

| | | | | |
|---|---|---|--|--------------------------------|
| Prüfbericht-Nr.: <i>Test report no.:</i> | CN247171 001 | Auftrags-Nr.: <i>Order no.:</i> | 168492002 | Seite 1 von 22 Page 1 of 22 |
| Kunden-Referenz-Nr.: <i>Client reference no.:</i> | N/A | Auftragsdatum: <i>Order date:</i> | 2024-07-01 | |
| Auftraggeber: <i>Client:</i> | Harman International Industries, Incorporated 8500 Balboa Blvd, Northridge, California, 91329, United States | | | |
| Prüfgegenstand: <i>Test item:</i> | LEGEND 700 HEAD UNIT | | | |
| Bezeichnung / Typ-Nr.: <i>Identification / Type no.:</i> | JBLLEGEND700 (Trademark: JBL) | | | |
| Auftrags-Inhalt: <i>Order content:</i> | Test Report | | | |
| Prüfgrundlage: <i>Test specification:</i> | CFR47 FCC Part 15: Subpart C Section 15.247 | RSS-247-Issue 3 August 2023 | | |
| | CFR47 FCC Part 15: Subpart C Section 15.209 | RSS-Gen Issue 5 March 2019 | | |
| Wareneingangsdatum: <i>Date of sample receipt:</i> | 2024-07-08 | Refer to photos document | | |
| Prüfmuster-Nr.: <i>Test sample no.:</i> | A003797988 006 | | | |
| Prüfzeitraum: <i>Testing period:</i> | 2024-07-08 - 2024-07-19 | | | |
| Ort der Prüfung: <i>Place of testing:</i> | TÜV Rheinland (Shenzhen) Co., Ltd. | | | |
| Prüflaboratorium: <i>Testing laboratory:</i> | TÜV Rheinland (Shenzhen) Co., Ltd. | | | |
| Prüfergebnis*: <i>Test result*:</i> | Pass | | | |
| geprüft von: <i>tested by:</i> | <u>x </u> | genehmigt von: <i>authorized by:</i> | <u>x </u> | |
| Datum: <i>Date:</i> | 2024-09-12 <small>Signed by: Harry W. C. Wu</small> | Ausstellungsdatum: <i>Issue date:</i> | 2024-09-12 <small>Signed by: Alex Lan</small> | |
| Stellung / Position: | Sachverständige(r)/Expert | Stellung / Position: | Sachverständige(r)/Expert | |
| Sonstiges / <i>Other:</i> | FCC ID: APILEGEND700 IC: 6132A-LEGEND700 | HVIN: JBLLEGEND700 | | |
| Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i> | Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i> | | | |
| * Legende: | P(ass) = entspricht o.g. Prüfgrundlage(n) | F(ail) = entspricht nicht o.g. Prüfgrundlage(n) | N/A = nicht anwendbar | N/T = nicht getestet |
| * Legend: | P(ass) = passed a.m. test specification(s) | F(ail) = failed a.m. test specification(s) | N/A = not applicable | N/T = not tested |
| <p>Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the above mentioned test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i></p> | | | | |

Prüfbericht-Nr.: CN24717I 001
Test report no.:

Seite 2 von 22
Page 2 of 22

Anmerkungen
Remarks

- | | |
|---|--|
| 1 | <p>Alle eingesetzten Prüfmittel waren zum angegebenen Prüfzeitraum gemäß eines festgelegten Kalibrierungsprogramms unseres Prüfhauses kalibriert. Sie entsprechen den in den Prüfprogrammen hinterlegten Anforderungen. Die Rückverfolgbarkeit der eingesetzten Prüfmittel ist durch die Einhaltung der Regelungen unseres Managementsystems gegeben. Detaillierte Informationen bezüglich Prüfkonditionen, Prüfequipment und Messunsicherheiten sind im Prüflabor vorhanden und können auf Wunsch bereitgestellt werden.</p> <p><i>The equipment used during the specified testing period was calibrated according to our test laboratory calibration program. The equipment fulfils the requirements included in the relevant standards. The traceability of the test equipment used is ensured by compliance with the regulations of our management system. Detailed information regarding test conditions, equipment and measurement uncertainty is available in the test laboratory and could be provided on request.</i></p> |
| 2 | <p>Wie vertraglich vereinbart, wurde dieses Dokument nur digital unterzeichnet. Der TÜV Rheinland hat nicht überprüft, welche rechtlichen oder sonstigen diesbezüglichen Anforderungen für dieses Dokument gelten. Diese Überprüfung liegt in der Verantwortung des Benutzers dieses Dokuments. Auf Verlangen des Kunden kann der TÜV Rheinland die Gültigkeit der digitalen Signatur durch ein gesondertes Dokument bestätigen. Diese Anfrage ist an unseren Vertrieb zu richten. Eine Umweltgebühr für einen solchen zusätzlichen Service wird erhoben. Informationen zur Verifizierung der Authentizität unserer Dokumente erhalten Sie auf folgender Webseite: go.tuv.com/digital-signature</p> <p><i>As contractually agreed, this document has been signed digitally only. TUV Rheinland has not verified and unable to verify which legal or other pertaining requirements are applicable for this document. Such verification is within the responsibility of the user of this document. Upon request by its client, TUV Rheinland can confirm the validity of the digital signature by a separate document. Such request shall be addressed to our Sales department. An environmental fee for such additional service will be charged. For information on verifying the authenticity of our documents, please visit the following website: go.tuv.com/digital-signature</i></p> |
| 3 | <p>Prüfklausel mit der Note * wurden an qualifizierte Unterauftragnehmer vergeben und sind unter der jeweiligen Prüfklausel des Berichts beschrieben. Abweichungen von Prüfspezifikation(en) oder Kundenanforderungen sind in der jeweiligen Prüfklausel im Bericht aufgeführt.</p> <p><i>Test clauses with remark of * are subcontracted to qualified subcontractors and described under the respective test clause in the report. Deviations of testing specification(s) or customer requirements are listed in specific test clause in the report.</i></p> |
| 4 | <p>Die Entscheidungsregel für Konformitätserklärungen basierend auf numerischen Messergebnissen in diesem Prüfbericht basiert auf der "Null-Grenzwert-Regel" und der "Einfachen Akzeptanz" gemäß ILAC G8:2019 und IEC Guide 115:2021, es sei denn, in der auf Seite 1 dieses Berichts genannten angewandten Norm ist etwas anderes festgelegt oder vom Kunden gewünscht. Dies bedeutet, dass die Messunsicherheit nicht berücksichtigt wird und daher auch nicht im Prüfbericht angegeben wird. Zu weiteren Informationen bezüglich des Risikos durch diese Entscheidungsregel siehe ILAC G8:2019.</p> <p><i>The decision rule for statements of conformity, based on numerical measurement results, in this test report is based on the "Zero Guard Band Rule" and "Simple Acceptance" in accordance with ILAC G8:2019 and IEC Guide 115:2021, unless otherwise specified in the applied standard mentioned on Page 1 of this report or requested by the customer. This means that measurement uncertainty is not taken in account and hence also not declared in the test report. For additional information to the resulting risk based of this decision rule please refer to ILAC G8:2019.</i></p> |

Test Summary

5.1.1 ANTENNA REQUIREMENT

RESULT: Pass

5.1.2 MAXIMUM PEAK CONDUCTED OUTPUT POWER

RESULT: Pass

5.1.3 99% BANDWIDTH

RESULT: Pass

5.1.4 20dB BANDWIDTH

RESULT: Pass

5.1.5 CARRIER FREQUENCY SEPARATION

RESULT: Pass

5.1.6 NUMBER OF HOPPING FREQUENCY

RESULT: Pass

5.1.7 TIME OF OCCUPANCY

RESULT: Pass

5.1.8 CONDUCTED SPURIOUS EMISSIONS MEASURED IN 100 KHZ BANDWIDTH

RESULT: Pass

5.1.9 RADIATED SPURIOUS EMISSION

RESULT: Pass

Contents

| | | |
|--------------|--|-----------|
| 1 | GENERAL REMARKS | 4 |
| 1.1 | COMPLEMENTARY MATERIALS..... | 4 |
| 2 | TEST SITES..... | 5 |
| 2.1 | TEST FACILITIES | 5 |
| 2.2 | LIST OF TEST AND MEASUREMENT INSTRUMENTS | 5 |
| 2.3 | TRACEABILITY | 6 |
| 2.4 | CALIBRATION..... | 6 |
| 2.5 | MEASUREMENT UNCERTAINTY..... | 6 |
| 2.6 | LOCATION OF ORIGINAL DATA..... | 6 |
| 2.7 | STATUS OF FACILITY USED FOR TESTING | 6 |
| 3 | GENERAL PRODUCT INFORMATION | 7 |
| 3.1 | PRODUCT FUNCTION AND INTENDED USE | 7 |
| 3.2 | RATINGS AND SYSTEM DETAILS..... | 7 |
| 3.3 | INDEPENDENT OPERATION MODES..... | 8 |
| 3.4 | NOISE GENERATING AND NOISE SUPPRESSING PARTS | 8 |
| 3.5 | SUBMITTED DOCUMENTS..... | 9 |
| 4 | TEST SET-UP AND OPERATION MODES..... | 10 |
| 4.1 | PRINCIPLE OF CONFIGURATION SELECTION | 10 |
| 4.2 | TEST OPERATION AND TEST SOFTWARE | 10 |
| 4.3 | SPECIAL ACCESSORIES AND AUXILIARY EQUIPMENT | 10 |
| 4.4 | COUNTERMEASURES TO ACHIEVE EMC COMPLIANCE | 10 |
| 4.5 | TEST SETUP DIAGRAM | 11 |
| 5 | TEST RESULTS | 12 |
| 5.1 | TRANSMITTER REQUIREMENT & TEST SUITES..... | 12 |
| <i>5.1.1</i> | <i>Antenna Requirement.....</i> | <i>12</i> |
| <i>5.1.2</i> | <i>Maximum Peak Conducted Output Power</i> | <i>13</i> |
| <i>5.1.3</i> | <i>99% Bandwidth.....</i> | <i>14</i> |
| <i>5.1.4</i> | <i>20dB Bandwidth</i> | <i>15</i> |
| <i>5.1.5</i> | <i>Carrier Frequency Separation</i> | <i>16</i> |
| <i>5.1.6</i> | <i>Number of Hopping Frequency</i> | <i>17</i> |
| <i>5.1.7</i> | <i>Time of Occupancy.....</i> | <i>18</i> |
| <i>5.1.8</i> | <i>Conducted Spurious Emissions Measured in 100 kHz Bandwidth.....</i> | <i>19</i> |
| <i>5.1.9</i> | <i>Radiated Spurious Emission</i> | <i>20</i> |
| 6 | PHOTOGRAPHS OF THE TEST SET-UP | 21 |
| 7 | LIST OF TABLES..... | 21 |

1 General Remarks

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix A: Photographs of the Test Set-up

Appendix B: Test Results of Bluetooth BR/EDR mode

2 Test Sites

2.1 Test Facilities

TÜV Rheinland (Shenzhen) Co., Ltd.

No.362, Huanguan Middle Road, Songyuansha Community, Guanhu Subdistrict, Longhua District, Shenzhen 518110, Guangdong, China

FCC Registration No.: 694916

ISED wireless device testing laboratory: 25069

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

| Radio Spectrum Testing | | | | |
|--|---------------------|----------------------|-------------------|-------------------|
| Equipment | Manufacturer | Model | Serial No. | Cal. until |
| Wireless Connectivity Tester | R&S | CMW270 | 101375 | 25.07.2024 |
| Signal Analyzer | R&S | FSV 40 | 101441 | 25.07.2024 |
| Vector Signal Generator | R&S | SMBV100A | 263301 | 25.07.2024 |
| Signal Generator | R&S | SMB100A | 115186 | 25.07.2024 |
| OSP | R&S | OSP 150 | 101017 | 13.11.2024 |
| Control PC | DELL | OptiPlex 7050 | FTJZ9P2 | N/A |
| Test Software | R&S | WMS32 (V11.00.00) | N/A | N/A |
| Power Meter | R&S | NRP2 | 107105 | 13.11.2024 |
| Power Sensor | R&S | NRP-Z81 | 105677 | 25.07.2024 |
| Humid & Temp Programmable Tester | BOST | NTH090-60 | 19040801 | 28.02.2025 |
| Shielding Room 8# | Albatross | SR8 | APC17151-SR8 | 21.06.2025 |
| Unwanted Emission Testing (TS9975) | | | | |
| Equipment | Manufacturer | Model | Serial No. | Cal. until |
| EMI Test Receiver | R&S | ESR 7 | 102021 | 25.07.2024 |
| Signal Analyzer | R&S | FSV 40 | 101439 | 25.07.2024 |
| System Controller Interface | R&S | SCI-100 | S10010038 | N/A |
| Filterbank | R&S | Wlan | 100759 | 25.07.2024 |
| OSP | R&S | OSP 120 | 102040 | N/A |
| Pre-amplifier | R&S | SCU08F1 | 08320031 | 25.07.2024 |
| Amplifier | R&S | SCU-18F | 180070 | 25.07.2024 |
| Amplifier | R&S | SCU40A | 100475 | 25.07.2024 |
| Trilog Broadband Antenna (30 MHz - 7 GHz) | Schwarzbeck | VULB 9162 | 193 | 06.08.2024 |
| Double-Ridged Antenna (1 -18 GHz) | ETS-LINDGREN | 3117 | 00218717 | 06.08.2024 |
| Wideband Ridged Horn Antenna (18-40 GHz) | Steatite | QMS-00880 | 19067 | 27.08.2024 |
| Active Loop Antenna | Schwarzbeck | FMZB 1513 | 302 | 06.08.2024 |

| | | | | |
|---------------|------|----------------------|---------|-----|
| Test software | R&S | EMC32 (V10.60.10) | N/A | N/A |
| Control PC | Dell | OptiPlex 7050 | 36NV9P2 | N/A |

2.3 Traceability

All measurement equipment calibrations are traceable to NIM (National Institute of Metrology) or where calibration is performed in other countries, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

2.5 Measurement Uncertainty

The estimated combined standard uncertainty for radiated emissions and conducted emissions measurements as below table.

Table 2: Measurement Uncertainty

| Parameter | Uncertainty (k=2) |
|-------------------------------|-------------------|
| Occupied Channel Bandwidth | ± 2.08 % |
| RF output power, conducted | ± 0.99 dB |
| Unwanted Emissions, conducted | ± 0.89 dB |
| All emissions, radiated | ±4.17 dB |

2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix A & B of this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Shenzhen) Co., Ltd. file for certification follow-up purposes.

2.7 Status of Facility Used for Testing

The TÜV Rheinland (Shenzhen) Co., Ltd. Test facility located at No.362, Huanguan Middle Road, Songyuansha Community, Guanhu Subdistrict, Longhua District, Shenzhen 518110, Guangdong, China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

3 General Product Information

3.1 Product Function and Intended Use

The product is LEGEND 700 HEAD UNIT, which supports Bluetooth, 2.4GHz Wi-Fi, 5GHz Wi-Fi, GPS, AM and FM technologies.

This report is for Bluetooth BR&EDR operation only.

For details refer to the User Manual, Technical Description and Circuit Diagram.

3.2 Ratings and System Details

Table 3: Technical Specification of EUT

| General Information of EUT | Value |
|---|-----------------------------|
| Kind of Equipment: | LEGEND 700 HEAD UNIT |
| Type Designation: | JBLLEGEND700 |
| Trademark: | JBL |
| FCC ID: | APILEGEND700 |
| IC: | 6132A-LEGEND700 |
| HVIN: | JBLLEGEND700 |
| Operating Voltage: | 12Vdc, 9A |
| Operating Temperature Range: | 0 °C ~ +70 °C |
| Technical Specification of Bluetooth BR/EDR | |
| Operating Frequency: | 2402 MHz to 2480 MHz |
| Type of Modulation: | GFSK, $\pi/4$ -DQPSK, 8DPSK |
| Channel Number: | 79 channels |
| Channel Separation: | 1MHz |
| Antenna Type: | FPC Antenna |
| Antenna Gain of Bluetooth: | 6.0 dBi |

Table 4: RF Channel and Frequency of Bluetooth BR/EDR

| RF Channel | Frequency (MHz) | RF Channel | Frequency (MHz) | RF Channel | Frequency (MHz) | RF Channel | Frequency (MHz) |
|------------|-----------------|------------|-----------------|------------|-----------------|------------|-----------------|
| 0 | 2402.00 | 20 | 2422.00 | 40 | 2442.00 | 60 | 2462.00 |
| 1 | 2403.00 | 21 | 2423.00 | 41 | 2443.00 | 61 | 2463.00 |
| 2 | 2404.00 | 22 | 2424.00 | 42 | 2444.00 | 62 | 2464.00 |
| 3 | 2405.00 | 23 | 2425.00 | 43 | 2445.00 | 63 | 2465.00 |
| 4 | 2406.00 | 24 | 2426.00 | 44 | 2446.00 | 64 | 2466.00 |
| 5 | 2407.00 | 25 | 2427.00 | 45 | 2447.00 | 65 | 2467.00 |
| 6 | 2408.00 | 26 | 2428.00 | 46 | 2448.00 | 66 | 2468.00 |
| 7 | 2409.00 | 27 | 2429.00 | 47 | 2449.00 | 67 | 2469.00 |
| 8 | 2410.00 | 28 | 2430.00 | 48 | 2450.00 | 68 | 2470.00 |
| 9 | 2411.00 | 29 | 2431.00 | 49 | 2451.00 | 69 | 2471.00 |
| 10 | 2412.00 | 30 | 2432.00 | 50 | 2452.00 | 70 | 2472.00 |
| 11 | 2413.00 | 31 | 2433.00 | 51 | 2453.00 | 71 | 2473.00 |
| 12 | 2414.00 | 32 | 2434.00 | 52 | 2454.00 | 72 | 2474.00 |
| 13 | 2415.00 | 33 | 2435.00 | 53 | 2455.00 | 73 | 2475.00 |
| 14 | 2416.00 | 34 | 2436.00 | 54 | 2456.00 | 74 | 2476.00 |
| 15 | 2417.00 | 35 | 2437.00 | 55 | 2457.00 | 75 | 2477.00 |
| 16 | 2418.00 | 36 | 2438.00 | 56 | 2458.00 | 76 | 2478.00 |
| 17 | 2419.00 | 37 | 2439.00 | 57 | 2459.00 | 77 | 2479.00 |
| 18 | 2420.00 | 38 | 2440.00 | 58 | 2460.00 | 78 | 2480.00 |
| 19 | 2421.00 | 39 | 2441.00 | 59 | 2461.00 | | |

Test frequencies are lowest channel: 2402 MHz, middle channel: 2441 MHz and highest channel: 2480 MHz for Bluetooth BR/EDR

3.3 Independent Operation Modes

The basic operation modes are:

- A. On, Bluetooth transmitting mode
 - 1) Low Channel
 - 2) Middle Channel
 - 3) High Channel
- B. On, Transmitting on Hopping channel
- C. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to Circuit Diagram for further details.

3.5 Submitted Documents

- Application Form
- FCC/IC Label and Location Info
- Schematics
- Operation Description
- Block Diagram
- PCB Layout

4 Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

Radio Spectrum: The equipment under test (EUT) was configured at its highest power output in order to measure its highest possible radiation and conducted level. The test modes were adapted accordingly in reference to the instructions for use.

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All tests were performed according to the procedures in ANSI C63.10: 2013.

According to clause 3.1, all tests were performed on model JBLLEGEND700 in this report.

4.3 Special Accessories and Auxiliary Equipment

Table 5: Auxiliary Equipment Used during Test

| Description | Manufacturer | Model | S/N |
|-------------|--------------|-------|-----------|
| Laptop | Lenovo | T480 | PF-16A6N8 |

4.4 Countermeasures to Achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Technical Construction File (TCF).

No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test (Below 1GHz)

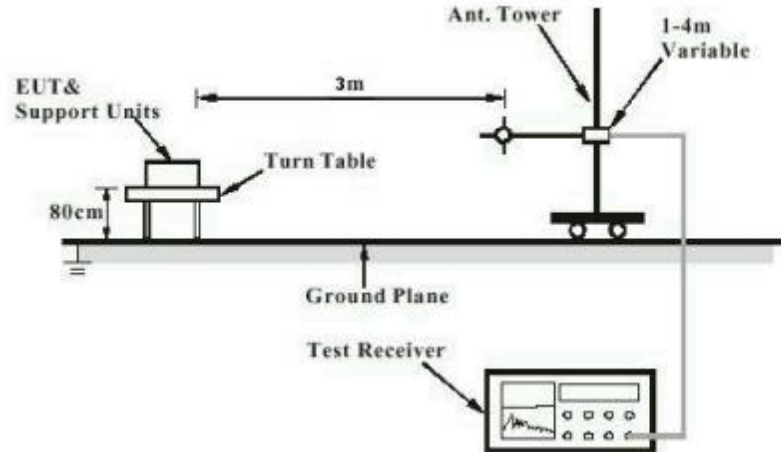


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)

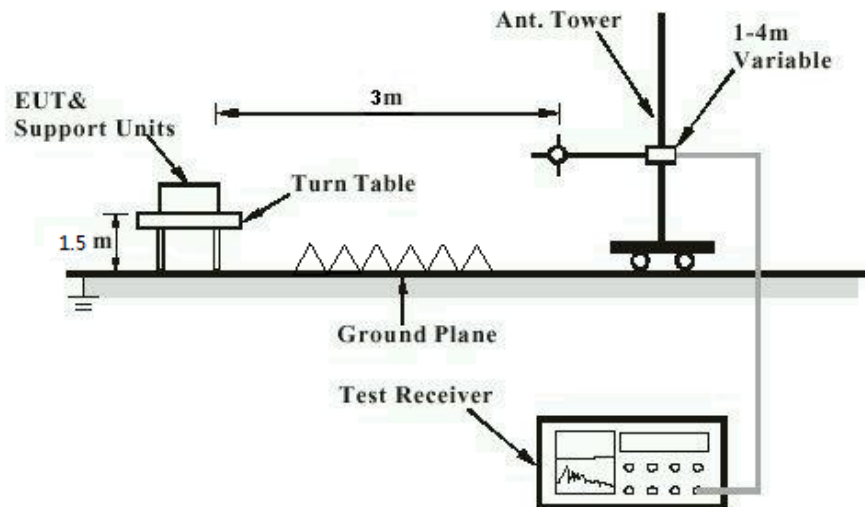
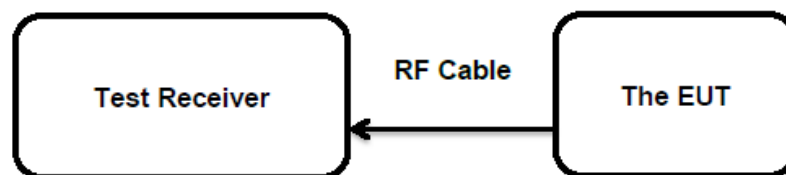


Diagram of Measurement Configuration for Conducted Transmitter Measurement



5 Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT:**Pass****Test Specification**

Test standard : FCC Part 15.247(b)(4) and Part 15.203
RSS-Gen Clause 6.8

According to the manufacturer declared, the EUT has a FPC antenna, the directional gain of antenna is 6.0 dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement.

Therefore the EUT is considered sufficient to comply with the provision.

Refer to EUT Photo for further details.

