# FCC Test Report

| | | |
|---|---|---|
| Equipment | : | Wireless-AC/N Dual Band Desktop Access Point with PoE |
| Brand Name | : | CISCO |
| Model No. | : | WAP125 |
| FCC ID | : | PD5-WAP125 |
| Standard | : | 47 CFR FCC Part 15.247 |
| Operating Band | : | 2400 MHz – 2483.5 MHz |
| Function | : | ☒ Point-to-multipoint; ☐ Point-to-point |
| Applicant | : | Delta Networks, Inc.<br>No.252, Shang Ying Rd., Kuei San District, Taoyuan City 33341, Taiwan R.O.C. |
| Manufacturer | : | Delta Networks, Inc.<br>No.252, Shang Ying Rd., Kuei San District, Taoyuan City 33341, Taiwan R.O.C. |

The product sample received on Sep. 12, 2016 and completely tested on Dec. 12, 2016. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 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.

Cliff Chang
SPORTON INTERNATIONAL INC.

Testing Laboratory
1190

# Table of Contents

# Summary of Test Result

| Conformance Test Specifications | | | | |
|---|---|---|---|---|
| **Report Clause** | **Ref. Std. Clause** | **Description** | **Limit** | **Result** |
| 1.1.2 | 15.203 | Antenna Requirement | FCC 15.203 | Complied |
| 3.1 | 15.207 | AC Power-line Conducted Emissions | FCC 15.207 | Complied |
| 3.2 | 15.247(a) | DTS Bandwidth | ≥500kHz | Complied |
| 3.3 | 15.247(b) | Maximum Conducted Output Power | Power [dBm]:30 | Complied |
| 3.4 | 15.247(e) | Power Spectral Density | PSD [dBm/3kHz]:8 | Complied |
| 3.5 | 15.247(d) | Emissions in Non-restricted Frequency Bands | Non-Restricted Bands: > 30 dBc | Complied |
| 3.6 | 15.247(d) | Emissions in Restricted Frequency Bands | Restricted Bands: FCC 15.209 | Complied |

# Revision History

| Report No. | Version | Description | Issued Date |
|---|---|---|---|
| FR691002AA | Rev. 01 | Initial issue of report | Dec. 29, 2016 |
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# 1 General Description

## 1.1 Information

### 1.1.1 RF General Information

| Frequency Range (MHz) | IEEE Std. 802.11 | Ch. Frequency (MHz) | Channel Number |
|---|---|---|---|
| 2400-2483.5 | b, g, n (HT20), ac (VHT20) | 2412-2462 | 1-11 [11] |
| 2400-2483.5 | n (HT40), ac (VHT40) | 2422-2452 | 3-9 [7] |

| Mode | Bandwidth(MHz) | TX |
|---|---|---|
| 802.11b | 20 | 1 |
| 802.11g | 20 | 1 |
| 802.11n HT20 | 20 | 1 |
| 802.11n HT40 | 40 | 1 |
| 802.11ac VHT20 | 20 | 1 |
| 802.11ac VHT40 | 40 | 1 |
| 802.11b | 20 | 2 |
| 802.11g | 20 | 2 |
| 802.11n HT20(BF) | 20 | 2 |
| 802.11n HT40(BF) | 40 | 2 |
| 802.11ac VHT20(BF) | 20 | 2 |
| 802.11ac VHT40(BF) | 40 | 2 |

Note:
- 2.4G is the 2.4GHz Band (2.4-2.4835GHz).
- 11b mode uses a combination of DSSS-DBPSK, DQPSK, CCK modulation.
- 11g, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- VHT20, VHT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.
- BF is the Beam-forming mode

### 1.1.2 Antenna Information

| Ant. | Brand | Model Name | Antenna Type | Connector | Gain (dBi) | | |
|---|---|---|---|---|---|---|---|
| | | | | | 2.4GHz | 5GHz B1 | 5GHz B4 |
| 1 | Master Wave | 98M82PIPF000 | PIFA Antenna | I-PEX | 4.02 | 5.43 | 5.63 |
| 2 | Master Wave | 98M83PIPF000 | PIFA Antenna | I-PEX | 4.02 | 5.03 | 5.26 |

Note: The EUT has two antennas.

**For 2.4GHz IEEE 802.11b/g/ac mode (1TX/1RX):**

Only Ant. 1 can be used as transmitting/receiving antenna.

