# FCC Test Report

| | | |
|---|---|---|
| **Equipment** | **:** | **802.11 a/n/ac Module** |
| **Brand Name** | **:** | **Senao** |
| **Model No.** | **:** | **PCE4550AH** |
| **FCC ID** | **:** | **U2M-PCE4550AH** |
| **Standard** | **:** | **47 CFR FCC Part 15.407** |
| **Operating Band** | **:** | **5150 MHz – 5250 MHz** |
| **FCC Classification** | **:** | **NII** |
| **Applicant**<br>**Manufacturer** | **:** | **Senao Networks, Inc.**<br>**3F, No. 529, Chung Cheng Rd., Hsintien, Taipei, Taiwan** |

**The product sample received on Apr. 18, 2013 and completely tested on Apr. 29, 2013. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2009 and shown compliance with the applicable technical standards.**

**The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.**

**Reviewed by: Joseph Lin / Supervisor**

**Approved by: Jones Tsai / Manager**

Testing Laboratory
1190

# Table of Contents

# Summary of Test Result

| Conformance Test Specifications | | | | | |
|---|---|---|---|---|---|
| **Report Clause** | **Ref. Std. Clause** | **Description** | **Measured** | **Limit** | **Result** |
| 1.1.2 | 15.203 | Antenna Requirement | Antenna connector mechanism complied | FCC 15.203 | Complied |
| 3.1 | 15.207 | AC Power-line Conducted Emissions | [dBuV]: 0.1573260MHz 37.51 (Margin 18.09dB) - AV 40.29 (Margin 25.31dB) - QP | FCC 15.207 | Complied |
| 3.2 | 15.407(a) | Emission Bandwidth | Bandwidth [MHz] 20M:26.55 / 40M:49.86 / 80M: 103.65 | Information only | Complied |
| 3.3 | 15.407(a) | RF Output Power (Maximum Conducted Output Power) | Power [dBm] 5150-5250MHz:16.73 | Power [dBm] 5150-5250MHz:17 | Complied |
| 3.4 | 15.407(a) | Peak Power Spectral Density | PPSD [dBm/MHz] 5150-5250MHz:2.11 | PPSD [dBm/MHz] 5150-5250MHz:4 | Complied |
| 3.5 | 15.407(a) | Peak Excursion | 10.57 dB | 13 dB | Complied |
| 3.6 | 15.407(b) | Transmitter Radiated Bandedge Emissions | Restricted Bands [dBuV/m at 3m]: 5149.80MHz 63.05 (Margin 10.95dB) - PK 53.00 (Margin 1.00dB) - AV | Non-Restricted Bands: ≤ -27dBm (68.3dBuV/m@3m) Restricted Bands: FCC 15.209 | Complied |
| 3.7 | 15.407(b) | Transmitter Radiated Unwanted Emissions | Restricted Bands [dBuV/m at 3m]: 912.70MHz 41.93 (Margin 4.07dB) - PK | Non-Restricted Bands: ≤ -27dBm (68.3dBuV/m@3m) Restricted Bands: FCC 15.209 | Complied |
| 3.8 | 15.407(g) | Frequency Stability | 2.6885 ppm | Signal shall remain in-band | Complied |

# Revision History

| Report No. | Version | Description | Issued Date |
|---|---|---|---|
| FR341809AN | Rev. 01 | Initial issue of report | May 09, 2013 |
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# 1 General Description

## 1.1 Information

### 1.1.1 RF General Information

| RF General Information | | | | | | |
|---|---|---|---|---|---|---|
| **Frequency Range (MHz)** | **IEEE Std. 802.11** | **Ch. Freq. (MHz)** | **Channel Number** | **Transmit Chains ($N_{TX}$)** | **RF Output Power (dBm)** | **Co-location** |
| 5150-5250 | a | 5180-5240 | 36-48 [4] | 3 | 14.93 | N/A |
| 5150-5250 | n(HT20) | 5180-5240 | 36-48 [4] | 3 | 14.89 | N/A |
| 5150-5250 | n(HT40) | 5190-5230 | 38-46 [2] | 3 | 16.66 | N/A |
| 5150-5250 | ac(VHT20) | 5180-5240 | 36-48 [4] | 3 | 14.86 | N/A |
| 5150-5250 | ac(VHT40) | 5190-5230 | 38-46 [2] | 3 | 16.73 | N/A |
| 5150-5250 | ac(VHT80) | 5210 | 42 [1] | 3 | 12.96 | N/A |
| Note 1: RF output power specifies that Maximum Conducted Output Power.<br>Note 2: RF output power specifies that Maximum Peak Conducted Output Power for ac(VHT80) only.<br>Note 3: 802.11a/n uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.<br>Note 4: 802.11ac uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.<br>Note 5: Co-location, Co-location is generally defined as simultaneously transmitting (co-transmitting) antennas within 20 cm of each other. (i.e., EUT has simultaneously co-transmitting that operating 2.4GHz and 5GHz.) | | | | | | |

### 1.1.2 Antenna Information

| Antenna Category | | |
|---|---|---|
| ☐ | Equipment placed on the market without antennas | |
| ☐ | Integral antenna (antenna permanently attached) | |
| | ☐ | Temporary RF connector provided |
| | ☐ | No temporary RF connector provided<br>Transmit chains bypass antenna and soldered temporary RF connector provided for connected measurement. In case of conducted measurements the transmitter shall be connected to the measuring equipment via a suitable attenuator and correct for all losses in the RF path. |
| ☒ | External antenna (dedicated antennas) | |
| | ☐ | Single power level with corresponding antenna(s). |
| | ☒ | Multiple power level and corresponding antenna(s). |
| | ☒ | RF connector provided |
| | | ☒ Unique antenna connector. (e.g., MMCX, U.FL, IPX, and RP-SMA, RP-N type…) |
| | | ☐ Standard antenna connector. (e.g., SMA, N, BNC, and TNC type…) |

| Antenna General Information | | | | |
|---|---|---|---|---|
| **No.** | **Ant. Cat.** | **Ant. Type** | **Connector** | **Gain (dBi)** |
| 1 | External | Dipole | UFL | 3 |
| 2 | External | Dipole | UFL | 5.5 |
| 3 | Integral | PIFA | UFL | 6 |

### 1.1.3 Type of EUT

| Identify EUT | |
|---|---|
| EUT Serial Number | N/A |
| Presentation of Equipment | ☐ Production ; ☒ Pre-Production ; ☐ Prototype |
| **Type of EUT** | |
| ☐ | Stand-alone |
| ☐ | Combined (EUT where the radio part is fully integrated within another device)<br>Combined Equipment - Brand Name / Model No.: … |
| ☒ | Plug-in radio (EUT intended for a variety of host systems)<br>Host System - Brand Name / Model No.: … |
| ☐ | Other: |

### 1.1.4 Test Signal Duty Cycle

| Operated Mode for Worst Duty Cycle | |
|---|---|
| ☐ Operated normally mode for worst duty cycle | |
| ☒ Operated test mode for worst duty cycle | |
| **Test Signal Duty Cycle (x)** | **Power Duty Factor [dB] – (10 log 1/x)** |
| ☒ 98.05% - IEEE 802.11a | 0.09 |
| ☒ 98.21% - IEEE 802.11n (HT20) | 0.08 |
| ☒ 94.73% - IEEE 802.11n (HT40) | 0.24 |
| ☒ 98.23% - IEEE 802.11ac (VHT20) | 0.08 |
| ☒ 95.21% - IEEE 802.11ac (VHT40) | 0.21 |
| ☒ 90.40% - IEEE 802.11ac (VHT80) | 0.44 |

### 1.1.5 EUT Operational Condition

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Supply Voltage** | ☐ | AC mains | ☒ | DC | | | |
| **Type of DC Source** | ☐ | Internal DC supply | ☐ | External DC adapter | ☒ | Host 3.3 V | |
| **Test Voltage (Host)** | ☒ | Vnom (110 Vac) | ☒ | Vmax (126.5 Vac) | ☒ | Vmin (93.5 Vac) | |
| **Test Climatic** | ☒ | Tnom (20°C) | ☒ | Tmax (55°C) | ☒ | Tmin (-30°C) | |

## 1.2 Accessories and Support Equipment

| Accessories | | | | | |
|---|---|---|---|---|---|
| **No.** | **Equipment** | **Brand Name** | **Model Name** | **P/N** | **Spec.** |
| --- | --- | --- | --- | --- | --- |

| Support Equipment | | | | |
|---|---|---|---|---|
| **No.** | **Equipment** | **Brand Name** | **Model Name** | **Serial No.** |
| 1 | Notebook | DELL | E5420 | DoC |
| 2 | Extender card | Senao | adapter | NA |
| 3 | Carrier board | Senao | IAP6200AG-0 0.2 LFP | NA |

## 1.3 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR FCC Part 15
- ANSI C63.10-2009
- FCC KDB 789033 v01r03
- FCC KDB 662911 v01r02
- FCC KDB 412172 v01

## 1.4 Testing Location Information

| Testing Location | | | |
|---|---|---|---|
| ☒ | HWA YA | ADD : | No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. |
| | | TEL : | 886-3-327-3456 FAX : 886-3-327-0973 |

| Test Condition | Test Site No. | Test Engineer | Test Environment | Test Date |
|---|---|---|---|---|
| RF Conducted | TH01-HY | Ian Du | 22.3°C / 62% | Apr. 22 ~Apr .29, 2013 |
| AC Conduction | CO04-HY | Bill Hsiao | 21°C / 52% | Apr. 25, 2013 |
| Radiated Emission | 03CH05-HY | Sam Chang | 25°C / 65% | Apr. 18 ~ Apr. 23, 2013 |
| Test site registered number [643075] with FCC<br>Test site registered number [4086B-1] with IC | | | | |

## 1.5 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)

| Measurement Uncertainty | | | |
|---|---|---|---|
| Test Item | | Uncertainty | Limit |
| AC power-line conducted emissions | | ±2.26 dB | N/A |
| Emission bandwidth | | ±1.42 % | N/A |
| RF output power, conducted | | ±0.63 dB | N/A |
| Power density, conducted | | ±0.81 dB | N/A |
| Unwanted emissions, conducted | 30 – 1000 MHz | ±0.51 dB | N/A |
| | 1 – 18 GHz | ±0.67 dB | N/A |
| | 18 – 40 GHz | ±0.83 dB | N/A |
| | 40 – 200 GHz | N/A | N/A |
| All emissions, radiated | 30 – 1000 MHz | ±2.56 dB | N/A |
| | 1 – 18 GHz | ±3.59 dB | N/A |
| | 18 – 40 GHz | ±3.82 dB | N/A |
| | 40 – 200 GHz | N/A | N/A |
| Temperature | | ±0.8 °C | N/A |
| Humidity | | ±3 % | N/A |
| DC and low frequency voltages | | ±3 % | N/A |
| Time | | ±1.42 % | N/A |
| Duty Cycle | | ±1.42 % | N/A |

# 2 Test Configuration of EUT

## 2.1 The Worst Case Modulation Configuration

| Worst Modulation Used for Conformance Testing (5150-5250MHz) | | | |
|---|---|---|---|
| **Modulation Mode** | **Transmit Chains ($N_{TX}$)** | **Data Rate / MCS** | **Worst Data Rate / MCS** |
| 11a | 3 | 6-54Mbps | 6 Mbps |
| HT20 | 3 | M0-23 | M0 |
| HT40 | 3 | M0-23 | M0 |
| VHT20 | 3 | M0-9 | M0 |
| VHT40 | 3 | M0-9 | M0 |
| VHT80 | 3 | M0-9 | M0 |
| Note 1: Modulation modes consist of below configuration:<br>11a: IEEE 802.11a, HT20/HT40: IEEE 802.11n, VHT20/VHT40/VHT80: IEEE 802.11ac<br>Note 2: IEEE Std. 802.11n/ac modulation consists of HT20, HT40, VHT20, VHT40, VHT80 and VHT160. Then EUT support HT20, HT40, VHT20, VHT40 and VHT80. | | | |

## 2.2 The Worst Case Power Setting Parameter

| The Worst Case Power Setting Parameter (5150-5250 MHz band) | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Operating Mode** | 1 | | | | | | |
| **Test Software Version** | AH-art2 V4_9_51_b | | | | | | |
| **Modulation Mode** | **$N_{TX}$** | **Test Frequency (MHz)** | | | | | |
| | | **NCB: 20MHz** | | | **NCB: 40MHz** | | **NCB: 80MHz** |
| | | **5180** | **5200** | **5240** | **5190** | **5230** | **5210** |
| 11a,6-54Mbps | 3 | 13.5 | 13.5 | 13.5 | - | - | - |
| HT20,M0-23 | 3 | 13.5 | 13.5 | 13.5 | - | - | - |
| HT40,M0-23 | 3 | - | - | - | 14.5 | 14.5 | - |
| VHT20,M0-9 | 3 | 13.5 | 13.5 | 13.5 | - | - | - |
| VHT40,M0-9 | 3 | - | - | - | 14.5 | 14.5 | - |
| VHT80,M0-9 | 3 | - | - | - | - | - | 12.5 |

| The Worst Case Power Setting Parameter (5150-5250 MHz band) | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Operating Mode** | 2 | | | | | | |
| **Test Software Version** | AH-art2 V4_9_51_b | | | | | | |
| **Modulation Mode** | **$N_{TX}$** | **Test Frequency (MHz)** | | | | | |
| | | **NCB: 20MHz** | | | **NCB: 40MHz** | | **NCB: 80MHz** |
| | | **5180** | **5200** | **5240** | **5190** | **5230** | **5210** |
| 11a,6-54Mbps | 3 | 6.5 | 6.5 | 6.5 | - | - | - |
| HT20,M0-23 | 3 | 6.5 | 6.5 | 6.5 | - | - | - |
| HT40,M0-23 | 3 | - | - | - | 10.5 | 10.5 | - |
| VHT20,M0-9 | 3 | 6.5 | 6.5 | 6.5 | - | - | - |
| VHT40,M0-9 | 3 | - | - | - | 10.5 | 10.5 | - |
| VHT80,M0-9 | 3 | - | - | - | - | - | 6 |

| The Worst Case Power Setting Parameter (5150-5250 MHz band) | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Operating Mode** | 3 | | | | | | |
| **Test Software Version** | AH-art2 V4_9_51_b | | | | | | |
| **Modulation Mode** | **$N_{TX}$** | **Test Frequency (MHz)** | | | | | |
| | | **NCB: 20MHz** | | | **NCB: 40MHz** | | **NCB: 80MHz** |
| | | **5180** | **5200** | **5240** | **5190** | **5230** | **5210** |
| 11a,6-54Mbps | 3 | 6.5 | 6.5 | 6.5 | - | - | - |
| HT20,M0-23 | 3 | 6.5 | 6.5 | 6.5 | - | - | - |
| HT40,M0-23 | 3 | - | - | - | 10.5 | 10.5 | - |
| VHT20,M0-9 | 3 | 6.5 | 6.5 | 6.5 | - | - | - |
| VHT40,M0-9 | 3 | - | - | - | 10.5 | 10.5 | - |
| VHT80,M0-9 | 3 | - | - | - | - | - | 7.5 |

## 2.3 The Worst Case Measurement Configuration

| The Worst Case Mode for Following Conformance Tests | |
|---|---|
| **Tests Item** | AC power-line conducted emissions |
| **Condition** | AC power-line conducted measurement for line and neutral<br>Test Voltage: 120Vac / 60Hz |
| **Operating Mode** | Operating Mode Description |
| 1 | DC Power & Radio link (WLAN), Ant 1 |
| 2 | DC Power & Radio link (WLAN), Ant 2 |
| 3 | DC Power & Radio link (WLAN), Ant 3 |

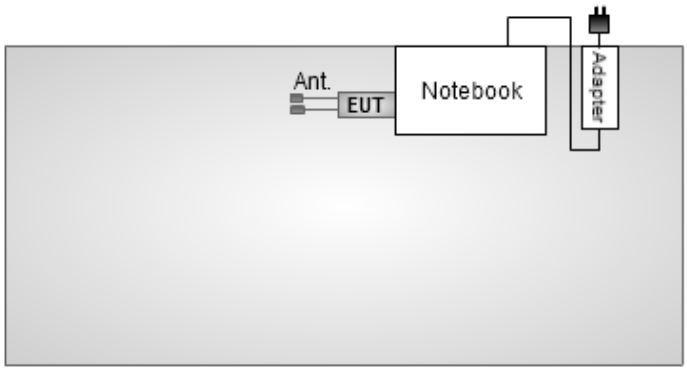
| The Worst Case Mode for Following Conformance Tests | |
|---|---|
| **Tests Item** | RF Output Power |
| **Test Condition** | Conducted measurement at transmit chains |
| **Modulation Mode** | 11a, HT20, HT40, VHT20, VHT40, VHT80 |
| **Operating Mode** | Operating Mode Description |
| 1 | DC Power & Radio link (WLAN), Ant 1 |
| 2 | DC Power & Radio link (WLAN), Ant 2 |
| 3 | DC Power & Radio link (WLAN), Ant 3 |

| The Worst Case Mode for Following Conformance Tests | |
|---|---|
| **Tests Item** | Peak Power Spectral Density, Emission Bandwidth, Peak Excursion |
| **Test Condition** | Conducted measurement at transmit chains |
| **Modulation Mode** | 11a, HT20, HT40, VHT80 |
| **Operating Mode** | Operating Mode Description |
| 1 | DC Power & Radio link (WLAN), Ant 1 |
| 2 | DC Power & Radio link (WLAN), Ant 2 |
| 3 | DC Power & Radio link (WLAN), Ant 3 |
| Note:<br>802.11n/ac modulation modes consist of HT20, HT40, VHT20, VHT40 and VHT80. After pretested, HT20, HT40, and VHT80 were the worst cases and were selected for final test. | |

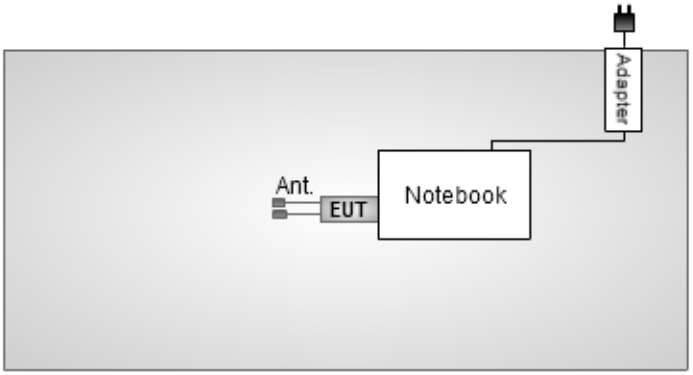
| The Worst Case Mode for Following Conformance Tests | | | |
|---|---|---|---|
| **Tests Item** | Transmitter Radiated Unwanted Emissions<br>Transmitter Radiated Bandedge Emissions | | |
| **Test Condition** | Radiated measurement<br>If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type. | | |
| **User Position** | ☐ EUT will be placed in fixed position. | | |
| | ☐ EUT will be placed in mobile position and operating multiple positions. EUT shall be performed two orthogonal planes. The worst planes is X. | | |
| | ☒ EUT will be operating multiple positions. The dipole antenna of EUT was pre-tested on the positioned of each 3 axis. The worst plane is Y. | | |
| **Operating Mode < 1GHz** | ☒ 1. DC Power & Radio link (WLAN), Ant 1 | | |
| | ☒ 2. DC Power & Radio link (WLAN), Ant 2 | | |
| | ☒ 3. DC Power & Radio link (WLAN), Ant 3 | | |
| **Modulation Mode** | 11a, HT20, HT40, VHT80 | | |
| **Orthogonal Planes of EUT** | **X Plane** | **Y Plane** | **Z Plane** |
| |  |  |  |
| Note:<br>802.11n/ac modulation modes consist of HT20, HT40, VHT20, VHT40 and VHT80. After pretested, HT20, HT40, and VHT80 were the worst cases and were selected for final test. | | | |

## 2.4 Test Setup Diagram

**Test Setup Diagram – AC Line Conducted Emission & Radiated Below 1GHz Test**




**Test Setup Diagram - Radiated Above 1GHz Test**



# 3 Transmitter Test Result

## 3.1 AC Power-line Conducted Emissions

### 3.1.1 AC Power-line Conducted Emissions Limit

| AC Power-line Conducted Emissions Limit | | |
|---|---|---|
| **Frequency Emission (MHz)** | **Quasi-Peak** | **Average** |
| 0.15-0.5 | 66 - 56 * | 56 - 46 * |
| 0.5-5 | 56 | 46 |
| 5-30 | 60 | 50 |
| Note 1: * Decreases with the logarithm of the frequency. | | |

### 3.1.2 Measuring Instruments

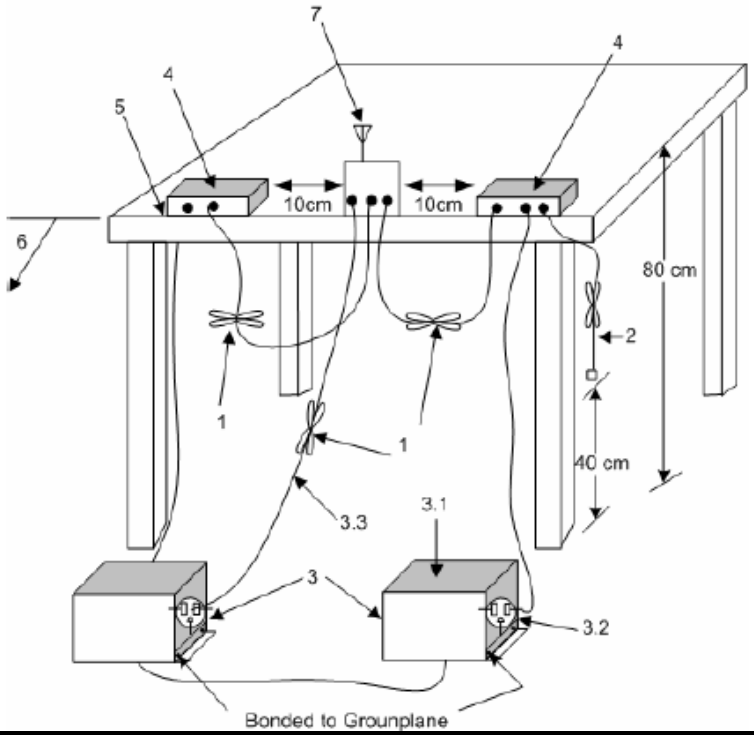
Refer a test equipment and calibration data table in this test report.

### 3.1.3 Test Procedures

| Test Method |
|---|
| ☒ Refer as ANSI C63.10-2009, clause 6.2 for AC power-line conducted emissions. |

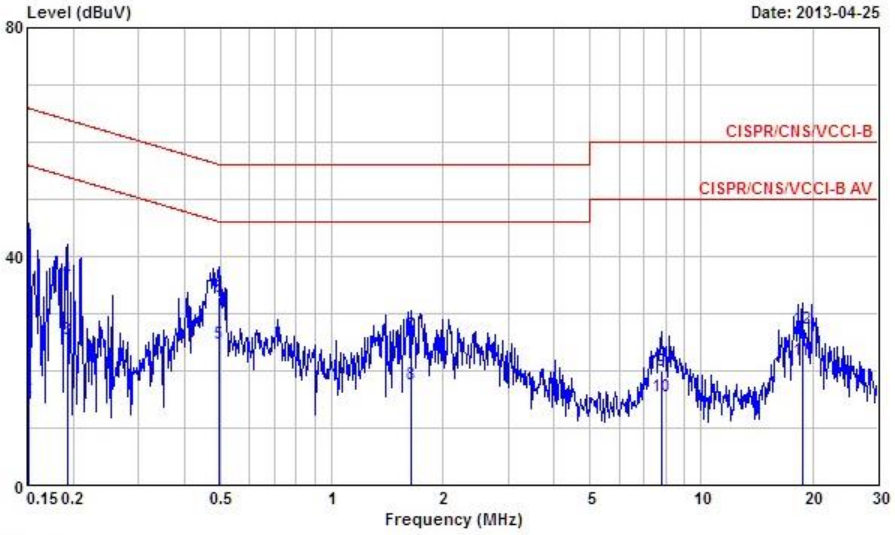
### 3.1.4 Test Setup

**AC Power-line Conducted Emissions**



### 3.1.5 Test Result of AC Power-line Conducted Emissions

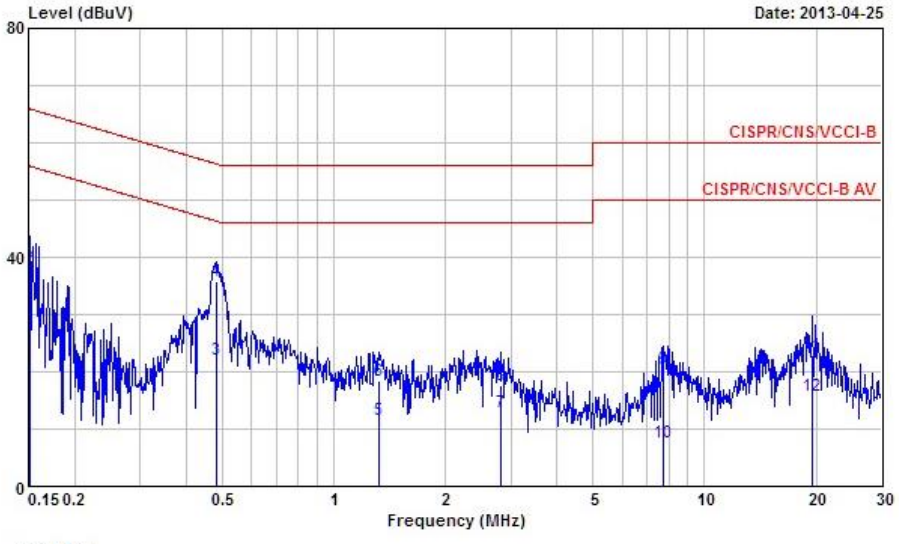
| AC Power-line Conducted Emissions Result | | | |
|---|---|---|---|
| **Operating Mode** | 1 | **Power Phase** | Neutral |
| **Operating Function** | DC Power & Radio link (WLAN), Ant 1 | | |




| | Freq | Level | Over Limit | Limit Line | Read Level | LISN Factor | Cable Loss | Remark |
|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB | dBuV | dBuV | dB | dB | |
| 1 | 0.1515980 | 37.65 | -28.26 | 65.91 | 37.08 | 0.11 | 0.46 | QP |
| 2 | 0.1515980 | 15.24 | -40.67 | 55.91 | 14.67 | 0.11 | 0.46 | Average |
| 3 | 0.1924150 | 25.42 | -28.51 | 53.93 | 24.99 | 0.11 | 0.32 | Average |
| 4 | 0.1924150 | 36.00 | -27.93 | 63.93 | 35.57 | 0.11 | 0.32 | QP |
| 5 | 0.4941090 | 24.68 | -21.42 | 46.10 | 24.20 | 0.10 | 0.38 | Average |
| 6 | 0.4941090 | 32.80 | -23.30 | 56.10 | 32.32 | 0.10 | 0.38 | QP |
| 7 | 1.640 | 26.32 | -29.68 | 56.00 | 25.83 | 0.12 | 0.37 | QP |
| 8 | 1.640 | 17.61 | -28.39 | 46.00 | 17.12 | 0.12 | 0.37 | Average |
| 9 | 7.810 | 20.13 | -39.87 | 60.00 | 19.61 | 0.22 | 0.30 | QP |
| 10 | 7.810 | 15.66 | -34.34 | 50.00 | 15.14 | 0.22 | 0.30 | Average |
| 11 | 18.720 | 21.87 | -28.13 | 50.00 | 21.32 | 0.30 | 0.25 | Average |
| 12 | 18.720 | 27.43 | -32.57 | 60.00 | 26.88 | 0.30 | 0.25 | QP |

Note 1: “>20dB” means emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found emissions (No emissions were detected.)

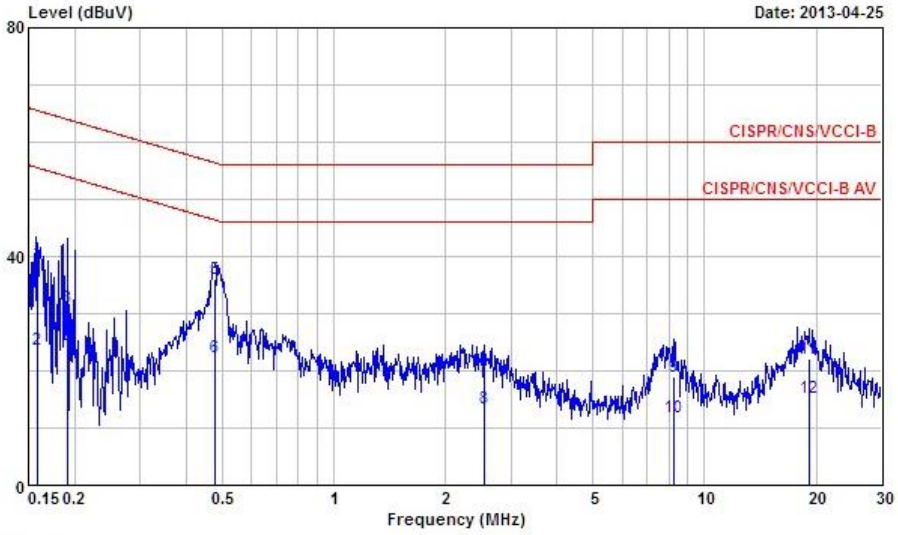
| AC Power-line Conducted Emissions Result | | | |
|---|---|---|---|
| **Operating Mode** | 1 | **Power Phase** | Line |
| **Operating Function** | DC Power & Radio link (WLAN), Ant 1 | | |




| | Freq | Level | Over Limit | Limit Line | Read Level | LISN Factor | Cable Loss | Remark |
|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB | dBuV | dBuV | dB | dB | |
| 1 | 0.1515980 | 26.13 | -29.78 | 55.91 | 25.43 | 0.24 | 0.46 | Average |
| 2 | 0.1515980 | 38.08 | -27.83 | 65.91 | 37.38 | 0.24 | 0.46 | QP |
| 3 | 0.4837480 | 22.03 | -24.24 | 46.27 | 21.43 | 0.22 | 0.38 | Average |
| 4 | 0.4837480 | 35.68 | -20.59 | 56.27 | 35.08 | 0.22 | 0.38 | QP |
| 5 | 1.320 | 11.47 | -34.53 | 46.00 | 10.89 | 0.24 | 0.34 | Average |
| 6 | 1.320 | 18.50 | -37.50 | 56.00 | 17.92 | 0.24 | 0.34 | QP |
| 7 | 2.810 | 12.93 | -33.07 | 46.00 | 12.31 | 0.27 | 0.35 | Average |
| 8 | 2.810 | 17.76 | -38.24 | 56.00 | 17.14 | 0.27 | 0.35 | QP |
| 9 | 7.770 | 20.54 | -39.46 | 60.00 | 19.86 | 0.38 | 0.30 | QP |
| 10 | 7.770 | 7.60 | -42.40 | 50.00 | 6.92 | 0.38 | 0.30 | Average |
| 11 | 19.530 | 22.80 | -37.20 | 60.00 | 22.02 | 0.56 | 0.22 | QP |
| 12 | 19.530 | 15.90 | -34.10 | 50.00 | 15.12 | 0.56 | 0.22 | Average |

Note 1: “>20dB” means emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found emissions (No emissions were detected.)

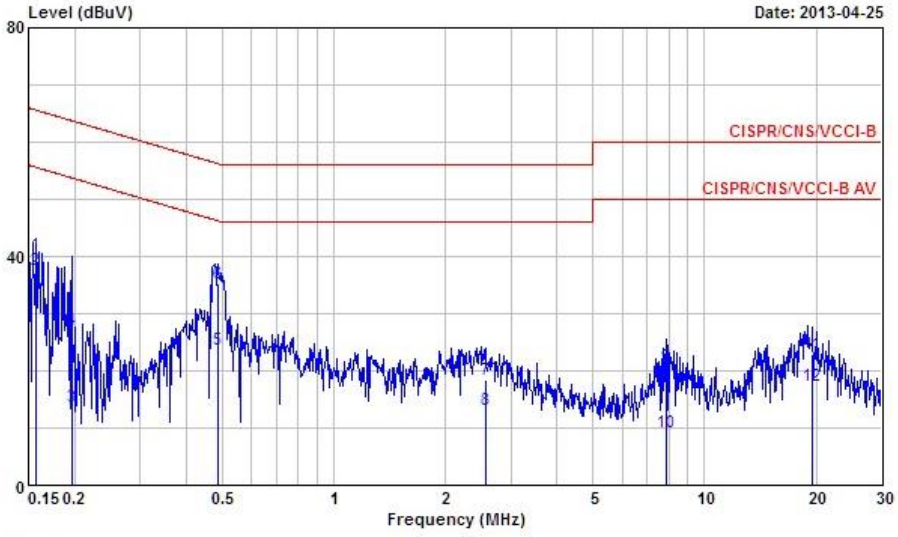
| AC Power-line Conducted Emissions Result | | | |
|---|---|---|---|
| **Operating Mode** | 2 | **Power Phase** | Neutral |
| **Operating Function** | DC Power & Radio link (WLAN), Ant 2 | | |




| | Freq | Level | Over Limit | Limit Line | Read Level | LISN Factor | Cable Loss | Remark |
|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB | dBuV | dBuV | dB | dB | |
| 1 | 0.1581620 | 39.04 | -26.52 | 65.56 | 38.49 | 0.11 | 0.44 | QP |
| 2 | 0.1581620 | 23.59 | -31.97 | 55.56 | 23.04 | 0.11 | 0.44 | Average |
| 3 | 0.1913990 | 31.08 | -32.90 | 63.98 | 30.65 | 0.11 | 0.32 | QP |
| 4 | 0.1913990 | 24.01 | -29.97 | 53.98 | 23.58 | 0.11 | 0.32 | Average |
| 5 | 0.4786490 | 36.10 | -20.26 | 56.36 | 35.62 | 0.10 | 0.38 | QP |
| 6 | 0.4786490 | 22.36 | -24.00 | 46.36 | 21.88 | 0.10 | 0.38 | Average |
| 7 | 2.540 | 18.99 | -37.01 | 56.00 | 18.48 | 0.14 | 0.37 | QP |
| 8 | 2.540 | 13.42 | -32.58 | 46.00 | 12.91 | 0.14 | 0.37 | Average |
| 9 | 8.240 | 19.07 | -40.93 | 60.00 | 18.55 | 0.22 | 0.30 | QP |
| 10 | 8.240 | 11.97 | -38.03 | 50.00 | 11.45 | 0.22 | 0.30 | Average |
| 11 | 19.120 | 22.08 | -37.92 | 60.00 | 21.54 | 0.31 | 0.23 | QP |
| 12 | 19.120 | 15.28 | -34.72 | 50.00 | 14.74 | 0.31 | 0.23 | Average |

Note 1: “>20dB” means emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found emissions (No emissions were detected.)

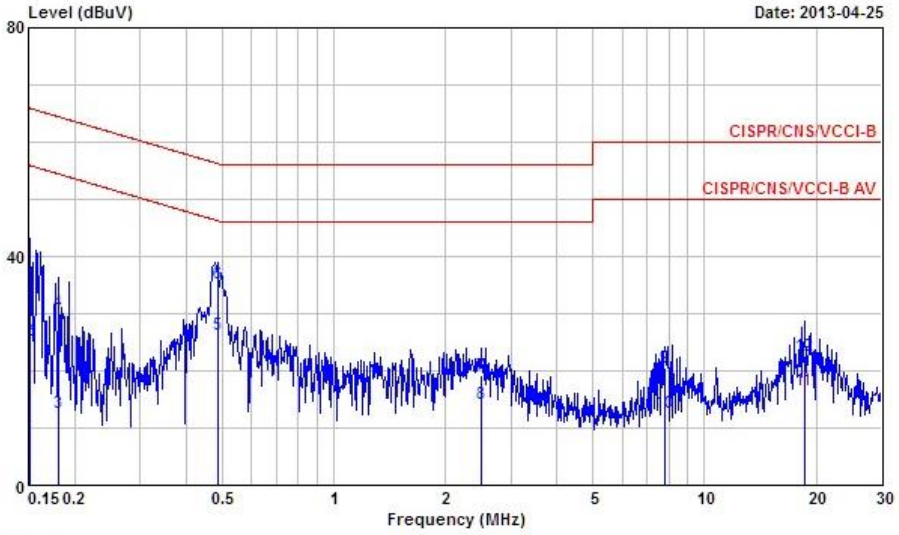
| AC Power-line Conducted Emissions Result | | | |
|---|---|---|---|
| **Operating Mode** | 2 | **Power Phase** | Line |
| **Operating Function** | DC Power & Radio link (WLAN), Ant 2 | | |




| | Freq | Level | Over Limit | Limit Line | Read Level | LISN Factor | Cable Loss | Remark |
|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB | dBuV | dBuV | dB | dB | |
| 1 | 0.1573260 | 40.29 | -25.31 | 65.60 | 39.61 | 0.24 | 0.44 | QP |
| 2 | 0.1573260 | 37.51 | -18.09 | 55.60 | 36.83 | 0.24 | 0.44 | Average |
| 3 | 0.1965370 | 13.74 | -40.02 | 53.76 | 13.20 | 0.23 | 0.31 | Average |
| 4 | 0.1965370 | 27.08 | -36.68 | 63.76 | 26.54 | 0.23 | 0.31 | QP |
| 5 | 0.4863180 | 23.80 | -22.43 | 46.23 | 23.20 | 0.22 | 0.38 | Average |
| 6 | 0.4863180 | 35.30 | -20.93 | 56.23 | 34.70 | 0.22 | 0.38 | QP |
| 7 | 2.570 | 18.37 | -37.63 | 56.00 | 17.75 | 0.26 | 0.36 | QP |
| 8 | 2.570 | 13.14 | -32.86 | 46.00 | 12.52 | 0.26 | 0.36 | Average |
| 9 | 7.890 | 20.74 | -39.26 | 60.00 | 20.05 | 0.39 | 0.30 | QP |
| 10 | 7.890 | 9.17 | -40.83 | 50.00 | 8.48 | 0.39 | 0.30 | Average |
| 11 | 19.530 | 22.84 | -37.16 | 60.00 | 22.06 | 0.56 | 0.22 | QP |
| 12 | 19.530 | 17.34 | -32.66 | 50.00 | 16.56 | 0.56 | 0.22 | Average |

Note 1: “>20dB” means emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found emissions (No emissions were detected.)

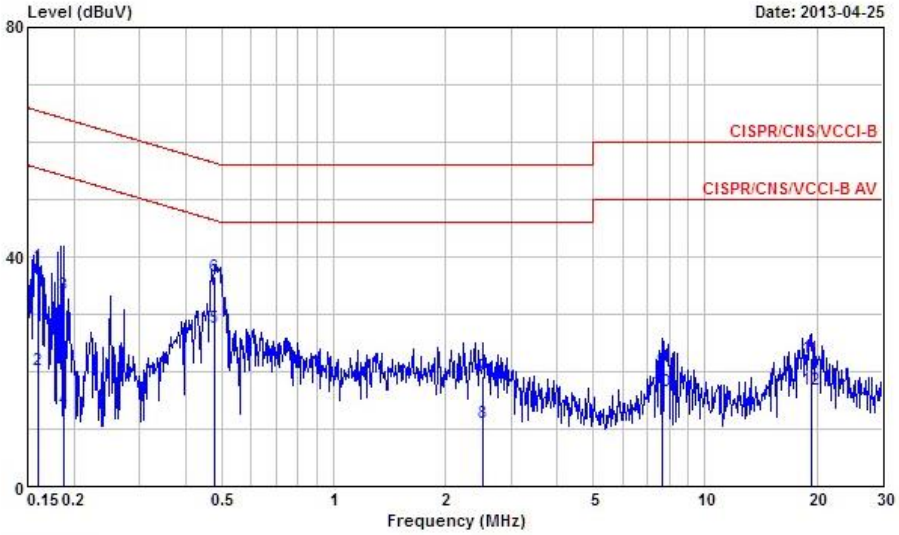
| AC Power-line Conducted Emissions Result | | | |
|---|---|---|---|
| **Operating Mode** | 3 | **Power Phase** | Neutral |
| **Operating Function** | DC Power & Radio link (WLAN), Ant 3 | | |




| | Freq | Level | Over Limit | Limit Line | Read Level | LISN Factor | Cable Loss | Remark |
|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB | dBuV | dBuV | dB | dB | |
| 1 | 0.1507970 | 33.37 | -32.59 | 65.96 | 32.80 | 0.11 | 0.46 | QP |
| 2 | 0.1507970 | 25.26 | -30.70 | 55.96 | 24.69 | 0.11 | 0.46 | Average |
| 3 | 0.1815220 | 12.56 | -41.86 | 54.42 | 12.09 | 0.11 | 0.36 | Average |
| 4 | 0.1815220 | 30.39 | -34.03 | 64.42 | 29.92 | 0.11 | 0.36 | QP |
| 5 | 0.4863180 | 26.43 | -19.80 | 46.23 | 25.95 | 0.10 | 0.38 | Average |
| 6 | 0.4863180 | 35.14 | -21.09 | 56.23 | 34.66 | 0.10 | 0.38 | QP |
| 7 | 2.490 | 19.17 | -36.83 | 56.00 | 18.66 | 0.14 | 0.37 | QP |
| 8 | 2.490 | 14.33 | -31.67 | 46.00 | 13.82 | 0.14 | 0.37 | Average |
| 9 | 7.810 | 20.59 | -39.41 | 60.00 | 20.07 | 0.22 | 0.30 | QP |
| 10 | 7.810 | 12.65 | -37.35 | 50.00 | 12.13 | 0.22 | 0.30 | Average |
| 11 | 18.620 | 16.63 | -33.37 | 50.00 | 16.08 | 0.30 | 0.25 | Average |
| 12 | 18.620 | 22.73 | -37.27 | 60.00 | 22.18 | 0.30 | 0.25 | QP |

Note 1: “>20dB” means emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found emissions (No emissions were detected.)

| AC Power-line Conducted Emissions Result | | | |
|---|---|---|---|
| **Operating Mode** | 3 | **Power Phase** | Line |
| **Operating Function** | DC Power & Radio link (WLAN), Ant 3 | | |




| | Freq | Level | Over Limit | Limit Line | Read Level | LISN Factor | Cable Loss | Remark |
|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB | dBuV | dBuV | dB | dB | |
| 1 | 0.1598470 | 38.45 | -27.02 | 65.47 | 37.78 | 0.24 | 0.43 | QP |
| 2 | 0.1598470 | 20.25 | -35.22 | 55.47 | 19.58 | 0.24 | 0.43 | Average |
| 3 | 0.1873850 | 33.45 | -30.70 | 64.15 | 32.88 | 0.23 | 0.34 | QP |
| 4 | 0.1873850 | 13.34 | -40.81 | 54.15 | 12.77 | 0.23 | 0.34 | Average |
| 5 | 0.4786490 | 27.56 | -18.80 | 46.36 | 26.96 | 0.22 | 0.38 | Average |
| 6 | 0.4786490 | 36.54 | -19.82 | 56.36 | 35.94 | 0.22 | 0.38 | QP |
| 7 | 2.530 | 19.16 | -36.84 | 56.00 | 18.53 | 0.26 | 0.37 | QP |
| 8 | 2.530 | 11.13 | -34.87 | 46.00 | 10.50 | 0.26 | 0.37 | Average |
| 9 | 7.650 | 20.20 | -39.80 | 60.00 | 19.52 | 0.38 | 0.30 | QP |
| 10 | 7.650 | 16.69 | -33.31 | 50.00 | 16.01 | 0.38 | 0.30 | Average |
| 11 | 19.330 | 22.25 | -37.75 | 60.00 | 21.48 | 0.55 | 0.22 | QP |
| 12 | 19.330 | 16.77 | -33.23 | 50.00 | 16.00 | 0.55 | 0.22 | Average |

Note 1: “>20dB” means emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found emissions (No emissions were detected.)

