Technical Service Bulletin

91 Apple CarPlay cannot be started using Wi-Fi connection (Wireless CarPlay)

91 24 70 2062466/4 February 15, 2024. Supersedes Technical Service Bulletin Group 91 number 22-47 dated November 8, 2022 for reasons listed below.

Model(s)	Year	VIN Range	Vehicle-Specific Equipment
A6, A7, and A8	2019 – 2025		
Q3, and Q8	2019 – 2024		
A6 allroad, S6, S7, S8, Q7, and SQ7	2020 – 2025		
SQ8, and RS Q8	2020 – 2024		
A8 e quattro	2020 – 2021		
RS 6 Avant, and RS 7	2021 – 2025	All	Wireless CarPlay
A5, A5 Cabriolet, A5 Sportback, S5, S5 Cabriolet, S5 Sportback, RS 5, and RS 5	2021 – 2024		
A7 e quattro, Q5, Q5 e quattro, Q5 Sportback, and SQ5 Sportback	2021 – 2022		
A3, S3, RS 3, A4, A4 allroad, S4, e-tron GT, RS e-tron GT, Q4 e-tron, and Q4 Sportback e-tron	2022 – 2024		

Condition

REVISION HISTORY		
Revision	**Date**	**Purpose**
4	-	Revised *Header* (added model years)
		Revised *Condition* (updated to template)

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		Revised *Service* (updated troubleshooting guide)
		Revised *Warranty* (added labor ops)
3	11/08/2022	Revised *Header* (Added Model Year)
		Revised *Additional Information* (Included TSB reference)
2	01/25/2022	Revised *Header* (Added Model Year)

Customer states:

- The customer can't reliably connect their iPhone to the vehicle via Apple CarPlay.

- Automatic and/or manual connection attempts fail.

- Connection via USB cable works normally.

Workshop findings:

- The complaint can be reproduced with the customer's iPhone.

- When trying other Apple or Android devices, a wireless ASI connection is possible without any issues.

- Wired Apple CarPlay works normally.

Technical Background

To learn more about Apple CarPlay, please visit Apple's support article titled, "How to use CarPlay with your iPhone" https://support.apple.com/en-us/HT205634 (Figure 1).
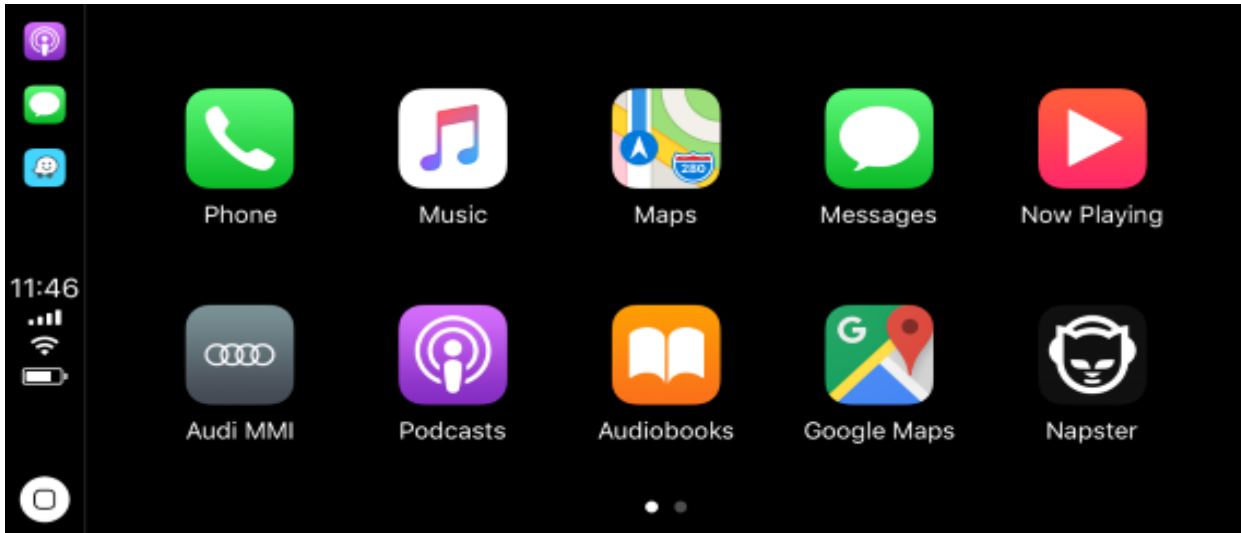
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Figure 1. *Apple CarPlay screen in Audi MMI.*

What is Wireless CarPlay?

