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BROADCOM CORPORATION
8

9 **UNITED STATES DISTRICT COURT**
10 **FOR THE CENTRAL DISTRICT OF CALIFORNIA**
11 **SOUTHERN DIVISION**

12
13 BROADCOM CORPORATION,

14 Plaintiff,

15 v.

16 VIZIO INC.,

17 Defendant.

Case No. 17 Civ. 408

COMPLAINT FOR PATENT
INFRINGEMENT

DEMAND FOR JURY TRIAL

18
19 Plaintiff Broadcom Corporation (“Broadcom”), by and through its
20 undersigned counsel, files this Complaint for Patent Infringement relating to several
21 U.S. patents as identified below (collectively, the “Patents-in-Suit”) and alleges as
22 follows:

23 **THE PARTIES**

24 1. Plaintiff Broadcom Corporation (“Broadcom” or “Plaintiff”) is a
25 California corporation having its principal place of business at 5300 California
26 Avenue, Irvine, CA 92617. It was acquired by Avago Technologies, Ltd. in 2016
27 and currently operates as a wholly-owned subsidiary of the merged entity now
28 known as Broadcom Limited.

1 2. On information and belief, Vizio, Inc. (“Vizio”) is a corporation is a
2 corporation organized under the laws of California with its principal place of
3 business at 39 Tesla, Irvine, CA 92618.

4 **JURISDICTION AND VENUE**

5 3. Broadcom brings this civil action for patent infringement pursuant to
6 the Patent Laws of the United States, 35 U.S.C. § 1, *et. seq.*, including 35 U.S.C.
7 §§ 271, 281-285. This Court has subject matter jurisdiction over this action
8 pursuant to 28 U.S.C. §§ 1331 and 1338.

9 4. Upon information and belief, Defendant Vizio transacts and conducts
10 business in this District and the State of California, and is subject to the personal
11 jurisdiction of this Court. Upon information and belief, Vizio has minimum
12 contacts within the State of California and this District and has purposefully availed
13 itself of the privileges of conducting business in the State of California and in this
14 District. Broadcom’s causes of action arise directly from Vizio’s business contacts
15 and other activities in the State of California and in this District. Upon information
16 and belief, Vizio has committed acts of infringement, both directly and indirectly,
17 within this District and the State of California by, *inter alia*, using, selling, offering
18 for sale, importing, advertising, and/or promoting products that infringe one or more
19 claims of the Patents-in-Suit. More specifically, Vizio, directly and/or through
20 intermediaries, uses, sells, ships, distributes, offers for sale, advertises, and
21 otherwise promotes its products in the United States, the State of California, and this
22 District. Upon information and belief, Vizio solicits customers in the State of
23 California and this District, and has customers who are residents of the State of
24 California and this District and who use Vizio’s products in the State of California
25 and in this District.

26 5. Venue is proper in this district under 28 U.S.C. §§ 1391 and 1400(b).

27
28

THE PATENTS-IN-SUIT

1
2 6. Broadcom owns by assignment the entire right, title, and interest in
3 U.S. Patent No. 8,284,844 (the “MacInnis ’844 patent”), which is entitled “Video
4 Decoding System Supporting Multiple Standards.” The MacInnis ’844 patent
5 issued on October 9, 2012 to inventors Alexander MacInnis, Jose Alvarez, Sheng
6 Zhong, Xiaodong Xie, and Vivian Hsiun from United States Patent Application
7 No. 10/114,798, filed on April 1, 2002. A true and correct copy of the MacInnis
8 ’844 patent is attached as **Exhibit A** to this Complaint.

9 7. Broadcom owns by assignment the entire right, title, and interest in
10 U.S. Patent No. 7,590,059 (the “Gordon ’059 patent”), which is entitled
11 “Multistandard Video Decoder.” The Gordon ’059 patent issued on September 15,
12 2009 to inventor Stephen Gordon from United States Patent Application
13 No. 11/000,731, filed on December 1, 2004. A true and correct copy of the Gordon
14 ’059 patent is attached as **Exhibit B** to this Complaint.