**For 5GHz IEEE 802.11n/a/ac mode (1TX/1RX):**

Only Ant. 2 can be used as transmitting/receiving antenna.

**For 2.4GHz IEEE 802.11b/g/ac mode (2TX/2RX):**

Both Ant. 1 and Ant. 2 could transmit/receive simultaneously.

**For 5GHz IEEE 802.11n/a/ac mode (2TX/2RX):**

Both Ant. 1 and Ant. 2 could transmit/receive simultaneously.

### 1.1.3 Mode Test Duty Cycle

| Mode | Bandwidth (MHz) | Data Rate | TX | Duty Cycle | T(s) | VBW(Hz) ≥ 1/T |
|---|---|---|---|---|---|---|
| 802.11b | 20 | 1Mbps | 1 | 0.936 | 12.418m | 100 |
| 802.11g | 20 | 6Mbps | 1 | 0.74 | 2.065m | 1k |
| 802.11ac VHT20 | 20 | MCS0-Nss1 | 1 | 0.752 | 1.929m | 1k |
| 802.11ac VHT40 | 40 | MCS0-Nss1 | 1 | 0.593 | 953.125u | 3k |
| 802.11b | 20 | 1Mbps | 2 | 1 | n/a (DC>=0.98) | n/a (DC>=0.98) |
| 802.11g | 20 | 6Mbps | 2 | 0.999 | n/a (DC>=0.98) | n/a (DC>=0.98) |
| 802.11ac VHT20(BF) | 20 | MCS0-Nss1 | 2 | 0.986 | n/a (DC>=0.98) | n/a (DC>=0.98) |
| 802.11ac VHT40(BF) | 40 | MCS0-Nss1 | 2 | 0.971 | 953.125u | 3k |

### 1.1.4 EUT Operational Condition

| | | | | |
|---|---|---|---|---|
| **EUT Power Type** | From Power Adapter or PoE | | | |
| **Beamforming Function** | ☒ | With beamforming in 802.11 n/ac | ☐ | Without beamforming |

Note: 802.11n/ac 2TX doesn't support non-beamforming mode.

## 1.2 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 C63.10-2013
- FCC KDB 558074 D01 v03r05
- FCC KDB 662911 D01 v02r01
- FCC KDB 644545 D01 v01r02

## 1.3 Testing Location Information

| Testing Location | | | | | | | |
|---|---|---|---|---|---|---|---|
| ☐ | HWA YA | ADD | : | No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. | | | |
| | | TEL | : | 886-3-327-3456 | FAX | : | 886-3-318-0055 |
| ☒ | JHUBEI | ADD | : | No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C. | | | |
| | | TEL | : | 886-3-656-9065 | FAX | : | 886-3-656-9085 |

| Test Condition | Test Site No. | Test Engineer | Test Environment | Test Date |
|---|---|---|---|---|
| RF Conducted | TH01-CB | Andy Tsai | 20°C / 60% | Oct. 17, 2016~Dec. 12, 2016 |
| Radiated | 03CH01-CB | Kenneth Huang& DK Chang& Stim Sung | 21°C / 50% | Sep. 22, 2016 ~ Dec. 01, 2016 |
| AC Conduction | CO02-CB | Ryo Fan | 23°C / 61% | Sep. 23, 2016 |

Test site Designation No. TW0006 with FCC.
Test site registered number IC 4086D with Industry Canada.

## 1.4 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)

| Test Items | Uncertainty | Remark |
|---|---|---|
| Conducted Emission (150kHz ~ 30MHz) | 3.2 dB | Confidence levels of 95% |
| Radiated Emission (30MHz ~ 1,000MHz) | 3.6 dB | Confidence levels of 95% |
| Radiated Emission (1GHz ~ 18GHz) | 3.7 dB | Confidence levels of 95% |
| Radiated Emission (18GHz ~ 40GHz) | 3.5 dB | Confidence levels of 95% |
| Conducted Emission | 1.7 dB | Confidence levels of 95% |

