

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

BANDSPEED, LLC,

Plaintiff,

v.

BROADCOM INTEGRATED CIRCUIT  
(SHANGHAI) CO., LTD. D/B/A BEKEN  
CORPORATION,

Defendant.

CASE NO. 1:21-cv-430

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**COMPLAINT**

Plaintiff Bandspeed, LLC (“Bandspeed”), by and through its attorneys, files its Complaint against defendant Broadcom Integrated Circuit (Shanghai) Co., Ltd. d/b/a Beken Corporation (“Defendant” or “Beken Corp.”), and hereby alleges as follows:

**I. NATURE OF ACTION**

1. This is a patent infringement action to end Defendant’s unauthorized and infringing manufacture, use, sale, offering for sale, and/or importation of methods and products incorporating Bandspeed’s patented inventions.

2. Bandspeed is the owner of all right, title, and interest in and to United States Patent No. 7,027,418 (“the ’418 Patent”), issued on April 11, 2006 for “Approach for Selecting Communications Channels Based on Performance.”

3. Bandspeed is the owner of all right, title, and interest in and to United States Patent No. 7,477,624 (“the ’624 Patent”), issued on January 13, 2009 for “Approach for Managing the Use of Communications Channels Based on Performance.”

4. Bandspeed is the owner of all right, title, and interest in and to United States Patent No. 7,570,614 (“the ’614 patent”), issued on August 4, 2009 for “Approach for Managing Communications Channels Based on Performance.”

5. Bandspeed is the owner of all right, title, and interest in and to United States Patent No. 7,903,608 (“the ’608 Patent”), issued on March 8, 2011 for “Approach for Managing the Use of Communications Channels Based on Performance.”

6. Bandspeed is the owner of all right, title, and interest in and to United States Patent No. 8,542,643 (“the ’643 Patent), issued on September 24, 2013 for “Approach for Managing the Use of Communications Channels Based on Performance.”

7. Bandspeed is the owner of all right, title, and interest in and to United States Patent No. 8,873,500 (“the ’500 Patent), issued on October 28, 2014 for “Approach for Managing the Use of Communications Channels Based on Performance.”

8. Bandspeed is the owner of all right, title, and interest in and to United States Patent No. 9,379,769 (“the ’769 Patent), issued on June 28, 2016 for “Approach for Managing the Use of Communications Channels Based on Performance.”

9. Bandspeed is the owner of all right, title, and interest in and to United States Patent No. 9,883,520 (“the ’520 Patent), issued on January 30, 2018 for “Approach for Managing the Use of Communications Channels Based on Performance.”

10. Bandspeed is the owner of all right, title, and interest in and to United States Patent No. 10,602,528 (’528 Patent), issued on March 24, 2020 for “Approach for Managing the Use of Communication Channels Based on Performance.”

11. Bandspeed is the owner of all right, title, and interest in and to United States Patent No. 10,791,565 ('565 Patent), issued on September 29, 2020 for “Approach for Managing the Use of Communications Channels Based on Performance.”

12. Bandspeed is the owner of all right, title, and interest in and to United States Patent No. 10,887,893 (“the '893 Patent”), issued on January 5, 2021 for “Approach for Managing the Use of Communications Channels Based on Performance.”

13. Bandspeed is the owner of all right, title, and interest in and to United States Patent No. 10,999,856 (the '856 Patent”), issued on May 4, 2021 for “Approach for Managing the Use of Communications Channels Based on Performance.”

14. The '418 Patent, '624 Patent, '614 Patent, '608 Patent, '643 Patent, '500 Patent, '769 Patent, '520 Patent, '528 Patent, '565 Patent, '893 Patent, and '856 Patent are, collectively, the “Bluetooth Classic Patents.”

15. The '608 Patent, '643 Patent, '500 Patent, '769 Patent, '520 Patent, '528 Patent, '565 Patent, '893 Patent, and '856 Patent are, collectively, the “LE Patents.”

16. The Bluetooth Classic Patents and the LE Patents are, collectively, the “Patents.”

17. Bandspeed has all substantial right and interest to the Patents, including all rights to recover for all past and future infringement thereof.

18. Upon information and belief, Defendant has been and currently is infringing, contributing to the infringement of, and/or inducing the infringement of Bandspeed’s Patents, by, among other things, making, using, selling, importing, and/or offering for sale, within the territorial boundaries of the United States and the State of Texas, products that are covered by one or more claims of Bandspeed’s Patents and inducing such conduct by others.

19. Defendant manufactures, provides, sells, offers for sale, imports, and/or distributes Infringing Products (as defined herein) and services; and/or induces others to make and use of its Infringing Products and services in an infringing manner; and/or contributes to the making and use of Infringing Products and services by others, including its customers, who directly infringe the Patents.

## **II. THE PARTIES**

20. Plaintiff Bandspeed is a Texas limited liability company with its principal place of business located in Austin, Texas.

21. Upon information and belief, Defendant Beken Corp. is a corporation organized and existing under the laws of China, with a principal place of business located at Building 41, Capital of Science and Technology Leaders, 1387 Zhangdong Road, Zhangjiang Hi-Tech Park, Pudong New Area, Shanghai, China 201203, where it may be served with process.

22. Defendant manufactures and distributes electronics. Defendant, either itself and/or through the activities of its subsidiaries or agents, makes, uses, sells, offers for sale, and/or imports throughout the United States, including within this District, products, such as electronics, semiconductor devices, and integrated circuits, that infringe the Patents, defined below.

## **III. JURISDICTION AND VENUE**

23. This is an action for patent infringement arising under the Patent Laws of the United States, in particular 35 U.S.C. §§ 271, 281, 283, 284, and 285. This Court has jurisdiction over the subject matter of this action under 28 U.S.C. §1331 and 1338(a). Alternatively, this Court has jurisdiction over Defendant under Fed. R. Civ P. 4(k)(2) (“Federal Claim Outside State-Court Jurisdiction”).

24. Upon information and belief, Defendant is subject to this Court’s personal jurisdiction pursuant to due process and/or the Texas Long Arm Statute, Tex. Civ. Prac. & Rem.

Code § 17.042, because (1) Defendant has done and continues to do business in Texas and the Western District of Texas; (2) Defendant has committed and continues to commit acts of patent infringement in the State of Texas, including making, using, offering to sell, and/or selling accused products in Texas, and/or importing accused products into Texas, inducing others to commit acts of patent infringement in Texas, and/or committing at least a portion of any other infringements alleged herein.

25. Upon information and belief, Defendant has purposefully directed its activities toward the State of Texas and purposefully availed itself of the privileges of conducting activities in the State of Texas. Plaintiff's causes of action for patent infringement arise out of and result from Defendant's contact with the State of Texas.

26. Upon information and belief, Defendant has solicited business in the State of Texas, transacted business within the State of Texas and/or attempted to derive financial benefit from residents of the State of Texas and the residents of this District, including benefits directly related to infringement of the Patents. Defendant has placed its products and/or services into the stream of commerce throughout the United States and has been actively engaged in transacting business in Texas and in the Western District of Texas.

27. Upon information and belief, Defendant, directly and/or through subsidiaries or intermediaries (including distributors, retailers, resellers and others), makes, imports, ships, distributes, offers for sale, sells, uses, and advertises its products and/or services in the United States, the State of Texas, and the Western District of Texas.

28. Upon information and belief, Defendant has purposefully and voluntarily placed infringing Bluetooth products into the stream of commerce by shipping Infringing Products through established distribution channels into the State of Texas, knowing or expecting that the

Infringing Products would be shipped into Texas, and/or knowing or expecting that these Infringing Products would be incorporated into other products that would be shipped into Texas and would be purchased and used by customers in the State of Texas and the Western District of Texas.

29. Upon information and belief, Defendant interacts with subsidiaries, distributors, resellers and/or customers who sell the Infringing Products into Texas, knowing or expecting that these subsidiaries, distributors, resellers and/or customers will then sell the Infringing Products into the State of Texas, either directly or through intermediaries.

30. The Court's exercise of personal jurisdiction over Defendant would not offend traditional notions of fair play and substantial justice because Defendant has established minimum contacts with the State of Texas.

31. Venue in the Western District of Texas is proper pursuant to 28 U.S.C. §§ 1391 (c)(3) which provides that "a defendant not resident in the United States may be sued in any judicial district, and the joinder of such a defendant shall be disregarded in determining where the action may be brought with respect to other defendants."

32. This District is familiar with the technology of the Patents and has presided over several lawsuits involving one or more of the Patents.

#### **IV. NOTICE**

33. On September 23, 2020, Bandspeed sent a letter to Defendant notifying Defendant of its current patent portfolio and the nature of Defendant's infringing activities (the "Notice Letter"). Defendant's counsel responded by email on October 19, 2020.

34. As new patents issued to Bandspeed, counsel for Bandspeed supplemented its original Notice Letter to Defendant with two (2) additional notice letters sent via email to Defendant's counsel on February 23, 2021 and March 26, 2021.

35. Additionally, Defendant had knowledge of the Patents and the infringing conduct as early as the date when Bandspeed effected service of the Complaint.

## V. PLAINTIFF'S PATENTS

36. The claims of the Patents describe inventive features and combinations relating to adaptive frequency hopping and the ability to avoid interference over communications channels that improved upon prior art systems and methods. In other words, the claims of the Patents generally describe novel techniques “for selecting sets of communications channels based on channel performance.” ’418 Patent at 4:49-50.

37. The Patents improve upon frequency hopping communications systems that existed at the time of the invention. One problem with frequency hopping communications systems is that coexistence problems arise between the frequency hopping communications system and non-frequency hopping communications systems that operate in the same frequency band. While the frequency hopping communications system hops over the entire frequency band, the non-frequency hopping communications systems occupy separate parts of the frequency band.

38. The claims of the Patents solve the coexistence problem by using a method or system not conventional at the time of the invention: adaptive frequency hopping. As described in the Patents, a set of channels is used for communication between devices according to a frequency hopping (“FH”) protocol. Another set of communications channels is selected in a similar manner when a specified criterion is satisfied after expiration of a specified length of time, when the performance of at least one of the channels in the set of channels satisfies another performance criterion, or when a specified number of the set of channels satisfies yet another performance criterion. *See, e.g.*, ’608 Patent at 4:64-5:6. “For example, the selection criteria may be to select the good channels but not the bad channels.” *Id.* at 6:62-64. The claimed system first selects an initial set of channels, and then periodically selects sets of channels based on later performance of

the communications channels. *Id.* at 6:28-30; 4:22-24. The claimed system classifies a communication channel based on channel performances and one or more classification criteria. *Id.* at 15:8-10. “For example, a channel may be classified as ‘good’ or ‘bad’ based on the results of the channel performance testing by applying one or more performance measurements.” *Id.* at 15:10-14.

39. The Patents teach a method or device using a frequency hopping protocol that “transmits data on one channel, hops to the next channel in the hopping sequence to transmit more data and continues by transmitting data on subsequent channels in the hopping sequence.” *See, e.g.,* ’500 Patent at 2:34-38. “When the FH communications system hops over part of the frequency band occupied by an NFH [non-frequency hopping] communications system, there may be interference between the systems.” *Id.* at 3:33-36. “Interference results in data transmission errors, such as an increase in the bit error rate (BER) or the loss of data packets, resulting in reduced transmission quality and performance and the need to retransmit the data.” *Id.* at 3:58-61. The invention avoids these problems by testing the plurality of communications channels and using a subset of channels that have been identified as good after testing for communications between participants using an adapted hopping sequence. *Id.* at 12:34-41 and 18:8-12.

## **VI. DEFENDANT’S ACTS**

40. Defendant manufactures, provides, sells, uses, imports, supplies, offers for sale, and/or distributes Infringing Products, such as integrated circuits, or a set of integrated circuits for wireless communications devices, that use, practice, and/or comply with the Bluetooth Core Specification Version 2.0+EDR or higher, and other products that operate in a reasonably similar manner (“Infringing Bluetooth Classic Products”). The Infringing Bluetooth Classic Products infringe the ’418 Patent, ’624 Patent, ’614 Patent, ’608 Patent, ’643 Patent, ’500 Patent, ’769



Patent, '520 Patent, '528 Patent, '565 Patent, '893 Patent, and '856 Patent (“Bluetooth Classic Patents”).

41. Defendant also manufactures, provides, sells, uses, imports, supplies, offers for sale, and/or distributes Infringing Products, such as integrated circuits, or a set of integrated circuits for wireless communications devices, that use, practice and/or comply with the Bluetooth low energy protocol as described in Version 4.0 and any later version of the Bluetooth Core Specification, and other products that operate in a reasonably similar manner (“Infringing Bluetooth LE Products”). The Infringing Bluetooth LE Products infringe the '608 Patent, '643 Patent, '500 Patent, '769 Patent, '520 Patent, '528 Patent, '565 Patent, '893 Patent, and '856 Patent (“LE Patents”).

42. The Infringing Bluetooth Classic Products and the Infringing Bluetooth LE Products are collectively referred to as the “Infringing Products.”

43. Through its actions, Defendant has infringed the Patents and actively induced others to infringe and contributed to the infringement by others of the Patents, throughout the United States and in the State of Texas.

44. Upon information and belief, Defendant takes steps to test the Infringing Products to ensure compliance with the relevant Bluetooth Core Specification and to qualify the Infringing Products for Bluetooth certification.

45. Upon information and belief, Defendant certifies to the Bluetooth Special Interest Group (“Bluetooth SIG”) that Infringing Bluetooth Classic Products are compliant with the Bluetooth Core Specification Version 2.0+EDR or higher.

46. Upon information and belief, Defendant certifies to the Bluetooth SIG that Infringing Bluetooth LE Products are compliant with the Bluetooth Core Specification Version 4.0 or higher.