# 3.2 Emission Bandwidth

## 3.2.1 Emission Bandwidth (EBW) Limit

| Emission Bandwidth (EBW) Limit | |
|---|---|
| **UNII Devices** | |
| ☒ | For the 5.15-5.25 GHz band, the maximum conducted output power shall not exceed the lesser of 50 mW or 4 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. |
| ☐ | For the 5.25-5.35 GHz band, the maximum conducted output power shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. |
| ☐ | For the 5.47-5.725 GHz band, the maximum conducted output power shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. |
| ☐ | For the 5.725-5.825 GHz band, the maximum conducted output power shall not exceed the lesser of 1 W or 17 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz |
| **LE-LAN Devices** | |
| ☒ | For the band 5.15-5.25 GHz, the maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. |
| ☐ | For the 5.25-5.35 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz |
| ☐ | For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz |
| ☐ | For the 5.725-5.825 GHz band, the maximum e.i.r.p. shall not exceed 4.0 W or 23 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. |

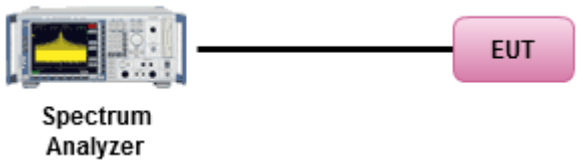
## 3.2.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

## 3.2.3 Test Procedures

| Test Method | | | |
|---|---|---|---|
| ☒ | For the emission bandwidth shall be measured using one of the options below: | | |
| | ☒ | Refer as FCC KDB 789033 v01r03, clause C for EBW and clause D for OBW measurement. | |
| | ☐ | Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing. | |
| | ☒ | Refer as IC RSS-Gen, clause 4.6 for bandwidth testing. | |
| ☒ | For conducted measurement. | | |
| | ☐ | The EUT supports single transmit chain and measurements performed on this transmit chain. | |
| | ☐ | The EUT supports diversity transmitting and the results on transmit chain port 1 is the worst case. | |
| | ☒ | The EUT supports multiple transmit chains using options given below: | |
| | | ☐ | Option 1: Multiple transmit chains measurements need to be performed on one of the active transmit chains (antenna outputs). All measurement had be performed on transmit chains 1. |
| | | ☒ | Option 2: Multiple transmit chains measurements need to be performed on each transmit chains individually (antenna outputs). All measurement had be performed on all transmit chains. |

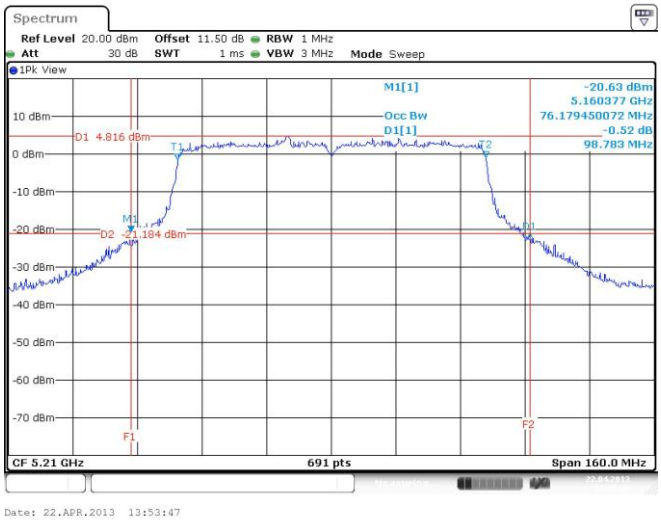
### 3.2.4 Test Setup

| Emission Bandwidth |
| --- |
|   |

### 3.2.5 Test Result of Emission Bandwidth

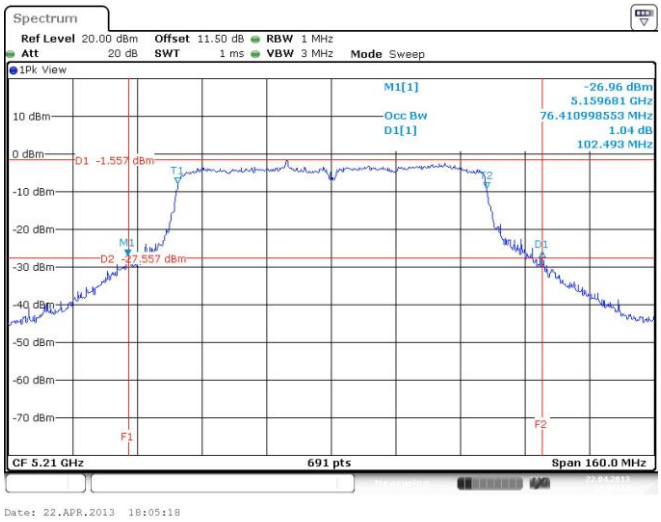
| Operating Mode | | | 1 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UNII Emission Bandwidth Result (5150-5250MHz band) | | | | | | | | | | | | |
| Condition | | | Emission Bandwidth (MHz) | | | | | | | | | |
| Modulation Mode | $N_{TX}$ | Freq. (MHz) | 99% Bandwidth | | | | 26dB Bandwidth | | | | Power Limit | |
| | | | Chain-Port 1 | Chain-Port 2 | Chain-Port 3 | Chain-Port 4 | Chain-Port 1 | Chain-Port 2 | Chain-Port 3 | Chain-Port 4 | 99% BW | 26dB BW |
| 11a | 3 | 5180 | 17.13 | 17.02 | 17.02 | - | 25.22 | 24.46 | 24.70 | - | 16.31 | 17.00 |
| 11a | 3 | 5200 | 17.25 | 17.13 | 17.08 | - | 25.45 | 24.23 | 25.39 | - | 16.32 | 17.00 |
| 11a | 3 | 5240 | 17.13 | 17.25 | 17.08 | - | 25.10 | 24.64 | 24.70 | - | 16.32 | 17.00 |
| HT20 | 3 | 5180 | 18.23 | 18.12 | 18.18 | - | 25.86 | 25.86 | 25.91 | - | 16.58 | 17.00 |
| HT20 | 3 | 5200 | 18.29 | 18.18 | 18.18 | - | 26.14 | 26.09 | 25.74 | - | 16.60 | 17.00 |
| HT20 | 3 | 5240 | 18.12 | 18.12 | 18.06 | - | 24.64 | 25.39 | 25.86 | - | 16.57 | 17.00 |
| HT40 | 3 | 5190 | 37.28 | 37.40 | 37.28 | - | 49.86 | 48.58 | 48.70 | - | 17.00 | 17.00 |
| HT40 | 3 | 5230 | 37.16 | 37.28 | 37.16 | - | 48.46 | 49.39 | 48.23 | - | 17.00 | 17.00 |
| VHT80 | 3 | 5210 | 76.18 | 76.41 | 76.18 | - | 98.55 | 96.93 | 98.78 | - | 17.00 | 17.00 |
| Result | | | Complied | | | | | | | | | |

**Worst Emission Bandwidth Plots**



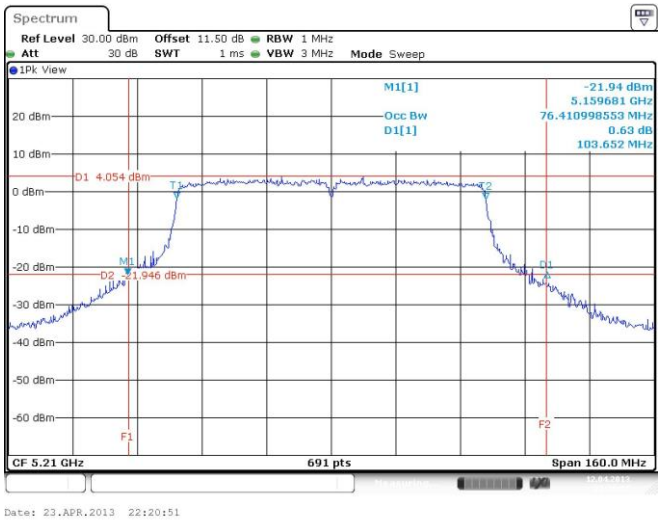
| Operating Mode | | | 2 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UNII Emission Bandwidth Result (5150-5250MHz band) | | | | | | | | | | | | |
| Condition | | | Emission Bandwidth (MHz) | | | | | | | | | |
| Modulation Mode | $N_{TX}$ | Freq. (MHz) | 99% Bandwidth | | | | 26dB Bandwidth | | | | Power Limit | |
| | | | Chain-Port 1 | Chain-Port 2 | Chain-Port 3 | Chain-Port 4 | Chain-Port 1 | Chain-Port 2 | Chain-Port 3 | Chain-Port 4 | 99% BW | 26dB BW |
| 11a | 3 | 5180 | 17.13 | 17.13 | 17.08 | - | 25.57 | 24.87 | 25.51 | - | 16.32 | 17.00 |
| 11a | 3 | 5200 | 17.19 | 17.08 | 17.02 | - | 26.09 | 24.87 | 24.81 | - | 16.31 | 17.00 |
| 11a | 3 | 5240 | 17.19 | 17.13 | 17.02 | - | 25.33 | 25.16 | 24.93 | - | 16.31 | 17.00 |
| HT20 | 3 | 5180 | 18.18 | 18.12 | 18.12 | - | 26.20 | 25.74 | 25.74 | - | 16.58 | 17.00 |
| HT20 | 3 | 5200 | 18.23 | 18.29 | 18.18 | - | 26.09 | 26.26 | 26.03 | - | 16.60 | 17.00 |
| HT20 | 3 | 5240 | 18.12 | 18.23 | 18.18 | - | 26.03 | 26.55 | 26.14 | - | 16.58 | 17.00 |
| HT40 | 3 | 5190 | 37.28 | 37.51 | 37.28 | - | 48.93 | 48.58 | 48.23 | - | 17.00 | 17.00 |
| HT40 | 3 | 5230 | 37.28 | 37.28 | 37.05 | - | 49.16 | 49.62 | 48.23 | - | 17.00 | 17.00 |
| VHT80 | 3 | 5210 | 76.41 | 76.64 | 76.18 | - | 102.49 | 95.77 | 95.54 | - | 17.00 | 17.00 |
| Result | | | Complied | | | | | | | | | |

**Worst Emission Bandwidth Plots**



| Operating Mode | | | 3 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UNII Emission Bandwidth Result (5150-5250MHz band) | | | | | | | | | | | | |
| Condition | | | Emission Bandwidth (MHz) | | | | | | | | | |
| Modulation Mode | $N_{TX}$ | Freq. (MHz) | 99% Bandwidth | | | | 26dB Bandwidth | | | | Power Limit | |
| | | | Chain-Port 1 | Chain-Port 2 | Chain-Port 3 | Chain-Port 4 | Chain-Port 1 | Chain-Port 2 | Chain-Port 3 | Chain-Port 4 | 99% BW | 26dB BW |
| 11a | 3 | 5180 | 17.13 | 17.13 | 17.08 | - | 25.57 | 24.87 | 25.51 | - | 16.32 | 17.00 |
| 11a | 3 | 5200 | 17.19 | 17.08 | 17.02 | - | 26.09 | 24.87 | 24.81 | - | 16.31 | 17.00 |
| 11a | 3 | 5240 | 17.19 | 17.13 | 17.02 | - | 25.33 | 25.16 | 24.93 | - | 16.31 | 17.00 |
| HT20 | 3 | 5180 | 18.18 | 18.12 | 18.12 | - | 26.20 | 25.74 | 25.74 | - | 16.58 | 17.00 |
| HT20 | 3 | 5200 | 18.23 | 18.29 | 18.18 | - | 26.09 | 26.26 | 26.03 | - | 16.60 | 17.00 |
| HT20 | 3 | 5240 | 18.12 | 18.23 | 18.18 | - | 26.03 | 26.55 | 26.14 | - | 16.58 | 17.00 |
| HT40 | 3 | 5190 | 37.28 | 37.51 | 37.28 | - | 48.93 | 48.58 | 48.23 | - | 17.00 | 17.00 |
| HT40 | 3 | 5230 | 37.28 | 37.28 | 37.05 | - | 49.16 | 49.62 | 48.23 | - | 17.00 | 17.00 |
| VHT80 | 3 | 5210 | 76.41 | 75.95 | 76.41 | - | 103.65 | 98.55 | 100.17 | - | 17.00 | 17.00 |
| Result | | | Complied | | | | | | | | | |

**Worst Emission Bandwidth Plots**



## 3.3 RF Output Power

### 3.3.1 RF Output Power Limit

| Maximum Conducted Output Power Limit | |
|---|---|
| **UNII Devices** | |
| ☒ | For the 5.15-5.25 GHz band, the maximum conducted output power ($P_{Out}$) shall not exceed the lesser of 50 mW or 4 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. If $G_{TX}$ > 6 dBi, then $P_{Out}$ = 17 – ($G_{TX}$ – 6). |
| ☐ | For the 5.25-5.35 GHz band, the maximum conducted output power ($P_{Out}$) shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. If $G_{TX}$ > 6 dBi, then $P_{Out}$ = 24 – ($G_{TX}$ – 6). |
| ☐ | For the 5.47-5.725 GHz band, the maximum conducted output power ($P_{Out}$) shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. If $G_{TX}$ > 6 dBi, then $P_{Out}$ = 24 – ($G_{TX}$ – 6). |
| ☐ | For the 5.725-5.825 GHz band: |
| | ☐ Point-to-multipoint systems (P2M): the maximum conducted output power ($P_{Out}$) shall not exceed the lesser of 1 W or 17 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. If $G_{TX}$ > 6 dBi, then $P_{Out}$ = 30 – ($G_{TX}$ – 6). |
| | ☐ Point-to-point systems (P2P): the maximum conducted output power ($P_{Out}$) shall not exceed the lesser of 1 W or 17 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. If $G_{TX}$ > 23 dBi, then $P_{Out}$ = 30 – ($G_{TX}$ – 23). |
| **LE-LAN Devices** | |
| ☒ | For the 5.15-5.25 GHz band, the maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. |
| ☐ | For the 5.25-5.35 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz |
| ☐ | For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz |
| ☐ | For the 5.725-5.825 GHz band, the maximum e.i.r.p. shall not exceed 4.0 W or 23 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. |
| | ☐ Point-to-multipoint systems (P2M): the maximum e.i.r.p. shall not exceed 4.0 W or 23 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. |
| | ☐ Point-to-point systems (P2P): the maximum e.i.r.p. shall not exceed 4.0 W or 23 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. If e.i.r.p. > 36 dBm, $G_{TX} \leq P_{Out}$ |
| **$P_{Out}$** = maximum conducted output power in dBm,<br>**$G_{TX}$** = the maximum transmitting antenna directional gain in dBi. | |

### 3.3.2 Measuring Instruments

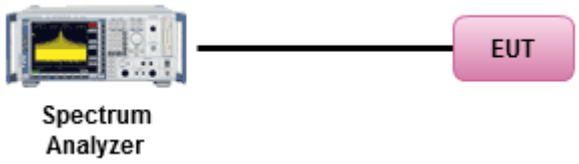
Refer a test equipment and calibration data table in this test report.

### 3.3.3 Test Procedures

| Test Method | |
|---|---|
| ☒ | Maximum Conducted Output Power |
| ☐ | Refer as FCC KDB 789033 v01r03, clause E Method SA-1 (spectral trace averaging). |
| ☐ | Refer as FCC KDB 789033 v01r03, clause E Method SA-1 Alt. (RMS detection with slow sweep speed) |
| ☐ | Refer as FCC KDB 789033 v01r03, clause E Method SA-2 (spectral trace averaging). |
| ☒ | Refer as FCC KDB 789033 v01r03, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)<br>For 11ac VHT80 mode |
| | Wideband RF power meter and average over on/off periods with duty factor |
| ☒ | Refer as FCC KDB 789033 v01r03, clause E Method PM-G (using a gated RF average power meter).<br>For all modes except 11ac VHT80 |
| ☒ | For conducted measurement. |
| ☐ | The EUT supports single transmit chain and measurements performed on this transmit chain. |
| ☐ | The EUT supports diversity transmitting and the results on transmit chain port 1 is the worst case. |
| ☒ | The EUT supports multiple transmit chains using options given below:<br>Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them. |
| ☒ | If multiple transmit chains, EIRP calculation could be following as methods:<br>$P_{total} = P_1 + P_2 + \ldots + P_n$<br>(calculated in linear unit [mW] and transfer to log unit [dBm])<br>$EIRP_{total} = P_{total} + DG$ |

### 3.3.4 Test Setup

**RF Output Power (Spectrum Analyzer) , for 11ac VHT 80**




**RF Output Power (Power Meter) , for all modes except 11ac VHT80**

### 3.3.5 Directional Gain for Power Measurement

| Operating Mode | | 1 | | | |
|---|---|---|---|---|---|
| **Directional Gain (DG) Result** | | | | | |
| **Transmit Chains No.** | | 1 | 2 | 3 | - |
| **Maximum $G_{ANT}$ (dBi)** | | 3 | 3 | 3 | - |
| **Modulation Mode** | **DG (dBi)** | **$N_{TX}$** | **$N_{SS}$** | **STBC** | **Array Gain (dB)** |
| 11a,6-54Mbps | 3 | 3 | 1 | - | - |
| HT20,M0-23 | 3 | 3 | 1 | - | - |
| HT40,M0-23 | 3 | 3 | 1 | - | - |
| VHT20,M0-9 | 3 | 3 | 1 | - | - |
| VHT40,M0-9 | 3 | 3 | 1 | - | - |
| VHT80,M0-9 | 3 | 3 | 1 | - | - |

Note 1: For all transmitter outputs with equal antenna gains, directional gain is to be computed as follows:
Any transmit signals are correlated, Directional Gain = $G_{ANT} + 10 \log(N_{TX})$
All transmit signals are completely uncorrelated, Directional Gain = $G_{ANT}$
Note 2: For all transmitter outputs with unequal antenna gains, directional gain is to be computed as follows:
Any transmit signals are correlated, Directional Gain =$10 \log[(10^{G1/20} + \ldots + 10^{GN/20})^2 / N_{TX}]$
All transmit signals are completely uncorrelated, Directional Gain = $10 \log[(10^{G1/10} + \ldots + 10^{GN/10})/N_{TX}]$
Note 3: For Spatial Multiplexing, Directional Gain (DG) = $G_{ANT} + 10 \log(N_{TX}/N_{SS})$,
where Nss = the number of independent spatial streams data.
Note 4: For CDD transmissions, directional gain is calculated as power measurements:
Directional Gain (DG) = $G_{ANT}$ + Array Gain, where Array Gain is as follows:
Array Gain = 0 dB (i.e., no array gain) for $N_{TX} \leq 4$;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any $N_{TX}$;

| Operating Mode | | 2 | | | |
|---|---|---|---|---|---|
| **Directional Gain (DG) Result** | | | | | |
| **Transmit Chains No.** | | 1 | 2 | 3 | - |
| **Maximum $G_{ANT}$ (dBi)** | | 5.5 | 5.5 | 5.5 | - |
| **Modulation Mode** | **DG (dBi)** | **$N_{TX}$** | **$N_{SS}$** | **STBC** | **Array Gain (dB)** |
| 11a,6-54Mbps | 5.5 | 3 | 1 | - | - |
| HT20,M0-23 | 5.5 | 3 | 1 | - | - |
| HT40,M0-23 | 5.5 | 3 | 1 | - | - |
| VHT20,M0-9 | 5.5 | 3 | 1 | - | - |
| VHT40,M0-9 | 5.5 | 3 | 1 | - | - |
| VHT80,M0-9 | 5.5 | 3 | 1 | - | - |

Note 1: For all transmitter outputs with equal antenna gains, directional gain is to be computed as follows:
Any transmit signals are correlated, Directional Gain = $G_{ANT} + 10 \log(N_{TX})$
All transmit signals are completely uncorrelated, Directional Gain = $G_{ANT}$

Note 2: For all transmitter outputs with unequal antenna gains, directional gain is to be computed as follows:
Any transmit signals are correlated, Directional Gain =$10 \log[(10^{G1/20} +\ldots + 10^{GN/20})^2 /N_{TX}]$
All transmit signals are completely uncorrelated, Directional Gain = $10 \log[(10^{G1/10} +\ldots + 10^{GN/10})/N_{TX}]$

Note 3: For Spatial Multiplexing, Directional Gain (DG) = $G_{ANT} + 10 \log(N_{TX}/N_{SS})$,
where Nss = the number of independent spatial streams data.

Note 4: For CDD transmissions, directional gain is calculated as power measurements:
Directional Gain (DG) = $G_{ANT}$ + Array Gain, where Array Gain is as follows:
Array Gain = 0 dB (i.e., no array gain) for $N_{TX} \leq 4$;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any $N_{TX}$;

| Operating Mode | | 3 | | | |
|---|---|---|---|---|---|
| **Directional Gain (DG) Result** | | | | | |
| **Transmit Chains No.** | | 1 | 2 | 3 | - |
| **Maximum $G_{ANT}$ (dBi)** | | 6 | 6 | 6 | - |
| **Modulation Mode** | **DG (dBi)** | **$N_{TX}$** | **$N_{SS}$** | **STBC** | **Array Gain (dB)** |
| 11a,6-54Mbps | 6 | 3 | 1 | - | - |
| HT20,M0-23 | 6 | 3 | 1 | - | - |
| HT40,M0-23 | 6 | 3 | 1 | - | - |
| VHT20,M0-9 | 6 | 3 | 1 | - | - |
| VHT40,M0-9 | 6 | 3 | 1 | - | - |
| VHT80,M0-9 | 6 | 3 | 1 | - | - |

Note 1: For all transmitter outputs with equal antenna gains, directional gain is to be computed as follows:
Any transmit signals are correlated, Directional Gain = $G_{ANT} + 10 \log(N_{TX})$
All transmit signals are completely uncorrelated, Directional Gain = $G_{ANT}$

Note 2: For all transmitter outputs with unequal antenna gains, directional gain is to be computed as follows:
Any transmit signals are correlated, Directional Gain =$10 \log[(10^{G1/20} +\ldots + 10^{GN/20})^2 /N_{TX}]$
All transmit signals are completely uncorrelated, Directional Gain = $10 \log[(10^{G1/10} +\ldots + 10^{GN/10})/N_{TX}]$

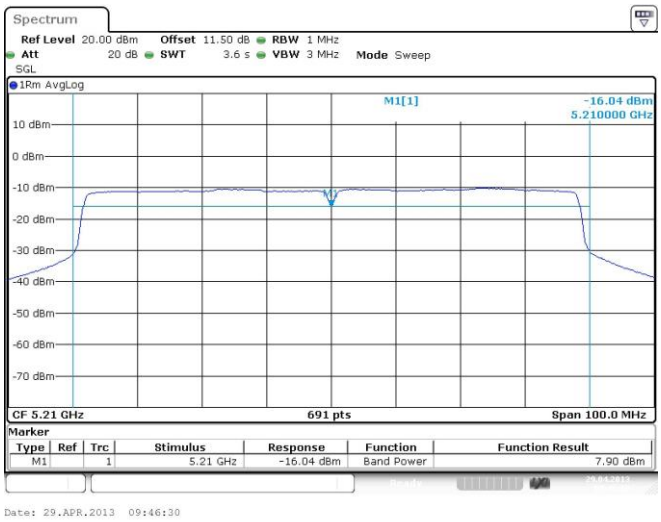
Note 3: For Spatial Multiplexing, Directional Gain (DG) = $G_{ANT} + 10 \log(N_{TX}/N_{SS})$,
where Nss = the number of independent spatial streams data.

Note 4: For CDD transmissions, directional gain is calculated as power measurements:
Directional Gain (DG) = $G_{ANT}$ + Array Gain, where Array Gain is as follows:
Array Gain = 0 dB (i.e., no array gain) for $N_{TX} \leq 4$;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any $N_{TX}$;

## 3.3.6 Test Result of Maximum Peak Conducted Output Power

| Operating Mode | | | 1 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Maximum Peak Conducted Output Power Result | | | | | | | | | | | | | | |
| Condition | | | RF Output Power (dBm) | | | | | | | | | | | |
| Modulation Mode | $N_{TX}$ | Freq. (MHz) | Chain Port 1 w/o Duty Factor (dB) | Chain Port 2 w/o Duty Factor (dB) | Chain Port 3 w/o Duty Factor (dB) | Duty Factor (dB) | Chain Port 1 | Chain Port 2 | Chain Port 3 | Sum Chain | Power Limit | DG (dBi) | EIRP Power | EIRP Limit |
| VHT80 | 3 | 5210 | 7.89 | 7.90 | 7.43 | 0.44 | 8.33 | 8.35 | 7.87 | 12.96 | 17.00 | 3.00 | 15.96 | 23.00 |
| Result | | | Complied | | | | | | | | | | | |

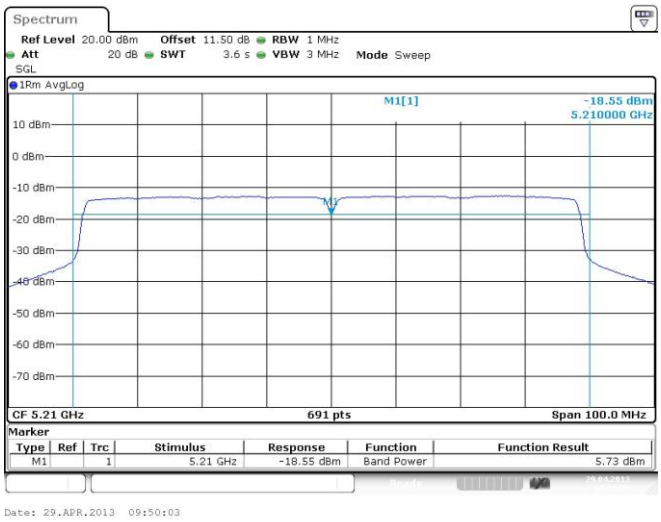
**Worst RF Output Power Plots**




Note 1: RF Output Power Plots w/o Duty Factor

| Operating Mode | | | 2 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Maximum Peak Conducted Output Power Result | | | | | | | | | | | | | | |
| Condition | | | RF Output Power (dBm) | | | | | | | | | | | |
| Modulation Mode | $N_{TX}$ | Freq. (MHz) | Chain Port 1 w/o Duty Factor (dB) | Chain Port 2 w/o Duty Factor (dB) | Chain Port 3 w/o Duty Factor (dB) | Duty Factor (dB) | Chain Port 1 | Chain Port 2 | Chain Port 3 | Sum Chain | Power Limit | DG (dBi) | EIRP Power | EIRP Limit |
| VHT80 | 3 | 5210 | 5.46 | 5.34 | 5.73 | 0.44 | 5.90 | 5.78 | 6.17 | 10.72 | 17.00 | 5.50 | 16.22 | 23.00 |
| Result | | | Complied | | | | | | | | | | | |

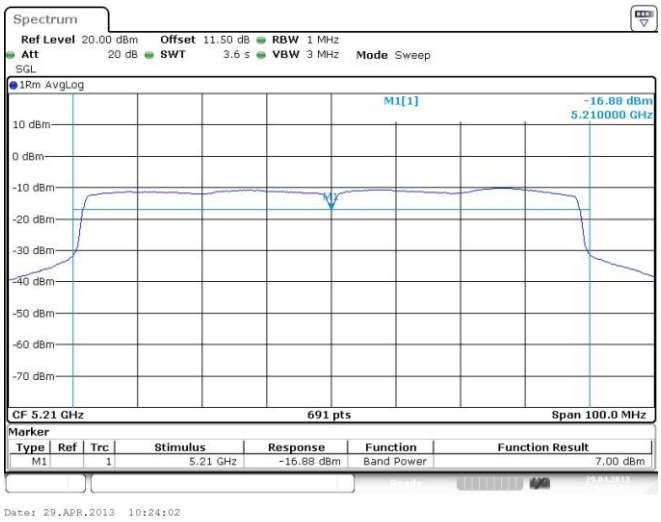
**Worst RF Output Power Plots**




Note 1: RF Output Power Plots w/o Duty Factor

| Operating Mode | | | 3 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Maximum Peak Conducted Output Power Result | | | | | | | | | | | | | | |
| Condition | | | RF Output Power (dBm) | | | | | | | | | | | |
| Modulation Mode | $N_{TX}$ | Freq. (MHz) | Chain Port 1 w/o Duty Factor (dB) | Chain Port 2 w/o Duty Factor (dB) | Chain Port 3 w/o Duty Factor (dB) | Duty Factor (dB) | Chain Port 1 | Chain Port 2 | Chain Port 3 | Sum Chain | Power Limit | DG (dBi) | EIRP Power | EIRP Limit |
| VHT80 | 3 | 5210 | 6.96 | 7.00 | 6.48 | 0.44 | 7.40 | 7.44 | 6.92 | 12.03 | 17.00 | 6.00 | 18.03 | 23.00 |
| Result | | | Complied | | | | | | | | | | | |

**Worst RF Output Power Plots**




Note 1: RF Output Power Plots w/o Duty Factor

### 3.3.7 Test Result of Maximum Conducted Output Power

| Operating Mode | | | 1 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Maximum Conducted Output Power (5150-5250MHz band) | | | | | | | | | | | |
| Condition | | | RF Output Power (dBm) | | | | | | | | |
| Modulation Mode | $N_{TX}$ | Freq. (MHz) | Chain Port 1 | Chain Port 2 | Chain Port 3 | Chain Port 4 | Sum Chain | Power Limit | DG (dBi) | EIRP Power | EIRP Limit |
| 11a | 3 | 5180 | 10.31 | 10.26 | 9.68 | - | 14.86 | 17.0 | 3.00 | 17.86 | 23.00 |
| 11a | 3 | 5200 | 10.38 | 10.26 | 9.82 | - | 14.93 | 17.0 | 3.00 | 17.93 | 23.00 |
| 11a | 3 | 5240 | 10.16 | 10.08 | 9.66 | - | 14.74 | 17.0 | 3.00 | 17.74 | 23.00 |
| HT20 | 3 | 5180 | 10.26 | 10.33 | 9.72 | - | 14.88 | 17.0 | 3.00 | 17.88 | 23.00 |
| HT20 | 3 | 5200 | 10.31 | 10.26 | 9.76 | - | 14.89 | 17.0 | 3.00 | 17.89 | 23.00 |
| HT20 | 3 | 5240 | 10.29 | 10.23 | 9.78 | - | 14.88 | 17.0 | 3.00 | 17.88 | 23.00 |
| HT40 | 3 | 5190 | 12.01 | 11.89 | 11.61 | - | 16.61 | 17.0 | 3.00 | 19.61 | 23.00 |
| HT40 | 3 | 5230 | 12.11 | 11.91 | 11.63 | - | 16.66 | 17.0 | 3.00 | 19.66 | 23.00 |
| VHT20 | 3 | 5180 | 10.16 | 10.21 | 9.76 | - | 14.82 | 17.0 | 3.00 | 17.82 | 23.00 |
| VHT20 | 3 | 5200 | 10.19 | 10.26 | 9.81 | - | 14.86 | 17.0 | 3.00 | 17.86 | 23.00 |
| VHT20 | 3 | 5240 | 10.21 | 10.16 | 9.83 | - | 14.84 | 17.0 | 3.00 | 17.84 | 23.00 |
| VHT40 | 3 | 5190 | 12.04 | 11.89 | 11.72 | - | 16.66 | 17.0 | 3.00 | 19.66 | 23.00 |
| VHT40 | 3 | 5230 | 12.11 | 11.93 | 11.84 | - | 16.73 | 17.0 | 3.00 | 19.73 | 23.00 |
| Result | | | Complied | | | | | | | | |

| Operating Mode | | | 2 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Maximum Conducted Output Power (5150-5250MHz band) | | | | | | | | | | | |
| Condition | | | RF Output Power (dBm) | | | | | | | | |
| Modulation Mode | $N_{TX}$ | Freq. (MHz) | Chain Port 1 | Chain Port 2 | Chain Port 3 | Chain Port 4 | Sum Chain | Power Limit | DG (dBi) | EIRP Power | EIRP Limit |
| 11a | 3 | 5180 | 6.70 | 6.90 | 7.01 | - | 11.64 | 17.0 | 5.50 | 17.14 | 23.00 |
| 11a | 3 | 5200 | 6.78 | 6.89 | 7.18 | - | 11.72 | 17.0 | 5.50 | 17.22 | 23.00 |
| 11a | 3 | 5240 | 6.83 | 6.88 | 7.24 | - | 11.76 | 17.0 | 5.50 | 17.26 | 23.00 |
| HT20 | 3 | 5180 | 6.66 | 6.92 | 7.01 | - | 11.64 | 17.0 | 5.50 | 17.14 | 23.00 |
| HT20 | 3 | 5200 | 6.82 | 6.89 | 7.03 | - | 11.69 | 17.0 | 5.50 | 17.19 | 23.00 |
| HT20 | 3 | 5240 | 6.72 | 6.66 | 7.23 | - | 11.65 | 17.0 | 5.50 | 17.15 | 23.00 |
| HT40 | 3 | 5190 | 10.61 | 10.71 | 10.82 | - | 15.49 | 17.0 | 5.50 | 20.99 | 23.00 |
| HT40 | 3 | 5230 | 10.64 | 10.36 | 10.96 | - | 15.43 | 17.0 | 5.50 | 20.93 | 23.00 |
| VHT20 | 3 | 5180 | 6.49 | 6.94 | 7.06 | - | 11.61 | 17.0 | 5.50 | 17.11 | 23.00 |
| VHT20 | 3 | 5200 | 6.78 | 6.72 | 7.06 | - | 11.63 | 17.0 | 5.50 | 17.13 | 23.00 |
| VHT20 | 3 | 5240 | 6.75 | 6.56 | 7.16 | - | 11.60 | 17.0 | 5.50 | 17.10 | 23.00 |
| VHT40 | 3 | 5190 | 10.41 | 10.94 | 10.76 | - | 15.48 | 17.0 | 5.50 | 20.98 | 23.00 |
| VHT40 | 3 | 5230 | 10.63 | 10.41 | 10.89 | - | 15.42 | 17.0 | 5.50 | 20.92 | 23.00 |
| Result | | | Complied | | | | | | | | |

| Operating Mode | | | 3 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Maximum Conducted Output Power (5150-5250MHz band) | | | | | | | | | | | |
| Condition | | | RF Output Power (dBm) | | | | | | | | |
| Modulation Mode | $N_{TX}$ | Freq. (MHz) | Chain Port 1 | Chain Port 2 | Chain Port 3 | Chain Port 4 | Sum Chain | Power Limit | DG (dBi) | EIRP Power | EIRP Limit |
| 11a | 3 | 5180 | 6.70 | 6.90 | 7.01 | - | 11.64 | 17.0 | 6.00 | 17.64 | 23.00 |
| 11a | 3 | 5200 | 6.78 | 6.89 | 7.18 | - | 11.72 | 17.0 | 6.00 | 17.72 | 23.00 |
| 11a | 3 | 5240 | 6.83 | 6.88 | 7.24 | - | 11.76 | 17.0 | 6.00 | 17.76 | 23.00 |
| HT20 | 3 | 5180 | 6.66 | 6.92 | 7.01 | - | 11.64 | 17.0 | 6.00 | 17.64 | 23.00 |
| HT20 | 3 | 5200 | 6.82 | 6.89 | 7.23 | - | 11.75 | 17.0 | 6.00 | 17.75 | 23.00 |
| HT20 | 3 | 5240 | 6.72 | 6.66 | 7.03 | - | 11.58 | 17.0 | 6.00 | 17.58 | 23.00 |
| HT40 | 3 | 5190 | 10.61 | 10.71 | 10.96 | - | 15.53 | 17.0 | 6.00 | 21.53 | 23.00 |
| HT40 | 3 | 5230 | 10.64 | 10.36 | 10.82 | - | 15.38 | 17.0 | 6.00 | 21.38 | 23.00 |
| VHT20 | 3 | 5180 | 6.49 | 6.94 | 7.06 | - | 11.61 | 17.0 | 6.00 | 17.61 | 23.00 |
| VHT20 | 3 | 5200 | 6.78 | 6.72 | 7.06 | - | 11.63 | 17.0 | 6.00 | 17.63 | 23.00 |
| VHT20 | 3 | 5240 | 6.75 | 6.56 | 7.16 | - | 11.60 | 17.0 | 6.00 | 17.60 | 23.00 |
| VHT40 | 3 | 5190 | 10.41 | 10.94 | 10.76 | - | 15.48 | 17.0 | 6.00 | 21.48 | 23.00 |
| VHT40 | 3 | 5230 | 10.63 | 10.41 | 10.89 | - | 15.42 | 17.0 | 6.00 | 21.42 | 23.00 |
| Result | | | Complied | | | | | | | | |

# 3.4 Peak Power Spectral Density

## 3.4.1 Peak Power Spectral Density Limit

| Peak Power Spectral Density Limit | |
|---|---|
| **UNII Devices** | |
| ☒ | For the 5.15-5.25 GHz band, the peak power spectral density (PPSD) ≤ 4 dBm/MHz. If $G_{TX}$ > 6 dBi, then PPSD = 4 – ($G_{TX}$ – 6). |
| ☐ | For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX}$ > 6 dBi, then PPSD= 11 – ($G_{TX}$ – 6). |
| ☐ | For the 5.47-5.725 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX}$ > 6 dBi, then PPSD= 11 – ($G_{TX}$ – 6). |
| ☐ | For the 5.725-5.825 GHz band: |
| ☐ | Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) ≤ 17 dBm/MHz. If $G_{TX}$ > 6 dBi, then PPSD= 17 – ($G_{TX}$ – 6). |
| ☐ | Point-to-point systems (P2P): the peak power spectral density (PPSD) ≤ 17 dBm/MHz. If $G_{TX}$ > 23 dBi, then PPSD = 17 – ($G_{TX}$ – 23). |
| **LE-LAN Devices** | |
| ☒ | For the 5.15-5.25 GHz band, the peak power spectral density (PPSD) ≤ 4 dBm/MHz and the e.i.r.p. peak power spectral density (PPSD) ≤ 10 dBm/MHz. |
| ☐ | For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz and the e.i.r.p. peak power spectral density (PPSD) ≤ 17 dBm/MHz. |
| ☐ | For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz and the e.i.r.p. peak power spectral density (PPSD) ≤ 17 dBm/MHz. |
| ☐ | For the 5.725-5.825 GHz band, the peak power spectral density (PPSD) ≤ 17 dBm/MHz and the e.i.r.p. peak power spectral density (PPSD) ≤ 23 dBm/MHz. |
| **PPSD** = peak power spectral density that he same method as used to determine the conducted output power shall be used to determine the power spectral density. And power spectral density in dBm/MHz<br>**$G_{TX}$** = the maximum transmitting antenna directional gain in dBi. | |

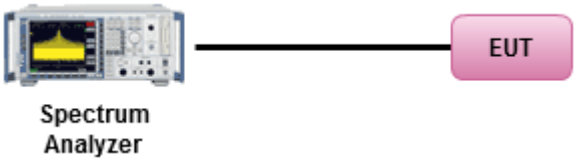
## 3.4.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