Wireless CarPlay uses the vehicle's Wi-Fi to provide the same functionality as wired Apple CarPlay without using a tethered USB connection to the vehicle's infotainment system. Pairing to the vehicle is performed using the Bluetooth system.

Which Audi MMI systems support Wireless CarPlay?

MIB2+ with ConBox Low

- 2019 Audi e-tron quattro.

- 2019 A6, A7, A8, Q3, and Q8.

- 2020 A6, A7, A8, Q3, Q7, Q8, and e-tron Sportback.

- 2021 Q3.

MIB3 with ConBox High or OCU3/4

- 2021+ A4, A5, A6, A7, A8, Q5, Q7, and Q8.

- 2021+ e-tron quattro and e-tron Sportback.

- 2022+ A3, A4, A5, A6, A7, A8, Q3, Q5, Q7, Q8, Q4 e-tron, e-tron GT, RS e-tron GT.

- 2024+ Q8 e-tron

- The type of ConBox system is important to note because the Wi-Fi and Bluetooth are controlled differently for each system. For MIB2+ MMI, the Wi-Fi hotspot is controlled by the ConBox Low module,

and the MMI controls the Bluetooth system. For the MIB3 MMI system, the Wi-Fi and Bluetooth systems are controlled by the ConBox High module.

> **⚠ CAUTION**
>
> **The MY 2020 A4/A5 models with MIB3 do not support Wireless CarPlay.**

How does the apple iPhone establish a Wireless CarPlay connection to the vehicle's infotainment system?

Initiating a Wireless CarPlay session can be performed using two different methods.

1. Bluetooth Connection to the vehicle.

2. Wi-Fi connection to the vehicle.

It is important to understand that the two different "pairing" methods have major differences. The first difference is how the vehicle recognizes the iPhone when the ignition is first started, and the second is how the iPhone uses data during a CarPlay session.

- The vehicle establishes the Wireless CarPlay session for the Bluetooth pairing method when the vehicle sees the Apple iPhone connected to Bluetooth.

- For the Wi-Fi pairing method, the vehicle establishes the Wireless CarPlay session when the vehicle sees the Apple iPhone connected to the in-vehicle Wi-Fi hotspot.

Data usage for each method:

- For the Bluetooth pairing method, the phone always uses the phone's data plan (LTE) to send and receive data.

- The phone always attempts to use the Wi-Fi hotspot data for the Wi-Fi pairing method. In some cases, if the Wi-Fi Assist is turned on in the "Cellular" settings of the iOS, the phone will attempt to use the phone's data plan. It is important to note that this doesn't always work in all situations. The customer should contact their mobile network provider or Apple customer support if they have issues with this feature.

> **🛈 NOTICE**
>
> **When using Wired or Wireless CarPlay, the MMI does not store any personal or location data from the phone. The MMI functions as a remote display for the phone, and only video, audio, and vehicle GPS data are passed between the phone and the MMI. When the CarPlay session is ended, only the phone's MAC ID is stored in the MMI. When using navigation applications on the phone, the vehicle's**

> **GPS location information is provided to the phone. The phone's current and historical location information is never sent to the MMI and is not possible to be stored in the MMI.**

The complaints can be caused by various MMI or phone settings, as well as changes caused, for example, by iOS updates and/or outdated iOS software. We always suggest using the newest available software on the mobile device.

Production Solution

Not applicable.

Service

Initial Pairing for Wireless CarPlay

Prerequisites

1. SIRI must be enabled and configured in the iPhone *(Check Settings >> General)*.

2. Bluetooth must be turned on in the iPhone and MMI (Only used for setup).

3. The iPhone must be discoverable via Bluetooth, which is achieved by opening the Bluetooth pairing menu on the iPhone.

4. Wi-Fi must be turned on in the iPhone, but no pairing is needed (if it is not on, the iOS software should prompt the user to turn it on).

5. Make sure that the Bluetooth name in the vehicle's Bluetooth settings matches the WiFi SSID name in the vehicle's WiFi settings (see *Figure 1/2)*.

