

PATENT OWNER'S DEMONSTRATIVES

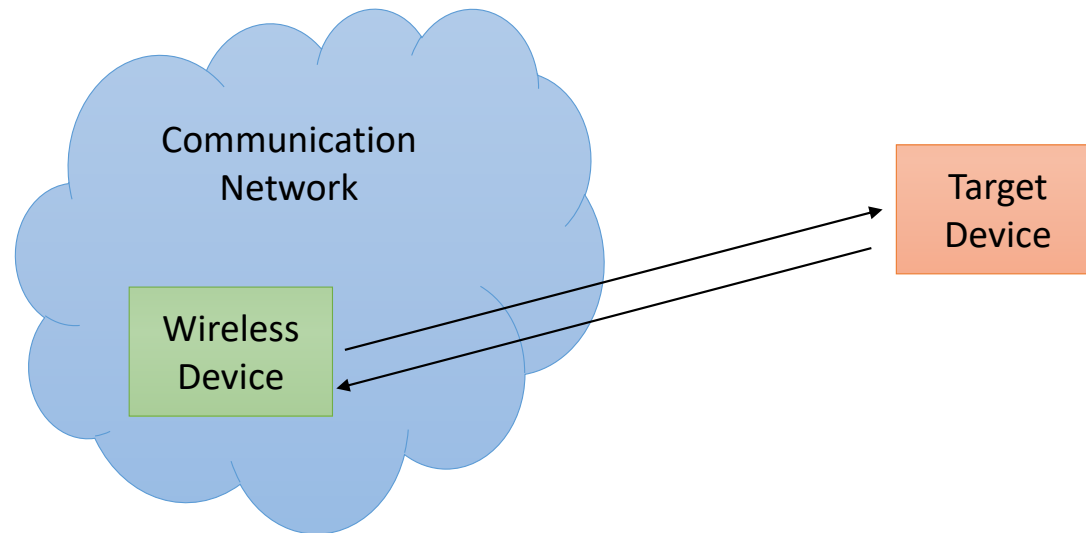
IPR2023-00806 (U.S. Patent No. 11,050,615)

DEMONSTRATIVE EXHIBITS – NOT EVIDENCE

1

'615 Patent Claims – Target Device Receives Information from Wireless Device to Enable Network Connection

1. A method for commissioning a target device onto a communication network, comprising:
at the target device including a microprocessor, a wireless radio, and commissioning logic:
receiving a request to initiate a commissioning process with the target device;
establishing a short-range signal transmission path with a wireless device independently of the communication network;
in response to receiving the request, receiving one or more network configuration packets from the wireless device via the short-range signal transmission path, wherein the one or more network configuration packets convey network configuration data associated with the communication network according to a predetermined data format, the network configuration data including at least a security passphrase for accessing the communication network;
executing an application on the target device to decode and process the one or more network configuration packets and recover the network configuration data; and
after receiving the network configuration packets, employing via the wireless radio the network configuration data conveyed in the one or more network configuration packets to enable the target device to join the communication network.



Ex. 1001, 13:28-54, 14:7:10; Reply, 8; Pet., 20

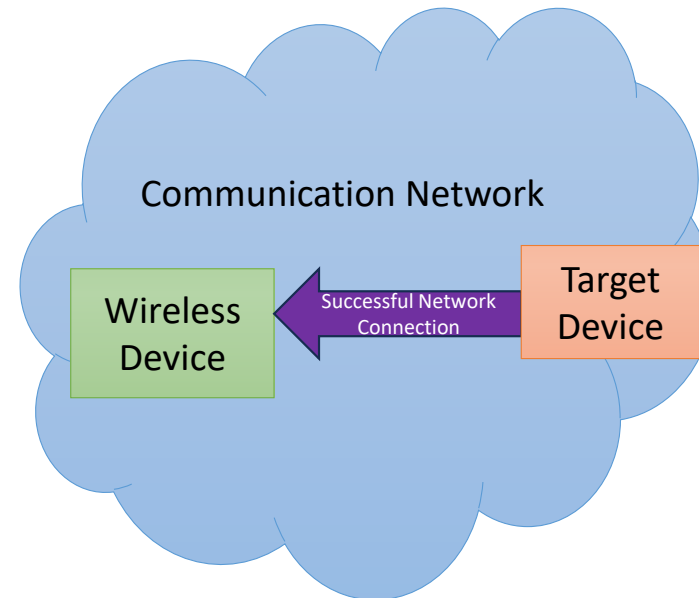
DEMONSTRATIVE EXHIBITS – NOT EVIDENCE

2

Claims 6 and 19 – After Entering Communication Network, Target Device Contacts Wireless Device

6. The method of claim 1, further comprising:
contacting the wireless device via the communication network to indicate that the target device has successfully entered the communication network.

19. The non-transitory computer readable storage medium of claim 16, wherein the one or more programs further comprise instructions for:
contacting the wireless device via the communication network to indicate that the target device has successfully entered the communication network.



Relevant Claim Elements

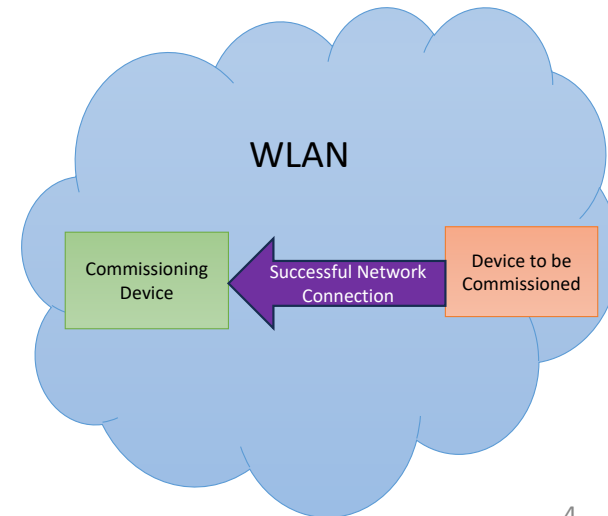
6. The method of claim 1, further comprising:
contacting the wireless device via the communication network to indicate that the target device has successfully entered the communication network.

1. **Contacting Element:** Target device contacts the wireless device
2. **Over the Network Element:** Contact occurs over the communication network
3. **Indicating Successful Network Entry Element:** Contact indicates that target device has successfully entered the communication network

- Specification confirms this understanding

configuration to the device to be commissioned. Once the device to be commissioned has successfully joined the WLAN, then the device proceeds to contact the commissioning device via the WLAN to indicate success and to optionally communicate additional configuration data as is described above.

'615 Pat., 11:54-59



Sonos's Incorrect Invalidity Premises

Relevant Claim Elements	Target device contacts the wireless device over the communication network indicating successful network entry
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Suumaki Mapping #1 (Authentication Information Mapping)	Device B issues a request frame that includes authentication information to the Hub Device over the WLAN to indicate successful WLAN connection
Suumaki Mapping #2 (WSC_Done Message Mapping)	Enrollee transmits a WSC_Done Message to the Access Point over the WLAN to indicate successful WLAN connection
Roberts Mapping	Enrollee sends a notification to the Registrar over the wireless network that setup was successful

Sonos's Suumaki Mappings

Sonos's Suumaki Mappings

Relevant Claim Elements	Target device contacts the wireless device over the communication network indicating successful network entry
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Suumaki Mapping #1 (Authentication Information Mapping)	Device B issues a request frame that includes authentication information to the Hub Device over the WLAN to indicate successful WLAN connection
Suumaki Mapping #2 (WSC_Done Message Mapping)	Enrollee transmits a WSC_Done Message to the Access Point over the WLAN to indicate successful WLAN connection

Both Mappings Fail By Pointing to Transmissions Before the Target Device Connects to the WLAN

- Claims require target device contact wireless device after connecting to communication network

Relevant Claim Elements	Target device contacts the wireless device over the communication network indicating successful network entry
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- But Device B transmits the request frame before connecting to WLAN (Suumaki Mapping 1)
- But Enrollee transmits the WSC_Done Message before connecting to WLAN (Suumaki Mapping 2)

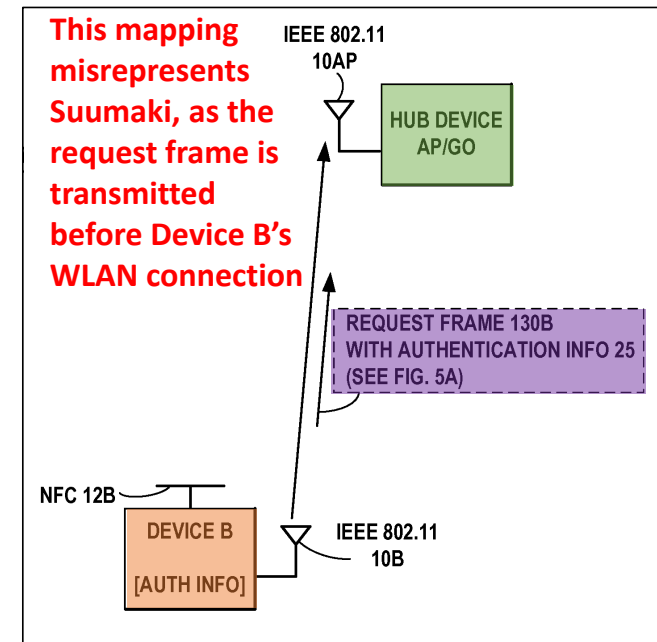
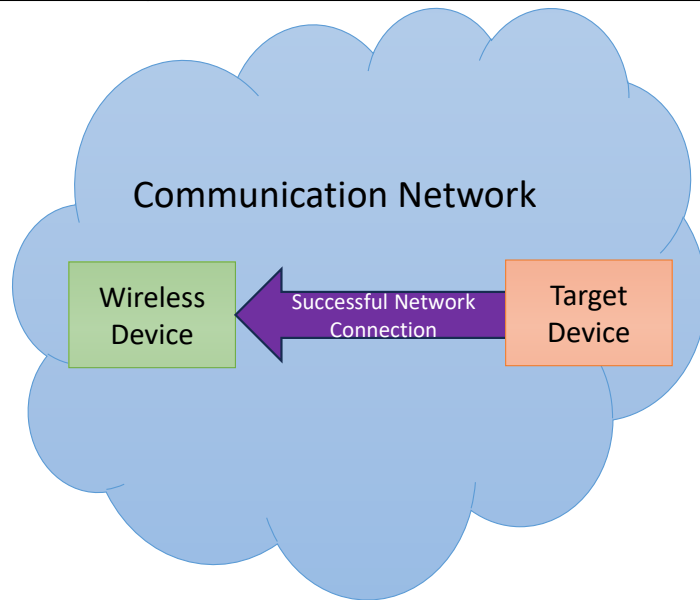
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Sonos's Suumaki Mapping #1

Suumaki Mapping #1: Authentication Information Transmission Mapping

Relevant Claim Elements	Target device contacts the wireless device over the communication network indicating successful network entry
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Suumaki Mapping #1	Device B issues a request frame that includes authentication information to the Hub Device over the WLAN to indicate successful WLAN connection
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POR, 16-19; Reply, 15-20; Ex. 1001, 14:7:10