### 3.4.3 Test Procedures

| Test Method | | |
|---|---|---|
| ☒ | Peak power spectral density procedures that the same method as used to determine the conducted output power shall be used to determine the peak power spectral density and use the peak search function on the spectrum analyzer to find the peak of the spectrum. For the peak power spectral density shall be measured using below options: | |
| | ☐ | Refer as FCC KDB 789033 v01r03, F)5) power spectral density can be measured using resolution bandwidths < 1 MHz provided that the results are integrated over 1 MHz bandwidth |
| | ☒ | Refer as FCC KDB 789033 v01r03, clause E Method SA-1 (spectral trace averaging).<br>For 11a / HT20 |
| | ☐ | Refer as FCC KDB 789033 v01r03, clause E Method SA-1 Alt. (RMS detection with slow sweep speed) |
| | ☐ | Refer as FCC KDB 789033 v01r03, clause E Method SA-2 (spectral trace averaging). |
| | ☒ | Refer as FCC KDB 789033 v01r03, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)<br>For HT40 / 11ac VHT80 mode |
| ☒ | For conducted measurement. | |
| | ☐ | The EUT supports single transmit chain and measurements performed on this transmit chain. |
| | ☐ | The EUT supports diversity transmitting and the results on transmit chain port 1 is the worst case. |
| | ☒ | The EUT supports multiple transmit chains using options given below: |
| | | ☒ Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them. |
| | | ☐ Option 2: Measure and add 10 log(N) dB, where N is the number of transmit chains. Refer as FCC KDB 662911, In-band power spectral density (PSD). Performed at each transmit chains and each transmit chains shall be compared with the limit have been reduced with 10 log(N). Or each transmit chains shall be add 10 log(N) to compared with the limit. |
| | ☒ | If multiple transmit chains, EIRP PPSD calculation could be following as methods:<br>$PPSD_{total} = PPSD_1 + PPSD_2 + \ldots + PPSD_n$<br>(calculated in linear unit [mW] and transfer to log unit [dBm])<br>$EIRP_{total} = PPSD_{total} + DG$ |
| | ☒ | Each individually PPSD plots refer as test report clause 3.3.5 with each individually PPSD plots. |

### 3.4.4 Test Setup

| Power Spectral Density |
|---|
|  |

### 3.4.5 Directional Gain for Power Spectral Density Measurement

| Operating Mode | | 1 | | | |
|---|---|---|---|---|---|
| **Directional Gain (DG) Result** | | | | | |
| **Transmit Chains No.** | | 1 | 2 | 3 | - |
| **Maximum $G_{ANT}$ (dBi)** | | 3 | 3 | 3 | - |
| **Modulation Mode** | **DG (dBi)** | **$N_{TX}$** | **$N_{SS}$** | **STBC** | **Array Gain (dB)** |
| 11a,6-54Mbps | 7.77 | 3 | 1 | - | - |
| HT20,M0-23 | 7.77 | 3 | 1 | - | - |
| HT40,M0-23 | 7.77 | 3 | 1 | - | - |
| VHT20,M0-9 | 7.77 | 3 | 1 | - | - |
| VHT40,M0-9 | 7.77 | 3 | 1 | - | - |
| VHT80,M0-9 | 7.77 | 3 | 1 | - | - |

Note 1: For all transmitter outputs with equal antenna gains, directional gain is to be computed as follows:
Any transmit signals are correlated, Directional Gain = $G_{ANT} + 10 \log(N_{TX})$
All transmit signals are completely uncorrelated, Directional Gain = $G_{ANT}$
Note 2: For all transmitter outputs with unequal antenna gains, directional gain is to be computed as follows:
Any transmit signals are correlated, Directional Gain =$10 \log[(10^{G1/20} + \ldots + 10^{GN/20})^2 / N_{TX}]$
All transmit signals are completely uncorrelated, Directional Gain = $10 \log[(10^{G1/10} + \ldots + 10^{GN/10)}/N_{TX}]$
Note 3: For Spatial Multiplexing, Directional Gain (DG) = $G_{ANT} + 10 \log(N_{TX}/N_{SS})$,
where Nss = the number of independent spatial streams data.
Note 4: For CDD transmissions, directional gain is calculated as power measurements:
Directional Gain (DG) = $G_{ANT}$ + Array Gain, where Array Gain is as follows:
Array Gain = 0 dB (i.e., no array gain) for $N_{TX} \leq 4$;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any $N_{TX}$;

| Operating Mode | | 2 | | | |
|---|---|---|---|---|---|
| **Directional Gain (DG) Result** | | | | | |
| **Transmit Chains No.** | | 1 | 2 | 3 | - |
| **Maximum $G_{ANT}$ (dBi)** | | 5.5 | 5.5 | 5.5 | - |
| **Modulation Mode** | **DG (dBi)** | **$N_{TX}$** | **$N_{SS}$** | **STBC** | **Array Gain (dB)** |
| 11a,6-54Mbps | 10.27 | 3 | 1 | - | - |
| HT20,M0-23 | 10.27 | 3 | 1 | - | - |
| HT40,M0-23 | 10.27 | 3 | 1 | - | - |
| VHT20,M0-9 | 10.27 | 3 | 1 | - | - |
| VHT40,M0-9 | 10.27 | 3 | 1 | - | - |
| VHT80,M0-9 | 10.27 | 3 | 1 | - | - |

Note 1: For all transmitter outputs with equal antenna gains, directional gain is to be computed as follows:
Any transmit signals are correlated, Directional Gain = $G_{ANT} + 10 \log(N_{TX})$
All transmit signals are completely uncorrelated, Directional Gain = $G_{ANT}$
Note 2: For all transmitter outputs with unequal antenna gains, directional gain is to be computed as follows:
Any transmit signals are correlated, Directional Gain =$10 \log[(10^{G1/20} +\ldots + 10^{GN/20})^2 /N_{TX}]$
All transmit signals are completely uncorrelated, Directional Gain = $10 \log[(10^{G1/10} +\ldots + 10^{GN/10})/N_{TX}]$
Note 3: For Spatial Multiplexing, Directional Gain (DG) = $G_{ANT} + 10 \log(N_{TX}/N_{SS})$,
where Nss = the number of independent spatial streams data.
Note 4: For CDD transmissions, directional gain is calculated as power measurements:
Directional Gain (DG) = $G_{ANT}$ + Array Gain, where Array Gain is as follows:
Array Gain = 0 dB (i.e., no array gain) for $N_{TX} \leq 4$;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any $N_{TX}$;

| Operating Mode | | 3 | | | |
|---|---|---|---|---|---|
| **Directional Gain (DG) Result** | | | | | |
| **Transmit Chains No.** | | 1 | 2 | 3 | - |
| **Maximum $G_{ANT}$ (dBi)** | | 6 | 6 | 6 | - |
| **Modulation Mode** | **DG (dBi)** | **$N_{TX}$** | **$N_{SS}$** | **STBC** | **Array Gain (dB)** |
| 11a,6-54Mbps | 10.77 | 3 | 1 | - | - |
| HT20,M0-23 | 10.77 | 3 | 1 | - | - |
| HT40,M0-23 | 10.77 | 3 | 1 | - | - |
| VHT20,M0-9 | 10.77 | 3 | 1 | - | - |
| VHT40,M0-9 | 10.77 | 3 | 1 | - | - |
| VHT80,M0-9 | 10.77 | 3 | 1 | - | - |

Note 1: For all transmitter outputs with equal antenna gains, directional gain is to be computed as follows:
Any transmit signals are correlated, Directional Gain = $G_{ANT} + 10 \log(N_{TX})$
All transmit signals are completely uncorrelated, Directional Gain = $G_{ANT}$

Note 2: For all transmitter outputs with unequal antenna gains, directional gain is to be computed as follows:
Any transmit signals are correlated, Directional Gain =$10 \log[(10^{G1/20} +\ldots + 10^{GN/20})^2 /N_{TX}]$
All transmit signals are completely uncorrelated, Directional Gain = $10 \log[(10^{G1/10} +\ldots + 10^{GN/10})/N_{TX}]$

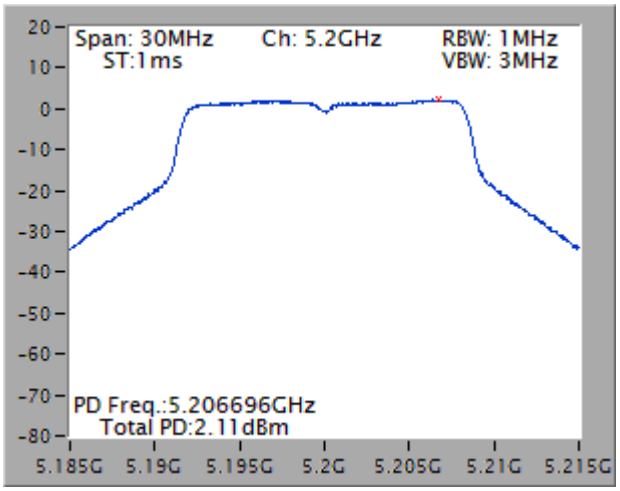
Note 3: For Spatial Multiplexing, Directional Gain (DG) = $G_{ANT} + 10 \log(N_{TX}/N_{SS})$,
where Nss = the number of independent spatial streams data.

Note 4: For CDD transmissions, directional gain is calculated as power measurements:
Directional Gain (DG) = $G_{ANT}$ + Array Gain, where Array Gain is as follows:
Array Gain = 0 dB (i.e., no array gain) for $N_{TX} \leq 4$;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any $N_{TX}$;

### 3.4.6 Test Result of Peak Power Spectral Density

| Operating Mode | | | 1 | | | | |
|---|---|---|---|---|---|---|---|
| Peak Power Spectral Density Result (5150-5250MHz band) | | | | | | | |
| Condition | | | Peak Power Spectral Density (dBm/MHz) | | | | |
| Modulation Mode | $N_{TX}$ | Freq. (MHz) | Sum Chain | PSD Limit | DG (dBi) | EIRP PSD | EIRP Limit |
| 11a | 3 | 5180 | 2.08 | 2.23 | 7.77 | 9.85 | 10.00 |
| 11a | 3 | 5200 | 2.11 | 2.23 | 7.77 | 9.88 | 10.00 |
| 11a | 3 | 5240 | 1.70 | 2.23 | 7.77 | 9.47 | 10.00 |
| HT20 | 3 | 5180 | 1.90 | 2.23 | 7.77 | 9.67 | 10.00 |
| HT20 | 3 | 5200 | 1.96 | 2.23 | 7.77 | 9.73 | 10.00 |
| HT20 | 3 | 5240 | 2.09 | 2.23 | 7.77 | 9.86 | 10.00 |
| HT40 | 3 | 5190 | 0.46 | 2.23 | 7.77 | 8.23 | 10.00 |
| HT40 | 3 | 5230 | 0.58 | 2.23 | 7.77 | 8.35 | 10.00 |
| VHT80 | 3 | 5210 | -5.74 | 2.23 | 7.77 | 2.03 | 10.00 |
| Result | | | Complied | | | | |

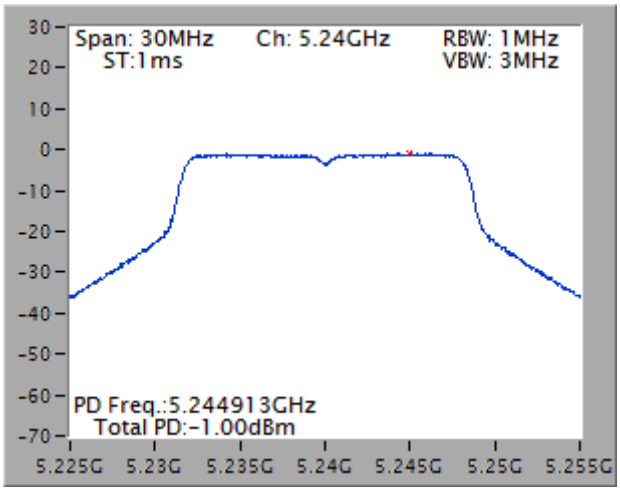
**Worst Power Spectral Density Plots**




Note 1: Peak Power Spectral Density w/o Duty Factor.

| Operating Mode | | | 2 | | | | |
|---|---|---|---|---|---|---|---|
| Peak Power Spectral Density Result (5150-5250MHz band) | | | | | | | |
| Condition | | | Peak Power Spectral Density (dBm/MHz) | | | | |
| Modulation Mode | $N_{TX}$ | Freq. (MHz) | Sum Chain | PSD Limit | DG (dBi) | EIRP PSD | EIRP Limit |
| 11a | 3 | 5180 | -1.00 | -0.27 | 10.27 | 9.27 | 10.00 |
| 11a | 3 | 5200 | -1.02 | -0.27 | 10.27 | 9.25 | 10.00 |
| 11a | 3 | 5240 | -1.00 | -0.27 | 10.27 | 9.27 | 10.00 |
| HT20 | 3 | 5180 | -1.43 | -0.27 | 10.27 | 8.84 | 10.00 |
| HT20 | 3 | 5200 | -1.11 | -0.27 | 10.27 | 9.16 | 10.00 |
| HT20 | 3 | 5240 | -1.46 | -0.27 | 10.27 | 8.81 | 10.00 |
| HT40 | 3 | 5190 | -1.03 | -0.27 | 10.27 | 9.24 | 10.00 |
| HT40 | 3 | 5230 | -1.31 | -0.27 | 10.27 | 8.96 | 10.00 |
| VHT80 | 3 | 5210 | -8.68 | -0.27 | 10.27 | 1.59 | 10.00 |
| Result | | | Complied | | | | |

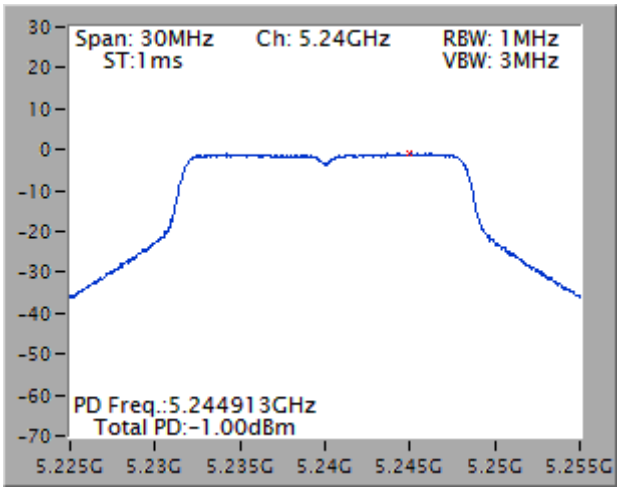
**Worst Power Spectral Density Plots**




Note 1: Peak Power Spectral Density w/o Duty Factor.

| Operating Mode | | | 3 | | | | |
|---|---|---|---|---|---|---|---|
| Peak Power Spectral Density Result (5150-5250MHz band) | | | | | | | |
| Condition | | | Peak Power Spectral Density (dBm/MHz) | | | | |
| Modulation Mode | $N_{TX}$ | Freq. (MHz) | Sum Chain | PSD Limit | DG (dBi) | EIRP PSD | EIRP Limit |
| 11a | 3 | 5180 | -1.00 | -0.77 | 10.77 | 9.77 | 10.00 |
| 11a | 3 | 5200 | -1.02 | -0.77 | 10.77 | 9.75 | 10.00 |
| 11a | 3 | 5240 | -1.00 | -0.77 | 10.77 | 9.77 | 10.00 |
| HT20 | 3 | 5180 | -1.43 | -0.77 | 10.77 | 9.34 | 10.00 |
| HT20 | 3 | 5200 | -1.11 | -0.77 | 10.77 | 9.66 | 10.00 |
| HT20 | 3 | 5240 | -1.46 | -0.77 | 10.77 | 9.31 | 10.00 |
| HT40 | 3 | 5190 | -1.03 | -0.77 | 10.77 | 9.74 | 10.00 |
| HT40 | 3 | 5230 | -1.31 | -0.77 | 10.77 | 9.46 | 10.00 |
| VHT80 | 3 | 5210 | -7.79 | -0.77 | 10.77 | 2.98 | 10.00 |
| Result | | | Complied | | | | |

**Worst Power Spectral Density Plots**




Note 1: Peak Power Spectral Density w/o Duty Factor.

# 3.5 Peak Excursion

## 3.5.1 Peak Excursion Limit

| Peak Excursion Limit |
|---|
| **UNII Devices** |
| ☒ Peak excursion ≤ 13 dB. The ratio of the maximum of the peak-max-hold spectrum to the maximum of the average spectrum for continuous transmission does not exceed 13 dB. (Earlier procedures that required computing the ratio of the two spectra at each frequency across the emission bandwidth can lead to unintended failures at band edges and will no longer be required.) |
| **LE-LAN Devices** |
| ☒ N/A |

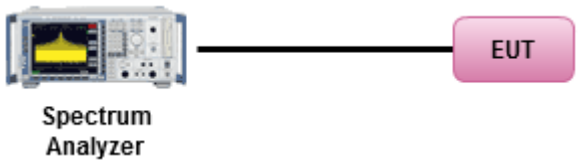
## 3.5.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

## 3.5.3 Test Procedures

| Test Method | |
|---|---|
| ☒ | Refer as FCC KDB 789033 v01r03, clause G peak excursion method. |
| ☒ | Testing each modulation mode on a single channel is sufficient to demonstrate compliance with the peak excursion requirement |
| ☒ | For conducted measurement. |
| ☒ | Testing a single output port is sufficient to demonstrate compliance with the peak excursion. |
| ☒ | Test result plots refer as test report clause 3.3.5 with peak excursion ratio of the maximum of the peak-max-hold spectrum to the maximum of the average spectrum. |

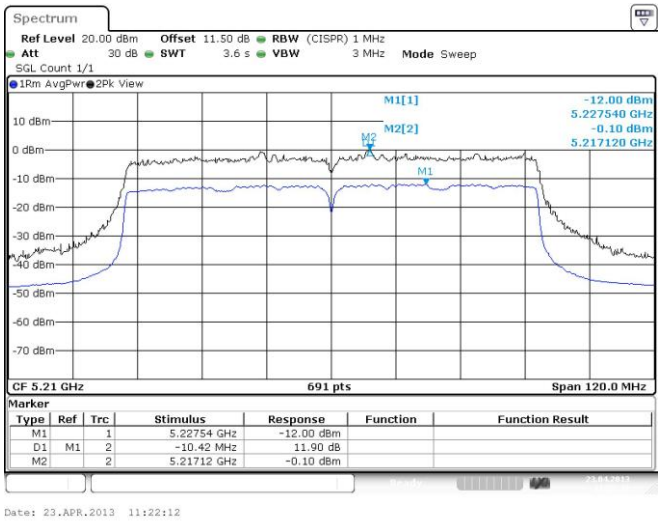
## 3.5.4 Test Setup

| Peak Excursion |
|---|
|   |

### 3.5.5 Test Result of Peak Excursion

| Operating Mode | | | 1 | | | | | |
|---|---|---|---|---|---|---|---|---|
| UNII Peak Excursion Result | | | | | | | | |
| Condition | | | Peak Excursion (dB) | | | | | |
| Modulation Mode | $N_{TX}$ | Freq. (MHz) | BPSK | QPSK | 16QAM | 64QAM | 256QAM | Limit |
| 11a | 3 | 5180 | 8.49 | 9.18 | 8.98 | 8.68 | - | 13.0 |
| HT20 | 3 | 5180 | 8.32 | 9.17 | 9.79 | 9.00 | - | 13.0 |
| HT40 | 3 | 5190 | 8.72 | 10.09 | 9.90 | 9.73 | - | 13.0 |
| VHT20 | 3 | 5180 | 8.43 | 8.95 | 8.81 | 9.71 | 8.88 | 13.0 |
| VHT40 | 3 | 5230 | 8.69 | 9.00 | 9.57 | 9.83 | 9.62 | 13.0 |
| VHT80 | 3 | 5210 | 9.46 | 8.63 | 10.55 | 8.98 | 8.82 | 13.0 |
| Result | | | Complied | | | | | |

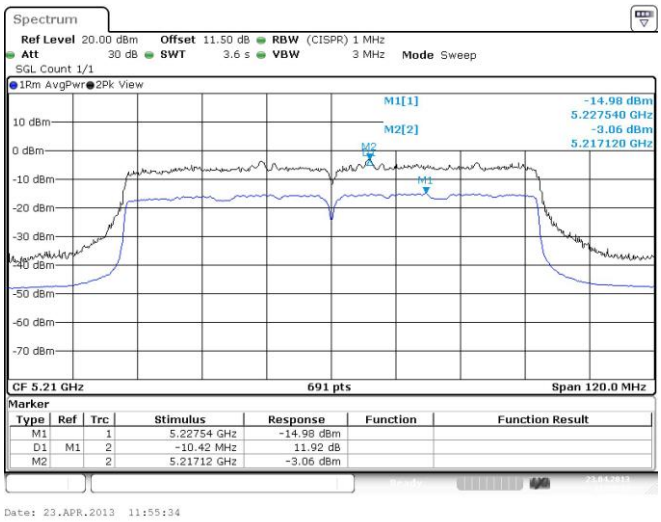
**Worst Peak Excursion Plots**




Note 1: Peak excursion = Mark2 value – ( Mark 1 value + duty factor)

| Operating Mode | | | 2 | | | | | |
|---|---|---|---|---|---|---|---|---|
| UNII Peak Excursion Result | | | | | | | | |
| Condition | | | Peak Excursion (dB) | | | | | |
| Modulation Mode | $N_{TX}$ | Freq. (MHz) | BPSK | QPSK | 16QAM | 64QAM | 256QAM | Limit |
| 11a | 3 | 5180 | 8.11 | 9.20 | 8.81 | 8.79 | - | 13.0 |
| HT20 | 3 | 5180 | 8.95 | 8.77 | 9.90 | 9.49 | - | 13.0 |
| HT40 | 3 | 5190 | 8.93 | 9.00 | 9.42 | 9.14 | - | 13.0 |
| VHT20 | 3 | 5180 | 8.04 | 8.53 | 8.67 | 9.12 | 9.08 | 13.0 |
| VHT40 | 3 | 5230 | 8.61 | 9.70 | 9.38 | 9.07 | 9.40 | 13.0 |
| VHT80 | 3 | 5210 | 9.75 | 9.83 | 10.57 | 9.15 | 9.04 | 13.0 |
| Result | | | Complied | | | | | |

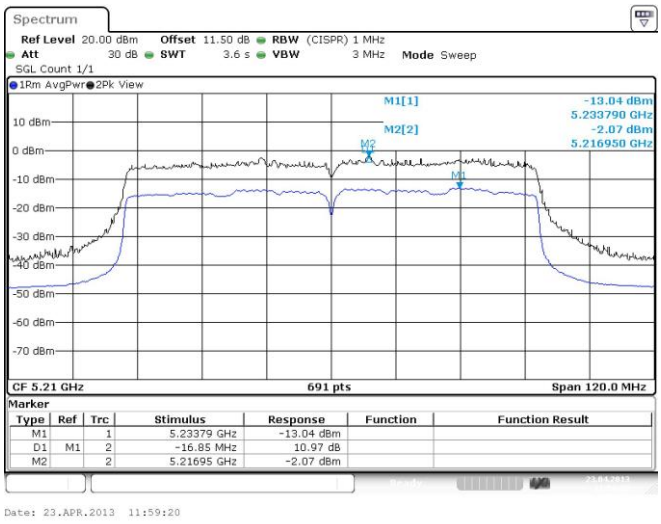
**Worst Peak Excursion Plots**




Note 1: Peak excursion = Mark2 value – ( Mark 1 value + duty factor)

| Operating Mode | | | 3 | | | | | |
|---|---|---|---|---|---|---|---|---|
| UNII Peak Excursion Result | | | | | | | | |
| Condition | | | Peak Excursion (dB) | | | | | |
| Modulation Mode | $N_{TX}$ | Freq. (MHz) | BPSK | QPSK | 16QAM | 64QAM | 256QAM | Limit |
| 11a | 3 | 5180 | 8.11 | 9.20 | 8.81 | 8.79 | - | 13.0 |
| HT20 | 3 | 5180 | 7.95 | 8.77 | 9.90 | 9.49 | - | 13.0 |
| HT40 | 3 | 5190 | 8.93 | 9.00 | 9.42 | 9.14 | - | 13.0 |
| VHT20 | 3 | 5180 | 8.04 | 8.53 | 8.67 | 9.12 | 9.08 | 13.0 |
| VHT40 | 3 | 5230 | 8.61 | 9.70 | 9.38 | 9.07 | 9.40 | 13.0 |
| VHT80 | 3 | 5210 | 8.99 | 9.37 | 9.62 | 8.90 | 8.81 | 13.0 |
| Result | | | Complied | | | | | |

**Worst Peak Excursion Plots**

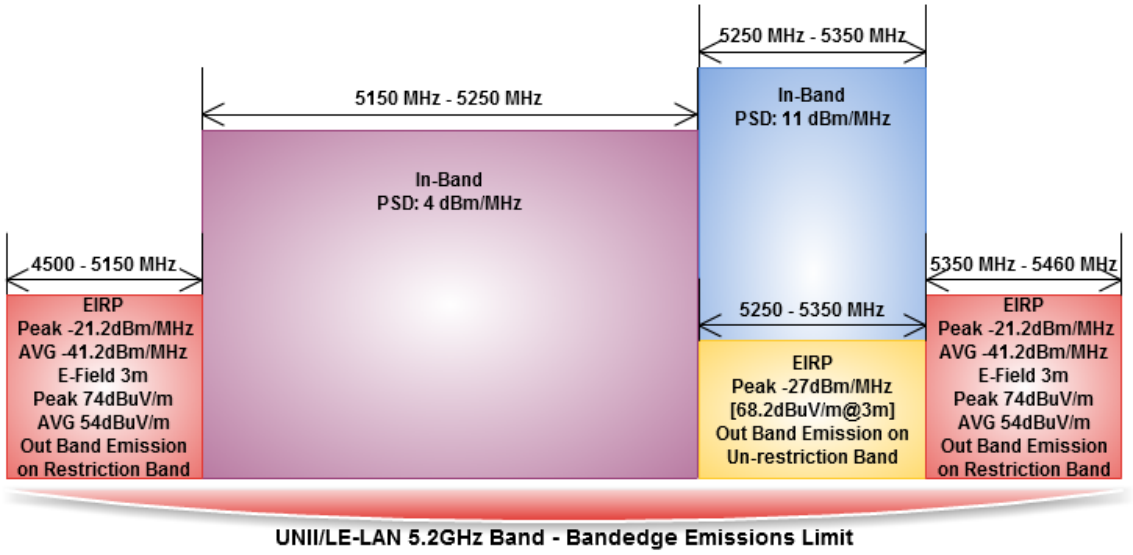



Note 1: Peak excursion = Mark2 value – ( Mark 1 value + duty factor)

# 3.6 Transmitter Radiated Bandedge Emissions

## 3.6.1 Transmitter Radiated Bandedge Emissions Limit

**Transmitter Radiated Bandedge Emissions Limit for 5.2GHz band: 5.15-5.25 GHz band**




Refer as FCC KDB 789033 v01r03, G)2)c)(i) specifying that if a non-restricted-band out-of-band emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm or -17 dBm peak emission limit. Reason for change: to ensure that emission requirements in the non-restricted bands are not more stringent than those in the restricted bands.

## 3.6.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

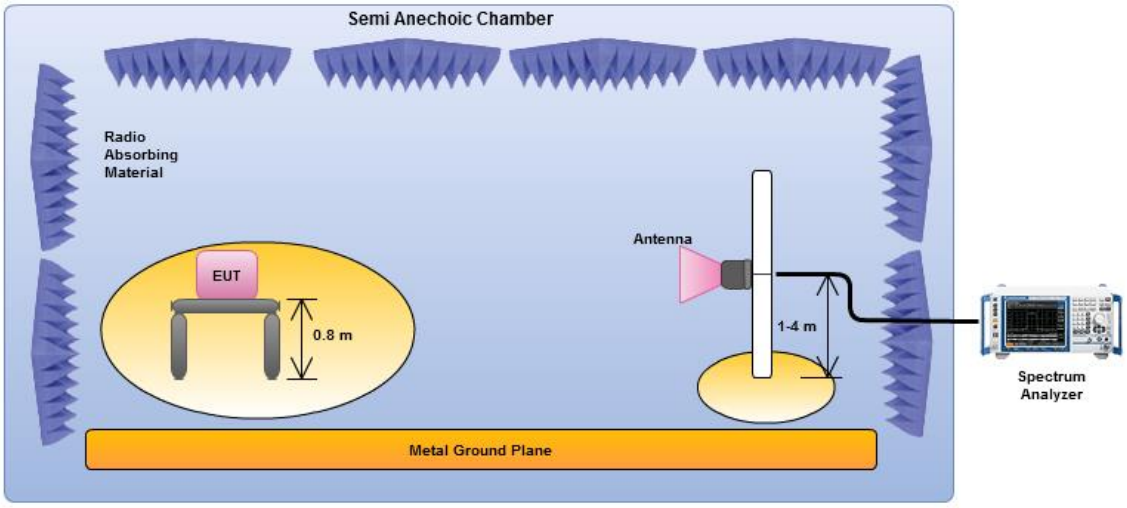
### 3.6.3 Test Procedures

| Test Method | | | |
|---|---|---|---|
| ☒ | Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements). Measurements in the bandedge are typically made at a closer distance 3m, because the instrumentation noise floor is typically close to the radiated emission limit. | | |
| ☒ | The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor]. | | |
| ☒ | Refer as ANSI C63.10, clause 6.9.2.2 bandedge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band. | | |
| ☐ | If EUT operate in adjacent contiguous bands, bandedge testing performed at the lowest frequency channel at lower-band and highest frequency channel at higher-band. Transmitter in-band emissions will consist of adjacent contiguous bands (e.g., IEEE 802.11ac VHT160 The lowest frequency channel at lower-band and highest frequency channel at higher-band in-band emissions will consist of two adjacent contiguous bands.) | | |
| | ☐ | Operating in 5.15-5.25 GHz band (lower-band) and 5.25-5.35 GHz band (higher-band). | |
| | ☐ | Operating in 5.47-5.725 GHz band (lower-band) and 5.725-5.825 GHz band (higher-band). | |
| ☒ | If EUT operate in individual non-contiguous bands, bandedge testing performed at the lowest frequency channel and highest frequency channel within lower-band and higher-band. (e.g., (e.g., IEEE 802.11ac VHT160) | | |
| | ☐ | Operating in 5.25-5.35 GHz band (lower-band) and 5.47-5.725 GHz band (higher-band). | |
| | ☒ | Operating in 5.15-5.25 GHz band (lower-band) and 5.725-5.825 GHz band (higher-band). | |
| ☒ | For the transmitter unwanted emissions shall be measured using following options below: | | |
| | ☒ | Refer as FCC KDB 789033 v01r03, clause H)2) for unwanted emissions into non-restricted bands. | |
| | ☒ | Refer as FCC KDB 789033 v01r03, clause H)1) for unwanted emissions into restricted bands. | |
| | | ☐ | Refer as FCC KDB 789033 v01r03, H)6) Method AD (Trace Averaging). |
| | | ☐ | Refer as FCC KDB 789033 v01r03, H)6) Method VB (Reduced VBW). |
| | | ☒ | Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW). VBW ≥ 1/T, where T is pulse time. |
| | | ☐ | Refer as ANSI C63.10, clause 4.2.3.2.4 average value of pulsed emissions. |
| | | ☒ | Refer as FCC KDB 789033 v01r03, clause H)5) measurement procedure peak limit. |
| | | ☐ | Refer as ANSI C63.10, clause 4.2.3.2.2 measurement procedure peak limit. |
| ☒ | For the transmitter bandedge emissions shall be measured using following options below: | | |
| | ☐ | Refer as FCC KDB 789033 v01r03, clause H)3)d) for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels (i.e., 1 MHz). | |
| | ☒ | Refer as ANSI C63.10, clause 6.9.2 for band-edge testing. | |
| | ☐ | Refer as ANSI C63.10, clause 6.9.3 for marker-delta method for band-edge measurements. | |
| ☒ | For radiated measurement, refer as ANSI C63.10, clause 6.5 for radiated emissions from above 1 GHz. | | |

| Test Method | |
|---|---|
| ☐ | For conducted and cabinet radiation measurement, refer as FCC KDB 789033 v01r03, clause H)3). |
| | ☐ For conducted unwanted emissions into non-restricted bands (relative emission limits).<br>Devices with multiple transmit chains:<br>Refer as FCC KDB 662911, when testing out-of-band and spurious emissions against relative emission limits, tests may be performed on each output individually without summing or adding 10 log(N) if the measurements are made relative to the in-band emissions on the individual outputs. |
| | ☐ For conducted unwanted emissions into restricted bands (absolute emission limits).<br>Devices with multiple transmit chains using options given below:<br>(1) Measure and sum the spectra across the outputs or<br>(2) Measure and add 10 log(N) dB |

## 3.6.4 Test Setup

**Transmitter Radiated Bandedge Emissions**

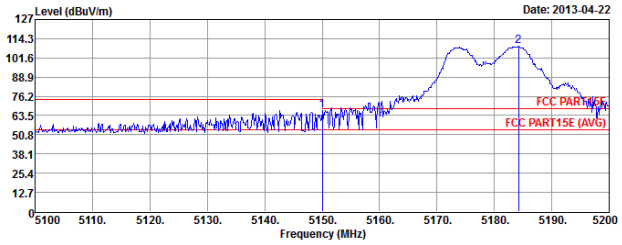



Electric field tests shall be performed in transmitter bandedge emissions using a calibrated horn antenna.

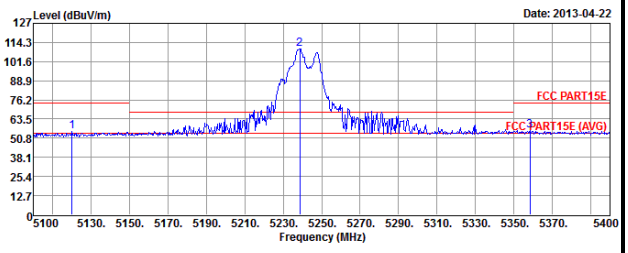
## 3.6.5 Test Result of Transmitter Radiated Bandedge Emissions_Operating Mode 1

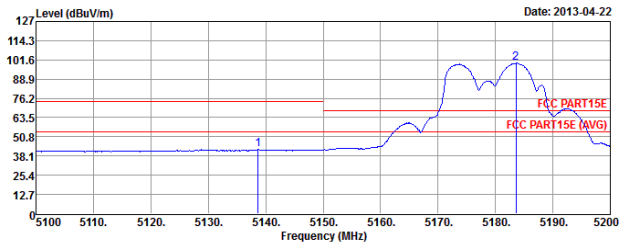
| Transmitter Radiated Bandedge Emissions Result | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Modulation | 11a | | Restricted Band Emissions | | | | | |
| Restricted Band (MHz) | Test Ch. Freq. (MHz) | In-band PSD [i] (dBuV/1MHz) | RBE Freq. (MHz) | Measure Distance (m) | Out-Band Level (dBuV/m) | Limit (dBuV/m) | Level Type | Pol. note 1 |
| 4500-5150 | 5180 | 109.21 | 5150.00 | 3 | 66.91 | 74 | PK | V |
| 4500-5150 | 5180 | 99.43 | 5138.70 | 3 | 42.36 | 54 | AV | V |
| 5350-5460 | 5240 | 109.76 | 5358.30 | 3 | 55.70 | 74 | PK | V |
| 5350-5460 | 5240 | 100.05 | 5353.50 | 3 | 43.15 | 54 | AV | V |

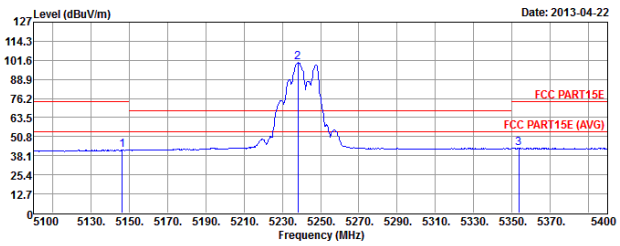
**5.2GHz Lower-band (Lowest Ch.)**




**5.2GHz Higher-band (Highest Ch.)**



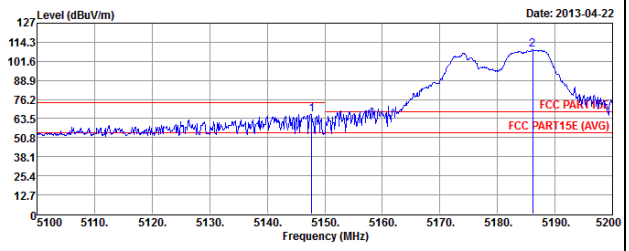



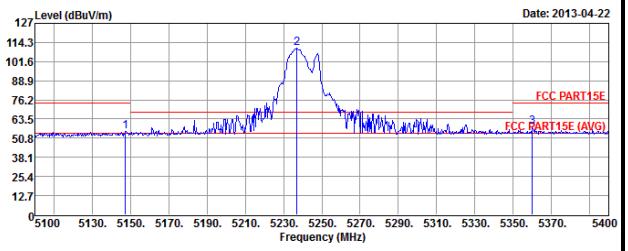

Note 1: Measurement worst emissions of receive antenna polarization: H (Horizontal) or V (Vertical).

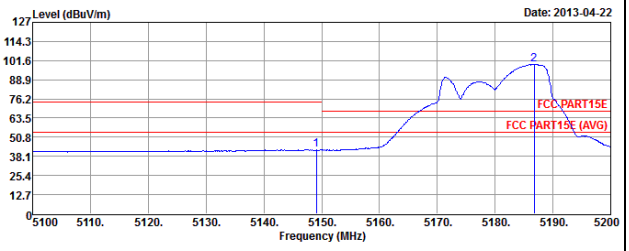
| Transmitter Radiated Bandedge Emissions Result | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Modulation** | HT20 | | **Restricted Band Emissions** | | | | | |
| **Restricted Band (MHz)** | **Test Ch. Freq. (MHz)** | **In-band PSD [i] (dBuV/1MHz)** | **RBE Freq. (MHz)** | **Measure Distance (m)** | **Out-Band Level (dBuV/m)** | **Limit (dBuV/m)** | **Level Type** | **Pol. note 1** |
| 4500-5150 | 5180 | 109.21 | 5147.70 | 3 | 66.30 | 74 | PK | V |
| 4500-5150 | 5180 | 99.04 | 5149.10 | 3 | 42.51 | 54 | AV | V |
| 5350-5460 | 5240 | 110.37 | 5360.10 | 3 | 58.38 | 74 | PK | V |
| 5350-5460 | 5240 | 99.90 | 5398.20 | 3 | 43.20 | 54 | AV | V |

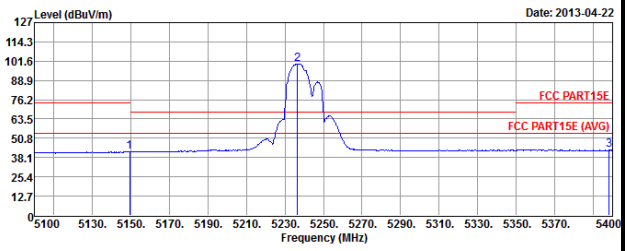
**5.2GHz Lower-band (Lowest Ch.)**




**5.2GHz Higher-band (Highest Ch.)**



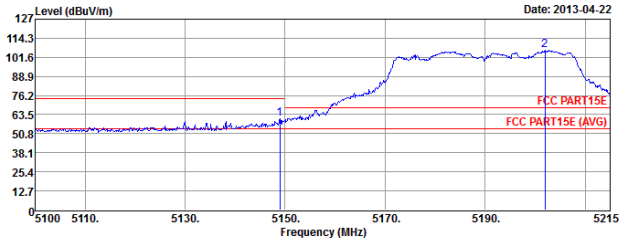



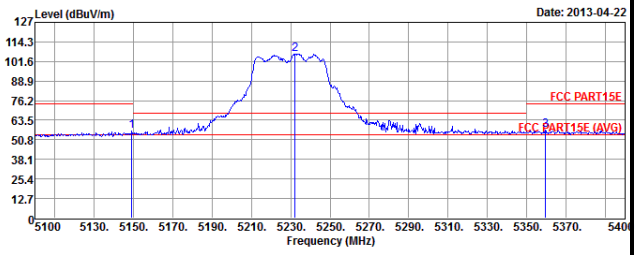

Note 1: Measurement worst emissions of receive antenna polarization: H (Horizontal) or V (Vertical).

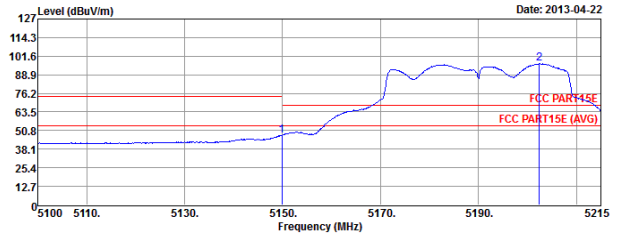
| Transmitter Radiated Bandedge Emissions Result | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Modulation** | HT40 | | **Restricted Band Emissions** | | | | | |
| **Restricted Band (MHz)** | **Test Ch. Freq. (MHz)** | **In-band PSD [i] (dBuV/1MHz)** | **RBE Freq. (MHz)** | **Measure Distance (m)** | **Out-Band Level (dBuV/m)** | **Limit (dBuV/m)** | **Level Type** | **Pol. note 1** |
| 4500-5150 | 5190 | 106.37 | 5148.99 | 3 | 60.96 | 74 | PK | V |
| 4500-5150 | 5190 | 96.46 | 5149.91 | 3 | 47.64 | 54 | AV | V |
| 5350-5460 | 5230 | 106.63 | 5359.50 | 3 | 57.23 | 74 | PK | V |
| 5350-5460 | 5230 | 96.70 | 5353.80 | 3 | 44.22 | 54 | AV | V |

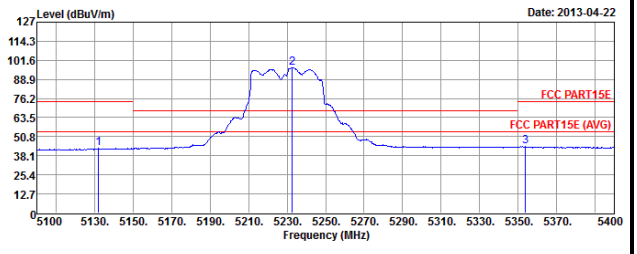
**5.2GHz Lower-band (Lowest Ch.)**




**5.2GHz Higher-band (Highest Ch.)**



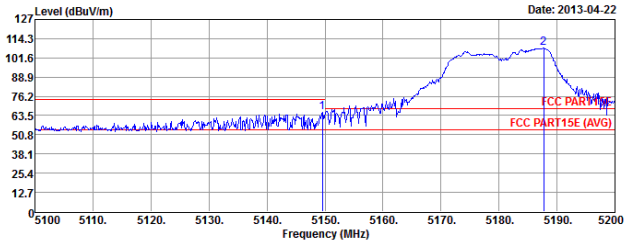



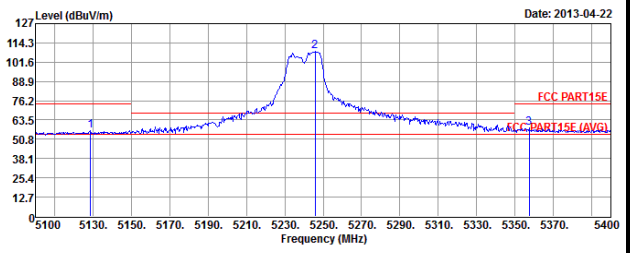

Note 1: Measurement worst emissions of receive antenna polarization: H (Horizontal) or V (Vertical).

