

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 FUNAI ELECTRIC COMPANY,  
LTD.; FUNAI CORPORATION, INC.;  
17 and P&F USA, INC.,

18 Defendants.  
19

Case No. 17 Civ. 403

COMPLAINT FOR PATENT  
INFRINGEMENT

**DEMAND FOR JURY TRIAL**

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

24 **THE PARTIES**

25 1. Plaintiff Broadcom Corporation (“Broadcom” or “Plaintiff”) is a  
26 California corporation having its principal place of business at 5300 California  
27 Avenue, Irvine, CA 92617. It was acquired by Avago Technologies, Ltd. in 2016  
28

1 and currently operates as a wholly-owned subsidiary of the merged entity now  
2 known as Broadcom Limited.

3 2. Funai Electric Company, Ltd. (“Funai Japan”) is a corporation  
4 organized under the laws of Japan with its principal place of business at 7-7-1  
5 Nakagaito, Daito City, Osaka 574-0013, Japan.

6 3. Funai Corporation, Inc. (“Funai USA”) is a corporation organized  
7 under the laws of New Jersey with its principal place of business at 201 Route 17  
8 North, Suite 903, Rutherford, NJ 07070. On information and belief, Funai USA is a  
9 wholly owned subsidiary of Funai Japan engaged in sales of electrical equipment.

10 4. P&F USA, Inc. (“P&F”) is a corporation organized under the laws of  
11 Georgia with its principal place of business at 2555 Marconi Drive, Suite 300,  
12 Alpharetta, GA 30005. On information and belief, P&F is a wholly owned  
13 subsidiary of Funai Japan engaged in sales of electrical equipment.

14 **JURISDICTION AND VENUE**

15 5. Broadcom brings this civil action for patent infringement pursuant to  
16 the Patent Laws of the United States, 35 U.S.C. § 1, *et. seq.*, including 35 U.S.C.  
17 §§ 271, 281-285. This Court has subject matter jurisdiction over this action  
18 pursuant to 28 U.S.C. §§ 1331 and 1338.

19 6. Upon information and belief, Defendants Funai Japan, Ltd., Funai  
20 USA, and P&F (collectively, “Funai” or “Defendants”) transact and conduct  
21 business in this District and the State of California, and are subject to the personal  
22 jurisdiction of this Court. Upon information and belief, Funai has minimum  
23 contacts within the State of California and this District and has purposefully availed  
24 itself of the privileges of conducting business in the State of California and in this  
25 District. Broadcom’s causes of action arise directly from Funai’s business contacts  
26 and other activities in the State of California and in this District. Upon information  
27 and belief, Funai has committed acts of infringement, both directly and indirectly,  
28 within this District and the State of California by, *inter alia*, using, selling, offering

1 for sale, importing, advertising, and/or promoting products that infringe one or more  
2 claims of the Patents-in-Suit. More specifically, Funai, directly and/or through  
3 intermediaries, uses, sells, ships, distributes, offers for sale, advertises, and  
4 otherwise promotes its products in the United States, the State of California, and this  
5 District. Upon information and belief, Funai solicits customers in the State of  
6 California and this District, and has customers who are residents of the State of  
7 California and this District and who use Funai's products in the State of California  
8 and in this District.

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

### 10 **THE PATENTS-IN-SUIT**

11 8. Broadcom owns by assignment the entire right, title, and interest in  
12 U.S. Patent No. 8,284,844 (the "MacInnis '844 patent"), which is entitled "Video  
13 Decoding System Supporting Multiple Standards." The MacInnis '844 patent  
14 issued on October 9, 2012 to inventors Alexander MacInnis, Jose Alvarez, Sheng  
15 Zhong, Xiaodong Xie, and Vivian Hsiun from United States Patent Application  
16 No. 10/114,798, filed on April 1, 2002. A true and correct copy of the MacInnis  
17 '844 patent is attached as **Exhibit A** to this Complaint.

18 9. Broadcom owns by assignment the entire right, title, and interest in  
19 U.S. Patent No. 7,590,059 (the "Gordon '059 patent"), which is entitled  
20 "Multistandard Video Decoder." The Gordon '059 patent issued on September 15,  
21 2009 to inventor Stephen Gordon from United States Patent Application  
22 No. 11/000,731, filed on December 1, 2004. A true and correct copy of the Gordon  
23 '059 patent is attached as **Exhibit B** to this Complaint.

24 10. Broadcom owns by assignment the entire right, title, and interest in  
25 U.S. Patent No. 8,068,171 (the "Aggarwal '171 patent"), which is entitled "High  
26 Speed for Digital Video." The Aggarwal '171 patent issued on November 29, 2011  
27 to inventors Gaurav Aggarwal, M K Subramanian, Sandeep Bhatia, Santosh  
28 Savekar, and K Shivapirakasan from United States Patent Application

1 No. 12/730,911, filed on March 24, 2010. A true and correct copy of the Aggarwal  
2 '171 patent is attached as **Exhibit C** to this Complaint.