DEMONSTRATIVE EXHIBITS – NOT EVIDENCE

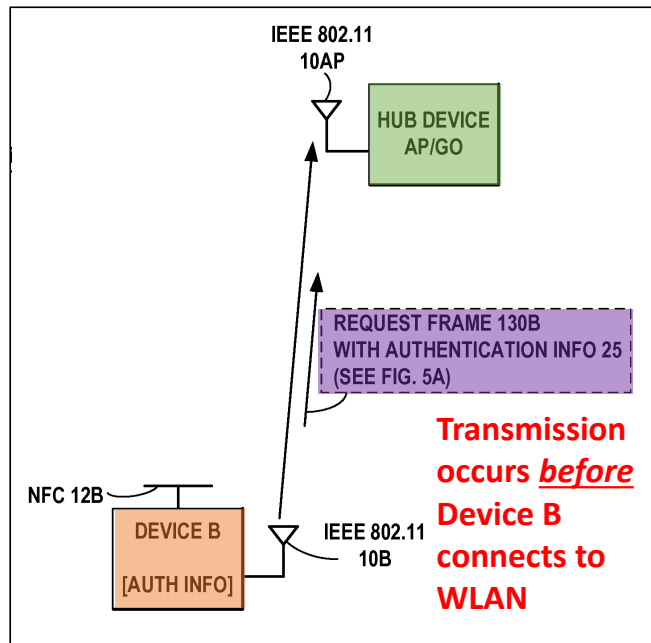
Suumaki, Fig. 1G (excerpted and annotated)

10

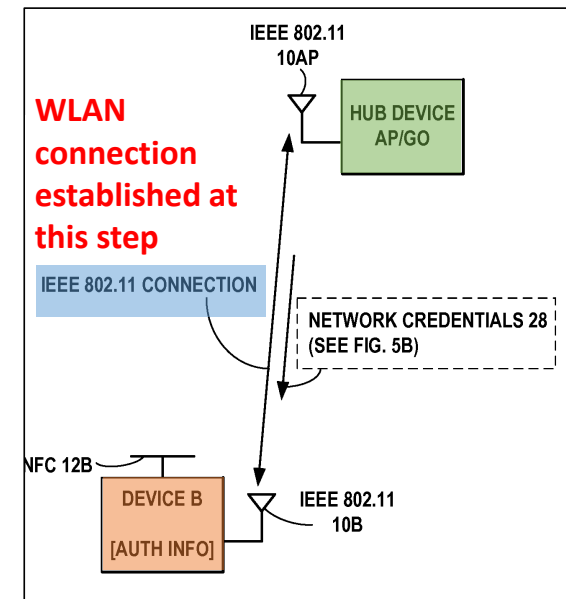
Transmission of Authentication Information Occurs *Before* Device B Connects to the WLAN

Suumaki Mapping #1

Device B issues a request frame that includes authentication information to the Hub Device over the WLAN to indicate successful WLAN connection



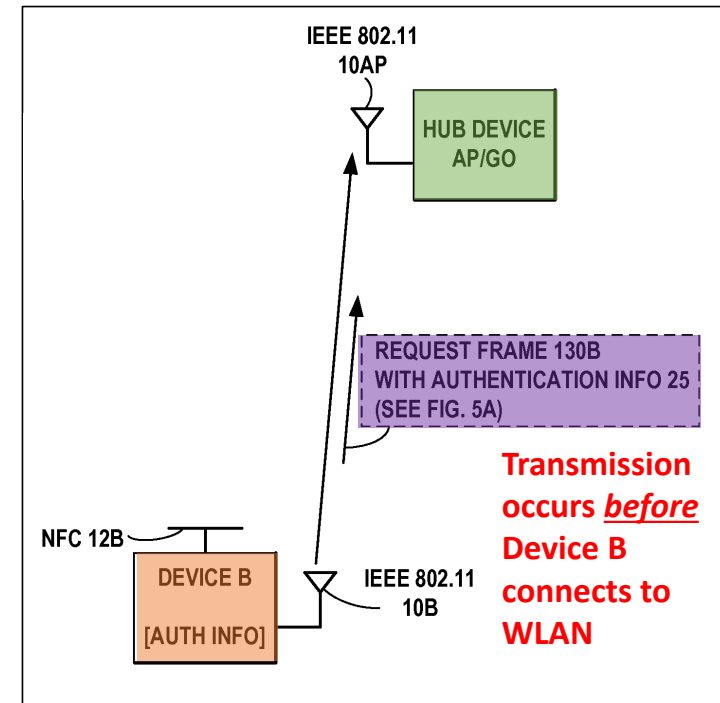
- After transmitting the authentication information, Device B then receives network credentials that it subsequently uses to connect to the WLAN



Suumaki, Fig. 1H (excerpted and annotated)

Sonos's Petition Statements are Consistent With This Understanding

- Sonos explains that “[t]he purpose of [transmitting the request frame 130B with authentication information 25] is to **enable the connection** of device B to the existing IEEE 802.11 network and ‘acquire credentials for network access, without requiring the user to type in a PIN number.’” (Pet. 61-62)
- Sonos further explains that, **after** transmission of the request frame 130B, the Hub Device **“provid[es] [device B] with ‘network credentials’ for the network,”** which “allows device B to be ‘connected to the network with its new configuration.’” (Pet. 63)



Suumaki, Fig. 1G (excerpted and annotated)

Suumaki Confirms that Device B Sends “Authentication Information 25” to Hub Device Before Connecting to the WLAN

FIG. 4 is a wireless network diagram of an example embodiment of device B and hub device AP/GO. The device B and hub device AP/GO are each equipped with one or more in-band short-range carrier transceivers, for example the in-band short range transceiver 10B and 10C, respectively, that use the IEEE 802.11 protocol. After the NFC touch procedure, device B possesses the authentication information 25 recognizable by the hub device AP/GO, in its input/output buffer 17, which will serve as a proof that the device B did, in fact, engage in an NFC touch with device A.

Device B issues a request frame, for example a probe request frame 130B with a Wi-Fi Protected Setup (WSC) information element (IE) of FIG. 5A, sending it to the hub device AP/GO in a Wi-Fi Protected Setup procedure. The WSC information element (IE) of FIG. 5A may include the authentication information 25 recognizable by the hub device AP/GO. The WSC information element (IE) includes the authentication information 25 that was output from the input/output buffer 17 of device B. The hub device AP/GO of FIG. 4 may receive authentication information 25, which may be buffered in the input/output buffer 19 of the hub device AP/GO.

Suumaki, 27:12-33

The hub device AP/GO will recognize the authentication information 25, which will serve as a proof that the device B did, in fact, engage in an NFC touch with device A. In response, hub device AP/GO will grant network access to device B. Device B connects to the hub device AP/GO and initiates the IEEE 802.1X port-based Network Access Control procedure for port-based authentication. Device B runs the Wi-Fi Simple Configuration EAP method by sending an EAPoL-Start message to the hub device AP/GO. Device B and the hub device AP/GO exchange Registration Protocol Messages M1-M8, such as frame 130AP of FIG. 5B, to provision device B with network credentials 28 for the network. An example of the credentials 28 is shown in Table 1, above.

Device B then disassociates and reconnects to the hub device AP/GO, using its new WLAN authentication credentials 28. Device B is now connected to the network with its new configuration and may communicate with device A over the network, through the hub device AP/GO. Device B has automatically joined the network that now includes the hub device AP/GO and both client devices, device A and device B, without requiring the user to type in a PIN number.

Suumaki, 27:34-59

Relevant Disclosures for Suumaki Mapping #1

1. Device B receives authentication information 25
2. Device B sends a request frame with the authentication information to the Hub Device

Sonos's Mapping

3. Hub Device recognizes the received authentication information
4. Hub Device works to grant network access to Device B by allowing Device B to run a WiFi Simple Configuration method that provides Device B with network credentials 28

5. Device B disassociates and reconnects to the Hub Device using the network credentials and is “now connected” to the WLAN

Claim Requires Device Network Connection

Sonos's Reply Misrepresents Suumaki's Disclosures

- Sonos's Reply alleges that Device B first connects to the network and then runs the WiFi setup method to obtain network credentials (Reply 14-15)

- But Suumaki discloses the opposite: the WiFi setup method occurs first and provides Device B network credentials for subsequent network connection

did, in fact, engage in an NFC touch with device A. In response, hub device AP/GO will grant network access to device B. Device B connects to the hub device AP/GO and initiates the IEEE 802.1X port-based Network Access Control procedure for port-based authentication. Device B runs the Wi-Fi Simple Configuration EAP method by sending an EAPoL-Start message to the hub device AP/GO. Device B and the hub device AP/GO exchange Registration Protocol Messages M1-M8, such as frame 130/AP of FIG. 5B, to provision device B with network credentials 28 for the network. An example of the credentials 28 is shown in Table 1, above. Device B then disassociates and reconnects to the hub device AP/GO, using its new WLAN authentication credentials 28. Device B is now connected to the network with its new configuration and may communicate with device A over the network, through the hub device AP/GO. Device B has automatically joined the network that now includes the hub device AP/GO and both client devices, device A and device B, without requiring the user to type in a PIN number.

Suumaki, 27:34-59

4. Hub Device works to grant network access to Device B by allowing Device B to run a WiFi Simple Configuration method that provides Device B with network credentials 28

5. Device B disassociates and reconnects to the Hub Device using the network credentials and is "now connected" to the WLAN

- Sonos's Petition recognizes that Device B obtains network credentials before connecting to the network (Pet. 63)

Sonos's Reply Misrepresents Suumaki's Disclosures

- Sonos also argues that Device B receives “initial network configuration information” and uses this information to communicate with the Hub Device “over the wireless network” (Reply, 13)

- But Suumaki does not disclose this – instead, Device B receives connection parameters for a “short-range carrier connection” – this is different than the WLAN connection

Device A may also send to device B, IEEE 802.11 in-band short-range carrier communication connection parameters for connection to the hub device AP/GO, such as the MAC address of the hub device AP/GO, via the NFC out-of-band short-range carrier communication connection. This will enable device B to setup an IEEE 802.11 in-band short-range carrier communication connection with the hub device AP/GO according to the IEEE 802.11 in-band short-range carrier communication connection parameters.