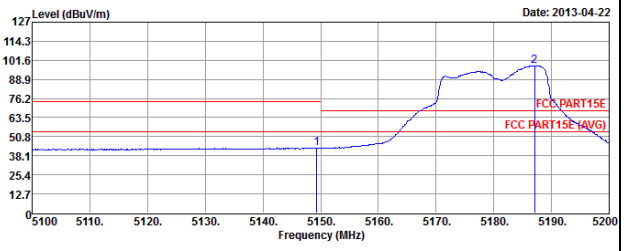
| Transmitter Radiated Bandedge Emissions Result | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Modulation** | VHT20 | | **Restricted Band Emissions** | | | | | |
| **Restricted Band (MHz)** | **Test Ch. Freq. (MHz)** | **In-band PSD [i] (dBuV/1MHz)** | **RBE Freq. (MHz)** | **Measure Distance (m)** | **Out-Band Level (dBuV/m)** | **Limit (dBuV/m)** | **Level Type** | **Pol. note 1** |
| 4500-5150 | 5180 | 108.15 | 5149.60 | 3 | 65.64 | 74 | PK | V |
| 4500-5150 | 5180 | 97.99 | 5149.30 | 3 | 43.25 | 54 | AV | V |
| 5350-5460 | 5240 | 108.93 | 5357.40 | 3 | 58.26 | 74 | PK | V |
| 5350-5460 | 5240 | 98.45 | 5358.60 | 3 | 43.79 | 54 | AV | V |

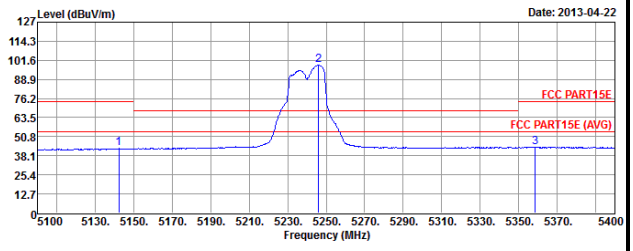
**5.2GHz Lower-band (Lowest Ch.)**




**5.2GHz Higher-band (Highest Ch.)**



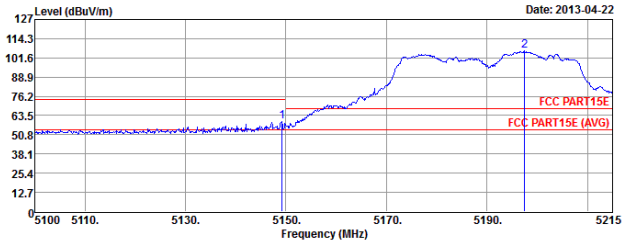



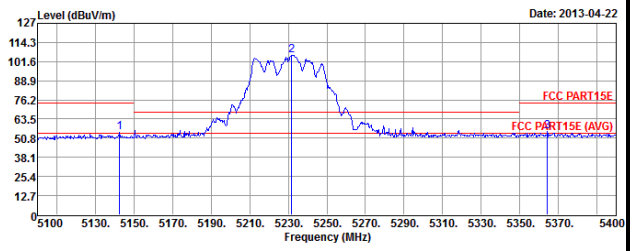

Note 1: Measurement worst emissions of receive antenna polarization: H (Horizontal) or V (Vertical).

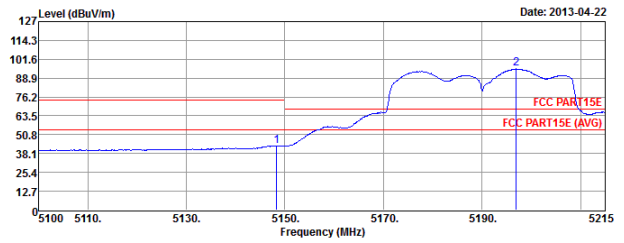
| Transmitter Radiated Bandedge Emissions Result | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Modulation** | VHT40 | | **Restricted Band Emissions** | | | | | |
| **Restricted Band (MHz)** | **Test Ch. Freq. (MHz)** | **In-band PSD [i] (dBuV/1MHz)** | **RBE Freq. (MHz)** | **Measure Distance (m)** | **Out-Band Level (dBuV/m)** | **Limit (dBuV/m)** | **Level Type** | **Pol. note 1** |
| 4500-5150 | 5190 | 106.11 | 5149.22 | 3 | 59.27 | 74 | PK | V |
| 4500-5150 | 5190 | 95.17 | 5148.30 | 3 | 43.27 | 54 | AV | V |
| 5350-5460 | 5230 | 105.77 | 5364.30 | 3 | 55.20 | 74 | PK | V |
| 5350-5460 | 5230 | 96.26 | 5361.60 | 3 | 42.14 | 54 | AV | V |

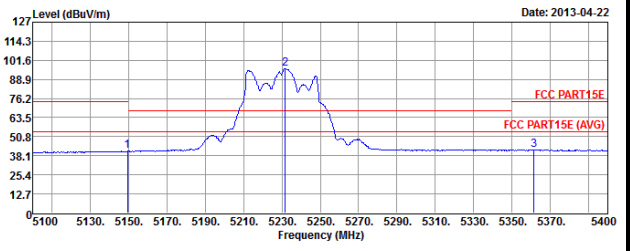
**5.2GHz Lower-band (Lowest Ch.)**




**5.2GHz Higher-band (Highest Ch.)**

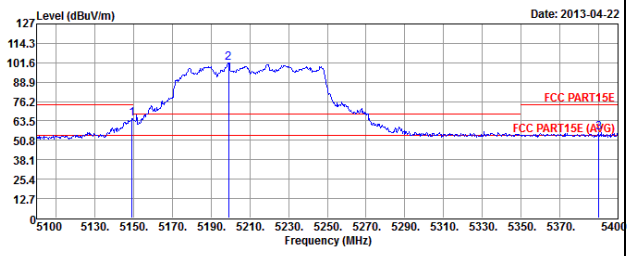
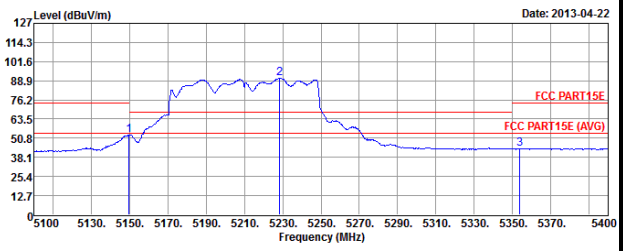



Note 1: Measurement worst emissions of receive antenna polarization: H (Horizontal) or V (Vertical).

| Transmitter Radiated Bandedge Emissions Result | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Modulation** | VHT80 | | **Restricted Band Emissions** | | | | | |
| **Restricted Band (MHz)** | **Test Ch. Freq. (MHz)** | **In-band PSD [i] (dBuV/1MHz)** | **RBE Freq. (MHz)** | **Measure Distance (m)** | **Out-Band Level (dBuV/m)** | **Limit (dBuV/m)** | **Level Type** | **Pol. note 1** |
| 4500-5150 | 5210 | 101.68 | 5149.20 | 3 | 64.90 | 74 | PK | V |
| 4500-5150 | 5210 | 90.39 | 5149.80 | 3 | 52.80 | 54 | AV | V |
| 5350-5460 | 5210 | 101.68 | 5390.10 | 3 | 56.08 | 74 | PK | V |
| 5350-5460 | 5210 | 90.39 | 5353.80 | 3 | 43.98 | 54 | AV | V |

| 5.2GHz Lower-band (Lowest Ch.) | 5.2GHz Higher-band (Highest Ch.) |
|---|---|
|  |  |

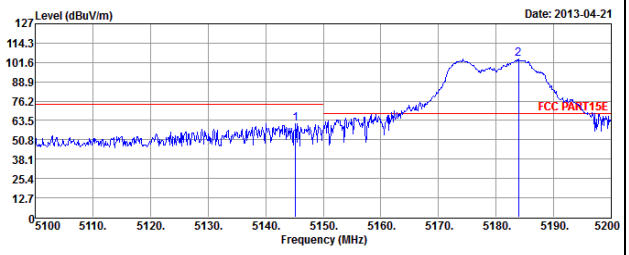


Note 1: Measurement worst emissions of receive antenna polarization: H (Horizontal) or V (Vertical).

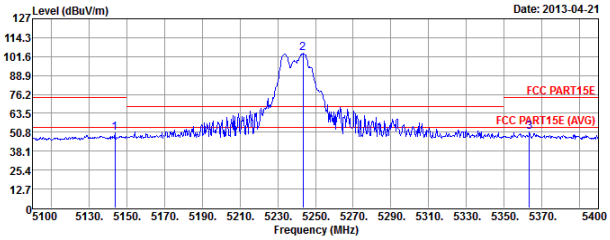
## 3.6.6 Test Result of Transmitter Radiated Bandedge Emissions_Operating Mode 2

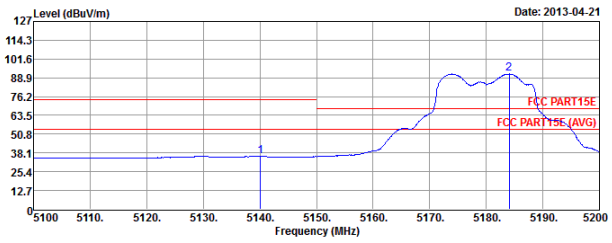
| Transmitter Radiated Bandedge Emissions Result | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Modulation | 11a | | Restricted Band Emissions | | | | | |
| Restricted Band (MHz) | Test Ch. Freq. (MHz) | In-band PSD [i] (dBuV/1MHz) | RBE Freq. (MHz) | Measure Distance (m) | Out-Band Level (dBuV/m) | Limit (dBuV/m) | Level Type | Pol. note 1 |
| 4500-5150 | 5180 | 103.89 | 5145.20 | 3 | 61.27 | 74 | PK | V |
| 4500-5150 | 5180 | 91.46 | 5140.10 | 3 | 35.80 | 54 | AV | V |
| 5350-5460 | 5240 | 103.69 | 5363.40 | 3 | 50.85 | 74 | PK | V |
| 5350-5460 | 5240 | 92.40 | 5359.50 | 3 | 35.77 | 54 | AV | V |

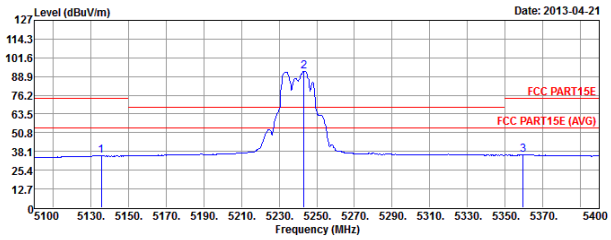
**5.2GHz Lower-band (Lowest Ch.)**




**5.2GHz Higher-band (Highest Ch.)**



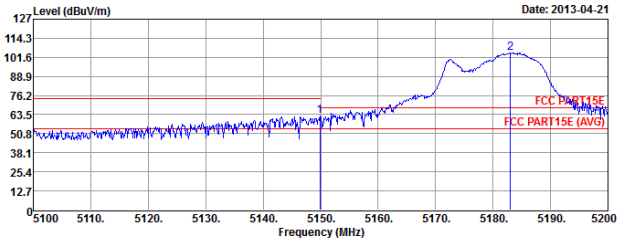



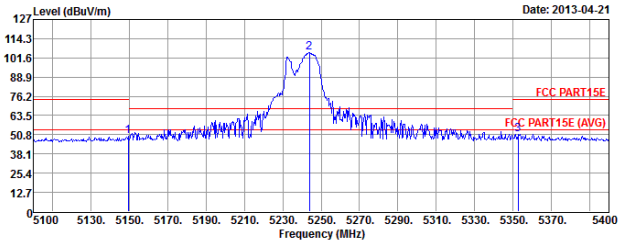

Note 1: Measurement worst emissions of receive antenna polarization: H (Horizontal) or V (Vertical).

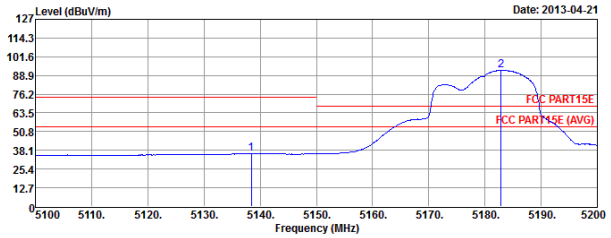
| Transmitter Radiated Bandedge Emissions Result | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Modulation** | HT20 | | **Restricted Band Emissions** | | | | | |
| **Restricted Band (MHz)** | **Test Ch. Freq. (MHz)** | **In-band PSD [i] (dBuV/1MHz)** | **RBE Freq. (MHz)** | **Measure Distance (m)** | **Out-Band Level (dBuV/m)** | **Limit (dBuV/m)** | **Level Type** | **Pol. note 1** |
| 4500-5150 | 5180 | 104.74 | 5149.90 | 3 | 62.41 | 74 | PK | V |
| 4500-5150 | 5180 | 92.45 | 5138.40 | 3 | 36.12 | 54 | AV | V |
| 5350-5460 | 5240 | 105.10 | 5352.60 | 3 | 51.12 | 74 | PK | V |
| 5350-5460 | 5240 | 93.12 | 5350.80 | 3 | 35.81 | 54 | AV | V |

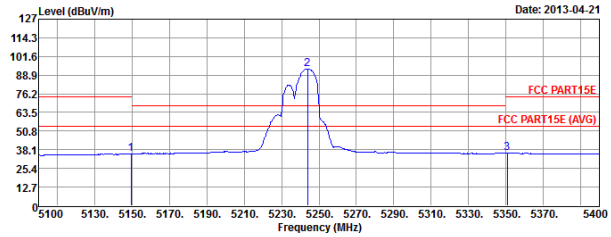
**5.2GHz Lower-band (Lowest Ch.)**




**5.2GHz Higher-band (Highest Ch.)**



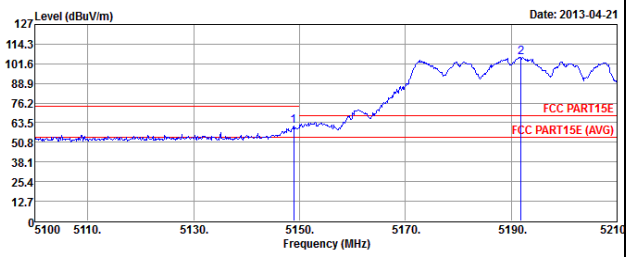



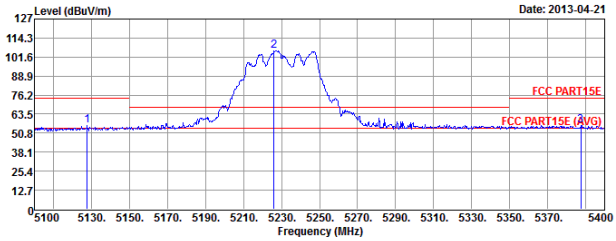

Note 1: Measurement worst emissions of receive antenna polarization: H (Horizontal) or V (Vertical).

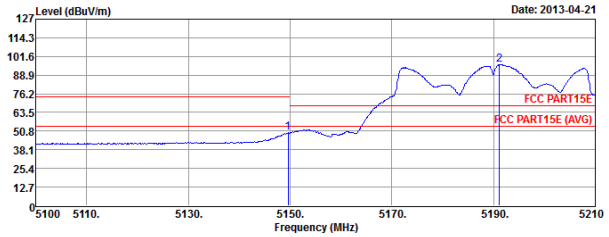
| Transmitter Radiated Bandedge Emissions Result | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Modulation** | HT40 | | **Restricted Band Emissions** | | | | | |
| **Restricted Band (MHz)** | **Test Ch. Freq. (MHz)** | **In-band PSD [i] (dBuV/1MHz)** | **RBE Freq. (MHz)** | **Measure Distance (m)** | **Out-Band Level (dBuV/m)** | **Limit (dBuV/m)** | **Level Type** | **Pol. note 1** |
| 4500-5150 | 5190 | 105.57 | 5148.95 | 3 | 61.29 | 74 | PK | V |
| 4500-5150 | 5190 | 96.10 | 5149.61 | 3 | 49.67 | 54 | AV | V |
| 5350-5460 | 5230 | 105.70 | 5387.40 | 3 | 56.03 | 74 | PK | V |
| 5350-5460 | 5230 | 96.11 | 5351.70 | 3 | 43.82 | 54 | AV | V |

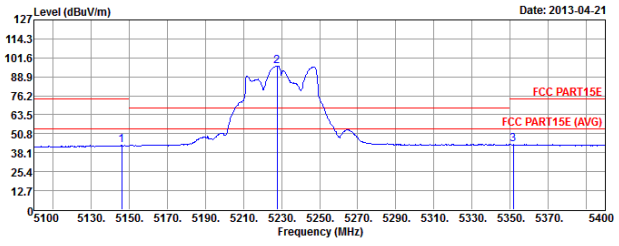
**5.2GHz Lower-band (Lowest Ch.)**




**5.2GHz Higher-band (Highest Ch.)**



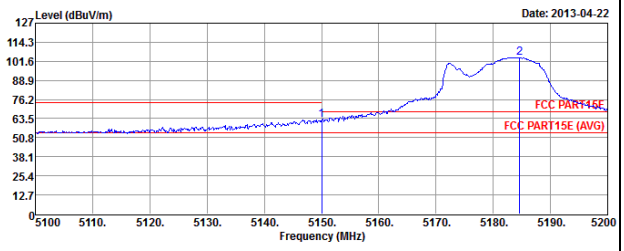



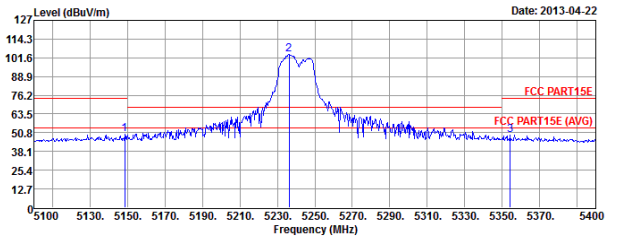

Note 1: Measurement worst emissions of receive antenna polarization: H (Horizontal) or V (Vertical).

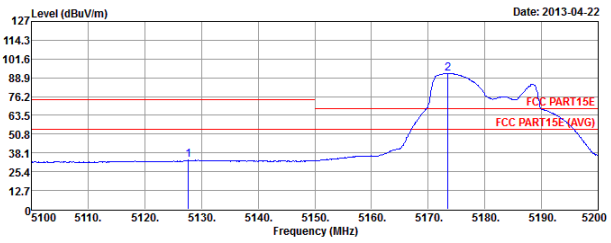
| Transmitter Radiated Bandedge Emissions Result | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Modulation** | VHT20 | | **Restricted Band Emissions** | | | | | |
| **Restricted Band (MHz)** | **Test Ch. Freq. (MHz)** | **In-band PSD [i] (dBuV/1MHz)** | **RBE Freq. (MHz)** | **Measure Distance (m)** | **Out-Band Level (dBuV/m)** | **Limit (dBuV/m)** | **Level Type** | **Pol. note 1** |
| 4500-5150 | 5180 | 104.21 | 5150.00 | 3 | 62.72 | 74 | PK | V |
| 4500-5150 | 5180 | 91.89 | 5127.70 | 3 | 33.16 | 54 | AV | V |
| 5350-5460 | 5240 | 103.95 | 5354.40 | 3 | 49.32 | 74 | PK | V |
| 5350-5460 | 5240 | 92.33 | 5364.30 | 3 | 33.35 | 54 | AV | V |

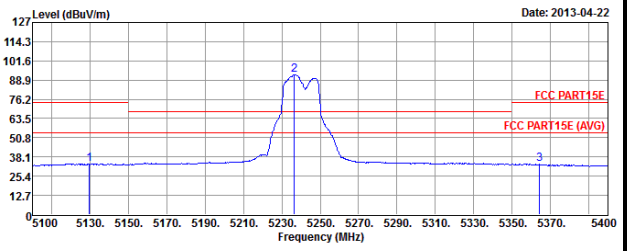
**5.2GHz Lower-band (Lowest Ch.)**




**5.2GHz Higher-band (Highest Ch.)**



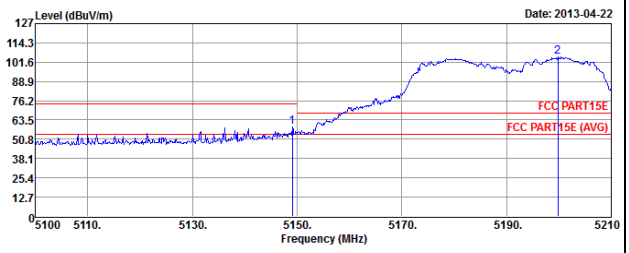



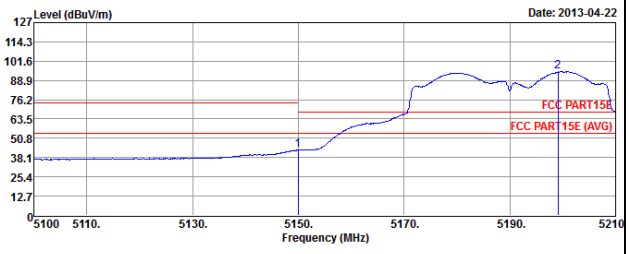




Note 1: Measurement worst emissions of receive antenna polarization: H (Horizontal) or V (Vertical).

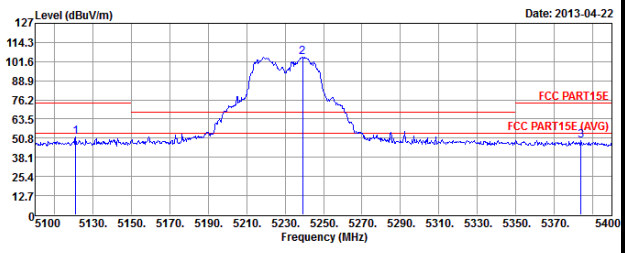
| Transmitter Radiated Bandedge Emissions Result | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Modulation** | VHT40 | | **Restricted Band Emissions** | | | | | |
| **Restricted Band (MHz)** | **Test Ch. Freq. (MHz)** | **In-band PSD [i] (dBuV/1MHz)** | **RBE Freq. (MHz)** | **Measure Distance (m)** | **Out-Band Level (dBuV/m)** | **Limit (dBuV/m)** | **Level Type** | **Pol. note 1** |
| 4500-5150 | 5190 | 104.92 | 5149.06 | 3 | 59.15 | 74 | PK | V |
| 4500-5150 | 5190 | 94.71 | 5149.94 | 3 | 43.08 | 54 | AV | V |
| 5350-5460 | 5230 | 104.75 | 5383.80 | 3 | 49.29 | 74 | PK | V |
| 5350-5460 | 5230 | 94.85 | 5374.80 | 3 | 36.93 | 54 | AV | V |

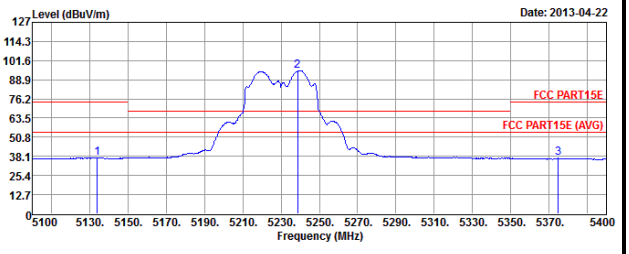
**5.2GHz Lower-band (Lowest Ch.)**



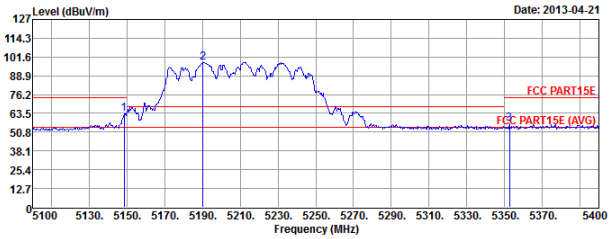
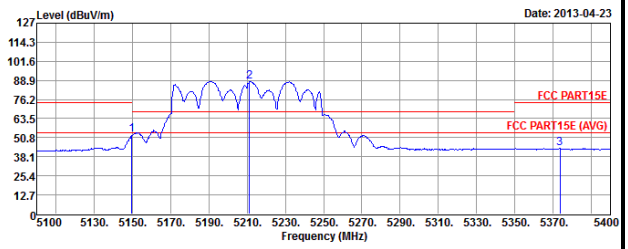

**5.2GHz Higher-band (Highest Ch.)**




Note 1: Measurement worst emissions of receive antenna polarization: H (Horizontal) or V (Vertical).

| Transmitter Radiated Bandedge Emissions Result | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Modulation** | VHT80 | | **Restricted Band Emissions** | | | | | |
| **Restricted Band (MHz)** | **Test Ch. Freq. (MHz)** | **In-band PSD [i] (dBuV/1MHz)** | **RBE Freq. (MHz)** | **Measure Distance (m)** | **Out-Band Level (dBuV/m)** | **Limit (dBuV/m)** | **Level Type** | **Pol. note 1** |
| 4500-5150 | 5210 | 98.07 | 5148.60 | 3 | 63.45 | 74 | PK | V |
| 4500-5150 | 5210 | 88.32 | 5149.80 | 3 | 52.76 | 54 | AV | V |
| 5350-5460 | 5210 | 98.07 | 5352.60 | 3 | 56.61 | 74 | PK | V |
| 5350-5460 | 5210 | 88.32 | 5373.60 | 3 | 43.86 | 54 | AV | V |

| 5.2GHz Lower-band (Lowest Ch.) | 5.2GHz Higher-band (Highest Ch.) |
|---|---|
|  |  |



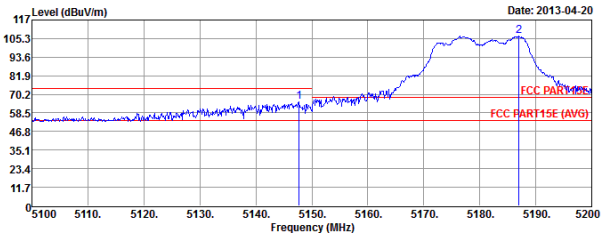


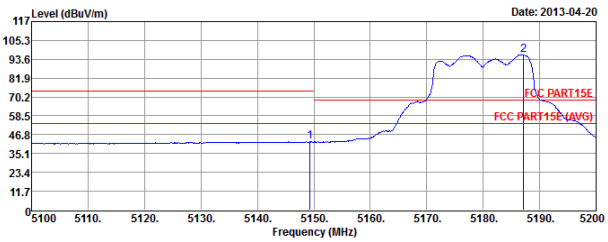
Note 1: Measurement worst emissions of receive antenna polarization: H (Horizontal) or V (Vertical).

## 3.6.7 Test Result of Transmitter Radiated Bandedge Emissions_Operating Mode 3

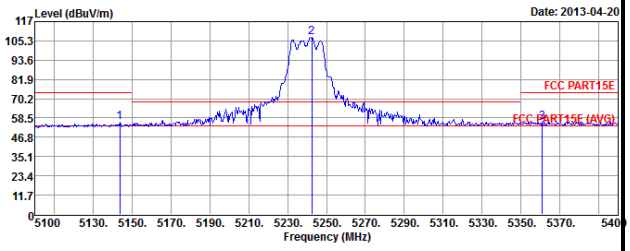
| Transmitter Radiated Bandedge Emissions Result | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Modulation | 11a | | Restricted Band Emissions | | | | | |
| Restricted Band (MHz) | Test Ch. Freq. (MHz) | In-band PSD [i] (dBuV/1MHz) | RBE Freq. (MHz) | Measure Distance (m) | Out-Band Level (dBuV/m) | Limit (dBuV/m) | Level Type | Pol. note 1 |
| 4500-5150 | 5180 | 107.10 | 5147.70 | 3 | 65.45 | 74 | PK | V |
| 4500-5150 | 5180 | 96.29 | 5149.30 | 3 | 42.44 | 54 | AV | V |
| 5350-5460 | 5240 | 107.38 | 5361.00 | 3 | 56.18 | 74 | PK | V |
| 5350-5460 | 5240 | 96.25 | 5356.50 | 3 | 43.13 | 54 | AV | V |

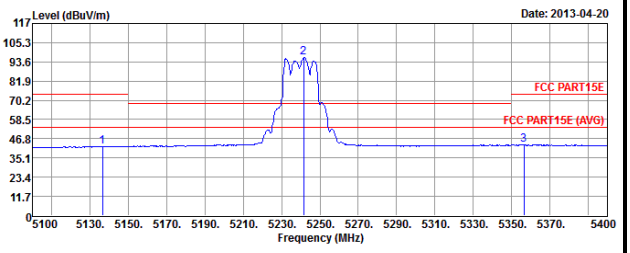
**5.2GHz Lower-band (Lowest Ch.)**




**5.2GHz Higher-band (Highest Ch.)**

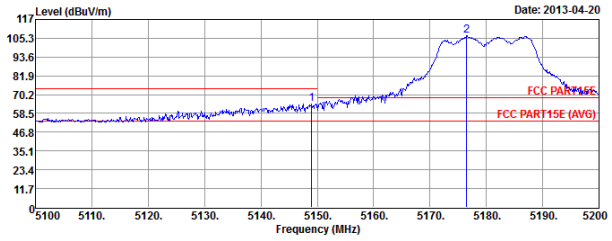


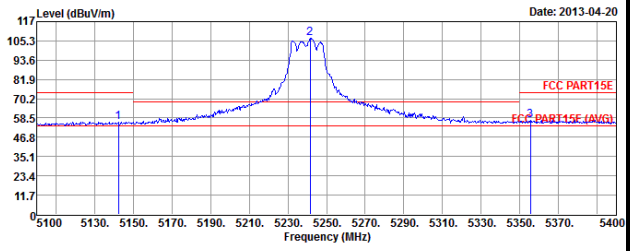

Note 1: Measurement worst emissions of receive antenna polarization: H (Horizontal) or V (Vertical).

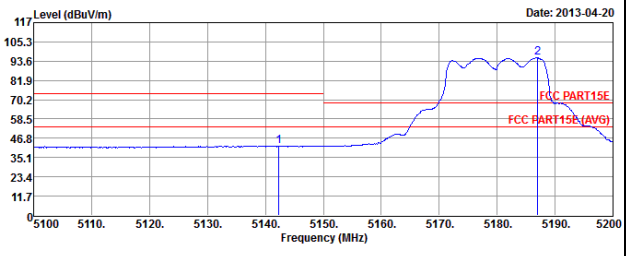
| Transmitter Radiated Bandedge Emissions Result | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Modulation** | HT20 | | **Restricted Band Emissions** | | | | | |
| **Restricted Band (MHz)** | **Test Ch. Freq. (MHz)** | **In-band PSD [i] (dBuV/1MHz)** | **RBE Freq. (MHz)** | **Measure Distance (m)** | **Out-Band Level (dBuV/m)** | **Limit (dBuV/m)** | **Level Type** | **Pol. note 1** |
| 4500-5150 | 5180 | 106.84 | 5149.00 | 3 | 64.65 | 74 | PK | V |
| 4500-5150 | 5180 | 95.84 | 5142.30 | 3 | 42.20 | 54 | AV | V |
| 5350-5460 | 5240 | 106.88 | 5355.60 | 3 | 56.97 | 74 | PK | V |
| 5350-5460 | 5240 | 96.19 | 5351.70 | 3 | 43.12 | 54 | AV | V |

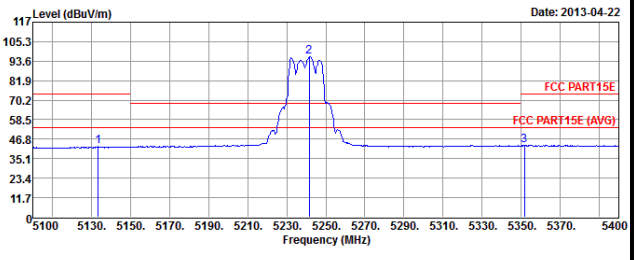
**5.2GHz Lower-band (Lowest Ch.)**




**5.2GHz Higher-band (Highest Ch.)**



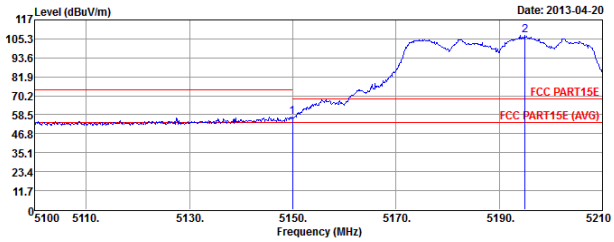



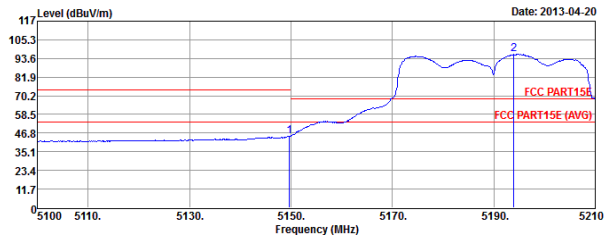




Note 1: Measurement worst emissions of receive antenna polarization: H (Horizontal) or V (Vertical).

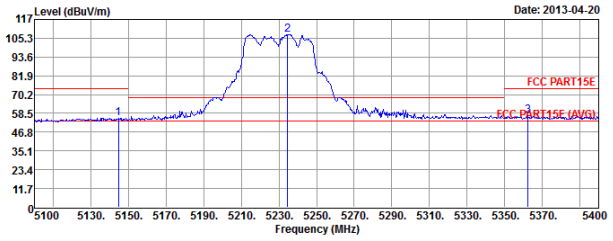
| Transmitter Radiated Bandedge Emissions Result | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Modulation** | HT40 | | **Restricted Band Emissions** | | | | | |
| **Restricted Band (MHz)** | **Test Ch. Freq. (MHz)** | **In-band PSD [i] (dBuV/1MHz)** | **RBE Freq. (MHz)** | **Measure Distance (m)** | **Out-Band Level (dBuV/m)** | **Limit (dBuV/m)** | **Level Type** | **Pol. note 1** |
| 4500-5150 | 5190 | 107.65 | 5149.94 | 3 | 57.25 | 74 | PK | V |
| 4500-5150 | 5190 | 96.22 | 5149.72 | 3 | 45.03 | 54 | AV | V |
| 5350-5460 | 5230 | 107.68 | 5362.50 | 3 | 56.95 | 74 | PK | V |
| 5350-5460 | 5230 | 96.40 | 5367.00 | 3 | 43.91 | 54 | AV | V |

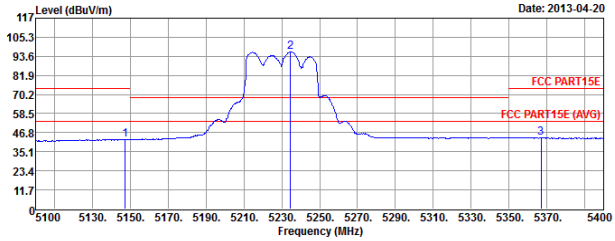
**5.2GHz Lower-band (Lowest Ch.)**




**5.2GHz Higher-band (Highest Ch.)**

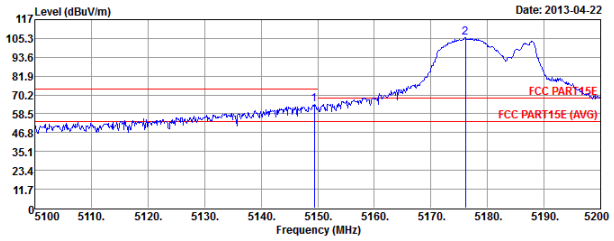


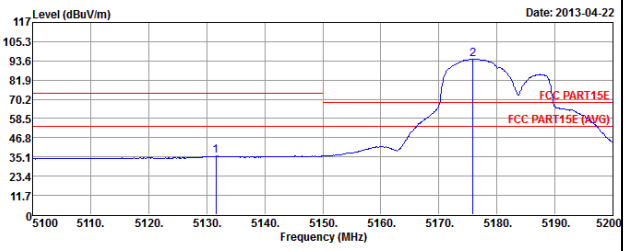




Note 1: Measurement worst emissions of receive antenna polarization: H (Horizontal) or V (Vertical).

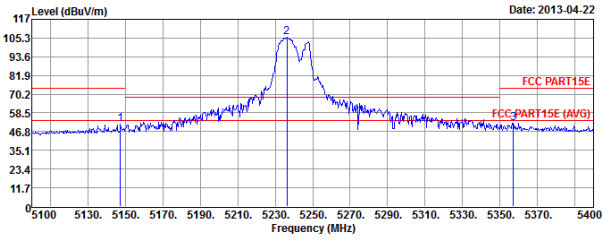
| Transmitter Radiated Bandedge Emissions Result | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Modulation** | VHT20 | | **Restricted Band Emissions** | | | | | |
| **Restricted Band (MHz)** | **Test Ch. Freq. (MHz)** | **In-band PSD [i] (dBuV/1MHz)** | **RBE Freq. (MHz)** | **Measure Distance (m)** | **Out-Band Level (dBuV/m)** | **Limit (dBuV/m)** | **Level Type** | **Pol. note 1** |
| 4500-5150 | 5180 | 105.77 | 5149.40 | 3 | 64.26 | 74 | PK | V |
| 4500-5150 | 5180 | 94.70 | 5131.60 | 3 | 35.73 | 54 | AV | V |
| 5350-5460 | 5240 | 105.76 | 5357.10 | 3 | 52.28 | 74 | PK | V |
| 5350-5460 | 5240 | 95.05 | 5360.10 | 3 | 36.19 | 54 | AV | V |

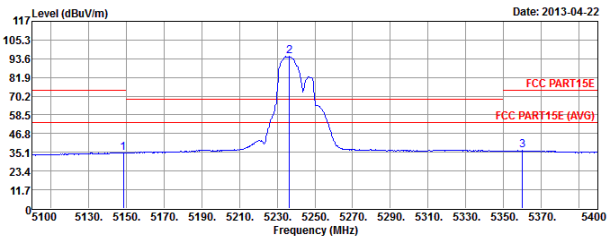
**5.2GHz Lower-band (Lowest Ch.)**




**5.2GHz Higher-band (Highest Ch.)**

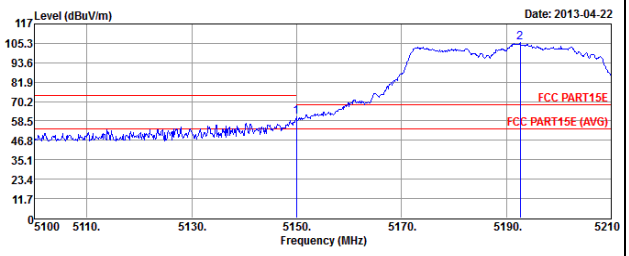


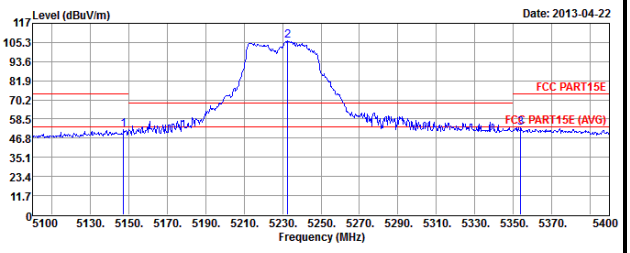

Note 1: Measurement worst emissions of receive antenna polarization: H (Horizontal) or V (Vertical).

