Sonos argues that "even if Isely teaches the formation of a 'player group' . . . it does not disclose the 'player group for synchronized group playback' or the 'player-specific input' that is also missing from cd3o." CIB at 184. "Thus, it could not possibly fill the gaps in cd3o's teachings." *Id.* Sonos further argues that "Google . . . fails to make a clear and convincing showing that a POSITA would be motivated to combine the two in any event." *Id.*

Staff argues that "the evidence shows that Isely fails to disclose or render obvious . . . claim 1 of the '949 patent." SIB at 135, 141. Staff notes that "Google failed to demonstrate that Isely in combination with cd3o renders obvious Element 1.1." *Id.*

The undersigned finds that Google has failed to show that Isely in combination with cd3o invalidates claim 1. As noted above, the undersigned found that Isely did not disclose the limitations of element 1.3, which requires that an individual player accept a player-specific input to adjust a volume. Google does not assert that cd3o discloses this element. *See* RIB at 191-195; RRB 86-88. As such, this combination cannot invalidate claim 1.

i) Conclusion

For the reasons set forth above, the undersigned finds that Google has failed to establish, by clear and convincing evidence, that any asserted claim is rendered obvious.

j) Secondary Considerations

Secondary considerations of nonobviousness may rebut a *prima facie* case of obviousness. Here, where Google has not made out a *prima facie* case of obviousness, there is no showing to rebut. Accordingly, the undersigned need not consider any secondary considerations of nonobviousness.

3. 35 U.S.C. § 101(a)

Google asserts that the patent is invalid under 35 U.S.C. § 101(a). RIB at 199. First, Google asserts that "[t]he asserted claims of the '949 patent are directed to the abstract idea of configuring and controlling an audio system." *Id.* Google explains that "[a]s a replacement for the traditional hard-wired audio system, the '949 patent places conventional audio devices on a conventional network and controls them using a conventional computing device with a conventional user interface." *Id.* According to Google, "[w]hile the software-based controller eliminates the need to physically re-write an audio system, this type of improvement is not patentable as a matter of law." *Id.* Second, Google argues that "[e]very component in the claims [is] conventional and routine." *Id.* at 200. Google states: "The computing device claimed by the patent is not even 'arguably an advance over conventional computer and network technology.'" *Id.* (quoting *Elec. Power Grp. LLC v. Alstom S.A.*, 830 F.3d 1350, 1351 (Fed. Cir. 2016)).

Sonos asserts that the claims of the '949 patent are not directed to an abstract idea and, even if they were, they include an "inventive concept." CIB at 187. Sonos further asserts that "Google has not met its burden. As a district court held, the claimed invention 'represents a substantial improvement over existing technology' and the '949 Patent 'claim[s] patent eligible subject matter under § 101.'" CRB at 90-91 (quoting CX-0969.12-.13).

Staff argues that "the claims of the '949 patent are not directed to an abstract idea under step one of *Mayo/Alice* analysis, but rather to a tangible implementation comprised of more than a generic computer." SIB at 147. According to Staff, "Google has oversimplified the scope of the claims of the '949 patent." *Id.* at 146. Staff instead argues that "the claims of the '949 patent are directed to specific improvements to existing multi-zone audio system technology, not an abstract

idea." *Id.* at 147. Staff further asserts that "even if the CALJ determines that the patent claims are directed to an abstract idea, the claims of the '949 patent include an 'inventive concept.'" *Id.*

The undersigned finds that Google has failed to establish that the claims of the '949 patent are directed to a patent-ineligible concept. The undersigned agrees with Staff that "[t]he claims . . . do not cover all methods of configuring and controlling an audio system." SIB at 146. Instead, the claims are directed to specific improvements in multi-zone audio system technology. For example, the claims are directed to a controller for a networked audio system in which "independent playback devices" interact over a "local area network." JX-0003 at 4:55-6:11; CX-0015C at Q/As 683-691. The claims are further directed to a user interface for "a player group" of "independent playback devices" that accept individual and groupwise volume control for dynamically-formed groups. JX-0003 at 2:65-3:3, 5:32-36, 6:56-60; CX-0015C at Q/As 683-701.

The invention of the '949 patent also solves a problem with the existing technology. The specification explains that "it can be difficult for the traditional system to accommodate the requirement of dynamically managing the ad hoc creation and deletion of groups," which created "a need for dynamic control of the audio players as a group" and "for user interfaces that may be readily utilized to group and control the audio players." JX-0003 at 2:7-16. The '949 patent addresses these issues through an "interactive graphic user interface for forming, managing, and controlling groups in the system, de-grouping a group or adjusting audio volume of individual players or a group of players." *Id.* at 2:65:3-3.

Accordingly, because the claims of the '949 patent are directed to specific improvements and not an abstract idea, the undersigned finds that the claims are not unpatentable under the first step of the *Alice* test. As such, the undersigned finds that the '949 patent is not invalid pursuant to 35 U.S.C. § 101(a).

X.   U.S. PATENT 10,439,896

A.   Overview

The '896 patent, entitled "Playback Device Connection," issued on October 8, 2019 to Nicholas A. J. Millington and Paul V. Hainsworth. The '896 patent is assigned to Sonos. The '896 patent relates to "techniques for connecting various devices to a network for secure communications with a minimum of human interaction and technical ability." JX-0005 at 1:29-32.

1.   Asserted Claims

Sonos is asserting claims 1, 5, 6, and 12, which read as follows:

1.   [1.0] A computing device comprising:

[1.1] a user interface;

[1.2] a network interface;

[1.3] at least one processor;

[1.4] a non-transitory computer-readable medium; and program instructions stored on the non-transitory computer-readable medium that, when executed by the at least one processor, cause the computing device to perform functions comprising:

[1.5] while operating on a secure wireless local area network (WLAN) that is defined by an access point, (a) receiving, via a graphical user interface (GUI) associated with an application for controlling one or more playback devices, user input indicating that a user wishes to set up a playback device to operate on the secure WLAN and (b) receiving a first message indicating that a given playback device is available for setup;

[1.6] after receiving the user input and receiving the first message, transmitting a response to the first message that facilitates establishing an initial communication path with the given playback device, wherein the initial communication path with the given playback device does not traverse the access point;

[1.7] transmitting, to the given playback device via the initial communication path, at least a second message containing network configuration parameters, wherein the network configuration parameters comprise an identifier of the secure WLAN and a security key for the secure WLAN;

[1.8] after transmitting at least the second message containing the network configuration parameters, detecting an indication that the given playback device has successfully received the network configuration parameters; and

[1.9] after detecting the indication, transitioning from communicating with the given playback device via the initial communication path to communicating with the given playback device via the secure WLAN that is defined by the access point.

5. The computing device of claim 1, wherein communicating with the given playback device via the secure WLAN comprises transmitting a command to the given playback device related to playback of audio content.

6. The computing device of claim 5, wherein the command comprises a command to retrieve audio content for playback form an audio source that is accessible via a communication path that includes the secure WLAN.

12. The computing device of claim 1, further comprising program instructions stored on the non-transitory computer-readable medium that, when executed by the at least one processor, cause the computing device to perform functions comprising: after transitioning to communicating with the given playback device via the secure WLAN, transmitting a command to the given playback device to form a group with at least a first playback device of a networked audio system such that the given playback device is configured to play back audio content in synchrony with at least the first playback device.

2. Claim Construction

The undersigned has construed the following terms from the asserted claims:

TERM	CLAIM(S)	CLAIM CONSTRUCTION
"playback device"	1, 5, 12	"data network device configured to process and output audio"
"network interface"	1	"physical component of a device that provides an interconnection with a data network"
"security key"	1	Plain and ordinary meaning
"while operating . . ."/ "after receiving . . ."	1	Plain and ordinary meaning, which includes a sequence of steps
"program instructions . . ."	1	Plain and ordinary meaning
"at least a second message containing network configuration parameters, wherein the network configuration parameters comprise an identifier of the secure WLAN and a security key for the secure WLAN"	1	"at least one second message containing network configuration parameters, wherein the network configuration parameters comprise an identifier of the secure WLAN and a security key for the secure WLAN"

Order No. 20 at 15, 29, 32, 36, 40.[78]

B.   Infringement

Sonos asserts that the '896 Accused Products infringe claims 1, 5, 6, and 12 of the '896 patent. CIB at 195; *see also id.* at 8. Sonos also alleges that Google induces infringement of the asserted claims. *Id.* at 209.

Staff agrees with Sonos that claims 1, 5, 6, and 12 are infringed. SIB at 150. Google disputes that any asserted claim is infringed. RIB at 207.

