IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

SONOS, INC.,	)	
	)	
Plaintiff,	)	
	)	Civil Action No. _____
v.	)	
	)	
LINKPLAY TECHNOLOGY INC.	)	JURY TRIAL DEMANDED
	)	
Defendant.	)	

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Sonos, Inc. ("Plaintiff" or "Sonos"), by its undersigned attorneys, for its Complaint for Patent Infringement and Jury Demand hereby asserts the following claims for patent infringement of United States Patent Nos. 7,571,014, 9,164,532, 9,213,357, 10,541,883, and 10,853,023 ("patents-in-suit"; attached hereto as Exhibits 1-5, respectively) against Defendant Linkplay Technology Inc. ("Defendant" or "Linkplay"), and alleges as follows:

INTRODUCTION

1. Sonos is an American success story. It was founded in 2002 in Santa Barbara, California by a handful of engineers and entrepreneurs with a vision to invent the world's first networked, whole-home audio system. At the time, popular audio systems were dependent on a centralized receiver hard-wired to passive speakers throughout a home. Further, most homes with Internet access were limited to dial-up connections, the iPhone was still five years away, Netflix was mailing DVDs, and streaming music services like Spotify and Pandora did not exist. The technological barriers confronting Sonos were enormous.

2. To deliver on its vision, Sonos completely reimagined the in-home audio system as a decentralized network of smart playback devices, and it developed a platform that could seamlessly and wirelessly distribute audio room by room or throughout the entire home at the

user's discretion. Sonos created a "choose what to play, where to play it, and how loud" audio system that could not only perform without lag (*e.g.*, buffering or network interruptions) but that was also so simple and intuitive that customers would make it part of their daily lives.

3. In this respect, Sonos reinvented home audio, as acknowledged by the media. *See, e.g.*, Ex. 6 (2005 *PC Magazine*: describing one of Sonos's first products as "the iPod of digital audio" for the home and contrasting Sonos with conventional home audio systems that required "dedicated wiring"); Ex. 7 (2013 *NBC News*: "If you're not familiar with Sonos, this company revolutionized the home audio world a decade ago …."); Ex. 8 (2014 *Consumer Reports*: "Sonos not only helped to invent the wireless speaker category, the company also set the bar for performance, ease of use, and flexibility."); Ex. 9 (2015 *Men's Journal*: "Sonos almost singlehandedly established the stand-alone wireless home speaker system category ….").

4. Commercial success did not come easy for Sonos as its vision was in many ways ahead of its time. But year by year, consumers – and the entire industry – came to appreciate that multi-room audio systems could not only work but could become an essential part of the listening experience. Success required staying true to Sonos's disruptive vision, continuing to innovate while adjacent industries caught up and customers became more and more enamored with the idea of Sonos as they had the chance to encounter and use its products. Once Sonos had taken all the risks and placed enormous bets on research and development, the "first followers" began to copy Sonos's innovations.

5. To this day, Sonos remains focused on innovations that further enhance the listening experience. Sonos invests heavily in research and development and, as a result, frequently invents new systems with new technologies, enhanced functionality, improved sound quality, and an enriched user experience.

6. As a result, Sonos has become one of the world's leading providers of innovative audio products. In recognition of its wide-ranging innovations, the U.S. Patent & Trademark Office has granted or allowed Sonos more than one thousand U.S. patents, including the patents-in-suit, with thousands more in other countries. The innovations captured by these patents cover many important aspects of multi-room audio systems, including, for example, how to easily setup a playback device onto a data network, how to provision, manage, and control groups of playback devices, how to coordinate amongst playback devices over a data network for synchronous playback, and how a playback device intelligently switches between audio sources for playback.

7. The industry has recognized the importance of Sonos's patents. For example, Sonos earned a spot on the IPO list of "Top 300 Organizations Granted U.S. Patents" and the IEEE recognized Sonos as having one of "[t]he technology world's most valuable patent portfolios." *See* Exs. 10 and 11.

8. Sonos launched its first commercial products in 2005, and has since released a wide variety of critically-acclaimed, patented, networked multi-room audio products, including, for example, the Play:1, Play:3, Play:5 (Gen 1 and Gen 2), One (Gen 1 and Gen 2), One SL, Move, Move 2, Roam, Roam SL, Era 100, Era 300, Playbar, Playbase, Beam (Gen 1 and Gen 2), Ray, Sub (Gen 1, Gen 2, and Gen 3), Connect, Port, Connect:Amp, Amp, Five, and Arc. *See, e.g.*, Ex. 12. Sonos's products can be set up and controlled by the Sonos app. *Id.*

9. Sonos's efforts have made it incredibly popular with its customers. Sonos estimates that as of fiscal year 2022, Sonos's customers listened to 12.8 billion hours of audio content using its products. Ex. 13. And, as of fiscal year 2023, Sonos had a total of nearly 46.6 million products registered in approximately 15.3 million households globally. Ex. 14.

10. Sonos's record of innovation has made it the undisputed leader in what has come

to be called the "multiroom audio" field. *See, e.g.*, Ex. 15 (2018 Digital Trends: "Sonos is the king of multiroom audio ... a category it single-handedly created 16 years ago."); Ex. 16 (2019 What Hi-Fi: "[N]o multi-room offering is as complete or as pleasurable to live with as Sonos.").

11. Piggybacking off of Sonos's success, Defendant launched its own networked multi-room audio system, called "WiiM," sometime around 2021— nearly 20 years after Sonos was founded.[1] Defendant's WiiM product offering is a line of networked multi-room audio products that includes, *inter alia*, the WiiM Amp, WiiM Pro, WiiM Pro Plus, WiiM Mini, and WiiM Wake-up Light ("WiiM players"), all of which can be controlled by at least the WiiM Home app for iOS, Android, MacOS, and Windows. *See, e.g.,* Exs. 17-18. Herein, "WiiM System" refers to one or more WiiM players and/or the WiiM Home app.

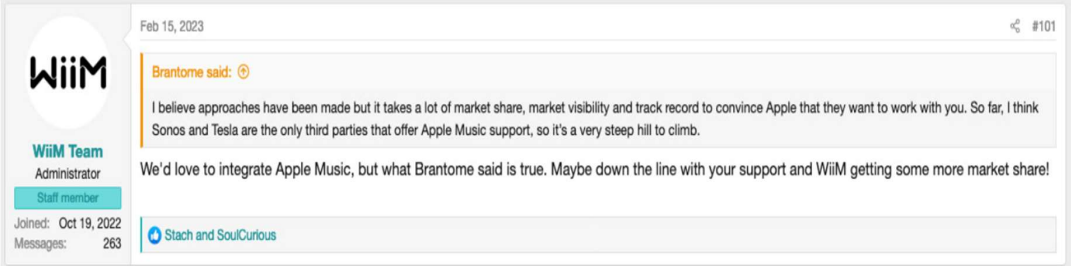
12. Since its launch, Defendant's WiiM System has competed directly with Sonos for the sale of networked multi-room audio products. As observed by *Digital Trends*:

> Wiim — a relatively new brand from a company called LinkPlay — has just launched its second product, the $149 Wiim Pro. It's a ***direct competitor*** to the $449 Sonos Port. Both devices are designed to give your existing, non-wireless audio system a smart upgrade, so you can still enjoy the sound system you love while giving it access to the full range of features and streaming sources that a wireless speaker offers.
>
> While plenty of companies have copied Sonos, like Denon, Bose, and Bluesound, ***none*** have managed to do so ***at a significantly lower price*** or been able to develop ***a truly competitive app-based experience. The Wiim Pro does both.*** And if it's a sign of LinkPlay's ultimate ambitions in the whole-home wireless audio space, ***Sonos has every reason to be worried***.

Ex. 19 (emphasis added); *see also* Ex. 20 (WiiM employee encouraging customers to "[c]heck out this article from Digital Trends").

[1]Defendant also sells various "modules" advertised as enabling "multi-room" functionality including, *inter alia*, the A98, A98L, A98M, A97L, A31, and A76D modules. *See* Exs. 87-88. Herein, "Linkplay module" refers to any such module sold by Defendant.

13. Defendant's own employees have publicly alluded to Defendant's intentions to capture market share away from Sonos:



Ex. 21.

14. Instead of innovating to compete fairly with Sonos, Defendant resorted to shamelessly copying Sonos. For example, with respect to the WiiM Pro, *Digital Trends* observed that it is practically a "carbon copy" of the Sonos Port:

1. Wiim Pro with accessories
2. Wiim Pro (left) and Sonos Port

Physically, ***the Wiim Pro isn't just similar to the Sonos Port — it's practically a carbon copy***, right down to the fact that ***both "WIIM" and "SONOS" are ambigrams*** (they look the same right-side up, or upside down). They're both made from black plastic, their dimensions are within a millimeter or two of each other, and ***even their circle-in-a-square bottom panels bear a strong resemblance to one another.*** Both devices come with a power adapter and a set of RCA cables for analog connections, but the Wiim goes a step further with an included optical cable.

Wiim Pro (left) and Sonos Port | Simon Cohen / Digital Trends

Ex. 19 (emphasis added); *see also* Ex. 20 (WiiM employee encouraging customers to "[c]heck out this article from Digital Trends").

15. In line with the observations from *Digital Trends*, the "circle-in-a-square bottom panel[ ]" of the Wiim Pro (Ex. 19) bears a strong resemblance to the "bottom plan view" of the "ornamental design" claimed in Sonos Design Patent No. D959,405, which was filed by Sonos on December 15, 2020 and claims a priority date of August 19, 2019:

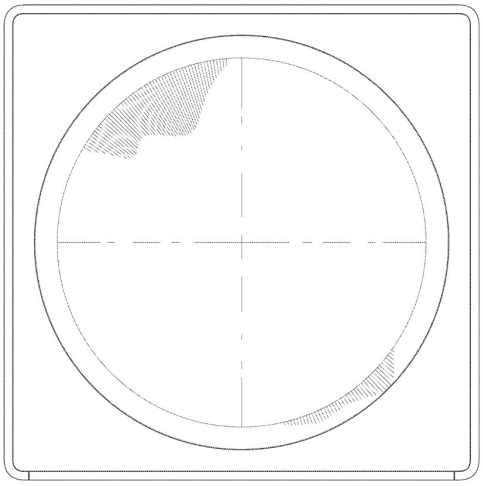
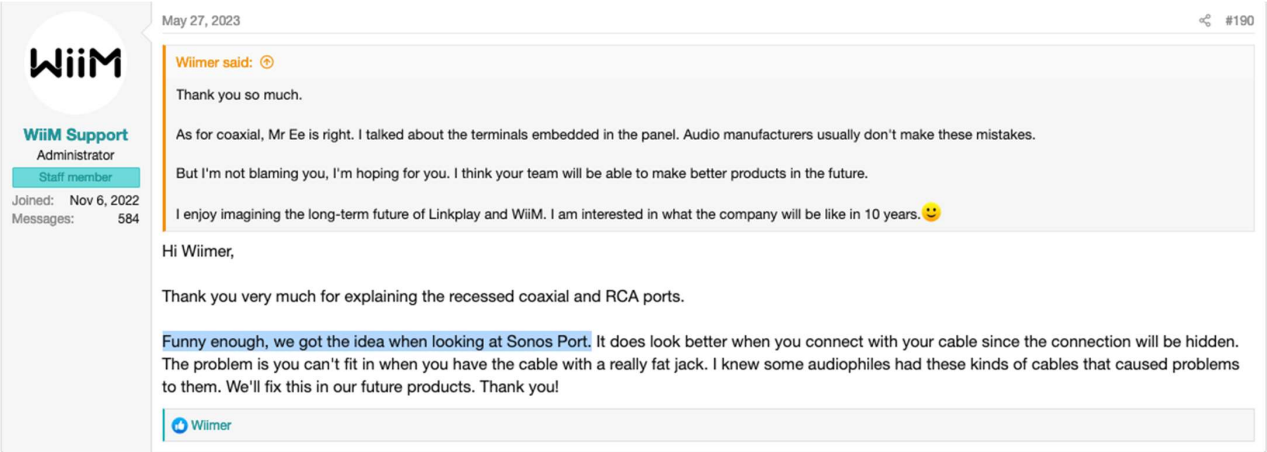


FIG. 14

Ex. 80.

16. Defendant does not even attempt to conceal its practice of copying Sonos. To the contrary, Defendant publicly extolls this practice to its customers:



Ex. 22.

17. Defendant's shameless copying of Sonos does not stop there. With respect to the WiiM Amp, *Digital Trends* observed that it "mimics the Sonos Amp" and further observed that "the Wiim Amp, is an amplified wireless network music player that bears a ***strong resemblance to the Sonos Amp, both in function and form***." Ex. 23 (emphasis added).

18. As further observed by *Digital Trends*, even Defendant's WiiM Home app mimics the Sonos app:

> The Wiim Amp joins the Wiim Mini, Wiim Pro, and Wiim Pro Plus network music streamers. Each can be used on its own or as part of a multiroom audio system via ***the Wiim app, which also features many of the same functions as Sonos' software***.

Id. (emphasis added).

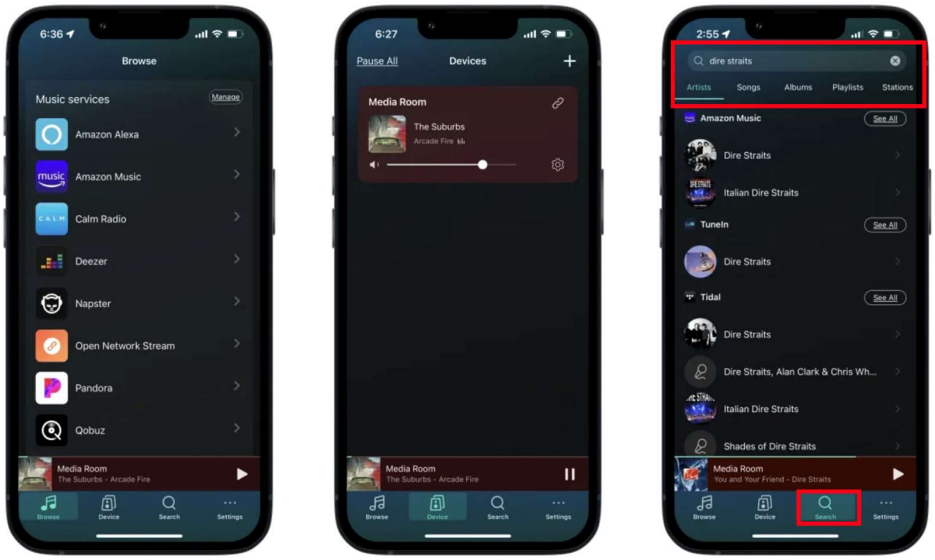
> Once you're up and running, ***the [WiiM Home] app interface will be immediately familiar to Sonos users***, and it's simple to navigate even if you've never used a wireless music system before.

Ex. 19 (emphasis added).

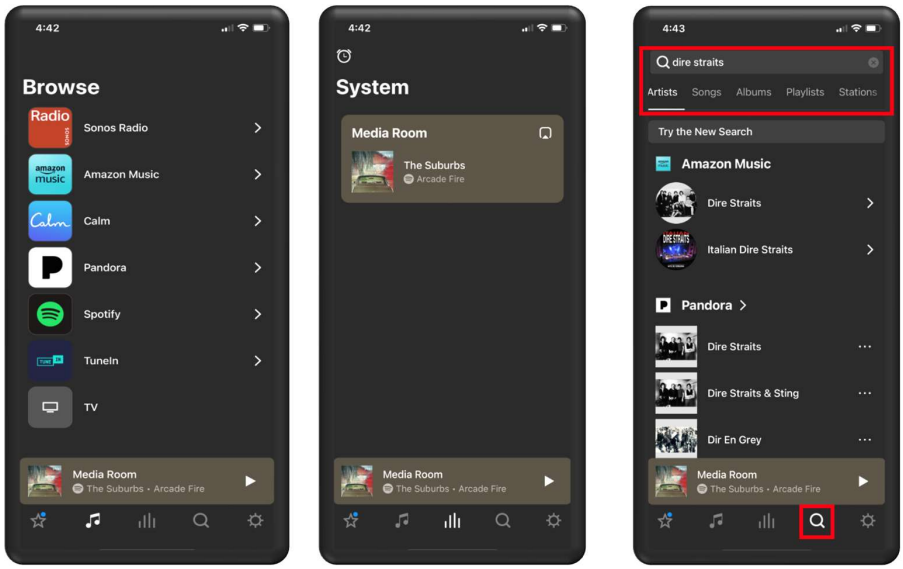
19. To illustrate, some example comparisons of the WiiM Home app and the Sonos app

are shown below:

WiiM Home app



Sonos app



20. Defendant also unabashedly copied Sonos's tagline — "FILL YOUR HOME WITH MUSIC" — which is reflected in Defendant's user guides:

3 Fill your home with music

Stream your go-to tunes or radio stations to any type of speaker-be it floor-standing, architectural, or bookshelf. With multiple WiiM Amp units, you can fill your entire home with streaming music. Want more? Connect a stereo component like a turntable, computer, or TV, and broadcast your audio to multiple devices simultaneously.

Ex. 24.