3 11. Broadcom owns by assignment the entire right, title, and interest in  
4 U.S. Patent No. 7,310,104 (the "MacInnis '104 patent"), which is entitled "Graphics  
5 Display System with Anti-Flutter Filtering and Vertical Scaling." The MacInnis  
6 '104 patent issued on December 18, 2007 to inventors Alexander MacInnis,  
7 Chengfuh Jeffrey Tang, Xiaodong Xie, James Patterson, and Greg Kranawetter from  
8 United States Patent Application No. 11/511,042, filed on August 28, 2006. A true  
9 and correct copy of the MacInnis '104 patent is attached as **Exhibit D** to this  
10 Complaint.

### 11 **BACKGROUND**

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

21 13. Broadcom's continued success depends in substantial part upon its  
22 constant attention to research and development. From 2015 to 2016, Broadcom  
23 spent \$3.7 billion on research and development for its products. \$2.7 billion of this  
24 \$3.7 billion was spent in 2016 alone. **Exhibit E** (Broadcom Limited 2016 Form 10-  
25 K), at 47. Prior to its acquisition, Broadcom Corporation's research and  
26 development expense was \$2.37 billion, \$2.49 billion and \$2.32 billion in 2014,  
27 2013, and 2012, respectively. **Exhibit F** (Broadcom Limited 2014 Form 10-K), at  
28 6.



1           19. Defendants are 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:

- 4           • Magnavox 50" Class Smart LED TV 50MV376Y/F7 (incorporates  
5 MStar ARM MSD95M2D-3-004E ATHC353B 1617A)

6           20. Defendants have had actual knowledge of the MacInnis '844 patent  
7 since at least as of the date they were served with this Complaint, and at least since  
8 that date have had actual knowledge that one or more of their products infringes one  
9 or more claims of the MacInnis '844 patent.

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

22          22. On information and belief, the Defendants contribute to the  
23 infringement of one or more claims of the MacInnis '844 patent, in violation of 35  
24 U.S.C. § 271(c), by, among others, end users, because they know that the Accused  
25 Products – and, specifically, their above-mentioned products that incorporate the  
26 accused SoCs – embody a material part of the claimed inventions of the MacInnis  
27 '844 patent, that they are specially made or specially adapted for use in an  
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1 infringement of the claims, and that they are not staple articles of commerce suitable  
2 for substantial non-infringing use.

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

12 24. The infringement of the MacInnis '844 patent by Defendants will  
13 continue unless enjoined by this Court.

14 25. The infringing activities by Defendants have caused and will continue  
15 to cause irreparable injury to Broadcom for which there exists no adequate remedy  
16 at law.

## 17 **COUNT 2**

### 18 **(Infringement of the Gordon '059 Patent)**

19 26. Broadcom incorporates by reference each and every allegation in the  
20 preceding paragraphs.

21 27. Defendants are making, using, offering to sell, selling, and/or importing  
22 into the United States products that infringe at least claims 11 and 21 of the Gordon  
23 '059 patent, including but not limited to the following products:

- 24 • Magnavox 50" Class Smart LED TV 50MV376Y/F7 (incorporates  
25 MStar ARM MSD95M2D-3-004E ATHC353B 1617A)

26 28. Defendants have had actual knowledge of the Gordon '059 patent since  
27 at least as of the date they were served with this Complaint, and at least since that  
28

1 date have had actual knowledge that one or more of their products infringes one or  
2 more claims of the Gordon '059 patent.

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

15 30. On information and belief, the Defendants contribute to the  
16 infringement of one or more claims of the Gordon '059 patent, in violation of 35  
17 U.S.C. § 271(c), by, among others, end users, because they know that the Accused  
18 Products – and, specifically, their above-mentioned products that incorporate the  
19 accused SoCs – embody a material part of the claimed inventions of the Gordon  
20 '059 patent, that they are specially made or specially adapted for use in an  
21 infringement of the claims, and that they are not staple articles of commerce suitable  
22 for substantial non-infringing use.

23 31. On information and belief, Defendants' past and continuing  
24 infringement has been deliberate and willful, and this case is therefore an  
25 exceptional case, which warrants an award of treble damages and attorneys' fees to  
26 Plaintiff pursuant to 35 U.S.C. § 285. After receiving actual knowledge of the  
27 Gordon '059 patent, Defendants have continued to make, use, sell, offer for sale,  
28 and/or import infringing products into the United States despite knowing that there

1 was an objectively high likelihood of infringement of the Gordon '059 patent. To  
2 the extent Defendants did not know of the objectively high likelihood of  
3 infringement, it was so obvious that it should have been known to Defendants.

4 32. The infringement of the Gordon '059 patent by Defendants will  
5 continue unless enjoined by this Court.

6 33. The infringing activities by Defendants have caused and will continue  
7 to cause irreparable injury to Broadcom for which there exists no adequate remedy  
8 at law.

9 **COUNT 3**

10 **(Infringement of the Aggarwal '171 Patent)**

11 34. Broadcom incorporates by reference each and every allegation in the  
12 preceding paragraphs.