6. Make sure that a WiFi password is set in the vehicle's WiFi settings (see *Figure 2*).
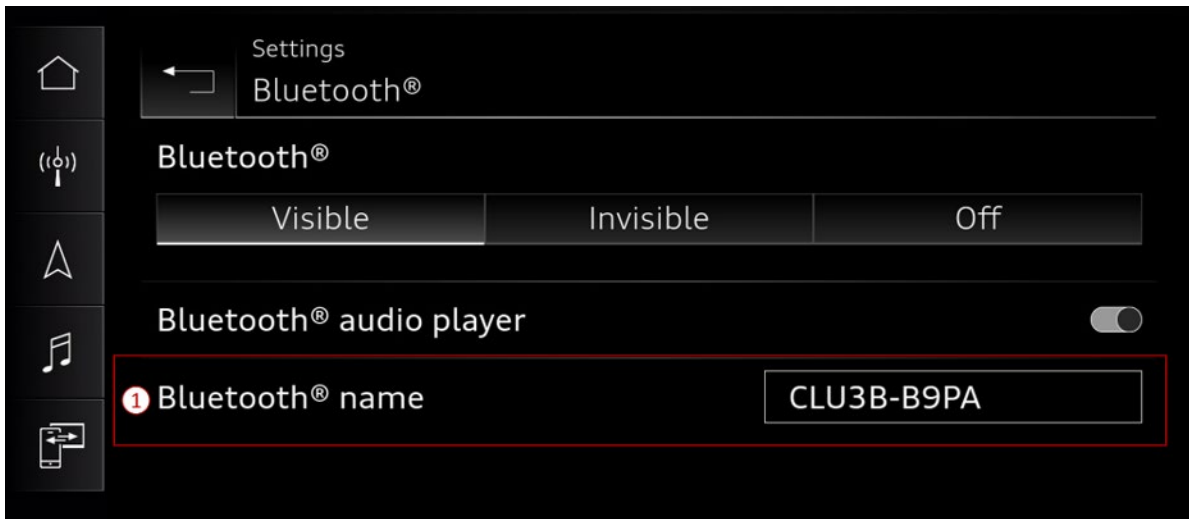
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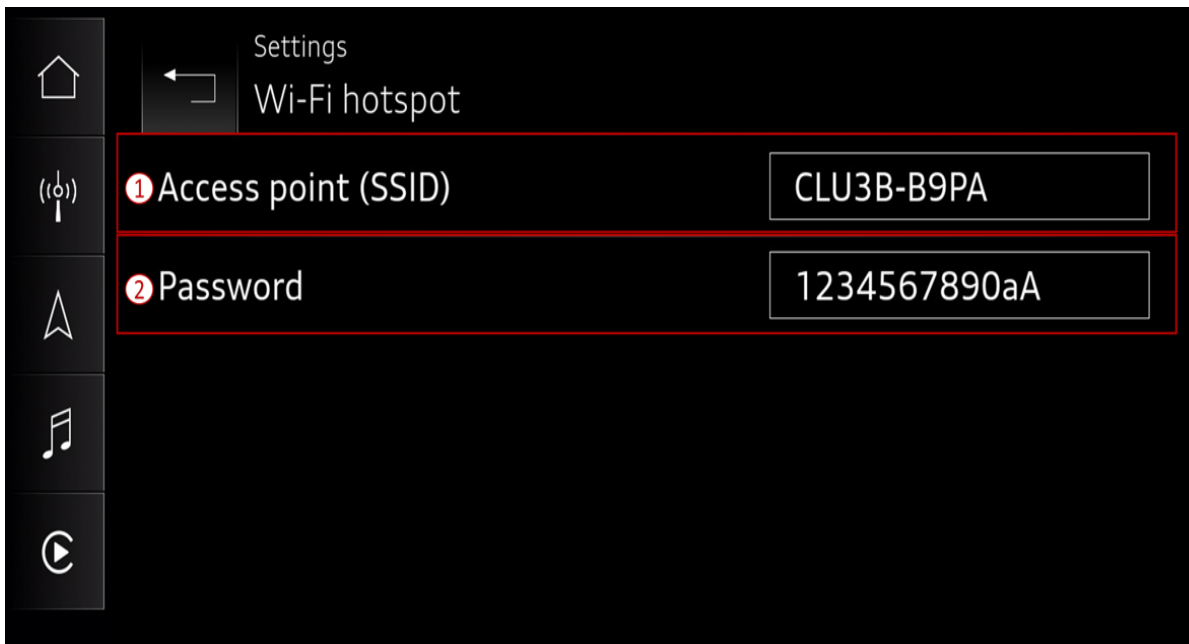

