



FCC LISTED, REGISTRATION  
 NUMBER: 2764.01

ISED LISTED REGISTRATION  
 NUMBER: 23595-1

Test Report No:  
 4606ERM.002A2

## Partial Test Report

**USA FCC Part 15.247, 15.209, & CANADA RSS-247, RSS-Gen**  
 Radio Frequency Devices. Operation within the bands 902 - 928 MHz, 2400 - 2483.5 MHz, and 5725 - 5850 MHz  
 Digital Transmission Systems (DTs), Frequency Hopping Systems (FHSs) and License-Exempt Local Area Network (LE-LAN) Devices.

|   |  |
|---|--|
| (*) Identification of item tested         | Infotainment head unit android based   |
| (*) Trademark                             | HARMAN   |
| (*) Model and /or type reference          | TAS700 BRA   |
| Other identification of the product       | Model: C-Plat<br>FCC ID: 2AHPN-BE2874  |
| (*) Features                              | AM/FM receiver, Bluetooth EDR, Wi-Fi 2.4GHz & 5GHz   |
| Manufacturer                              | Harman da Amazonia.<br>Av. Cupiúba, 401 – Distrito Industrial<br>Manaus, Amazonas, 69075-060,<br>Brasil  |
| Test method requested, standard           | USA FCC Part 15.247 (06-1-20): Operation within the bands 902 - 928 MHz, 2400 -2483.5 MHz, and 5725 - 5850 MHz<br>USA FCC Part 15.209 (06-28-21): Radiated emission limits; general requirements.<br>CANADA RSS-247 Issue 3 (August 2023).<br>CANADA RSS-Gen Issue 5 amendment 1 (March 2019).<br>Guidance for Performing Compliance Measurements on Digital Transmission System, Frequency Hopping Spread Spectrum System, and Hybrid Systems Devices Operating Under Section 15.247 of the FCC Rules.<br>558074 D01 Meas Guidance v05r02 dated April 2, 2019.<br>ANSI C63.10-2013: American National Standard for Testing Unlicensed Wireless Devices. |
| Summary                                   | See Appendix A & B   |
| Approved by (name / position & signature) | Domingo Galvez<br>EMC&RF Lab Manager   |
| Date of issue                             | 07-25-2024   |
| Report template No                        | FDT08_23<br>(*) "Data provided by the client"  |

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## Acronyms

| Acronym ID       | Acronym Description                 |
|------------------|-------------------------------------|
|                  | Emission Bandwidth                  |
| # of Tx Chains   | Number of Transmission Chains       |
| Equipment        | Equipment Type                      |
| Freq             | Frequency                           |
| In band Peak Lvl | In band Peak Level                  |
| Lvl              | Level                               |
| MP               | Measurement Point                   |
| Mod              | Modulation                          |
| Occ Ch BW        | Occupied Channel Bandwidth          |
| PSD              | Power Spectrum Density              |
| Peak Power       | Maximum Peak Conducted Output Power |
| Port             | Active Port                         |

## Competences and guarantees

DEKRA Certification Inc. is a testing laboratory accredited by A2LA (The American Association for Laboratory Accreditation), to perform the tests indicated in the Certificate 2764.01

DEKRA Certification Inc. is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA Certification Inc. has a calibration and maintenance program for its measurement equipment.

DEKRA Certification Inc. guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated on the report and, it is based on the knowledge and technical facilities available at DEKRA Certification at the time of performance of the test.

DEKRA Certification Inc. is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

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## General conditions

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of DEKRA Certification Inc.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA Certification Inc. and the Accreditation Bodies.

## Uncertainty

Uncertainty (factor k=2) was calculated according to the DEKRA Certification internal document PODT000.

| Test case                  | Frequency (MHz) | U (k=2) | Units |
|----------------------------|-----------------|---------|-------|
| RF Power                   | 2402-2483       | 0.88    | dB    |
| Radiated Spurious Emission | 30-180          | 4.27    | dB    |
|                            | 180-1000        | 3.14    | dB    |
|                            | 1000-18000      | 3.30    | dB    |
|                            | 18000-40000     | 3.49    | dB    |

## Data provided by the client

The following data has been provided by the client:

1. Information relating to the description of the sample ("Identification of the item tested", "Trademark", "Model and/or type reference tested").
2. The sample consists of a Receiver Assy, Radio & Display.

DEKRA declines any responsibility with respect to the information provided by the client and that may affect the validity of results.

## Usage of samples

Samples undergoing test have been selected by: The client.

Sample S/01 is composed of the following elements:

| Id   | Control Number | Description                          | Manufacturer / Model         | Serial N°         | Date of Reception | Application        |
|------|----------------|--------------------------------------|------------------------------|-------------------|-------------------|--------------------|
| S/01 | 4415/20        | Infotainment head unit android based | Harman / TAS700 BRA (C-Plat) | T2856HR04690 0006 | 02-23-2024        | Element Under Test |
| S/01 | 4415/38        | Main Harness (Connector D)           | Harman                       | --                | 04-04-2024        | Accessory          |

Sample S/01 was used for the test(s): All Conducted tests indicated in appendix A & B.

Sample S/02 is composed of the following elements and accessories:

| Id   | Control Number | Description                          | Manufacturer / Model         | Serial N°         | Date of Reception | Application        |
|------|----------------|--------------------------------------|------------------------------|-------------------|-------------------|--------------------|
| S/02 | 4415/10        | Infotainment head unit android based | Harman / TAS700 BRA (C-Plat) | T2851HR03990 0011 | 02-23-2024        | Element Under Test |
| S/02 | 4415/36        | USB harness (Connector A)            | Harman                       | --                | 04-04-2024        | Accessory          |
| S/02 | 4415/37        | Speaker output harness (Connector C) | Harman                       | --                | 04-04-2024        | Accessory          |
| S/02 | 4415/38        | Main Harness (Connector D)           | Harman                       | --                | 04-04-2024        | Accessory          |
| S/02 | 4415/39        | FM radio cable (Connector E)         | Harman                       | --                | 04-04-2024        | Accessory          |
| S/02 | 4415/40        | GPS Cable (Connector B)              | Harman                       | --                | 04-04-2024        | Accessory          |
| S/02 | 4415/41        | FM/AM Antenna                        | --                           | --                | 04-04-2024        | Accessory          |
| S/02 | 4415/42        | GNSS Antenna                         | --                           | --                | 04-04-2024        | Accessory          |

Sample S/02 was used for the test(s): All Radiated tests indicated in appendix A & B.

## Test sample description

|   |   |   |                      |          |                                   |     |     |
|---|---|---|----------------------|----------|-----------------------------------|-----|-----|
| Ports..... :                                  | Port name and description                 | Cable                                       |                      |          |                                   |     |     |
|   |   | Specified max length [m]                    | Attached during test | Shielded | Coupled to patient <sup>(3)</sup> |     |     |
|   | RF_Port 1 = BT/WLAN-5GHz (Module Pin C01) | .....                                       | [X]                  | [X]      | [ ]                               |     |     |
|   | RF_Port 2 = WLAN 2,4GHz (Module Pin K02)  | .....                                       | [X]                  | [X]      | [ ]                               |     |     |
|   | .....                                     | .....                                       | [ ]                  | [ ]      | [ ]                               |     |     |
|   | .....                                     | .....                                       | [ ]                  | [ ]      | [ ]                               |     |     |
|   | .....                                     | .....                                       | [ ]                  | [ ]      | [ ]                               |     |     |
| Supplementary information to the ports..... : | No Data provided                          |   |                      |          |                                   |     |     |
| Rated power supply .....                      | Voltage and Frequency                     |   | Reference poles      |          |                                   |     |     |
|   |   |   | L1                   | L2       | L3                                | N   | PE  |
|   | [ ]                                       | AC: .....                                   | [ ]                  | [ ]      | [ ]                               | [ ] | [ ] |
|   | [ ]                                       | AC: .....                                   | [ ]                  | [ ]      | [ ]                               | [ ] | [ ] |
|   | [X]                                       | DC: 12 V nominal Car battery, 8V to 16V max |                      |          |                                   |     |     |
| [ ]   | DC: .....                                 |   |                      |          |                                   |     |     |
| Rated Power..... :                            | No Data provided                          |   |                      |          |                                   |     |     |
| Clock frequencies .....                       | No Data provided                          |   |                      |          |                                   |     |     |
| Other parameters .....                        | No Data provided                          |   |                      |          |                                   |     |     |
| Software version..... :                       | R5.2                                      |   |                      |          |                                   |     |     |
| Hardware version .....                        | C1  |   |                      |          |                                   |     |     |
| Dimensions in (W x H x D)..... :              | No Data provided                          |   |                      |          |                                   |     |     |
| Mounting position .....                       | [ ]                                       | Table top equipment                         |                      |          |                                   |     |     |
|   | [ ]                                       | Wall/Ceiling mounted equipment              |                      |          |                                   |     |     |
|   | [ ]                                       | Floor standing equipment                    |                      |          |                                   |     |     |
|   | [ ]                                       | Hand-held equipment                         |                      |          |                                   |     |     |
|   | [X]                                       | Other: Installed in vehicle                 |                      |          |                                   |     |     |
| Modules/parts .....                           | Module/parts of test item                 |   | Type                 |          | Manufacturer                      |     |     |
|   | No Data provided                          |   | .....                |          | .....                             |     |     |
|   | .....                                     |   | .....                |          | .....                             |     |     |
|   | .....                                     |   | .....                |          | .....                             |     |     |
|   | .....                                     |   | .....                |          | .....                             |     |     |
|   | .....                                     |   | .....                |          | .....                             |     |     |

| Accessories (not part of the test item)<br>.....: | Description                | Type  | Manufacturer |
|---|----------------------------|---|--------------|
|   | Bench Seutp + antenna      | .....   | .....        |
|   | Cable Harness              | .....   | .....        |
|   | .....                      | .....   | .....        |
|   | .....                      | .....   | .....        |
| Documents as provided by the applicant<br>.....:  | Description                | File name                                       | Issue date   |
|   | Declaration Equipment Data | FDT30_18 Declaration Equipment Data_30April2024 | 04/30/2024   |
|   | .....                      | .....   | .....        |
|   | .....                      | .....   | .....        |
|   | .....                      | .....   | .....        |

## Identification of the client

Harman International Industries, Inc.  
 3001 Cabot Drive,  
 Novi, MI 48377  
 USA

## Testing period and place

|                      |                          |
|----------------------|--------------------------|
| <b>Test Location</b> | DEKRA Certification Inc. |
| <b>Date (start)</b>  | 04-30-2024               |
| <b>Date (finish)</b> | 05-02-2024               |

## Document history

| Report number | Date       | Description   |
|---------------|------------|---|
| 4606ERM.002   | 05-08-2024 | First release.  |
| 4606ERM.002A1 | 05-20-2024 | Second release. There is a change in Antenna Gain, also from the Cover page IC ID is removed as per the customers decision. This modified report cancels and replaces the report 4606ERM.002. |
| 4606ERM.002A2 | 07-25-2024 | Third release. There are some modifications in the conducted power as we had only E.I.R.P before. This modified report cancels and replaces the report 4606ERM.002A1.                         |

## Environmental conditions

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In the control chamber, the following limits were not exceeded during the test:

|                          |                                     |
|--------------------------|-------------------------------------|
| <b>Temperature</b>       | Min. = 15 °C<br>Max. = 35 °C        |
| <b>Relative humidity</b> | Min. = 30 %<br>Max. = 75 %          |
| <b>Air pressure</b>      | Min. = 860 mbar<br>Max. = 1060 mbar |

In the semi anechoic chamber, the following limits were not exceeded during the test.

|                          |                                     |
|--------------------------|-------------------------------------|
| <b>Temperature</b>       | Min. = 15 °C<br>Max. = 35 °C        |
| <b>Relative humidity</b> | Min. = 30 %<br>Max. = 75 %          |
| <b>Air pressure</b>      | Min. = 860 mbar<br>Max. = 1060 mbar |

In the chamber for conducted measurements, the following limits were not exceeded during the test:

|                          |                                     |
|--------------------------|-------------------------------------|
| <b>Temperature</b>       | Min. = 15 °C<br>Max. = 35 °C        |
| <b>Relative humidity</b> | Min. = 30 %<br>Max. = 60 %          |
| <b>Air pressure</b>      | Min. = 860 mbar<br>Max. = 1060 mbar |

## Remarks and comments

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The tests have been performed by the technical personnel: Juliana Cherry, Prudhvi Kothapalli, and Yuqi Wang.



