

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

ADVANCED MICRO DEVICES, INC. and
ATI TECHNOLOGIES ULC,

Plaintiffs,

V.

C.A. No.

LG ELECTRONICS, INC., LG ELECTRONICS
U.S.A., INC., LG ELECTRONICS
MOBILECOMM U.S.A., INC.,

Jury Trial Demanded

Defendants.

COMPLAINT FOR PATENT INFRINGEMENT

Advanced Micro Devices, Inc. and ATI Technologies ULC (“ATI Technologies”) (collectively “Plaintiffs”), bring this Complaint for patent infringement under 35 U.S.C. §271 against LG Electronics, Inc., LG Electronics U.S.A., Inc., and LG Electronics MobileComm U.S.A, Inc. (“Defendants”), and allege as follows:

THE PARTIES

1. Plaintiff Advanced Micro Devices, Inc. is a corporation organized and existing under the law of the State of Delaware, and maintains its principal place of business at One AMD Place, Sunnyvale, California 94085.

2. ATI Technologies is incorporated in Canada and has a principal place of business at 1 Commerce Valley Drive East, Markham, Ontario L3T 7X6, Canada. ATI Technologies is a wholly-owned subsidiary of Advanced Micro Devices, Inc.

3. Upon information and belief, LG Electronics, Inc., a Korean company, is located at 128 Yeoui-Daero, Yeongdeungpo-Gu, Seoul 07336 South Korea. LG Electronics, Inc.

manufactures, imports into the United States, sells and/or offers for sale in the United States smart devices and televisions. In addition, LG Electronics, Inc.'s smart devices and televisions are marketed, offered for sale, and/or sold throughout the United States, including within this District.

4. Upon information and belief, LG Electronics U.S.A., Inc. is a wholly-owned subsidiary of Defendant LG Electronics, Inc. LG Electronics U.S.A., Inc. is a corporation organized and existing under the laws of the State of Delaware, with its principal place of business located at 1000 Sylvan Ave., Englewood Cliffs, New Jersey, 07632. LG Electronics U.S.A., Inc. manufactures, imports into the United States, sells and/or offers for sale in the United States smart devices and televisions. In addition, LG Electronics U.S.A., Inc.'s smart devices and televisions are marketed, offered for sale, and/or sold throughout the United States, including within this District.

5. Upon information and belief, LG Electronics MobileComm U.S.A., Inc. (d/b/a LG Mobile Phones) is a wholly-owned subsidiary of Defendant LG Electronics, Inc. LG Electronics MobileComm U.S.A., Inc. is a corporation organized and existing under the laws of the State of California with its principal place of business located at 10101 Old Grove Road, San Diego, California, 92131. LG Electronics MobileComm U.S.A., Inc. manufactures, imports into the United States, sells and/or offers for sale in the United States smart devices and televisions. In addition, LG Electronics MobileComm U.S.A., Inc.'s smart devices and televisions are marketed, offered for sale, and/or sold throughout the United States, including within this District.

JURISDICTION AND VENUE

6. This action arises under the Patent Act, 35 U.S.C. § 1 *et seq.*

7. Subject matter jurisdiction is proper in this Court under 28 U.S.C. §§ 1331 and 1338(a).

8. Venue in this District is proper under 28 U.S.C. §§ 1391(b) and (c) and 1400(b).

9. This Court has personal jurisdiction over Defendants. Defendants have conducted and do conduct business within the State of Delaware. Defendants, directly or through subsidiaries or intermediaries (including distributors, retailers, and others), ship, distribute, offer for sale, sell, and advertise (including the provision of an interactive web page) their products and/or services in the United States and the District of Delaware. Defendants, directly and through subsidiaries or intermediaries (including distributors, retailers, and others), have purposefully and voluntarily placed one or more of their infringing products and/or services, as described below, into the stream of commerce with the expectation that they will be purchased and used by consumers in the District of Delaware. These infringing products and/or services have been and continue to be purchased and used by consumers in the District of Delaware. Defendants have committed acts of patent infringement within the District of Delaware.

