

**IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF TEXAS  
WACO DIVISION**

PANASONIC HOLDINGS CORPORATION,

*Plaintiff,*

v.

BROADCOM CORPORATION,

*Defendant.*

CASE NO. 6:22-cv-756

JURY DEMAND

**COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiff Panasonic Holdings Corporation (“Plaintiff” or “Panasonic”) hereby asserts the following claims for patent infringement against Broadcom Corporation (“Broadcom” or “Defendant”), and alleges as follows:

**INTRODUCTION**

1. The Panasonic Group consists of Panasonic Holdings Corporation, the holding company, and eight operating companies, and affiliates both within Japan and overseas. The Panasonic Group has been a worldwide leader in the development of diverse electronics technologies and solutions for more than 100 years. Panasonic has invested billions in research and development in the United States and throughout the world to advance technology in a broad variety of technical sectors. This R&D has contributed to the overall value and commercial success of Panasonic’s products worldwide.

2. Panasonic invested significant time, effort, and resources to develop its patented technology, including investing in and seeking patent protection on the inventions. But after years of hard work, Panasonic’s innovations have been simply used without permission by Defendant Broadcom Corporation.

3. As a result of Broadcom's infringement in this District, Panasonic has suffered, and will continue to suffer, significant damages and irreparable harm. This action is to remedy that infringement and to enforce Panasonic's patent rights against Broadcom.

### **NATURE OF THE ACTION**

4. This is a civil action for patent infringement under the patent laws of the United States, 35 U.S.C. § 1, *et seq.*

5. Broadcom has directly infringed and continues to infringe, has contributed to and continues to contribute to infringement of, and has induced and continues to induce infringement of one or more claims of U.S. Patent Nos. 6,927,664 ("the '664 Patent"), 6,975,641 ("the '641 Patent"), 7,328,389 ("the '389 Patent"), 9,473,268 ("the '268 Patent"), and 6,965,107 ("the '107 Patent") (collectively, the "Asserted Patents") through its development, use, and commercialization of the accused products, as defined below.

6. As explained in more detail below, Panasonic is the owner of all of the Asserted Patents, which were duly and legally issued by the United States Patent and Trademark Office ("USPTO"). For each of the Asserted Patents, Panasonic owns all substantial rights to sue for infringement in its own name, including for past, present, and future damages, and injunctive relief. Panasonic seeks injunctive relief and monetary damages as redress for Broadcom's infringement.

### **THE PARTIES**

7. Plaintiff Panasonic Holdings Corporation is a Japanese corporation with its principal place of business located at 1006, Oaza Kadoma, Kadoma-shi, Osaka 571-8501, Japan.

8. On information and belief, Defendant Broadcom Corporation is a California corporation with a regular and established place of business at 2901 Via Fortuna Drive, Austin, Texas 78746. Broadcom Corporation may be served through its registered agent for service: Corporation Service Company, 211 E. 7th Street Suite 620 Austin, Texas 78701.

## **JURISDICTION AND VENUE**

9. This Court has subject matter jurisdiction over this action pursuant to 28 U.S.C. §§ 1331, 1332 and 1338(a) because this is a patent infringement action that arises under the patent laws of the United States, 35 U.S.C. § 1 *et seq.*

10. This Court has personal jurisdiction over Broadcom.

11. Broadcom has committed, and continues to commit, acts of infringement in this District, has conducted business in this District, and/or has engaged in continuous and systematic activities in this District. On information and belief, Broadcom has a regular and established place of business in this District, including at least at 2901 Via Fortuna Dr., Austin, Texas 78746.

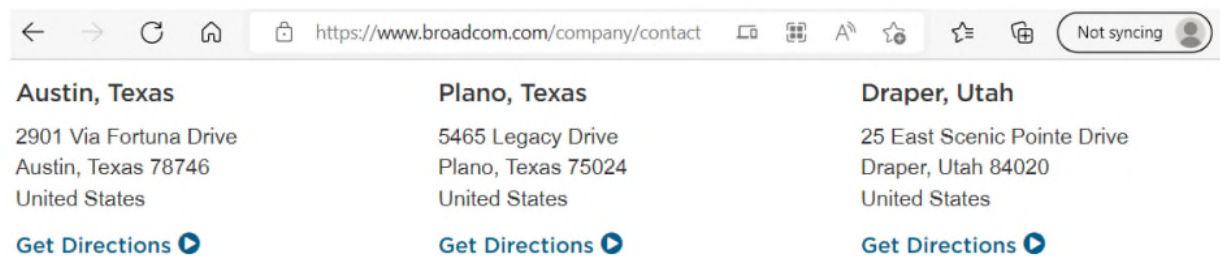
12. This Court also has personal jurisdiction over Broadcom in this action because Broadcom has committed acts within this District giving rise to this action and has established minimum contacts with this forum such that the exercise of jurisdiction over Broadcom would not offend traditional notions of fair play and substantial justice. Broadcom has committed and continues to commit acts of infringement by, among other things, making, using, offering to sell, and selling products and/or services that infringe the Asserted Patents, including the accused products described below.

13. This Court has specific personal jurisdiction over Broadcom in this action consistent with due process and the Texas Long Arm Statute because the claims asserted herein arise out of or are related to Broadcom's voluntary contacts with this forum, such voluntary contacts including but not limited to: (i) at least a portion of the actions complained of herein; (ii) purposefully and voluntarily placing Broadcom's products, including the accused products, into this District and into the stream of commerce with the intention and expectation that it will be acquired by customers and used in this District; or (iii) regularly doing or soliciting business, engaging in other persistent courses of conduct, or deriving substantial revenue from goods and

services, including Broadcom's accused products that are provided to customers in Texas and in this District.

