



Wiliot Gateway Certificate Failed!

Summary

Run Info:

Run date: 27/08/2025, 10:56:36

Tests duration: 00:32:32

Certificate version: 4.4.3

Certification Kit Info:

BLE simulator mac: 7E895C63A4D8

BLE simulator version: 4.4.93

Tested Device Info:

Tested gateway ID: ERM869662060209787

PASSED	INCONCLUSIVE	FAILED	TOTAL
3	0	1	4

Name	Result	Duration
ConnectionTest	PASSED	00:02:33
UplinkTest	PASSED	00:04:35
DownlinkTest	FAILED	00:03:14
StressTest	INFO	00:21:25

ConnectionTest

PASSED

Test duration: 00:02:33

Phase	Result	Duration
ConnectionStage	PASSED	00:00:43
InterferenceAnalysisStage	WARNING	00:01:50

ConnectionStage

PASSED

Stage run time: 0:00:43.044343

This stage awaits the gateway to establish MQTT connection and upload it's configurations via the 'status' topic as it's first message.

Protobuf serialization detected

GW Status packet received:

```
{"gatewayId": "ERM869662060209787", "gatewayType": "ermv1", "downlinkSupported": true, "apiVersion": 205, "bleSwVersion": "4.4.96", "interfaceSwVersion": "4.5.5", "config": {"autoRebootNoRx": {"integerValue": "0"}, "idleReportInterval": {"integerValue": "60"}, "gnssAlwaysOn": {"boolValue": false}, "movementDetection": {"stringValue": "always_on"}, "geoLocationRefreshTime": {"integerValue": "1440"}, "clockUpdateInterval": {"integerValue": "1440"}, "periodicGatewayInfo": {"integerValue": "0"}, "movAboveSpeed": {"integerValue": "0"}, "autoRebootNoServer": {"integerValue": "720"}, "accessControlList": {"aclValue": {}}, "movStoppedDuration": {"integerValue": "0"}, "wifiConfiguration": {"boolValue": true}, "autoReboot": {"integerValue": "0"}, "locationLostTime": {"integerValue": "0"}, "extendedGeoLocation": {"boolValue": false}, "gnssMaxAccuracy": {"integerValue": "0"}, "transmitPixels": {"boolValue": false}, "protocolVersion": {"integerValue": "2"}, "movMinDistance": {"integerValue": "0"}, "movMinDuration": {"integerValue": "0"}, "wiliotServer": {"stringValue": "custom"}, "workWithoutPowerMode": {"stringValue": "turn_off"}, "networkPolicy": {"integerValue": "0"}, "gnssPrettyTrail": {"boolValue": false}, "bridgeDetection": {"integerValue": "0"}, "enableScanning": {"boolValue": true}, "gwPingInterval": {"integerValue": "0"}}, "bleAddress": "6C9C83ED3E1F"}
```

Capability set: downlinkSupported - True

InterferenceAnalysisStage

WARNING

Stage run time: 0:01:50.455139

This stage analyze BLE interference level (Bad CRC %).

Channel 37 (2402 MHz) Ambient Interference (bad CRC percentage) is: 50%.

Good CRC packets = 1596, bad CRC packets: 1620

Channel 38 (2426 MHz) Ambient Interference (bad CRC percentage) is: 77%.

Good CRC packets = 649, bad CRC packets: 2235

Channel 39 (2480 MHz) Ambient Interference (bad CRC percentage) is: 53%.

Good CRC packets = 1477, bad CRC packets: 1666

UplinkTest

PASSED

Test duration: 00:04:35

Phase	Result	Duration
ManagementPacketStage	PASSED	00:00:20
DataPacketStage	PASSED	00:00:37
SensorPacketStage	PASSED	00:00:17
SequentialSequenceIdStage	PASSED	00:00:00
GeolocationStage	WARNING	00:00:00
ACLStage	PASSED	00:02:28

ManagementPacketStage

PASSED

Stage run time: 0:00:20.422479

This stage simulates management advertisements from a single bridge. Expects the gateway to scan & upload them.

Number of unique packets sent: 2

Number of unique packets received: 2

Stage data saved - /home/oren/.local/share/wiliot/gw-certificate/20250827_105636/UplinkTest/ManagementPacketStage.csv

DataPacketStage

PASSED

Stage run time: 0:00:37.104553

This stage simulates advertisements from three bridges. Expects the gateway to scan & upload them.

Number of unique packets sent: 36

Number of unique packets received: 36

Number of total packets received: 36

Number of duplicates out of total: 0

Stage data saved - /home/oren/.local/share/wiliot/gw-certificate/20250827_105636/UplinkTest/DataPacketStage.csv

SensorPacketStage

PASSED

Stage run time: 0:00:17.571650

This stage simulates sensor packets advertisements. Expects the gateway to scan & upload them.

Number of sensor packets sent: 12

Number of sensor packets received correctly: 12

Stage data saved - /home/oren/.local/share/wiliot/gw-certificate/20250827_105636/UplinkTest/SensorPacketStage.csv

SequentialSequenceldStage

PASSED

Stage run time: 0:00:00.000119

This stage validates expected sequenceld in all packets.

GeolocationStage

WARNING

Stage run time: 0:00:00.000395

This stage checks if lat/lng were uploaded under 'location' (optional JSON key) in the uploaded data messages.

Number of unique locations received: 0

Stage data saved - /home/oren/.local/share/wiliot/gw-certificate/20250827_105636/UplinkTest/GeolocationStage.csv

ACLStage

PASSED

Stage run time: 0:02:28.321420

This stage configures the gateway's Access Control List and simulate bridges. Expects 100% discard rate.