## Testing verdicts

|                |     |
|----------------|-----|
| Fail           | F   |
| Not applicable | N/A |
| Not measured   | N/M |
| Pass           | P   |

## Summary

### Bluetooth EDR

| Requirement – Test case   | FCC PART 15 PARAGRAPH / RSS-247 | Verdict | Remark  |
|---|---------------------------------|---------|---------|
| RSS-247 5.1 (b) / FCC 15.247 (a) (1) 20 dB Bandwidth  |                                 | N/M     | Refer 1 |
| RSS-247 5.1 (b) / FCC 15.247 (a) (1) Carrier Frequency Separation   |                                 | N/M     | Refer 1 |
| RSS-247 5.1 (d) / FCC 15.247 (a) (1) (iii) Time of Occupancy (Dwell Time)   |                                 | N/M     | Refer 1 |
| RSS-247 5.1 (d) / FCC 15.247 (a) (1) (iii) Number of hopping channels   |                                 | N/M     | Refer 1 |
| RSS-247 5.4 (b) / FCC 15.247 (b) (1) Maximum Peak Conducted output power & Antenna gain   |                                 | P       | N/A     |
| RSS-247 5.5 / FCC 15.247 (d) Band-edge emissions compliance (Transmitter) - Conducted   |                                 | N/M     | Refer 1 |
| FCC 2.1049 / 99dBw Occupied Channel Bandwidth 99%   |                                 | N/M     | Refer 1 |
| RSS-247 5.5 / FCC 15.247 (d) Emissions compliance (Transmitter) - Conducted   |                                 | N/M     | Refer 1 |
| RSS-247 5.5 / FCC 15.247 (d) Emissions compliance (Transmitter) - Radiated  |                                 | P       | Refer 2 |
| <b>Supplementary information and remarks:</b> <ol style="list-style-type: none"> <li>Test was not requested.</li> <li>The results show the worst case.</li> </ol> |                                 |         |         |

## Wi-Fi 2.4GHz

| Requirement – Test case   | FCC PART 15 PARAGRAPH / RSS-247 | Verdict | Remark  |
|---|---------------------------------|---------|---------|
| RSS-247 5.2 (a) / FCC 15.247 (a) (2) 6 dB Bandwidth   |                                 | N/M     | Refer 1 |
| RSS-247 5.2 (b) / FCC 15.247 (e) Power spectral density   |                                 | N/M     | Refer 1 |
| RSS-247 5.4 (d) e.i.r.p   |                                 | N/M     | Refer 1 |
| RSS-247 5.4 (d) / FCC 15.247 (b) (1) Maximum Average Conducted output Power   |                                 | P       | N/A     |
| RSS-247 5.5 / FCC 15.247 (d) Band-edge emissions compliance (Transmitter) - Conducted   |                                 | N/M     | Refer 1 |
| FCC 2.1049 / Occupied Channel Bandwidth 99%   |                                 | N/M     | Refer 1 |
| RSS-247 5.5 / FCC 15.247 (d) Emissions compliance (Transmitter) - Conducted   |                                 | N/M     | Refer 1 |
| RSS-247 5.5 / FCC 15.247 (d) Emissions compliance (Transmitter) - Radiated  |                                 | P       | Refer 2 |
| <b>Supplementary information and remarks:</b> <ol style="list-style-type: none"> <li>1. Test was not requested.</li> <li>2. The results show the worst case.</li> </ol> |                                 |         |         |

## List of equipment used during the test

### Conducted Measurements

| CONTROL NUMBER | DESCRIPTION                             | Serial No   | LAST CALIBRATION | NEXT CALIBRATION |
|----------------|---|-------------|------------------|------------------|
| 1039           | Fsv40 Signal Analyzer 40GHz             | 101627      | 2022-11-01       | 2024-11-01       |
| 1107           | Ethernet SNMP Thermometer               | 60038026952 | 2022-08-16       | 2024-10-18       |
| 1313           | Wireless Measurement Software R&S WMS32 | -           | N/A              | N/A              |

### Radiated Measurements

| CONTROL NUMBER | DESCRIPTION                                | Serial No     | LAST CALIBRATION | NEXT CALIBRATION |
|----------------|--|---------------|------------------|------------------|
| 878            | Power supply (AMETEK / PROG-DC-PS)         | 1707A01783    | N/A              | N/A              |
| 1012           | ESR26 EMI Test Receiver                    | 101478        | 2023-01-18       | 2025-01-18       |
| 1014           | FSV40 Signal Analyzer 40GHz                | 101626        | 2023-01-18       | 2025-01-18       |
| 1055           | 3116C Double-Ridged Waveguide Horn Antenna | 211394        | 2023-02-06       | 2026-02-06       |
| 1377           | Double Ridged Horn Antenna                 | 103050        | 2021-12-01       | 2024-12-01       |
| 1064           | 3142E Biconilog antenna                    | 208600        | 2021-12-13       | 2024-12-13       |
| 1108           | Ethernet SNMP Thermometer- SAC             | 60038026954   | 2022-10-18       | 2024-10-18       |
| 1111           | Ethernet SNMP Thermometer                  | 60038026577   | 2022-10-18       | 2024-10-18       |
| 1179           | Semi-Anechoic Chamber                      | F169021       | N/A              | N/A              |
| 1314           | Wireless Measurement Software R&S Emc32    | 1040-OT102236 | N/A              | N/A              |
| 1461           | Low Noise Preamplifier (1-18GHz)           | 2213857B      | 2022-06-01       | 2024-06-01       |

## Appendix A: Test results. Bluetooth Classic (BR & EDR)

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## PRODUCT INFORMATION

| Information               | Description   |
|---------------------------|---|
| Modulation                | GFSK, $\pi/4$ -DQPSK, 8-DPSK  |
| Operating Frequency Range | 2400 – 2483.5 MHz   |
| Nominal Channel Bandwidth | GFSK (1 Mbps), $\pi/4$ -DQPSK (2 Mbps), 8-DPSK (3 Mbps)   |
| RF Output Power           | 13.47 dBm   |
| Antenna type              | Internal PCB trace antenna  |
| Antenna gain              | 4.17 dBi  |
| Nominal Voltage           |   |
| - Supply Voltage          | 12 Vdc  |
| - Type of power source    | DC voltage  |
| Equipment type            | Bluetooth Classic (BR & EDR)  |
| Transmit Data Rate:       | GFSK, $\pi/4$ -DQPSK, 8-DPSK Rates:<br>GFSK: DH1, DH3, DH5<br>$\pi/4$ -DQPSK :2DH1, 2DH3, 2DH5<br>8DPSK: 3DH1, 3DH3, 3DH5 |

## TEST CONDITIONS

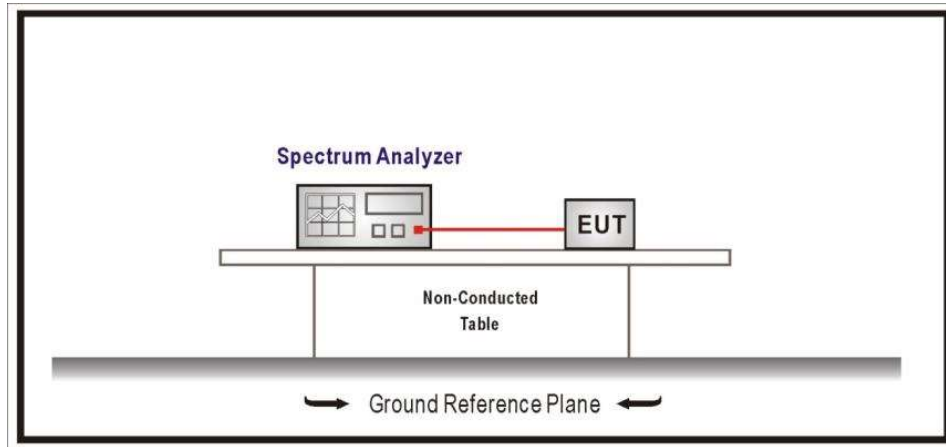
(\*): Data provided by the client.

| TEST CONDITIONS | DESCRIPTION   |
|-----------------|---|
| TC#01           | <p><u>Power supply (V):</u><br/> <math>V_{\text{nominal}} = 12 \text{ Vdc}</math></p> <p><u>Modulation:</u><br/>           GFSK</p> <p><u>Test Frequencies for conducted tests:</u><br/>           Frequencies: 2402, 2441, 2480 MHz</p>            |
| TC#02           | <p><u>Power supply (V):</u><br/> <math>V_{\text{nominal}} = 12 \text{ Vdc}</math></p> <p><u>Modulation:</u><br/> <math>\pi/4</math>-DQPSK</p> <p><u>Test Frequencies for Conducted tests:</u><br/>           Frequencies: 2402, 2441, 2480 MHz</p>  |
| TC#03           | <p><u>Power supply (V):</u><br/> <math>V_{\text{nominal}} = 12 \text{ Vdc}</math></p> <p><u>Modulation:</u><br/>           8-DPSK</p> <p><u>Test Frequencies for Conducted/Radiated tests:</u><br/>           Frequencies: 2402, 2441, 2480 MHz</p> |

Worst case\*

A prescan was performed to determine the worst-case scenario. Worst-case scenario detected is shown in the test results.

CONDUCTED MEASUREMENTS:



RADIATED MEASUREMENTS:

All radiated tests were performed in a semi-anechoic chamber. The measurement antenna is situated at 3 m for the frequency range 30-1000 MHz (Bilog antenna) and 1-18 GHz (Double ridge horn antenna), and 1m for the frequency range 18 GHz- 26 GHz (Double ridge horn antenna).

For radiated emissions in the range 18 - 26 GHz that is performed at a distance closer than the specified distance, an inverse proportionality factor of 20 dB per decade is used to normalize the measured data for determining compliance.

The equipment under test was set up on a non-conductive platform above the ground plane and the situation and orientation was varied to find the maximum radiated emission. It was also rotated 360° and the antenna height was varied from 1 to 4 meters to find the maximum radiated emission.

Measurements were made in both horizontal and vertical planes of polarization.

The field strength is calculated by adding correction factor to the measured level from the spectrum analyzer. This correction factor includes antenna factor, cable loss and pre-amplifiers gain.



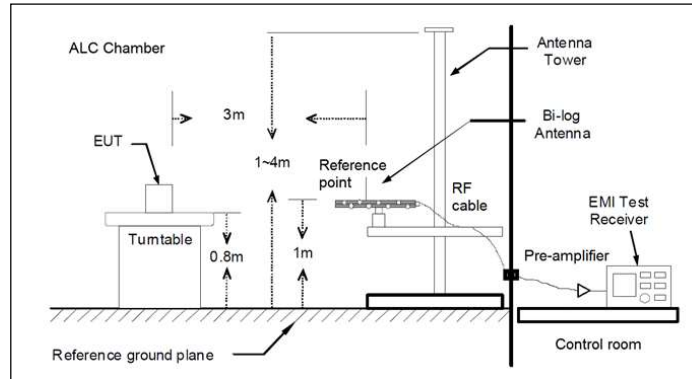


Fig A1: Radiated measurements Setup  $f < 1$  GHz

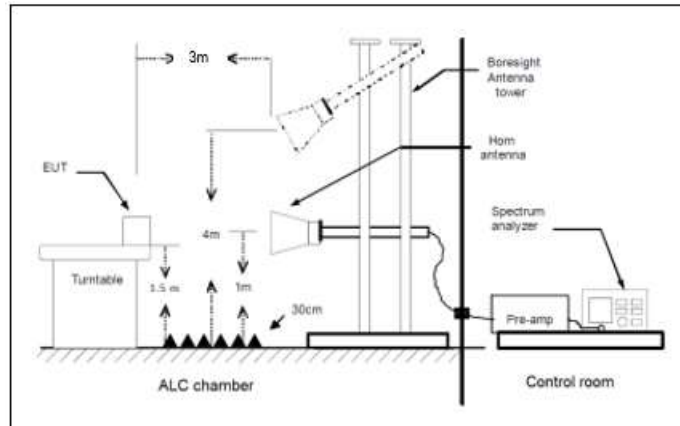


Fig A2: Radiated measurements setup  $f > 1-18$  GHz

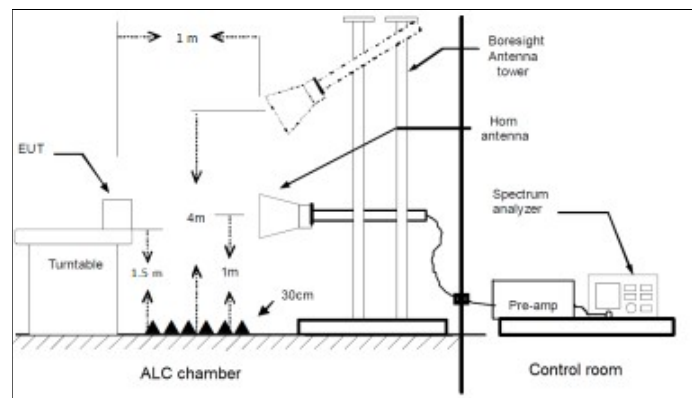


Fig A3: Radiated measurements setup  $f > 18$  GHz

## TEST CASE DETAILS

### RSS-247 5.4 (b) / FCC 15.247 (b) (1) Maximum Peak Conducted & Antenna gain

#### Limits

For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 hopping channels: 1 watt (30 dBm). The e.i.r.p. shall not exceed 4 W (RSS-247).

Maximum declared antenna gain: 4.1 dBi

Modulation: BT (GFSK 1-DH1)

#### Results

| Freq (MHz) | # of Tx Chains | Port | Peak Power (dBm) | Maximum EIRP power (dBm) |
|------------|----------------|------|------------------|--------------------------|
| 2402.00000 | 1              | 1    | 8.6              | 12.8                     |
| 2441.00000 | 1              | 1    | 8.5              | 12.7                     |
| 2480.00000 | 1              | 1    | 7.6              | 11.8                     |

Modulation: BT ( $\pi/4$  DQPSK 2-DH1)

#### Results

| Freq (MHz) | # of Tx Chains | Port | Peak Power (dBm) | Maximum EIRP power (dBm) |
|------------|----------------|------|------------------|--------------------------|
| 2402.00000 | 1              | 1    | 5.9              | 10.1                     |
| 2441.00000 | 1              | 1    | 6.1              | 10.3                     |
| 2480.00000 | 1              | 1    | 5.2              | 9.4                      |

Modulation: BT (8DPSK 3-DH1)

#### Results

| Freq (MHz) | # of Tx Chains | Port | Peak Power (dBm) | Maximum EIRP power (dBm) |
|------------|----------------|------|------------------|--------------------------|
| 2402.00000 | 1              | 1    | 6.5              | 10.7                     |
| 2441.00000 | 1              | 1    | 6.5              | 10.7                     |
| 2480.00000 | 1              | 1    | 5.6              | 9.8                      |

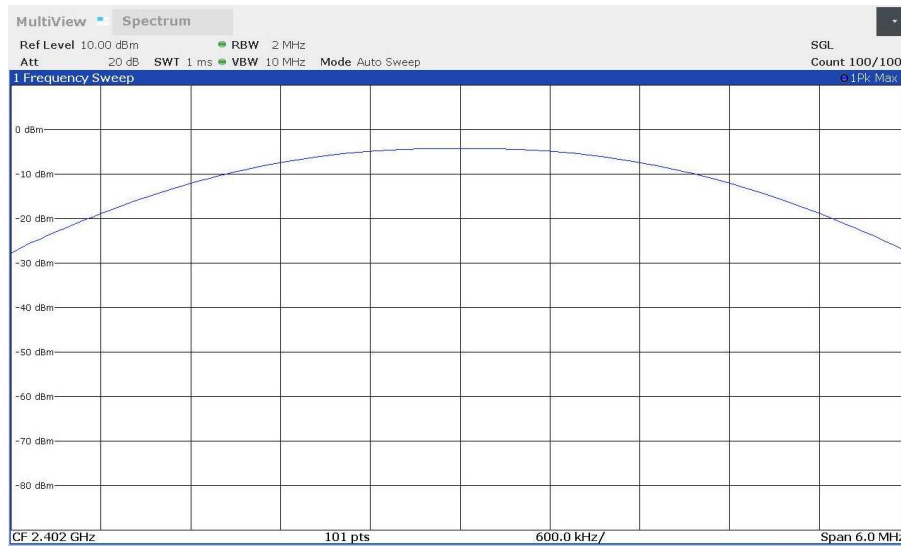
#### Verdict

Pass

**Attachments**

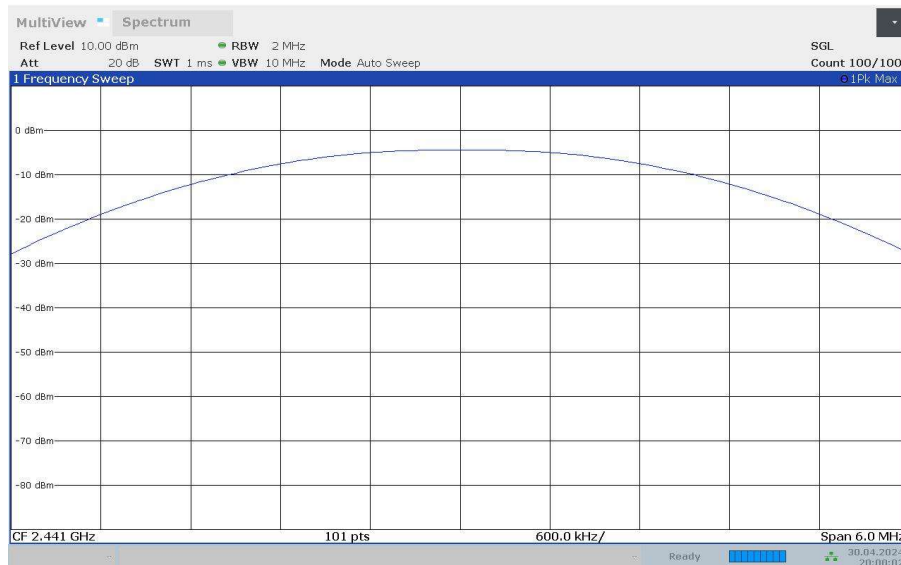
**Frequency MHz = 2402.00000, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS),  
Modulation = BT (GFSK 1-DH1), Number of Transmission Chains = 1**