47. Using established channels and chains of distribution, Defendant provides Infringing Products to be used as components in a variety of end-products that are made, used, sold, and/or imported into the United States. Defendant knew, should have known, expected, or should have expected that by purposefully placing Infringing Products into the stream of commerce those Infringing Products would be imported into, sold, and used in the United States and the State of Texas.

48. For example, Defendant provides Infringing Products to be used as components in a variety of end-products sold, used, and/or imported in the United States and the State of Texas by KIDdesigns, Inc., a division of SDI Electronics, Inc. (“KIDdesigns”).

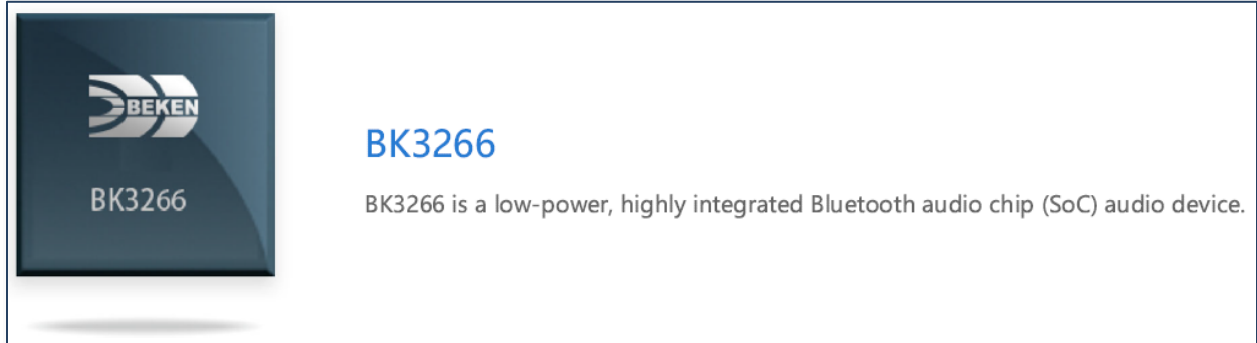
49. KIDdesigns sells, uses, and/or imports in the United States and the State of Texas numerous end-products that use Defendant’s Infringing Products as components. For example, the KIDdesigns Batman Bluetooth Headphones, model no. BM-B52 (“BM-B52”) incorporates Beken Corp.’s BK3266 Bluetooth chip. The Beken Corp. BK3266 infringes the Bandspeed Patents.

50. Upon information and belief, KIDdesigns certified to the Bluetooth SIG that the KIDdesigns BM-B52 incorporates Beken Corp.’s BK3266 Bluetooth chip.

51. After performing a teardown of the KIDdesigns BM-B52, counsel for Bandspeed confirmed KIDdesigns’ use of the Beken Corp. BK3266.

52. Upon information and belief, Defendant certified to the Bluetooth SIG that the Beken Corp. BK3266 chip series is compliant with Bluetooth Core Specification 5.0.

53. Defendant currently advertises the Beken Corp. BK3266 on its website as follows:



<http://www.bekencorp.com/index/goods/detail/cid/27.html>, p. 1.

54. Beken Corp. markets the Bluetooth capabilities of the Beken Corp. BK3266 and encourages and instructs users of the Beken Corp. BK3266 to use the infringing Beken Corp. BK3266 in an infringing manner.

### **1. General Description**

The BK3266 is a low power, highly integrated Bluetooth system on chip (SoC) audio device. It integrates a high performance Bluetooth RF transceiver, feature rich baseband processor, FLASH memory controller, multiple analog and digital peripherals, and a Bluetooth software stack including the audio, voice, and SPP profiles.

The cache based architecture enables full programmability with an SIP 8M FLASH memory device and can be used for both control and multimedia hybrid applications. The internal dual stereo ADC converts stereo analog input to digital signals that can be processed with a digital equalizer. Hardware realizations of the equalizer offload the MCU making the chip ideal for low power headset applications.

BK3266 Datasheet, p. 18.

55. Defendant further instructs users of the Beken Corp. BK3266 to use the infringing Beken Corp. BK3266 in an infringing manner as follows:

Bluetooth earphone			
Main features			
1. Low power consumption, highly integrated Bluetooth system (SoC) audio equipment;	2. Support Bluetooth dual mode;		
3. Integrated Bluetooth radio frequency transceiver, baseband processor, flash memory controller, multiple analog and digital peripherals;	4. The internal dual-sound stereo ADC converts the stereo analog input into a digital signal;		
5. Support analog input and output;	6. Very low-latency audio codec, realizing high-fidelity digital audio transmission;		
7. The hardware of the equalizer is implemented to unload the single-chip microcomputer;	8. The single chip supports both acoustic echo cancellation and artificial intelligence voice assistant CU control interface.		
Chip comparison	BK3265	BK3266	BK3288

<http://www.bekencorp.com/index/plan/plan.html?cid=15>, p. 1.


56. Upon information and belief, Best Buy, a large retailer with locations throughout the United States, including in the State of in Texas and in this District, currently sells and has sold the KIDdesigns BM-B52 containing the infringing Beken Corp. BK3266 to customers in the United States, to customers in the State of Texas, and to customers within this District.

Best Buy > Audio > Headphones > All Headphones Share [Print](#)

✓ Purchased on May 11, 2021. [Order Details](#)

**KIDdesigns**  
**KIDdesigns - Batman Bluetooth Wireless Headphones - black**  
Model: BM-B52.EXV1 SKU: 6450160

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57. Through its actions, Defendant has infringed the Patents and actively induced others to infringe and contributed to the infringement by others of the Patents, throughout the United States.

58. Upon information and belief, certain of Defendant's customers request, require, and/or engage features and capabilities, including adaptive frequency hopping, that comply with the Bluetooth Core Specification. Defendant markets and advertises one or more of its Infringing Products' compliance with the Bluetooth Core Specification regarding such features and capabilities.

59. Upon information and belief, Defendant's customers follow the instructions provided by Defendant to activate the Bluetooth functionality in the Infringing Products, and therefore Defendant intends for its customers to use the Infringing Products in a manner that infringes the Patents.

60. Defendant directs and controls its customers to use Bluetooth functionality in an infringing manner by providing instructions to set up, engage, and use infringing Bluetooth functionality in the Infringing Products.

61. Defendant induces its customers to infringe and contributes to such infringement by instructing or specifying that its customers engage Bluetooth functionality such that the Infringing Products operate in an infringing manner. Defendant specifies that the Infringing Products operate in an infringing manner by providing source code or firmware on the integrated circuit that causes the Infringing Products to operate in an infringing manner, and/or provides SDKs and driver software that causes Infringing Products to operate in an infringing manner.

62. The normal, intended operation of the Infringing Bluetooth Classic Products is to provide certain capabilities and features, including adaptive frequency hopping, in compliance with Version 2.0 or later of the Bluetooth Core Specification, that infringe the Patents. The Infringing Bluetooth Classic Products therefore have no substantial non-infringing uses.

63. The normal, intended operation of the Infringing Bluetooth LE Products is to provide certain capabilities and features that infringe the LE Patents, including Bluetooth Low Energy capabilities and features in compliance with Version 4.0 or later of the Bluetooth Core Specification. The Infringing Bluetooth LE Products have no substantial non-infringing uses.

64. Therefore, Defendant induces its customers to directly infringe or contributes to the direct infringement of its customers.

65. Bandspeed has been and will continue to suffer damages as a result of Defendant's infringing acts.

### **COUNT ONE**

#### **PATENT INFRINGEMENT – U.S. PATENT NO. 7,027,418 (AGAINST INFRINGING BLUETOOTH CLASSIC PRODUCTS)**

66. Bandspeed realleges and incorporates preceding paragraphs herein.

#### **A. Direct Infringement (35 U.S.C. § 271(a))**

67. Upon information and belief, Defendant has directly infringed, and continues to directly infringe, individually and/or jointly with others, one or more claims of the '418 Patent by, among other things, making, using, offering for sale, selling, and/or importing Infringing Bluetooth Classic Products.

68. For example, claim 5 of the '418 Patent states:

1. A method for selecting communications channels for a communications system, the method comprising the computer-implemented steps of:

selecting, based upon performance of a plurality of communications channels at a first time and channel selection criteria, a first set of two or more communications channels from the plurality of communications channels;

selecting, based upon performance of the plurality of communications channels at a second time that is later than the first time and the channel selection criteria, a second set of two or more communications channels from the plurality of communications channels;

wherein the communications system is a frequency hopping communications system and the plurality of communications channels correspond to a set of frequencies to be used based on a hopping sequence according to a frequency hopping protocol; and

wherein at each hop in the hopping sequence, only one communications channel is used for communications between a pair of participants.

5. The method as recited in claim 1, further comprising the steps of:

generating first channel identification data that identifies the first set of two or more communications channels;

transmitting the first channel identification data to one or more participants in the communications system over one communications channel of the plurality of communications channels based on the hopping sequence according to the frequency hopping protocol;

generating second channel identification data that identifies the second set of two or more communications channels; and

transmitting the second channel identification data to one or more participants in the communications system over one communications channel of the plurality of communications channels based on the hopping sequence according to the frequency hopping protocol.

69. Defendant's Infringing Bluetooth Classic Products meet each and every claim limitation of claim 5 of the '418 Patent, as well as other claims of the '418 Patent.

70. Defendant jointly infringes the '418 Patent to the extent that the acts necessary to give rise to liability for direct infringement are shared between Defendant and a third party but can be legally attributed to Defendant. Defendant conditions participation in an activity or receipt of a benefit upon performance of a step or steps of a patented method and establishes the manner or timing of that performance.

71. Specifically, Defendant provides third-parties, including customers and/or end-users, with Infringing Bluetooth Classic Products. Defendant directs and controls its customers to use Bluetooth functionality in an infringing manner by providing user manuals containing instructions about how to activate, pair, set up and engage infringing Bluetooth functionality in the



Infringing Bluetooth Classic Products. When an Infringing Bluetooth Classic Product is engaged to use Bluetooth functionality in the manner designed and established by Defendant, the performance of the infringing functionality occurs. Defendant dictates when and how infringement occurs by virtue of providing software and hardware in the Infringing Bluetooth Classic Products that dictate when and how the performance of the infringing functionality occurs.

**B. Indirect Infringement (Inducement - 35 U.S.C. § 271(b))**

72. Defendant has indirectly infringed and continues to indirectly infringe, the '418 Patent by inducing direct infringement of the '418 Patent by third parties, including Defendant's customers, including without limitation manufacturers, resellers, and/or end users of the products that contain Infringing Bluetooth Classic Products in this District and elsewhere in the United States.

73. Upon information and belief, despite having knowledge of the '418 Patent, Defendant has specifically intended for persons who acquire and use the Infringing Bluetooth Classic Products, including without limitation end-users of the Infringing Bluetooth Classic Products, to acquire and use such devices in such a way that infringes one or more claims of the '418 Patent.

74. Defendant knew or should have known that its actions were inducing infringement.

75. Defendant actually knew of, or was willfully blind to the '418 Patent and the infringing nature of its activities when it received the Notice Letter on October 5, 2020 or at least as early as the date when Plaintiff effected service of the original Complaint.

76. Direct infringement is the result of activities performed by third parties, including Defendant's customers, in relation to the Infringing Bluetooth Classic Products, including without limitation by third parties, including Defendant's customers, enabled and encouraged by

Defendant to use the Infringing Bluetooth Classic Products in their normal, customary way to infringe the '418 Patent.

77. With knowledge of the '418 Patent, Defendant directs and aids third parties to infringe the '418 Patent by, among other things, (i) enabling a user of the Infringing Bluetooth Classic Products to use adaptive frequency hopping and associated functionality in Version 1.2 and any later version of the Bluetooth Core Specification; (ii) providing instructions (including, by way of example, the tutorials, user guides, product guides, help library, and other documentation) to third parties for using the Infringing Bluetooth Classic Products in their customary way; (iii) advertising the Infringing Bluetooth Classic Products' support and compliance with the Bluetooth Core Specification; and (iv) providing to third parties the products and software and related equipment that may be required for or associated with infringement of the '418 Patent, all with knowledge that the induced acts constitute patent infringement.

78. Defendant possesses specific intent to encourage infringement by third parties, including Defendant's customers and end users of the Infringing Bluetooth Classic Products.

**C. Indirect Infringement (Contribution - 35 U.S.C. §§ 271(c) and/or 271(f))**

79. Defendant has indirectly infringed and continues to indirectly infringe one or more claims of the '418 patent by contributing to the infringement of the '418 patent under 35 U.S.C. § 271(c) and/or 271(f), either literally and/or under the doctrine of equivalents, by selling, offering for sale, and/or importing into the United States, the Infringing Bluetooth Classic Products.

80. Defendant has knowledge of the '418 Patent by virtue of the Notice Letter and the Complaint.

81. Defendant sells, or offers to sell, a component of a patented combination or material, and more specifically, components used for or in systems that use the adaptive frequency hopping communication functionality as described in Version 1.2 and later versions of the

Bluetooth Core Specification, and other infringing Bluetooth functionality. The infringing Bluetooth functionality in the Infringing Bluetooth Classic Products constitutes a material part of the inventions claimed in the '418 Patent. The combination of hardware and software used to provide Bluetooth functionality in the Infringing Bluetooth Classic Products is especially made or adapted to infringe the '418 Patent. Moreover, the Bluetooth combination of hardware and software used in the Infringing Bluetooth Classic Products are specially designed such that the infringing Bluetooth functionality has no non-infringing use, and therefore are not staple articles or commodities of commerce suitable for non-infringing use.

82. Bandspeed is informed and believes that Defendant intends to and will continue to directly and indirectly infringe the '418 Patent. Bandspeed has been damaged as a result of Defendant's infringing conduct described in this Count. Defendant is, thus, liable to Bandspeed in an amount that adequately compensates Bandspeed for its infringement.