5.1.2 Maximum Peak Conducted Output Power

RESULT:
Pass
Test Specification

Test standard : FCC Part 15.247(b)(1)
 : RSS-247 Clause 5.4(b)
 Basic standard : ANSI C63.10: 2013
 Limits : FHSS < 0.125 Watts
 Kind of test site : Shielded Room

Test Setup

Date of testing : 2024-07-08 to 2024-07-19
 Input voltage : DC 12V
 Operation mode : B
 Ambient temperature : 24.5 °C
 Relative humidity : 51.2 %
 Atmospheric pressure : 101 kPa

Table 6: Test Result of Maximum Peak Conducted Output Power, Bluetooth BR & EDR

| Test Mode | Test Channel (MHz) | Measured Peak Power | | Limit (W) |
|-------------------------------|--------------------|---------------------|--------|-----------|
| | | (dBm) | (W) | |
| GFSK (BR) | 2402.0 | 9.10 | 0.0081 | < 0.125 |
| | 2441.0 | 9.93 | 0.0098 | |
| | 2480.0 | 9.86 | 0.0097 | |
| Maximum Measured Value | | 9.93 | 0.0098 | |

| Test Mode | Test Channel (MHz) | Measured Peak Power | | Limit (W) |
|-------------------------------|--------------------|---------------------|--------|-----------|
| | | (dBm) | (W) | |
| 8DPSK (EDR) | 2402.0 | 10.98 | 0.0125 | < 0.125 |
| | 2441.0 | 11.26 | 0.0134 | |
| | 2480.0 | 10.09 | 0.0102 | |
| Maximum Measured Value | | 11.26 | 0.0134 | |

Maximum e.i.r.p. is 17.26 dBm less than 4W(36dBm).

Note:

- 1) The cable loss is taken into account in results.
- 2) Antenna gain(G): 6.00 dBi

5.1.3 99% Bandwidth

RESULT:**Pass****Test Specification**

Test standard : FCC Part 15.247(a)
RSS-Gen Clause 6.7
Basic standard : ANSI C63.10: 2013
Kind of test site : Shielded Room

Test Setup

Date of testing : 2024-07-08 to 2024-07-19
Input voltage : DC 12V
Operation mode : A
Test channel : Low / Middle / High
Ambient temperature : 24.5 °C
Relative humidity : 51.2 %
Atmospheric pressure : 101 kPa

For the measurement records, refer to the appendix B.

5.1.4 20dB Bandwidth

RESULT:**Pass****Test Specification**

Test standard : FCC Part 15.247(a)(1)
RSS-247 Clause 5.1(a)
Basic standard : ANSI C63.10: 2013
Kind of test site : Shielded Room

Test Setup

Date of testing : 2024-07-08 to 2024-07-19
Input voltage : DC 12V
Operation mode : A
Test channel : Low / Middle / High
Ambient temperature : 24.5 °C
Relative humidity : 51.2 %
Atmospheric pressure : 101 kPa

For the measurement records, refer to the appendix B.

5.1.5 Carrier Frequency Separation

RESULT:**Pass****Test Specification**

| | |
|-------------------|--|
| Test standard | : FCC Part 15.247(a)(1) RSS-247 Clause 5.1(b) |
| Basic standard | : ANSI C63.10: 2013 |
| Limits | : $\geq 25\text{kHz}$ or 2/3 of 20dB bandwidth, whichever is greater |
| Kind of test site | : Shielded Room |

Test Setup

| | |
|----------------------|----------------------------|
| Date of testing | : 2024-07-08 to 2024-07-19 |
| Input voltage | : DC 12V |
| Operation mode | : B |
| Test channel | : Low / Middle / High |
| Ambient temperature | : 24.5 °C |
| Relative humidity | : 51.2 % |
| Atmospheric pressure | : 101 kPa |

For the measurement records, refer to the appendix B.

5.1.6 Number of Hopping Frequency

RESULT:**Pass****Test Specification**

| | |
|-------------------|---|
| Test standard | : FCC part 15.247(a)(1)(iii) RSS-247 Clause 5.1(d) |
| Basic standard | : ANSI C63.10: 2013 |
| Limits | : ≥ 15 non-overlapping channels |
| Kind of test site | : Shielded Room |

Test Setup

| | |
|----------------------|----------------------------|
| Date of testing | : 2024-07-08 to 2024-07-19 |
| Input voltage | : DC 12V |
| Operation mode | : B |
| Ambient temperature | : 24.5 °C |
| Relative humidity | : 51.2 % |
| Atmospheric pressure | : 101 kPa |

For the measurement records, refer to the appendix B.

5.1.7 Time of Occupancy

RESULT:**Pass****Test Specification**

Test standard : FCC part 15.247(a)(1)(iii)
RSS-247 Clause 5.1(d)

Basic standard : ANSI C63.10: 2013

Limits : < 0.4s

Kind of test site : Shielded Room

Test Setup

Date of testing : 2024-07-08 to 2024-07-19

Input voltage : DC 12V

Operation mode : B

Ambient temperature : 24.5 °C

Relative humidity : 51.2 %

Atmospheric pressure : 101 kPa

For the measurement records, refer to the appendix B.

Prüfbericht - Nr.: CN247171 001
Test Report No.:Seite 20 von 22
Page 20 of 22

5.1.8 Conducted Spurious Emissions Measured in 100 kHz Bandwidth

RESULT:**Pass****Test Specification**

| | |
|-------------------|--|
| Test standard | : FCC Part 15.247(d) RSS-247 Clause 5.5 |
| Basic standard | : ANSI C63.10: 2013 |
| Limits | : 20dB (below that in the 100kHz bandwidth within the band that contains the highest level of the desired power); In addition, radiated emissions which fall in the restricted bands, must also comply with the radiated emission limits specified in 15.209(a) |
| Kind of test site | : Shielded Room |

Test Setup

| | |
|----------------------|----------------------------|
| Date of testing | : 2024-07-08 to 2024-07-19 |
| Input voltage | : DC 12V |
| Operation mode | : A |
| Test channel | : Low / Middle / High |
| Ambient temperature | : 24.5 °C |
| Relative humidity | : 51.2 % |
| Atmospheric pressure | : 101 kPa |

Test results of 100kHz Bandwidth of Frequency Band Edge by Conducted method refer to test plots, and compliance is achieved as well.

For the measurement records, refer to the appendix B.

Prüfbericht - Nr.: CN247171 001
Test Report No.:Seite 21 von 22
Page 21 of 22

5.1.9 Radiated Spurious Emission

RESULT:**Pass****Test Specification**

Test standard : FCC Part 15.247(d) & FCC Part 15.205
RSS-247 Clause 3.3

Basic standard : ANSI C63.10: 2013

Limits : Refer to 15.209(a) of FCC part 15.247(d)
RSS-Gen Section 8.9 & 8.10

Kind of test site : 3m Semi-anechoic Chamber

Test Setup

Date of testing : 2024-07-08 to 2024-07-19

Input voltage : DC 12V

Operation mode : A

Test channel : Low / Middle / High

Ambient temperature : Refer to test result

Relative humidity : Refer to test result

Atmospheric pressure : 101 kPa

Remark:

Testing was carried out within frequency range 9kHz to the tenth harmonics. Only the worst case spurious emissions configuration of the each mode were reported.

For the measurement records, refer to the appendix B.

6 Photographs of the Test Set-Up

For photographs of the test set-up, refer to the appendix A.

7 List of Tables

| | |
|--|----|
| Table 1: List of Test and Measurement Equipment..... | 6 |
| Table 2: Measurement Uncertainty | 7 |
| Table 3: Technical Specification of EUT..... | 8 |
| Table 4: RF Channel and Frequency of Bluetooth BR/EDR..... | 9 |
| Table 5: Auxiliary Equipment Used during Test | 11 |
| Table 6: Test Result of Maximum Peak Conducted Output Power, Bluetooth BR & EDR..... | 14 |

Appendix A: Test Results of Bluetooth BR & EDR

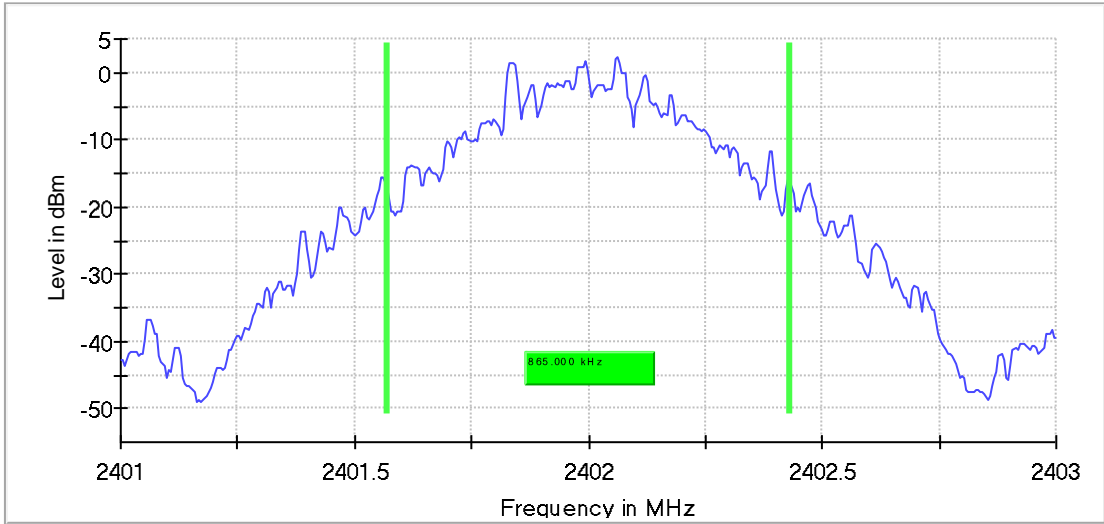
| | |
|--|----|
| APPENDIX A: TEST RESULTS OF BLUETOOTH BR & EDR | 1 |
| APPENDIX A.1: TEST RESULTS OF 99% BANDWIDTH..... | 2 |
| APPENDIX A.2: TEST RESULTS OF 20dB BANDWIDTH | 6 |
| APPENDIX A.3: TEST RESULTS OF CARRIER FREQUENCY SEPARATION | 10 |
| APPENDIX A.4: TEST RESULTS OF NUMBER OF HOPPING FREQUENCY | 11 |
| APPENDIX A.6: TEST RESULTS OF CONDUCTED SPURIOUS EMISSIONS MEASURED IN 100 KHz BANDWIDTH | 15 |
| <i>Conducted measurements</i> | 15 |
| <i>Band edge measurements</i> | 22 |
| APPENDIX A.7: TEST RESULTS OF RADIATED SPURIOUS EMISSIONS | 25 |
| 30MHz - 1GHz..... | 25 |
| 1GHz - 18GHz..... | 27 |
| APPENDIX A.8: TEST RESULTS OF RADIATED EMISSIONS IN RESTRICTED BANDS..... | 39 |

Appendix A.1: Test Results of 99% Bandwidth

| Test Mode | Channel Frequency (MHz) | Measured 99% Bandwidth | Limit |
|-----------|-------------------------|------------------------|-------|
| | | (MHz) | |
| BR | 2402 | 0.865 | / |
| | 2441 | 0.865 | |
| | 2480 | 0.865 | |
| EDR | 2402 | 1.155 | / |
| | 2441 | 1.175 | |
| | 2480 | 1.225 | |

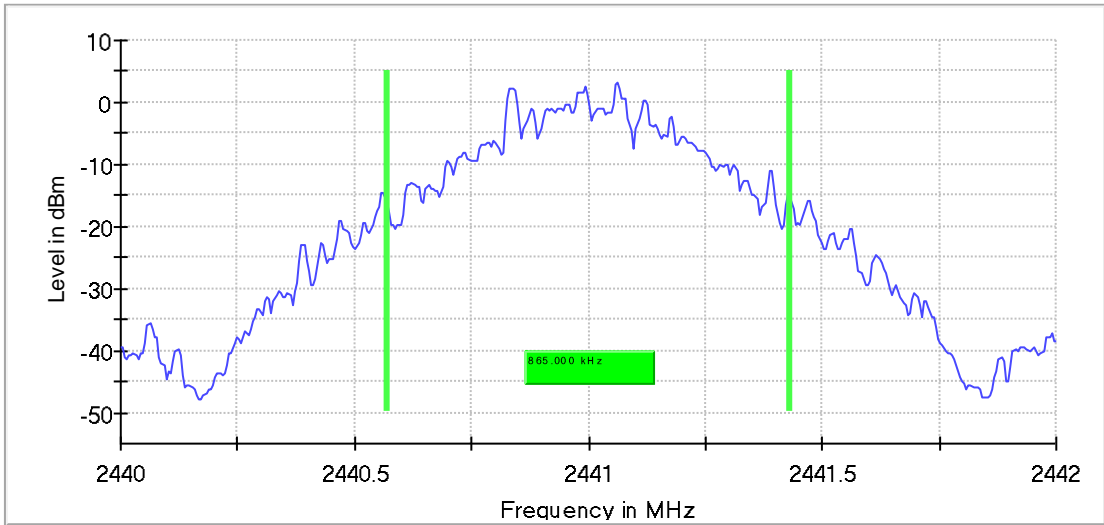
DH5_Ant1_2402

99 % Bandwidth

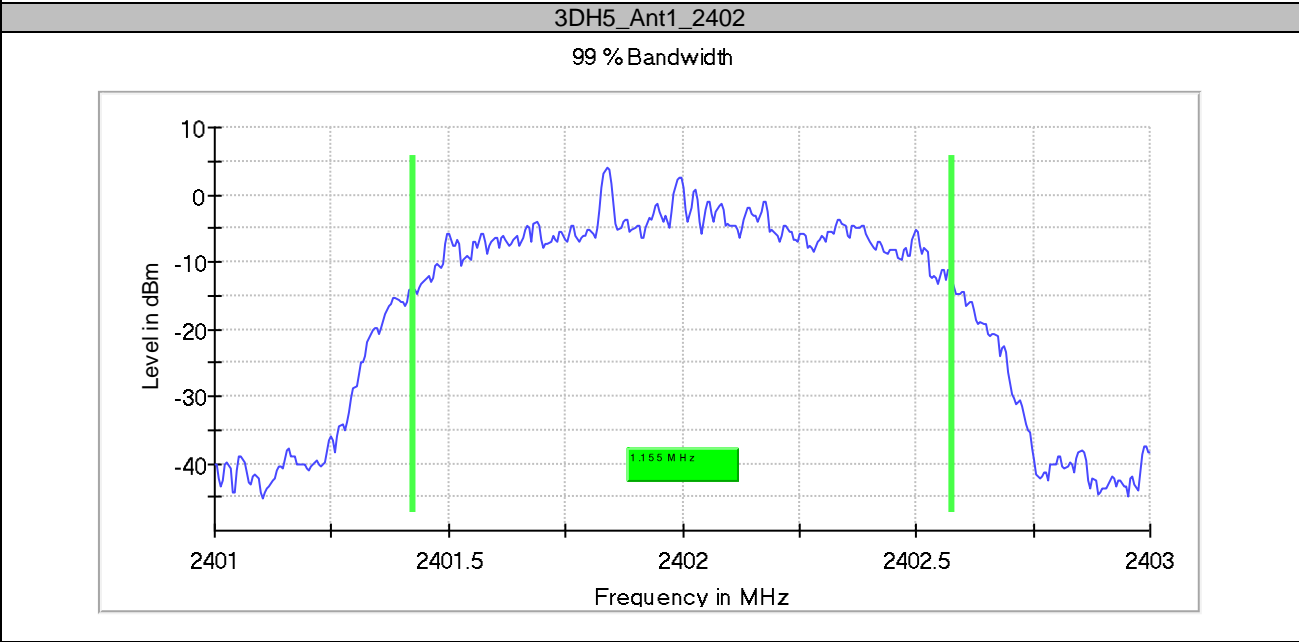
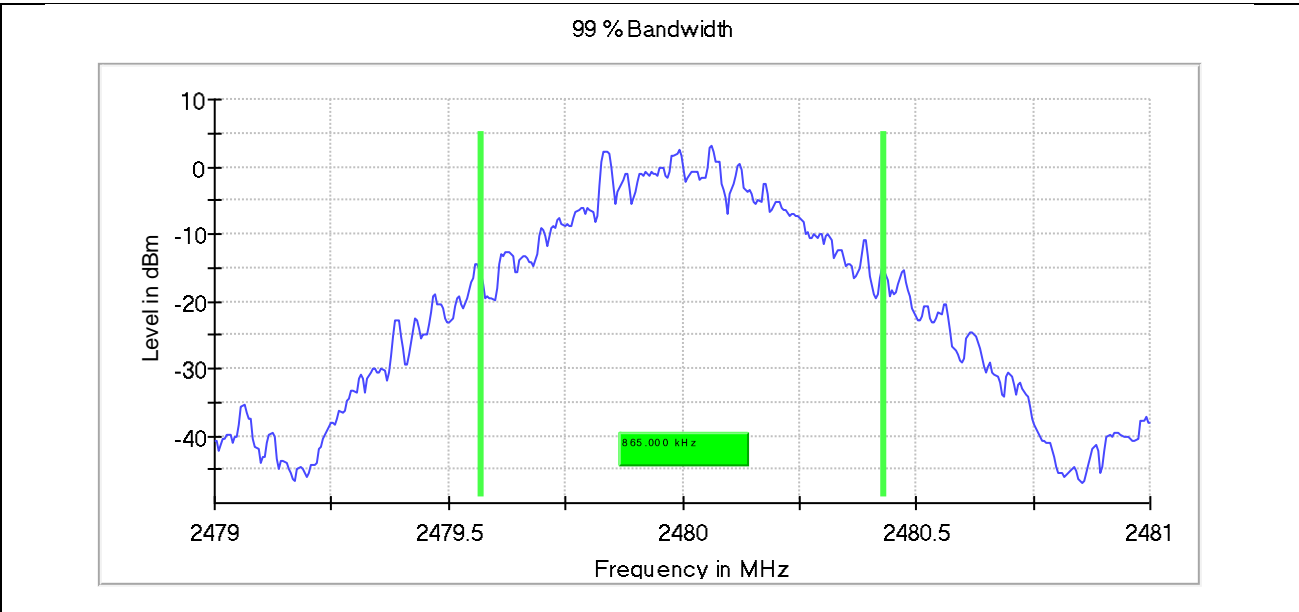


DH5_Ant1_2441

99 % Bandwidth

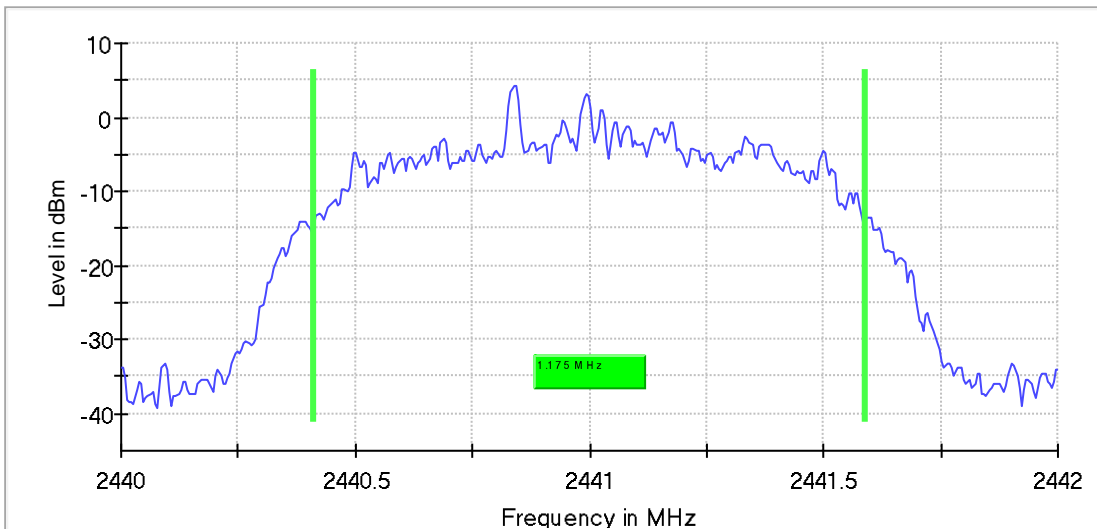


DH5_Ant1_2480



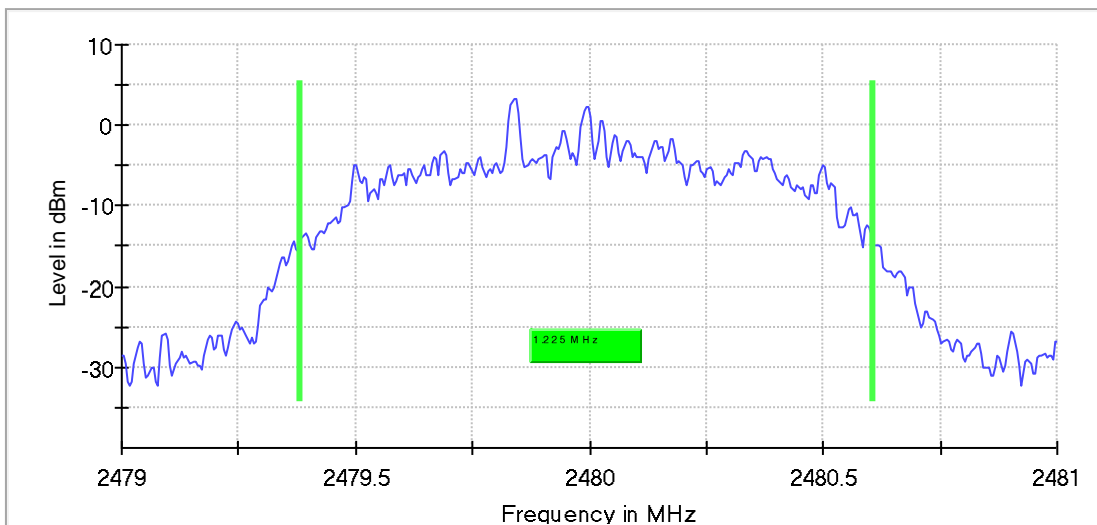
3DH5_Ant1_2441

99 % Bandwidth



3DH5_Ant1_2480

99 % Bandwidth



Measurement

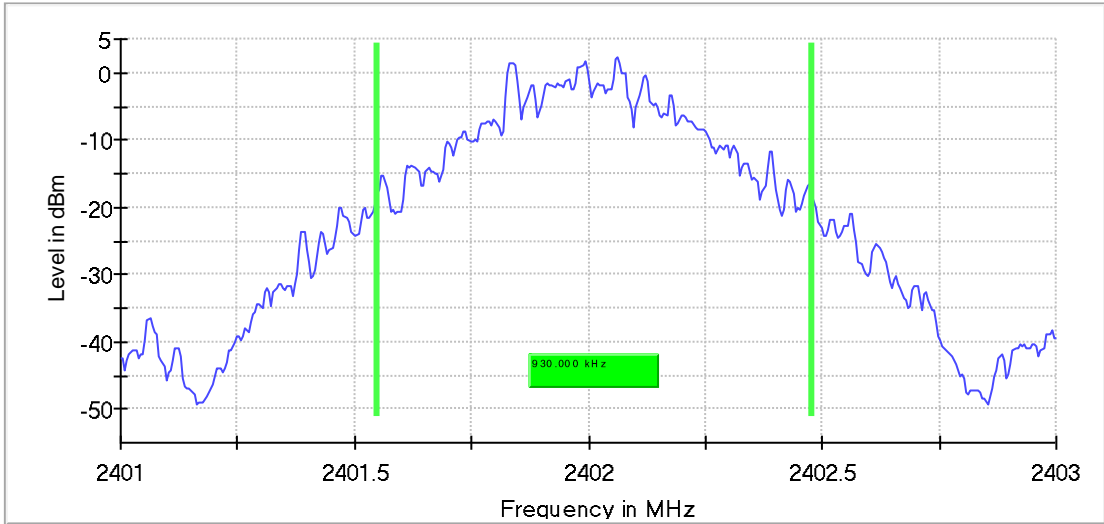
| Setting | Instrument Value |
|-----------------|------------------|
| Span | 2.000 MHz |
| RBW | 10.000 kHz |
| VBW | 30.000 kHz |
| SweepPoints | 400 |
| Sweeptime | 189.648 μ s |
| Reference Level | 0.000 dBm |
| Attenuation | 20.000 dB |
| Detector | MaxPeak |
| SweepCount | 500 |
| Filter | 3 dB |
| Trace Mode | Max Hold |