**Images:**



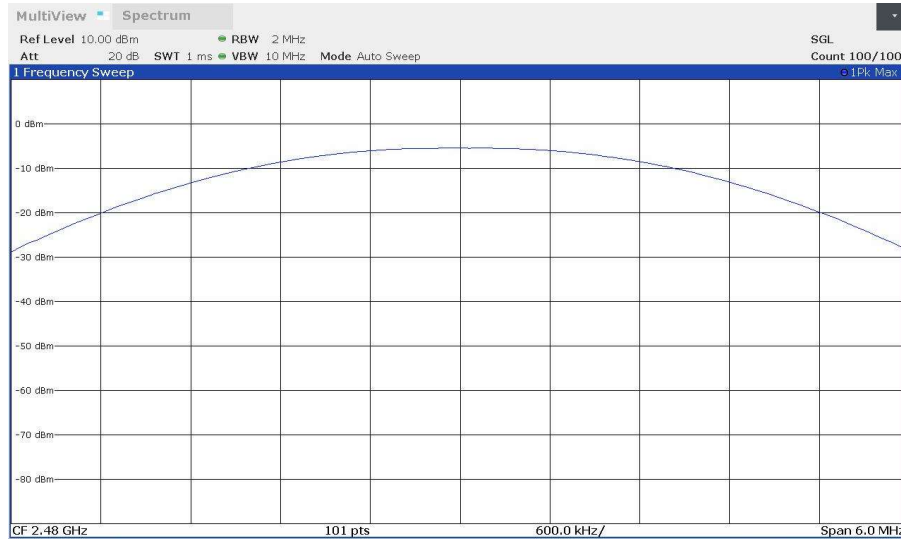
**Frequency MHz = 2441.00000, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS),  
Modulation = BT (GFSK 1-DH1), Number of Transmission Chains = 1**

**Images:**



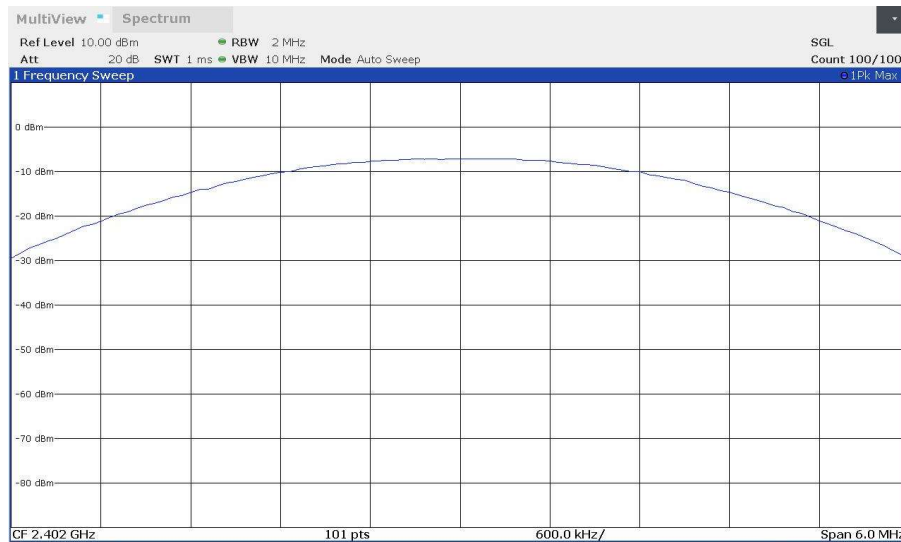
**Frequency MHz = 2480.00000, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS),  
Modulation = BT (GFSK 1-DH1), Number of Transmission Chains = 1**

**Images:**



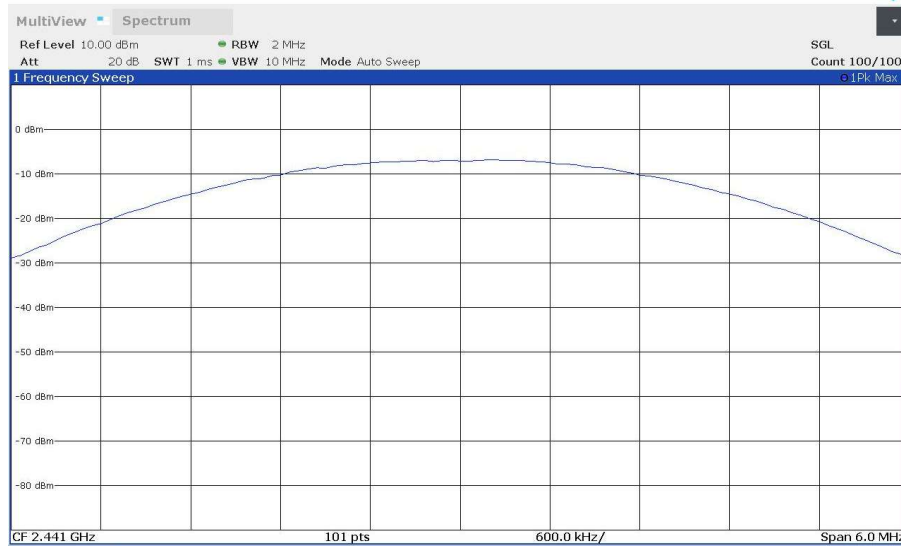
**Frequency MHz = 2402.00000, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS),  
Modulation = BT ( $\pi/4$  DQPSK 2-DH1), Number of Transmission Chains = 1**

**Images:**



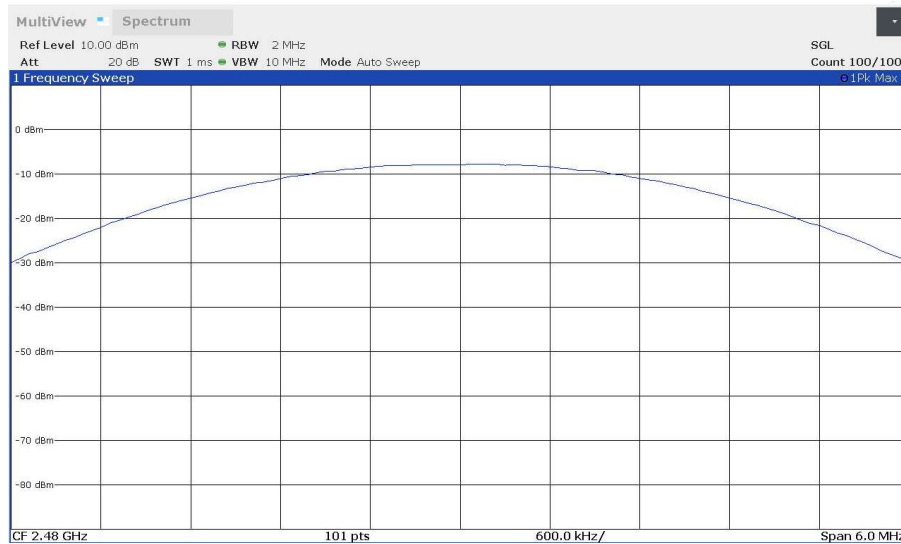
**Frequency MHz = 2441.00000, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS),  
Modulation = BT ( $\pi/4$  DQPSK 2-DH1), Number of Transmission Chains = 1**

Images:



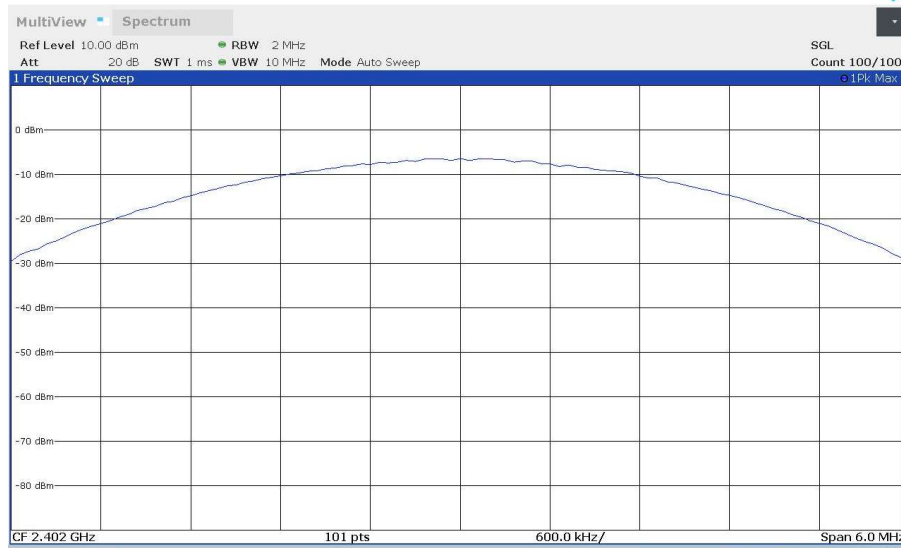
**Frequency MHz = 2480.00000, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS),  
Modulation = BT ( $\pi/4$  DQPSK 2-DH1), Number of Transmission Chains = 1**

Images:



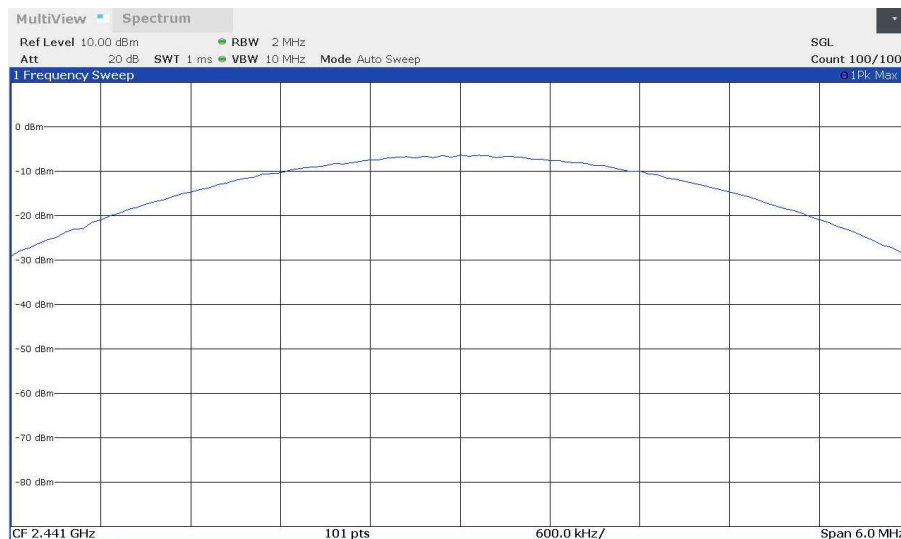
**Frequency MHz = 2402.00000, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS),  
Modulation = BT (8DPSK 3-DH1), Number of Transmission Chains = 1**

**Images:**



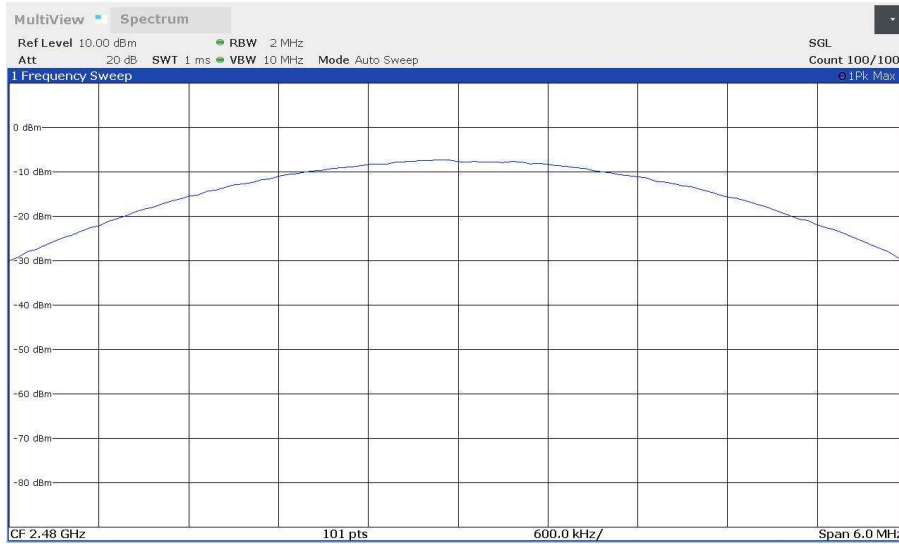
**Frequency MHz = 2441.00000, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS),  
Modulation = BT (8DPSK 3-DH1), Number of Transmission Chains = 1**

**Images:**



**Frequency MHz = 2480.00000, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS),  
Modulation = BT (8DPSK 3-DH1), Number of Transmission Chains = 1**

**Images:**



**RSS-247 5.5 / FCC 15.247 (d) EMISSION LIMITATIONS RADIATED (TRANSMITTER) - Radiated**

**Limits**

Radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c) / RSS-Gen):

| Frequency Range (MHz) | Field strength (µV/m) | Field strength (dBµV/m) | Measurement distance (m) |
|-----------------------|-----------------------|-------------------------|--------------------------|
| 0.009-0.490           | 2400/F(kHz)           | -                       | 300                      |
| 0.490-1.705           | 24000/F(kHz)          | -                       | 30                       |
| 1.705 - 30.0          | 30                    | -                       | 30                       |
| 30 - 88               | 100                   | 40                      | 3                        |
| 88 - 216              | 150                   | 43.5                    | 3                        |
| 216 - 960             | 200                   | 46                      | 3                        |
| 960 - 25000           | 500                   | 54                      | 3                        |

The emission limits shown in the above table are based on measurements employing CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz Radiated emission limits in these three bands are based on measurements employing an average detector.

