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Report No.: SHEM130900182403

Page: 1 of 51

1 Cover Page

RF TEST REPORT for DTS

| | |
|---|---|
| Application No.: | SHEM1309001824RF |
| Applicant: | Hansong (Nanjing) Technology Ltd. |
| FCC ID: | XCO-SOUNDBAR2 |
| IC ID: | 7765A-SOUNDBAR2 |
| Equipment Under Test (EUT): NOTE: The following sample(s) submitted was/were identified on behalf of the client as | |
| Product Name: | Soundtrack 2 System |
| Model No.(EUT): | Soundtrack 2 |
| Standards: | FCC PART 15 Subpart C: 2012 RSS-210 Issue 8 (December 2010) RSS-Gen Issue 3 (December 2010) |
| Date of Receipt: | September 12, 2013 |
| Date of Test: | September 13, 2013 to September 26, 2013 |
| Date of Issue: | October 11, 2013 |
| Test Result: | Pass* |

*In the configuration tested, the EUT detailed in this report complied with the standards specified above.

Tony Wu
E&E Section Manager

SGS-CSTC (Shanghai) Co., Ltd.

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.



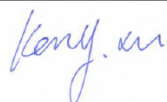
The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. All test results in this report can be traceable to National or International Standards.

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2 Version

| Revision Record | | | | |
|-----------------|---------|------------------|----------|----------|
| Version | Chapter | Date | Modifier | Remark |
| 00 | / | October 11, 2013 | / | Original |
| | | | | |
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|--------------------------|--|-------------------------------|--|--|
| Authorized for issue by: | | | | |
| Engineer | | Eddy Zong <hr/> Print Name | |  <hr/> |
| Clerk | | Susie Liu <hr/> Print Name | |  <hr/> |
| Reviewer | | Kenx Xu <hr/> Print Name | |  <hr/> |

3 Test Summary

| Test Item | Test Requirement | IC REFERENCE | Test method | Result |
|--------------------------------------|--|------------------------------|-----------------------------------|--------|
| Antenna Requirement | FCC Part 15, Subpart C Section 15.203/15.247 (c) | RSS-Gen 7.1.2 | --- | PASS |
| AC Power Line Conducted Emission | FCC Part 15, Subpart C Section 15.207 | RSS-Gen Issue 8 Clause 7.2.4 | ANSI C63.10 (2009) Section 6.2 | PASS |
| Minimum 6dB Bandwidth | FCC Part 15, Subpart C Section 15.247 (a)(2) | RSS-210 Issue 8 Annex 8 | ANSI C63.10 (2009) Section 6.9.1 | PASS |
| Conducted Peak Output Power | FCC Part 15, Subpart C Section 15.247 (b)(3) | RSS-210 Issue 8 Annex 8 | ANSI C63.10 (2009) Section 6.10.2 | PASS |
| Power Spectrum Density | FCC Part 15, Subpart C Section 15.247 (e) | RSS-210 Issue 8 Annex 8 | ANSI C63.10 (2009) Section 6.11.2 | PASS |
| RF Conducted Spurious Emissions | FCC Part 15, Subpart C Section 15.247(d) | RSS-210 Issue 8 Annex 8.5 | ANSI C63.10 (2009) Section 7.7.10 | PASS |
| Band-edge for RF Conducted Emissions | FCC Part 15, Subpart C Section 15.247(d) | RSS-210 Issue 8 Annex 8.5 | ANSI C63.10 (2009) Section 7.7.10 | PASS |
| Radiated Spurious emissions | FCC Part 15, Subpart C Section 15.209 and Section 15.205 | RSS-210 Issue 8 Annex 8.5 | ANSI C63.10 (2009) Section 6.12 | PASS |
| Radiated Band-edge | FCC Part 15, Subpart C Section 15.205 and Section 15.209 | RSS-210 Issue 8 Annex 8.5 | ANSI C63.10 (2009) Section 6.5 | PASS |
| Occupied bandwidth | --- | RSS-Gen Issue 3 Clause 4.6.1 | RSS-Gen Issue 3 Clause 4.6.1 | PASS |

Remark: N/A



4 Contents

| | Page |
|--|-----------|
| 1 COVER PAGE | 1 |
| 2 VERSION | 2 |
| 3 TEST SUMMARY | 3 |
| 4 CONTENTS | 4 |
| 5 GENERAL INFORMATION | 5 |
| 5.1 CLIENT INFORMATION | 5 |
| 5.2 GENERAL DESCRIPTION OF E.U.T. | 5 |
| 5.3 DETAILS OF E.U.T. | 5 |
| 5.4 DESCRIPTION OF SUPPORT UNITS | 5 |
| 5.5 TEST LOCATION | 6 |
| 5.6 TEST FACILITY | 6 |
| 6 EQUIPMENTS USED DURING TEST | 7 |
| 7 TEST RESULTS | 8 |
| 7.1 E.U.T. TEST CONDITIONS | 8 |
| 7.2 ANTENNA REQUIREMENT | 9 |
| 7.3 CONDUCTED EMISSIONS ON MAINS TERMINALS | 10 |
| 7.4 6dB OCCUPIED BANDWIDTH | 14 |
| 7.5 CONDUCTED PEAK OUTPUT POWER | 18 |
| 7.6 PEAK POWER SPECTRAL DENSITY | 22 |
| 7.7 CONDUCTED SPURIOUS EMISSIONS | 26 |
| 7.8 CONDUCTED BAND-EDGE | 30 |
| 7.9 RADIATED SPURIOUS EMISSIONS | 33 |
| 7.10 BAND EDGE (RADIATED EMISSION) | 41 |
| 7.11 99% OCCUPIED BANDWIDTH | 47 |
| 8 TEST SETUP PHOTOGRAPHS | 51 |
| 9 EUT CONSTRUCTIONAL DETAILS | 51 |

5 General Information

5.1 Client Information

Applicant: Hansong (Nanjing) Technology Ltd.
 Address of Applicant: 8th Kangping Road, Jiangning Economy and Technology Development Zone, Nanjing, 211106, China
 Manufacturer: Not supplied by the client.
 Address of Manufacturer: Not supplied by the client.
 Factory: Not supplied by the client.
 Address of Factory: Not supplied by the client.

5.2 General Description of E.U.T.

Product Name: Soundtrack 2 System
 Model No.(EUT): Soundtrack 2
 Product Description: Portable Product

5.3 Details of E.U.T.

Operation Frequency: 2412MHz~2464MHz
 Modulation Technique: QPSK
 Number of Channel: 3 channel(Low:2412MHz; Middle:2438MHz; High:2464MHz)
 Antenna Type: Integral (he RF modular contains two antennas, but the two antennas couldn't simultaneous working.)
 Antenna Gain: 1.5 dBi
 Adapter: Manufacturer: GOLDEN PROFIT ELECTRONICS LTD.
 Model No.: GPE060D-200250D
 Rated Input: 100-240V AC 50/60Hz, 1.5A
 Rated Output: 20V DC 2500mA
 Cable length: AC port: About 150cm Length
 DC port: About 170cm Length
 Transmitting Mode: Keep EUT working in continuous transmitting, and select channel and modulation type

5.4 Description of Support Units

The EUT has been tested with associated equipment below.

| Description | Manufacturer | Model No. | Serial No. | Supplied by |
|-------------|--------------|-----------|--------------|-------------|
| iPhone | Apple | A1332 | DX3JM2ZJDPMW | SGS |

Test Channel:

| Channel | Frequency |
|--------------------|-----------|
| The Low channel | 2412MHz |
| The Middle channel | 2438MHz |
| The High channel | 2464MHz |

5.5 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.
No.588 West Jindu Road, Songjiang District, Shanghai, China.201612.

Tel: +86 21 6191 5666 Fax: +86 21 6191 5678

5.6 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **CNAS (No. CNAS L0599)**

CNAS has accredited SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing. Date of expiry: 2014-07-26.

- **FCC – Registration No.: 402683**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered and fully described in a report filed with the Federal Communications Commission (FCC). The acceptance letter from the FCC is maintained in our files. Registration No.: 402683, Expiry Date: 2015-02-22.

- **Industry Canada (IC) – IC Assigned Code: 8617A**

The 3m Semi-anechoic chamber of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 8617A. Expiry Date: 2014-09-20.

- **VCCI (Member No.: 3061)**

The 3m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-3868 and C-4336 respectively. Date of Registration: 2012-05-29. Date of Expiry: 2015-05-28.

6 Equipments Used during Test

| Item | Test Equipment | Manufacturer | Model No. | Serial No. | Cal. Due date |
|------|---|--------------------------------|-------------------------------------|-------------|---------------|
| 1 | Spectrum Analyzer | Rohde & Schwarz | FSP-30 | 2705121009 | 2014-2-22 |
| 2 | EMI test receiver | Rohde & Schwarz | ESU40 | 100109 | 2014-02-22 |
| 3 | Horn Antenna (1GHz to 18GHz) | SCHWARZBECK | BBHA9120D | 9120D-679 | 2014-03-06 |
| 4 | Horn Antenna (14GHz to 40GHz) | SCHWARZBECK | BBHA 9170 | BBHA9170373 | 2014-03-06 |
| 5 | ANTENNA (25MHz to 2GHz) | SCHWARZBECK | VULB9168 | 9168-313 | 2014-03-06 |
| 6 | Ultra broadband antenna (30MHz to 3GHz) | Rohde & Schwarz | HL562 | 100227 | 2013-10-08 |
| 7 | Horn Antenna (1GHz to 18GHz) | Rohde & Schwarz | HF906 | 100284 | 2014-06-01 |
| 8 | Active Loop Antenna (9kHz to 30MHz) | Rohde & Schwarz | FMZB 1519 | 1519-034 | 2014-07-27 |
| 9 | High-low temperature cabinet | Suzhou Zhihe | TL-40 | 50110050 | 2014-4-12 |
| 10 | Tunable Notch Filter | Wainwright instruments Gmbh | WRCT800.0/ 880.0-0.2/40- 5SSK | 9 | 2014-06-01 |
| 11 | High pass Filter | FSCW | HP 12/2800- 5AA2 | 19A45-02 | 2014-06-01 |
| 12 | Low noise amplifier | TESEQ | LNA6900 | 70133 | 2014-02-22 |
| 13 | Attenuator | HUAXIANG | TS2-6dB | 11051002 | / |
| 14 | Attenuator | HUAXIANG | TS2-6dB | 11051001 | / |
| 15 | AC power stabilizer | WOCEN | 6100 | 51122 | 2014-06-01 |
| 16 | DC power | QJE | QJ30003SII | 611145 | 2014-06-01 |

7 Test Results

7.1 E.U.T. test conditions

Test Power: AC 120V, 60Hz

Requirements: 15.31(e) For intentional radiators, measurements of the variation of the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage. For battery operated equipment, the equipment tests shall be performed using a new battery.

Operating Environment:

Temperature: 20.0 -25.0 °C

Humidity: 35-75 % RH

Atmospheric Pressure: 992 -1020 mbar

Test frequencies: According to the 15.31(m) Measurements on intentional radiators or receivers, other than TV broadcast receivers, shall be performed and, if required, reported for each band in which the device can be operated with the device operating at the number of frequencies in each band specified in the following table:

| Frequency range over which device operates | Number of frequencies | Location in the range of operation |
|--|-----------------------|---|
| 1 MHz or less | 1 | Middle |
| 1 to 10 MHz | 2 | 1 near top and 1 near bottom |
| More than 10 MHz | 3 | 1 near top, 1 near middle and 1 near bottom |

Pursuant to Part 15.31(c) For swept frequency equipment, measurements shall be made with the frequency sweep stopped at those frequencies chosen for the measurements to be reported.

Test frequency is the lowest channel: 2412MHz, middle channel: 2438MHz and highest channel: 2464MHz with fixed at channel.

7.2 Antenna Requirement

Standard requirement

15.203 requirement:

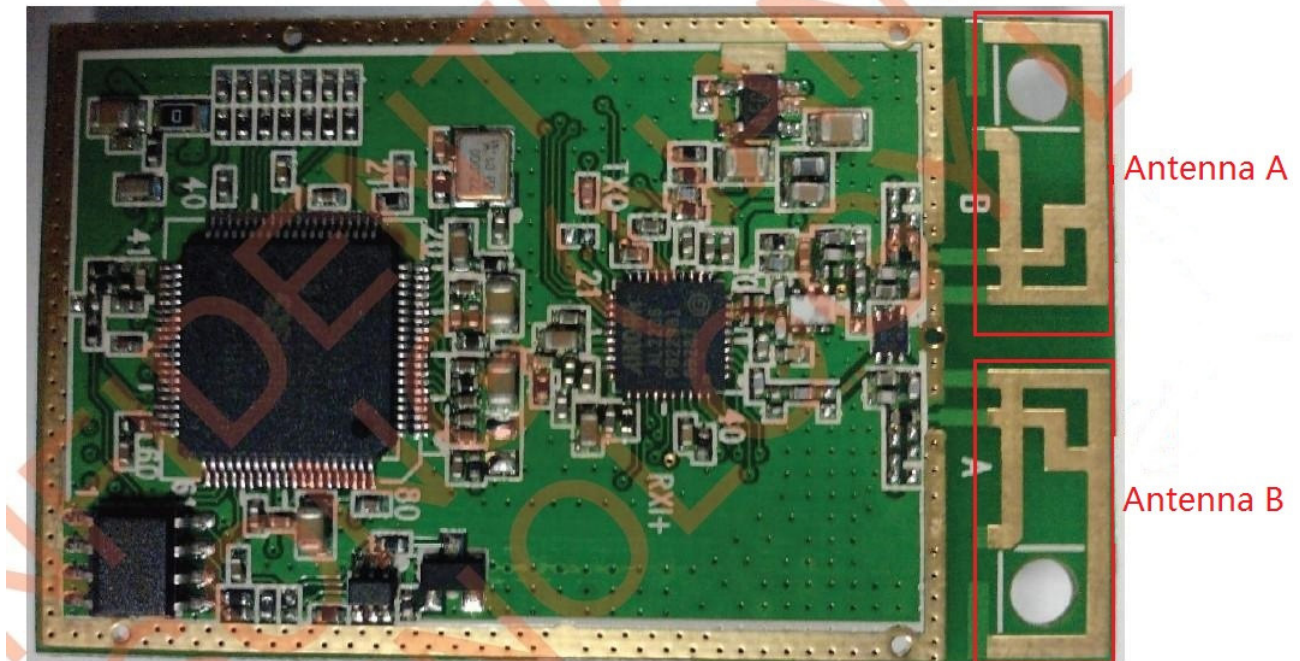
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

15.247(b) (4) requirement:

The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

EUT Antenna

The antenna is integrated on the main PCB and no consideration of replacement. The gain of the antenna is less than 1.5 dBi.



7.3 Conducted Emissions on Mains Terminals

Test Requirement: FCC Part 15C, Section 15.207
RSS-Gen Issue 8 Clause 7.2.4

Test Method: ANSI C63.10:2009 Section 6.2

Test Result: Pass

Test Voltage: AC 120V 60Hz

Frequency Range: 150 KHz to 30 MHz

Class/Severity: Class B

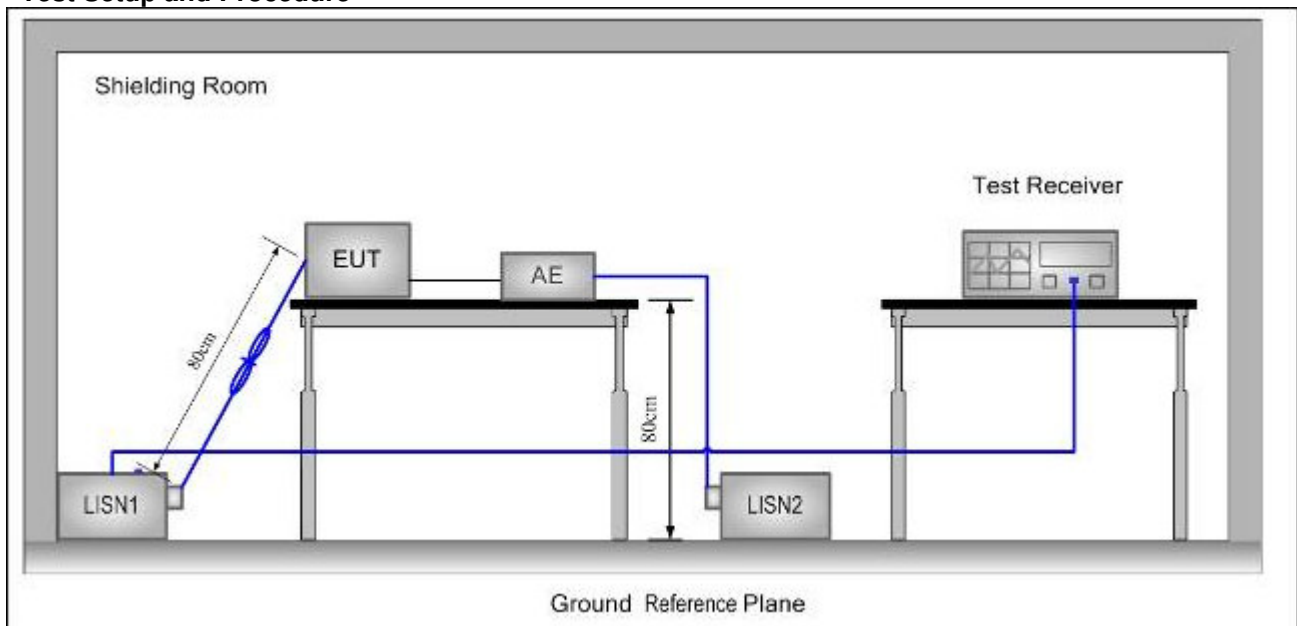
Test mode: Transmitting mode

Limit:

| Frequency range MHz | Class B Limits dB (μV) | |
|------------------------|---------------------------|----------|
| | Quasi-peak | Average |
| 0.15 to 0.50 | 66 to 56 | 56 to 46 |
| 0.50 to 5 | 56 | 46 |
| 5 to 30 | 60 | 50 |

Note1: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50MHz.
Note2: The lower limit is applicable at the transition frequency.