14. Venue is proper in this District under 28 U.S.C §§ 1391(b)(3) and 1400(b) for at least the reasons set forth above. Broadcom is registered to do business in Texas, and Broadcom has transacted business in this District. Broadcom has regular and established places of business in this District. Broadcom has committed acts of direct and indirect infringement in this District.

15. Specifically, Broadcom Corp. has committed and continues to commit acts of patent infringement in this District, including making, using, offering to sell, and/or selling accused products in this District, and/or importing accused products into this District, including by Internet sales and sales via retail and wholesale stores, inducing others to commit acts of patent infringement in Texas, and/or committing at least a portion of any other infringements alleged herein in this District. Broadcom Corp. has a regular and established places of business in this District, including at least at 2901 Via Fortuna Dr., Austin, Texas 78746 as shown in the following screenshot:



See <https://www.broadcom.com/company/contact>.

### **ASSERTED PATENTS**

16. This Complaint asserts causes of action for infringement of the '664 Patent, the '641 Patent, the '389 Patent, the '268 Patent, and the '107 Patent (collectively, the "Asserted Patents").

17. A true and correct copy of the '664 Patent, entitled "Mutual Induction Circuit," with Toshifumi Nakatani and Hisashi Adachi as the named inventors, is attached hereto as **Exhibit 1**. The '664 Patent duly and legally issued on August 9, 2005. Panasonic is the current owner by assignment of all rights, title, and interest in and under the '664 Patent. Panasonic has standing to sue for infringement of the '664 Patent.

18. A true and correct copy of the '641 Patent, entitled "Data Transmission Method and System, and Device Used Therefor," with Aklo Kurobe, Koji Ikeda, and Go Kuroda as the named inventors, is attached hereto as **Exhibit 2**. The '641 Patent duly and legally issued on December 13, 2005. Panasonic is the current owner by assignment of all rights, title, and interest in and under the '641 Patent. Panasonic has standing to sue for infringement of the '641 Patent.

19. A true and correct copy of the '389 Patent, entitled "Transmitting Apparatus, Receiving Apparatus, Transmission Method, and Reception Method," with Yutaka Murakami, Katsuaki Abe, Masayuki Orihashi, and Akihiko Matsuoka as the named inventors, is attached hereto as **Exhibit 3**. The '389 Patent duly and legally issued on February 5, 2008. Panasonic is the current owner by assignment of all rights, title, and interest in and under the '389 Patent. Panasonic has standing to sue for infringement of the '389 Patent.

20. A true and correct copy of the '268 Patent, entitled "Transmitting Apparatus, Receiving Apparatus, Transmission Method, and Reception Method," with Yutaka Murakami, Katsuaki Abe, Masayuki Orihashi, and Akihiko Matsuoka as the named inventors, is attached hereto as **Exhibit 4**. The '268 Patent duly and legally issued on October 18, 2016. Panasonic is the current owner by assignment of all rights, title, and interest in and under the '268 Patent. Panasonic has standing to sue for infringement of the '268 Patent.

21. A true and correct copy of the '107 Patent, entitled "Semiconductor-Based Encapsulated Infrared Sensor and Electronic Device," with Hiroyoshi Komobuchi, Minoru Kubo, Masahiko Hashimoto, Michio Okajima, and Shinichi Yamamoto as the named inventors, is attached hereto as **Exhibit 5**. The '107 Patent duly and legally issued on November 15, 2005. Panasonic is the current owner by assignment of all rights, title, and interest in and under the '107 Patent. Panasonic has standing to sue for infringement of the '107 Patent.

### NOTICE

22. On July 23, 2019, Panasonic first approached Broadcom regarding a potential license to Panasonic's portfolio of patents. Through counsel, Panasonic provided a patent license proposal that identified the '641 and '389 Patents by number, described the technical fields of the other Asserted Patents, and included further information about Panasonic's worldwide patent assets and how they covered a broad array of Broadcom's products. Panasonic's patent license proposal stated that "Panasonic Patents are highly useful and valuable for Broadcom Products" and included an offer to license Panasonic's entire portfolio, including the Asserted Patents. Panasonic also stated that "Panasonic would like to set a meeting to further discuss this proposal with Broadcom" and asked Broadcom to provide its availability.

23. A few weeks passed with no response from Broadcom. On August 20, 2019, Panasonic's counsel again contacted Broadcom's counsel, and again asked for Broadcom's availability to discuss Panasonic's patent licensing proposal. A few days later, Broadcom's counsel responded and summarily rejected Panasonic's offer to discuss the patent licensing proposal. Panasonic's counsel asked if Broadcom would be willing to discuss the matter further. Broadcom again declined to respond.

24. On December 2, 2019, Panasonic's counsel again reached out to Broadcom's counsel, again attaching the patent license proposal from July 2019 and asking Broadcom to

respond if it wished to discuss the proposal further. A few more weeks passed with no response from Broadcom.

25. On January 23, 2020, Panasonic's counsel again contacted Broadcom's counsel, this time attaching a letter that Panasonic had sent to Mr. Hock Tan, President and CEO of Broadcom, and asking when Panasonic should expect a response to the letter. The attached letter reiterated Panasonic's interest in engaging in negotiations with Broadcom for a license to Panasonic's patent portfolio.

26. On January 28, 2020, Broadcom's counsel responded and stated that all correspondence from that point forward should come through him, but at the same time, that he had "no information regarding when Panasonic should expect a response." Panasonic never received a response from Broadcom.