Appendix A.2: Test Results of 20dB Bandwidth

| Test Mode | Channel Frequency (MHz) | 20dB Bandwidth (kHz) | 2/3 of 20dB Bandwidth (kHz) | Limit (MHz) |
|-----------|-------------------------|----------------------|-----------------------------|-------------|
| BR | 2402 | 930 | 620.000 | / |
| | 2441 | 930 | 620.000 | |
| | 2480 | 930 | 620.000 | |
| EDR | 2402 | 1230 | 820.000 | / |
| | 2441 | 1255 | 836.667 | |
| | 2480 | 1290 | 860.000 | |

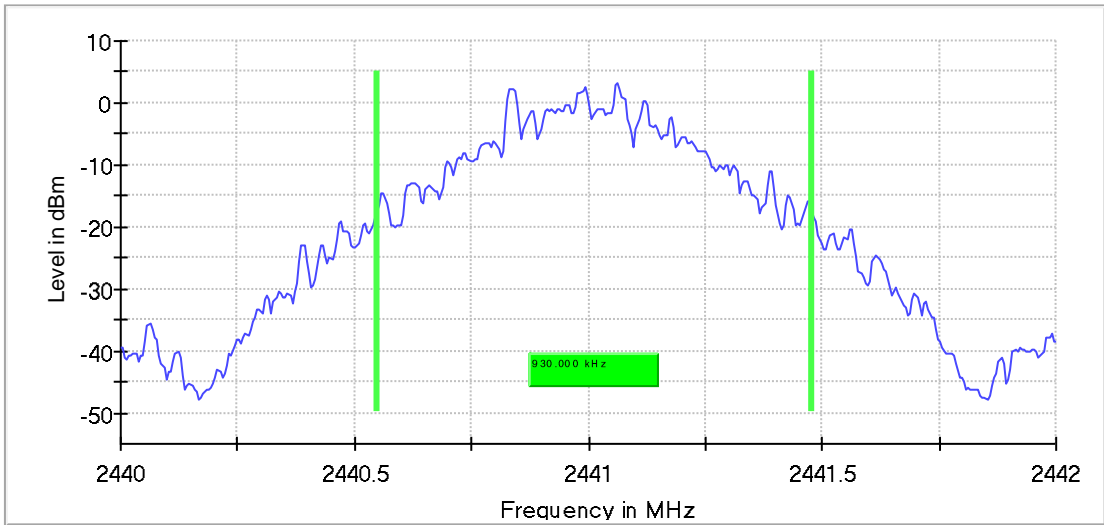
DH5_Ant1_2402

20 dB Bandwidth



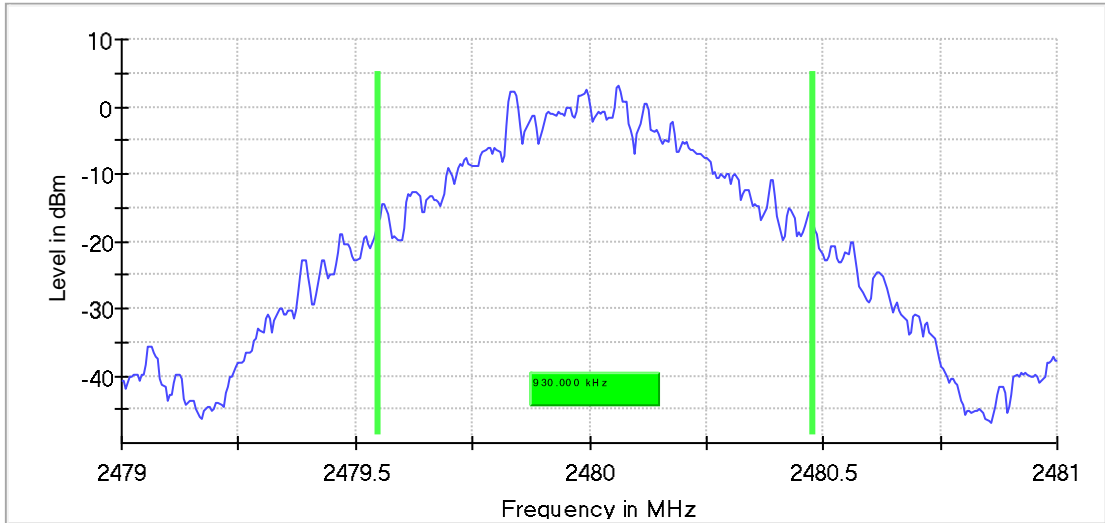
DH5_Ant1_2441

20 dB Bandwidth



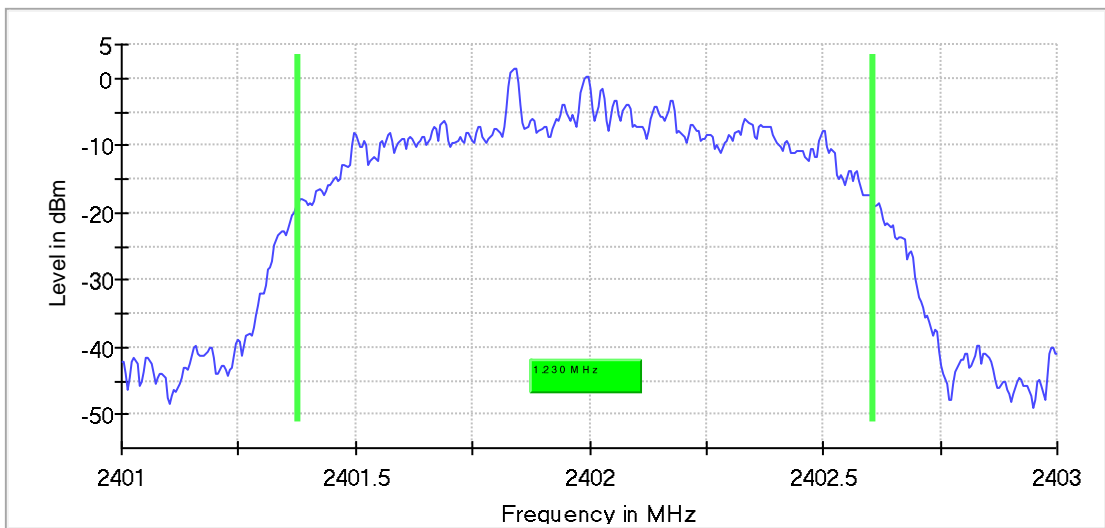
DH5_Ant1_2480

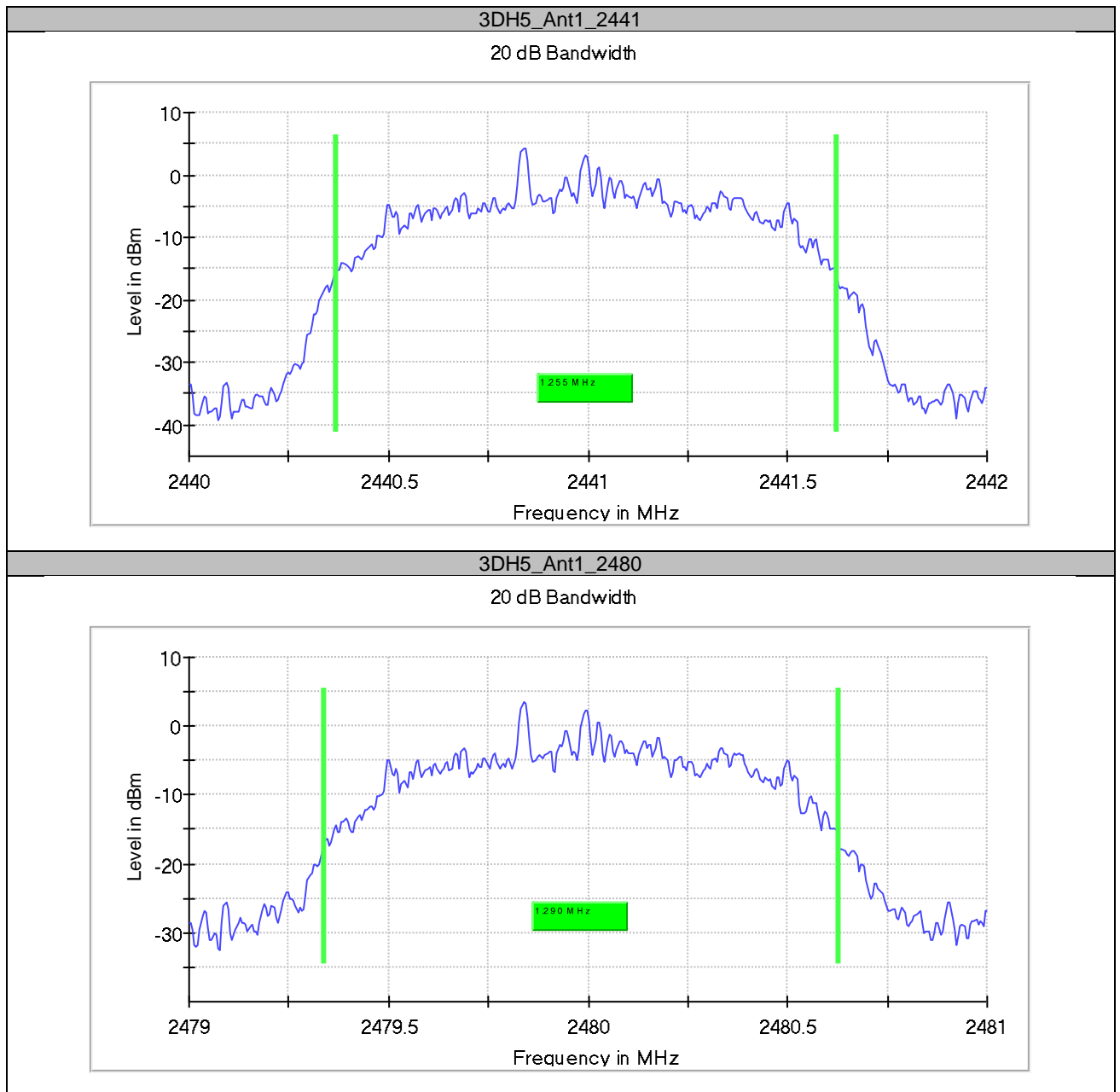
20 dB Bandwidth



3DH5_Ant1_2402

20 dB Bandwidth



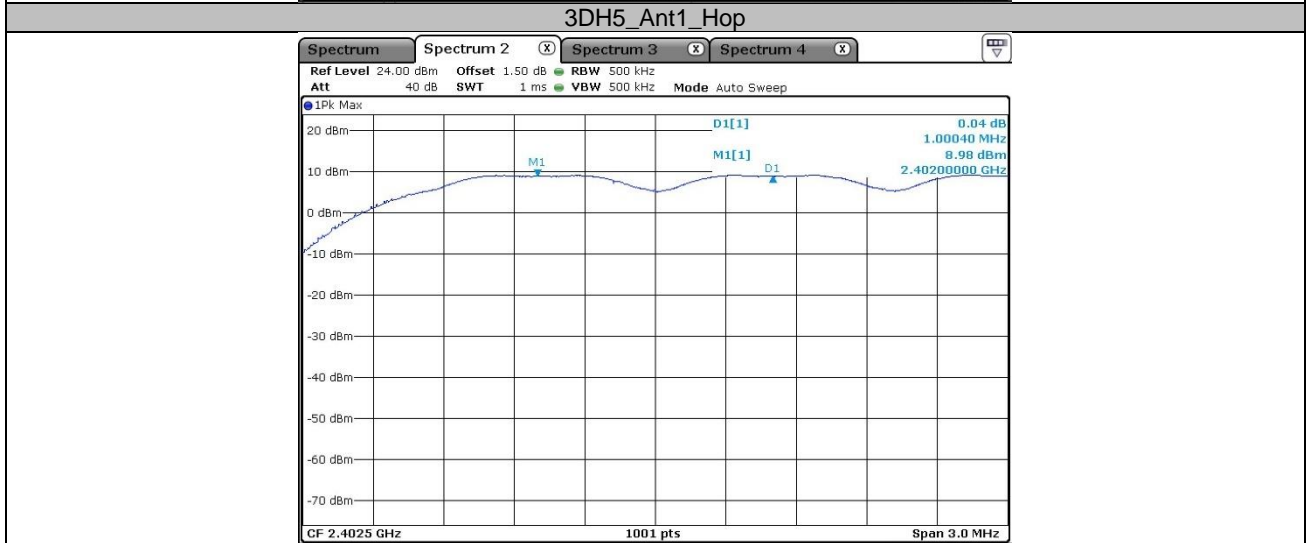
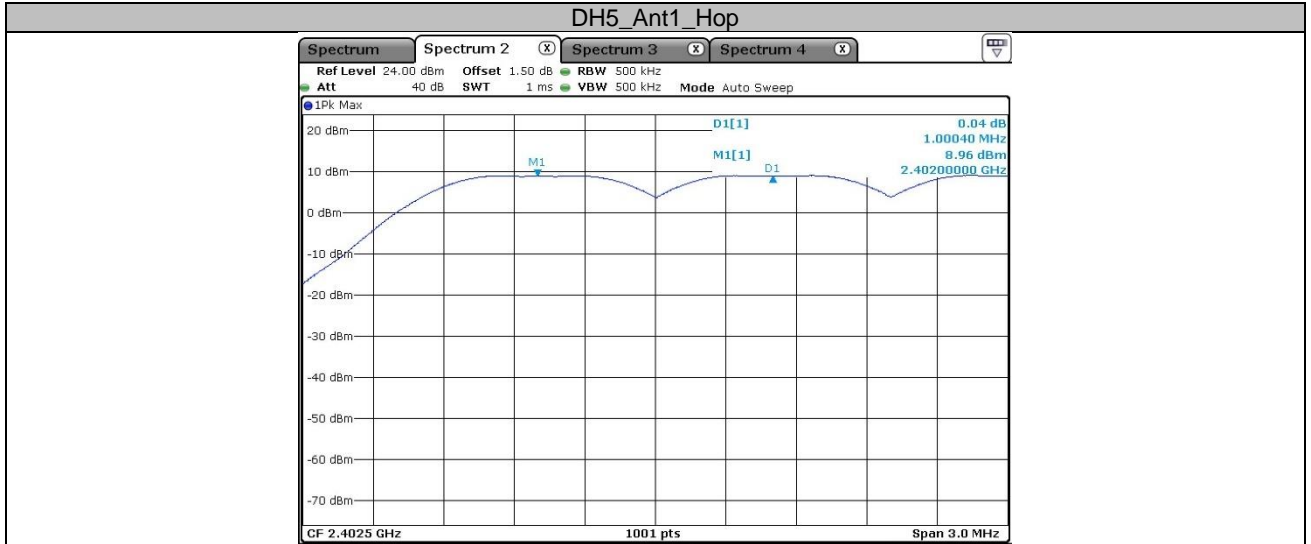


Measurement

| Setting | Instrument Value |
|-----------------|------------------|
| Span | 2.000 MHz |
| RBW | 10.000 kHz |
| VBW | 30.000 kHz |
| SweepPoints | 400 |
| Sweeptime | 189.648 μ s |
| Reference Level | 0.000 dBm |
| Attenuation | 20.000 dB |
| Detector | MaxPeak |
| SweepCount | 200 |
| Filter | 3 dB |
| Trace Mode | Max Hold |
| Sweeptype | FFT |

Appendix A.3: Test Results of Carrier Frequency Separation

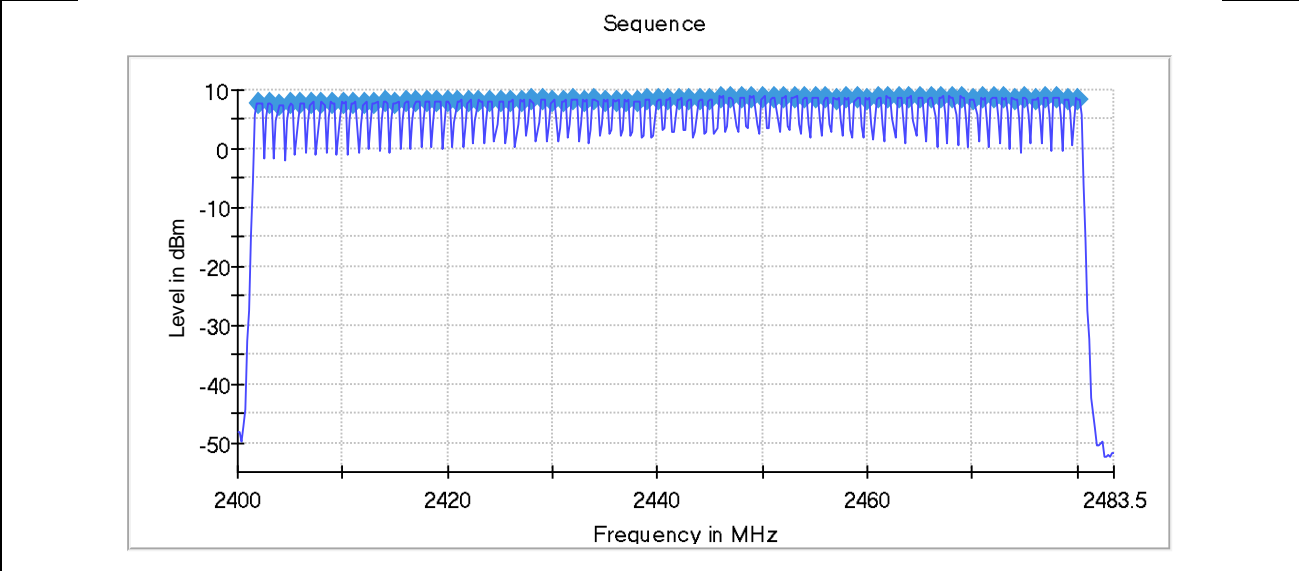
| Test Mode | Channel | Result[MHz] | Limit[MHz] | Verdict |
|-----------|---------|-------------|------------|---------|
| BR-DH5 | Hop | 1.0004 | ≥0.620 | PASS |
| EDR-3DH5 | Hop | 1.0004 | ≥0.860 | PASS |



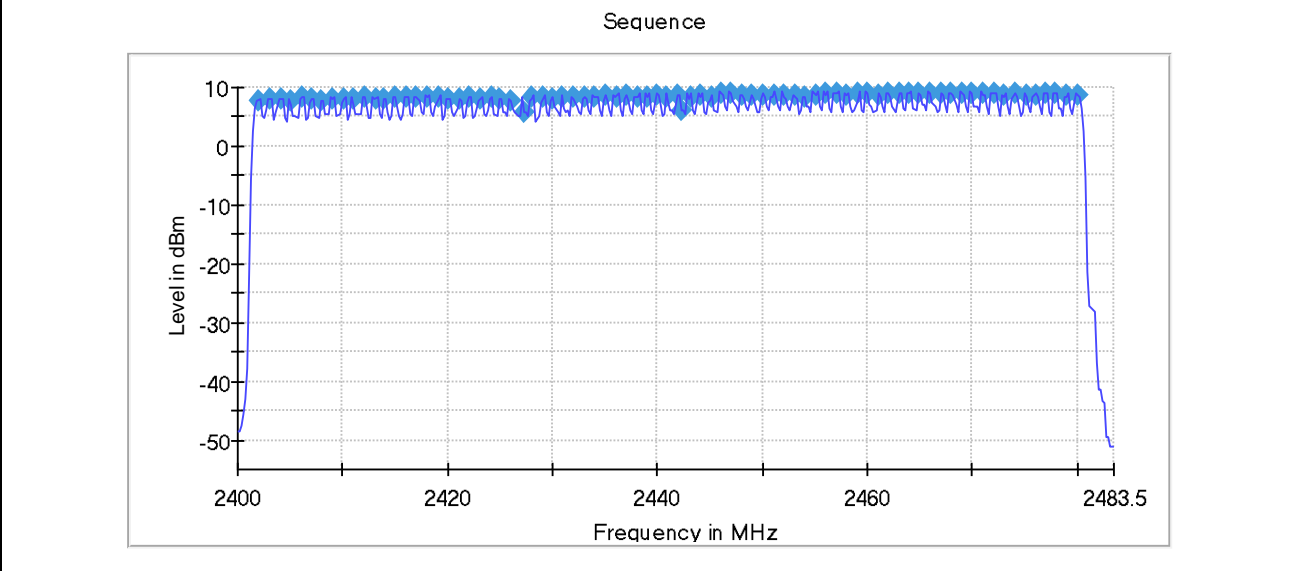
Appendix A.4: Test Results of Number of Hopping Frequency

| TestMode | Antenna | Channel | Result[Num] | Limit[Num] | Verdict |
|----------|---------|---------|-------------|------------|---------|
| DH5 | Ant1 | Hop | 79 | ≥15 | PASS |
| 3DH5 | Ant1 | Hop | 79 | ≥15 | PASS |

DH5_Ant1_Hop



3DH5_Ant1_Hop



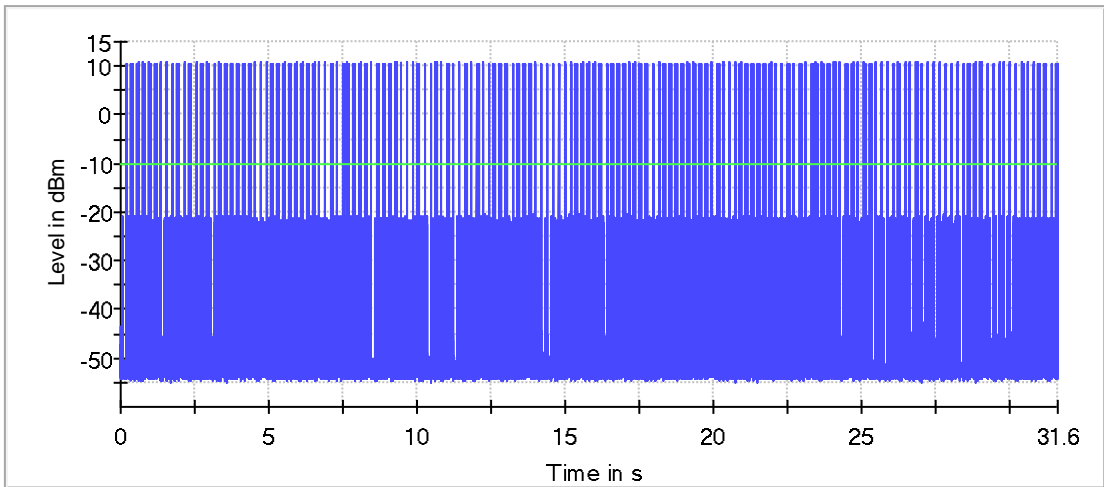
| Setting | Instrument Value |
|-----------------|------------------|
| Start Frequency | 2.40000 GHz |
| Stop Frequency | 2.48350 GHz |
| Span | 83.500 MHz |
| RBW | 200.000 kHz |
| VBW | 200.000 kHz |
| SweepPoints | 418 |
| Sweeptime | 1.060 ms |
| Reference Level | 0.000 dBm |
| Attenuation | 20.000 dB |
| Detector | MaxPeak |