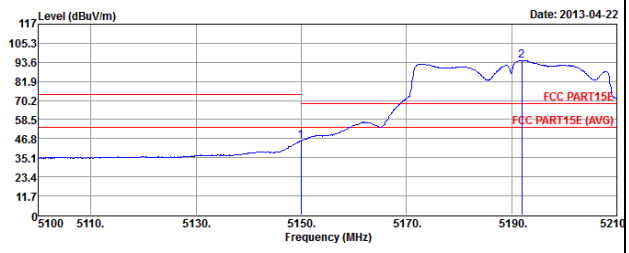
| Transmitter Radiated Bandedge Emissions Result | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Modulation** | VHT40 | | **Restricted Band Emissions** | | | | | |
| **Restricted Band (MHz)** | **Test Ch. Freq. (MHz)** | **In-band PSD [i] (dBuV/1MHz)** | **RBE Freq. (MHz)** | **Measure Distance (m)** | **Out-Band Level (dBuV/m)** | **Limit (dBuV/m)** | **Level Type** | **Pol. note 1** |
| 4500-5150 | 5190 | 106.04 | 5149.94 | 3 | 60.99 | 74 | PK | V |
| 4500-5150 | 5190 | 94.79 | 5149.94 | 3 | 45.27 | 54 | AV | V |
| 5350-5460 | 5230 | 106.22 | 5353.80 | 3 | 53.42 | 74 | PK | V |
| 5350-5460 | 5230 | 95.27 | 5353.50 | 3 | 39.18 | 54 | AV | V |

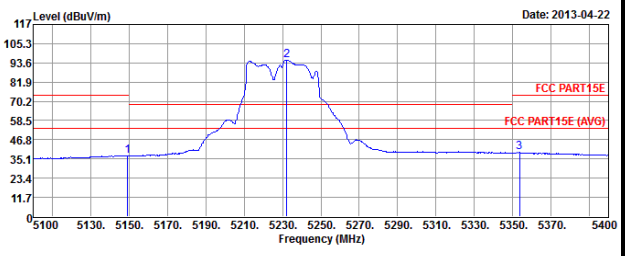
**5.2GHz Lower-band (Lowest Ch.)**




**5.2GHz Higher-band (Highest Ch.)**

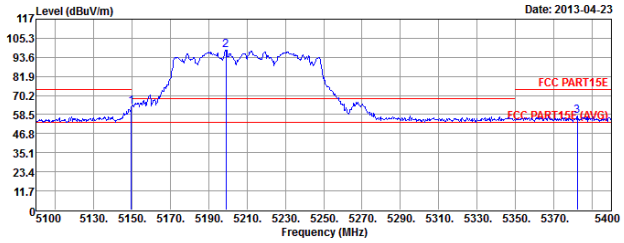
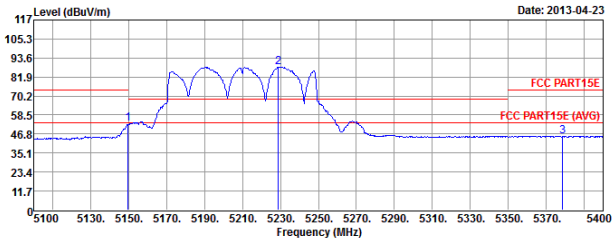



Note 1: Measurement worst emissions of receive antenna polarization: H (Horizontal) or V (Vertical).

| Transmitter Radiated Bandedge Emissions Result | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Modulation** | VHT80 | | **Restricted Band Emissions** | | | | | |
| **Restricted Band (MHz)** | **Test Ch. Freq. (MHz)** | **In-band PSD [i] (dBuV/1MHz)** | **RBE Freq. (MHz)** | **Measure Distance (m)** | **Out-Band Level (dBuV/m)** | **Limit (dBuV/m)** | **Level Type** | **Pol. note 1** |
| 4500-5150 | 5210 | 97.93 | 5149.80 | 3 | 63.05 | 74 | PK | V |
| 4500-5150 | 5210 | 88.04 | 5149.80 | 3 | 53.00 | 54 | AV | V |
| 5350-5460 | 5210 | 97.93 | 5382.30 | 3 | 57.48 | 74 | PK | V |
| 5350-5460 | 5210 | 88.04 | 5378.70 | 3 | 45.55 | 54 | AV | V |

| 5.2GHz Lower-band (Lowest Ch.) | 5.2GHz Higher-band (Highest Ch.) |
|---|---|
|  |  |



Note 1: Measurement worst emissions of receive antenna polarization: H (Horizontal) or V (Vertical).

# 3.7 Transmitter Radiated Unwanted Emissions

## 3.7.1 Transmitter Radiated Unwanted Emissions Limit

| Unwanted emissions below 1 GHz and restricted band emissions above 1GHz limit | | | |
|---|---|---|---|
| **Frequency Range (MHz)** | **Field Strength (uV/m)** | **Field Strength (dBuV/m)** | **Measure Distance (m)** |
| 0.009~0.490 | 2400/F(kHz) | 48.5 - 13.8 | 300 |
| 0.490~1.705 | 24000/F(kHz) | 33.8 - 23 | 30 |
| 1.705~30.0 | 30 | 29 | 30 |
| 30~88 | 100 | 40 | 3 |
| 88~216 | 150 | 43.5 | 3 |
| 216~960 | 200 | 46 | 3 |
| Above 960 | 500 | 54 | 3 |

Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

| Un-restricted band emissions above 1GHz Limit | |
|---|---|
| **Operating Band** | **Limit** |
| 5.15 - 5.25 GHz | e.i.r.p. -27 dBm [68.2 dBuV/m@3m] |
| 5.25 - 5.35 GHz | e.i.r.p. -27 dBm [68.2 dBuV/m@3m] |
| 5.47 - 5.725 GHz | e.i.r.p. -27 dBm [68.2 dBuV/m@3m] |
| 5.725 - 5.825 GHz | 5.715 5.725 GHz: e.i.r.p. -17 dBm [78.2 dBuV/m@3m]<br>5.825 5.835 GHz: e.i.r.p. -17 dBm [78.2 dBuV/m@3m]<br>Other un-restricted band: e.i.r.p. -27 dBm [68.2 dBuV/m@3m] |

Note 1: Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

## 3.7.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

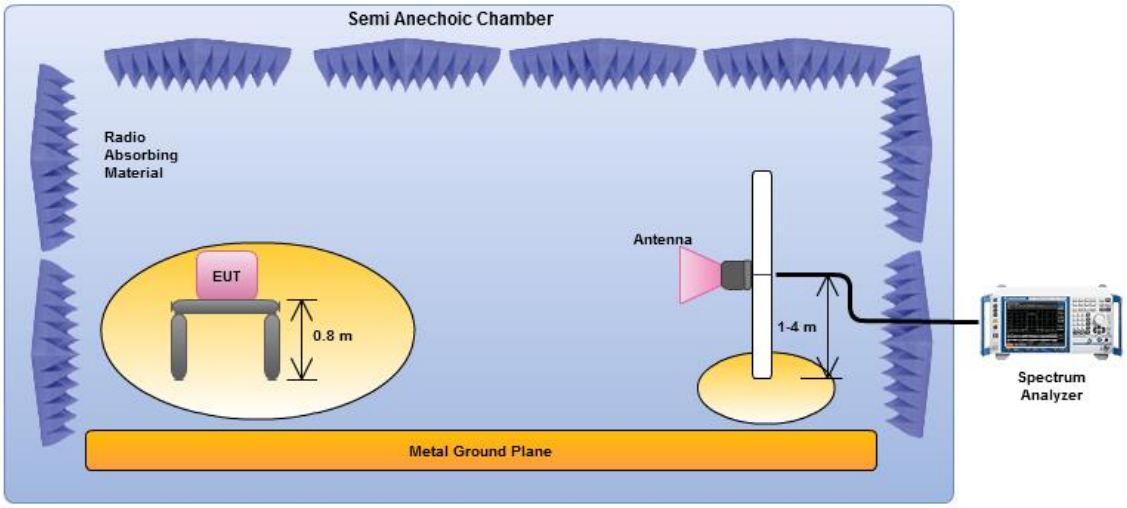
### 3.7.3 Test Procedures

| Test Method | |
|---|---|
| ☒ | Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 m for frequencies above 30 MHz, unless it can be further demonstrated that measurements at a distance of 30 m or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements). |
| ☐ | Measurements in the frequency range 5 GHz - 10GHz are typically made at a closer distance 3m, because the instrumentation noise floor is typically close to the radiated emission limit. |
| ☐ | Measurements in the frequency range 10 GHz - 18GHz are typically made at a closer distance 1m, because the instrumentation noise floor is typically close to the radiated emission limit. |
| ☐ | Measurements in the frequency range above 18 GHz - 40GHz are typically made at a closer distance 0.5m, because the instrumentation noise floor is typically close to the radiated emission limit. |
| ☒ | The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor]. |
| ☒ | For the transmitter unwanted emissions shall be measured using following options below: |
| ☒ | Refer as FCC KDB 789033 v01r03, clause H)2) for unwanted emissions into non-restricted bands. |
| ☒ | Refer as FCC KDB 789033 v01r03, clause H)1) for unwanted emissions into restricted bands. |
| ☐ | Refer as FCC KDB 789033 v01r03, H)6) Method AD (Trace Averaging). |
| ☐ | Refer as FCC KDB 789033 v01r03, H)6) Method VB (Reduced VBW). |
| ☒ | Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW). VBW ≥ 1/T, where T is pulse time. |
| ☐ | Refer as ANSI C63.10, clause 4.2.3.2.4 average value of pulsed emissions. |
| ☒ | Refer as FCC KDB 789033 v01r03, clause H)5) measurement procedure peak limit. |
| ☐ | Refer as ANSI C63.10, clause 4.2.3.2.2 measurement procedure peak limit. |
| ☒ | For radiated measurement. |
| ☒ | Refer as ANSI C63.10, clause 6.4 for radiated emissions from below 30 MHz. |
| ☒ | Refer as ANSI C63.10, clause 6.5 for radiated emissions from 30 MHz to 1000 MHz. |
| ☒ | Refer as ANSI C63.10, clause 6.6 for radiated emissions from above 1 GHz. |

| Test Method | |
|---|---|
| ☐ | For conducted and cabinet radiation measurement, refer as FCC KDB 789033 v01r03, clause H)3). |
| ☐ | For conducted unwanted emissions into non-restricted bands (relative emission limits).<br>Devices with multiple transmit chains:<br>Refer as FCC KDB 662911, when testing out-of-band and spurious emissions against relative emission limits, tests may be performed on each output individually without summing or adding 10 log(N) if the measurements are made relative to the in-band emissions on the individual outputs. |
| ☐ | For conducted unwanted emissions into restricted bands (absolute emission limits).<br>Devices with multiple transmit chains using options given below:<br>(1) Measure and sum the spectra across the outputs or<br>(2) Measure and add 10 log(N) dB |

### 3.7.4 Test Setup

**Transmitter Radiated Unwanted Emissions**



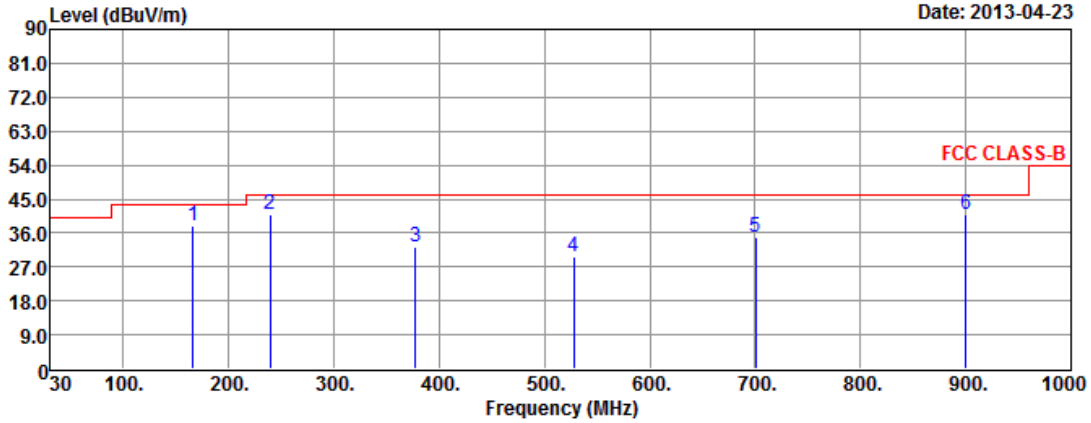

Magnetic field tests shall be performed in the frequency range of 9 kHz to 30 MHz using a calibrated loop antenna. Electric field tests shall be performed in the frequency range of 30 MHz to 1000 MHz using a calibrated bi-log antenna and the frequency range of 1 GHz to 40 GHz using a calibrated horn antenna.

### 3.7.5 Transmitter Radiated Unwanted Emissions (Below 30MHz)

All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

## 3.7.6 Transmitter Radiated Unwanted Emissions (Below 1GHz)

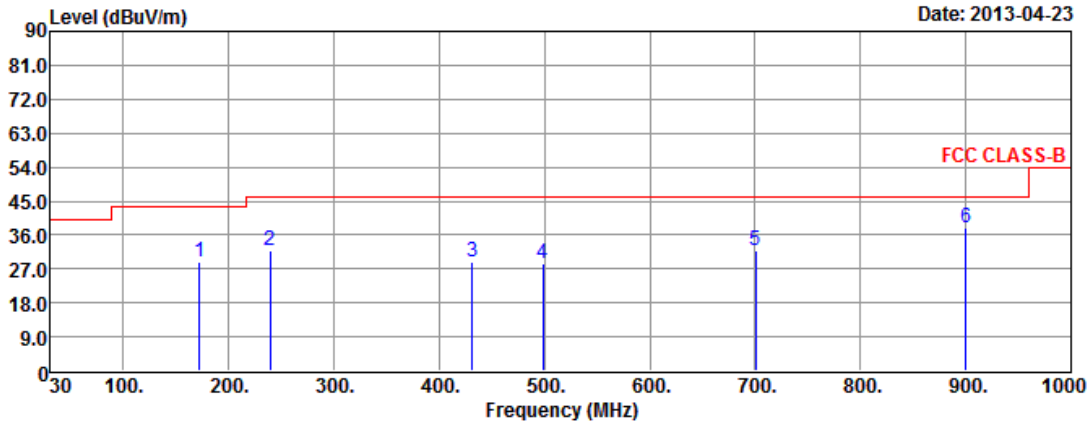
| Transmitter Radiated Unwanted Emissions (Below 1GHz) | | | |
|---|---|---|---|
| **Operating Mode** | 1 | **Polarization** | H |
| **Operating Function** | DC Power & Radio link (WLAN), Ant 1 | | |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 165.80 | 37.75 | -5.75 | 43.50 | 57.50 | 10.00 | 1.40 | 31.15 | --- | --- | Peak |
| 2 | 239.52 | 41.12 | -4.88 | 46.00 | 59.06 | 11.34 | 1.67 | 30.95 | --- | --- | Peak |
| 3 | 377.26 | 32.15 | -13.85 | 46.00 | 45.89 | 15.12 | 2.15 | 31.01 | --- | --- | Peak |
| 4 | 527.61 | 29.73 | -16.27 | 46.00 | 39.95 | 18.38 | 2.25 | 30.85 | --- | --- | Peak |
| 5 | 700.27 | 34.83 | -11.17 | 46.00 | 41.81 | 20.71 | 2.52 | 30.21 | --- | --- | Peak |
| 6 | 900.09 | 40.91 | -5.09 | 46.00 | 44.58 | 23.30 | 3.03 | 30.00 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

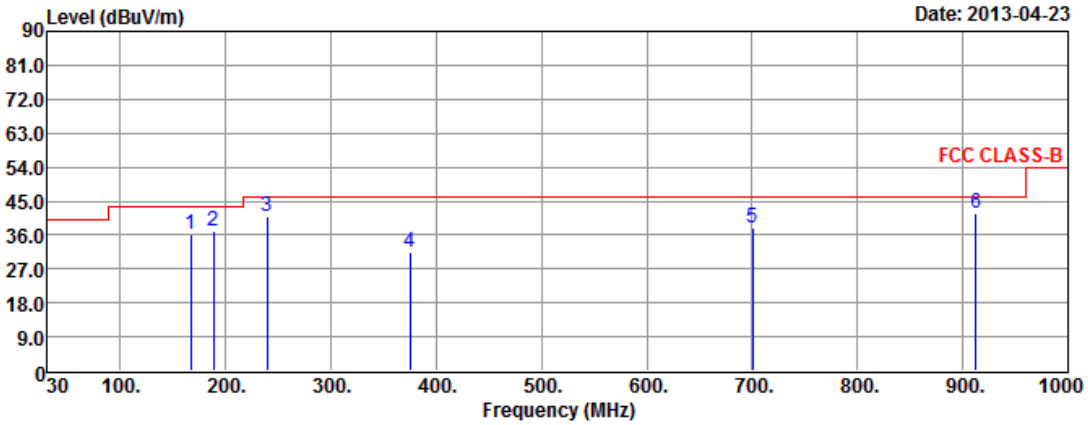
| Transmitter Radiated Unwanted Emissions (Below 1GHz) | | | |
|---|---|---|---|
| **Operating Mode** | 1 | **Polarization** | V |
| **Operating Function** | DC Power & Radio link (WLAN), Ant 1 | | |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 172.59 | 28.85 | -14.65 | 43.50 | 49.26 | 9.29 | 1.37 | 31.07 | --- | --- | Peak |
| 2 | 239.52 | 31.85 | -14.15 | 46.00 | 49.79 | 11.34 | 1.67 | 30.95 | --- | --- | Peak |
| 3 | 431.58 | 28.79 | -17.21 | 46.00 | 40.87 | 16.73 | 2.20 | 31.01 | --- | --- | Peak |
| 4 | 498.51 | 28.43 | -17.57 | 46.00 | 38.52 | 18.07 | 2.43 | 30.59 | --- | --- | Peak |
| 5 | 700.27 | 31.69 | -14.31 | 46.00 | 38.67 | 20.71 | 2.52 | 30.21 | --- | --- | Peak |
| 6 | 900.09 | 37.73 | -8.27 | 46.00 | 41.40 | 23.30 | 3.03 | 30.00 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

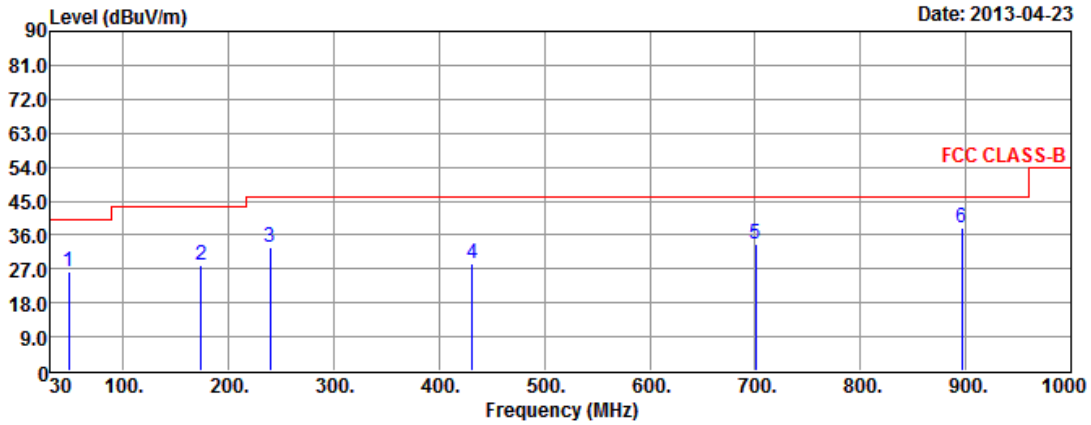
| Transmitter Radiated Unwanted Emissions (Below 1GHz) | | | |
|---|---|---|---|
| **Operating Mode** | 2 | **Polarization** | H |
| **Operating Function** | DC Power & Radio link (WLAN), Ant 2 | | |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 166.77 | 36.25 | -7.25 | 43.50 | 56.11 | 9.89 | 1.39 | 31.14 | --- | --- | Peak |
| 2 | 188.11 | 37.18 | -6.32 | 43.50 | 58.09 | 8.74 | 1.43 | 31.08 | --- | --- | Peak |
| 3 | 239.52 | 40.81 | -5.19 | 46.00 | 58.75 | 11.34 | 1.67 | 30.95 | --- | --- | Peak |
| 4 | 375.32 | 31.60 | -14.40 | 46.00 | 45.39 | 15.06 | 2.16 | 31.01 | --- | --- | Peak |
| 5 | 700.27 | 37.92 | -8.08 | 46.00 | 44.90 | 20.71 | 2.52 | 30.21 | --- | --- | Peak |
| 6 | 912.70 | 41.93 | -4.07 | 46.00 | 45.73 | 23.68 | 2.55 | 30.03 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

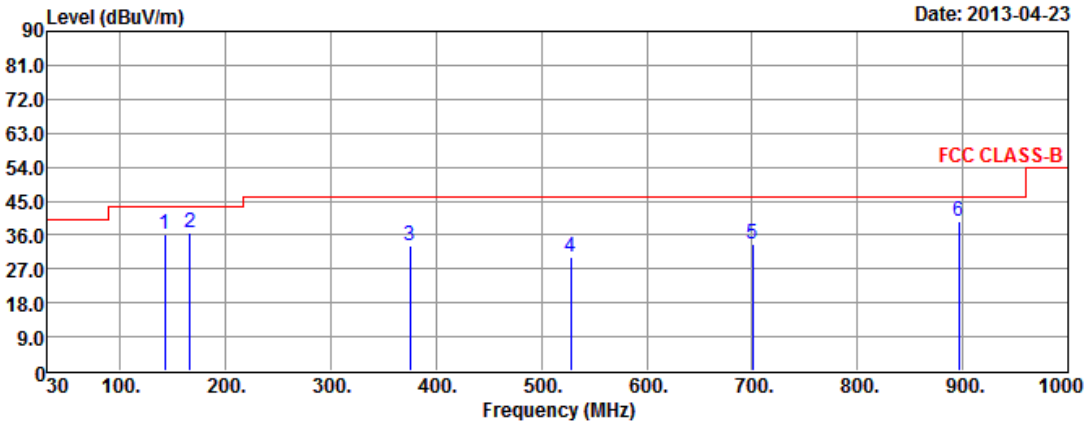
| Transmitter Radiated Unwanted Emissions (Below 1GHz) | | | |
|---|---|---|---|
| **Operating Mode** | 2 | **Polarization** | V |
| **Operating Function** | DC Power & Radio link (WLAN), Ant 2 | | |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 48.43 | 26.34 | -13.66 | 40.00 | 48.36 | 8.68 | 0.74 | 31.44 | --- | --- | Peak |
| 2 | 173.56 | 28.11 | -15.39 | 43.50 | 48.57 | 9.22 | 1.37 | 31.05 | --- | --- | Peak |
| 3 | 239.52 | 32.59 | -13.41 | 46.00 | 50.53 | 11.34 | 1.67 | 30.95 | --- | --- | Peak |
| 4 | 431.58 | 28.47 | -17.53 | 46.00 | 40.55 | 16.73 | 2.20 | 31.01 | --- | --- | Peak |
| 5 | 700.27 | 33.45 | -12.55 | 46.00 | 40.43 | 20.71 | 2.52 | 30.21 | --- | --- | Peak |
| 6 | 896.21 | 38.04 | -7.96 | 46.00 | 41.85 | 23.22 | 2.95 | 29.98 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

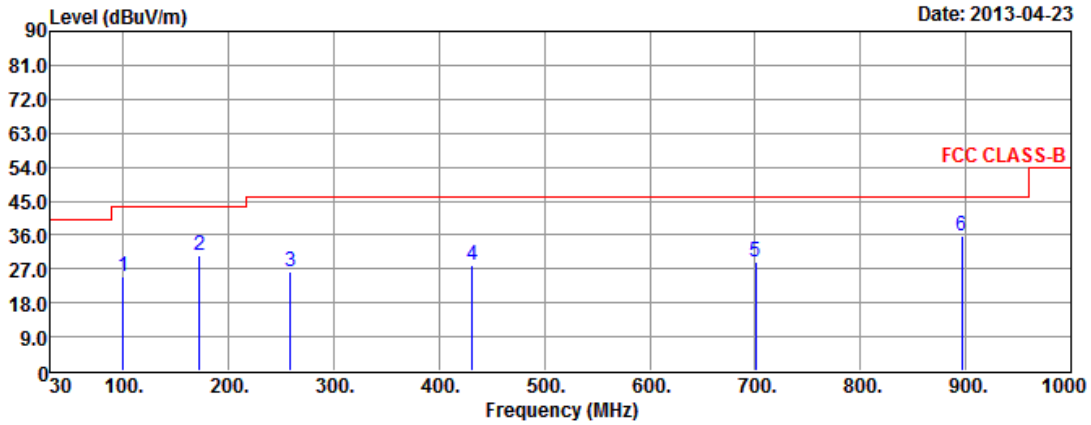
| Transmitter Radiated Unwanted Emissions (Below 1GHz) | | | |
|---|---|---|---|
| **Operating Mode** | 3 | **Polarization** | H |
| **Operating Function** | DC Power & Radio link (WLAN), Ant 3 | | |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 142.52 | 36.22 | -7.28 | 43.50 | 55.01 | 11.20 | 1.27 | 31.26 | --- | --- | Peak |
| 2 | 165.80 | 36.63 | -6.87 | 43.50 | 56.38 | 10.00 | 1.40 | 31.15 | --- | --- | Peak |
| 3 | 375.32 | 33.02 | -12.98 | 46.00 | 46.81 | 15.06 | 2.16 | 31.01 | --- | --- | Peak |
| 4 | 527.61 | 30.01 | -15.99 | 46.00 | 40.23 | 18.38 | 2.25 | 30.85 | --- | --- | Peak |
| 5 | 700.27 | 33.58 | -12.42 | 46.00 | 40.56 | 20.71 | 2.52 | 30.21 | --- | --- | Peak |
| 6 | 896.21 | 39.41 | -6.59 | 46.00 | 43.22 | 23.22 | 2.95 | 29.98 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

| Transmitter Radiated Unwanted Emissions (Below 1GHz) | | | |
|---|---|---|---|
| **Operating Mode** | 3 | **Polarization** | V |
| **Operating Function** | DC Power & Radio link (WLAN), Ant 3 | | |



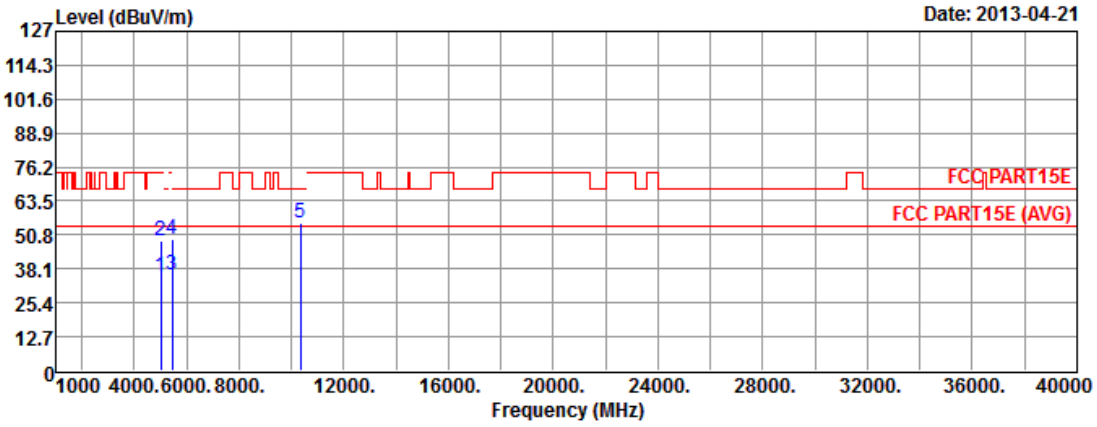

| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 99.84 | 24.99 | -18.51 | 43.50 | 45.49 | 9.88 | 1.06 | 31.44 | --- | --- | Peak |
| 2 | 172.59 | 30.42 | -13.08 | 43.50 | 50.83 | 9.29 | 1.37 | 31.07 | --- | --- | Peak |
| 3 | 258.92 | 26.36 | -19.64 | 46.00 | 41.80 | 13.76 | 1.78 | 30.98 | --- | --- | Peak |
| 4 | 431.58 | 27.92 | -18.08 | 46.00 | 40.00 | 16.73 | 2.20 | 31.01 | --- | --- | Peak |
| 5 | 700.27 | 28.87 | -17.13 | 46.00 | 35.85 | 20.71 | 2.52 | 30.21 | --- | --- | Peak |
| 6 | 896.21 | 35.91 | -10.09 | 46.00 | 39.72 | 23.22 | 2.95 | 29.98 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

## 3.7.7 Transmitter Radiated Unwanted Emissions (Above 1GHz) for 11a

**Operating Mode 1:**

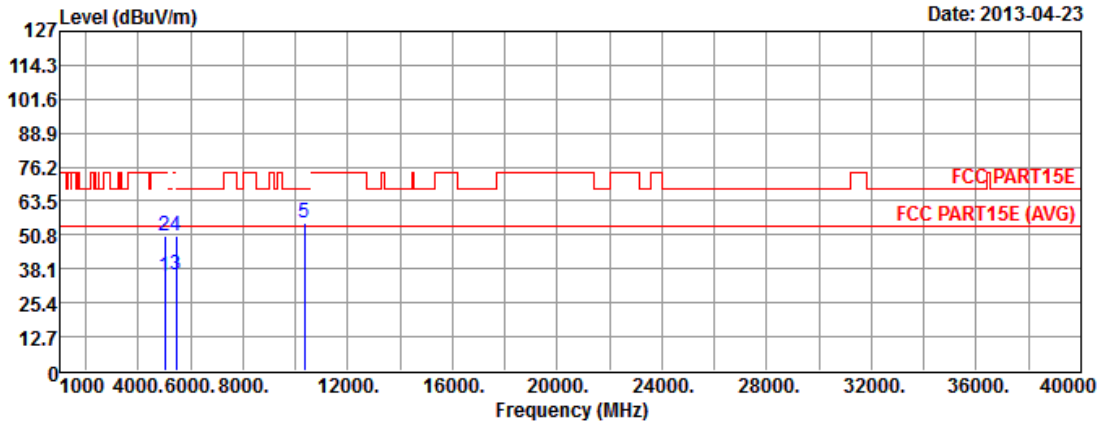
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | 11a | **Test Freq. (MHz)** | 5180 |
| **$N_{TX}$** | 3 | **Polarization** | H |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 5023.00 | 35.19 | -18.81 | 54.00 | 29.25 | 34.32 | 6.61 | 34.99 | --- | --- | Average |
| 2 | 5023.00 | 48.34 | -25.66 | 74.00 | 42.40 | 34.32 | 6.61 | 34.99 | --- | --- | Peak |
| 3 | 5447.00 | 35.74 | -18.26 | 54.00 | 28.91 | 34.75 | 6.90 | 34.82 | --- | --- | Average |
| 4 | 5447.00 | 49.17 | -24.83 | 74.00 | 42.34 | 34.75 | 6.90 | 34.82 | --- | --- | Peak |
| 5 | 10360.00 | 55.56 | -12.74 | 68.30 | 43.55 | 37.72 | 9.73 | 35.44 | --- | --- | Peak |

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

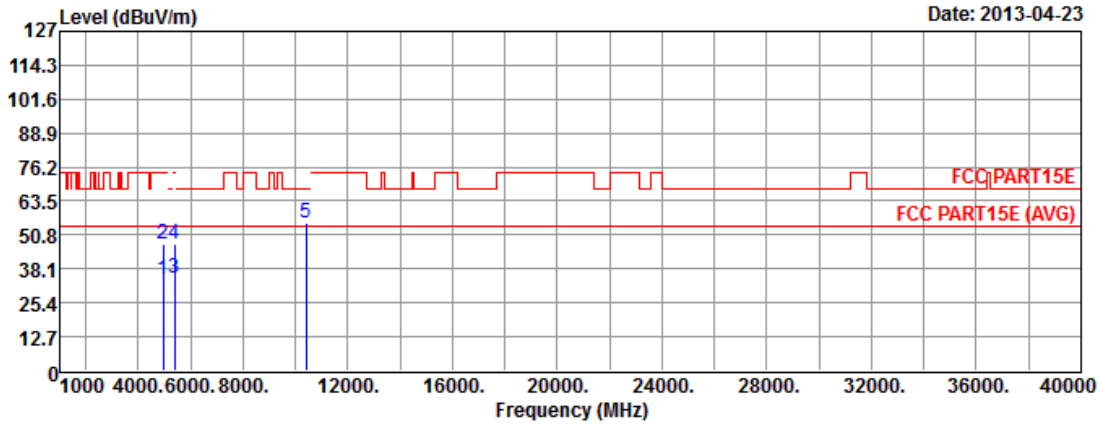
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | 11a | **Test Freq. (MHz)** | 5180 |
| **$N_{TX}$** | 3 | **Polarization** | V |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 5023.00 | 35.26 | -18.74 | 54.00 | 29.32 | 34.32 | 6.61 | 34.99 | --- | --- | Average |
| 2 | 5023.00 | 50.66 | -23.34 | 74.00 | 44.72 | 34.32 | 6.61 | 34.99 | --- | --- | Peak |
| 3 | 5447.00 | 35.96 | -18.04 | 54.00 | 29.13 | 34.75 | 6.90 | 34.82 | --- | --- | Average |
| 4 | 5447.00 | 50.41 | -23.59 | 74.00 | 43.58 | 34.75 | 6.90 | 34.82 | --- | --- | Peak |
| 5 | 10360.00 | 55.23 | -13.07 | 68.30 | 43.22 | 37.72 | 9.73 | 35.44 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

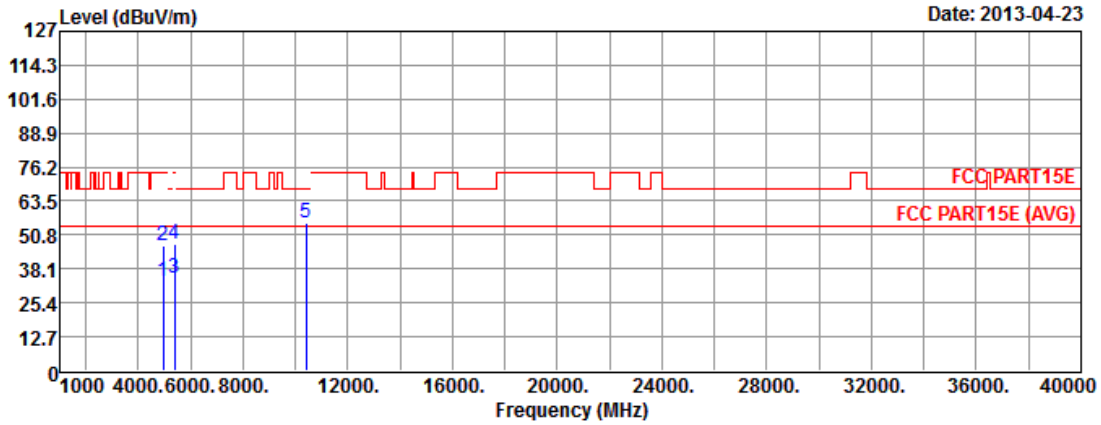
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | 11a | **Test Freq. (MHz)** | 5200 |
| **$N_{TX}$** | 3 | **Polarization** | H |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 4947.00 | 34.22 | -19.78 | 54.00 | 28.36 | 34.29 | 6.56 | 34.99 | --- | --- | Average |
| 2 | 4947.00 | 47.19 | -26.81 | 74.00 | 41.33 | 34.29 | 6.56 | 34.99 | --- | --- | Peak |
| 3 | 5383.00 | 34.55 | -19.45 | 54.00 | 27.87 | 34.68 | 6.85 | 34.85 | --- | --- | Average |
| 4 | 5383.00 | 47.56 | -26.44 | 74.00 | 40.88 | 34.68 | 6.85 | 34.85 | --- | --- | Peak |
| 5 | 10400.00 | 55.58 | -12.72 | 68.30 | 43.48 | 37.74 | 9.76 | 35.40 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

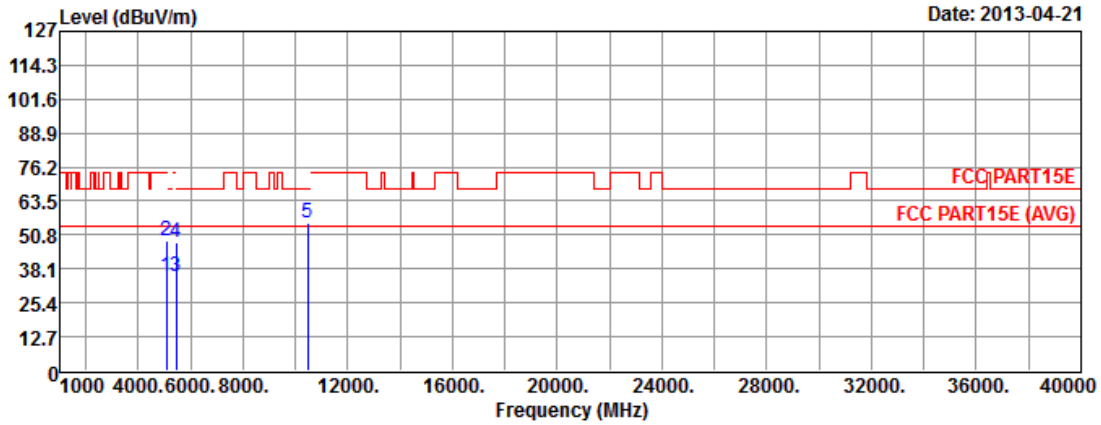
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | 11a | **Test Freq. (MHz)** | 5200 |
| **$N_{TX}$** | 3 | **Polarization** | V |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 4947.00 | 33.66 | -20.34 | 54.00 | 27.80 | 34.29 | 6.56 | 34.99 | --- | --- | Average |
| 2 | 4947.00 | 46.89 | -27.11 | 74.00 | 41.03 | 34.29 | 6.56 | 34.99 | --- | --- | Peak |
| 3 | 5383.00 | 34.55 | -19.45 | 54.00 | 27.87 | 34.68 | 6.85 | 34.85 | --- | --- | Average |
| 4 | 5383.00 | 47.26 | -26.74 | 74.00 | 40.58 | 34.68 | 6.85 | 34.85 | --- | --- | Peak |
| 5 | 10400.00 | 55.28 | -13.02 | 68.30 | 43.18 | 37.74 | 9.76 | 35.40 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

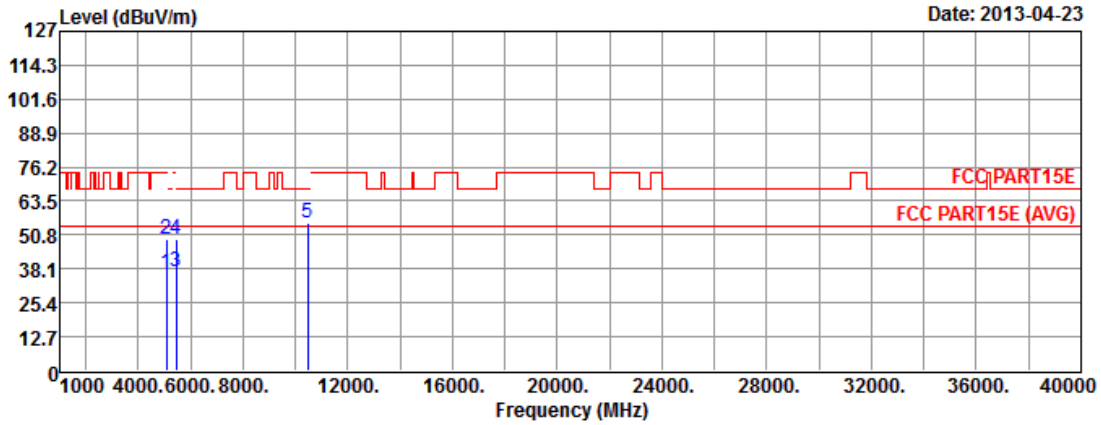
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | 11a | **Test Freq. (MHz)** | 5240 |
| **$N_{TX}$** | 3 | **Polarization** | H |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 5073.00 | 35.21 | -18.79 | 54.00 | 29.17 | 34.37 | 6.64 | 34.97 | --- | --- | Average |
| 2 | 5073.00 | 48.57 | -25.43 | 74.00 | 42.53 | 34.37 | 6.64 | 34.97 | --- | --- | Peak |
| 3 | 5455.00 | 35.38 | -18.62 | 54.00 | 28.53 | 34.76 | 6.91 | 34.82 | --- | --- | Average |
| 4 | 5455.00 | 48.26 | -25.74 | 74.00 | 41.41 | 34.76 | 6.91 | 34.82 | --- | --- | Peak |
| 5 | 10480.00 | 55.29 | -13.01 | 68.30 | 43.02 | 37.79 | 9.80 | 35.32 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | 11a | **Test Freq. (MHz)** | 5240 |
| **$N_{TX}$** | 3 | **Polarization** | V |

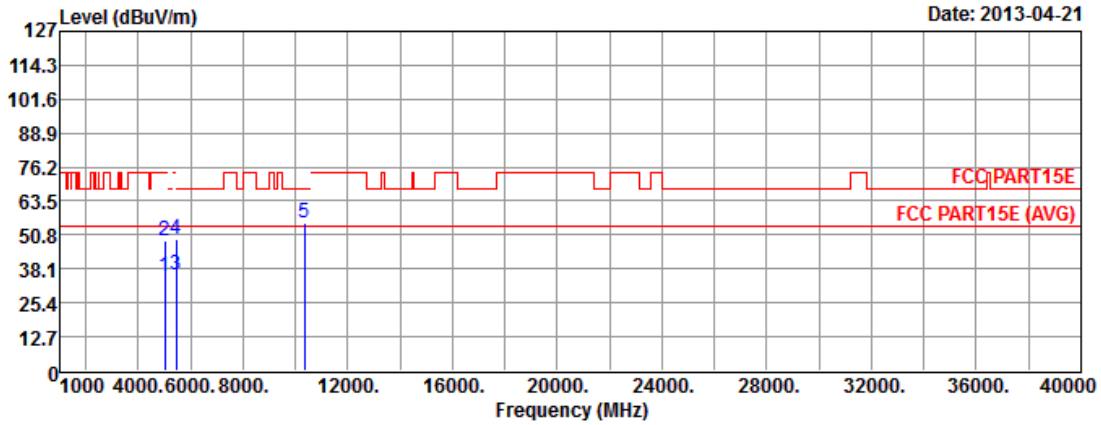



| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 5073.00 | 36.51 | -17.49 | 54.00 | 30.47 | 34.37 | 6.64 | 34.97 | --- | --- | Average |
| 2 | 5073.00 | 49.41 | -24.59 | 74.00 | 43.37 | 34.37 | 6.64 | 34.97 | --- | --- | Peak |
| 3 | 5455.00 | 36.85 | -17.15 | 54.00 | 30.00 | 34.76 | 6.91 | 34.82 | --- | --- | Average |
| 4 | 5455.00 | 49.01 | -24.99 | 74.00 | 42.16 | 34.76 | 6.91 | 34.82 | --- | --- | Peak |
| 5 | 10480.00 | 55.41 | -12.89 | 68.30 | 43.14 | 37.79 | 9.80 | 35.32 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