13 35. Defendants are making, using, offering to sell, selling, and/or importing  
14 into the United States products that infringe at least claims 1, 6, and 7 of the  
15 Aggarwal '171 patent, including but not limited to the following products:

- 16 • Magnavox 50" Class Smart LED TV 50MV376Y/F7 (incorporates  
17 MStar ARM MSD95M2D-3-004E ATHC353B 1617A)

18 36. Defendants have had actual knowledge of the Aggarwal '171 patent  
19 since at least as of the date they were served with this Complaint, and at least since  
20 that date have had actual knowledge that one or more of their products infringes one  
21 or more claims of the Aggarwal '171 patent.

22 37. On information and belief, Defendants have induced and will continue  
23 to induce the infringement of at least one claim of the Aggarwal '171 patent, in  
24 violation of 35 U.S.C. § 271(b), by, among other things, actively and knowingly  
25 aiding and abetting others (including Defendants' sales and service subsidiaries,  
26 Defendants' authorized dealers and repair service providers, manufacturers who  
27 incorporate Defendants' products into downstream consumer products, retailers of  
28 downstream consumer products that incorporate Defendants' products, and

1 consumers and end users) to infringe the Aggarwal '171 patent with the specific  
2 intent to encourage their infringement, through activities such as marketing  
3 Defendants' products, creating and/or distributing drivers, data sheets, application  
4 notes, and/or similar materials with instructions on using or rendering operable  
5 downstream consumer products that incorporate Defendants' products.

6 38. On information and belief, the Defendants contribute to the  
7 infringement of one or more claims of the Aggarwal '171 patent, in violation of 35  
8 U.S.C. § 271(c), by, among others, end users, because they know that the Accused  
9 Products – and, specifically, their above-mentioned products that incorporate the  
10 accused SoCs – embody a material part of the claimed inventions of the Aggarwal  
11 '171 patent, that they are specially made or specially adapted for use in an  
12 infringement of the claims, and that they are not staple articles of commerce suitable  
13 for substantial non-infringing use.

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

23 40. The infringement of the Aggarwal '171 patent by Defendants will  
24 continue unless enjoined by this Court.

25 41. The infringing activities by Defendants have caused and will continue  
26 to cause irreparable injury to Broadcom for which there exists no adequate remedy  
27 at law.

**COUNT 4**

**(Infringement of the MacInnis ‘104 Patent)**

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

43. Defendants are 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:

- Magnavox 50” Class Smart LED TV 50MV376Y/F7 (incorporates MStar ARM MSD95M2D-3-004E ATHC353B 1617A)

44. Defendants have had actual knowledge of the MacInnis ‘104 patent since at least as of the date they were served with this Complaint, and at least since that date have had actual knowledge that one or more of their products infringes one or more claims of the MacInnis ‘104 patent.

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

46. On information and belief, the Defendants contribute to the infringement of one or more claims of the MacInnis ‘104 patent, in violation of 35 U.S.C. § 271(c), by, among others, end users, because they know 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 ‘104 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 47. On information and belief, Defendants’ 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 ‘104 patent, Defendants have 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 ‘104 patent. To  
13 the extent Defendants did not know of the objectively high likelihood of  
14 infringement, it was so obvious that it should have been known to Defendants.

15 48. The infringement of the MacInnis ‘104 patent by Defendants will  
16 continue unless enjoined by this Court.

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

#### 20 **PRAYER FOR RELIEF**

21 50. WHEREFORE, Broadcom requests that judgment be entered in its  
22 favor and against Defendants as follows:

23 A. Entering judgment declaring that Defendants have infringed,  
24 directly and/or indirectly, literally and/or under the doctrine of equivalents,  
25 the Patents-in-Suit in violation of 35 U.S.C. § 271;

26 B. Issuing preliminary and permanent injunctions enjoining  
27 Defendants, their officers, agents, subsidiaries and employees, and those in  
28 privity or in active concert with them, from further activities that constitute

1 infringement of the Patents-in-Suit, within the State of California and across  
2 the United States;

3 C. Declaring that Defendants' infringement of the Patents-in-Suit is  
4 willful and deliberate pursuant to 35 U.S.C. § 284;

5 D. Ordering that Broadcom be awarded damages in an amount no  
6 less than a reasonable royalty for each asserted patent arising out of  
7 Defendants' infringement of the Patents-in-Suit, together with costs, and pre-  
8 and post-judgment interest;

9 E. Declaring this an exceptional case under 35 U.S.C. § 285 and  
10 awarding attorneys' fees and trebling of damages; and

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

13 **DEMAND FOR JURY TRIAL**

14 51. Pursuant to Rule 38 of the Federal Rules of Civil Procedure, Broadcom  
15 demands a trial by jury on all issues so triable.  
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1 DATED: March 7, 2017

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3 Respectfully submitted,

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6 By: /s/ Laurie Edelstein

7 Laurie Edelstein (Bar No. 164466)  
8 ledelstein@steptoe.com  
9 Seth Sias (Bar No. 260674)  
10 ssias@steptoe.com  
11 STEPTOE & JOHNSON, LLP  
12 1891 Page Mill Road  
13 Suite 200  
14 Palo Alto, CA 94304  
15 TEL: +1 650 687 9500  
16 FAX: +1 650 687 9499

17 Attorneys for Plaintiff  
18 Broadcom Corporation  
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