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6 Attorneys for Plaintiff  
ONE-E-WAY, INC.  
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9

10 IN THE UNITED STATES DISTRICT COURT  
11 FOR THE CENTRAL DISTRICT OF CALIFORNIA  
12

13 ONE-E-WAY, INC., a California  
14 corporation,

15 Plaintiff,

16 v.

17 APPLE INC., a California corporation,  
18

19 Defendant.  
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Case No. 2:20-CV-06339

**SECOND AMENDED  
COMPLAINT FOR PATENT  
INFRINGEMENT**

**DEMAND FOR JURY TRIAL**

1 Plaintiff One-E-Way, Inc. (“One-E-Way”) hereby complains of Defendant  
2 Apple Inc. (“Apple”), including infringement of One-E-Way’s rights in U.S. Patent  
3 Nos. 8,131,391, 10,129,627 and 10,468,047 (collectively, the “Asserted Patents”),  
4 and alleges as follows:

5 **I. THE PARTIES**

6 1. Plaintiff One-E-Way is a California corporation that, as of the date of  
7 this Complaint, has its principal place of business at 3016 E. Colorado Blvd.,  
8 #70848, Pasadena, California 91107.

9 2. Upon information and belief, Defendant Apple is a California  
10 corporation having a principal place of business at One Apple Park Way, Cupertino,  
11 California, 95014.

12 **II. JURISDICTION AND VENUE**

13 3. This Court has subject-matter jurisdiction under 28 U.S.C. §§ 1331 and  
14 1338(a).

15 4. This civil action includes claims for patent infringement arising under  
16 the patent laws of the United States, 35 U.S.C. § 100 *et seq.*, and, more particularly,  
17 35 U.S.C. §§ 271 and 281.

18 5. Defendant Apple is subject to personal jurisdiction in this Judicial  
19 District.

20 6. Defendant Apple conducts business throughout the United States,  
21 including in this Judicial District, and operates Apple Stores in this Judicial District.

22 7. For example, through its websites and Apple Stores in this Judicial  
23 District, Defendant Apple has advertised, offered to sell, sold, and/or distributed  
24 infringing products, and/or induced the sale and use of infringing products in the  
25 United States, including in this Judicial District. Defendant Apple has, directly or  
26 through its distribution network, purposefully placed infringing products into the  
27 stream of commerce knowing and expecting them to be purchased and used by  
28 consumers in the United States, including in this Judicial District, and such

1 infringing products actually have been purchased and used in the United States and  
2 in this Judicial District.

3 8. Venue is proper in the Central District of California pursuant to 28  
4 U.S.C. § 1391 and 28 U.S.C. § 1400(b).

5 9. One-E-Way resides in this Juridical District.

6 10. Defendant Apple has regular and established places of business in this  
7 Judicial District, including its operation of Apple Stores throughout this Judicial  
8 District.

9 11. Defendant Apple has committed acts of infringement within this  
10 Judicial District.

### 11 **III. STATEMENT OF THE CASE**

12 12. This action seeks relief for the infringement of One-E-Way's patents  
13 by Defendant Apple.

### 14 **IV. STATEMENT OF FACTS**

15 13. One-E-Way is a minority-owned small business founded in Pasadena,  
16 California, by C. Earl Woolfork, the named inventor on the patents asserted herein.  
17 Mr. Woolfork obtained his electrical engineering degree from the University of  
18 Southern California in Los Angeles.

19 14. Mr. Woolfork first conceived of the wireless audio inventions at issue  
20 in the late 1990s while exercising outdoors at the popular Santa Monica Steps in Los  
21 Angeles. Mr. Woolfork noticed that many people were having trouble with the wires  
22 connecting their audio players to their headsets, which interrupted their exercise  
23 routines. Mr. Woolfork set out to create a solution that allowed people to exercise  
24 free of wires, while still enjoying high quality music. Mr. Woolfork conceived of  
25 an audio system that could wirelessly communicate high quality audio data. Mr.  
26 Woolfork filed a patent application to protect his high quality wireless audio  
27 inventions, and later founded One-E-Way to commercialize those inventions.  
28

1 Today, One-E-Way sells its patented wireless audio products through at least its  
2 online retail outlet, available at <https://shop.wayvz.com/>.

3 15. Mr. Woolfork obtained and assigned to One-E-Way the Asserted  
4 Patents. The inventions address several problems, including reducing interference  
5 so that each wireless user can enjoy high quality private listening, even in the  
6 proximity of other such wireless users. The common specification of the Asserted  
7 Patents explains the use of code division multiple access technology (CDMA) with  
8 unique coding to provide private listening despite other wireless audio systems  
9 operating nearby in the same frequency band. The patented inventions address  
10 interference from other device transmissions in the wireless audio spectrum by  
11 using, for example, differential phase shift keying and processing for reduction of  
12 intersymbol interference. Techniques in the patented inventions for achieving  
13 private listening and for addressing interference are, among other techniques and for  
14 example, used by devices compliant with the Bluetooth wireless communication  
15 standard, from version 2.0 and all subsequent versions up through and including the  
16 current version, version 5.2.

17 16. In August 2014, Apple received written notice from One-E-Way  
18 regarding One-E-Way's U.S. Patent Nos. 7,865,258 and 8,131,391 (respectively, the  
19 "'258 and '391 patents"), as well as One-E-Way's U.S. Patent Nos. 7,412,294 and  
20 7,684,885. In particular, One-E-Way identified certain wireless headphone,  
21 earphone and speaker products by Beats Electronics, LLC that infringed at least  
22 One-E-Way's '258 and '391 patents. One-E-Way also stated that the disclosed  
23 inventions in the '258 and '391 patents "apply to a transmitter and/or receiver,"  
24 including "a smartphone." In August and November, 2014, Apple responded to  
25 One-E-Way's written notice.