21. Sonos's "FILL YOUR HOME WITH MUSIC" tagline was widely-used during Sonos's marketing campaign that started around 2013 and was prominently featured in a Super Bowl commercial in 2014. *See, e.g.*, Ex. 82; Ex. 83:

Sonos Speakers 2014 Super Bowl Commercial

22. On information and belief, Defendant's copying of Sonos extends beyond the surface and includes the incorporation of Sonos's patented innovations into the WiiM System and/or Linkplay modules. It is Defendant misappropriating Sonos's patented innovations that

forms the basis for the present patent infringement claims, as set forth below.

23. Moreover, Defendant has had actual and/or constructive knowledge of Sonos's patents, including the patents-in-suit, well before the filing of this action. In particular, Defendant has actual or constructive knowledge of the patents-in-suit at least as early as the launch dates for each of the WiiM players, if not as early as the issue date for each of the patents-in-suit.

24. For instance, Defendant has been aware (or should have been aware) of Sonos's extensive patent portfolio in view of Sonos's leading position in the multi-room audio industry since its first commercial launch in 2005. Indeed, as outlined above, Sonos launched its first commercial product in 2005, which garnered significant industry attention and praise. Sonos has continuously innovated and refined its product line ever since.

25. Additionally, Sonos prominently displays its patents on Sonos's website (*see, e.g.*, Ex. 31), and Sonos includes a notice of its patents in Sonos's product inserts/manuals and the Sonos app (*see, e.g.*, Ex. 81). As a result of Defendant's testing of Sonos's products, Defendant's direct competition with Sonos since launching the WiiM System, and Defendant's deliberate copying of Sonos products, Defendant was aware (or should have been aware) of Sonos's patent portfolio, including the Patents-in-Suit at least as early as the launch dates for each of the WiiM players, if not as early as the issue date for each of the patents-in-suit.

26. Defendant has also been aware (or should have been aware) of Sonos's patents in view of Sonos's previously-filed patent litigation against D&M (another direct competitor of Sonos and Defendant) and its infringing Denon HEOS system – *Sonos Inc. v. D&M Holdings, Inc.*, C.A. No. 14-1330-RGA (D. Del.). *See* Ex. 27. This prior litigation lasted over three years, garnered media attention across the industry, and resulted in a jury verdict for Sonos on all counts, including, *inter alia*, willful infringement of one of the patents-in-suit asserted here against

Defendant (namely, United States Patent No. 7,571,014). *See*, *e.g.*, Ex. 28 (2014 *VentureBeat* article entitled "Sonos sues Denon, alleging wireless speaker patent infringement"); Ex. 29 (2014 *CNET* article entitled "Sonos sues Denon for 'copying' its wireless products"); Ex. 30 (Sonos v D&M jury Verdict Form finding for Sonos on all counts, including the '014 Patent).

27. Further, Defendant has also been aware (or should have been aware) of Sonos's patents in view of Sonos's complaint in January 2020 asking the United States International Trade Commission ("ITC") to institute an investigation into the unlawful importation into and sale in the United States of infringing products by Google (another direct competitor of Sonos and Defendant) – *In re Certain Audio Players and Controllers, Components Thereof, and Products Containing Same*, Inv. No. 337-TA-1191. *See* Ex. 84. This ITC investigation resulted in an exclusion order prohibiting unlicensed entry into the United States of Google products infringing five Sonos patents, some of which are related to the patents-in-suit asserted here against Defendant. *See* Ex. 85. The ITC exclusion order garnered national media attention. *See*, *e.g.*, Ex. 86 (Jan. 2022 *New York Times* article entitled "Google Infringed on Sonos Speaker Technology, Trade Court Rules").

28. Defendant has also been aware (or should have been aware) of Sonos's patents, including the patents-in-suit, because Defendant's employees have studied Sonos's products and product literature. *See, e.g.,* Ex. 32 (WiiM employee encouraging customer to "try setting latency to 0 on each WiiM device," and informing customer "[t]his should mirror your prior Sonos setup, given that the Sonos Connect doesn't account for downstream audio latency."); Ex. 33 (WiiM employee sharing "Sonos product's power consumption numbers" to customers). Studying Sonos's products and product literature, and deliberately designing the WiiM players to mimic the functionality of Sonos's products put Defendant on notice (or should have put Defendant on notice) of Sonos's patents., including the patents-in-suit, at least as early as the launch dates for

each of the WiiM players, if not as early as the issue date for each of the patents-in-suit.

WRITTEN NOTICE OF INFRINGEMENT

29. On December 11, 2023, Sonos sent Defendant a letter providing notice of infringement of hundreds of Sonos patents, including each of the patents-in-suit. *See* Ex. 26. For example, the letter identified the patents-in-suit by number, identified each WiiM player and Linkplay module by name, and accused Defendant of infringing the patents-in-suit by, *inter alia*, using, manufacturing, offering for sale, selling and/or importing the WiiM players and/or Linkplay modules in or into the United States.

30. Defendant did not respond to this letter, instead choosing to continue to infringe Sonos's patents, including the patents-in-suit, with knowledge of the patents and knowledge that it was infringing.

31. Defendant's infringement has been willful since the time Defendant became aware of (or should have become aware of) the patents-in-suit. Based on the foregoing, Defendant became aware of (or should have become aware of) the patents-in-suit and had knowledge that it was infringing these patents-in-suit (i) at least as early as December 11, 2023 when Sonos sent a letter to Defendant accusing it of infringing the patents-in-suit, (ii) at least as early as the launch dates for each of the WiiM players, or (iii) at least as early as the issue date for each of the patents-in-suit.

32. On information and belief, Defendant is unwilling to stop infringing because its infringement of Sonos's patented inventions has paved the way for Defendant to sell its products "at a significantly lower price" than Sonos. Ex. 19; *see also* Ex. 20 (WiiM employee encouraging customers to "[c]heck out this article from Digital Trends").

THE PARTIES

33. Plaintiff Sonos, Inc. is a Delaware corporation with its principal place of business at 614 Chapala Street, Santa Barbara, California 93101. Sonos is the owner of the patents-in-suit.

34. Defendant Linkplay Technology Inc. is a Delaware corporation with an established place of business at 8000 Jarvis Ave, Suite 130, Newark, CA 94560.

35. Defendant directly and/or indirectly develops, designs, manufactures, distributes, markets, offers for sale, sells, and/or imports the WiiM System and/or Linkplay modules in/into the United States, including in the District of Delaware, and otherwise purposefully directs infringing activities to this District in connection with the WiiM System and/or Linkplay modules.

JURISDICTION AND VENUE

36. This is a civil action for patent infringement arising under the patent laws of the United States, Title 35, United States Code. This Court has jurisdiction under 35 U.S.C. §§ 271, *et seq*., and 28 U.S.C. §§ 1331 and 1338.

37. This Court has personal jurisdiction over Defendant.

38. More specifically, this Court has personal jurisdiction over Defendant because, on information and belief, Defendant has (1) availed itself of the rights and benefits of the laws of the State of Delaware, (2) transacted, conducted, and/or solicited business and engaged in a persistent course of conduct in the District of Delaware, (3) derived substantial revenue from the sales and/or use of products, such as the WiiM System and/or Linkplay modules, in this District, (4) purposefully directed activities (directly and/or through intermediaries), such as shipping, distributing, offering for sale, selling, and/or advertising their infringing products, at residents in this District, (5) delivered its infringing products into the stream of commerce with the expectation that the products will be used and/or purchased by consumers in this District, and (6) committed acts of

patent infringement in this District.

39. This Court also has personal jurisdiction over Defendant because it is incorporated in Delaware. As a domestic corporation, Defendant is registered to do business with the State of Delaware Division of Corporations.

40. Venue is proper in this District under the provisions of 28 U.S.C. §§ 1391(b) and (c) and 28 U.S.C. § 1400(b).

PATENTS-IN-SUIT

Background

41. Sonos was founded to solve various shortcomings in existing conventional audio technology. At the time, a "conventional multi-zone audio system" was based on a "centralized" device that was "hard-wired" to "audio players" in different rooms with dedicated speaker wire. *See, e.g.*, '014 Patent at 1:34-40, 1:50-53. These "audio players" were basic "speakers" that passively received and outputted audio signals but lacked processing capabilities. *See, e.g.*, *id*. at 1:34-53.

42. In this conventional "hard-wired" configuration, each audio player relied on a "centralized" device that managed and controlled the multi-zone audio system. Under this approach, audio sources were either hard-wired to the "centralized" device, which made playing different audio sources at different audio players difficult (if not impossible), or hard-wired locally at a given audio player, which "[made] source sharing difficult." *See, e.g.*, *id*. at 1:38-49. For example, before an audio player could play audio from a source, a user had to configure the centralized device to route audio to the audio player from the common source. *See, e.g., id*. at 1:43-49.

43. In these conventional "hard-wired" systems, it was difficult or impossible to play

different audio sources on different audio players, "group" and control audio players, access and play network-based audio sources (*e.g.*, Internet radio), and install and configure the system in the first instance, which required physically connecting every device to the "centralized" device. *See, e.g.*, *id*. at 1:34-2:4.

44. As recognized in 2005 when Sonos released its first products, Sonos developed a series of new technologies to solve the many shortcomings of conventional hard-wired audio systems, thereby revolutionizing the field. In turn, Sonos's own introduction of paradigm-shifting technology created new technological opportunities and/or challenges that Sonos further solved.

45. For starters, Sonos provided an unconventional system architecture comprising "zone players" (also referred to as "playback devices") on a data network that were controlled by physical "controller" devices. *See, e.g.*, '014 Patent at FIG. 1; '883 Patent at FIG. 1; '023 Patent at FIG. 1. The following figure illustrates a simplified diagram of an exemplary Sonos audio system in accordance with this new system architecture, which comprises "zone players" 102, 104, and 106 and "controllers" 140 and 142 coupled to one another by a local data network 108 and two local audio sources 110 and 112 along with a connection to the Internet:

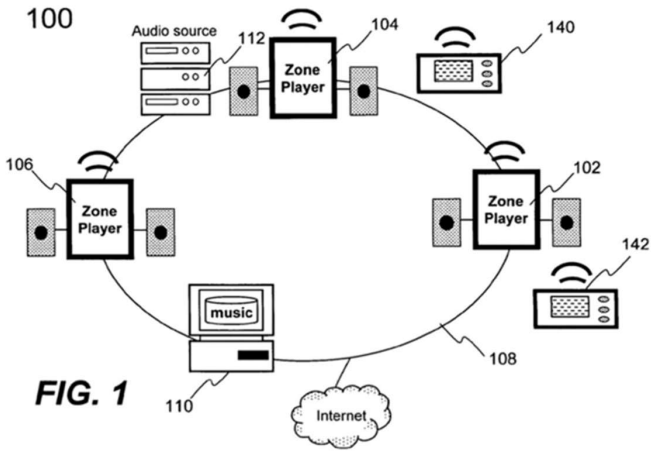


FIG. 1

'014 Patent at FIG. 1; *see also, e.g.*, '883 Patent at FIG. 1; '023 Patent at FIG. 1.

46. Unlike audio players in conventional "centralized," "hard-wired" multi-zone audio systems, each of Sonos's "zone players" was an "independent playback device" with a data network interface and processing intelligence enabling it to independently access and play back any audio source available on a local data network or another data network coupled thereto (*e.g.*, the Internet) without reliance on a centralized device. *See, e.g.*, '014 Patent at 4:64-67, 5:5-38; '357 Patent at 1:25-35; '532 Patent at 2:29-41.

47. The new, unconventional nature of Sonos's "zone players" introduced additional technological challenges to Sonos's system, which required Sonos's "zone players" to have new intelligence enabling the "zone players" to "share information" with one another so that they could "reproduce audio information synchronously," among other unconventional capabilities. *See, e.g.*, '357 Patent at 31:30-44; '532 Patent at 31:21-35. Thus, Sonos's new system featured "zone players" that could simultaneously play different audio from different sources or be "grouped" together to play the same audio source in a synchronized manner. *See, e.g.*, '357 Patent at FIG. 1, 3:41-53, 4:15-44, 5:4-6:58, Claims 1, 8, 9; '532 Patent at FIG. 1, 3:38-50, 4:11-39, 4:66-6:54, Claims 1, 10, 22, 34; '014 Patent at 2:24-40.

48. Further, unlike the "pre-configured and pre-programmed controller[s]" used to control conventional "centralized," "hard-wired" audio systems, Sonos's "controller" devices were capable of remotely controlling any "zone player" in a Sonos audio system from anywhere in a user's house or the like via a data network. *See, e.g.*, '014 Patent at 7:23-42; *see also, e.g.*, '357 Patent at 5:20-23, 5:32-34, 6:31-35; '532 Patent at 5:15-18, 5:27-29, 6:27-31. Building on the intelligence of Sonos's new "zone players," Sonos's "controllers" had new capabilities, including dynamically "grouping the zone players" and "control[ling] the volume of each of the zone players in a zone group individually or together." '014 Patent at 7:38-43; *see also, e.g.*, '357

Patent at FIG. 1, 3:41-53, 4:15-44, 5:4-6:58, Claims 1, 8, 9; '532 Patent at FIG. 1, 3:38-50, 4:11-39, 4:66-6:54, Claims 1, 10, 22, 34.

49. Thus, Sonos's audio system comprising networked "zone players" controlled by physical "controllers" over a data network provided an entirely new paradigm in home audio that overcame the technological deficiencies of conventional audio systems. Moreover, Sonos's unconventional system architecture created new technological challenges that needed to be solved and provided a new platform for further innovation. As discussed in further detail below, the Sonos patents-in-suit are directed to overcoming these technological challenges and building on this new platform.

U.S. Patent No. 7,571,014

50. Sonos is the owner of U.S. Patent No. 7,571,014 (the "'014 Patent"), entitled "Method and Apparatus for Controller Multimedia Players in a Multi-Zone System," which was duly and legally issued by the United States Patent and Trademark Office ("USPTO") on August 4, 2009. A Reexamination Certificate for the '014 Patent was duly and legally issued by the USPTO on March 19, 2013. A copy of the '014 Patent, including the Reexamination Certificate, is attached hereto as Exhibit 1.

51. The '014 Patent relates generally to devices, computer-readable media, and methods for controlling a plurality of playback devices on a local area network.

52. The '014 Patent recognized problems with conventional multi-zone audio systems. For instance, the '014 Patent recognized that "conventional multi-zone audio system[s]" were undesirably based on a "centralized" device that was "hard-wired" to "audio players" in different rooms with dedicated speaker wire. *See, e.g.*, '014 Patent at 1:34-40, 1:50-53. Moreover, because these "conventional multi-zone audio system[s]" were "either hard-wired or controlled by a pre-

configured and pre-programmed controller," it was "difficult for [a conventional] system to accommodate the requirement of dynamically managing the ad hoc creation and deletion of groups," among other disadvantages of conventional multi-zone audio systems. *See, e.g.*, *id.* at 1:50-2:4.

53. In this regard, the '014 Patent recognized a need for solutions that addressed "the control of [ ] audio players as a group …." *See, e.g.*, *id.* at 2:5-10. In particular, the '014 Patent recognized "a need for solutions in a multi-zone audio system to control a plurality of audio players and their audio characteristics from one controlling device" *See, e.g.*, *id.* at 2:11-13. The claimed inventions of the '014 Patent are directed to technology that provides a solution to such needs. *See, e.g.*, *id.* at 2:28-3:34.

The Inventions Claimed in U.S. Patent No. 7,571,014 Improved Technology & Were Not Well-Understood, Routine, or Conventional

54. Given the state of the art at the time of the inventions of the '014 Patent, including the deficiencies in "centralized," "hard-wired" multi-zone audio systems of the time, the inventive concepts of the '014 Patent are not conventional, well-understood, or routine. *See, e.g.*, '014 Patent at 1:34-2:10. The '014 Patent provides an unconventional solution to problems that arose in the context of "centralized," "hard-wired" multi-zone audio systems – namely, that such systems made it difficult (or impossible) to dynamically group audio players for synchronous playback and dynamically control such grouped audio players. *See, e.g.*, *id*.

55. At the core of the '014 Patent are aspects of Sonos's unconventional system architecture – a "controller" and a plurality of "players" (*e.g.*, "zone players") communicating over a "local area network" (LAN). Further, unlike the "pre-configured and pre-programmed controller[s]" used to control conventional "centralized," "hard-wired" multi-zone audio systems, the '014 Patent's "controller" devices were unconventionally capable of controlling any "zone

player" in the system from anywhere in a user's house or business via the LAN, such as by dynamically "grouping the zone players" and "control[ling] the volume of each of the zone players in a zone group individually or together." *See, e.g.*, *id*. at 7:25-43.

56. In this respect, it was not well-understood, routine, or conventional at the time of the inventions of the '014 Patent to have a "controller" configured to (i) form a "zone group" that includes a plurality of "players," where one of the players serves as a "zone group head," and (ii) "synchroniz[e] all players in the zone group in accordance with the zone group head." *See, e.g.*, *id*. at Claims 1, 25; *see also, e.g.*, Ex. 6 (*2005 PC Mag:* "[Sonos's ZonePlayers] can play the same music throughout the house, perfectly synchronized. Even though that may seem drop-dead simple, other hubs don't do it. And you can join multiple rooms to play the same music … on the fly.").

