, Power Integrations has been and is now actively inducing infringement of one or more claims of the '272 patent, either literally or under the doctrine of equivalents.

112. Power Integrations has known of the '272 patent since at least the filing date of this Second Amended Complaint in this lawsuit on August 14, 2017.

113. On information and belief, Power Integrations has intended, and continues to intend, to induce patent infringement by third parties and has knowledge that the inducing acts would cause infringement or has been willfully blind to the possibility that its inducing acts would cause infringing acts. For example, Power Integrations is aware that the features claimed in the '272 patent are features of the power supply controller products and are necessarily used by purchasers of the power supply controller products and, therefore, that Power Integrations's customers will infringe the '272 patent by using the power supply controller products or incorporating the power supply controller products in other products, and that subsequent sales of such products would also be a direct infringement. More particularly, and without limitation, Power Integrations is aware that the features claimed in the '272 patent are present in the LYTSwitch-4 integrated circuit and that such features are necessarily used by purchasers of the LYTSwitch-4 integrated circuit, that Power Integrations's customers will infringe the '272 patent by using the LYTSwitch-4 integrated circuit in other products, and that subsequent sales of such products would also be a direct infringement.

114. On information and belief, Power Integrations's intentional actions induce others to directly infringe, and those actions are undertaken with the specific intent that they will, in fact, induce direct infringement and with full knowledge that Power Integrations's products infringe one or more claims of the '272 patent both literally and under the doctrine of equivalents. By way of example only, Power Integrations sells and delivers the LYTSwitch-4 integrated circuit to U.S. distributors including

Mouser Electronics located in Mansfield, TX and thereafter induce Mouser Electronics to sell and offer for sale the infringing products to customers in the United States, thereby directly infringing the '272 patent. Power Integrations maintains a website in which it promotes the sale of and identifies that the LYTSwitch-4 integrated circuit is available for sale in the United States by Mouser Electronics (<https://ac-dc.power.com/sales/distributors/mouser/>), thereby inducing acts of direct infringement. Power Integrations further induces third parties to design the accused products into power supplies and other products to be used in the United States, by, for example, providing datasheets, application notes, design notes, and other collateral on their Internet website available to customers and instructing those customers how to incorporate the LYTSwitch-4 integrated circuit. *See, e.g.,* https://led-driver.power.com/sites/default/files/product-docs/lytswitch-4_family_datasheet.pdf and https://led-driver.power.com/system/files_force/product-docs/an59.pdf. In addition, Power Integrations employs sales representatives and field applications engineers that interact with and work directly with customers to assist them in designing complete power supplies or other products that, upon information and belief, Power Integrations knows or has reason to believe are intended to be sold worldwide, including in the United States.

115. On information and belief, Power Integrations has been and is now contributing to the infringement of the '272 patent, either literally or under the doctrine of equivalents.

116. On information and belief, Power Integrations has been aware, since first learning of the '272 patent, that its power supply controllers that include the claimed features of the '272 patent are a material part of the patented invention, are not a staple article or commodity of commerce suitable for substantial non-infringing use, and are especially made and/or adapted for use in infringing the '272 patent, at least because the claimed features of the '272 patent are necessarily used by purchasers of its power supply controllers. More particularly, and without limitation, Power Integrations is aware that the LYTSwitch-4 integrated circuit is a material part of the patented invention, are not a staple article or commodity of commerce suitable for substantial non-infringing use, and are especially made and/or adapted for use in infringing the '272 patent, at least

because the claimed features of the '272 patent are necessarily used by purchasers of its power supply controllers.

117. On information and belief, Power Integrations's customers have in fact directly infringed the '272 patent by making, using, offering to sell, selling, and importing in the United States infringing devices that incorporate a Power Integrations power supply controller chip that includes the claimed features of the '272 patent. These devices meet each and every limitation of at least one claim of the '272 patent either literally or equivalently. Power Integrations has knowledge of these infringing uses by its customers. Specifically, and without limitation, Power Integrations's customers have directly infringed the '272 patent by making, using, offering to sell, selling, and importing in the United States the LYTSwitch-4 integrated circuit.

118. ON has been irreparably harmed by Power Integrations's infringement of the '272 patent and will continue to be harmed unless and until Power Integrations's infringement is enjoined by this Court.

119. As a result of Power Integrations's infringement, ON has suffered and will continue to suffer damages in an amount to be proved at trial.