26 17. In its November 2014 letter responding to One-E-Way, Apple  
27 represented that "Apple acquired Beats Electronics earlier this year," and  
28 acknowledged Apple's "investigation" and "careful review of the '258 and '391

1 patents” for the purpose of Beats or Apple potentially licensing One-E-Way’s  
2 patents.

3 18. On information and belief, Defendant Apple is a provider of Bluetooth-  
4 compatible wireless audio products. Specifically, Defendant Apple offers for sale  
5 and sells in the United States wireless earbud products including, at least, its AirPods  
6 and AirPods Pro, which were commercially released in the United States in 2016  
7 and 2019, respectively. Defendant Apple also offers for sale and sells in the United  
8 States a wireless speaker product called the HomePod.

9 19. Apple has advertised its AirPods, AirPods Pro and HomePod (the  
10 “Apple Accused Receiver Products”) as having Bluetooth connectivity, and has  
11 advertised the benefits of their Bluetooth connectivity, for example, at  
12 <https://www.apple.com/airpods/>, <https://www.apple.com/airpods-2nd-generation/>,  
13 <https://www.apple.com/airpods-pro/>, <https://www.apple.com/homepod/> and  
14 <https://www.apple.com/shop/buy-homepod/homepod/white>.

15 20. Apple has advertised the Apple Accused Receiver Products as having  
16 connectivity using Bluetooth version 4.0 or later.

17 21. On information and belief, Defendant Apple is a provider of Bluetooth-  
18 compatible wireless audio transmitter products. Specifically, Defendant Apple  
19 offers for sale and sells in the United States the following products: iPhone, iPad,  
20 iPod and Apple Watch.

21 22. Apple has advertised its iPhone, iPad, iPod and Apple Watch (the  
22 “Apple Accused Transmitter Products”) as having Bluetooth connectivity, and has  
23 advertised the benefits of their Bluetooth connectivity, for example, at  
24 <https://www.apple.com/iphone/compare/>, <https://www.apple.com/ipad/compare/>,  
25 <https://www.apple.com/ipod-touch/specs/>, <https://www.apple.com/watch/compare/>.

26 23. Apple has advertised the Apple Accused Transmitter Products as  
27 having connectivity using Bluetooth version 4.1 or later.

28

1           24. Apple offers for sale and sells in the United States the Apple Accused  
2 Receiver and Transmitter Products, including in this Judicial District.

3           25. On information and belief, Apple advertises and sells Beats wireless  
4 audio products, including Powerbeats Wireless Earphones, Powerbeats Pro Wireless  
5 Earphones, Powerbeats<sup>3</sup> Wireless Earphones, Beats Solo Pro Wireless Noise  
6 Cancelling Headphones, Beats Solo<sup>3</sup> Wireless Headphones, Beats Studio<sup>3</sup> Wireless  
7 Headphones, Beats<sup>X</sup> Wireless Earphones, and Beats Pill+ Portable Speaker  
8 (collectively, the “Beats Accused Products”).

9           26. Apple has advertised the Beats Accused Products as having Bluetooth  
10 connectivity, and has advertised the benefits of their Bluetooth connectivity, for  
11 example, at

- 12           • [https://www.apple.com/shop/product/MWNV2LL/A/powerbeats-](https://www.apple.com/shop/product/MWNV2LL/A/powerbeats-high-performance-wireless-earphones-black)  
13 [high-performance-wireless-earphones-black](https://www.apple.com/shop/product/MWNV2LL/A/powerbeats-high-performance-wireless-earphones-black),
- 14           • [https://www.apple.com/shop/product/MRJA2LL/A/beats-solo-pro-](https://www.apple.com/shop/product/MRJA2LL/A/beats-solo-pro-wireless-noise-cancelling-headphones-more-matte-collection-dark-blue)  
15 [wireless-noise-cancelling-headphones-more-matte-collection-dark-](https://www.apple.com/shop/product/MRJA2LL/A/beats-solo-pro-wireless-noise-cancelling-headphones-more-matte-collection-dark-blue)  
16 [blue](https://www.apple.com/shop/product/MRJA2LL/A/beats-solo-pro-wireless-noise-cancelling-headphones-more-matte-collection-dark-blue),
- 17           • [https://www.apple.com/shop/product/MX452LL/A/beats-solo3-](https://www.apple.com/shop/product/MX452LL/A/beats-solo3-wireless-headphones-the-beats-icon-collection-satin-silver)  
18 [wireless-headphones-the-beats-icon-collection-satin-silver](https://www.apple.com/shop/product/MX452LL/A/beats-solo3-wireless-headphones-the-beats-icon-collection-satin-silver),
- 19           • [https://www.apple.com/shop/product/MV702LL/A/powerbeats-pro-](https://www.apple.com/shop/product/MV702LL/A/powerbeats-pro-totally-wireless-earphones-navy)  
20 [totally-wireless-earphones-navy](https://www.apple.com/shop/product/MV702LL/A/powerbeats-pro-totally-wireless-earphones-navy),
- 21           • [https://www.apple.com/shop/product/MXJA2LL/A/beats-studio3-](https://www.apple.com/shop/product/MXJA2LL/A/beats-studio3-wireless-headphones-the-beats-skyline-collection-midnight-black)  
22 [wireless-headphones-the-beats-skyline-collection-midnight-black](https://www.apple.com/shop/product/MXJA2LL/A/beats-studio3-wireless-headphones-the-beats-skyline-collection-midnight-black),
- 23           • [https://www.apple.com/shop/product/MX7X2LL/A/beatsx-earphones-](https://www.apple.com/shop/product/MX7X2LL/A/beatsx-earphones-the-beats-decade-collection-defiant-black-red)  
24 [the-beats-decade-collection-defiant-black-red](https://www.apple.com/shop/product/MX7X2LL/A/beatsx-earphones-the-beats-decade-collection-defiant-black-red), and
- 25           • [https://www.apple.com/shop/product/ML4M2LL/A/beats-pill-](https://www.apple.com/shop/product/ML4M2LL/A/beats-pill-portable-speaker-black)  
26 [portable-speaker-black](https://www.apple.com/shop/product/ML4M2LL/A/beats-pill-portable-speaker-black).

