

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE**

AVAGO TECHNOLOGIES U.S. INC., )  
 AVAGO TECHNOLOGIES ECBU IP (SINGAPORE) )  
 PTE. LTD., AND AVAGO TECHNOLOGIES )  
 GENERAL IP (SINGAPORE) PTE. LTD., ) Civil Action No. 11-71-SLR  
 )  
 Plaintiffs, )  
 )  
 v. ) **DEMAND FOR JURY TRIAL**  
 )  
 CYPRESS SEMICONDUCTOR CORPORATION, AND )  
 CYPRESS SEMICONDUCTOR (MINNESOTA) INC., )  
 )  
 Defendants. )  
 )  
 )

**FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiffs Avago Technologies U.S. Inc., Avago Technologies ECBU IP (Singapore) Pte. Ltd., and Avago Technologies General IP (Singapore) Pte. Ltd. (collectively, “Plaintiffs”) file this First Amended Complaint for patent infringement against Cypress Semiconductor Corporation, and Cypress Semiconductor (Minnesota) Inc. (collectively, “Defendants”) and state as follows:

## THE PARTIES

1. Plaintiff Avago Technologies U.S. Inc. (“Avago-U.S.”), is a corporation organized under the laws of Delaware, having a place of business at 350 West Trimble Road, San Jose, California 95131.

2. Plaintiff Avago Technologies ECBU IP (Singapore) Pte. Ltd. (“Avago-ECBU”) is a Singapore corporation, having a place of business at 1 Yishun Avenue 7, Singapore 768923.

3. Plaintiff Avago Technologies General IP (Singapore) Pte. Ltd. (“Avago General”) is a Singapore corporation, having a place of business at 1 Yishun Avenue 7, Singapore 768923.

4. On information and belief, Defendant Cypress Semiconductor Corporation (“Cypress”) is a corporation organized and existing under the laws of Delaware with a place of business at 198 Champion Court, San Jose, California 95134.

5. On information and belief, Defendant Cypress Semiconductor (Minnesota) Inc. (“Cypress-MN”) is a corporation organized and existing under the laws of Delaware with a place of business at 2401 East 86th Street, Bloomington, Minnesota 55425.

### **JURISDICTION AND VENUE**

6. This is an action for patent infringement arising under the patent laws of the United States, Title 35, United States Code. Subject matter jurisdiction as to these claims is conferred on this Court by 28 U.S.C. §§ 1331 and 1338(a). Plaintiffs’ patent infringement claims arise under the United States Patent Laws, 35 U.S.C. § 1 *et seq.*

7. This Court has personal jurisdiction over Cypress at least by virtue of its incorporation in the State of Delaware.

8. In addition, on information and belief, Cypress has purposely availed itself of this forum by asserting its own patents in civil actions filed in this judicial district, including *Cypress Semiconductor v. Philips Semiconductor, Inc.*, No. 1:01-CV00178-SLR (March 19, 2001), and *Cypress Semiconductor, et al. v. Integrated Circuit Systems, Inc.*, No. 1:01-CV-00199-SLR (March 28, 2001).

9. This Court has personal jurisdiction over Cypress-MN at least by virtue of its incorporation in the State of Delaware.

10. This Court also has personal jurisdiction over Defendants because, on information and belief, Defendants have transacted business in the District of Delaware, have contracted to supply services or things in Delaware, have caused the tortious injury alleged in this Complaint by act or omission both in and outside of Delaware, and, on information and belief, regularly conduct or solicit business in Delaware, or have engaged in a persistent course of conduct in Delaware. Directly and/or through intermediaries, Defendants ship, distribute, offer for sale, sell, and advertise their products in the United States and within Delaware.

11. On information and belief, Defendants have infringed Plaintiffs' U.S. patent rights, *inter alia*, by purposefully and voluntarily offering for sale and/or selling infringing optical navigation sensors including, by means of example only, and without limitation, the Ovation-ONS II and OvationNL lines of optical navigation sensors<sup>1</sup> and optical navigation devices incorporating such sensors<sup>2</sup> to others both in and outside of Delaware. On information and belief, various ones of these infringing sensors and devices have been and continue to be purchased and/or used in Delaware.