For average radiated emission measurements above 1000 MHz, there is also a limit corresponding to 20 dB above the indicated values in the table is specified when measuring with peak detector function.

RSS-247. Attenuation below the general field strength limits specified in RSS-Gen is not required

**Verdict**

Pass



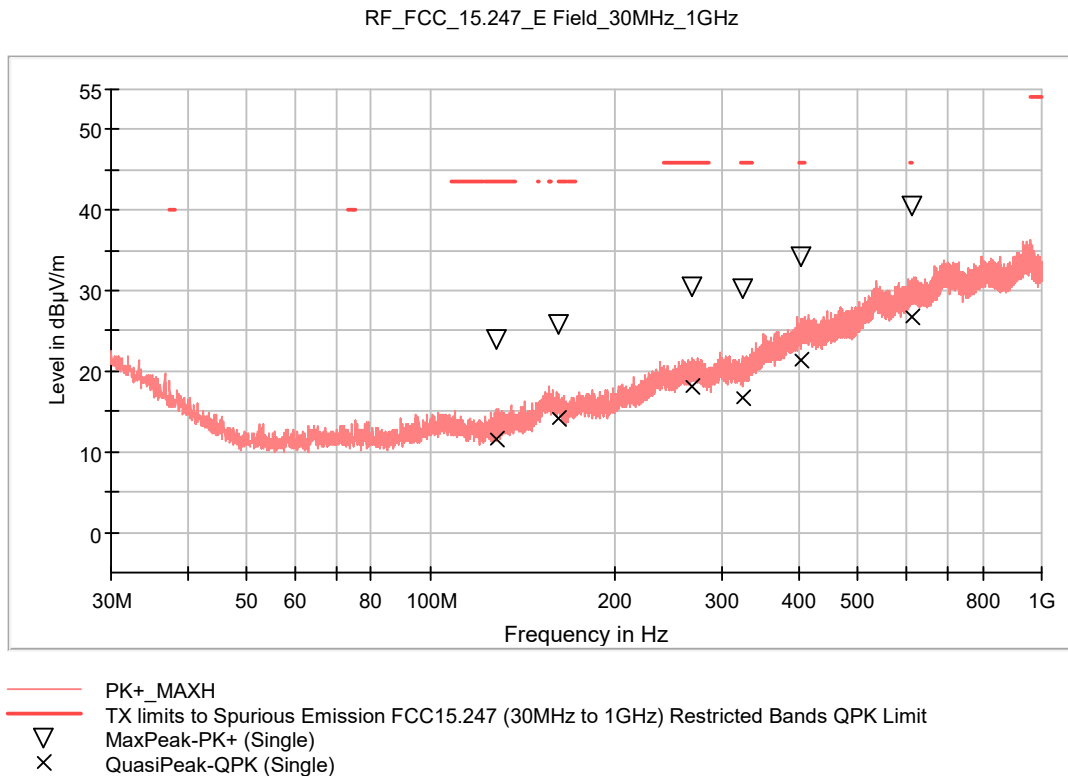
**Results**

**Frequency range 9KHz – 30 MHz**

No radiofrequency signal generated in the device found below 10° sub-armonic, no further investigation required.

**Frequency range 30 MHz – 1000 MHz**

The spurious emissions below 1 GHz do not depend on the operating channel and modulation selected in the EUT.



| Frequency (MHz) | MaxPeak (dBµV/m) | QuasiPeak (dBµV/m) | Pol | Margin - QPK (dB) | Limit - QPK (dBµV/m) |
|-----------------|------------------|--------------------|-----|-------------------|----------------------|
| 128.600500      | 24.0             | 11.7               | H   | 31.9              | 43.5                 |
| 162.356500      | 25.7             | 14.1               | H   | 29.5              | 43.5                 |
| 268.038000      | 30.5             | 18.2               | V   | 27.8              | 46.0                 |
| 324.977000      | 30.1             | 16.7               | H   | 29.3              | 46.0                 |
| 403.450000      | 34.3             | 21.4               | V   | 24.6              | 46.0                 |
| 612.970000      | 40.6             | 26.7               | H   | 19.3              | 46.0                 |

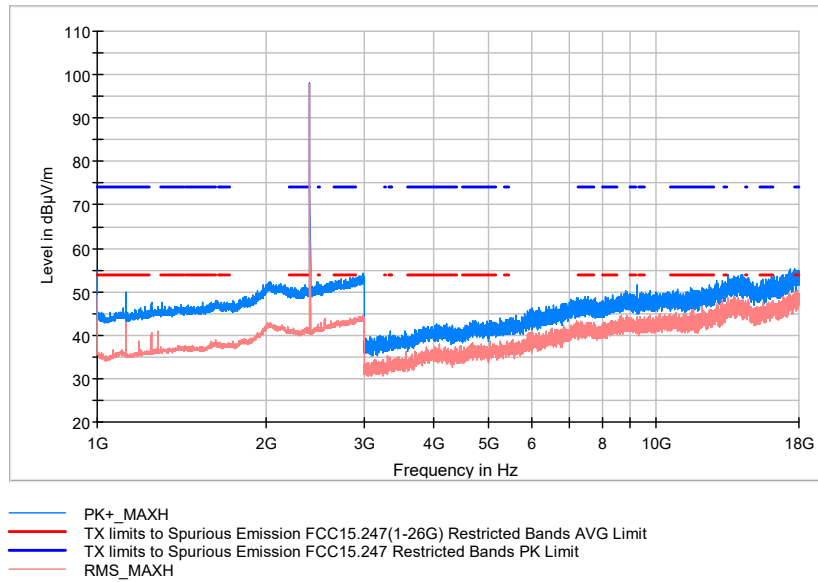
### Frequency range 1 GHz – 26 GHz

The results in the following plots and tables show the maximum measured levels in the 1-26 GHz range including the restricted bands 2.31-2.5 GHz.

Modulation: BT (GFSK)

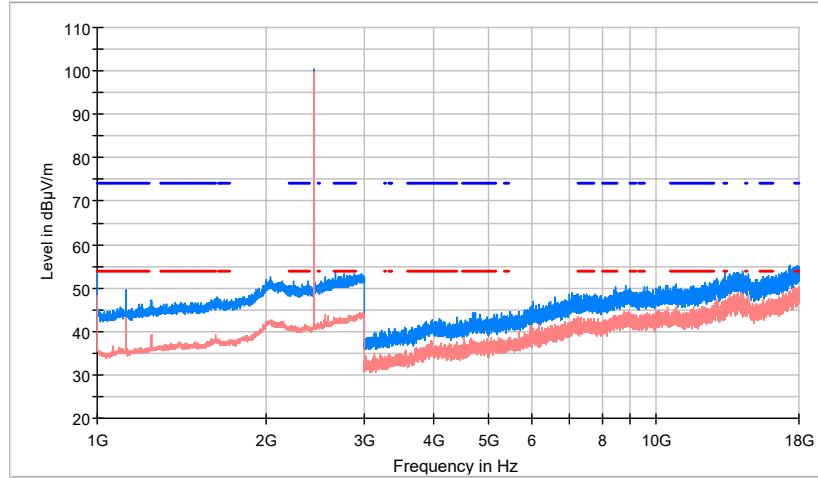
### Frequency range 1 - 18 GHz

#### Lowest Channel



| Frequency (MHz) | PK+ MAXH (dBµV/m) | RMS_MAXH (dBµV/m) | Pol | Margin - RMS (dB) | Limit - RMS (dBµV/m) | Comment     |
|-----------------|-------------------|-------------------|-----|-------------------|----------------------|-------------|
| 2402.000000     | 98.1              | 97.6              | V   | ---               | ---                  | Fundamental |
| 12103.50000     | 49.5              | 46.6              | H   | 7.4               | 54.0                 |             |

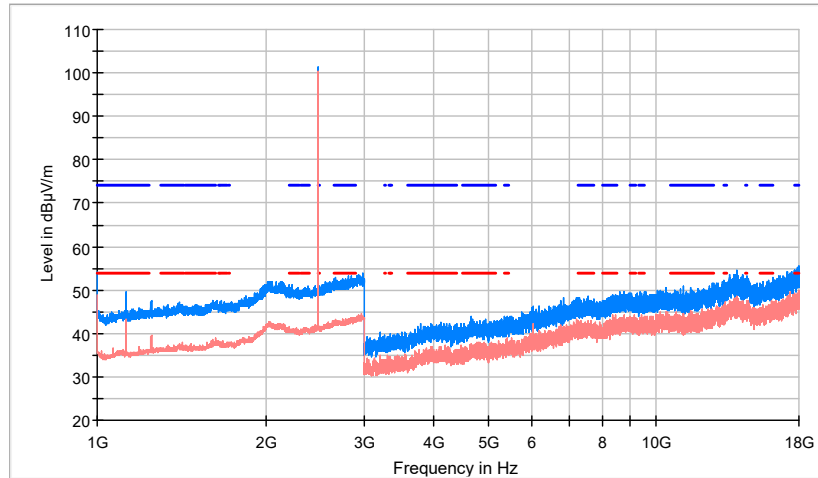
**Middle Channel**



- PK+\_MAXH
- TX limits to Spurious Emission FCC15.247(1-26G) Restricted Bands AVG Limit
- TX limits to Spurious Emission FCC15.247 Restricted Bands PK Limit
- RMS\_MAXH

| Frequency (MHz) | PK+_MAXH (dBµV/m) | RMS_MAXH (dBµV/m) | Pol | Margin - RMS (dB) | Limit - RMS (dBµV/m) | Comment     |
|-----------------|-------------------|-------------------|-----|-------------------|----------------------|-------------|
| 2441.000000     | 100.4             | 99.7              | V   | ---               | ---                  | Fundamental |
| 11646.00000     | 48.6              | 45.4              | V   | 8.6               | 54.0                 |             |

### Highest Channel

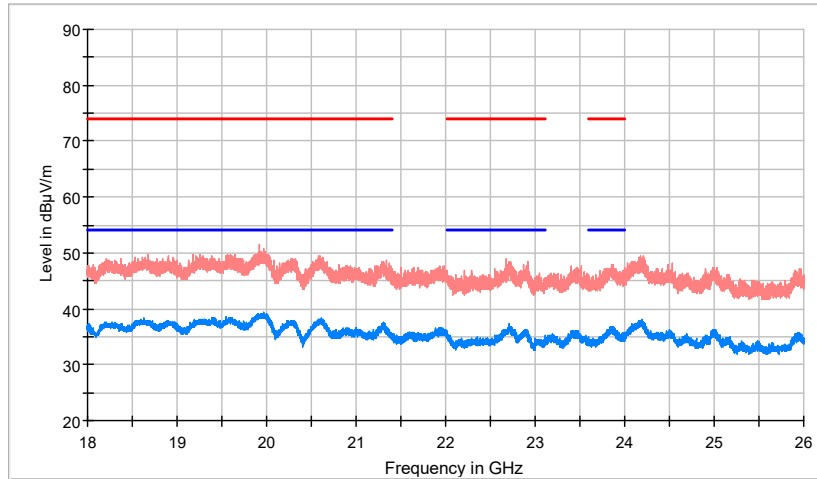


- PK+\_MAXH
- TX limits to Spurious Emission FCC15.247(1-26G) Restricted Bands AVG Limit
- - - TX limits to Spurious Emission FCC15.247 Restricted Bands PK Limit
- RMS\_MAXH

| Frequency (MHz) | PK+_MAXH (dBµV/m) | RMS_MAXH (dBµV/m) | Pol | Margin - RMS (dB) | Limit - RMS (dBµV/m) | Comment     |
|-----------------|-------------------|-------------------|-----|-------------------|----------------------|-------------|
| 2480.00000      | 101.4             | 100.3             | V   | ---               | ---                  | Fundamental |
| 11554.50000     | 49.3              | 45.3              | H   | 8.7               | 54.0                 |             |

**Frequency range 18 - 26 GHz**

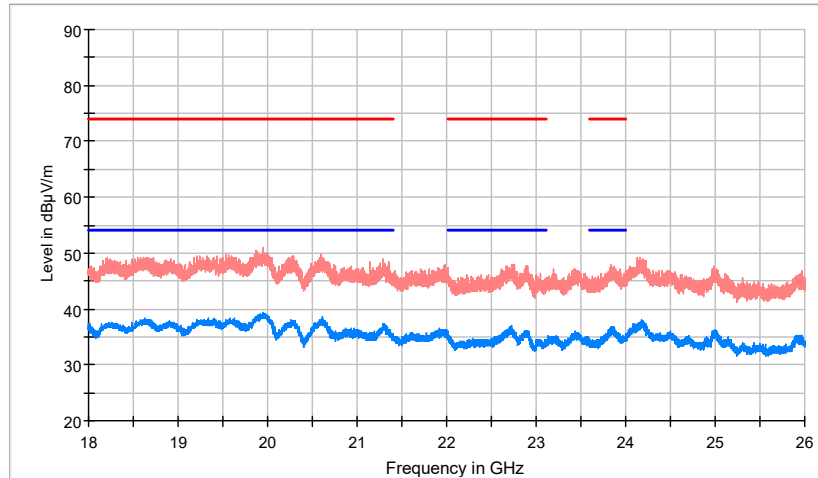
**Lowest Channel**



— AVG\_MAXH  
— PK+\_MAXH  
— TX limits to Spurious Emission FCC15.247(1-26G) Restricted Bands AVG Limit  
— TX limits to Spurious Emission FCC15.247 Restricted Bands PK Limit

| Frequency (MHz) | PK+_MAXH (dBµV/m) | AVG_MAXH (dBµV/m) | Pol | Margin - AVG (dB) | Limit - AVG (dBµV/m) |
|-----------------|-------------------|-------------------|-----|-------------------|----------------------|
| 19965.500000    | 50.7              | 39.3              | V   | 14.7              | 54.0                 |
| 22703.500000    | 46.4              | 37.3              | V   | 16.7              | 54.0                 |

