



Wiliot Gateway Certificate Passed!

Summary

Run Info:

Run date: 18/09/2025, 11:45:49

Tests duration: 00:32:10

Certificate version: 4.4.3

Certification Kit Info:

BLE simulator mac: 7E895C63A4D8

BLE simulator version: 4.4.93

Tested Device Info:

Tested gateway ID: ERM865235053431512

PASSED	INCONCLUSIVE	FAILED	TOTAL
4	0	0	4

Name	Result	Duration
ConnectionTest	PASSED	00:02:10
UplinkTest	PASSED	00:04:36
DownlinkTest	PASSED	00:03:14
StressTest	INFO	00:21:24

ConnectionTest

PASSED

Test duration: 00:02:10

Phase	Result	Duration
ConnectionStage	PASSED	00:00:19
InterferenceAnalysisStage	WARNING	00:01:50

ConnectionStage

PASSED

Stage run time: 0:00:19.959279

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": "ERM865235053431512", "gatewayType": "erm", "downlinkSupported": true, "bridgeOtaUpgradeSupported": true, "apiVersion": 205, "bleSwVersion": "2.0.0", "interfaceSwVersion": "4.5.6", "config": {"autoRebootNoServer": {"integerValue": "720"}, "accessControlList": {"aclValue": {}}, "clockUpdateInterval": {"integerValue": "1440"}, "periodicGatewayInfo": {"integerValue": "0"}, "inputEvents": {"boolValue": false}, "receiveWhileUpdating": {"boolValue": true}, "locationLostTime": {"integerValue": "0"}, "gnssMaxAccuracy": {"integerValue": "0"}, "networkPolicy": {"integerValue": "0"}, "movMinDistance": {"integerValue": "0"}, "modemWhenLowPower": {"boolValue": false}, "wiliotServer": {"stringValue": "custom"}, "workWithoutPowerMode": {"stringValue": "turn_off"}, "movMinDuration": {"integerValue": "0"}, "temperatureInterval": {"integerValue": "0"}, "bridgeDetection": {"integerValue": "0"}, "autoRebootNoRx": {"integerValue": "0"}, "idleReportInterval": {"integerValue": "60"}, "movementDetection": {"stringValue": "automatic"}, "geoLocationRefreshTime": {"integerValue": "1440"}, "bluetoothRxChannels": {"integerValue": "4"}, "movAboveSpeed": {"integerValue": "0"}, "movStoppedDuration": {"integerValue": "0"}, "autoReboot": {"integerValue": "0"}, "extendedGeoLocation": {"boolValue": false}, "bluetoothAdvertise": {"boolValue": false}, "bridgeResetInterval": {"integerValue": "0"}, "bridgeResetAutomatic": {"boolValue": false}, "gnssPrettyTrail": {"boolValue": false}, "gwPingInterval": {"integerValue": "0"}}}
```

Capability set: downlinkSupported - True

Capability set: bridgeOtaUpgradeSupported - True

InterferenceAnalysisStage

WARNING

Stage run time: 0:01:50.454723

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

Channel 37 (2402 MHz) Ambient Interference (bad CRC percentage) is: 54%.

Good CRC packets = 1116, bad CRC packets: 1303

Channel 38 (2426 MHz) Ambient Interference (bad CRC percentage) is: 60%.

Good CRC packets = 1043, bad CRC packets: 1575

Channel 39 (2480 MHz) Ambient Interference (bad CRC percentage) is: 56%.

Good CRC packets = 1217, bad CRC packets: 1558

UplinkTest

PASSED

Test duration: 00:04:36

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

ManagementPacketStage

PASSED

Stage run time: 0:00:20.423111

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/20250918_114549/UplinkTest/ManagementPacketStage.csv

DataPacketStage

PASSED

Stage run time: 0:00:37.109481

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/20250918_114549/UplinkTest/DataPacketStage.csv

SensorPacketStage

PASSED

Stage run time: 0:00:17.570708

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: 11

Packets not received:

pkt_id duplication time_delay

157A359C 5 20

Stage data saved - /home/oren/.local/share/wiliot/gw-certificate/20250918_114549/UplinkTest/SensorPacketStage.csv

SequentialSequenceldStage

PASSED

Stage run time: 0:00:00.000063

This stage validates expected sequenceld in all packets.

GeolocationStage

INFO

Stage run time: 0:00:00.519045

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

Number of unique locations received: 2

Stage data saved - /home/oren/.local/share/wiliot/gw-certificate/20250918_114549/UplinkTest/GeolocationStage.csv

ACLStage

PASSED

Stage run time: 0:02:28.321273