Test Setup and Procedure



1. The mains terminal disturbance voltage was measured with the EUT in a shielded room.
2. The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network)

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which provides $50\Omega/50\mu\text{H} + 5\Omega$ linear impedance. The power cable of all other units of the EUT was connected to a second LISN, which was bonded to the ground reference plane in the same way as the LISN for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded

3. The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane, but separated from metallic contact with the ground reference plane by 0.1m of insulation.
4. The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISN mounted on top of the ground reference plane. This distance was between the closest points of the LISN and the EUT. The mains lead of EUT excess 0.8m was folded back and forth parallel to the lead so as to form a horizontal bundle with a length between 0.3m and 0.4m. All other units of the EUT and associated equipment was at least 0,8 m from the LISN.

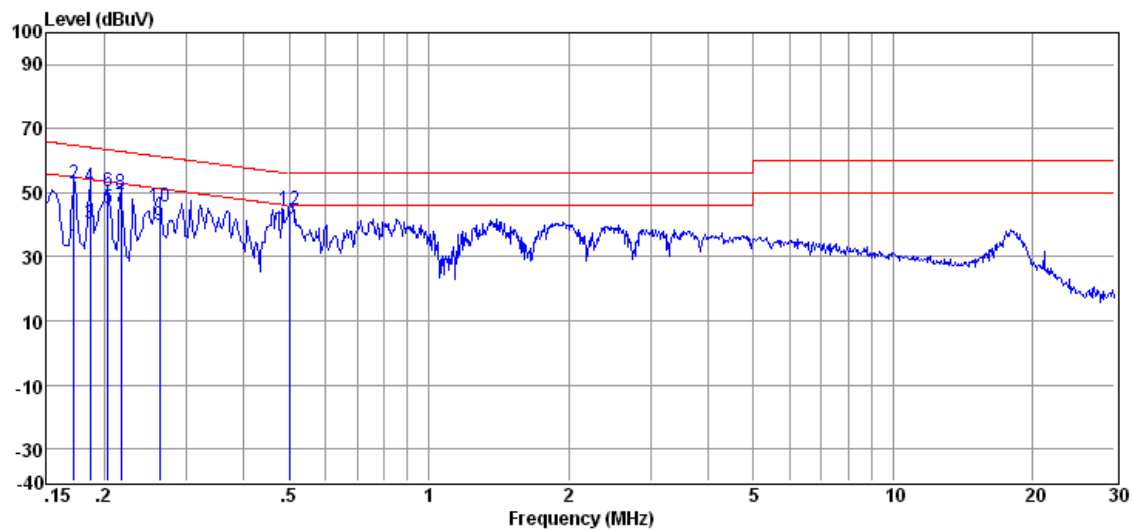
Measurement Data

Pre-scan was performed with peak detected on all ports, Quasi-peak & average measurements were performed at the frequencies at which maximum peak emission level were detected.

Please see the attached Quasi-peak and Average test results.

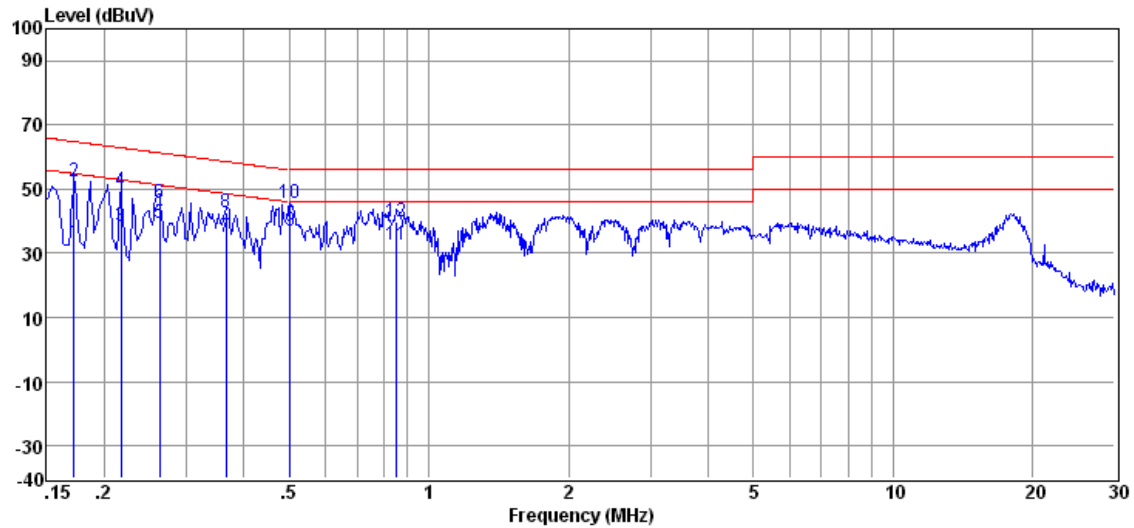
Level = Read Level + LISN/ISN Factor + Cable Loss.

Test Port: AC Live Line



| Freq (MHz) | Read Level (dBμV) | LISN Factor (dB) | Cable Loss (dB) | Level (dBμV) | Limit Line (dBμV) | Over Limit (dB) | Detector | Phase |
|---------------|-------------------------|------------------------|-----------------------|-----------------|-------------------------|-----------------------|----------|-------|
| 0.172 | 32.69 | 0.16 | 0.10 | 32.95 | 54.86 | -21.91 | Average | LINE |
| 0.172 | 52.75 | 0.16 | 0.10 | 53.01 | 64.86 | -11.85 | QP | LINE |
| 0.186 | 40.25 | 0.13 | 0.10 | 40.48 | 54.20 | -13.72 | Average | LINE |
| 0.186 | 51.69 | 0.13 | 0.10 | 51.92 | 64.20 | -12.28 | QP | LINE |
| 0.204 | 45.07 | 0.10 | 0.10 | 45.27 | 53.45 | -8.18 | Average | LINE |
| 0.204 | 50.37 | 0.10 | 0.10 | 50.57 | 63.45 | -12.88 | QP | LINE |
| 0.217 | 45.67 | 0.11 | 0.10 | 45.88 | 52.92 | -7.04 | Average | LINE |
| 0.217 | 49.90 | 0.11 | 0.10 | 50.11 | 62.92 | -12.81 | QP | LINE |
| 0.263 | 39.41 | 0.12 | 0.10 | 39.63 | 51.34 | -11.71 | Average | LINE |
| 0.263 | 45.59 | 0.12 | 0.10 | 45.81 | 61.34 | -15.53 | QP | LINE |
| 0.502 | 38.82 | 0.20 | 0.10 | 39.12 | 46.00 | -6.88 | Average | LINE |
| 0.502 | 44.38 | 0.20 | 0.10 | 44.68 | 56.00 | -11.32 | QP | LINE |

Test Port: AC Neutral Line



| Freq (MHz) | Read Level (dBμV) | LISN Factor (dB) | Cable Loss (dB) | Level (dBμV) | Limit Line (dBμV) | Over Limit (dB) | Detector | Phase |
|---------------|-------------------------|------------------------|-----------------------|-----------------|-------------------------|-----------------------|----------|---------|
| 0.172 | 33.00 | 0.16 | 0.10 | 33.26 | 54.86 | -21.60 | Average | NEUTRAL |
| 0.172 | 51.97 | 0.16 | 0.10 | 52.23 | 64.86 | -12.63 | QP | NEUTRAL |
| 0.217 | 38.12 | 0.11 | 0.10 | 38.33 | 52.92 | -14.59 | Average | NEUTRAL |
| 0.217 | 49.09 | 0.11 | 0.10 | 49.30 | 62.92 | -13.62 | QP | NEUTRAL |
| 0.263 | 39.11 | 0.12 | 0.10 | 39.33 | 51.34 | -12.01 | Average | NEUTRAL |
| 0.263 | 45.26 | 0.12 | 0.10 | 45.48 | 61.34 | -15.86 | QP | NEUTRAL |
| 0.365 | 34.87 | 0.16 | 0.10 | 35.13 | 48.61 | -13.48 | Average | NEUTRAL |
| 0.365 | 42.35 | 0.16 | 0.10 | 42.61 | 58.61 | -16.00 | QP | NEUTRAL |
| 0.502 | 36.61 | 0.20 | 0.10 | 36.91 | 46.00 | -9.09 | Average | NEUTRAL |
| 0.502 | 45.21 | 0.20 | 0.10 | 45.51 | 56.00 | -10.49 | QP | NEUTRAL |
| 0.848 | 32.46 | 0.20 | 0.10 | 32.76 | 46.00 | -13.24 | Average | NEUTRAL |
| 0.848 | 39.60 | 0.20 | 0.10 | 39.90 | 56.00 | -16.10 | QP | NEUTRAL |

7.4 6dB Occupied Bandwidth

Test Requirement: FCC Part 15 C Section 15.247 (a)(2)
RSS-210 Issue 8 Annex 8

Test Method: ANSI C63.10:2009 Section 6.9.1

Test Result: Pass

Test Mode: Transmitting mode

Final Test Mode: The EUT fixed on Low channel, Middle Channel and High Channel.

Limit: ≥ 500 kHz

Test Procedure:

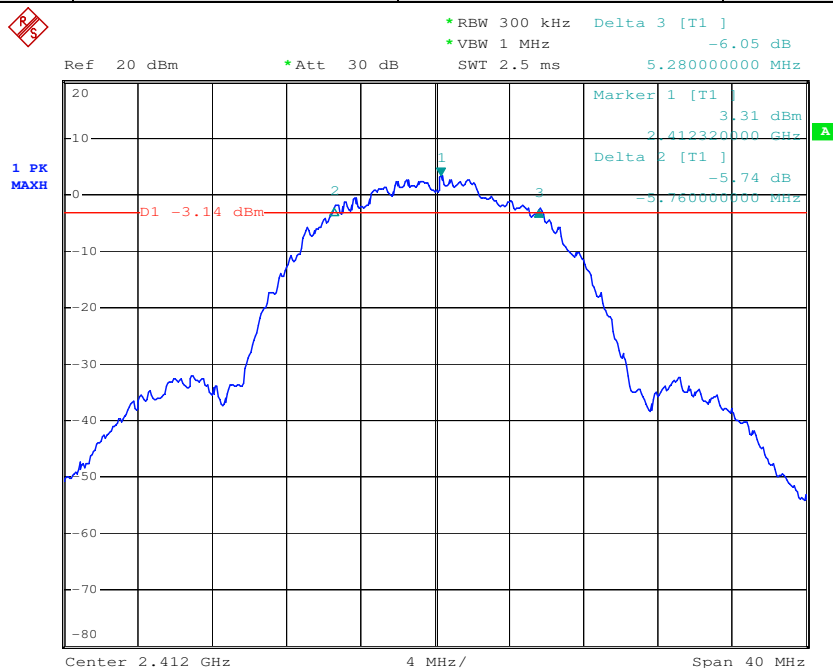
1. Place the EUT on the table and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
3. Set the spectrum analyzer as RBW=300KHz, VBW =3* RBW, Span=30/50MHz, Sweep=auto
4. Mark the peak frequency and -6dB (upper and lower) frequency.
5. Repeat above procedures until all frequency measured was complete.

Test date

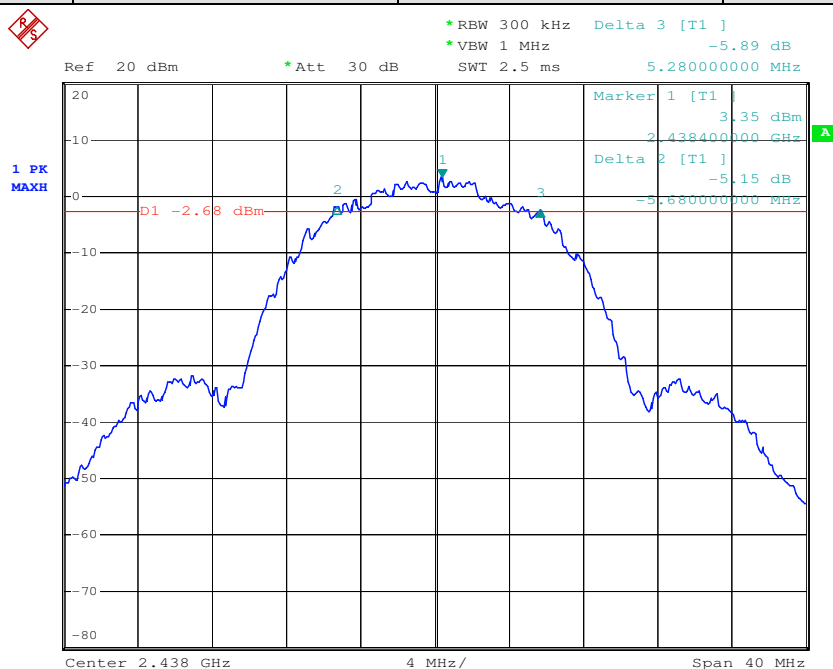
| EUT Mode | Test Channel | 6dB Occupy Bandwidth (MHz) | Limit (kHz) | Results |
|-----------|--------------|----------------------------|-------------|---------|
| Antenna A | Low | 11.04 | 500 | Pass |
| | Middle | 10.96 | 500 | Pass |
| | High | 11.04 | 500 | Pass |
| Antenna B | Low | 10.96 | 500 | Pass |
| | Middle | 10.96 | 500 | Pass |
| | High | 11.20 | 500 | Pass |

Test plot as follows:

| | | | |
|------------|-----------|---------------|-----|
| Test mode: | Antenna A | Test channel: | Low |
|------------|-----------|---------------|-----|

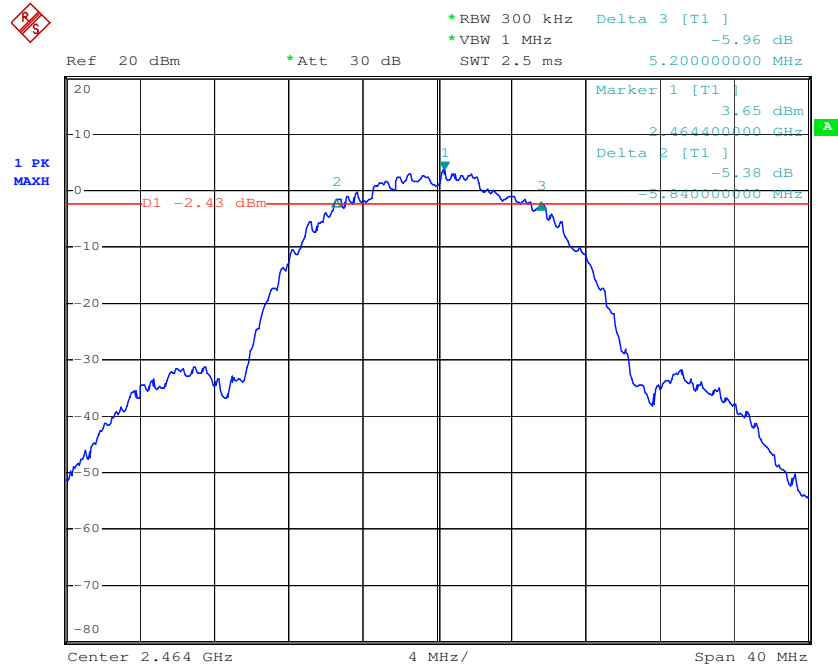


| | | | |
|------------|-----------|---------------|--------|
| Test mode: | Antenna A | Test channel: | Middle |
|------------|-----------|---------------|--------|

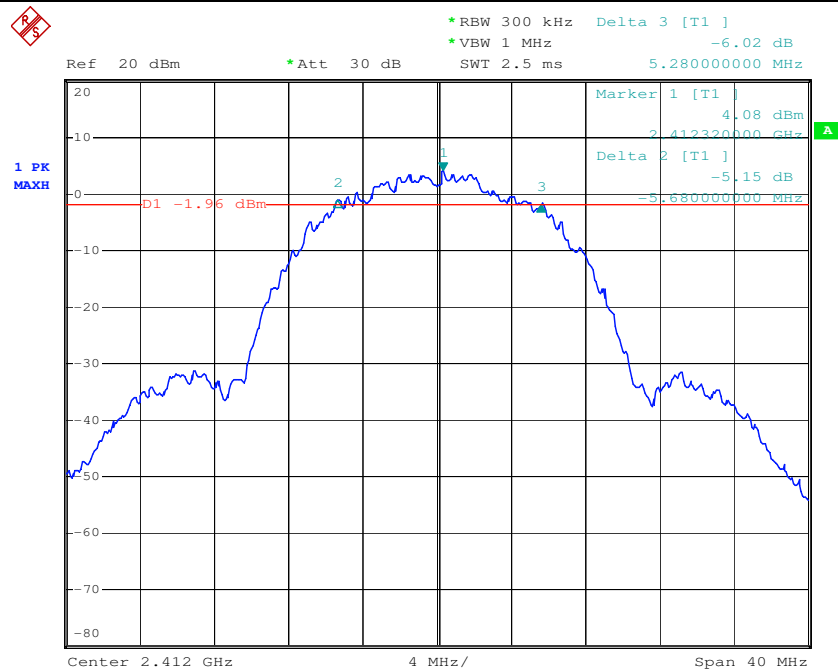


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| | | | |
|------------|-----------|---------------|------|
| Test mode: | Antenna A | Test channel: | High |
|------------|-----------|---------------|------|

