IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

TESSERA, INC. and TESSERA ADVANCED TECHNOLOGIES, INC.,	)	
Plaintiffs,	)	Civil Action No. 16-380-LPS-CJB
v.	)	DEMAND FOR JURY TRIAL
BROADCOM CORPORATION,	)	
Defendant.	)	

SECOND AMENDED COMPLAINT FOR PATENT INFRINGEMENT

Plaintiffs Tessera, Inc. and Tessera Advanced Technologies, Inc. (collectively "Tessera" or "Plaintiffs") bring this action for patent infringement against Defendant Broadcom Corporation and allege as follows:

THE PARTIES

1. Plaintiff Tessera, Inc. is a Delaware corporation with its principal place of business at 3025 Orchard Parkway, San Jose, California. Tessera, Inc. is a wholly-owned subsidiary of Tessera Technologies, Inc.

2. Plaintiff Tessera Advanced Technologies, Inc. ("TATI") is a Delaware corporation with its principal place of business at 3025 Orchard Parkway, San Jose, California. Tessera Advanced Technologies, Inc. is a wholly-owned subsidiary of Tessera Technologies, Inc.

3. Defendant Broadcom Corporation is a California corporation with offices in Irvine, California.

JURISDICTION AND VENUE

4. This is an action for patent infringement under the patent laws of the United States of America, 35 U.S.C. §§ 1, *et seq.*, including 35 U.S.C. § 271. The Court has subject matter jurisdiction over the matters pleaded herein under 28 U.S.C. §§ 1331 and 1338(a).

5. The Court has personal jurisdiction over Broadcom because, on information and belief, Broadcom has regularly and systematically transacted business in this judicial district, directly or through intermediaries, and/or committed acts of infringement in this judicial district. Broadcom has also placed infringing products into the stream of commerce by shipping those products into this district or knowing that the products would be shipped into this district.

6. Venue is proper in this judicial district pursuant to 28 U.S.C. §§ 1400 and 1391(b) and (c) because, among other reasons, Broadcom is subject to personal jurisdiction in this district and has committed acts of infringement in this district, including selling and distributing infringing products in this district.

CLAIMS FOR PATENT INFRINGEMENT

Count I: Infringement of U.S. Patent No. 6,284,563

7. Tessera hereby incorporates the allegations of Paragraphs 1 through 6 as if fully set forth herein.

8. United States Patent No. 6,284,563 ("the '563 Patent"), titled "Method of Making Compliant Microelectronic Assemblies," issued on September 1, 2001, to named inventor Joseph Fjelstad. The '563 Patent issued from United States Patent Application No. 09/071,412, filed on May 1, 1998. It is a continuation-in-part of United States Patent Application No. 08/739,303, filed on October 29, 1996, which in turn claims the benefit of United States Provisional Application No. 60/007,128, filed October 31, 1995.

9. Tessera, Inc. is the sole owner by assignment of all right, title, and interest in the '563 Patent. A true and correct copy of the '563 Patent is attached as **Exhibit A.**

10. In non-technical terms, the '563 Patent relates to a method for making a microelectronic assembly by providing a microelectronic element having a first surface and a plurality of contacts disposed on the first surface. A compliant layer is provided over the first surface. The compliant layer has a bottom surface facing toward the first surface, a top surface facing upwardly away from the microelectronic element, and apertures so that the contacts are accessible through the apertures. The compliant layer also includes one or more aperture edge surfaces bounding the apertures and extending between the top and bottom surfaces of the compliant layer. Flexile bond ribbons are formed over the complaint layer so that the bond ribbons extend over the top surface and some of the aperture edge surfaces. The bond ribbons electrically connect the contacts to conductive terminals overlying the top surface of the compliant layer.

11. Tessera is informed and believes, and thereon alleges, that Broadcom has infringed, is currently infringing, or will infringe the '563 Patent in violation of 35 U.S.C. § 271 (a) and/or (g) by, among other things, selling, offering to sell, using, and/or importing within this district and elsewhere in the United States, without license or authority, products made by a patented process falling within the scope of the '563 Patent, including at least Claim 2, literally and/or under the doctrine of equivalents.

12. Based on the information presently available to it, Tessera alleges that Broadcom's BCM20715, BCM2076, BCM4330, BCM4334, BCM43341, BCM43362, BCM43455, BCM43540, BCM4354, BCM4356, BCM47511, BCM4752, BCM47521, BCM47531, BCM47731, BCM59054, and BCM5976 semiconductor devices are exemplary

devices that are made by a patented process that infringes at least Claim 2 of the '563 Patent. The exemplary devices fall into different product families and series that span across different Broadcom product categories and include the following infringing Broadcom products:

- Broadcom's BCM20715 and BCM2076 semiconductor devices are part of a multi-generation extended family of single chip, combination chip and system-on-a-chip semiconductor devices that offer Bluetooth functionality, alone or in combination with other functionalities. On information and belief, the infringing products from this family include Broadcom's BCM20715 and BCM2076 semiconductor devices, other Broadcom semiconductor devices that offer Bluetooth functionality, all Broadcom semiconductor devices that are the same or substantially similar to the BCM20715, BCM2076 or other semiconductor devices in the family of Broadcom semiconductor devices that offer Bluetooth functionality, and all products containing the same.
- Broadcom's BCM4330, BCM4334, BCM43341, BCM43362, BCM43455, BCM4354, BCM43540, and BCM4356 semiconductor devices are part of a multi-generation extended family of WiFi 802.11 single chip, combination chip and system-on-a-chip semiconductor devices. On information and belief, the infringing products from this family include Broadcom's BCM4330, BCM4334, BCM43341, BCM43362, BCM43455, BCM4354, BCM43540, and BCM4356 semiconductor devices, other Broadcom WiFi 802.11 semiconductor devices, all Broadcom semiconductor devices that are the same or substantially similar to the BCM4330, BCM4334, BCM43341, BCM43362, BCM43455, BCM4354, BCM43540,

BCM4356, or other Broadcom WiFi 802.11 semiconductor devices, and all products containing the same.

- Broadcom's BCM47511, BCM4752, BCM47521, BCM47531, and BCM47731 semiconductor devices are part of a multi-generation family of Global Navigation Satellite System ("GNSS") receivers. On information and belief, the infringing products from this family include Broadcom's BCM47511, BCM4752, BCM47521, BCM47531, and BCM47731 semiconductor devices, other Broadcom GNSS receivers, all Broadcom semiconductor devices that are the same or substantially similar to the BCM47511, BCM4752, BCM47521, BCM47531, BCM47731, or other Broadcom GNSS semiconductor devices, and all products containing the same.
- Broadcom's BCM59054 semiconductor devices are part of a family of Broadcom power management units. On information and belief, the infringing products from this family include Broadcom's BCM59054 semiconductor devices, other Broadcom power management semiconductor devices, all Broadcom semiconductor devices that are the same or substantially similar to the BCM59054 or other Broadcom power management semiconductor devices, and all products containing the same.
- Broadcom's BCM5976 semiconductor devices are part of a family of Broadcom touchscreen controllers. On information and belief, the infringing products from this family include Broadcom's BCM5976 semiconductor devices, other Broadcom touchscreen controller semiconductor devices, all Broadcom semiconductor devices that are the same or substantially similar to the BCM5976 or other Broadcom touchscreen controller semiconductor devices, and all products containing the same.