Suumaki, 22:1-13

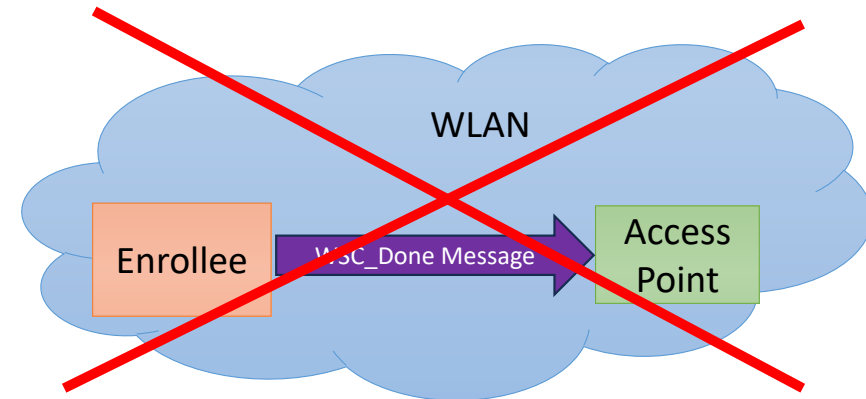
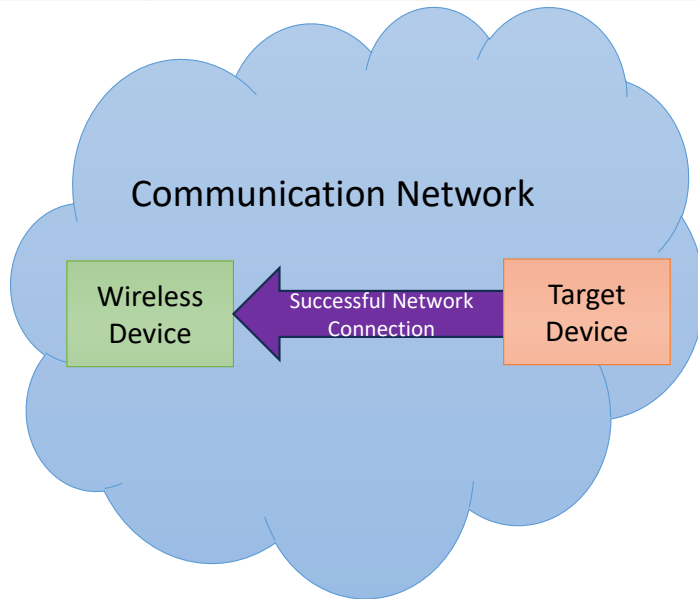
- Sonos acknowledges that the WLAN is different from the “short-range carrier connection” and mapped the WLAN to the claimed “communications network” (Pet. 48)
- Sonos never made this argument in its Petition grounds and only references back to its prior art overview of Suumaki for support

Sonos's Suumaki Mapping #2

Suumaki Mapping #2: Sonos's WSC_Done Message" Transmission Mapping

Relevant Claim Elements	Target device contacts the wireless device over the communication network indicating successful network entry
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Suumaki Mapping #2 (WSC_Done Message Mapping)	Enrollee transmits a WSC_Done Message to the Access Point over the WLAN to indicate successful WLAN connection
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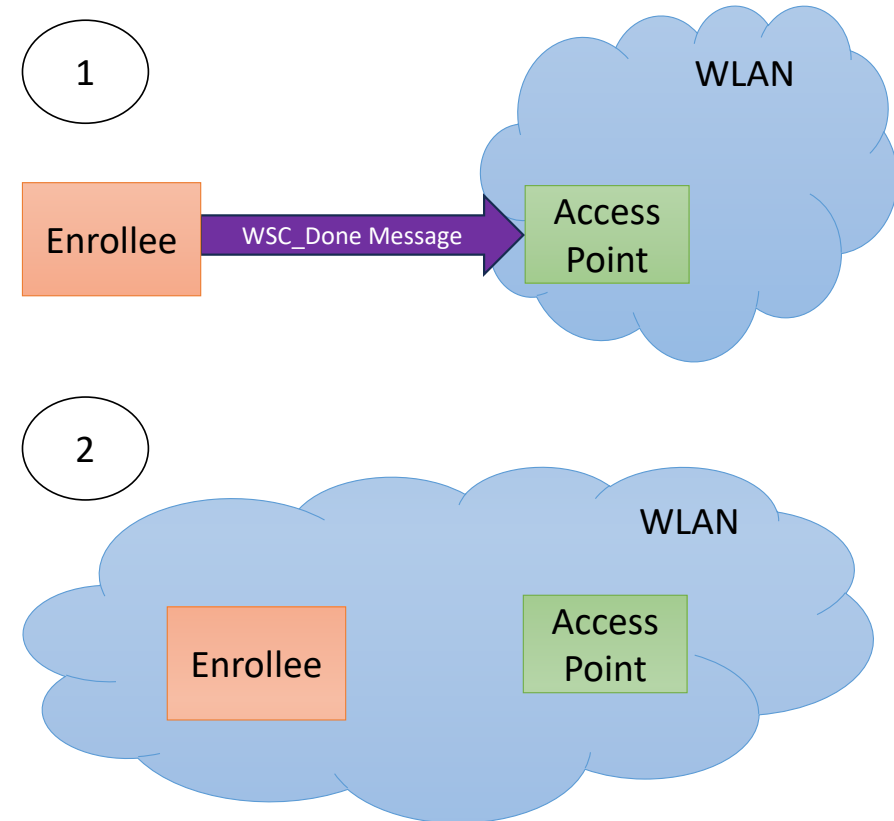
This mapping misrepresents Suumaki, as the WSC_Done Message is transmitted before the Enrollee's WLAN connection

Transmission of WSC_Done Message Occurs *Before* Enrollee connects to the WLAN

- After WSC_Done message is sent, *then* the Enrollee connects to the WLAN using the network credentials

validated by the Enrollee. If it successfully processes M8, the Enrollee sends an EAP-Response/Done message to the authenticator, which sends the WSC_Done message to any External Registrar and the authenticator returns an EAP-Failure message to the Enrollee. An Enrollee should assume that the received credentials are valid after successfully processing message M8 and sending the WSC_Done message. The Enrollee then disassociates and reconnects with the Credential obtained from M8's ConfigData. If M2D is received

Suumaki, 14:52-15:2



Suumkai's Disclosure Shows that the Enrollee Sends the "WSC_Done message" to the Access Point Before Connecting to the WLAN

When the Enrollee decides to connect to the network and run the Wi-Fi Simple Configuration EAP method, it associates with the AP and sends an EAPoL-Start message. The AP responds with an EAP-Request/Identity. The Enrollee sends an EAP-Response/Identity containing the defined Wi-Fi Alliance name for a Simple Configuration Enrollee ("WFA-SimpleConfig-Enrollee-1-0"). This causes the AP to start running the Simple Configuration EAP method. The Registration Protocol messages are exchanged until M8 is received and validated by the Enrollee. If it successfully processes M8, the Enrollee sends an EAP-Response/Done message to the authenticator, which sends the WSC_Done message to any External Registrar and the authenticator returns an EAP-Failure message to the Enrollee. An Enrollee should assume that the received credentials are valid after successfully processing message M8 and sending the WSC_Done message. The Enrollee then disassociates and reconnects with the Credential obtained from M8's ConfigData. If M2D is received

Suumaki, 14:52-15:2

1. Enrollee associates with AP and sends Start message to begin network connection process

2. The WiFi Simple Configuration method begins

3. Enrollee processes message M8 to obtain network credentials and sends the WSC_Done Message

Sonos's Mapping

4. Enrollee disassociates from AP and reconnects to the AP via the WLAN using the received credentials from the M8 message

Claim Requires Device Network Connection

This Disclosure is Consistent With Other Portions of Suumaki That Further Support Google's Arguments

- Suumakai's disclosure shows that the "WSC_Done Message" is sent before the **disassociation and reconnection step**
- Other portions of Suumaki show that the **disassociation and reconnection step** occurs before WLAN connection

validated by the Enrollee. If it successfully processes M8, the Enrollee sends an EAP-Response/Done message to the authenticator, which sends the WSC_Done message to any External Registrar and the authenticator returns an EAP-Failure message to the Enrollee. An Enrollee should assume that the received credentials are valid after successfully processing message M8 and sending the WSC_Done message. The Enrollee then disassociates and reconnects with the Credential obtained from M8's ConfigData. If M2D is received

Suumaki, 14:61-15:2

hub device AP/GO. Device B and the hub device AP/GO exchange Registration Protocol messages M1-M8 to provision device B with network credentials for the network. Device B then disassociates and reconnects to the hub device AP/GO, using its new WLAN authentication credentials. FIG. 5B illustrates an example MAC management frame 130AP sent by the hub device AP/GO to the device B with the messages M2, M4, M6, and M8 in WSC information elements 502, used to assemble the credentials 28 in device B.

FIG. 11 illustrates an example of device B now connected to the network with its new configuration and may commu-

Suumaki, 22:30-40

Sonos's Expert's One Sentence About the WSC_Done Message Misinterprets Summaki

- Sonos's expert asserts that the "WSC_Done message" is sent after processing network credentials
- But Suumaki discloses "successfully process[ing]" an "M8 message" and then sending the WSC_Done Message

463. Moreover, Suumäki also explains that other "*indicat[i]ons*" are sent from its enrollee to its hub. For example, the "Enrollee" device can transmit a "WSC_Done message" once it processes any received network credentials. (Ex. 1005, 14:59-64.)

Ex. 1003 ¶ 463

ning the Simple Configuration EAP method. The Registration Protocol messages are exchanged until M8 is received and validated by the Enrollee. If it successfully processes M8, the Enrollee sends an EAP-Response/Done message to the authenticator, which sends the WSC_Done message to any External Registrar and the authenticator returns an EAP-

Suumaki, 14:59-64

Sonos's Reply Arguments Misrepresent What Suumaki Discloses

- **First Reply Argument:** Sonos asserts that Enrollee **connects to the WLAN first** “for the purposes of running a” **WiFi Simple Configuration method** (Reply, 14)

- But Suumaki explains that the Enrollee **first** runs the **WiFi Simple Configuration method** to obtain WLAN credentials and **then** **connects to the WLAN using those credentials**

SimpleConfig-Enrollee-1-0”). This causes the AP to start running the Simple Configuration EAP method. The Registration Protocol messages are exchanged until M8 is received and validated by the Enrollee. If it successfully processes M8, the Enrollee sends an EAP-Response/Done message to the authenticator, which sends the WSC_Done message to any External Registrar and the authenticator returns an EAP-Failure message to the Enrollee. An Enrollee should assume that the received credentials are valid after successfully processing message M8 and sending the WSC_Done message. The Enrollee then disassociates and reconnects with the Credential obtained from M8’s ConfigData. If M2D is received

Suumaki, 14:52-15:2

Sonos's Reply Arguments Misrepresent What Suumaki Discloses

- **Second Reply Argument:** Sonos also argues that the Enrollee “could not ‘reconnect’ to the wireless network if it was not connected to that network in the first place” (Reply, 14-15)
- But the Enrollee does not initially connect to the wireless network
- Instead, Suumaki explains that the Enrollee initially **associates with AP** and later **disassociates from AP and reconnects to the AP via WLAN using the received credentials**

When the Enrollee decides to connect to the network and run the Wi-Fi Simple Configuration EAP method, it associates with the AP and sends an EAPoL-Start message. The AP responds with an EAP-Request/Identity. The Enrollee sends an EAP-Response/Identity containing the defined Wi-Fi Alliance name for a Simple Configuration Enrollee (“WFA-SimpleConfig-Enrollee-1-0”). This causes the AP to start running the Simple Configuration EAP method. The Registration Protocol messages are exchanged until M8 is received and validated by the Enrollee. If it successfully processes M8, the Enrollee sends an EAP-Response/Done message to the authenticator, which sends the WSC_Done message to any External Registrar and the authenticator returns an EAP-Failure message to the Enrollee. An Enrollee should assume that the received credentials are valid after successfully processing message M8 and sending the WSC_Done message. The Enrollee then disassociates and reconnects with the Credential obtained from M8’s ConfigData. If M2D is received

Suumaki, 14:52-15:2

Sonos's Reply Arguments Misrepresent What Suumaki Discloses

- **Second Reply Argument:** Sonos also argues that the Enrollee “could not ‘reconnect’ to the wireless network if it was not connected to that network in the first place” (Reply, 14-15)
- Additionally, Suumaki explains that the Enrollee’s initial association with the AP uses beacons probe requests/responses—not the WLAN wireless network

When an Enrollee is initialized, it looks for Beacons from APs and sends probe requests with the WSC information element (IE), into either selected networks or into each network sequentially. It may also send probe requests to each IEEE 802.11 channel with the WSC IE included. It looks for the WSC IE in probe-responses that it receives and can engage with one or more Registrars to further discover Registrar capabilities and to see if the user has selected a Registrar. The Enrollee may continue looking for selected Registrar flags in Beacons, probe-responses and any M2 messages and may cease scanning when it finds a Registrar indicating that it is prepared to configure the Enrollee.