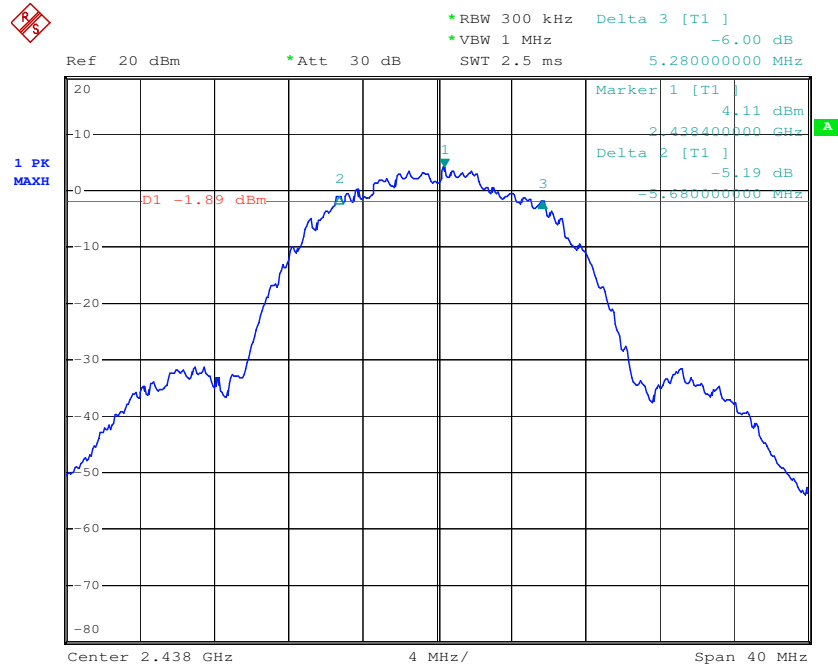


| | | | |
|------------|-----------|---------------|-----|
| Test mode: | Antenna B | Test channel: | Low |
|------------|-----------|---------------|-----|

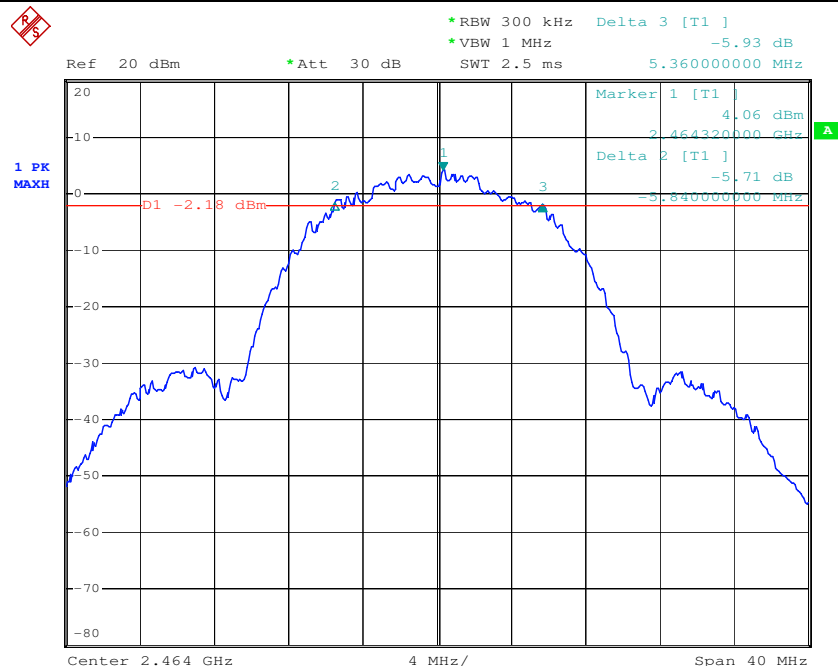


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| | | | |
|------------|-----------|---------------|--------|
| Test mode: | Antenna B | Test channel: | Middle |
|------------|-----------|---------------|--------|



| | | | |
|------------|-----------|---------------|------|
| Test mode: | Antenna B | Test channel: | High |
|------------|-----------|---------------|------|



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7.5 Conducted Peak Output Power

Test Requirement: FCC Part 15.247 Section 15.247(b)(3)
RSS-210 Issue 8 Annex 8

Test Method: ANSI C63.10:2009 Section 6.10.2

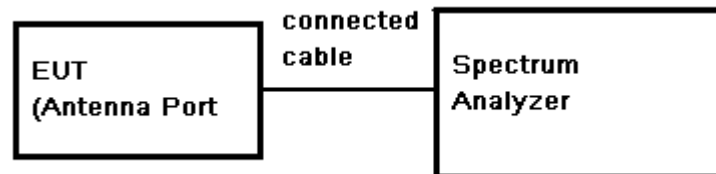
Test Result: Pass

Test Limit: 30dBm

Test Mode: Transmitting mode

Final Test Mode: The EUT fixed on Low channel, Middle Channel and High Channel.

Test Configuration:



Test Procedure:

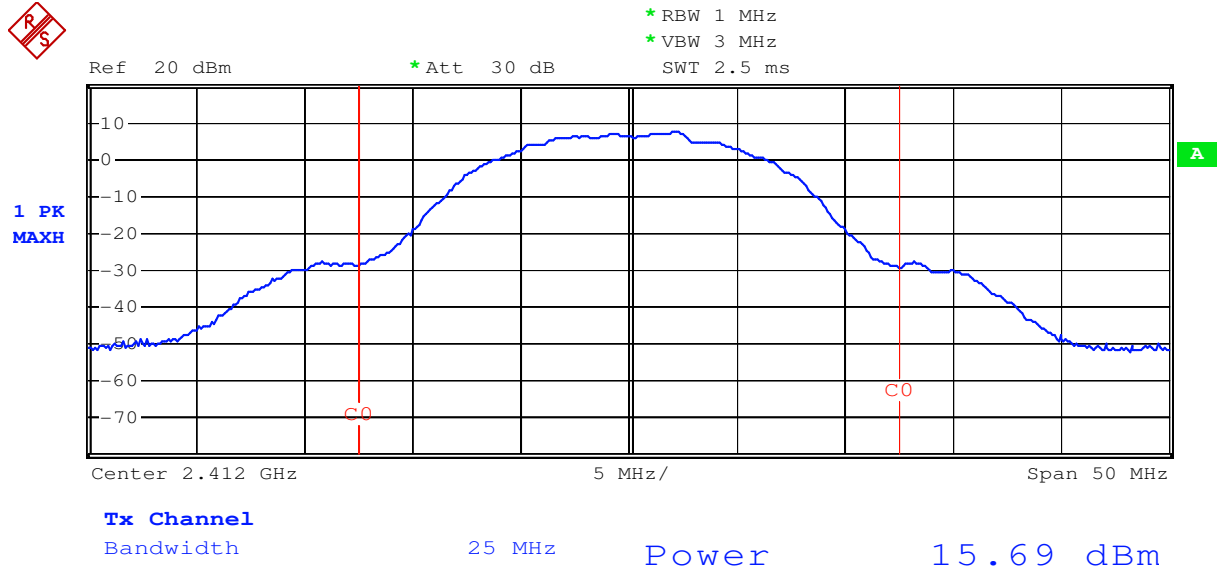
1. Place the EUT on the table and set it in transmitting mode.
 2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum.
 3. Set the occur band to the entire emission 26dB bandwidth of the signal.
 4. Record the max. Power channel reading.
- Repeat above procedures until all the frequency measured were complete.

Test Results record:

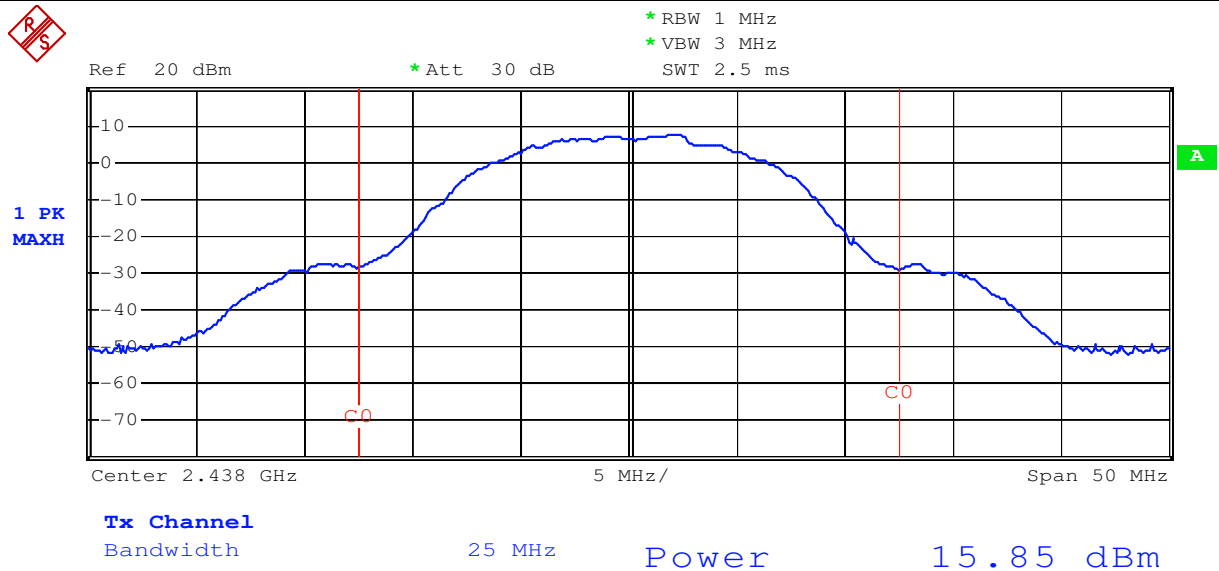
| Test mode | Channel | Reading Peak Power (dBm) | Cable Loss (dB) | Output Peak Power (dBm) | Output Peak Power (mW) | Peak Power Limit (dBm) | Result |
|-----------|---------|--------------------------|-----------------|-------------------------|------------------------|------------------------|--------|
| Antenna A | Low | 15.69 | 0.5 | 16.19 | 41.59 | 30 | PASS |
| | Mid | 15.85 | 0.5 | 16.35 | 43.15 | 30 | PASS |
| | High | 16.02 | 0.5 | 16.52 | 44.87 | 30 | PASS |
| Antenna B | Low | 16.47 | 0.5 | 16.97 | 49.77 | 30 | PASS |
| | Mid | 16.54 | 0.5 | 17.04 | 50.58 | 30 | PASS |
| | High | 16.69 | 0.5 | 17.19 | 52.36 | 30 | PASS |

Test result plot as follows:

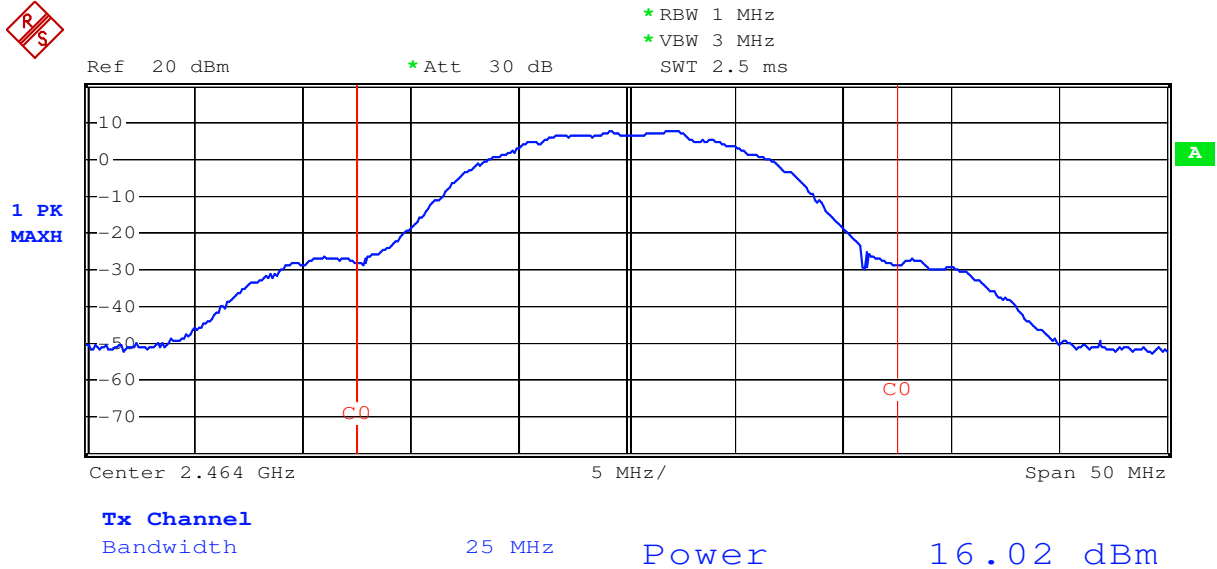
| | | | |
|------------|-----------|---------------|-----|
| Test mode: | Antenna A | Test channel: | Low |
|------------|-----------|---------------|-----|



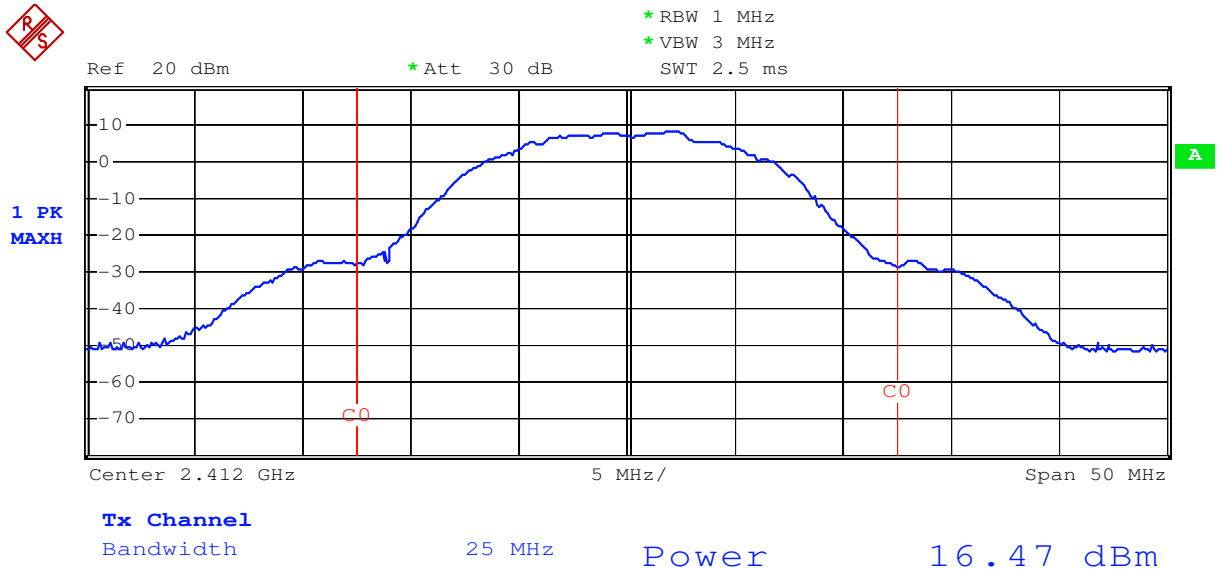
| | | | |
|------------|-----------|---------------|--------|
| Test mode: | Antenna A | Test channel: | Middle |
|------------|-----------|---------------|--------|



