

1 STEPTOE & JOHNSON, LLP  
Laurie Edelstein (Bar No. 164466)  
2 ledelstein@steptoe.com  
Seth Sias (Bar No. 260674)  
3 ssias@steptoe.com

4 1891 Page Mill Road  
Suite 200  
5 Palo Alto, CA 94304  
TEL: +1 650 687 9500  
6 FAX: +1 650 687 9499

7 Attorneys for Plaintiff  
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 MSTAR SEMICONDUCTOR INC.,

17 Defendant.  
18

Case No. 17 Civ. 406

COMPLAINT FOR PATENT  
INFRINGEMENT

**DEMAND FOR JURY TRIAL**

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.     MStar Semiconductor Inc. (“MStar”) is a corporation organized under  
2 the laws of Taiwan with its principal place of business at 4F-1, No. 26, Tai-Yuan  
3 Street, ChuPei Hsinchu Hsien 302, Taiwan. On information and belief, MStar is a  
4 subsidiary of MediaTek Inc.

5                                   **JURISDICTION AND VENUE**

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

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

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

**THE PATENTS-IN-SUIT**

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

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

8. Broadcom owns by assignment the entire right, title, and interest in U.S. Patent No. 8,068,171 (the “Aggarwal ‘171 patent”), which is entitled “High Speed for Digital Video.” The Aggarwal ‘171 patent issued on November 29, 2011 to inventors Gaurav Aggarwal, M K Subramanian, Sandeep Bhatia, Santosh Savekar, and K Shivapirakasan from United States Patent Application No. 12/730,911, filed on March 24, 2010. A true and correct copy of the Aggarwal ‘171 patent is attached as **Exhibit C** to this Complaint.

9. Broadcom owns by assignment the entire right, title, and interest in U.S. Patent No. 7,310,104 (the “MacInnis ‘104 patent”), which is entitled “Graphics Display System with Anti-Flutter Filtering and Vertical Scaling.” The MacInnis ‘104 patent issued on December 18, 2007 to inventors Alexander MacInnis, Chengfuh Jeffrey Tang, Xiaodong Xie, James Patterson, and Greg Kranawetter from United States Patent Application No. 11/511,042, filed on August 28, 2006. A true

1 and correct copy of the MacInnis '104 patent is attached as **Exhibit D** to this  
2 Complaint.

### 3 **BACKGROUND**

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

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

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

13. The Accused Products are generally semiconductor components (such as, for example, various system on a chip (“SoC”) and similar processing components and circuits).

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

15. On information and belief, in addition to the specific SoCs listed below in Count 1-4, any processing components and circuits of Mstar that feature the same or substantially similar infringing functionality, infringe the Patents-In-Suit.

### **COUNT 1**

#### **(Infringement of the MacInnis ‘844 Patent)**

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

17. Defendant is making, using, offering to sell, selling, and/or importing into the United States products that infringe at least claim 1 of the MacInnis ‘844 patent, including but not limited to the following products:

- MStar ARM MSD95M2D-3-004E ATHC353B 1617A

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

19. On information and belief, Defendant has induced and will continue to induce the infringement of at least one claim of the MacInnis ‘844 patent, in violation of 35 U.S.C. § 271(b), by, among other things, actively and knowingly aiding and abetting others (including Defendant’s sales and service subsidiaries, Defendant’s authorized dealers and repair service providers, manufacturers who

1 incorporate Defendant's products into downstream consumer products, retailers of  
2 downstream consumer products that incorporate Defendant's products, and  
3 consumers and end users) to infringe the MacInnis '844 patent with the specific  
4 intent to encourage their infringement, through activities such as marketing  
5 Defendant's products, creating and/or distributing drivers, data sheets, application  
6 notes, and/or similar materials with instructions on using or rendering operable  
7 downstream consumer products that incorporate Defendant's products.

8         20. On information and belief, the Defendant contributes to the  
9 infringement of one or more claims of the MacInnis '844 patent, in violation of 35  
10 U.S.C. § 271(c), by, among others, the downstream product customers, because it  
11 knows that the Accused Products – and, by way of example, the above-mentioned  
12 SoCs – embody a material part of the claimed inventions of the MacInnis '844  
13 patent, that they are specially made or specially adapted for use in an infringement  
14 of the claims, and that they are not staple articles of commerce suitable for  
15 substantial non-infringing use.