## **COUNT TWO**

### **PATENT INFRINGEMENT – U.S. PATENT NO. 7,477,624 (AGAINST INFRINGING BLUETOOTH CLASSIC PRODUCTS)**

83. Bandspeed realleges and incorporates the preceding paragraphs herein.

#### **A. Direct Infringement (35 U.S.C. § 271(a))**

84. Upon information and belief, Defendant has directly infringed, and continues to directly infringe, individually and/or jointly with others, one or more claims of the '624 Patent by, among other things, making, using, offering for sale, selling, and/or importing Infringing Bluetooth Classic Products.

85. For example, claim 15 of the '624 Patent states:

13. A communications device for use in a network of devices, comprising:

a memory for storing instructions;

a processor that is communicatively coupled to the memory, wherein the memory includes instructions which, when processed by the processor, causes:

selecting, based upon performance of a plurality of communications channels at a first time, a first set of two or more communications channels from the plurality of communications channels;

selecting, based upon performance of the plurality of communications channels at a second time that is later than the first time, a second set of two or more communications channels from the plurality of communications channels; and

a transceiver that is communicatively coupled to the memory and that is configured to transmit to and receive from another communications device, wherein:

for a first period of time, the first set of two or more communications channels is used to transmit to and receive from the other communications device; and

for a second period of time that is after the first period of time, the second set of two or more communications channels is used to transmit to and receive from the other communications device instead of the first set of two or more communications channels, and

wherein the memory further includes instructions, which when processed by the processor, causes:

after selecting the first set of two or more communications channels, causing the first set of two or more communications channels to be loaded into a first register of the communications device and a second register of the other communications device; and

after selecting the second set of two or more communications channels, causing the second set of two or more communications channels to be loaded into the first register of the communications device and the second register of the other communications device.

15. A communications device as recited in claim 13, wherein:

the instructions for selecting the first set of two or more communications channels further includes instructions which, when processed by the processor, cause selecting, based upon the performance of the plurality of communications channels at the first time and channel selection criteria, the first set of two or more communications channels from the plurality of communications channels;

the instructions for selecting the second set of two or more communications channels further includes instructions which, when processed by the processor, cause selecting, based upon the performance of the plurality of communications channels at the second time and the channel selection criteria, the second set of two or more communications channels from the plurality of communications channels; and

the channel selection criteria specifies that for a particular communications channel to be selected, the particular communications channel receives a specified number of votes to use the particular communications channel from among a plurality of votes.

86. Defendant's Infringing Bluetooth Classic Products meet each and every claim limitation of claim 15 of the '624 Patent, as well as other claims of the '624 Patent.

87. Defendant jointly infringes the '624 Patent to the extent that the acts necessary to give rise to liability for direct infringement are shared between Defendant and a third party but can be legally attributed to Defendant. Defendant conditions participation in an activity or receipt of a benefit upon performance of a step or steps of a patented method and establishes the manner or timing of that performance.

88. Specifically, Defendant provides third parties, including customers and/or end-users, with Infringing Bluetooth Classic Products. Defendant directs and controls its customers to use Bluetooth functionality in an infringing manner by providing user manuals containing instructions about how to activate, pair, set up and engage infringing Bluetooth functionality in the Infringing Bluetooth Classic Products. When an Infringing Bluetooth Classic Product is engaged to use Bluetooth functionality in the manner designed and established by Defendant, the performance of the infringing functionality occurs. Defendant dictates when and how infringement occurs by virtue of providing software and hardware in the Infringing Bluetooth Classic Products that dictate when and how the performance of the infringing functionality occurs.

**B. Indirect Infringement (Inducement - 35 U.S.C. § 271(b))**

89. Defendant has indirectly infringed and continues to indirectly infringe, the '624 Patent by inducing direct infringement of the '624 Patent by third parties, including Defendant's customers, including without limitation manufacturers, resellers, and/or end users of the products that contain Infringing Bluetooth Classic Products in this District and elsewhere in the United States.

90. Upon information and belief, despite having knowledge of the '624 Patent, Defendant has specifically intended for persons who acquire and use the Infringing Bluetooth Classic Products, including without limitation end-users of the Infringing Bluetooth Classic Products, to acquire and use such devices in such a way that infringes one or more claims of the '624 Patent.

91. Defendant knew or should have known that its actions were inducing infringement.

92. Defendant actually knew of, or was willfully blind to the '624 Patent and the infringing nature of its activities when it received the Notice Letter on October 5, 2020 or at least as early as the date when Plaintiff effected service of the original Complaint.

93. Direct infringement is the result of activities performed by third parties, including Defendant's customers, in relation to the Infringing Bluetooth Classic Products, including without limitation by third parties, including Defendant's customers, enabled and encouraged by Defendant to use the Infringing Bluetooth Classic Products in their normal, customary way to infringe the '624 Patent.

94. With knowledge of the '624 Patent, Defendant directs and aids third parties to infringe the '624 Patent by, among other things, (i) enabling a user of the Infringing Bluetooth Classic Products to use adaptive frequency hopping and associated functionality communication protocol in Version 1.2 and any later version of the Bluetooth Core Specification; (ii) providing instructions (including, by way of example, the tutorials, user guides, product guides, help library, and other documentation) to third parties for using the Infringing Bluetooth Classic Products in their customary way; (iii) advertising the Infringing Bluetooth Classic Products' support and compliance with the Bluetooth Core Specification; and (iv) providing to third parties the products

and software and related equipment that may be required for or associated with infringement of the '624 Patent, all with knowledge that the induced acts constitute patent infringement.

95. Defendant possesses specific intent to encourage infringement by third parties, including Defendant's customers and end users of the Infringing Bluetooth Classic Products.

**C. Indirect Infringement (Contribution - 35 U.S.C. §§ 271(c) and/or 271(f))**

96. Defendant has indirectly infringed and continues to indirectly infringe one or more claims of the '624 patent by contributing to the infringement of the '624 Patent under 35 U.S.C. § 271(c) and/or 271(f), either literally and/or under the doctrine of equivalents, by selling, offering for sale, and/or importing into the United States, the Infringing Bluetooth Classic Products.

97. Defendant has knowledge of the '624 Patent by virtue of the Notice Letter and the Complaint.

98. Defendant sells, or offers to sell, a component of a patented combination or material, and more specifically, components used for or in systems that use the adaptive frequency hopping communication functionality as described in Version 1.2 and later versions of the Bluetooth Core Specification, and other infringing Bluetooth functionality. The infringing Bluetooth functionality in the Infringing Bluetooth Classic Products constitutes a material part of the inventions claimed in the '624 Patent. The combination of hardware and software used to provide Bluetooth functionality in the Infringing Bluetooth Classic Products is especially made or adapted to infringe the '624 Patent. Moreover, the Bluetooth combination of hardware and software used in the Infringing Bluetooth Classic Products are specially designed such that the infringing Bluetooth functionality has no non-infringing use, and therefore are not staple articles or commodities of commerce suitable for non-infringing use.

99. Bandspeed is informed and believes that Defendant intends to and will continue to directly and indirectly infringe the '624 Patent. Bandspeed has been damaged as a result of

Defendant's infringing conduct described in this Count. Defendant is, thus, liable to Bandspeed in an amount that adequately compensates Bandspeed for its infringement.

**COUNT THREE**

**PATENT INFRINGEMENT – U.S. PATENT NO. 7,570,614  
(AGAINST INFRINGING BLUETOOTH CLASSIC PRODUCTS)**

100. Bandspeed realleges and incorporates preceding paragraphs herein.

**A. Direct Infringement (35 U.S.C. § 271(a))**

101. Upon information and belief, Defendant has directly infringed, and continues to directly infringe, individually and/or jointly with others, one or more claims of the '614 Patent by, among other things, making, using, offering for sale, selling, and/or importing Infringing Bluetooth Classic Products.

102. For example, claim 100 of the '614 Patent states:

1. A method for selecting communications channels for a communications system, the method comprising the computer-implemented steps of:

selecting, based upon performance of a plurality of communications channels and at least one performance criterion, a first communications channel from the plurality of communications channels;

generating channel identification data that identifies the first communications channel;

providing the channel identification data to a first participant;

receiving a first communication from the first participant over a second communications channel from the plurality of communications channels;

wherein the plurality of communications channels correspond to a set of frequencies and the first communication received from the first participant is based on a hopping sequence among at least two communications channels of the plurality of communications channels, according to a frequency hopping protocol; and

wherein the channel identification data specifies that the first communications channel is not to be used by the first participant for the first communication;

sending a second communication to the first participant over a third communications channel;



receiving a third communication from the first participant that includes first performance quality data for the third communications channel, wherein the first performance quality data specifies the performance quality of the third communications channel between the particular participant and the first participant, and is generated by the first participant based on information contained in the second communication; and

updating a set of channel data maintained by the particular participant using the first performance quality data.

100. The method of claim 1, wherein the particular participant is a master and the first participant is a slave.

103. Defendant's Infringing Bluetooth Classic Products meet each and every claim limitation of claim 100 of the '614 Patent, as well as other claims of the '614 Patent.

104. Defendant jointly infringes the '614 Patent to the extent that the acts necessary to give rise to liability for direct infringement are shared between Defendant and a third party but can be legally attributed to Defendant. Defendant conditions participation in an activity or receipt of a benefit upon performance of a step or steps of a patented method and establishes the manner or timing of that performance.

105. Specifically, Defendant provides third parties, including customers and/or end-users, with Infringing Bluetooth Classic Products. Defendant directs and controls its customers to use Bluetooth functionality in an infringing manner by providing user manuals containing instructions about how to activate, pair, set up and engage infringing Bluetooth functionality in the Infringing Bluetooth Classic Products. When an Infringing Bluetooth Classic Product is engaged to use Bluetooth functionality in the manner designed and established by Defendant, the performance of the infringing functionality occurs. Defendant dictates when and how infringement occurs by virtue of providing software and hardware in the Infringing Bluetooth Classic Products that dictate when and how the performance of the infringing functionality occurs.

**B. Indirect Infringement (Inducement - 35 U.S.C. § 271(b))**

106. Defendant has indirectly infringed and continues to indirectly infringe, the '614 Patent by inducing direct infringement of the '614 Patent by third parties, including Defendant's customers, including without limitation manufacturers, resellers, and/or end users of the products that contain Infringing Bluetooth Classic Products in this District and elsewhere in the United States.

107. Upon information and belief, despite having knowledge of the '614 Patent, Defendant has specifically intended for persons who acquire and use the Infringing Bluetooth Classic Products, including without limitation end-users of the Infringing Bluetooth Classic Products, to acquire and use such devices in such a way that infringes one or more claims of the '614 Patent.

108. Defendant knew or should have known that its actions were inducing infringement.

109. Defendant actually knew of, or was willfully blind to the '614 Patent and the infringing nature of its activities when it received the Notice Letter on October 5, 2020 or at least as early as the date when Plaintiff effected service of the original Complaint.

110. Direct infringement is the result of activities performed by third parties, including Defendant's customers, in relation to the Infringing Bluetooth Classic Products, including without limitation by third parties, including Defendant's customers, enabled and encouraged by Defendant to use the Infringing Bluetooth Classic Products in their normal, customary way to infringe the '614 Patent.

111. With knowledge of the '614 Patent, Defendant directs and aids third parties to infringe the '614 Patent by, among other things, (i) enabling a user of the Infringing Bluetooth Classic Products to use adaptive frequency hopping and associated functionality in Version 1.2 and any later version of the Bluetooth Core Specification; (ii) providing instructions (including,

by way of example, the tutorials, user guides, product guides, help library, and other documentation) to third parties for using the Infringing Bluetooth Classic Products in their customary way; (iii) advertising the Infringing Bluetooth Classic Products' support and compliance with the Bluetooth Core Specification; and (iv) providing to third parties the products and software and related equipment that may be required for or associated with infringement of the '614 Patent, all with knowledge that the induced acts constitute patent infringement.

112. Defendant possesses specific intent to encourage infringement by third parties, including Defendant's customers and end users of the Infringing Bluetooth Classic Products.

**C. Indirect Infringement (Contribution - 35 U.S.C. §§ 271(c) and/or 271(f))**

113. Defendant has indirectly infringed and continues to indirectly infringe one or more claims of the '614 patent by contributing to the infringement of the '614 patent under 35 U.S.C. § 271(c) and/or 271(f), either literally and/or under the doctrine of equivalents, by selling, offering for sale, and/or importing into the United States, the Infringing Bluetooth Classic Products.

114. Defendant has knowledge of the '614 Patent by virtue of the Notice Letter and the Complaint.

115. Defendant sells, or offers to sell, a component of a patented combination or material, and more specifically, components used for or in systems that use the adaptive frequency hopping communication functionality as described in Version 1.2 and later versions of the Bluetooth Core Specification, and other infringing Bluetooth functionality. The infringing Bluetooth functionality in the Infringing Bluetooth Classic Products constitutes a material part of the inventions claimed in the '614 Patent. The combination of hardware and software used to provide Bluetooth functionality in the Infringing Bluetooth Classic Products is especially made or adapted to infringe the '614 Patent. Moreover, the Bluetooth combination of hardware and software used in the Infringing Bluetooth Classic Products are specially designed such that the

infringing Bluetooth functionality has no non-infringing use, and therefore are not staple articles or commodities of commerce suitable for non-infringing use.

116. Bandspeed is informed and believes that Defendant intends to and will continue to directly and indirectly infringe the '614 Patent. Bandspeed has been damaged as a result of Defendant's infringing conduct described in this Count. Defendant is, thus, liable to Bandspeed in an amount that adequately compensates Bandspeed for its infringement.