Appendix A.5: Test Results of Time of Occupancy

| TestMode | Antenna | Channel | BurstWidth [ms] | TotalHops [Num] | Result[s] | Limit[s] | Verdict |
|----------|---------|---------|-----------------|-----------------|-----------|----------|---------|
| DH1 | Ant1 | Hop | 0.394 | 319 | 0.126 | ≤0.4 | PASS |
| DH3 | Ant1 | Hop | 1.650 | 161 | 0.266 | ≤0.4 | PASS |
| DH5 | Ant1 | Hop | 2.898 | 101 | 0.293 | ≤0.4 | PASS |
| 3DH1 | Ant1 | Hop | 0.403 | 319 | 0.129 | ≤0.4 | PASS |
| 3DH3 | Ant1 | Hop | 1.675 | 154 | 0.258 | ≤0.4 | PASS |
| 3DH5 | Ant1 | Hop | 2.905 | 98 | 0.285 | ≤0.4 | PASS |

DH1_Ant1_Hop

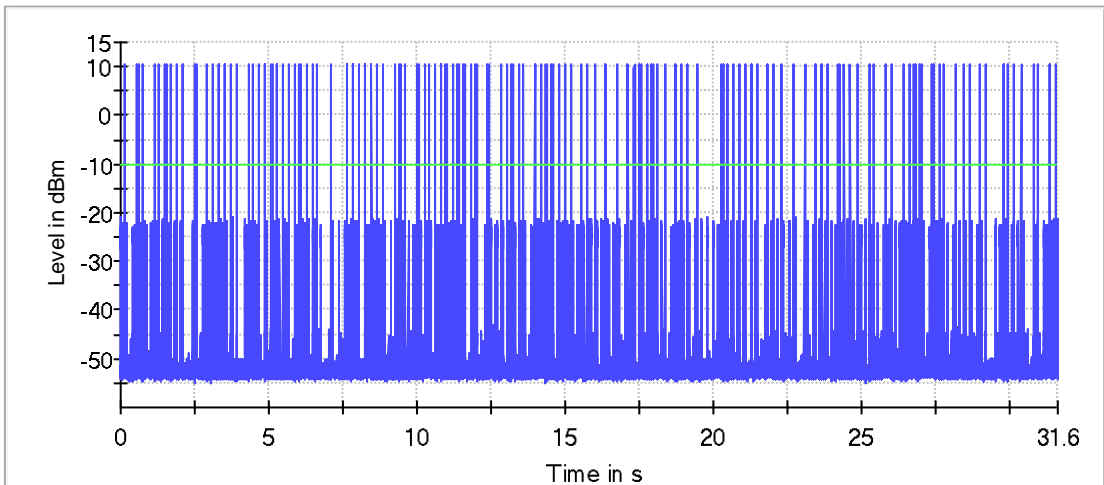
Time of Channel Occupancy



— Trace — Threshold

DH3_Ant1_Hop

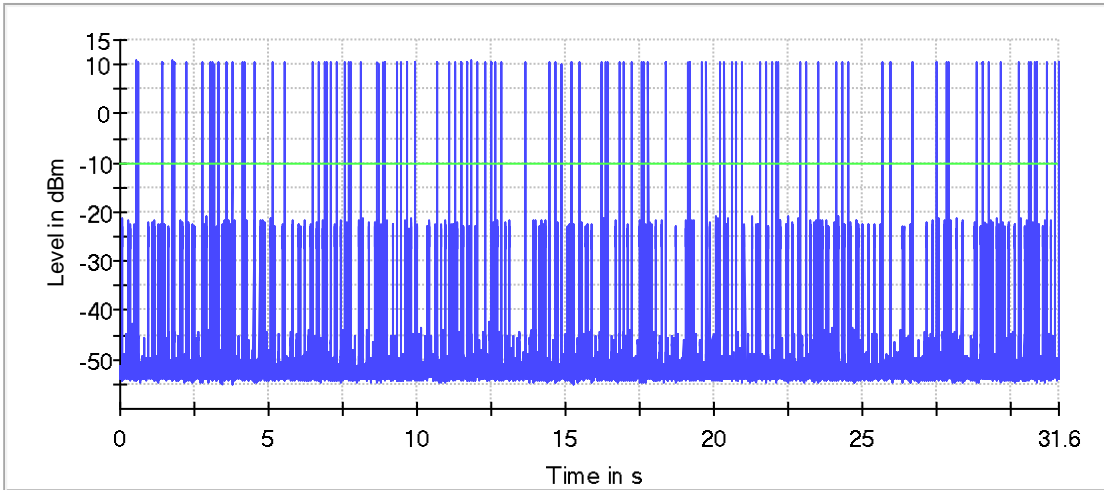
Time of Channel Occupancy(2)



— Trace — Threshold

DH5_Ant1_Hop

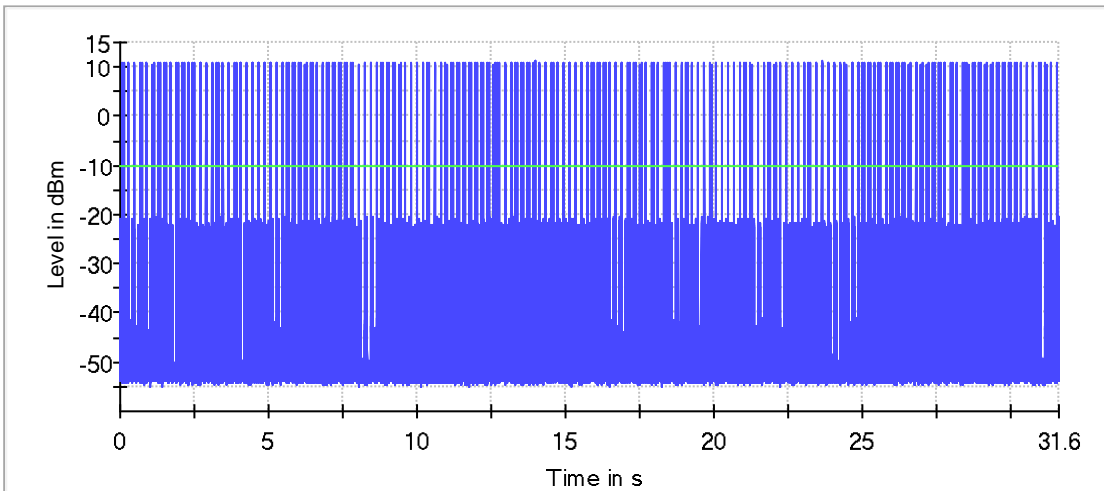
Time of Channel Occupancy(3)



Trace Threshold

3DH1_Ant1_Hop

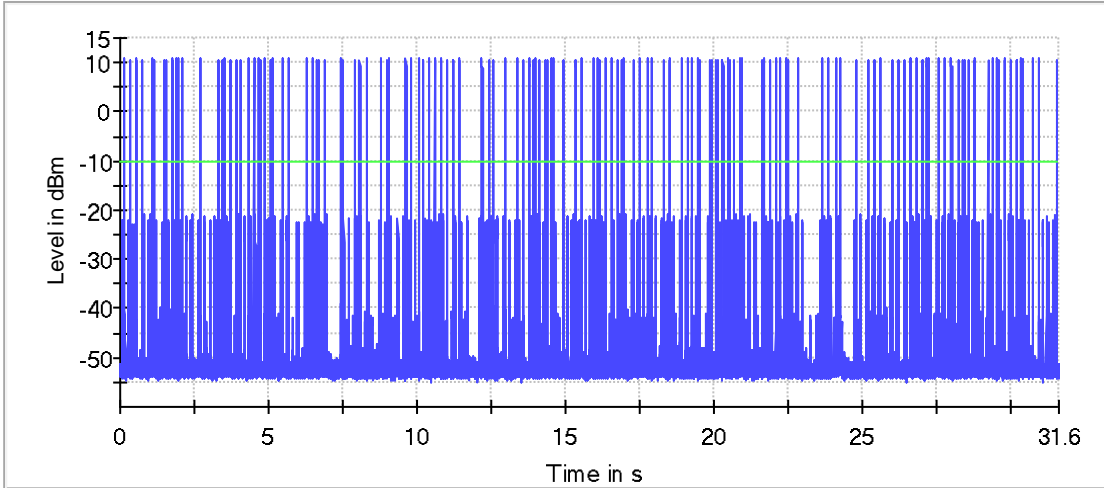
Time of Channel Occupancy



Trace Threshold

3DH3_Ant1_Hop

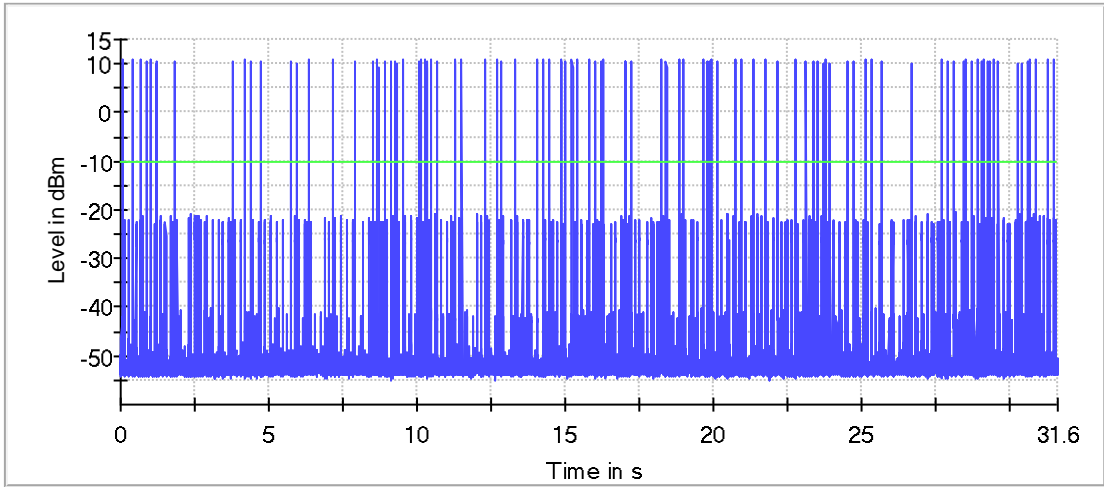
Time of Channel Occupancy(2)



— Trace — Threshold

3DH5_Ant1_Hop

Time of Channel Occupancy(3)



— Trace — Threshold

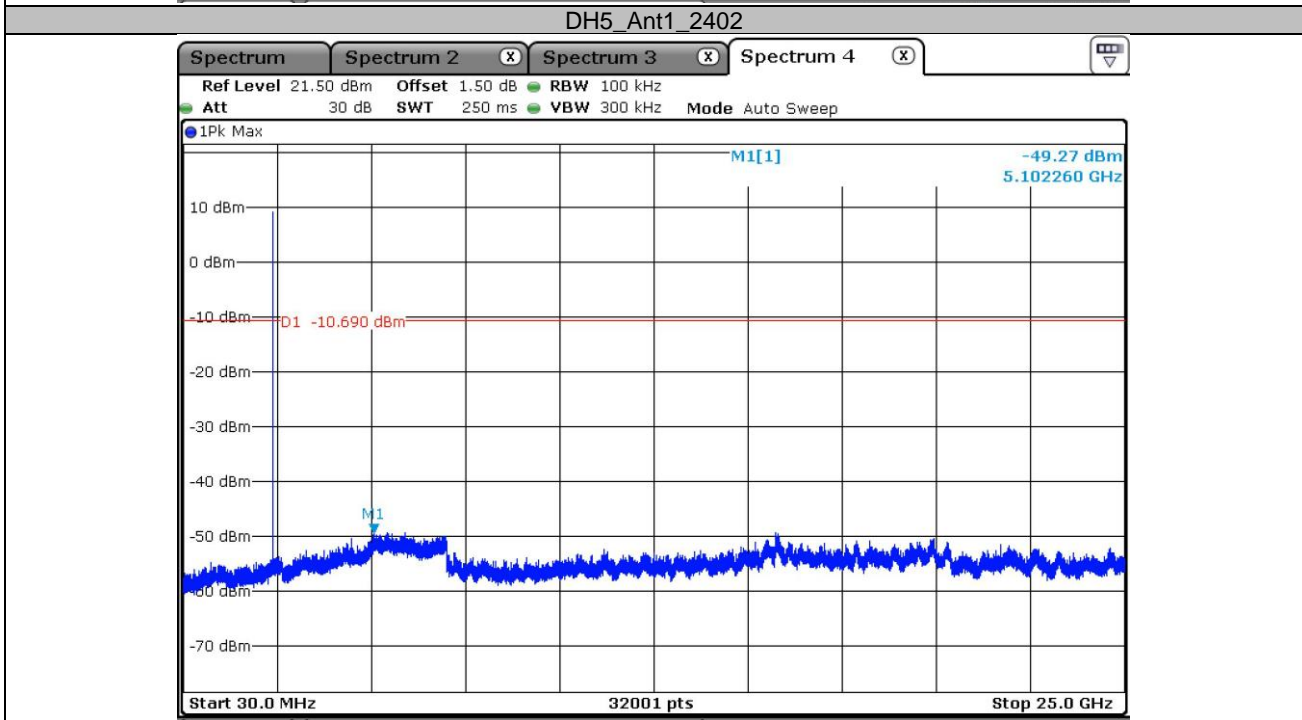
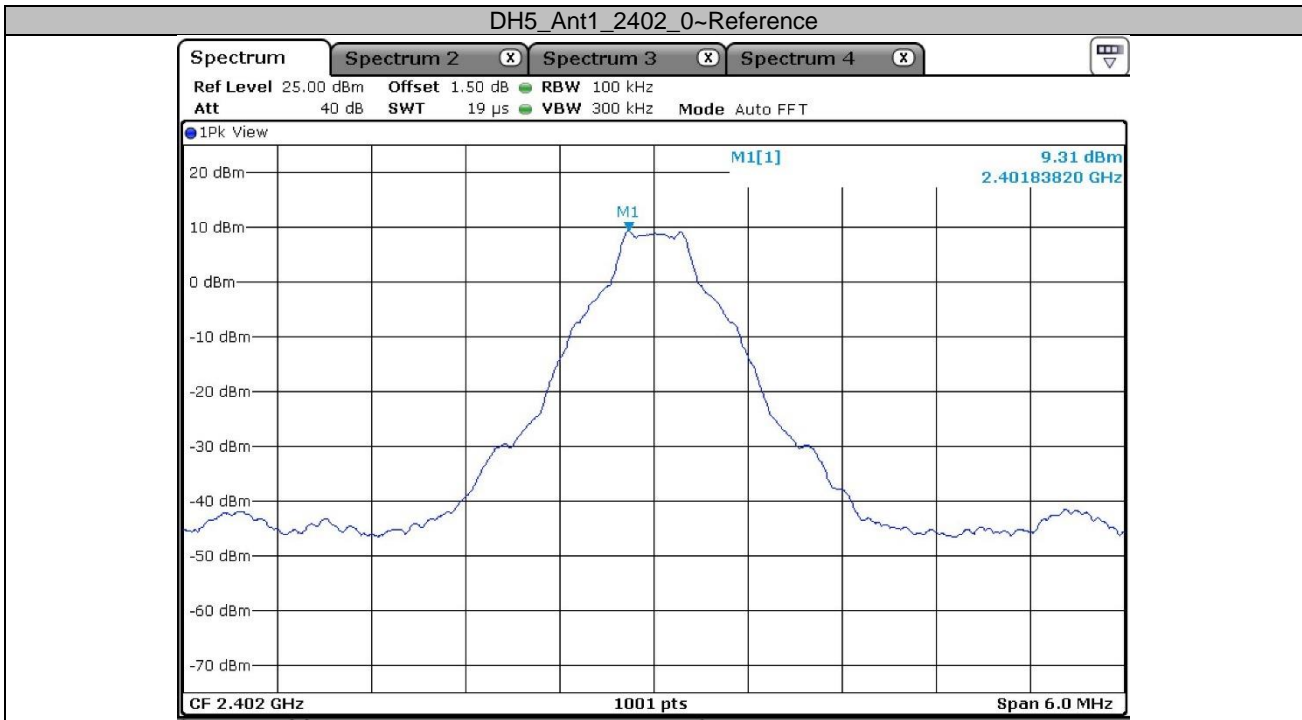
Measurement

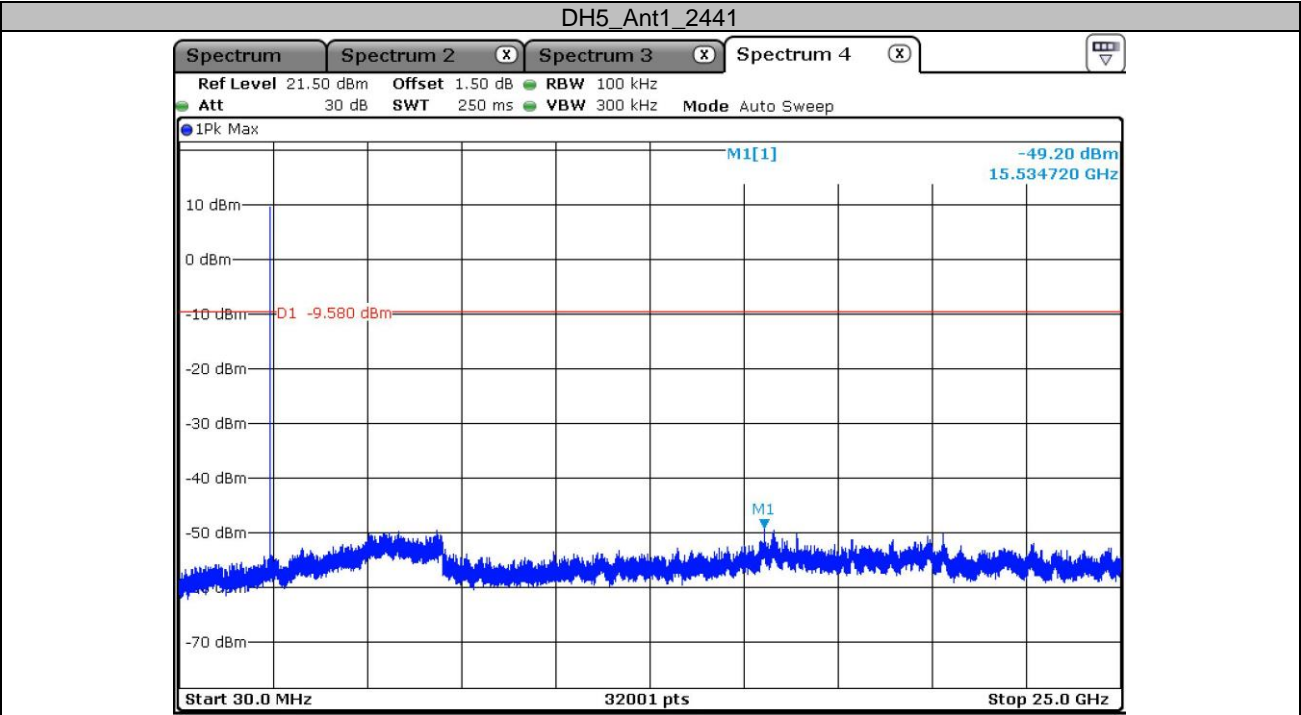
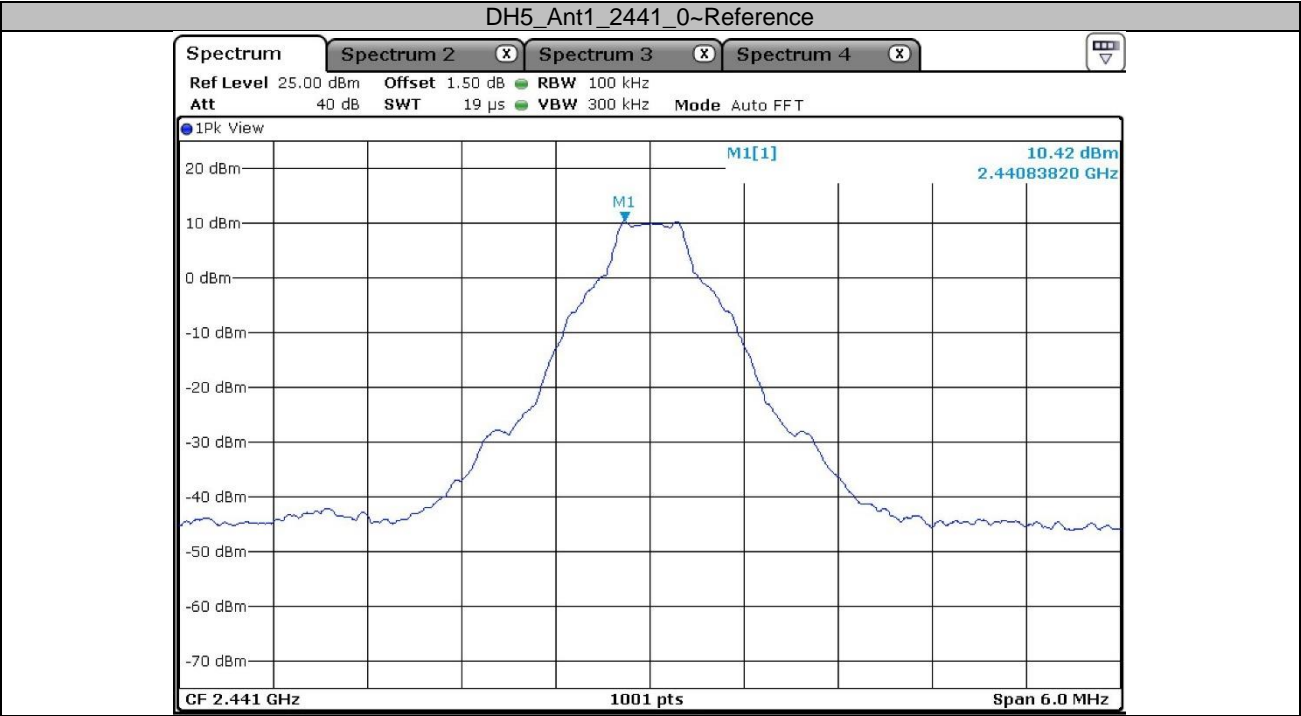
| Setting | Instrument Value |
|------------------|------------------|
| Center Frequency | 2.44100 GHz |
| Span | ZeroSpan |
| RBW | 500.000 kHz |
| VBW | 1.000 MHz |
| SweepPoints | 30001 |
| Sweeptime | 31.600 s |
| Reference Level | -10.000 dBm |
| Attenuation | 0.000 dB |
| Detector | MaxPeak |