The infringing products identified in this paragraph, all Broadcom products that are substantially similar to these products, and products containing the same are referred to collectively as the "Infringing '563 Products." Tessera makes this preliminary identification of infringing products without the benefit of discovery or claim construction in this action, and expressly reserves the right to augment, supplement, and revise its identifications based on additional information obtained through discovery or otherwise.

13. On information and belief, Broadcom directly infringes, and is inducing infringement of, the '563 Patent by making, using, offering to sell, selling, and/or importing the Infringing '563 Products in this judicial district and elsewhere in the United States and inducing others to make, use, offer to sell, sell, and/or import Infringing '563 Products or products containing Infringing '563 Products. These products are made by a microelectronic assembly process that provides a microelectronic element having contacts disposed on a first surface and a layer over the first surface (i.e., the "compliant layer"). The compliant layer has a bottom surface facing toward the first surface, a top surface facing upwardly away from the microelectronic element, and apertures so that the contacts are accessible through the apertures. The compliant layer also includes one or more aperture edge surfaces bounding the apertures and extending between the top and bottom surfaces of the compliant layer. Flexile bond ribbons are formed over the compliant layer so that the bond ribbons extend over the top and some of the aperture edge surfaces. The bond ribbons electrically connect the contacts to conductive terminals overlying the top surface of the compliant layer to make the Infringing '563 Products which infringe one or more of the claims in '563 Patent.

14. Broadcom has been aware of the '563 Patent and of its infringement of the '563 Patent since no later than May 23, 2016—the date on which Tessera filed its complaint in

this action. Broadcom also has been aware that Broadcom subcontractors, customers, distributors and other purchasers of the Infringing '563 Products are infringing the '563 Patent as set forth in this Complaint.

15. Broadcom is knowingly and intentionally inducing infringement of the '563 Patent, in violation of 35 U.S.C. § 271(b), by actively encouraging others to make, use, offer for sale, sell, and/or import within this judicial district and elsewhere in the United States, without license or authority, Infringing '563 Products or products containing Infringing '563 Products that directly infringe the '563 Patent. For example, Broadcom markets, promotes and advertises its infringing semiconductor devices and offers product briefs and descriptions, press releases, data sheets, manuals, user guides, and other materials that actively encourage others to directly infringe the '563 Patent by making, using, selling, offering to sell and/or importing products that contain Broadcom's infringing semiconductor devices through its website (www.broadcom.com), at trade shows and conferences, and through its sales representatives, distributors and other channels that encourage and facilitate infringing use of Broadcom's semiconductor devices by others. *See, e.g.*, **Exhibit B** (Broadcom product pages and press releases for the exemplary semiconductor devices). Since at least the May 23, 2016, Broadcom has had knowledge that the Infringing '563 Products infringe the '563 Patent and it has intended that Broadcom subcontractors, customers, distributors and other purchasers infringe the '563 Patent by making, using, selling, offering to sell and/or importing Infringing '563 Products or products containing the Infringing '563 Products.

16. Broadcom's infringement of the '563 Patent has been and continues to be willful and deliberate, entitling Tessera to increased damages under 35 U.S.C. § 284.

17. Broadcom's acts of infringement have caused damage to Tessera in an amount yet to be determined and subject to proof at trial.

Count II: Infringement of U.S. Patent No. 6,954,001

18. Tessera hereby incorporates the allegations of Paragraphs 1 through 17 as if fully set forth herein.

19. United States Patent No. 6,954,001 ("the '001 Patent"), titled "Semiconductor Device Including a Diffusion Layer," issued on October 11, 2005, to named inventors Yoshifumi Nakamura, Ryuichi Sahara, Nozomi Shimoishizaka, Kazuyuki Kainou, Keiji Miki, Kazumi Watase, and Yasutake Yaguchi. The '001 Patent issued from United States Patent Application No. 10/919,402, filed on August 17, 2004. It is a divisional of U.S. Application No. 10/307,450, filed December 2, 2002, and it claims priority to Japanese Application No. 2001-387051(JP), filed December 20, 2001.

20. TATI is the sole owner by assignment of all right, title, and interest in the '001 Patent. A true and correct copy of the '001 Patent including a certificate of correction dated May 3, 2016 is attached as **Exhibit C**.

21. In non-technical terms, the '001 Patent relates to a semiconductor device that includes a semiconductor element with an electrode formed on it. The electrode comprises two portions—a first electrode portion and a second electrode portion—that are made of different metal components but are electrically connected. The electrode also includes a diffusion layer that is formed between the two electrode portions and comprises the metal components from both electrode portions. In some embodiments, the first electrode portion and the diffusion layer have a combined thickness in the range of 10 μm to 20 μm.

22. Tessera is informed and believes, and thereon alleges, that Broadcom has infringed, is currently infringing, or will infringe the '001 Patent in violation of 35 U.S.C. §

271(a) by, among other things, making, using, selling, offering to sell, and/or importing within this district and elsewhere in the United States, without license or authority, products falling within the scope of the '001 Patent, including at least Claim 10, literally and/or under the doctrine of equivalents.

23. Based on the information presently available to it, Tessera alleges that Broadcom's BCM20715, BCM2076, BCM4330, BCM4334, BCM43341, BCM43362, BCM43455, BCM43540, BCM4354, BCM4356, BCM47511, BCM4752, BCM47521, BCM47531, BCM47731, BCM59054, and BCM5976 semiconductor devices are exemplary devices that infringe at least Claim 10 of the '001 Patent. The exemplary devices fall into different product families and series that span across different Broadcom product categories and include the following infringing Broadcom products:

- Broadcom's BCM20715 and BCM2076 semiconductor devices are part of a multi-generation extended family of single chip, combination chip and system-on-a-chip semiconductor devices that offer Bluetooth functionality, alone or in combination with other functionalities. On information and belief, the infringing products from this family include Broadcom's BCM20715 and BCM2076 semiconductor devices, other Broadcom semiconductor devices that offer Bluetooth functionality, all Broadcom semiconductor devices that are the same or substantially similar to the BCM20715, BCM2076 or other semiconductor devices in the family of Broadcom semiconductor devices that offer Bluetooth functionality, and all products containing the same.
- Broadcom's BCM4330, BCM4334, BCM43341, BCM43362, BCM43455, BCM4354, BCM43540, and BCM4356 semiconductor devices are part of a multi-

generation extended family of WiFi 802.11 single chip, combination chip and system-on-a-chip semiconductor devices. On information and belief, the infringing products from this family include Broadcom's BCM4330, BCM4334, BCM43341, BCM43362, BCM43455, BCM4354, BCM43540, and BCM4356 semiconductor devices, other Broadcom WiFi 802.11 semiconductor devices, all Broadcom semiconductor devices that are the same or substantially similar to the BCM4330, BCM4334, BCM43341, BCM43362, BCM43455, BCM4354, BCM43540, BCM4356, or other Broadcom WiFi 802.11 semiconductor devices, and all products containing the same.

- Broadcom's BCM47511, BCM4752, BCM47521, BCM47531, and BCM47731 semiconductor devices are part of a multi-generation family of Global Navigation Satellite System ("GNSS") receivers. On information and belief, the infringing products from this family include Broadcom's BCM47511, BCM4752, BCM47521, BCM47531, and BCM47731 semiconductor devices, other Broadcom GNSS receivers, all Broadcom semiconductor devices that are the same or substantially similar to the BCM47511, BCM4752, BCM47521, BCM47531, BCM47731, or other Broadcom GNSS semiconductor devices, and all products containing the same.
- Broadcom's BCM59054 semiconductor devices are part of a family of Broadcom power management units. On information and belief, the infringing products from this family include Broadcom's BCM59054 semiconductor devices, other Broadcom power management semiconductor devices, all Broadcom semiconductor devices that are the same or substantially similar to the BCM59054 or other Broadcom power management semiconductor devices, and all products containing the same.