# 2 Test Configuration of EUT

## 2.1 Test Channel Mode

| Mode | Bandwidth (MHz) | Data Rate | TX | Frequency (MHz) | Power Setting |
|---|---|---|---|---|---|
| 802.11b | 20 | 1Mbps | 1 | 2412 | 71 |
| 802.11b | 20 | 1Mbps | 1 | 2437 | 99 |
| 802.11b | 20 | 1Mbps | 1 | 2462 | 73 |
| 802.11g | 20 | 6Mbps | 1 | 2412 | 70 |
| 802.11g | 20 | 6Mbps | 1 | 2437 | 76 |
| 802.11g | 20 | 6Mbps | 1 | 2462 | 66 |
| 802.11ac VHT20 | 20 | MCS0 Nss-1 | 1 | 2412 | 72 |
| 802.11ac VHT20 | 20 | MCS0 Nss-1 | 1 | 2437 | 80 |
| 802.11ac VHT20 | 20 | MCS0 Nss-1 | 1 | 2462 | 72 |
| 802.11ac VHT40 | 40 | MCS0 Nss-1 | 1 | 2422 | 61 |
| 802.11ac VHT40 | 40 | MCS0 Nss-1 | 1 | 2437 | 69 |
| 802.11ac VHT40 | 40 | MCS0 Nss-1 | 1 | 2452 | 61 |
| 802.11b | 20 | 1Mbps | 2 | 2412 | 70 |
| 802.11b | 20 | 1Mbps | 2 | 2437 | 99 |
| 802.11b | 20 | 1Mbps | 2 | 2462 | 72 |
| 802.11g | 20 | 6Mbps | 2 | 2412 | 69 |
| 802.11g | 20 | 6Mbps | 2 | 2437 | 75 |
| 802.11g | 20 | 6Mbps | 2 | 2462 | 64 |
| 802.11ac VHT20(BF) | 20 | MCS0 Nss-1 | 2 | 2412 | 67 |
| 802.11ac VHT20(BF) | 20 | MCS0 Nss-1 | 2 | 2437 | 76 |
| 802.11ac VHT20(BF) | 20 | MCS0 Nss-1 | 2 | 2462 | 67 |
| 802.11ac VHT40(BF) | 40 | MCS0 Nss-1 | 2 | 2422 | 56 |
| 802.11ac VHT40(BF) | 40 | MCS0 Nss-1 | 2 | 2437 | 63 |
| 802.11ac VHT40(BF) | 40 | MCS0 Nss-1 | 2 | 2452 | 53 |

Note:
- VHT20/VHT40 covers HT20/HT40, due to same modulation. The power setting for 802.11n HT20 and HT40 are the same or lower than 802.11ac VHT20 and VHT40.

## 2.2 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 |
| **Operating Mode** | CTX |
| 1 | EUT + Adapter |
| 2 | EUT + PoE |
| For operating mode 1 is the worst case and it was record in this test report. | |

| The Worst Case Mode for Following Conformance Tests | |
|---|---|
| **Tests Item** | DTS Bandwidth<br>Maximum Conducted Output Power<br>Power Spectral Density |
| **Test Condition** | Conducted measurement at transmit chains |

| The Worst Case Mode for Following Conformance Tests | |
|---|---|
| **Tests Item** | Emissions in Non-restricted Frequency Bands<br>Emissions in Restricted Frequency Bands |
| **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. |
| **Operating Mode < 1GHz** | CTX |
| 1 | EUT Z axis + Adapter |
| 2 | EUT Y axis + Adapter |
| Mode 1 has been evaluated to be the worst case among Mode 1~2, thus measurement for Mode 3 will follow this same test mode. | |
| 3 | EUT Z axis + PoE |
| For operating mode 3 is the worst case and it was record in this test report. | |
| **Operating Mode > 1GHz** | CTX |
| 1 | EUT Z axis |
| 2 | EUT Y axis |
| Mode 1 has been evaluated to be the worst case after evaluating. Consequently, measurement will follow this same test mode. | |

| The Worst Case Mode for Following Conformance Tests | |
|---|---|
| **Tests Item** | Simultaneous Transmission Analysis |
| **Operating Mode** | |
| 1 | WLAN 2.4GHz+WLAN 5GHz |
| Refer to Sporton Test Report No.: FA691002 for Co-location RF Exposure Evaluation. | |

Note: The PoE was for measurement only, would not be marketed, and its information as below.

| Equipment | Brand Name | Model Name | FCC ID |
|---|---|---|---|
| PoE | CISCO | SB-PWR-INJ2 | DoC |

## 2.3 EUT Operation during Test

For non-beamforming mode:

The EUT was programmed to be in continuously transmitting mode.