1.   Claim 1

Sonos asserts that the '896 Accused Products infringe claim 1 of the '896 patent. CIB at 195. Google disputes that claim limitations 1.5 and 1.6 are met.[79] RLUL at 19. Google does not dispute that the '258 Accused Products meet the remaining limitations of claim 1. *Id*. Staff agrees with Sonos that claim 1 is infringed. SIB at 150.

a)   Limitations 1.5 and 1.6

Claim 1 includes the limitations: (1) "while operating on a secure wireless local area network (WLAN) that is defined by an access point, (a) receiving, via a graphical user interface (GUI) associated with an application for controlling one or more playback devices, user input indicating that a user wishes to set up a playback device to operate on the secure WLAN and (b) receiving a first message indicating that a given playback device is available for setup"; and (2) "after receiving the user input and receiving the first message, transmitting a response to the first

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[78] The parties also propose that the undersigned construe two additional terms in this Initial Determination: (1) "a graphical user interface (GUI) associated with an application for controlling one or more playback devices"; and (2) "configured to play audio content in synchrony." CIB at 188-195; RIB at 203-207; SIB at 149. Each of these terms is relevant only to invalidity. *See* CIB at 188; SIB at 149. Given the undersigned's below rulings with respect to invalidity, it is unnecessary to construe these terms.

[79] Google also asserts that the '896 Accused Products, as imported, do not directly infringe the '896 patent. As explained *supra*, with respect to the '258 patent, the undersigned is not persuaded by this argument. *See* Section VI.B.1.

message that facilitates establishing an initial communication path with the given playback device, wherein the initial communication path with the given playback device does not traverse the access point." JX-0005, cl. 1.

The parties agree that the step set forth in claim limitation 1.5 must come before the step set forth in claim limitation 1.6. CIB at 197; RIB at 208; SIB at 151. The parties further agree as to the sequence of screens presented by the Google Home app during setup protocols. CIB at 197; RIB at 212; SIB at 152-154. Specifically, the Google Home app allows a user to select an option "[s]et up new devices in your home," which results in the '896 Accused Products "[l]ooking for devices" that are available to be set up. *See, e.g.*, CDX.0006C (depicting series of screenshots from CPX-0016); *see also* CX-0012C at Q/As 806-807. Once a Chromecast-enabled audio player is found, the below screen is presented:

CDX-0006C.00418 (hereinafter, the "Device Found Screen"); *see also* CX-0012C at Q/A 806. In the Device Found Screen, the device is identified (here, a Google Home Mini), and the user is asked: "Would you like to set up this device?" *Id.* The user can then select "Yes" or select "Set up a different device." *Id.* After a user, clicks "Yes," the below screens are presented:
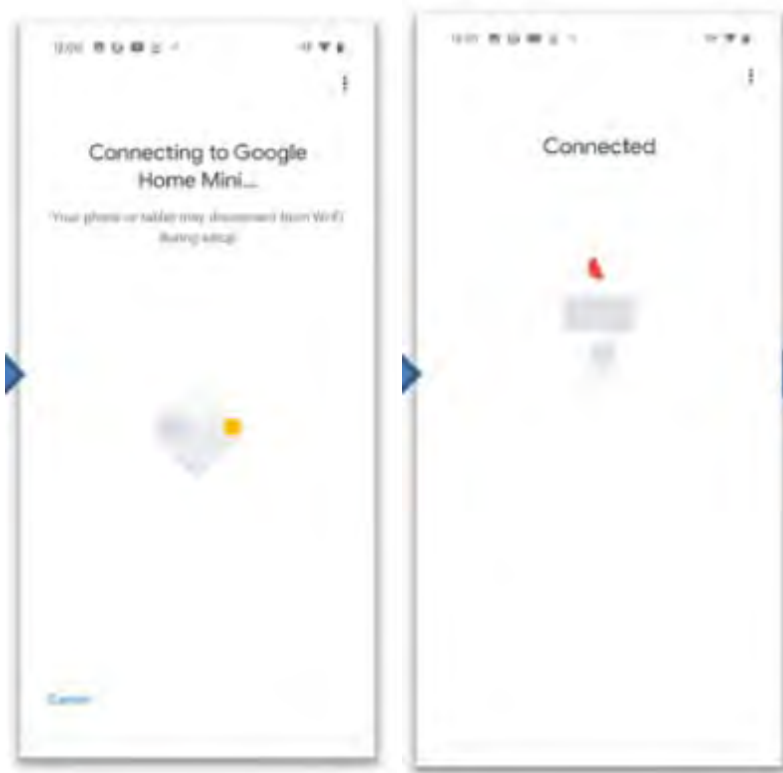
Id. at CDX-0006C.419-.420 (hereinafter, the "Device Connected Screen"). After the device is connected, the Google Home app presents the following screen:

Id. at CDX.0006C.00424 (hereinafter, the "Connect to Wi-Fi Screen"). This screen lists the Wi-Fi networks available to the audio player. *Id*. The network that the '896 Accused Product was already connected to when the user tapped "Yes" on the Select Device screen is highlighted in blue. *Id.*; CX-0012C at Q/As 808-809. Finally, the parties further agree that claim limitation 1.6 is met during the Device Connected Screen. CX-0012C at Q/As 858-859; RIB at 209 n.46 ("For purposes of infringement, the parties agree when the 'initial communication path' is established.").

The dispute centers around when the first step occurs. Sonos and Staff asserts that the first step occurs when a user selects "Yes" on the Device Found Screen. CIB at 200; SIB at 155. Google

assert that the first step does not occur until *after* the second step; specifically, when a user selects "Next" on the "Connect to Wi-Fi Screen." RIB at 209-210.

Sonos argues that "[w]hen the user taps 'Yes,' [on the Device Found Screen], the Google Home app saves the Wi-Fi network that the '896 Accused Product is currently connected to." CIB at 198. Sonos also explains that "without any user selection on [the "Connect to Wi-Fi Screen"], the '896 Accused Product has already preselected and highlighted in blue a particular network: the same Wi-Fi network that the '896 Accused Product was already connected to when the user tapped 'Yes'" on the Device Found Screen. *Id.* When the user clicks "Next," he "simply 'confirm[s] that the network that [he] wanted to use was highlighted or selected,' without the need to 'make another selection." *Id.* at 199 (quoting Jeffay, Tr. at 977:4-25).

According to Google, "Sonos is forced to rely on [Device Found Screen] . . . for the 'user input' limitation because that screen appears before the accused initial communication path is established between the device with the Google Home app . . . and the device being set up through the Google Home app." RIB at 209. Google explains: "But, in reality, the first time the Google Home app receives an objectively verifiable 'indicat[ion] that a user wishes to set up' the to [sic] operate on any 'secure WLAN' is when the user taps the 'Next' button on the 'Connect to Wi-Fi' screen." *Id.* at 209-210. "Thus, if the CALJ agrees that the 'Connect to Wi-Fi' screen . . . is the first time where the Google Home app can receive an objectively verifiable 'user input' that the user wishes to set up the Smart Speaker to operate on the same secure WLAN as the Phone, then there is no further dispute." *Id.* at 210.

Staff asserts that the evidence shows that the selection of 'yes' on the Select Device Screen "meets the claimed 'user input.'" SIB at 155. "First, the claimed 'user input' requires only '[a]n indicat[ion] that a user wishes to set up a playback device to operate on the secure WLAN.'" *Id.*

(quoting JX-0005, cl. 1.) "Second, after the user presses 'yes' on the [Select Device Screen], the Google Home App is programmed to select and highlight (in blue) the network a user's mobile device was connected to when the user pressed 'yes.'" *Id.* at 156. Finally, "'[i]f a user adds the smart speaker to a Wi-Fi network that is different from the Wi-Fi network that the Google Home app device was using prior to starting the setup process, the Google Home app will ask whether a user wants to switch the Google Home app device to the same network that the smart speaker was setup on.'" *Id.* (quoting RX-1518C at Q/A 38).

The undersigned finds that claim limitation 1.5 is met when a user selects "Yes" on the Device Found Screen. While the user does not explicitly indicate that he wants to use the same Wi-Fi network as his computing device, as the Staff recognizes, "[t]he plain and ordinary meaning of the claimed 'user input' does not require that the user select the secure WLAN." SIB at 155; *see also* Jeffay, Tr. at 973:4-9 (indicating agreement to this point). Instead, the '896 Accused Products are designed to assume that the user wishes to set up the playback device on the same Wi-Fi network. *See* CX-0012C at Q/A 845 ("[T]he Google Home app absolutely 'assumes' that the user wishes to set up the 'Google Home device' on the same secure WLAN that the Chromecast-enabled computing device installed the Google Home app is initially connected to.").