Suumaki, 13:4-15

network. Wi-Fi Protected Setup allows access points to be set up by entering a PIN. The Protected Setup system uses this information to send data to a computer connected to the access point, to complete the network setup. Wi-Fi Protected Setup defines new IEEE 802.11 information elements (IE) that are included in beacons, probe requests and probe responses. The purpose of these IEs is to advertise the presence of devices that are capable of performing Wi-Fi Protected Setup operations.

Suumaki, 12:21-30

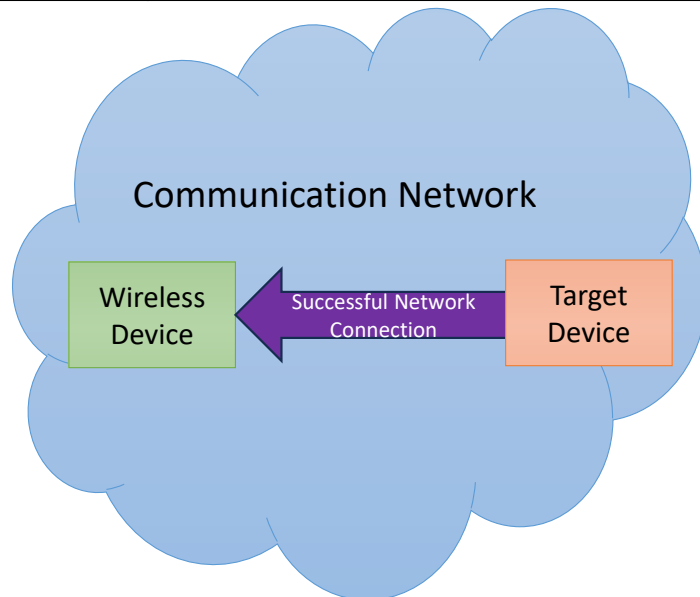
Sonos's Roberts Mapping

The ITC Rejected Sonos's Anticipation and Obviousness Grounds Based on Roberts That Challenged Claims 6 and 19

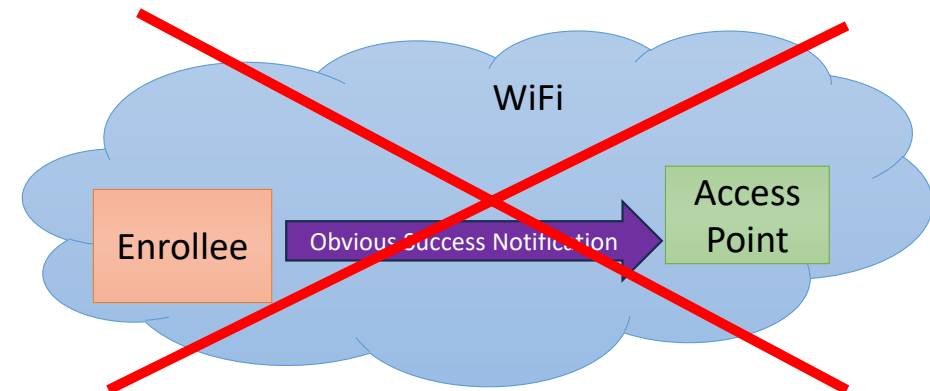
- Sonos asserted that Roberts anticipated or rendered obvious claims 6 and 19 – but the ITC rejected these grounds
 - Sonos relied on different disclosures from Roberts at the ITC than in the Petition
- Sonos's Petition provides it a second bite at the apple, but Sonos again fails to show that Roberts renders obvious claims 6 and 19

Sonos's Roberts Mapping: Enrollee "Obviously" Sends Successful Setup Notification

Relevant Claim Elements	Target device contacts the wireless device over the communication network indicating successful network entry
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Roberts Mapping	Enrollee sends a notification to the Registrar over the wireless network that setup was successful
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This mapping is incorrect because Roberts does not suggest the alleged notification, that the notification indicates successful WiFi connection, or that it occurs over WiFi

Sonos's Roberts Mapping Fails for 3 Independent Reasons

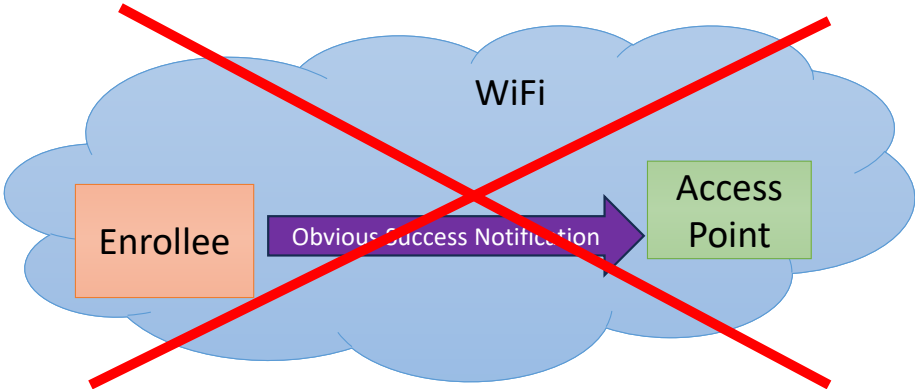
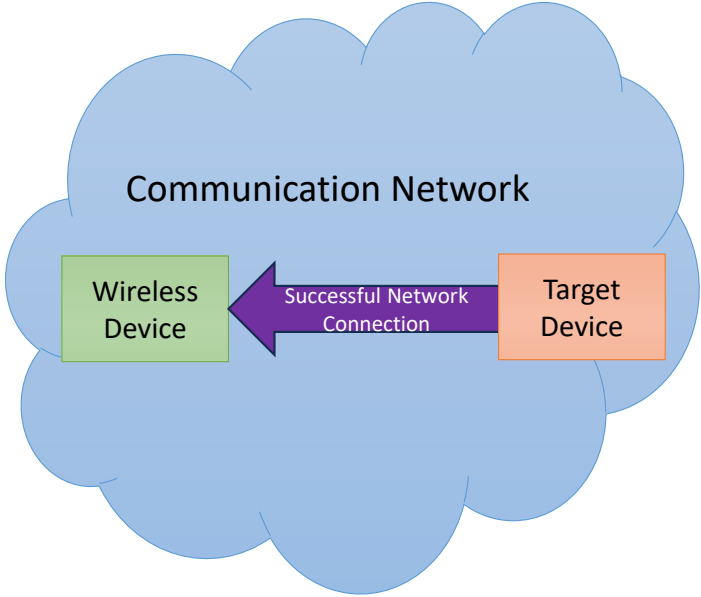
1. Roberts Fails to Suggest the Claimed Contact
2. Even Assuming the Claimed Contact Occurs, Roberts Fails to Suggest the Contact (i) Indicates Successful WiFi Connection or (ii) Occurs Over the WiFi Network
3. Sonos Combines Distinct Embodiments in Roberts Without Any Statements Supporting the Combination

1. Roberts Fails to Suggest the Claimed Contact

Sonos's Roberts Mapping: Enrollee "Obviously" Sends Successful Setup Notification

Relevant Claim Elements	Target device contacts the wireless device over the communication network indicating successful network entry
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Roberts Mapping	Enrollee sends a notification to the Registrar over the wireless network that setup was successful
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This mapping is incorrect because Roberts does not suggest the alleged notification, that the notification indicates successful WiFi connection, or that it occurs over WiFi

Roberts Undermines Sonos's Single Reason Why it Would be Obvious For an Enrollee to Send a Success Notification to the Registrar

- Sonos alleges that after “setup succeeds,” it would be obvious to send a success notification to the Registrar so “that the Registrar can delete its own matching L2 port” (Pet. 36-37, Ex. 1003, ¶ 251)

- But Roberts does not suggest (i) sending any such success notification or (ii) that the Registrar needs a notification before it can delete its L2 Port

If the setup succeeds, then on the enrollee device 300 the enrollee device setup entity requests the 802.11 stack to delete the L2 data port. The 802.11 stack simply deletes the specified port. Then the enrollee device setup entity configures the 802.11 stack with an 802.11 profile and credentials to connect the enrollee device 300 as a member of the 802.11 network domain. The 802.11 stack uses the configured profile and credentials to connect to the 802.11 network domain. On a registrar device 302 or a proxy thereto, a registrar device setup entity (or registrar proxy device setup entity) requests the 802.11 stack to delete the L2 data port. The 802.11 stack simply deletes the specified port.

Roberts, 13:51-62

After “setup succeeds,” the following occurs on the Enrollee and Registrar:

- On Enrollee:

- First, the L2 data port is deleted
- Second, the Enrollee uses WiFi credentials to connect to the WiFi

- On Registrar:

- The L2 data port is deleted
 - This step has no temporal connection to the steps taken at the Enrollee

- Instead, Roberts explains that the Registrar unilaterally deletes its L2 port

The registrar device 302 also aggressively ages the state and brings down the port if it does not receive any response from the enrollee device 300 or fails setup with the enrollee device 300, for example after a preset time limit.

Roberts, 10:25-28
31

Sonos's Ultimate Conclusion is Conclusory and Unsupported

- Sonos's misinterpretation of how the Registrar deletes its L2 port in Roberts undermines its basis for its conclusion

Because the enrollee deletes the L2 data port it used for setup upon joining a network, a POSITA would understand that any further messages or notifications sent to the registrar—which obviously includes a notification that the setup was successful such that the registrar can delete its own matching L2 port—would be transmitted over the wireless network itself. (See Ex. 1003, ¶¶ 246-251.)

Pet., 36-37

- Sonos's failure to articulate specific reasoning renders its mapping legally improper



In re Magnum Oil Tools Int'l, Ltd., 829 F.3d 1364, 1380 (Fed. Cir. 2016)

- ***"To satisfy its burden of proving obviousness, a petitioner cannot employ mere conclusory statements. The petitioner must instead articulate specific reasoning, based on evidence of record, to support the legal conclusion of obviousness."***

Sonos's Expert Testimony Should Be Given Little Weight

- Sonos's expert testimony only restates Sonos's conclusion without additional reasoning or support

251. Because the enrollee deletes the L2 data port it used for setup upon joining a network, a POSITA would understand that any further messages or notifications sent to the registrar following port closure would be transmitted over the wireless network itself. This would include a notification sent by the enrollee to the registrar informing the registrar that enrollee setup was successful such that the registrar can delete its own matching L2 port. As explained above, per Roberts, this occurs after the enrollee has already joined the wireless network.

Ex. 1003 ¶ 251

- Sonos's expert testimony should be given little weight as it attempts to supply a missing limitation but merely repeats Sonos's incorrect and conclusory argument without additional evidence or technical reasoning



***Xerox Corp. v. Bytemark, Inc.*, No. IPR2022-00624, 2022 WL 3648989, at *5-6 (PTAB Aug. 24, 2022) (precedential)**

- Expert testimony is given little weight when it merely repeats the petitioner's conclusory argument for which the testimony was offered to prove and does not provide any additional evidence or technical reasoning to support the arguments
- "Particularly problematic in cases where ... expert testimony is offered ... to supply a limitation missing from the prior art"

Sonos Points to Other Messages in Roberts as Being “Consistent” With the Alleged Successful Indication But Roberts Fails to Disclose Any Such Messages (cont.)