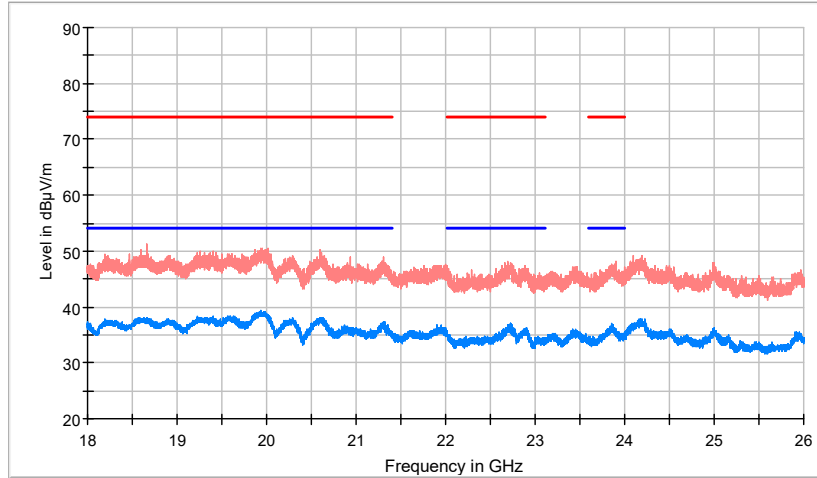
**Middle Channel**



— AVG\_MAXH  
— PK+\_MAXH  
— TX limits to Spurious Emission FCC15.247(1-26G) Restricted Bands AVG Limit  
— TX limits to Spurious Emission FCC15.247 Restricted Bands PK Limit

| Frequency (MHz) | PK+_MAXH (dBµV/m) | AVG_MAXH (dBµV/m) | Pol | Margin - AVG (dB) | Limit - AVG (dBµV/m) |
|-----------------|-------------------|-------------------|-----|-------------------|----------------------|
| 20614.000000    | 47.9              | 38.5              | H   | 15.5              | 54.0                 |
| 23859.500000    | 46.3              | 36.8              | H   | 17.2              | 54.0                 |

### Highest Channel

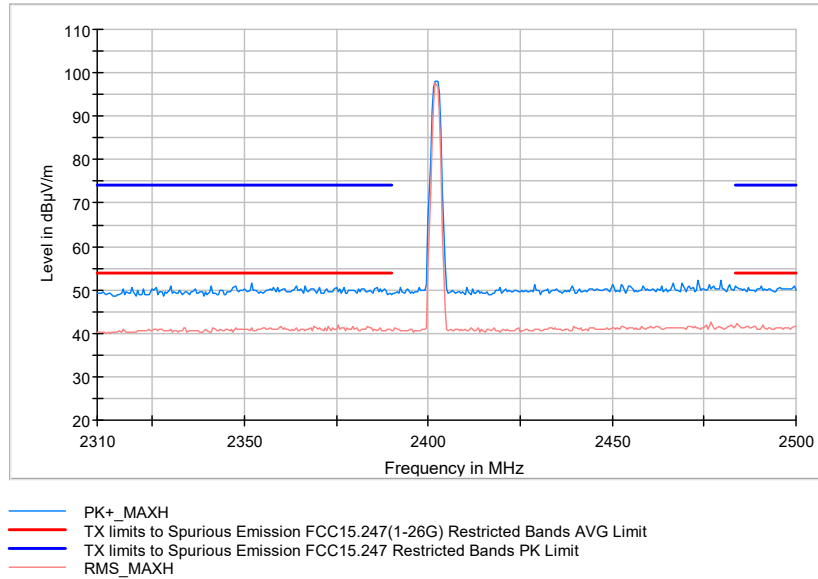


— AVG\_MAXH  
 — PK+\_MAXH  
 — TX limits to Spurious Emission FCC15.247(1-26G) Restricted Bands AVG Limit  
 — TX limits to Spurious Emission FCC15.247 Restricted Bands PK Limit

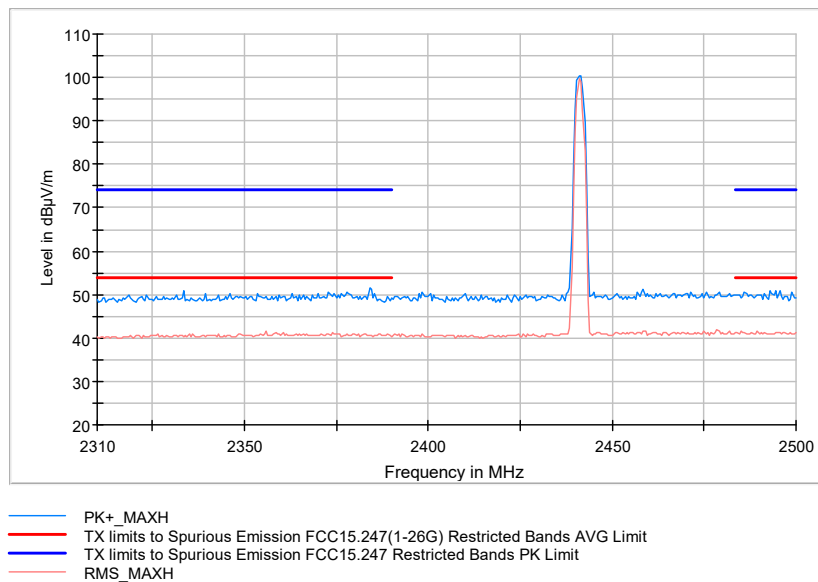
| Frequency (MHz) | PK+_MAXH (dBµV/m) | AVG_MAXH (dBµV/m) | Pol | Margin - AVG (dB) | Limit - AVG (dBµV/m) |
|-----------------|-------------------|-------------------|-----|-------------------|----------------------|
| 19940.000000    | 48.8              | 39.3              | V   | 14.7              | 54.0                 |
| 22700.500000    | 46.3              | 36.8              | V   | 17.2              | 54.0                 |

## Restricted Bands (2.31 GHz - 2.5 GHz)

### Lowest Channel

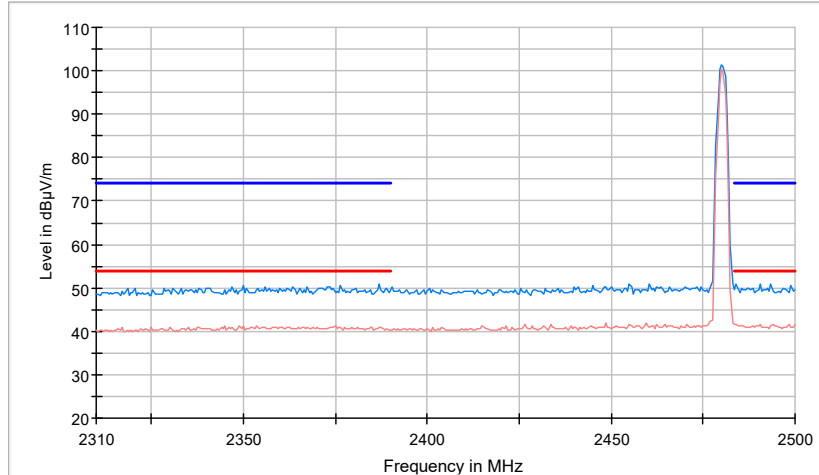


### Middle Channel





### Highest Channel



— PK+\_MAXH  
— TX limits to Spurious Emission FCC15.247(1-26G) Restricted Bands AVG Limit  
— TX limits to Spurious Emission FCC15.247 Restricted Bands PK Limit  
— RMS\_MAXH

| Subrange        | Step Size | Detectors | Bandwidth | Sweep Time |
|-----------------|-----------|-----------|-----------|------------|
| 30 MHz - 1 GHz  | 48.5 kHz  | PK+       | 100 kHz   | 1 s        |
| 1 GHz - 3 GHz   | 500 kHz   | PK+ ; AVG | 1 MHz     | 0.1 s      |
| 3 GHz - 18 GHz  | 500 kHz   | PK+ ; AVG | 1 MHz     | 0.1 s      |
| 18 GHz - 26 GHz | 500 kHz   | PK+ ; AVG | 1 MHz     | 1 s        |

## Appendix B: Test results. Wi-Fi 2.4GHz

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| PRODUCT INFORMATION .....                        | 36 |
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| TEST CASES DETAILS .....                         | 40 |
| Maximum Average Conducted Output Power .....     | 40 |
| Emission Limitations Radiated (Transmitter)..... | 46 |

## PRODUCT INFORMATION

| Information                 | Description                |
|-----------------------------|----------------------------|
| Modulation                  | BPSK, QPSK, QPSK,          |
| Maximum RF Output Power     | < 15 dBm                   |
| Operation mode              |                            |
| - Operating Frequency Range | 2400 – 2483.5 MHz          |
| - Nominal Channel Bandwidth | 20 MHz                     |
| Antenna type                | Internal PCB trace antenna |
| Antenna gain                | 4.53 dBi                   |
| Nominal Voltage             |                            |
| - Supply Voltage            | 12 Vdc                     |
| - Type of power source      | DC voltage                 |
| Equipment type              | Wi-Fi 2.4 GHz b/g/n        |
| Geo-location capability     | No                         |

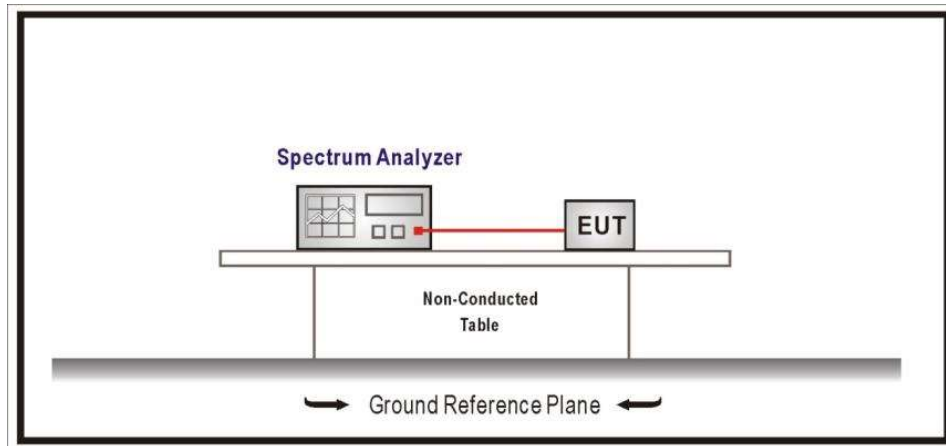
## TEST CONDITIONS

| TEST CONDITIONS                         | DESCRIPTION  |
|---|--|
| TC#01 <sup>(1)</sup><br><b>(b mode)</b> | <u>Power supply (V):</u><br>$V_{\text{nominal}} = 12 \text{ Vdc}$<br><u>Channel Bandwidth:</u> 20 MHz<br><u>Test Frequencies for Conducted/Radiated tests (SISO):</u><br>Frequencies: 2412, 2437, 2462 MHz |
| TC#02 <sup>(1)</sup><br><b>(g mode)</b> | <u>Power supply (V):</u><br>$V_{\text{nominal}} = 12 \text{ Vdc}$<br><u>Channel Bandwidth:</u> 20 MHz<br><u>Test Frequencies for Conducted/Radiated tests (SISO):</u><br>Frequencies: 2412, 2437, 2462 MHz |
| TC#03 <sup>(1)</sup><br><b>(n mode)</b> | <u>Power supply (V):</u><br>$V_{\text{nominal}} = 12 \text{ Vdc}$<br><u>Channel Bandwidth:</u> 20 MHz<br><u>Test Frequencies for Conducted/Radiated tests (SISO):</u><br>Frequencies: 2412, 2437, 2462 MHz |

Note (1): For spurious emissions for OFDM modes 802.11b, 802.11g, and 802.11n20 a preliminary scan was performed to determine the worst case. The following tables and plots show the results for the worst case in DSSS modulation (802.11b).

The data rates of 5.5 Mb/s for 802.11b, 9 Mb/s for 802.11g, MCS2 for 802.11n20 were selected based on preliminary testing that identified those rates corresponding to the worst cases.

CONDUCTED MEASUREMENTS:



RADIATED MEASUREMENTS:

All radiated tests were performed in a semi-anechoic chamber. The measurement antenna is situated at 3 m for the frequency range 30-1000 MHz (Bilog antenna) and 1-18 GHz (Double ridge horn antenna), and 1m for the frequency range 18 GHz- 26 GHz (Double ridge horn antenna).

For radiated emissions in the range 18 - 26 GHz that is performed at a distance closer than the specified distance, an inverse proportionality factor of 20 dB per decade is used to normalize the measured data for determining compliance.

The equipment under test was set up on a non-conductive platform above the ground plane and the situation and orientation was varied to find the maximum radiated emission. It was also rotated 360° and the antenna height was varied from 1 to 4 meters to find the maximum radiated emission.

Measurements were made in both horizontal and vertical planes of polarization.

The field strength is calculated by adding correction factor to the measured level from the spectrum analyzer. This correction factor includes antenna factor, cable loss and pre-amplifiers gain.

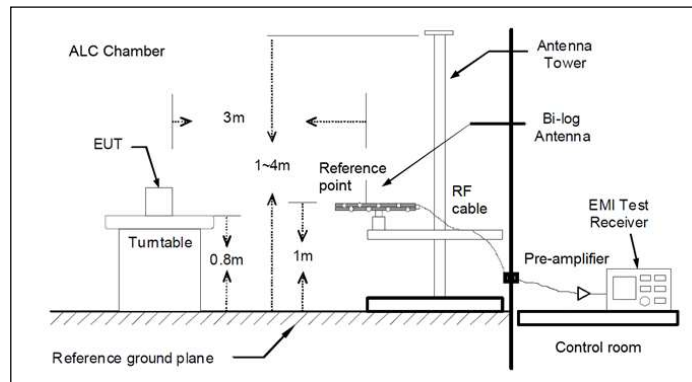


Fig A1: Radiated measurements Setup  $f < 1$  GHz

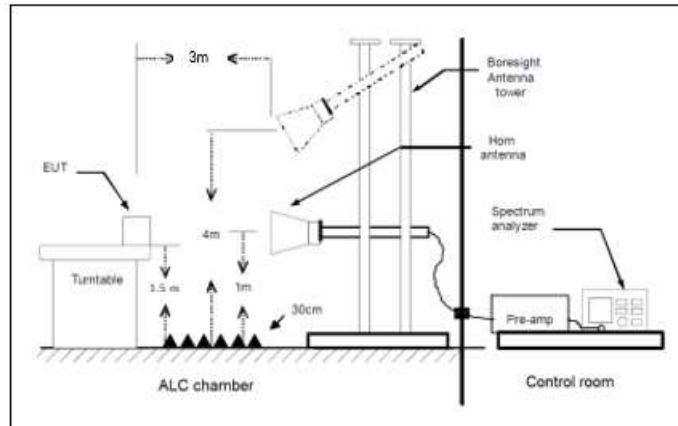


Fig A2: Radiated measurements setup  $f > 1-18$  GHz

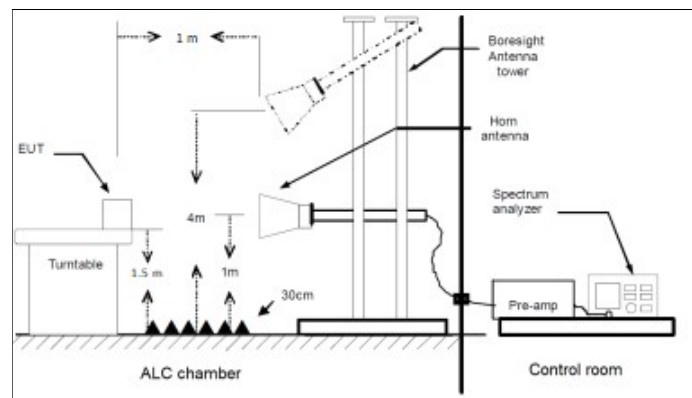


Fig A3: Radiated measurements setup  $f > 18$  GHz

### TEST CASES DETAILS

#### RSS-247 5.4 (a) / FCC 15.247 (b) (1) Maximum Average Conducted Output Power

#### Limits

For systems using digital modulation in the 2400 -2483.5 MHz band: 1 watt (30 dBm).