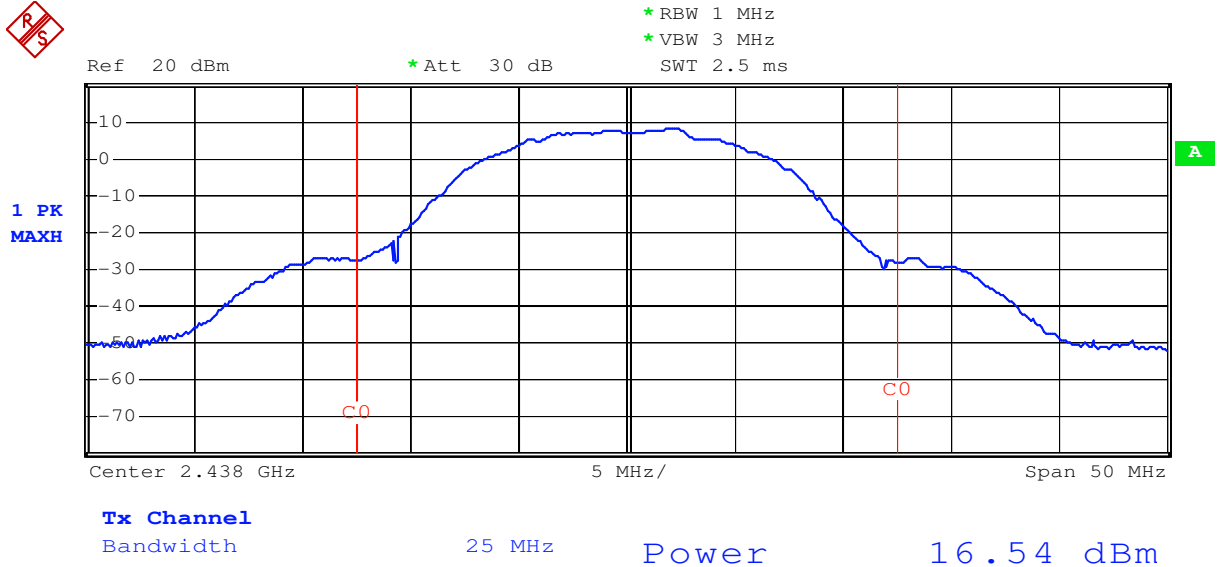
| | | | |
|------------|-----------|---------------|------|
| Test mode: | Antenna A | Test channel: | High |
|------------|-----------|---------------|------|



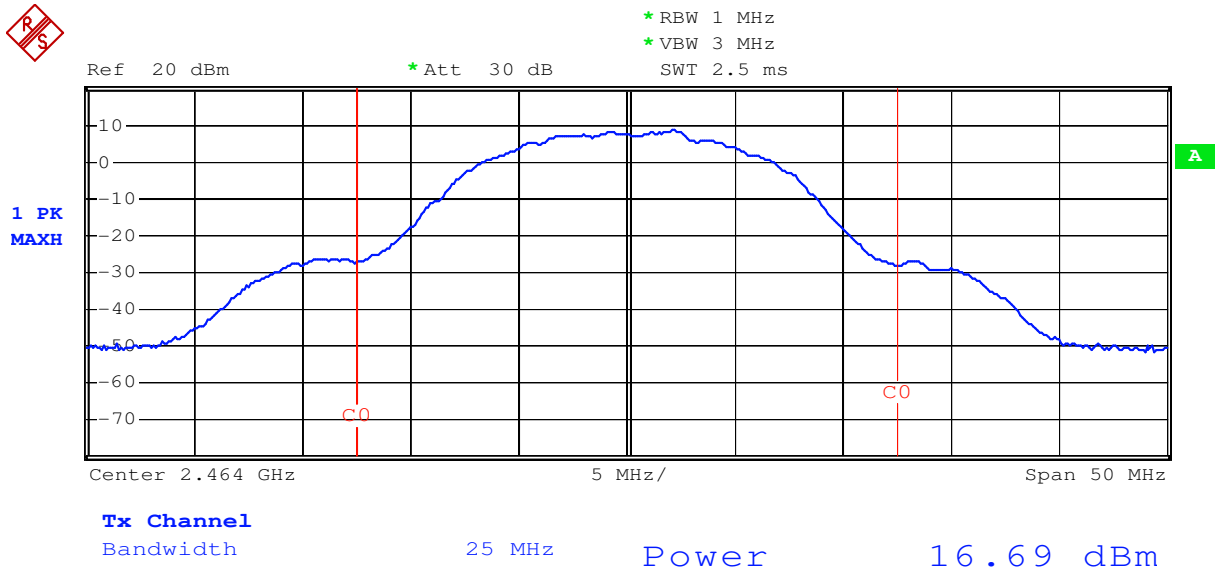
| | | | |
|------------|-----------|---------------|-----|
| Test mode: | Antenna B | Test channel: | Low |
|------------|-----------|---------------|-----|



| | | | |
|------------|-----------|---------------|--------|
| Test mode: | Antenna B | Test channel: | Middle |
|------------|-----------|---------------|--------|



| | | | |
|------------|-----------|---------------|------|
| Test mode: | Antenna B | Test channel: | High |
|------------|-----------|---------------|------|



7.6 Peak Power Spectral Density

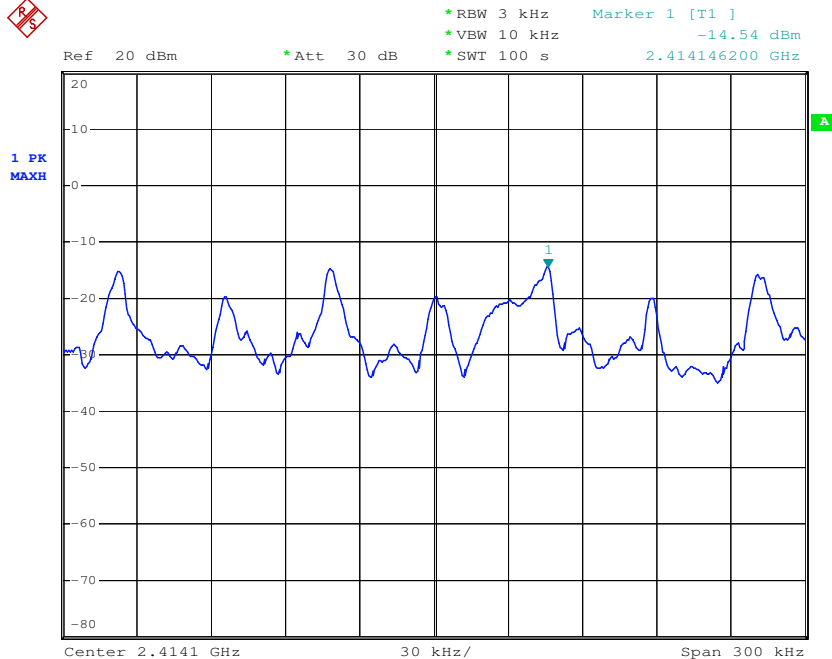
| | |
|-------------------------------|--|
| Test Requirement: | FCC Part 15, Subpart C Section 15.247 (e) RSS-210 Issue 8 Annex 8 |
| Test Method: | ANSI C63.10,2009 Section 6.11.2 |
| Test Result: | Pass |
| Test Limit: | 8dBm/3kHz |
| Test Mode: | Transmitting mode |
| Final Test Mode: | The EUT fixed on Low channel, Middle Channel and High Channel. |
| Measurement Procedure: | <ol style="list-style-type: none"> 1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum. 2. Set the spectrum analyzer: Center Frequency= Channel Frequency, RBW = 3 kHz VBW = 10 kHz. Span= fully encompass the bandwidth, Sweep = auto; Detector Function = Peak Trace mode=max hold, 3. Set MKR=Center Frequency, Trace=Clear Write. 4. Adjust the Span = 300 kHz, Sweep Time=100s, Trace=Max Hold, MKR=Peak Search. 5. Record the marker level for the particular mode. 6. Repeat these steps for other channel and device modes. |

Test Results record:

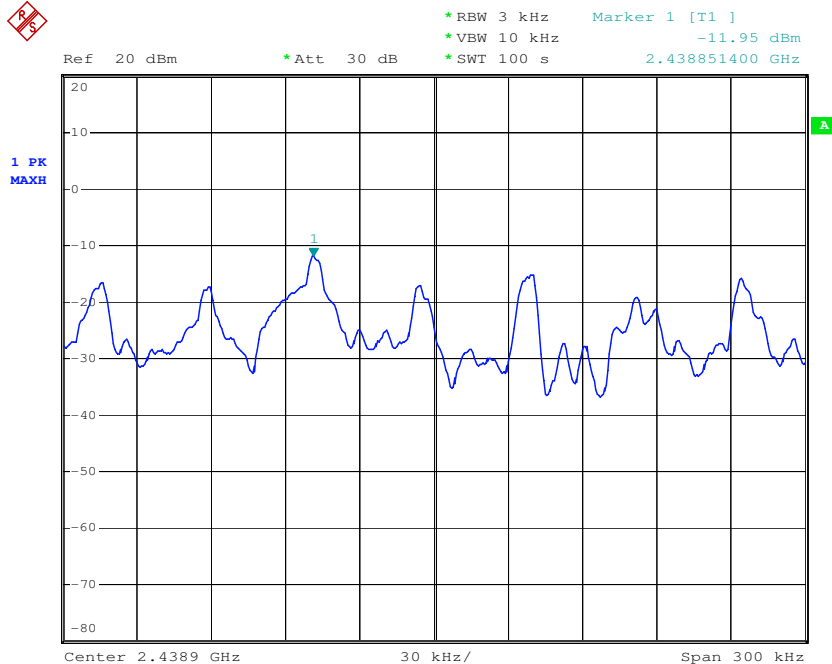
| Test mode | Channel | Reading (dBm) | Cable Loss (dB) | RF Power Density (dBm) | Peak Power Limit (dBm/3kHz) | Result |
|-----------|---------|---------------|-----------------|------------------------|-----------------------------|--------|
| Antenna A | Low | -14.54 | 0.5 | -14.04 | 8 | PASS |
| | Mid | -11.95 | 0.5 | -11.45 | 8 | PASS |
| | High | -14.22 | 0.5 | -13.72 | 8 | PASS |
| Antenna B | Low | -13.54 | 0.5 | -13.04 | 8 | PASS |
| | Mid | -13.62 | 0.5 | -13.12 | 8 | PASS |
| | High | -13.31 | 0.5 | -12.81 | 8 | PASS |

Test plot as follows:

| | | | |
|------------|-----------|---------------|-----|
| Test mode: | Antenna A | Test channel: | Low |
|------------|-----------|---------------|-----|

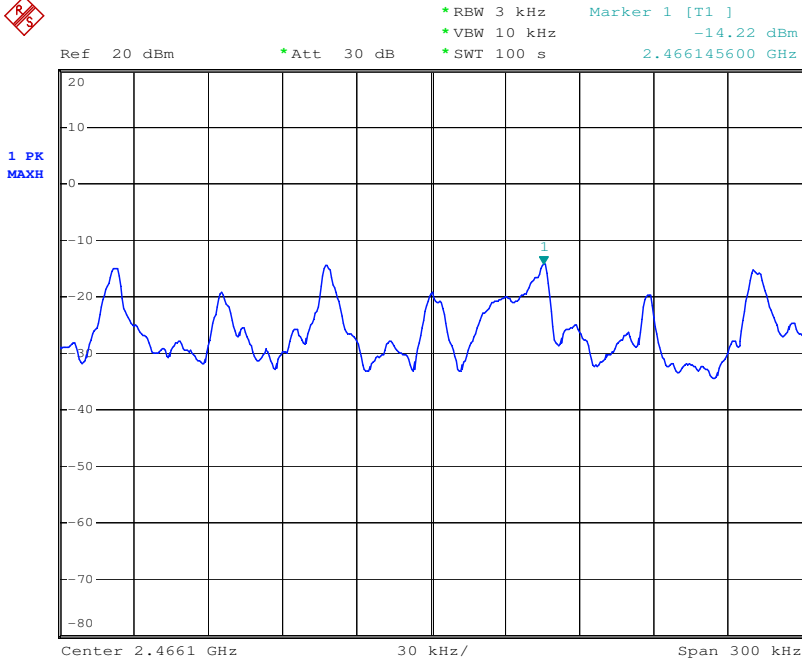


| | | | |
|------------|-----------|---------------|--------|
| Test mode: | Antenna A | Test channel: | Middle |
|------------|-----------|---------------|--------|

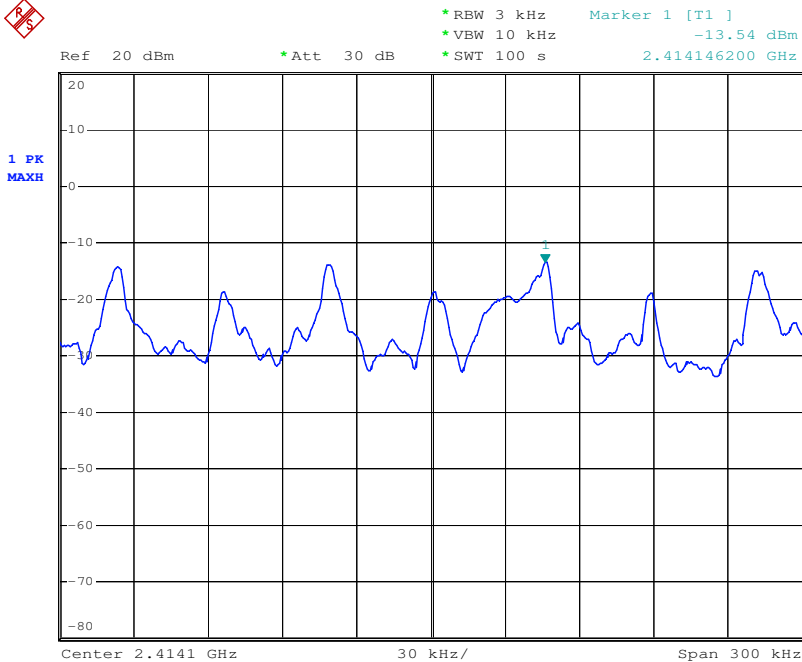




| | | | |
|------------|-----------|---------------|------|
| Test mode: | Antenna A | Test channel: | High |
|------------|-----------|---------------|------|



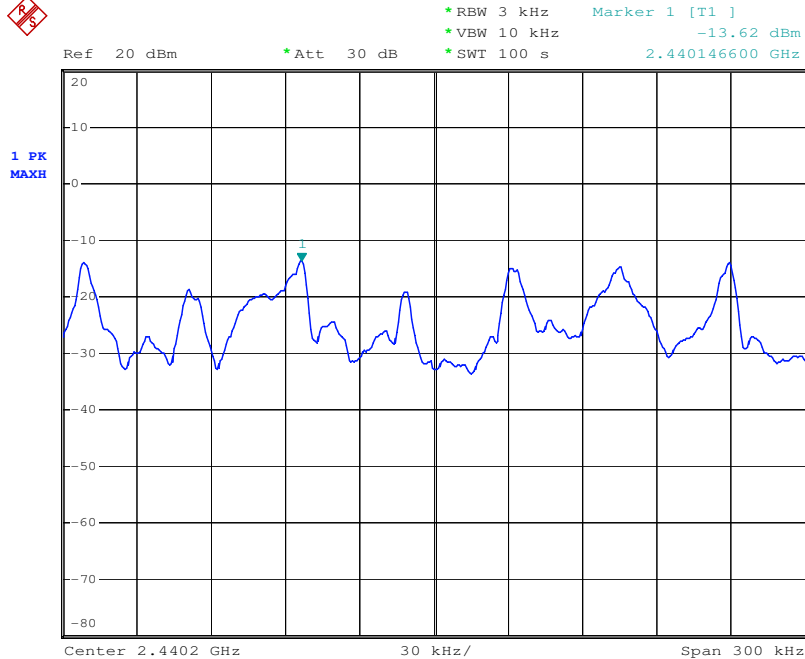
| | | | |
|------------|-----------|---------------|-----|
| Test mode: | Antenna B | Test channel: | Low |
|------------|-----------|---------------|-----|



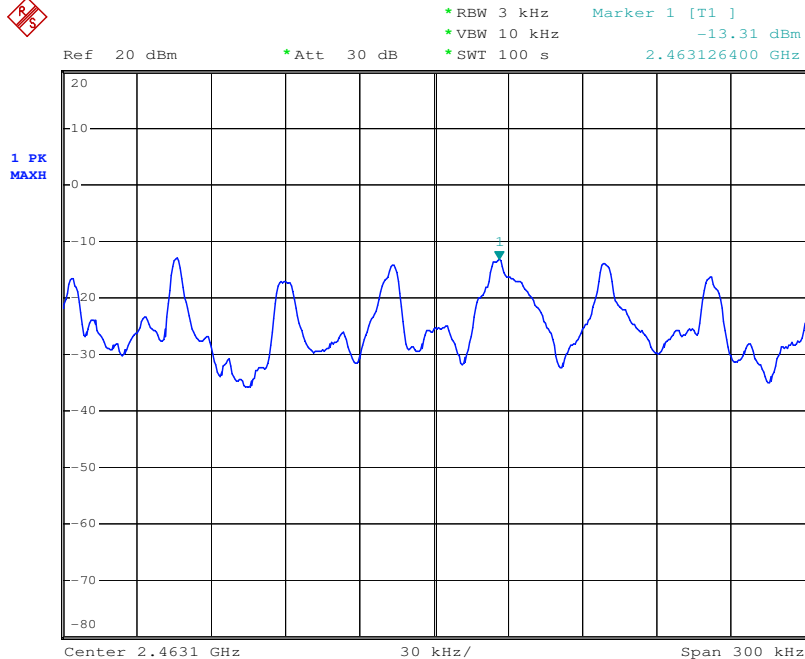
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| | | | |
|------------|-----------|---------------|--------|
| Test mode: | Antenna B | Test channel: | Middle |
|------------|-----------|---------------|--------|

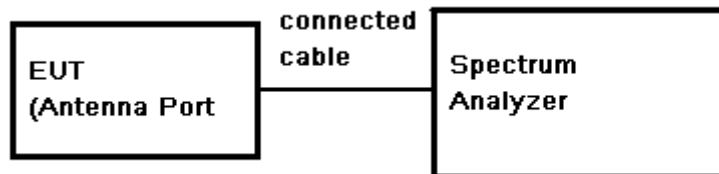


| | | | |
|------------|-----------|---------------|------|
| Test mode: | Antenna B | Test channel: | High |
|------------|-----------|---------------|------|