This is confirmed by three pieces of evidence. First, in the "Connect to Wi-Fi Screen," the Wi-Fi network that the '896 Accused Product was connected to when the user clicked "Yes," on the Device Found screen is preselected. CX-0012C at Q/As 808-809. ██████████████████████

██ .[80]
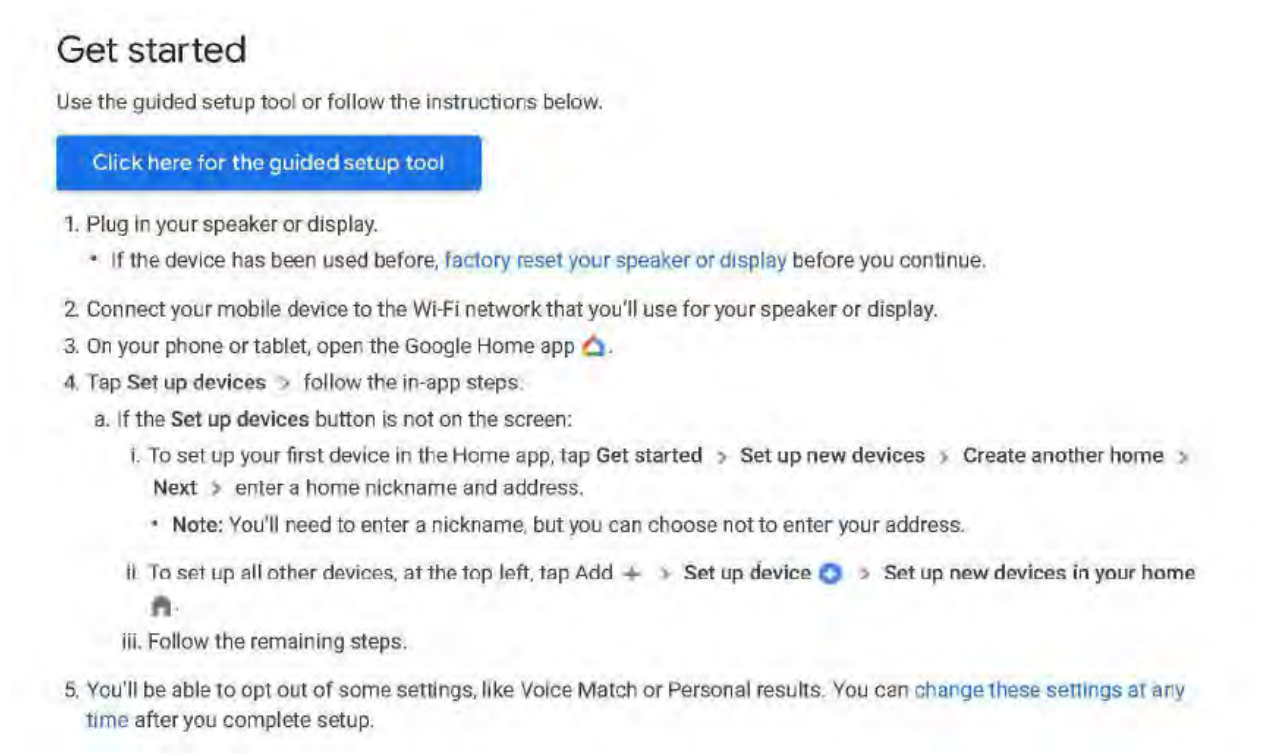
Cho, Tr. at 454:2-5. Additionally, as Dr. Jeffay admitted, when the user clicks "Next," the user

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[80] Google asserts that the highlighting occurs after an initial communication path has been established. RIB at 219. While this is true, it is also irrelevant. ██
████████████████████████ . *See* Cho, Tr. at 452:4-454:5.

"confirm[s] that the network [he] wanted to use was highlighted or selected," without the user needing to "make another selection." Jeffay, Tr. at 977:4-25.

Second, Google's instructions provide evidence that the "user input" occurs once the user selects "Yes," on the Device Found Screen.[81] The instructions inform the user to "[c]onnect your mobile device to the Wi-Fi network that you'll use for your speaker or display" before launching the Google Home app:

Get started

Use the guided setup tool or follow the instructions below.

> Click here for the guided setup tool

1. Plug in your speaker or display.
   - If the device has been used before, factory reset your speaker or display before you continue.
2. Connect your mobile device to the Wi-Fi network that you'll use for your speaker or display.
3. On your phone or tablet, open the Google Home app △.
4. Tap Set up devices > follow the in-app steps.
   a. If the Set up devices button is not on the screen:
      i. To set up your first device in the Home app, tap Get started > Set up new devices > Create another home > Next > enter a home nickname and address.
         - Note: You'll need to enter a nickname, but you can choose not to enter your address.
      ii. To set up all other devices, at the top left, tap Add + > Set up device ◎ > Set up new devices in your home ⌂.
      iii. Follow the remaining steps.
5. You'll be able to opt out of some settings, like Voice Match or Personal results. You can change these settings at any time after you complete setup.

CX-0314. These instructions thus confirm that the '896 Accused Products were designed to assume that the playback device should be connected to the same network as the computing device.

Third, "[i]f a user adds a device to a Wi-Fi network that is different from the Wi-Fi network that the Google Home app device was using prior to starting the setup process, the Google Home

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[81] Prior to the hearing, Google deleted the second step from its instructions. Cho, Tr. at 468:2-9. Google also argues that following the instructions is "optional" and there "is no evidence whether users even see [them]." RIB at 217. Whether or not users see or follow the instructions is of no consequence. Instead, the instruction is important for confirming how the system was designed to work.

app will ask whether a user wants to switch the Google Home app device to the same network that the smart speaker was setup on." RX-1518C at Q/A 11. A user does not receive this message if the user follows Google's setup instructions and connects the Google Home speaker to the Wi-Fi network fetched after a user selects "Yes" in the Device Found screen. Jeffay, Tr. at 980:5-10. Additionally, in order for the smart speaker to be visible, the user would need to connect the smart speaker and the device running the Google Home app to the same network. RX-1521C at Q/As 411-412, 416-420.

Google makes several arguments for why the "Device Found Screen" cannot constitute the claimed user input. First, Google asserts that "this screen has nothing to do with Wi-Fi networks." RIB at 214. ███

███

███. Cho,

Tr. at 452:7-453:2. ██

████████. *Id.* at 453:3-5

Google also argues that the '896 Accused Products later █████████████████

████████████████████████. *See* RIB at 210-212. ███████████████████

███

███

███████████████████████████████████. As Sonos notes, "the fact that the '896 Accused Products have additional unclaimed functionality that allows a user to override the '896 Accused Products' preselected network and proceed with a different network does not avoid infringement." CIB 204 n.101 (citing *Vivid Techs., Inc. v. Am Sci. & Eng'g, Inc.*, 200 F.3d 795, 811 (Fed. Cir. 1999)).

Google also argues that "if the CALJ agrees with Sonos on invalidity, the 896 Accused Products establish an initial communication path even before the [Device Found Screen] is displayed and thus do not infringe even under Sonos' theory for the 'user input' limitation." RIB at 209 n.46. As explained in Section X.D.2 below, the undersigned found that connecting the cable in the cd3o system to the playback device establishes an "initial communication path." The '896 Accused Products do not involve connecting cables and thus this finding is irrelevant to infringement.

For the above reasons, the undersigned finds that the '896 Accused Products meet limitations 1.5. and 1.6.

b) Conclusion

Accordingly, for the reasons set forth above, the undersigned finds that the '896 Accused Products infringe claim 1.

2. Dependent Claims

Sonos asserts that the additional limitations of claims 5, 6, and 12 are met. CIB at 208-209. Google does not dispute that the additional limitations of the dependent claims are met. RLUL at 20. Additionally, the evidence shows that the '896 Accused Products meet these limitations. CX-0012C at Q/A 914-930; JX-0017C; JC-0179C; JX-0176C; CX-3853; CX-3721; CX-3711- CX-3712; CX-3715; CX-3328; CX-3719C. Accordingly, the undersigned finds that the '896 Accused Products infringe claims 5, 6, and 12.

3. Indirect Infringement

Sonos asserts that Google actively induces infringement. CIB at 209. Sonos explains that consumers have downloaded/installed the Google Home App on Pixel devices and used these devices. *Id.* at 210. Sonos further states that Google "had knowledge of the '896 Patent and the

infringement allegations no later than January 6, 2020." *Id.* According to Sonos, "Google encouraged third parties to infringe." *Id.*

Google asserts that there "is no induced infringement because Sonos cannot show that, at the time of importation, any specific imported Pixel device subject to the ITC's *in rem* jurisdiction will land in the hands of a customer who (a) will load the Google Home app on the device and then complete the installation process so that the customer can operate the app on the device; and (b) was induced by Google to download the Google Home app." RIB at 223-224.

Staff asserts that "[t]he evidence shows that Google's activities induce infringement of the asserted claims of the '896 patent by users." SIB at 159. Staff further asserts that Google's "time-of-importation argument" should be rejected. SRB at 56 n. 13 (citing *Certain Blood Cholesterol Testing Strips*, Inv. No. 337-TA-1116, Comm'n Op. at 25-26 (May 1, 2020).

As noted above, the undersigned disagrees with Google that there can be no induced infringement because certain activities take place after importation. *See* Section VI.B.1. Google does not dispute any of the other allegations with respect to induced infringement. *See* RIB at 223-224; RRB at 99. As such, the undersigned finds that Google induced infringement of the '896 patent.[82]

4. Google's Redesigns

Sonos asserts that both the NIA No. 2 and NIA No. 3 infringe the '896 patent. CIB at 211. Google disagrees that either product infringes. RIB at 226. Staff argues that the NIA No. 3 infringes, but the NIA No. 2 does not. SIB at 161, 163.