Figure 1:

Bluetooth name

Figure 2:

WiFi SSID

Pairing for Wireless connection using the MMI system:

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1. The customer should establish an Audi Smartphone Interface (ASI) paring using the MMI and accept the prompt to enable wireless CarPlay (see *Figure 3*).
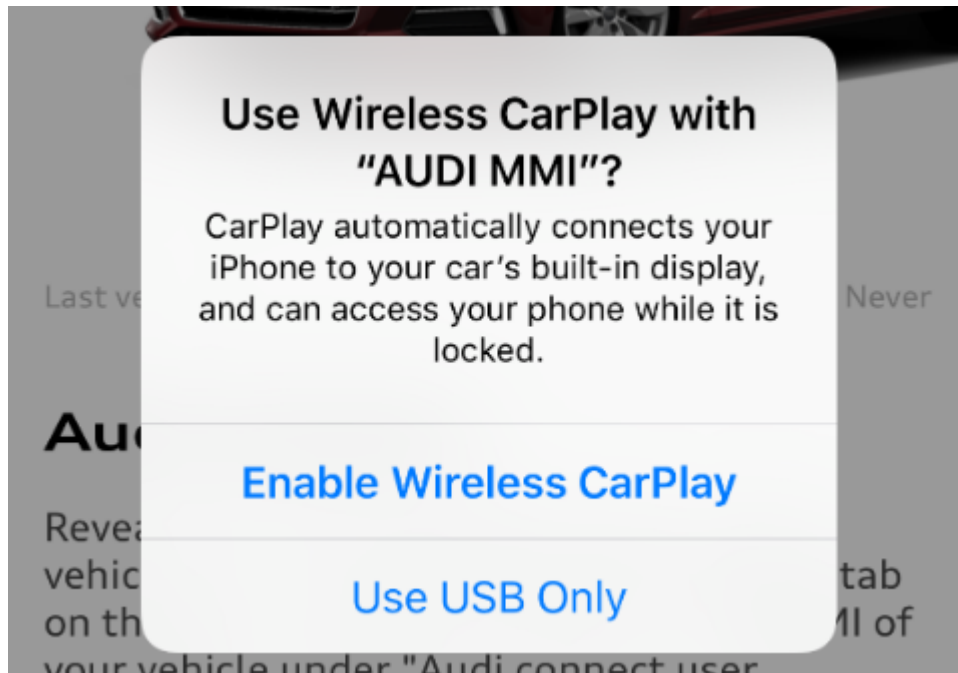

Use Wireless CarPlay with "AUDI MMI"?
CarPlay automatically connects your iPhone to your car's built-in display, and can access your phone while it is locked.

Enable Wireless CarPlay

Use USB Only

Figure 3. *Initial Apple CarPlay pairing prompt on iPhone*

2. Accept the prompts in the MMI to enable wireless CarPlay. The MMI shares the Wi-Fi security credentials to the iPhone over Bluetooth upon accepting. It's important to note that the customer will never need to manually pair the iPhone to the Wi-Fi hotspot in the vehicle.

3. At this point, Apple CarPlay should be active in the MMI. Turn off Bluetooth on the iPhone and turn it back on if the CarPlay session is not active. Once the MMI sees the phone via Bluetooth, it will connect to Wireless CarPlay over the Wi-Fi hotspot, and then Bluetooth will be disabled in the MMI.

When using the ASI pairing method above: The iPhone does not use the Wi-Fi hotspot for data consumption. Instead, a private channel for communication is set up between the MMI and the iPhone ONLY for Wireless CarPlay. This is why the Audi hotspot name will not be shown in the settings of the iPhone when connected to the MMI for Wireless CarPlay. The iPhone will continue to use the LTE network for data. The Bluetooth system is not used once the Car Play session is active in the MMI and automatically turned off.

Troubleshooting

Concern: Intermittently after starting the vehicle, wireless CarPlay cannot be started. Upon touching the tile in the MMI, the tile turns green, but CarPlay does not start.

