

AirFlare Detectors: Guidance for Testing and Troubleshooting

General Guidance – for both Android and IOS as the Subject Device

1. Keep AirFlare Detectors away from radios at least five feet:

- a. Radio signals interfere with the signals broadcast by the Detector rendering them unstable, unreliable and often inoperable.
- b. Detector operators should not carry a radio, or should have them turned off during Detector operation.

2. Testing should emulate real-life search scenarios as closely as possible:

- a. Detectors are designed to be configured out of range of the search subject device and to come into range while recording to “detect” the subject device and to obtain a Subject Fix. While it’s possible to configure a Detector and Start Recording while already within vicinity of the subject device, this practice will not mirror a real-life scenario (in part because the subject device will connect to the Detector as soon as it is configured and before the Search Recording can be started). This doesn’t mean you need to hide a phone a mile away for each test. Be creative. For example, a phone can be hidden behind a concrete building or a mound of dirt and rock prior to powering on and configuring the Detector. Basically, you want to conduct your testing in a manner that the search subject device does not have opportunity to be exposed to the Search Network and connect to the Detector before the Search Recording can begin.

3. Try to avoid testing inside buildings.

- a. Not only may the Detector fail to get a GPS fix, but the subject device may also not secure an accurate location to return a Subject Fix. The ability to return a Subject Fix is a function of the phone’s ability to gather accurate coordinates. A phone in the wild (e.g. on a ski slope or in the backcountry) will typically have good coordinates because it is being kept in motion and has a view of the sky. A phone that is taken out of a building and used as a test device, for example, may not have great coordinates (and may not have time to get them before the test starts). You can expedite (cheat) the process of ensuring the phone has coordinates to share by opening the phone’s mapping application or conducting an internet search that requires location to be known (e.g. “coffee shops near me”).

4. Check the AirFlare app home screen for any configuration warnings prior to testing.

- a. AirFlare does not need to be on and running in the foreground or background to be discoverable, but checking to ensure AirFlare is properly set up is a good idea. Running a Self-Test from the AirFlare Main Menu is recommended.

5. Detector batteries will last 4-5 hours.

- a. If you will be in the field longer, carry an auxiliary battery. The Detector can be charging from an auxiliary battery (or outlet) while recording.

Guidance for using an IOS device as the Subject Device:

- 1. *Ensure the IOS device is not connected to another WiFi network and/or cannot connect to another WiFi network during the test.***
 - a. If the subject device is already connected to another WiFi network when the Detector comes within range, the Detector may not be able to kick the subject device off the network. The device will fail to connect to the Detector, and the Detector will fail to get Detections. To ensure this doesn't happen, either test far away from Wi-Fi networks the IOS device has previously connected to (such as a home network, work network or a resort guest network). Else instruct the phone to "Forget Network" prior to beginning the test (Go-To Settings → WiFi → Find the network the device can connect to → Forget Network).

- 2. *Airplane Mode on IOS devices disables the ability for a Detector to detect them.***
 - a. IOS devices should be configured with normal battery settings or placed in Low Power Mode when power conservation is a concern. Airplane Mode is not a proper configuration for AirFlare on IOS. The AirFlare app home screen will instruct to turn off Airplane Mode when it detects it is on this setting.

Guidance for using an Android device as the Subject Device:

- 1. *Test Android as the subject device in Airplane Mode or out of cell service:***
 - a. AirFlare Detectors are designed to detect a lost subject phone when it is suspected to be out of cell service. (E.g., a Location Return request has persisted "No Response Yet" for longer than 2 minutes. If the subject device were in cell service and not in Airplane Mode, Location Return would return coordinates, and a Detector would not be needed).
 - b. AirFlare on Android is designed with a special setting to make it more responsive to a Detector when it comes in range. This setting turns on automatically after several minutes of the phone leaving cell service or after being placed in Airplane Mode. You can force this setting to enable immediately (instead of waiting 15 minutes) by simply opening the AirFlare app. Look for the notification banner "AirFlare Beacon: Beacon online. Tap for details" to ensure the android phone is in the correct state to be discoverable by a Detector.
 - c. Testing Android as the subject device should EITHER be well out of cell service OR simulated out of cell service by placing the phone in Airplane Mode with Wi-Fi and Bluetooth ON. (Open the AirFlare app to ensure it is configured properly).
 - i. For subject devices with Android 10+, ensure that the device is not connected to any Wi-Fi network when testing (Wi-Fi still must be ON)
 - d. If you attempt to detect an Android device within cell service and not in Airplane Mode (i.e., the "Beacon Online" banner is not displayed in the Notifications ribbon), there could be a latency of up to 15 minutes between the time the Detector comes within range and time to first detection. When the "Beacon Online" banner is displayed in the

Notifications ribbon (phone out of cell service or in Airplane Mode), latency should be several seconds.

- e. For best results when testing with an Android device as the subject device, ensure that device is showing the “Beacon online” notification before placing it for test.

2. An Android phone will not return Subject Fixes unless it is in Airplane mode

- a. An Android phone in Airplane mode will return subject fixes to the Detector (assuming the phone has or is able to get accurate coordinates). An android phone not in Airplane mode will not return subject fixes. This is a limitation of Android.

3. Wait 10 minutes between each test when an Android device is the subject device:

- a. Two scenarios will make an Android device with OS versions 5-7 unresponsive to an AirFlare Detector for up to 10 minutes:
 - i. After the Detector has woken up an Android device once (to make it responsive to the beacon) and then the Detector is turned off or taken out of range, OR
 - ii. If the AirFlare app is swiped closed
- b. While this rule only applies to Android 5-7 (Android 8+ resets within seconds), best practice is to wait 10 minutes between tests when the subject device is an Android.

4. If you “Force Stop” AirFlare on an Android device, AirFlare needs to be launched again before it will be responsive to a Detector.

- a. “Killing” the AirFlare app via Settings → Applications → Force Stop or via a 3rd party task manager takes the beacon offline and it should be restarted.
 - b. Normal closure of the AirFlare app (swipe up) does not create this condition. (I.e., if you simply close the AirFlare app by swiping up, the phone will remain responsive to a Detector).
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