The undersigned previously found that the redesigned products are fixed and definite. *See* Section VI.B.3.

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[82] Google does not dispute Sonos' allegations that: (1) consumers have installed the Google Home app on Pixel devices, and (2) Google had knowledge of the '896 patent. *See* RIB at 223-224; RRB at 99.

a) **NIA No. 2**

Sonos asserts that the NIA No. 2 infringes under the doctrine of equivalents. CIB at 211. Sonos explains that limitation 1.7 requires that the second message transmit two pieces of information. *Id.* "███." *Id.* Sonos asserts that "NIA 2 'performs substantially the same function, in the substantially the same way, with substantially the same result.'" *Id.* at 212.

Google argues that Sonos "attempts to circumvent the CALJ's construction through the doctrine of equivalents." RIB at 227. Google also argues that "[t]here are substantial differences between NIA No. 2 and the [sic] claim 1 of the '896 patent." *Id.* Google notes that "███." *Id.* Google further asserts that "██." *Id.*

Staff asserts that the NIA No. 2 does not meet limitation 1.7. SIB at 161. Staff explains that ███." *Id.* Staff further asserts that "███." *Id.* at 162.

Claim 1 includes the limitations: "transmitting, to the given playback device via the initial communication path, at least a second message containing network configuration parameters,

wherein the network configuration parameters comprise an identifier of the secure WLAN and a security key for the secure WLAN." JX-0005, cl. 1.

The '896 Accused Products ███

███. CX-0012C at Q/As 873-886. NIA

██

██

██████████████████████████████████████. RX-1521C at Q/A 503. Dr. Weissman testifies that ███████

██

██████████████████████████████████████. CX-0012C at Q/As 1012-1014. As Dr. Jeffay

explains, however, ██

██

██

██

███████." RX-1521C at Q/A 513 (emphasis in original). The undersigned agrees and finds that Dr. Weissman provides an overly simplistic view of the purported function, way, and result of transmitting the message.

The undersigned instead agrees with Dr. Jeffay's opinion. Dr. Jeffay testifies that █████████

██

██████████████████████████████████████" *Id.* at Q/A 516 (emphasis in original). Dr. Jeffay

explains that, in contrast, the NIA No. 2 ███

██

███." *Id.*

Similarly, "the 'way' of NIA No. 2 is to ██

██

█████████████████" *Id.* at Q/A 517. Finally,

The 'result' in claim 1 is that, ██████████████████████

████████████████████████████████ In contrast, the 'result' of

NIA No. 2 is to █████████████████████████████████████

██

██

████████████████████

Id. at Q/A 518. Accordingly, because the undersigned finds that the NIA No. 2 does not perform

substantially the same function in substantially the same way to obtain the same result, the

undersigned finds that the NIA 2 does not meet this limitation.

Accordingly, the undersigned finds that the NIA No. 2 does not infringe claim 1.

b) **NIA No. 3**

Sonos asserts that the NIA No. 3 infringes claim 1. CIB at 218. Sonos explain that "both

the original '896 Accused Products and NIA 3 ███████████████████████

██████████████████████████████████." *Id.* Sonos

asserts: "████████████████████████████████████. *Id.*████████

██

██

██

████████████████" *Id.* at 218-219.

Google asserts that the NIA No. 3 "██████████████████████

███████████████████." RIB at 229. Google explains that the NIA No. 3 "████████

██

███████████████████ *Id.* Google disagrees with Sonos' contention that ███████████

██." *Id.* According to

Google, ██

███████████████." *Id.*

Staff agrees with Sonos that ████████████████████████████████████." SIB

at 163. Staff explains that ██

██

█████████████" *Id.* at 163.

In the '896 Accused Products, ██████████████████████████

██

██████████████████████████████████████ CX-0012C

at Q/A 1023. Dr. Weissman testifies that the NIA No. 3 ████████████████:

██

CX-0012C at Q/A 1023. Dr. Weissman notes that ████████████████████

█████████████

████████████████████████

Id. Dr. Weissman further explains:

[REDACTED]

Id. at Q/A 1024. The evidence shows that, [REDACTED]

[REDACTED] . CX-0012C at Q/A 1028; Weissman, Tr. at 319:18-320:20. As Dr. Jeffay acknowledged, [REDACTED]

[REDACTED]

[REDACTED] ." RX-1521C at Q/A 526. Accordingly, the evidence shows that the NIA No. 3 includes limitation 1.7.

Accordingly, the undersigned finds that the NIA No. 3 infringes claim 1.

C. Technical Prong of the Domestic Industry Requirement

Sonos asserts that the '896 DI Products practices claims 1, 5, 6, and 12 of the '896 patent. CIB at 220. Staff agrees with Sonos that the technical prong is satisfied. SIB at 163-164. Google argues that the technical prong is not met for the same reasons it asserts that there is no infringement. RIB at 230 (noting that "Sonos' DI theories mirror their infringement theories for the 896 Accused Products").

As noted above, the undersigned agreed with Sonos' theory of infringement. As such, the undersigned finds that the technical prong is likewise met.

D.   Validity[83]

Google argues that claims 1, 5, 6, and 12 of the '896 patent are invalid due to anticipation and obviousness. RIB at 231- 267. Google also alleges that the '896 patent is invalid for improper inventorship. *Id*. at 268-270.

1.   Representative Computer

As an initial matter, Sonos notes that all of Google's evidence as to how Linksys and cd3o operate "comes from testing conducted by its expert Dr. Shoemake." CIB at 234 (Linksys); *id.* at 246 (cd3o). According to Sonos, "Dr. Shoemake inexplicably used a 2007 computing device for those tests with hardware (including a 2007 network card) and software (including a 2008/2009 operating system) that post-date the 2004 priority date by as much as half a decade." *Id.* at 234. Sonos asserts: "This failure is particularly damning in view of the asserted claims," which "are directed to 'a computing device.'" *Id.* Sonos asserts: "Absent clear and convincing proof that Dr. Shoemake's computer nonetheless functioned exactly as a prior-art computer would have in all relevant respects," Google's invalidity arguments fail. *Id.* at 235.

Google argues that "Dr. Weissman has no evidence to support his speculation" that "the cd3o software that Dr. Shoemake tested may have functioned differently on an operating system that was available prior to the June 5, 2004 priority and conception date of the '896 patent." RIB at 234. Google explains: "Moreover, it is the cd3o software that provides the programming instructions that control what actions the representative computer takes, not the other way around." *Id.*; *see also id.* at 248 (asserting some arguments for Linksys). Google also asserts: "If Dr. Weissman was right that the software behaved differently on older computers, then the software would be unable to communicate with the prior-art C300 players from 2003." *Id.* at 234-235.

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[83] Sonos asserts that the '896 patent's claims are entitled to a priority date of June 5, 2004. CIB at 233. Staff agrees and Google does not dispute this date. SIB at 166; RIB at 231 n.53.

Google notes that "Dr. Shoemake's testing shows that the cd3o software installed on his representative test computer successfully interacts with the cd3o C300 devices." *Id.* at 235.

Staff argues that "Google's invalidity arguments based on Linksys [and] cd3o fail because they depend on a computer that Google admits is not prior art." SIB at 168. Staff asserts: "Because the claims of the '896 patent are directed to a 'computing device,' the Representative Computer is an essential component of the claimed prior art systems." *Id.* Staff also asserts that Google's contention that Sonos has failed to introduce evidence "that tends to indicate any of the prior art software . . . would behave any differently" on a prior art computer "impermissibly seeks to place the burden on Sonos to prove validity of the '896 patent." *Id.* at 169.

There is no dispute that the computing device used by Dr. Shoemake (referred to as the "Representative Computer") post-dates the priority date of the '896 patent. *See* RX-1478C at Q/A 138 (testifying that he was not disputing the dates set forth in Dr. Weissman's report). The Representative Computer was configured with Windows XP Operating System, version 2002, with Service Pack 3, but this version of Windows XP, as configured, "was released in May 2008 and updated as recently as May 2009." CX-0015C at Q/A 864. The Representative Computer itself was a Dell Latitude D830 computer that appears to have been released in 2007. *Id.* at Q/A 865. The wireless network card of the Representative Computer used a driver dated August 8, 2007. *Id.*

Google asserts that the age of the computer is irrelevant as Dr. Shoemake relied on other evidence, such as the "cd3o product manual, the software itself, technical specifications, and the testimony of one of the engineers (Mr. Scanlan) responsible for designing the cd3o." RRB at 110. For some of the disputed limitations, however, Dr. Shoemake relies only on his testing of the system. *See, e.g.*, RX-1478 at Q/As 846-849 (testimony regarding whether cd3o discloses limitation 1.8); *id.* at Q/As 211-216 (testimony as to whether Linksys discloses limitation 1.6).