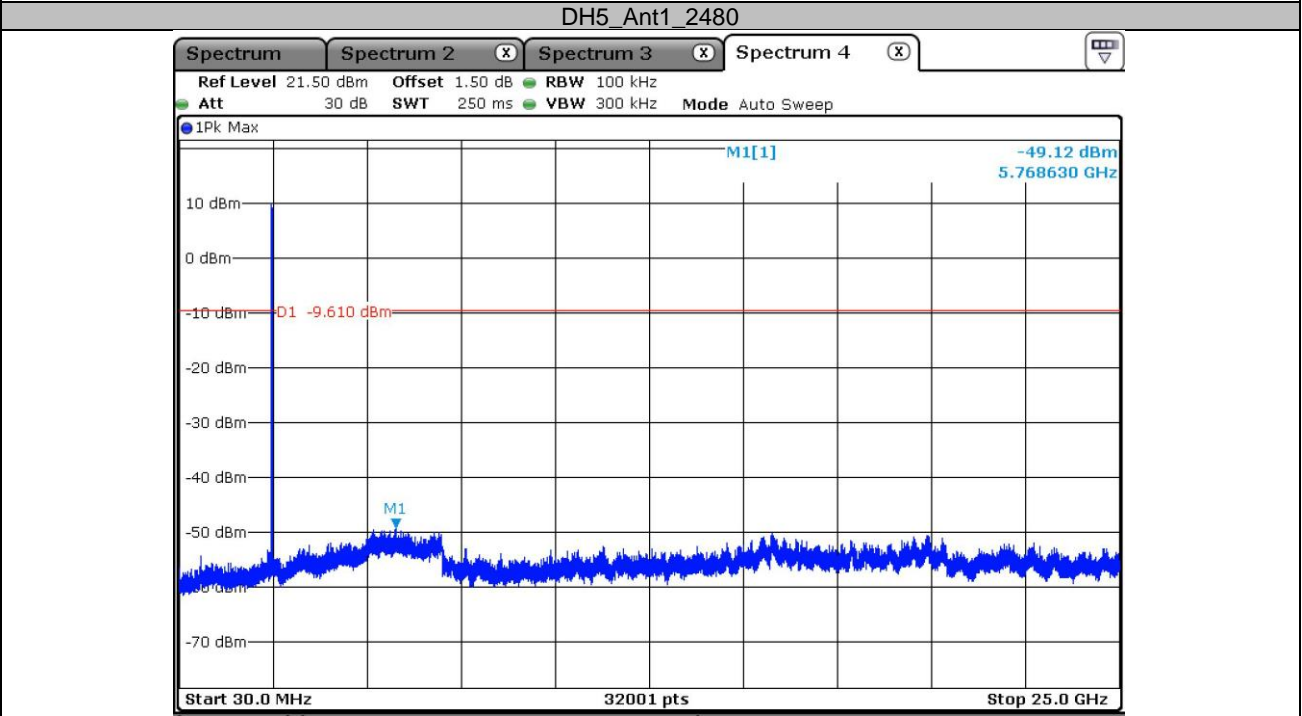
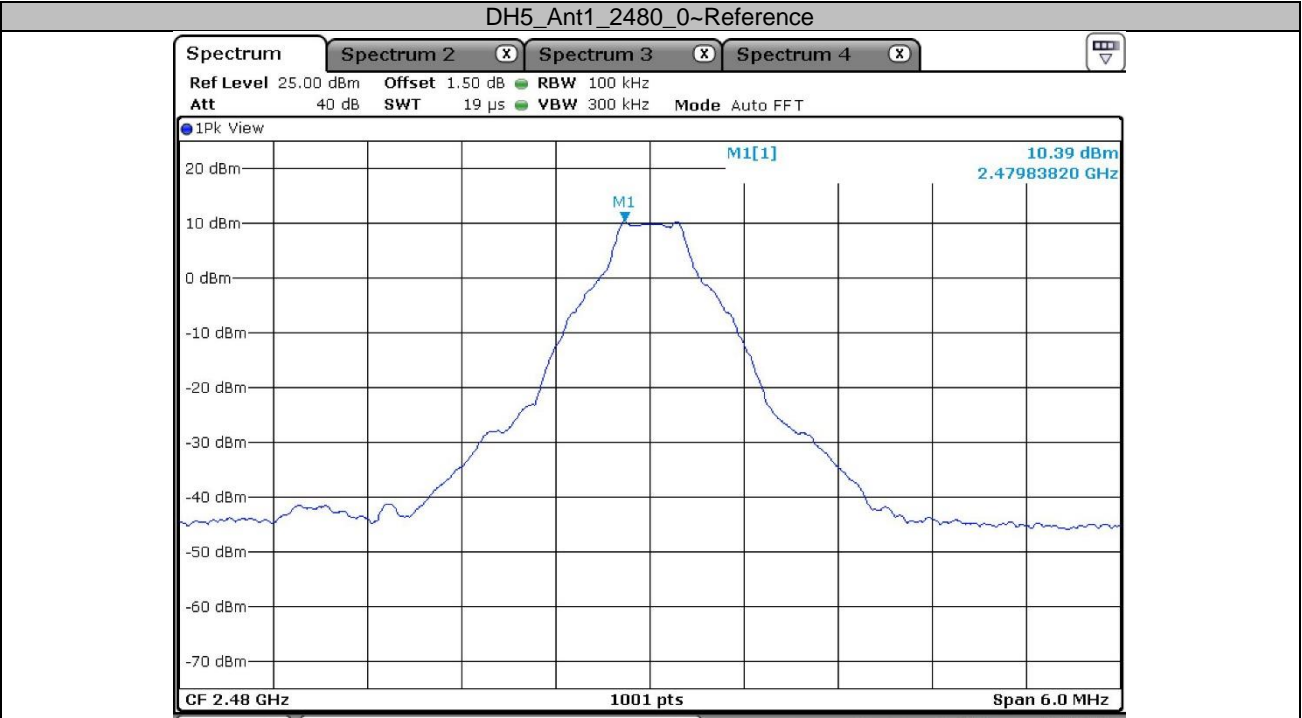
Appendix A.6: Test Results of Conducted Spurious Emissions Measured in 100 kHz Bandwidth

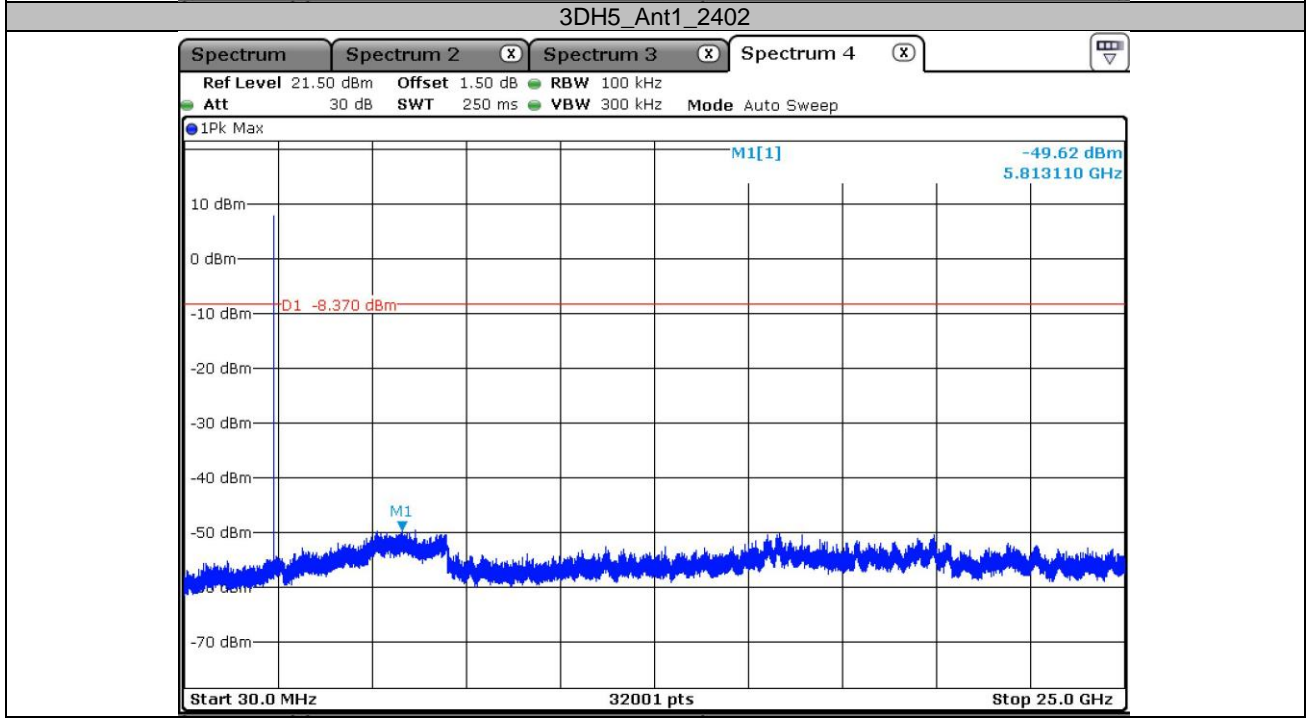
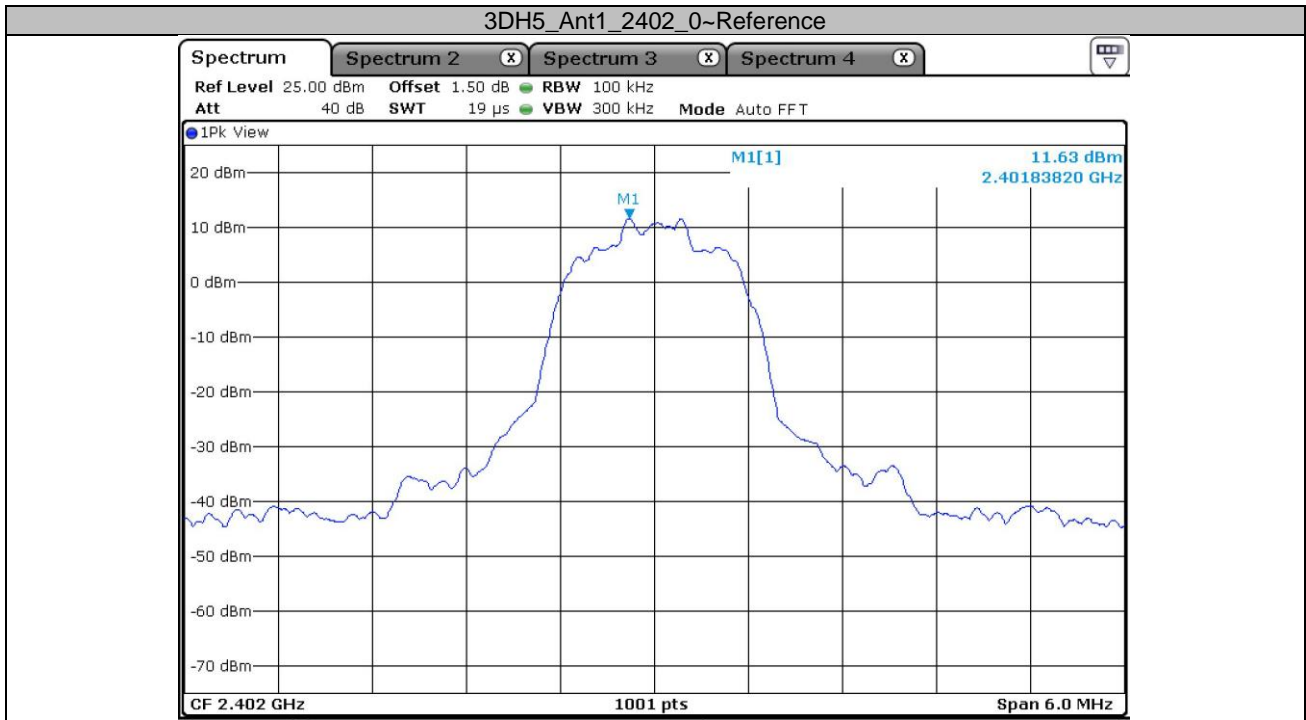
Conducted measurements

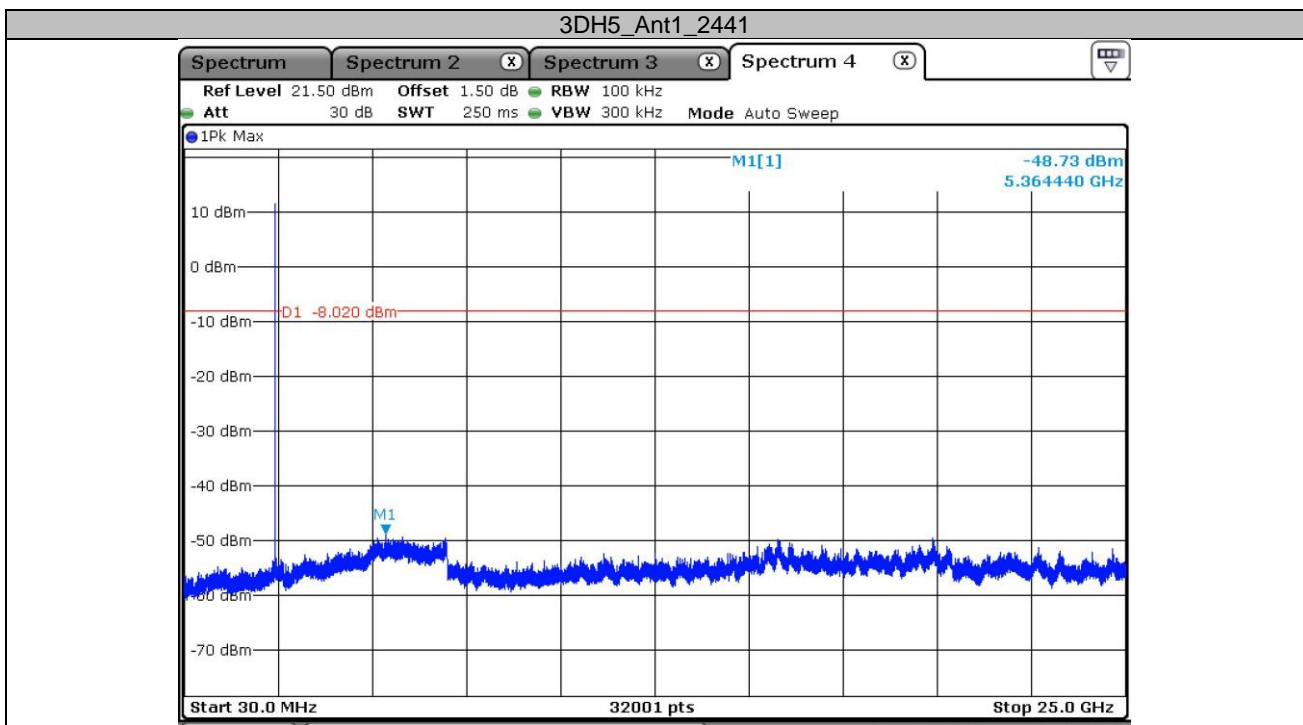
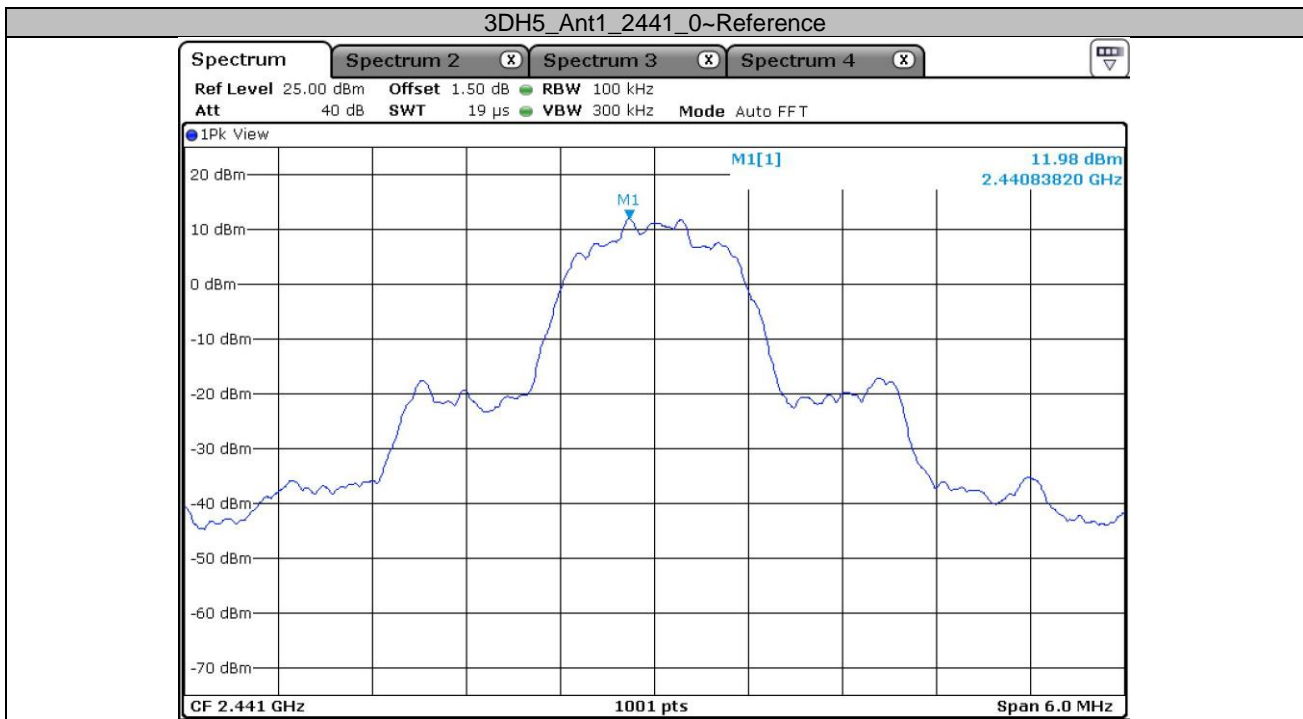
| TestMode | Antenna | Channel | FreqRange [MHz] | RefLevel [dBm] | Result [dBm] | Limit [dBm] | Verdict |
|----------|---------|---------|-----------------|----------------|--------------|-------------|---------|
| DH5 | Ant1 | 2402 | Reference | 9.31 | 9.31 | --- | PASS |
| | | | 30~25000 | 9.31 | -49.27 | ≤-10.69 | PASS |
| | | 2441 | Reference | 10.42 | 10.42 | --- | PASS |
| | | | 30~25000 | 10.42 | -49.20 | ≤-9.58 | PASS |
| | | 2480 | Reference | 10.39 | 10.39 | --- | PASS |
| | | | 30~25000 | 10.39 | -49.12 | ≤-9.61 | PASS |
| 3DH5 | Ant1 | 2402 | Reference | 11.63 | 11.63 | --- | PASS |
| | | | 30~25000 | 11.63 | -49.62 | ≤-8.37 | PASS |
| | | 2441 | Reference | 11.98 | 11.98 | --- | PASS |
| | | | 30~25000 | 11.98 | -48.73 | ≤-8.02 | PASS |
| | | 2480 | Reference | 11.46 | 11.46 | --- | PASS |
| | | | 30~25000 | 11.46 | -49.06 | ≤-8.02 | PASS |

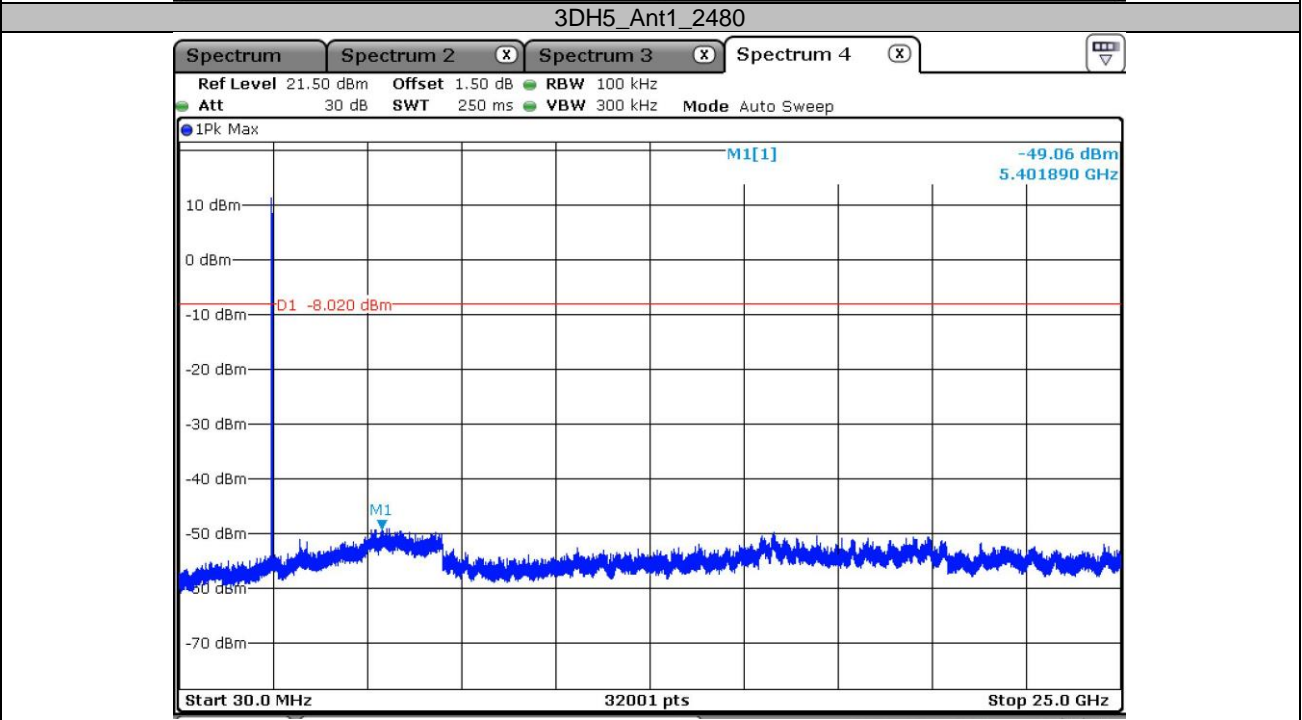
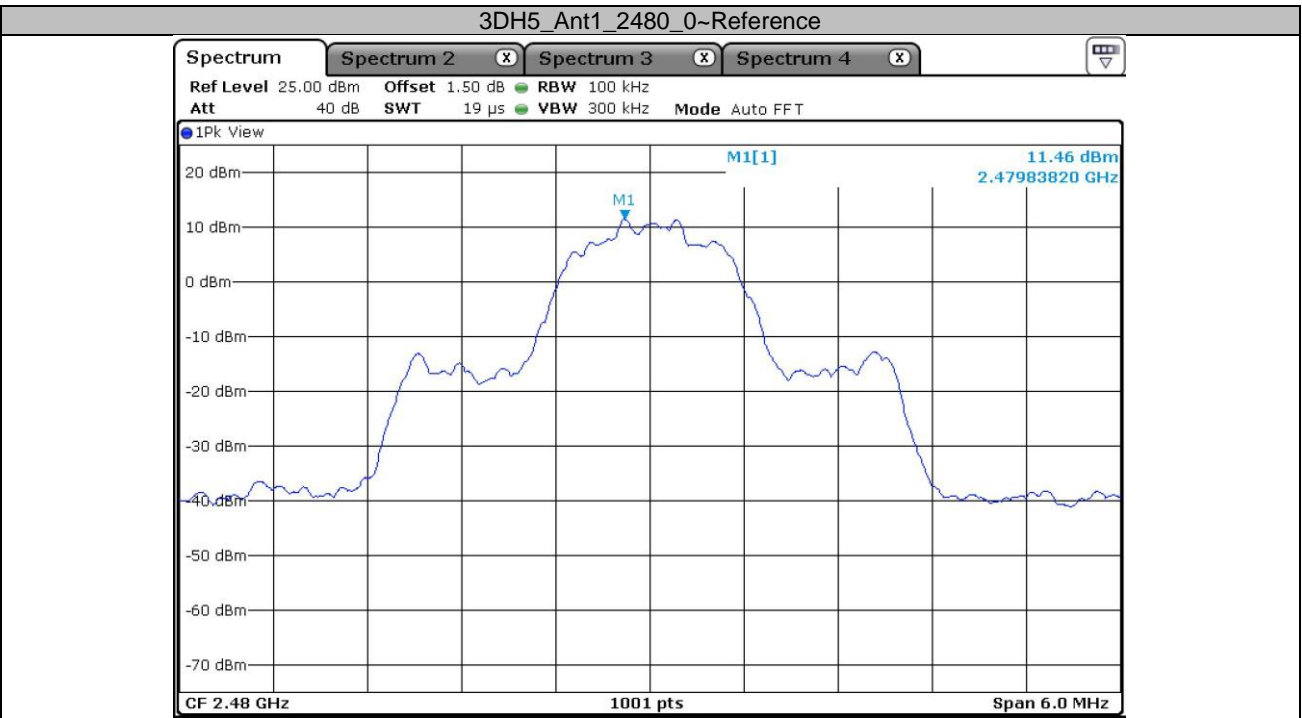