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

25         22. The infringement of the MacInnis '844 patent by Defendant will  
26 continue unless enjoined by this Court.









1           33. Defendant is making, using, offering to sell, selling, and/or importing  
2 into the United States products that infringe at least claims 1, 6, and 7 of the  
3 Aggarwal '171 patent, including but not limited to the following products:

- 4           • MStar ARM MSD95M2D-3-004E ATHC353B 1617A

5           34. Defendant has had actual knowledge of the Aggarwal '171 patent since  
6 at least as of the date it was served with this Complaint, and at least since that date  
7 has had actual knowledge that one or more of their products infringes one or more  
8 claims of the Aggarwal '171 patent.

9           35. On information and belief, Defendant has induced and will continue to  
10 induce the infringement of at least one claim of the Aggarwal '171 patent, in  
11 violation of 35 U.S.C. § 271(b), by, among other things, actively and knowingly  
12 aiding and abetting others (including Defendant's sales and service subsidiaries,  
13 Defendant's authorized dealers and repair service providers, manufacturers who  
14 incorporate Defendant's products into downstream consumer products, retailers of  
15 downstream consumer products that incorporate Defendant's products, and  
16 consumers and end users) to infringe the Aggarwal '171 patent with the specific  
17 intent to encourage their infringement, through activities such as marketing  
18 Defendant's products, creating and/or distributing drivers, data sheets, application  
19 notes, and/or similar materials with instructions on using or rendering operable  
20 downstream consumer products that incorporate Defendant's products.

21           36. On information and belief, the Defendant contributes to the  
22 infringement of one or more claims of the Aggarwal '171 patent, in violation of 35  
23 U.S.C. § 271(c), by, among others, the downstream product customers, because it  
24 knows that the Accused Products – and, by way of example, the above-mentioned  
25 SoCs – embody a material part of the claimed inventions of the Aggarwal '171  
26 patent, that they are specially made or specially adapted for use in an infringement  
27 of the claims, and that they are not staple articles of commerce suitable for  
28 substantial non-infringing use.

37. On information and belief, Defendant's past and continuing infringement has been deliberate and willful, and this case is therefore an exceptional case, which warrants an award of treble damages and attorneys' fees to Plaintiff pursuant to 35 U.S.C. § 285. After receiving actual knowledge of the Aggarwal '171 patent, Defendant has continued to make, use, sell, offer for sale, and/or import infringing products into the United States despite knowing that there was an objectively high likelihood of infringement of the Aggarwal '171 patent. To the extent Defendant did not know of the objectively high likelihood of infringement, it was so obvious that it should have been known to Defendant.

38. The infringement of the Aggarwal '171 patent by Defendant will continue unless enjoined by this Court.

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

#### **COUNT 4**

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

40. Broadcom incorporates by reference each and every allegation in the preceding paragraphs.

41. Defendant is making, using, offering to sell, selling, and/or importing into the United States products that infringe at least claims 1, 11, and 17 of the MacInnis '104 patent, including but not limited to the following products:

- MStar ARM MSD95M2D-3-004E ATHC353B 1617A

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

43. On information and belief, Defendant has induced and will continue to induce the infringement of at least one claim of the MacInnis '104 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 MacInnis '104 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 44. On information and belief, the Defendant contributes to the  
12 infringement of one or more claims of the MacInnis '104 patent, in violation of 35  
13 U.S.C. § 271(c), by, among others, the downstream product customers, because it  
14 knows that the Accused Products – and, by way of example, the above-mentioned  
15 SoCs – embody a material part of the claimed inventions of the MacInnis '104  
16 patent, that they are specially made or specially adapted for use in an infringement  
17 of the claims, and that they are not staple articles of commerce suitable for  
18 substantial non-infringing use.

19 45. 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 MacInnis '104 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 MacInnis '104 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



**DEMAND FOR JURY TRIAL**

49. 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

Laurie Edelstein (Bar No. 164466)  
ledelstein@step toe.com  
Seth Sias (Bar No. 260674)  
ssias@step toe.com  
STEP TOE & JOHNSON, LLP  
1891 Page Mill Road  
Suite 200  
Palo Alto, CA 94304  
TEL: +1 650 687 9500  
FAX: +1 650 687 9499

Attorneys for Plaintiff  
Broadcom Corporation