27           27. Apple has advertised the Beats Accused Products as having  
28 connectivity for Bluetooth version 4.0 or later.



1           36. Defendant Apple's products, including at least the Apple Accused  
2 Receiver Products and Beats Accused Products, infringe at least Claim 5 of the '391  
3 patent under 35 U.S.C. § 271(a) and (b).

4           37. Defendant Apple has directly infringed one or more claims of the '391  
5 patent through its making, using, importing, offering for sale and/or selling in the  
6 United States its Apple Accused Receiver Products and Beats Accused Products.

7           38. For example, on information and belief, Defendant's Apple Accused  
8 Receiver Products and Beats Accused Products include all of the limitations of  
9 Claim 5 of the '391 patent. More particularly, the Apple Accused Receiver Products  
10 and Beats Accused Products are Bluetooth compatible products that comprise a  
11 wireless audio receiver. They receive a unique user code and original audio signal  
12 representation from a mobile digital audio transmitter, for example as indicated in  
13 the Bluetooth specification, by receiving and using a Bluetooth access code and  
14 device address in frequency-hopping communication to receive packets that include  
15 data representing audio information. They also have a direct conversion module that  
16 receives the packets, as generally indicated by the low power consumption  
17 characteristics that Apple advertises for its Apple Accused Receiver Products and  
18 Beats Accused Products. They decode reduced intersymbol interference coding, for  
19 example and again as indicated in the Bluetooth specification, by applying pulse  
20 shaping. They also have independent code division multiple access communication,  
21 for example, by using piconet-based, frequency-hopping spread spectrum  
22 communication as indicated in the Bluetooth specification. And they use digital-to-  
23 analog conversion and generate audio output, for example, by creating an analog  
24 audio signal from received digital representation of the audio signal where the  
25 representation is communicated wirelessly in access-coded packets, again as  
26 indicated by the Bluetooth specification. They also generate audio output that does  
27 not include audible audio content originating from other device transmissions  
28 operating in the digital wireless audio receiver spectrum, for example as indicated



1 in the Bluetooth specification, by using unique addressing to receive the access-  
2 coded packets transmitted by the digital audio transmitter.

3 39. Upon information and belief, Defendant Apple has knowledge of One-  
4 E-Way's patents, including the '391 patent, at least based on receiving actual notice  
5 of the '391 patent.

6 40. Defendant Apple had knowledge of the '391 patent prior to the filing  
7 of this Complaint.

8 41. In 2014, Apple represented that it had conducted a "careful review" of  
9 the '391 patent for the purpose of Beats or Apple potentially licensing One-E-Way's  
10 patents.

11 42. Upon information and belief, Defendant Apple has indirectly infringed  
12 the '391 patent under 35 U.S.C. § 271(b) by actively inducing the use of, offering  
13 for sale, selling, or importing the above-mentioned Apple Accused Receiver  
14 Products and Beats Accused Products in the United States, knowing and intending  
15 that such products would be used by customers and end users in a manner that  
16 infringes the '391 patent.

17 43. For example, Defendant Apple provides instructions and manuals to its  
18 customers and end users on how to pair the Apple Accused Receiver Products and  
19 Beats Accused Products with audio transmission devices using a Bluetooth  
20 connection.

21 44. By way of example only, the following excerpt from Apple's website  
22 (<https://support.apple.com/en-us/HT208718>) provides the following instructions  
23 regarding Apple's AirPods devices:

24 ///

25 ///

26 ///

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28 ///

## Use AirPods with a non-Apple device

You can use AirPods as a Bluetooth headset with a non-Apple device. You can't use Siri, but you can listen and talk. To set up your AirPods with an Android phone or other non-Apple device,<sup>3</sup> follow these steps:

1. On your non-Apple device, go to the settings for Bluetooth and make sure that Bluetooth is on.<sup>4</sup> If you have an Android device, go to Settings > Connections > Bluetooth.
2. With your AirPods in the charging case, open the lid.
3. Press and hold the setup button on the back of the case until you see the status light flash white.
4. When your AirPods appear in the list of Bluetooth devices, select them.

45. Apple provides similar instructions in its customer manuals on how to pair the Apple Accused Receiver Products with audio transmission devices using a Bluetooth connection, as shown at the following websites:

- [https://manuals.info.apple.com/MANUALS/1000/MA1852/en\\_US/airpods-2gen-qsg.pdf](https://manuals.info.apple.com/MANUALS/1000/MA1852/en_US/airpods-2gen-qsg.pdf),
- [https://manuals.info.apple.com/MANUALS/1000/MA1919/en\\_US/airpods-pro-qsg.pdf](https://manuals.info.apple.com/MANUALS/1000/MA1919/en_US/airpods-pro-qsg.pdf), and
- [https://manuals.info.apple.com/MANUALS/1000/MA1821/en\\_US/homepod-ios13-qsg.pdf](https://manuals.info.apple.com/MANUALS/1000/MA1821/en_US/homepod-ios13-qsg.pdf).

46. By way of additional example, the following instructions are provided for Apple's Beats<sup>X</sup> product (<https://www.beatsbydre.com/support/how-to/set-up-and-use-beatsx-earphones>):

If you have some other Bluetooth device, follow these steps to pair your earphones with that device:

1. Press the power button for 5 seconds. When the indicator light flashes, your earphones are discoverable.
2. Go to Bluetooth settings on your device.
3. Select your earphones from the list of discovered Bluetooth devices.

1           47. Defendant Apple's customers and end users who use the Apple  
2 Accused Receiver Products and Beats Accused Products in accordance with Apple's  
3 instructions directly infringe one or more claims of the '391 patent.