Solution: Cycle the CarPlay Toggle in the Bluetooth Settings for the vehicle in the iPhone Settings menu (Figure 3).
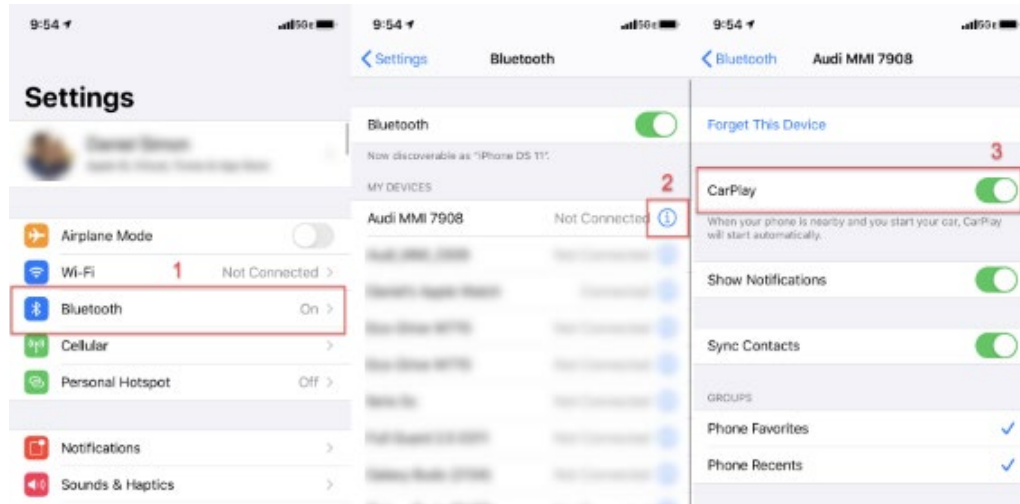

Figure 3. *Toggle CarPlay option in Bluetooth Settings in iPhone.*

This situation can occur when the MMI attempts to start Wireless CarPlay and cannot find the iPhone on the MMI's Wi-Fi network. Typically, when this occurs, the iPhone is still active on a different Wi-Fi hotspot (home or work network). Wireless CarPlay sessions operate over Wi-Fi, but Bluetooth communication is used initially to tell the MMI that the iPhone is present and ready to use Wireless CarPlay (and shares the Wi-Fi security information).

After the MMI attempts to connect to the iPhone for CarPlay over the Wi-Fi, it soon realizes it cannot find the iPhone because it is connected to a different hotspot. This also can happen if the iPhone is manually paired to the 2.4Ghz band of the car's Wi-Fi hotspot. The MMI has two bands for Wi-Fi, 2.4Ghz (labeled AUDI_XXXX) and 5Ghz (labeled AUDI_XXXX_5Ghz). Apple CarPlay uses the 5Ghz band, and this is automatically chosen when the first pairing is done. If the customer tries to pair the iPhone to the 2.4Ghz band manually, it can create this concern because, from this point on, the iPhone is constantly switching between the two bands, which can upset Wireless CarPlay.

To fix this issue, in the iPhone settings, go to the Bluetooth settings (Figure 3, Step 1) for the MMI and select the little "(i)" next to the MMI's name (Figure 3, Step 2) and then cycle the "CarPlay" option off and back on (Figure 3, Step 3). If CarPlay does not

automatically start, then reselect it in the MMI. This step will need to be repeated anytime this issue occurs again in the future.

Concern: Since the latest iOS update, the customer has had issues with Wireless CarPlay not connecting at times.

Solution: Delete all phone pairings in the ASI and Bluetooth settings from the MMI by long-pressing the tile and then select "delete" (see *Figure 4*).
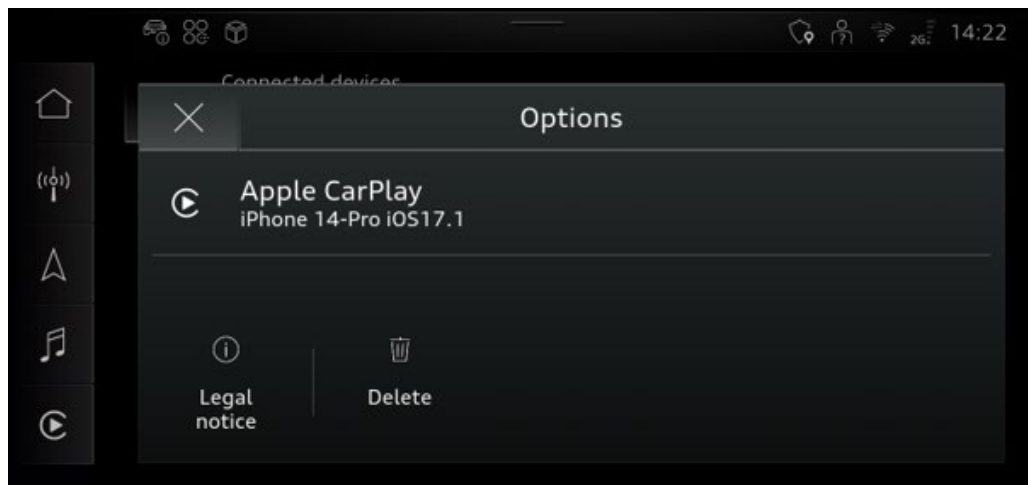