#### **COUNT FOUR**

##### **PATENT INFRINGEMENT – U.S. PATENT NO. 7,903,608 (AGAINST INFRINGING BLUETOOTH CLASSIC PRODUCTS AND INFRINGING BLUETOOTH LE PRODUCTS)**

117. Bandspeed realleges and incorporates preceding paragraphs herein.

##### **A. Direct Infringement (35 U.S.C. § 271(a))**

118. Upon information and belief, Defendant has directly infringed, and continues to directly infringe, individually and/or jointly with others, one or more claims of the '608 Patent by, among other things, making, using, offering for sale, selling, and/or importing Infringing Products.

119. For example, claim 1 of the '608 Patent states:

1. A communications device for use in a network of devices, comprising:

a memory for storing instructions;

a processor that is communicatively coupled to the memory, wherein the memory includes instructions which, when processed by the processor, causes:

selecting, based upon performance of a plurality of communications channels at a first time, a first set of two or more communications channels from the plurality of communications channels;

selecting, based upon performance of the plurality of communications channels at a second time that is later than the first time, a second set of two or more communications channels from the plurality of communications channels; and

a transceiver that is communicatively coupled to the memory and that is configured to transmit to and receive from another communications device, wherein:

for a first period of time, the first set of two or more communications channels is used to transmit to and receive from the other communications device; and

for a second period of time that is after the first period of time, the second set of two or more communications channels is used to transmit to and receive from the other communications device instead of the first set of two or more communications channels, and

wherein the number of distinct channels in the first set of two or more communications channels varies from the number of distinct channels in the second set of two or more communications channels.

120. Defendant's Infringing Products meet each and every claim limitation of claim 1 of the '608 Patent, as well as other claims of the '608 Patent.

121. Defendant jointly infringes the '608 Patent to the extent that the acts necessary to give rise to liability for direct infringement are shared between Defendant and a third party but can be legally attributed to Defendant. Defendant conditions participation in an activity or receipt of a benefit upon performance of a step or steps of a patented method and establishes the manner or timing of that performance.

122. Specifically, Defendant provides third parties, including customers and/or end-users, with Infringing Products. Defendant directs and controls its customers to use Bluetooth functionality in an infringing manner by providing user manuals containing instructions about how to activate, pair, set up and engage infringing Bluetooth functionality in the Infringing Products. When an Infringing Bluetooth Classic Product or Infringing Bluetooth LE Product is engaged to use Bluetooth functionality in the manner designed and established by Defendant, the performance of the infringing functionality occurs. Defendant dictates when and how infringement occurs by virtue of providing software and hardware in the Infringing Products that dictate when and how the performance of the infringing functionality occurs.

**B. Indirect Infringement (Inducement - 35 U.S.C. § 271(b))**

123. Defendant has indirectly infringed and continues to indirectly infringe, the '608 Patent by inducing direct infringement of the '608 Patent by third parties, including Defendant's customers, including without limitation manufacturers, resellers, and/or end users of the products that contain Infringing Products in this District and elsewhere in the United States.

124. Upon information and belief, despite having knowledge of the '608 Patent, Defendant has specifically intended for persons who acquire and use the Infringing Products, including without limitation end-users of the Infringing Products, to acquire and use such devices in such a way that infringes one or more claims of the '608 Patent.

125. Defendant knew or should have known that its actions were inducing infringement.

126. Defendant actually knew of, or was willfully blind to the '608 Patent and the infringing nature of its activities when it received the Notice Letter on October 5, 2020 or at least as early as the date when Plaintiff effected service of the original Complaint.

127. Direct infringement is the result of activities performed by third parties, including Defendant's customers, in relation to the Infringing Products, including without limitation by third parties, including Defendant's customers, enabled and encouraged by Defendant to use the Infringing Products in their normal, customary way to infringe the '608 Patent.

128. With knowledge of the '608 Patent, Defendant directs and aids third parties to infringe the '608 Patent by, among other things, (i) enabling a user of the Infringing Bluetooth Classic Products to use adaptive frequency hopping and associated functionality in Version 1.2 and any later version of the Bluetooth Core Specification; (ii) providing instructions (including, by way of example, the tutorials, user guides, product guides, help library, and other documentation) to third parties for using the Infringing Bluetooth Classic Products in their customary way; (iii) advertising the Infringing Bluetooth Classic Products' support and

compliance with the Bluetooth Core Specification; and (iv) providing to third parties the products and software and related equipment that may be required for or associated with infringement of the '608 Patent, all with knowledge that the induced acts constitute patent infringement.

129. With knowledge of the '608 Patent, Defendant directs and aids third parties to infringe the '608 Patent by, among other things, (i) enabling a user of the Infringing Bluetooth LE Products to use Bluetooth low energy functionality in Version 4.0 and any later version of the Bluetooth Core Specification; (ii) providing instructions (including, by way of example, the tutorials, user guides, product guides, help library, and other documentation) to third parties for using the Infringing Bluetooth LE Products in their customary way; (iii) advertising the Infringing Bluetooth LE Products' support and compliance with the Bluetooth Core Specification; and (iv) providing to third parties the products and software and related equipment that may be required for or associated with infringement of the '608 Patent, all with knowledge that the induced acts constitute patent infringement.

130. Defendant possesses specific intent to encourage infringement by third parties, including Defendant's customers and end users of the Infringing Products.

**C. Indirect Infringement (Contribution - 35 U.S.C. §§ 271(c) and/or 271(f))**

131. Defendant has indirectly infringed and continues to indirectly infringe one or more claims of the '608 patent by contributing to the infringement of the '608 patent under 35 U.S.C. § 271(c) and/or 271(f), either literally and/or under the doctrine of equivalents, by selling, offering for sale, and/or importing into the United States, the Infringing Products.

132. Defendant has knowledge of the '608 Patent by virtue of the Notice Letter and the Complaint.

133. Defendant sells, or offers to sell, a component of a patented combination or material, and more specifically, components used for or in systems that use the adaptive frequency

hopping communication functionality as described in Version 1.2 and later versions of the Bluetooth Core Specification, and other infringing Bluetooth functionality. The infringing Bluetooth functionality in the Infringing Bluetooth Classic Products constitutes a material part of the inventions claimed in the '608 Patent. The combination of hardware and software used to provide Bluetooth functionality in the Infringing Bluetooth Classic Products is especially made or adapted to infringe the '608 Patent. Moreover, the Bluetooth combination of hardware and software used in the Infringing Bluetooth Classic Products are specially designed such that the infringing Bluetooth functionality has no non-infringing use, and therefore are not staple articles or commodities of commerce suitable for non-infringing use.

134. Defendant sells, or offers to sell, a component of a patented combination or material, and more specifically, components used for or in systems that use the low energy protocol in Version 4.0 and later versions of the Bluetooth Core Specification, and other infringing Bluetooth functionality. The infringing Bluetooth low energy functionality in the Infringing Bluetooth LE Products constitutes a material part of the inventions claimed in the '608 Patent. The combination of hardware and software used to provide Bluetooth low energy functionality in the Infringing Bluetooth LE Products is especially made or adapted to infringe the '608 Patent. Moreover, the Bluetooth combination of hardware and software used in the Infringing LE Products are specially designed such that the infringing Bluetooth functionality has no non-infringing use, and therefore are not staple articles or commodities of commerce suitable for non-infringing use.

135. Bandspeed is informed and believes that Defendant intends to and will continue to directly and indirectly infringe the '608 Patent. Bandspeed has been damaged as a result of Defendant's infringing conduct described in this Count. Defendant is, thus, liable to Bandspeed in an amount that adequately compensates Bandspeed for its infringement.



**COUNT FIVE**

**PATENT INFRINGEMENT – U.S. PATENT NO. 8,542,643  
(AGAINST INFRINGING BLUETOOTH CLASSIC PRODUCTS  
AND INFRINGING BLUETOOTH LE PRODUCTS)**

136. Bandspeed realleges and incorporates preceding paragraphs herein.

**A. Direct Infringement (35 U.S.C. § 271(a))**

137. Upon information and belief, Defendant has directly infringed, and continues to directly infringe, individually and/or jointly with others, one or more claims of the '643 Patent by, among other things, making, using, offering for sale, selling, and/or importing Infringing Products.

138. For example, claim 5 of the '643 Patent states:

1. A method, comprising:

loading a set of default channels into a default channel register;

loading a set of good channels into a good channel register;

if a selection kernel addresses a bad channel stored in a particular location of the default channel register, then replacing, by the selection kernel, the bad channel stored in the particular location of the default channel register with a good channel selected from the set of good channels loaded in the good channel register;

wherein the method is performed using one or more computing devices.

5. The method of claim 1, further comprising: rescanning the default channels, based at least in part on the number of good channels.

139. Defendant's Infringing Products meet each and every claim limitation of claim 5 of the '643 Patent, as well as other claims of the '643 Patent.

140. Defendant jointly infringes the '643 Patent to the extent that the acts necessary to give rise to liability for direct infringement are shared between Defendant and a third party but can be legally attributed to Defendant. Defendant conditions participation in an activity or receipt of a benefit upon performance of a step or steps of a patented method and establishes the manner or timing of that performance.

141. Specifically, Defendant provides third parties, including customers and/or end-users, with Infringing Products. Defendant directs and controls its customers to use Bluetooth functionality in an infringing manner by providing user manuals containing instructions about how to activate, pair, set up and engage infringing Bluetooth functionality in the Infringing Products. When an Infringing Bluetooth Classic Product or Infringing Bluetooth LE Product is engaged to use Bluetooth functionality in the manner designed and established by Defendant, the performance of the infringing functionality occurs. Defendant dictates when and how infringement occurs by virtue of providing software and hardware in the Infringing Products that dictate when and how the performance of the infringing functionality occurs.

**B. Indirect Infringement (Inducement - 35 U.S.C. § 271(b))**

142. Defendant has indirectly infringed and continues to indirectly infringe, the '643 Patent by inducing direct infringement of the '643 Patent by third parties, including Defendant's customers, including without limitation manufacturers, resellers, and/or end users of the products that contain Infringing Products in this District and elsewhere in the United States.

143. Upon information and belief, despite having knowledge of the '643 Patent, Defendant has specifically intended for persons who acquire and use the Infringing Products, including without limitation end-users of the Infringing Products, to acquire and use such devices in such a way that infringes one or more claims of the '643 Patent.

144. Defendant knew or should have known that its actions were inducing infringement.

145. Defendant actually knew of, or was willfully blind to the '643 Patent and the infringing nature of its activities when it received the Notice Letter on October 5, 2020 or at least as early as the date when Plaintiff effected service of the original Complaint.

146. Direct infringement is the result of activities performed by third parties, including Defendant's customers, in relation to the Infringing Products, including without limitation by third

parties, including Defendant's customers, enabled and encouraged by Defendant to use the Infringing Products in their normal, customary way to infringe the '643 Patent.

147. With knowledge of the '643 Patent, Defendant directs and aids third parties to infringe the '643 Patent by, among other things, (i) enabling a user of the Infringing Bluetooth Classic Products to use adaptive frequency hopping and associated functionality in Version 1.2 and any later version of the Bluetooth Core Specification; (ii) providing instructions (including, by way of example, the tutorials, user guides, product guides, help library, and other documentation) to third parties for using the Infringing Bluetooth Classic Products in their customary way; (iii) advertising the Infringing Bluetooth Classic Products' support and compliance with the Bluetooth Core Specification; and (iv) providing to third parties the products and software and related equipment that may be required for or associated with infringement of the '643 Patent, all with knowledge that the induced acts constitute patent infringement.

148. With knowledge of the '643 Patent, Defendant directs and aids third parties to infringe the '643 Patent by, among other things, (i) enabling a user of the Infringing Bluetooth LE Products to use Bluetooth low energy functionality in Version 4.0 and any later version of the Bluetooth Core Specification; (ii) providing instructions (including, by way of example, the tutorials, user guides, product guides, help library, and other documentation) to third parties for using the Infringing Bluetooth LE Products in their customary way; (iii) advertising the Infringing Bluetooth LE Products' support and compliance with the Bluetooth Core Specification; and (iv) providing to third parties the products and software and related equipment that may be required for or associated with infringement of the '643 Patent, all with knowledge that the induced acts constitute patent infringement.

149. Defendant possesses specific intent to encourage infringement by third parties, including Defendant's customers and end users of the Infringing Products.

**C. Indirect Infringement (Contribution - 35 U.S.C. §§ 271(c) and/or 271(f))**

150. Defendant has indirectly infringed and continues to indirectly infringe one or more claims of the '643 patent by contributing to the infringement of the '643 patent under 35 U.S.C. § 271(c) and/or 271(f), either literally and/or under the doctrine of equivalents, by selling, offering for sale, and/or importing into the United States, the Infringing Products.

151. Defendant has knowledge of the '643 Patent by virtue of the Notice Letter and the Complaint.

152. Defendant sells, or offers to sell, a component of a patented combination or material, and more specifically, components used for or in systems that use the adaptive frequency hopping communication functionality as described in Version 1.2 and later versions of the Bluetooth Core Specification, and other infringing Bluetooth functionality. The infringing Bluetooth functionality in the Infringing Bluetooth Classic Products constitutes a material part of the inventions claimed in the '643 Patent. The combination of hardware and software used to provide Bluetooth functionality in the Infringing Bluetooth Classic Products is especially made or adapted to infringe the '643 Patent. Moreover, the Bluetooth combination of hardware and software used in the Infringing Bluetooth Classic Products are specially designed such that the infringing Bluetooth functionality has no non-infringing use, and therefore are not staple articles or commodities of commerce suitable for non-infringing use.

153. Defendant sells, or offers to sell, a component of a patented combination or material, and more specifically, components used for or in systems that use the low energy protocol in Version 4.0 and later versions of the Bluetooth Core Specification, and other infringing Bluetooth functionality. The infringing Bluetooth low energy functionality in the Infringing

Bluetooth LE Products constitutes a material part of the inventions claimed in the '643 Patent. The combination of hardware and software used to provide Bluetooth low energy functionality in the Infringing Bluetooth LE Products is especially made or adapted to infringe the '643 Patent. Moreover, the Bluetooth combination of hardware and software used in the Infringing LE Products are specially designed such that the infringing Bluetooth functionality has no non-infringing use, and therefore are not staple articles or commodities of commerce suitable for non-infringing use.