15 8. Broadcom owns by assignment the entire right, title, and interest in
16 U.S. Patent No. 7,310,104 (the “MacInnis ’104 patent”), which is entitled “Graphics
17 Display System with Anti-Flutter Filtering and Vertical Scaling.” The MacInnis
18 ’104 patent issued on December 18, 2007 to inventors Alexander MacInnis,
19 Chengfuh Jeffrey Tang, Xiaodong Xie, James Patterson, and Greg Kranawetter from
20 United States Patent Application No. 11/511,042, filed on August 28, 2006. A true
21 and correct copy of the MacInnis ’104 patent is attached as **Exhibit C** to this
22 Complaint.

23 9. Broadcom owns by assignment the entire right, title, and interest in
24 U.S. Patent No. 7,342,967 (the “Aggarwal ’967 patent”), which is entitled “System
25 and Method for Enhancing Performance of Personal Video Recording (PVR)
26 Functions on HITS Digital Video Streams.” The Aggarwal ’967 patent issued on
27 March 11, 2008 to inventors Gaurav Aggarwal, Marcus Kellerman, David Erickson,
28 Jason Demas, Sandeep Bhatia, Girish Hulmani, and Arun Gopalakrishna Rao from

1 United States Patent Application No. 10/317,642, filed on December 11, 2002. A
2 true and correct copy of the Aggarwal '967 patent is attached as **Exhibit D** to this
3 Complaint.

4 **BACKGROUND**

5 10. Founded by Henry Samueli and Henry Nicholas in 1991 in Los
6 Angeles, California, Broadcom has grown to be a global leader in the semiconductor
7 industry. Broadcom provides one of the industry's broadest portfolios of highly-
8 integrated SoCs that seamlessly deliver voice, video, data and multimedia
9 connectivity in the home, office and mobile environments. From its headquarters in
10 Irvine, California, Broadcom has expanded its footprint across the United States and
11 around the world, employing thousands of individuals globally and in the United
12 States. A brief overview of Broadcom's history can be found on its website at:
13 <https://www.broadcom.com/company/about-us/company-history/>.

14 11. Broadcom's continued success depends in substantial part upon its
15 constant attention to research and development. From 2015 to 2016, Broadcom
16 spent \$3.7 billion on research and development for its products. \$2.7 billion of the
17 \$3.7 billion was spent in 2016 alone. **Exhibit E** (Broadcom Limited 2016 Form 10-
18 K), at 47. Prior to its acquisition, Broadcom Corporation's research and
19 development expense was \$2.37 billion, \$2.49 billion and \$2.32 billion in 2014,
20 2013, and 2012, respectively. **Exhibit F** (Broadcom Limited 2014 Form 10-K), at
21 6.

22 12. Broadcom relies on the patent system as an important part of its
23 intellectual property program to protect the valuable technology and inventions
24 resulting from this research and development. As of October 30, 2016, Broadcom
25 Limited had approximately 27,640 U.S. and other patents and approximately 3,020
26 U.S. and other pending patent applications. Broadcom Limited's research and
27 development efforts are presently resulting in approximately 350 new patent
28 applications per year. **Exhibit E** (Broadcom Limited 2016 Form 10-K), at 8.

1 13. The Accused Products are generally semiconductor components (such
2 as, for example, various system on a chip (“SoC”) and similar processing
3 components and circuits) and consumer audiovisual products containing the same,
4 including, without limitation, digital televisions (“DTVs”), set-top boxes, Blu-ray
5 disc players, DVD players/recorders, DTV/DVD combinations, DTV/Blu-Ray
6 combinations, multimedia streaming players, home theater systems, and other
7 similar audiovisual devices and systems imported, marketed and/or sold by
8 Defendant in the United States.

9 14. On information and belief, Vizio directly infringes, induces
10 infringement of, and contributorily infringes the Patents-In-Suit by making, using,
11 selling, offering for sale, and importing articles, including specific SoCs and any
12 processing components and circuits that feature the same or substantially similar
13 infringing functionality, which are covered by the claims of the Patents-In-Suit.