Because the way that the software operates on the Representative Computer is central to Google's

invalidity case, the undersigned finds that Google must introduce evidence that the results would

be the same on a pre-June 5, 2004 computing device in order to prevail in its invalidity case.

It is Google's burden to prove this by clear and convincing evidence. *Microsoft,* 564 U.S.

at 95. Despite this burden, Dr. Shoemake dedicates only one paragraph to his assertion that the age

of the computing device used would not impact how the prior art software operates. He testifies:

> Every prior art product I tested came with a CD or had downloadable software that does qualify as prior art. These CDs or downloads contain program instructions that caused the representative computer to perform the functions relevant to my analysis. In my opinion, the prior art products were designed to cause any prior art computer meeting the system requirements of these products to perform the same functions. This is necessarily true because the ultimate purpose of the user computer was to configure and communicate with the player devices that actually output the audio, and the prior art products would not have worked if the software behaved differently on different user computers. For that reason, the age of the representative computer does not matter, older computers meeting the system requirements would have behaved in exactly the same way.

RX-1478C at Q/A 139. This testimony is conclusory. It does not offer any details or cite to other

evidence which would confirm Dr. Shoemake's opinion. Additionally, Dr. Shoemake's own

deposition testimony casts doubt on his conclusion. In his deposition, Dr. Shoemake testified:

> So first, in response to this question, context is very important. The question is very broad. So could I imagine running a software application on two different systems and something different happening? Yes. I could imagine a software program that asked the operating system, what is the size of the display? And based on the size of the display, decides to put a button or an icon on the screen in a different place based on the size of the display or the orientation of the display. And that's why I said context is very important, because I don't think that we have any of those situations here, and that's why I wanted to get the claim limitations again. Because if you go through the limitations that have to do with program instructions, I don't think we're going to run into any of those scenarios where you say, Ah yes, if you were to upgrade the operating system with some new fonts, the program instructions coming from the Linksys CD are going to change behavior. I don't think that's the situation here. And I think, when we go into the specific context and look at what those program instructions are causing to happen, there's no reason to believe that if the operating system were a slightly newer version, we would see any different behavior.

Weissman Tr. at 918:11-919:24 (reading Dr. Shoemake's deposition testimony into the record). Rather than stating unequivocally that the age of the computer would not affect the way the software operated, Dr. Shoemake instead testified that he doesn't "think that we have any of those situations here." *Id.* Such caveats hinder rather than help Dr. Shoemake's already conclusory testimony.

As for cd3o, however, Google introduced additional evidence that the cd3o software would have operated in the same manner on an older computer. Specifically, Google introduced the testimony of James Scanlan, one of the co-founders of cd3o. RX-1476C at Q/A 4. Mr. Scanlan testified that he watched Dr. Shoemake's testing videos and that they accurately show how the software worked in 2003. *Id.* at Q/A 27. In response, Sonos did not introduce any evidence to contradict this testimony. As such, the undersigned finds that there is clear and convincing evidence that the cd3o software would have operated in the same manner on an older computer.

For the Linksys software, Google does not introduce any further evidence to support its contention that the software would have operated in the same way. As such, the undersigned finds that Google cannot meet its burden to show that Linksys invalidates the '896 patent. As such, the undersigned need not consider Google's arguments as to whether Linksys anticipates the '896 patent or whether the asserted claims are rendered obvious by the following combinations: (1) cd30 in combination with Linksys; (2) Linksy in combination with Weast; (3) Linksys in combination with Isely; and (4) Linksys in combination with Balassanian.

2.   Anticipation

Google argues that the asserted claims are anticipated by cd3o.[84] RIB at 231. Sonos disputes that cd3o discloses limitations 1.6 and 1.8. CLUL at 7. Sonos also disputes that cd3o discloses claim 12. *Id.* Staff does not specifically address claim 1, but argues that "Google failed to present clear and convincing evidence that cd3o anticipates at least claim 12 of the '896 patent." SIB at 174.

a)   Limitation 1.6

Claim 1 includes the limitation "after receiving the user input and receiving the first message, transmitting a response to the first message that facilitates establishing an initial communication path with the given playback device, wherein the initial communication path with the given playback device does not traverse the access point." JX-0005, cl. 1.

Google asserts that cd3o discloses this limitation. RIB at 238. Google notes that Sonos' contention that the initial communication path is established before the user input and first message are received is based on a "mistaken" premise. *Id.* at 239. Google disagree with Sonos that merely plugging in the PC with the Ethernet cable is sufficient to establish an initial communication path. *Id.* Google explains: "Just because two devices have physical wires running between them does not mean a communication path exists – otherwise, all computers world-wide connected via wires would always have 'communication paths.'" *Id.*

Sonos argues that "[t]he system's computing device and audio player are directly connected via a physical Ethernet cable before any user input." CIB at 246. "[T]hat means, the initial communication path is established too early to satisfy the temporal requirement of limitation

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[84] Google explains that the specific software version on which Dr. Shoemake relies was publicly available on or around February 7, 2003. RIB at 232. Google asserts that cd3o qualifies as prior art under at least 35 U.S.C. § 102(a). *Id.* at 233. Sonos disputes that cd3o qualifies as prior art. CIB at 181.

1.6." *Id.* at 246-247. Sonos also asserts that Google is incorrect that "establishing a wired initial communication path requires more." *Id.* at 245. Instead, Sonos asserts that "the claim only requires that the computing device establish an initial communication path with the playback deice." *Id.* "It does not require connection with a particular application or on a specific layer of the network stack." *Id.*

The undersigned agrees with Sonos. The claim language requires that the initial communication path is established "after receiving the user input and receiving the first message." JX-0005, cl. 1. In the cd3o system, the cable is connected before any setup can begin. Once the cable is plugged in, an initial communication path is established between the devices. CX-0015C at Q/A 1162, 1240. Additionally, one of cd3o's co-founders confirmed that a communication path is formed between the computing device and the cd3o player once the device is plugged in. Mr. Scanlan testified that the cd3o device "can then send data to the computer" and "the computer is able to send messages to the [cd3o] device." Scanlan, Tr. at 489:17-490:20.

The undersigned is not persuaded that adopting Sonos' argument would mean that "[n]umerous computers world-wide" would be considered connected or that any two wireless devices within range of each other would have an initial communication path. *See* RX-1478C at Q/As 659, 660. As Dr. Weissman explains, the scenario involved here is whether a device connected to a computer via a single Ethernet cable results in the establishment of an initial communication path. This does not mean that *all* computers that are connected to the internet or any two wireless devices somehow would have "communication paths" between them. CX-0015C at Q/As 1164-1165, 1242-1243.

Accordingly, the undersigned finds that cd3o does not disclose this limitation.

b) Limitation 1.8

Claim 1 includes the limitation: "after transmitting at least the second message containing the network configuration parameters, detecting an indication that the given playback device has successfully received the network configuration parameters." JX-0005, cl. 1.

Google identifies the TCP FIN-ACK message as the claimed indication. RIB at 241. Google explains that "[a]fter successful transmission of the network configuration parameters (which is undisputed), the cd3o software displays a message . . . and the user computer running the cd3o software receives a TCP FIN-ACK message from the cd3o player." *Id.* Google explains: "It is an undisputed fact that the cd3o player always and only transmits the TCP FIN-ACK message in response to a 'Configuration Request' if the player successfully received the network configuration parameters." *Id.*

Sonos asserts that "Google offers only unsupported speculation, not clear and convincing evidence, that cd3o includes such an indication." CIB at 247. According to Sonos, "the system could display [the message] with or without receiving a specific indication from the audio device that it received network parameters." *Id.* Sonos asserts that the TCP-FIN-ACK message "says nothing whatsoever about . . . the receipt of the UDP protocol message containing the network parameters." *Id.*

The undersigned agrees that this limitation has been met. Google introduced evidence that, after the cd3o software transmits the network configuration parameters to the cd3o player, the cd3o software displays a message stating "The Network MP3 Player is now set up for wireless use. Please disconnect the Ethernet cable and click 'Ok.'" RX-1478C at Q/A 846. After successfully receiving the network configuration parameters, the cd3o player closes the TCP connection and reboots itself. *Id*. The cd3o player then sends a TCP FIN-ACK message to the computer running

the cd3o software. *Id.* As Dr. Shoemake explains: "This message is sent after and in response to the cd3o player successfully receiving the claimed 'network configuration parameters' and therefore indicates that those parameters were successfully received." *Id.* Dr. Shoemake also notes that the computer running the cd3o software detects the indication because "it receives the TCP FIN-ACK message, as shown by at least the fact that the TCP FIN-ACK message is captured by the Wireshark software also running on the computer." *Id.* at Q/A 849.

Accordingly, the undersigned finds that this limitation is met.

c) Conclusion

As noted above, the undersigned found that cd3o does not disclose limitation 1.6. Accordingly, the undersigned finds that cd3o does not anticipate claim 1 of the '896 patent. Additionally, because cd3o does not anticipate claim 1, it cannot anticipate dependent claims 5, 6, or 12.