12. On information and belief, Defendants' infringing sensors and devices, and third-party products containing such infringing sensors, have been and continue to be sold and/or offered for sale at stores within the District of Delaware. On information and belief, Defendants' infringing sensors and devices, and third-party products containing such infringing sensors, have been and continue to be sold and offered for sale via the Internet for shipment into Delaware,

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<sup>1</sup> On information and belief, the Ovation-ONS II line includes, for example, Cypress Part. Nos. CYONS2000, CYONS2001, CYONS2010, CYONS2011, CYONS2100, CYONS2101, CYONS2110, CYONSFN2051, CYONSFN2053, CYONSFN2061, CYONSFN2061, CYONSFN2151, CYONSFN2161, CYONSFN2162, CYONSTB2010, and CYONSTB2011.

<sup>2</sup> Including, for example, the Cypress CY4631 Ovation-ONS II Laser Gaming Mouse Reference Design Kit.

e.g., through online distributors of Defendants' infringing sensors and devices. On information and belief, Defendants have thereby committed acts of patent infringement within the District of Delaware.

13. In view of the allegations set forth in paragraphs 7-12 above, this Court has personal jurisdiction over Defendants under Fed. R. Civ. P. 4(k)(1)(A) and 10 Del. C. § 3104(b) and (c).

14. Venue is proper in this district under 28 U.S.C. §§ 1391(b) and (c) and 1400(b) for at least the reasons that the Defendants reside in the State of Delaware and/or have committed acts of patent infringement within this judicial district, and/or transact business in this district.

### **BACKGROUND**

15. On information and belief, Defendants make, use, sell, offer for sale and/or import into the United States, including within this judicial district, products that infringe directly and/or contribute to or induce infringement by others of United States Patent Nos. 6,172,354, 6,797,937, 7,189,985, 7,791,590, and 7,808,485 (collectively, "the Asserted Patents").

### **FIRST CLAIM**

#### **Infringement of U.S. Patent No. 6,172,354**

16. Plaintiffs incorporate by reference paragraphs 1-15 as if fully set forth herein.

17. United States Patent No. 6,172,354 ("the '354 patent"), entitled "Operator Input Device," was duly and legally issued by the USPTO on January 9, 2001. A true and correct copy of the '354 patent is attached hereto as Exhibit A.

18. All rights, title and interests in the '354 patent have been assigned to Avago General.

19. Avago-U.S. is the exclusive licensee of certain rights under the '354 patent.

20. On information and belief, Defendants have directly infringed, actively induced infringement of, and/or contributorily infringed the '354 patent in violation of 35 U.S.C. § 271.

21. On information and belief, Defendants have directly infringed the '354 patent and continue to do so by making, using, selling, offering for sale, and/or importing into the United States, optical navigation sensors, devices and/or components for such devices, including, by means of example and without limitation, the Ovation ONS II and/or Ovation NL sensors, and/or optical navigation devices incorporating such sensors, that infringe the '354 patent, literally and/or through equivalence.

22. On information and belief, Defendants have induced and/or contributed to the infringement of the '354 patent and are inducing and/or contributing to the infringement of the '354 patent. By means of example only, Defendants, with knowledge of the '354 patent and/or with intent to cause infringement, have provided products and components that in use perform infringing methods, and/or have instructed or directed others to incorporate such components into infringing devices and/or to perform infringing methods. By means of example only and without limitation, Defendants have provided non-staple products having no substantial noninfringing use and/or provided datasheets, technical reference manuals, and/or reference design kits that instruct or direct others to incorporate such components into infringing devices and/or to perform infringing methods.

23. By means of example only and without limitation, Defendants have directly infringed, actively induced infringement of, and/or contributorily infringed at least claim 31 of the '354 patent.

24. As a result of Defendants' infringement, Plaintiffs have suffered and will continue to suffer damages and irreparable harm. On information and belief, Cypress will continue its

infringing activities, and continue to damage Plaintiffs and cause them irreparable harm, unless enjoined by this Court.

**SECOND CLAIM**

**Infringement of U.S. Patent No. 7,189,985**

25. Plaintiffs incorporate by reference paragraphs 1-15 as if fully set forth herein.

26. United States Patent No. 7,189,985 (“the ’985 patent), entitled “Tracking Separation Between an Object and a Surface Using a Reducing Structure,” was duly and legally issued by the USPTO on March 13, 2007. A true and correct copy of the ’985 patent is attached hereto as Exhibit B.

27. All right, title and interests in the ’985 patent have been assigned to Avago General.

28. Avago-U.S. is the exclusive licensee of certain rights under the ’985 patent.

29. On information and belief, Defendants have directly infringed, actively induced infringement of, and/or contributorily infringed the ’985 patent in violation of 35 U.S.C. § 271.