- Broadcom's BCM5976 semiconductor devices are part of a family of Broadcom touchscreen controllers. On information and belief, the infringing products from this family include Broadcom's BCM5976 semiconductor devices, other Broadcom touchscreen controller semiconductor devices, all Broadcom semiconductor devices that are the same or substantially similar to the BCM5976 or other Broadcom touchscreen controller semiconductor devices, and all products containing the same.

The infringing products identified in this paragraph, all Broadcom products that are substantially similar to these products, and products containing the same are referred to collectively as the "Infringing '001 Products." Tessera makes this preliminary identification of infringing products and infringed claims without the benefit of discovery or claim construction in this action, and expressly reserves the right to augment, supplement, and revise its identifications based on additional information obtained through discovery or otherwise.

24. On information and belief, Broadcom directly infringes, is inducing infringement of, and is contributing to the infringement of, the '001 Patent by making, using, offering to sell, selling, and/or importing the Infringing '001 Products in this judicial district and elsewhere in the United States, inducing others to make, use, offer to sell, sell, and/or import Infringing '001 Products or products containing Infringing '001 Products, and contributing to infringement of the '001 Patent by others that use the Infringing '001 Products as components of infringing products that they make, use, offer to sell, sell, and/or import. The Infringing '001 Products employ one or more semiconductor elements having a first electrode portion comprising a first metal component and a second electrode portion comprising a second metal component formed on the semiconductor element wherein a diffusion layer comprised of said first and second metal components is formed between the two electrode portions as claimed in the '001 Patent. The

thickness of the first electrode portion and diffusion layer is within the claimed range of 10 μm to 20 μm.[1]

25. Broadcom has been aware of the '001 Patent since no later than May 23, 2016—the date on which Tessera filed its complaint in this action. Broadcom also has been aware that Broadcom customers, distributors and other purchasers of the Infringing '001 Products are infringing the '001 Patent as set forth in this Complaint.

26. Broadcom is knowingly and intentionally inducing infringement of the '001 Patent, in violation of 35 U.S.C. § 271(b), by actively encouraging others to make, use, offer for sale, sell, and/or import within this judicial district and elsewhere in the United States, without license or authority, Infringing '001 Products or products containing Infringing '001 Products that directly infringe the '001 Patent. For example, Broadcom markets, promotes and advertises its infringing semiconductor devices and offers product briefs and descriptions, press releases, data sheets, manuals, user guides, and other materials that actively encourage others to directly infringe the '001 Patent by making, using, selling, offering to sell and/or importing products that contain Broadcom's infringing semiconductor devices through its website (www.broadcom.com), at trade shows and conferences, and through its sales representatives, distributors and other channels that encourage and facilitate infringing use of Broadcom's semiconductor devices by others. *See, e.g.*, **Exhibit B** (Broadcom product pages and press releases for the exemplary semiconductor devices). Since at least May 23, 2016, Broadcom has had knowledge that the Infringing '001 Products infringe the '001 Patent and it has intended that Broadcom customers, distributors and other purchasers infringe the '001 Patent by making,

[1] The USPTO incorrectly printed claim 10 in the issued '001 Patent to recite "20 m." TATI filed a request for a certificate of correction to correct the USPTO's mistake on March 22, 2016. The USPTO issued a certificate of correction changing this to "20 μm" on May 3, 2016.

using, selling, offering to sell and/or importing Infringing '001 Products or products containing the Infringing '001 Products.

27. Broadcom is contributing to infringement of the '001 Patent, in violation of 35 U.S.C. § 271(c), by selling the Infringing '001 Products, with knowledge of the '001 Patent, as especially-made components that have no substantial non-infringing use and are a material part of the invention claimed in the '001 Patent, to be a component of products that directly infringe the '001 Patent and are made, used, sold, offered for sale, and/or imported by others within this judicial district and elsewhere in the United States.

28. Broadcom's infringement of the '001 Patent has been and continues to be willful and deliberate, entitling Tessera to increased damages under 35 U.S.C. § 284.

29. Broadcom's acts of infringement have caused damage to Tessera in an amount yet to be determined and subject to proof at trial.

Count III: Infringement of U.S. Patent No. 5,666,046

30. Tessera hereby incorporates the allegations of Paragraphs 1 through 29 as if fully set forth herein.

31. U.S. Patent No. 5,666,046 ("the '046 Patent") is titled "Reference Voltage Circuit Having a Substantially Zero Temperature Coefficient." It issued on September 9, 1997 to named inventor David F. Mietus. The '046 Patent issued from United States Patent Application No. 518,768, filed on August, 24 1995.

32. TATI is the sole owner by assignment of all right, title, and interest in the '046 Patent. A true and correct copy of the '046 Patent is attached as **Exhibit D.**

33. In non-technical terms, the '046 Patent relates to a reference voltage circuit that maintains a substantially constant voltage across a temperature range. The voltage reference is able to maintain a substantially constant voltage over temperature by generating two currents,

one that increases as temperature increases and one that decreases as temperature increases, and summing those currents to generate the reference voltage. The '046 Patent also relates to a reference voltage circuit that can supply a reference voltage at low voltage levels.

34. Tessera is informed and believes, and thereon alleges, that Broadcom has infringed the '046 Patent in violation of 35 U.S.C. § 271(a) by, among other things, making, using, selling, offering to sell, and/or importing within this district and elsewhere in the United States, without license or authority, products falling within the scope of one or more claims of the '046 Patent, including at least Claim 20, literally and/or under the doctrine of equivalents.

35. Based on the information presently available to it, Tessera alleges that the BCM4330 and BCM4334 are exemplary devices that infringe at least Claim 20 of the '046 Patent. Broadcom's BCM4330 and BCM4334 semiconductor devices are part of a multi-generation extended family of WiFi 802.11 single chip, combination chip and system-on-a-chip semiconductor devices. On information and belief, the infringing products from this family include Broadcom's BCM4330 and BCM4334 semiconductor devices, other Broadcom WiFi 802.11 semiconductor devices, all Broadcom semiconductor devices that are the same or substantially similar to the BCM4330, BCM4334, or other Broadcom WiFi 802.11 semiconductor devices, and all products containing the same (collectively, "Infringing '046 Products"). Tessera makes this preliminary identification of infringing products and infringed claims without the benefit of discovery or claim construction in this action, and expressly reserves the right to augment, supplement, and revise its identifications based on additional information obtained through discovery or otherwise.

36. On information and belief, Broadcom directly infringed the '046 Patent by making, using, offering to sell, selling, and/or importing the Infringing '046 Products in this

judicial district and elsewhere in the United States. The Infringing '046 Products include voltage reference circuits that use current summation to generate a reference voltage that has a substantially zero temperature coefficient. The Infringing '046 Products include an output voltage generation circuit that generates a first current having a positive temperature coefficient in accordance with a voltage difference across a set of p-n junctions, generates a second current having a negative temperature coefficient in accordance with a voltage across a p-n junction of the set of p-n junctions, sums the first and second currents to provide an output current having a substantially zero temperature coefficient and uses the output current to generate the output voltage.