14 15. On information and belief, Vizio directly infringes, induces
15 infringement of, and contributorily infringes the Patents-In-Suit by making, using,
16 selling, offering for sale, and importing articles, including consumer audiovisual
17 products that incorporate the above accused SoCs, which are covered by the claims
18 of the Patents-In-Suit.

19 16. On information and belief, in addition to the specific SoCs and
20 televisions listed below in Count 1-4, any processing components and circuits that
21 feature the same or substantially similar infringing functionality and any consumer
22 audiovisual products of Vizio that incorporate such SoCs, or similar processing
23 components and circuits, infringe the Patents-In-Suit.

24 **COUNT 1**

25 **(Infringement of the MacInnis ’844 Patent)**

26 17. Broadcom incorporates by reference each and every allegation in the
27 preceding paragraphs.

28

1 18. Defendant is making, using, offering to sell, selling, and/or importing
2 into the United States products that infringe at least claim 1 of the MacInnis '844
3 patent, including but not limited to the following products: Vizio M43-C1 43" Class
4 Ultra HD Full-Array LED Smart TV (incorporates the Vizio V6 7603B0-CFE3
5 NPR143.00); Vizio D50U-D1 50" Class Ultra HD Full-Array LED Smart TV
6 (incorporates the Vizio V6 7603B0-CFE3 NRG557.00); Vizio D24-D1 24" Class
7 Edge-Lit LED Smart TV (incorporates MediaTek MT5580KUF1 1543-BCSH
8 AC4KKFQF); Vizio E28H-C1 E-Series 28" Class Full-Array LED Smart TV
9 (incorporates MediaTek MT5580KUF1 1546-BCSH ACMKPTK).

10 19. Defendant has had actual knowledge of the MacInnis '844 patent since
11 at least as of the date it was served with this Complaint, and at least since that date
12 has had actual knowledge that one or more of their products infringes one or more
13 claims of the MacInnis '844 patent.

14 20. On information and belief, Defendant has induced and will continue to
15 induce the infringement of at least one claim of the MacInnis '844 patent, in
16 violation of 35 U.S.C. § 271(b), by, among other things, actively and knowingly
17 aiding and abetting others (including Defendant's sales and service subsidiaries,
18 Defendant's authorized dealers and repair service providers, manufacturers who
19 incorporate Defendant's products into downstream consumer products, retailers of
20 downstream consumer products that incorporate Defendant's products, and
21 consumers and end users) to infringe the MacInnis '844 patent with the specific
22 intent to encourage their infringement, through activities such as marketing
23 Defendant's products, creating and/or distributing drivers, data sheets, application
24 notes, and/or similar materials with instructions on using or rendering operable
25 downstream consumer products that incorporate Defendant's products.

26 21. On information and belief, the Defendant contributes to the
27 infringement of one or more claims of the MacInnis '844 patent, in violation of 35
28 U.S.C. § 271(c), by, among others, end users, because it knows that the Accused

1 Products – and, specifically, their above-mentioned products that incorporate the
2 accused SoCs – embody a material part of the claimed inventions of the MacInnis
3 ‘844 patent, that they are specially made or specially adapted for use in an
4 infringement of the claims, and that they are not staple articles of commerce suitable
5 for substantial non-infringing use.

6 22. On information and belief, Defendant’s past and continuing
7 infringement has been deliberate and willful, and this case is therefore an
8 exceptional case, which warrants an award of treble damages and attorneys’ fees to
9 Plaintiff pursuant to 35 U.S.C. § 285. After receiving actual knowledge of the
10 MacInnis ‘844 patent, Defendant has continued to make, use, sell, offer for sale,
11 and/or import infringing products into the United States despite knowing that there
12 was an objectively high likelihood of infringement of the MacInnis ‘844 patent. To
13 the extent Defendant did not know of the objectively high likelihood of
14 infringement, it was so obvious that it should have been known to Defendant.

15 23. The infringement of the MacInnis ‘844 patent by Defendant will
16 continue unless enjoined by this Court.