30. On information and belief, Defendants have directly infringed the ’985 patent and continue to do so by making, using, selling, offering for sale, and/or importing into the United States, optical navigation sensors, devices and/or components for such devices, including, by means of example and without limitation, the Ovation ONS II and/or Ovation NL sensors, and/or optical navigation devices incorporating such sensors, that infringe the ’985 patent, literally and/or through equivalence.

31. On information and belief, Defendants have induced and/or contributed to the infringement of the ’985 patent and are inducing and/or contributing to the infringement of the ’985 patent. By means of example only, Defendants, with knowledge of the ’985 patent and/or with intent to cause infringement, have provided products and components that in use perform infringing methods, and/or have instructed or directed others to incorporate such components

into infringing devices and/or to perform infringing methods. By means of example only and without limitation, Defendants have provided non-staple products having no substantial noninfringing use and/or provided datasheets, technical reference manuals, and/or reference design kits that instruct or direct others to incorporate such components into infringing devices and/or to perform infringing methods.

32. By means of example only and without limitation, Defendants have directly infringed, actively induced infringement of, and/or contributorily infringed at least claim 11 of the '985 patent.

33. As a result of Defendants' infringement, Plaintiffs have suffered and will continue to suffer damages and irreparable harm. On information and belief, Cypress will continue its infringing activities, and continue to damage Plaintiffs and cause them irreparable harm, unless enjoined by this Court.

### **THIRD CLAIM**

#### **Infringement of U.S. Patent No. 7,791,590**

34. Plaintiffs incorporate by reference paragraphs 1-15 as if fully set forth herein.

35. United States Patent No. 7,791,590 ("the '590 patent), entitled "Optical Mouse with Uniform Level Detection," was duly and legally issued by the USPTO on September 7, 2010. A true and correct copy of the '590 patent is attached hereto as Exhibit C.

36. All right, title and interests in the '590 patent have been assigned to Avago-ECBU.

37. Avago-U.S. is the exclusive licensee of certain rights under the '590 patent.

38. On information and belief, Defendants have directly infringed, actively induced infringement of, and/or contributorily infringed the '590 patent in violation of 35 U.S.C. § 271.

39. On information and belief, Defendants have directly infringed the '590 patent and continue to do so by making, using, selling, offering for sale, and/or importing into the United

States, optical navigation sensors, devices and/or components for such devices, including, by means of example and without limitation, the Ovation ONS II and/or Ovation NL sensors, and/or optical navigation devices incorporating such sensors, that infringe the '590 patent, literally and/or through equivalence.

40. On information and belief, Defendants have induced and/or contributed to the infringement of the '590 patent and are inducing and/or contributing to the infringement of the '590 patent. By means of example only, Defendants, with knowledge of the '590 patent and/or with intent to cause infringement, have provided products and components and have instructed or directed others to incorporate such components into infringing devices. By means of example only and without limitation, Defendants have provided non-staple products having no substantial noninfringing use and/or provided datasheets, technical reference manuals, and/or reference design kits that instruct or direct others to incorporate such components into infringing devices.

41. By means of example only and without limitation, Defendants have directly infringed, actively induced infringement of, and/or contributorily infringed at least claim 1 of the '590 patent.

42. As a result of Defendants' infringement, Plaintiffs have suffered and will continue to suffer damages and irreparable harm. On information and belief, Cypress will continue its infringing activities, and continue to damage Plaintiffs and cause them irreparable harm, unless enjoined by this Court.

#### **FOURTH CLAIM**

##### **Infringement of U.S. Patent No. 6,797,937**

43. Plaintiffs incorporate by reference paragraphs 1-15 as if fully set forth herein.

44. United States Patent No. 6,797,937 ("the '937 patent), entitled "System and Method for Reducing Power Consumption in an Optical Screen Pointing Device," was duly and legally



issued by the USPTO on September 28, 2004. A true and correct copy of the '937 patent is attached hereto as Exhibit D.

45. All right, title and interests in the '937 patent have been assigned to Avago-ECBU.

46. On information and belief, Defendants have directly infringed, actively induced infringement of, and/or contributorily infringed the '937 patent in violation of 35 U.S.C. § 271.