27. On information and belief, Broadcom was aware of the Asserted Patents prior to the filing of this lawsuit by virtue of Panasonic's July 2019 patent license proposal, as well as Panasonic's subsequent attempts to engage with Broadcom in negotiations over the patent license proposal.

**COUNT I.  
INFRINGEMENT OF U.S. PATENT NO. 6,927,664**

28. The allegations of the foregoing paragraphs are incorporated by reference as if fully set forth herein and form the basis for the following cause of action against Broadcom.

29. Broadcom's products that include integrated mutual inductors, such as the BCM43217 exemplary infringing integrated circuit (collectively, "the '664 Accused Products") are covered by at least claim 1 of the '664 Patent.

30. Claim 1 of the '664 Patent recites:

A mutual induction circuit formed using first and second wiring layers arranged parallel to each other in a vertical direction, the circuit comprising:

a first inductor; and

a second inductor situated such that a magnetic flux induced in the first inductor passes therethrough,

wherein the first and second inductors are each provided using the first and second wiring layers such that if projected into one of the first and second wiring layers either along a vertical upward direction or a vertical downward direction, outlines of a projection form a symmetrical shape with respect to a first reference plane, and portions corresponding to intersections between the outlines of the projection on the wiring layer are formed so as to be out of contact with each other.

31. Broadcom has infringed and continues to infringe, literally and/or under the doctrine of equivalents, at least claim 1 of the '664 Patent in violation of at least 35 U.S.C. § 271(a) by, directly or through intermediaries and without Panasonic's authority, making, using, importing, selling, and/or offering to sell the '664 Accused Products in the United States.

32. By way of illustration, Broadcom infringes claim 1 of the '664 Patent by having made, used, sold, offered for sale, and imported the '664 Accused Products. A more detailed analysis of Broadcom's infringement of the '664 Patent can be found in Exhibit 6, which is incorporated in its entirety as if set forth herein.

33. Further, Broadcom has, at least as of the date of this suit, actively induced infringement of at least claim 1 of the '664 Patent in violation of at least 35 U.S.C. § 271(b) and (f). Users of the '664 Accused Products directly infringe at least claim 1 of the '664 Patent when they use the '664 Accused Products in the ordinary, customary, and intended way. Broadcom's inducements include, without limitation and with specific intent to encourage the infringement, knowingly inducing consumers to use the '664 Accused Products within the United States in the ordinary, customary, and intended way by, directly or through intermediaries, supplying the '664 Accused Products to consumers within the United States and instructing and encouraging such customers to use the '664 Accused Products in the ordinary, customary, and intended way, which Broadcom knows or should know infringes at least claim 1 of the '664 Patent.

34. Broadcom's inducements further include, without limitation and with specific intent to encourage the infringement, knowingly inducing customers to commit acts of infringement with respect to the '664 Accused Products within the United States, including by, directly or through intermediaries, instructing and encouraging such customers to import, make, use, sell, offer to sell, or otherwise commit acts of infringement with respect to the '664 Accused Products in the United States, which Broadcom knows or should know infringes at least claim 1 of the '664 Patent.

35. Additionally, Broadcom has, at least as of the date of this suit, actively contributed to infringement of at least claim 1 of the '664 Patent in violation of at least 35 U.S.C. § 271(c) and (f). Broadcom has installed the '664 Accused Products in RF receivers, such as WLAN capable devices, which are specially made or especially adapted to practice the invention claimed in at least claim 1 of the '664 Patent. The '664 Accused Products have no substantial function or use other than practicing the invention claimed in at least claim 1 of the '664 Patent.

36. Each component of the '664 Accused Products as described in **Exhibit 6** constitutes a material part of the claimed invention recited in at least claim 1 of the '664 Patent and is not a staple article or commodity of commerce, including because it is specifically configured according to at least claim 1 of the '664 Patent.

37. Broadcom's contributory infringements include, without limitation, making, offering to sell, and/or selling within the United States, and/or importing into the United States, the '664 Accused Products, which each include one or more components for use in practicing at least claim 1 of the '664 Patent, knowing the component to be especially made or especially adapted for use in an infringement of at least claim 1 of the '664 Patent, and not a staple article or commodity of commerce suitable for substantial non-infringing use.

38. The '664 Accused Products are not suitable for and do not have substantial non-infringing uses.

39. Based on the information currently available to Panasonic, Panasonic alleges only post-suit indirect infringement of the '664 Patent. However, to the extent discovery reveals additional facts supporting pre-suit indirect infringement, Panasonic expressly reserves the right to assert such claims.

40. Broadcom actually knew about the '664 Patent and/or should have known of the '664 Patent but was willfully blind to the existence of the '664 Patent in light of the patent licensing negotiations between the parties. Broadcom further has actual knowledge of the '664 Patent as of the date of this Complaint. By the time of the trial of this case, Broadcom will have known and intended that its continued actions since receiving such notice would infringe and actively induce and contribute to the infringement of one or more claims of the '664 Patent. Broadcom's infringement of the '664 Patent has been willful and deliberate.

41. To the extent applicable, Panasonic has complied with the requirements of 35 U.S.C. § 287 and does not make, sell, or offer for sale products embodying the '664 Patent.

42. Broadcom's infringement has caused past and will cause ongoing injury to Panasonic. Panasonic is entitled to recover damages adequate to compensate for Broadcom's infringement. Because Broadcom's infringement has been and continues to be willful and deliberate, the Court should award enhanced damages under 35 U.S.C. § 284 and find this case exceptional and award attorney's fees under 35 U.S.C. § 285.

43. Panasonic has suffered and will continue to suffer irreparable injury as a direct and proximate result of Broadcom's infringement for which there is no adequate remedy at law. Unless Broadcom is enjoined, Panasonic will continue to suffer such irreparable injury.