For beamforming mode:

The EUT was programmed to be in continuously transmitting mode.

The measured result was added array gain 10log2=3.01dBi as worse case in beamforming mode.

## 2.4 Accessories

| Accessories | | | |
|---|---|---|---|
| **Power** | **Brand Name** | **Model Name** | **Rating** |
| Adapter | DVE | DSA-12CB-12 120100 | INPUT: 100-240V ~ 50/60Hz 0.5A<br>OUTPUT: 12V, 1A |
| **Others** | | | |
| plug*1 | | | |

## 2.5 Support Equipment

**For Test Site No: CO02-CB**

| Support Equipment | | | | |
|---|---|---|---|---|
| **No.** | **Equipment** | **Brand Name** | **Model Name** | **FCC ID** |
| 1 | NB | DELL | E6430 | DoC |

**For Test Site No: TH01-CB**

| Support Equipment | | | | |
|---|---|---|---|---|
| **No.** | **Equipment** | **Brand Name** | **Model Name** | **FCC ID** |
| 1 | NB | DELL | E4300 | DoC |

**For Test Site No: 03CH01-CB (below 1GHz)**

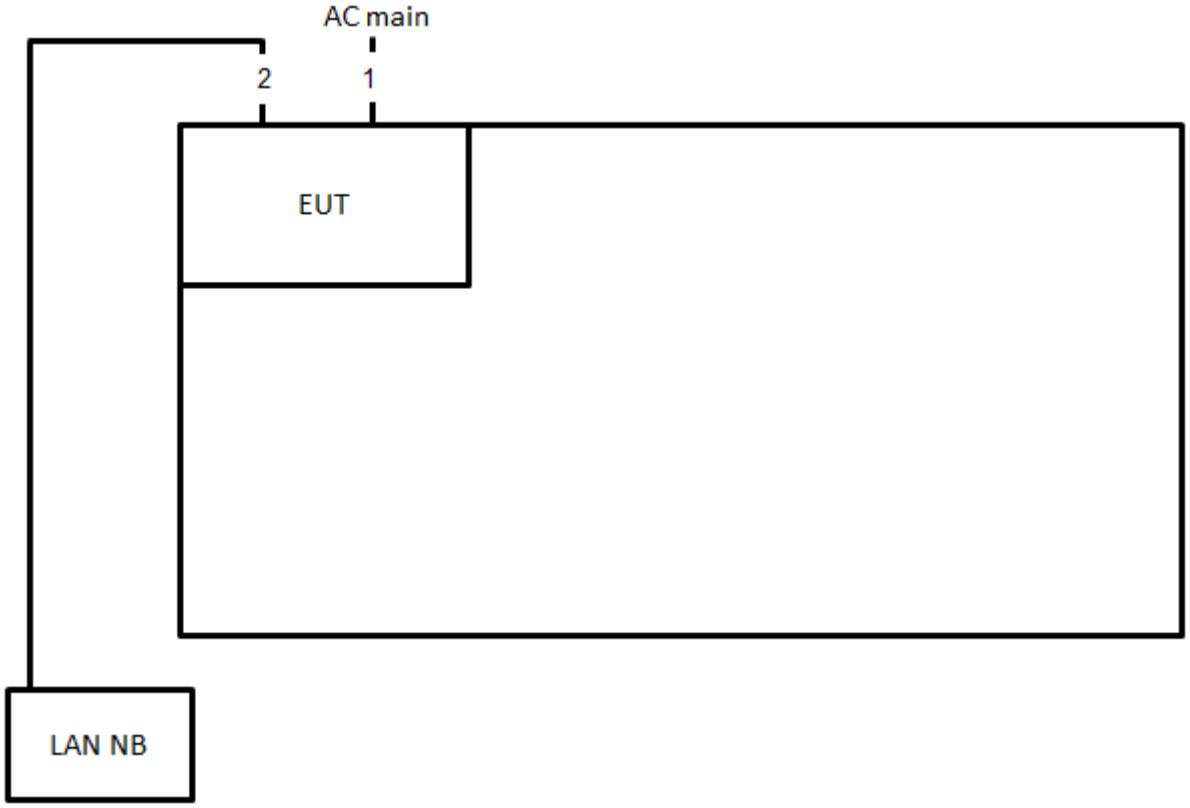
| Support Equipment | | | | |
|---|---|---|---|---|
| **No.** | **Equipment** | **Brand Name** | **Model Name** | **FCC ID** |
| 1 | NB | DELL | E4300 | DoC |
| 2 | PoE | CISCO | SB-PWR-INJ2 | DoC |