**Operating Mode 2:**

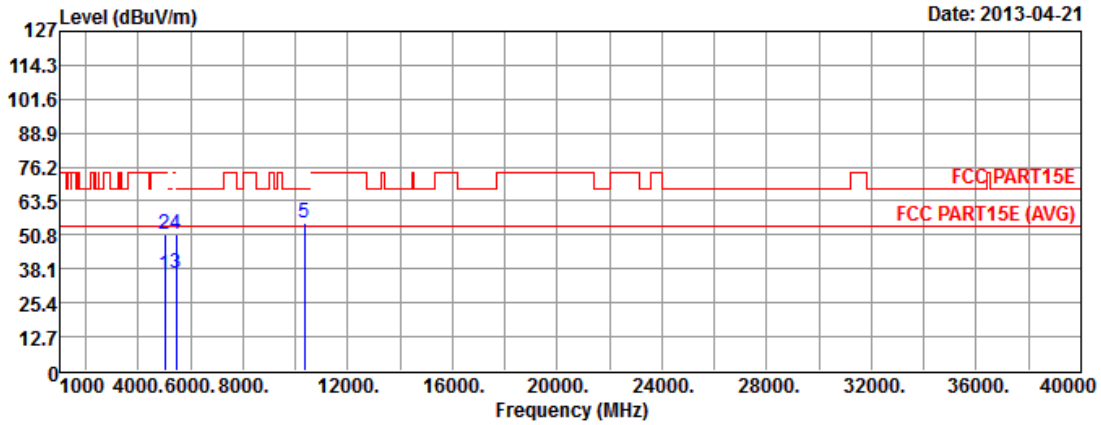
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | 11a | **Test Freq. (MHz)** | 5180 |
| **$N_{TX}$** | 3 | **Polarization** | H |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 5023.00 | 35.19 | -18.81 | 54.00 | 29.25 | 34.32 | 6.61 | 34.99 | --- | --- | Average |
| 2 | 5023.00 | 48.34 | -25.66 | 74.00 | 42.40 | 34.32 | 6.61 | 34.99 | --- | --- | Peak |
| 3 | 5447.00 | 35.74 | -18.26 | 54.00 | 28.91 | 34.75 | 6.90 | 34.82 | --- | --- | Average |
| 4 | 5447.00 | 49.17 | -24.83 | 74.00 | 42.34 | 34.75 | 6.90 | 34.82 | --- | --- | Peak |
| 5 | 10360.00 | 55.56 | -12.74 | 68.30 | 43.55 | 37.72 | 9.73 | 35.44 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

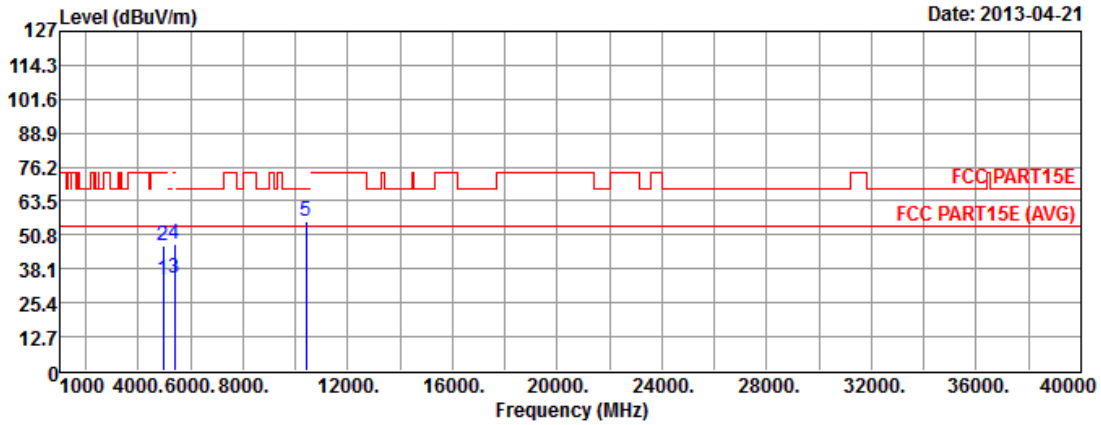
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | 11a | **Test Freq. (MHz)** | 5180 |
| **$N_{TX}$** | 3 | **Polarization** | V |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 5023.00 | 35.91 | -18.09 | 54.00 | 29.97 | 34.32 | 6.61 | 34.99 | --- | --- | Average |
| 2 | 5023.00 | 51.22 | -22.78 | 74.00 | 45.28 | 34.32 | 6.61 | 34.99 | --- | --- | Peak |
| 3 | 5447.00 | 36.68 | -17.32 | 54.00 | 29.85 | 34.75 | 6.90 | 34.82 | --- | --- | Average |
| 4 | 5447.00 | 50.75 | -23.25 | 74.00 | 43.92 | 34.75 | 6.90 | 34.82 | --- | --- | Peak |
| 5 | 10360.00 | 55.34 | -12.96 | 68.30 | 43.33 | 37.72 | 9.73 | 35.44 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

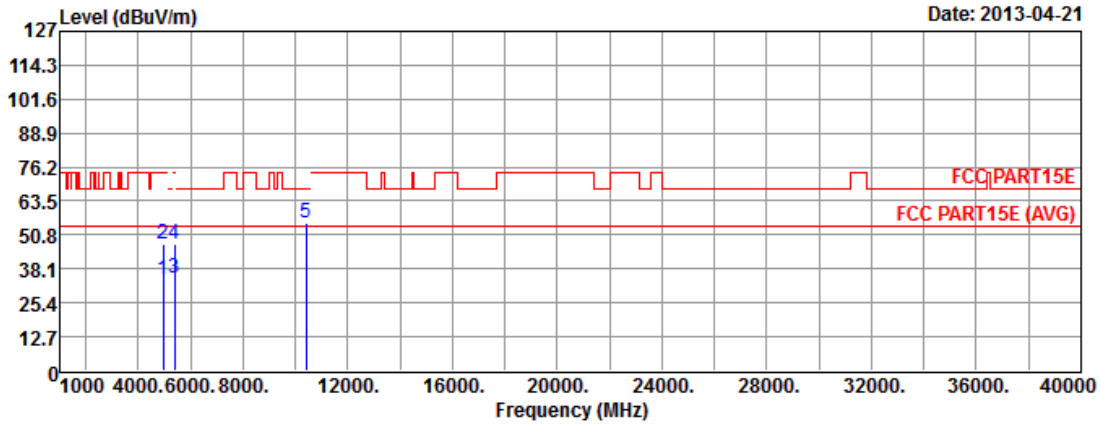
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | 11a | **Test Freq. (MHz)** | 5200 |
| **$N_{TX}$** | 3 | **Polarization** | H |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 4947.00 | 34.08 | -19.92 | 54.00 | 28.22 | 34.29 | 6.56 | 34.99 | --- | --- | Average |
| 2 | 4947.00 | 47.02 | -26.98 | 74.00 | 41.16 | 34.29 | 6.56 | 34.99 | --- | --- | Peak |
| 3 | 5383.00 | 34.63 | -19.37 | 54.00 | 27.95 | 34.68 | 6.85 | 34.85 | --- | --- | Average |
| 4 | 5383.00 | 47.59 | -26.41 | 74.00 | 40.91 | 34.68 | 6.85 | 34.85 | --- | --- | Peak |
| 5 | 10400.00 | 55.62 | -12.68 | 68.30 | 43.52 | 37.74 | 9.76 | 35.40 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

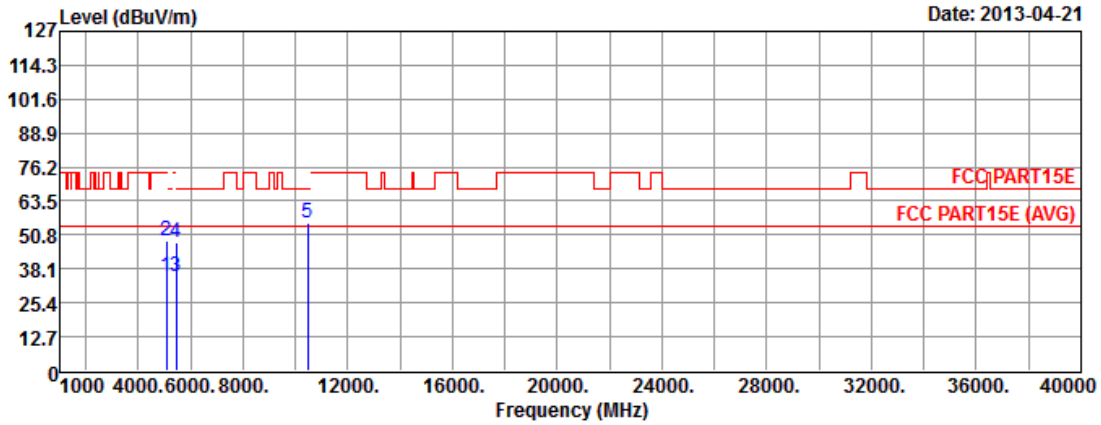
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | 11a | **Test Freq. (MHz)** | 5200 |
| **$N_{TX}$** | 3 | **Polarization** | V |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 4947.00 | 33.79 | -20.21 | 54.00 | 27.93 | 34.29 | 6.56 | 34.99 | --- | --- | Average |
| 2 | 4947.00 | 47.15 | -26.85 | 74.00 | 41.29 | 34.29 | 6.56 | 34.99 | --- | --- | Peak |
| 3 | 5383.00 | 34.73 | -19.27 | 54.00 | 28.05 | 34.68 | 6.85 | 34.85 | --- | --- | Average |
| 4 | 5383.00 | 47.51 | -26.49 | 74.00 | 40.83 | 34.68 | 6.85 | 34.85 | --- | --- | Peak |
| 5 | 10400.00 | 55.33 | -12.97 | 68.30 | 43.23 | 37.74 | 9.76 | 35.40 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

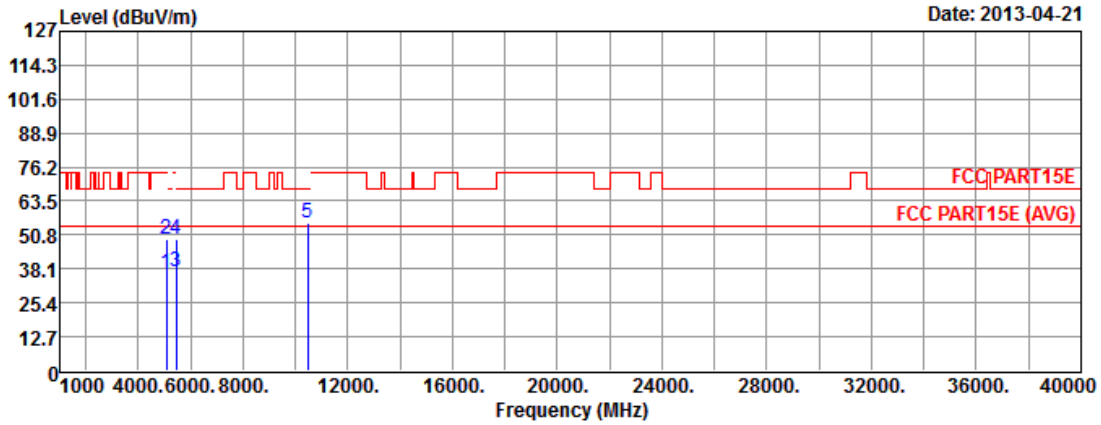
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | 11a | **Test Freq. (MHz)** | 5240 |
| **$N_{TX}$** | 3 | **Polarization** | H |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 5073.00 | 35.21 | -18.79 | 54.00 | 29.17 | 34.37 | 6.64 | 34.97 | --- | --- | Average |
| 2 | 5073.00 | 48.57 | -25.43 | 74.00 | 42.53 | 34.37 | 6.64 | 34.97 | --- | --- | Peak |
| 3 | 5455.00 | 35.38 | -18.62 | 54.00 | 28.53 | 34.76 | 6.91 | 34.82 | --- | --- | Average |
| 4 | 5455.00 | 48.26 | -25.74 | 74.00 | 41.41 | 34.76 | 6.91 | 34.82 | --- | --- | Peak |
| 5 | 10480.00 | 55.29 | -13.01 | 68.30 | 43.02 | 37.79 | 9.80 | 35.32 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | 11a | **Test Freq. (MHz)** | 5240 |
| **$N_{TX}$** | 3 | **Polarization** | V |

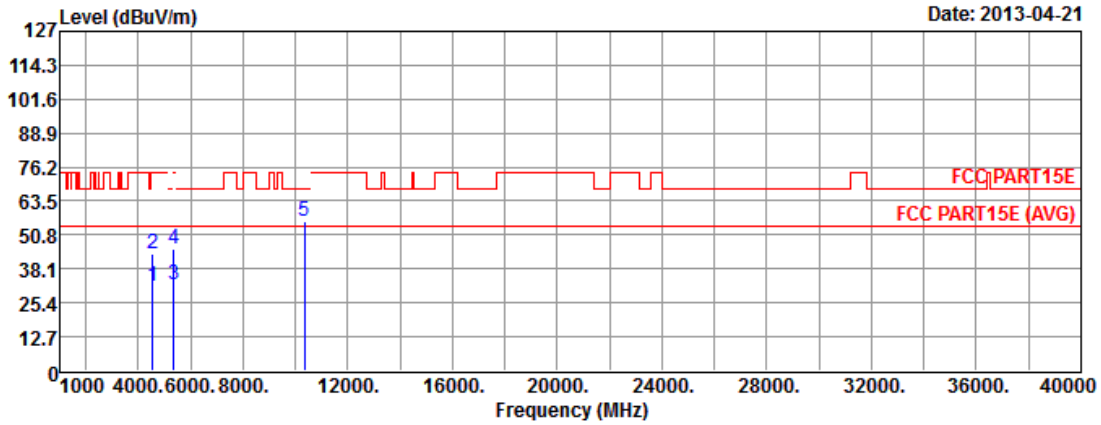



| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 5073.00 | 36.60 | -17.40 | 54.00 | 30.56 | 34.37 | 6.64 | 34.97 | --- | --- | Average |
| 2 | 5073.00 | 49.52 | -24.48 | 74.00 | 43.48 | 34.37 | 6.64 | 34.97 | --- | --- | Peak |
| 3 | 5455.00 | 37.07 | -16.93 | 54.00 | 30.22 | 34.76 | 6.91 | 34.82 | --- | --- | Average |
| 4 | 5455.00 | 49.25 | -24.75 | 74.00 | 42.40 | 34.76 | 6.91 | 34.82 | --- | --- | Peak |
| 5 | 10480.00 | 55.59 | -12.71 | 68.30 | 43.32 | 37.79 | 9.80 | 35.32 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

**Operating Mode 3:**

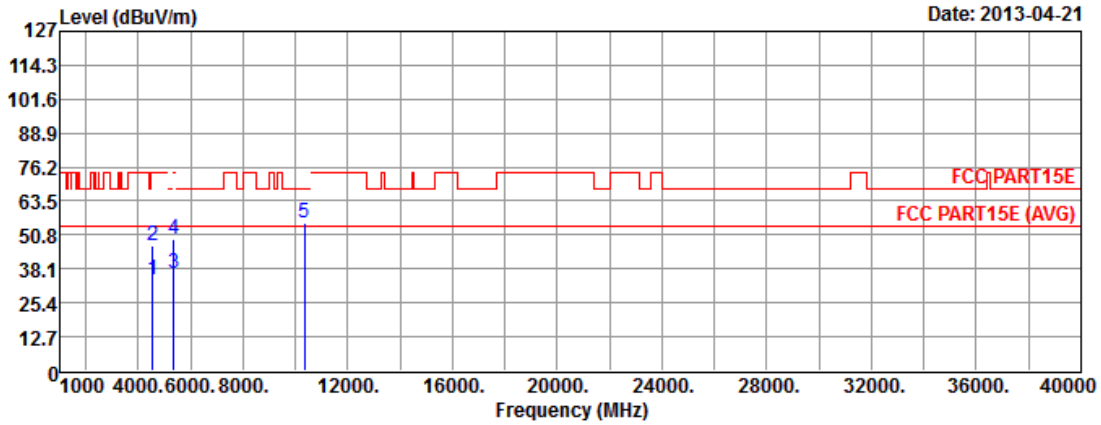
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | 11a | **Test Freq. (MHz)** | 5180 |
| **$N_{TX}$** | 3 | **Polarization** | H |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 4539.00 | 31.88 | -22.12 | 54.00 | 26.18 | 34.21 | 6.40 | 34.91 | --- | --- | Average |
| 2 | 4539.00 | 43.45 | -30.55 | 74.00 | 37.75 | 34.21 | 6.40 | 34.91 | --- | --- | Peak |
| 3 | 5362.00 | 32.45 | -21.55 | 54.00 | 25.81 | 34.66 | 6.84 | 34.86 | --- | --- | Average |
| 4 | 5362.00 | 45.69 | -28.31 | 74.00 | 39.05 | 34.66 | 6.84 | 34.86 | --- | --- | Peak |
| 5 | 10360.00 | 55.81 | -12.49 | 68.30 | 43.80 | 37.72 | 9.73 | 35.44 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

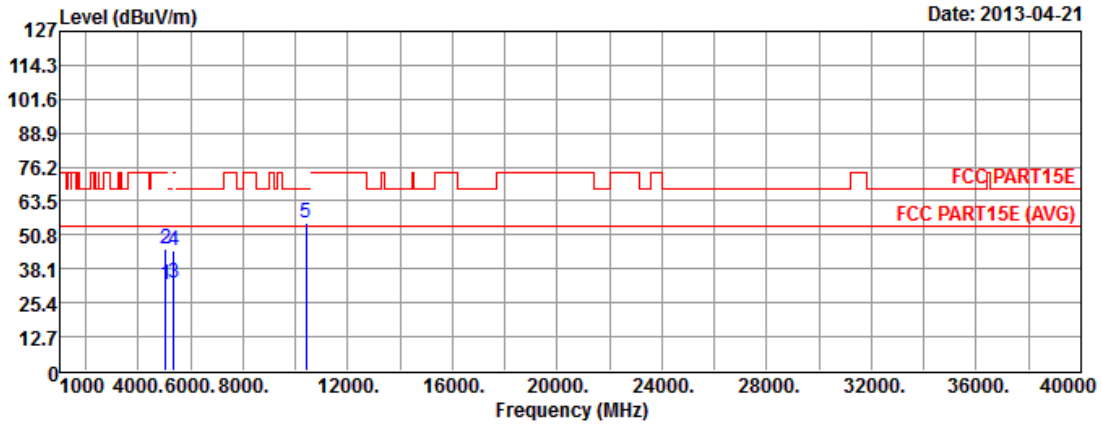
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | 11a | **Test Freq. (MHz)** | 5180 |
| **$N_{TX}$** | 3 | **Polarization** | V |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 4539.00 | 34.17 | -19.83 | 54.00 | 28.47 | 34.21 | 6.40 | 34.91 | --- | --- | Average |
| 2 | 4539.00 | 46.52 | -27.48 | 74.00 | 40.82 | 34.21 | 6.40 | 34.91 | --- | --- | Peak |
| 3 | 5362.00 | 36.65 | -17.35 | 54.00 | 30.01 | 34.66 | 6.84 | 34.86 | --- | --- | Average |
| 4 | 5362.00 | 48.94 | -25.06 | 74.00 | 42.30 | 34.66 | 6.84 | 34.86 | --- | --- | Peak |
| 5 | 10360.00 | 55.37 | -12.93 | 68.30 | 43.36 | 37.72 | 9.73 | 35.44 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

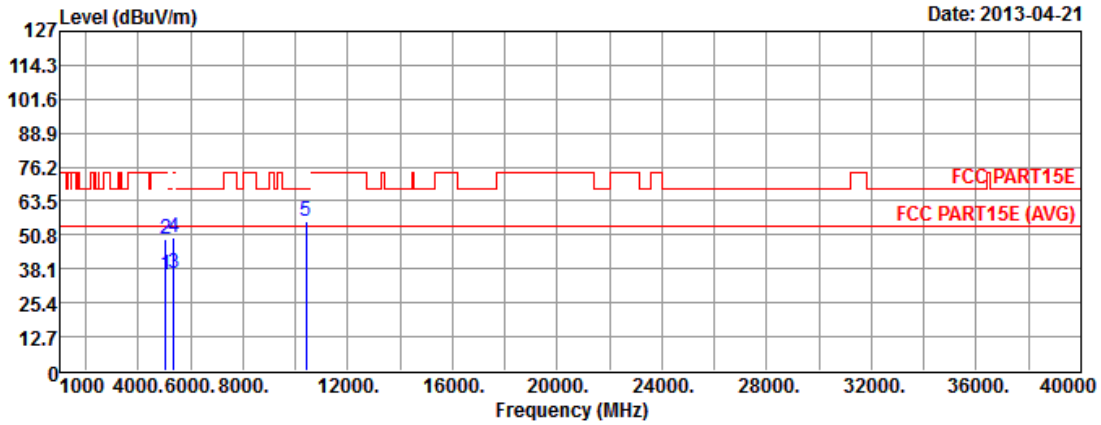
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | 11a | **Test Freq. (MHz)** | 5200 |
| **$N_{TX}$** | 3 | **Polarization** | H |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 5046.00 | 32.34 | -21.66 | 54.00 | 26.35 | 34.35 | 6.62 | 34.98 | --- | --- | Average |
| 2 | 5046.00 | 45.31 | -28.69 | 74.00 | 39.32 | 34.35 | 6.62 | 34.98 | --- | --- | Peak |
| 3 | 5360.00 | 32.78 | -21.22 | 54.00 | 26.14 | 34.66 | 6.84 | 34.86 | --- | --- | Average |
| 4 | 5360.00 | 45.24 | -28.76 | 74.00 | 38.60 | 34.66 | 6.84 | 34.86 | --- | --- | Peak |
| 5 | 10400.00 | 55.43 | -12.87 | 68.30 | 43.33 | 37.74 | 9.76 | 35.40 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

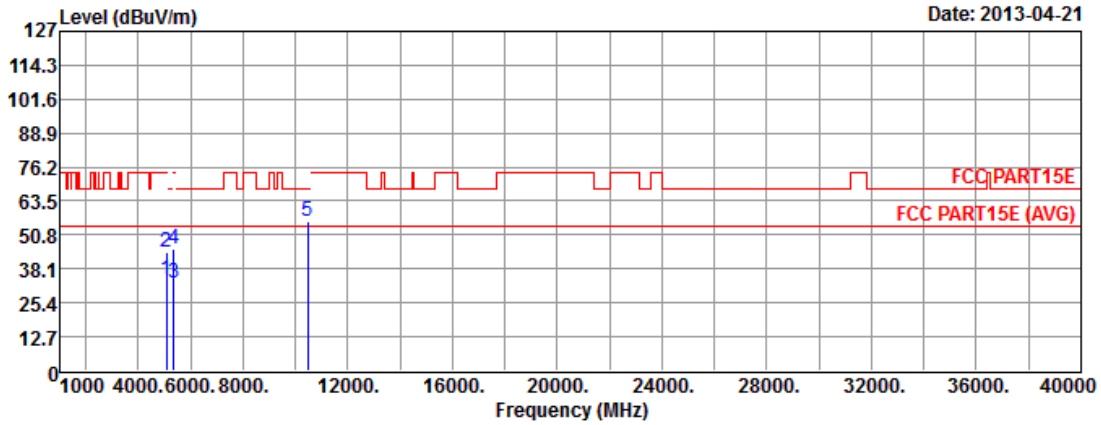
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | 11a | **Test Freq. (MHz)** | 5200 |
| **$N_{TX}$** | 3 | **Polarization** | V |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 5046.00 | 35.60 | -18.40 | 54.00 | 29.61 | 34.35 | 6.62 | 34.98 | --- | --- | Average |
| 2 | 5046.00 | 48.98 | -25.02 | 74.00 | 42.99 | 34.35 | 6.62 | 34.98 | --- | --- | Peak |
| 3 | 5360.00 | 36.62 | -17.38 | 54.00 | 29.98 | 34.66 | 6.84 | 34.86 | --- | --- | Average |
| 4 | 5360.00 | 50.03 | -23.97 | 74.00 | 43.39 | 34.66 | 6.84 | 34.86 | --- | --- | Peak |
| 5 | 10400.00 | 55.66 | -12.64 | 68.30 | 43.56 | 37.74 | 9.76 | 35.40 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

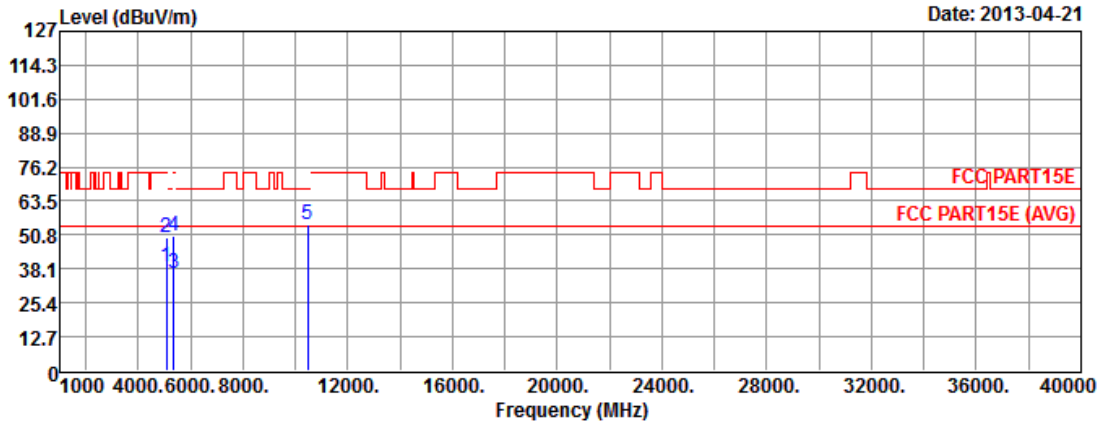
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | 11a | **Test Freq. (MHz)** | 5240 |
| **$N_{TX}$** | 3 | **Polarization** | H |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 5076.00 | 34.28 | -19.72 | 54.00 | 28.23 | 34.38 | 6.64 | 34.97 | --- | --- | Average |
| 2 | 5076.00 | 44.45 | -29.55 | 74.00 | 38.40 | 34.38 | 6.64 | 34.97 | --- | --- | Peak |
| 3 | 5355.00 | 32.74 | -21.26 | 54.00 | 26.12 | 34.65 | 6.83 | 34.86 | --- | --- | Average |
| 4 | 5355.00 | 45.53 | -28.47 | 74.00 | 38.91 | 34.65 | 6.83 | 34.86 | --- | --- | Peak |
| 5 | 10480.00 | 55.61 | -12.69 | 68.30 | 43.34 | 37.79 | 9.80 | 35.32 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | 11a | **Test Freq. (MHz)** | 5240 |
| **$N_{TX}$** | 3 | **Polarization** | V |



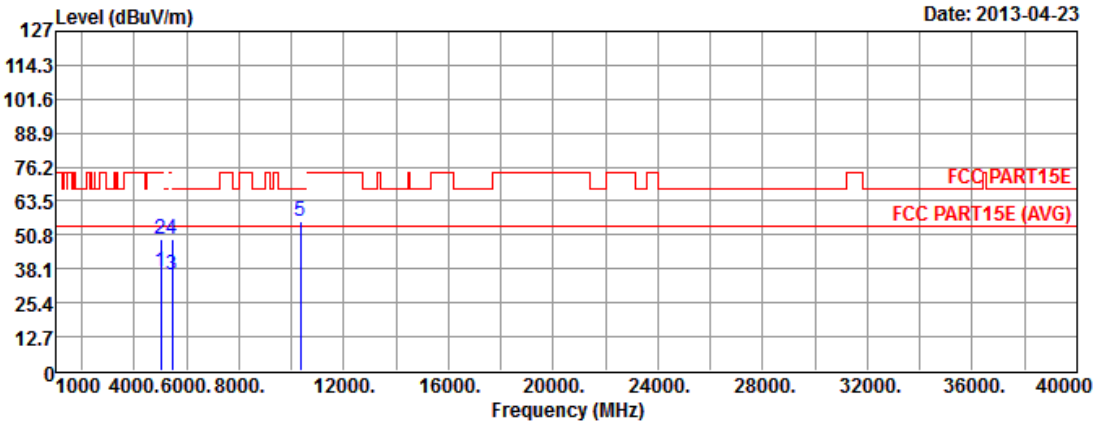

| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 5076.00 | 39.07 | -14.93 | 54.00 | 33.02 | 34.38 | 6.64 | 34.97 | --- | --- | Average |
| 2 | 5076.00 | 49.91 | -24.09 | 74.00 | 43.86 | 34.38 | 6.64 | 34.97 | --- | --- | Peak |
| 3 | 5355.00 | 36.20 | -17.80 | 54.00 | 29.58 | 34.65 | 6.83 | 34.86 | --- | --- | Average |
| 4 | 5355.00 | 50.16 | -23.84 | 74.00 | 43.54 | 34.65 | 6.83 | 34.86 | --- | --- | Peak |
| 5 | 10480.00 | 54.94 | -13.36 | 68.30 | 42.67 | 37.79 | 9.80 | 35.32 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

## 3.7.8 Transmitter Radiated Unwanted Emissions (Above 1GHz) for HT20

**Operating Mode 1:**

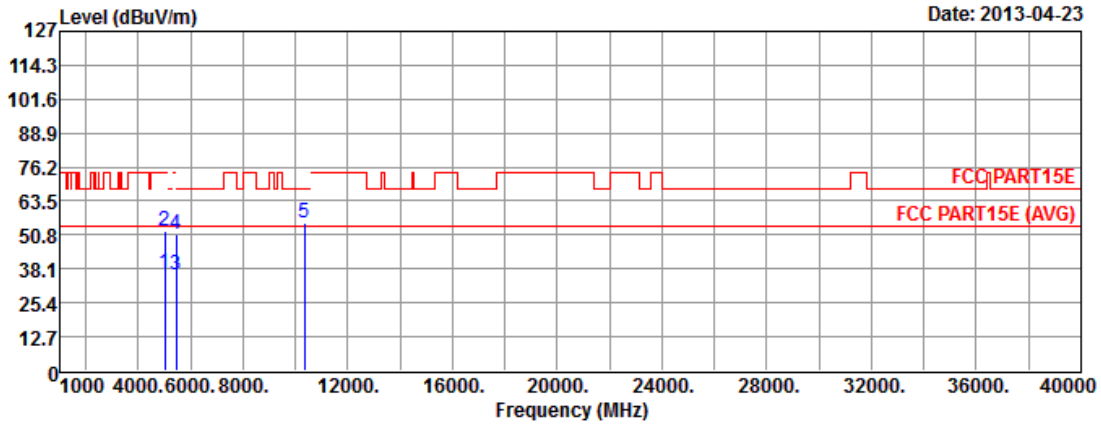
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | HT20 | **Test Freq. (MHz)** | 5180 |
| **$N_{TX}$** | 3 | **Polarization** | H |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 5023.00 | 36.82 | -17.18 | 54.00 | 30.88 | 34.32 | 6.61 | 34.99 | --- | --- | Average |
| 2 | 5023.00 | 49.37 | -24.63 | 74.00 | 43.43 | 34.32 | 6.61 | 34.99 | --- | --- | Peak |
| 3 | 5447.00 | 35.94 | -18.06 | 54.00 | 29.11 | 34.75 | 6.90 | 34.82 | --- | --- | Average |
| 4 | 5447.00 | 49.41 | -24.59 | 74.00 | 42.58 | 34.75 | 6.90 | 34.82 | --- | --- | Peak |
| 5 | 10360.00 | 55.96 | -12.34 | 68.30 | 43.95 | 37.72 | 9.73 | 35.44 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

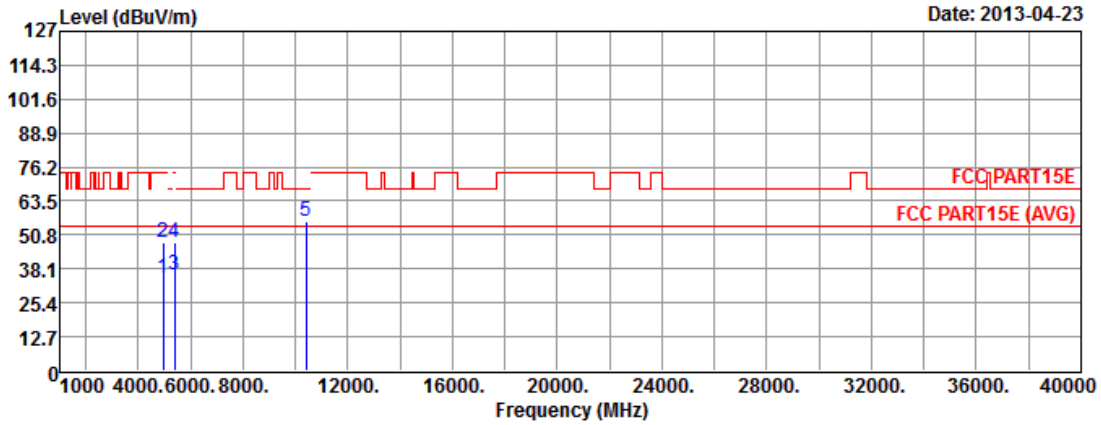
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | HT20 | **Test Freq. (MHz)** | 5180 |
| **$N_{TX}$** | 3 | **Polarization** | V |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 5023.00 | 36.18 | -17.82 | 54.00 | 30.24 | 34.32 | 6.61 | 34.99 | --- | --- | Average |
| 2 | 5023.00 | 52.12 | -21.88 | 74.00 | 46.18 | 34.32 | 6.61 | 34.99 | --- | --- | Peak |
| 3 | 5447.00 | 36.15 | -17.85 | 54.00 | 29.32 | 34.75 | 6.90 | 34.82 | --- | --- | Average |
| 4 | 5447.00 | 50.99 | -23.01 | 74.00 | 44.16 | 34.75 | 6.90 | 34.82 | --- | --- | Peak |
| 5 | 10360.00 | 55.51 | -12.79 | 68.30 | 43.50 | 37.72 | 9.73 | 35.44 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

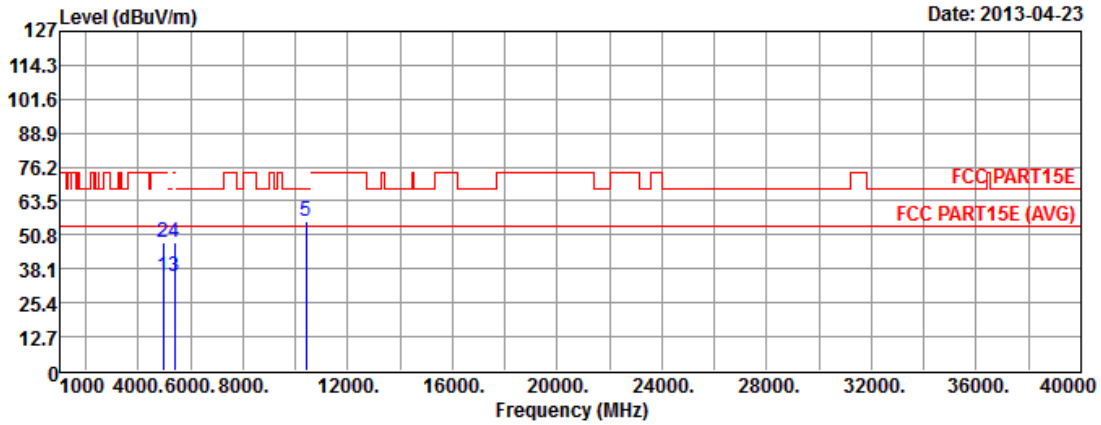
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | HT20 | **Test Freq. (MHz)** | 5200 |
| **$N_{TX}$** | 3 | **Polarization** | H |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 4947.00 | 34.51 | -19.49 | 54.00 | 28.65 | 34.29 | 6.56 | 34.99 | --- | --- | Average |
| 2 | 4947.00 | 47.81 | -26.19 | 74.00 | 41.95 | 34.29 | 6.56 | 34.99 | --- | --- | Peak |
| 3 | 5383.00 | 35.77 | -18.23 | 54.00 | 29.09 | 34.68 | 6.85 | 34.85 | --- | --- | Average |
| 4 | 5383.00 | 48.24 | -25.76 | 74.00 | 41.56 | 34.68 | 6.85 | 34.85 | --- | --- | Peak |
| 5 | 10400.00 | 55.83 | -12.47 | 68.30 | 43.73 | 37.74 | 9.76 | 35.40 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

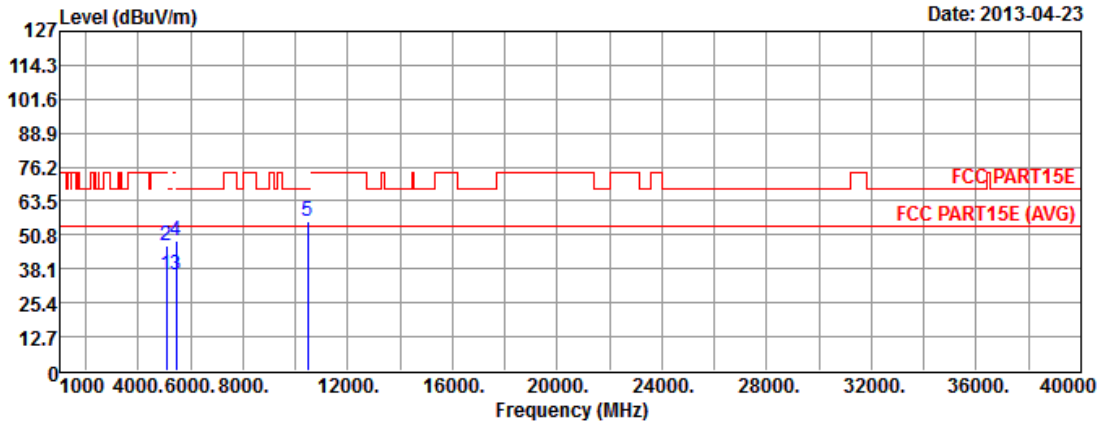
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | HT20 | **Test Freq. (MHz)** | 5200 |
| **$N_{TX}$** | 3 | **Polarization** | V |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 4947.00 | 35.11 | -18.89 | 54.00 | 29.25 | 34.29 | 6.56 | 34.99 | --- | --- | Average |
| 2 | 4947.00 | 48.11 | -25.89 | 74.00 | 42.25 | 34.29 | 6.56 | 34.99 | --- | --- | Peak |
| 3 | 5383.00 | 35.41 | -18.59 | 54.00 | 28.73 | 34.68 | 6.85 | 34.85 | --- | --- | Average |
| 4 | 5383.00 | 48.26 | -25.74 | 74.00 | 41.58 | 34.68 | 6.85 | 34.85 | --- | --- | Peak |
| 5 | 10400.00 | 55.96 | -12.34 | 68.30 | 43.86 | 37.74 | 9.76 | 35.40 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

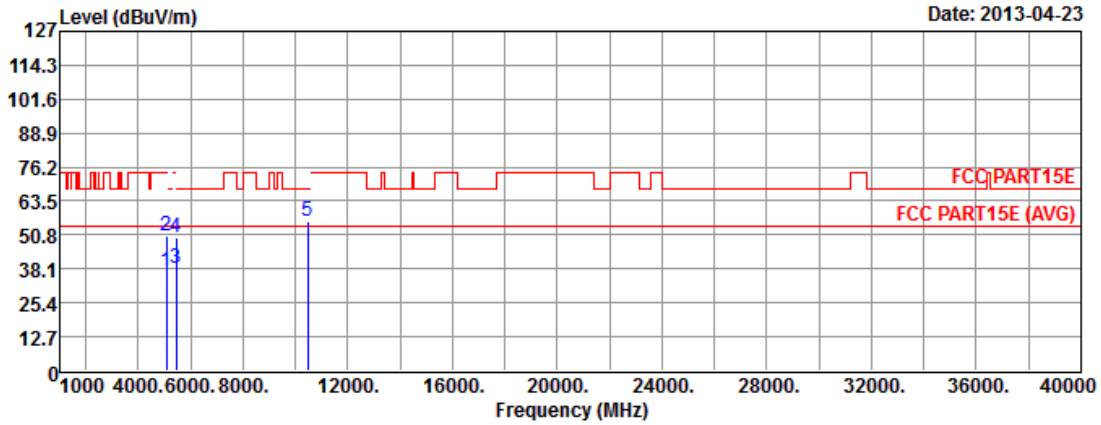
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | HT20 | **Test Freq. (MHz)** | 5240 |
| **$N_{TX}$** | 3 | **Polarization** | H |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 5073.00 | 35.63 | -18.37 | 54.00 | 29.59 | 34.37 | 6.64 | 34.97 | --- | --- | Average |
| 2 | 5073.00 | 46.57 | -27.43 | 74.00 | 40.53 | 34.37 | 6.64 | 34.97 | --- | --- | Peak |
| 3 | 5455.00 | 35.61 | -18.39 | 54.00 | 28.76 | 34.76 | 6.91 | 34.82 | --- | --- | Average |
| 4 | 5455.00 | 48.57 | -25.43 | 74.00 | 41.72 | 34.76 | 6.91 | 34.82 | --- | --- | Peak |
| 5 | 10480.00 | 55.69 | -12.61 | 68.30 | 43.42 | 37.79 | 9.80 | 35.32 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | HT20 | **Test Freq. (MHz)** | 5240 |
| **$N_{TX}$** | 3 | **Polarization** | V |