44. Broadcom's infringement has been without authority and/or license from Panasonic.

**COUNT II.  
INFRINGEMENT OF U.S. PATENT NO. 6,975,641**

45. The allegations of the foregoing paragraphs are incorporated by reference as if fully set forth herein and form the basis for the following cause of action against Broadcom.

46. At least claim 13 of the '641 Patent covers Broadcom's services and products, including Broadcom's Wireless LAN products implementing 802.11ac-compatible transceivers (*see, e.g.*, <https://www.broadcom.com/products/wireless/wireless-lan-bluetooth>) and Broadcom's Wireless LAN Infrastructure products implementing 802.11ac-compatible transceivers (*see, e.g.*, <https://www.broadcom.com/products/wireless/wireless-lan-infrastructure>), and further including the BCM43162 exemplary infringing integrated circuit (collectively, "the '641 Accused Products").

47. Claim 13 of the '641 Patent recites:

A transmission device for transmitting/receiving a data frame including a transmission timer value indicating a total frame time of data frames subsequent thereto by using a single transmission path, comprising:

a receiving portion for receiving the data frame including said transmission timer value;

a transmission timer acquiring portion for acquiring the transmission timer value included in the data frame received by said receiving portion;

a transmission timer for suspending transmission for a frame time indicated by the transmission timer value acquired by said transmission timer acquiring portion, and when none of said timer values is acquired, suspending transmission for a time indicated by a predetermined initial value;

a transmitting frame constructing portion for constructing a data frame to be transmitted including the transmission timer value so set as to indicate the total frame time of the data frames subsequent thereto; and

a transmitting portion for transmitting the data frame to be transmitted constructed by said transmitting frame constructing portion, and

when received one or more data frames, confirming, by said transmission timer, that said transmission path is available through an elapse of the timer of suspending transmission, and then transmitting one or more of the data frames to be transmitted constructed by said transmitting frame constructing portion in sequence.

48. Broadcom has infringed and continues to infringe, literally and/or under the doctrine of equivalents, at least claim 13 of the '641 Patent in violation of at least 35 U.S.C. § 271(a) by, directly or through intermediaries and without Panasonic's authority, making, using, selling, importing, and/or offering to sell the '641 Accused Products in the United States.

49. By way of illustration, Broadcom infringes claim 13 of the '641 Patent by having made, used, sold, offered for sale, and imported the '641 Accused Products including the exemplary BCM43162 infringing integrated circuit. A more detailed analysis of Broadcom's infringement of the '641 Patent can be found in Exhibit 7, which is incorporated in its entirety as if set forth herein.

50. The '641 Patent has been declared a standard-essential patent with respect to certain standards set by the Institute of Electrical and Electronics Engineers (IEEE). Specifically, the '641 Patent has been declared essential to the IEEE 802.11ac standard.

51. The '641 Patent is, in fact, essential to the practice of the IEEE 802.11ac standard.

52. Panasonic has been at all times, and remains at present, willing to license the '641 Patent to Broadcom on terms which are fair, reasonable, and non-discriminatory.

53. Further, Broadcom has actively induced infringement of at least claim 13 of the '641 Patent in violation of at least 35 U.S.C. § 271(b) and (f). Users of the '641 Accused Products directly infringe at least claim 13 of the '641 Patent when they use the '641 Accused Products in the ordinary, customary, and intended way. Broadcom's inducements include, without limitation and with specific intent to encourage the infringement, knowingly inducing consumers to use the Accused Products within the United States in the ordinary, customary, and intended way by,

directly or through intermediaries, supplying the '641 Accused Products to consumers within the United States and instructing and encouraging such customers (for example, by offering for sale the BCM43162 exemplary infringing integrated circuit and all other Accused Products) to use the BCM43162 exemplary infringing integrated circuit and all other '641 Accused Products in the ordinary, customary, and intended way, including as an 802.11ac-compatible transceiver, which Broadcom knows or should know infringes at least claim 13 of the '641 Patent.

54. Broadcom's inducements further include, without limitation and with specific intent to encourage the infringement, knowingly inducing customers to commit acts of infringement with respect to the '641 Accused Products within the United States, by, directly or through intermediaries, instructing and encouraging such customers to import, make, use, sell, offer to sell, or otherwise commit acts of infringement with respect to the '641 Accused Products in the United States, which Broadcom knows or should know infringes at least claim 13 of the '641 Patent.

55. Additionally, Broadcom has actively contributed to infringement of at least claim 13 of the '641 Patent in violation of at least 35 U.S.C. § 271(c) and (f). For example, Broadcom has produced and configured the BCM43162 exemplary infringing integrated circuit and all other '641 Accused Products to comprise an 802.11ac-compatible transceiver, which is specially made or especially adapted to practice the invention claimed in at least claim 13 of the '641 Patent. The BCM43162 exemplary infringing integrated circuit and all other '641 Accused Products have no substantial function or use other than practicing the invention claimed in at least claim 13 of the '641 Patent.

56. Each component of the '641 Accused Products as described in **Exhibit 7**, including the exemplary BCM43162 infringing integrated circuits, constitutes a material part of the claimed

invention recited in at least claim 13 of the '641 Patent and is not a staple article or commodity of commerce, including because it is specifically configured according to at least claim 13 of the '641 Patent.

57. Broadcom's contributory infringements include, without limitation, making, offering to sell, and/or selling within the United States, and/or importing into the United States, the '641 Accused Products, which each include one or more components for use in practicing at least claim 13 of the '641 Patent, knowing the component to be especially made or especially adapted for use in an infringement of at least claim 13 of the '641 Patent, and not a staple article or commodity of commerce suitable for substantial non-infringing use.