Figure 4: Delete pairing.

Delete BOTH vehicle Wi-Fi hotspots from the phone under **Settings**>**Wi-Fi**>**Edit** (**top right**)>remove vehicle hotspots from the list of known networks.
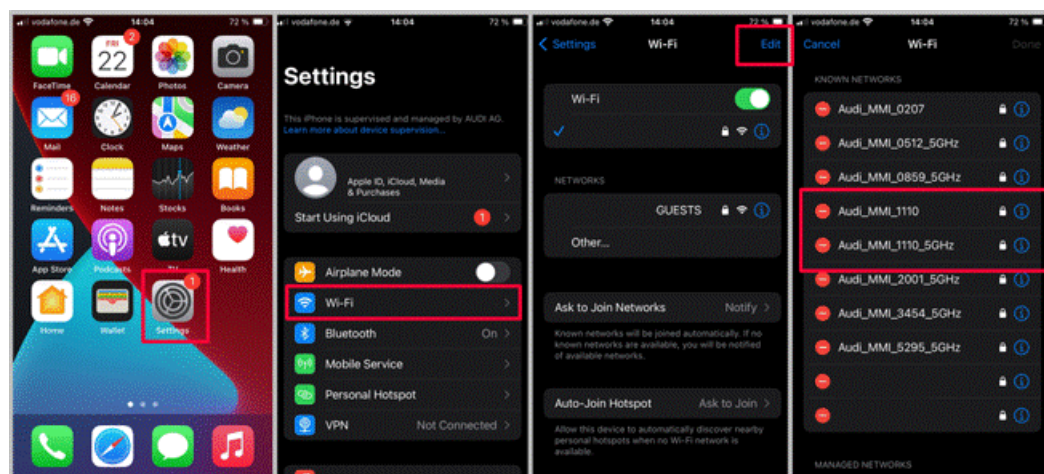

Figure 5: delete Wi-Fi pairing on the phone.

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Delete the vehicle Bluetooth settings under Settings>Bluetooth>blue "i" next to the device>select "Forget this device".
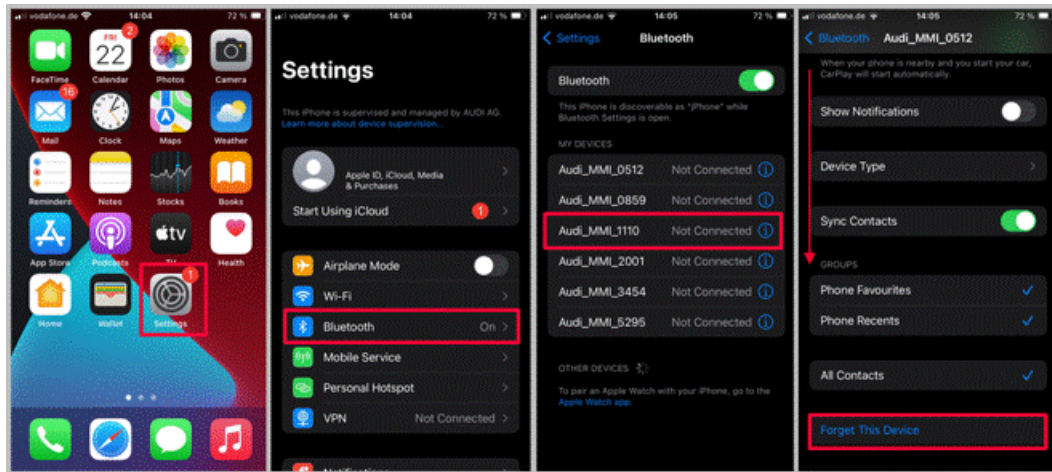

Figure 6: Delete Bluetooth pairing from the phone.