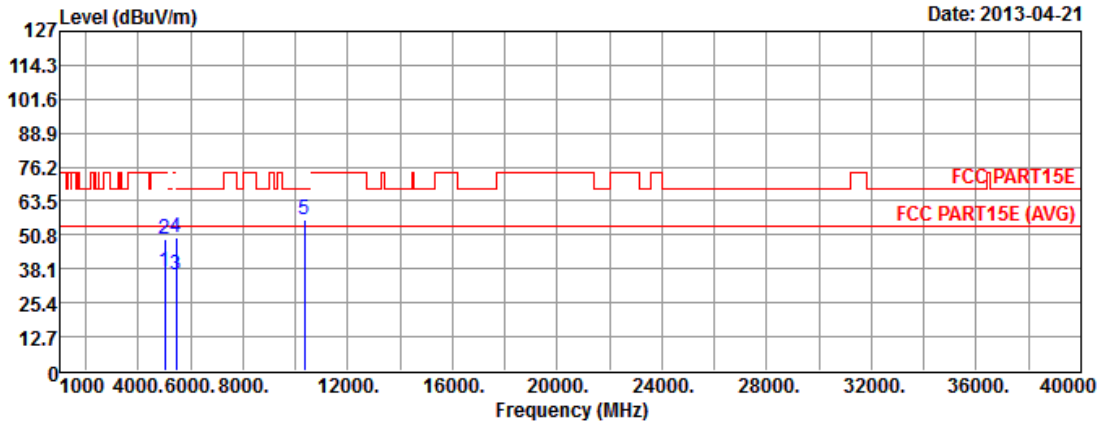



| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 5073.00 | 37.11 | -16.89 | 54.00 | 31.07 | 34.37 | 6.64 | 34.97 | --- | --- | Average |
| 2 | 5073.00 | 50.22 | -23.78 | 74.00 | 44.18 | 34.37 | 6.64 | 34.97 | --- | --- | Peak |
| 3 | 5455.00 | 38.26 | -15.74 | 54.00 | 31.41 | 34.76 | 6.91 | 34.82 | --- | --- | Average |
| 4 | 5455.00 | 49.99 | -24.01 | 74.00 | 43.14 | 34.76 | 6.91 | 34.82 | --- | --- | Peak |
| 5 | 10480.00 | 55.91 | -12.39 | 68.30 | 43.64 | 37.79 | 9.80 | 35.32 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

**Operating Mode 2:**

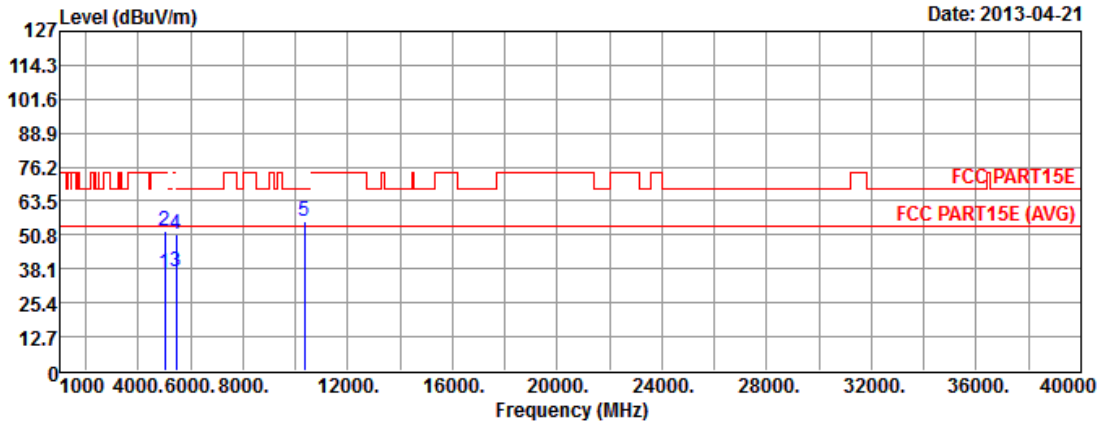
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | HT20 | **Test Freq. (MHz)** | 5180 |
| **$N_{TX}$** | 3 | **Polarization** | H |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 5023.00 | 36.82 | -17.18 | 54.00 | 30.88 | 34.32 | 6.61 | 34.99 | --- | --- | Average |
| 2 | 5023.00 | 49.37 | -24.63 | 74.00 | 43.43 | 34.32 | 6.61 | 34.99 | --- | --- | Peak |
| 3 | 5447.00 | 35.94 | -18.06 | 54.00 | 29.11 | 34.75 | 6.90 | 34.82 | --- | --- | Average |
| 4 | 5447.00 | 49.58 | -24.42 | 74.00 | 42.75 | 34.75 | 6.90 | 34.82 | --- | --- | Peak |
| 5 | 10360.00 | 56.23 | -12.07 | 68.30 | 44.22 | 37.72 | 9.73 | 35.44 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

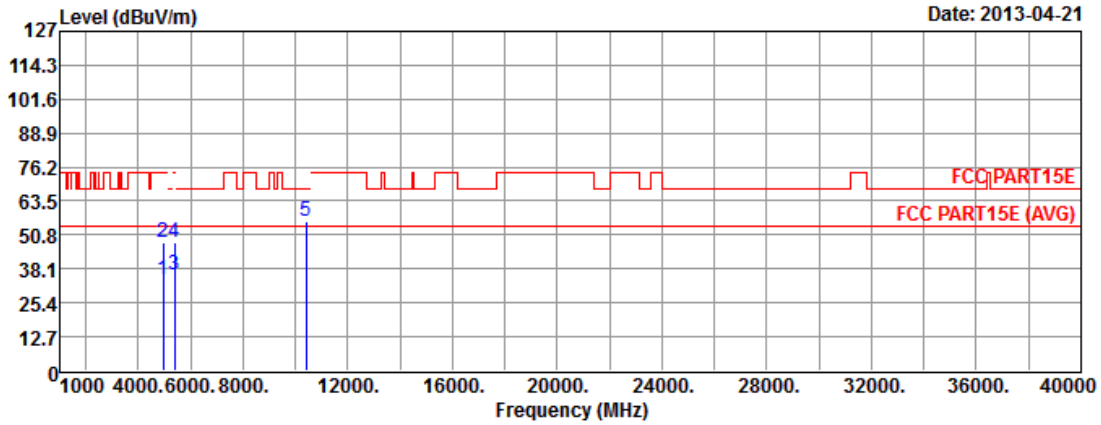
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | HT20 | **Test Freq. (MHz)** | 5180 |
| **$N_{TX}$** | 3 | **Polarization** | V |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 5023.00 | 36.48 | -17.52 | 54.00 | 30.54 | 34.32 | 6.61 | 34.99 | --- | --- | Average |
| 2 | 5023.00 | 52.07 | -21.93 | 74.00 | 46.13 | 34.32 | 6.61 | 34.99 | --- | --- | Peak |
| 3 | 5447.00 | 37.31 | -16.69 | 54.00 | 30.48 | 34.75 | 6.90 | 34.82 | --- | --- | Average |
| 4 | 5447.00 | 51.24 | -22.76 | 74.00 | 44.41 | 34.75 | 6.90 | 34.82 | --- | --- | Peak |
| 5 | 10360.00 | 55.87 | -12.43 | 68.30 | 43.86 | 37.72 | 9.73 | 35.44 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

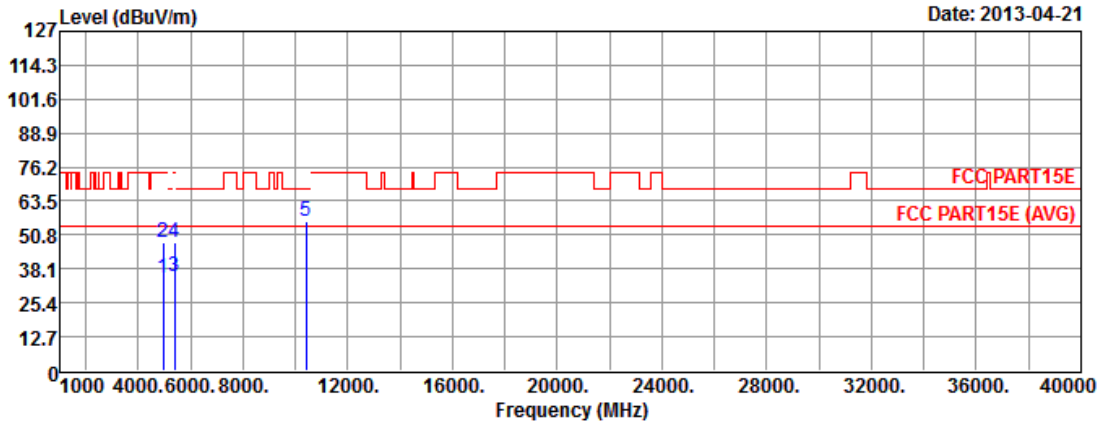
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | HT20 | **Test Freq. (MHz)** | 5200 |
| **$N_{TX}$** | 3 | **Polarization** | H |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 4947.00 | 34.31 | -19.69 | 54.00 | 28.45 | 34.29 | 6.56 | 34.99 | --- | --- | Average |
| 2 | 4947.00 | 47.73 | -26.27 | 74.00 | 41.87 | 34.29 | 6.56 | 34.99 | --- | --- | Peak |
| 3 | 5383.00 | 35.85 | -18.15 | 54.00 | 29.17 | 34.68 | 6.85 | 34.85 | --- | --- | Average |
| 4 | 5383.00 | 48.14 | -25.86 | 74.00 | 41.46 | 34.68 | 6.85 | 34.85 | --- | --- | Peak |
| 5 | 10400.00 | 55.92 | -12.38 | 68.30 | 43.82 | 37.74 | 9.76 | 35.40 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

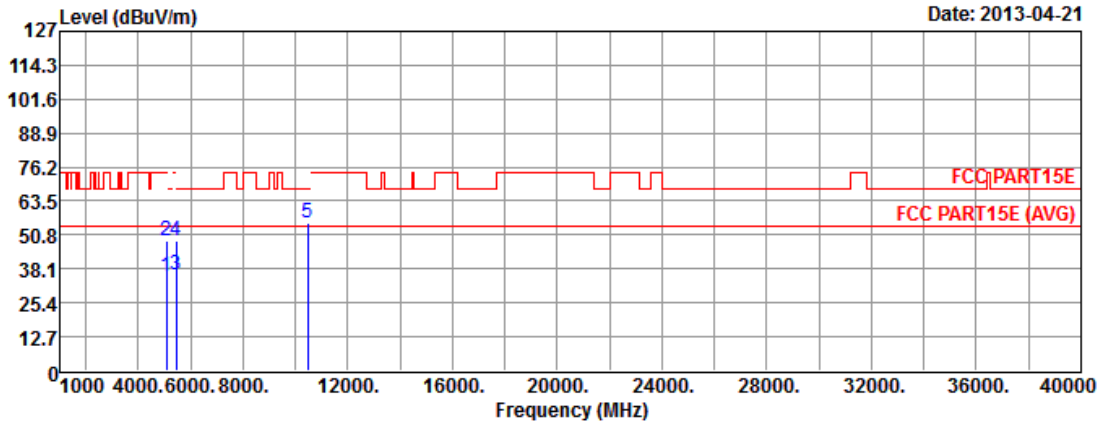
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | HT20 | **Test Freq. (MHz)** | 5200 |
| **$N_{TX}$** | 3 | **Polarization** | V |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 4947.00 | 34.89 | -19.11 | 54.00 | 29.03 | 34.29 | 6.56 | 34.99 | --- | --- | Average |
| 2 | 4947.00 | 48.22 | -25.78 | 74.00 | 42.36 | 34.29 | 6.56 | 34.99 | --- | --- | Peak |
| 3 | 5383.00 | 35.28 | -18.72 | 54.00 | 28.60 | 34.68 | 6.85 | 34.85 | --- | --- | Average |
| 4 | 5383.00 | 48.17 | -25.83 | 74.00 | 41.49 | 34.68 | 6.85 | 34.85 | --- | --- | Peak |
| 5 | 10400.00 | 56.10 | -12.20 | 68.30 | 44.00 | 37.74 | 9.76 | 35.40 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

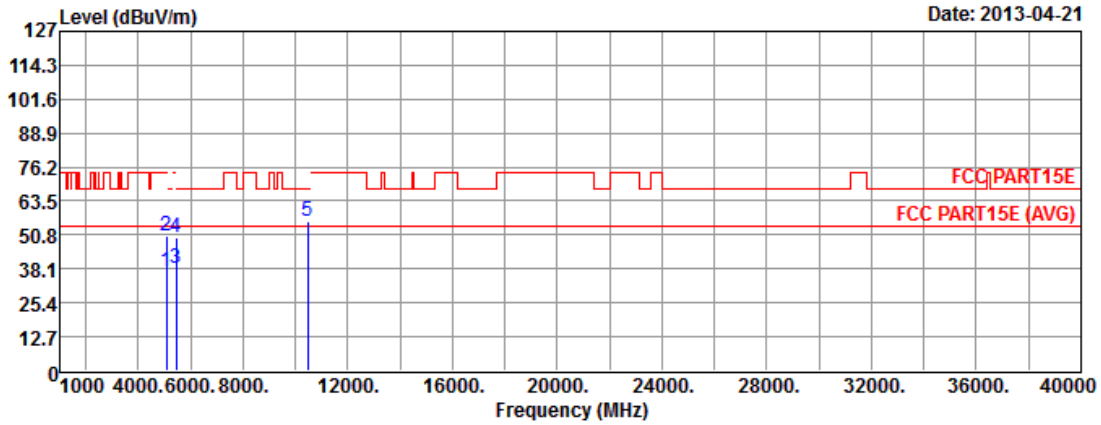
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | HT20 | **Test Freq. (MHz)** | 5240 |
| **$N_{TX}$** | 3 | **Polarization** | H |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 5073.00 | 35.54 | -18.46 | 54.00 | 29.50 | 34.37 | 6.64 | 34.97 | --- | --- | Average |
| 2 | 5073.00 | 48.68 | -25.32 | 74.00 | 42.64 | 34.37 | 6.64 | 34.97 | --- | --- | Peak |
| 3 | 5455.00 | 35.63 | -18.37 | 54.00 | 28.78 | 34.76 | 6.91 | 34.82 | --- | --- | Average |
| 4 | 5455.00 | 48.72 | -25.28 | 74.00 | 41.87 | 34.76 | 6.91 | 34.82 | --- | --- | Peak |
| 5 | 10480.00 | 55.48 | -12.82 | 68.30 | 43.21 | 37.79 | 9.80 | 35.32 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | HT20 | **Test Freq. (MHz)** | 5240 |
| **$N_{TX}$** | 3 | **Polarization** | V |

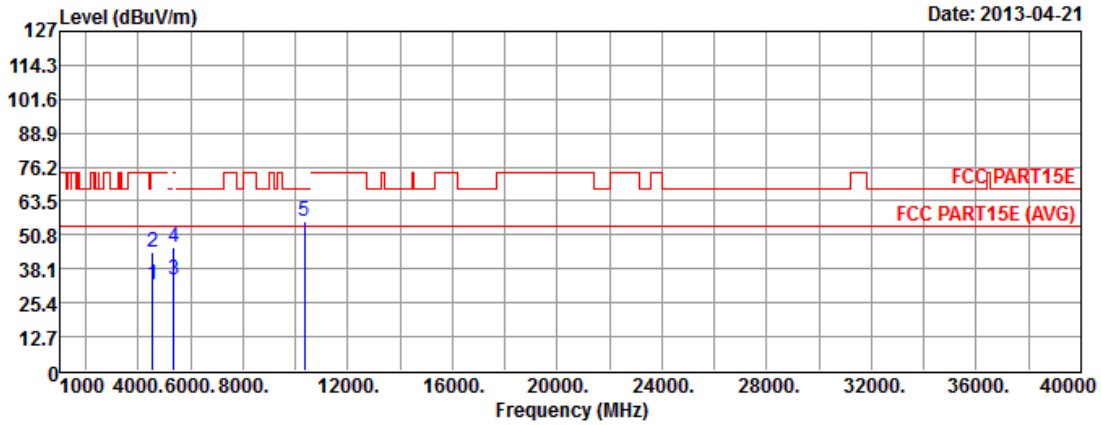



| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 5073.00 | 37.26 | -16.74 | 54.00 | 31.22 | 34.37 | 6.64 | 34.97 | --- | --- | Average |
| 2 | 5073.00 | 50.17 | -23.83 | 74.00 | 44.13 | 34.37 | 6.64 | 34.97 | --- | --- | Peak |
| 3 | 5455.00 | 38.19 | -15.81 | 54.00 | 31.34 | 34.76 | 6.91 | 34.82 | --- | --- | Average |
| 4 | 5455.00 | 49.83 | -24.17 | 74.00 | 42.98 | 34.76 | 6.91 | 34.82 | --- | --- | Peak |
| 5 | 10480.00 | 55.74 | -12.56 | 68.30 | 43.47 | 37.79 | 9.80 | 35.32 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

**Operating Mode 3:**

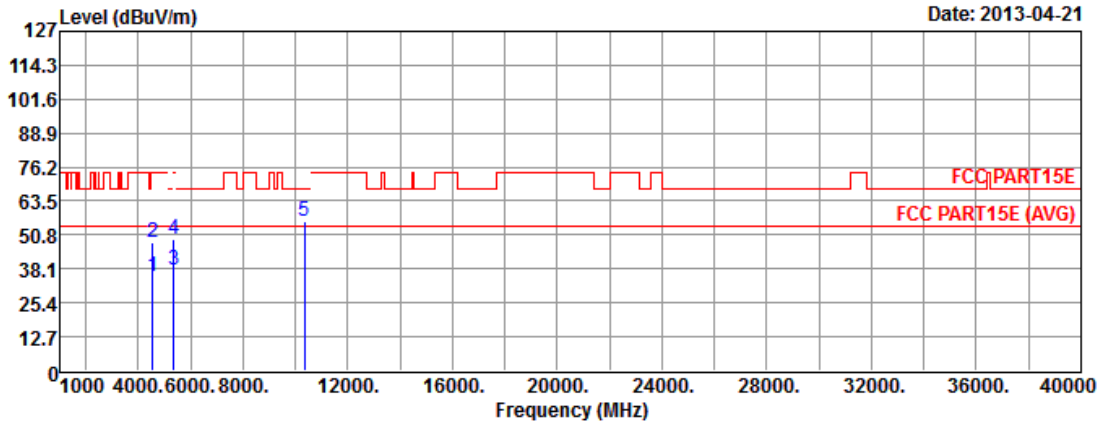
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | HT20 | **Test Freq. (MHz)** | 5180 |
| **$N_{TX}$** | 3 | **Polarization** | H |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 4539.00 | 32.48 | -21.52 | 54.00 | 26.78 | 34.21 | 6.40 | 34.91 | --- | --- | Average |
| 2 | 4539.00 | 44.57 | -29.43 | 74.00 | 38.87 | 34.21 | 6.40 | 34.91 | --- | --- | Peak |
| 3 | 5362.00 | 33.84 | -20.16 | 54.00 | 27.20 | 34.66 | 6.84 | 34.86 | --- | --- | Average |
| 4 | 5362.00 | 46.38 | -27.62 | 74.00 | 39.74 | 34.66 | 6.84 | 34.86 | --- | --- | Peak |
| 5 | 10360.00 | 55.99 | -12.31 | 68.30 | 43.98 | 37.72 | 9.73 | 35.44 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

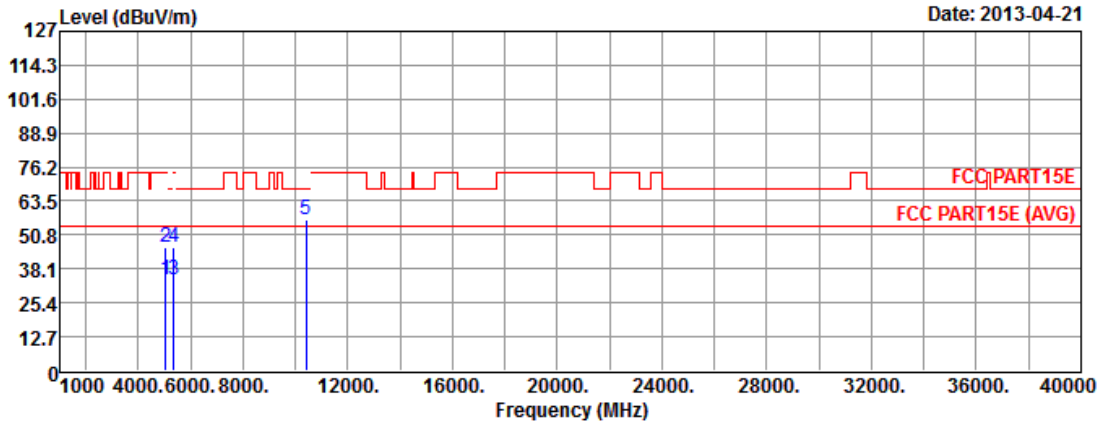
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | HT20 | **Test Freq. (MHz)** | 5180 |
| **$N_{TX}$** | 3 | **Polarization** | V |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 4539.00 | 35.24 | -18.76 | 54.00 | 29.54 | 34.21 | 6.40 | 34.91 | --- | --- | Average |
| 2 | 4539.00 | 48.10 | -25.90 | 74.00 | 42.40 | 34.21 | 6.40 | 34.91 | --- | --- | Peak |
| 3 | 5362.00 | 37.58 | -16.42 | 54.00 | 30.94 | 34.66 | 6.84 | 34.86 | --- | --- | Average |
| 4 | 5362.00 | 49.25 | -24.75 | 74.00 | 42.61 | 34.66 | 6.84 | 34.86 | --- | --- | Peak |
| 5 | 10360.00 | 56.07 | -12.23 | 68.30 | 44.06 | 37.72 | 9.73 | 35.44 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

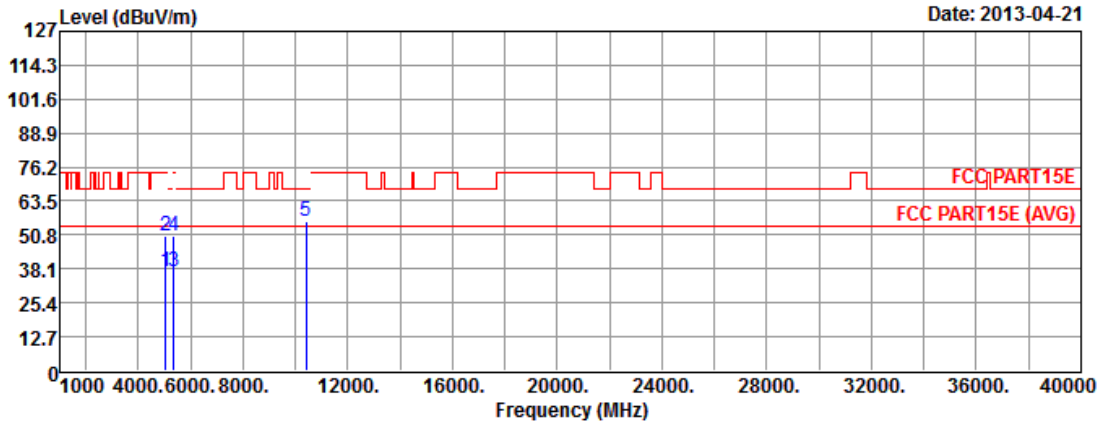
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | HT20 | **Test Freq. (MHz)** | 5200 |
| **$N_{TX}$** | 3 | **Polarization** | H |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 5046.00 | 33.91 | -20.09 | 54.00 | 27.92 | 34.35 | 6.62 | 34.98 | --- | --- | Average |
| 2 | 5046.00 | 46.27 | -27.73 | 74.00 | 40.28 | 34.35 | 6.62 | 34.98 | --- | --- | Peak |
| 3 | 5360.00 | 33.84 | -20.16 | 54.00 | 27.20 | 34.66 | 6.84 | 34.86 | --- | --- | Average |
| 4 | 5360.00 | 46.29 | -27.71 | 74.00 | 39.65 | 34.66 | 6.84 | 34.86 | --- | --- | Peak |
| 5 | 10400.00 | 56.37 | -11.93 | 68.30 | 44.27 | 37.74 | 9.76 | 35.40 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

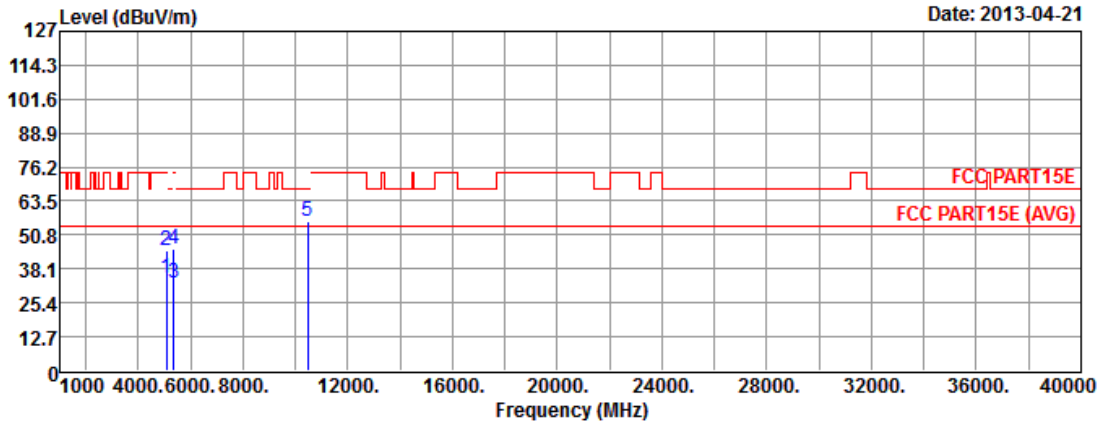
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | HT20 | **Test Freq. (MHz)** | 5200 |
| **$N_{TX}$** | 3 | **Polarization** | V |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 5046.00 | 37.20 | -16.80 | 54.00 | 31.21 | 34.35 | 6.62 | 34.98 | --- | --- | Average |
| 2 | 5046.00 | 50.21 | -23.79 | 74.00 | 44.22 | 34.35 | 6.62 | 34.98 | --- | --- | Peak |
| 3 | 5360.00 | 36.98 | -17.02 | 54.00 | 30.34 | 34.66 | 6.84 | 34.86 | --- | --- | Average |
| 4 | 5360.00 | 50.57 | -23.43 | 74.00 | 43.93 | 34.66 | 6.84 | 34.86 | --- | --- | Peak |
| 5 | 10400.00 | 55.83 | -12.47 | 68.30 | 43.73 | 37.74 | 9.76 | 35.40 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

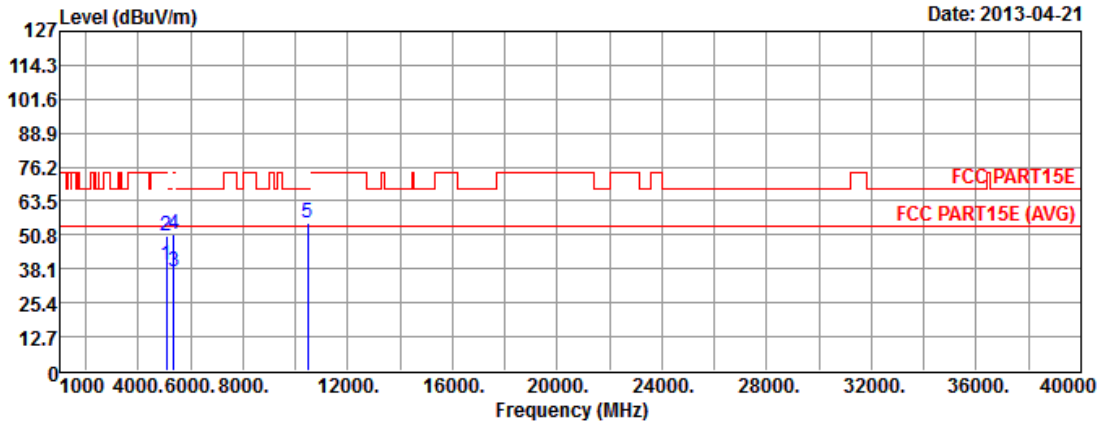
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | HT20 | **Test Freq. (MHz)** | 5240 |
| **$N_{TX}$** | 3 | **Polarization** | H |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 5076.00 | 34.79 | -19.21 | 54.00 | 28.74 | 34.38 | 6.64 | 34.97 | --- | --- | Average |
| 2 | 5076.00 | 44.86 | -29.14 | 74.00 | 38.81 | 34.38 | 6.64 | 34.97 | --- | --- | Peak |
| 3 | 5355.00 | 33.02 | -20.98 | 54.00 | 26.40 | 34.65 | 6.83 | 34.86 | --- | --- | Average |
| 4 | 5355.00 | 45.87 | -28.13 | 74.00 | 39.25 | 34.65 | 6.83 | 34.86 | --- | --- | Peak |
| 5 | 10480.00 | 55.96 | -12.34 | 68.30 | 43.69 | 37.79 | 9.80 | 35.32 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | HT20 | **Test Freq. (MHz)** | 5240 |
| **$N_{TX}$** | 3 | **Polarization** | V |



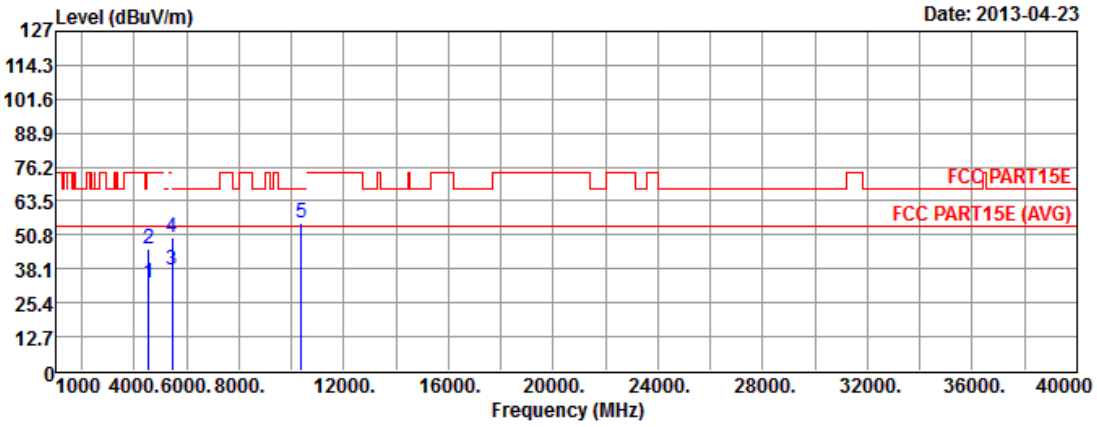

| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 5076.00 | 39.47 | -14.53 | 54.00 | 33.42 | 34.38 | 6.64 | 34.97 | --- | --- | Average |
| 2 | 5076.00 | 50.25 | -23.75 | 74.00 | 44.20 | 34.38 | 6.64 | 34.97 | --- | --- | Peak |
| 3 | 5355.00 | 36.83 | -17.17 | 54.00 | 30.21 | 34.65 | 6.83 | 34.86 | --- | --- | Average |
| 4 | 5355.00 | 50.99 | -23.01 | 74.00 | 44.37 | 34.65 | 6.83 | 34.86 | --- | --- | Peak |
| 5 | 10480.00 | 55.26 | -13.04 | 68.30 | 42.99 | 37.79 | 9.80 | 35.32 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

## 3.7.9 Transmitter Radiated Unwanted Emissions (Above 1GHz) for HT40

**Operating Mode 1:**

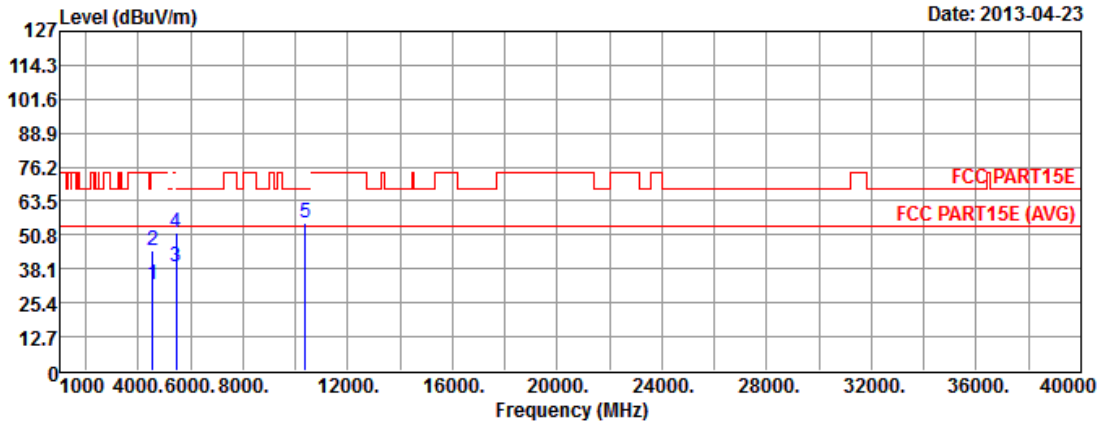
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | HT40 | **Test Freq. (MHz)** | 5190 |
| **$N_{TX}$** | 3 | **Polarization** | H |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 4552.00 | 32.51 | -21.49 | 54.00 | 26.81 | 34.21 | 6.40 | 34.91 | --- | --- | Average |
| 2 | 4552.00 | 45.62 | -28.38 | 74.00 | 39.92 | 34.21 | 6.40 | 34.91 | --- | --- | Peak |
| 3 | 5440.00 | 37.41 | -16.59 | 54.00 | 30.59 | 34.74 | 6.90 | 34.82 | --- | --- | Average |
| 4 | 5440.00 | 49.63 | -24.37 | 74.00 | 42.81 | 34.74 | 6.90 | 34.82 | --- | --- | Peak |
| 5 | 10380.00 | 55.23 | -13.07 | 68.30 | 43.18 | 37.73 | 9.74 | 35.42 | --- | --- | Peak |

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

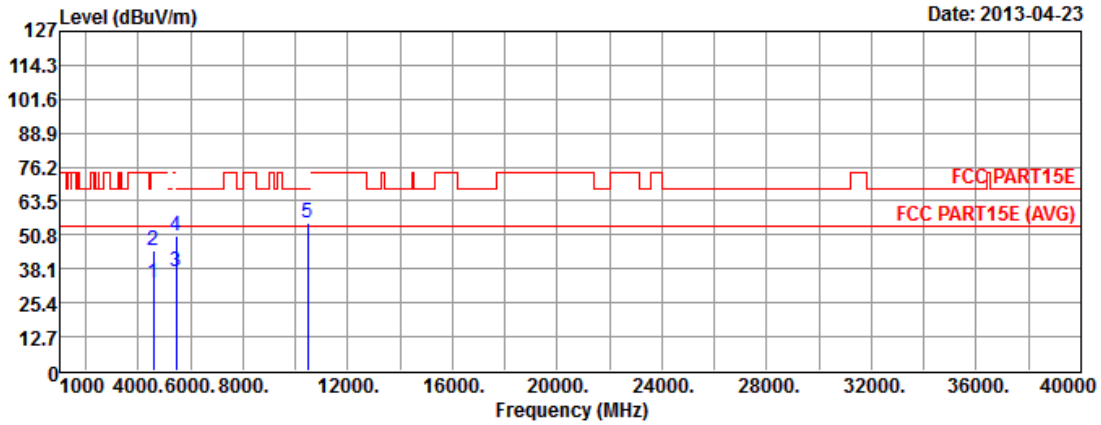
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | HT40 | **Test Freq. (MHz)** | 5190 |
| **$N_{TX}$** | 3 | **Polarization** | V |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 4552.00 | 32.11 | -21.89 | 54.00 | 26.41 | 34.21 | 6.40 | 34.91 | --- | --- | Average |
| 2 | 4552.00 | 44.95 | -29.05 | 74.00 | 39.25 | 34.21 | 6.40 | 34.91 | --- | --- | Peak |
| 3 | 5440.00 | 38.71 | -15.29 | 54.00 | 31.89 | 34.74 | 6.90 | 34.82 | --- | --- | Average |
| 4 | 5440.00 | 51.85 | -22.15 | 74.00 | 45.03 | 34.74 | 6.90 | 34.82 | --- | --- | Peak |
| 5 | 10380.00 | 55.16 | -13.14 | 68.30 | 43.11 | 37.73 | 9.74 | 35.42 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

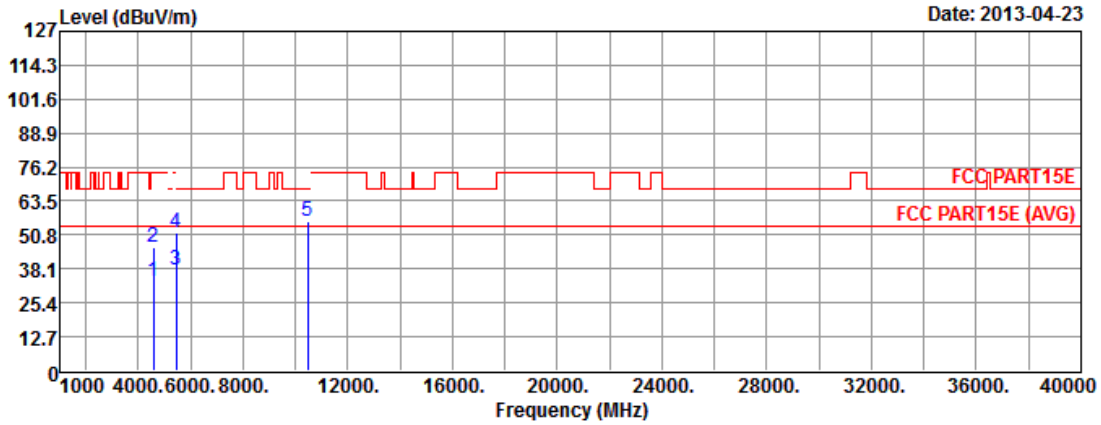
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | HT40 | **Test Freq. (MHz)** | 5230 |
| **$N_{TX}$** | 3 | **Polarization** | H |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 4588.00 | 32.81 | -21.19 | 54.00 | 27.09 | 34.22 | 6.42 | 34.92 | --- | --- | Average |
| 2 | 4588.00 | 45.16 | -28.84 | 74.00 | 39.44 | 34.22 | 6.42 | 34.92 | --- | --- | Peak |
| 3 | 5443.00 | 36.98 | -17.02 | 54.00 | 30.16 | 34.74 | 6.90 | 34.82 | --- | --- | Average |
| 4 | 5443.00 | 50.27 | -23.73 | 74.00 | 43.45 | 34.74 | 6.90 | 34.82 | --- | --- | Peak |
| 5 | 10460.00 | 55.16 | -13.14 | 68.30 | 42.93 | 37.78 | 9.79 | 35.34 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | HT40 | **Test Freq. (MHz)** | 5230 |
| **$N_{TX}$** | 3 | **Polarization** | V |

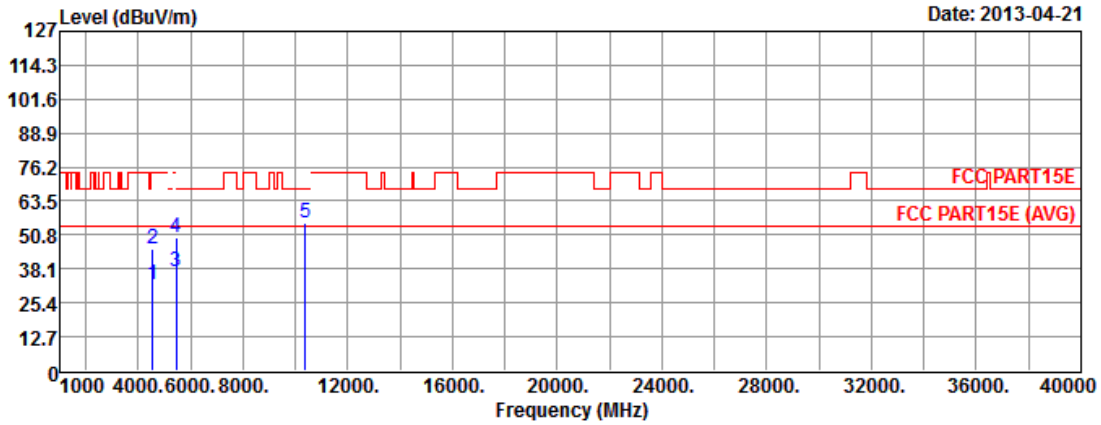



| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 4588.00 | 33.45 | -20.55 | 54.00 | 27.73 | 34.22 | 6.42 | 34.92 | --- | --- | Average |
| 2 | 4588.00 | 45.96 | -28.04 | 74.00 | 40.24 | 34.22 | 6.42 | 34.92 | --- | --- | Peak |
| 3 | 5443.00 | 37.86 | -16.14 | 54.00 | 31.04 | 34.74 | 6.90 | 34.82 | --- | --- | Average |
| 4 | 5443.00 | 51.76 | -22.24 | 74.00 | 44.94 | 34.74 | 6.90 | 34.82 | --- | --- | Peak |
| 5 | 10460.00 | 55.95 | -12.35 | 68.30 | 43.72 | 37.78 | 9.79 | 35.34 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