THE PATENTS

10. United States Patent No. 7,633,506 (“the ’506 Patent”) is entitled “Parallel pipeline graphics system,” and issued on December 15, 2009 to inventors Mark M. Leather and Eric Demers. The ’506 Patent issued from United States Patent Application No. 10/724,384, filed on November 26, 2003. The ’506 Patent claims priority to U.S. provisional application serial number 60/429,976, filed on November 27, 2002. A copy of the ’506 Patent is attached hereto as Exhibit A.

11. United States Patent No. 7,796,133 (“the ’133 Patent”) is entitled “Unified shader,” and issued on September 14, 2010 to inventors Mark M. Leather and Eric Demers. The

'133 Patent issued from United States Patent Application No. 10/730,965, filed on December 8, 2003. The '133 Patent is a continuation of U.S. application Ser. No. 10/716,946, filed Nov. 18, 2003, now abandoned, which claims priority to U.S. provisional application serial no. 60/427,338, filed November 18, 2002. A copy of the '133 Patent is attached as Exhibit B.

12. United States Patent No. 8,760,454 (“the '454 Patent”) is entitled “Graphics processing architecture employing a unified shader,” and issued on June 24, 2014 to inventors Stephen L. Morein, Laurent Lefebvre, Andrew E. Gruber, and Andi Skende. The '454 Patent issued from United States Patent Application No. 13/109,738, filed on May 17, 2011. The '454 Patent is a continuation of U.S. Application No. 12/791,597, filed on June 1, 2010, which is a continuation of U.S. Application No. 11/842,256, filed on August 21, 2007, which is a continuation of U.S. Application No. 11/117,863, filed on April 29, 2005 and issued as U.S. Patent No. 7,327,369, which is a continuation of U.S. Application No. 10/718,318, filed on Nov. 20, 2003 and issued as U.S. Patent No. 6,897,871. A copy of the '454 Patent is attached as Exhibit C.

13. ATI Technologies is the original assignee and owns all rights, title, and interest to the '506, '133, and '454 Patents.

14. The '506, '133, and '454 Patents are each valid and enforceable.

BACKGROUND

15. Plaintiffs incorporate the allegations of all of the foregoing Paragraphs as if fully restated herein.

16. Advanced Micro Devices, Inc. is an American multinational semiconductor company and pioneer of cutting-edge computer graphics technology. Since at least as early as 1985, ATI Technologies has made substantial investments to research, develop, and have

manufactured high quality graphics systems. The Asserted Patents stem from the research and design of innovative proprietary technology developed by ATI Technologies. Advanced Micro Devices, Inc. acquired ATI Technologies in 2006, and has continued to make substantial investments to research, develop, and have manufactured high quality graphics systems that practice the Asserted Patents. Advanced Micro Devices, Inc. has invested substantial resources collectively researching, developing, testing, launching, supporting, and maintaining groundbreaking graphics technology that practices the Asserted Patents.

17. The Asserted Patents cover inventions relating to important aspects of Advanced Micro Devices, Inc.'s graphics processing units ("GPUs") and accelerated processing units ("APUs").

18. Defendants have imported into the United States, marketed, offered for sale and/or sold in the United States, smartphones, smartwatches, televisions, and other similar devices that infringe the Asserted Patents.

19. Defendants have been placed on actual notice of one or more of the Asserted Patents. The filing of this Complaint also constitutes notice in accordance with 35 U.S.C. § 287. Despite such notice, Defendants continue to import into, market, offer for sale and/or sell in the United States products that infringe the Asserted Patents.