37. Broadcom's acts of infringement have caused damage to Tessera in an amount yet to be determined and subject to proof at trial.

Count IV: Infringement of U.S. Patent No. 6,043,699

38. Tessera hereby incorporates the allegations of Paragraphs 1 through 37 as if fully set forth herein.

39. United States Patent No. 6,043,699 ("the '699 Patent"), titled "Level Shift Circuit," issued on March 28, 2000, to named inventor Yasuhide Shimizu. The '699 Patent issued from United States Patent Application No. 09/184,975, filed on November 3, 1998. It claims priority to Japanese Application No. 9-301889(JP), filed November 4, 1997.

40. TATI is the sole owner by assignment of all right, title, and interest in the '699 Patent. A true and correct copy of the '699 Patent is attached as **Exhibit E**.

41. In non-technical terms, the '699 Patent relates to a level shift circuit employing at least six transistors arranged to optimize the performance of the circuit. The level shift circuit

has an input circuit that operates by a first power source and a second power source and an output circuit that operates by a third power source and a fourth power source.

42. Tessera is informed and believes, and thereon alleges, that Broadcom has infringed, is currently infringing or will infringe the '699 Patent in violation of 35 U.S.C. § 271(a) by, among other things, making, using, selling, offering to sell, and/or importing within this district and elsewhere in the United States, without license or authority, products falling within the scope of the '699 Patent, including at least Claim 1, literally and/or under the doctrine of equivalents.

43. Based on the information presently available to it, Tessera alleges that the BCM4334 is an exemplary device that infringes or is covered by at least Claim 1 of the '699 Patent. Broadcom's BCM4334 semiconductor device is part of a multi-generation extended family of WiFi 802.11 single chip, combination chip and system-on-a-chip semiconductor devices. On information and belief, the infringing products from this family include Broadcom's BCM4334 semiconductor device, other Broadcom WiFi 802.11 semiconductor devices, all Broadcom semiconductor devices that are the same or substantially similar to the BCM4334 or other Broadcom WiFi 802.11 semiconductor devices, and all products containing the same (collectively "Infringing '699 Products"). Tessera makes this preliminary identification of infringing products and infringed claims without the benefit of discovery or claim construction in this action, and expressly reserves the right to augment, supplement, and revise its identifications based on additional information obtained through discovery or otherwise.

44. On information and belief, Broadcom directly infringes, and is inducing infringement of, the '699 Patent by making, using, offering to sell, selling, and/or importing the Infringing '699 Products in this judicial district and elsewhere in the United States and inducing

others to make, use, offer to sell, sell, and/or import Infringing '699 Products or products containing Infringing '699 Products. The Infringing '699 Products employ one or more level shift circuits having the improved arrangement claimed in the '699 Patent.

45. Broadcom has been aware of the '699 Patent since no later than May 23, 2016—the date on which Tessera filed its complaint in this action. Broadcom also has been aware that Broadcom customers, distributors and other purchasers of the Infringing '699 Products are infringing the '699 Patent as set forth in this Complaint.

46. Broadcom is knowingly and intentionally inducing infringement of the '699 Patent, in violation of 35 U.S.C. § 271(b), by actively encouraging others to make, use, offer for sale, sell, and/or import within this judicial district and elsewhere in the United States, without license or authority, Infringing '699 Products or products containing Infringing '699 Products that directly infringe the '699 Patent. For example, Broadcom markets, promotes and advertises its infringing semiconductor devices and offers product briefs and descriptions, press releases, data sheets, manuals, user guides, and other materials that actively encourage others to directly infringe the '699 Patent by making, using, selling, offering to sell and/or importing products that contain Broadcom's infringing semiconductor devices through its website (www.broadcom.com), at trade shows and conferences, and through its sales representatives, distributors and other channels that encourage and facilitate infringing use of Broadcom's semiconductor devices by others. *See, e.g.*, **Exhibit F** (Broadcom product page for exemplary semiconductor device). Since at least May 23, 2016, Broadcom has had knowledge that the Infringing '699 Products infringe the '699 Patent and it has intended that Broadcom customers, distributors and other purchasers infringe the '699 Patent by making, using, selling, offering to

sell and/or importing Infringing '699 Products or products containing the Infringing '699 Products.

47. Broadcom's infringement of the '699 Patent has been and continues to be willful and deliberate, entitling Tessera to increased damages under 35 U.S.C. § 284.

48. Broadcom's acts of infringement have caused damage to Tessera in an amount yet to be determined and subject to proof at trial.

Count V: Infringement of U.S. Patent No. 6,218,215

49. Tessera hereby incorporates the allegations of Paragraphs 1 through 48 as if fully set forth herein.

50. United States Patent No. 6,218,215 ("the '215 Patent"), titled "Methods of Encapsulating a Semiconductor Chip Using a Settable Encapsulant," issued on April 17, 2001, to named inventors Thomas H. Di Stefano and Craig S. Mitchell. The '215 Patent issued from United States Patent Application No. 09/520,357, filed on March 7, 2000. It is a division of United States Application No. 09/166,812, filed on October 6, 1998 (now U.S. Patent No. 6,080,605), which claims the benefit of Provisional Application No. 60/062,471, filed on October 15, 1997.

51. Tessera, Inc. is the sole owner by assignment of all right, title, and interest in the '215 Patent. A true and correct copy of the '215 Patent is attached as **Exhibit G.**

52. In non-technical terms, the '215 Patent discloses and claims methods of making a semiconductor chip package using a thixotropic encapsulating composition. The claimed methods involve shearing a thixotropic composition to reduce its viscosity, disposing the sheared thixotropic composition between a chip and a dielectric layer, and curing the sheared thixotropic composition to form a cured encapsulant. When exposed to a shear force, the viscosity of the thixotropic composition decreases, allowing the composition to fill the area between the chip and

the dielectric layer. When the shear force is removed, the thixotropic composition regains some or all of its initial viscosity, preventing the composition from flowing out prior to or during the curing step. Using the methods described in the '215 Patent, the time and energy required to make a semiconductor chip package is reduced and production throughput is increased.

53. Tessera is presently not aware of any analytical technique that can be applied to publicly-available information or materials to establish definitively that Broadcom's products were packaged using a thixotropic encapsulating composition. Thus, on June 7, 2016, Tessera sent a letter to Broadcom requesting additional information in order to conclusively determine whether Broadcom is practicing or has practiced the '215, '605, and/or '076 Patents. **Exhibit H** (June 7 letter). Specifically, this letter sought information from Broadcom that would assist Tessera in confirming whether any of Broadcom's products were packaged using a thixotropic encapsulating composition. *Id.*

54. Tessera's letter requested a response by June 14, 2016, and stated that if Tessera did not receive a response by June 14, Tessera would assume that Broadcom is not interested in providing the requested information. The letter also invited Broadcom to contact Tessera if it had any questions. Broadcom did not respond.

55. Tessera accordingly alleges on information and belief that Broadcom has infringed, is currently infringing, or will infringe the '215 Patent in violation of 35 U.S.C. § 271(a) and/or (g) by, among other things, selling, offering to sell, using, and/or importing within this district and elsewhere in the United States, without license or authority, products made by a patented process falling within the scope of the '215 Patent, including at least Claim 1, literally and/or under the doctrine of equivalents. Tessera intends to resort to the judicial process and the aid of discovery to obtain such information as is required to confirm this belief.