- Sonos alleges that transmitting the success indication is “consistent with” Roberts’s contemplation of various messages such as “general setup progress” messages and “messages relating to dedicated L2 port deletion” (Reply 12-13; Pet. 36-37)
- But Roberts does not even disclose these messages
- **“General Setup Progress” Messages:**
 - Roberts discloses providing system wide visibility into *setup* progress, not after setup succeeds
 - Roberts does not suggest that visibility means sending any messages, let alone messages from the Enrollee to the Registrar

In addition, using this exchange gives system wide visibility into setup progress; i.e. each L2 data port refers to a specific registrar device **302** or an access point **306** acting as a registrar or proxy to a registrar, and there is clean state transition whether it is from tearing down current a L2 data port for actual data and creating a new one for setup, or tearing down a L2 data port for setup and creating a new one for actual data using the credentials acquired after setup is complete.

Roberts, 11:32-40

Sonos Points to Other Messages in Roberts as Being “Consistent” With the Alleged Successful Indication But Roberts Fails to Disclose Any Such Messages

- **Messages Relating to L2 Port Deletion:** Roberts does not suggest any messages between Enrollee and Registrar when each closes its L2 port

If the setup succeeds, then on the enrollee device **300** the enrollee device setup entity requests the 802.11 stack to delete the L2 data port. The 802.11 stack simply deletes the specified port. Then the enrollee device setup entity configures the 802.11 stack with an 802.11 profile and credentials to connect the enrollee device **300** as a member of the 802.11 network domain. The 802.11 stack uses the configured profile and credentials to connect to the 802.11 network domain. On a registrar device **302** or a proxy thereto, a registrar device setup entity (or registrar proxy device setup entity) requests the 802.11 stack to delete the L2 data port. The 802.11 stack simply deletes the specified port.

Roberts, 13:51-62

After “setup succeeds,” the following occurs on the Enrollee and Registrar:

- **On Enrollee:**
 - First, the L2 data port is deleted
 - Second, the Enrollee uses WiFi credentials to connect to the WiFi
- **On Registrar:**
 - The L2 data port is deleted

- The devices unilaterally delete their L2 ports

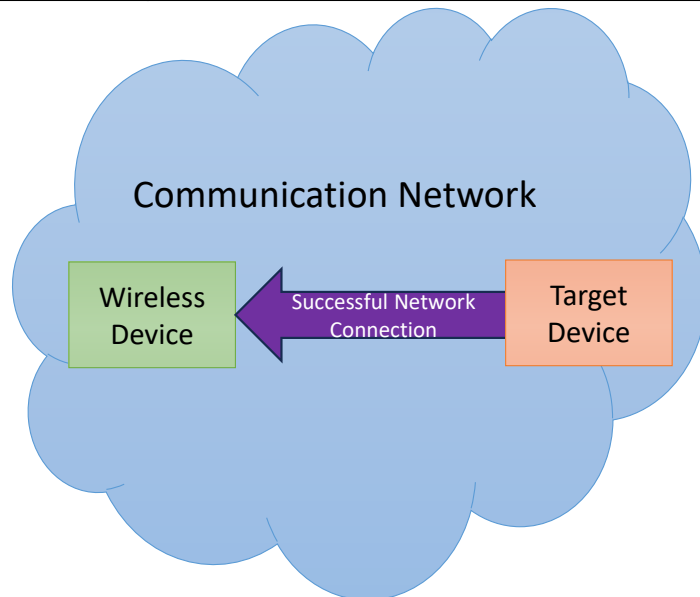
The registrar device **302** also aggressively ages the state and brings down the port if it does not receive any response from the enrollee device **300** or fails setup with the enrollee device **300**, for example after a preset time limit.

Roberts, 10:25-28, 10:67-11:3

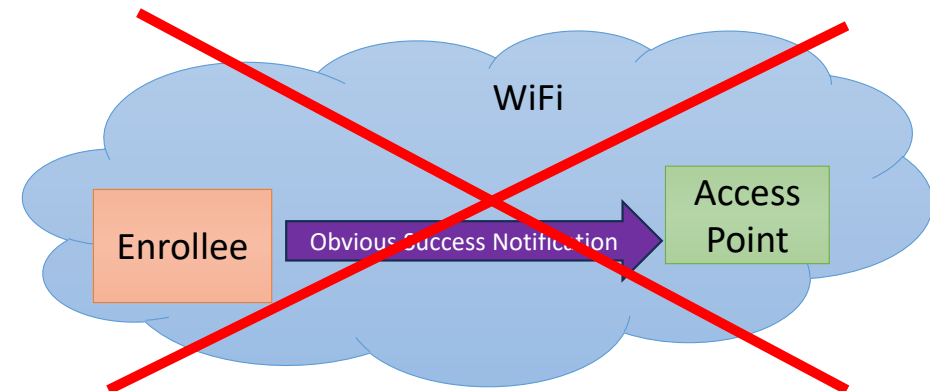
2. Even Assuming the Claimed Contact Occurs, Roberts Fails to Suggest the Contact
(i) Indicates Successful WLAN Connection or
(ii) Occurs Over the WLAN

Sonos's Roberts Mapping: Enrollee "Obviously" Sends Successful Setup Notification

Relevant Claim Elements	Target device contacts the wireless device over the communication network indicating successful network entry
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Roberts Mapping	Enrollee sends a notification to the Registrar over the wireless network that setup was successful
------------------------	--



This mapping is incorrect because Roberts does not suggest the alleged notification, that the notification indicates successful WiFi connection, or that it occurs over WiFi

Sonos Fails to Allege a Notification (i) Indicating Successful WLAN Connection

- Claim requires indicating that the target device has successfully entered the communication network

6. The method of claim 1, further comprising: contacting the wireless device via the communication network to indicate that the target device has successfully entered the communication network.

≠

- Petition only alleges that the Enrollee sends a notification to a Registrar that “setup was successful”

Because the enrollee deletes the L2 data port it used for setup upon joining a network, a POSITA would understand that any further messages or notifications sent to the registrar—which obviously includes a notification that the setup was successful such that the registrar can delete its own matching L2 port—would be transmitted over the wireless network itself. (See Ex. 1003, ¶¶ 246-251.)

Pet., 36-37

The Expert Testimony Contains the Same Flaw – It Also Fails to Allege a Notification Indicating Successful WLAN Connection

- Claim requires indicating that the target device has successfully entered the communication network

6. The method of claim 1, further comprising: contacting the wireless device via the communication network to indicate that the target device has successfully entered the communication network.



- Expert declaration only alleges that the Enrollee sends a notification to a Registrar that “setup was successful”

251. Because the enrollee deletes the L2 data port it used for setup upon joining a network, a POSITA would understand that any further messages or notifications sent to the registrar following port closure would be transmitted over the wireless network itself. This would include a notification sent by the enrollee to the registrar informing the registrar that enrollee setup was successful such that the registrar can delete its own matching L2 port. As explained above, per Roberts, this occurs after the enrollee has already joined the wireless network.

Ex. 1003 ¶ 251

Setup Process Provides Enrollee With Credentials for Subsequent WLAN Connection

Example

A specific example is now given for the benefit of the reader. In this example, the setup of an enrollee device **300** occurs in the context of IEEE 802.11 technology. The registrar device **302** is connected to the network (e.g., the network **304**) via an 802.11 access point (e.g., the access point **306**). The access point **306** may or may not be configured to act as a registrar device. Also, there may be multiple registrar devices **302** with a mix of the registrar device **300** acting as a proxy for one or more registrar devices.

At first, the enrollee device **300** undergoes a discovery of registrar devices **302** and sets up control channels for communication. To do so, the enrollee device **300** sends a probe request containing an enrollee information element **514**. In this example, the probe request header includes: SSID/Desired network (configured desired network name); type of network (infrastructure); and Basic Service Set Identifier (BSSID) broadcasted by the access point **306**. The BSSID is included to avoid un-necessary probe responses.

Roberts, 9:5-25

In addition, using this exchange gives system wide visibility into setup progress; i.e. each L2 data port refers to a specific registrar device **302** or an access point **306** acting as a registrar or proxy to a registrar, and there is clean state transition whether it is from tearing down current a L2 data port for actual data and creating a new one for setup, or tearing down a L2 data port for setup and creating a new one for actual data using the credentials acquired after setup is complete.

Roberts, 11:32-40

Successful Setup is Distinct from Successful WLAN Connection

by the two entities. Finally, setup exchange terminates with success or failure (explicit code as well as timeout).

After this process, if setup fails, then on the enrollee device 300, the enrollee device setup entity requests the 802.11 stack to delete the L2 data port and create a new one with the next setup peer for the desired network. The 802.11 stack deletes the specified port and either creates another one or exhausts the peer list and indicates failure for the desired network. The failure indication is system wide and it is up to the enrollee device setup entity to represent the failure to the user.

On the registrar device 302, a registrar device setup entity requests the 802.11 stack to delete the L2 data port. The 802.11 stack simply deletes the specified port.

On a proxy for a registrar device 302, the registrar proxy device setup entity requests the 802.11 stack to delete the L2 data port. The 802.11 stack simply deletes the specified port.

If the setup succeeds, then on the enrollee device 300 the enrollee device setup entity requests the 802.11 stack to delete the L2 data port. The 802.11 stack simply deletes the specified port. Then the enrollee device setup entity configures the 802.11 stack with an 802.11 profile and credentials to connect the enrollee device 300 as a member of the 802.11 network domain. The 802.11 stack uses the configured profile and credentials to connect to the 802.11 network domain. On a registrar device 302 or a proxy thereto, a registrar device setup entity (or registrar proxy device setup entity) requests the 802.11 stack to delete the L2 data port. The 802.11 stack simply deletes the specified port.

Roberts, 13:35-62

POR, 13-14, 6-8; Sur-Reply, 11-12

If “setup fails,” the Enrollee does not receive the WLAN credentials and the following occurs:

- **On Enrollee:**
 - First, the L2 data port is deleted
 - Second, a new L2 data port is created with another Registrar or a failure indication is sent

- **On Registrar:**
 - The L2 data port is deleted

If “setup succeeds,” the Enrollee receives the WLAN credentials and the following occurs:

- **On Enrollee:**
 - First, the L2 data port is deleted
 - Second, the Enrollee uses received credentials to connect to the wireless network
 - No indication is sent

- **On Registrar:**
 - The L2 data port is deleted

DEMONSTRATIVE EXHIBITS – NOT EVIDENCE

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Sonos's Reply Confirms that Setup Succeeding Occurs Before the Enrollee Connects to the WLAN

- Sonos indicates that (i) “setup succeeds” when Enrollee receives network credentials and (ii) L2 ports are deleted after “setup succeeds”

First, after an enrollee device is provided with wireless network credentials and “setup succeeds,” Roberts’s system “deletes” the communication ports on both the enrollee and registrar device that were used to facilitate the transmission of setup information. (See *id.* at 36-37 (quoting Ex. 1004, 13:51-62).)

Reply, 5

- In Roberts, L2 port deletion is before Enrollee connects to WiFi, thus “setup succeed[ing]” occurs before WiFi connection

If the setup succeeds, then on the enrollee device 300 the enrollee device setup entity requests the 802.11 stack to delete the L2 data port. The 802.11 stack simply deletes the specified port. Then the enrollee device setup entity configures the 802.11 stack with an 802.11 profile and credentials to connect the enrollee device 300 as a member of the 802.11 network domain. The 802.11 stack uses the configured profile and credentials to connect to the 802.11 network domain. On a registrar device 302 or a proxy thereto, a registrar device setup entity (or registrar proxy device setup entity) requests the 802.11 stack to delete the L2 data port. The 802.11 stack simply deletes the specified port.