7.7 Conducted Spurious Emissions

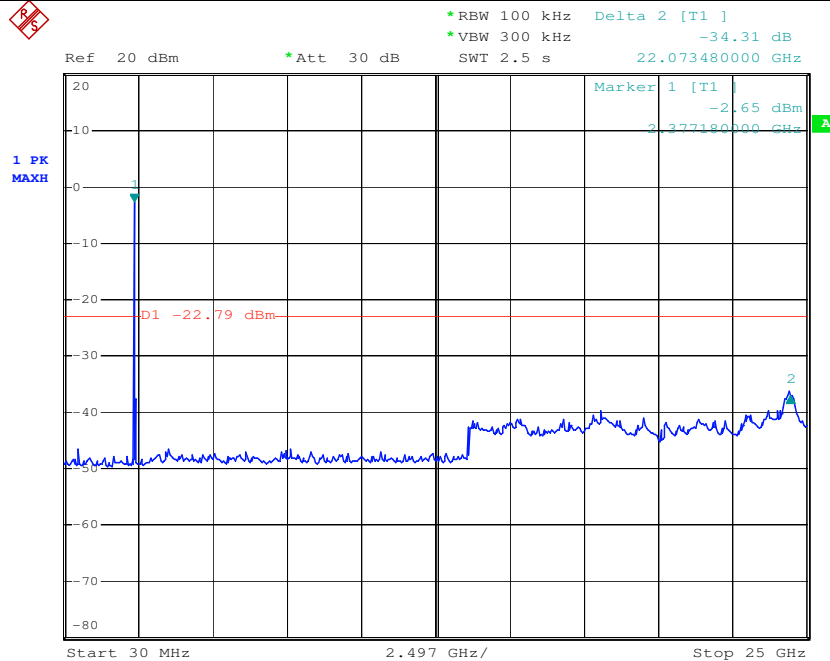
| | |
|----------------------------|--|
| Test Requirement: | FCC Part 15 Section 15.247(d) RSS-210 Issue 8 Annex 8.5 |
| Test Method: | ANSI C63.10:2009 Clause 7.7.10 |
| Test Result: | Pass |
| Limit: | (d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the High level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. |
| Test Mode: | Transmitting mode |
| Final Test Mode: | The EUT fixed on Low channel, Middle Channel and High Channel. |
| Test Configuration: | |



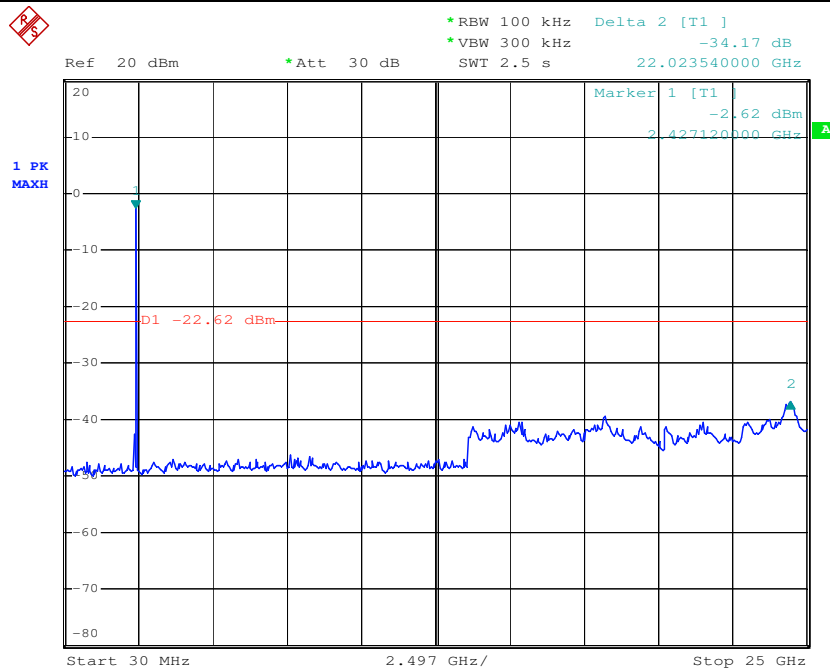
| | |
|------------------------|---|
| Test Procedure: | <ol style="list-style-type: none"> 1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum. 2. Set the spectrum analyzer: RBW = 100KHz. VBW >= RBW. Sweep = auto; Detector Function = Peak (Max. hold). |
|------------------------|---|

Test plot as follows:

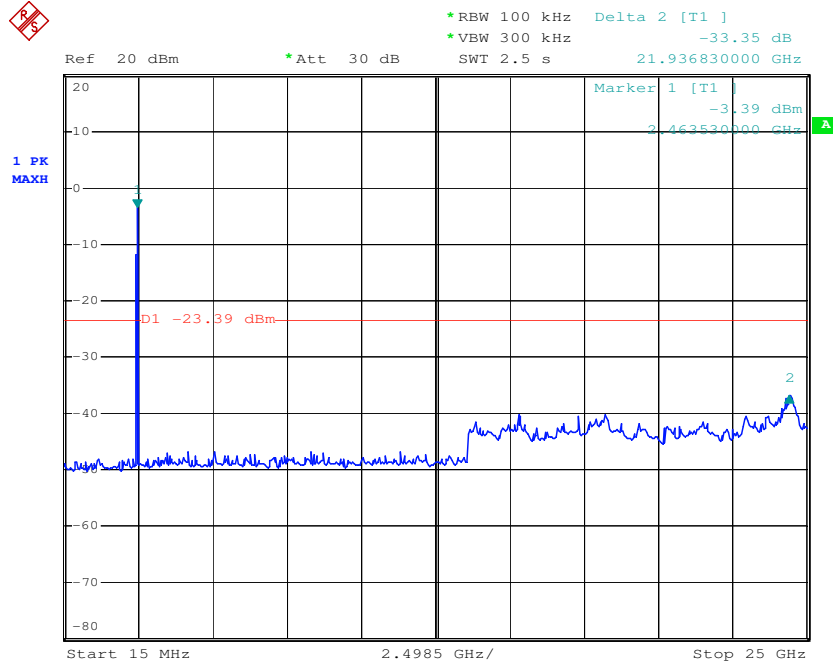
| | | | |
|------------|-----------|---------------|-----|
| Test mode: | Antenna A | Test channel: | Low |
|------------|-----------|---------------|-----|



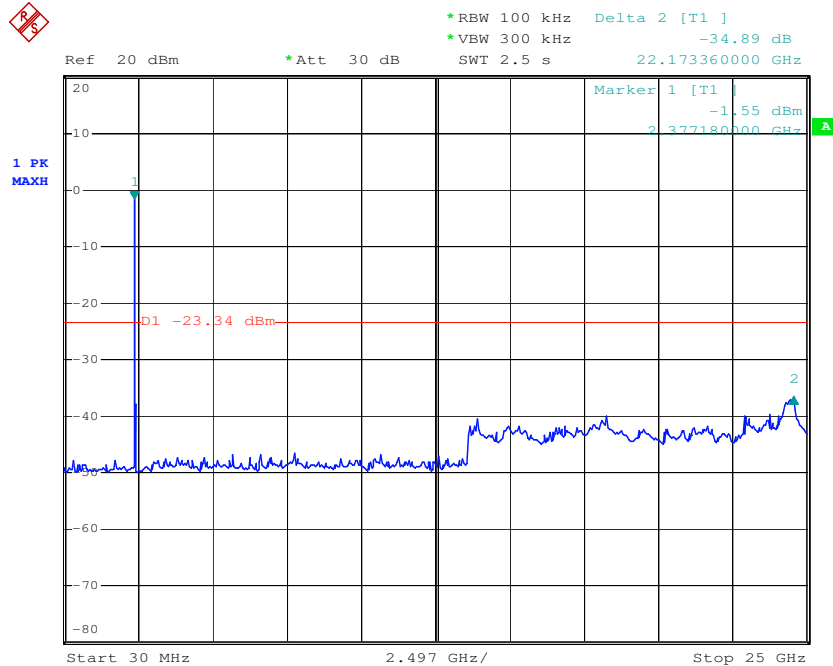
| | | | |
|------------|-----------|---------------|--------|
| Test mode: | Antenna A | Test channel: | Middle |
|------------|-----------|---------------|--------|



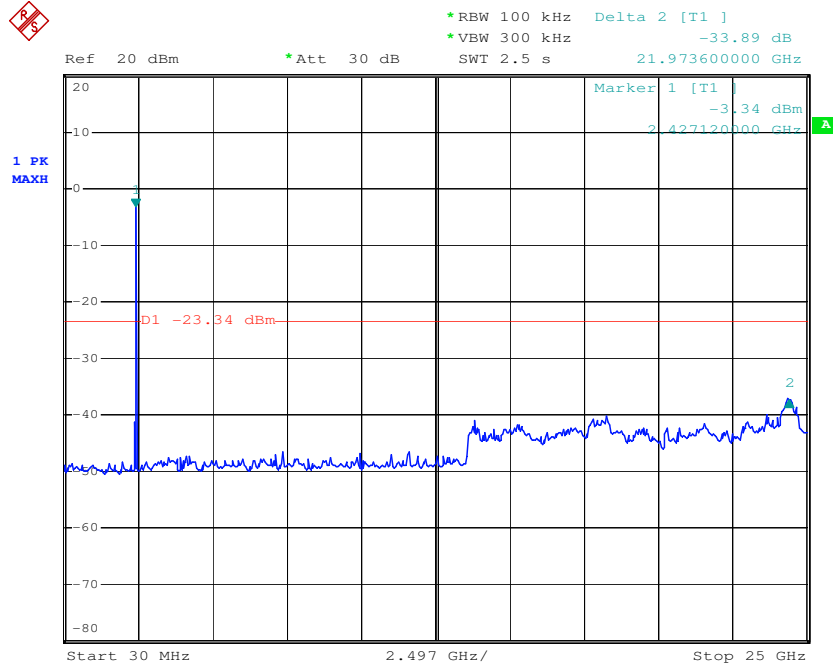
| | | | |
|------------|-----------|---------------|------|
| Test mode: | Antenna A | Test channel: | High |
|------------|-----------|---------------|------|



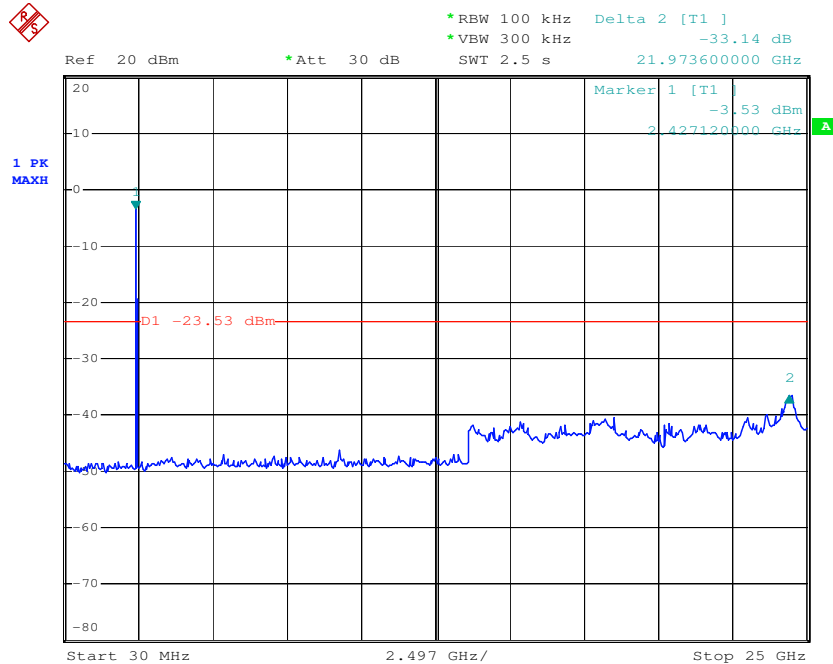
| | | | |
|------------|-----------|---------------|-----|
| Test mode: | Antenna B | Test channel: | Low |
|------------|-----------|---------------|-----|



| | | | |
|------------|-----------|---------------|--------|
| Test mode: | Antenna B | Test channel: | Middle |
|------------|-----------|---------------|--------|

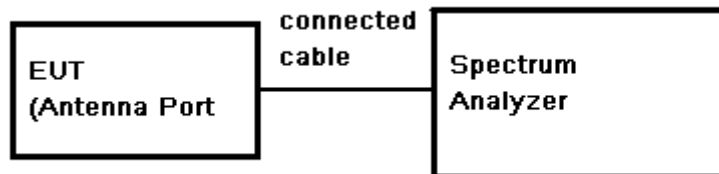


| | | | |
|------------|-----------|---------------|------|
| Test mode: | Antenna B | Test channel: | High |
|------------|-----------|---------------|------|



7.8 Conducted Band-edge

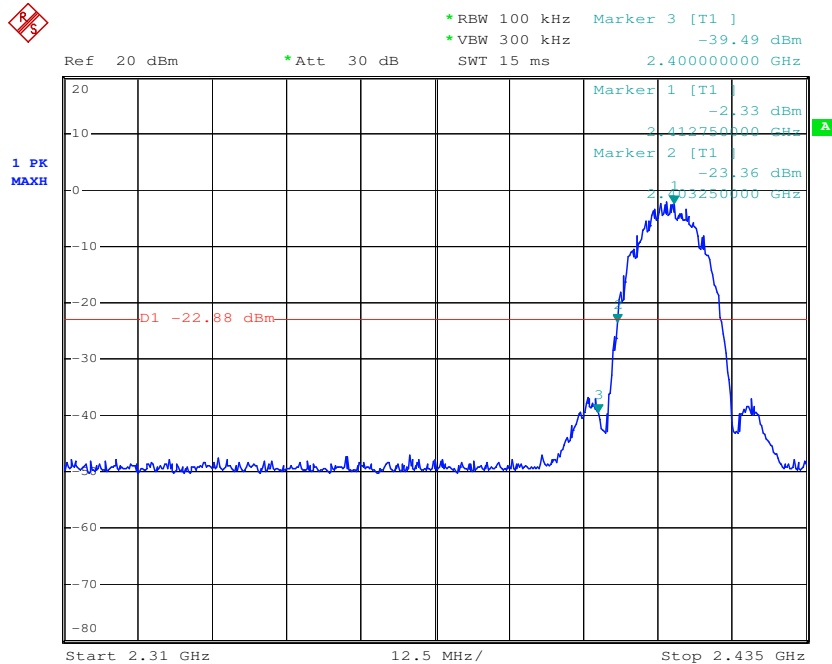
| | |
|----------------------------|--|
| Test Requirement: | FCC Part 15 Section 15.247(d) RSS-210 Issue 8 Annex 8.5 |
| Test Method: | ANSI C63.10:2009 Clause 7.7.10 |
| Test Result: | Pass |
| Limit: | (d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the High level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. |
| Test Mode: | Transmitting mode |
| Final Test Mode: | The EUT fixed on Low channel and High Channel. |
| Test Configuration: | |



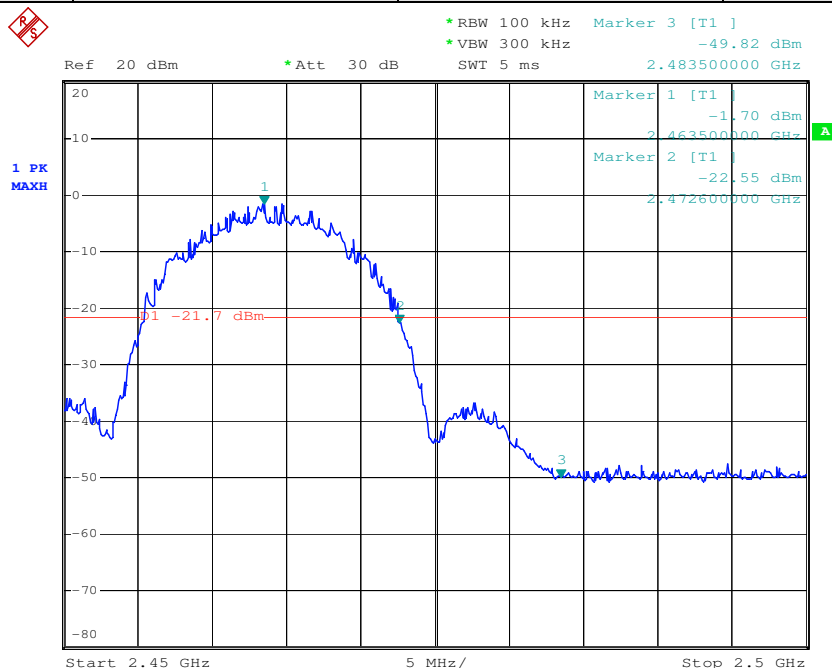
| | |
|------------------------|---|
| Test Procedure: | <ol style="list-style-type: none"> 1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum. 2. Set the spectrum analyzer: RBW = 100KHz. VBW >= RBW. Sweep = auto; Detector Function = Peak (Max. hold). |
|------------------------|---|

Test plot as follows:

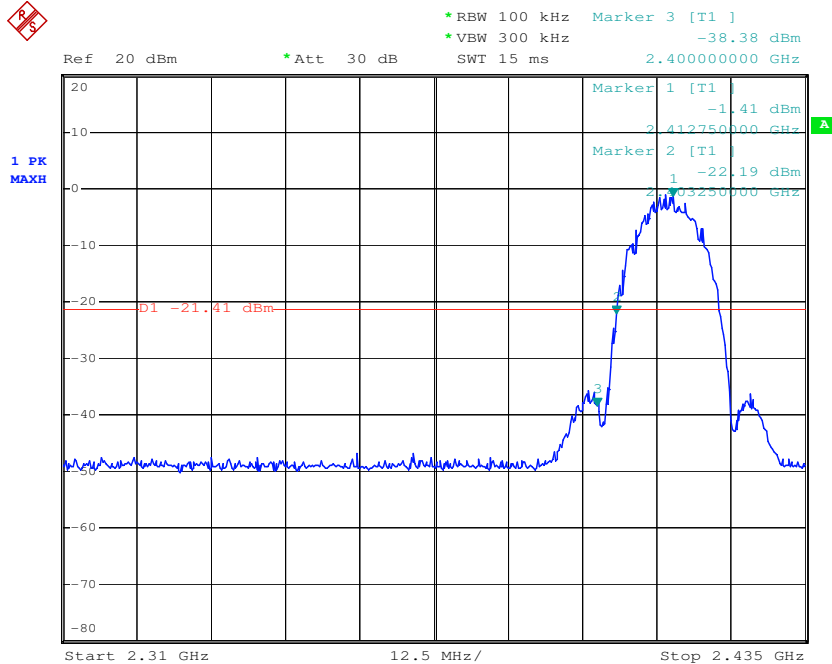
| | | | |
|------------|-----------|---------------|-----|
| Test mode: | Antenna A | Test channel: | Low |
|------------|-----------|---------------|-----|



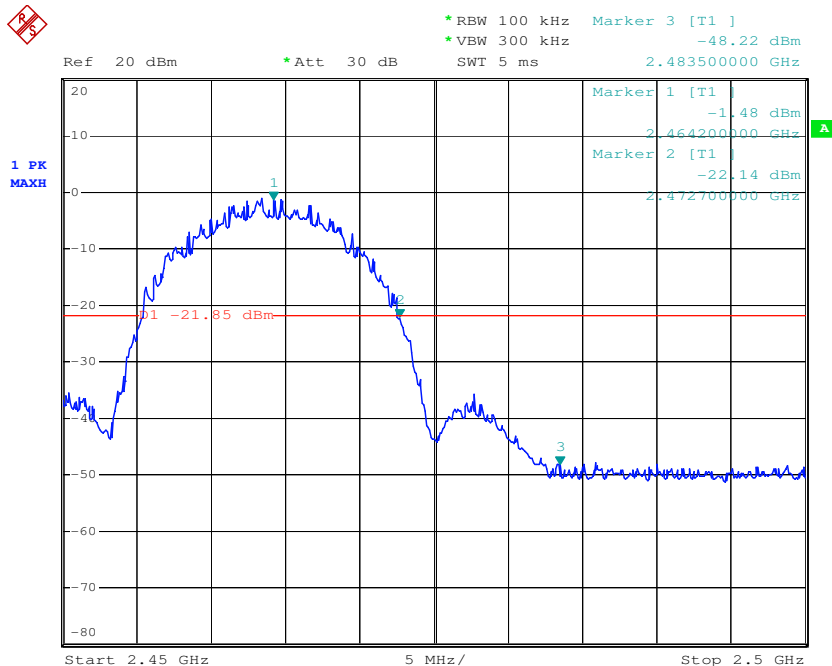
| | | | |
|------------|-----------|---------------|------|
| Test mode: | Antenna A | Test channel: | High |
|------------|-----------|---------------|------|



| | | | |
|------------|-----------|---------------|-----|
| Test mode: | Antenna B | Test channel: | Low |
|------------|-----------|---------------|-----|



| | | | |
|------------|-----------|---------------|------|
| Test mode: | Antenna B | Test channel: | High |
|------------|-----------|---------------|------|



7.9 Radiated Spurious Emissions

| | |
|--------------------------|---|
| Test Requirement: | FCC Part 15 Section 15.209 and Section 15.205 RSS-210 Issue 8 Annex 8.5 |
| Test Method: | ANSI C63.10:2009 Clause 6.12 |
| Test Result: | Pass |
| Test Mode: | Transmitting mode |
| Final Test Mode: | The EUT fixed on Low channel, middle channel and High channel. |
| Test site/setup: | Measurement Distance: 3m (Semi-Anechoic Chamber) Test instrumentation resolution bandwidth 120 kHz and Quasi-Peak detector applies (30 MHz - 1000 MHz). For PK value: RBW = 1 MHz for $f \geq 1$ GHz VBW \geq RBW; Sweep = auto Detector function = peak Trace = max hold For AV value: RBW = 1 MHz for $f \geq 1$ GHz VBW = 10Hz; Sweep = auto Detector function = peak Trace = max hold Receive antenna scan height 1 m - 4 m. polarization Vertical / Horizontal |
| 15.209 Limit: | 40.0 dB μ V/m between 30MHz & 88MHz 43.5 dB μ V/m between 88MHz & 216MHz 46.0 dB μ V/m between 216MHz & 960MHz 54.0 dB μ V/m above 960MHz |

Test Configuration:

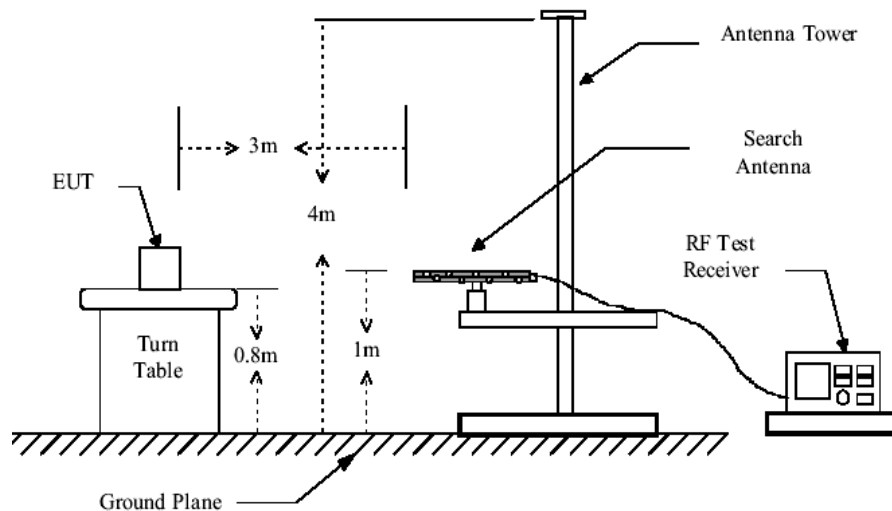


Figure 1. 30MHz to 1GHz radiated emissions test configuration

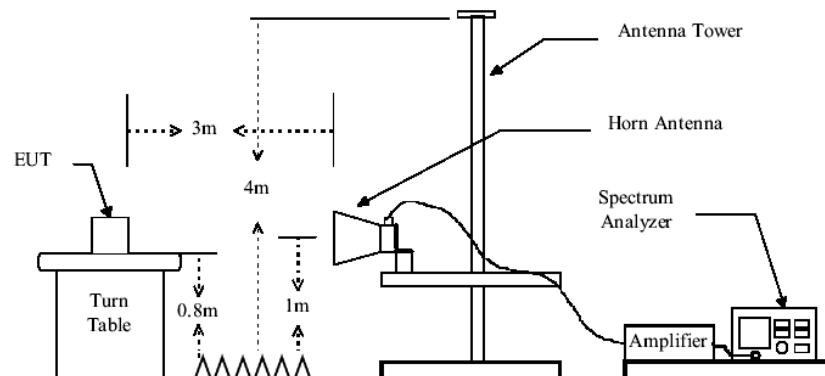


Figure 2. Above 1GHz radiated emissions test configuration

Test Procedure:

The procedure used was ANSI Standard C63.10:2009. The receiver was scanned from 30MHz to 25GHz. When an emission was found, the table was rotated to produce the maximum signal strength. An initial pre-scan was performed in peak detection mode using the receiver. The EUT was measured for both the Horizontal and Vertical polarities and performed a pre-test three orthogonal planes. For intentional radiators, measurements of the variation of the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage. The worst case emissions were reported.

Low noise amplifier was used below 1GHz, High pass Filter was used above 3GHz.

Between 1G and 3GHz, we did not use any amplifier or filter.

Pre-test was performed on Antenna A and Antenna B mode, Compliance test was performed on worse case (Antenna A mode).

Test were performed for their spatial orthogonal(X, Y, Z), the worst test data (X orthogonal) was submitted.

1) For this intentional radiator operates below 25 GHz. the spectrum shall be investigated to the tenth harmonic of the High fundamental frequency. And above the third harmonic of this intentional radiator, the disturbance is very low. So the test result only displays to 5rd harmonic.

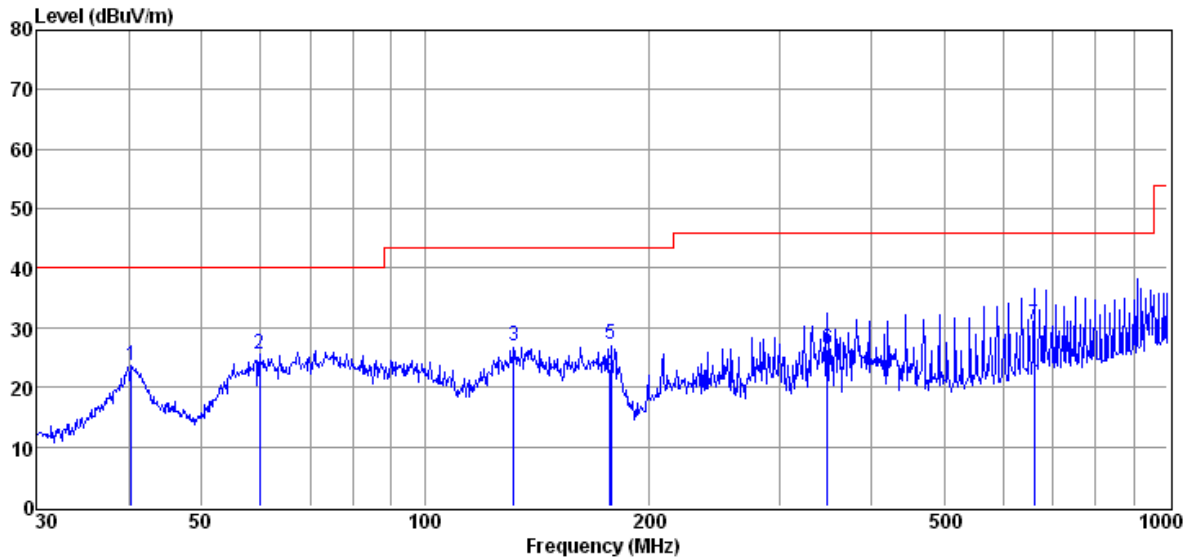
As shown in Section, for frequencies above 1000 MHz the above field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

The test only perform the EUT in transmitting status since the test frequencies were over 1GHz only required transmitting status.

Test data as follows:

30MHz~1GHz Spurious Emission, Quasi-Peak Measurement

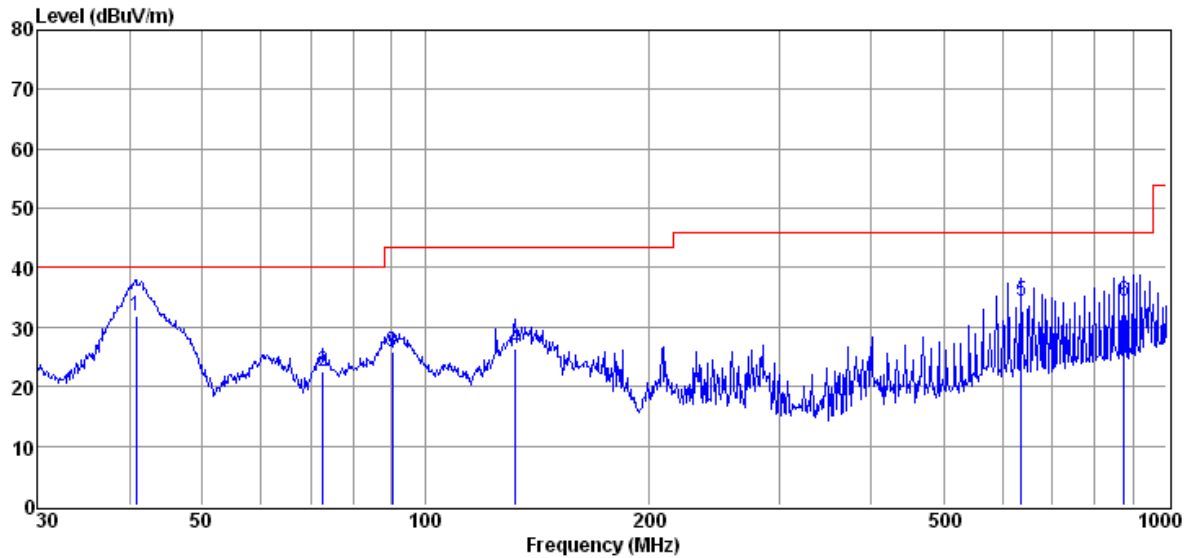
Horizontal



| Freq. (MHz) | Read Level (dBμV) | Antenna Factor (dB/m) | Preamplifier Factor (dB) | Cable Loss (dB) | Result Level (dBμV/m) | Limit Line (dBμV/m) | Over Limit (dB) | Detect or | Polarization |
|----------------|-------------------------|-----------------------------|--------------------------------|-----------------------|-----------------------------|---------------------------|-----------------------|--------------|--------------|
| 40.28 | 34.36 | 13.29 | 24.70 | 0.56 | 23.51 | 40.00 | -16.49 | QP | HORIZONTAL |
| 59.86 | 37.20 | 12.21 | 24.70 | 0.73 | 25.44 | 40.00 | -14.56 | QP | HORIZONTAL |
| 131.76 | 38.77 | 11.69 | 24.70 | 1.19 | 26.95 | 43.50 | -16.55 | QP | HORIZONTAL |
| 177.51 | 34.13 | 11.40 | 24.60 | 1.40 | 22.33 | 43.50 | -21.17 | QP | HORIZONTAL |
| 178.13 | 39.12 | 11.32 | 24.60 | 1.40 | 27.24 | 43.50 | -16.26 | QP | HORIZONTAL |
| 348.03 | 35.24 | 13.56 | 24.50 | 2.11 | 26.41 | 46.00 | -19.59 | QP | HORIZONTAL |

30MHz~1GHz Spurious Emission, Quasi-Peak Measurement

Vertical



| Freq. (MHz) | Read Level (dBμV) | Antenna Factor (dB/m) | Preamplifier Factor (dB) | Cable Loss (dB) | Result Level (dBμV/m) | Limit Line (dBμV/m) | Over Limit (dB) | Detector | Polarization |
|----------------|-------------------------|-----------------------------|--------------------------------|-----------------------|-----------------------------|---------------------------|-----------------------|----------|--------------|
| 40.70 | 42.83 | 13.27 | 24.70 | 0.57 | 31.97 | 40.00 | -8.03 | QP | VERTICAL |
| 72.85 | 36.09 | 10.23 | 24.70 | 0.82 | 22.44 | 40.00 | -17.56 | QP | VERTICAL |
| 90.22 | 41.15 | 8.52 | 24.70 | 0.95 | 25.92 | 43.50 | -17.58 | QP | VERTICAL |
| 132.22 | 38.85 | 10.93 | 24.70 | 1.19 | 26.27 | 43.50 | -17.23 | QP | VERTICAL |
| 636.13 | 35.70 | 19.79 | 24.18 | 3.00 | 34.31 | 46.00 | -11.69 | QP | VERTICAL |
| 875.25 | 32.04 | 22.70 | 23.90 | 3.60 | 34.44 | 46.00 | -11.56 | QP | VERTICAL |

1~25 GHz Harmonics & Spurious Emissions, Peak & Average Measurement

Test in **Channel Low** in transmitting status- **Horizontal** polarization

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Preamplifier Factor (dB) | Read Level (dBuV) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Remark |
|--------------------|-----------------------|-----------------------------|--------------------------------|-------------------------|-------------------|---------------------------|-----------------------|---------|
| 4824.0 | 1.2 | 31.5 | 43.4 | 57.48 | 46.78 | 74 | -27.22 | Peak |
| 4824.0 | 1.2 | 31.5 | 43.4 | 48.97 | 38.27 | 54 | -15.73 | Average |
| 7236.0 | 1.7 | 36.1 | 43.1 | 46.38 | 41.08 | 74 | -32.92 | Peak |
| 7236.0 | 1.7 | 36.1 | 43.1 | 36.42 | 31.12 | 54 | -22.88 | Average |
| 9648.0 | 2.1 | 38.6 | 43.3 | 48.85 | 46.25 | 74 | -27.75 | Peak |
| 9648.0 | 2.1 | 38.6 | 43.3 | 37.80 | 35.20 | 54 | -18.80 | Average |

Remark: No other radiation has been found.