**Operating Mode 2:**

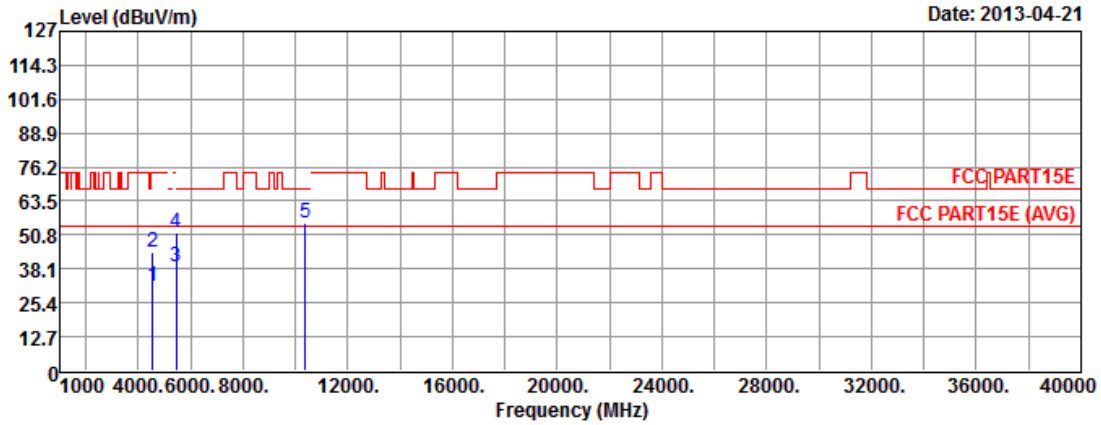
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | HT40 | **Test Freq. (MHz)** | 5190 |
| **$N_{TX}$** | 3 | **Polarization** | H |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 4552.00 | 32.31 | -21.69 | 54.00 | 26.61 | 34.21 | 6.40 | 34.91 | --- | --- | Average |
| 2 | 4552.00 | 45.34 | -28.66 | 74.00 | 39.64 | 34.21 | 6.40 | 34.91 | --- | --- | Peak |
| 3 | 5440.00 | 37.35 | -16.65 | 54.00 | 30.53 | 34.74 | 6.90 | 34.82 | --- | --- | Average |
| 4 | 5440.00 | 49.54 | -24.46 | 74.00 | 42.72 | 34.74 | 6.90 | 34.82 | --- | --- | Peak |
| 5 | 10380.00 | 55.11 | -13.19 | 68.30 | 43.06 | 37.73 | 9.74 | 35.42 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

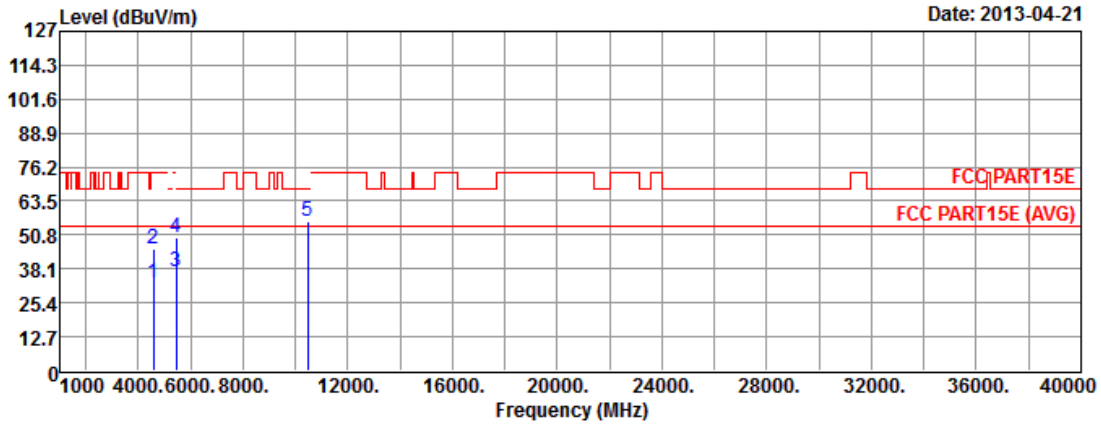
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | HT40 | **Test Freq. (MHz)** | 5190 |
| **$N_{TX}$** | 3 | **Polarization** | V |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 4552.00 | 31.79 | -22.21 | 54.00 | 26.09 | 34.21 | 6.40 | 34.91 | --- | --- | Average |
| 2 | 4552.00 | 44.31 | -29.69 | 74.00 | 38.61 | 34.21 | 6.40 | 34.91 | --- | --- | Peak |
| 3 | 5440.00 | 38.74 | -15.26 | 54.00 | 31.92 | 34.74 | 6.90 | 34.82 | --- | --- | Average |
| 4 | 5440.00 | 51.91 | -22.09 | 74.00 | 45.09 | 34.74 | 6.90 | 34.82 | --- | --- | Peak |
| 5 | 10380.00 | 55.28 | -13.02 | 68.30 | 43.23 | 37.73 | 9.74 | 35.42 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

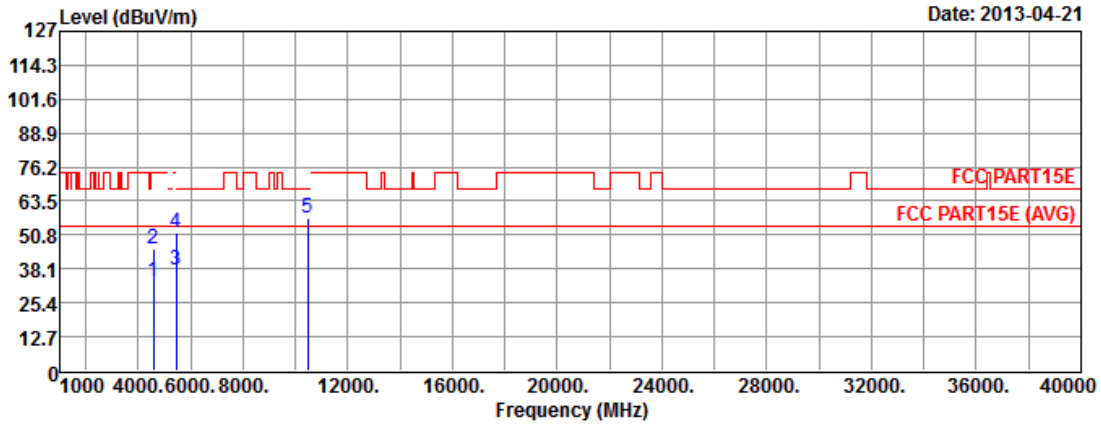
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | HT40 | **Test Freq. (MHz)** | 5230 |
| **$N_{TX}$** | 3 | **Polarization** | H |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 4588.00 | 32.94 | -21.06 | 54.00 | 27.22 | 34.22 | 6.42 | 34.92 | --- | --- | Average |
| 2 | 4588.00 | 45.42 | -28.58 | 74.00 | 39.70 | 34.22 | 6.42 | 34.92 | --- | --- | Peak |
| 3 | 5443.00 | 37.03 | -16.97 | 54.00 | 30.21 | 34.74 | 6.90 | 34.82 | --- | --- | Average |
| 4 | 5443.00 | 50.12 | -23.88 | 74.00 | 43.30 | 34.74 | 6.90 | 34.82 | --- | --- | Peak |
| 5 | 10460.00 | 55.88 | -12.42 | 68.30 | 43.65 | 37.78 | 9.79 | 35.34 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | HT40 | **Test Freq. (MHz)** | 5230 |
| **$N_{TX}$** | 3 | **Polarization** | V |

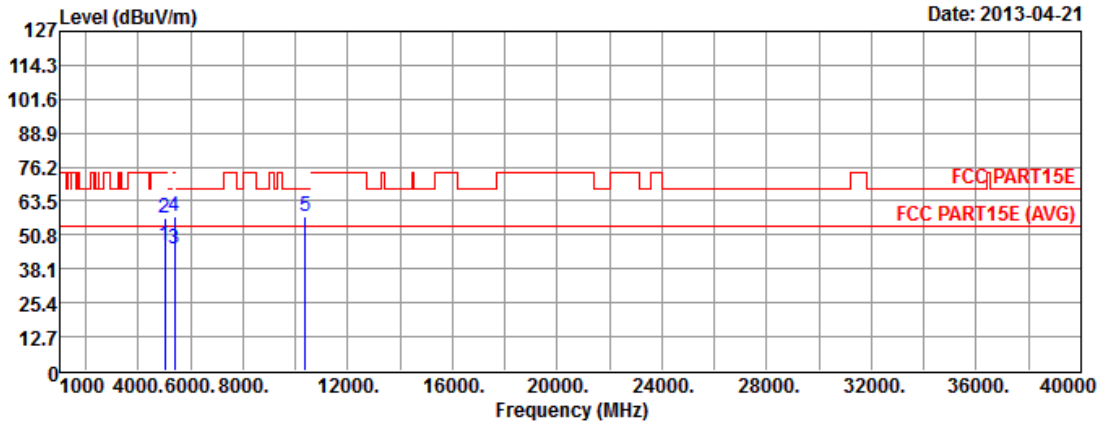



| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 4588.00 | 33.23 | -20.77 | 54.00 | 27.51 | 34.22 | 6.42 | 34.92 | --- | --- | Average |
| 2 | 4588.00 | 45.84 | -28.16 | 74.00 | 40.12 | 34.22 | 6.42 | 34.92 | --- | --- | Peak |
| 3 | 5443.00 | 37.83 | -16.17 | 54.00 | 31.01 | 34.74 | 6.90 | 34.82 | --- | --- | Average |
| 4 | 5443.00 | 51.80 | -22.20 | 74.00 | 44.98 | 34.74 | 6.90 | 34.82 | --- | --- | Peak |
| 5 | 10460.00 | 57.10 | -11.20 | 68.30 | 44.87 | 37.78 | 9.79 | 35.34 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

**Operating Mode 3:**

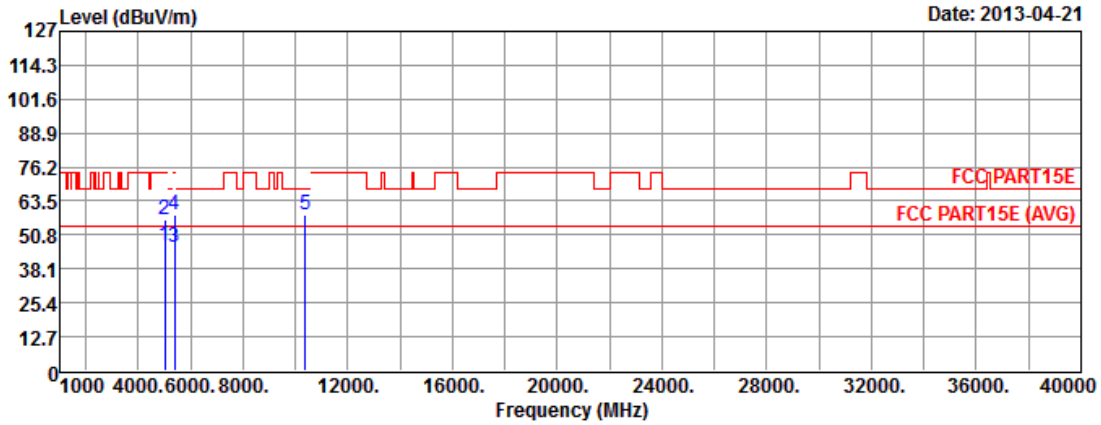
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | HT40 | **Test Freq. (MHz)** | 5190 |
| **$N_{TX}$** | 3 | **Polarization** | H |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 5000.00 | 47.02 | -6.98 | 54.00 | 41.13 | 34.30 | 6.59 | 35.00 | --- | --- | Average |
| 2 | 5000.00 | 56.82 | -17.18 | 74.00 | 50.93 | 34.30 | 6.59 | 35.00 | --- | --- | Peak |
| 3 | 5375.00 | 45.84 | -8.16 | 54.00 | 39.17 | 34.67 | 6.85 | 34.85 | --- | --- | Average |
| 4 | 5375.00 | 57.45 | -16.55 | 74.00 | 50.78 | 34.67 | 6.85 | 34.85 | --- | --- | Peak |
| 5 | 10380.00 | 57.89 | -10.41 | 68.30 | 45.84 | 37.73 | 9.74 | 35.42 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

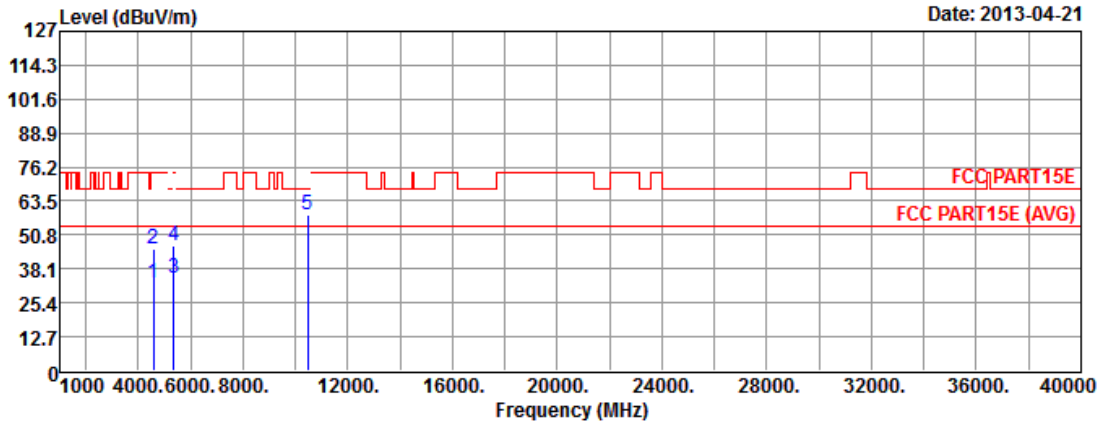
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | HT40 | **Test Freq. (MHz)** | 5190 |
| **$N_{TX}$** | 3 | **Polarization** | V |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 5000.00 | 46.75 | -7.25 | 54.00 | 40.86 | 34.30 | 6.59 | 35.00 | --- | --- | Average |
| 2 | 5000.00 | 56.52 | -17.48 | 74.00 | 50.63 | 34.30 | 6.59 | 35.00 | --- | --- | Peak |
| 3 | 5375.00 | 46.34 | -7.66 | 54.00 | 39.67 | 34.67 | 6.85 | 34.85 | --- | --- | Average |
| 4 | 5375.00 | 58.60 | -15.40 | 74.00 | 51.93 | 34.67 | 6.85 | 34.85 | --- | --- | Peak |
| 5 | 10380.00 | 58.62 | -9.68 | 68.30 | 46.57 | 37.73 | 9.74 | 35.42 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

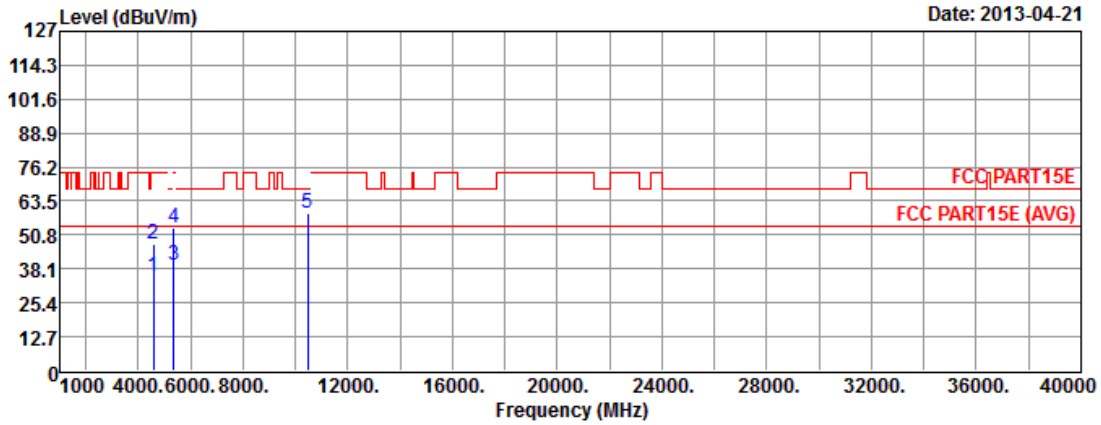
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | HT40 | **Test Freq. (MHz)** | 5230 |
| **$N_{TX}$** | 3 | **Polarization** | H |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 4576.00 | 32.73 | -21.27 | 54.00 | 27.02 | 34.22 | 6.41 | 34.92 | --- | --- | Average |
| 2 | 4576.00 | 45.58 | -28.42 | 74.00 | 39.87 | 34.22 | 6.41 | 34.92 | --- | --- | Peak |
| 3 | 5355.00 | 34.64 | -19.36 | 54.00 | 28.02 | 34.65 | 6.83 | 34.86 | --- | --- | Average |
| 4 | 5355.00 | 46.71 | -27.29 | 74.00 | 40.09 | 34.65 | 6.83 | 34.86 | --- | --- | Peak |
| 5 | 10460.00 | 58.64 | -9.66 | 68.30 | 46.41 | 37.78 | 9.79 | 35.34 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | HT40 | **Test Freq. (MHz)** | 5230 |
| **$N_{TX}$** | 3 | **Polarization** | V |



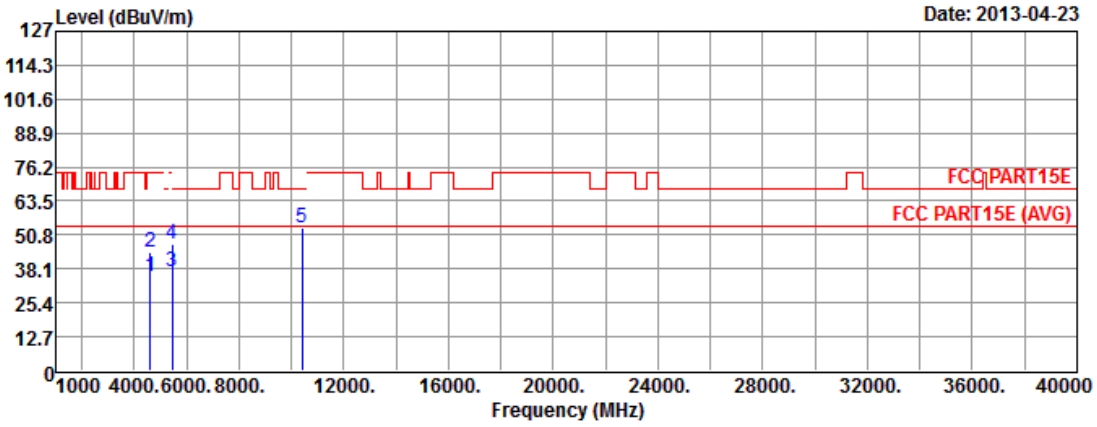

| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 4576.00 | 35.15 | -18.85 | 54.00 | 29.44 | 34.22 | 6.41 | 34.92 | --- | --- | Average |
| 2 | 4576.00 | 47.46 | -26.54 | 74.00 | 41.75 | 34.22 | 6.41 | 34.92 | --- | --- | Peak |
| 3 | 5355.00 | 39.22 | -14.78 | 54.00 | 32.60 | 34.65 | 6.83 | 34.86 | --- | --- | Average |
| 4 | 5355.00 | 53.71 | -20.29 | 74.00 | 47.09 | 34.65 | 6.83 | 34.86 | --- | --- | Peak |
| 5 | 10460.00 | 58.81 | -9.49 | 68.30 | 46.58 | 37.78 | 9.79 | 35.34 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

## 3.7.10 Transmitter Radiated Unwanted Emissions (Above 1GHz) for VHT80

**Operating Mode 1:**

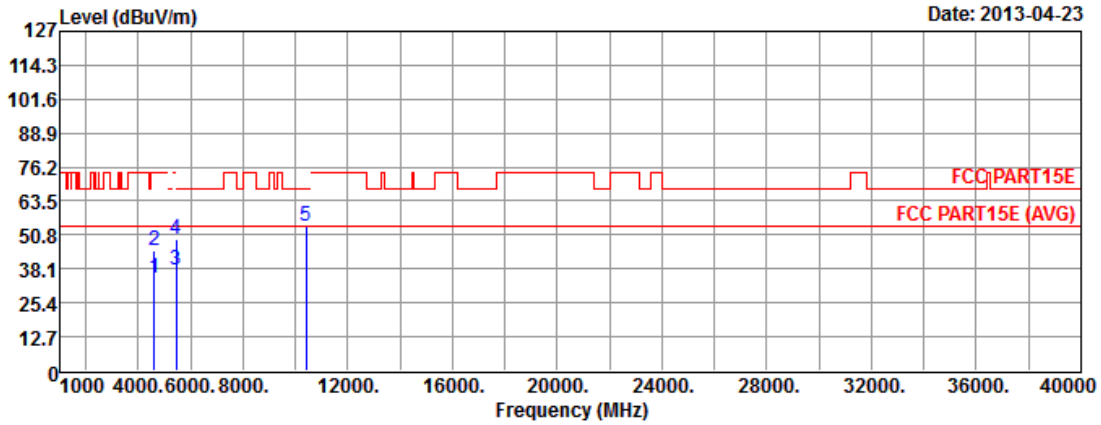
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | VHT80 | **Test Freq. (MHz)** | 5210 |
| **$N_{TX}$** | 3 | **Polarization** | H |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 4603.00 | 35.22 | -18.78 | 54.00 | 29.50 | 34.22 | 6.42 | 34.92 | --- | --- | Average |
| 2 | 4603.00 | 44.65 | -29.35 | 74.00 | 38.93 | 34.22 | 6.42 | 34.92 | --- | --- | Peak |
| 3 | 5440.00 | 36.95 | -17.05 | 54.00 | 30.13 | 34.74 | 6.90 | 34.82 | --- | --- | Average |
| 4 | 5440.00 | 47.59 | -26.41 | 74.00 | 40.77 | 34.74 | 6.90 | 34.82 | --- | --- | Peak |
| 5 | 10420.00 | 53.36 | -14.94 | 68.30 | 41.22 | 37.75 | 9.77 | 35.38 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | VHT80 | **Test Freq. (MHz)** | 5210 |
| **$N_{TX}$** | 3 | **Polarization** | V |

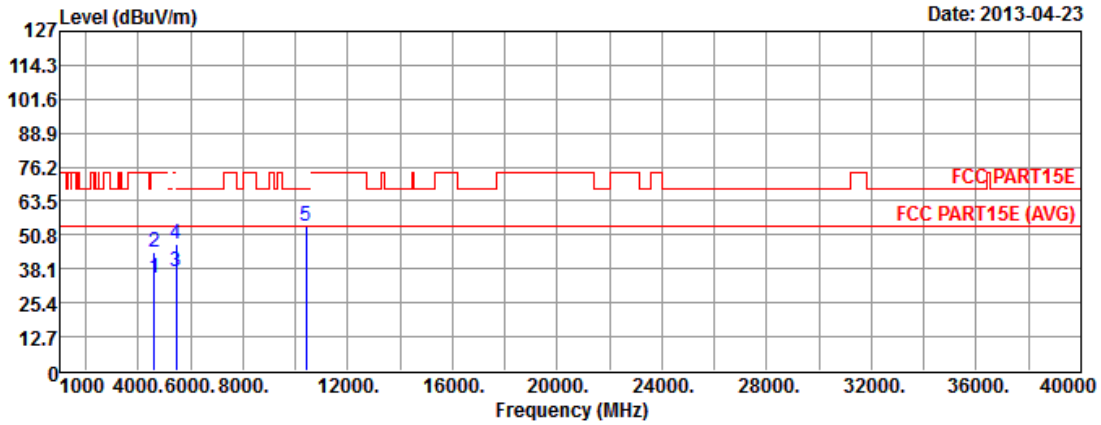



| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 4603.00 | 34.68 | -19.32 | 54.00 | 28.96 | 34.22 | 6.42 | 34.92 | --- | --- | Average |
| 2 | 4603.00 | 45.11 | -28.89 | 74.00 | 39.39 | 34.22 | 6.42 | 34.92 | --- | --- | Peak |
| 3 | 5440.00 | 37.69 | -16.31 | 54.00 | 30.87 | 34.74 | 6.90 | 34.82 | --- | --- | Average |
| 4 | 5440.00 | 49.51 | -24.49 | 74.00 | 42.69 | 34.74 | 6.90 | 34.82 | --- | --- | Peak |
| 5 | 10420.00 | 54.35 | -13.95 | 68.30 | 42.21 | 37.75 | 9.77 | 35.38 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

**Operating Mode 2:**

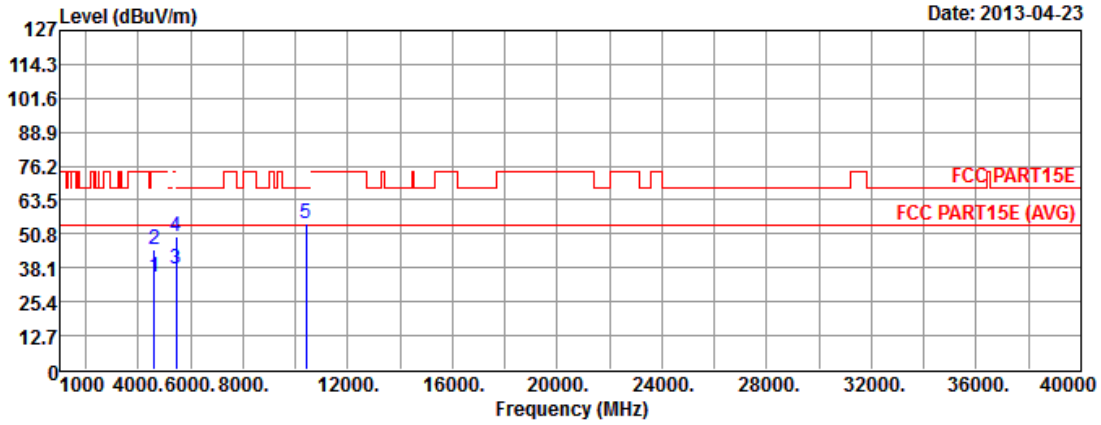
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | VHT80 | **Test Freq. (MHz)** | 5210 |
| **$N_{TX}$** | 3 | **Polarization** | H |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 4603.00 | 34.81 | -19.19 | 54.00 | 29.09 | 34.22 | 6.42 | 34.92 | --- | --- | Average |
| 2 | 4603.00 | 44.23 | -29.77 | 74.00 | 38.51 | 34.22 | 6.42 | 34.92 | --- | --- | Peak |
| 3 | 5440.00 | 37.08 | -16.92 | 54.00 | 30.26 | 34.74 | 6.90 | 34.82 | --- | --- | Average |
| 4 | 5440.00 | 47.63 | -26.37 | 74.00 | 40.81 | 34.74 | 6.90 | 34.82 | --- | --- | Peak |
| 5 | 10420.00 | 54.30 | -14.00 | 68.30 | 42.16 | 37.75 | 9.77 | 35.38 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | VHT80 | **Test Freq. (MHz)** | 5210 |
| **$N_{TX}$** | 3 | **Polarization** | V |

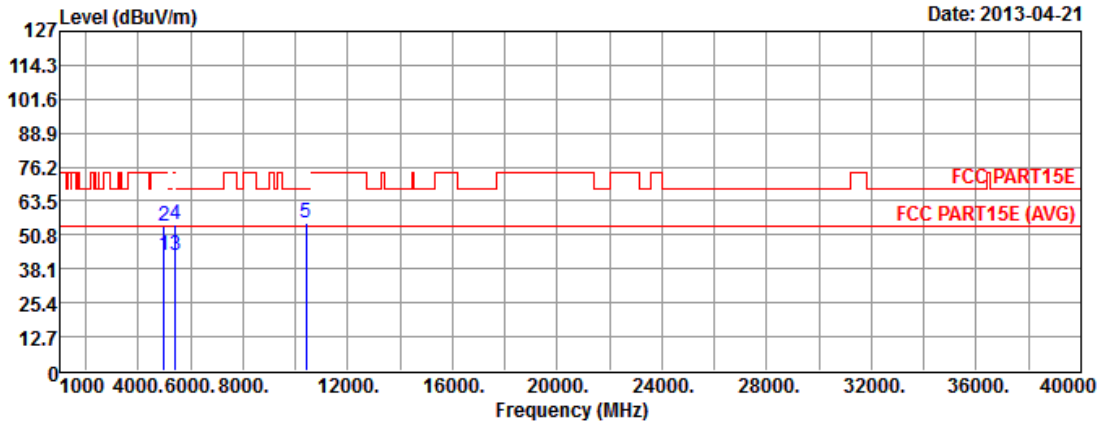



| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 4603.00 | 34.74 | -19.26 | 54.00 | 29.02 | 34.22 | 6.42 | 34.92 | --- | --- | Average |
| 2 | 4603.00 | 45.06 | -28.94 | 74.00 | 39.34 | 34.22 | 6.42 | 34.92 | --- | --- | Peak |
| 3 | 5440.00 | 37.80 | -16.20 | 54.00 | 30.98 | 34.74 | 6.90 | 34.82 | --- | --- | Average |
| 4 | 5440.00 | 49.58 | -24.42 | 74.00 | 42.76 | 34.74 | 6.90 | 34.82 | --- | --- | Peak |
| 5 | 10420.00 | 54.75 | -13.55 | 68.30 | 42.61 | 37.75 | 9.77 | 35.38 | --- | --- | Peak |

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

**Operating Mode 3:**

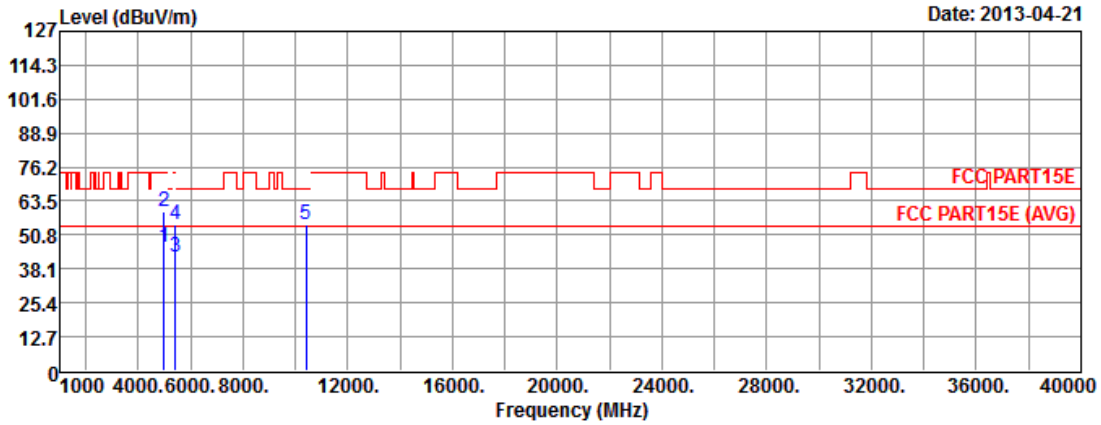
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | VHT80 | **Test Freq. (MHz)** | 5210 |
| **$N_{TX}$** | 3 | **Polarization** | H |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 4998.00 | 43.38 | -10.62 | 54.00 | 37.49 | 34.30 | 6.59 | 35.00 | --- | --- | Average |
| 2 | 4998.00 | 53.85 | -20.15 | 74.00 | 47.96 | 34.30 | 6.59 | 35.00 | --- | --- | Peak |
| 3 | 5422.00 | 42.93 | -11.07 | 54.00 | 36.16 | 34.72 | 6.88 | 34.83 | --- | --- | Average |
| 4 | 5422.00 | 54.84 | -19.16 | 74.00 | 48.07 | 34.72 | 6.88 | 34.83 | --- | --- | Peak |
| 5 | 10420.00 | 55.55 | -12.75 | 68.30 | 43.41 | 37.75 | 9.77 | 35.38 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | |
|---|---|---|---|
| **Modulation Mode** | VHT80 | **Test Freq. (MHz)** | 5210 |
| **$N_{TX}$** | 3 | **Polarization** | V |




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 4998.00 | 45.90 | -8.10 | 54.00 | 40.01 | 34.30 | 6.59 | 35.00 | --- | --- | Average |
| 2 | 4998.00 | 59.82 | -14.18 | 74.00 | 53.93 | 34.30 | 6.59 | 35.00 | --- | --- | Peak |
| 3 | 5422.00 | 42.62 | -11.38 | 54.00 | 35.85 | 34.72 | 6.88 | 34.83 | --- | --- | Average |
| 4 | 5422.00 | 54.55 | -19.45 | 74.00 | 47.78 | 34.72 | 6.88 | 34.83 | --- | --- | Peak |
| 5 | 10420.00 | 54.91 | -13.39 | 68.30 | 42.77 | 37.75 | 9.77 | 35.38 | --- | --- | Peak |

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

# 3.8 Frequency Stability

## 3.8.1 Frequency Stability Limit

| Frequency Stability Limit |
|---|
| **UNII Devices** |
| ☒ In-band emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual. |
| **LE-LAN Devices** |
| ☒ N/A |
| **IEEE Std. 802.11n-2009** |
| ☒ The transmitter center frequency tolerance shall be ± 20 ppm maximum for the 5 GHz band and ± 25 ppm maximum for the 2.4 GHz band. |

## 3.8.2 Measuring Instruments

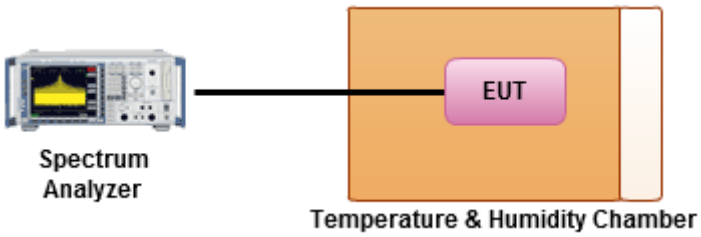
Refer a test equipment and calibration data table in this test report.

## 3.8.3 Test Procedures

| Test Method | |
|---|---|
| ☒ | Refer as ANSI C63.10, clause 6.8 for frequency stability tests |
| | ☒ Frequency stability with respect to ambient temperature |
| | ☒ Frequency stability when varying supply voltage |
| ☒ | For conducted measurement. |
| | ☒ For conducted measurements on devices with multiple transmit chains:<br>Measurements need only to be performed on one of the active transmit chains (antenna outputs) |
| ☐ | For radiated measurement. The equipment to be measured and the test antenna shall be oriented to obtain the maximum emitted power level. |

## 3.8.4 Test Setup

**Frequency Stability**



### 3.8.5 Test Result of Frequency Stability

| Frequency Stability Result | | | |
|---|---|---|---|
| **Mode** | | **Frequency Stability (ppm)** | |
| **Condition** | **Freq. (MHz)** | **Test Frequency (MHz)** | **Frequency Stability (ppm)** |
| $T_{20°C}$Vmax | 5200 | 5200.01102 | 2.1192 |
| $T_{20°C}$Vmin | 5200 | 5200.01147 | 2.2058 |
| $T_{55°C}$Vnom | 5200 | 5200.00591 | 1.5173 |
| $T_{50°C}$Vnom | 5200 | 5200.01130 | 2.1731 |
| $T_{40°C}$Vnom | 5200 | 5200.00899 | 1.7288 |
| $T_{30°C}$Vnom | 5200 | 5200.00825 | 1.5865 |
| $T_{20°C}$Vnom | 5200 | 5200.01106 | 2.1269 |
| $T_{10°C}$Vnom | 5200 | 5200.01182 | 2.2731 |
| $T_{0°C}$Vnom | 5200 | 5200.01112 | 2.1385 |
| $T_{-10°C}$Vnom | 5200 | 5200.01321 | 2.5404 |
| $T_{-20°C}$Vnom | 5200 | 5200.01398 | 2.6885 |
| $T_{-30°C}$Vnom | 5200 | 5200.01166 | 2.2423 |
| **Limit (ppm)** | | 20 | |
| **Result** | | **Complied** | |

Note 1: Measure at 85 % [Vmin] and 115 % [Vmax] of the nominal voltage [Vnom].
Note 2: The nominal voltage refer test report clause 1.1.5 for EUT operational condition.

# 4 Test Equipment and Calibration Data

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Remark |
|---|---|---|---|---|---|---|
| EMC Receiver | R&S | ESCS 30 | 100174 | 9 kHz ~ 2.75 GHz | Mar. 26, 2013 | Conduction (CO04-HY) |
| LISN | SCHWARZBECK MESS-ELEKTRONIK | NSLK 8127 | 8127-477 | 9kHz – 30MHz | Jan. 21, 2013 | Conduction (CO04-HY) |
| LISN (Support Unit) | EMCO | 3810/2NM | 9703-1839 | 9 kHz ~ 30 MHz | Apr. 16, 2013 | Conduction (CO04-HY) |
| RF Cable-CON | HUBER+SUHNER | RG213/U | 07611832010001 | 9 kHz ~ 30 MHz | Nov. 09, 2012 | Conduction (CO04-HY) |

Note: Calibration Interval of instruments listed above is one year.

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Remark |
|---|---|---|---|---|---|---|
| Spectrum Analyzer | R&S | FSP | 100055 | 9Kz – 40GHz | Jun. 06, 2012 | Radiation (03CH05-HY) |
| Receiver | R&S | ESIB26 | 100337 | 20Hz – 26.5GHz | Jun.21, 2012 | Radiation (03CH05-HY) |
| 3m Semi Anechoic Chamber | TDK | SAC-3M | 03CH05-HY | 30 MHz - 1 GHz 3m | N/A | Radiation (03CH05-HY) |
| Amplifier | COM-POWER | PA-103 | 161241 | 1 MHz ~ 1 GHz | Feb. 26, 2013 | Radiation (03CH05-HY) |
| Amplifier | Agilent | 8449B | 3008A02665 | 1GHz – 26.5 GHz | Aug. 28, 2012 | Radiation (03CH05-HY) |
| Horn Antenna | ETS-LINDGREN | 3117 | 66584 | 1GHz~18GHz | Aug. 09, 2012 | Radiation (03CH05-HY) |
| Horn Antenna | SCHWARZBECK | BBHA9170 | BBHA9170154 | 15GHz ~ 40GHz | Jan. 08, 2013 | Radiation (03CH05-HY |
| RF Cable-R03m | Jye Bao | RG142 | 03CH05-HY | 30 MHz - 1 GHz | Oct. 14, 2012 | Radiation (03CH05-HY) |
| RF Cable-HIGH | SUHNER | SUCOFLEX104 | 03CH05-HY | 1GHz~40GHz | Oct. 14, 2012 | Radiation (03CH05-HY) |
| Bilog Antenna | SCHAFFNER | CBL6111C | 2725 | 30 MHz - 1 GHz | Oct. 06, 2012 | Radiation (03CH05-HY) |
| Turn Table | HD | HD100 | 420/611 | 0 - 360 degree | N/A | Radiation (03CH05-HY) |
| Antenna Mast | HD | HD100 | 240/666 | 1 m - 4 m | N/A | Radiation (03CH05-HY) |

Note: Calibration Interval of instruments listed above is one year.

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Remark |
|---|---|---|---|---|---|---|
| Amplifier | MITEQ | AMF-6F-260400 | 9121372 | 26.5GHz ~ 40GHz | Apr. 19, 2013 | Radiation (03CH05-HY) |
| Loop Antenna | R&S | HFH2-Z2 | 860004/0001 | 9 kHz - 30 MHz | Jul. 03, 2012 | Radiation (03CH05-HY) |

Note: Calibration Interval of instruments listed above is two year.

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Remark |
|---|---|---|---|---|---|---|
| Spectrum Analyzer | R&S | FSV 40 | 101486 | 9KHz~40GHz | Nov. 14, 2012 | Conducted (TH01-HY) |
| Spectrum Analyzer | R&S | FSP 40 | 100593 | 9KHz ~ 40GHz | Aug. 14, 2012 | Conducted (TH01-HY) |
| DC Power Source | G.W. | GPC-6030D | C671845 | DC 1V ~ 60V | Jun. 19, 2012 | Conducted (TH01-HY) |
| AC Power Source | G.W | APS-9102 | EL920581 | AC 0V ~ 300V | Jul. 02, 2012 | Conducted (TH01-HY) |
| Temp. and Humidity Chamber | Giant Force | GTH-225-20-SP-SD | MAA1112-007 | -20 ~ 100℃ | Nov. 21, 2012 | Conducted (TH01-HY) |
| Signal Generator | R&S | SMR40 | 100116 | 10MHz ~ 40GHz | Jun. 26, 2012 | Conducted (TH01-HY) |
| Power Sensor | Anritsu | MA2411B | 1027452 | 300MHz ~ 40GHz | Sep. 08, 2012 | Conducted (TH01-HY) |
| Power Meter | Anritsu | ML2495A | 1124009 | 300MHz ~ 40GHz | Sep. 08, 2012 | Conducted (TH01-HY) |
| RF Cable-2m | HUBER+SUHNER | SUCOFLEX_104 | SN 345675/4 | 1GHz ~ 26.5GHz | NA | Conducted (TH01-HY) |
| RF Cable-3m | HUBER+SUHNER | SUCOFLEX_104 | SN 345669/4 | 1GHz ~ 26.5GHz | NA | Conducted (TH01-HY) |

Note: Calibration Interval of instruments listed above is one year.