Roberts, 13:51-62

After “setup succeeds,” the following occurs on the Enrollee:

- First, the L2 data port is deleted
- Second, the Enrollee uses WiFi credentials to connect to the WiFi

Sonos Fails to Meet Its Legal Burden in Articulating Specific Reasons How a Successful Setup Notification Indicates Successful WLAN Connection

“6. The method of claim 1, further comprising: contacting the wireless device via the communication network to indicate that the target device has successfully entered the communication network.”

This is rendered obvious by Roberts and Asokan. Roberts explains that if enrollee device “setup succeeds,” then the device “deletes the L2 data port” it previously used to communicate with the registrar and reconfigures its “802.11 stack with an 802.11 profile and credentials to connect the enrollee device ... as a member of the 802.11 network domain.” (Ex. 1004, 13:51-57.) After this, “[o]n a registrar device,” the matching “L2 data port” is also deleted. (*Id.*, 13:58-62.) Because the enrollee deletes the L2 data port it used for setup upon joining a network, a POSITA would understand that any further messages or notifications sent to the registrar—which obviously includes a notification that the setup was successful such that the registrar can delete its own matching L2 port—would be transmitted over the wireless network itself. (See Ex. 1003, ¶¶ 246-251.) This is consistent with the remainder of Roberts’s disclosure. For instance, Roberts explains that its system operates to “give[] system wide visibility into setup progress.” (Ex. 1004, 11:32-33; see also Ex. 1003, ¶¶ 252-254.)

Pet., 36-37

POR, 9-10, 6-7; Sur-Reply, 5-6

DEMONSTRATIVE EXHIBITS – NOT EVIDENCE

- Sonos provides insufficient evidence and explanation as to how its manufactured successful “setup” notification indicates successful WLAN connection

43

Sonos's Reply Raises a New and Improper Claim Construction for "Successfully Enter[ing]" the Communication Network

6. The method of claim 1, further comprising:
contacting the wireless device via the communication
network to indicate that the target device has success-
fully entered the communication network.

- **Sonos's Construction Arguments:**

- "The transmitted message does not need to be explicit, be in any particular form, have any particular format, or include any particular type of information" (Reply, 11-12)
- Google improperly imposed additional limitations" requiring "the message transmitted by Roberts's enrollee [to] be 'about' network connection" and "inform the registrar that the enrollee completed setup such that it is now 'successfully connect[ed] to the WiFi network'" (Reply, 12)

- But the Petition applied the plain and ordinary meaning to all claims (Pet., 14)
- Additionally, Sonos never alleged that "successful[] entry" had a specific meaning or one that differentiates it from successfully joining or connecting to a network

Roberts Supports Google's Arguments and Contradicts Sonos's Positions

- Google's Arguments simply explained that the alleged successful setup notification could not indicate Enrollee's successful connection to the wireless network

Thus, Sonos only alleges that the enrollee device informs the registrar that the enrollee device was successfully set up, not that it successfully connected to the WiFi network. Pet. 36-37. Sonos provides no explanation or evidence that sending this notification could or would indicate to the registrar that the enrollee device successfully connected to the WiFi network. See *id.*; Ex. 1003, ¶¶ 246-254.

POR, 14

- Google's arguments are consistent with the '615 patent, which explains that successful entry means successfully joining or connecting to the communication network

configuration to the device to be commissioned. Once the device to be commissioned has successfully joined the WLAN, then the device proceeds to contact the commissioning device via the WLAN to indicate success and to optionally communicate additional configuration data as is described above.

Roberts, 11:54-57

tion network. The electronic device sends the network configuration data to the target device and receives confirmation that the target device has successfully connected to the communication network. The electronic device displays

Roberts, Abstract

- These disclosures contradict Sonos's assertion that successful WLAN connection is not needed before transmitting the claimed contact

Sonos's Own Statements Contradict its New Claim Construction Positions

- Sonos's Reply explained that claims 6 and 19 require "successful joining of a wireless network"

Petition at 36-37.) Second, confirming that messages indicating the successful joining of a wireless network are in fact transmitted as claims 6 and 19 require, the Petition noted that in Roberts, registrar devices are "give[n] system wide visibility into setup progress." (*See id.* at 37 (citing Ex. 1004, 11:32-33).) Petitioner's expert also assessed these same teachings in Roberts and arrived at the conclusion that "messages indicating that an enrollee device successfully joined a network as originally requested" would obviously have been transmitted "over the wireless network" as this claim limitation requires. (*See* Ex. 1003, ¶¶ 248-254.)

Reply, 6

Even if Sonos's New Construction is Applied, Sonos Fails to Explain How Roberts Meets this Construction

- The Reply only argued what “successful entry” means, not how Roberts meets the construction

Claims 6 and 19 do not require that setup be totally complete when Roberts's enrollee “contact[s] the wireless device.” Instead, all that is required is that enrollee “successfully enter[] the communication network” and transmit a message to that effect.

Reply, 12

In other words, further setup steps can be performed *after* the message indicating network “entr[y]” is transmitted. Thus, while claim 6's message could indicate that setup is complete, the claim must also embrace intermediate communications sent after a new device has “entered” a network, but before the “commissioning process” is complete.

Reply, 12-13

Sur-Reply, 14

- The Petition also failed to show how Roberts satisfies Sonos's new construction

“6. The method of claim 1, further comprising: contacting the wireless device via the communication network to indicate that the target device has successfully entered the communication network.”

This is rendered obvious by Roberts and Asokan. Roberts explains that if enrollee device “setup succeeds,” then the device “deletes the L2 data port” it previously used to communicate with the registrar and reconfigures its “802.11 stack with an 802.11 profile and credentials to connect the enrollee device ... as a member of the 802.11 network domain.” (Ex. 1004, 13:51-57.) After this, “[o]n a registrar device,” the matching “L2 data port” is also deleted. (*Id.*, 13:58-62.) Because the enrollee deletes the L2 data port it used for setup upon joining a network, a POSITA would understand that any further messages or notifications sent to the registrar—which obviously includes a notification that the setup was successful such that the registrar can delete its own matching L2 port—would be transmitted over the wireless network itself. (See Ex. 1003, ¶¶ 246-251.) This is consistent with the remainder of Roberts's disclosure. For instance, Roberts explains that its system operates to “give[] system wide visibility into setup progress.” (Ex. 1004, 11:32-33; see also Ex. 1003, ¶¶ 252-254.)

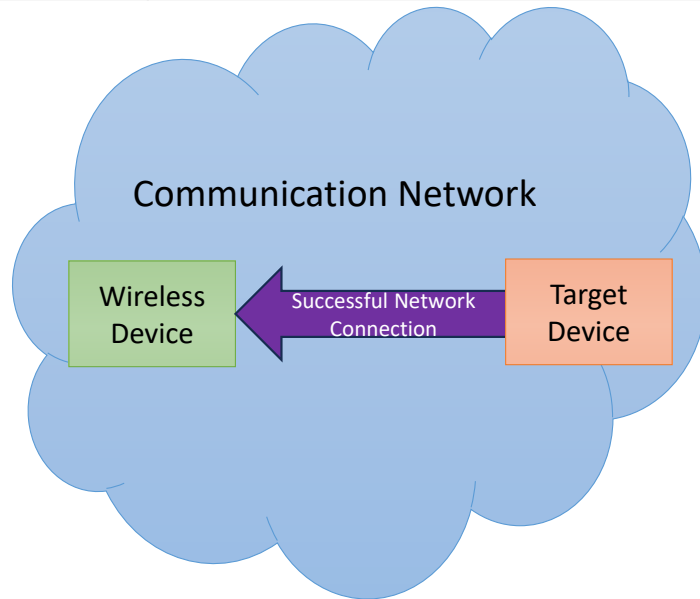
DEMONSTRATIVE EXHIBITS – NOT EVIDENCE

Pet., 36-37

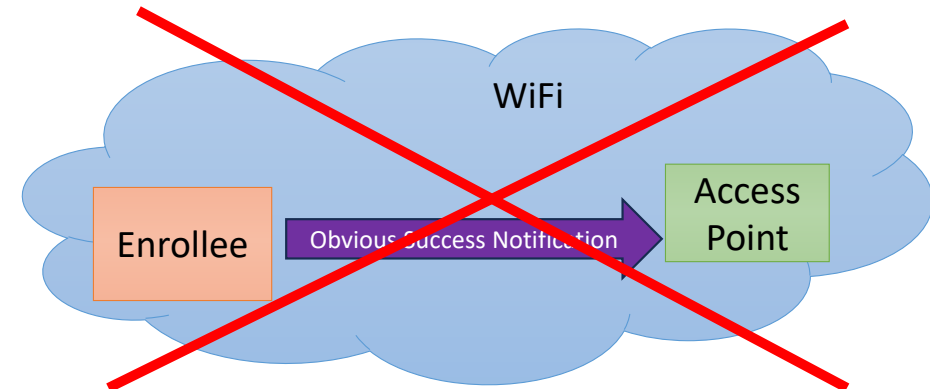
47

Sonos Also Fails to Show (ii) a Contact *Over the WLAN Network*

Relevant Claim Elements	Target device contacts the wireless device over the communication network indicating successful network entry
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Roberts Mapping	Enrollee sends a notification to the Registrar over the wireless network that setup was successful
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This mapping is incorrect because Roberts does not suggest the alleged notification, that the notification indicates successful WiFi connection, or that it occurs over WiFi

Sonos Also Fails to Show (ii) a Contact *Over the WLAN Network*

- Claim requires target device to connect to communication network before contacting wireless device so the contact can occur “via the communication network”

6. The method of claim 1, further comprising: contacting the wireless device via the communication network to indicate that the target device has successfully entered the communication network.

- Petition alleges that the Enrollee sends a successful setup notification to the Registrar “that would be transmitted over the wireless network itself” but fails to prove this point

Because the enrollee deletes the L2 data port it used for setup upon joining a network, a POSITA would understand that any further messages or notifications sent to the registrar—which obviously includes a notification that the setup was successful such that the registrar can delete its own matching L2 port—would be transmitted over the wireless network itself. (See Ex. 1003, ¶¶ 246-251.)

Pet., 36-37

Sonos's Reply Confirms that Setup Succeeding Occurs Before the Enrollee Connects to the WLAN

- Sonos indicates that (i) “setup succeeds” when Enrollee receives network credentials and (ii) L2 ports are deleted after “setup succeeds”

First, after an enrollee device is provided with wireless network credentials and “setup succeeds,” Roberts’s system “deletes” the communication ports on both the enrollee and registrar device that were used to facilitate the transmission of setup information. (See *id.* at 36-37 (quoting Ex. 1004, 13:51-62).)

Reply, 5

- In Roberts, L2 port deletion is before Enrollee connects to WLAN, thus “setup succeed[ing]” occurs before WLAN connection

If the setup succeeds, then on the enrollee device 300 the enrollee device setup entity requests the 802.11 stack to delete the L2 data port. The 802.11 stack simply deletes the specified port. Then the enrollee device setup entity configures the 802.11 stack with an 802.11 profile and credentials to connect the enrollee device 300 as a member of the 802.11 network domain. The 802.11 stack uses the configured profile and credentials to connect to the 802.11 network domain. On a registrar device 302 or a proxy thereto, a registrar device setup entity (or registrar proxy device setup entity) requests the 802.11 stack to delete the L2 data port. The 802.11 stack simply deletes the specified port.