57. Furthermore, it was not well-understood, routine, or conventional at the time of the inventions of the '014 Patent to have a "controller" configured to (i) display a list showing a plurality of volume meters, at least one of the volume meters representing "an audio volume of one of the players, and another one of the volume meters representing an audio volume of a group of players," and (ii) adjust one of the volume meters "for the group of players" that is "represented by an averaged value of audio volumes of the players in the group," which involves "changing a volume of each of the group of players synchronously in accordance with an adjustment made by a user." '014 Patent at Claims 1, 25, 38; *see also, e.g.*, Ex. 6 (*2005 PC Mag:* "Press the volume-down button, then slide the scroll wheel to select each room and set the volume for it. Once you're back to using the master volume control, the volume rises or falls relative to each room's existing setting. These are [] brilliant touches ….").

58. These are just exemplary reasons why the inventions claimed in the '014 Patent

were not well-understood, routine, or conventional at the time of their invention.

59. The unconventional nature of the ’014 Patent has also been confirmed by wide-spread industry praise for the patented technology of the ’014 Patent as an advancement in the field of home audio, as set forth below.

60. Notably, this District held that the claimed inventions of the ’014 Patent are “patent-eligible subject matter under § 101.” *See* Ex. 34 at p. 13. In particular, this District recognized that the claimed inventions of the ’014 Patent “represent[] a substantial improvement over the existing technology” that “provides for capabilities far beyond what a traditional hardwired system offers.” *Id.* at p. 12.

61. This District also recognized that the ’014 Patent’s solutions cannot be performed solely by a human. *See, e.g.*, *id.* at p. 11 (“Defendants do not explain how a human could manually accomplish this feat. Nor could they.”). Indeed, the ’014 Patent’s claimed solutions are not merely drawn to longstanding human activities at least because they address problems rooted in multi-zone audio systems. *See, e.g.*, *id.* at p. 12 (“This is not simply a ‘more efficient’ method of doing something already done by humans.”).

62. Moreover, the innovative and unconventional nature of the ’014 Patent was confirmed by the validity findings in the D&M Litigation (*see* Ex. 30) and the ’014 Patent reexamination proceeding (*see* Ex. 1).

The Inventions Claimed in U.S. Patent No. 7,571,014 Provide Important Advantages to Multi-Room Audio Systems

63. The group volume control technology of the ’014 Patent provides significant advantages that are important to multi-room audio systems. The advantages of Sonos’s group volume control technology are reflected in the recognition and praise it has received from the press. For example, shortly after Sonos launched its first commercial product in 2005, *PC Magazine*

exclaimed: "[Sonos] is the first digital audio hub we can recommend without reservation …. Once you're back to using the master volume control, the volume rises or falls relative to each room's existing setting. These are the brilliant touches …." *See* Ex. 6. As another example, in 2005, *Playlist* lauded Sonos's "Controller" for its "stand[] out" interface that enables dynamic grouping of Sonos players and volume control. *See* Ex. 35. Likewise, in 2008, *Gizmodo* praised Sonos for the ability to "[c]hange the volume in a single room, or in all your rooms at once, all from the Sonos Controller." *See* Ex. 36. A few years later, in 2012, *Pocket-lint* touted Sonos's patented group volume technology as "simple but clever." *See* Ex. 37.

64. Recognizing the advantages of Sonos's patented group volume control technology, competitors in the industry, including Defendant, have incorporated Sonos's technology into their products and marketed to their customers the features that the technology enables. For example, Defendant's "WiiM Home App User Guide" explains that users can "[c]ontrol the [WiiM] devices as a group on the Devices page" shown below:

DEVICES PAGE

See all your devices and control volume and grouping.

1. Device name - Customize or use preset device name
2. Volume control - Control volume for speakers connected to WiiM
3. Group devices together (see more below in 2A)
4. Device Settings (see more below in 2B)
5. Setup another WiiM device with your WiiM Home app
6. Play All - Play all the devices on the Devices page
7. Mini navigation bar - Displays the active device and song/station played

Ex. 38 at p. 9.

U.S. Patent No. 9,164,532

65. Sonos is the owner U.S. Patent No. 9,164,532 (the "'532 Patent"), entitled "Method and Apparatus for Displaying Zones in a Multi-Zone System," which was duly and legally issued by the USPTO on October 20, 2015. A copy of the '532 Patent is attached hereto as Exhibit 2.

66. The '532 Patent relates generally to devices, systems, and methods for synchronizing audio playback among a group of "zone players."

67. As discussed above, Sonos recognized problems with conventional multi-zone audio systems and introduced a paradigm-shifting system architecture comprising "zone players" that communicated over a data network. The unconventional nature of Sonos's "zone players" introduced additional technological challenges to Sonos's system. *See, e.g.*, '532 Patent at 1:44-2:25.

68. For instance, the '532 Patent recognized the technological challenge of "ensur[ing] that, if two or more audio playback devices are contemporaneously attempting to play back the same audio program, they do so simultaneously." *Id*. at 2:6-25. In this respect, the '532 Patent recognized that "audio playback devices that are being developed have independent clocks, and, if they are not clocking at precisely the same rate, the audio playback provided by the various [playback] devices can get out of synchronization." *Id.* at 2:21-25. Moreover, the '532 Patent recognized that "differences in the audio playback devices' start times and/or playback speeds" "can arise . . . for a number of reasons, including delays in the transfer of audio information over the network," and that "[s]uch delays can differ as among the various audio playback devices for a variety of reasons, including where they are connected into the network, message traffic, and other reasons …." *Id.* at 2:9-17. Consequently, the '532 Patent recognized that "[s]mall differences in the audio playback devices' start times and/or playback speeds can be perceived by a listener as

an echo effect, and larger differences can be very annoying." *Id*. at 2:9-11.

69. In this regard, the '532 Patent recognized a need for "a new and improved system and method for synchronizing operations among a number of digital data processing devices that are regulated by independent clocking devices." *See, e.g.*, *id*. at 2:29-32. The claimed inventions of the '532 Patent are directed to technology that provides a solution to such needs. *See, e.g.*, *id.*

The Inventions Claimed in U.S. Patent No. 9,164,532 Improved Technology & Were Not Well-Understood, Routine, or Conventional

70. Given the state of the art at the time of the inventions of the '532 Patent, including the deficiencies in centralized, hard-wired multi-zone audio systems of the time, the inventive concepts of the '532 Patent are not conventional, well-understood, or routine. *See, e.g.*, '532 Patent at 1:44-2:25. The '532 Patent provides an unconventional solution to problems that arose in Sonos's unconventional system architecture comprising "zone players" that communicated over a data network – namely, that such "zone players" have "independent clocks" which makes ensuring synchronized audio playback difficult. *See, e.g.*, *id.* at 2:6-25.

71. At the core of the '532 Patent are aspects of Sonos's unconventional system architecture – "zone players" and at least one "controller" communicating over a "local area network." Each "zone player" was unconventionally equipped with a data network interface and intelligence enabling the "zone player" to independently access and play back audio from a variety of network-accessible audio sources and dynamically enter a "group" with one or more other "zone players" for synchronized audio playback based on an instruction from a "controller." *See, e.g.*, *id.* at FIG. 1, 3:38-50, 4:11-39, 4:66-6:54, Claims 1, 10, 22, 34. While "grouped," the "zone players" were unconventionally capable of sharing particular information over a data network to facilitate "reproduc[ing] audio information synchronously" despite the fact that the "zone players operate with independent clocks" and exchange packets over a data network with "differing

delays." *Id*. at 31:21-28.

72. In this respect, it was not well-understood, routine, or conventional at the time of the invention of the '532 Patent to have a "controller" configured to interface with a LAN and facilitate the formation of a synchrony group comprising a plurality of "zone players." *See, e.g.*, *id*. at Claims 1, 10, 22, 34; *see also, e.g.*, Ex. 6 (*2005 PC Mag:* "[Sonos's ZonePlayers] can play the same music throughout the house, perfectly synchronized. Even though that may seem drop-dead simple, other hubs don't do it. And you can join multiple rooms to play the same music . . . on the fly.").

73. Moreover, it was not well-understood, routine, or conventional at the time of the inventions of the '532 Patent to have a "controller" facilitate the formation of a synchrony group comprising a plurality of "zone players" in which the "zone players" are configured to playback audio in synchrony based at least on (i) "audio content," (ii) "playback timing for the audio content," and (iii) "device clock information" for one of the "zone players." *See, e.g.*, *id*. at Claims 1, 10, 22, 34; *see also, e.g.*, Ex. 7 (*2013 NBC News*: "[Sonos] revolutionized the home audio world a decade ago …. If you wanted the same song in every room, no problem, the tracks would be perfectly in sync …. At the time, this was mind blowing. Never before could you get music in every room without drilling a bunch of holes for wires ….").

74. These are just exemplary reasons why the inventions claimed in the '532 Patent were not well-understood, routine, or conventional at the time of their invention.

75. The unconventional nature of the '532 Patent has also been confirmed by wide-spread industry praise for the patented technology of the '532 Patent as an advancement in the field of home audio, as set forth below.

76. Notably, the Patent Trial and Appeal Board ("PTAB") found that inventions

claimed in the ’357 Patent – which cover similar subject matter as the inventions claimed in the ’532 Patent – would not have been obvious at the time of their invention. *See* Ex. 39 at pp. 6-7. This confirms that the ’532 Patent is directed not just to unconventional implementations but to truly innovative audio technology.

The Inventions Claimed in U.S. Patent No. 9,164,532 Provide Important Advantages to Multi-Room Audio Systems

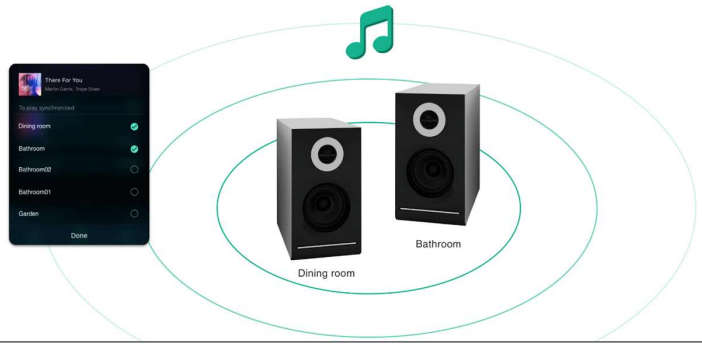
77. The grouping and synchronization technology of the ’532 Patent provides significant advantages that are important to multi-room audio systems. The advantages of Sonos’s patented grouping and synchronization technology are reflected in the recognition and praise it has received from the press. For example, in 2005, shortly after Sonos released its first commercial products, *PC Magazine* touted the Sonos system for its ability to “play the same music throughout the house, perfectly synchronized.” *See* Ex. 6. Similarly, in 2005, *The Wall Street Journal* praised Sonos’s system for the ability to “play . . . the same songs, in each room simultaneously.” *See* Ex. 37. As another example, in 2013, *Macworld* exclaimed: “Sonos is the gold standard when it comes to multi-room audio . . . you can drive the system from any computer or handheld device, playing music in sync throughout the house ….” *See* Ex. 40. Likewise, in 2013, *NBC News* praised Sonos’s patented synchronization technology as “mind blowing.” *See* Ex. 7 (“If you’re not familiar with Sonos, this company revolutionized the home audio world a decade ago when it launched the first (rather expensive) Sonos kits …. If you wanted the same song in every room, no problem, the tracks would be perfectly in sync . . . . At the time, this was mind blowing. Never before could you get music in every room without drilling a bunch of holes for wires ….”).

78. Recognizing the advantages of Sonos’s patented grouping and synchronization technology, other competitors in the industry, including Defendant, have incorporated Sonos’s patented technology into their products and marketed the features that the technology enables to

their customers. For example, in its marketing materials, Defendant advertises that the WiiM System can "[s]ynchronize audio with multi-room audio ….":

Synchronize audio with multi-room audio or stereo pairing

Want a whole-house sound system without any wires? No problem.
Connect your device to our WiiM devices and create a synchronized audio experience



Ex. 18.

U.S. Patent No. 9,213,357

79. Sonos is the owner of U.S. Patent No. 9,213,357, entitled "Obtaining Content from Remote Source for Playback," which was duly and legally issued by the USPTO on December 15, 2015. A Reexamination Certificate for the '357 Patent was duly and legally issued by the USPTO on October 4, 2019. A copy of the '357 Patent, including the Reexamination Certificate, is attached hereto as Exhibit 3.

80. The '357 Patent and '532 Patent share a common specification and ultimate priority claim.

81. The '357 Patent is directed to devices, methods, and computer-readable media for synchronizing audio playback.

82. Sonos incorporates by reference and re-alleges the foregoing paragraph numbers

65-78 of this Complaint as if fully set forth herein.

The Inventions Claimed in U.S. Patent No. 9,213,357 Improved Technology & Were Not Well-Understood, Routine, or Conventional

83. Sonos incorporates by reference and re-alleges the foregoing paragraph numbers 65-78 of this Complaint as if fully set forth herein.

84. Like the inventions claimed in the ’532 Patent, the inventions claimed in the ’357 Patent improved technology and were not well-understood, routine, or conventional.

85. Indeed, it was not well-understood, routine, or conventional at the time of the invention of the ’357 Patent to have a “playback device” (i.e., “zone player”) that functions to (i) transmit, to one or more other “playback device[s]” in a synchrony group over a local area network (LAN), “audio information, playback timing information associated with the audio information, and device clock information,” and (ii) play back the audio information in synchrony with the one or more other “playback device[s]” in the synchrony group using the playback timing information and device clock information. *See, e.g.*, ‘953 Patent at Claims 1, 9; *see also, e.g.*, Ex. 6 (*2005 PC Mag:* “[Sonos’s ZonePlayers] can play the same music throughout the house, perfectly synchronized. Even though that may seem drop-dead simple, other hubs don’t do it. And you can join multiple rooms to play the same music … on the fly.”); Ex. 7 (*2013 NBC News*: “[Sonos] revolutionized the home audio world a decade ago.… If you wanted the same song in every room, no problem, the tracks would be perfectly in sync.… At the time, this was mind blowing. Never before could you get music in every room without drilling a bunch of holes for wires ….”).

86. These are just exemplary reasons why the inventions claimed in the ’357 Patent were not well-understood, routine, or conventional at the time of their invention.

87. As with the ’532 Patent, the unconventional nature of the ’357 Patent has also been confirmed by wide-spread industry praise for the patented technology of the ’357 Patent as an

advancement in the field of home audio.

The Inventions Claimed in U.S. Patent No. 9,213,357 Provide Important Advantages to Multi-Room Audio Systems

88. Sonos incorporates by reference and re-alleges the foregoing paragraph numbers 65-78 of this Complaint as if fully set forth herein.

89. As with the ’532 Patent, the synchronization technology of the ’357 Patent provides significant advantages that are important to multi-room audio systems, as reflected in the recognition and praise it has received from the press/media and competitors in the industry.

U.S. Patent No. 10,541,883

90. Sonos is the owner of U.S. Patent No. 10,541,883, entitled “Playback Device Connection,” which was duly and legally issued by the USPTO on January 21, 2020. A copy of the ’883 Patent is attached hereto as Exhibit 4.

91. The ’883 Patent relates generally to devices, methods, and computer-readable media for connecting a “zone player” (or “playback device”) to a secure wireless local area network (WLAN), thereby setting up the zone player for use in a networked audio system.

92. The ’883 Patent recognized problems with conventional device-setup technology for connecting “consumer electronic devices” (*e.g.*, “home entertainment products”) to a network. *See, e.g.*, ’883 Patent at 1:37-67. For instance, the ’883 Patent recognized that “[c]onsumer electronic devices that operate using wireless or wired Ethernet standards are often subject to the same complicated set-up process as a wireless computer network.” *Id*. at 1:37-39.

93. Indeed, a conventional setup process typically required “the person who sets up the wireless network [to] have at least some knowledge about IP (Internet Protocol) networking and Ethernet (*e.g.*, 802.3, 802.11), such as addressing, security, broadcast, unicast, etc.” *Id*. at 1:40-43. At the time of the inventions of the ’883 Patent, typically only “IT professionals” possessed

such knowledge. *Id*. at 1:43-46. In this respect, to connect a computer to a wireless network, "the user [had] to know what type of network the computer [was] going to be connected to," which was a "difficult question [for] the average consumers" to answer. *Id*. at 1:57-63. Moreover, there were additional "questions or options related to [] security settings [] which evidently require[d] some good understanding about the network security over the wireless network." *Id*. at 1:63-67. Thus, the '883 Patent recognized that it was "impractical to require average consumers to have such knowledge to hook up consumer electronic devices, such as home entertainment products that use wireless/wired Ethernet connectivity." *Id*. at 1:46-49.

94. The '883 Patent also recognized that a device that has yet to be setup on a network has "limited networking capability" and is not addressable by other devices, which presents technical challenges as to how that device can receive information that facilitates the device's setup to operate on the network. *See, e.g.*, *id*. at 11:4-14.

95. Consequently, the '883 Patent recognized that there was "a clear need to create simple methods of setting up and maintaining a secure wireless/wired in-home network with minimum human interventions." *Id*. at 2:1-4. The claimed inventions of the '883 Patent are directed to technology that provides a solution to such needs.