Test in **Channel Low** in transmitting status- **Vertical** polarization

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Preamplifier Factor (dB) | Read Level (dBuV) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Remark |
|--------------------|-----------------------|-----------------------------|--------------------------------|-------------------------|-------------------|---------------------------|-----------------------|---------|
| 4824.0 | 1.2 | 31.5 | 43.4 | 55.22 | 44.52 | 74 | -29.48 | Peak |
| 4824.0 | 1.2 | 31.5 | 43.4 | 45.98 | 35.28 | 54 | -18.72 | Average |
| 7236.0 | 1.7 | 36.1 | 43.1 | 46.44 | 41.14 | 74 | -32.86 | Peak |
| 7236.0 | 1.7 | 36.1 | 43.1 | 36.65 | 31.35 | 54 | -22.65 | Average |
| 9648.0 | 2.1 | 38.6 | 43.3 | 44.43 | 41.83 | 74 | -32.17 | Peak |
| 9648.0 | 2.1 | 38.6 | 43.3 | 35.27 | 32.67 | 54 | -21.33 | Average |

Remark: No other radiation has been found.

Test in **Channel Middle** in transmitting status- **Horizontal** polarization

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Preamplifier Factor (dB) | Read Level (dBuV) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Remark |
|--------------------|-----------------------|-----------------------------|--------------------------------|-------------------------|-------------------|---------------------------|-----------------------|---------|
| 4876.0 | 1.3 | 31.6 | 43.5 | 52.36 | 41.76 | 74 | -32.24 | Peak |
| 4876.0 | 1.3 | 31.6 | 43.5 | 46.10 | 35.50 | 54 | -18.50 | Average |
| 7314.0 | 1.7 | 36.3 | 43.1 | 46.76 | 41.66 | 74 | -32.34 | Peak |
| 7314.0 | 1.7 | 36.3 | 43.1 | 37.24 | 32.14 | 54 | -21.86 | Average |
| 9752.0 | 2.1 | 38.7 | 43.0 | 47.26 | 45.06 | 74 | -28.94 | Peak |
| 9752.0 | 2.1 | 38.7 | 43.0 | 37.34 | 35.14 | 54 | -18.86 | Average |

Remark: No other radiation has been found.

Test in **Channel Middle** in transmitting status- **Vertical** polarization

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Preamplifier Factor (dB) | Read Level (dBuV) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Remark |
|--------------------|-----------------------|-----------------------------|--------------------------------|-------------------------|-------------------|---------------------------|-----------------------|---------|
| 4876 | 1.3 | 31.6 | 43.5 | 56.27 | 45.67 | 74 | -28.33 | Peak |
| 4876 | 1.3 | 31.6 | 43.5 | 49.32 | 38.72 | 54 | -15.28 | Average |
| 7314 | 1.7 | 36.3 | 43.1 | 46.73 | 41.63 | 74 | -32.37 | Peak |
| 7314 | 1.7 | 36.3 | 43.1 | 36.12 | 31.02 | 54 | -22.98 | Average |
| 9752 | 2.1 | 38.7 | 43.0 | 48.45 | 46.25 | 74 | -27.75 | Peak |
| 9752 | 2.1 | 38.7 | 43.0 | 37.52 | 35.32 | 54 | -18.68 | Average |

Remark: No other radiation has been found.

Test in **Channel High** in transmitting status- **Vertical** polarization

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Preamp Factor (dB) | Read Level (dBuV) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Remark |
|--------------------|-----------------------|-----------------------------|--------------------------|-------------------------|-------------------|---------------------------|-----------------------|---------|
| 4928.0 | 1.4 | 31.9 | 43.9 | 53.06 | 42.46 | 74 | -31.54 | Peak |
| 4928.0 | 1.4 | 31.9 | 43.9 | 47.54 | 36.94 | 54 | -17.06 | Average |
| 7392.0 | 1.7 | 36.4 | 43.1 | 46.57 | 41.57 | 74 | -32.43 | Peak |
| 7392.0 | 1.7 | 36.4 | 43.1 | 35.78 | 30.78 | 54 | -23.22 | Average |
| 9856.0 | 2.2 | 38.9 | 42.8 | 46.22 | 44.52 | 74 | -29.48 | Peak |
| 9856.0 | 2.2 | 38.9 | 42.8 | 35.94 | 34.24 | 54 | -19.76 | Average |

Remark: No other radiation has been found.

Test in **Channel High** in transmitting status- **Horizontal** polarization

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Preamp Factor (dB) | Read Level (dBuV) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Remark |
|--------------------|-----------------------|-----------------------------|--------------------------|-------------------------|-------------------|---------------------------|-----------------------|---------|
| 4928.0 | 1.4 | 31.9 | 43.9 | 56.92 | 46.32 | 74 | -27.68 | Peak |
| 4928.0 | 1.4 | 31.9 | 43.9 | 51.93 | 41.33 | 54 | -12.67 | Average |
| 7392.0 | 1.7 | 36.4 | 43.1 | 49.56 | 44.56 | 74 | -29.44 | Peak |
| 7392.0 | 1.7 | 36.4 | 43.1 | 37.65 | 32.65 | 54 | -21.35 | Average |
| 9856.0 | 2.2 | 38.9 | 42.8 | 46.78 | 45.08 | 74 | -28.92 | Peak |
| 9856.0 | 2.2 | 38.9 | 42.8 | 36.48 | 34.78 | 54 | -19.22 | Average |

Remark: No other radiation has been found.

Test Level = Receiver Reading + Antenna Factor + Cable Loss – Preamplifier Factor.

Remark: No any other emissions level which are attenuated less than 20dB below the limit.

According to 15.31(o), The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part. Hence there no other emissions have been reported.

7.10 Band edge (Radiated Emission)

| | |
|------------------------------|--|
| Test Requirement: | FCC Part 15, Subpart C Section 15.205 and Section 15.209 RSS-210 Issue 8 Annex 8.5 |
| Test Method: | ANSI 63.10:2009 Clause 6.12 |
| Test Result: | Pass |
| Measurement Distance: | 3m (Semi-Anechoic Chamber) |
| Limit: | 40.0 dBμV/m between 30MHz & 88MHz; 43.5 dBμV/m between 88MHz & 216MHz; 46.0 dBμV/m between 216MHz & 960MHz; 54.0 dBμV/m above 960MHz. |
| Detector: | For PK value: RBW = 1 MHz for $f \geq 1$ GHz VBW \geq RBW; Sweep = auto Detector function = peak Trace = max hold For AV value: RBW = 1 MHz for $f \geq 1$ GHz VBW = 10Hz; Sweep = auto Detector function = peak Trace = max hold |

According to section 15.35(b) for frequencies above 1000 MHz, the above field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

Pre-test were performed for three spatial orthogonal (X, Y, Z), the worst test data (X orthogonal) was submitted.

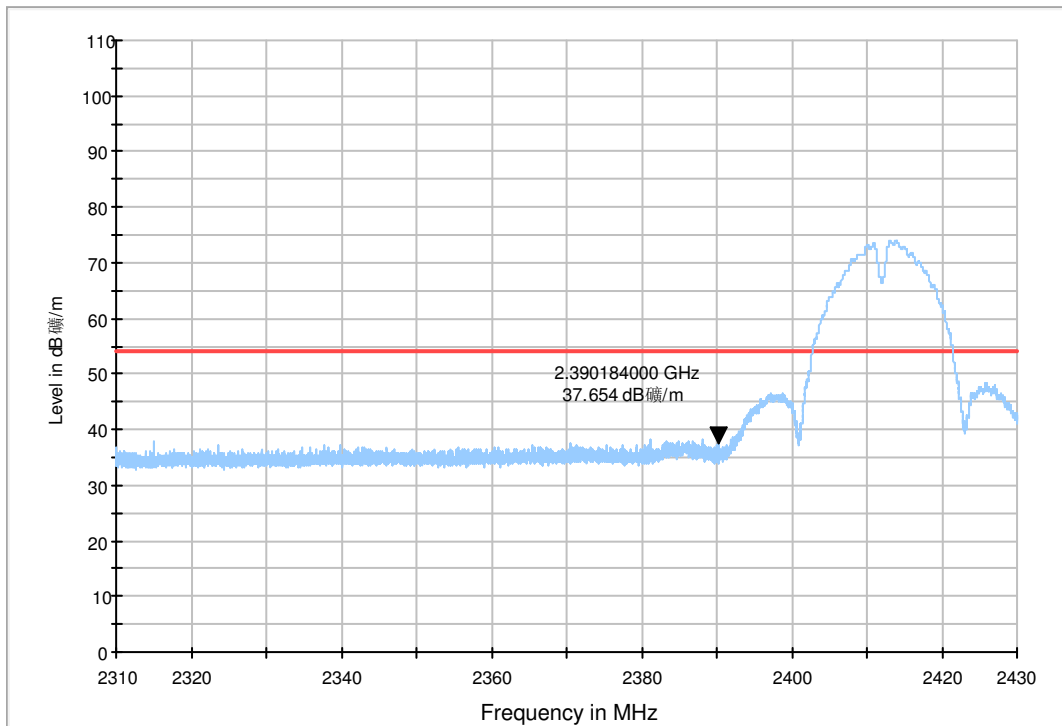
Test Result: The EUT does meet the FCC requirements.

Measurement Result:

| | | | |
|------------|-----------|---------------|-----|
| Test mode: | Antenna A | Test channel: | Low |
|------------|-----------|---------------|-----|

Horizontal, Peak Detector:

CISPR22 RE 1GHz-6GHz PK

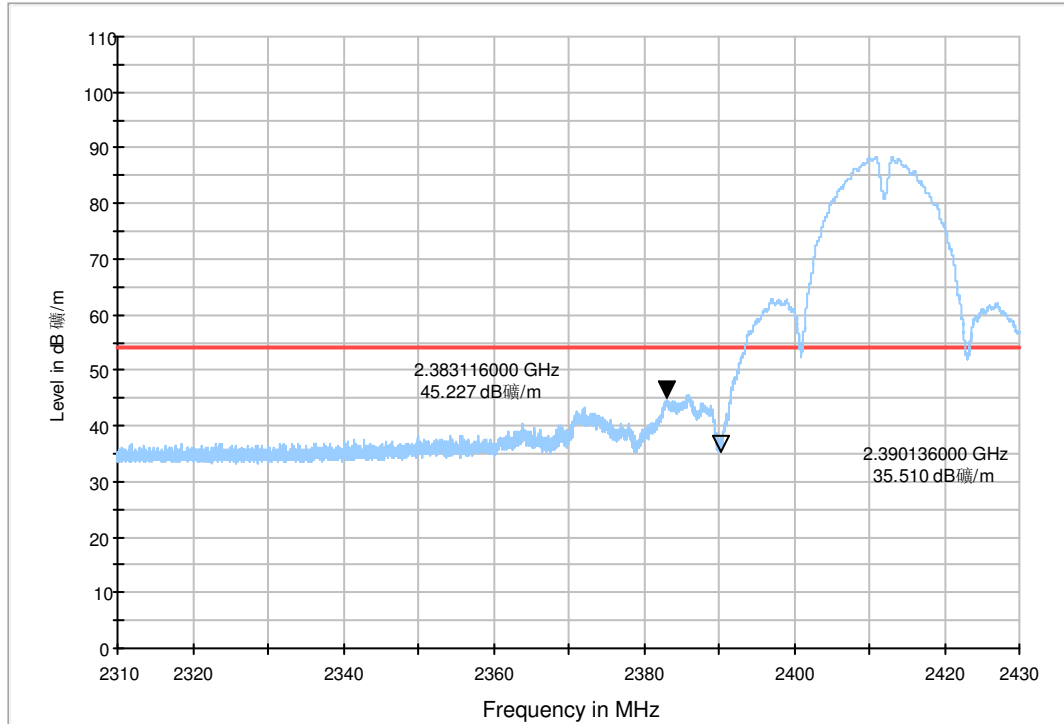


| Frequency (MHz) | Peak Reading (dB μ V) | Antenna Factor (dB/m) | PreAmp (dB) | Cable Loss (dB) | Peak Level (dB μ V/m) | Peak Limit (dB μ V/m) | Margin (dB) |
|-----------------|---------------------------|-----------------------|-------------|-----------------|---------------------------|---------------------------|-------------|
| 2390.18 | 48.05 | 27.28 | 42.50 | 4.82 | 37.65 | 74.00 | 36.35 |

| | | | |
|------------|-----------|---------------|-----|
| Test mode: | Antenna A | Test channel: | Low |
|------------|-----------|---------------|-----|

Vertical, Peak Detector:

CISPR22 RE 1GHz-6GHz PK

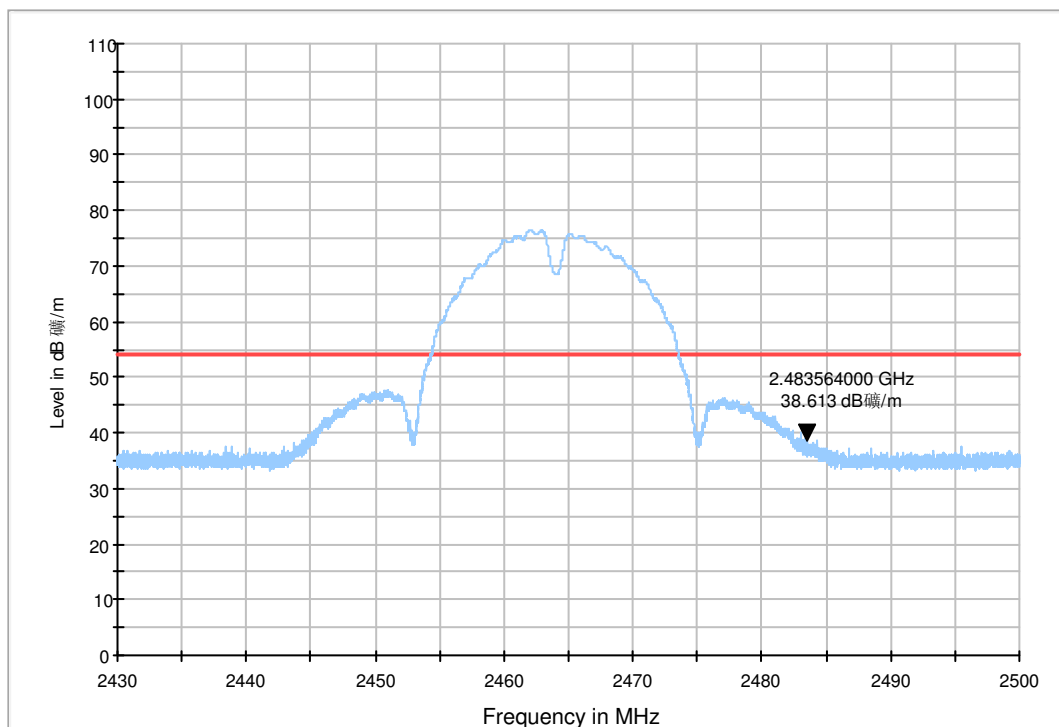


| Frequency (MHz) | Peak Reading (dBuV) | Antenna Factor (dB/m) | PreAmp (dB) | Cable Loss (dB) | Peak Level (dBuV/m) | Peak Limit (dBuV/m) | Margin (dB) |
|-----------------|---------------------|-----------------------|-------------|-----------------|---------------------|---------------------|-------------|
| 2383.12 | 55.63 | 27.28 | 42.50 | 4.82 | 45.23 | 74.00 | 28.77 |

| | | | |
|------------|-----------|---------------|------|
| Test mode: | Antenna B | Test channel: | High |
|------------|-----------|---------------|------|

Horizontal, Peak Detector:

CISPR22 RE 1GHz-6GHz PK

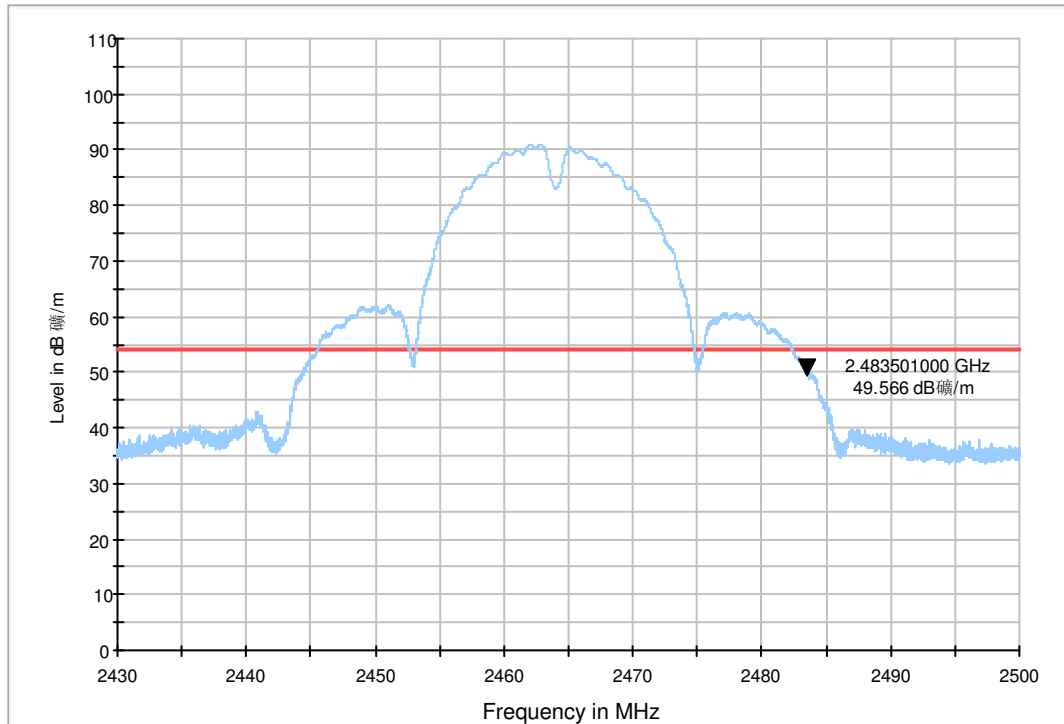


| Frequency (MHz) | Peak Reading (dBuV) | Antenna Factor (dB/m) | PreAmp (dB) | Cable Loss (dB) | Peak Level (dBuV/m) | Peak Limit (dBuV/m) | Margin (dB) |
|-----------------|---------------------|-----------------------|-------------|-----------------|---------------------|---------------------|-------------|
| 2483.56 | 48.85 | 27.48 | 42.54 | 4.82 | 38.61 | 74.00 | 35.39 |

| | | | |
|------------|-----------|---------------|------|
| Test mode: | Antenna B | Test channel: | High |
|------------|-----------|---------------|------|

Vertical, Peak Detector:

CISPR22 RE 1GHz-6GHz PK



| Frequency (MHz) | Peak Reading (dBuV) | Antenna Factor (dB/m) | PreAmp (dB) | Cable Loss (dB) | Peak Level (dBuV/m) | Peak Limit (dBuV/m) | Margin (dB) |
|-----------------|---------------------|-----------------------|-------------|-----------------|---------------------|---------------------|-------------|
| 2483.50 | 59.81 | 27.48 | 42.54 | 4.82 | 49.57 | 74.00 | 24.43 |

Remark: 1. The Peak Level less than the AV limit, so the AV level is no greater than the AV limit.