4           48. Upon information and belief, Defendant Apple knew and intended that  
5 these activities, including providing instructions to users of the Apple Accused  
6 Receiver Products and Beats Accused Products to pair those products with a  
7 Bluetooth transmitter, would cause direct infringement. Upon information and  
8 belief, Defendant Apple knew and intended that these activities, including providing  
9 instructions to users of the Apple Accused Receiver Products and Beats Accused  
10 Products to pair those products with a Bluetooth transmitter, would cause direct  
11 infringement. For example, Defendant Apple knew that engaging in these activities  
12 would cause users of the Apple Accused Receiver Products and Beats Accused  
13 Products to establish independent code division multiple access communication with  
14 a transmitter device, to establish a unique user code for wireless packet-based  
15 communications, to process the packet-based communications for reduction of  
16 intersymbol interference, to use digital-to-analog conversion to generate audio  
17 output, and to reproduce the audio output without content originating from other  
18 device transmitted signals operating in the digital wireless audio receiver spectrum.  
19 Defendant Apple's acts therefore constitute infringement of the '391 patent under  
20 35 U.S.C. § 271(b).

21           49. Upon information and belief, Defendant Apple also indirectly infringes  
22 the '391 patent under 35 U.S.C. § 271(b) by actively inducing the use of, offering  
23 for sale, selling, or importing the above-mentioned Apple Accused Transmitter  
24 Products in the United States, knowing and intending that such products will be used  
25 by customers and end users in a manner that infringes the '391 patent.

26           50. For example, Defendant Apple provides instructions and manuals to its  
27 customers and end users on how to pair the Apple Accused Transmitter Products  
28

1 with audio receiver devices using a Bluetooth connection, as demonstrated in the  
2 following instruction guides published on Apple's website:

- 3 • [https://support.apple.com/guide/iphone/use-other-bluetooth-  
4 headphones-iph3c50f191/ios](https://support.apple.com/guide/iphone/use-other-bluetooth-headphones-iph3c50f191/ios)
- 5 • [https://support.apple.com/guide/ipad/use-other-bluetooth-headphones-  
6 ipad997da4cf/ipados](https://support.apple.com/guide/ipad/use-other-bluetooth-headphones-ipad997da4cf/ipados)
- 7 • [https://support.apple.com/guide/ipod-touch/use-other-bluetooth-  
8 headphones-iph3c50f191/ios](https://support.apple.com/guide/ipod-touch/use-other-bluetooth-headphones-iph3c50f191/ios)
- 9 • [https://support.apple.com/guide/watch/connect-to-bluetooth-  
10 headphones-or-speakers-apd67b3ac484/watchos](https://support.apple.com/guide/watch/connect-to-bluetooth-headphones-or-speakers-apd67b3ac484/watchos)

11 51. In so instructing its customers and end users, Defendant Apple's  
12 Accused Transmitter Products infringe at least Claim 3 of the '391 patent under 35  
13 U.S.C. ¶ 271(b). For example, Defendant's Apple Accused Transmitter Products  
14 are Bluetooth compatible products that include a wireless audio transmitter  
15 operatively coupled to an audio player. They transmit a unique user code and  
16 original audio signal representation from a mobile digital audio transmitter, for  
17 example as indicated in the Bluetooth specification, by transmitting and using a  
18 Bluetooth access code and device address in frequency-hopping communication to  
19 transmit packets that include data representing audio information. They reduce  
20 intersymbol interference, for example and again as indicated in the Bluetooth  
21 specification, by encoding the audio signal data with pulse shaping. They also use  
22 independent code division multiple access communication, for example, by using  
23 piconet-based, frequency-hopping spread spectrum communication as indicated in  
24 the Bluetooth specification.

25 52. In instructing its customers and end users on how to connect to an audio  
26 receiver using a Bluetooth connection, Apple actively induces the use of the portable  
27 wireless digital audio system of at least Claim 3, for example, by knowingly  
28 encouraging the pairing of its Apple Accused Transmitter devices with audio

1 receivers that correspondingly use a direct conversion module that receives the  
2 packets corresponding to the unique user code from the transmitter; that demodulate  
3 the independent code division multiple access communication from the transmitter,  
4 for example, by using piconet-based, frequency-hopping communication as  
5 indicated in the Bluetooth specification, which likewise indicates the use of unique  
6 addressing to communicate with only the spread spectrum transmitter during a  
7 wireless connection; that decode the applied pulse shaping as indicated by the  
8 Bluetooth specification for reduced intersymbol interference; that use digital-to-  
9 analog conversion and generate audio output, for example, by creating an analog  
10 audio signal from received digital representation of the audio signal where the  
11 representation is communicated wirelessly in access-coded packets, again as  
12 indicated by the Bluetooth specification; that generate audio output that does not  
13 include audible audio content originating from other device transmissions operating  
14 in the digital wireless audio receiver spectrum, for example as indicated in the  
15 Bluetooth specification, by using unique addressing to receive the access-coded  
16 packets transmitted by the digital audio transmitter.

17 53. Having been on notice of the '391 patent since at least August 2014,  
18 Apple has known and intended that its continued actions actively induce actual direct  
19 infringement of the '391 patent.

20 54. Because of Defendant Apple's infringement of the '391 patent, One-E-  
21 Way has suffered and will continue to suffer harm and injury, including monetary  
22 damages in an amount to be determined at trial.

23 **VII. COUNT II:**

24 **INFRINGEMENT OF U.S. PATENT NO. 10,468,047**

25 55. Plaintiff hereby realleges and incorporates by reference the allegations  
26 set forth in paragraphs 1 through 54.

1           56. Defendant Apple's products, including at least the Apple Accused  
2 Transmitter and Receiver Products and Beats Accused Products, infringe the '047  
3 patent under 35 U.S.C. § 271(a) and (b).