154. Bandspeed is informed and believes that Defendant intends to and will continue to directly and indirectly infringe the '643 Patent. Bandspeed has been damaged as a result of Defendant's infringing conduct described in this Count. Defendant is, thus, liable to Bandspeed in an amount that adequately compensates Bandspeed for its infringement.

### **COUNT SIX**

#### **PATENT INFRINGEMENT – U.S. PATENT NO. 8,873,500 (AGAINST INFRINGING BLUETOOTH CLASSIC PRODUCTS AND INFRINGING BLUETOOTH LE PRODUCTS)**

155. Bandspeed realleges and incorporates preceding paragraphs herein.

#### **A. Direct Infringement (35 U.S.C. § 271(a))**

156. Upon information and belief, Defendant has directly infringed, and continues to directly infringe, individually and/or jointly with others, one or more claims of the '500 Patent by, among other things, making, using, offering for sale, selling, and/or importing Infringing Products.

157. For example, claim 28 of the '500 Patent states:

16. A frequency hopping wireless communication device comprising:  
at least one processor;

a memory storing instructions which, when executed by the at least one processor,  
causes:

communicating with another frequency hopping wireless communication device over a  
plurality of communication channels according to a default hopping sequence;

testing the plurality of communication channels;

selecting a subset of the plurality of communication channels based on results of the testing;

communicating with the other device over the subset of communication channels according to an adapted hopping sequence;

monitoring the subset of communications channels;

based on results of the monitoring or after a specified period of time, reverting back to communicating with the other device over the plurality of communication channels according to the default hopping sequence.

28. The device of claim 16, wherein monitoring the subset of communications channels is performed while communicating with the other device over the subset of communication channels according to the adapted hopping sequence.

158. Defendant's Infringing Products meet each and every claim limitation of claim 28 of the '500 Patent, as well as other claims of the '500 Patent.

159. Defendant jointly infringes the '500 Patent to the extent that the acts necessary to give rise to liability for direct infringement are shared between Defendant and a third party but can be legally attributed to Defendant. Defendant conditions participation in an activity or receipt of a benefit upon performance of a step or steps of a patented method and establishes the manner or timing of that performance.

160. Specifically, Defendant provides third parties, including customers and/or end-users, with Infringing Products. Defendant directs and controls its customers to use Bluetooth functionality in an infringing manner by providing user manuals containing instructions about how to activate, pair, set up and engage infringing Bluetooth functionality in the Infringing Products. When an Infringing Bluetooth Classic Product or Infringing Bluetooth LE Product is engaged to use Bluetooth functionality in the manner designed and established by Defendant, the performance of the infringing functionality occurs. Defendant dictates when and how infringement occurs by

virtue of providing software and hardware in the Infringing Products that dictate when and how the performance of the infringing functionality occurs.

**B. Indirect Infringement (Inducement - 35 U.S.C. § 271(b))**

161. Defendant has indirectly infringed and continues to indirectly infringe, the '500 Patent by inducing direct infringement of the '500 Patent by third parties, including Defendant's customers, including without limitation manufacturers, resellers, and/or end users of the products that contain Infringing Products in this District and elsewhere in the United States.

162. Upon information and belief, despite having knowledge of the '500 Patent, Defendant has specifically intended for persons who acquire and use the Infringing Products, including without limitation end-users of the Infringing Products, to acquire and use such devices in such a way that infringes one or more claims of the '500 Patent.

163. Defendant knew or should have known that its actions were inducing infringement.

164. Defendant actually knew of, or was willfully blind to the '500 Patent and the infringing nature of its activities when it received the Notice Letter on October 5, 2020 or at least as early as the date when Plaintiff effected service of the original Complaint.

165. Direct infringement is the result of activities performed by third parties, including Defendant's customers, in relation to the Infringing Products, including without limitation by third parties, including Defendant's customers, enabled and encouraged by Defendant to use the Infringing Products in their normal, customary way to infringe the '500 Patent.

166. With knowledge of the '500 Patent, Defendant directs and aids third parties to infringe the '500 Patent by, among other things, (i) enabling a user of the Infringing Bluetooth Classic Products to use adaptive frequency hopping and associated functionality in Version 1.2 and any later version of the Bluetooth Core Specification; (ii) providing instructions (including, by way of example, the tutorials, user guides, product guides, help library, and other

documentation) to third parties for using the Infringing Bluetooth Classic Products in their customary way; (iii) advertising the Infringing Bluetooth Classic Products' support and compliance with the Bluetooth Core Specification; and (iv) providing to third parties the products and software and related equipment that may be required for or associated with infringement of the '500 Patent, all with knowledge that the induced acts constitute patent infringement.

167. With knowledge of the '500 Patent, Defendant directs and aids third parties to infringe the '500 Patent by, among other things, (i) enabling a user of the Infringing Bluetooth LE Products to use Bluetooth low energy functionality in Version 4.0 and any later version of the Bluetooth Core Specification; (ii) providing instructions (including, by way of example, the tutorials, user guides, product guides, help library, and other documentation) to third parties for using the Infringing Bluetooth LE Products in their customary way; (iii) advertising the Infringing Bluetooth LE Products' support and compliance with the Bluetooth Core Specification; and (iv) providing to third parties the products and software and related equipment that may be required for or associated with infringement of the '500 Patent, all with knowledge that the induced acts constitute patent infringement.

168. Defendant possesses specific intent to encourage infringement by third parties, including Defendant's customers and end users of the Infringing Products.

**C. Indirect Infringement (Contribution - 35 U.S.C. §§ 271(c) and/or 271(f))**

169. Defendant has indirectly infringed and continues to indirectly infringe one or more claims of the '500 patent by contributing to the infringement of the '500 patent under 35 U.S.C. § 271(c) and/or 271(f), either literally and/or under the doctrine of equivalents, by selling, offering for sale, and/or importing into the United States, the Infringing Products.

170. Defendant has knowledge of the '500 Patent by virtue of the Notice Letter and the Complaint.



171. Defendant sells, or offers to sell, a component of a patented combination or material, and more specifically, components used for or in systems that use the adaptive frequency hopping communication functionality as described in Version 1.2 and later versions of the Bluetooth Core Specification, and other infringing Bluetooth functionality. The infringing Bluetooth functionality in the Infringing Bluetooth Classic Products constitutes a material part of the inventions claimed in the '500 Patent. The combination of hardware and software used to provide Bluetooth functionality in the Infringing Bluetooth Classic Products is especially made or adapted to infringe the '500 Patent. Moreover, the Bluetooth combination of hardware and software used in the Infringing Bluetooth Classic Products are specially designed such that the infringing Bluetooth functionality has no non-infringing use, and therefore are not staple articles or commodities of commerce suitable for non-infringing use.

172. Defendant sells, or offers to sell, a component of a patented combination or material, and more specifically, components used for or in systems that use the low energy protocol in Version 4.0 and later versions of the Bluetooth Core Specification, and other infringing Bluetooth functionality. The infringing Bluetooth low energy functionality in the Infringing Bluetooth LE Products constitutes a material part of the inventions claimed in the '500 Patent. The combination of hardware and software used to provide Bluetooth low energy functionality in the Infringing Bluetooth LE Products is especially made or adapted to infringe the '500 Patent. Moreover, the Bluetooth combination of hardware and software used in the Infringing LE Products are specially designed such that the infringing Bluetooth functionality has no non-infringing use, and therefore are not staple articles or commodities of commerce suitable for non-infringing use.

173. Bandspeed is informed and believes that Defendant intends to and will continue to directly and indirectly infringe the '500 Patent. Bandspeed has been damaged as a result of

Defendant's infringing conduct described in this Count. Defendant is, thus, liable to Bandspeed in an amount that adequately compensates Bandspeed for its infringement.

**COUNT SEVEN**

**PATENT INFRINGEMENT – U.S. PATENT NO. 9,379,769  
(AGAINST INFRINGING BLUETOOTH CLASSIC PRODUCTS  
AND INFRINGING BLUETOOTH LE PRODUCTS)**

174. Bandspeed realleges and incorporates the preceding paragraphs herein.

**A. Direct Infringement (35 U.S.C. § 271(a))**

175. Upon information and belief, Defendant has directly infringed, and continues to directly infringe, individually and/or jointly with others, one or more claims of the '769 Patent by, among other things, making, using, offering for sale, selling, and/or importing Infringing Products.

176. For example, claim 1 of the '769 Patent states:

1. A wireless communications device for use in a frequency hopping communication system, the wireless communications device comprising:

one or more processors; and

one or more memories storing instructions which, when processed by the one or more processors, cause the wireless communications device to perform:

monitoring a plurality of communication channels, the plurality of communication channels used by the wireless communications device for communicating, according to a frequency hopping sequence, with another wireless communications device in the frequency hopping communication system;

based at least on results of the monitoring, classifying one or more communications channels of the plurality of communication channels as good and classifying one or more communications channels of the plurality of communication channels as bad;

transmitting information to the other wireless communications device identifying at least one of: a) the one or more communication channels classified as good, or b) the one or more communication channels classified as bad;

communicating, according to a frequency hopping sequence, with the other wireless communications device over the one or more communication channels classified as good while avoiding communicating with the other wireless communications device over the one or more communication channels classified as bad.

177. Defendant's Infringing Products meet each and every claim limitation of claim 1 of the '769 Patent, as well as other claims of the '769 Patent.

178. Defendant jointly infringes the '769 Patent to the extent that the acts necessary to give rise to liability for direct infringement are shared between Defendant and a third party but can be legally attributed to Defendant. Defendant conditions participation in an activity or receipt of a benefit upon performance of a step or steps of a patented method and establishes the manner or timing of that performance.

179. Specifically, Defendant provides third parties, including customers and/or end-users, with Infringing Products. Defendant directs and controls its customers to use Bluetooth functionality in an infringing manner by providing user manuals containing instructions about how to activate, pair, set up and engage infringing Bluetooth functionality in the Infringing Products. When an Infringing Bluetooth Classic Product or Infringing Bluetooth LE Product is engaged to use Bluetooth functionality in the manner designed and established by Defendant, the performance of the infringing functionality occurs. Defendant dictates when and how infringement occurs by virtue of providing software and hardware in the Infringing Products that dictate when and how the performance of the infringing functionality occurs.

**B. Indirect Infringement (Inducement - 35 U.S.C. § 271(b))**

180. Defendant has indirectly infringed and continues to indirectly infringe, the '769 Patent by inducing direct infringement of the '769 Patent by third parties, including Defendant's customers, including without limitation manufacturers, resellers, and/or end users of the products that contain Infringing Products in this District and elsewhere in the United States.

181. Upon information and belief, despite having knowledge of the '769 Patent, Defendant has specifically intended for persons who acquire and use the Infringing Products,

including without limitation end-users of the Infringing Products, to acquire and use such devices in such a way that infringes one or more claims of the '769 Patent.

182. Defendant knew or should have known that its actions were inducing infringement.

183. Defendant actually knew of, or was willfully blind to the '769 Patent and the infringing nature of its activities when it received the Notice Letter on October 5, 2020 or at least as early as the date when Plaintiff effected service of the original Complaint.

184. Direct infringement is the result of activities performed by third parties, including Defendant's customers, in relation to the Infringing Products, including without limitation by third parties, including Defendant's customers, enabled and encouraged by Defendant to use the Infringing Products in their normal, customary way to infringe the '769 Patent.

185. With knowledge of the '769 Patent, Defendant directs and aids third parties to infringe the '769 Patent by, among other things, (i) enabling a user of the Infringing Bluetooth Classic Products to use adaptive frequency hopping and associated functionality in Version 1.2 and any later version of the Bluetooth Core Specification; (ii) providing instructions (including, by way of example, the tutorials, user guides, product guides, help library, and other documentation) to third parties for using the Infringing Bluetooth Classic Products in their customary way; (iii) advertising the Infringing Bluetooth Classic Products' support and compliance with the Bluetooth Core Specification; and (iv) providing to third parties the products and software and related equipment that may be required for or associated with infringement of the '769 Patent, all with knowledge that the induced acts constitute patent infringement.

186. With knowledge of the '769 Patent, Defendant directs and aids third parties to infringe the '769 Patent by, among other things, (i) enabling a user of the Infringing Bluetooth LE Products to use Bluetooth low energy functionality in Version 4.0 and any later version of the

Bluetooth Core Specification; (ii) providing instructions (including, by way of example, the tutorials, user guides, product guides, help library, and other documentation) to third parties for using the Infringing Bluetooth LE Products in their customary way; (iii) advertising the Infringing Bluetooth LE Products' support and compliance with the Bluetooth Core Specification; and (iv) providing to third parties the products and software and related equipment that may be required for or associated with infringement of the '769 Patent, all with knowledge that the induced acts constitute patent infringement.

187. Defendant possesses specific intent to encourage infringement by third parties, including Defendant's customers and end users of the Infringing Products.

**C. Indirect Infringement (Contribution - 35 U.S.C. §§ 271(c) and/or 271(f))**

188. Defendant has indirectly infringed and continues to indirectly infringe one or more claims of the '769 patent by contributing to the infringement of the '769 patent under 35 U.S.C. § 271(c) and/or 271(f), either literally and/or under the doctrine of equivalents, by selling, offering for sale, and/or importing into the United States, the Infringing Products.