2. No any other emission which fall in restricted bands can be detected and be reported.

Test Level = Receiver Reading + Antenna Factor + Cable Loss- Preamplifier Factor

All frequencies within the "Restricted bands" have been evaluated to compliance. Section 15.205 Restricted bands of operation.

Except as shown in paragraph of this section. only spurious emissions are permitted in any of the frequency bands listed below:

| MHz | MHz | MHz | GHz |
|----------------------------|---------------------|-----------------|---------------|
| 0.090 - 0.110 | 16.42 - 16.423 | 399.9 - 410 | 4.5 - 5.15 |
| ¹ 0.495 - 0.505 | 16.69475 - 16.69525 | 608 - 614 | 5.35 - 5.46 |
| 2.1735 - 2.1905 | 16.80425 - 16.80475 | 960 - 1240 | 7.25 - 7.75 |
| 4.125 - 4.128 | 25.5 - 25.67 | 1300 - 1427 | 8.025 - 8.5 |
| 4.17725 - 4.17775 | 37.5 - 38.25 | 1435 - 1626.5 | 9.0 - 9.2 |
| 4.20725 - 4.20775 | 73 - 74.6 | 1645.5 - 1646.5 | 9.3 - 9.5 |
| 6.215 - 6.218 | 74.8 - 75.2 | 1660 - 1710 | 10.6 - 12.7 |
| 6.26775 - 6.26825 | 108 - 121.94 | 1718.8 - 1722.2 | 13.25 - 13.4 |
| 6.31175 - 6.31225 | 123 - 138 | 2200 - 2300 | 14.47 - 14.5 |
| 8.291 - 8.294 | 149.9 - 150.05 | 2310 - 2390 | 15.35 - 16.2 |
| 8.362 - 8.366 | 156.52475 - | 2483.5 - 2500 | 17.7 - 21.4 |
| 8.37625 - 8.38675 | 156.52525 | 2655 - 2900 | 22.01 - 23.12 |
| 8.41425 - 8.41475 | 156.7 - 156.9 | 3260 - 3267 | 23.6 - 24.0 |
| 12.29 - 12.293 | 162.0125 - 167.17 | 3332 - 3339 | 31.2 - 31.8 |
| 12.51975 - 12.52025 | 167.72 - 173.2 | 3345.8 - 3358 | 36.43 - 36.5 |
| 12.57675 - 12.57725 | 240 - 285 | 3600 - 4400 | |
| 13.36 - 13.41 | 322 - 335.4 | | |

7.11 99% Occupied Bandwidth

Test Requirement: RSS-Gen section 4.6.1

Test Method: RSS-Gen section 4.6.1

Test Mode: Transmitting mode

Final Test Mode: The EUT fixed on Low channel, Middle Channel and High Channel.

Test Procedure:

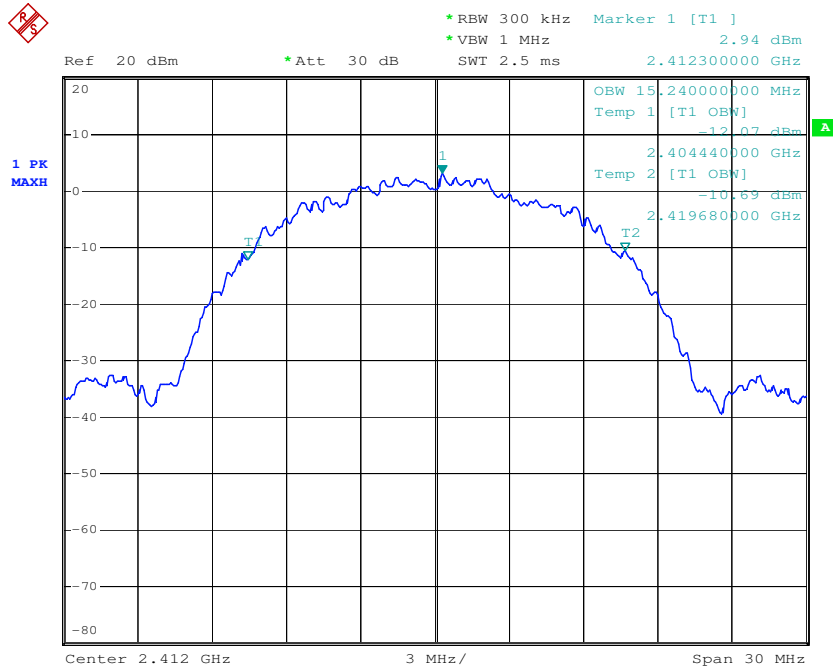
1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum;
2. Set the spectrum analyzer: Span = approximately 2 to 3 times the 20dB bandwidth, centred on the hopping channel;
3. Set the spectrum analyzer: RBW \geq 1% of the 20dB bandwidth (set 300 kHz). VBW \geq RBW. Sweep = auto; Detector Function = Peak. Trace = Max Hold.
4. Mark the peak frequency and -20dB points.

Test date

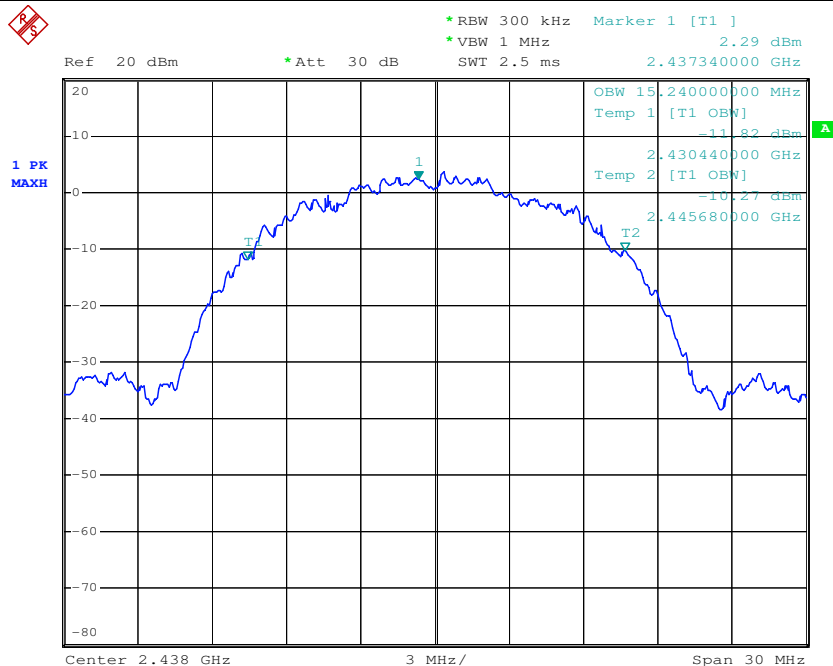
| Test Mode | Test Channel | Channel Frequency (MHz) | Bandwidth(MHz) |
|-----------|--------------|----------------------------|----------------|
| Antenna A | Low | 2412 | 16.22 |
| Antenna A | Middle | 2438 | 16.11 |
| Antenna A | High | 2464 | 16.11 |
| Antenna B | Low | 2412 | 16.22 |
| Antenna B | Middle | 2438 | 16.11 |
| Antenna B | High | 2464 | 16.11 |

Test plot as follows:

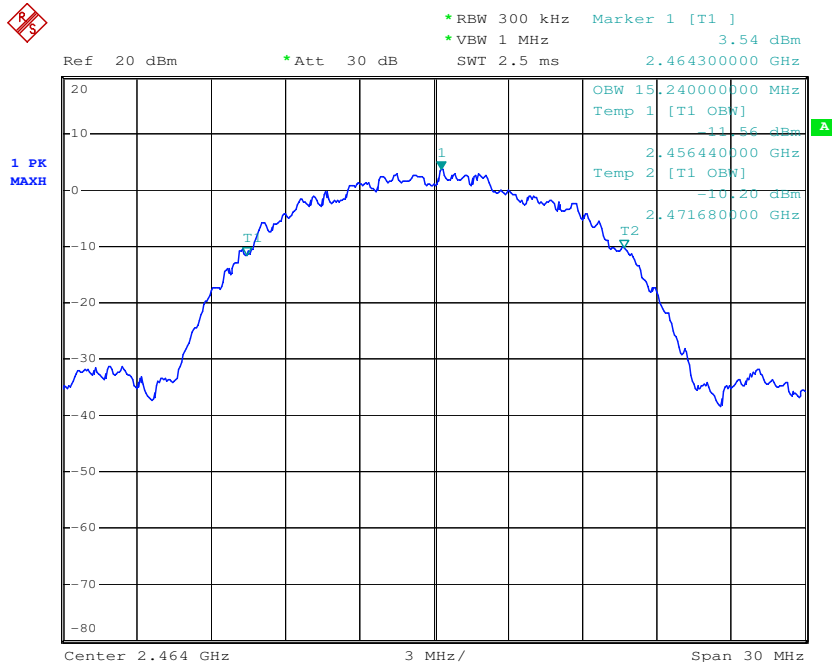
| | | | |
|------------|-----------|---------------|--------|
| Test mode: | Antenna A | Test channel: | Lowest |
|------------|-----------|---------------|--------|



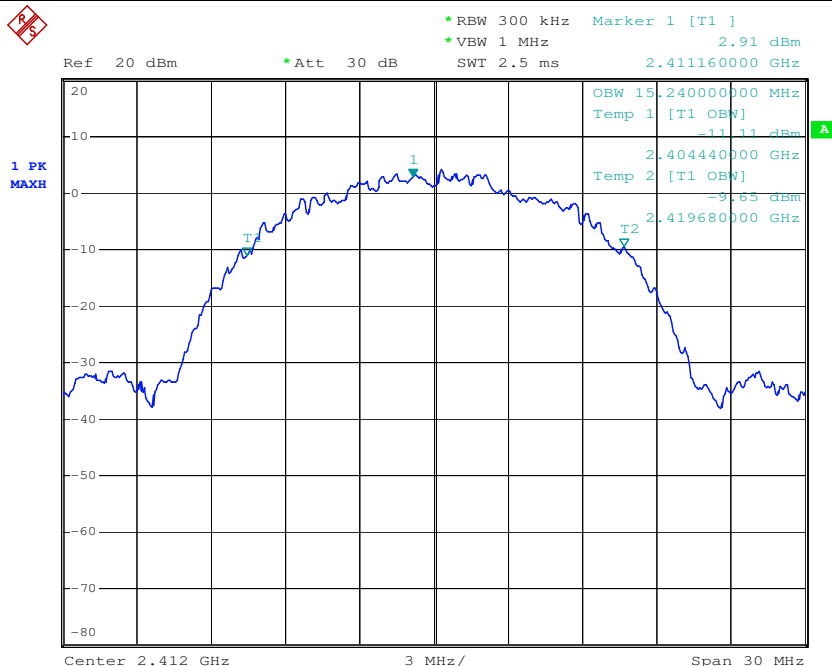
| | | | |
|------------|-----------|---------------|--------|
| Test mode: | Antenna A | Test channel: | Middle |
|------------|-----------|---------------|--------|



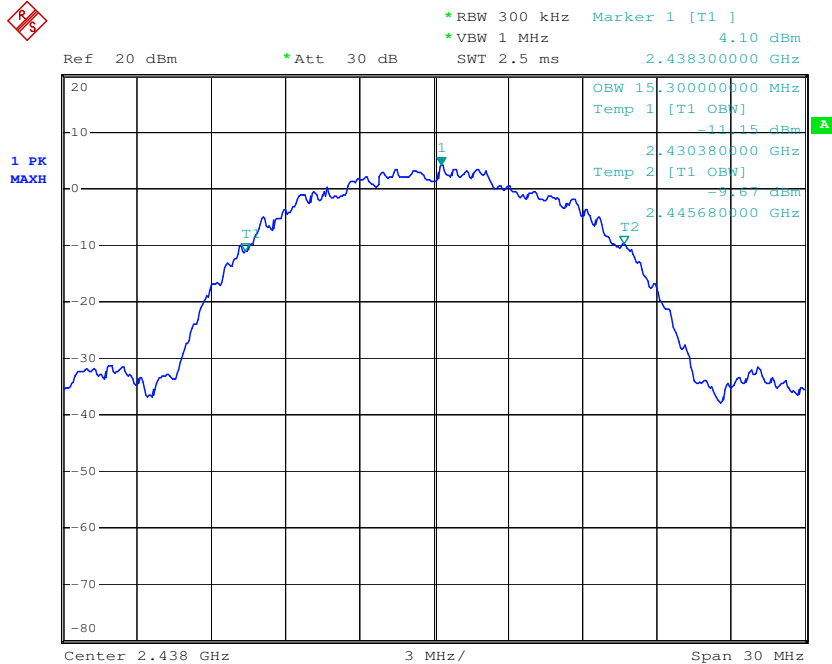
| | | | |
|------------|-----------|---------------|---------|
| Test mode: | Antenna A | Test channel: | Highest |
|------------|-----------|---------------|---------|



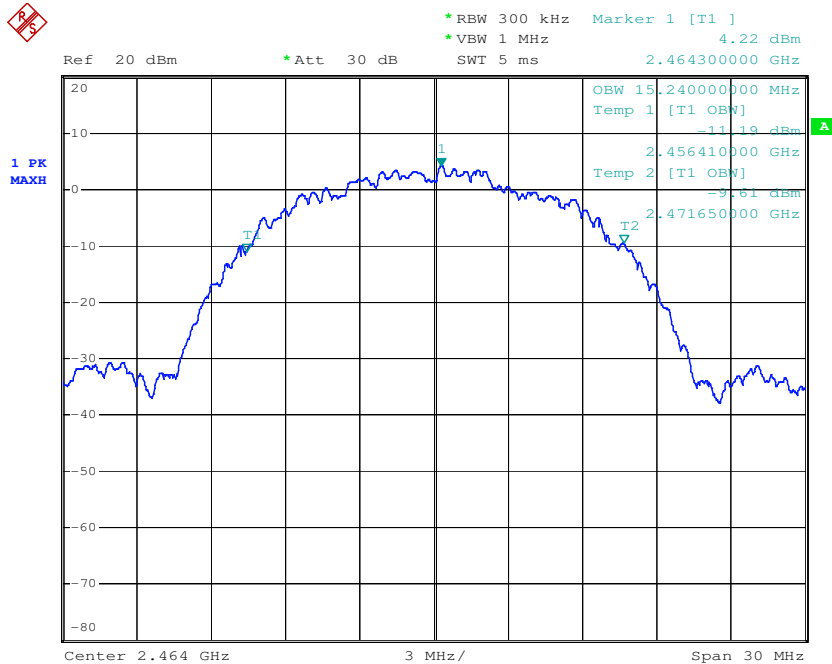
| | | | |
|------------|-----------|---------------|--------|
| Test mode: | Antenna B | Test channel: | Lowest |
|------------|-----------|---------------|--------|



| | | | |
|------------|-----------|---------------|--------|
| Test mode: | Antenna B | Test channel: | Middle |
|------------|-----------|---------------|--------|



| | | | |
|------------|-----------|---------------|---------|
| Test mode: | Antenna B | Test channel: | Highest |
|------------|-----------|---------------|---------|





8 Test Setup Photographs

Refer to the < Soundtrack 2_Test Setup photos>.

9 EUT Constructional Details

Refer to the < Soundtrack 2_External Photos > & < Soundtrack 2_Internal Photos>.

--End of the Report--