58. The '641 Accused Products are not suitable for and do not have substantial non-infringing uses.

59. Broadcom has had actual knowledge of the '641 Patent since at least as early as July 23, 2019, based on Panasonic's express and specific identification of the '641 Patent in licensing negotiations with Broadcom in the manner described in this Complaint. Broadcom has additional actual knowledge of the '641 Patent as of the date of this Complaint. Further and alternatively, Broadcom knew or should have known of the '641 Patent but was willfully blind to the existence of the '641 Patent. By the time of the trial of this case, Broadcom will have known and intended that its continued actions since receiving such notice would infringe and actively induce and contribute to the infringement of one or more claims of the '641 Patent. Broadcom's infringement of the '641 Patent has been willful and deliberate.

60. To the extent applicable, Panasonic has complied with the requirements of 35 U.S.C. § 287 and does not make, sell, or offer for sale products embodying the '641 Patent.

61. Broadcom's infringement has caused past and will cause ongoing injury to Panasonic. Panasonic is entitled to recover damages adequate to compensate for Broadcom's infringement. Because Broadcom's infringement has been and continues to be willful and deliberate, the Court should award enhanced damages under 35 U.S.C. § 284 and find this case exceptional and award attorney's fees under 35 U.S.C. § 285.

62. Panasonic has suffered and will continue to suffer irreparable injury as a direct and proximate result of Broadcom's infringement for which there is no adequate remedy at law. Unless Broadcom is enjoined, Panasonic will continue to suffer such irreparable injury.

63. Broadcom's infringement has been without authority and/or license from Panasonic.

**COUNT III.  
INFRINGEMENT OF U.S. PATENT NO. 7,328,389**

64. The allegations of the foregoing paragraphs are incorporated by reference as if fully set forth herein and form the basis for the following cause of action against Broadcom.

65. At least claim 1 of the '389 Patent covers Broadcom's services and products, including Broadcom's Wireless LAN products implementing 802.11ac-compatible transceivers (*see, e.g.*, <https://www.broadcom.com/products/wireless/wireless-lan-bluetooth>) and Broadcom's Wireless LAN Infrastructure products implementing 802.11ac-compatible transceivers (*see, e.g.*, <https://www.broadcom.com/products/wireless/wireless-lan-infrastructure>), and further including the BCM43162 exemplary infringing integrated circuit (collectively, "the '389 Accused Products").

66. Claim 1 of the '389 Patent recites:

A transmitting apparatus that controls, for each transmit frame, at least one of a modulation method and an error correction method, and that forms an information symbol and transmits the information symbol using a plurality of subcarriers, the transmitting apparatus comprising:

a modulation method information signal generator that generates an information signal relating to a modulation method of the information symbol;

an error correction method information signal generator that generates an information signal relating to an error correction method of the information symbol;

a frame former that forms a transmit frame by repeating and discretely arranging at least one of a same modulation method information signal and a same error correction method information signal at the same time within the same frame; and

a transmitter that transmits the transmit frame.

67. Broadcom has infringed and continues to infringe, literally and/or under the doctrine of equivalents, at least claim 1 of the '389 Patent in violation of at least 35 U.S.C. § 271(a) by, directly or through intermediaries and without Panasonic's authority, making, using, importing, selling, and/or offering to sell the '389 Accused Products in the United States.

68. By way of illustration, Broadcom infringes claim 1 of the '389 Patent by having made, used, sold, offered for sale, and imported the '389 Accused Products including the exemplary BCM43162 infringing integrated circuit. A more detailed analysis of Broadcom's infringement of the '389 Patent can be found in **Exhibit 8**, which is incorporated in its entirety as if set forth herein.

69. The '389 Patent has been declared a standard-essential patent with respect to certain standards set by the Institute of Electrical and Electronics Engineers (IEEE). Specifically, the '389 Patent has been declared essential to the IEEE 802.11ac standard.

70. The '389 Patent is, in fact, essential to the practice of the IEEE 802.11ac standard.

71. Panasonic has been at all times, and remains at present, willing to license the '389 Patent to Broadcom on terms which are fair, reasonable, and non-discriminatory.

72. Further, Broadcom has actively induced infringement of at least claim 1 of the '389 Patent in violation of at least 35 U.S.C. § 271(b) and (f). Users of the '389 Accused Products

directly infringe at least claim 1 of the '389 Patent when they use the '389 Accused Products in the ordinary, customary, and intended way. Broadcom's inducements include, without limitation and with specific intent to encourage the infringement, knowingly inducing consumers to use the '389 Accused Products within the United States in the ordinary, customary, and intended way by, directly or through intermediaries, supplying the '389 Accused Products to consumers within the United States and instructing and encouraging such customers (for example, by offering for sale the BCM43162 exemplary infringing integrated circuit and all other '389 Accused Products) to use the BCM43162 exemplary infringing integrated circuit and all other '389 Accused Products in the ordinary, customary, and intended way, including as an 802.11ac-compatible transceiver, which Broadcom knows or should know infringes at least claim 1 of the '389 Patent.

73. Broadcom's inducements further include, without limitation and with specific intent to encourage the infringement, knowingly inducing customers to commit acts of infringement with respect to the '389 Accused Products within the United States, by, directly or through intermediaries, instructing and encouraging such customers to make, use, import, sell, offer to sell, or otherwise commit acts of infringement with respect to the '389 Accused Products in the United States, which Broadcom knows or should know infringes at least claim 1 of the '389 Patent.