COUNT EIGHT

INFRINGEMENT OF U.S. PATENT NO. 7,447,601

120. ON re-alleges and incorporates by reference each and every allegation of paragraphs 1-119 as though fully set forth herein.

121. The '601 patent is valid and enforceable.

122. Power Integrations has at no time, expressly or impliedly, been licensed under the '601 patent.

123. Upon information and belief, Power Integrations has been and is now directly infringing, literally or under the doctrine of equivalents, one or more claims of the '601 patent through at least the acts of making, using, selling, offering for sale, and/or importing in the United States infringing power supply controllers that include the features of one or more claims of the '601 patent. Upon information and belief, Power Integrations has been and is now importing into

the United States or offering to sell, selling, or using within the United States a power supply controller which is made by a process of one or more claims of the '601 patent. More particularly, and without limitation, the process of making Power Integrations's LYTSwitch-3 integrated circuit infringes at least claim 10 of the '601 patent. Upon information and belief, Power Integrations's LYTSwitch-3 integrated circuit is formed by coupling the LYTSwitch-3 integrated circuit to receive a first signal representative of an input voltage and a second signal representative of an input current and responsively form a power signal representative of an input power. Upon information and belief, Power Integrations's LYTSwitch-3 integrated circuit is additionally formed by coupling the LYTSwitch-3 integrated circuit to receive a feedback signal representative of an output voltage. Upon information and belief, Power Integrations's LYTSwitch-3 integrated circuit is additionally formed by coupling the LYTSwitch-3 integrated circuit to form drive pulses to regulate the output voltage responsively to the power signal and the feedback signal and coupling the power supply controller to divide the power signal by the feedback signal.

124. Upon information and belief, Power Integrations has been and is now actively inducing infringement of one or more claims of the '601 patent, either literally or under the doctrine of equivalents.

125. Power Integrations has known of the '601 patent since at least the filing date of this Second Amended Complaint in this lawsuit on August 14, 2017.

126. On information and belief, Power Integrations has intended, and continues to intend, to induce patent infringement by third parties and has knowledge that the inducing acts would cause infringement or has been willfully blind to the possibility that its inducing acts would cause infringing acts. For example, Power Integrations is aware that the features claimed in the '601 patent concerning the manufacture of the power supply controllers will be necessary used by manufacturers of the power supply controllers, and, therefore, that domestic importers and sellers of the manufactured power supply controllers, including Power Integrations's customers, will infringe of the '601 patent. More particularly, and without limitation, Power Integrations is aware that the features claimed in the '601 patent are used in the manufacture of the LYTSwitch-3 integrated

circuit and that domestic importers and sellers of the LYTSwitch-3 integrated circuit, including Power Integrations's customers, will infringe the '601 patent.

127. For example, Power Integrations is aware that the features claimed in the '601 patent are features of the power supply controller products, including features related to the manufacture of the power supply controllers, and are necessarily used by purchasers and manufacturers of the power supply controller products and, therefore, that domestic importers and sellers of Power Integrations's power supply controller products or products incorporating the power supply controller products in other products would also be a direct infringement. More particularly, and without limitation, Power Integrations is aware that the features claimed in the '601 patent are present in the LYTSwitch-3 integrated circuit, or are used in the manufacture of the LYTSwitch-3 integrated circuit, and that the domestic importation and sale of Power Integrations's LYTSwitch-3 integrated circuit or products incorporating the power supply controller products in other products would be an act of direct infringement.

128. On information and belief, Power Integrations's intentional actions induce others to directly infringe, and those actions are undertaken with the specific intent that they will, in fact, induce direct infringement and with full knowledge that Power Integrations's products infringe one or more claims of the '601 patent both literally and under the doctrine of equivalents. By way of example only, Power Integrations encourages its contract manufacturers to manufacture the LYTSwitch-3 integrated circuit according to the claimed process of the '601 patent. Power Integrations also domestically imports, sells, and deliver the LYTSwitch-3 integrated circuit to U.S. distributors including Mouser Electronics located in Mansfield, TX and thereafter induce Mouser Electronics to sell and offer for sale the infringing products to customers in the United States, thereby directly infringing the '601 patent. Power Integrations maintains a website in which it promotes the sale of and identifies that the LYTSwitch-3 integrated circuit is available for sale in the United States by Mouser Electronics (<http://www.mouser.com/search/refine.aspx?N=4294758653&Keyword=lytswitch-3>), thereby inducing acts of direct infringement. Power Integrations further induces third parties to design the accused products into power supplies and other products to be used in the United States, by, for

example, providing datasheets, application notes, design notes, and other collateral on their Internet website available to customers and instructing those customers how to incorporate the LYTSwitch-3 integrated circuit. *See, e.g.*, https://led-driver.power.com/sites/default/files/product-docs/lytswitch-3_family_datasheet.pdf and <https://led-driver.power.com/sites/default/files/product-docs/an66.pdf>.