The Inventions Claimed in U.S. Patent No. 10,541,883 Improved Technology & Were Not Well-Understood, Routine, or Conventional

96. Given the state of the art at the time of the inventions of the '883 Patent, including the deficiencies in conventional device-setup technology of the time, the inventive concepts of the '883 Patent are not conventional, well-understood, or routine. *See, e.g.*, '883 Patent at 1:37-2:4. The '883 Patent provides an unconventional solution to problems arising in the context of connecting "consumer electronic devices" (*e.g.*, "home entertainment products") to a network – namely, that such devices, prior to being setup, had limited networking capabilities and were not

network addressable by other devices and typically operated "using wireless or wired Ethernet standards [that were] often subject to the same complicated set-up process as a wireless computer network." *Id*. at 1:37-2:4, 11:4-14.

97. In this respect, the '883 Patent provided a technological solution that addressed the limited-networking-capability and addressability problems with existing setup technologies. *See, e.g.*, *id*. at 11:4-36. Moreover, unlike conventional device-setup technology whose complexity made it "impractical" for "average consumers to . . . hook up consumer electronic devices" to a requisite data network, the '883 Patent provided a technological solution that made it easier for consumers to connect a consumer electronic device to a data network. *See, e.g.*, *id.* at 1:37-67.

98. In this regard, it was not well-understood, routine, or conventional at the time of the invention of the '883 Patent to have a "playback device" to enter a setup mode and exchange messages with a "computing device" that facilitates setting up the "playback device" to operate on a secure wireless local area network (WLAN). *See, e.g.*, *id.* at Claims 1, 14, 20.

99. Moreover, it was not well-understood, routine, or conventional at the time of the invention of the '883 Patent to have a "playback device" configured to (i) receive a response to a first message that facilitates establishing with a "computing device" an "initial communication path" that does not traverse an access point defining a secure WLAN, (ii) receive "network configuration parameters" for the secure WLAN from the "computing device" via the "initial communication path," and (iii) transition from communicating with the "computing device" via the "initial communication path" to communicating with the "computing device" via the secure WLAN. *See, e.g.*, *id.* at Claims 1, 14, 20; *see also, e.g.*, *id.* at 11:4-37.

100. These are just exemplary reasons why the inventions claimed in the '883 Patent were not well-understood, routine, or conventional at the time of their invention.

101. The unconventional nature of the ’883 Patent has also been confirmed by widespread industry praise for the patented technology of the ’883 Patent as an advancement in the field of home audio, as set forth below.

102. Moreover, the ’883 Patent’s solutions are naturally rooted in consumer device-setup technology and cannot be performed solely by a human. Indeed, the ’883 Patent’s claimed solutions provide a device-setup process comprising functions not previously performed by humans and therefore, are not merely drawn to longstanding human activities.

The Inventions Claimed in U.S. Patent No. 10,541,883 Provide Important Advantages to Multi-Room Audio Systems

103. The playback-device-setup technology of the ’883 Patent provides significant advantages that are important to multi-room audio systems. The advantages of Sonos’s patented playback-device-setup technology are reflected in the recognition and praise it has received from the press. For example, in 2015, *Ars Technica* explained:

> There was no convoluted wireless setup, syncing issues, or complex software to decipher: I simply downloaded the Sonos app on the Google Play Store, pushed the sync button on the back of the speaker, and it did the rest. When you can describe the entire setup procedure in a single sentence, that’s special.

Ex. 41. Likewise, *Gizmodo* touted Sonos’s patented playback-device-setup technology as “so easy that anybody can do it.” Ex. 42. And *Consumer Reports* explained that Sonos’s technology makes playback-device-setup “pretty simple.” Ex. 43.

104. Recognizing the advantages of Sonos’s patented playback-device-setup technology, competitors in the industry, including Defendant, have incorporated Sonos’s patented technology into their products and marketed the features that the technology enables to their customers. For example, in marketing the WiiM System, Defendant explains that its WiiM players are “[s]uper easy [to] setup.” Exs. 25, 44.

U.S. Patent No. 10,853,023

105. Sonos is the owner of U.S. Patent No. 10,853,023 (the "'023 Patent"), entitled "Networked Playback Device," which was duly and legally issued by the USPTO on December 1, 2020. A copy of the '023 Patent is attached hereto as Exhibit 5.

106. The '023 Patent is directed to devices, methods, and computer-readable media for smart line-in processing.

107. The '023 Patent recognized problems with existing technology for switching between sources of media content. In this regard, the '023 Patent recognized that existing multi-source media systems at the time of the inventions of the '023 Patent lacked intelligent source-switching technology and therefore, were cumbersome to use from a user's perspective. *See, e.g.,* '023 Patent at 2:37-56, 6:41-50, 7:13-29.

108. For instance, in order for an existing audio system to switch from playing audio from a first source to playing audio from a second source connected to the audio system by a line-in connector, a user would first instruct the second source to begin playing audio and then instruct the audio system to switch its input to the second source. *See, e.g.*, *id.* at 2:13-24, 6:41-50, 7:13-29. Moreover, in order for an existing audio system to then switch from playing audio from the second source provided to the audio system through the line-in connector to another source, a user would first need to instruct the second source to stop providing the audio system with audio through the line-in connector. *See, e.g., id.* at 2:62-3:6, 7:25-29.

109. The claimed inventions of the '023 Patent are directed to technology that improved upon these deficiencies of existing multi-source media systems.

The Inventions Claimed in U.S. Patent No. 10,853,023 Improved Technology & Were Not Well-Understood, Routine, or Conventional

110. Given the state of the art at the time of the inventions of the '023 Patent, including

the deficiencies in existing technology for switching between sources of media content, the inventive concepts of the ’023 Patent are not conventional, well-understood, or routine. *See, e.g.*, ’023 Patent at 2:37-58, 7:13-29. Indeed, the ’023 Patent provides an unconventional solution to problems that arose in multi-source media systems of the time – namely, that such systems were reliant on a user to perform specific sequences of operations in order for such systems to switch from playing one media source to another. *See, e.g., id*. at 2:38-52, 6:41-50, 7:13-24.

111. In this respect, the ’023 Patent improved the technological capabilities of multi-source media systems by providing a solution for multi-source “playback devices” to intelligently switch between media sources based on specific criteria, thereby changing how multi-source media systems of the time previously operated to switch between media sources. *See, e.g., id*. at 2:42-56, 6:41-53, 7:13-24. For instance, instead of a media system relying on a user to first instruct a given source to begin playing audio and then receiving an instruction to switch the media system’s input source to the given source, the claimed inventions of the ’023 Patent allow a user to merely instruct a given line-in connected source to begin playing audio and the claimed “playback device” is equipped with technological capabilities to intelligently switch to that given source for playback. *See, e.g., id*; *see also, e.g.,* Claims 1, 8, 14.

112. In this regard, it was not well-understood, routine, or conventional at the time of the inventions of the ’023 Patent to have a “playback device” configured to determine that it is receiving a first type of media content while playing a second type of media content. *See, e.g.*, ’023 Patent at Claim 1.

113. Likewise, it was not well-understood, routine, or conventional at the time of the inventions of the ’023 Patent to have a “playback device” configured to, in response to determining that it is receiving a first type of media content via a line-in connector, (i) cease playback of a

second type of media content being played by the "playback device" that is not present at the line-in connector and (ii) cause the "playback device" to play the first type of media content. *See, e.g.*, '023 Patent at Claim 1.

114. Further, it was not well-understood, routine, or conventional at the time of the inventions of the '023 Patent to have a "playback device" configured to, in response to determining that it is receiving a first type of media content via a line-in connector, (i) cease playback of a second type of media content being played by the "playback device" that is not present at the line-in connector and (ii) cause the "playback device" to play the first type of media content. *See, e.g.*, '023 Patent at Claim 1.

115. Further still, it was not well-understood, routine, or conventional at the time of the inventions of the '023 Patent to have a "playback device" configured to (i) determine that it is no longer receiving the first type of media content via the line-in connector, and (ii) in response, rearm itself such that a subsequent presence of the first type of media content via the line-in connector causes the "playback device" to play the first type of media content (and thereby preempts playback of the second type of media content). *See, e.g.*, *id.*

116. These are just exemplary reasons why the inventions claimed in the '023 Patent were not well-understood, routine, or conventional at the time of their invention.

117. The unconventional nature of the '023 Patent has also been confirmed by wide-spread industry praise for the patented technology of the '023 Patent as an advancement in the field of home audio, as set forth below.

The Inventions Claimed in U.S. Patent No. 10,853,023 Provide Important Advantages to Multi-Room Audio Systems

118. The smart line-in processing technology of the '023 Patent provides significant advantages that are important to multi-room audio systems. The advantages of Sonos's patented

smart line-in processing technology are reflected in the recognition and praise it has received from the press. For example, in 2013, shortly after Sonos released its Playbar soundbar, *Mac Observer* praised Sonos's patented smart line-in processing technology as "automated magic" and explained that unlike the reviewer's "home theater system [that] would require [the reviewer] to power it on and then select the appropriate input," the Sonos Playbar "just works automatically, turning itself on and off when needed …." *See* Ex. 45. Likewise, in 2013, *Big Picture Big Sound* explained that the Sonos Playbar "keep[s] things as simple as possible" so that "if you're streaming music from Rhapsody, but then flip on the TV to watch a movie, the PlayBar automatically switches over to the TV input so you can enjoy sound that matches the picture." *See* Ex. 46. More recently, in 2017, *Pocket-lint* praised Sonos's patented smart line-in processing technology as "handy because it means you don't get that frustrating moment of 'Why isn't there any sound?'"; the reviewer went on to explain that "[i]n the time we've been using the PlayBar, the [automatic] handshake has worked perfectly every time." *See* Ex. 47.

119. Recognizing the advantages of Sonos's patented smart line-in processing technology, competitors in the industry, including Defendant, have incorporated Sonos's patented technology into their products and marketed the features that the technology enables to their customers. For example, Defendant's website explains that its "[a]uto-sensing" feature enables a WiiM player to "automatically play audio from the connected input as soon as a signal is detected, regardless of the device's current state or standby mode." Ex. 48; *see also, e.g.,* Exs. 49-50.

COUNT I: INFRINGEMENT OF U.S. PATENT NO. 7,571,014

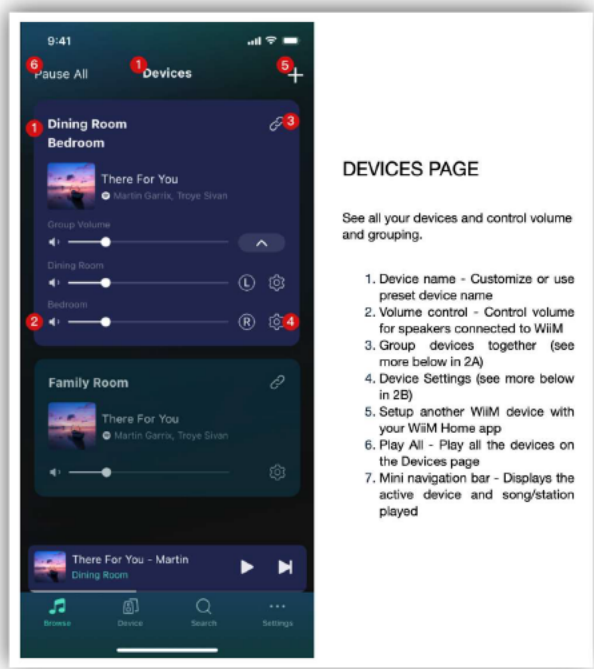
120. Sonos incorporates by reference and re-alleges paragraphs 1-119 of this Complaint as if fully set forth herein.

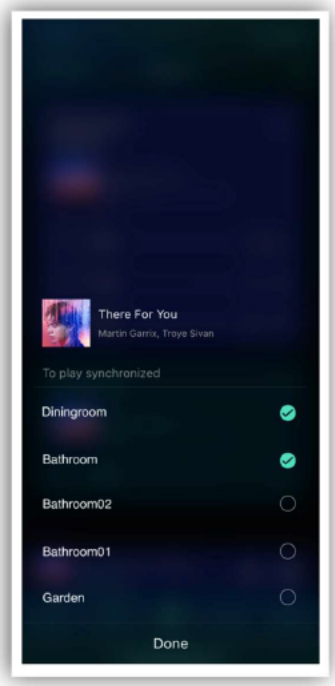
121. Defendant and/or users of the WiiM System and/or devices provisioned with a

Linkplay module have directly infringed (either literally or under the doctrine of equivalents) and continue to directly infringe one or more of the claims of the '014 Patent, in violation of 35 U.S.C. § 271(a), by making, using, offering for sale, and/or selling the WiiM System and/or devices provisioned with a Linkplay module within the United States and/or importing the WiiM System and/or devices provisioned with a Linkplay module into the United States without authority or license.

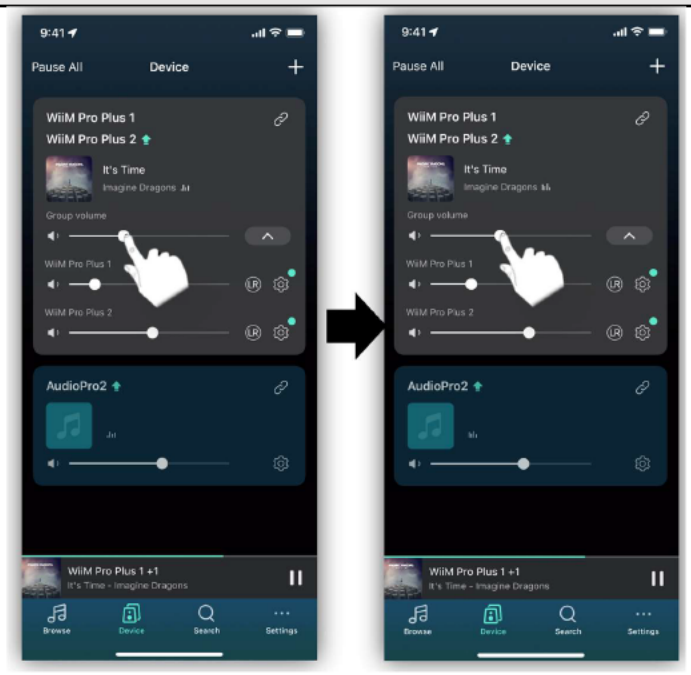
122. As just one non-limiting example, set forth below is an exemplary infringement claim chart for claim 25 of the '014 Patent in connection with the WiiM System and/or Linkplay modules. This claim chart is based on publicly available information. Sonos reserves the right to modify this claim chart, including, for example, on the basis of information about the WiiM System and/or Linkplay modules that it obtains during discovery.

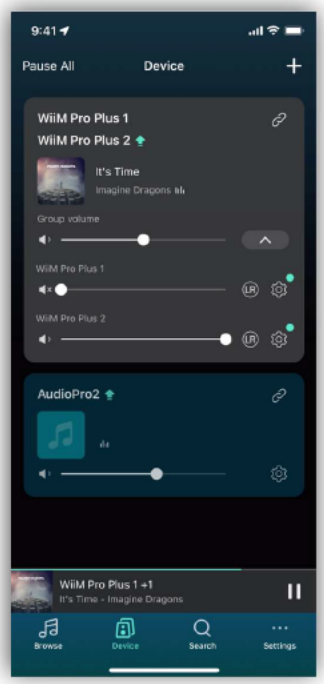
Claim 25	WiiM Controller
[25.0] An apparatus for controlling a plurality of players, the apparatus comprising:	Linkplay offers a wide range of audio playback devices, including at least the WiiM product line comprised of a number of WiiM players, including the WiiM Amp, WiiM Pro, WiiM Pro Plus, WiiM Wake-up Light, and WiiM Mini. *See, e.g.*, Exs. 25, 44, 51-52. On information and belief, each device provisioned with a Linkplay module contains the same (or substantially similar) relevant functionality as the aforementioned WiiM players. For purposes of this chart, the foregoing devices will be referred to as "WiiM players." Linkplay also offers apps that can be installed onto user devices, such as smartphones, tablets, and other computers, and utilized to control at least the WiiM players. *See, e.g.*, Ex. 18. For example, Linkplay offers the WiiM Home app, which can be installed onto user devices and utilized to control at least the WiiM players. *See, e.g., id.* For purposes of this chart, each user device installed with the WiiM Home app will be referred to as a "WiiM controller." As described in further detail below, each WiiM controller is an "apparatus for controlling a plurality of players" and each WiiM player is a "player" as recited in claim 25.