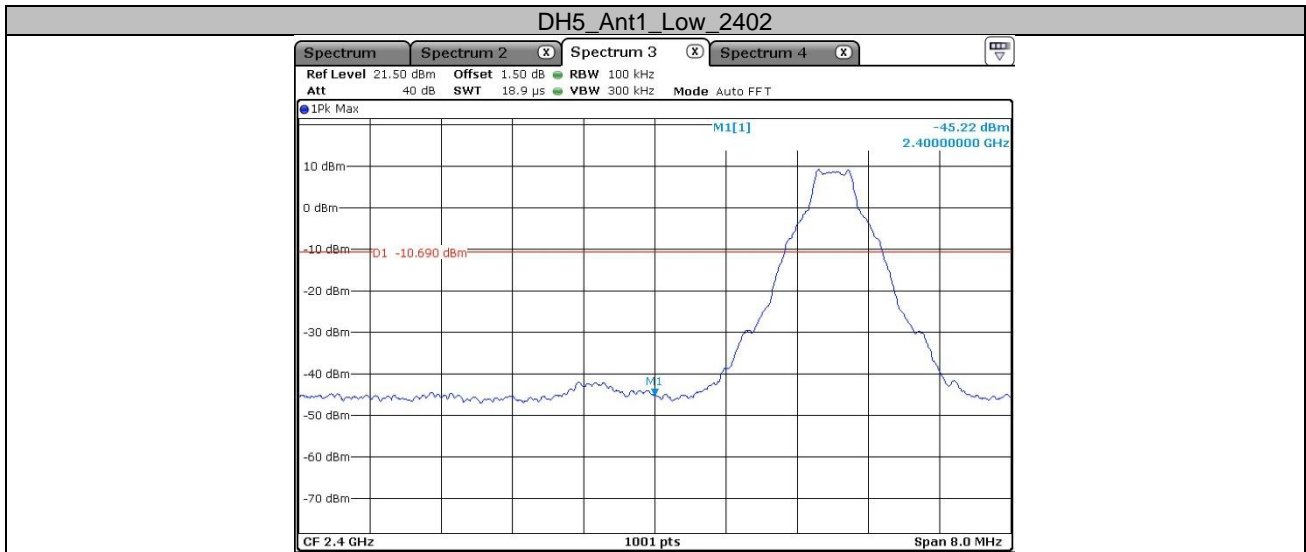




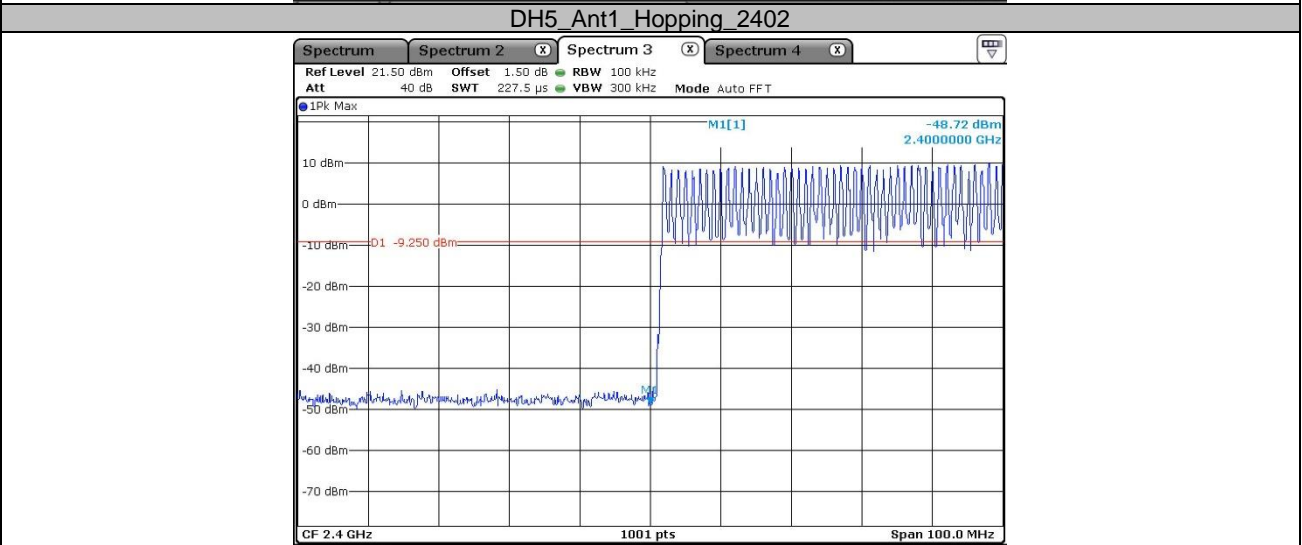
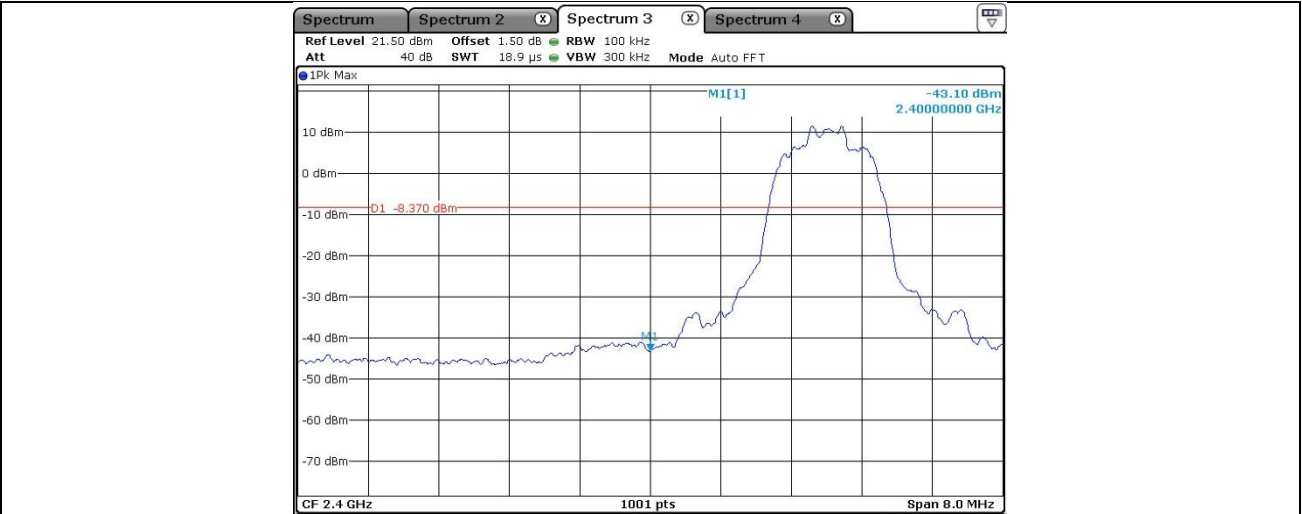


Band edge measurements

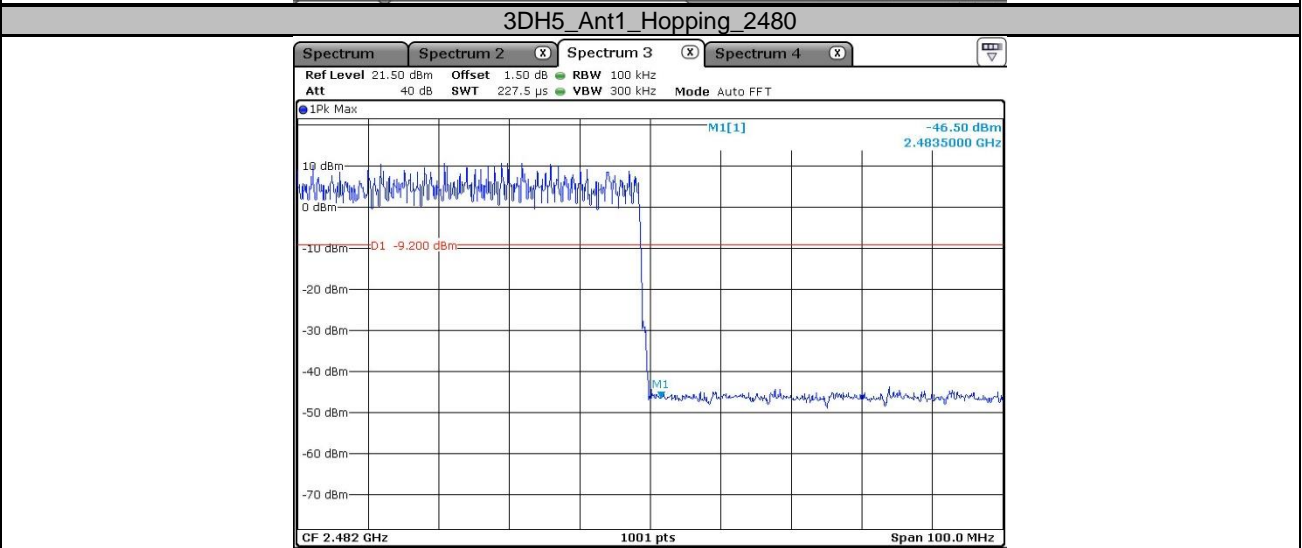
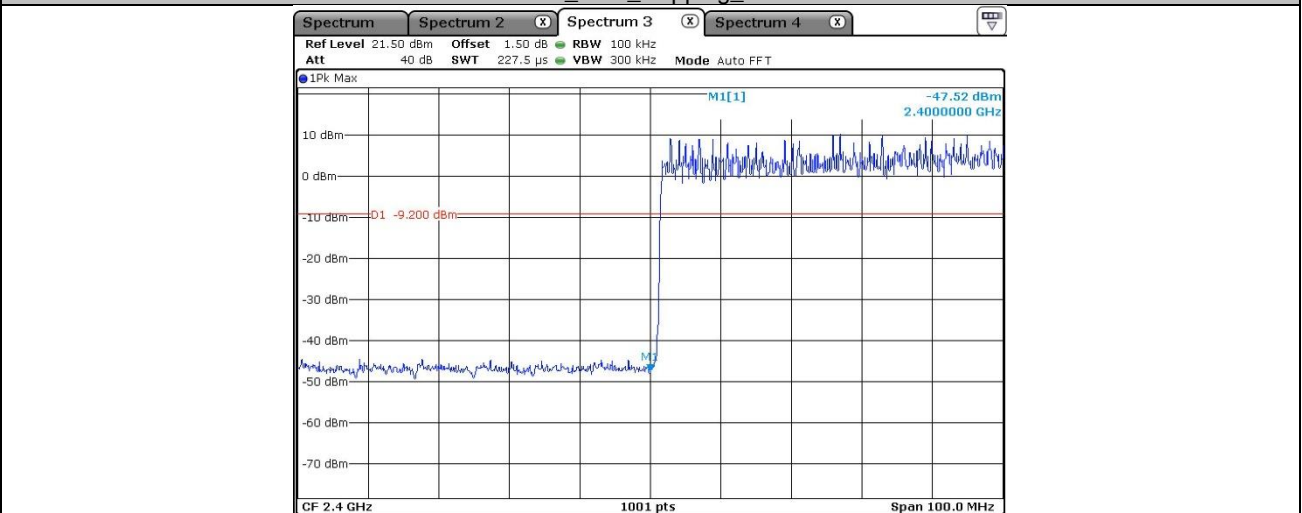
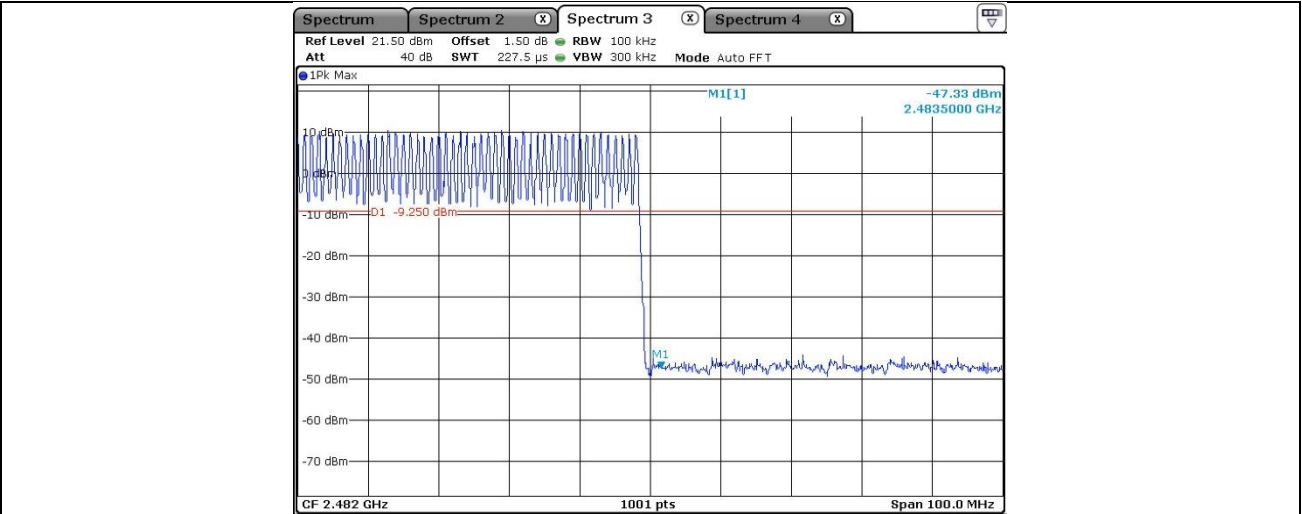
| TestMode | Antenna | ChName | Channel | Result [dBm] | Limit [dBm] | Verdict |
|----------|---------|---------|---------|--------------|-------------|---------|
| DH5 | Ant1 | Low | 2402 | -45.22 | ≤-10.69 | PASS |
| | | High | 2480 | -46.13 | ≤-9.61 | PASS |
| 3DH5 | Ant1 | Low | 2402 | -43.10 | ≤-8.37 | PASS |
| | | High | 2480 | -39.66 | ≤-8.02 | PASS |
| DH5 | Ant1 | Hopping | 2402 | -48.72 | ≤-9.25 | PASS |
| | | Hopping | 2480 | -47.33 | ≤-9.25 | PASS |
| 3DH5 | Ant1 | Hopping | 2402 | -47.52 | ≤-9.20 | PASS |
| | | Hopping | 2480 | -46.50 | ≤-9.20 | PASS |



3DH5_Ant1_Low_2402



DH5_Ant1_Hopping_2480



Appendix A.7: Test Results of Radiated Spurious Emissions

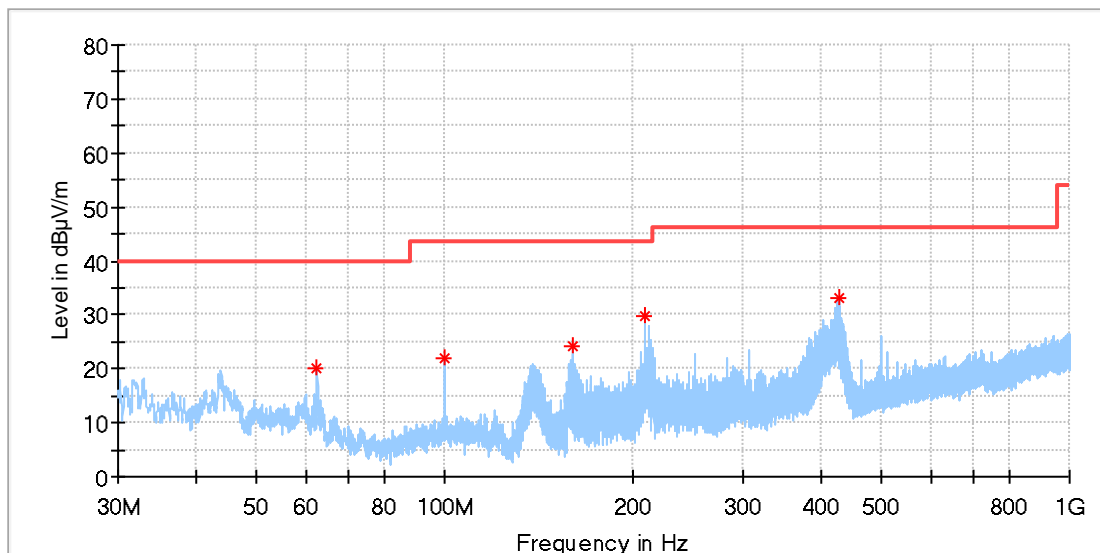
Note:

- 1) This testing was carried out on different modulations, but only the worst case was presented in this report.
- 2) Testing was carried out within frequency range 9kHz to the tenth harmonics. The measurement results below 30MHz and 18GHz - 26.5GHz were greater than 20dB below the limit, so only the radiated spurious emissions from 30MHz to 18GHz were reported.

30MHz - 1GHz

EUT Information

| | |
|---------------------|--------------------------|
| EUT Name: | LEGEND 700 HEAD UNIT |
| Model: | JBLLEGEND700 |
| Test Mode: | BR DH5_Mid channel |
| Order No/Sample No: | 168492002/A003757812-006 |
| Test Voltage:: | DC 12V From DC Source |
| Remark: | Temp 23 Humi:58% |
| Test Standard: | FCC 15.247 |
| Tested By: | Lich Chen |
| Reviewed By: | Terry Yin |

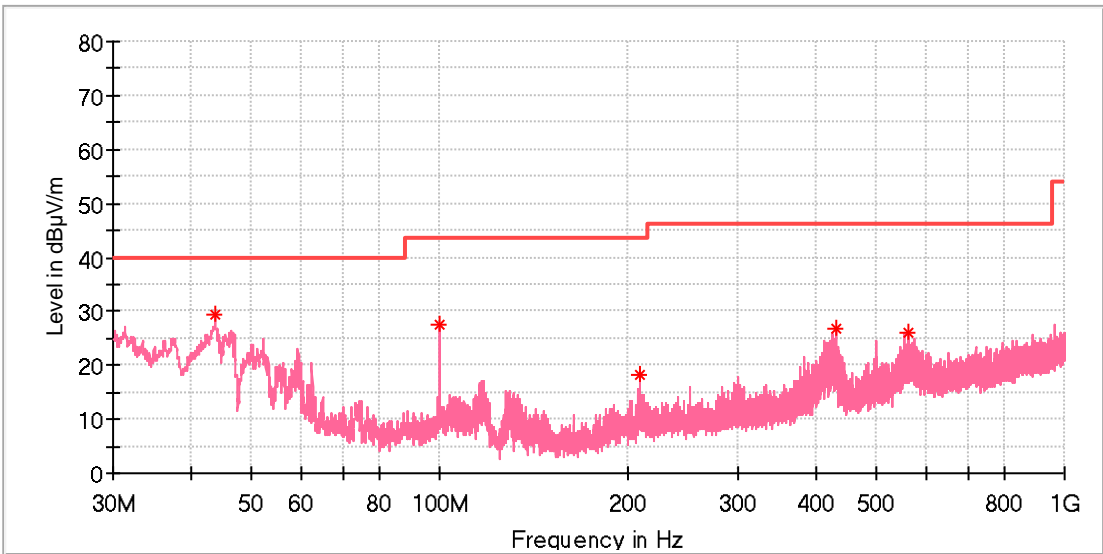


Critical_Freqs

| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|----------------|-------------|-------------|-----|---------------|--------------|
| 62.495000 | 20.19 | 40.00 | 19.81 | 100.0 | H | 337.0 | -19.9 |
| 99.989231 | 21.83 | 43.50 | 21.67 | 100.0 | H | 353.0 | -19.3 |
| 160.614231 | 24.05 | 43.50 | 19.45 | 100.0 | H | 272.0 | -22.0 |
| 208.890385 | 29.91 | 43.50 | 13.59 | 100.0 | H | 239.0 | -19.2 |
| 426.730000 | 33.25 | 46.00 | 12.75 | 100.0 | H | 272.0 | -13.6 |

EUT Information

| | |
|---------------------|--------------------------|
| EUT Name: | LEGEND 700 HEAD UNIT |
| Model: | JBLLEGEND700 |
| Test Mode: | BR DH5_Mid channel |
| Order No/Sample No: | 168492002/A003757812-006 |
| Test Voltage:: | DC 12V From DC Source |
| Remark: | Temp 23 Humi:58% |
| Test Standard: | FCC 15.247 |
| Tested By: | Lich Chen |
| Reviewed By: | Terry Yin |



Critical_Freqs

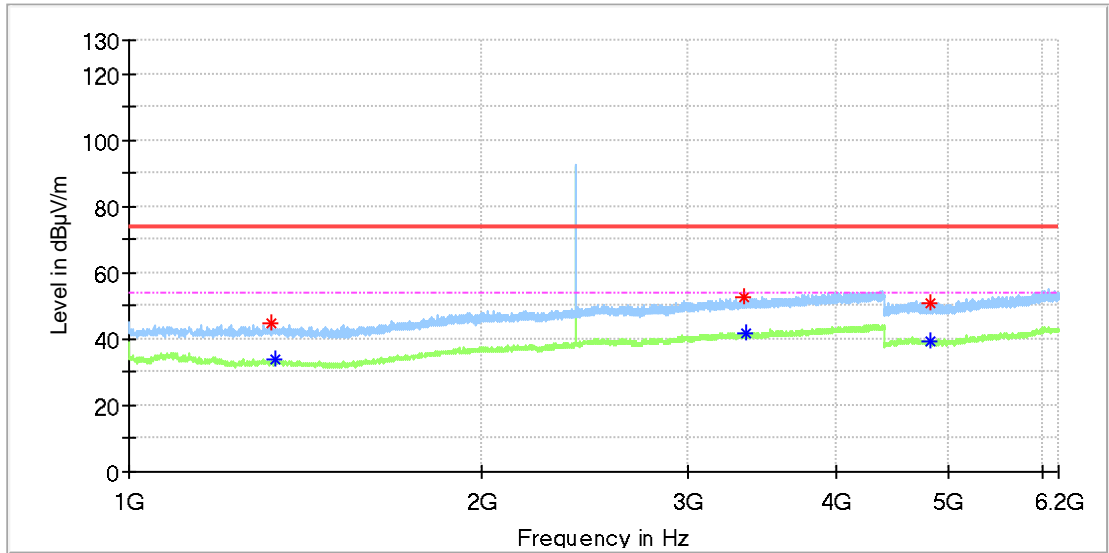
| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|----------------|-------------|-------------|-----|---------------|--------------|
| 43.691923 | 29.51 | 40.00 | 10.49 | 100.0 | V | 25.0 | -19.4 |
| 99.989231 | 27.36 | 43.50 | 16.14 | 100.0 | V | 237.0 | -19.3 |
| 208.927692 | 18.38 | 43.50 | 25.12 | 100.0 | V | 348.0 | -19.2 |
| 429.863846 | 26.61 | 46.00 | 19.39 | 100.0 | V | 130.0 | -13.6 |
| 562.194231 | 26.05 | 46.00 | 19.95 | 100.0 | V | 205.0 | -10.9 |

1GHz - 18GHz

Note: The highest waveform in the figure is Bluetooth Fundamental.