20. Defendants have, and continue to, directly infringe the Asserted Patents by engaging in acts constituting infringement under 35 U.S.C. § 271, including but not necessarily limited to one or more of making, using, selling and/or offering to sell, in this District and elsewhere in the United States, and importing into this District and elsewhere in the United States, certain infringing televisions and smart devices including but not limited to televisions

and smart devices which incorporate the functionalities and compositions described in detail in Counts I-III (collectively, “LG Accused Products”).

21. The infringing LG Accused Products include, but are not limited to:

- all televisions made, sold, or offered for sale by Defendants, including but not limited to the LG 1080p LED TV; 1080p Full HD Smart LED TV; 1080p LED TV; 1080p Smart LED TV; 4K UHD HDR Smart LED TV; 4K UHD Smart LED TV; 720p LED TV; 720p Smart LED TV; B6 OLED 4K HDR Smart TV; B7 OLED 4K HDR Smart TV; C6 Curved OLED 4K HDR Smart TV; C7 OLED 4K HDR Smart TV; Curved OLED 1080p Smart TV; Curved OLED 4K Smart TV; E6 OLED 4K HDR Smart TV; E7 OLED 4K HDR Smart TV; HD LED TV; HD Smart LED TV; LG SIGNATURE OLED 4K HDR Smart TV; LG SIGNATURE OLED TV 4K HDR Smart TV; LG SIGNATURE OLED TV W 4K HDR Smart TV; OLED 4K Smart TV; Prime 4K UHD Smart LED TV; Smart LED TV; and Super UHD 4K HDR Smart LED TV and all variations thereof (“LG Accused Televisions”). For example, without limitation, the LG 43UH6500 TV (“Exemplary LG Television”) is an infringing LG Accused Television;
- all smart devices, including smartphones and smartwatches, made, sold, or offered for sale by Defendants, that include a graphics processing unit that is not provided by Qualcomm, including but not limited to the LG Xpower; Stylo 2; and Stylo 3 and all variations thereof (“LG Accused Smart Devices”). For example, without limitation, the LG XPower (“Exemplary LG Smart Device”) is an infringing LG Accused Smart Device.

22. Defendants' acts of infringement have caused damage to Plaintiffs. Plaintiffs are entitled to recover from Defendants the damages sustained by Plaintiffs as a result of Defendants' wrongful acts.

COUNT I
(Defendants' Infringement of the '506 Patent)

23. Plaintiffs incorporate the allegations of all of the foregoing Paragraphs as if fully restated herein.

24. Defendants have directly infringed and continue to directly infringe the '506 Patent by making, using, selling, offering for sale, or importing into the United States products and/or methods covered by one or more claims of the '506 Patent including, but not limited to, televisions and smart devices. The accused televisions and smart devices that infringe one or more claims of the '506 Patent include, but are not limited to, at least the LG Accused Products. Further discovery may reveal additional infringing products and/or models.

25. For example, and without limitation, operation and use of the Exemplary LG Television and the Exemplary LG Smart Device infringe one or more claims of the '506 Patent, including but not limited to Claim 1.

26. Attached hereto as Exhibit D, and incorporated into this Complaint, is a claim chart showing where in the LG Accused Televisions and the LG Accused Smart Devices each limitation of Claim 1 is met.

27. Defendants have had knowledge of the '506 Patent since at least as of the filing of this Complaint.

28. Defendants' continued infringement of the '506 Patent has damaged and will continue to damage Plaintiffs.

29. Plaintiffs are entitled to recover damages adequate to compensate for Defendants' infringement.

30. ATI Technologies is the assignee and lawful owner of all right, title and interest in and to the '506 Patent. The '506 Patent is valid and enforceable.

COUNT II
(Defendants' Infringement of the '133 Patent)

31. Plaintiffs incorporate the allegations of all of the foregoing Paragraphs as if fully restated herein.

32. Defendants have directly infringed and continue to directly infringe the '133 Patent by making, using, selling, offering for sale, or importing into the United States products and/or methods covered by one or more claims of the '133 Patent including, but not limited to, televisions and smart devices. The accused televisions and smart devices that infringe one or more claims of the '133 Patent include, but are not limited to, at least the LG Accused Products. Further discovery may reveal additional infringing products and/or models.