56. Based on the information presently available to it, Tessera alleges on information and belief that Broadcom's BCM15700, BCM23550, BCM3380, BCM3383, BCM33843, BCM4709, BCM53334, BCM56850, BCM57810, BCM63137, BCM7405, BCM7425, BCM7435, BCM7449, BCM7630, BCM7634, and BCM84833 semiconductor devices are exemplary devices that are made by a patented process that infringes at least Claim 1 of the '215 Patent. The exemplary devices fall into different product families and series that span across different Broadcom product categories and include the following infringing Broadcom products:

- Broadcom's BCM15700 is a semiconductor device for which no public information is available.
- Broadcom's BCM23550 semiconductor devices are Quad-Core Platforms with 5G WiFi, NFC, GPS and Indoor Positioning for smart phones and they are part of a family of quad-core semiconductor devices that also may include Broadcom's connectivity suite. On information and belief, the infringing products from this family include Broadcom's BCM23550 semiconductor devices, other Broadcom quad-core semiconductor devices, all Broadcom semiconductor devices that are the same or substantially similar to the BCM23550 or other Broadcom quad-core semiconductor devices, and all products containing the same.
- Broadcom's BCM3380, BCM3383 and BCM33843 semiconductor devices are part of Broadcom's family of DOCSIS semiconductor devices. On information and belief, the infringing products from this family include Broadcom's BCM3380, BCM3383 and BCM33843 semiconductor devices, other Broadcom DOCSIS semiconductor devices, all Broadcom semiconductor devices that are the

same or substantially similar to the BCM3380, BCM3383, BCM33843, or other Broadcom DOCSIS semiconductor devices, and all products containing the same.

- Broadcom's BCM4709 semiconductor devices are part of a family of Broadcom communications processors targeted for switching control and management and residential routers/gateways. On information and belief, the infringing products from this family include Broadcom's BCM4709 semiconductor devices, other Broadcom communications processor semiconductor devices, all Broadcom semiconductor devices that are the same or substantially similar to the BCM4709 or other Broadcom communication processor semiconductor devices, and all products containing the same.
- Broadcom's BCM53334 semiconductor devices are part of the BCM5333x and BCM5334x families of StrataConnect Ethernet switches and its BCM56850 semiconductor devices are part of a series of Broadcom StrataXGS Trident II Ethernet Switches. The BCM53334 and BCM56850 semiconductor devices are part of a multi-generation extended family of Broadcom Ethernet switch semiconductor devices for data centers, service providers, and enterprise, medium and small businesses ("data center/service provider/enterprise/SMB"). On information and belief, the infringing products from this family include Broadcom's BCM53334 and BCM56850 semiconductor devices, other Broadcom data center/service provider/enterprise/SMB Ethernet switch semiconductor devices, all Broadcom semiconductor devices that are the same or substantially similar to the BCM53334, BCM56850, or other Broadcom data center/service

provider/enterprise/SMB Ethernet switch semiconductor devices, and all products containing the same.

- Broadcom's BCM57810 semiconductor devices are NetXtreme II Converged Ethernet Controllers and they are part of a multi-generation extended family of Broadcom Ethernet controllers, including Broadcom's NetXtreme and NetXtreme II controllers. On information and belief, the infringing products from this family include Broadcom's BCM57810 semiconductor devices, other Broadcom Ethernet controllers, all Broadcom semiconductor devices that are the same or substantially similar to the BCM57810 or other Broadcom Ethernet controllers, and all products containing the same.
- Broadcom's BCM63137 semiconductor devices are DSL multimedia home gateway system-on-chip devices and they are part of an extended family of devices for DSL gateways. On information and belief, the infringing products from this family include Broadcom's BCM63137 semiconductor devices, other Broadcom DSL gateway devices, all Broadcom semiconductor devices that are the same or substantially similar to the BCM63137 or other Broadcom DSL gateway devices, and all products containing the same.
- Broadcom's BCM7405, BCM7425, BCM7435, and BCM7449 semiconductor devices are part of a multi-generation extended family of Broadcom semiconductor devices for set-top boxes and high definition ("HD") and ultra-high definition ("UHD") customer premises equipment such as set-top boxes, satellite receivers and gateways. On information and belief, the infringing products from this family include Broadcom's BCM7405, BCM7425, BCM7435,

and BCM7449 semiconductor devices, other Broadcom HD and UHD semiconductor devices, all Broadcom semiconductor devices that are the same or substantially similar to the BCM7405, BCM7425, BCM7435, BCM7449 or other Broadcom HD and UHD semiconductor devices, and all products containing the same.

- Broadcom's BCM7630 and BCM7634 semiconductor devices are part of a family of Broadcom Blu-Ray High Definition DVD solutions. On information and belief, the infringing products from this family include Broadcom's BCM7630 and BCM7634 semiconductor devices, other Broadcom Blu-ray high definition DVD semiconductor devices, all Broadcom semiconductor devices that are the same or substantially similar to the BCM7630, BCM7634, or other Broadcom Blu-ray high definition DVD semiconductor devices, and all products containing the same.
- Broadcom's BCM84833 semiconductor devices are dual-port 10GBASE-T transceivers and they are part of a multigeneration extended family of PHY chips and transceivers. On information and belief, the infringing products from this family include Broadcom's BCM84833 semiconductor devices, other Broadcom PHY chips and transceivers, all Broadcom semiconductor devices that are the same or substantially similar to the BCM84833 or other Broadcom PHY chips and transceivers, and all products containing the same.

The infringing products identified in this paragraph, all Broadcom products that are substantially similar to these products, and products containing the same are referred to collectively as the "Infringing '215 Products." Tessera makes this preliminary identification of infringing products

without the benefit of discovery or claim construction in this action, and expressly reserves the right to augment, supplement, and revise its identifications based on additional information obtained through discovery or otherwise.

57. On information and belief, Broadcom directly infringes, and is inducing infringement of, the ’215 Patent by making, using, offering to sell, selling, and/or importing the Infringing ’215 Products in this judicial district and elsewhere in the United States and inducing others to make, use, offer to sell, sell, and/or import Infringing ’215 Products or products containing Infringing ’215 Products. These products are made by shearing a thixotropic composition to reduce its viscosity, disposing the sheared thixotropic composition between a chip and a dielectric layer, and curing the sheared thixotropic composition to form a cured encapsulant. When exposed to a shear force, the viscosity of the thixotropic composition decreases, allowing the composition to fill the area between the chip and the dielectric layer. When the shear force is removed, the thixotropic composition regains some or all of its initial viscosity, preventing the composition from flowing out prior to or during the curing step. Tessera is informed and believes that the Infringing ’215 Products are made by the method described in one or more of the claims of the ’215 Patent and thereby infringe one or more of the claims of the ’215 Patent.

58. Broadcom has been aware of the ’215 Patent and of its infringement of the ’215 Patent since no later than June 7, 2016, the date when Broadcom received Tessera’s letter. Broadcom also has been aware that Broadcom subcontractors, customers, distributors and other purchasers of the Infringing ’215 Products are infringing the ’215 Patent as set forth in this Complaint.