EUT Information

| | |
|---------------------|--------------------------|
| EUT Name: | LEGEND 700 HEAD UNIT |
| Model: | JBLLEGEND700 |
| Test Mode: | BR DH5_Low channel |
| Order No/Sample No: | 168492002/A003757812-006 |
| Test Voltage:: | DC 12V From DC Source |
| Remark: | Temp 23 Humi:58% |
| Test Standard: | FCC 15.247 |
| Tested By: | Lich Chen |
| Reviewed By: | Terry Yin |

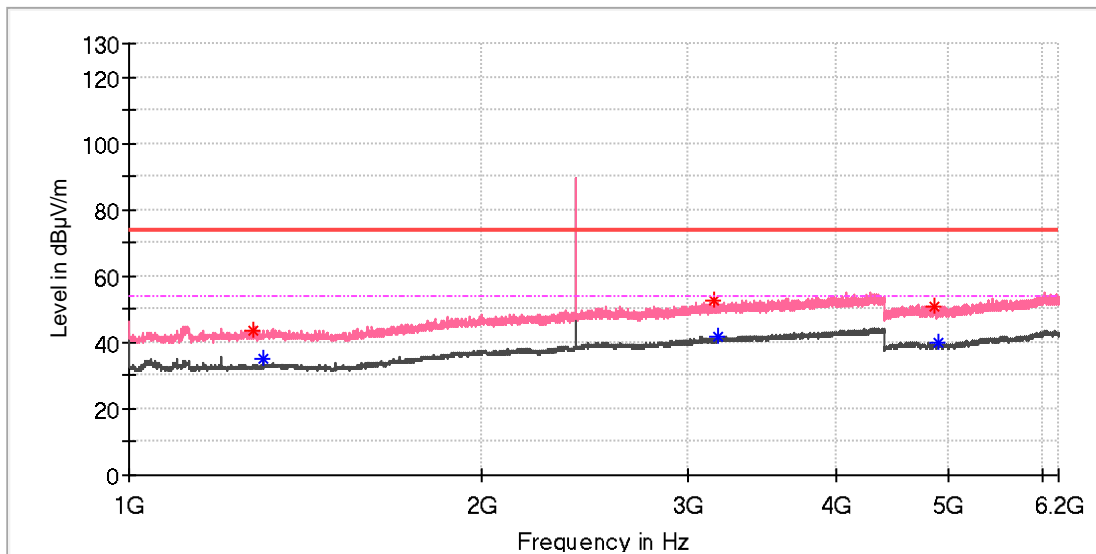


Critical Freqs

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|------------------|----------------|-------------|-------------|-----|---------------|--------------|
| 1319.500000 | 44.54 | --- | 74.00 | 29.46 | 150.0 | H | 0.0 | 2.0 |
| 1332.500000 | --- | 33.56 | 54.00 | 20.44 | 150.0 | H | 10.0 | 2.1 |
| 3342.000000 | 52.66 | --- | 74.00 | 21.34 | 150.0 | H | 60.0 | 8.5 |
| 3361.500000 | --- | 41.57 | 54.00 | 12.43 | 150.0 | H | 10.0 | 8.6 |
| 4812.500000 | 50.75 | --- | 74.00 | 23.25 | 150.0 | H | 325.0 | 11.8 |
| 4816.000000 | --- | 39.54 | 54.00 | 14.46 | 150.0 | H | 262.0 | 11.8 |

EUT Information

| | |
|---------------------|--------------------------|
| EUT Name: | LEGEND 700 HEAD UNIT |
| Model: | JBLLEGEND700 |
| Test Mode: | BR DH5_Low channel |
| Order No/Sample No: | 168492002/A003757812-006 |
| Test Voltage:: | DC 12V From DC Source |
| Remark: | Temp 23 Humi:58% |
| Test Standard: | FCC 15.247 |
| Tested By: | Lich Chen |
| Reviewed By: | Terry Yin |

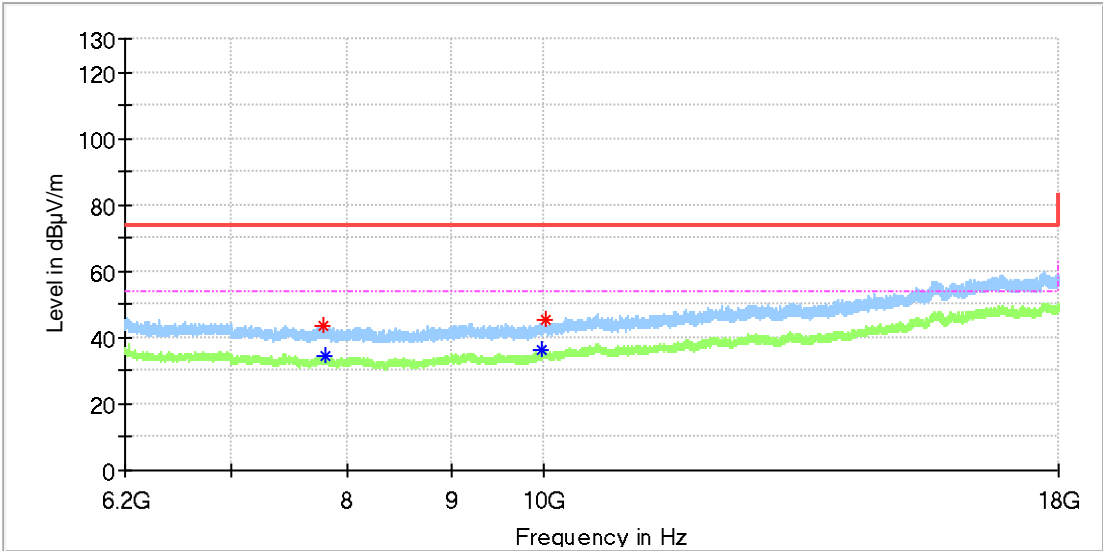


Critical_Freqs

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|------------------|----------------|-------------|-------------|-----|---------------|--------------|
| 1276.000000 | 43.59 | --- | 74.00 | 30.41 | 150.0 | V | 95.0 | 1.9 |
| 1299.500000 | --- | 35.14 | 54.00 | 18.86 | 150.0 | V | 286.0 | 1.9 |
| 3151.000000 | 52.55 | --- | 74.00 | 21.45 | 150.0 | V | 309.0 | 8.5 |
| 3174.500000 | --- | 41.49 | 54.00 | 12.51 | 150.0 | V | 134.0 | 8.6 |
| 4856.000000 | 50.54 | --- | 74.00 | 23.46 | 150.0 | V | 229.0 | 11.8 |
| 4897.000000 | --- | 39.86 | 54.00 | 14.14 | 150.0 | V | 234.0 | 11.8 |

EUT Information

| | |
|---------------------|--------------------------|
| EUT Name: | LEGEND 700 HEAD UNIT |
| Model: | JBLLEGEND700 |
| Test Mode: | BR DH5_Low channel |
| Order No/Sample No: | 168492002/A003757812-006 |
| Test Voltage:: | DC 12V From DC Source |
| Remark: | Temp 23 Humi:58% |
| Test Standard: | FCC 15.247 |
| Tested By: | Lich Chen |
| Reviewed By: | Terry Yin |

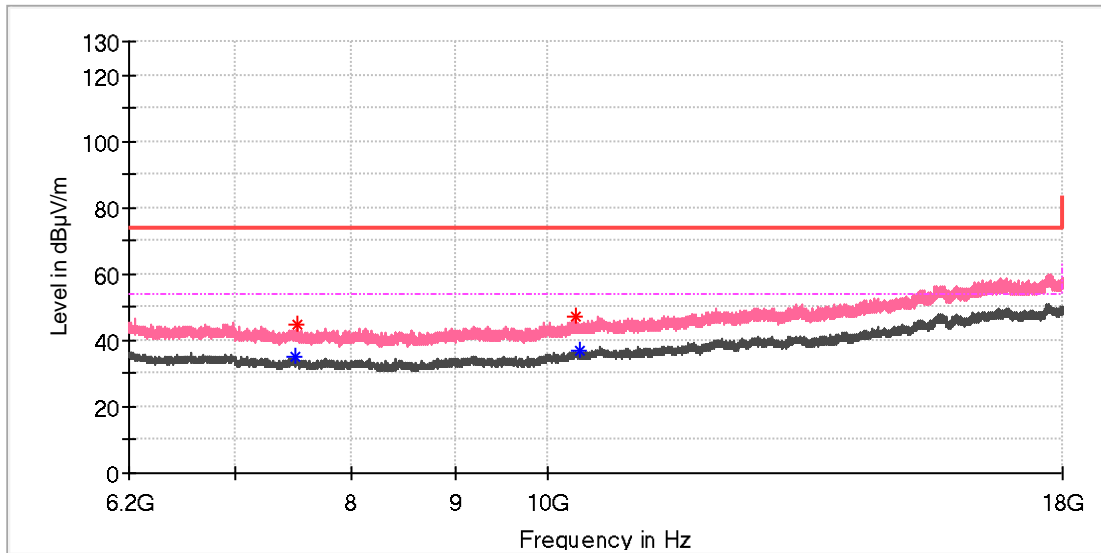


Critical_Freqs

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|------------------|----------------|-------------|-------------|-----|---------------|--------------|
| 7776.283333 | 43.67 | --- | 74.00 | 30.33 | 150.0 | H | 0.0 | 8.9 |
| 7798.408333 | --- | 34.26 | 54.00 | 19.74 | 150.0 | H | 150.0 | 8.9 |
| 9976.983333 | --- | 36.06 | 54.00 | 17.94 | 150.0 | H | 238.0 | 11.1 |
| 10027.625000 | 45.60 | --- | 74.00 | 28.41 | 150.0 | H | 55.0 | 11.1 |

EUT Information

| | |
|---------------------|--------------------------|
| EUT Name: | LEGEND 700 HEAD UNIT |
| Model: | JBLLEGEND700 |
| Test Mode: | BR DH5_Low channel |
| Order No/Sample No: | 168492002/A003757812-006 |
| Test Voltage:: | DC 12V From DC Source |
| Remark: | Temp 23 Humi:58% |
| Test Standard: | FCC 15.247 |
| Tested By: | Lich Chen |
| Reviewed By: | Terry Yin |

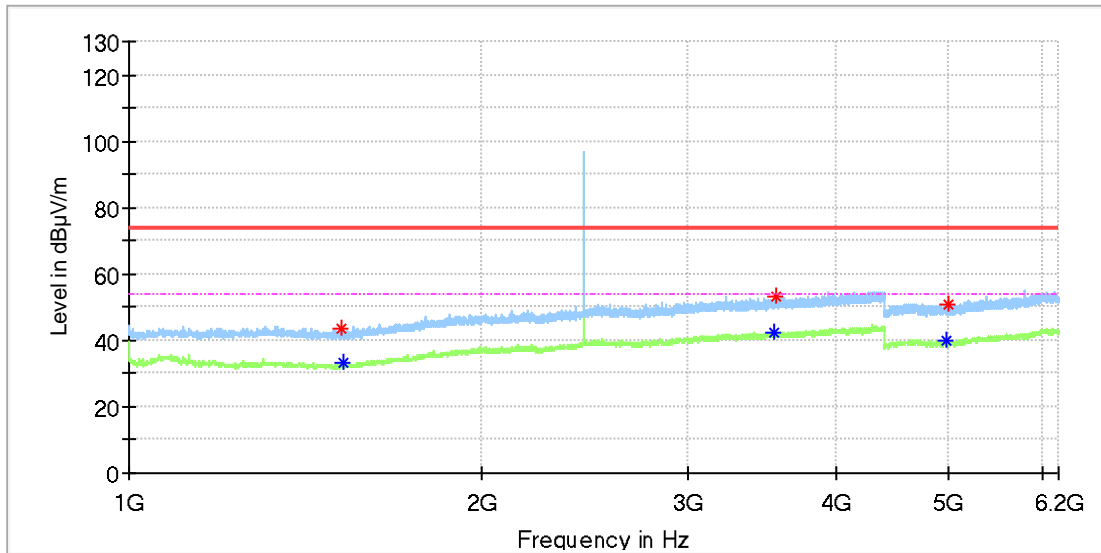


Critical Freqs

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|------------------|----------------|-------------|-------------|-----|---------------|--------------|
| 7499.475000 | --- | 34.80 | 54.00 | 19.20 | 150.0 | V | 331.0 | 8.7 |
| 7521.108333 | 44.81 | --- | 74.00 | 29.19 | 150.0 | V | 341.0 | 8.7 |
| 10330.491667 | 47.10 | --- | 74.00 | 26.90 | 150.0 | V | 0.0 | 11.7 |
| 10361.958333 | --- | 37.06 | 54.00 | 16.94 | 150.0 | V | 171.0 | 11.8 |

EUT Information

| | |
|---------------------|--------------------------|
| EUT Name: | LEGEND 700 HEAD UNIT |
| Model: | JBLLEGEND700 |
| Test Mode: | BR DH5_Mid channel |
| Order No/Sample No: | 168492002/A003757812-006 |
| Test Voltage:: | DC 12V From DC Source |
| Remark: | Temp 23 Humi:58% |
| Test Standard: | FCC 15.247 |
| Tested By: | Lich Chen |
| Reviewed By: | Terry Yin |

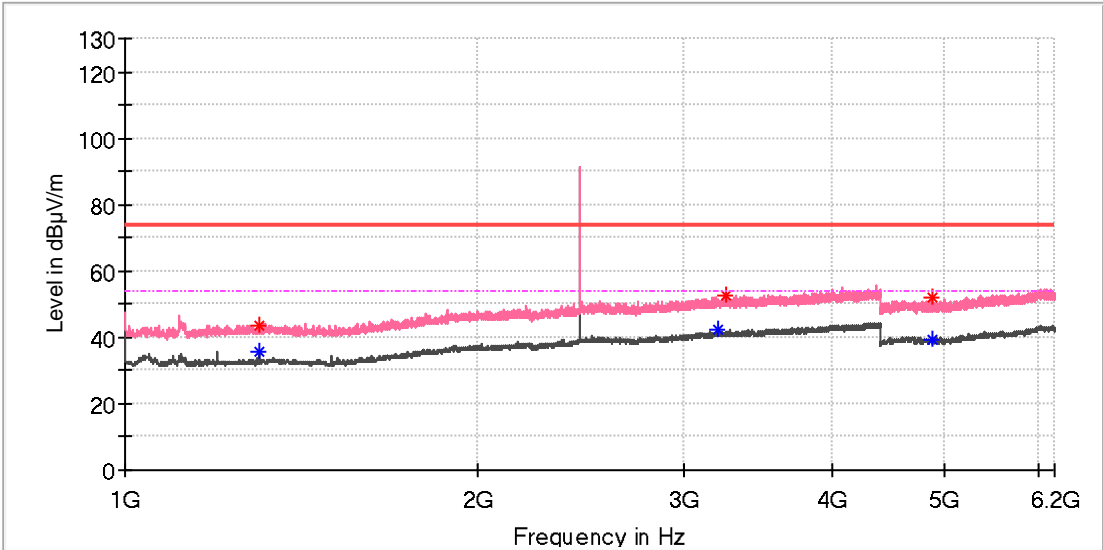


Critical Freqs

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|------------------|----------------|-------------|-------------|-----|---------------|--------------|
| 1518.500000 | 43.74 | --- | 74.00 | 30.26 | 150.0 | H | 294.0 | 1.3 |
| 1522.500000 | --- | 33.00 | 54.00 | 21.00 | 150.0 | H | 117.0 | 1.3 |
| 3546.000000 | --- | 42.52 | 54.00 | 11.48 | 150.0 | H | 10.0 | 9.2 |
| 3559.500000 | 53.04 | --- | 74.00 | 20.96 | 150.0 | H | 151.0 | 9.2 |
| 4969.000000 | --- | 39.62 | 54.00 | 14.38 | 150.0 | H | 218.0 | 11.8 |
| 5002.000000 | 51.00 | --- | 74.00 | 23.00 | 150.0 | H | 351.0 | 11.9 |

EUT Information

| | |
|---------------------|--------------------------|
| EUT Name: | LEGEND 700 HEAD UNIT |
| Model: | JBLLEGEND700 |
| Test Mode: | BR DH5_Mid channel |
| Order No/Sample No: | 168492002/A003757812-006 |
| Test Voltage:: | DC 12V From DC Source |
| Remark: | Temp 23 Humi:58% |
| Test Standard: | FCC 15.247 |
| Tested By: | Lich Chen |
| Reviewed By: | Terry Yin |

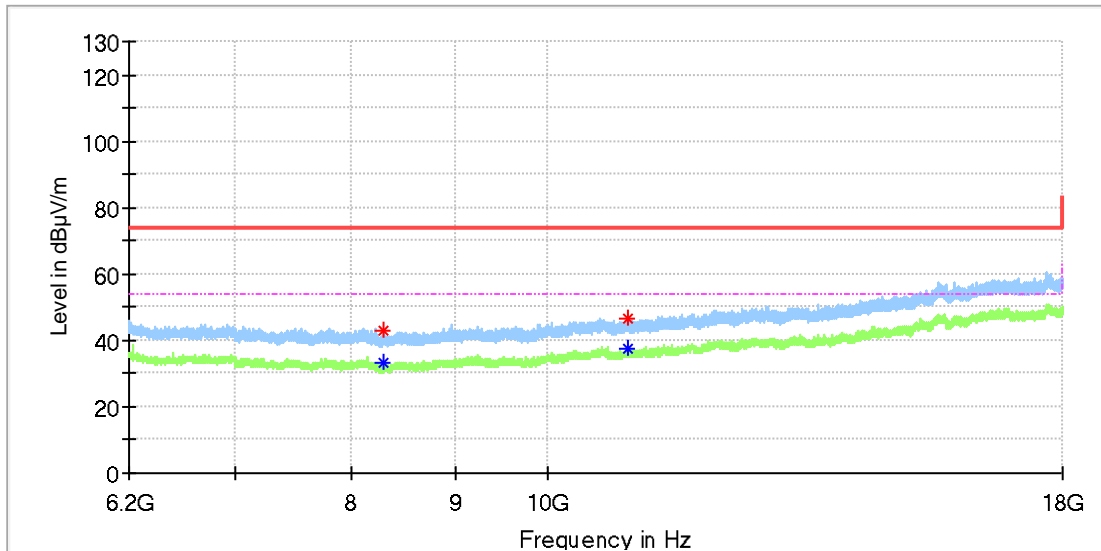


Critical Freqs

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|------------------|----------------|-------------|-------------|-----|---------------|--------------|
| 1299.500000 | --- | 35.66 | 54.00 | 18.34 | 150.0 | V | 2.0 | 1.9 |
| 1300.000000 | 43.77 | --- | 74.00 | 30.23 | 150.0 | V | 241.0 | 1.9 |
| 3202.000000 | --- | 42.44 | 54.00 | 11.56 | 150.0 | V | 123.0 | 8.6 |
| 3247.000000 | 52.86 | --- | 74.00 | 21.14 | 150.0 | V | 236.0 | 8.5 |
| 4869.000000 | 52.10 | --- | 74.00 | 21.90 | 150.0 | V | 295.0 | 11.8 |
| 4871.500000 | --- | 39.33 | 54.00 | 14.67 | 150.0 | V | 334.0 | 11.8 |

EUT Information

| | |
|---------------------|--------------------------|
| EUT Name: | LEGEND 700 HEAD UNIT |
| Model: | JBLLEGEND700 |
| Test Mode: | BR DH5_Mid channel |
| Order No/Sample No: | 168492002/A003757812-006 |
| Test Voltage:: | DC 12V From DC Source |
| Remark: | Temp 23 Humi:58% |
| Test Standard: | FCC 15.247 |
| Tested By: | Lich Chen |
| Reviewed By: | Terry Yin |

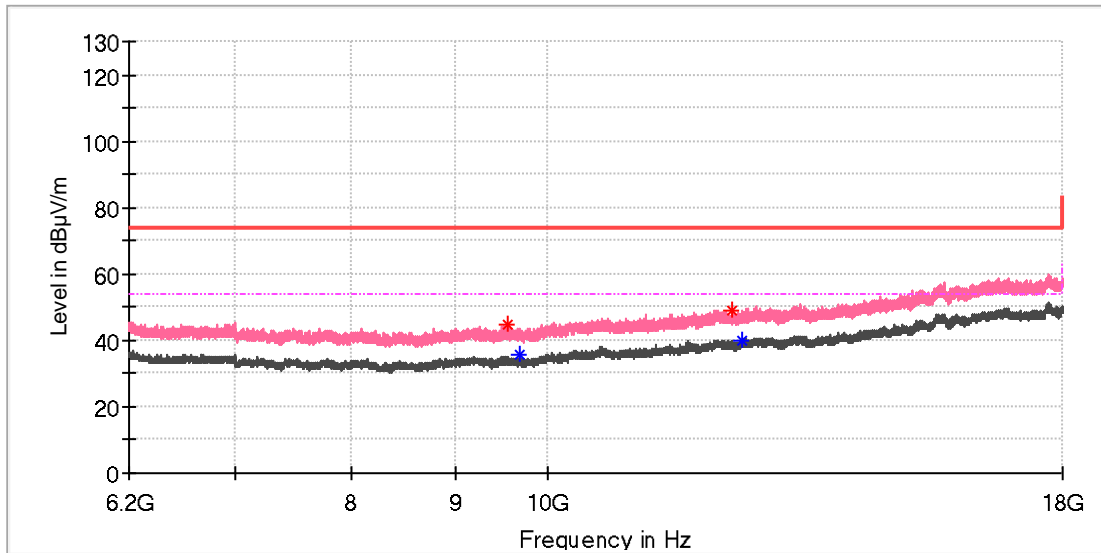


Critical Freqs

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|------------------|----------------|-------------|-------------|-----|---------------|--------------|
| 8296.958333 | --- | 33.35 | 54.00 | 20.65 | 150.0 | H | 2.0 | 8.7 |
| 8298.433333 | 43.19 | --- | 74.00 | 30.81 | 150.0 | H | 138.0 | 8.7 |
| 10951.958333 | --- | 37.52 | 54.00 | 16.48 | 150.0 | H | 128.0 | 12.2 |
| 10966.708333 | 46.64 | --- | 74.00 | 27.36 | 150.0 | H | 149.0 | 12.2 |

EUT Information

| | |
|---------------------|--------------------------|
| EUT Name: | LEGEND 700 HEAD UNIT |
| Model: | JBLLEGEND700 |
| Test Mode: | BR DH5_Mid channel |
| Order No/Sample No: | 168492002/A003757812-006 |
| Test Voltage:: | DC 12V From DC Source |
| Remark: | Temp 23 Humi:58% |
| Test Standard: | FCC 15.247 |
| Tested By: | Lich Chen |
| Reviewed By: | Terry Yin |