Claim 25	WiiM Controller
[25.1] a screen;	Each WiiM controller comprises a screen. *See, e.g.,* Exs. 18, 53-59.
[25.2] a screen driver commanding the screen;	Each WiiM controller comprises a screen driver commanding the screen. *See, e.g.,* Exs. 18, 53-59.
[25.3] an input interface;	Each WiiM controller comprises an input interface, such as a touch screen, volume buttons, etc. *See, e.g.,* Exs. 18, 53-59.
[25.4] a network interface;	Each WiiM controller comprises a network interface, such as a WiFi interface. *See, e.g.,* Exs. 18, 53-59.
[25.5] a memory for storing code for an application module;	Each WiiM controller comprises a memory for storing code for an application module. *See, e.g.,* Exs. 18, 53-59.
[25.6] a processor coupled to the memory, the input interface, the screen driver and the network interface, the processor executing the code in the memory to cause the application module and the screen driver to perform operations of:	Each WiiM controller comprises a processor coupled to the memory, the input interface, the screen driver and the network interface, the processor executing the code in the memory to cause the application module and the screen driver to perform the operations identified below. *See, e.g.,* Exs. 18, 53-59.
[25.7] displaying on a screen a first list showing at least available players;	Each WiiM controller includes code in memory to cause the application module and the screen driver to display on a screen a first list showing at least available WiiM players. *See, e.g.,* Ex. 18; Ex. 38 at pp. 9-10: 

Claim 25	WiiM Controller
	
[25.8] displaying a zone group including players from the available players when at least two of the available players are selected to form the zone group, wherein any one of the players in the group serves as a zone group head;	Each WiiM controller includes code in memory to cause the application module and the screen driver to display a zone group including WiiM players from the available WiiM players when at least two of the available WiiM players are selected to form the zone group, wherein any one of the WiiM players in the group serves as a zone group head. For instance, each WiiM player is programmed such that the WiiM player can be selected to form a "group" of two or more WiiM players that are configured to play back audio in synchrony. *See, e.g.*, Exs. 18, 38. In such a group, one of the WiiM players will be designated to serve as the "master" of the group and every other WiiM player in the group will be designated to serve as a "slave" of the group. *See, e.g.,* Exs. 60-62. In turn, each WiiM controller is programmed such that, after two or more WiiM players have been selected to form a group, the WiiM controller functions to display a visual representation of the group at various times – including in response to a user request to access a UI view that includes a listing of groups (e.g., the "Devices Page") or a UI view

Claim 25	WiiM Controller
	that provides information about the particular group. *See, e.g.,* Exs. 18, 38. An example of this functionality is illustrated above. *See* limitation 25.7.
[25.9] synchronizing all players in the zone group in accordance with the zone group head; and	Each WiiM controller includes code in memory to cause the application module and the screen driver to synchronize all WiiM players in a zone group in accordance with the zone group head. For instance, each WiiM controller is programmed with the capability to cause WiiM players in a group to engage in synchronous playback of audio content in accordance with the "master" of the group, which transmits information to each "slave" WiiM player in the group that facilitates the synchronous playback of the audio content. *See, e.g.*, Exs. 18, 38, 60-62
[25.10] adjusting a volume meter represented by an averaged value of audio volumes of the players in the group, wherein said adjusting of the volume meter includes changing a volume of each of the group of players synchronously in accordance with an adjustment made by a user.	Each WiiM controller includes code in memory to cause the application module and the screen driver to adjust a volume meter represented by an averaged value of audio volumes of WiiM players in a group, wherein said adjusting of the volume meter includes changing a volume of each of the group of WiiM players synchronously in accordance with an adjustment made by a user. For instance, each WiiM controller is programmed with the capability to display a volume meter representing a "group volume" for the WiiM players in the group. This volume meter is represented by an averaged value of the individual volumes for the WiiM players in the group. *See, e.g.,* Exs. 18, 38; *see also, e.g.,* screenshots below. In response to user input, each WiiM controller is programmed with the capability to adjust the "group volume" for the WiiM players in the group, which causes the individual volume for each WiiM player in the group to be changed synchronously in accordance with the user input. An example of this functionality is illustrated in the following screenshots from a WiiM controller:

Claim 25	WiiM Controller
	 As further illustrated below, the "group volume" for the WiiM players in the group is represented by an averaged value of the individual volumes for the WiiM players in the group.

Claim 25	WiiM Controller
	

123. Additionally and/or alternatively, Defendant has indirectly infringed and continues to indirectly infringe one or more of the claims of the '014 Patent, in violation of 35 U.S.C. § 271(b), by actively inducing users of the WiiM System and/or devices provisioned with a Linkplay module to directly infringe the one or more claims of the '014 Patent. For example, (a) Defendant had actual knowledge of the '014 Patent or was willfully blind to its existence prior to (at least as early as December 11, 2023), and no later than, the filing of this action (*see* ¶¶23-31 above), (b) Defendant intentionally causes, urges, or encourages users of the WiiM System to directly infringe one or more claims of the '014 Patent by promoting, advertising, and instructing customers and potential customers about the WiiM System and uses of the system, including infringing uses (*see* Exs. 18, 38), and (c) Defendant knows (or should know) that its actions will induce users of the WiiM System to directly infringe one or more claims the '014 Patent, and (d) users of the WiiM System directly infringe one or more claims of the '014 Patent. For instance, at a minimum,

Defendant has supplied and continues to supply the WiiM Home app to customers while knowing that installation and use of the WiiM Home app will infringe one or more claims of the ’014 Patent, and that Defendant’s customers then directly infringe one or more claims of the ’014 Patent by installing and using the WiiM Home app in accordance with Defendant’s product literature.

124. Additionally and/or alternatively, Defendant has indirectly infringed and continues to indirectly infringe one or more of the claims of the ’014 Patent, in violation of 35 U.S.C. § 271(c), by offering to sell or selling within the United States, and/or importing into the United States, components in connection with the WiiM System and/or Linkplay modules that contribute to the direct infringement of the ’014 Patent by users. For example, (a) Defendant had actual knowledge of the ’014 Patent or was willfully blind to its existence prior to (at least as early as December 11, 2023), and no later than, the filing of this action (*see* ¶¶23-31 above), (b) Defendant offers for sale, sell, and/or imports, in connection with the WiiM System, one or more material components of the invention of the ’014 Patent that are not staple articles of commerce suitable for substantial noninfringing use, (c) Defendant knows (or should know) that such component(s) were especially made or especially adapted for use in an infringement of the ’014 Patent, and (d) users of devices that comprise such material component(s) directly infringe one or more claims of the ’014 Patent. For instance, at a minimum, Defendant offers for sale, sells, and/or imports software modules enabling group volume control via the WiiM Home app for installation on WiiM controllers that meet one or more claims of the ’014 Patent. *See, e.g.*, Ex. 18. Such software modules are material components of the WiiM controllers that meet the one or more claims of the ’014 Patent. Further, Defendant especially made and/or adapted such software modules for use in the WiiM controllers that meet the one or more claims of the ’014 Patent, and such software modules are not staple articles of commerce suitable for substantial noninfringing use. Indeed,

there is no use for such software modules other than to, once installed onto WiiM controllers via the WiiM Home app, engage in group volume control functionality in a manner that infringes one or more claims of the ’014 Patent. Defendant’s customers then directly infringe the one or more claims of the ’014 Patent by installing and using the WiiM Home app, with the aforementioned software modules, on the WiiM controllers.

125. Defendant’s infringement of the ’014 Patent is also willful, as outlined above, because Defendant (a) had actual knowledge of the ’014 Patent or was willfully blind to its existence prior to (at least as early as December 11, 2023), and no later than, the filing of this action (*see* ¶¶23-31 above), (b) engaged in the aforementioned activity despite an objectively high likelihood that Defendant’s actions constituted infringement of the ’014 Patent, and (c) this objectively-defined risk was either known or so obvious that it should have been known to Defendant.

126. Additional allegations regarding Defendant’s pre-suit knowledge of the ’014 Patent and willful infringement will likely have evidentiary support after a reasonable opportunity for discovery.

127. Sonos is in compliance with any applicable marking and/or notice provisions of 35 U.S.C. § 287 with respect to the ’014 Patent.

128. Sonos is entitled to recover from Defendant all damages that Sonos has sustained as a result of Defendant’s infringement of the ’014 Patent, including, without limitation, a reasonable royalty and lost profits.

129. Defendant’s infringement of the ’014 Patent was and continues to be willful and deliberate, entitling Sonos to enhanced damages.

130. Defendant’s infringement of the ’014 Patent is exceptional and entitles Sonos to

attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

131. Defendant's infringement of the '014 Patent has caused irreparable harm (including the loss of market share) to Sonos and will continue to do so unless enjoined by this Court.

COUNT II: INFRINGEMENT OF U.S. PATENT NO. 9,164,532

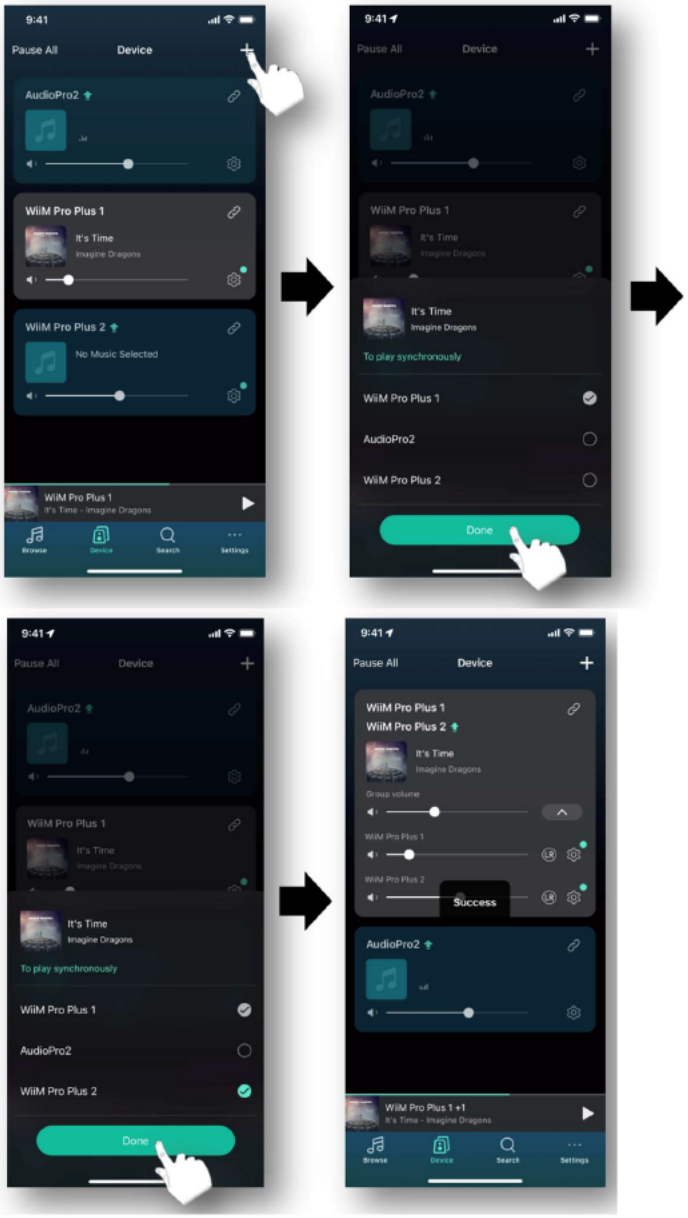
132. Sonos incorporates by reference and re-alleges paragraphs 1-131 of this Complaint as if fully set forth herein.

133. Defendant and/or users of the WiiM System and/or devices provisioned with a Linkplay module have directly infringed (either literally or under the doctrine of equivalents) and continue to directly infringe one or more of the claims of the '532 Patent, in violation of 35 U.S.C. § 271(a), by making, using, offering for sale, and/or selling the WiiM System and/or devices provisioned with a Linkplay module within the United States and/or importing the WiiM System and/or devices provisioned with a Linkplay module into the United States without authority or license.

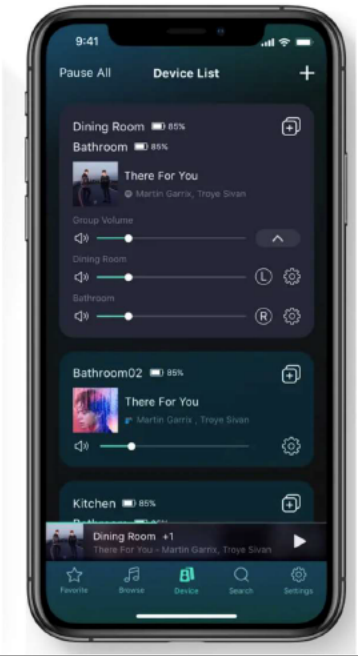
134. As just one non-limiting example, set forth below is an exemplary infringement claim chart for claim 34 of the '532 Patent in connection with the WiiM System and/or Linkplay modules. This claim chart is based on publicly available information. Sonos reserves the right to modify this claim chart, including, for example, on the basis of information about the WiiM System and/or Linkplay modules that it obtains during discovery.

Claim 34	WiiM Controller
[34.0] A controller device comprising:	Linkplay offers a wide range of audio playback devices, including at least the WiiM product line comprised of a number of WiiM players, including the WiiM Amp, WiiM Pro, WiiM Pro Plus, WiiM Wake-up Light, and WiiM Mini. *See, e.g.*, Exs. 25, 44, 51-52. On information and belief, each device provisioned with a Linkplay module contains the same (or substantially similar) relevant functionality as the aforementioned WiiM players. For purposes of this

Claim 34	WiiM Controller
	chart, the foregoing devices will be referred to as "WiiM players." Linkplay also offers apps that can be installed onto user devices, such as smartphones, tablets, and other computers, and utilized to control at least the WiiM players. *See, e.g.*, Ex. 18. For example, Linkplay offers the WiiM Home app, which can be installed onto user devices and utilized to control at least the WiiM players. *See, e.g., id.* For purposes of this chart, each user device installed with the WiiM Home app will be referred to as a "WiiM controller." As described in further detail below, each WiiM controller is a "controller" and each WiiM player is a "zone player" as recited in claim 34.
[34.1] one or more processors; and	Each WiiM controller includes one or more processors. *See, e.g.*, Exs. 18, 53-59.
[34.2] tangible, non-transitory, computer-readable memory comprising instructions that, when executed by the one or more processors, cause the controller device to perform a method comprising:	Each WiiM controller includes tangible, non-transitory computer-readable memory comprising executable program instructions that enable the WiiM controller to perform the functions identified below. *See, e.g.*, Exs. 18, 53-59.
[34.3] receiving a command at the controller device to form a synchrony group comprising a first zone player and a second zone player;	Each WiiM controller comprises program instructions that, when executed by the WiiM controller's one or more processors, cause that WiiM controller to receive a command to form a synchrony group comprising a first WiiM player and a second WiiM player. For instance, each WiiM controller is programmed with the capability to receive user input instructing the WiiM controller to form a "group" of two or more WiiM players that are configured to play back audio content in synchrony with one another. *See, e.g.*, Ex. 18; Ex. 38 at pp. 9-10. An example of this functionality is illustrated in the following screenshots:

Claim 34	WiiM Controller
	
[34.4] in response to receiving the command to form the synchrony group, configuring the synchrony group, wherein configuring the synchrony group comprises configuring, over a Local Area Network (LAN), the first zone player to (a) transmit audio	Each WiiM controller comprises program instructions that, when executed by the WiiM controller's one or more processors, cause that WiiM controller to, in response to receiving the command to form the synchrony group, configure the synchrony group, where configuring the synchrony group comprises configuring, over a LAN, the first WiiM player to (a) transmit audio content, playback timing for the audio content, and device clock information

Claim 34	WiiM Controller
content, playback timing for the audio content, and device clock information to the second zone player and (b) play back the audio content in synchrony with the second zone player according to the playback timing and the device clock information, wherein the first and second zone players remain independently clocked while playing the audio content in synchrony, and wherein the controller device is not a member of the synchrony group; and	to the second WiiM player and (b) play back the audio content in synchrony with the second WiiM player according to the playback timing and the device clock information, where the first and second WiiM players remain independently clocked while playing the audio content in synchrony, and where the WiiM controller is not a member of the synchrony group. For instance, each WiiM controller is programmed such that, in response to receiving user input instructing the WiiM controller to form a group of two or more WiiM players that are configured to play back audio content in synchrony with one another, the WiiM controller communicates with the first and/or second WiiM player over a Wi-Fi network (which is a LAN) to cause the group to be configured. *See e.g.*, Ex. 18; Ex. 38. In such a group, one of the WiiM players will be designated to serve as the "master" of the group, every other WiiM player will be designated to serve as a "slave" of the group, and the WiiM controller will not be a member of the group. *See, e.g.,* Exs. 60-62. As part of configuring the group, the "master" WiiM player begins operating in a mode in which it is configured to (i) transmit audio content, playback timing for the audio content, and device clock information of the "master" WiiM player to each "slave" WiiM player in the group via various types of data packets – including but not limited to 62-byte STUN packets and/or various encrypted TCP packets, and (ii) play back the audio content in synchrony each "slave" WiiM player in the group according to the playback timing and the device clock information. Further, while playing back in synchrony, each WiiM player in the group continues to operate in accordance with its own respective clock. *See, e.g.*, Ex. 63 (WiiM employee discussing "compensat[ion] for the clock discrepancy between the sender and receiver, specifically allowing the receiver to align with the sender's clock."); Ex. 64 (WiiM employee informing users that "require[ing] both devices to have identical clocks," is "rare in practice."); Ex. 65 (WiiM employee discussing "managing clock skew"); Ex. 66 (WiiM employee informing user "[e]ach receiver synchronizes its own clock to the master sender").
[34.5] after the controller device has configured the synchrony	Each WiiM controller comprises program instructions that, when executed by the WiiM controller's one or more

Claim 34	WiiM Controller
group, the controller device receiving status information over the LAN from at least one of the first or second zone players indicating that the first and second zone players in the synchrony group are configured to playback audio in synchrony with each other.	processors, cause that WiiM controller to, after the WiiM controller has configured the synchrony group, receive status information over the LAN from at least one of the first or second WiiM players indicating that the first and second WiiM players in the synchrony group are configured to playback audio in synchrony with each other. For instance, each WiiM controller is programmed with the capability to receive status messages over the LAN from at least one of the first or second WiiM players that provide an indication that the first and second players audio players in the group are configured to playback audio in synchrony with each other, including but not limited to status information that provides an identification of a name of the group, an identification of the "master" WiiM player of the group, and/or an identification of any "slave" WiiM players of the group. *See, e.g.,* Ex. 60; *see also, e.g.,* Ex. 18: 

135. Additionally and/or alternatively, Defendant has indirectly infringed and continues to indirectly infringe one or more of the claims of the '532 Patent, in violation of 35 U.S.C. § 271(b), by actively inducing users of the WiiM System and/or devices provisioned with a Linkplay

module to directly infringe the one or more claims of the ’532 Patent. For example, (a) Defendant had actual knowledge of the ’532 Patent or was willfully blind to its existence prior to (at least as early as December 11, 2023), and no later than, the filing of this action (*see* ¶¶23-31 above), (b) Defendant intentionally causes, urges, or encourages users of the WiiM System to directly infringe one or more claims of the ’532 Patent by promoting, advertising, and instructing customers and potential customers about the WiiM System and uses of the system, including infringing uses (*see* Exs. 18, 38), and (c) Defendant knows (or should know) that its actions will induce users of the WiiM System to directly infringe one or more claims the ’532 Patent, and (d) users of the WiiM System directly infringe one or more claims of the ’532 Patent. For instance, at a minimum, Defendant has supplied and continues to supply the WiiM Home app to customers while knowing that installation and use of the WiiM Home app will infringe one or more claims of the ’532 Patent, and that Defendant’s customers then directly infringe one or more claims of the ’532 Patent by installing and using the WiiM Home app in accordance with Defendant’s product literature.