In addition, Power Integrations employs sales representatives and field applications engineers that interact with and work directly with customers to assist them in designing complete power supplies or other products that, upon information and belief, Power Integrations knows or has reason to believe are intended to be sold worldwide, including in the United States.

129. On information and belief, Power Integrations has been and is now contributing to the infringement of the '601 patent, either literally or under the doctrine of equivalents.

130. On information and belief, Power Integrations has been aware, since first learning of the '601 patent, that its power supply controllers that include the claimed features of the '601 patent are a material part of the patented invention, are not a staple article or commodity of commerce suitable for substantial non-infringing use, and are especially made and/or adapted for use in infringing the '601 patent, at least because the claimed features of the '601 patent are necessarily used by purchasers of its power supply controllers. More particularly, and without limitation, Power Integrations is aware that the LYTSwitch-3 integrated circuit is a material part of the patented invention, are not a staple article or commodity of commerce suitable for substantial non-infringing use, and are especially made and/or adapted for use in infringing the '601 patent, at least because the claimed features of the '601 patent are necessarily used by purchasers of its power supply controllers.

131. On information and belief, Power Integrations's customers have in fact directly infringed the '601 patent by making, using, offering to sell, selling, and importing in the United States infringing devices that incorporate a Power Integrations power supply controller chip that includes the claimed features of the '601 patent or that was manufactured according to the claimed process of the '601 patent. These devices meet each and every limitation of at least one claim of the '601 patent either literally or equivalently. Power Integrations has knowledge of these infringing

uses by its customers. Specifically, and without limitation, Power Integrations's customers have directly infringed the '601 patent by making, using, offering to sell, selling, and importing in the United States the LYTSwitch-3 integrated circuit, including acts of offering to sell, selling, or importing the LYTSwitch-3 integrated circuit manufactured according to the claimed process of the '601 patent.

132. ON has been irreparably harmed by Power Integrations's infringement of the '601 patent and will continue to be harmed unless and until Power Integrations's infringement is enjoined by this Court.

133. As a result of Power Integrations's infringement, ON has suffered and will continue to suffer damages in an amount to be proved at trial.

134. With respect to Counts One-Eight above, ON has either complied with the marking requirements or provided actual notice to Power Integrations as required by 35 U.S.C. § 287.

COUNT NINE

DECLARATORY JUDGMENT OF NONINFRINGEMENT OF THE '876 PATENT

135. ON re-alleges and reincorporates herein by reference Paragraphs 1-134 above.

136. This count is directed to products of ON and does not include the Fairchild Semiconductor products at issue in other proceedings. This case was filed before the merger between ON and Fairchild Semiconductor.

137. ON, including its NCP1246 and NCP1237 controller chips and other products that have frequency jitter features, have not directly infringed, contributorily infringed, or induced infringement of any claim of the '876 patent, including claim 1, and do not directly infringe, contributorily infringe, or induce infringement of any claim, including claim 1, of the '876 patent, either literally or under the doctrine of equivalents.

138. ON is being damaged by Power Integrations's false accusations of infringement of the '876 patent. Consequently, an actual and justiciable controversy exists between ON and Power Integrations concerning ON's noninfringement of the '876 patent.

139. ON is entitled to a declaration pursuant to 28 U.S.C. § 2201 stating that ON has not infringed and do not infringe, directly or indirectly, any claim of the '876 patent, either literally or under the doctrine of equivalents.

COUNT TEN

DECLARATORY JUDGMENT OF INVALIDITY OF THE '876 PATENT

140. ON re-alleges and reincorporates herein by reference Paragraphs 1-139 above.

141. One or more claims of the '876 patent are invalid and/or unenforceable for failure to comply with one or more provisions of the patent laws of the United States of America, Title 35 United States Code, including, but not limited to, 35 U.S.C. §§ 101, 102, 103, and/or 112.