74. Additionally, Broadcom has actively contributed to infringement of at least claim 1 of the '389 Patent in violation of at least 35 U.S.C. § 271(c) and (f). For example, Broadcom has produced and configured the BCM43162 exemplary infringing integrated circuit and all other '389 Accused Products to comprise an 802.11ac-compatible transceiver, which is specially made or especially adapted to practice the invention claimed in at least claim 1 of the '389 Patent. The BCM43162 exemplary infringing integrated circuit and all other '389 Accused Products have no

substantial function or use other than practicing the invention claimed in at least claim 1 of the '389 Patent.

75. Each component of the '389 Accused Products as described in **Exhibit 8**, including the BCM43162 exemplary infringing integrated circuits, constitutes a material part of the claimed invention recited in at least claim 1 of the '389 Patent and is not a staple article or commodity of commerce, including because it is specifically configured according to at least claim 1 of the '389 Patent.

76. Broadcom's contributory infringements further include, without limitation, making, offering to sell, and/or selling within the United States, and/or importing into the United States, the '389 Accused Products, which each include one or more components for use in practicing at least claim 1 of the '389 Patent, knowing the component to be especially made or especially adapted for use in an infringement of at least claim 1 of the '389 Patent, and not a staple article or commodity of commerce suitable for substantial non-infringing use.

77. The '389 Accused Products are not suitable for and do not have substantial non-infringing uses.

78. Broadcom has had actual knowledge of the '389 Patent since at least as early as July 23, 2019, based on Panasonic's express and specific identification of the '389 Patent in licensing negotiations with Broadcom in the manner described in this Complaint. Broadcom has additional actual knowledge of the '389 Patent as of the date of this Complaint. Further and alternatively, Broadcom knew or should have known of the '389 Patent but was willfully blind to the existence of the '389 Patent. By the time of the trial of this case, Broadcom will have known and intended that its continued actions since receiving such notice would infringe and actively

induce and contribute to the infringement of one or more claims of the '389 Patent. Broadcom's infringement of the '389 Patent has been willful and deliberate.

79. To the extent applicable, Panasonic has complied with the requirements of 35 U.S.C. § 287 and does not make, sell, or offer for sale products embodying the '389 Patent.

80. Broadcom's infringement has caused past and will cause ongoing injury to Panasonic. Panasonic is entitled to recover damages adequate to compensate for Broadcom's infringement. Because Broadcom's infringement has been and continues to be willful and deliberate, the Court should award enhanced damages under 35 U.S.C. § 284 and find this case exceptional and award attorney's fees under 35 U.S.C. § 285.

81. Panasonic has suffered and will continue to suffer irreparable injury as a direct and proximate result of Broadcom's infringement for which there is no adequate remedy at law. Unless Broadcom is enjoined, Panasonic will continue to suffer such irreparable injury.

82. Broadcom's infringement has been without authority and/or license from Panasonic.

**COUNT IV.  
INFRINGEMENT OF U.S. PATENT NO. 9,473,268**

83. The allegations of the foregoing paragraphs are incorporated by reference as if fully set forth herein and form the basis for the following cause of action against Broadcom.

84. Claim 1 of the '268 Patent covers Broadcom's services and products, including at least Broadcom's Wireless LAN products implementing 802.11ac-compatible transceivers (*see, e.g.,* <https://www.broadcom.com/products/wireless/wireless-lan-bluetooth>) and Broadcom's Wireless LAN Infrastructure products implementing 802.11ac-compatible transceivers (*see, e.g.,* <https://www.broadcom.com/products/wireless/wireless-lan-infrastructure>), and further including

the BCM43162 exemplary infringing integrated circuit (collectively, “the ’268 Accused Products”).

85. Claim 1 of the ’268 Patent recites:

A transmission frame generating device for generating a transmission frame, comprising:

a control information signal generator that generates a modulation method control signal indicating a modulation method used for a data signal and an error correction method control signal indicating an error correction method used for the data signal; and

a frame former that forms the transmission frame by repeating and discretely arranging the same modulation method control signal on a first multiple of a plurality of subcarriers on a frequency axis and by repeating and discretely arranging the same error correction method control signal on a second multiple of the plurality of the subcarriers on the frequency axis.

86. Broadcom has infringed and continues to infringe, literally and/or under the doctrine of equivalents, at least claim 1 of the ’268 Patent in violation of at least 35 U.S.C. § 271(a) by, directly or through intermediaries and without Panasonic’s authority, making, using, importing, selling, and/or offering to sell the ’268 Accused Products in the United States.

87. By way of illustration, Broadcom infringes claim 1 of the ’268 Patent by having made, used, sold, offered for sale, and imported the ’268 Accused Products including the exemplary BCM43162 infringing integrated circuit. A more detailed analysis of Broadcom’s infringement of the ’268 Patent can be found in Exhibit 9, which is incorporated in its entirety as if set forth herein.

88. Further, Broadcom has, at least as of the date of this suit, actively induced infringement of at least claim 1 of the ’268 Patent in violation of at least 35 U.S.C. § 271(b) and (f). Users of the ’268 Accused Products directly infringe at least claim 1 of the ’268 Patent when they use the ’268 Accused Products in the ordinary, customary, and intended way. Broadcom’s inducements include, without limitation and with specific intent to encourage the infringement,

knowingly inducing consumers to use the '268 Accused Products within the United States in the ordinary, customary, and intended way by, directly or through intermediaries, supplying the '268 Accused Products to consumers within the United States and instructing and encouraging such customers (for example, by offering for sale the BCM43162 exemplary infringing integrated circuit and all other Accused Products) to use the BCM43162 exemplary infringing integrated circuit and all other '268 Accused Products in the ordinary, customary, and intended way, including as an 802.11ac-compatible transceiver, which Broadcom knows or should know infringes at least claim 1 of the '268 Patent.