59. On information and belief, Broadcom is knowingly and intentionally inducing infringement of the ’215 Patent, in violation of 35 U.S.C. § 271(b), by actively encouraging others to make, use, offer for sale, sell, and/or import within this judicial district and elsewhere in the United States, without license or authority, Infringing ’215 Products or products containing Infringing ’215 Products that directly infringe the ’215 Patent. For example, Broadcom markets, promotes and advertises its infringing semiconductor devices and offers product briefs and descriptions, press releases, data sheets, manuals, user guides, and other materials that actively encourage others to directly infringe the ’215 Patent by making, using, selling, offering to sell and/or importing products that contain Broadcom’s infringing semiconductor devices through its website (www.broadcom.com), at trade shows and conferences, and through its sales representatives, distributors and other channels that encourage and facilitate infringing use of Broadcom’s semiconductor devices by others. *See, e.g.*, **Exhibit I** (Broadcom product pages and press releases for the exemplary semiconductor devices). Since at least the date of this Complaint, Broadcom has had knowledge that the Infringing ’215 Products infringe the ’215 Patent and it has intended that Broadcom subcontractors, customers, distributors and other purchasers infringe the ’215 Patent by making, using, selling, offering to sell and/or importing Infringing ’215 Products or products containing the Infringing ’215 Products.

60. Broadcom’s infringement of the ’215 Patent has been and continues to be willful and deliberate, entitling Tessera to increased damages under 35 U.S.C. § 284.

61. Broadcom’s acts of infringement have caused damage to Tessera in an amount yet to be determined and subject to proof at trial.

Count VI: Infringement of U.S. Patent No. 6,080,605

62. Tessera hereby incorporates the allegations of Paragraphs 1 through 61 as if fully set forth herein.

63. United States Patent No. 6,080,605 ("the '605 Patent"), titled "Methods of Encapsulating a Semiconductor Chip Using a Settable Encapsulant," issued on June 27, 2000, to named inventors Thomas H. Di Stefano and Craig S. Mitchell. The '605 Patent issued from United States Patent Application No. 09/166,812, filed on October 6, 1998. It claims the benefit of Provisional Application No. 60/062,471, filed on October 15, 1997.

64. Tessera, Inc. is the sole owner by assignment of all right, title, and interest in the '605 Patent. A true and correct copy of the '605 Patent is attached as **Exhibit J.**

65. In non-technical terms, the '605 Patent discloses and claims methods of making a semiconductor chip package using a thixotropic encapsulating composition and a mold. The claimed methods involve placing a dielectric layer and attached chip(s) into a mold, shearing a thixotropic composition to reduce its viscosity, disposing the sheared thixotropic composition into a cavity created by the mold, waiting to allow the thixotropic composition to regain at least a portion of its initial viscosity, removing the dielectric layer and attached chip(s) from the mold, and curing the sheared thixotropic composition to form a cured encapsulant. When exposed to a shear force, the viscosity of the thixotropic composition decreases, allowing the composition to fill the area between the chip(s) and the dielectric layer. When the shear force is removed, the thixotropic composition regains some or all of its initial viscosity, preventing the composition from flowing out prior to or during the curing step. Using the methods described in the '605 Patent, the time and energy required to make a semiconductor chip package is reduced and production throughput is increased.

66. Tessera is presently not aware of any analytical technique that can be applied to publicly-available information or materials to establish definitively that Broadcom's products were packaged using a thixotropic encapsulating composition that was cured after the dielectric

layer and attached chip(s) were removed from the mold. Thus, on June 7, 2016, Tessera sent a letter to Broadcom requesting additional information in order to conclusively determine whether Broadcom is practicing or has practiced the '215, '605, and/or '076 Patents. **Ex. H** (June 7 letter). Specifically, this letter sought information from Broadcom that would assist Tessera in confirming whether any of Broadcom's products were packaged using a mold underfill process using a thixotropic encapsulating composition that was cured after the dielectric layer and attached chip(s) were removed from the mold. *Id.*

67. Tessera's letter requested a response by June 14, 2016, and stated that if Tessera did not receive a response by June 14, Tessera would assume that Broadcom is not interested in providing the requested information. The letter also invited Broadcom to contact Tessera if it had any questions. Broadcom did not respond.

68. Tessera accordingly alleges on information and belief that Broadcom has infringed, is currently infringing, or will infringe the '605 Patent in violation of 35 U.S.C. § 271(a) and/or (g) by, among other things, selling, offering to sell, using, and/or importing within this district and elsewhere in the United States, without license or authority, products made by a patented process falling within the scope of the '605 Patent, including at least Claim 1, literally and/or under the doctrine of equivalents. Tessera intends to resort to the judicial process and the aid of discovery to obtain such information as is required to confirm this belief.

69. Based on the information presently available to it, Tessera alleges on information and belief that Broadcom's BCM21553, BCM43241, BCM4336, BCM43569, and BCM43570 semiconductor devices are exemplary devices that are made by a patented process that infringes at least Claim 1 of the '605 Patent. The exemplary devices fall into different product families

and series that span across different Broadcom product categories and include the following infringing Broadcom products:

- Broadcom's BCM21553 semiconductor devices are part of a family of baseband processors. On information and belief, the infringing products from this family include Broadcom's BCM21553 semiconductor devices, other Broadcom baseband processors, all Broadcom semiconductor devices that are the same or substantially similar to the BCM21553 and other baseband processors, and all products containing the same.
- Broadcom's BCM43241, BCM4336, BCM43569, and BCM43570 semiconductor devices are part of a multi-generation extended family of WiFi 802.11 single chip, combination chip and system-on-a-chip semiconductor devices. On information and belief, the infringing products from this family include Broadcom's BCM43241, BCM4336, BCM43569, and BCM43570 semiconductor devices, other Broadcom WiFi 802.11 semiconductor devices, all Broadcom semiconductor devices that are the same or substantially similar to the BCM43241, BCM4336, BCM43569, and BCM43570 or other Broadcom WiFi 802.11 semiconductor devices, and all products containing the same.

The infringing products identified in this paragraph, all Broadcom products that are substantially similar to these products, and products containing the same are referred to collectively as the "Infringing '605 Products." Tessera makes this preliminary identification of infringing products without the benefit of discovery or claim construction in this action, and expressly reserves the right to augment, supplement, and revise its identifications based on additional information obtained through discovery or otherwise.

70. On information and belief, Broadcom directly infringes, and is inducing infringement of, the ’605 Patent by making, using, offering to sell, selling, and/or importing the Infringing ’605 Products in this judicial district and elsewhere in the United States and inducing others to make, use, offer to sell, sell, and/or import Infringing ’605 Products or products containing Infringing ’605 Products. These products are made by placing a dielectric layer and attached chip(s) into a mold, shearing a thixotropic composition to reduce its viscosity, disposing the sheared thixotropic composition into a cavity created by the mold, waiting to allow the thixotropic composition to regain at least a portion of its initial viscosity, removing the dielectric layer and attached chip(s) from the mold, and curing the sheared thixotropic composition to form a cured encapsulant. When exposed to a shear force, the viscosity of the thixotropic composition decreases, allowing the composition to fill the area between the chip(s) and the dielectric layer. When the shear force is removed, the thixotropic composition regains some or all of its initial viscosity, preventing the composition from flowing out prior to or during the curing step. Tessera is informed and believes that the Infringing ’605 Products are made by the method described in one or more of the claims of the ’605 Patent and thereby infringe one or more of the claims of the ’605 Patent.

71. Broadcom has been aware of the ’605 Patent and of its infringement of the ’605 Patent since no later than June 7, 2016, the date when Broadcom received Tessera’s letter. Broadcom also has been aware that Broadcom subcontractors, customers, distributors and other purchasers of the Infringing ’605 Products are infringing the ’605 Patent as set forth in this Complaint.