136. Additionally and/or alternatively, Defendant has indirectly infringed and continues to indirectly infringe one or more of the claims of the ’532 Patent, in violation of 35 U.S.C. § 271(c), by offering to sell or selling within the United States, and/or importing into the United States, components in connection with the WiiM System and/or Linkplay modules that contribute to the direct infringement of the ’532 Patent by users. For example, (a) Defendant had actual knowledge of the ’532 Patent or was willfully blind to its existence prior to (at least as early as December 11, 2023), and no later than, the filing of this action (*see* ¶¶23-31 above), (b) Defendant offers for sale, sells, and/or imports, in connection with the WiiM System, one or more material components of the invention of the ’532 Patent that are not staple articles of commerce suitable for substantial noninfringing use, (c) Defendant knows (or should know) that such component(s)

were especially made or especially adapted for use in an infringement of the ’532 Patent, and (d) users of devices that comprise such material component(s) directly infringe one or more claims of the ’532 Patent. For instance, at a minimum, Defendant offers for sale, sells, and/or imports software modules enabling the configuration of synchrony groups via the WiiM Home app for installation on WiiM controllers that meet one or more claims of the ’532 Patent. *See, e.g.*, Ex. 18. Such software modules are material components of the WiiM controllers that meet the one or more claims of the ’532 Patent. Further, Defendant especially made and/or adapted such software modules for use in the WiiM controllers that meet the one or more claims of the ’532 Patent, and such software modules are not a staple articles of commerce suitable for substantial noninfringing use. Indeed, there is no use for such software modules other than to, once installed onto WiiM controllers via the WiiM Home app, engage in the configuration of synchrony groups in a manner that infringes one or more claims of the ’532 Patent. Defendant’s customers then directly infringe the one or more claims of the ’532 Patent by installing and using the WiiM Home app, with the aforementioned software modules, on the WiiM controllers.

137. Defendant’s infringement of the ’532 Patent is also willful because Defendant (a) had actual knowledge of the ’532 Patent or was willfully blind to its existence prior to (at least as early as December 11, 2023), and no later than, the filing of this action (*see* ¶¶23-31 above), (b) engaged in the aforementioned activity despite an objectively high likelihood that Defendant’s actions constituted infringement of the ’532 Patent, and (c) this objectively-defined risk was either known or so obvious that it should have been known to Defendant.

138. Additional allegations regarding Defendant’s pre-suit knowledge of the ’532 Patent and willful infringement will likely have evidentiary support after a reasonable opportunity for discovery.

139. Sonos is in compliance with any applicable marking and/or notice provisions of 35 U.S.C. § 287 with respect to the ’532 Patent.

140. Sonos is entitled to recover from Defendant all damages that Sonos has sustained as a result of Defendant’s infringement of the ’532 Patent, including, without limitation, a reasonable royalty and lost profits.

141. Defendant’s infringement of the ‘’532 Patent was and continues to be willful and deliberate, entitling Sonos to enhanced damages.

142. Defendant’s infringement of the ’532 Patent is exceptional and entitles Sonos to attorneys’ fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

143. Defendant’s infringement of the ’532 Patent has caused irreparable harm (including the loss of market share) to Sonos and will continue to do so unless enjoined by this Court.

COUNT III: INFRINGEMENT OF U.S. PATENT NO. 9,213,357

144. Sonos incorporates by reference and re-alleges paragraphs 1-143 of this Complaint as if fully set forth herein.

145. Defendant, users of the WiiM System and/or devices provisioned with a Linkplay module, and/or third-party product developers have directly infringed (either literally or under the doctrine of equivalents) and continue to directly infringe one or more of the claims of the ’357 Patent, in violation of 35 U.S.C. § 271(a), by making, using, offering for sale, and/or selling the WiiM System and/or devices provisioned with a Linkplay module within the United States and/or importing the WiiM System and/or devices provisioned with a Linkplay module into the United States without authority or license.

146. As just one non-limiting example, set forth below is an infringement claim chart of exemplary claim 9 of the ’357 Patent in connection with the WiiM System and/or Linkplay

modules. This claim chart is based on publicly available information. Sonos reserves the right to modify this claim chart, including, for example, on the basis of information about the WiiM System and/or Linkplay modules that it obtains during discovery.

Claim 9	WiiM Player
[9.0] A first playback device comprising:	Linkplay offers a wide range of audio playback devices, including at least the WiiM product line comprised of a number of WiiM players, including the WiiM Amp, WiiM Pro, WiiM Pro Plus, WiiM Wake-up Light, and WiiM Mini. *See, e.g.*, Exs. 25, 44, 51-52. On information and belief, each device provisioned with a Linkplay module contains the same (or substantially similar) relevant functionality as the aforementioned WiiM players. For purposes of this chart, the foregoing devices will be referred to as "WiiM players." Linkplay also offers apps that can be installed onto user devices, such as smartphones, tablets, and other computers, and utilized to control at least the WiiM players. *See, e.g.*, Ex. 18. For example, Linkplay offers the WiiM Home app, which can be installed onto user devices and utilized to control at least the WiiM players. *See, e.g., id.* For purposes of this chart, each user device installed with the WiiM Home app will be referred to as a "WiiM controller." As described in further detail below, each WiiM player is a "playback device" and each WiiM controller is a "network device" as recited in claim 9.
[9.1] one or more processors;	Each WiiM player includes one or more processors. *See, e.g.*, Exs. 67-70.
[9.2] a network interface; and	Each WiiM player includes a network interface, such as a WiFi interface. *See, e.g.*, Exs. 67-70.
[9.3] tangible, non-transitory computer-readable memory comprising program instructions that, when executed by the one or more processors, cause the first playback device to:	Each WiiM player includes tangible, non-transitory computer-readable memory comprising executable program instructions that enable the WiiM to perform the functions identified below. *See, e.g.*, Exs. 67-70.
[9.4] receive, via the network interface from a network device configured to control the first playback device and communicatively coupled to the first playback device over a local	Each WiiM player comprises program instructions that, when executed by the WiiM player's one or more processors, cause that WiiM player to receive, via its network interface from a WiiM controller communicatively coupled to the WiiM player over a LAN, control information comprising an address identifying a network

Claim 9	WiiM Player
area network (LAN), control information comprising an address identifying a network location of audio information available at an audio information source, wherein the audio information source is outside of the LAN; and	location of audio information available at an audio information source, where the audio information source is outside of the LAN. For instance, each WiiM player is programmed with the capability to receive, from a WiiM controller over a Wi-Fi network (which is a LAN), control information that includes a network address (e.g., a uniform resource locator (URL)) for audio information available at an online music source that is accessible via the Internet, such as Spotify, TuneIn, Pandora, Amazon Music, TIDAL, etc. *See, e.g.*, Ex. 18; Ex. 60 at p. 9 (describing "Play audio URL" command); Ex. 71.
[9.5] after receiving the control information, (i) obtain, via the network interface from the audio information source outside of the LAN, the audio information; (ii) transmit, via the network interface of the first playback device to a second playback device, the audio information, playback timing information associated with the audio information, and device clock information of the first playback device; and (iii) play back the audio information in synchrony with the second playback device by using the playback timing information associated with the audio information and the device clock information of the first playback device to play back the audio information, wherein the first and second playback devices remain independently clocked during synchronous playback of the audio information.	Each WiiM player comprises program instructions that, when executed by the WiiM player's one or more processors, cause that WiiM player to, after receiving the control information, (i) obtain, via the network interface from the audio information source outside of the LAN, the audio information; (ii) transmit, via the network interface of the WiiM player to a second WiiM player, the audio information, playback timing information associated with the audio information, and device clock information of the WiiM player; and (iii) play back the audio information in synchrony with the second WiiM player by using the playback timing information associated with the audio information and the device clock information of the WiiM player to play back the audio information, where the WiiM players remain independently clocked during synchronous playback of the audio information. For instance, each WiiM player is programmed with the capability to enter into a "group" of two or more WiiM players that are configured to play back audio in synchrony. *See, e.g.*, Ex. 18; Ex. 38, Ex. 72. In such a group, one of the WiiM players will be designated to serve as the "master" of the group and every other WiiM player will be designated to serve as a "slave" of the group. *See, e.g.,* Exs. 60-62. When a WiiM player receives a command to access audio information from an identified Internet-based music service (e.g., Spotify, TuneIn, Pandora, Amazon Music, TIDAL, etc.) while operating as a "master" of a group, the WiiM player functions to (i) obtain audio information from the identified Internet-based music service, (ii) send the obtained audio information, playback timing information associated with the audio information, and clock

Claim 9	WiiM Player
	information of the "master" WiiM player to each "slave" WiiM player in the group via various types of data packets – including but not limited to 62-byte STUN packets and/or various encrypted TCP packets, and (iii) play back the obtained audio information in synchrony with the one or more "slave" WiiM players using the playback timing information and the "master" WiiM player's clock information. Further, while playing back the audio information in synchrony, each WiiM player in the group continues to operate in accordance with its own respective clock. *See, e.g.*, Ex. 63 (WiiM employee discussing "compensat[ion] for the clock discrepancy between the sender and receiver, specifically allowing the receiver to align with the sender's clock."); Ex. 64 (WiiM employee informing users that "require[ing] both devices to have identical clocks," is "rare in practice."); Ex. 65 (WiiM employee discussing "managing clock skew"); Ex. 66 (WiiM employee informing user "[e]ach receiver synchronizes its own clock to the master sender").

147. Additionally and/or alternatively, Defendant has indirectly infringed and continues to indirectly infringe one or more of the claims of the '357 Patent, in violation of 35 U.S.C. § 271(b), by actively inducing users of the WiiM System and/or devices provisioned with a Linkplay module and/or third-party product developers to directly infringe the one or more claims of the '357 Patent. For example, (a) Defendant had actual knowledge of the '357 Patent or was willfully blind to its existence prior to (at least as early as December 11, 2023), and no later than, the filing of this action (*see* ¶¶23-31 above), (b) Defendant intentionally causes, urges, or encourages users of the WiiM System to directly infringe one or more claims of the '357 Patent by promoting, advertising, and instructing customers and potential customers about the WiiM System and uses of the system, including infringing uses, and (c) Defendant knows (or should know) that its actions will induce users of the WiiM System to directly infringe one or more claims the '357 Patent, and (d) users of the WiiM System directly infringe one or more claims of the '357 Patent. For instance, at a minimum, Defendant has supplied and continues to supply WiiM players to customers while

knowing that use of these products will infringe one or more claims of the ’357 Patent, and that Defendant’s customers then directly infringe one or more claims of the ’357 Patent by using these WiiM players in accordance with Defendant’s product literature.

148. Additionally and/or alternatively, Defendant has indirectly infringed and continues to indirectly infringe one or more of the claims of the ’357 Patent, in violation of 35 U.S.C. § 271(c), by offering to sell or selling within the United States, and/or importing into the United States, components in connection with the WiiM System and/or Linkplay modules that contribute to the direct infringement of the ’357 Patent by users and/or third-party product developers. For example, (a) Defendant had actual knowledge of the ’357 Patent or were willfully blind to its existence prior to (at least as early as December 11, 2023), and no later than, the filing of this action (*see* ¶¶23-31 above), (b) Defendant offers for sale, sells, and/or imports, in connection with the WiiM System, one or more material components of the invention of the ’357 Patent that are not staple articles of commerce suitable for substantial noninfringing use, (c) Defendant knows (or should know) that such component(s) were especially made or especially adapted for use in an infringement of the ’357 Patent, and (d) users of devices that comprise such material component(s) directly infringe one or more claims of the ’357 Patent. For instance, at a minimum, Defendant offers for sale, sells, and/or imports software updates containing software modules enabling synchronous playback of WiiM players that meet one or more claims of the ’357 patent. *See, e.g.*, Exs. 61-62, 73-74. These software updates containing such software modules are material components of the WiiM players that meet the one or more claims of the ’357 Patent. Further, Defendant especially made and/or adapted these software updates containing such software modules for use in the WiiM players that meet the one or more claims of the ’357 Patent, and these software updates are not staple articles of commerce suitable for substantial noninfringing use.

Indeed, there is no use for such software updates containing such software modules other than to, once installed onto WiiM players, engage in synchronous playback in a manner that infringes one or more claims of the '357 Patent. Defendant's customers then directly infringe the one or more claims of the '357 Patent by installing and using such software updates on the WiiM players.

149. Defendant's infringement of the '357 Patent is also willful because Defendant (a) had actual knowledge of the '357 Patent or were willfully blind to its existence prior to (at least as early as December 11, 2023), and no later than, the filing of this action (*see* ¶¶23-31 above), (b) engaged in the aforementioned activity despite an objectively high likelihood that Defendant's actions constituted infringement of the '357 Patent, and (c) this objectively-defined risk was either known or so obvious that it should have been known to Defendant.

150. Additional allegations regarding Defendant's pre-suit knowledge of the '357 Patent and willful infringement will likely have evidentiary support after a reasonable opportunity for discovery.

151. Sonos is in compliance with any applicable marking and/or notice provisions of 35 U.S.C. § 287 with respect to the '357 Patent.

152. Sonos is entitled to recover from Defendant all damages that Sonos has sustained as a result of Defendant's infringement of the '357 Patent, including, without limitation, a reasonable royalty and lost profits.

153. Defendant's infringement of the '357 Patent was and continues to be willful and deliberate, entitling Sonos to enhanced damages.

154. Defendant's infringement of the '357 Patent is exceptional and entitles Sonos to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

155. Defendant's infringement of the '357 Patent has caused irreparable harm (including

the loss of market share) to Sonos and will continue to do so unless enjoined by this Court.

COUNT IV: INFRINGEMENT OF U.S. PATENT NO. 10,541,883

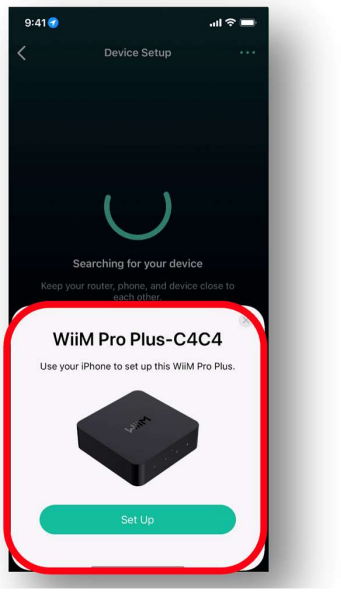
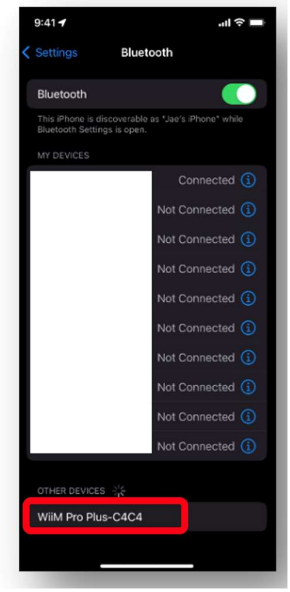
156. Sonos incorporates by reference and re-alleges paragraphs 1-155 of this Complaint as if fully set forth herein.