33. For example, and without limitation, operation and use of the Exemplary LG Television and the Exemplary LG Smart Device infringe one or more claims of the '133 Patent, including but not limited to Claim 1 and Claim 40.

34. Attached hereto as Exhibit E, and incorporated into this Complaint, is a claim chart showing where in the LG Accused Televisions and the LG Accused Smart Devices each limitation of Claim 1 and Claim 40 are met.

35. Defendants have had knowledge of the '133 Patent since at least as of the filing of this Complaint.

36. Defendants' continued infringement of the '133 Patent has damaged and will continue to damage Plaintiffs.

37. Plaintiffs are entitled to recover damages adequate to compensate for Defendants' infringement.

38. ATI Technologies is the assignee and lawful owner of all right, title and interest in and to the '133 Patent. The '133 Patent is valid and enforceable.

COUNT III
(Defendants' Infringement of the '454 Patent)

39. Plaintiffs incorporate the allegations of all of the foregoing Paragraphs as if fully restated herein.

40. Defendants have directly infringed and continue to directly infringe the '454 Patent by making, using, selling, offering for sale, or importing into the United States products and/or methods covered by one or more claims of the '454 Patent including, but not limited to, televisions and smart devices. The accused televisions and smart devices that infringe one or more claims of the '454 Patent include, but are not limited to, at least the LG Accused Products. Further discovery may reveal additional infringing products and/or models.

41. For example, and without limitation, operation and use of the Exemplary LG Television and the Exemplary LG Smart Device infringe one or more claims of the '454 Patent, including but not limited to Claims 2 through 5 and 11.

42. Attached hereto as Exhibit F, and incorporated into this Complaint, is a claim chart showing where in the LG Accused Televisions and the LG Accused Smart Devices each limitation of Claims 2 through 5 and 11 are met.

43. Defendants have had knowledge of the '454 Patent since at least as of the filing of this Complaint.

44. Defendants' continued infringement of the '454 Patent has damaged and will continue to damage Plaintiffs.

45. Plaintiffs are entitled to recover damages adequate to compensate for Defendants' infringement.

46. ATI Technologies is the assignee and lawful owner of all right, title and interest in and to the '454 Patent. The '454 Patent is valid and enforceable.

PRAYER FOR RELIEF

WHEREFORE, Plaintiffs respectfully request the following relief:

a) A judgment that the '506 Patent, the '133 Patent, and the '454 Patent are valid and enforceable;

b) A judgment that Defendants have infringed, either literally or under the Doctrine of Equivalents, one or more claims of the '506 Patent;

d) A judgment that Defendants have infringed, either literally or under the Doctrine of Equivalents, one or more claims of the '133 Patent;

e) A judgment that Defendants have infringed, either literally or under the Doctrine of Equivalents, one or more claims of the '454 Patent;

g) A judgment that awards Plaintiffs all appropriate damages under 35 U.S.C. § 284 for Defendants' past infringement, and any continuing or future infringement of the Asserted Patents, up until the date such judgment is entered, including pre or post judgment interest, costs, and disbursements as justified under 35 U.S.C. § 284 and, if necessary, to adequately compensate Plaintiffs for Defendants' infringement, an accounting:

- i. that this case be declared exceptional within the meaning of 35 U.S.C. § 285 and that Plaintiffs be awarded its reasonable attorneys' fees against Defendants that it incurs in prosecuting this action; and
- ii. that Plaintiffs be awarded costs, and expenses that it incurs in prosecuting this action; and

h) A judgment that Plaintiffs be awarded such further relief at law or in equity as the Court deems just and proper.

DEMAND FOR JURY TRIAL

Plaintiffs hereby demand trial by jury on all claims and issues so triable.

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