The e.i.r.p. shall not exceed 4 W (36 dBm) (RSS-247).

#### Results

Antenna gain: 4.53 dBi

Modulation: 802.11b

| Freq (MHz) | BW (MHz) | Output Power (dBm) | E.I.R.P. (dBm) |
|------------|----------|--------------------|----------------|
| 2412.00000 | 20       | 11.5               | 16.1           |
| 2437.00000 | 20       | 11.7               | 16.2           |
| 2480.00000 | 20       | 12.2               | 16.7           |

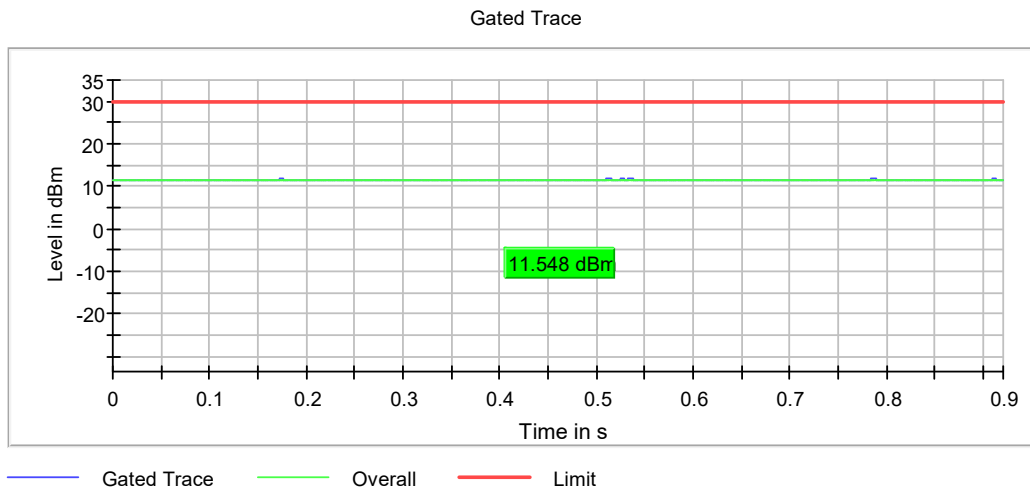
#### Verdict

Pass

#### Attachments

Frequency MHz = 2412.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 1, Modulation = 802.11b , Number of Transmission Chains = 1

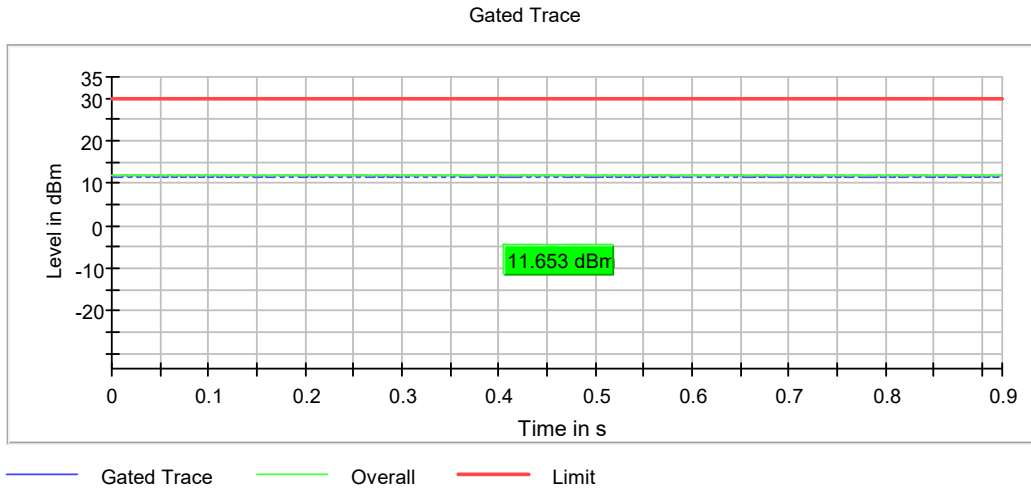
#### Images:





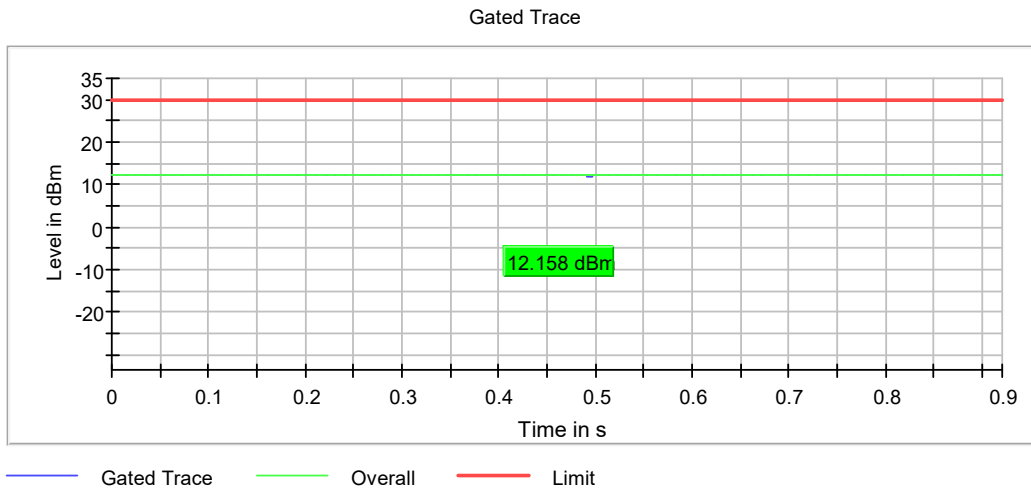
Frequency MHz = 2437.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 1,  
Modulation = 802.11b , Number of Transmission Chains = 1

Images:



Frequency MHz = 2462.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 1,  
Modulation = 802.11b , Number of Transmission Chains = 1

Images:



Antenna gain: 4.5 dBi

Modulation: 802.11g

**Results**

| Freq (MHz) | BW (MHz) | Output Power (dBm) | E.I.R.P. (dBm) |
|------------|----------|--------------------|----------------|
| 2412.00000 | 20       | 11.5               | 16.1           |
| 2437.00000 | 20       | 11.5               | 16.0           |
| 2480.00000 | 20       | 12.0               | 16.6           |

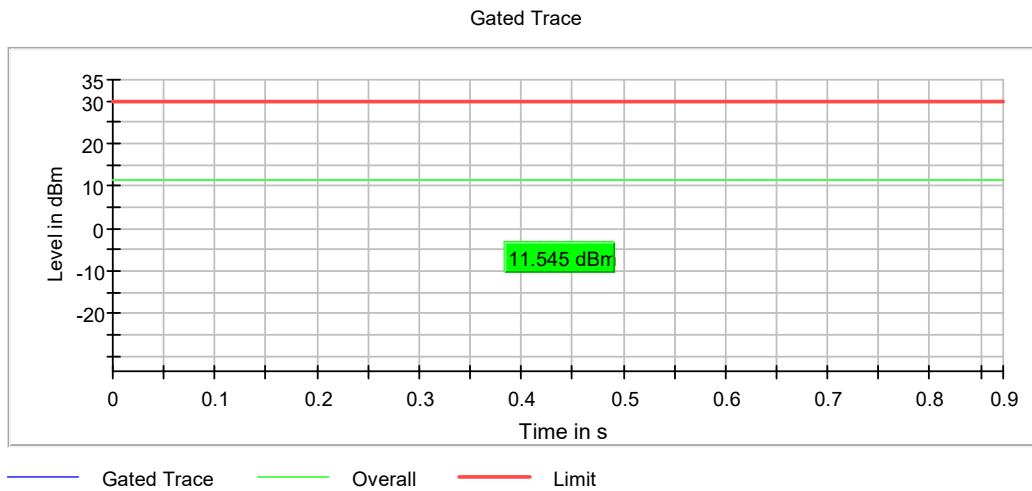
**Verdict**

Pass

**Attachments**

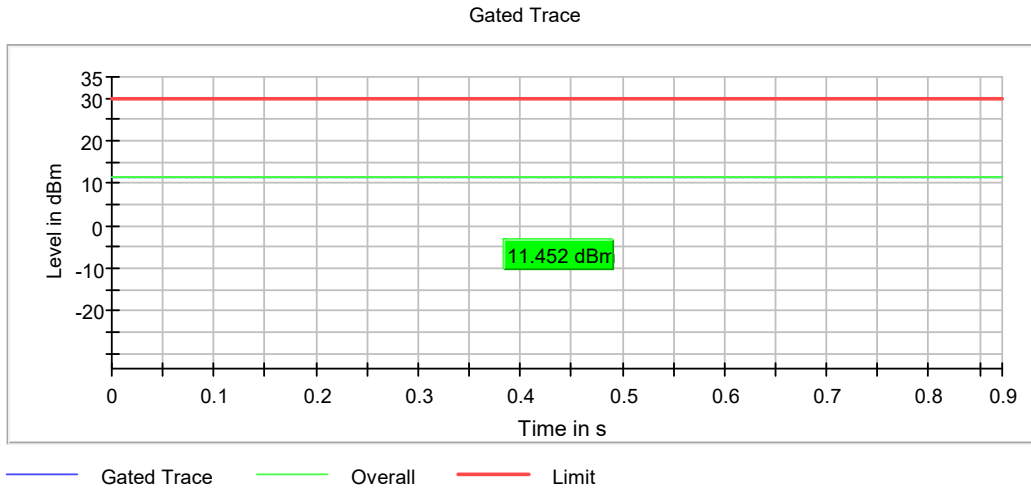
Frequency MHz = 2412.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 1, Modulation = 802.11g, Number of Transmission Chains = 1

**Images:**



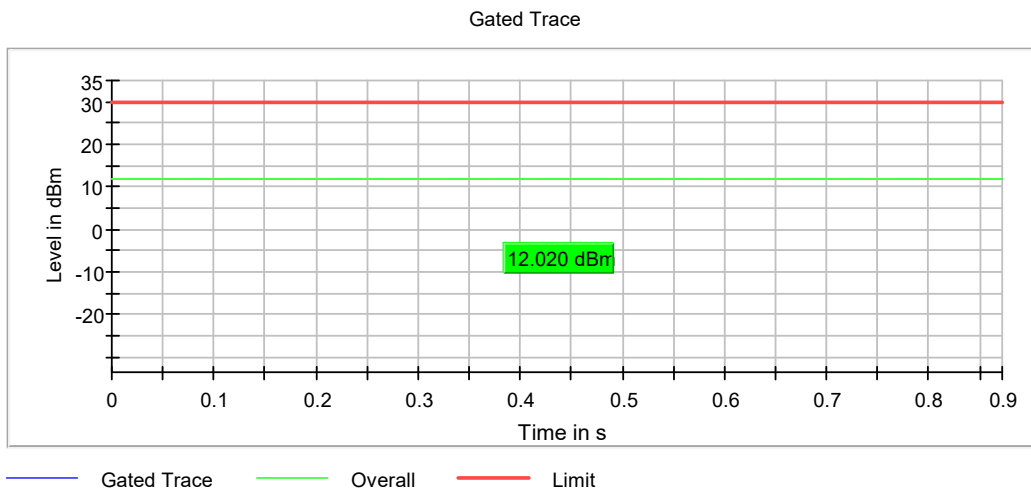
Frequency MHz = 2437.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 1,  
Modulation = 802.11g, Number of Transmission Chains = 1

Images:



Frequency MHz = 2462.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 1,  
Modulation = 802.11g, Number of Transmission Chains = 1

Images:



Antenna gain: 4.5 dBi

Modulation: 802.11n20

**Results**

| Freq (MHz) | BW (MHz) | Output Power (dBm) | E.I.R.P. (dBm) |
|------------|----------|--------------------|----------------|
| 2412.00000 | 20       | 11.4               | 16.0           |
| 2437.00000 | 20       | 11.4               | 15.9           |
| 2480.00000 | 20       | 11.9               | 16.4           |

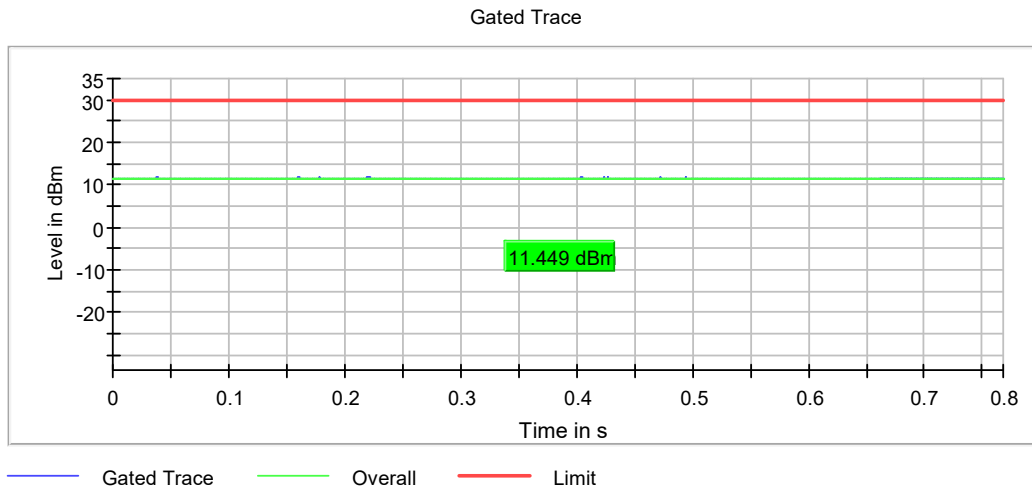
**Verdict**

Pass

**Attachments**

Frequency MHz = 2412.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 20, Modulation = 802.11n , Number of Transmission Chains =1

