



Wiliot Gateway Certificate Failed!

Summary

Run Info:

Run date: 03/04/2025, 15:37:27

Tests duration: 00:28:40

Certificate version: 1.5.1a1

Certification Kit Info:

BLE simulator mac: 7E895C63A4D8

BLE simulator version: 4.4.52

Tested Device Info:

Tested gateway ID: ERM869487060929683

PASSED	INCONCLUSIVE	FAILED	TOTAL
2	1	1	4

Name	Result	Duration
ConnectionTest	PASSED	00:04:13
UplinkTest	FAILED	00:01:24
DownlinkTest	INCONCLUSIVE	00:03:13
StressTest	INFO	00:19:04

ConnectionTest

PASSED

Test duration: 00:04:13

Phase	Result	Duration
ConnectionStage	PASSED	00:02:22
InterferenceAnalysisStage	INFO	00:01:50

ConnectionStage

PASSED

Stage run time: 0:02:22.633554

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": "ERM869487060929683", "gatewayType": "erm", "downlinkSupported": true, "bridgeOtaUpgradeSupported": true, "apiVersion": 205, "bleSwVersion": "2.0.0", "interfaceSwVersion": "4.4.1", "config": {"accessControlList": {}, "gnssAlwaysOn": {"boolValue": false}, "clockUpdateInterval": {"integerValue": 1440}, "periodicGatewayInfo": {"integerValue": 0}, "inputEvents": {"boolValue": false}, "receiveWhileUpdating": {"boolValue": true}, "chargerAlwaysOn": {"boolValue": false}, "locationLostTime": {"integerValue": 0}, "transmitPixels": {"boolValue": false}, "networkPolicy": {"integerValue": 0}, "movMinDistance": {"integerValue": 0}, "movMinDuration": {"integerValue": 0}, "wiliotServer": {"stringValue": "custom"}, "temperatureInterval": {"integerValue": 0}, "enableScanning": {"boolValue": true}, "gnssMaxDuration": {"integerValue": 90}, "idleReportInterval": {"integerValue": 60}, "movementDetection": {"stringValue": "automatic"}, "geoLocationRefreshTime": {"integerValue": 1440}, "pixelLimit": {"integerValue": 0}, "movAboveSpeed": {"integerValue": 0}, "movStoppedDuration": {"integerValue": 0}, "bluetoothAlwaysOn": {"boolValue": false}, "automaticReboot": {"integerValue": 720}, "bluetoothAdvertise": {"boolValue": false}, "exitPIMode": {"boolValue": true}, "protocolVersion": {"integerValue": 2}, "chargerDailyMax": {"integerValue": 30}, "workWithoutPower": {"boolValue": false}, "gwPingInterval": {"integerValue": 0}}}
```

Capability set: downlinkSupported - True

Capability set: bridgeOtaUpgradeSupported - True

InterferenceAnalysisStage

INFO

Stage run time: 0:01:50.479631

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

Channel 37 (2402 MHz) Ambient Interference (bad CRC percentage) is: 36%.

Good CRC packets = 3356, bad CRC packets: 1874

Channel 38 (2426 MHz) Ambient Interference (bad CRC percentage) is: 36%.

Good CRC packets = 3320, bad CRC packets: 1839

Channel 39 (2480 MHz) Ambient Interference (bad CRC percentage) is: 37%.

Good CRC packets = 3356, bad CRC packets: 1964

UplinkTest

FAILED

Test duration: 00:01:24

Phase	Result	Duration
ManagementPacketStage	PASSED	00:00:10
DataPacketStage	PASSED	00:00:27
SensorPacketStage	FAILED	00:00:07
SequentialSequenceIdStage	PASSED	00:00:00
AliasBridgeIDStage	PASSED	00:00:00
GeolocationStage	PASSED	00:00:00

ManagementPacketStage

PASSED

Stage run time: 0:00:10.418506

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

Timestamp 1743684156310 is too far off the accepted range 1743684156979-1743684162679 for payload:
C6FC0000EE020AD2A365FEC65912095E9101FF1104EB0958D400110100

Timestamp 1743684157010 is too far off the accepted range 1743684157185-1743684162885 for payload:
C6FC0000EE110BD3A365FEC6591203040121E8F2FDB000000000000000

Stage data saved - /home/oren/.local/share/wiliot/gw-certificate/20250403_153727/UplinkTest/ManagementPacket
Stage.csv

DataPacketStage

PASSED

Stage run time: 0:00:27.059495

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

Timestamp 1743684179980 is too far off the accepted range 1743684180518-1743684186078 for payload:

C6FC00003F9539B87AA922769358AD25FF5C064E7609BFE906E529F7CB

Timestamp 1743684180050 is too far off the accepted range 1743684180583-1743684186143 for payload:

C6FC00003F9539B87AA922769358ADC11FD2064E7609BFE906E529F7CB

Additional errors (34) are suppressed to avoid clutter

Stage data saved - /home/oren/.local/share/wiliot/gw-certificate/20250403_153727/UplinkTest/DataPacketStage.csv

SensorPacketStage

FAILED

Stage run time: 0:00:07.604067

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: 1

Packets not received:

pkt_id duplication time_delay

FA0EAB04 5 20

E16ED8EA 5 20

03E3A33F 5 20

996ED8EE 5 20

157A359C 5 20

6612745B 5 20

F9F78C1A 5 20

A674F7B9 5 20

045DA6C2 5 20

7E063773 5 20

8C26781C 5 20

Timestamp 1743684220430 is too far off the accepted range 1743684220757-1743684226457 for payload:

90FCA1016417913C42FD38AF3F23AC0201060303E1FF060000FA0EAB04

Stage data saved - /home/oren/.local/share/wiliot/gw-certificate/20250403_153727/UplinkTest/SensorPacketStage.csv

SequentialSequenceldStage

PASSED

Stage run time: 0:00:00.000353

This stage validates expected sequenceld in all packets.

AliasBridgeIDStage

PASSED

Stage run time: 0:00:00.073246

This stage validates the uploaded aliasBridgeID is as expected per payload.

---Alias bridge ID is valid

GeolocationStage

PASSED

Stage run time: 0:00:00.198583

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/20250403_153727/UplinkTest/GeolocationStage.csv

DownlinkTest

INCONCLUSIVE

Test duration: 00:03:13

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

SanityStage

PASSED

Stage run time: 0:01:28.615066

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 58 BLE Packets received by sniffer (including duplicates)
- R Value: -4.440892098500626e-16 | Slope: 3.469446951953614e-18

Channel 38: Pass

- Total 9 MQTT payloads sent
- Total 59 BLE Packets received by sniffer (including duplicates)
- R Value: 0.07499999999999973 | Slope: 0.00166666666666666705

Channel 39: Pass

- Total 9 MQTT payloads sent
- Total 74 BLE Packets received by sniffer (including duplicates)
- R Value: 0.111027190332326 | Slope: -0.011666666666666665

Sent data saved - /home/oren/.local/share/wiliot/gw-certificate/20250403_153727/DownlinkTest/SanityStage_sent.csv

Sniffed data saved - /home/oren/.local/share/wiliot/gw-certificate/20250403_153727/DownlinkTest/SanityStage_sniffed.csv

Graph saved - /home/oren/.local/share/wiliot/gw-certificate/20250403_153727/DownlinkTest/SanityStage.html

CorrelationStage

INCONCLUSIVE

Stage run time: 0:01:44.498835

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 108 BLE Packets received by sniffer (including duplicates)
- R Value: 0.9368108566581849 | Slope: 0.007833333333333335

Channel 38: Inconclusive

- Total 15 MQTT payloads sent
- Total 114 BLE Packets received by sniffer (including duplicates)
- R Value: 0.7472707423580787 | Slope: 0.009250000000000001

Channel 39: Pass

- Total 15 MQTT payloads sent
- Total 109 BLE Packets received by sniffer (including duplicates)
- R Value: 0.9692890197728229 | Slope: 0.008

Sent data saved - /home/oren/.local/share/wiliot/gw-certificate/20250403_153727/DownlinkTest/CorrelationStage_sent.csv

Sniffed data saved - /home/oren/.local/share/wiliot/gw-certificate/20250403_153727/DownlinkTest/CorrelationStage_sniffed.csv

Graph saved - /home/oren/.local/share/wiliot/gw-certificate/20250403_153727/DownlinkTest/CorrelationStage.html

StressTest

INFO

Test duration: 00:19:04

Phase	Result	Duration
StressTestStage	INFO	00:18:30

StressTestStage

INFO

Stage run time: 0:18:30.274979

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 - 19.94
Number of packets sent 997
Number of packets received 257