Delete the vehicle CarPlay settings under Settings>General>CarPlay>select the vehicle>select "Forget this car".
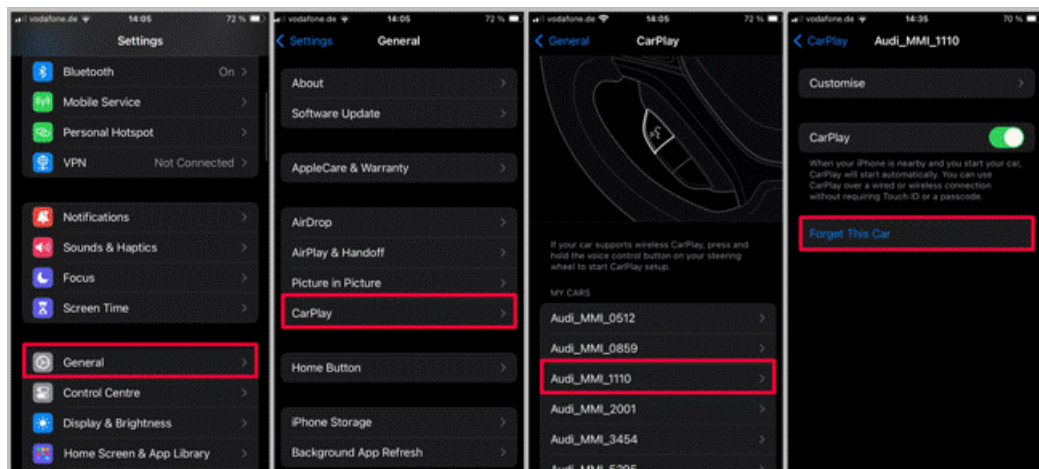

Figure 6: Delete CarPlay pairing from the phone.

Reset network settings and pairings on the iPhone and the vehicle: *Tap Settings > General > Reset > Reset Network Settings* (Figure 7).This also resets ALL SAVED Wi-Fi networks and the associated passwords, cellular settings, and VPN and APN settings that have been used before.
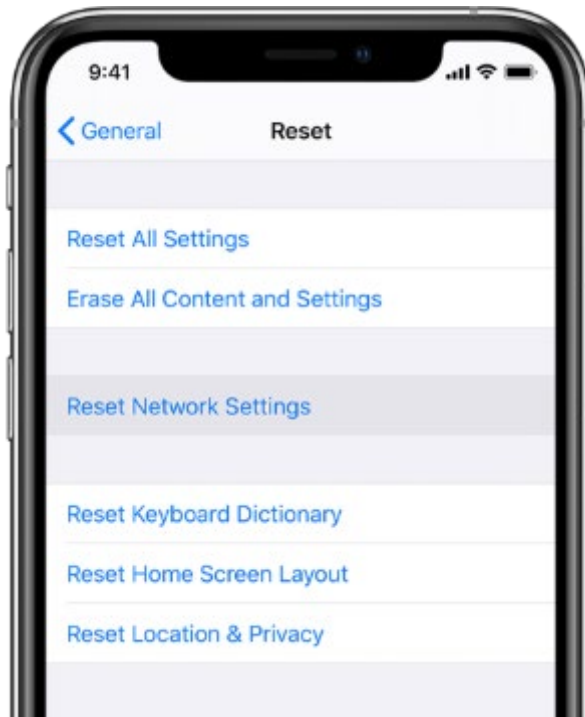
Figure 7. *Reset Network Settings for Apple iPhone.*

Re-pair the phone according to the steps listed above under *Service*

Concern: Since the Audi Connect PLUS plan has expired, the customer can no longer use Wireless CarPlay.

Solution: Either turn on Wi-Fi assist or delete pairings for Wi-Fi and Bluetooth and perform a new Bluetooth pairing only.

For this scenario, the customer must have connected the iPhone manually to the MMI's hotspot using the SSID and password given by the MMI (Wi-Fi pairing method). When the customer does this, the iPhone uses the Wi-Fi hotspot in the car for sending and receiving data. If the customer does not have an active Audi connect PLUS plan (not required for Wireless CarPlay) and the iPhone does not have Cellular Wi-Fi assist turned on, the iPhone will disconnect from the vehicle's Wi-Fi hotspot if internet data is not provided. Leaving Cellular Wi-Fi Assist on forces the iPhone to stay connected to a Wi-Fi hotspot that does not provide internet data but will utilize LTE for the internet data only. This solution only works with some iOS versions and can break during an iOS update.