3. Obviousness

Google argues that the asserted claims are invalid as obvious due to the following combinations: (1) cd3o; (2) cd3o in combination with Linksys; (3) cd3o in combination with Isely; and (4) cd3o in combination with Balassanian. RIB at 255-264.

a) cd3o

Google argues that cd3o alone renders the asserted claims obvious. RIB at 255. Google asserts that Sonos' arguments for why cd3o does not disclose limitation 1.6 "disappear with a simple change: instead of using the UDP communication path to send the 'indication' of limitation [1.8] the cd3o could instead use a TCP connection to send a 'Configuration Request.'" *Id.* Google notes: "Both of these features already exist within the cd3o . . . and it would have been obvious to use them." *Id.* Google explains: "Choosing between two well-known interchangeable protocols

like TCP and UDP is a simple design choice (especially because both are available in the cd3o)." *Id.* at 256.

Sonos argues that "Google unpersuasively contends that a POSITA would have been motivated to supply some of the missing disclosures simply from looking just at cd3o." CIB at 259. Sonos notes that, even if a person of ordinary skill in the art "re-engineered the existing set-up related messages . . . to establish an ostensibly distinct 'TCP connection' along the same cable . . . the existing UDP messaging would still travel over the same communication path previously established by the Ethernet cable." *Id.*

Staff does not specifically address claim 1, but argues that "Google failed to present clear and convincing evidence that cd3o renders obvious claim 12 of the '896 patent." SIB at 187.

The undersigned agrees that Google has not introduced clear and convincing evidence that switching to a TCP connection would prevent the initial communication path from being established before the user input and message are received. Google asserts that the TCP specification "defines a TCP connection as 'a logical communication path' that is 'establish[ed]' via an 'exchange of three messages' over an existing Ethernet cable, not when the cable is first plugged in." RRB at 126. In support, Google cites to the testimony of Dr. Shoemake. *Id.* (citing RX-1478C at Q/A 865); *see also* RIB at 256 (citing RX-1478C at Q/As 831-832). While Dr. Shoemake's opinion does mention TCP, he does not actually opine that switching to a TCP protocol would prevent an initial communication path from being established when the player was connected to the computing device. *See* CX-0015C at Q/A 1250 (testimony from Dr. Weissman acknowledging that Dr. Shoemake's testimony does not address his concerns). Instead, in the cited testimony, Dr. Shoemake opines as to whether the TCP connection is another example of an "initial

communication path." RX-1478C at Q/A 831; *see also id.* at Q/A 865. Without such testimony, Google has not met its burden in establishing that cd3o renders the asserted claims obvious.

b) cd3o and Isely

Google asserts that cd3o combined with Isely[85] renders claim 12 obvious. RIB at 257. Google explains that "Isely discloses all limitations of claim 12." *Id.* at 258. Google also asserts that "[a] POSITA would be motivated to combine cd3o (alone or also combined with Linksys) and it would have been obvious to combine the speaker groups in Isely with the groups of synchronized speaker[s] of cd3o." *Id.*

Sonos asserts that "Google does not contend, let alone demonstrate, that [Isely] teach[es] the limitations of claim 1 that cd3o lacks." CIB at 260.

Staff argues that "Google failed to present clear and convincing evidence that a person of ordinary skill would have been motivated to modify cd3o in order to incorporate the teachings of Isely." SIB at 189.

The undersigned finds that Google has failed to show that cd3o in combination with Isely invalidates the asserted claims. The undersigned previously found that cd3o did not disclose all of the elements of claim 1. Google does not assert that Isely discloses the missing limitation. *See* RIB at 257-259; RRB at 125-127. As such, this combination cannot invalidate dependent claim 12.

c) cd3o and Balassanian

Google asserts that cd3o combined with Balassanian[86] renders claim 12 obvious. RIB at 259. Google explains that Balassanian discloses the additional limitations of claim 12. *Id.* Google

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[85] As noted above with respect to the '949 patent, Google explains that Isely was published on September 5, 2002 and qualifies as prior art under 35 U.S.C. §§ 102(a) and (b). RIB at 257.

[86] As noted above with respect to the '258 and '953 patents, the parties agree that Balassanian qualifies as prior art. *See supra* Section VI.D.1.

further argues that "[a] POSITA would find it obvious to combine cd3o (and any other secondary references combined with cd3o) with Balassanian." *Id.* at 260.

Sonos asserts that "Google does not contend, let alone demonstrate, that . . . Balassanian teach[es] the limitations of claim 1 that cd3o lacks." CIB at 260.

Staff argues that Google failed to present clear and convincing evidence that this combination discloses the limitations of claim 12. SIB at 190. Staff also argues that "Google failed to present clear and convincing evidence that a person of ordinary skill would have been motivated to modify cd3o in order to incorporate the teachings of Balassanian." *Id.* at 191.

The undersigned finds that Google has failed to show that cd3o in combination with Balassanian invalidates the asserted claims. The undersigned previously found that cd3o did not disclose all of the elements of claim 1. Google does not assert that Balassanian discloses the missing limitation. *See* RIB at 259-260; RRB at 125-127. As such, this combination cannot invalidate dependent claim 12.

d) Conclusion

For the reasons set forth above, the undersigned finds that Google has failed to establish, by clear and convincing evidence, that any asserted claim is rendered obvious.

e) Secondary Considerations

Secondary considerations of nonobviousness may rebut a *prima facie* case of obviousness. Here, where Google has not made out a *prima facie* case of obviousness, there is no showing to rebut. Accordingly, the undersigned need not consider any secondary considerations of nonobviousness.

4.   Improper Inventorship

Google argues that "[t]he '896 patent is invalid under 35 U.S.C. § 102(f) for failure to name all contributors to the conception of the Asserted Claims as co-inventors on the '896 patent." RIB at 268. Google also asserts that "Sonos lacks standing to maintain this Investigation without joining the missing co-inventor(s) of the '896 patent." *Id.* According to Google, ██████████████ ██." *Id.* Google asserts that "██ ██ ████████████████" *Id.*

Sonos asserts that "[a] fundamental precept of patent law is that an inventor 'may use the services, ideas, and aid of others' from the prior art to 'perfect[] his invention without losing his right to a patent." CIB at 266 (quoting *Hess v. Advanced Cardiovascular Sys., Inc.*, 106 F.3d 976, 981 (Fed. Cir. 1997). Sonos further argues that "████████████████████████████ ██ ████████████████████████████" *Id.* at 267.

Staff argues that "██ ██ SIB at 191. "Accordingly, Google failed to present clear and convincing evidence that the '896 patent is invalid for lack of improper inventorship." *Id.* at 192.

The undersigned agrees with Sonos and Staff that there is not clear and convincing evidence of incorrect inventorship. Here, the evidence shows that ████████████████████ ██ CX-1245C; RX-1443C at 109:20-110:4, 121:3-122:20; CX-0015C at Q/As 1472-1484. Additionally, as Sonos notes: "A contribution of

information in the prior art cannot give rise to a joint inventorship because it is not a contribution to conception." CIB at 266 (quoting *Narton Corp v. Schukra U.S.A. Inc.*, 558 F.3d 1352, 1357 (Fed. Cir. 2009)).

Accordingly, the undersigned finds that the patent is not invalid under 35 U.S.C. § 102(f).

XI. ECONOMIC PRONG OF THE DOMESTIC INDUSTRY REQUIREMENT

The undersigned previously determined that Sonos has established that it satisfies the economic prong of the domestic industry requirement under § 337(a)(3)(B). Order No. 35 (Jan. 14, 2021), *aff'd* by Comm'n Notice (Feb. 16, 2021).