4           57. Defendant Apple directly infringes one or more claims of the '047  
5 patent through its making, using, importing, offering for sale and/or selling in the  
6 United States its Apple Accused Transmitter and Receiver Products and Beats  
7 Accused Products.

8           58. For example, on information and belief, Defendant's Apple Accused  
9 Receiver Products and Beats Accused Products include all of the limitations of  
10 Claim 1 of the '047 patent. More particularly, the Apple Accused Receiver Products  
11 and Beats Accused Products are Bluetooth compatible products that comprise a  
12 portable spread spectrum audio receiver. They receive and store a unique user code  
13 and receive wireless modulation transmissions from a spread spectrum transmitter,  
14 for example as indicated in the Bluetooth specification, by receiving and using a  
15 Bluetooth access code and device address in frequency-hopping communication to  
16 receive packets that include data representing audio information. They have a direct  
17 conversion module that receives wireless modulation transmissions, as generally  
18 indicated by the low power consumption characteristics that Apple advertises for its  
19 Apple Accused Receiver Products and Beats Accused Products. They receive  
20 wireless modulation transmissions that have been processed to reduce intersymbol  
21 interference and also further process the transmissions for intersymbol interference  
22 reduction, for example as indicated in the Bluetooth specification, by applying pulse  
23 shaping. As also indicated in the Bluetooth specification, they use a digital-to-  
24 analog converter to provide an analog audio output that corresponds to a digital audio  
25 representation, for example, by creating an analog audio signal from received digital  
26 representation of the audio signal where the representation is communicated  
27 wirelessly in access-coded packets. They also use a speaker to generate an audio  
28 signal where the audio signal does not include audible audio content originating from

1 any audio signals transmitted in a spectrum used by the spread spectrum transmitter  
2 that do not originate from the spread spectrum transmitter, for example as indicated  
3 in the Bluetooth specification, by using unique addressing to receive the access-  
4 coded packets transmitted by the spread spectrum transmitter. They also use  
5 independent code division multiple access communication, for example, by using  
6 piconet-based, frequency-hopping communication as indicated in the Bluetooth  
7 specification, which likewise indicates the use of unique addressing to communicate  
8 with only the spread spectrum transmitter during a wireless connection. They also  
9 perform at least one of a plurality of demodulations, for example as indicated in the  
10 Bluetooth specification, by using differential phase shift keying.

11 59. As another example, on information and belief, Defendant's Apple  
12 Accused Transmitter Products include all of the limitations of Claim 17 of the '047  
13 patent. More particularly, the Apple Accused Transmitter Products are Bluetooth  
14 compatible products that include a portable spread spectrum audio transmitter  
15 capable of being coupled to a music audio source. They use a unique user code and  
16 transmit wireless modulation transmissions from a portable spread spectrum  
17 transmitter, for example as indicated in the Bluetooth specification, by using a  
18 Bluetooth access code and device address in frequency-hopping communication to  
19 transmit packets that include data representing audio information. They encode the  
20 wireless modulation transmissions to reduce intersymbol interference, for example  
21 as indicated in the Bluetooth specification, by applying pulse shaping. As also  
22 indicated in the Bluetooth specification, they perform at least one of a plurality of  
23 modulations, which include a differential phase shift keying (DPSK) modulation and  
24 a non-DPSK modulation. They also use independent code division multiple access  
25 communication to wirelessly transmit the audio signal representations, for example,  
26 by using piconet-based, frequency-hopping communication as indicated in the  
27 Bluetooth specification, which likewise indicates the use of unique addressing to  
28 communicate with only the spread spectrum transmitter during a wireless connection



1           60. Upon information and belief, Defendant Apple has knowledge the '047  
2 patent, at least based on receiving actual notice through this Complaint.

3           61. Upon information and belief, Defendant Apple indirectly infringes the  
4 '047 patent under 35 U.S.C. § 271(b) by actively inducing the use of, offering for  
5 sale, selling, or importing the above-mentioned Apple Accused Transmitter and  
6 Receiver Products and Beats Accused Products in the United States, knowing and  
7 intending that such products will be used by customers and end users in a manner  
8 that infringes the '047 patent.

9           62. For example, Defendant Apple provides instructions and manuals to its  
10 customers and end users on how to pair the Apple Accused Receiver Products and  
11 Beats Accused Products with audio transmission devices using a Bluetooth  
12 connection.

13           63. By way of example only, the following excerpt from Apple's website  
14 (<https://support.apple.com/en-us/HT208718>) provides the following instructions  
15 regarding Apple's AirPods devices:

### 16                   **Use AirPods with a non-Apple device**

17                   You can use AirPods as a Bluetooth headset with a non-Apple device. You can't use Siri, but you can listen  
18 and talk. To set up your AirPods with an Android phone or other non-Apple device,<sup>3</sup> follow these steps:

- 19                   1. On your non-Apple device, go to the settings for Bluetooth and make sure that Bluetooth is on.<sup>4</sup> If you  
20                   have an Android device, go to Settings > Connections > Bluetooth.
- 21                   2. With your AirPods in the charging case, open the lid.
- 22                   3. Press and hold the setup button on the back of the case until you see the status light flash white.
- 23                   4. When your AirPods appear in the list of Bluetooth devices, select them.

24           64. Apple provides similar instructions in its customer manuals on how to  
25 pair the Apple Accused Receiver Products with audio transmission devices using a  
Bluetooth connection, as shown at the following websites:

- 26                   • [https://manuals.info.apple.com/MANUALS/1000/MA1852/en\\_US/air  
27                   pods-2gen-qsg.pdf](https://manuals.info.apple.com/MANUALS/1000/MA1852/en_US/airpods-2gen-qsg.pdf),



- 1 • [https://manuals.info.apple.com/MANUALS/1000/MA1919/en\\_US/air](https://manuals.info.apple.com/MANUALS/1000/MA1919/en_US/air)
- 2 [pods-pro-qsg.pdf](https://manuals.info.apple.com/MANUALS/1000/MA1919/en_US/air), and
- 3 • [https://manuals.info.apple.com/MANUALS/1000/MA1821/en\\_US/ho](https://manuals.info.apple.com/MANUALS/1000/MA1821/en_US/ho)
- 4 [mepod-ios13-qsg.pdf](https://manuals.info.apple.com/MANUALS/1000/MA1821/en_US/ho).