Roberts, 13:51-62

After “setup succeeds,” the following occurs on the Enrollee:

- First, the L2 data port is deleted
- Second, the Enrollee uses WiFi credentials to connect to the WiFi

Sonos's Expert Testimony Concludes that the Alleged Notification is Transmitted Over the Wireless Network Based on Misinterpretations of Roberts's Disclosure

- Sonos's expert alleges successful setup notification is sent after Enrollee connects to WLAN and deletes its L2 Port, but never proves this point

250. As can be seen, Roberts references a multi-step process: (i) the enrollee device joins the wireless network, (ii) the enrollee device closes the port used during network configuration information transmission, and finally (iii) the registrar device closes its matching port.

251. Because the enrollee deletes the L2 data port it used for setup upon joining a network, a POSITA would understand that any further messages or notifications sent to the registrar following port closure would be transmitted over the wireless network itself. This would include a notification sent by the enrollee to the registrar informing the registrar that enrollee setup was successful such that the registrar can delete its own matching L2 port. As explained above, per Roberts, this occurs after the enrollee has already joined the wireless network.

Ex. 1003 ¶¶ 250-251

POR, 13-14, 7-9; Sur-Reply, 11-14

- But Roberts explains that setup succeeds **before** WLAN connection and L2 port deletion

If the setup succeeds, then on the enrollee device 300 the enrollee device setup entity requests the 802.11 stack to delete the L2 data port. The 802.11 stack simply deletes the specified port. Then the enrollee device setup entity configures the 802.11 stack with an 802.11 profile and credentials to connect the enrollee device 300 as a member of the 802.11 network domain. The 802.11 stack uses the configured profile and credentials to connect to the 802.11 network domain. On a registrar device 302 or a proxy thereto, a registrar device setup entity (or registrar proxy device setup entity) requests the 802.11 stack to delete the L2 data port. The 802.11 stack simply deletes the specified port.

Roberts, 13:51-62

After “setup succeeds,” the following occurs on the Enrollee and Registrar:

- On Enrollee:
 - **First**, the L2 data port is deleted
 - **Second**, the Enrollee uses WiFi credentials to connect to the WiFi
- On Registrar:
 - The L2 data port is deleted
 - **This step has no temporal connection to the steps taken at the Enrollee**

- Thus, any notification indicating successful setup occurs **before** WLAN connection and not be over the WLAN

DEMONSTRATIVE EXHIBITS – NOT EVIDENCE

51

Sonos Fails to Meet Its Legal Burden in Articulating Specific Reasons How the Alleged Successful Setup Notification Occurs Over WLAN

“6. The method of claim 1, further comprising: contacting the wireless device via the communication network to indicate that the target device has successfully entered the communication network.”

This is rendered obvious by Roberts and Asokan. Roberts explains that if enrollee device “setup succeeds,” then the device “deletes the L2 data port” it previously used to communicate with the registrar and reconfigures its “802.11 stack with an 802.11 profile and credentials to connect the enrollee device ... as a member of the 802.11 network domain.” (Ex. 1004, 13:51-57.) After this, “[o]n a registrar device,” the matching “L2 data port” is also deleted. (*Id.*, 13:58-62.) Because the enrollee deletes the L2 data port it used for setup upon joining a network, a POSITA would understand that any further messages or notifications sent to the registrar—which obviously includes a notification that the setup was successful such that the registrar can delete its own matching L2 port—would be transmitted over the wireless network itself. (See Ex. 1003, ¶¶ 246-251.) This is consistent with the remainder of Roberts’s disclosure. For instance, Roberts explains that its system operates to “give[] system wide visibility into setup progress.” (Ex. 1004, 11:32-33; see also Ex. 1003, ¶¶ 252-254.)

Pet., 36-37

POR, 9-10, 6-7; Sur-Reply, 5-6

DEMONSTRATIVE EXHIBITS – NOT EVIDENCE

52

- Sonos provides insufficient evidence and explanation as to how its manufactured successful setup notification is transmitted over the WLAN

3. Sonos Improperly Combines Distinct Embodiments in Roberts

1. Sonos Improperly Combines Distinct Embodiments in Roberts

POR, 9-10, 6-7; Sur-Reply, 5-6

- Sonos’s obviousness mapping for Claim 6 is legally invalid
- Sonos combines multiple embodiments from Roberts but fails to provide a motivation for such combination or show a reasonable expectation of success for making such a combination



In re Stepan Co., 868 F.3d 1342, 1346 n.1 (Fed. Cir. 2017)

- “Whether a rejection is based on combining disclosures from multiple references, ***combining multiple embodiments from a single reference***, or selecting from large lists of elements in a single reference, ***there must be a motivation to make the combination and a reasonable expectation that such a combination would be successful, otherwise a skilled artisan would not arrive at the claimed combination***”

DEMONSTRATIVE EXHIBITS – NOT EVIDENCE

54

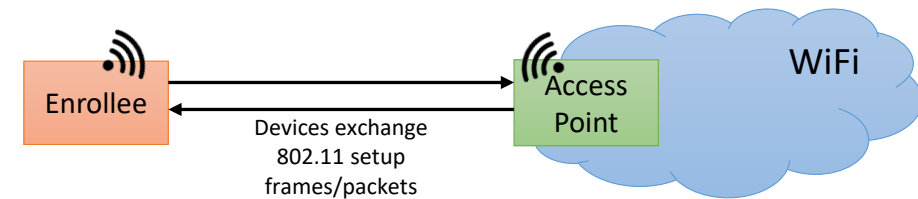
Undisputed That Roberts Discloses Two Embodiments for Setting Up an Enrollee: In-Band and Out of Band

- Sonos's Petition acknowledged the two embodiments:

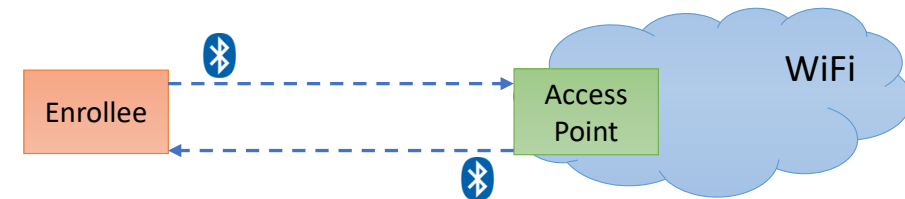
wireless technology" used by the network. (*Id.*, 11:19-22.) Either "in band" or "out of band" communication can be employed. (Ex. 1004, Abstract; 1:66-2:19; 6:26-28; 7:43-52.) One example of such "out of band" communication includes "a Bluetooth™ connection." (*Id.*, 2:6-10.) A separate communication channel between is an example of the claimed "short-range signal transmission path" that is "independent[] of the communication network." (See Ex. 1003, ¶¶ 166-177.)

Pet., 26-27

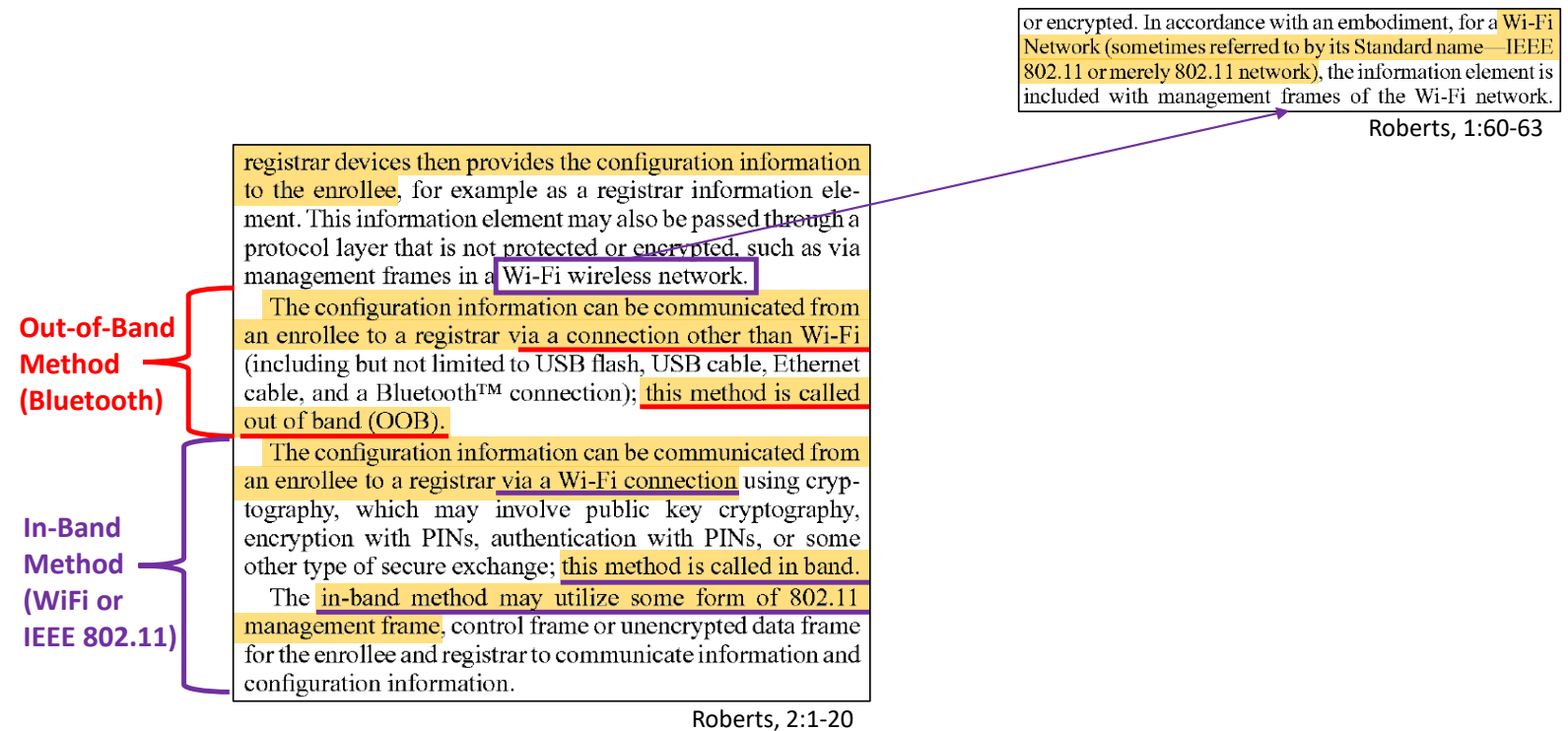
In-Band Method (WiFi or IEEE 802.11)



Out-of-Band Method (Bluetooth)



Undisputed That Roberts Discloses Two Embodiments for Setting Up an Enrollee: In-Band and Out of Band