XII. CONCLUSIONS OF LAW

1. The importation or sale requirement of section 337 has been satisfied.

2. The '258 Accused Products infringe claims 17, 21, 24, and 26 of U.S. Patent No. 9,195,258.

3. The 258 NIA No. 1 does not infringe claims 17, 21, 24, and 26 of U.S. Patent No. 9,195,258.

4. The 258 NIA Nos. 2 and 3 do infringe claims 17, 21, 24, and 26 of U.S. Patent No. 9,195,258.

5. The technical prong of the domestic industry requirement for U.S. Patent No. 9,195,258 has been satisfied.

6. Claims 17, 21, 24, and 26 of U.S. Patent No. 9,195,258 are not invalid under 35 U.S.C § 103 for obviousness.

7. The '953 Accused Products infringe claims 7, 14, and 22-24 of U.S. Patent No. 10,209,953.

8. The 953 NIA No. 1 does not infringe claims 7, 14, and 22-24 of U.S. Patent No. 10,209,953.

9. The 953 NIA Nos. 2 and 3 do infringe claims 7, 14, and 22-24 of U.S. Patent No. 10,209,953.

10. The technical prong of the domestic industry requirement for U.S. Patent No. 10,209,953 has been satisfied.

11.   Claims 7, 14, and 22-24 of U.S. Patent No. 10,209,953 are not invalid under 35 U.S.C § 103 for obviousness.

12.   The '959 Accused Products infringe claim 10 of U.S. Patent No. 9,219,959.

13.   The 959 NIA No. 3 infringes claim 10 of U.S. Patent No. 9,219,959.

14.   The 959 NIA No. 4 does not infringe claim 10 of U.S. Patent No. 9,219,959

15.   The technical prong of the domestic industry requirement for U.S. Patent No. 9,219,959 has been satisfied.

16.   Claim 10 of U.S. Patent No. 9,219,959 is not invalid under 35 U.S.C § 103 for obviousness.

17.   Claim 10 of U.S. Patent No. 9,219,959 is not invalid under 35 U.S.C. § 102(f) for improper inventorship.

18.   The '949 Accused Products infringe claims 1, 2 and 5 of U.S. Patent No. 8,588,949.

19.   The '949 Accused Products do not infringe claim 4 of U.S. Patent No. 8,588,949.

20.   The 949 NIAs do not infringe the claims 1, 2, 4, and 5 of U.S. Patent No. 8,588,949.

21.   Google induces infringement of claims 1, 2, and 5 of U.S. Patent No. 8,588,949

22.   The technical prong of the domestic industry requirement for U.S. Patent No. 8,588,949 has been satisfied.

23.   Claims, 1, 2, 4, and 5 of U.S. Patent No. 8,588,949 are not invalid under 35 U.S.C. § 102 for anticipation.

24.   Claims, 1, 2, 4, and 5 of U.S. Patent No. 8,588,949 are not invalid under 35 U.S.C. § 103 for obviousness.

25.   Claims 1, 2, 4, and 5 of U.S. Patent No. 8,588,949 are not invalid under 35 U.S.C. § 101(a).

26.   The '896 Accused Products infringe claims 1, 5, 6, and 12 of U.S. Patent No. 10,439,896.

27.   Google induces infringement of claims 1, 5, 6, and 12 of U.S. Patent No. 10,439,896.

28.   The 896 NIA No. 2 does not infringe claims 1, 5, 6, and 12 of U.S. Patent No. 10,439,896.

29.   The 896 NIA No. 3 does infringe claims 1, 5, 6, and 12 of U.S. Patent No. 10,439,896.

30.   The technical prong of the domestic industry requirement for U.S. Patent No. 10,439,896 has been satisfied.

31.   Claims, 1, 5, 6, and 12 of U.S. Patent No. 10,439,896 are not invalid under 35 U.S.C. § 102 for anticipation.

32.   Claims, 1, 5, 6, and 12 of U.S. Patent No. 10,439,896 are not invalid under 35 U.S.C. § 103 for obviousness.

33.   Claims, 1, 5, 6, and 12 of U.S. Patent No. 10,439,896 are not invalid under 35 U.S.C. § 102(f) for improper inventorship.

XIII.   RECOMMENDED DETERMINATION ON REMEDY AND BOND

The Commission's Rules provide that subsequent to an initial determination on violation of section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337, the administrative law judge shall issue a recommended determination concerning the appropriate remedy in the event that the Commission finds a violation of section 337, and the amount of bond to be posted by respondents during Presidential review of the Commission action under section 337(j). *See* 19 C.F.R. § 210.42(a)(1)(ii). The Commission has broad discretion in selecting the form, scope, and extent of the remedy in a section 337 proceeding. *Viscofan, S.A. v. Int'l Trade Comm'n*, 787 F.2d 544, 548 (Fed. Cir. 1986).

A.   Limited Exclusion Order

Under section 337(d), if the Commission determines that there is a violation of section 337, the Commission may issue a limited exclusion order ("LEO") directed to a respondent's infringing products. 19 U.S.C. § 1337(d). A limited exclusion order instructs the U.S. Customs and Border Protection to exclude from entry all articles that are covered by the patent at issue that originate from a named respondent in the investigation. *Fuji Photo Film Co. Ltd. v. Int'l Trade Comm'n*, 474 F.3d 1281, 1286 (Fed. Cir. 2007).

The parties agree that, if a violation is found, a limited exclusion order should issue. CIB at 270-271; RIB at 270-271; SIB at 194. Google requests that any LEO include "a certification provision to allow for the importation of (a) products within the scope of the Investigation that have not been found to infringe, (b) 'networked speaker devices, and devices (for example, mobile phones and laptops) capable of controlling these devices' incorporating the design arounds found to be non-infringing, and (c) products that are imported for purposes of research, development, testing, service, repair, or warranty replacement." RIB at 270-271. While Sonos does not oppose the inclusion of a certification provision, Sonos, like Staff, believes that "the typical certification provision will be sufficient in this Investigation." SIB at 194 n.30; CRB at 129.

Should the Commission determine there is a violation, the undersigned recommends the issuance of a limited exclusion order covering Sonos' products and components found to infringe the Asserted Patents. As Staff notes, at the request of U.S. Customs and Border Protection, all exclusion orders now contain a certification provision. To the extent Google seeks additional modifications or carve-outs to the LEO, the undersigned agrees with Sonos and Staff the standard certification provisions will be sufficient.

B.   Cease and Desist Order

Under section 337(f)(1), the Commission may issue a cease-and-desist order ("CDO") in addition to, or instead of, an exclusion order. 19 U.S.C. § 1337(f)(1). The Commission generally issues a CDO directed to a domestic respondent when there is a "commercially significant" amount of infringing, imported product in the United States that could be sold, thereby undercutting the remedy provided by an exclusion order. *See Certain Crystalline Cefadroxil Monohydrate*, Inv. No. 337-TA-293 USITC Pub. 2391, Comm'n Op. on Remedy, the Public Interest and Bonding at 37-42 (June 1991); *Certain Condensers, Parts Thereof & Prods. Containing Same, Including Air*

Conditioners for Automobiles, Inv. No. 337-TA-334 (Remand), Comm'n Op. at 26-28, 1997 WL 817767 at *11-12 (U.S.I.T.C. Sept. 10, 1997).

Sonos requests issuance of a CDO "because Google has significant domestic operations that could undercut an LEO and it maintains commercially significant inventories." CIB at 271. Sonos notes that at the close of discovery, "Google maintained an inventory of over 3.1 million Accused Products." *Id*. Staff supports Sonos' request. SIB at 194-195. Google does not contest that it maintains commercially significant inventory of the Accused Products in the United States. RIB at 271. Google again requests that any CDO include a certification provision "as discussed above in connection with an LEO." *Id*.

If the Commission finds a violation, the undersigned recommends that a CDO issue directed to Google. The evidence demonstrates that Google's inventory of Accused Products in the United States is commercially significant. *See, e.g.,* CX-242C at ¶¶ 10-11; CX-0013C at Q/As 155-158; CX-4995C. As of October 1, 2020, Google's inventory of the Accused Products was as follows:
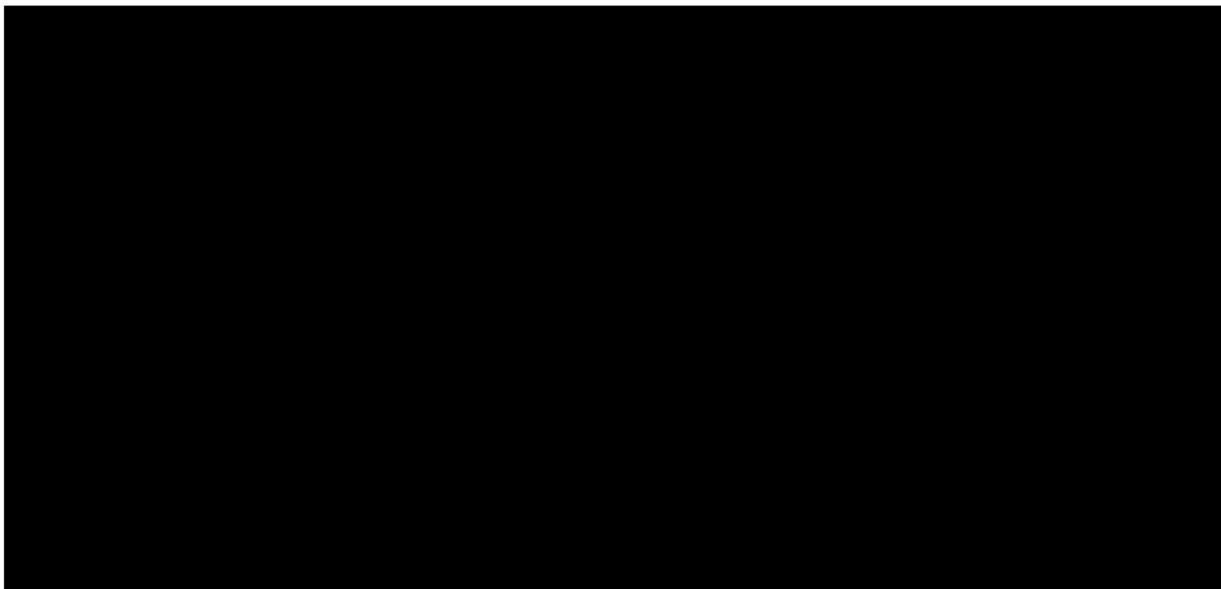
CDX-0007.6C. To the extent Google is seeking additional modifications or carve-outs to CDO, the undersigned agrees with Staff that the Commission's typical CDO will be sufficient.