**For Test Site No: 03CH01-CB (above 1GHz)**

| Support Equipment | | | | |
|---|---|---|---|---|
| **No.** | **Equipment** | **Brand Name** | **Model Name** | **FCC ID** |
| 1 | NB | DELL | E4300 | DoC |

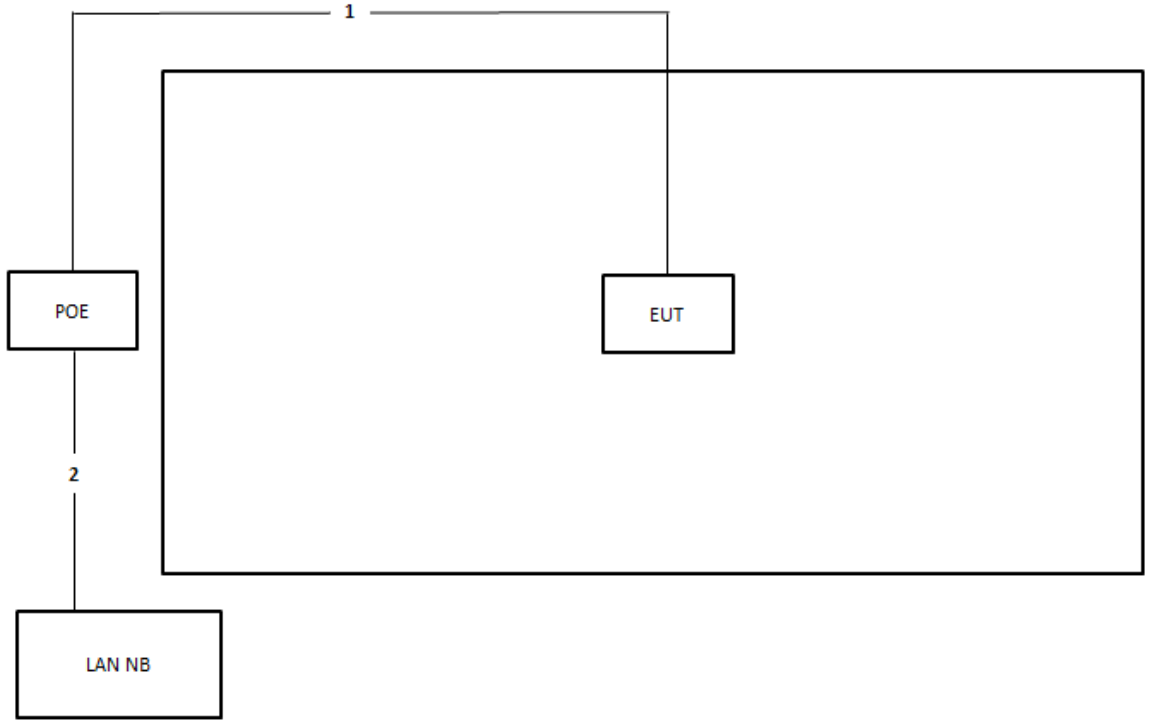
## 2.6 Test Setup Diagram

**Test Setup Diagram – AC Line Conducted Emission Test**



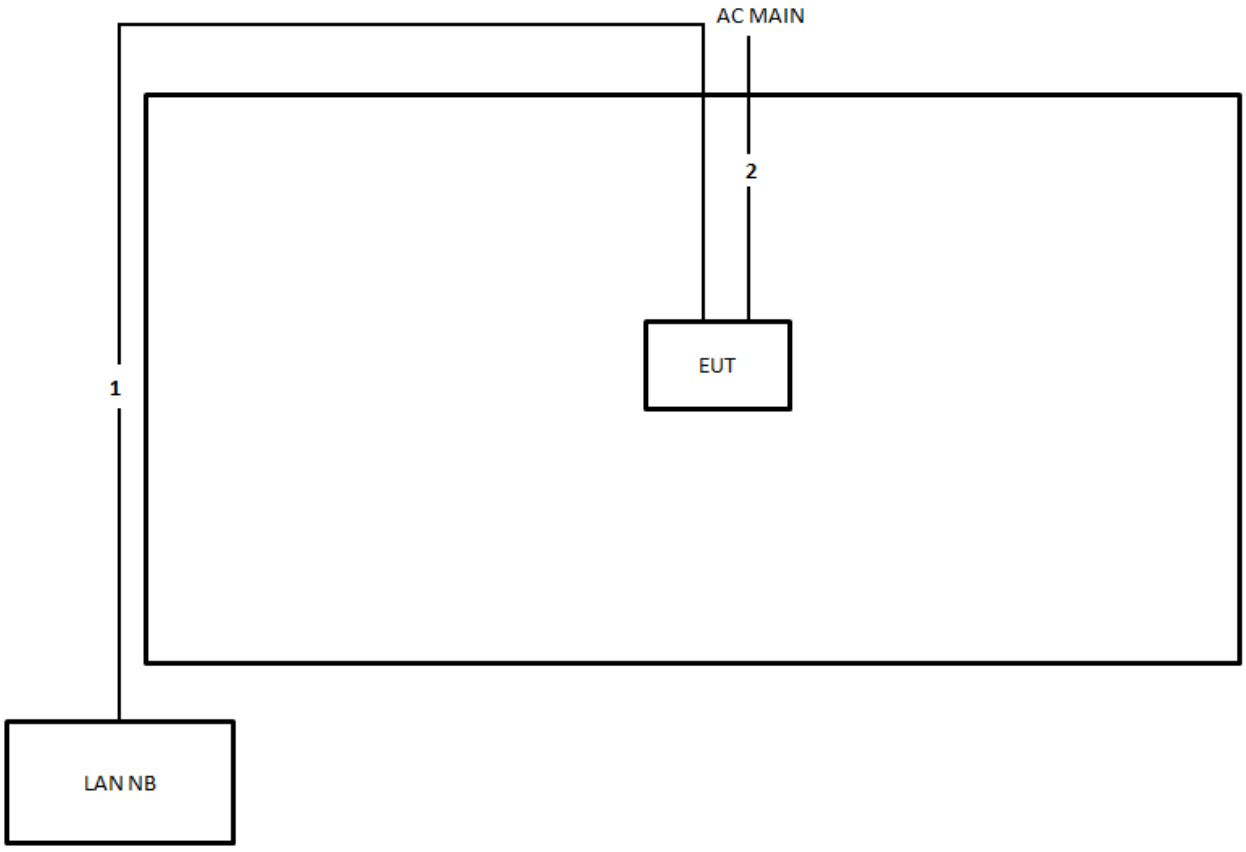

| Item | Connection | Shielded | Length |
|---|---|---|---|
| 1 | Power cable | No | 1.5m |
| 2 | RJ-45 cable | No | 10m |