5 65. By way of additional example, the following instructions are provided  
6 for Apple's Beats<sup>X</sup> product ([https://www.beatsbydre.com/support/how-to/set-up-](https://www.beatsbydre.com/support/how-to/set-up-and-use-beatsx-earphones)  
7 [and-use-beatsx-earphones](https://www.beatsbydre.com/support/how-to/set-up-and-use-beatsx-earphones)):

8 If you have some other Bluetooth device, follow these steps  
9 to pair your earphones with that device:

- 10 1. Press the power button for 5 seconds. When the indicator
- 11 light flashes, your earphones are discoverable.
- 12 2. Go to Bluetooth settings on your device.
- 13 3. Select your earphones from the list of discovered
- 14 Bluetooth devices.
- 15
- 16

17 66. Defendant Apple's customers and end users who use the Apple  
18 Accused Receiver Products and Beats Accused Products in accordance with Apple's  
19 instructions directly infringe one or more claims of the '047 patent.

20 67. Upon information and belief, Defendant Apple knows and intends that  
21 these activities, including providing instructions to users of the Apple Accused  
22 Receiver Products and Beats Accused Products to pair those products with a  
23 Bluetooth transmitter, will cause direct infringement. For example, Defendant  
24 Apple knows that engaging in these activities will cause users of the Apple Accused  
25 Receiver Products and Beats Accused Products to establish independent code  
26 division multiple access communication with a spread spectrum transmitter device,  
27 to receive and store a unique user code for wireless packet-based communications,  
28 to process received wireless modulation transmissions for reduction of intersymbol

1 interference, to use digital-to-analog conversion to provide an analog audio output,  
2 to use a speaker to generate an audio signal that does not include audible audio  
3 content originating from any audio signals transmitted in a spectrum used by the  
4 spread spectrum transmitter that do not originate from the spread spectrum  
5 transmitter, and to perform at least one of a plurality of demodulations. Defendant  
6 Apple's acts therefore constitute infringement of the '047 patent under 35 U.S.C. §  
7 271(b).

8 68. Upon information and belief, Defendant Apple indirectly infringes the  
9 '047 patent under 35 U.S.C. § 271(b) by actively inducing the use of, offering for  
10 sale, selling, or importing the Apple Accused Transmitter Products in the United  
11 States, knowing and intending that such products will be used by customers and end  
12 users in a manner that infringes the '047 patent.

13 69. For example, Defendant Apple provides instructions and manuals to its  
14 customers and end users on how to pair the Apple Accused Transmitter Products  
15 with audio receiver devices using a Bluetooth connection, as demonstrated in the  
16 following instruction guides published on Apple's website:

- 17 • [https://support.apple.com/guide/iphone/use-other-bluetooth-  
18 headphones-iph3c50f191/ios](https://support.apple.com/guide/iphone/use-other-bluetooth-headphones-iph3c50f191/ios)
- 19 • [https://support.apple.com/guide/ipad/use-other-bluetooth-headphones-  
20 ipad997da4cf/ipados](https://support.apple.com/guide/ipad/use-other-bluetooth-headphones-ipad997da4cf/ipados)
- 21 • [https://support.apple.com/guide/ipod-touch/use-other-bluetooth-  
22 headphones-iph3c50f191/ios](https://support.apple.com/guide/ipod-touch/use-other-bluetooth-headphones-iph3c50f191/ios)
- 23 • [https://support.apple.com/guide/watch/connect-to-bluetooth-  
24 headphones-or-speakers-apd67b3ac484/watchos](https://support.apple.com/guide/watch/connect-to-bluetooth-headphones-or-speakers-apd67b3ac484/watchos)

25 70. Defendant Apple's customers and end users who use the Apple  
26 Accused Transmitter Products in accordance with Apple's instructions directly  
27 infringe one or more claims of the '047 patent.

28



1           76. Defendant Apple has directly infringed one or more claims of the '627  
2 patent through its making, using, importing, offering for sale and/or selling in the  
3 United States its Apple Accused Transmitter and Receiver Products and Beats  
4 Accused Products.

5           77. For example, on information and belief, Defendant's Apple Accused  
6 Receiver Products and Beats Accused Products include all of the limitations of  
7 Claim 1 of the '627 patent. More particularly, the Apple Accused Receiver Products  
8 and Beats Accused Products are Bluetooth compatible products that comprise a  
9 portable spread spectrum audio receiver. They receive and store a unique user code  
10 and receive wireless modulation transmissions from a spread spectrum transmitter,  
11 for example as indicated in the Bluetooth specification, by receiving and using a  
12 Bluetooth access code and device address in frequency-hopping communication to  
13 receive packets that include data representing audio information. They have a direct  
14 conversion module that receives wireless modulation transmissions, as generally  
15 indicated by the low power consumption characteristics that Apple advertises for its  
16 Apple Accused Receiver Products and Beats Accused Products. They receive  
17 wireless modulation transmissions that have been processed to reduce intersymbol  
18 interference and also further process the transmissions for intersymbol interference  
19 reduction, for example as indicated in the Bluetooth specification, by applying pulse  
20 shaping. They are capable of processing an audio signal in the frequency range of  
21 20 Hz to 20 kHz. As also indicated in the Bluetooth specification, they use a digital-  
22 to-analog converter to provide an analog audio output that corresponds to a digital  
23 audio representation, for example, by creating an analog audio signal from received  
24 digital representation of the audio signal where the representation is communicated  
25 wirelessly in access-coded packets. They also use a speaker to generate an audio  
26 signal where the audio signal does not include audible audio content originating from  
27 any audio signals transmitted in a spectrum used by the spread spectrum transmitter  
28 that do not originate from the spread spectrum transmitter, for example as indicated

1 in the Bluetooth specification, by using unique addressing to receive the access-  
2 coded packets transmitted by the spread spectrum transmitter. They also use  
3 independent code division multiple access communication, for example, by using  
4 piconet-based, frequency-hopping communication as indicated in the Bluetooth  
5 specification, which likewise indicates the use of unique addressing to communicate  
6 with only the spread spectrum transmitter during a wireless connection. They also  
7 perform at least one of a plurality of demodulations, for example as indicated in the  
8 Bluetooth specification, by using differential phase shift keying.