C. Bonding

Pursuant to section 337(j)(3), the Administrative Law Judge and the Commission must determine the amount of bond to be required of a respondent during the 60-day Presidential review period following the issuance of permanent relief, in the event that the Commission determines to issue a remedy. 19 U.S.C. § 1337(j)(3). The purpose of the bond is to protect the complainant from any injury. 19 C.F.R. § 210.42(a)(1)(ii), § 210.50(a)(3).

When reliable price information is available, the Commission has often set the bond by eliminating the differential between the domestic product and the imported, infringing product. *See Microsphere Adhesives, Processes for Making Same, & Prods. Containing Same, Including Self-Stick Repositionable Notes*, Inv. No. 337-TA-366, USITC Pub. 2949, Comm'n Op. at 24 (Dec. 8, 1995). In other cases, the Commission has turned to alternative approaches, especially when the level of a reasonable royalty rate could be ascertained. *See, e.g., Certain Integrated Circuit Telecomm. Chips & Prods. Containing Same, Including Dialing Apparatus*, Inv. No. 337-TA-337, Comm'n Op. at 41, 1993 WL 13033517, at *24 (U.S.I.T.C. June 22, 1993). A 100 percent bond has been required when no effective alternative existed. *See, e.g., Certain Flash Memory Circuits & Prods. Containing Same*, Inv. No. 337-TA-382, USITC Pub. No. 3046, Comm'n Op. at 26-27 (July 1997) (imposing a 100% bond when price comparison was not practical because the parties sold products at different levels of commerce, and the proposed royalty rate appeared to be *de minimis* and without adequate support in the record).

Sonos requests that the Commission impose a 100% bond. CIB at 272. Sonos contends that "Google's continued importation of infringing goods during the presidential review period would

injure Sonos." *Id*. Sonos further contends that "Google sells speakers at significantly lower prices; these lower-priced speaker offerings can adversely impact Sonos' ability to counter ongoing price erosion that frequently affects consumer products." *Id*.

Google asserts that Sonos has not shown "any cognizable and quantifiable injury." RIB at 272-274 (claiming that Sonos did not perform any lost sales, lost profits, or price erosion analysis). Google also asserts that Sonos (and its expert) have failed to explain why a 100% bond rate should apply. *Id*. Google therefore believes the bond rate should be zero; however, if the Commission determines that a non-zero bond rate is appropriate, Google submits that it should be no more than 4.5%. *Id*. at 275.

Staff recommends that a bond of 100% of the entered value of the infringing articles be imposed during the Presidential review period. SRB at 68.

The undersigned finds that imposition of 100% bond is appropriate. Google's continued importation of infringing goods during the presidential review period would injure Sonos. The evidence shows that Sonos competes with Google. CX-0013C at Q/As 99-101; CX-2997.13. For example, Sonos' business records identify Google as a "key competitor". CX-3029C.2, .30, .33; CX-2209C.7; CX-2997; CX-3028C.7; CX-3030C; CX-5075C; CX-0013C at Q/As 99-124; CX-3188C; CX-3083; CX-3167; CX-3183; CX-3184; CX-3191; CX-3192; CX-3194; CX-3195; CX-3196; CX-3197; CX-3199. The evidence also shows that Google offers lower priced speaker offerings that can adversely affect Sonos' ability to counter price erosion. CX-2997 ("Even if we are able to efficiently develop and offer innovative products at competitive selling prices, our operating results and financial condition may be adversely impacted if are unable to effectively anticipate and counter the ongoing price erosion that frequently affects consumer products or if

the average selling prices of our products decrease faster than we are able to reduce our manufacturing costs."); CX-3188C; CX-3083; CX-3192; CX-3195; CX-3196.

Both parties' economic experts agree that a bond rate cannot be based on a price differential between the infringing and domestic industry products. *See* CX-0013C at Q/As 125-135; RX-1524C at Q/As 92-95. In addition, neither of the Sonos license agreements provide a basis to calculate a bond.[87] CX-0013C at Q/As 137-149; *see also* SIB at 196 ("[T]he evidence shows the absence of any licensing information relating to the Asserted Patents that would allow for establishing a bond rated based on a royalty in this Investigation.") The first license (*i.e.*, Sonos' patent covenant with DEI Sales, Inc.) is a ███████████████████████████ ██████. JX-0324C. Mr. Milani explained: "[T]he agreement calls for ███████████ ███. So, no running royalty amount can be derived from the license." CX-0013C at Q/A 143. The second license is Sonos' patent license with Lenbrook Industries Limited. JX-0358C. Google's expert, Ms. Mulhern, relied on this license to determine a bond; however, the Lenbrook License does not include ███████████████████████, like Ms. Mulhern opined. CX-0013C at Q/A 148. Mr. Milani further explained:

> Rather, the Lenbrook License ██████████████████. Ms. Mulhern converts those ███████████ into percentage of sales royalty rates by dividing a per unit royalty of ███ by the retail price of the Lenbrook products. . .. But those conversion calculations are improper and significantly understate the actual percentage of sales royalty rates called for in the agreement. This is because (at a bare minimum) the ███████████ in the Lenbrook Agreement should be converted based on Lenbrook's pricing to *its* customers (i.e., retailers of audio products), not the retail price that end customers pay.

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[87] Google claims that Mr. Milani "did not even attempt" to calculate a bond rate based on licensing. *See* RIB at 274. This is incorrect. Mr. Milani testified in detail about why the two Sonos portfolio license agreements do not provide a basis for calculating bond. CX-0013C at Q/As 137-152. And, a review of Ms. Mulhern's calculations demonstrates the difficulty in determining a bond rate based on a royalty. *See, e.g.*, RX-1524C at Q/As 114, 120.

CX-0013C at Q/A 148; *see also id.* at Q/A 149 (setting forth other reasons why the Lenbrook License cannot be relied upon to set a bond rate). In addition, Google is not a "similarly situated licensee" as defined in the Lenbrook License. *Id.* at Q/A 149; JX-0493C at 88:17-94:21. When a bond rate cannot be determined based on the price differential or a royalty, the Commission has set the bond rate at 100%.

Accordingly, if a violation of section 337 is found, the undersigned recommends that the Commission set the bond value at 100%.

XIV. INITIAL DETERMINATION

Based on the foregoing, it is the Initial Determination of the undersigned that Respondent Google LLC infringes the asserted claims of U.S. Patent Nos. 9,195,258; 10,209,953; 9,219,959; and 10,439,896. The undersigned has also determined that Google infringes claims 1, 2, and 5 of U.S. Patent No. 8,588,949. The undersigned further determines that none of the Asserted Patents are invalid and that the domestic industry requirement has been satisfied for the Asserted Patents.[88]

The undersigned hereby certifies to the Commission this Initial Determination and the Recommended Determination. The parties' briefs, which include the final exhibits lists, are not certified as they are already in the Commission's possession in accordance with Commission rules. 19 C.F.R. § 210.38(a).

The Secretary shall serve the confidential version of this Initial Determination upon counsel who are signatories to the Protective Order issued in this Investigation. A public version will be served at a later date.

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[88] Any arguments from the parties' pre-hearing briefs incorporated by reference into the parties' post-hearing briefs are stricken, unless otherwise discussed herein, as an improper attempt to circumvent the page limits imposed for post-hearing briefing.

Pursuant to 19 C.F.R. § 210.42(h), this Initial Determination shall become the determination of the Commission unless a party files a petition for review pursuant to 19 C.F.R. § 210.43(a) or the Commission, pursuant to 19 C.F.R. § 210.44, orders on its own motion a review of the Initial Determination or certain issues therein.

Within ten days of the date of this document, the parties must jointly submit a statement to Bullock337@usitc.gov stating whether they seek to have any portion of this document redacted from the public version. The parties shall attach to the statement a copy of a joint proposed public version of this document indicating with red brackets any portion asserted to contain confidential business.[89] To the extent possible, the proposed redacting should be made electronically, in a PDF of the issued order, using the "Redact Tool" within Adobe Acrobat, wherein the proposed redactions are submitted as "marked" but not yet "applied." The parties' submission concerning the public version of this document should not be filed with the Commission Secretary.

SO ORDERED.

Charles E. Bullock
Chief Administrative Law Judge

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[89] If the parties submit excessive redactions, they may be required to provide an additional written statement, supported by declarations from individuals with personal knowledge, justifying each proposed redaction and specifically explaining why the information sought to be redacted meets the definition for confidential business information set forth in Commission Rule 201.6(a). 19 C.F.R. § 201.6(a).