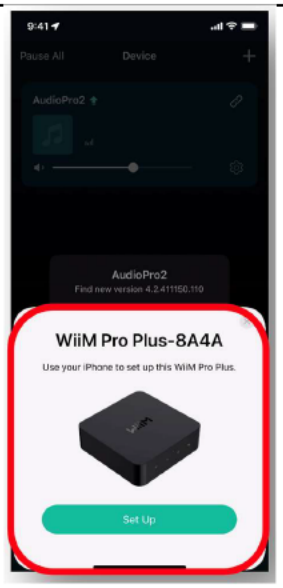
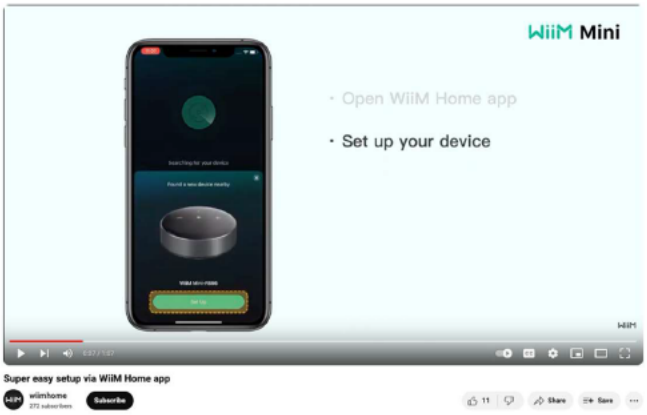
157. Defendant, users of the WiiM System and/or devices provisioned with a Linkplay module, and/or third-party product developers have directly infringed (either literally or under the doctrine of equivalents) and continue to directly infringe one or more of the claims of the '883 Patent, in violation of 35 U.S.C. § 271(a), by making, using, offering for sale, and/or selling the WiiM System and/or devices provisioned with a Linkplay module within the United States and/or importing the WiiM System and/or devices provisioned with a Linkplay module into the United States without authority or license.

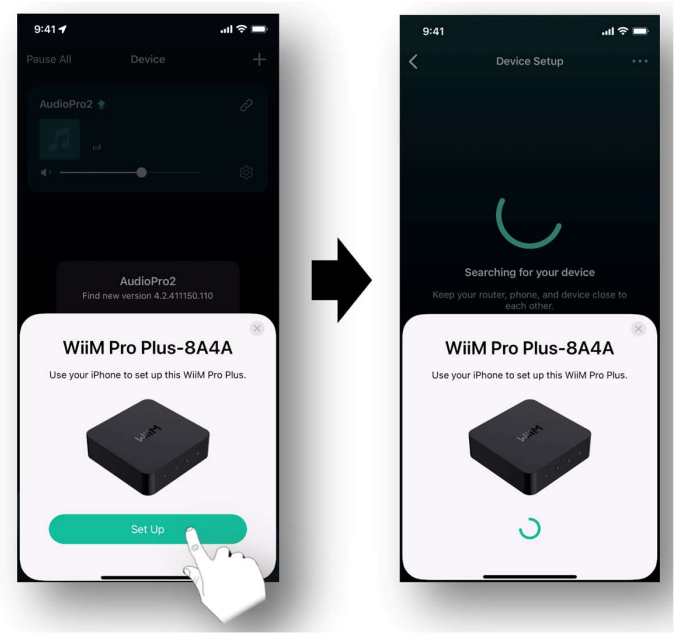
158. As just one non-limiting example, set forth below is an exemplary infringement claim chart for claim 1 of the '883 Patent in connection with the WiiM System and/or Linkplay modules. This claim chart is based on publicly available information. Sonos reserves the right to modify this claim chart, including, for example, on the basis of information about the WiiM System and/or Linkplay modules that it obtains during discovery.

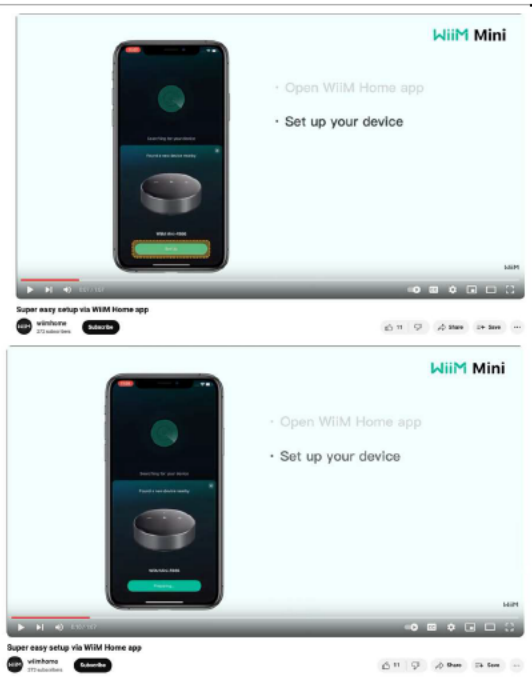
Claim: 1	WiiM Player
[1.0] A playback device comprising:	Linkplay offers a wide range of audio playback devices, including at least the WiiM product line comprised of a number of WiiM players, including the WiiM Amp, WiiM Pro, WiiM Pro Plus, WiiM Wake-up Light, and WiiM Mini. *See, e.g.*, Exs. 25, 44, 51-52. On information and belief, each device provisioned with a Linkplay module contains the same (or substantially similar) relevant functionality as the aforementioned WiiM players. For purposes of this chart, the foregoing devices will be referred to as "WiiM players." Linkplay also offers apps that can be installed onto user devices, such as smartphones, tablets, and other

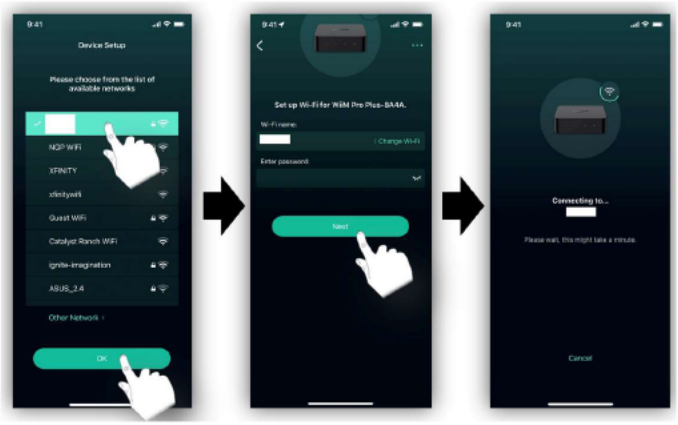
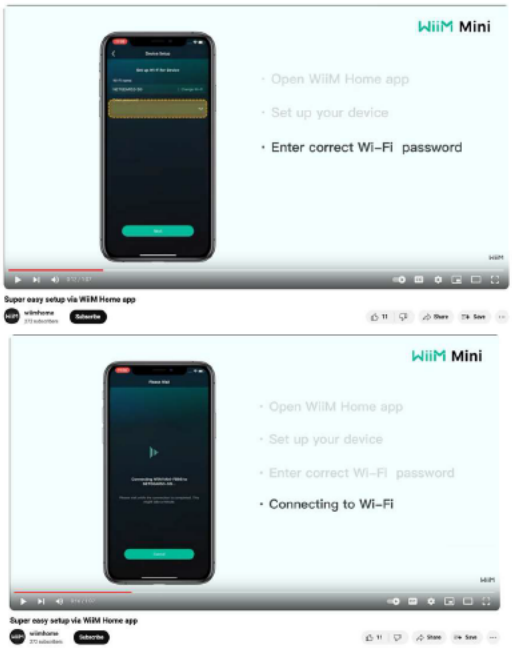
	computers, and utilized to control at least the WiiM players. *See, e.g.*, Ex. 18. For example, Linkplay offers the WiiM Home app, which can be installed onto user devices and utilized to control at least the WiiM players. *See, e.g., id.* As another example, Linkplay offers the WiiM Light app, which can be installed onto user devices and utilized to control at least the WiiM Wake-up Light. For purposes of this chart, each user device installed with the WiiM Home app and/or the WiiM Light app will be referred to as a "WiiM controller." As described in more detail below, each WiiM controller is a "computing device" and each WiiM player is an "playback device" as recited in claim 1.
[1.1] a network interface that is configured to provide an interconnection with at least one data network;	Each WiiM player includes a network interface that is configured to provide an interconnection with at least one data network, such as a Wi-Fi interface. *See, e.g.*, Exs. 67-70.
[1.2] at least one processor;	Each WiiM player includes at least one processor. *See, e.g.*, Exs. 67-70.
[1.3] a non-transitory computer-readable medium; and	Each WiiM player includes a non-transitory computer-readable medium. *See, e.g.*, Exs. 67-70.
[1.4] program instructions stored on the non-transitory computer-readable medium that, when executed by the at least one processor, cause the playback device to perform functions comprising:	Each WiiM player includes program instructions that enable a WiiM player to perform the functions identified below. *See, e.g.*, Exs. 67-70.
[1.5] detecting a triggering event that causes the playback device to enter a setup mode in which the playback device transmits at least a first message indicating that the playback device is available for setup;	Each WiiM player comprises program instructions that, when executed by the WiiM player's at least one processor, cause that WiiM player to detect a triggering event that causes the WiiM player to enter a setup mode in which WiiM player transmits at least a first message indicating that the WiiM player is available for setup. For instance, each WiiM player is programmed with the capability to detect a triggering event that causes the WiiM player to enter a setup mode, such as powering on the WiiM player by plugging it into a wall socket. *See, e.g.*, Ex. 75 ("Connect your digital-to-analog converter (DAC), audio receiver, or powered speaker to your WiiM Pro or Pro Plus device, then connect them to a power source."); Ex. 76 ("Connect the WiiM Amp to a power source using the provided power cable."); Ex. 77 ("Plug in one audio receiver or speaker on your device and connect it to power.").

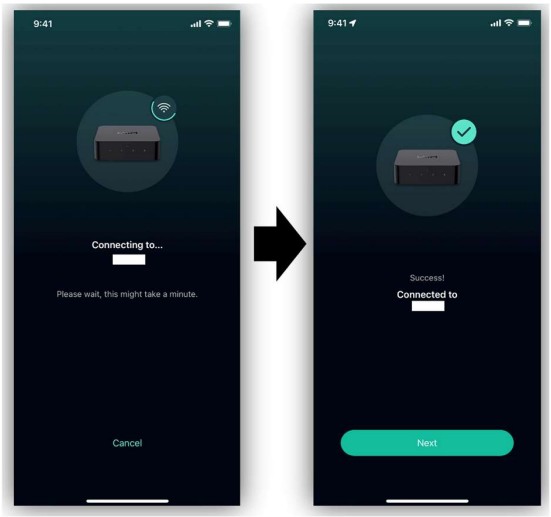
	Each WiiM player is programmed such that, after entering into the setup mode, the WiiM player functions to transmit a message indicating that the WiiM player is available for setup. For example, in response to a WiiM player being powered on for the first time out of the box or factory reset, the WiiM player enters a setup mode in which the WiiM player broadcasts messages (e.g., Bluetooth messages and/or in the case of the WiiM Wake-up Light, hotspot messages for the WiiM Wake-up Light's hotspot) indicating that the WiiM player is available for setup. Examples of this functionality are illustrated in the following screenshots:  

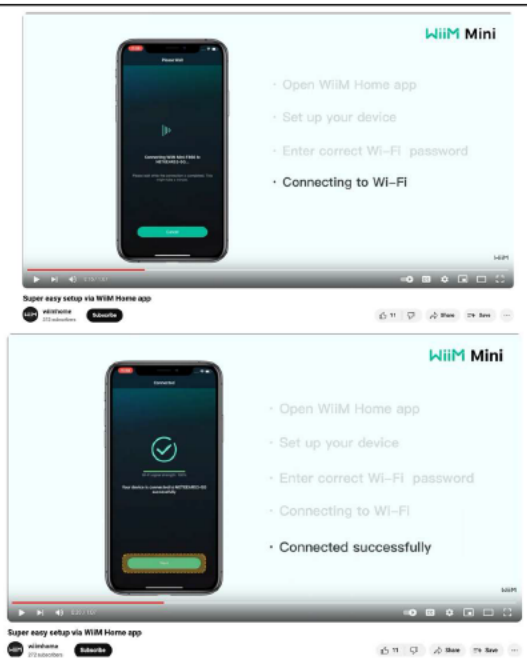
	 *See also, e.g.,* https://www.youtube.com/watch?v=kzvgasy-a-E: 
[1.6] while in the setup mode, receiving a response to the first message that facilitates establishing an initial communication path with a computing device that is installed with an application for controlling the playback device, wherein the computing device is operating on a secure wireless local area network (WLAN) that is defined by an access point, wherein the initial communication path with the	Each WiiM player comprises program instructions that, when executed by the WiiM player's at least one processor, cause that WiiM player to, while in the setup mode, receive a response to the first message that facilitates establishing an initial communication path with a computing device that is installed with an application for controlling the WiiM player, where the computing device is operating on a secure WLAN that is defined by an access point and where the initial communication path with the computing device does not traverse the access point.

computing device does not traverse the access point;	For instance, each WiiM player is programmed such that, while in the setup mode, the WiiM player is capable of receiving, from a WiiM controller that is operating on a secure local Wi-Fi network (which is a WLAN) that is defined by an access point, a response to the first message that facilitates establishing an initial communication path (e.g., via Bluetooth and/or in the case of the WiiM Wake-up Light, via the WiiM Wake-up Light's hotspot) with the WiiM controller to set up the WiiM player on the secure local Wi-Fi network, where the initial communication path is established directly between the WiiM player and the WiiM controller, as opposed to traversing the access point for the secure local Wi-Fi network. *See, e.g.*, Exs. 75-77; Ex. 78 ("Bluetooth access is required for WiiM App to detect your nearby speakers and setup WiiM devices during the setup process."). Examples of this functionality are illustrated in the screenshots below from a WiiM controller:  *See also*, *e.g.*, https://www.youtube.com/watch?v=kzvgasy-a-E:

	
[1.7] receiving, from the computing device via the initial communication path, at least a second message containing network configuration parameters for the secure WLAN, wherein the network configuration parameters comprise an identifier of the secure WLAN and a security key for the secure WLAN;	Each WiiM player comprises program instructions that, when executed by the WiiM player's at least one processor, cause that WiiM player to receive, from the WiiM controller via the initial communication path, at least a second message containing network configuration parameters for the secure WLAN, where the network configuration parameters comprise an identifier of the secure WLAN and a security key for the secure WLAN. For instance, each WiiM player is programmed such that, after establishing an initial communication path with a WiiM controller, the WiiM player functions to receive, via the initial communication path, at least one message containing network configuration parameters for a secure local Wi-Fi network from the WiiM controller that includes an identifier of the secure local Wi-Fi network and a security key for the local Wi-Fi network. As one particular example, after the initial communication path is established, the WiiM controller prompts the user (e.g., via the WiiM Home app), to select/enter configuration parameters for the user's local Wi-Fi network, including the SSID and password of the local Wi-Fi network, and then sends to the WiiM player at least one message that includes those network

	configuration parameters. *See, e.g.*, Ex. 76 ("Choos[e] your Wi-Fi network and entering the password. [ ]Wait[ ] for the device to connect to your network."). An example of this functionality is illustrated in the screenshots below from a WiiM controller:  *See also, e.g.*, https://www.youtube.com/watch?v=kzvgasy-a-E: 
[1.8] using the network configuration parameters to connect to the secure	Each WiiM player comprises program instructions that, when executed by the WiiM player's at least one

WLAN that is defined by the access point; and	processor, cause that WiiM player to use the network configuration parameters to connect to the secure WLAN that is defined by the access point. For instance, each WiiM player is programmed such that, after receiving a message comprising network configuration parameters for a secure local Wi-Fi network that is defined by an access point, the WiiM player functions to use the network configuration parameters to connect to that secure local Wi-Fi network. *See, e.g.,* Ex. 76 ("Choos[e] your Wi-Fi network and entering the password. [ ]Wait[ ] for the device to connect to your network."). An example of this functionality is illustrated in the screenshots below:  *See also*, *e.g.*, https://www.youtube.com/watch?v=kzvgasy-a-E:

	
[1.9] transitioning from communicating with the computing device via the initial communication path to communicating with the computing device via the secure WLAN that is defined by the access point.	Each WiiM player comprises program instructions that, when executed by the WiiM player's at least one processor, cause that WiiM player to transition from communicating with the WiiM controller via the initial communication path to communicating with the WiiM controller via the secure WLAN that is defined by the access point. For instance, each WiiM player is programmed such that, after using network configuration parameters provided by a WiiM controller to connect to a secure local Wi-Fi network that is defined by an access point, the WiiM player transitions from communicating with the WiiM controller via an initial communication path that does not traverse the access point to communicating with the WiiM controller via the secure local Wi-Fi network. *See, e.g.*, Ex. 76 ("You can now stream music using the WiiM Home app, or through compatible streaming services integrated with the WiiM Amp (like Spotify, Amazon Music, Tidal, Deezer, Qobuz, etc.)").