142. As an example, and without limitation, the U.S. Patent and Trademark Office has held in Reexamination Control No. 90/008,326 that claim 1 of the '876 patent is invalid for being anticipated under 35 U.S.C § 102 by each of U.S. Patent No. 4,638,417 to Martin ("Martin"); *Programmed Pulsewidth Modulated Waveforms for Electromagnetic Interference Mitigation in DC-DC Converters*, 8 IEEE Transactions on Power Elecs. 596 (1993) to Andrew C. Wang et al. ("Wang"); and Acoustic Noise Reduction in Sinusoidal PWM Drives Using a Randomly Modulated Carrier, 6 IEEE Transactions on Power Elecs. 356 (1991) to Thomas G. Habetler et al. ("Habetler") and that claims 17-19 are invalid for being anticipated under 35 U.S.C § 102 by Habetler.

143. In addition, and without limitation, the Patent Trial and Appeal Board of the U.S. Patent and Trademark Office held in IPR2016-01589 that ON has shown a reasonable likelihood that claim 14 and 16 of the '876 patent are invalid for being obvious over the combination of U.S. Patent No. 5,929,620 to Dobkin ("Dobkin") and *Easing EMC Problems in Switched Mode Converters by Random Modulation of the PWM Carrier Frequency*, IEEE (1996) to Stone et al. ("Stone"); that claim 15 of the '876 patent is invalid for being obvious over the combination of Dobkin, Stone, and U.S. Patent No. 5,699,024 to Manlove; that claim 17 is invalid for being anticipated by Habetler; that claims 17 and 19 are invalid for being obvious over the combination of

Habetler and European Patent Application EP0321794A2 to Marchio (“Marchio”); and that claim 19 is invalid as obvious over the combination of Habetler, Marchio, and Stone.

144. Other claims of the ‘876 patent are also invalid as being anticipate or obvious in view of prior art, including claims 2-10, 21-27, and 31, which are invalid as being anticipated or obvious in view of Martin, Marchio, Manlove, Dobkin, and Bipolar and MOS Analog Integrated Circuit Design, John Wiley & Sons, 1984 to Grebene.

145. ON requests a judicial determination and declaration that the claims of the ‘876 patent are invalid for failure to comply with one or more provisions of the patent laws of the United States of America, Title 35 United States Code, including, but not limited to, 35 U.S.C. §§ 101, 102, 103, and/or 112.

DEMAND FOR JURY

146. ON requests a jury trial for this matter under Rule 38, Federal Rules of Civil Procedure.

PRAYER FOR RELIEF

WHEREFORE, ON prays for judgment as follows:

1. That Semiconductor Components Industries, LLC is the owner of all right, title, and interest in and to the ‘624, ‘709, ‘933, ‘908, ‘862,’221, ‘272, and ‘601 patents, together with all the rights of recovery under such patents for past and future infringements thereof.
2. That Power Integrations has infringed the ‘624, ‘709, ‘933, ‘908, ‘862,’221, ‘272, and ‘601 patents.
3. That the ‘624, ‘709, ‘933, ‘908, ‘862,’221, ‘272, and ‘601 patents are valid and enforceable.
4. Awarding to ON the damages caused by Power Integrations’s infringement, including an assessment of pre-judgment and post-judgment interest and costs.
5. Entering a permanent injunction against Power Integrations, its officers, agents, servants, employees, attorneys, all parent and subsidiary corporations and affiliates, their assigns and successors in interest, and those persons in active concert or participation with any of them who

receive notice of the injunction, enjoining them from continuing acts of infringement of the '624, '709, '933, '908, '862, '221, '272, and '601 patents, including, without limitation, from continuing to make, use, sell, offer for sale, or import infringing semiconductors or products including such semiconductors.

6. That this is an exceptional case and awarding to ON its costs, expenses, and reasonable attorneys' fees pursuant to 35 U.S.C. § 285.

7. In the event a permanent injunction preventing future acts of infringement is not entered, that ON be awarded a compulsory ongoing licensing fee, including any necessary post-verdict accounting.

8. That ON has not directly infringed, contributorily infringed, or induced infringement of any claim of the '876 patent, and does not directly infringe, contributorily infringe, or induce infringement of any claim of the '876 patent.

9. That the claims of the '876 patent are invalid for failure to comply with one or more provisions of the patent laws of the United States of America, Title 35 United States Code, including, but not limited to, 35 U.S.C. §§ 101, 102, 103, and/or 112.

10. Awarding to ON such other and further relief as this Court may deem just and proper.

Dated: August 14, 2017

/s/ Roger Fulghum

Roger Fulghum
BAKER BOTTS L.L.P.

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and SEMICONDUCTOR COMPONENTS
INDUSTRIES, LLC