89. Broadcom's inducements further include, without limitation and with specific intent to encourage the infringement, knowingly inducing customers to commit acts of infringement with respect to the '268 Accused Products within the United States, by, directly or through intermediaries, instructing and encouraging such customers to make, use, import, sell, or offer to sell, or otherwise commit acts of infringement with respect to the '268 Accused Products in the United States, which Broadcom knows or should know infringes at least claim 1 of the '268 Patent.

90. Additionally, Broadcom has, at least as of the date of this suit, actively contributed to infringement of at least claim 1 of the '268 Patent in violation of at least 35 U.S.C. § 271(c) and (f). For example, Broadcom has produced and configured the BCM43162 exemplary infringing integrated circuit and all other '268 Accused Products to comprise an 802.11ac-compatible transceiver, which is specially made or especially adapted to practice the invention claimed in at least claim 1 of the '268 Patent. The BCM43162 exemplary infringing integrated circuit and all other '268 Accused Products have no substantial function or use other than practicing the invention claimed in at least claim 1 of the '268 Patent.

91. Each component of the '268 Accused Products as described in **Exhibit 9**, including the BCM43162 exemplary infringing integrated circuits, constitutes a material part of the claimed invention recited in at least claim 1 of the '268 Patent and is not a staple article or commodity of commerce, including because it is specifically configured according to at least claim 1 of the '268 Patent.

92. Broadcom's contributory infringements include, without limitation, making, offering to sell, and/or selling within the United States, and/or importing into the United States, the '268 Accused Products, which each include one or more components for use in practicing at least claim 1 of the '268 Patent, knowing the component to be especially made or especially adapted for use in an infringement of at least claim 1 of the '268 Patent, and not a staple article or commodity of commerce suitable for substantial non-infringing use.

93. The '268 Accused Products are not suitable for and do not have substantial non-infringing uses.

94. Based on the information currently available to Panasonic, Panasonic alleges only post-suit indirect infringement of the '268 Patent. However, to the extent discovery reveals additional facts supporting pre-suit indirect infringement, Panasonic expressly reserves the right to assert such claims.

95. Broadcom actually knew about the '268 Patent and/or should have known of the '268 Patent but was willfully blind to the existence of the '268 Patent in light of the patent licensing negotiations between the parties. Broadcom further has actual knowledge of the '268 Patent since at least as early as the date of this Complaint. By the time of the trial of this case, Broadcom will have known and intended that its continued actions since receiving such notice would infringe and

actively induce and contribute to the infringement of one or more claims of the '268 Patent. Broadcom's infringement of the '268 Patent has been willful and deliberate.

96. To the extent applicable, Panasonic has complied with the requirements of 35 U.S.C. § 287 and does not make, sell, or offer for sale products embodying the '268 Patent.

97. Broadcom's infringement has caused past and will cause ongoing injury to Panasonic. Panasonic is entitled to recover damages adequate to compensate for Broadcom's infringement. Because Broadcom's infringement has been and continues to be willful and deliberate, the Court should award enhanced damages under 35 U.S.C. § 284 and find this case exceptional and award attorney's fees under 35 U.S.C. § 285.

98. Panasonic has suffered and will continue to suffer irreparable injury as a direct and proximate result of Broadcom's infringement for which there is no adequate remedy at law. Unless Broadcom is enjoined, Panasonic will continue to suffer such irreparable injury.

99. Broadcom's infringement has been without authority and/or license from Panasonic.

**COUNT V.  
INFRINGEMENT OF U.S. PATENT NO. 6,965,107**

100. The allegations of the foregoing paragraphs are incorporated by reference as if fully set forth herein and form the basis for the following cause of action against Broadcom.

101. Broadcom's products that include FBAR filters, including the AFEM-9040 exemplary infringing integrated circuit (collectively, "the '107 Accused Products") are covered by at least claim 7 of the '107 Patent.

102. Claim 7 of the '107 Patent recites:

An electronic device, comprising:

a main body substrate having a plurality of cell regions in which at least one element is disposed;

a cap body placed on said main body substrate;  
a first cavity portion provided in a position having said element disposed therein and being located in at least one cell region of said plurality of cell regions, enclosed by said main body substrate and said cap body to be maintained in an atmosphere of reduced pressure or in an atmosphere of inert gas; and  
a ring-shaped joining portion provided between said main body substrate and said cap body for isolating said first cavity portion from external space, wherein said electronic device comprises a support member for supporting said element, and a second cavity portion formed below said support member,  
wherein said second cavity portion is configured to communicate with said first cavity portion, and  
wherein said cap body is provided with a recess portion for forming said cavity portion and a drum portion enclosing the recess portion, and said main body substrate is provided with an engagement portion for engaging with said drum portion.

103. Broadcom has infringed and continues to infringe, literally and/or under the doctrine of equivalents, at least claim 7 of the '107 Patent in violation of at least 35 U.S.C. § 271(a) by, directly or through intermediaries and without Panasonic's authority, making, using, importing, selling, and/or offering to sell the '107 Accused Products in the United States.

104. By way of illustration, Broadcom infringes claim 7 of the '107 Patent by having made, used, sold, offered for sale, and imported the '107 Accused Products. A more detailed analysis of Broadcom's infringement of the '107 Patent can be found in **Exhibit 10**, which is incorporated in its entirety as if set forth herein.