159. Additionally and/or alternatively, Defendant has indirectly infringed and continues to indirectly infringe one or more of the claims of the '883 Patent, in violation of 35 U.S.C. § 271(b), by actively inducing users of the WiiM System and/or devices provisioned with a Linkplay

module and/or third-party product developers to directly infringe the one or more claims of the ’883 Patent. For example, (a) Defendant had actual knowledge of the ’883 Patent or was willfully blind to its existence prior to (at least as early as December 11, 2023), and no later than, the filing of this action (*see* ¶¶23-31 above), (b) Defendant intentionally causes, urges, or encourages users of the WiiM System to directly infringe one or more claims of the ’883 Patent by promoting, advertising, and instructing customers and potential customers about the WiiM System and uses of the system, including infringing uses, and (c) Defendant knows (or should know) that its actions will induce users of the WiiM System to directly infringe one or more claims the ’883 Patent, and (d) users of the WiiM System directly infringe one or more claims of the ’883 Patent. For instance, at a minimum, Defendant has supplied and continues to supply WiiM players to customers while knowing that use of these products will infringe one or more claims of the ’883 Patent, and that Defendant’s customers then directly infringe one or more claims of the ’883 Patent by using these WiiM players in accordance with Defendant’s product literature.

160. Additionally and/or alternatively, Defendant has indirectly infringed and continues to indirectly infringe one or more of the claims of the ’883 Patent, in violation of 35 U.S.C. § 271(c), by offering to sell or selling within the United States, and/or importing into the United States, components in connection with the WiiM System and/or Linkplay modules that contribute to the direct infringement of the ’883 Patent by users and/or third-party product developers. For example, (a) Defendant had actual knowledge of the ’883 Patent or were willfully blind to its existence prior to (at least as early as December 11, 2023), and no later than, the filing of this action (*see* ¶¶23-31 above), (b) Defendant offers for sale, sells, and/or imports, in connection with the WiiM System, one or more material components of the invention of the ’883 Patent that are not staple articles of commerce suitable for substantial noninfringing use, (c) Defendant knows (or

should know) that such component(s) were especially made or especially adapted for use in an infringement of the '883 Patent, and (d) users of devices that comprise such material component(s) directly infringe one or more claims of the '883 Patent. For instance, at a minimum, Defendant offers for sale, sells, and/or imports software updates containing software modules enabling setup of WiiM players that meet one or more claims of the '883 Patent. *See, e.g.*, Exs. 61-62, 73-74. These software updates containing such software modules are material components of the WiiM players that meet the one or more claims of the '883 Patent. Further, Defendant especially made and/or adapted these software updates containing such software modules for use in the WiiM players that meet the one or more claims of the '883 Patent, and these software updates are not staple articles of commerce suitable for substantial noninfringing use. Indeed, there is no use for such software updates containing such software modules other than to, once installed onto WiiM players, engage in setup of players in a manner that infringes one or more claims of the '883 Patent. Defendant's customers then directly infringe the one or more claims of the '883 Patent by installing and using such software updates on the WiiM players.

161. Defendant's infringement of the '883 Patent is also willful because Defendant (a) had actual knowledge of the '883 Patent or were willfully blind to its existence prior to (at least as early as December 11, 2023), and no later than, the filing of this action (*see* ¶¶23-31 above), (b) engaged in the aforementioned activity despite an objectively high likelihood that Defendant's actions constituted infringement of the '883 Patent, and (c) this objectively-defined risk was either known or so obvious that it should have been known to Defendant.

162. Additional allegations regarding Defendant's pre-suit knowledge of the '883 Patent and willful infringement will likely have evidentiary support after a reasonable opportunity for discovery.

163. Sonos is in compliance with any applicable marking and/or notice provisions of 35 U.S.C. § 287 with respect to the ’883 Patent.

164. Sonos is entitled to recover from Defendant all damages that Sonos has sustained as a result of Defendant’s infringement of the ’883 Patent, including, without limitation, a reasonable royalty and lost profits.

165. Defendant’s infringement of the ’883 Patent was and continues to be willful and deliberate, entitling Sonos to enhanced damages.

166. Defendant’s infringement of the ’883 Patent is exceptional and entitles Sonos to attorneys’ fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

167. Defendant’s infringement of the ’883 Patent has caused irreparable harm (including the loss of market share) to Sonos and will continue to do so unless enjoined by this Court.

COUNT V: INFRINGEMENT OF U.S. PATENT NO. 10,853,023

168. Sonos incorporates by reference and re-alleges paragraphs 1-167 of this Complaint as if fully set forth herein.

169. Defendant, users of the WiiM System and/or devices provisioned with a Linkplay module, and/or third-party product developers have directly infringed (either literally or under the doctrine of equivalents) and continue to directly infringe one or more of the claims of the ’023 Patent, in violation of 35 U.S.C. § 271(a), by making, using, offering for sale, and/or selling the WiiM System and/or devices provisioned with a Linkplay module within the United States and/or importing the WiiM System and/or devices provisioned with a Linkplay module into the United States without authority or license.

170. As just one non-limiting example, set forth below is an exemplary infringement claim chart for claim 1 of the ’023 Patent in connection with the WiiM System and/or Linkplay

modules. This claim chart is based on publicly available information. Sonos reserves the right to modify this claim chart, including, for example, on the basis of information about the WiiM System and/or Linkplay modules that it obtains during discovery.

Claim 1	WiiM Player
[1.0] A playback device comprising:	Linkplay offers a wide range of audio playback devices, including at least the WiiM product line comprised of a number of WiiM players, including the WiiM Amp, WiiM Pro, WiiM Pro Plus, and WiiM Mini. *See, e.g.*, Exs. 25, 44, 51. On information and belief, each device provisioned with a Linkplay module contains the same (or substantially similar) relevant functionality as the aforementioned WiiM players. For purposes of this chart, the foregoing devices will be referred to as "WiiM players." Linkplay also offers apps that can be installed onto user devices, such as smartphones, tablets, and other computers, and utilized to control at least the WiiM players. *See, e.g.*, Ex. 18. For example, Linkplay offers the WiiM Home app, which can be installed onto user devices and utilized to control at least the WiiM players. *See, e.g., id.* For purposes of this chart, each user device installed with the WiiM Home app will be referred to as a "WiiM controller." As described in more detail below, each WiiM player is a "playback device" as recited in claim 1.
[1.1] one or more processors; and	Each WiiM player includes one or more processors. *See, e.g.*, Exs. 67-70.
[1.2] tangible, non-transitory computer readable memory comprising instructions stored therein, wherein the instructions, when executed, cause the playback device to perform a method comprising:	Each WiiM player includes a non-transitory computer readable memory having stored therein executable instructions that enable the WiiM player to perform the functions identified below. *See, e.g.,* Exs. 67-70.
[1.3] arming the playback device so that receipt of a first type of media content preempts playback of a second type of media content;	Each WiiM player comprises instructions that, when executed by the WiiM player's one or more processors, cause that WiiM player to arm the WiiM player so that receipt of a first type of media content preempts playback of a second type of media content. For instance, each WiiM player is programmed with the capability to arm itself so that receipt of a first type of media content at the WiiM player's line-in connector that is

Claim 1	WiiM Player
	equipped with "auto-sensing" functionality preempts playback of a second type of media content that is not present at the WiiM player's line-in connector (e.g., audio from an Internet-based music service). *See, e.g.*, Ex. 48 ("Auto-sensing allows the WiiM Amp to automatically play audio from the connected input as soon as a signal is detected, regardless of the device's current state or standby mode. … By enabling Auto-sensing, your WiiM Amp will seamlessly transition to input audio, enhancing your listening experience with convenience."); Ex. 49 ("Enable Auto-sensing to have WiiM Pro play input audio automatically as soon as it detects an incoming signal through the audio input port. This function activates no matter whether the device or group has or has no ongoing playback and goes into standby mode."); Ex. 50.
[1.4] after arming the playback device, playing the second type of media content;	Each WiiM player comprises instructions that, when executed by the WiiM player's one or more processors, cause that WiiM player to, after arming the WiiM player, play the second type of media content. For instance, each WiiM player is programmed such that, after arming the WiiM player, the WiiM player functions to play the second type of media content that is not present at the WiiM player's line-in connector (e.g., playing audio from an Internet-based music service as a result of a user's voice request). *See, e.g.*, Ex. 18; Ex. 71; Ex. 79.
[1.5] while playing the second type of media content, determining that the playback device is receiving the first type of media content via a line-in connector;	Each WiiM player comprises instructions that, when executed by the WiiM player's one or more processors, cause that WiiM player to, while playing the second type of media content, determine that the WiiM player is receiving the first type of media content via a line-in connector. For instance, each WiiM player is programmed such that, while playing the second type of media content that is not present at the WiiM player's line-in connector (e.g., audio from an Internet-based music service initiated as a result of a user's voice request), the WiiM player functions to determine that it is receiving the first type of media content via the line-in connector that is equipped with "auto-sensing" functionality. *See, e.g.*, Ex. 48 ("Auto-sensing allows the WiiM Amp to automatically play audio from the connected input as soon as a signal is detected, regardless of the device's current state or standby mode. … By enabling Auto-sensing, your WiiM Amp will seamlessly transition to input audio, enhancing your listening experience with

Claim 1	WiiM Player
	convenience."); Ex. 49 ("Enable Auto-sensing to have WiiM Pro play input audio automatically as soon as it detects an incoming signal through the audio input port. This function activates no matter whether the device or group has or has no ongoing playback and goes into standby mode."); Ex. 50.
[1.6] in response to determining that playback device is receiving the first type of media content, ceasing playback of the second type of media content and playing the first type of media content;	Each of the foregoing WiiM players comprises instructions that, when executed by the WiiM player's one or more processors, cause that WiiM player to, in response to determining that the WiiM player is receiving the first type of media content, cease playback of the second type of media content and play the first type of media content. For instance, each WiiM player is programmed such that, in response to determining that the WiiM player is receiving the first type of media content via the line-in connector that is equipped with "auto-sensing" functionality, the WiiM player functions to cease playback of the second type of media content that is not present at the WiiM player's line-in connector (e.g., audio from an Internet-based music service initiated as a result of a user's voice request) and play the first type of media content that is present at the WiiM player's line-in connector. *See, e.g.*, Ex. 48 ("Auto-sensing allows the WiiM Amp to automatically play audio from the connected input as soon as a signal is detected, regardless of the device's current state or standby mode. … By enabling Auto-sensing, your WiiM Amp will seamlessly transition to input audio, enhancing your listening experience with convenience."); Ex. 49 ("Enable Auto-sensing to have WiiM Pro play input audio automatically as soon as it detects an incoming signal through the audio input port. This function activates no matter whether the device or group has or has no ongoing playback and goes into standby mode."); Ex. 50.
[1.7] determining that the playback device is no longer receiving the first type of media content; and	Each WiiM player comprises instructions that, when executed by the WiiM player's one or more processors, cause that WiiM player to determine that the WiiM player is no longer receiving the first type of media content. For instance, as discussed before, each WiiM player is programmed with the capability to determine whether the WiiM player is no longer receiving the first type of media content, which includes the capability to determine that the first type of media content that was previously present at a line-in connector is no longer present. *See, e.g.*, Exs. 48-50.

Claim 1	WiiM Player
[1.8] in response to determining that the playback device is no longer receiving the first type of media content, ceasing playback of the first type of media content and rearming the playback device so that subsequent receipt of the first type of media content preempts playback of the second type of media content.	Each WiiM player comprises instructions that, when executed by the WiiM player's one or more processors, cause that WiiM player to, in response to determining that the WiiM player is no longer receiving the first type of media content, cease playback of the first type of media content and rearm the WiiM player so that subsequent receipt of the first type of media content preempts playback of the second type of media content. For instance, each WiiM player is programmed such that, in response to determining that the WiiM player is no longer receiving the first type of media content at the WiiM player's line-in connector that is equipped with "auto-sensing" functionality, the WiiM player functions to cease playback of the first type of media content and rearm itself so that subsequent receipt of the first type of media content at the WiiM player's line-in connector that is equipped with "auto-sensing" functionality preempts playback of the second type of media content and causes the WiiM player to playback the first type of media content at the WiiM player's line-in connector that is equipped with "auto-sensing" functionality. *See, e.g.*, Exs. 48-50.

171. Additionally and/or alternatively, Defendant has indirectly infringed and continues to indirectly infringe one or more of the claims of the '023 Patent, in violation of 35 U.S.C. § 271(b), by actively inducing users of the WiiM System and/or devices provisioned with a Linkplay module and/or third-party product developers to directly infringe the one or more claims of the '023 Patent. For example, (a) Defendant had actual knowledge of the '023 Patent or was willfully blind to its existence prior to (at least as early as December 11, 2023), and no later than, the filing of this action (*see* ¶¶23-31 above), (b) Defendant intentionally causes, urges, or encourages users of the WiiM System to directly infringe one or more claims of the '023 Patent by promoting, advertising, and instructing customers and potential customers about the WiiM System and uses of the system, including infringing uses, and (c) Defendant knows (or should know) that its actions will induce users of the WiiM System to directly infringe one or more claims the '023 Patent, and

(d) users of the WiiM System directly infringe one or more claims of the ’023 Patent. For instance, at a minimum, Defendant has supplied and continues to supply WiiM players to customers while knowing that use of these products will infringe one or more claims of the ’023 Patent, and that Defendant’s customers then directly infringe one or more claims of the ’023 Patent by using these WiiM players in accordance with Defendant’s product literature.

172. Additionally and/or alternatively, Defendant has indirectly infringed and continues to indirectly infringe one or more of the claims of the ’023 Patent, in violation of 35 U.S.C. § 271(c), by offering to sell or selling within the United States, and/or importing into the United States, components in connection with the WiiM System and/or Linkplay modules that contribute to the direct infringement of the ’023 Patent by users and/or third-party product developers. For example, (a) Defendant had actual knowledge of the ’023 Patent or were willfully blind to its existence prior to (at least as early as December 11, 2023), and no later than, the filing of this action (*see* ¶¶23-31 above), (b) Defendant offers for sale, sells, and/or imports, in connection with the WiiM System, one or more material components of the invention of the ’023 Patent that are not staple articles of commerce suitable for substantial noninfringing use, (c) Defendant knows (or should know) that such component(s) were especially made or especially adapted for use in an infringement of the ’023 Patent, and (d) users of devices that comprise such material component(s) directly infringe one or more claims of the ’023 Patent. For instance, at a minimum, Defendant offers for sale, sells, and/or imports software updates containing software modules enabling WiiM players to engage in source switching in a manner that meets one or more claims of the ’023 Patent. *See, e.g.*, Exs. 61-62, 73-74. These software updates containing such software modules are material components of the WiiM players that meet the one or more claims of the ’023 Patent. Further, Defendant especially made and/or adapted these software updates containing such

software modules for use in the WiiM players that meet the one or more claims of the ’023 Patent, and these software updates are not staple articles of commerce suitable for substantial noninfringing use. Indeed, there is no use for such software updates containing such software modules other than to, once installed onto WiiM players, engage in source switching in a manner that infringes one or more claims of the ’023 Patent. Defendant’s customers then directly infringe the one or more claims of the ’023 Patent by installing and using such software updates on the WiiM players.

173. Defendant’s infringement of the ’023 Patent is also willful because Defendant (a) had actual knowledge of the ’023 Patent or were willfully blind to its existence prior to (at least as early as December 11, 2023), and no later than, the filing of this action (*see* ¶¶23-31 above), (b) engaged in the aforementioned activity despite an objectively high likelihood that Defendant’s actions constituted infringement of the ’023 Patent, and (c) this objectively-defined risk was either known or so obvious that it should have been known to Defendant.

174. Additional allegations regarding Defendant’s pre-suit knowledge of the ’023 Patent and willful infringement will likely have evidentiary support after a reasonable opportunity for discovery.

175. Sonos is in compliance with any applicable marking and/or notice provisions of 35 U.S.C. § 287 with respect to the ’023 Patent.

176. Sonos is entitled to recover from Defendant all damages that Sonos has sustained as a result of Defendant’s infringement of the ’023 Patent, including, without limitation, a reasonable royalty and lost profits.

177. Defendant’s infringement of the ’023 Patent was and continues to be willful and deliberate, entitling Sonos to enhanced damages.

178. Defendant's infringement of the '023 Patent is exceptional and entitles Sonos to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

179. Defendant's infringement of the '023 Patent has caused irreparable harm (including the loss of market share) to Sonos and will continue to do so unless enjoined by this Court.

PRAYER FOR RELIEF

WHEREFORE, Sonos respectfully requests:

A. That Judgment be entered that Defendant has infringed and continues to infringe at least one or more claims of each of the patents-in-suit, directly and/or indirectly, literally and/or under the doctrine of equivalents, and that such infringement has been and is willful;

B. An injunction enjoining Defendant, its officers, agents, servants, employees and attorneys, and other persons in active concert or participation with Defendant, and its parents, subsidiaries, divisions, successors and assigns, from further infringement of the patents-in-suit.

C. An award of damages sufficient to compensate Sonos for Defendant's infringement under 35 U.S.C. § 284, including an enhancement of damages on account of Defendant's willful infringement;

D. That the case be found exceptional under 35 U.S.C. § 285 and that Sonos be awarded its reasonable attorneys' fees;

E. Costs and expenses in this action;

F. An award of prejudgment and post-judgment interest; and

G. Such other and further relief as the Court may deem just and proper.

REQUEST FOR JURY TRIAL

Pursuant to FED. R. CIV. P. 38, Sonos respectfully demands a trial by jury of any issue triable of right by a jury.

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