Test - 40 packets per second. Actual packet per second - 39.7667
Number of packets sent 1193
Number of packets received 147
Test - 60 packets per second. Actual packet per second - 59.5
Number of packets sent 1785
Number of packets received 131
Test - 80 packets per second. Actual packet per second - 79.0667
Number of packets sent 2372
Number of packets received 135
Test - 100 packets per second. Actual packet per second - 98.6
Number of packets sent 2958
Number of packets received 157
Test - 120 packets per second. Actual packet per second - 117.9
Number of packets sent 3537
Number of packets received 153
Test - 140 packets per second. Actual packet per second - 137.433
Number of packets sent 4123
Number of packets received 168
Test - 160 packets per second. Actual packet per second - 156.4
Number of packets sent 4692
Number of packets received 143
Test - 180 packets per second. Actual packet per second - 175.7
Number of packets sent 5271
Number of packets received 145
Test - 200 packets per second. Actual packet per second - 194.6
Number of packets sent 5838
Number of packets received 135
Test - 222 packets per second. Actual packet per second - 215.7
Number of packets sent 6471
Number of packets received 127
Test - 250 packets per second. Actual packet per second - 241.433
Number of packets sent 7243
Number of packets received 161
Test - 285 packets per second. Actual packet per second - 248.367
Number of packets sent 7451
Number of packets received 158
Test - 333 packets per second. Actual packet per second - 248.7
Number of packets sent 7461
Number of packets received 137

Timestamps errors during PPS 20:

Timestamp 1743684450010 is too far off the accepted range 1743684450483-1743684456033 for payload:
C6FC00003F82772D8AA19D44D0E15DBB2811DF245C8944FE9D5FF4A94C
Timestamp 1743684450080 is too far off the accepted range 1743684450683-1743684456233 for payload:
C6FC00003F56BA872E245B2E4BE5BE990CCD761358125215213A02B473
Additional errors (173) are suppressed to avoid clutter

Timestamps errors during PPS 40:

Timestamp 1743684548010 is too far off the accepted range 1743684548572-1743684554097 for payload:
C6FC00003F4736716553B2E4CBA58625FFB5F4EF1933370FB35EB3ECAAF
Timestamp 1743684548070 is too far off the accepted range 1743684548723-1743684554248 for payload:
C6FC00003FB868E7960F6344BBD7E3FF2E9F6A2047F61CD5F412B80AF0
Additional errors (100) are suppressed to avoid clutter

Timestamps errors during PPS 60:

Timestamp 1743684626750 is too far off the accepted range 1743684627301-1743684632818 for payload:
C6FC00003F3F379D5766B1321911105F52F6DCE4FC9CFE07835F41DDB0
Timestamp 1743684626910 is too far off the accepted range 1743684627452-1743684632969 for payload:
C6FC00003F50D0CCA573C62ADC4E17294911515FFBC018144B14F728A1
Additional errors (129) are suppressed to avoid clutter

Timestamps errors during PPS 80:

Timestamp 1743684706530 is too far off the accepted range 1743684706645-1743684712158 for payload:
C6FC00003F3F379D5766B1321911105F52F6DCE4FC9CFE07835F41DDB0
Timestamp 1743684706770 is too far off the accepted range 1743684706885-1743684712398 for payload:
C6FC00003F1FEF24EF56DDAB467602B35E07472BA39B1A8FBA5AE09D2E
Additional errors (134) are suppressed to avoid clutter

Timestamps errors during PPS 100:

Timestamp 1743684785420 is too far off the accepted range 1743684786012-1743684791522 for payload:
C6FC00003F3F379D5766B1321911105F52F6DCE4FC9CFE07835F41DDB0
Timestamp 1743684785590 is too far off the accepted range 1743684786194-1743684791704 for payload:
C6FC00003F707AD759596A30B08C35BC0C1CB028DA0C1BC8BA310B4327
Additional errors (101) are suppressed to avoid clutter

Timestamps errors during PPS 120:

Timestamp 1743684865310 is too far off the accepted range 1743684865375-1743684870884 for payload:
C6FC00003F3F379D5766B1321911105F52F6DCE4FC9CFE07835F41DDB0
Timestamp 1743684865560 is too far off the accepted range 1743684865629-1743684871138 for payload:
C6FC00003FB868E7960F6344BBD7E3FF2E9F6A2047F61CD5F412B80AF0
Additional errors (149) are suppressed to avoid clutter

Timestamps errors during PPS 140:

Timestamp 1743684944100 is too far off the accepted range 1743684944751-1743684950259 for payload:
C6FC00003F3F379D5766B1321911105F52F6DCE4FC9CFE07835F41DDB0
Timestamp 1743684944360 is too far off the accepted range 1743684945006-1743684950514 for payload:
C6FC00003FB5966CAF9360B625264CDECDC4BFE9F22DDDF7E180515A9C
Additional errors (151) are suppressed to avoid clutter

Timestamps errors during PPS 160:

Timestamp 1743685023510 is too far off the accepted range 1743685024145-1743685029652 for payload:
C6FC00003F683BC5F54EB432301DD8E6EC93FB2680E2B201733A323F09
Timestamp 1743685023670 is too far off the accepted range 1743685024292-1743685029799 for payload:
C6FC00003F4736716553B2E4CBA58625FFB5F4EF1933370FB35EB3ECAAF

Additional errors (103) are suppressed to avoid clutter

Timestamps errors during PPS 180:

Timestamp 1743685104010 is too far off the accepted range 1743685104624-1743685110130 for payload:
C6FC00003F44D6971B1E93139EDEEB5F1561C6C833F8140053F29E7CE4

Timestamp 1743685104200 is too far off the accepted range 1743685104844-1743685110350 for payload:
C6FC00003F23C01942397EEF857260D6A5E93BEDA9CA9B185686D072CC

Additional errors (111) are suppressed to avoid clutter

Timestamps errors during PPS 200:

Timestamp 1743685182170 is too far off the accepted range 1743685182939-1743685188444 for payload:
C6FC00003F3F379D5766B1321911105F52F6DCE4FC9CFE07835F41DDB0

Timestamp 1743685182390 is too far off the accepted range 1743685183160-1743685188665 for payload:
C6FC00003F5B3B73953519F7AE0A5039EF45B24A7FAA833AE8CE999475

Additional errors (134) are suppressed to avoid clutter

Timestamps errors during PPS 222:

Timestamp 1743685261950 is too far off the accepted range 1743685262353-1743685267858 for payload:
C6FC00003F3F379D5766B1321911105F52F6DCE4FC9CFE07835F41DDB0

Timestamp 1743685262010 is too far off the accepted range 1743685262413-1743685267918 for payload:
C6FC00003F7FA32597791B73F9448BC86A26DB912D73C334094842C43B

Additional errors (113) are suppressed to avoid clutter

Timestamps errors during PPS 250:

Timestamp 1743685341520 is too far off the accepted range 1743685341776-1743685347280 for payload:
C6FC00003F3F379D5766B1321911105F52F6DCE4FC9CFE07835F41DDB0

Timestamp 1743685341670 is too far off the accepted range 1743685341922-1743685347426 for payload:
C6FC00003FB5966CAF9360B625264CDECDC4BFE9F22DDDF7E180515A9C

Additional errors (103) are suppressed to avoid clutter

Timestamps errors during PPS 285:

Timestamp 1743685421090 is too far off the accepted range 1743685421209-1743685426713 for payload:
C6FC00003F3F379D5766B1321911105F52F6DCE4FC9CFE07835F41DDB0

Timestamp 1743685421590 is too far off the accepted range 1743685421706-1743685427210 for payload:
C6FC00003FB2B5D2D838E0A1F39436DFECBEC0451AA1E755A343847286

Additional errors (118) are suppressed to avoid clutter

Timestamps errors during PPS 333:

Timestamp 1743685500270 is too far off the accepted range 1743685500646-1743685506149 for payload:
C6FC00003F3F379D5766B1321911105F52F6DCE4FC9CFE07835F41DDB0

Timestamp 1743685500380 is too far off the accepted range 1743685500755-1743685506258 for payload:
C6FC00003FD5F97DD198142F0209864DA3E29C9A14E7F1C0EF51161652

Additional errors (132) are suppressed to avoid clutter

Stage data saved - /home/oren/.local/share/wiliot/gw-certificate/20250403_153727/StressTest/StressTestStage.cs

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