17 24. The infringing activities by Defendant have caused and will continue to
18 cause irreparable injury to Broadcom for which there exists no adequate remedy at
19 law.

20 **COUNT 2**

21 **(Infringement of the Gordon ‘059 Patent)**

22 25. Broadcom incorporates by reference each and every allegation in the
23 preceding paragraphs.

24 26. Defendant is making, using, offering to sell, selling, and/or importing
25 into the United States products that infringe at least claims 11 and 21 of the Gordon
26 ‘059 patent, including but not limited to the following products: Vizio M43-C1 43”
27 Class Ultra HD Full-Array LED Smart TV (incorporates the Vizio V6 7603B0-
28 CFE3 NPR143.00); Vizio D50U-D1 50” Class Ultra HD Full-Array LED Smart TV

1 (incorporates the Vizio V6 7603B0-CFE3 NRG557.00); Vizio D24-D1 24” Class
2 Edge-Lit LED Smart TV (incorporates MediaTek MT5580KUF1 1543-BCSH
3 AC4KKFQF); Vizio E28H-C1 E-Series 28” Class Full-Array LED Smart TV
4 (incorporates MediaTek MT5580KUF1 1546-BCSH ACMKPTK).

5 27. Defendant has had actual knowledge of the Gordon ‘059 patent since at
6 least as of the date it was served with this Complaint, and at least since that date has
7 had actual knowledge that one or more of their products infringes one or more
8 claims of the Gordon ‘059 patent.

9 28. On information and belief, Defendant has induced and will continue to
10 induce the infringement of at least one claim of the Gordon ‘059 patent, in violation
11 of 35 U.S.C. § 271(b), by, among other things, actively and knowingly aiding and
12 abetting others (including Defendant’s sales and service subsidiaries, Defendant’s
13 authorized dealers and repair service providers, manufacturers who incorporate
14 Defendant’s products into downstream consumer products, retailers of downstream
15 consumer products that incorporate Defendant’s products, and consumers and end
16 users) to infringe the Gordon ‘059 patent with the specific intent to encourage their
17 infringement, through activities such as marketing Defendant’s products, creating
18 and/or distributing drivers, data sheets, application notes, and/or similar materials
19 with instructions on using or rendering operable downstream consumer products that
20 incorporate Defendant’s products.

21 29. On information and belief, the Defendant contributes to the
22 infringement of one or more claims of the Gordon ‘059 patent, in violation of 35
23 U.S.C. § 271(c), by, among others, end users, because it knows that the Accused
24 Products – and, specifically, their above-mentioned products that incorporate the
25 accused SoCs – embody a material part of the claimed inventions of the Gordon
26 ‘059 patent, that they are specially made or specially adapted for use in an
27 infringement of the claims, and that they are not staple articles of commerce suitable
28 for substantial non-infringing use.

1 30. On information and belief, Defendant's past and continuing
2 infringement has been deliberate and willful, and this case is therefore an
3 exceptional case, which warrants an award of treble damages and attorneys' fees to
4 Plaintiff pursuant to 35 U.S.C. § 285. After receiving actual knowledge of the
5 Gordon '059 patent, Defendant has continued to make, use, sell, offer for sale,
6 and/or import infringing products into the United States despite knowing that there
7 was an objectively high likelihood of infringement of the Gordon '059 patent. To
8 the extent Defendant did not know of the objectively high likelihood of
9 infringement, it was so obvious that it should have been known to Defendant.

10 31. The infringement of the Gordon '059 patent by Defendant will continue
11 unless enjoined by this Court.

12 32. The infringing activities by Defendant have caused and will continue to
13 cause irreparable injury to Broadcom for which there exists no adequate remedy at
14 law.

15 **COUNT 3**

16 **(Infringement of the MacInnis '104 Patent)**

17 33. Broadcom incorporates by reference each and every allegation in the
18 preceding paragraphs.