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




| Item | Connection | Shielded | Length |
|---|---|---|---|
| 1 | RJ-45 cable | No | 10m |
| 2 | RJ-45 cable | No | 1.5m |

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




| Item | Connection | Shielded | Length |
|---|---|---|---|
| 1 | RJ-45 cable | No | 10m |
| 2 | Power cable | No | 1.5m |

# 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

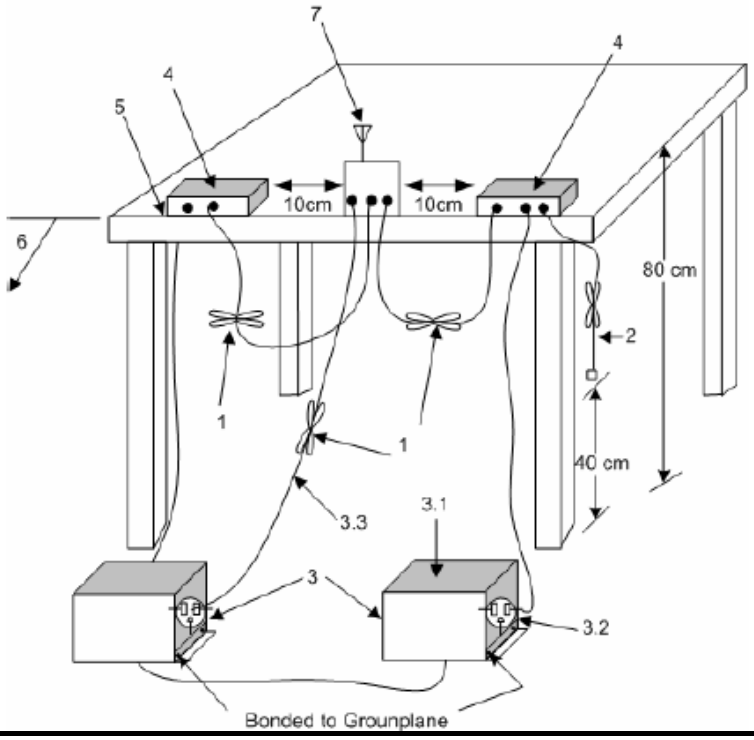
Refer a test equipment and calibration data table in this test report.