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/20250918_114549/UplinkTest/ACLStage.csv

DownlinkTest

PASSED

Test duration: 00:03:14

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

SanityStage

PASSED

Stage run time: 0:01:28.817490

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 65 BLE Packets received by sniffer (including duplicates)
- R Value: -2.220446049250313e-16 | Slope: 5.204170427930421e-18

Channel 38: Pass

- Total 9 MQTT payloads sent
- Total 68 BLE Packets received by sniffer (including duplicates)
- R Value: 0.49090909090909096 | Slope: 0.010000000000000005

Channel 39: Pass

- Total 9 MQTT payloads sent
- Total 63 BLE Packets received by sniffer (including duplicates)
- R Value: 0.04166666666666641 | Slope: 0.001666666666666722

Sent data saved - /home/oren/.local/share/wiliot/gw-certificate/20250918_114549/DownlinkTest/SanityStage_sent.csv

Sniffed data saved - /home/oren/.local/share/wiliot/gw-certificate/20250918_114549/DownlinkTest/SanityStage_sniffed.csv

Graph saved - /home/oren/.local/share/wiliot/gw-certificate/20250918_114549/DownlinkTest/SanityStage.html

CorrelationStage

PASSED

Stage run time: 0:01:44.604050

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

Channel 37: Pass

- Total 15 MQTT payloads sent
- Total 114 BLE Packets received by sniffer (including duplicates)
- R Value: 0.9702188733405095 | Slope: 0.008666666666666666

Channel 38: Pass

- Total 15 MQTT payloads sent
- Total 116 BLE Packets received by sniffer (including duplicates)
- R Value: 0.9448920123414467 | Slope: 0.00875

Channel 39: Pass

- Total 15 MQTT payloads sent
- Total 112 BLE Packets received by sniffer (including duplicates)
- R Value: 0.9317927692881103 | Slope: 0.008333333333333333

Sent data saved - /home/oren/.local/share/wiliot/gw-certificate/20250918_114549/DownlinkTest/CorrelationStage_sent.csv

Sniffed data saved - /home/oren/.local/share/wiliot/gw-certificate/20250918_114549/DownlinkTest/CorrelationStage_sniffed.csv

Graph saved - /home/oren/.local/share/wiliot/gw-certificate/20250918_114549/DownlinkTest/CorrelationStage.html

StressTest

INFO

Test duration: 00:21:24

Phase	Result	Duration
StressTestStage	INFO	00:20:50

StressTestStage

INFO

Stage run time: 0:20:50.362703

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 336
Test - 40 packets per second. Actual packet per second - 39.9
Number of packets sent 1197
Number of packets received 239
Test - 60 packets per second. Actual packet per second - 59.8333
Number of packets sent 1795
Number of packets received 309
Test - 80 packets per second. Actual packet per second - 79.6333
Number of packets sent 2389
Number of packets received 307
Test - 100 packets per second. Actual packet per second - 99.5
Number of packets sent 2985
Number of packets received 269
Test - 120 packets per second. Actual packet per second - 119.1
Number of packets sent 3573
Number of packets received 236
Test - 140 packets per second. Actual packet per second - 139
Number of packets sent 4170
Number of packets received 248
Test - 160 packets per second. Actual packet per second - 158.567
Number of packets sent 4757
Number of packets received 318
Test - 180 packets per second. Actual packet per second - 174.133
Number of packets sent 5224
Number of packets received 268
Test - 200 packets per second. Actual packet per second - 175.333
Number of packets sent 5260
Number of packets received 242
Test - 222 packets per second. Actual packet per second - 175.767
Number of packets sent 5273
Number of packets received 279
Test - 250 packets per second. Actual packet per second - 175.633
Number of packets sent 5269
Number of packets received 299
Test - 285 packets per second. Actual packet per second - 174.133
Number of packets sent 5224
Number of packets received 225
Test - 333 packets per second. Actual packet per second - 174.333
Number of packets sent 5230
Number of packets received 256

Stage data saved - /home/oren/.local/share/wiliot/gw-certificate/20250918_114549/StressTest/StressTestStage.csv