105. Further, Broadcom has, at least as of the date of this suit, actively induced infringement of at least claim 7 of the '107 Patent in violation of at least 35 U.S.C. § 271(b) and (f). Users of the '107 Accused Products directly infringe at least claim 7 of the '107 Patent when they use the '107 Accused Products in the ordinary, customary, and intended way. Broadcom's inducements include, without limitation and with specific intent to encourage the infringement,

knowingly inducing consumers to use the '107 Accused Products within the United States in the ordinary, customary, and intended way by, directly or through intermediaries, supplying the '107 Accused Products to consumers within the United States and instructing and encouraging such customers to use the '107 Accused Products in the ordinary, customary, and intended way, which Broadcom knows or should know infringes at least claim 7 of the '107 Patent.

106. Broadcom's inducements further include, without limitation and with specific intent to encourage the infringement, knowingly inducing customers to commit acts of infringement with respect to the '107 Accused Products within the United States, by, directly or through intermediaries, instructing and encouraging such customers to make, use, import, sell, offer to sell, or otherwise commit acts of infringement with respect to the '107 Accused Products in the United States, which Broadcom knows or should know infringes at least claim 7 of the '107 Patent.

107. Additionally, Broadcom has, at least as of the date of this suit, actively contributed to infringement of at least claim 7 of the '107 Patent in violation of 35 U.S.C. § 271(c). Broadcom has installed the '107 Accused Products in RF receivers, such as cellular and WLAN capable devices which are specially made or especially adapted to practice the invention claimed in at least claim 7 of the '107 Patent. The '107 Accused Products have no substantial function or use other than practicing the invention claimed in at least claim 7 of the '107 Patent.

108. Each component of the '107 Accused Products as described in **Exhibit 10** constitutes a material part of the claimed invention recited in at least claim 7 of the '107 Patent and is not a staple article or commodity of commerce, including because it is specifically configured according to at least claim 7 of the '107 Patent.

109. Broadcom's contributory infringements include, without limitation, making, offering to sell, and/or selling within the United States, and/or importing into the United States, the '107 Accused Products, which each include one or more components for use in practicing at least claim 7 of the '107 Patent, knowing the component to be especially made or especially adapted for use in an infringement of at least claim 7 of the '107 Patent, and not a staple article or commodity of commerce suitable for substantial non-infringing use.

110. The '107 Accused Products are not suitable for and do not have substantial non-infringing uses.

111. Based on the information currently available to Panasonic, Panasonic alleges only post-suit indirect infringement of the '107 Patent. However, to the extent discovery reveals additional facts supporting pre-suit indirect infringement, Panasonic expressly reserves the right to assert such claims.

112. Broadcom actually knew about the '107 Patent and/or should have known of the '107 Patent but was willfully blind to the existence of the '107 Patent in light of the patent licensing negotiations between the parties. Broadcom further has actual knowledge of the '107 Patent since at least as early as the date of this Complaint. By the time of the trial of this case, Broadcom will have known and intended that its continued actions since receiving such notice would infringe and actively induce and contribute to the infringement of one or more claims of the '107 Patent. Broadcom's infringement of the '107 Patent has been willful and deliberate.

113. To the extent applicable, Panasonic has complied with the requirements of 35 U.S.C. § 287 and does not make, sell, or offer for sale products embodying the '107 Patent.

114. Broadcom's infringement has caused past and will cause ongoing injury to Panasonic. Panasonic is entitled to recover damages adequate to compensate for Broadcom's

infringement. Because Broadcom's infringement has been and continues to be willful and deliberate, the Court should award enhanced damages under 35 U.S.C. § 284 and find this case exceptional and award attorney's fees under 35 U.S.C. § 285.

115. Panasonic has suffered and will continue to suffer irreparable injury as a direct and proximate result of Broadcom's infringement for which there is no adequate remedy at law. Unless Broadcom is enjoined, Panasonic will continue to suffer such irreparable injury.

116. Broadcom's infringement has been without authority and/or license from Panasonic.

### **DEMAND FOR JURY TRIAL**

117. Pursuant to Federal Rule of Civil Procedure 38(b), Panasonic requests a jury trial of all issues triable of right by a jury.

### **PRAYER FOR RELIEF**

WHEREFORE, Panasonic respectfully requests that the Court enter an order providing the following relief:

- a. A judgment in favor of Panasonic that Broadcom has infringed each Asserted Patent, whether literally or under the doctrine of equivalents;
- b. A judgment that Broadcom's infringement of each Asserted Patent has been willful and deliberate;
- c. A judgment and order permanently enjoining Broadcom, its officers, agents, servants, employees, attorneys, and all those persons in active concert or participation with it, from further acts of infringement of the Asserted Patents pursuant to 35 U.S.C. § 283;
- d. A judgment and order requiring Broadcom to pay Panasonic's damages, including a reasonable royalty, as well as costs, expenses, and pre-judgment and post-judgment interest for Broadcom's infringement of each Asserted Patent as provided under 35 U.S.C. § 284,

including supplemental damages for any continuing post-verdict or post-judgment infringement with an accounting as needed;

e. A judgment and order requiring Broadcom to pay Panasonic's enhanced damages for willful infringement as provided under 35 U.S.C. § 284;

f. A judgment and order finding this case exceptional and requiring Broadcom to pay Panasonic its reasonable attorneys' fees and costs incurred in this litigation pursuant to 35 U.S.C. § 285, together with pre-judgment and post-judgment interest thereon; and

g. Awarding Panasonic all such other and further relief, in law or equity, as the Court deems just and proper under the circumstances.

Dated: July 7, 2022

Respectfully submitted,

**DLA PIPER LLP (US)**

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