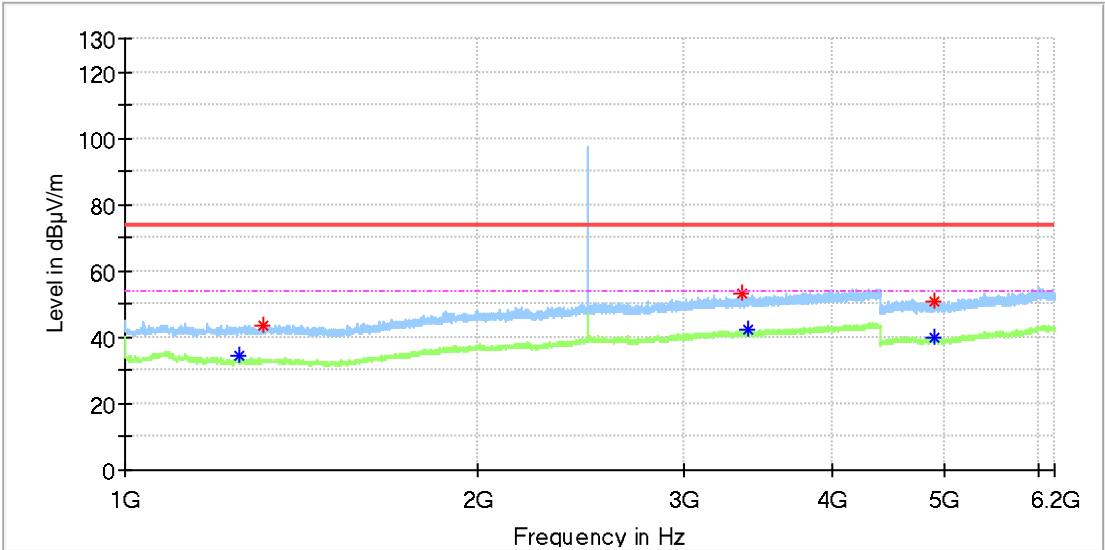


Critical Freqs

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|------------------|----------------|-------------|-------------|-----|---------------|--------------|
| 9551.200000 | 44.52 | --- | 74.00 | 29.48 | 150.0 | V | 327.0 | 10.2 |
| 9684.441667 | --- | 35.43 | 54.00 | 18.57 | 150.0 | V | 264.0 | 10.4 |
| 12328.625000 | 48.98 | --- | 74.00 | 25.02 | 150.0 | V | 65.0 | 14.9 |
| 12484.483333 | --- | 39.81 | 54.00 | 14.19 | 150.0 | V | 306.0 | 14.6 |

EUT Information

| | |
|---------------------|--------------------------|
| EUT Name: | LEGEND 700 HEAD UNIT |
| Model: | JBLLEGEND700 |
| Test Mode: | BR DH5_High channel |
| Order No/Sample No: | 168492002/A003757812-006 |
| Test Voltage:: | DC 12V From DC Source |
| Remark: | Temp 23 Humi:58% |
| Test Standard: | FCC 15.247 |
| Tested By: | Lich Chen |
| Reviewed By: | Terry Yin |

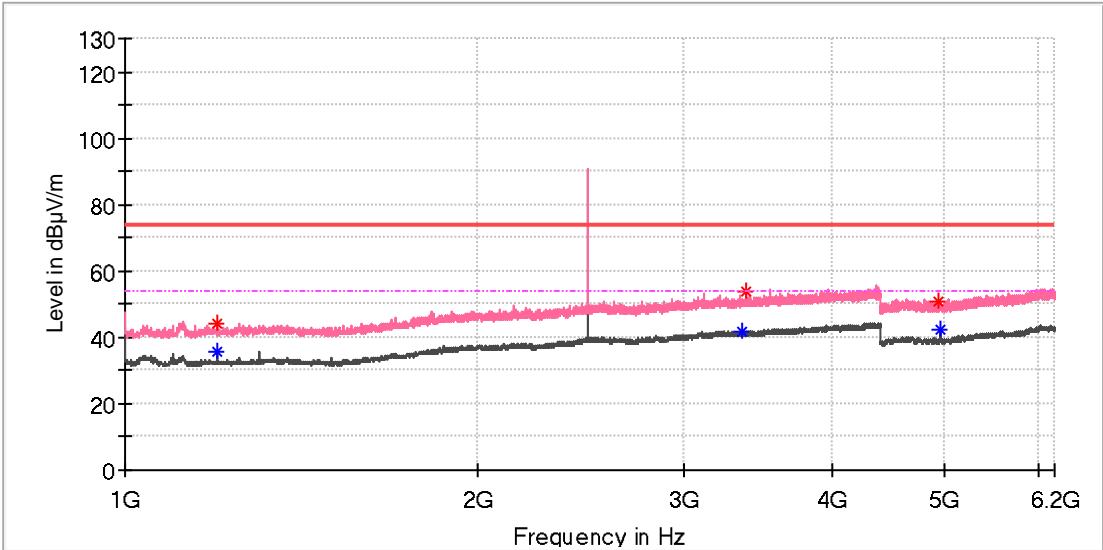


Critical Freqs

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|------------------|----------------|-------------|-------------|-----|---------------|--------------|
| 1249.500000 | --- | 34.58 | 54.00 | 19.42 | 150.0 | H | 97.0 | 1.9 |
| 1312.500000 | 43.71 | --- | 74.00 | 30.29 | 150.0 | H | 62.0 | 2.0 |
| 3354.000000 | 53.03 | --- | 74.00 | 20.97 | 150.0 | H | 181.0 | 8.6 |
| 3391.500000 | --- | 42.37 | 54.00 | 11.63 | 150.0 | H | 51.0 | 8.7 |
| 4902.000000 | --- | 39.62 | 54.00 | 14.38 | 150.0 | H | 347.0 | 11.8 |
| 4904.500000 | 50.71 | --- | 74.00 | 23.29 | 150.0 | H | 110.0 | 11.8 |

EUT Information

| | |
|---------------------|--------------------------|
| EUT Name: | LEGEND 700 HEAD UNIT |
| Model: | JBLLEGEND700 |
| Test Mode: | BR DH5_High channel |
| Order No/Sample No: | 168492002/A003757812-006 |
| Test Voltage:: | DC 12V From DC Source |
| Remark: | Temp 23 Humi:58% |
| Test Standard: | FCC 15.247 |
| Tested By: | Lich Chen |
| Reviewed By: | Terry Yin |

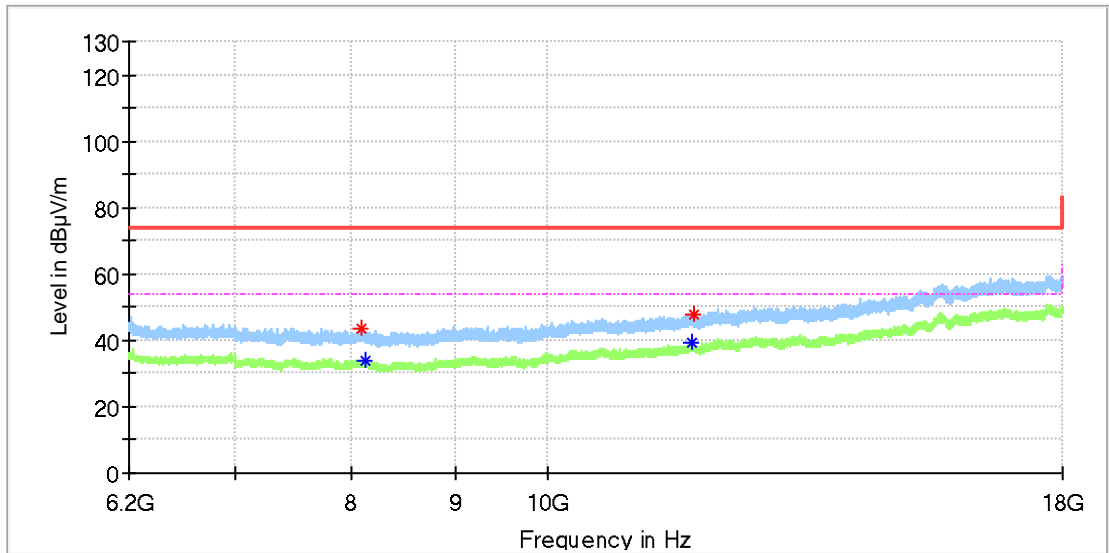


Critical Freqs

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|------------------|----------------|-------------|-------------|-----|---------------|--------------|
| 1199.500000 | 43.85 | --- | 74.00 | 30.15 | 150.0 | V | 16.0 | 1.1 |
| 1199.500000 | --- | 35.57 | 54.00 | 18.43 | 150.0 | V | 16.0 | 1.1 |
| 3359.500000 | --- | 41.93 | 54.00 | 12.07 | 150.0 | V | 0.0 | 8.6 |
| 3379.000000 | 53.68 | --- | 74.00 | 20.32 | 150.0 | V | 209.0 | 8.6 |
| 4934.000000 | 50.60 | --- | 74.00 | 23.40 | 150.0 | V | 310.0 | 11.8 |
| 4960.000000 | --- | 42.15 | 54.00 | 11.85 | 150.0 | V | 9.0 | 11.8 |

EUT Information

| | |
|---------------------|--------------------------|
| EUT Name: | LEGEND 700 HEAD UNIT |
| Model: | JBLLEGEND700 |
| Test Mode: | BR DH5_High channel |
| Order No/Sample No: | 168492002/A003757812-006 |
| Test Voltage:: | DC 12V From DC Source |
| Remark: | Temp 23 Humi:58% |
| Test Standard: | FCC 15.247 |
| Tested By: | Lich Chen |
| Reviewed By: | Terry Yin |

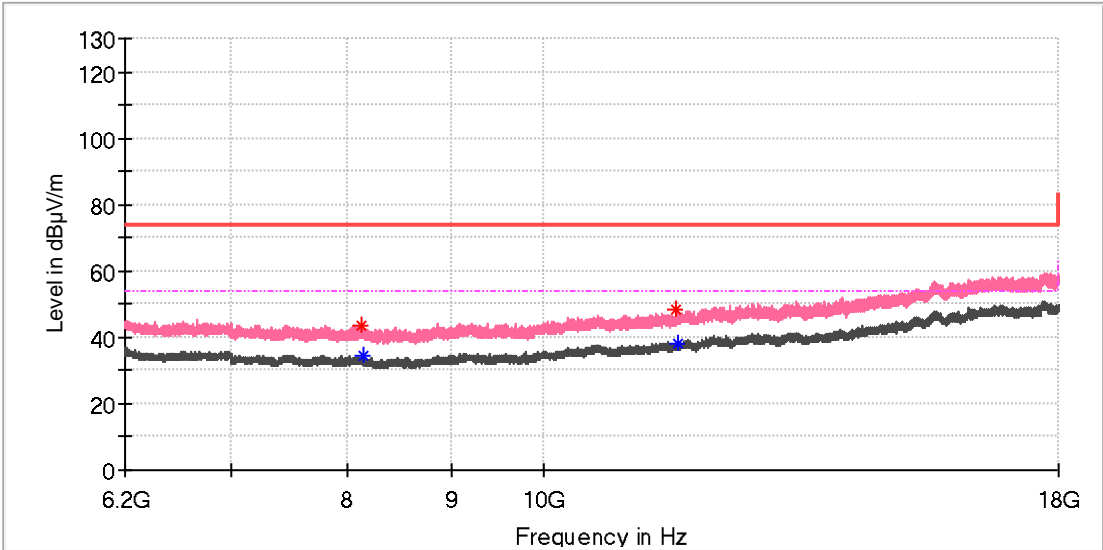


Critical Freqs

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|------------------|----------------|-------------|-------------|-----|---------------|--------------|
| 8084.066667 | 43.25 | --- | 74.00 | 30.75 | 150.0 | H | 87.0 | 8.9 |
| 8123.400000 | --- | 34.04 | 54.00 | 19.96 | 150.0 | H | 118.0 | 8.9 |
| 11800.083333 | --- | 39.18 | 54.00 | 14.82 | 150.0 | H | 24.0 | 13.4 |
| 11830.075000 | 47.61 | --- | 74.00 | 26.39 | 150.0 | H | 181.0 | 13.5 |

EUT Information

| | |
|---------------------|--------------------------|
| EUT Name: | LEGEND 700 HEAD UNIT |
| Model: | JBLLEGEND700 |
| Test Mode: | BR DH5_High channel |
| Order No/Sample No: | 168492002/A003757812-006 |
| Test Voltage:: | DC 12V From DC Source |
| Remark: | Temp 23 Humi:58% |
| Test Standard: | FCC 15.247 |
| Tested By: | Lich Chen |
| Reviewed By: | Terry Yin |



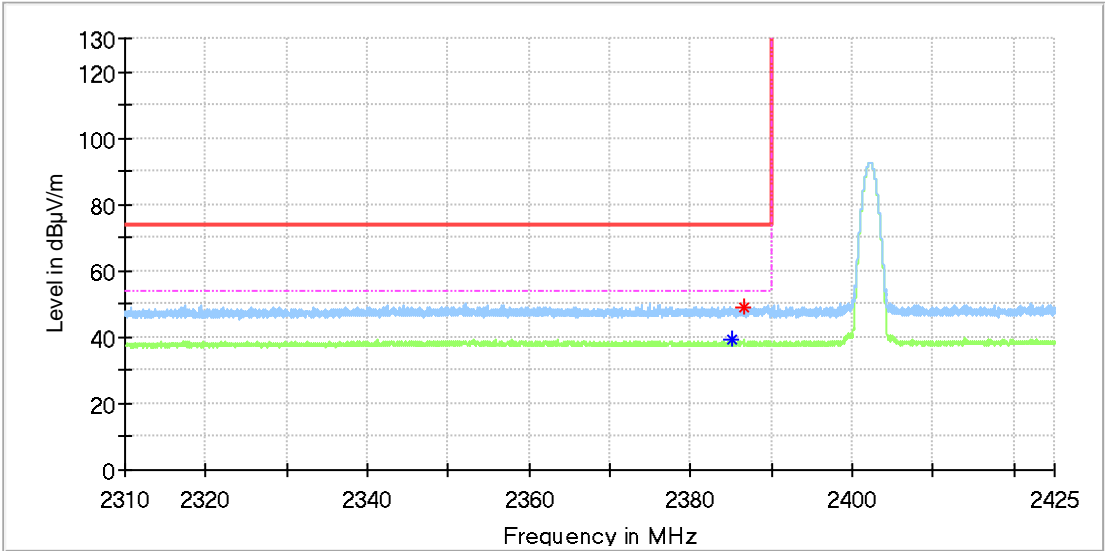
Critical Freqs

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|------------------|----------------|-------------|-------------|-----|---------------|--------------|
| 8126.350000 | 43.55 | --- | 74.00 | 30.45 | 150.0 | V | 137.0 | 9.0 |
| 8135.200000 | --- | 34.27 | 54.00 | 19.73 | 150.0 | V | 214.0 | 9.0 |
| 11625.050000 | 48.42 | --- | 74.00 | 25.58 | 150.0 | V | 311.0 | 13.3 |
| 11663.400000 | --- | 38.16 | 54.00 | 15.84 | 150.0 | V | 332.0 | 13.3 |

Appendix A.8: Test Results of Radiated Emissions in Restricted Bands

EUT Information

| | |
|---------------------|--------------------------|
| EUT Name: | LEGEND 700 HEAD UNIT |
| Model: | JBLLEGEND700 |
| Test Mode: | BR DH5_Low channel |
| Order No/Sample No: | 168492002/A003757812-006 |
| Test Voltage:: | DC 12V From DC Source |
| Remark: | Temp 23 Humi:58% |
| Test Standard: | FCC 15.247 |
| Tested By: | Lich Chen |
| Reviewed By: | Terry Yin |

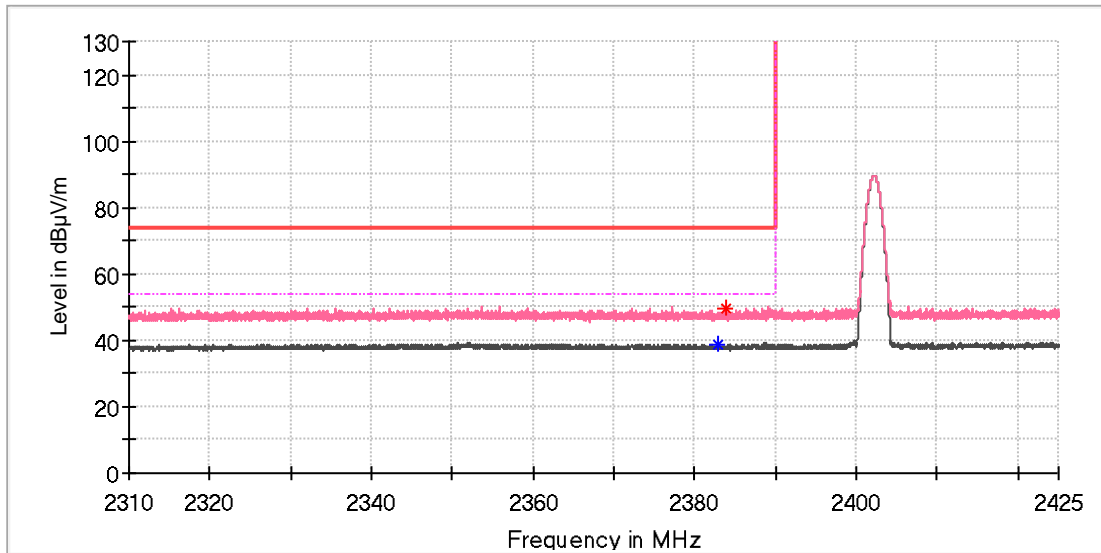


Critical Freqs

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|------------------|----------------|-------------|-------------|-----|---------------|--------------|
| 2385.054412 | --- | 39.12 | 54.00 | 14.88 | 150.0 | H | 12.0 | 7.0 |
| 2386.525735 | 49.21 | --- | 74.00 | 24.79 | 150.0 | H | 18.0 | 7.0 |

EUT Information

| | |
|---------------------|--------------------------|
| EUT Name: | LEGEND 700 HEAD UNIT |
| Model: | JBLLEGEND700 |
| Test Mode: | BR DH5_Low channel |
| Order No/Sample No: | 168492002/A003757812-006 |
| Test Voltage:: | DC 12V From DC Source |
| Remark: | Temp 23 Humi:58% |
| Test Standard: | FCC 15.247 |
| Tested By: | Lich Chen |
| Reviewed By: | Terry Yin |

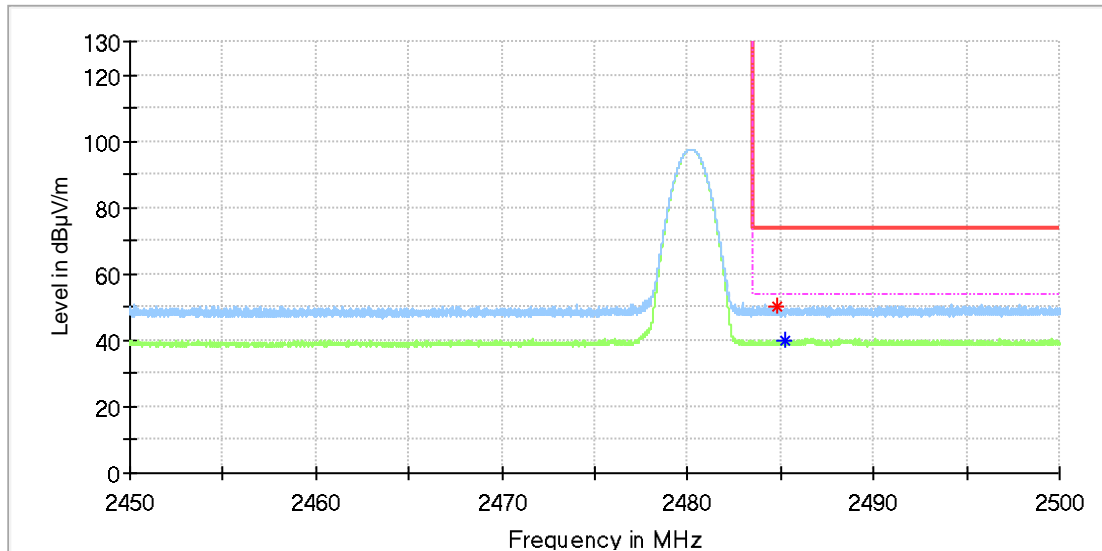


Critical Freqs

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|------------------|----------------|-------------|-------------|-----|---------------|--------------|
| 2382.889706 | --- | 38.68 | 54.00 | 15.32 | 150.0 | V | 92.0 | 7.0 |
| 2383.938235 | 49.81 | --- | 74.00 | 24.19 | 150.0 | V | 0.0 | 7.0 |

EUT Information

| | |
|---------------------|--------------------------|
| EUT Name: | LEGEND 700 HEAD UNIT |
| Model: | JBLLEGEND700 |
| Test Mode: | BR DH5_High channel |
| Order No/Sample No: | 168492002/A003757812-006 |
| Test Voltage:: | DC 12V From DC Source |
| Remark: | Temp 23 Humi:58% |
| Test Standard: | FCC 15.247 |
| Tested By: | Lich Chen |
| Reviewed By: | Terry Yin |

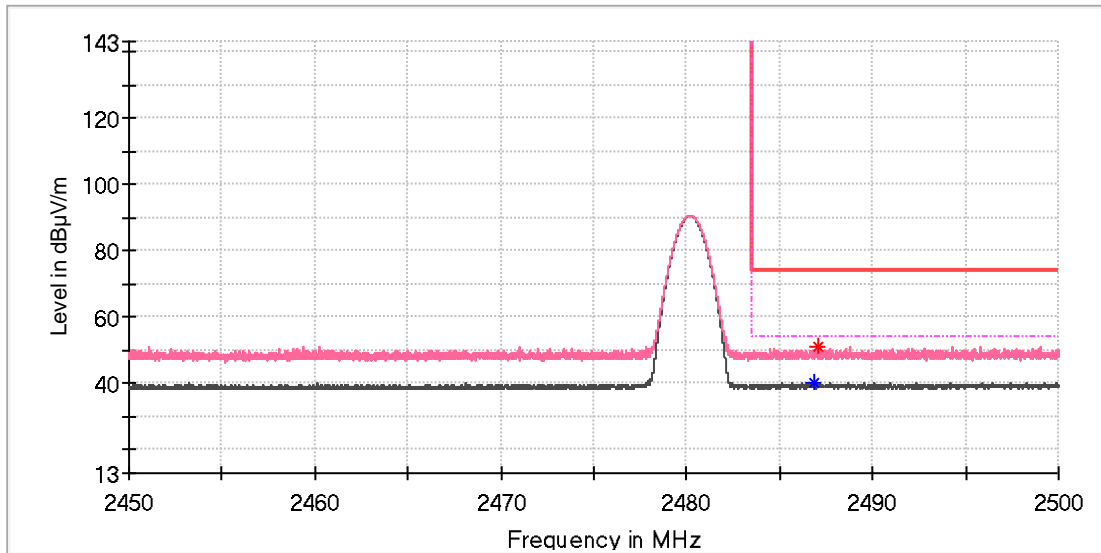


Critical Freqs

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|------------------|----------------|-------------|-------------|-----|---------------|--------------|
| 2484.845588 | 50.31 | --- | 74.00 | 23.69 | 150.0 | H | 191.0 | 7.4 |
| 2485.198529 | --- | 39.71 | 54.00 | 14.29 | 150.0 | H | 8.0 | 7.4 |

EUT Information

| | |
|---------------------|--------------------------|
| EUT Name: | LEGEND 700 HEAD UNIT |
| Model: | JBLLEGEND700 |
| Test Mode: | BR DH5_High channel |
| Order No/Sample No: | 168492002/A003757812-006 |
| Test Voltage:: | DC 12V From DC Source |
| Remark: | Temp 23 Humi:58% |
| Test Standard: | FCC 15.247 |
| Tested By: | Lich Chen |
| Reviewed By: | Terry Yin |



Critical Freqs

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|------------------|----------------|-------------|-------------|-----|---------------|--------------|
| 2486.882353 | --- | 40.03 | 54.00 | 13.97 | 150.0 | V | 137.0 | 7.4 |
| 2487.044118 | 50.91 | --- | 74.00 | 23.09 | 150.0 | V | 302.0 | 7.4 |