47. On information and belief, Defendants have directly infringed the '937 patent and continue to do so by making, using, selling, offering for sale, and/or importing into the United States, optical navigation sensors, devices and/or components for such devices, including, by means of example and without limitation, the Ovation ONS II and/or Ovation NL sensors, and/or optical navigation devices incorporating such sensors, that infringe the '937 patent, literally and/or through equivalence.

48. On information and belief, Defendants have induced and/or contributed to the infringement of the '937 patent and are inducing and/or contributing to the infringement of the '937 patent. By means of example only, Defendants, with knowledge of the '937 patent and/or with intent to cause infringement, have provided products and components and have instructed or directed others to incorporate such components into infringing devices. By means of example only and without limitation, Defendants have provided non-staple products having no substantial noninfringing use and/or provided datasheets, technical reference manuals, and/or reference design kits that instruct or direct others to incorporate such components into infringing devices.

49. By means of example only and without limitation, Defendants have directly infringed, actively induced infringement of, and/or contributorily infringed at least claim 1 of the '937 patent.

50. As a result of Defendants' infringement, Plaintiffs have suffered and will continue to suffer damages and irreparable harm. On information and belief, Cypress will continue its infringing activities, and continue to damage Plaintiffs and cause them irreparable harm, unless enjoined by this Court.

**FIFTH CLAIM**

**Infringement of U.S. Patent No. 7,808,485**

51. Plaintiffs incorporate by reference paragraphs 1-15 as if fully set forth herein.

52. United States Patent No. 7,808,485 ("the '485 patent"), entitled "Method of Operating an Optical Mouse," was duly and legally issued by the USPTO on October 5, 2010. A true and correct copy of the '485 patent is attached hereto as Exhibit E.

53. All right, title and interests in the '485 patent have been assigned to Avago-ECBU.

54. Avago-U.S. is the exclusive licensee of certain rights under the '485 patent.

55. On information and belief, Defendants have directly infringed, actively induced infringement of, and/or contributorily infringed the '485 patent in violation of 35 U.S.C. § 271.

56. On information and belief, Defendants have directly infringed the '485 patent and continue to do so by making, using, selling, offering for sale, and/or importing into the United States, optical navigation sensors, devices and/or components for such devices, including, by means of example and without limitation, the Ovation ONS II and/or Ovation NL sensors, and/or optical navigation devices incorporating such sensors, that infringe the '485 patent, literally and/or through equivalence.

57. On information and belief, Defendants have induced and/or contributed to the infringement of the '485 patent and are inducing and/or contributing to the infringement of the '485 patent. By means of example only, Defendants, with knowledge of the '485 patent and/or with intent to cause infringement, have provided products and components and have instructed or

directed others to incorporate such components into infringing devices. By means of example only and without limitation, Defendants have provided non-staple products having no substantial noninfringing use and/or provided datasheets, technical reference manuals, and/or reference design kits that instruct or direct others to incorporate such components into infringing devices.

58. By means of example only and without limitation, Defendants have directly infringed, actively induced infringement of, and/or contributorily infringed at least claim 1 of the '485 patent.

59. As a result of Defendants' infringement, Plaintiffs have suffered and will continue to suffer damages and irreparable harm. On information and belief, Cypress will continue its infringing activities, and continue to damage Plaintiffs and cause them irreparable harm, unless enjoined by this Court.

**PRAYER FOR RELIEF**

**WHEREFORE**, Plaintiffs respectfully request the following relief:

- A. The entry of judgment that Defendants have infringed, induced the infringement of and/or contributed to the infringement of the Asserted Patents;
- B. The entry of a permanent injunction, enjoining Defendants and their officers, directors, agents, servants, employees, privies, and all persons in active concert or participation with them, from further infringement of the Asserted Patents;
- C. An award of damages sufficient to compensate Plaintiffs for Defendants' infringement of the Asserted Patents, together with prejudgment and post-judgment interest on the damage award;
- D. An award of treble damages according to 35 U.S.C. § 284;
- E. A declaration that this case is exceptional under 35 U.S.C. § 285 and an award of Plaintiffs' attorneys' fees;
- F. An award of Plaintiffs' costs and expenses; and
- G. Such other relief as this Court deems just and proper.

**JURY DEMAND**

Pursuant to Fed. R. Civ. P. 38 and Local Rule 38.1, Plaintiffs respectfully request a jury trial on all issues triable to a jury.

ASHBY & GEDDES

/s/ Steven J. Balick

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