If the previous solution does not work, delete the MMI Wi-Fi hotspot settings in the iPhone, delete the Bluetooth pairing in the phone and MMI, pair the phone again to Bluetooth and accept the prompts for Wireless CarPlay. DO NOT manually connect the iPhone to the Wi-Fi hotspot in the car.

Why this is important: If you connect a phone to the Wi-Fi hotspot in the vehicle, the iPhone will try to use the MMI for data consumption. Since no data can be obtained with an expired Plus subscription, then Wireless CarPlay will not work since data is required for CarPlay in general.

Concern: What if Apple CarPlay does not turn on automatically after turning on the car?

Solution: Check to ensure the iPhone is not connected to a different Wi-Fi hotspot.

Wireless Apple CarPlay requires that the customer's phone be connected to the Wi-Fi hotspot of the vehicle, either directly or via the private channel (not seen in the iPhone Wi-Fi settings). Check to ensure that the iPhone is not connected to the customer's home or work Wi-Fi hotspot. If the iPhone shows no connection to any Wi-Fi hotspot, it could be connected to the Wi-Fi using the private Wireless CarPlay. The key here is to ensure the iPhone is not connected to another Wi-Fi hotspot outside of the car.

Solution: The phone offers a setting to disable the automatic CarPlay connection to the vehicle. Please check the setting in the phone and make sure it is active if you desire CarPlay to automatically start when you enter the vehicle.

Concern: Wireless CarPlay works intermittently. What could be causing this?

Solution: Unlock iPhone or turn off USB accessories security feature (Customer must be aware of this security feature before turning it off).

Apple has instituted security features in iOS, starting with iOS 12. The newest feature locks out the use of connected USB accessories, including the MMI, if the iPhone has not been unlocked in the last hour before connecting the iPhone to the vehicle's USB or wirelessly for CarPlay. Unlock the iPhone to fix the customer's concern.

Question: What is the 5Ghz Wi-Fi hotspot seen in the vehicle?

Answer: 5Ghz Wi-Fi is part of the dual-band high-speed Wi-Fi system in the MMI. Most modern home routers are now dual-band, offering a 2.4Ghz band and a 5Ghz band. In most cases, upon pairing the iPhone to the MMI, the iPhone will connect to the 5Ghz hotspot, which is normal, but this connection may NOT be shown in the *iPhone*

Settings >> Wi-Fi when the iPhone is connected for Wireless CarPlay. 5Ghz allows for higher bandwidth but has a shorter signal range. This is critical for a Wireless CarPlay since video and audio are streamed wirelessly.

ⓘ NOTICE

Further Troubleshooting information can be found on Audi ZenDesk
(→ **https://audi.zendesk.com**)

⚠ CAUTION

If you would like to submit a technical repair inquiry about Apple CarPlay™, please fill out the attached form (en_fragebogen_audi_smartphone_interface.xlsx) completely and attach it with all required information and documentation to the technical repair inquiry.

Warranty

Only if the pairings were deleted and reestablished:

Claim Type:	• 110 Up to 48 Months/50,000 Miles. • G10 for CPO Covered Vehicles – Verify Owner. • If the vehicle is outside of any warranty, this Technical Service Bulletin is informational only.		
Service Number:	9109		
Damage Code:	AD39		
Labor Operations:	Check display and operating unit control unit	9196 0199	20 TU
Diagnostic Time:	GFF	No allowance	0 TU
	Road test prior to the service procedure	No allowance	0 TU
	Road test after the service procedure	No allowance	0 TU

Claim Comment:	As per TSB 2062466/4

All warranty claims submitted for payment must be in accordance with the *Audi Warranty Policies and Procedures Manual*. Claims are subject to review or audit by Audi Warranty.

Otherwise:

This TSB is informational only and not applicable to any Audi Warranty.

Additional Information

The following Technical Service Bulletin may be helpful:

• TSB 2068435/1, *91 MIB3: Failure to establish a Bluetooth connection with iOS 16.0.x (iPhone)*.

All part and service references provided in this TSB (**2062466**) are subject to change and/or removal. Always check with your Parts Department and/or ETKA for the latest information and parts bulletins. Please check the Repair Manual for fasteners, bolts, nuts, and screws that require replacement during the repair.

Internal