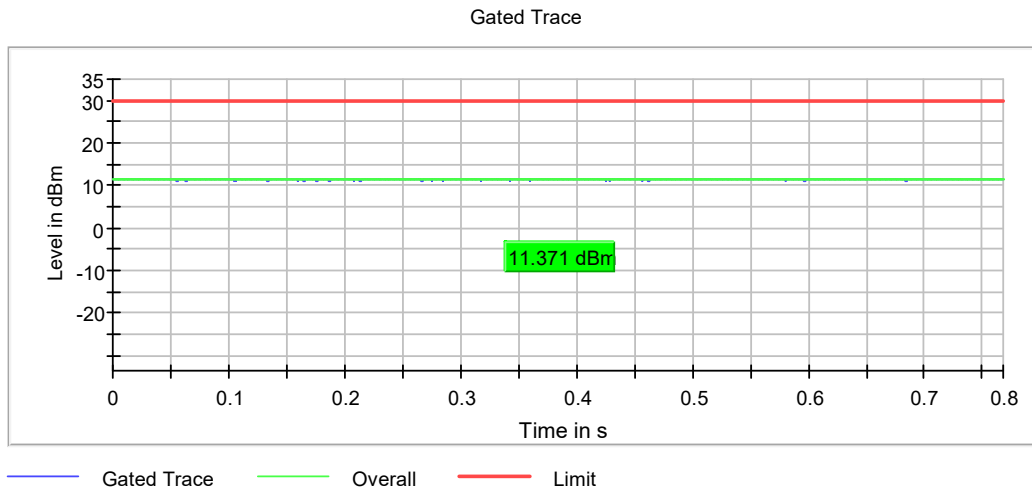
**Images:**



**Attachments**

**Frequency MHz = 2437.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 20, Modulation = 802.11n , Number of Transmission Chains = 1**

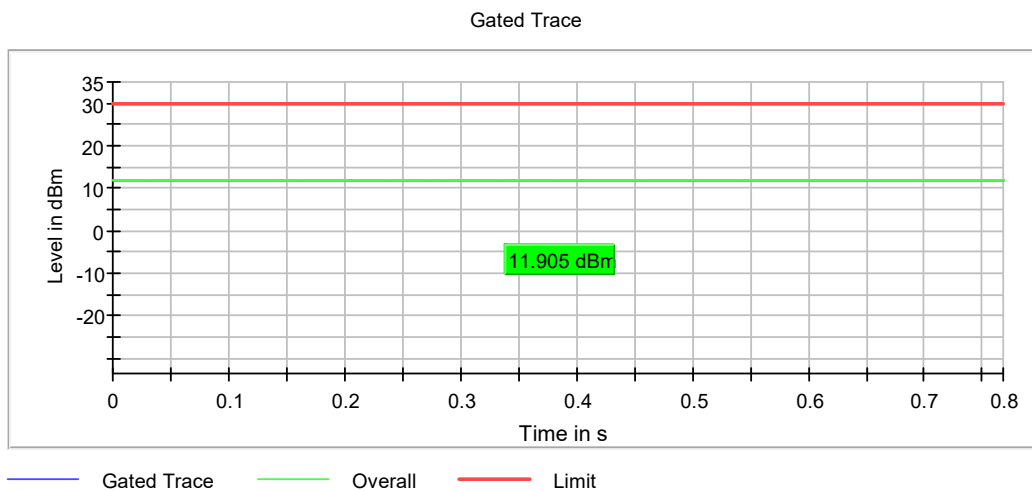
**Images:**



**Attachments**

**Frequency MHz = 2462.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 20, Modulation = 802.11n , Number of Transmission Chains = 1**

**Images:**



**OSP PowerMeter settings**

| Setting          | Instrument Value | Target Value |
|------------------|------------------|--------------|
| Measurement Time | 1.000 s          | 1.000 s      |
| Points           | 1000000          | 1000000      |
| Time resolution  | 1.000 µs         | 1.000 µs     |

**RSS-247 5.5 / FCC 15.247 (d) Emission Limitations Radiated (Transmitter)**

**Limits**

Radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c) / RSS-Gen):

| Frequency Range (MHz) | Field strength (µV/m) | Field strength (dBµV/m) | Measurement distance (m) |
|-----------------------|-----------------------|-------------------------|--------------------------|
| 0.009-0.490           | 2400/F(kHz)           | -                       | 300                      |
| 0.490-1.705           | 24000/F(kHz)          | -                       | 30                       |
| 1.705 - 30.0          | 30                    | -                       | 30                       |
| 30 - 88               | 100                   | 40                      | 3                        |
| 88 - 216              | 150                   | 43.5                    | 3                        |
| 216 - 960             | 200                   | 46                      | 3                        |
| 960 - 25000           | 500                   | 54                      | 3                        |

The emission limits shown in the above table are based on measurements employing CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz Radiated emission limits in these three bands are based on measurements employing an average detector.

For average radiated emission measurements above 1000 MHz, there is also a limit corresponding to 20 dB above the indicated values in the table is specified when measuring with peak detector function.

RSS-247. Attenuation below the general field strength limits specified in RSS-Gen is not required

**Verdict**

Pass

**Results**

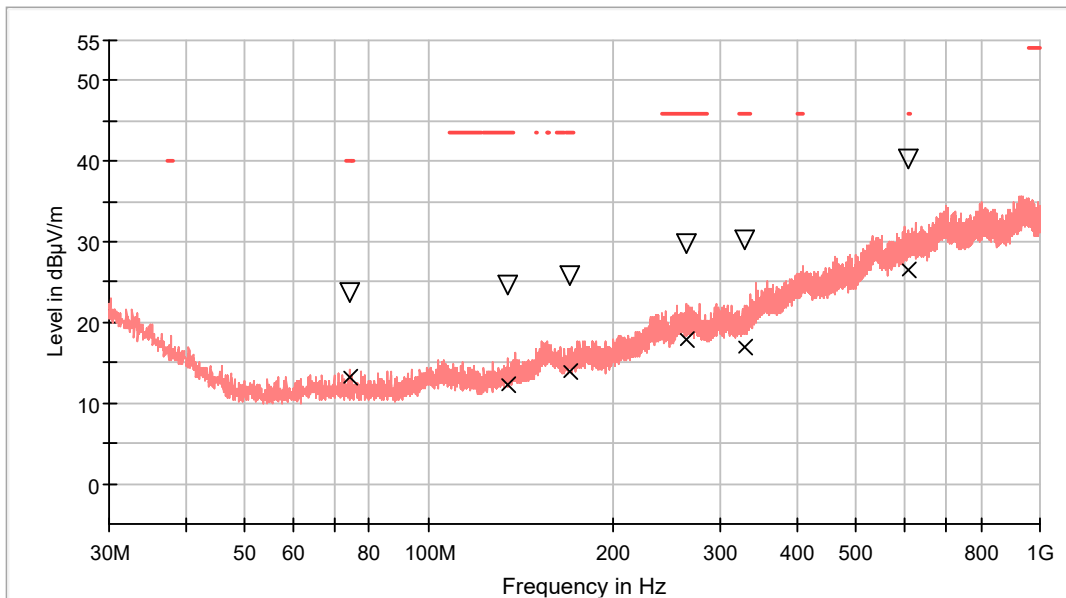
**Frequency range 9KHz – 30 MHz**

No radiofrequency signal generated in the device found below 10° sub-armonic, no further investigation required.

**Frequency range 30 MHz – 1000 MHz**

The spurious emissions below 1 GHz do not depend on the operating channel and modulation and mode selected in the EUT.

RF\_FCC\_15.247\_E Field\_30MHz\_1GHz



- PK+\_MAXH
- - - TX limits to Spurious Emission FCC15.247 (30MHz to 1GHz) Restricted Bands QPK Limit
- ▽ MaxPeak-PK+ (Single)
- × QuasiPeak-QPK (Single)

| Frequency (MHz) | MaxPeak (dBµV/m) | QuasiPeak (dBµV/m) | PoI | Margin - QPK (dB) | Limit - QPK (dBµV/m) |
|-----------------|------------------|--------------------|-----|-------------------|----------------------|
| 74.135000       | 23.6             | 13.1               | V   | 26.9              | 40.0                 |
| 134.808500      | 24.7             | 12.3               | H   | 31.3              | 43.5                 |
| 169.971000      | 25.9             | 14.0               | V   | 29.5              | 43.5                 |
| 263.721500      | 29.9             | 17.8               | V   | 28.2              | 46.0                 |
| 328.614500      | 30.2             | 16.9               | H   | 29.1              | 46.0                 |
| 611.127000      | 40.2             | 26.6               | V   | 19.4              | 46.0                 |

### Frequency range 1 GHz – 26 GHz

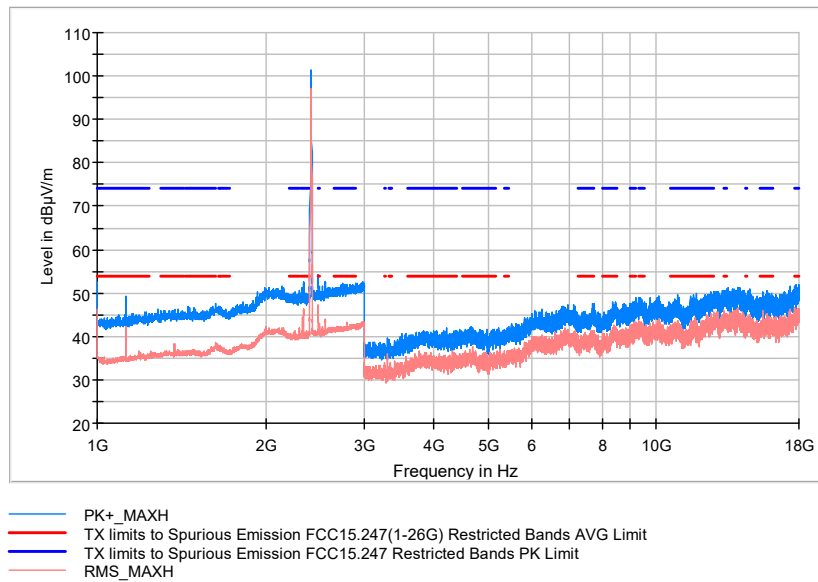
The results for the 802.11b worst operation mode selected for this range are shown below.

The results in the next tables show the maximum measured levels in the 1-26 GHz range including the restricted bands 2.31-2.39 GHz and 2.4835-2.5 GHz (see next plots). Please see the following results for worst operation mode selected for this range (1 Mbps).

Modulation: 802.11b

### Frequency range: 1 – 18 GHz

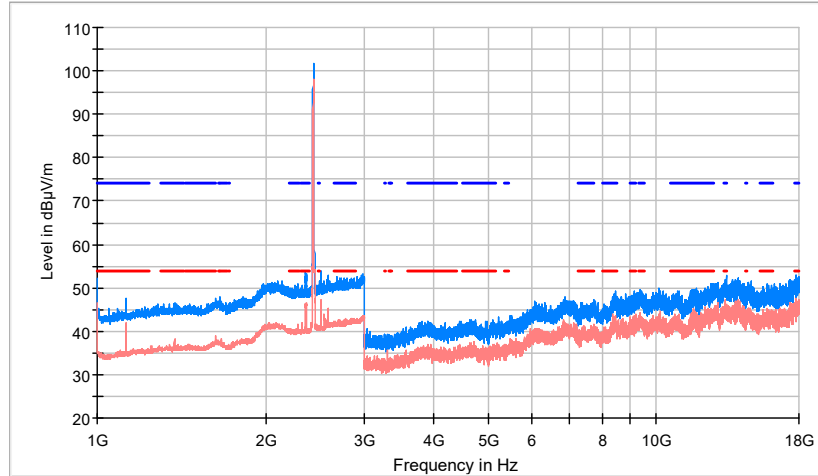
#### Lowest Channel



| Frequency (MHz) | PK+_MAXH (dBµV/m) | RMS_MAXH (dBµV/m) | Pol | Margin - RMS (dB) | Limit - RMS (dBµV/m) | Comment     |
|-----------------|-------------------|-------------------|-----|-------------------|----------------------|-------------|
| 2411.000000     | 101.2             | 96.9              | V   | ---               | ---                  | Fundamental |
| 2487.500000     | 54.3              | 47.1              | V   | 6.9               | 54.0                 |             |
| 11549.000000    | 47.2              | 43.6              | V   | 10.4              | 54.0                 |             |



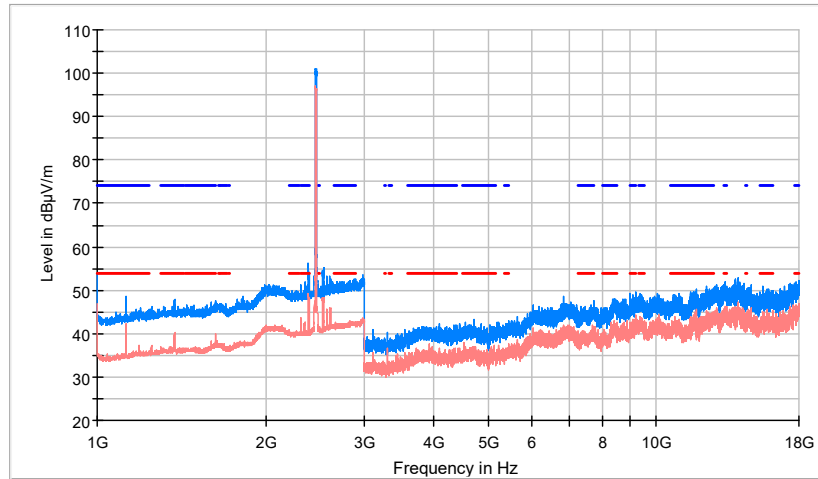
**Middle Channel**



— PK+\_MAXH  
— TX limits to Spurious Emission FCC15.247(1-26G) Restricted Bands AVG Limit  
- - - TX limits to Spurious Emission FCC15.247 Restricted Bands PK Limit  
— RMS\_MAXH

| Frequency (MHz) | PK+_MAXH (dBµV/m) | RMS_MAXH (dBµV/m) | PoI | Margin - RMS (dB) | Limit - RMS (dBµV/m) | Comment     |
|-----------------|-------------------|-------------------|-----|-------------------|----------------------|-------------|
| 2362.000000     | 52.8              | 46.6              | V   | 7.4               | 54.0                 |             |
| 2436.500000     | 101.8             | 98.1              | V   | ---               | ---                  | Fundamental |
| 8374.500000     | 47.8              | 43.8              | H   | 10.2              | 54.0                 |             |