72. On information and belief, Broadcom is knowingly and intentionally inducing infringement of the ’605 Patent, in violation of 35 U.S.C. § 271(b), by actively encouraging

others to make, use, offer for sale, sell, and/or import within this judicial district and elsewhere in the United States, without license or authority, Infringing '605 Products or products containing Infringing '605 Products that directly infringe the '605 Patent. For example, Broadcom markets, promotes and advertises its infringing semiconductor devices and offers product briefs and descriptions, press releases, data sheets, manuals, user guides, and other materials that actively encourage others to directly infringe the '605 Patent by making, using, selling, offering to sell and/or importing products that contain Broadcom's infringing semiconductor devices through its website (www.broadcom.com), at trade shows and conferences, and through its sales representatives, distributors and other channels that encourage and facilitate infringing use of Broadcom's semiconductor devices by others. *See, e.g.*, **Exhibit K** (Broadcom product pages and press releases for the exemplary semiconductor devices). Since at least the date of this Complaint, Broadcom has had knowledge that the Infringing '605 Products infringe the '605 Patent and it has intended that Broadcom subcontractors, customers, distributors and other purchasers infringe the '605 Patent by making, using, selling, offering to sell and/or importing Infringing '605 Products or products containing the Infringing '605 Products.

73. Broadcom's infringement of the '605 Patent has been and continues to be willful and deliberate, entitling Tessera to increased damages under 35 U.S.C. § 284.

74. Broadcom's acts of infringement have caused damage to Tessera in an amount yet to be determined and subject to proof at trial.

Count VII: Infringement of U.S. Patent No. 6,046,076

75. Tessera hereby incorporates the allegations of Paragraphs 1 through 74 as if fully set forth herein.

76. United States Patent No. 6,046,076 ("the '076 Patent"), titled "Vacuum Dispense Method for Dispensing an Encapsulant and Machine Therefor," issued on April 4, 2000, to

named inventors Craig S. Mitchell and Thomas H. Di Stefano. The '076 Patent issued from United States Patent Application No. 08/975,590, filed on November 20, 1997. It is a continuation-in-part of United States Application No. 08/842,313, filed April 24, 1997, which is a division of United States Application No. 08/365.699, filed on December 29, 1994 (now U.S. Patent No. 5,659,952). It claims the benefit of Provisional Application No. 60/046,932, filed on May 16,1997.

77. Tessera, Inc. is the sole owner by assignment of all right, title, and interest in the '076 Patent. A true and correct copy of the '076 Patent is attached as **Exhibit L**.

78. In non-technical terms, the '076 Patent discloses and claims methods for encapsulating a semiconductor package assembly (e.g., a chip and a substrate) using a vacuum dispense chamber. The claimed methods involve placing the semiconductor package assembly into a vacuum chamber, applying a flowable encapsulant composition to the semiconductor package assembly under subatmospheric pressure, then bringing the assembly to a higher pressure after the flowable encapsulant composition has been applied and holding the assembly at said higher pressure, and then curing the flowable encapsulant composition. By applying the flowable encapsulant composition at subatmospheric pressure, the amount of air trapped in and around the semiconductor package assembly is minimized, allowing the encapsulant composition to more readily flow in areas surrounding the chip. Moreover, when the semiconductor package assembly is taken to and held at a higher pressure, any trapped gas bubbles (also known as "voids") that may have formed in the encapsulant composition are diffused and/or collapsed to a smaller size, without any violent bubbling of the encapsulant composition that might cause the composition to splatter onto adjacent surfaces. The claimed methods therefore substantially

eliminate the presence of voids, which are known to undermine the structural integrity of the semiconductor package assembly.

79. Tessera is presently not aware of any analytical technique that can be applied to publicly-available information or materials to establish definitively that Broadcom's products were packaged by applying a flowable encapsulant composition to the semiconductor package assembly under subatmospheric pressure, then bringing the assembly to a higher pressure and holding the assembly at said higher pressure, and then curing the flowable encapsulant composition. Thus, on June 7, 2016, Tessera sent a letter to Broadcom requesting additional information in order to conclusively determine whether Broadcom is practicing or has practiced the '215, '605, and/or '076 Patents. **Ex. H** (June 7 letter). Specifically, this letter sought information from Broadcom that would assist Tessera in confirming whether any of Broadcom's products were packaged by applying a flowable encapsulant composition to the semiconductor package assembly under subatmospheric pressure, then bringing the assembly to a higher pressure and holding the assembly at said higher pressure, and then curing the flowable encapsulant composition. *Id.*

80. Tessera's letter requested a response by June 14, 2016, and stated that if Tessera did not receive a response by June 14, Tessera would assume that Broadcom is not interested in providing the requested information. The letter also invited Broadcom to contact Tessera if it had any questions. Broadcom did not respond to the letter.

81. Tessera accordingly alleges on information and belief that Broadcom has infringed the '076 Patent in violation of 35 U.S.C. § 271(a) and/or (g) by, among other things, selling, offering to sell, using, and/or importing within this district and elsewhere in the United States, without license or authority, products made by a patented process falling within the scope

of the ’076 Patent, including at least Claim 4, literally and/or under the doctrine of equivalents. Tessera intends to resort to the judicial process and the aid of discovery to obtain such information as is required to confirm this belief.

82. Based on the information presently available to it, Tessera alleges on information and belief that Broadcom’s BCM20795, BCM2035, BCM2042, BCM2045, BCM2046, BCM2048, BCM20702, BCM2091, BCM2133, BCM21352, BCM21553, BCM2727, BCM2763, BCM4318, BCM4322, BCM43231, BCM4323, BCM43241, BCM4329, BCM4336, BCM43569, BCM43570, BCM4717, BCM4718, BCM47186, BCM4751, BCM53115, BCM5357, BCM5722, BCM59036, BCM5973, and BCM5974 semiconductor devices are exemplary devices that are made by a patented process that infringes at least Claim 4 of the ’076 Patent. The exemplary devices fall into different product families and series that span across different Broadcom product categories and include the following infringing Broadcom products:

- Broadcom’s BCM20795 semiconductor devices are part of the BCM2079x family of chips that are Near Field Communication (“NFC”) compliant, highly integrated, low-power controllers. On information and belief, the infringing products from this family include Broadcom’s BCM20795 and BCM2079x semiconductor devices, other Broadcom NFC-compliant controllers, all Broadcom semiconductor devices that are the same or substantially similar to the BCM20795, BCM2079x, and other Broadcom NFC-compliant controllers, and all products containing the same.
- Broadcom’s BCM2035, BCM2042, BCM2045, BCM2046, BCM2048, and BCM20702 semiconductor devices are part of a multi-generation extended family of single chip, combination chip and system-on-a-chip semiconductor devices that

offer Bluetooth functionality, alone or in combination with other functionalities. On information and belief, the infringing products from this family include Broadcom's BCM2035, BCM2042, BCM2045, BCM2046, BCM2048, and BCM20702 semiconductor devices, other Broadcom semiconductor devices that offer Bluetooth functionality, all Broadcom semiconductor devices that are the same or substantially similar to the BCM2035, BCM2042, BCM2045, BCM2046, BCM2048, and BCM20702 or other semiconductor devices in the family of Broadcom semiconductor devices that offer Bluetooth functionality, and all products containing the same.