189. Defendant has knowledge of the '769 Patent by virtue of the Notice Letter and the Complaint.

190. Defendant sells, or offers to sell, a component of a patented combination or material, and more specifically, components used for or in systems that use the adaptive frequency hopping communication functionality as described in Version 1.2 and later versions of the Bluetooth Core Specification, and other infringing Bluetooth functionality. The infringing Bluetooth functionality in the Infringing Bluetooth Classic Products constitutes a material part of the inventions claimed in the '769 Patent. The combination of hardware and software used to provide Bluetooth functionality in the Infringing Bluetooth Classic Products is especially made or adapted to infringe the '769 Patent. Moreover, the Bluetooth combination of hardware and

software used in the Infringing Bluetooth Classic Products are specially designed such that the infringing Bluetooth functionality has no non-infringing use, and therefore are not staple articles or commodities of commerce suitable for non-infringing use.

191. Defendant sells, or offers to sell, a component of a patented combination or material, and more specifically, components used for or in systems that use the low energy protocol in Version 4.0 and later versions of the Bluetooth Core Specification, and other infringing Bluetooth functionality. The infringing Bluetooth low energy functionality in the Infringing Bluetooth LE Products constitutes a material part of the inventions claimed in the '769 Patent. The combination of hardware and software used to provide Bluetooth low energy functionality in the Infringing Bluetooth LE Products is especially made or adapted to infringe the '769 Patent. Moreover, the Bluetooth combination of hardware and software used in the Infringing LE Products are specially designed such that the infringing Bluetooth functionality has no non-infringing use, and therefore are not staple articles or commodities of commerce suitable for non-infringing use.

192. Bandspeed is informed and believes that Defendant intends to and will continue to directly and indirectly infringe the '769 Patent. Bandspeed has been damaged as a result of Defendant's infringing conduct described in this Count. Defendant is, thus, liable to Bandspeed in an amount that adequately compensates Bandspeed for its infringement.

### **COUNT EIGHT**

#### **PATENT INFRINGEMENT – U.S. PATENT NO. 9,883,520 (AGAINST INFRINGING BLUETOOTH CLASSIC PRODUCTS AND INFRINGING BLUETOOTH LE PRODUCTS)**

193. Bandspeed realleges and incorporates the preceding paragraphs herein.

**A. Direct Infringement (35 U.S.C. § 271(a))**

194. Upon information and belief, Defendant has directly infringed, and continues to directly infringe, individually and/or jointly with others, one or more claims of the '520 Patent by, among other things, making, using, offering for sale, selling, and/or importing Infringing Products.

195. For example, claim 1 of the '520 Patent states:

1. A wireless communications device configured to:

send packet data to another wireless communications device in a wireless communications network, the packet data specifying a subset of communications channels used for frequency hopping communications of a set of communications channels in a frequency band, the packet data further comprising timing information indicating when to begin using the subset of communications channels for frequency hopping communications;

identify a communications channel from the set of communications channels;

use the identified communications channel for frequency hopping communications with the other wireless communications device at a time slot at or after the wireless communications device and the other wireless communications device begin using the subset of communications channels for frequency hopping communications, if the identified communications channel is used for frequency hopping communications; and

use a communications channel in the subset of communications channels for frequency hopping communications with the other wireless communications device at the time slot, if the identified communications channel is not used for frequency hopping communications.

196. Defendant's Infringing Products meet each and every claim limitation of claim 1 of the '520 Patent, as well as other claims of the '520 Patent.

197. Defendant jointly infringes the '520 Patent to the extent that the acts necessary to give rise to liability for direct infringement are shared between Defendant and a third party but can be legally attributed to Defendant. Defendant conditions participation in an activity or receipt of a benefit upon performance of a step or steps of a patented method and establishes the manner or timing of that performance.

198. Specifically, Defendant provides third parties, including customers and/or end-users, with Infringing Products. Defendant directs and controls its customers to use Bluetooth functionality in an infringing manner by providing user manuals containing instructions about how to activate, pair, set up and engage infringing Bluetooth functionality in the Infringing Products. When an Infringing Bluetooth Classic Product or Infringing Bluetooth LE Product is engaged to use Bluetooth functionality in the manner designed and established by Defendant, the performance of the infringing functionality occurs. Defendant dictates when and how infringement occurs by virtue of providing software and hardware in the Infringing Products that dictate when and how the performance of the infringing functionality occurs.

**B. Indirect Infringement (Inducement - 35 U.S.C. § 271(b))**

199. Defendant has indirectly infringed and continues to indirectly infringe, the '520 Patent by inducing direct infringement of the '520 Patent by third parties, including Defendant's customers, including without limitation manufacturers, resellers, and/or end users of the products that contain Infringing Products in this District and elsewhere in the United States.

200. Upon information and belief, despite having knowledge of the '520 Patent, Defendant has specifically intended for persons who acquire and use the Infringing Products, including without limitation end-users of the Infringing Products, to acquire and use such devices in such a way that infringes one or more claims of the '520 Patent.

201. Defendant knew or should have known that its actions were inducing infringement.

202. Defendant actually knew of, or was willfully blind to the '520 Patent and the infringing nature of its activities when it received the Notice Letter on October 5, 2020 or at least as early as the date when Plaintiff effected service of the original Complaint.

203. Direct infringement is the result of activities performed by third parties, including Defendant's customers, in relation to the Infringing Products, including without limitation by third



parties, including Defendant's customers, enabled and encouraged by Defendant to use the Infringing Products in their normal, customary way to infringe the '520 Patent.

204. With knowledge of the '520 Patent, Defendant directs and aids third parties to infringe the '520 Patent by, among other things, (i) enabling a user of the Infringing Bluetooth Classic Products to use adaptive frequency hopping and associated functionality in Version 1.2 and any later version of the Bluetooth Core Specification; (ii) providing instructions (including, by way of example, the tutorials, user guides, product guides, help library, and other documentation) to third parties for using the Infringing Bluetooth Classic Products in their customary way; (iii) advertising the Infringing Bluetooth Classic Products' support and compliance with the Bluetooth Core Specification; and (iv) providing to third parties the products and software and related equipment that may be required for or associated with infringement of the '520 Patent, all with knowledge that the induced acts constitute patent infringement.

205. With knowledge of the '520 Patent, Defendant directs and aids third parties to infringe the '520 Patent by, among other things, (i) enabling a user of the Infringing Bluetooth LE Products to use Bluetooth low energy functionality in Version 4.0 and any later version of the Bluetooth Core Specification; (ii) providing instructions (including, by way of example, the tutorials, user guides, product guides, help library, and other documentation) to third parties for using the Infringing Bluetooth LE Products in their customary way; (iii) advertising the Infringing Bluetooth LE Products' support and compliance with the Bluetooth Core Specification; and (iv) providing to third parties the products and software and related equipment that may be required for or associated with infringement of the '520 Patent, all with knowledge that the induced acts constitute patent infringement.

206. Defendant possesses specific intent to encourage infringement by third parties, including Defendant's customers and end users of the Infringing Products.

**C. Indirect Infringement (Contribution - 35 U.S.C. §§ 271(c) and/or 271(f))**

207. Defendant has indirectly infringed and continues to indirectly infringe one or more claims of the '520 patent by contributing to the infringement of the '520 patent under 35 U.S.C. § 271(c) and/or 271(f), either literally and/or under the doctrine of equivalents, by selling, offering for sale, and/or importing into the United States, the Infringing Products.

208. Defendant has knowledge of the '520 Patent by virtue of the Notice Letter and the Complaint.

209. Defendant sells, or offers to sell, a component of a patented combination or material, and more specifically, components used for or in systems that use the adaptive frequency hopping communication functionality as described in Version 1.2 and later versions of the Bluetooth Core Specification, and other infringing Bluetooth functionality. The infringing Bluetooth functionality in the Infringing Bluetooth Classic Products constitutes a material part of the inventions claimed in the '520 Patent. The combination of hardware and software used to provide Bluetooth functionality in the Infringing Bluetooth Classic Products is especially made or adapted to infringe the '520 Patent. Moreover, the Bluetooth combination of hardware and software used in the Infringing Bluetooth Classic Products are specially designed such that the infringing Bluetooth functionality has no non-infringing use, and therefore are not staple articles or commodities of commerce suitable for non-infringing use.

210. Defendant sells, or offers to sell, a component of a patented combination or material, and more specifically, components used for or in systems that use the low energy protocol in Version 4.0 and later versions of the Bluetooth Core Specification, and other infringing Bluetooth functionality. The infringing Bluetooth low energy functionality in the Infringing

Bluetooth LE Products constitutes a material part of the inventions claimed in the '520 Patent. The combination of hardware and software used to provide Bluetooth low energy functionality in the Infringing Bluetooth LE Products is especially made or adapted to infringe the '520 Patent. Moreover, the Bluetooth combination of hardware and software used in the Infringing LE Products are specially designed such that the infringing Bluetooth functionality has no non-infringing use, and therefore are not staple articles or commodities of commerce suitable for non-infringing use.

211. Bandspeed is informed and believes that Defendant intends to and will continue to directly and indirectly infringe the '520 Patent. Bandspeed has been damaged as a result of Defendant's infringing conduct described in this Count. Defendant is, thus, liable to Bandspeed in an amount that adequately compensates Bandspeed for its infringement.

### **COUNT NINE**

#### **PATENT INFRINGEMENT – U.S. PATENT NO. 10,602,528 (AGAINST INFRINGING BLUETOOTH CLASSIC PRODUCTS AND INFRINGING BLUETOOTH LE PRODUCTS)**

212. Bandspeed realleges and incorporates the preceding paragraphs herein.

#### **A. Direct Infringement (35 U.S.C. § 271(a))**

213. Upon information and belief, Defendant has directly infringed, and continues to directly infringe, individually and/or jointly with others, one or more claims of the '528 Patent by, among other things, making, using, offering for sale, selling, and/or importing Infringing Products.

214. For example, claim 1 of the '528 Patent states:

1. A wireless communications device adapted to manage a power level required to achieve a specified level of transmission quality, wherein being adapted to control the power level required to achieve the specified level of transmission quality device includes being configured to:

determine a plurality of instances of a subset of communications channels available to be used for frequency hopping communications of a set of communications channels in a frequency band, wherein being configured to determine the plurality of instances of the subset of communications channels includes being configured to, for each instance of the subset of communications channels, assess a level of channel performance of at least a

portions of the communications channels of the set of communications channels and exclude, from the respective instance of the subset of communications channels, each channel of the set of communications channels exhibiting an assessed level of channel performance outside of a target threshold level of the channel performance;

send packet data including information defining a current instance of the subset of communications channels to another wireless communications device in a wireless communications network;

use at least one of the communications channels of the current instance of the subset of communications channels as one of a plurality of communication channels for frequency hopping communications with the other wireless communications device;

and cause a next instance of the subset of communications channels to be determined after said use of the at least one of the communications channels of the current instance of the subset of communications channels, at least one of the communications channels of the next instance of the subset of communications channels to be sent to the other wireless communications device via a new instance of the packet and the at least one of the communications channels of the next instance to be used for said frequency hopping communications with the other wireless communications device.

215. Defendant's Infringing Products meet each and every claim limitation of claim 1 of the '528 Patent, as well as other claims of the '528 Patent.

216. Defendant jointly infringes the '528 Patent to the extent that the acts necessary to give rise to liability for direct infringement are shared between Defendant and a third party but can be legally attributed to Defendant. Defendant conditions participation in an activity or receipt of a benefit upon performance of a step or steps of a patented method and establishes the manner or timing of that performance.

217. Specifically, Defendant provides third parties, including customers and/or end-users, with Infringing Products. Defendant directs and controls its customers to use Bluetooth functionality in an infringing manner by providing user manuals containing instructions about how to activate, pair, set up and engage infringing Bluetooth functionality in the Infringing Products. When an Infringing Bluetooth Classic Product or Infringing Bluetooth LE Product is engaged to use Bluetooth functionality in the manner designed and established by Defendant, the performance

of the infringing functionality occurs. Defendant dictates when and how infringement occurs by virtue of providing software and hardware in the Infringing Products that dictate when and how the performance of the infringing functionality occurs.

**B. Indirect Infringement (Inducement - 35 U.S.C. § 271(b))**

218. Defendant has indirectly infringed and continues to indirectly infringe, the '528 Patent by inducing direct infringement of the '528 Patent by third parties, including Defendant's customers, including without limitation manufacturers, resellers, and/or end users of the products that contain Infringing Products in this District and elsewhere in the United States.

219. Upon information and belief, despite having knowledge of the '528 Patent, Defendant has specifically intended for persons who acquire and use the Infringing Products, including without limitation end-users of the Infringing Products, to acquire and use such devices in such a way that infringes one or more claims of the '528 Patent.

220. Defendant knew or should have known that its actions were inducing infringement.

221. Defendant actually knew of, or was willfully blind to the '528 Patent and the infringing nature of its activities when it received Bandspeed's supplement to the Notice Letter on February 23, 2021 ("First Supplemental Notice Letter") or at least as early as the date when Plaintiff effected service of the original Complaint.

222. Direct infringement is the result of activities performed by third parties, including Defendant's customers, in relation to the Infringing Products, including without limitation by third parties, including Defendant's customers, enabled and encouraged by Defendant to use the Infringing Products in their normal, customary way to infringe the '528 Patent.

223. With knowledge of the '528 Patent, Defendant directs and aids third parties to infringe the '528 Patent by, among other things, (i) enabling a user of the Infringing Bluetooth Classic Products to use adaptive frequency hopping and associated functionality in Version 1.2

and any later version of the Bluetooth Core Specification; (ii) providing instructions (including, by way of example, the tutorials, user guides, product guides, help library, and other documentation) to third parties for using the Infringing Bluetooth Classic Products in their customary way; (iii) advertising the Infringing Bluetooth Classic Products' support and compliance with the Bluetooth Core Specification; and (iv) providing to third parties the products and software and related equipment that may be required for or associated with infringement of the '528 Patent, all with knowledge that the induced acts constitute patent infringement.