**Highest Channel**

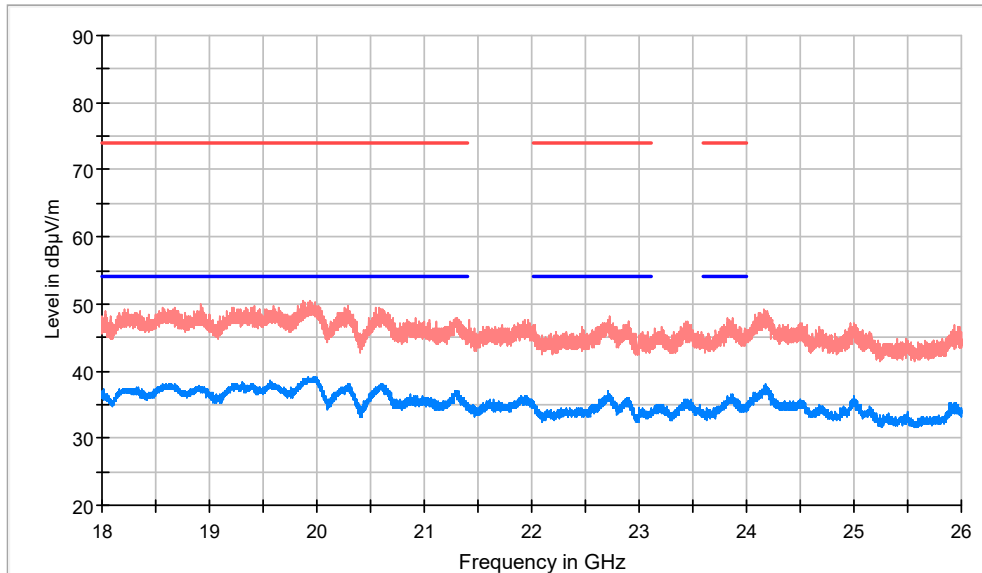


- PK+\_MAXH
- TX limits to Spurious Emission FCC15.247(1-26G) Restricted Bands AVG Limit
- TX limits to Spurious Emission FCC15.247 Restricted Bands PK Limit
- RMS\_MAXH

| Frequency (MHz) | PK+_MAXH (dBµV/m) | RMS_MAXH (dBµV/m) | Pol | Margin - RMS (dB) | Limit - RMS (dBµV/m) | Comment     |
|-----------------|-------------------|-------------------|-----|-------------------|----------------------|-------------|
| 2385.500000     | 54.3              | 49.2              | H   | 4.8               | 54.0                 |             |
| 2461.000000     | 101.0             | 96.9              | V   | ---               | ---                  | Fundamental |
| 11770.000000    | 50.1              | 45.5              | V   | 8.5               | 54.0                 |             |

**Frequency range 18 - 26 GHz**

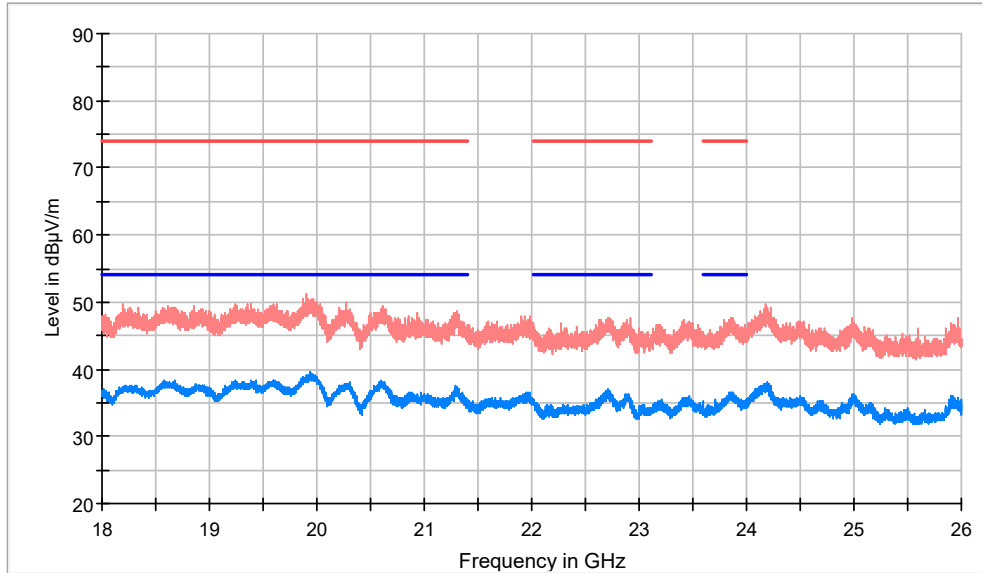
**Lowest Channel**



- AVG\_MAXH
- PK+\_MAXH
- TX limits to Spurious Emission FCC15.247(1-26G) Restricted Bands AVG Limit
- TX limits to Spurious Emission FCC15.247 Restricted Bands PK Limit

| Frequency (MHz) | PK+_MAXH (dBµV/m) | AVG_MAXH (dBµV/m) | Pol | Margin - AVG (dB) | Limit - AVG (dBµV/m) |
|-----------------|-------------------|-------------------|-----|-------------------|----------------------|
| 19944.500000    | 49.1              | 39.2              | H   | 14.8              | 54.0                 |
| 22703.000000    | 46.5              | 37.3              | V   | 16.7              | 54.0                 |

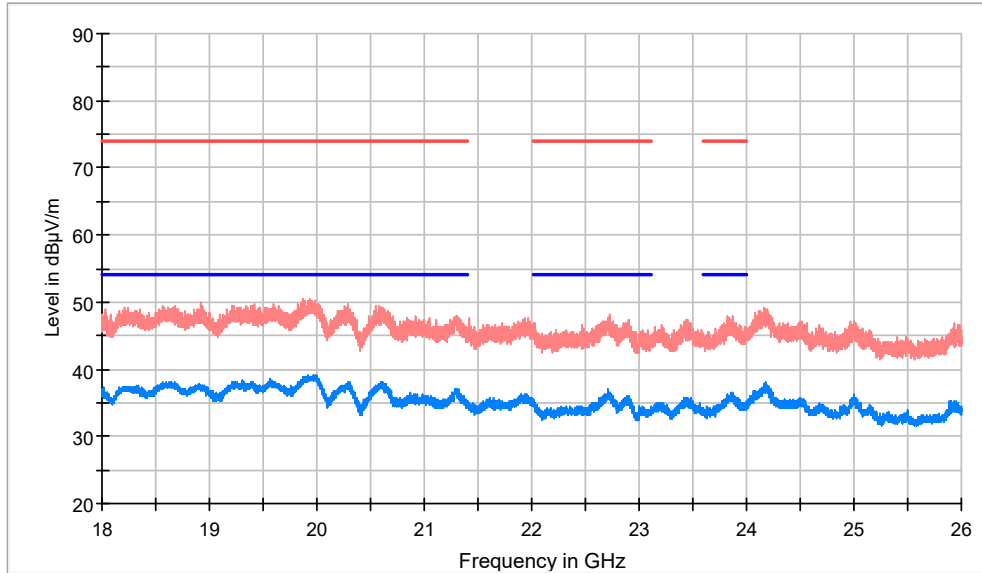
**Middle Channel**



- AVG\_MAXH
- PK+\_MAXH
- TX limits to Spurious Emission FCC15.247(1-26G) Restricted Bands AVG Limit
- TX limits to Spurious Emission FCC15.247 Restricted Bands PK Limit

| Frequency (MHz) | PK+_MAXH (dBµV/m) | AVG_MAXH (dBµV/m) | Pol | Margin - AVG (dB) | Limit - AVG (dBµV/m) |
|-----------------|-------------------|-------------------|-----|-------------------|----------------------|
| 19953.500000    | 48.5              | 39.3              | V   | 14.7              | 54.0                 |
| 22709.500000    | 46.0              | 37.0              | H   | 17.0              | 54.0                 |

### Highest Channel

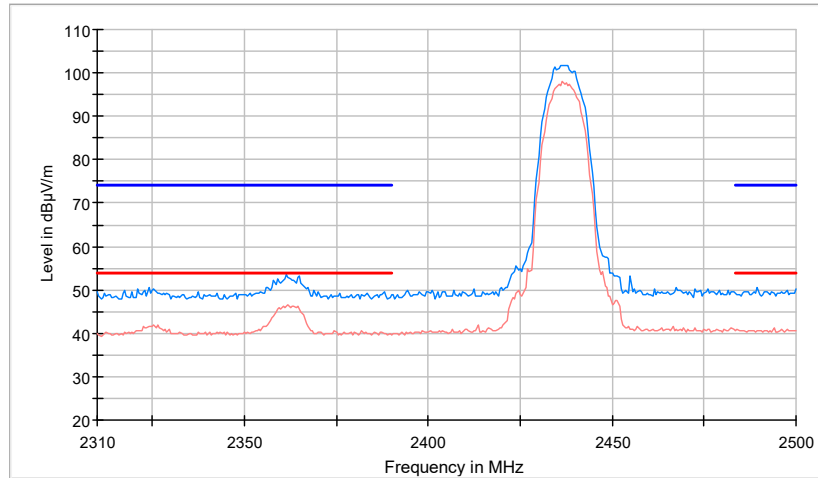


- AVG\_MAXH
- PK+\_MAXH
- TX limits to Spurious Emission FCC15.247(1-26G) Restricted Bands AVG Limit
- TX limits to Spurious Emission FCC15.247 Restricted Bands PK Limit

| Frequency (MHz) | PK+_MAXH (dBµV/m) | AVG_MAXH (dBµV/m) | Pol | Margin - AVG (dB) | Limit - AVG (dBµV/m) |
|-----------------|-------------------|-------------------|-----|-------------------|----------------------|
| 21301.500000    | 47.4              | 37.0              | H   | 17.0              | 54.0                 |
| 23864.500000    | 46.0              | 36.5              | H   | 17.5              | 54.0                 |
| 23933.500000    | 45.5              | 35.4              | V   | 18.6              | 54.0                 |

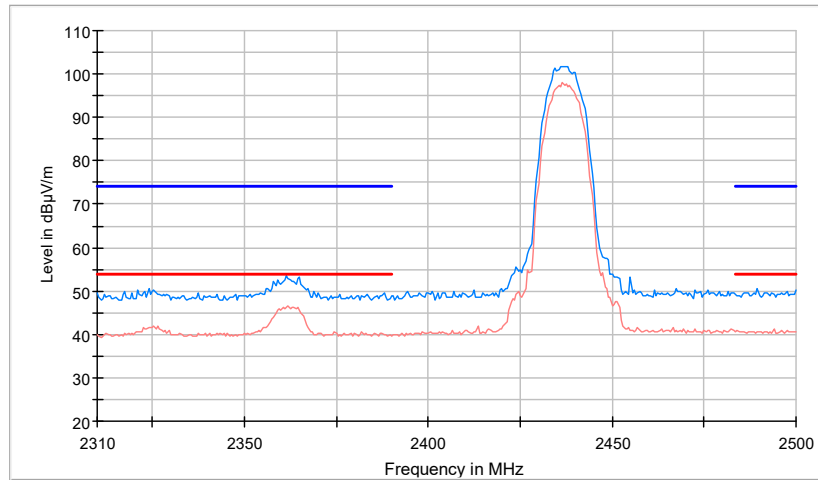
### Restricted Bands (2.31 GHz - 2.5 GHz)

#### Lowest Channel



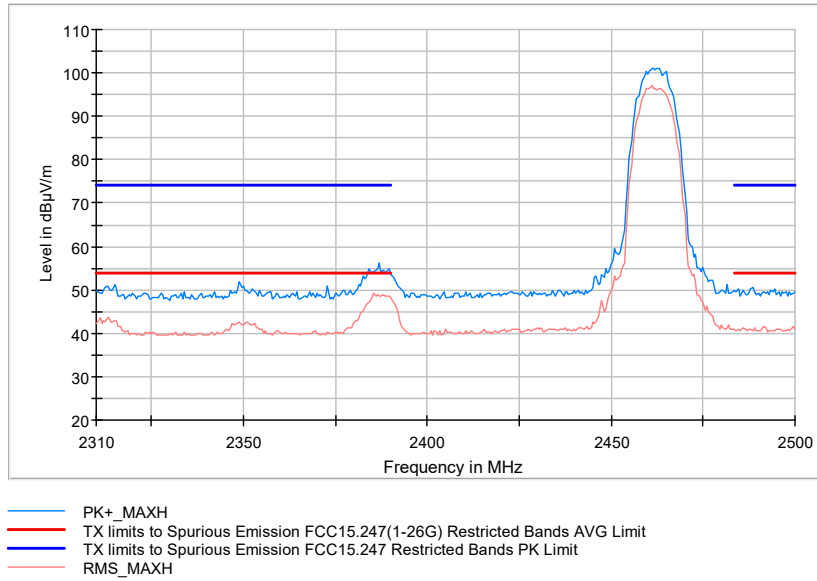
- PK+ \_MAXH
- TX limits to Spurious Emission FCC15.247(1-26G) Restricted Bands AVG Limit
- TX limits to Spurious Emission FCC15.247 Restricted Bands PK Limit
- RMS \_MAXH

#### Middle Channel



- PK+ \_MAXH
- TX limits to Spurious Emission FCC15.247(1-26G) Restricted Bands AVG Limit
- TX limits to Spurious Emission FCC15.247 Restricted Bands PK Limit
- RMS \_MAXH

**Middle Channel**



| Subrange        | Step Size | Detectors | Bandwidth | Sweep Time |
|-----------------|-----------|-----------|-----------|------------|
| 30 MHz - 1 GHz  | 48.5 kHz  | PK+       | 100 kHz   | 1 s        |
| 1 GHz - 3 GHz   | 500 kHz   | PK+ ; AVG | 1 MHz     | 0.1 s      |
| 3 GHz - 18 GHz  | 500 kHz   | PK+ ; AVG | 1 MHz     | 0.1 s      |
| 18 GHz - 26 GHz | 500 kHz   | PK+ ; AVG | 1 MHz     | 1 s        |