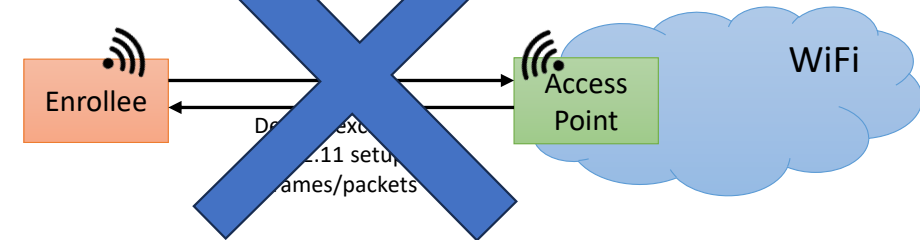


For Claim 1, Sonos Mapped the Out-of-Band Embodiment

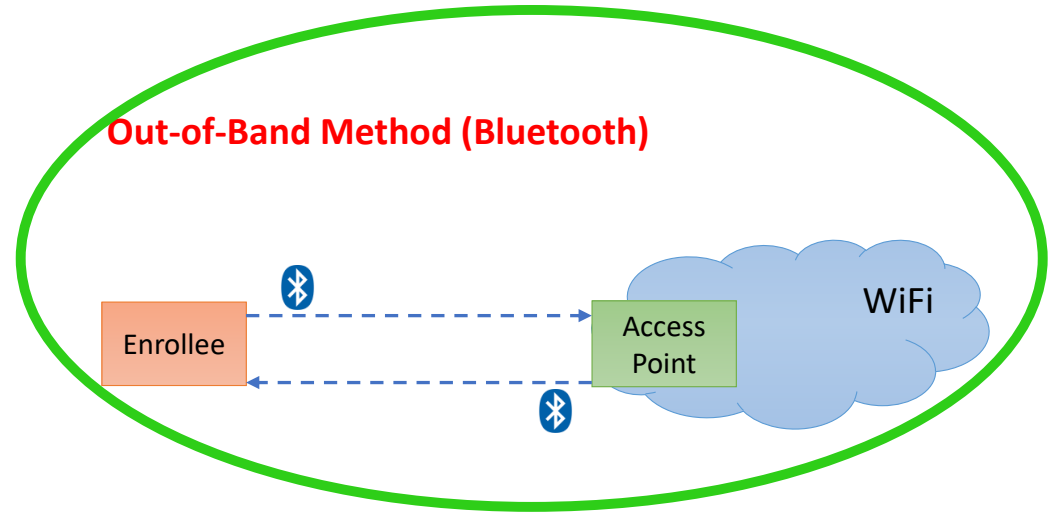
Roberts does reference both in-band and out-of-band communication such as Bluetooth. A POSITA would nonetheless have selected, would have considered it obvious, and would have been motivated to use an out-of-band channel when implementing Roberts. Again, Roberts itself instructs a POSITA to do so. (See Ex.

Pet., 26-27

In-Band Method (WiFi or IEEE 802.11)



Out-of-Band Method (Bluetooth)



For Claim 6, Sonos Mapped the In-Band Embodiment

- Sonos's Claim 6 mapping cites three disclosures from Roberts:
 - 13:51-57
 - 13:58-62
 - 11:32-33
- All three disclosures come from a specific example describing the setup of an Enrollee device using IEEE 802.11 (or in-band) technology and protocols (9:5-13:62)

Example

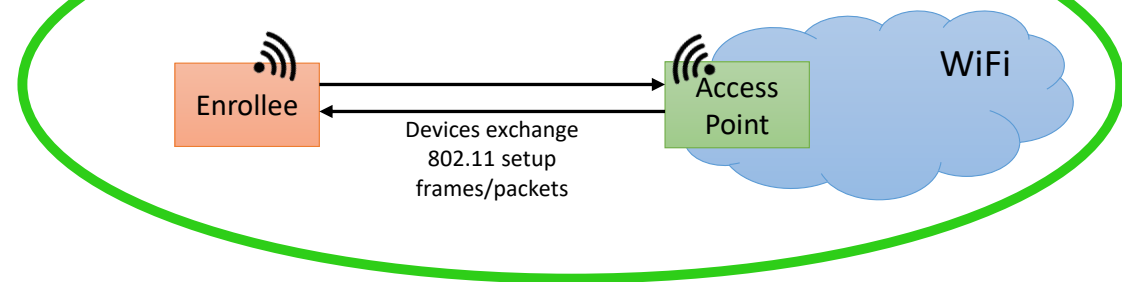
A specific example is now given for the benefit of the reader. In this example, the setup of an enrollee device 300 occurs in the context of IEEE 802.11 technology. The registrar device 302 is connected to the network (e.g., the network 304) via an 802.11 access point (e.g., the access point 306). The access point 306 may or may not be configured to act as a registrar device. Also, there may be multiple registrar devices 302 with a mix of the registrar device 300 acting as a proxy for one or more registrar devices.

Roberts, 9:5-16

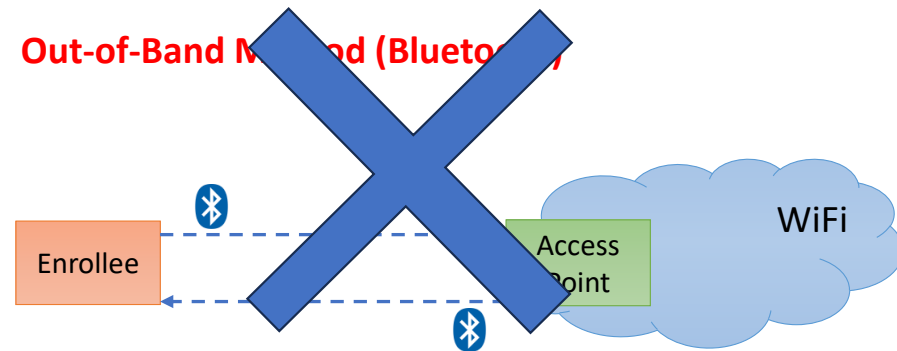
POR 9-10, 6-7; Sur-Reply, 5-7

DEMONSTRATIVE EXHIBITS – NOT EVIDENCE

In-Band Method (WiFi or IEEE 802.11)



Out-of-Band Method (Bluetooth)



This Example in Roberts Describes Setting Up Enrollee Using In-Band Communications

Example

A specific example is now given for the benefit of the reader. In this example, the setup of an enrollee device 300 occurs in the context of IEEE 802.11 technology. The registrar device 302 is connected to the network (e.g., the network 304) via an 802.11 access point (e.g., the access point 306). The access point 306 may or may not be configured to act as a registrar device. Also, there may be multiple registrar devices 302 with a mix of the registrar device 300 acting as a proxy for one or more registrar devices.

Roberts, 9:5-16

At first, the enrollee device 300 undergoes a discovery of registrar devices 302 and sets up control channels for communication. To do so, the enrollee device 300 sends a probe request containing an enrollee information element 514. In

Roberts, 9:17-20

Utilizing the probe request of this example has many benefits. For example, the frame exchange sequence for a probe request is supported in the base 802.11 standard, so it is available in all versions of the 802.11 implementation. In

Roberts, 9:38-41

On the enrollee device 300, when the 802.11 stack indicates L2 data port up for setup exchange, the enrollee device setup entity sends a setup message (for example a key message) on the L2 data port. It is up to the manufacturer of the enrollee device 300 to decide what goes out in setup message and when to invoke user for interactive input.

The 802.11 stack encapsulates the setup message in an 802.11 data packet and based on peer type for the L2 data port, fills the 802.11 header before transmitting it on air. For example, if the peer type for the L2 data port is an access point 306 either in registrar or proxy to registrar role, then packet addresses in the 802.11 header are: source—MAC address of the enrollee device 300; destination—MAC address of the access point 306; BSSID=BSSID of the access point 306. A FromDS bit is set to 0 and TODS bit is set to 1 in the 802.11 header. If the peer type for the L2 data port is a registrar device 302 or a proxy for a registrar device, the settings are the same except the ToDS bit is set to 0. These settings ensure that the targeted registrar device 302 receives the packet. The registrar device 302 should temporarily either enable 802.11 promiscuous-mode or disable matching of sender's address to be able to directly receive an 802.11 data packet not sourced from its access point 306.

Roberts, 12:22-44

The Specific Disclosures Sonos Cites for its Claim 6 Mapping Also Emphasizes the Use of In-Band Communications

If the setup succeeds, then on the enrollee device **300** the enrollee device setup entity requests the 802.11 stack to delete the L2 data port. The 802.11 stack simply deletes the specified port. Then the enrollee device setup entity configures the 802.11 stack with an 802.11 profile and credentials to connect the enrollee device **300** as a member of the 802.11 network domain. The 802.11 stack uses the configured profile and credentials to connect to the 802.11 network domain. On a registrar device **302** or a proxy thereto, a registrar device setup entity (or registrar proxy device setup entity) requests the 802.11 stack to delete the L2 data port. The 802.11 stack simply deletes the specified port.

Roberts, 13:51-62

- Despite combining in-band and out-of-band embodiments for claim 6, Sonos provides no explanation for making such a combination

Sonos's Reply Acknowledges Using Different Embodiments for Claims 1 and 6

claims. The Petition does not “contradict” itself by relying on different embodiments in Roberts when assessing claims 1 and 6. Instead, Roberts itself explains that the same type of confirmation messages are transmitted by its system after an enrollee has been provided with network configuration information regardless of whether an out-of-band or in-band communication channel is used for configuration purposes. Similarly, Roberts’s and Suumäki’s messages are exactly

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Roberts Does Not Disclose an Out-of-Band “Confirmation Message”

- Sonos incorrectly alleges that Roberts discloses that “the same type of confirmation messages are transmitted by its system after an enrollee has been provided with network configuration information **regardless of whether an out-of-band or in-band communication channel is used** for configuration purpose” (Reply, 1)
- But Roberts’s example only explained setting up an Enrollee with configuration information **using the in-band embodiment**

Sonos Asserts an Obviousness Position Without Any Support

- At best, Sonos attempts to assert an obviousness position that Roberts discloses the claimed contact occurs in the in-band embodiment, and it would be obvious to implement it in the out-of-band context
- But the Petition never included this position, and Sonos has no supporting arguments or evidence

Sonos Raises Improper New Reply Arguments to Circumvent its Failure

- Sonos's Reply attempts to cure its Petition failures by improperly citing new disclosures

Using the L2 data port as a control channel as open for only setup traffic exchange provides many benefits. Doing so decouples actual setup exchange from the specific wireless technology, which means the same exchange could be used for other wireless technologies. In addition, using the L2 data

Roberts, 11:18-25

Using this method also represents out of band channel in the same way as in band channel. Finally, the methodology is

Roberts, 11:41-49

- At most, these disclosures suggest modifying Roberts's example of setting up the Enrollee using in-band communications in the out-of-band context
- But Sonos fails to provide *any* motivation to combine or modify arguments to support this position

Even If Considered, Sonos's New Obviousness Theory Is Based On Unsupported Attorney Argument

Patent Owner's argument is premised on a misunderstanding of Roberts's teachings. The Petition did not "change[] course." Instead, the portions of Roberts cited by the Petition in connection with claim 6 apply with equal force to all of Roberts's embodiments. While Roberts does provide the example of the use of the specific "L2 data port" when engaging in "setup ... in content of IEEE 802.11 technology" (Ex. 1004, 9:8-9), it explains that it is not so limited. Instead, "[u]sing the L2 data port as a control channel ... open for only setup traffic ...*decouples actual setup exchange from the specific wireless technology*, which means *the same exchange* could be used for *other wireless technologies*." (*Id.*, 11:18-21 (emphasis added); *see also id.*, 11:41-42 ("[u]sing this method also represents out of band channel in the same way as in band channel").) In other words, in Roberts, communication ports analogous to the exemplified dedicated L2 data port can be used to convey network configuration information from a registrar to an enrollee device regardless of whether an in-band or out-of-band communication method is employed.

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- Sonos provides only attorney argument in identifying the modification to be made:

replace the "dedicated L2 data port[s]" from the in-band example with "analogous" "communication ports"