224. With knowledge of the '528 Patent, Defendant directs and aids third parties to infringe the '528 Patent by, among other things, (i) enabling a user of the Infringing Bluetooth LE Products to use Bluetooth low energy functionality in Version 4.0 and any later version of the Bluetooth Core Specification; (ii) providing instructions (including, by way of example, the tutorials, user guides, product guides, help library, and other documentation) to third parties for using the Infringing Bluetooth LE Products in their customary way; (iii) advertising the Infringing Bluetooth LE Products' support and compliance with the Bluetooth Core Specification; and (iv) providing to third parties the products and software and related equipment that may be required for or associated with infringement of the '528 Patent, all with knowledge that the induced acts constitute patent infringement.

225. Defendant possesses specific intent to encourage infringement by third parties, including Defendant's customers and end users of the Infringing Products.

**C. Indirect Infringement (Contribution - 35 U.S.C. §§ 271(c) and/or 271(f))**

226. Defendant has indirectly infringed and continues to indirectly infringe one or more claims of the '528 Patent by contributing to the infringement of the '528 Patent under 35 U.S.C. § 271(c) and/or 271(f), either literally and/or under the doctrine of equivalents, by selling, offering for sale, and/or importing into the United States, the Infringing Products.

227. Defendant has knowledge of the '528 Patent by virtue of the First Supplemental Notice Letter and the Complaint.

228. Defendant sells, or offers to sell, a component of a patented combination or material, and more specifically, components used for or in systems that use the adaptive frequency hopping communication functionality as described in Version 1.2 and later versions of the Bluetooth Core Specification, and other infringing Bluetooth functionality. The infringing Bluetooth functionality in the Infringing Bluetooth Classic Products constitutes a material part of the inventions claimed in the '528 Patent. The combination of hardware and software used to provide Bluetooth functionality in the Infringing Bluetooth Classic Products is especially made or adapted to infringe the '528 Patent. Moreover, the Bluetooth combination of hardware and software used in the Infringing Bluetooth Classic Products are specially designed such that the infringing Bluetooth functionality has no non-infringing use, and therefore are not staple articles or commodities of commerce suitable for non-infringing use.

229. Defendant sells, or offers to sell, a component of a patented combination or material, and more specifically, components used for or in systems that use the low energy protocol in Version 4.0 and later versions of the Bluetooth Core Specification, and other infringing Bluetooth functionality. The infringing Bluetooth low energy functionality in the Infringing Bluetooth LE Products constitutes a material part of the inventions claimed in the '528 Patent. The combination of hardware and software used to provide Bluetooth low energy functionality in the Infringing Bluetooth LE Products is especially made or adapted to infringe the '528 Patent. Moreover, the Bluetooth combination of hardware and software used in the Infringing LE Products are specially designed such that the infringing Bluetooth functionality has no non-infringing use, and therefore are not staple articles or commodities of commerce suitable for non-infringing use.

230. Bandspeed is informed and believes that Defendant intends to and will continue to directly and indirectly infringe the '528 Patent. Bandspeed has been damaged as a result of Defendant's infringing conduct described in this Count. Defendant is, thus, liable to Bandspeed in an amount that adequately compensates Bandspeed for its infringement.

**COUNT TEN**

**PATENT INFRINGEMENT – U.S. PATENT NO. 10,791,565  
(AGAINST INFRINGING BLUETOOTH CLASSIC PRODUCTS  
AND INFRINGING BLUETOOTH LE PRODUCTS)**

231. Bandspeed realleges and incorporates the preceding paragraphs herein.

**A. Direct Infringement (35 U.S.C. § 271(a))**

232. Upon information and belief, Defendant has directly infringed, and continues to directly infringe, individually and/or jointly with others, one or more claims of the '565 Patent by, among other things, making, using, offering for sale, selling, and/or importing Infringing Products.

233. For example, claim 1 of the '565 Patent states:

1. A wireless communications device adapted to manage a power level required to achieve a specified level of transmission quality, wherein being adapted to manage the power level required to achieve the specified level of transmission quality includes being configured to:

determine a subset of communications channels available to be used for frequency hopping communications of a set of communications channels in a frequency band, wherein being configured to determine the subset of communications channels includes being configured to exclude each channel of the set of communications channels exhibiting an assessed level of channel performance outside of a target threshold level of channel performance;

send packet data including information defining the subset of communications channels to another wireless communications device in a wireless communications network;

and use at least one of the communications channels of the subset of communications channels as one of a plurality of communication channels for frequency hopping communications with the other wireless communications device.

234. Defendant's Infringing Products meet each and every claim limitation of claim 1 of the '565 Patent, as well as other claims of the '565 Patent.



235. Defendant jointly infringes the '565 Patent to the extent that the acts necessary to give rise to liability for direct infringement are shared between Defendant and a third party but can be legally attributed to Defendant. Defendant conditions participation in an activity or receipt of a benefit upon performance of a step or steps of a patented method and establishes the manner or timing of that performance.

236. Specifically, Defendant provides third parties, including customers and/or end-users, with Infringing Products. Defendant directs and controls its customers to use Bluetooth functionality in an infringing manner by providing user manuals containing instructions about how to activate, pair, set up and engage infringing Bluetooth functionality in the Infringing Products. When an Infringing Bluetooth Classic Product or Infringing Bluetooth LE Product is engaged to use Bluetooth functionality in the manner designed and established by Defendant, the performance of the infringing functionality occurs. Defendant dictates when and how infringement occurs by virtue of providing software and hardware in the Infringing Products that dictate when and how the performance of the infringing functionality occurs.

**B. Indirect Infringement (Inducement - 35 U.S.C. § 271(b))**

237. Defendant has indirectly infringed and continues to indirectly infringe, the '565 Patent by inducing direct infringement of the '565 Patent by third parties, including Defendant's customers, including without limitation manufacturers, resellers, and/or end users of the products that contain Infringing Products in this District and elsewhere in the United States.

238. Upon information and belief, despite having knowledge of the '565 Patent, Defendant has specifically intended for persons who acquire and use the Infringing Products, including without limitation end-users of the Infringing Products, to acquire and use such devices in such a way that infringes one or more claims of the '565 Patent.

239. Defendant knew or should have known that its actions were inducing infringement.

240. Defendant actually knew of, or was willfully blind to the '565 Patent and the infringing nature of its activities when it received Bandspeed's supplement to the Notice Letter on February 23, 2021 ("First Supplemental Notice Letter") or at least as early as the date when Plaintiff effected service of the original Complaint.

241. Direct infringement is the result of activities performed by third parties, including Defendant's customers, in relation to the Infringing Products, including without limitation by third parties, including Defendant's customers, enabled and encouraged by Defendant to use the Infringing Products in their normal, customary way to infringe the '565 Patent.

242. With knowledge of the '565 Patent, Defendant directs and aids third parties to infringe the '565 Patent by, among other things, (i) enabling a user of the Infringing Bluetooth Classic Products to use adaptive frequency hopping and associated functionality in Version 1.2 and any later version of the Bluetooth Core Specification; (ii) providing instructions (including, by way of example, the tutorials, user guides, product guides, help library, and other documentation) to third parties for using the Infringing Bluetooth Classic Products in their customary way; (iii) advertising the Infringing Bluetooth Classic Products' support and compliance with the Bluetooth Core Specification; and (iv) providing to third parties the products and software and related equipment that may be required for or associated with infringement of the '565 Patent, all with knowledge that the induced acts constitute patent infringement.

243. With knowledge of the '565 Patent, Defendant directs and aids third parties to infringe the '565 Patent by, among other things, (i) enabling a user of the Infringing Bluetooth LE Products to use Bluetooth low energy functionality in Version 4.0 and any later version of the Bluetooth Core Specification; (ii) providing instructions (including, by way of example, the tutorials, user guides, product guides, help library, and other documentation) to third parties for

using the Infringing Bluetooth LE Products in their customary way; (iii) advertising the Infringing Bluetooth LE Products' support and compliance with the Bluetooth Core Specification; and (iv) providing to third parties the products and software and related equipment that may be required for or associated with infringement of the '565 Patent, all with knowledge that the induced acts constitute patent infringement.

244. Defendant possesses specific intent to encourage infringement by third parties, including Defendant's customers and end users of the Infringing Products.

**C. Indirect Infringement (Contribution - 35 U.S.C. §§ 271(c) and/or 271(f))**

245. Defendant has indirectly infringed and continues to indirectly infringe one or more claims of the '565 Patent by contributing to the infringement of the '565 Patent under 35 U.S.C. § 271(c) and/or 271(f), either literally and/or under the doctrine of equivalents, by selling, offering for sale, and/or importing into the United States, the Infringing Products.

246. Defendant has knowledge of the '565 Patent by virtue of the First Supplemental Notice Letter and the Complaint.

247. Defendant sells, or offers to sell, a component of a patented combination or material, and more specifically, components used for or in systems that use the adaptive frequency hopping communication functionality as described in Version 1.2 and later versions of the Bluetooth Core Specification, and other infringing Bluetooth functionality. The infringing Bluetooth functionality in the Infringing Bluetooth Classic Products constitutes a material part of the inventions claimed in the '565 Patent. The combination of hardware and software used to provide Bluetooth functionality in the Infringing Bluetooth Classic Products is especially made or adapted to infringe the '565 Patent. Moreover, the Bluetooth combination of hardware and software used in the Infringing Bluetooth Classic Products are specially designed such that the

infringing Bluetooth functionality has no non-infringing use, and therefore are not staple articles or commodities of commerce suitable for non-infringing use.

248. Defendant sells, or offers to sell, a component of a patented combination or material, and more specifically, components used for or in systems that use the low energy protocol in Version 4.0 and later versions of the Bluetooth Core Specification, and other infringing Bluetooth functionality. The infringing Bluetooth low energy functionality in the Infringing Bluetooth LE Products constitutes a material part of the inventions claimed in the '565 Patent. The combination of hardware and software used to provide Bluetooth low energy functionality in the Infringing Bluetooth LE Products is especially made or adapted to infringe the '565 Patent. Moreover, the Bluetooth combination of hardware and software used in the Infringing LE Products are specially designed such that the infringing Bluetooth functionality has no non-infringing use, and therefore are not staple articles or commodities of commerce suitable for non-infringing use.

249. Bandspeed is informed and believes that Defendant intends to and will continue to directly and indirectly infringe the '565 Patent. Bandspeed has been damaged as a result of Defendant's infringing conduct described in this Count. Defendant is, thus, liable to Bandspeed in an amount that adequately compensates Bandspeed for its infringement.

#### **COUNT ELEVEN**

#### **PATENT INFRINGEMENT – U.S. PATENT NO. 10,887,893 (AGAINST INFRINGING BLUETOOTH CLASSIC PRODUCTS AND INFRINGING BLUETOOTH LE PRODUCTS)**

250. Bandspeed realleges and incorporates the preceding paragraphs herein.

#### **A. Direct Infringement (35 U.S.C. § 271(a))**

251. Upon information and belief, Defendant has directly infringed, and continues to directly infringe, individually and/or jointly with others, one or more claims of the '893 Patent by, among other things, making, using, offering for sale, selling, and/or importing Infringing Products.

252. For example, claim 1 of the '893 Patent states:

1. A wireless communications device of a wireless communications network, the wireless communications device being one of a plurality of the wireless communications devices of the wireless communications network and being adapted to manage power consumption of the wireless communications devices during wireless communication therebetween, and the wireless communications device being adapted to manage the power consumption includes the wireless communications device being configured to:

cause wireless communication between two or more of the wireless communications devices to be performed using a presently-selected communications channel, wherein the presently-selected communications channel is one of a plurality of communications channels available for performing said wireless communication between the two or more wireless communications devices;

cause a channel performance assessment of the said available communications channels to be performed for determining if performing said wireless communications using one of said available communications channels different than the presently-selected communications channel enables improved communications performance between at least two of the wireless communications devices in comparison to the presently-selected communications channel;

and cause said wireless communication to be performed using a communications channel different than the presently-selected communications channel when the channel performance assessment indicates that a communications channel different than the presently-selected communications channel enables improved communications performance between at least two of the wireless communications devices in comparison to the presently-selected communications channel.

253. Defendant's Infringing Products meet each and every claim limitation of claim 1 of the '893 Patent, as well as other claims of the '893 Patent.

254. Defendant jointly infringes the '893 Patent to the extent that the acts necessary to give rise to liability for direct infringement are shared between Defendant and a third party but can be legally attributed to Defendant. Defendant conditions participation in an activity or receipt of a benefit upon performance of a step or steps of a patented method and establishes the manner or timing of that performance.

255. Specifically, Defendant provides third parties, including customers and/or end-users, with Infringing Products. Defendant directs and controls its customers to use Bluetooth

functionality in an infringing manner by providing user manuals containing instructions about how to activate, pair, set up and engage infringing Bluetooth functionality in the Infringing Products. When an Infringing Bluetooth Classic Product or Infringing Bluetooth LE Product is engaged to use Bluetooth functionality in the manner designed and established by Defendant, the performance of the infringing functionality occurs. Defendant dictates when and how infringement occurs by virtue of providing software and hardware in the Infringing Products that dictate when and how the performance of the infringing functionality occurs.

**B. Indirect Infringement (Inducement - 35 U.S.C. § 271(b))**

256. Defendant has indirectly infringed and continues to indirectly infringe, the '893 Patent by inducing direct infringement of the '893 Patent by third parties, including Defendant's customers, including without limitation manufacturers, resellers, and/or end users of the products that contain Infringing Products in this District and elsewhere in the United States.

257. Upon information and belief, despite having knowledge of the '893 Patent, Defendant has specifically intended for persons who acquire and use the Infringing Products, including without limitation end-users of the Infringing Products, to acquire and use such devices in such a way that infringes one or more claims of the '893 Patent.