9 78. As another example, on information and belief, Defendant's Apple  
10 Accused Transmitter Products include all of the limitations of Claim 5 of the '627  
11 patent. More particularly, the Apple Accused Transmitter Products are Bluetooth  
12 compatible products that include a portable spread spectrum audio transmitter  
13 coupled to a portable audio player. They use a unique user code and transmit  
14 wireless modulation transmissions from a portable spread spectrum transmitter, for  
15 example as indicated in the Bluetooth specification, by using a Bluetooth access  
16 code and device address in frequency-hopping communication to transmit packets  
17 that include data representing audio information. They encode the wireless  
18 modulation transmissions to reduce intersymbol interference, for example as  
19 indicated in the Bluetooth specification, by applying pulse shaping. They are  
20 capable of processing an audio signal in the frequency range of 20 Hz to 20 kHz. As  
21 also indicated in the Bluetooth specification, they perform at least one of a plurality  
22 of modulations, which include a differential phase shift keying (DPSK) modulation  
23 and a non-DPSK modulation. The modulations are separate from the encoding to  
24 reduce intersymbol interference. The Apple Accused Transmitter Products also use  
25 independent code division multiple access communication to wirelessly transmit the  
26 audio signal representations, for example, by using piconet-based, frequency-  
27 hopping communication as indicated in the Bluetooth specification, which likewise  
28 indicates the use of the unique user code to distinguish the transmissions of the

1 spread spectrum audio transmitter from other transmitted signals in the spectrum that  
2 do not originate from the spread spectrum transmitter.

3 79. Upon information and belief, Defendant Apple has knowledge of the  
4 '627 patent, at least based on receiving actual notice through this Complaint.

5 80. Upon information and belief, Defendant Apple indirectly infringes the  
6 '627 patent under 35 U.S.C. § 271(b) by actively inducing the use of, offering for  
7 sale, selling, or importing the above-mentioned Apple Accused Transmitter and  
8 Receiver Products and Beats Accused Products in the United States, knowing and  
9 intending that such products will be used by customers and end users in a manner  
10 that infringes the '627 patent.

11 81. For example, Defendant Apple provides instructions and manuals to its  
12 customers and end users on how to pair the Apple Accused Receiver Products and  
13 Beats Accused Products with audio transmission devices using a Bluetooth  
14 connection.

15 82. By way of example only, the following excerpt from Apple's website  
16 (<https://support.apple.com/en-us/HT208718>) provides the following instructions  
17 regarding Apple's AirPods devices:

### 18 **Use AirPods with a non-Apple device**

19 You can use AirPods as a Bluetooth headset with a non-Apple device. You can't use Siri, but you can listen  
20 and talk. To set up your AirPods with an Android phone or other non-Apple device,<sup>3</sup> follow these steps:

- 21 1. On your non-Apple device, go to the settings for Bluetooth and make sure that Bluetooth is on.<sup>4</sup> If you  
22 have an Android device, go to Settings > Connections > Bluetooth.
- 23 2. With your AirPods in the charging case, open the lid.
- 24 3. Press and hold the setup button on the back of the case until you see the status light flash white.
- 25 4. When your AirPods appear in the list of Bluetooth devices, select them.

26 83. Apple provides similar instructions in its customer manuals on how to  
27 pair the Apple Accused Receiver Products with audio transmission devices using a  
28 Bluetooth connection, as shown at the following websites:

- 1 • [https://manuals.info.apple.com/MANUALS/1000/MA1852/en\\_US/air-pods-2gen-qsg.pdf](https://manuals.info.apple.com/MANUALS/1000/MA1852/en_US/air-pods-2gen-qsg.pdf),
- 2
- 3 • [https://manuals.info.apple.com/MANUALS/1000/MA1919/en\\_US/air-pods-pro-qsg.pdf](https://manuals.info.apple.com/MANUALS/1000/MA1919/en_US/air-pods-pro-qsg.pdf), and
- 4
- 5 • [https://manuals.info.apple.com/MANUALS/1000/MA1821/en\\_US/ho-mepod-ios13-qsg.pdf](https://manuals.info.apple.com/MANUALS/1000/MA1821/en_US/ho-mepod-ios13-qsg.pdf).
- 6

7 84. By way of additional example, the following instructions are provided  
8 for Apple's Beats<sup>X</sup> product (<https://www.beatsbydre.com/support/how-to/set-up-and-use-beatsx-earphones>):  
9

10 If you have some other Bluetooth device, follow these steps  
11 to pair your earphones with that device:

- 12
- 13 1. Press the power button for 5 seconds. When the indicator  
14 light flashes, your earphones are discoverable.
- 15
- 16 2. Go to Bluetooth settings on your device.
- 17
- 18 3. Select your earphones from the list of discovered  
Bluetooth devices.

19 85. Defendant Apple's customers and end users who use the Apple  
20 Accused Receiver Products and Beats Accused Products in accordance with Apple's  
21 instructions directly infringe one or more claims of the '627 patent.