Total packets advertised: 16

Packets received / should've received: 8 / 8

Packets discarded / should've discarded: 8 / 8

Failed to discard: 0

Stage data saved - /home/oren/.local/share/wiliot/gw-certificate/20250827_105636/UplinkTest/ACLStage.csv

DownlinkTest

FAILED

Test duration: 00:03:14

Phase	Result	Duration
SanityStage	PASSED	00:01:28
CorrelationStage	FAILED	00:01:44

SanityStage

PASSED

Stage run time: 0:01:28.671895

This stage verifies that the gateway advertises requested packets. These are requested via Advertisement actions published to the 'update' topic (MQTT).

Channel 37: Pass

- Total 9 MQTT payloads sent
- Total 14 BLE Packets received by sniffer (including duplicates)
- R Value: 0.008522727272727182 | Slope: 0.0033333333333333375

Channel 38: Pass

- Total 9 MQTT payloads sent
- Total 17 BLE Packets received by sniffer (including duplicates)
- R Value: 0.09448818897637778 | Slope: -0.013333333333333333

Channel 39: Pass

- Total 9 MQTT payloads sent
- Total 15 BLE Packets received by sniffer (including duplicates)
- R Value: 0.09280303030303017 | Slope: -0.011666666666666664

Sent data saved - /home/oren/.local/share/wiliot/gw-certificate/20250827_105636/DownlinkTest/SanityStage_sent.csv

Sniffed data saved - /home/oren/.local/share/wiliot/gw-certificate/20250827_105636/DownlinkTest/SanityStage_sniffed.csv

Graph saved - /home/oren/.local/share/wiliot/gw-certificate/20250827_105636/DownlinkTest/SanityStage.html

CorrelationStage

FAILED

Stage run time: 0:01:44.568416

This stage checks how consistently the gateway advertises packets. Expects a consistently increasing packets count with increasing 'txMaxDuration'.

Channel 37: Fail

- Total 15 MQTT payloads sent
- Total 9 BLE Packets received by sniffer (including duplicates)
- R Value: 0.0022371364653243075 | Slope: -0.00016666666666666663

Channel 38: Fail

- Total 15 MQTT payloads sent
- Total 29 BLE Packets received by sniffer (including duplicates)
- R Value: 0.09671326029467309 | Slope: 0.0026666666666666667

Channel 39: Fail

- Total 15 MQTT payloads sent
- Total 30 BLE Packets received by sniffer (including duplicates)
- R Value: 0.1725490196078432 | Slope: 0.0036666666666666667

Sent data saved - /home/oren/.local/share/wiliot/gw-certificate/20250827_105636/DownlinkTest/CorrelationStage_sent.csv

Sniffed data saved - /home/oren/.local/share/wiliot/gw-certificate/20250827_105636/DownlinkTest/CorrelationStage_sniffed.csv

Graph saved - /home/oren/.local/share/wiliot/gw-certificate/20250827_105636/DownlinkTest/CorrelationStage.html

StressTest

INFO

Test duration: 00:21:25

Phase	Result	Duration
StressTestStage	INFO	00:20:51

StressTestStage

INFO

Stage run time: 0:20:51.017334

This stage attempts different PPS (packets per second) rates to examine the gateway limit (actual PPS may vary per OS).

Test - 20 packets per second. Actual packet per second - 19.98
Number of packets sent 999
Number of packets received 881
Test - 40 packets per second. Actual packet per second - 39.8667
Number of packets sent 1196
Number of packets received 1055
Test - 60 packets per second. Actual packet per second - 59.6
Number of packets sent 1788
Number of packets received 1584
Test - 80 packets per second. Actual packet per second - 79.1
Number of packets sent 2373
Number of packets received 2054
Test - 100 packets per second. Actual packet per second - 98.4
Number of packets sent 2952
Number of packets received 2546
Test - 120 packets per second. Actual packet per second - 117.767
Number of packets sent 3533
Number of packets received 3085
Test - 140 packets per second. Actual packet per second - 136.767
Number of packets sent 4103
Number of packets received 3462
Test - 160 packets per second. Actual packet per second - 155
Number of packets sent 4650
Number of packets received 3836
Test - 180 packets per second. Actual packet per second - 170.833
Number of packets sent 5125
Number of packets received 4450
Test - 200 packets per second. Actual packet per second - 170.133
Number of packets sent 5104
Number of packets received 4393
Test - 222 packets per second. Actual packet per second - 171.067
Number of packets sent 5132
Number of packets received 4400
Test - 250 packets per second. Actual packet per second - 171.533
Number of packets sent 5146
Number of packets received 4491
Test - 285 packets per second. Actual packet per second - 171.267
Number of packets sent 5138
Number of packets received 4525
Test - 333 packets per second. Actual packet per second - 169.5
Number of packets sent 5085
Number of packets received 4526

Timestamps errors during PPS 20:

Timestamp 1756282126280 is too far off the accepted range 1756282126302-1756282137852 for payload:

C6FC00003FA6503B30B3CBBDECB848C475CA1A64FF68B07AF8AC6ACE7

Timestamp 1756282126280 is too far off the accepted range 1756282126352-1756282137902 for payload:

C6FC00003FA0D58D1D2B980A3683937E8068165965EBFFC30D09856BBA

Additional errors (2) are suppressed to avoid clutter

Stage data saved - /home/oren/.local/share/wiliot/gw-certificate/20250827_105636/StressTest/StressTestStage.cs

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