- Broadcom's BCM2091 semiconductor devices are part of a family of baseband processors and radio frequency (RF) transceivers. On information and belief, the infringing products from this family include Broadcom's BCM2091 semiconductor devices, other Broadcom baseband processors and RF transceivers, all Broadcom semiconductor devices that are the same or substantially similar to the BCM2091 and other baseband processors and RF transceivers, and all products containing the same.
- Broadcom's BCM2133, BCM21352, and BCM21553 semiconductor devices are part of a family of baseband processors. On information and belief, the infringing products from this family include Broadcom's BCM2133, BCM21352, and BCM21553 semiconductor devices, other Broadcom baseband processors, all Broadcom semiconductor devices that are the same or substantially similar to the BCM2133, BCM21352, and BCM21553 and other baseband processors, and all products containing the same.

- Broadcom's BCM2727 and BCM2763 semiconductor devices are part of a family of multi-feature processors for mobile phones and other handheld devices. On information and belief, the infringing products from this family include Broadcom's BCM2727 and BCM2763 semiconductor devices, other Broadcom multi-feature processors for mobile phones and other handheld devices, all Broadcom semiconductor devices that are the same or substantially similar to the BCM2727 and BCM2763 and other multi-feature processors for mobile phones and other handheld devices, and all products containing the same.
- Broadcom's BCM4318, BCM4322, BCM43231, BCM4323, BCM43241, BCM4329, BCM4336, BCM43569, BCM43570 and BCM5357 semiconductor devices are part of a multi-generation extended family of WiFi 802.11 single chip, combination chip and system-on-a-chip semiconductor devices. On information and belief, the infringing products from this family include Broadcom's BCM4318, BCM4322, BCM43231, BCM4323, BCM43241, BCM4329, BCM4336, BCM43569, BCM43570 and BCM5357 semiconductor devices, other Broadcom WiFi 802.11 semiconductor devices, all Broadcom semiconductor devices that are the same or substantially similar to the BCM4318, BCM4322, BCM43231, BCM4323, BCM43241, BCM4329, BCM4336, BCM43569, BCM43570 and BCM5357, or other Broadcom WiFi 802.11 semiconductor devices, and all products containing the same.
- Broadcom's BCM4717, BCM4718, and BCM47186 semiconductor devices are part of a family semiconductor devices that are 802.11n system-on-chips for set-top boxes and routers. On information and belief, the infringing products from

this family include Broadcom's BCM4717, BCM4718, and BCM47186 semiconductor devices, other Broadcom 802.11n system-on-chips for set-top boxes and routers, all Broadcom semiconductor devices that are the same or substantially similar to the BCM4717, BCM4718, and BCM47186, or other Broadcom 802.11n system-on-chips for set-top boxes and routers, and all products containing the same.

- Broadcom's BCM4751 semiconductor devices are part of a multi-generation family of Global Navigation Satellite System ("GNSS") receivers. On information and belief, the infringing products from this family include Broadcom's BCM4751 semiconductor devices, other Broadcom GNSS receivers, all Broadcom semiconductor devices that are the same or substantially similar to the BCM4751, or other Broadcom GNSS semiconductor devices, and all products containing the same.
- Broadcom's BCM53115 semiconductor devices are part of a family of Broadcom Ethernet switches for consumer products, home, office and business use ("consumer/home/office/business"). On information and belief, the infringing products from this family include Broadcom's BCM53115 semiconductor devices, other Broadcom consumer/home/office/business Ethernet switch semiconductor devices, all Broadcom semiconductor devices that are the same or substantially similar to the BCM53115 or other consumer/home/office/business Ethernet switch semiconductor devices, and all products containing the same.
- Broadcom's BCM5722 semiconductor devices are part of a family of Broadcom Ethernet controllers. On information and belief, the infringing products from this

family include Broadcom's BCM5722 semiconductor devices, other Broadcom Ethernet controller semiconductor devices, all Broadcom semiconductor devices that are the same or substantially similar to the BCM5722 or other Ethernet controller semiconductor devices, and all products containing the same.

- Broadcom's BCM59036 semiconductor devices are part of a family of baseband processors with RF and power management features. On information and belief, the infringing products from this family include Broadcom's BCM59036 semiconductor devices, other Broadcom baseband processors with RF and power management features, all Broadcom semiconductor devices that are the same or substantially similar to the BCM59036 and other baseband processors with RF and power management features, and all products containing the same.
- Broadcom's BCM5973 and BCM5974 semiconductor devices are part of a family of Broadcom touchscreen controllers. On information and belief, the infringing products from this family include Broadcom's BCM5973 and BCM5974 semiconductor devices, other Broadcom touchscreen controller semiconductor devices, all Broadcom semiconductor devices that are the same or substantially similar to the BCM5973 and BCM5974 or other Broadcom touchscreen controller semiconductor devices, and all products containing the same.

The infringing products identified in this paragraph, all Broadcom products that are substantially similar to these products, and products containing the same are referred to collectively as the "Infringing '076 Products." Tessera makes this preliminary identification of infringing products without the benefit of discovery or claim construction in this action, and expressly reserves the

right to augment, supplement, and revise its identifications based on additional information obtained through discovery or otherwise.

83. On information and belief, Broadcom directly infringed the ’076 Patent by making, using, offering to sell, selling, and/or importing the Infringing ’076 Products in this judicial district and elsewhere in the United States Infringing ’076 Products or products containing Infringing ’076 Products. These products are made by encapsulating a semiconductor package assembly (e.g., a chip and a substrate) using a vacuum dispense chamber. Specifically, these products are made by placing the semiconductor package assembly into a vacuum chamber, applying a flowable encapsulant composition to the semiconductor package assembly under subatmospheric pressure, then bringing the assembly to a higher pressure after the flowable encapsulant composition has been applied and holding the assembly at said higher pressure, and then curing the flowable encapsulant composition. Tessera is informed and believes that the Infringing ’076 Products are made by the method described in one or more of the claims of the ’076 Patent and thereby infringe one or more of the claims of the ’076 Patent.

84. Broadcom’s acts of infringement have caused damage to Tessera in an amount yet to be determined and subject to proof at trial.

PRAYER FOR RELIEF

WHEREFORE, Tessera prays for relief as follows:

A. Judgment that Broadcom has directly infringed the ’001, ’563, ’046, ’699, ’215, ’605, and ’076 Patents, both literally and under the doctrine of equivalents;

B. Judgment that Broadcom has induced the infringement of the ’001, ’563, ’699, ’215, and ’605 Patents;

C. Judgment that Broadcom has contributorily infringed the ’001 Patent;

D. Judgment that Broadcom has willfully infringed the ’001, ’563, ’699, ’215, and ’605 Patents, and for enhanced damages under 35 U.S.C. § 284 for three times the amount found or measured;

E. Compensatory damages in an amount according to proof, and in any event no less than a reasonable royalty;

F. An award of reasonable attorneys’ fees pursuant to 35 U.S.C. § 285 because this is an exceptional case;

G. Prejudgment interest on all damages awarded to Tessera;

H. Post-judgment interest on all sums awarded to Tessera from the date of the judgment;

I. Costs of suit incurred herein; and

J. Any and all other relief that the Court deems just and equitable.

DEMAND FOR JURY TRIAL

Tessera hereby demands a trial by jury on all issues.

Dated: August __, 2016

Respectfully submitted,

FARNAN LLP

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