22 86. Upon information and belief, Defendant Apple knows and intends that  
23 these activities, including providing instructions to users of the Apple Accused  
24 Receiver Products and Beats Accused Products to pair those products with a  
25 Bluetooth transmitter, will cause direct infringement. For example, Defendant  
26 Apple knows that engaging in these activities will cause users of the Apple Accused  
27 Receiver Products and Beats Accused Products to establish independent code  
28 division multiple access communication with a spread spectrum transmitter device,



1 to receive and store a unique user code for wireless packet-based communications,  
2 to process received wireless modulation transmissions in the frequency range of 20  
3 Hz to 20 kHz for reduction of intersymbol interference, to use digital-to-analog  
4 conversion to provide an analog audio output, to use a speaker to generate an audio  
5 signal that does not include audible audio content originating from any audio signals  
6 transmitted in a spectrum used by the spread spectrum transmitter that do not  
7 originate from the spread spectrum transmitter, and to perform at least one of a  
8 plurality of demodulations. Defendant Apple's acts therefore constitute  
9 infringement of the '627 patent under 35 U.S.C. § 271(b).

10 87. Upon information and belief, Defendant Apple indirectly infringes the  
11 '627 patent under 35 U.S.C. § 271(b) by actively inducing the use of, offering for  
12 sale, selling, or importing the Apple Accused Transmitter Products in the United  
13 States, knowing and intending that such products will be used by customers and end  
14 users in a manner that infringes the '047 patent.

15 88. For example, Defendant Apple provides instructions and manuals to its  
16 customers and end users on how to pair the Apple Accused Transmitter Products  
17 with audio receiver devices using a Bluetooth connection, as demonstrated in the  
18 following instruction guides published on Apple's website:

- 19 • [https://support.apple.com/guide/iphone/use-other-bluetooth-  
20 headphones-iph3c50f191/ios](https://support.apple.com/guide/iphone/use-other-bluetooth-headphones-iph3c50f191/ios)
  - 21 • [https://support.apple.com/guide/ipad/use-other-bluetooth-headphones-  
22 ipad997da4cf/ipados](https://support.apple.com/guide/ipad/use-other-bluetooth-headphones-ipad997da4cf/ipados)
  - 23 • [https://support.apple.com/guide/ipod-touch/use-other-bluetooth-  
24 headphones-iph3c50f191/ios](https://support.apple.com/guide/ipod-touch/use-other-bluetooth-headphones-iph3c50f191/ios)
  - 25 • [https://support.apple.com/guide/watch/connect-to-bluetooth-  
26 headphones-or-speakers-apd67b3ac484/watchos](https://support.apple.com/guide/watch/connect-to-bluetooth-headphones-or-speakers-apd67b3ac484/watchos)
- 27  
28



1           89. Defendant Apple’s customers and end users who use the Apple  
2 Accused Transmitter Products in accordance with Apple’s instructions directly  
3 infringe one or more claims of the ’627 patent.

4           90. Upon information and belief, Defendant Apple knows and intends that  
5 these activities, including providing instructions to users of the Apple Accused  
6 Transmitter Products to pair those products with a Bluetooth receiver, will cause  
7 direct infringement. For example, Defendant’s Apple Accused Transmitter Products  
8 are Bluetooth compatible products that include a wireless audio transmitter  
9 operatively coupled to a portable audio player. They transmit a unique user code  
10 and original audio signal representation from a mobile digital audio transmitter, for  
11 example as indicated in the Bluetooth specification, by transmitting and using a  
12 Bluetooth access code and device address in frequency-hopping communication to  
13 transmit packets that include data representing audio information. They reduce  
14 intersymbol interference, for example and again as indicated in the Bluetooth  
15 specification, by encoding the audio signal data with pulse shaping. They are  
16 capable of processing an audio signal having the frequency range of 20 Hz to 20  
17 kHz. They also use independent code division multiple access communication, for  
18 example, by using piconet-based, frequency-hopping spread spectrum  
19 communication as indicated in the Bluetooth specification.

20           91. By at least the time of trial, Apple will have known and intended that  
21 its continued actions would actively induce actual direct infringement of the ’627  
22 patent.

23           92. Because of Defendant Apple’s infringement of the ’627 patent, One-E-  
24 Way has suffered and will continue to suffer harm and injury, including monetary  
25 damages in an amount to be determined at trial.

26 ///

27 ///

28 ///

**PRAYER FOR RELIEF**

**WHEREFORE**, Plaintiff prays for judgment in its favor against Defendant Apple for the following relief:

A. Pursuant to 35 U.S.C. § 271, a determination that Defendant Apple and their officers, agents, servants, employees, attorneys and all others in active concert and/or participation with them have infringed the '391, '627 and '047 patents through the manufacture, use, importation, offer for sale, and/or sale of infringing products and/or any of the other acts prohibited by 35 U.S.C. § 271;

B. Pursuant to 35 U.S.C. § 284, an award compensating Plaintiff for Defendant Apple's infringement of the '391, '627 and '047 patents through payment of not less than a reasonable royalty on Defendant Apple's sales of infringing products;

C. Pursuant to 35 U.S.C. § 285, a finding that this is an exceptional case, and an award of reasonable attorneys' fees and non-taxable costs;

D. An assessment of prejudgment and post-judgment interest and costs against Defendant, together with an award of such interest and costs, pursuant to 35 U.S.C. § 284; and

E. Such other and further relief as this Court may deem just.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: September 15, 2020 /s/ Douglas G. Muehlhauser

Douglas G. Muehlhauser  
Payson LeMeilleur  
Attorneys for Plaintiff  
ONE-E-WAY, INC.

**DEMAND FOR JURY TRIAL**

Pursuant to Rule 38(b) of the Federal Rules of Civil Procedure, Plaintiff One-E-Way hereby demands a trial by jury on all issues so triable.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: September 15, 2020 /s/ Douglas G. Muehlhauser

Douglas G. Muehlhauser  
Payson LeMeilleur  
Attorneys for Plaintiff  
ONE-E-WAY, INC.

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