19 34. Defendant is making, using, offering to sell, selling, and/or importing
20 into the United States products that infringe at least claims 1, 11, and 17 of the
21 MacInnis '104 patent, including but not limited to the following products: Vizio
22 M43-C1 43" Class Ultra HD Full-Array LED Smart TV (incorporates the Vizio V6
23 7603B0-CFE3 NPR143.00); Vizio D50U-D1 50" Class Ultra HD Full-Array LED
24 Smart TV (incorporates the Vizio V6 7603B0-CFE3 NRG557.00); Vizio D24-D1
25 24" Class Edge-Lit LED Smart TV (incorporates MediaTek MT5580KUF1 1543-
26 BCSH AC4KKFQF); Vizio E28H-C1 E-Series 28" Class Full-Array LED Smart TV
27 (incorporates MediaTek MT5580KUF1 1546-BCSH ACMKPTK); Vizio P50-C1
28

1 SmartCast 50" Home Theater Display (incorporates Sigma Designs HiDTV-PRO
2 SX7 STV7701A04-CFE3 N6K070.00 TAIWAN 1548).

3 35. Defendant has had actual knowledge of the MacInnis '104 patent since
4 at least as of the date it was served with this Complaint, and at least since that date
5 has had actual knowledge that one or more of their products infringes one or more
6 claims of the MacInnis '104 patent.

7 36. On information and belief, Defendant has induced and will continue to
8 induce the infringement of at least one claim of the MacInnis '104 patent, in
9 violation of 35 U.S.C. § 271(b), by, among other things, actively and knowingly
10 aiding and abetting others (including Defendant's sales and service subsidiaries,
11 Defendant's authorized dealers and repair service providers, manufacturers who
12 incorporate Defendant's products into downstream consumer products, retailers of
13 downstream consumer products that incorporate Defendant's products, and
14 consumers and end users) to infringe the MacInnis '104 patent with the specific
15 intent to encourage their infringement, through activities such as marketing
16 Defendant's products, creating and/or distributing drivers, data sheets, application
17 notes, and/or similar materials with instructions on using or rendering operable
18 downstream consumer products that incorporate Defendant's products.

19 37. On information and belief, the Defendants contribute to the
20 infringement of one or more claims of the MacInnis '104 patent, in violation of 35
21 U.S.C. § 271(c), by, among others, end users, because they know that the Accused
22 Products – and, specifically, their above-mentioned products that incorporate the
23 accused SoCs – embody a material part of the claimed inventions of the MacInnis
24 '104 patent, that they are specially made or specially adapted for use in an
25 infringement of the claims, and that they are not staple articles of commerce suitable
26 for substantial non-infringing use.

27 38. On information and belief, Defendant's past and continuing
28 infringement has been deliberate and willful, and this case is therefore an

1 exceptional case, which warrants an award of treble damages and attorneys' fees to
2 Plaintiff pursuant to 35 U.S.C. § 285. After receiving actual knowledge of the
3 MacInnis '104 patent, Defendant has continued to make, use, sell, offer for sale,
4 and/or import infringing products into the United States despite knowing that there
5 was an objectively high likelihood of infringement of the MacInnis '104 patent. To
6 the extent Defendant did not know of the objectively high likelihood of
7 infringement, it was so obvious that it should have been known to Defendants.

8 39. The infringement of the MacInnis '104 patent by Defendant will
9 continue unless enjoined by this Court.

10 40. The infringing activities by Defendant have caused and will continue to
11 cause irreparable injury to Broadcom for which there exists no adequate remedy at
12 law.

13 **COUNT 4**

14 **(Infringement of the Aggarwal '967 Patent)**

15 41. Broadcom incorporates by reference each and every allegation in the
16 preceding paragraphs.

17 42. Defendant is making, using, offering to sell, selling, and/or importing
18 into the United States products that infringe at least claim 1 of the Aggarwal '967
19 patent, including but not limited to the following products: Vizio Model Nos. Vizio
20 D24-D1 24" Class Edge-Lit LED Smart TV (incorporates MediaTek MT5580KUF1
21 1543-BCSH AC4KKFQF); Vizio E28H-C1 E-Series 28" Class Full-Array LED
22 Smart TV (incorporates MediaTek MT5580KUF1 1546-BCSH ACMKPTK).