258. Defendant knew or should have known that its actions were inducing infringement.

259. Defendant actually knew of, or was willfully blind to the '893 Patent and the infringing nature of its activities when it received Bandspeed's supplement to the Notice Letter on March 26, 2021 ("Second Supplemental Notice Letter") or at least as early as the date when Plaintiff effected service of the original Complaint.

260. Direct infringement is the result of activities performed by third parties, including Defendant's customers, in relation to the Infringing Products, including without limitation by third

parties, including Defendant's customers, enabled and encouraged by Defendant to use the Infringing Products in their normal, customary way to infringe the '893 Patent.

261. With knowledge of the '893 Patent, Defendant directs and aids third parties to infringe the '893 Patent by, among other things, (i) enabling a user of the Infringing Bluetooth Classic Products to use adaptive frequency hopping and associated functionality in Version 1.2 and any later version of the Bluetooth Core Specification; (ii) providing instructions (including, by way of example, the tutorials, user guides, product guides, help library, and other documentation) to third parties for using the Infringing Bluetooth Classic Products in their customary way; (iii) advertising the Infringing Bluetooth Classic Products' support and compliance with the Bluetooth Core Specification; and (iv) providing to third parties the products and software and related equipment that may be required for or associated with infringement of the '893 Patent, all with knowledge that the induced acts constitute patent infringement.

262. With knowledge of the '893 Patent, Defendant directs and aids third parties to infringe the '893 Patent by, among other things, (i) enabling a user of the Infringing Bluetooth LE Products to use Bluetooth low energy functionality in Version 4.0 and any later version of the Bluetooth Core Specification; (ii) providing instructions (including, by way of example, the tutorials, user guides, product guides, help library, and other documentation) to third parties for using the Infringing Bluetooth LE Products in their customary way; (iii) advertising the Infringing Bluetooth LE Products' support and compliance with the Bluetooth Core Specification; and (iv) providing to third parties the products and software and related equipment that may be required for or associated with infringement of the '893 Patent, all with knowledge that the induced acts constitute patent infringement.

263. Defendant possesses specific intent to encourage infringement by third parties, including Defendant's customers and end users of the Infringing Products.

**C. Indirect Infringement (Contribution - 35 U.S.C. §§ 271(c) and/or 271(f))**

264. Defendant has indirectly infringed and continues to indirectly infringe one or more claims of the '893 Patent by contributing to the infringement of the '893 Patent under 35 U.S.C. § 271(c) and/or 271(f), either literally and/or under the doctrine of equivalents, by selling, offering for sale, and/or importing into the United States, the Infringing Products.

265. Defendant has knowledge of the '893 Patent by virtue of the Second Supplemental Notice Letter and the Complaint.

266. Defendant sells, or offers to sell, a component of a patented combination or material, and more specifically, components used for or in systems that use the adaptive frequency hopping communication functionality as described in Version 1.2 and later versions of the Bluetooth Core Specification, and other infringing Bluetooth functionality. The infringing Bluetooth functionality in the Infringing Bluetooth Classic Products constitutes a material part of the inventions claimed in the '893 Patent. The combination of hardware and software used to provide Bluetooth functionality in the Infringing Bluetooth Classic Products is especially made or adapted to infringe the '893 Patent. Moreover, the Bluetooth combination of hardware and software used in the Infringing Bluetooth Classic Products are specially designed such that the infringing Bluetooth functionality has no non-infringing use, and therefore are not staple articles or commodities of commerce suitable for non-infringing use.

267. Defendant sells, or offers to sell, a component of a patented combination or material, and more specifically, components used for or in systems that use the low energy protocol in Version 4.0 and later versions of the Bluetooth Core Specification, and other infringing Bluetooth functionality. The infringing Bluetooth low energy functionality in the Infringing



Bluetooth LE Products constitutes a material part of the inventions claimed in the '893 Patent. The combination of hardware and software used to provide Bluetooth low energy functionality in the Infringing Bluetooth LE Products is especially made or adapted to infringe the '893 Patent. Moreover, the Bluetooth combination of hardware and software used in the Infringing LE Products are specially designed such that the infringing Bluetooth functionality has no non-infringing use, and therefore are not staple articles or commodities of commerce suitable for non-infringing use.

268. Bandspeed is informed and believes that Defendant intends to and will continue to directly and indirectly infringe the '893 Patent. Bandspeed has been damaged as a result of Defendant's infringing conduct described in this Count. Defendant is, thus, liable to Bandspeed in an amount that adequately compensates Bandspeed for its infringement.

### **COUNT TWELVE**

#### **PATENT INFRINGEMENT – U.S. PATENT NO. 10,999,856 (AGAINST INFRINGING BLUETOOTH CLASSIC PRODUCTS AND INFRINGING BLUETOOTH LE PRODUCTS)**

269. Bandspeed realleges and incorporates the preceding paragraphs herein.

#### **A. Direct Infringement (35 U.S.C. § 271(a))**

270. Upon information and belief, Defendant has directly infringed, and continues to directly infringe, individually and/or jointly with others, one or more claims of the '856 Patent by, among other things, making, using, offering for sale, selling, and/or importing Infringing Products.

271. For example, claim 1 of the '856 Patent states:

1. A wireless communications device configured to perform wireless communications for achieving an acceptable level of transmission quality, wherein being configured to perform wireless communications for achieving the acceptable level of transmission quality includes being configured to:

receive information characterizing channel performance of a plurality of wireless communications channels available for performing spread spectrum wireless communications between two or more wireless communications devices of a wireless communications network;

determine a subset of said available communications channels that excludes one or more of said available wireless communications channels each characterized by said channel performance information as failing to exhibit a specified level of channel performance; and

cause a first duration of a particular instance of said spread spectrum wireless communications to be performed between the two or more wireless communications devices using a first communications channel of the subset.

272. Defendant's Infringing Products meet each and every claim limitation of claim 1 of the '856 Patent, as well as other claims of the '856 Patent.

273. Defendant jointly infringes the '856 Patent to the extent that the acts necessary to give rise to liability for direct infringement are shared between Defendant and a third party but can be legally attributed to Defendant. Defendant conditions participation in an activity or receipt of a benefit upon performance of a step or steps of a patented method and establishes the manner or timing of that performance.

274. Specifically, Defendant provides third parties, including customers and/or end-users, with Infringing Products. Defendant directs and controls its customers to use Bluetooth functionality in an infringing manner by providing user manuals containing instructions about how to activate, pair, set up and engage infringing Bluetooth functionality in the Infringing Products. When an Infringing Bluetooth Classic Product or Infringing Bluetooth LE Product is engaged to use Bluetooth functionality in the manner designed and established by Defendant, the performance of the infringing functionality occurs. Defendant dictates when and how infringement occurs by virtue of providing software and hardware in the Infringing Products that dictate when and how the performance of the infringing functionality occurs.

**B. Indirect Infringement (Inducement - 35 U.S.C. § 271(b))**

275. Defendant has indirectly infringed and continues to indirectly infringe, the '856 Patent by inducing direct infringement of the '856 Patent by third parties, including Defendant's

customers, including without limitation manufacturers, resellers, and/or end users of the products that contain Infringing Products in this District and elsewhere in the United States.

276. Upon information and belief, despite having knowledge of the '856 Patent, Defendant has specifically intended for persons who acquire and use the Infringing Products, including without limitation end-users of the Infringing Products, to acquire and use such devices in such a way that infringes one or more claims of the '856 Patent.

277. Defendant knew or should have known that its actions were inducing infringement.

278. Defendant actually knew of, or was willfully blind to the '856 Patent and the infringing nature of its activities at least as early as the date when Plaintiff effected service of the original Complaint.

279. Direct infringement is the result of activities performed by third parties, including Defendant's customers, in relation to the Infringing Products, including without limitation by third parties, including Defendant's customers, enabled and encouraged by Defendant to use the Infringing Products in their normal, customary way to infringe the '856 Patent.

280. With knowledge of the '856 Patent, Defendant directs and aids third parties to infringe the '856 Patent by, among other things, (i) enabling a user of the Infringing Bluetooth Classic Products to use adaptive frequency hopping and associated functionality in Version 1.2 and any later version of the Bluetooth Core Specification; (ii) providing instructions (including, by way of example, the tutorials, user guides, product guides, help library, and other documentation) to third parties for using the Infringing Bluetooth Classic Products in their customary way; (iii) advertising the Infringing Bluetooth Classic Products' support and compliance with the Bluetooth Core Specification; and (iv) providing to third parties the products

and software and related equipment that may be required for or associated with infringement of the '856 Patent, all with knowledge that the induced acts constitute patent infringement.

281. With knowledge of the '856 Patent, Defendant directs and aids third parties to infringe the '856 Patent by, among other things, (i) enabling a user of the Infringing Bluetooth LE Products to use Bluetooth low energy functionality in Version 4.0 and any later version of the Bluetooth Core Specification; (ii) providing instructions (including, by way of example, the tutorials, user guides, product guides, help library, and other documentation) to third parties for using the Infringing Bluetooth LE Products in their customary way; (iii) advertising the Infringing Bluetooth LE Products' support and compliance with the Bluetooth Core Specification; and (iv) providing to third parties the products and software and related equipment that may be required for or associated with infringement of the '856 Patent, all with knowledge that the induced acts constitute patent infringement.

282. Defendant possesses specific intent to encourage infringement by third parties, including Defendant's customers and end users of the Infringing Products.

**C. Indirect Infringement (Contribution - 35 U.S.C. §§ 271(c) and/or 271(f))**

283. Defendant has indirectly infringed and continues to indirectly infringe one or more claims of the '856 Patent by contributing to the infringement of the '856 Patent under 35 U.S.C. § 271(c) and/or 271(f), either literally and/or under the doctrine of equivalents, by selling, offering for sale, and/or importing into the United States, the Infringing Products.

284. Defendant has knowledge of the '856 Patent by virtue of the Complaint.

285. Defendant sells, or offers to sell, a component of a patented combination or material, and more specifically, components used for or in systems that use the adaptive frequency hopping communication functionality as described in Version 1.2 and later versions of the Bluetooth Core Specification, and other infringing Bluetooth functionality. The infringing

Bluetooth functionality in the Infringing Bluetooth Classic Products constitutes a material part of the inventions claimed in the '856 Patent. The combination of hardware and software used to provide Bluetooth functionality in the Infringing Bluetooth Classic Products is especially made or adapted to infringe the '856 Patent. Moreover, the Bluetooth combination of hardware and software used in the Infringing Bluetooth Classic Products are specially designed such that the infringing Bluetooth functionality has no non-infringing use, and therefore are not staple articles or commodities of commerce suitable for non-infringing use.

286. Defendant sells, or offers to sell, a component of a patented combination or material, and more specifically, components used for or in systems that use the low energy protocol in Version 4.0 and later versions of the Bluetooth Core Specification, and other infringing Bluetooth functionality. The infringing Bluetooth low energy functionality in the Infringing Bluetooth LE Products constitutes a material part of the inventions claimed in the '856 Patent. The combination of hardware and software used to provide Bluetooth low energy functionality in the Infringing Bluetooth LE Products is especially made or adapted to infringe the '856 Patent. Moreover, the Bluetooth combination of hardware and software used in the Infringing LE Products are specially designed such that the infringing Bluetooth functionality has no non-infringing use, and therefore are not staple articles or commodities of commerce suitable for non-infringing use.

287. Bandspeed is informed and believes that Defendant intends to and will continue to directly and indirectly infringe the '856 Patent. Bandspeed has been damaged as a result of Defendant's infringing conduct described in this Count. Defendant is, thus, liable to Bandspeed in an amount that adequately compensates Bandspeed for its infringement.

## **VII. WILFULNESS**

288. Bandspeed realleges and incorporates the preceding paragraphs herein.

289. On September 23, 2020, Bandspeed sent a letter to Defendant notifying Defendant of its current patent portfolio and the nature of Defendant's infringing activities (the "Notice Letter"). Defendant's counsel responded by email on October 19, 2020.

290. As new patents issued to Bandspeed, counsel for Bandspeed supplemented its original Notice Letter to Defendant via two (2) additional notice letters sent via email to Defendant's counsel on February 23, 2021 and March 26, 2021.

291. Defendant actually knew of, or was willfully blind to the Patents and the infringing nature of its activities when it received the Notice Letter, First Supplemental Notice Letter and Second Supplemental Notice Letter, or at least as early as the date when Plaintiff effected service of the original Complaint.

292. Despite being notified of the Patents, Defendant nonetheless continued to make, use, sell and/or import Infringing Products, to induce others to engage in such conduct, and/or to contribute to others engaging in such conduct despite knowing that its actions constituted infringement of a valid patent.

293. Accordingly, Defendant acted egregiously and/or knowingly or intentionally when it infringed the Patents.

294. Bandspeed seeks enhanced damages pursuant to 35 U.S.C. §284.

#### **VIII. JURY DEMAND**

295. Plaintiff Bandspeed hereby demands a jury on all issues so triable.

#### **IX. REQUEST FOR RELIEF**

WHEREFORE, Plaintiff Bandspeed respectfully requests that the Court:

- A. Enter judgment that Defendant infringes one or more claims of the Patents literally and/or under the doctrine of equivalents;

- B. Award Plaintiff Bandspeed past and future damages together with prejudgment and post-judgment interest to compensate for the infringement by Defendant of the Patents in accordance with 35 U.S.C. § 284, and increase such award by up to three times the amount found or assessed in accordance with 35 U.S.C. § 284;
- C. Award plaintiff Bandspeed its costs, disbursements, attorneys' fees, and such further and additional relief as is deemed appropriate by this Court.

Dated: May 14, 2021

Respectfully submitted,

By: /s/ Adam G. Price  
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**ATTORNEYS FOR PLAINTIFF  
BANDSPEED, LLC**