23 43. Defendant has had actual knowledge of the MacInnis '104 patent since
24 at least as of the date it was served with this Complaint, and at least since that date
25 has had actual knowledge that one or more of their products infringes one or more
26 claims of the MacInnis '104 patent.

27 44. On information and belief, Defendant has induced and will continue to
28 induce the infringement of at least one claim of the Aggarwal '967 patent, in

1 violation of 35 U.S.C. § 271(b), by, among other things, actively and knowingly
2 aiding and abetting others (including Defendant's sales and service subsidiaries,
3 Defendant's authorized dealers and repair service providers, manufacturers who
4 incorporate Defendant's products into downstream consumer products, retailers of
5 downstream consumer products that incorporate Defendant's products, and
6 consumers and end users) to infringe the Aggarwal '967 patent with the specific
7 intent to encourage their infringement, through activities such as marketing
8 Defendant's products, creating and/or distributing drivers, data sheets, application
9 notes, and/or similar materials with instructions on using or rendering operable
10 downstream consumer products that incorporate Defendant's products.

11 45. On information and belief, the Defendant contributes to the
12 infringement of one or more claims of the Aggarwal '967 patent, in violation of 35
13 U.S.C. § 271(c), by, among others, end users, because it knows that the Accused
14 Products – and, specifically, their above-mentioned products that incorporate the
15 accused SoCs – embody a material part of the claimed inventions of the Aggarwal
16 '967 patent, that they are specially made or specially adapted for use in an
17 infringement of the claims, and that they are not staple articles of commerce suitable
18 for substantial non-infringing use

19 46. On information and belief, Defendant's past and continuing
20 infringement has been deliberate and willful, and this case is therefore an
21 exceptional case, which warrants an award of treble damages and attorneys' fees to
22 Plaintiff pursuant to 35 U.S.C. § 285. After receiving actual knowledge of the
23 Aggarwal '967 patent, Defendant has continued to make, use, sell, offer for sale,
24 and/or import infringing products into the United States despite knowing that there
25 was an objectively high likelihood of infringement of the Aggarwal '967 patent. To
26 the extent Defendant did not know of the objectively high likelihood of
27 infringement, it was so obvious that it should have been known to Defendant.
28

1 47. The infringement of the Aggarwal '967 patent by Defendant will
2 continue unless enjoined by this Court.

3 48. The infringing activities by Defendant have caused and will continue to
4 cause irreparable injury to Broadcom for which there exists no adequate remedy at
5 law.

6 **PRAYER FOR RELIEF**

7 49. WHEREFORE, Broadcom requests that judgment be entered in its
8 favor and against Defendant as follows:

9 A. Entering judgment declaring that Defendant has infringed,
10 directly and/or indirectly, literally and/or under the doctrine of equivalents,
11 the Patents-in-Suit in violation of 35 U.S.C. § 271;

12 B. Issuing preliminary and permanent injunctions enjoining
13 Defendants, their officers, agents, subsidiaries and employees, and those in
14 privity or in active concert with them, from further activities that constitute
15 infringement of the Patents-in-Suit, within the State of California and across
16 the United States;

17 C. Declaring that Defendant’s infringement of the Patents-in-Suit is
18 willful and deliberate pursuant to 35 U.S.C. § 284;

19 D. Ordering that Broadcom be awarded damages in an amount no
20 less than a reasonable royalty for each asserted patent arising out of
21 Defendant’s infringement of the Patents-in-Suit, together with costs, and pre-
22 and post-judgment interest;

23 E. Declaring this an exceptional case under 35 U.S.C. § 285 and
24 awarding attorneys’ fees and trebling of damages; and

25 F. Awarding Broadcom such other costs and further relief as the
26 Court deems just and proper.

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DEMAND FOR JURY TRIAL

50. Pursuant to Rule 38 of the Federal Rules of Civil Procedure, Broadcom demands a trial by jury on all issues so triable.

DATED: March 7, 2017

Respectfully submitted,

By: /s/ Laurie Edelstein

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