### 3.1.3 Test Procedures

| Test Method |
|---|
| ☒ Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions. |

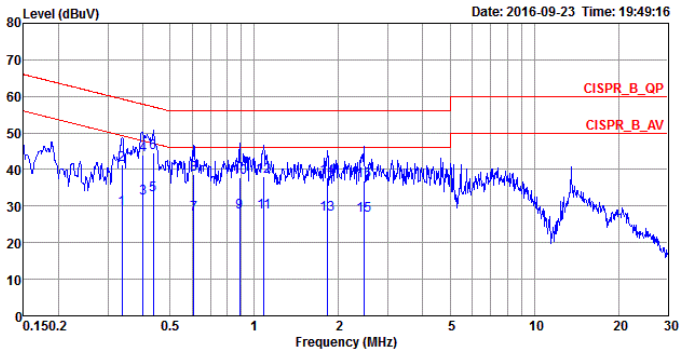
### 3.1.4 Test Setup

**AC Power-line Conducted Emissions**



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

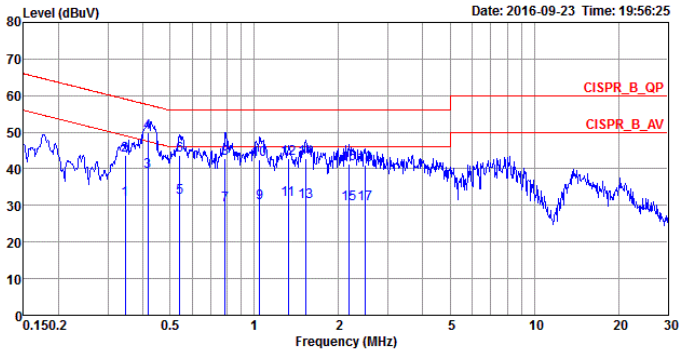
| AC Power-line Conducted Emissions Result | | | |
|---|---|---|---|
| **Operating Mode** | 1 | **Power Phase** | Neutral |
| **Operating Function** | CTX | | |




| | Freq | Level | Over Limit | Limit Line | Read Level | LISN Factor | Cable Loss | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB | dBuV | dBuV | dB | dB | | |
| 1 | 0.3374 | 29.14 | -20.13 | 49.27 | 28.90 | 0.05 | 0.19 | Average | NEUTRAL |
| 2 | 0.3374 | 41.18 | -18.09 | 59.27 | 40.94 | 0.05 | 0.19 | QP | NEUTRAL |
| 3 | 0.3997 | 32.20 | -15.66 | 47.86 | 31.95 | 0.05 | 0.20 | Average | NEUTRAL |
| 4 | 0.3997 | 43.87 | -13.99 | 57.86 | 43.62 | 0.05 | 0.20 | QP | NEUTRAL |
| 5 | 0.4351 | 33.06 | -14.09 | 47.15 | 32.81 | 0.05 | 0.20 | Average | NEUTRAL |
| 6 | 0.4351 | 44.59 | -12.56 | 57.15 | 44.34 | 0.05 | 0.20 | QP | NEUTRAL |
| 7 | 0.6075 | 27.72 | -18.28 | 46.00 | 27.47 | 0.05 | 0.20 | Average | NEUTRAL |
| 8 | 0.6075 | 38.53 | -17.47 | 56.00 | 38.28 | 0.05 | 0.20 | QP | NEUTRAL |
| 9 | 0.8850 | 28.31 | -17.69 | 46.00 | 28.06 | 0.06 | 0.19 | Average | NEUTRAL |
| 10 | 0.8850 | 37.88 | -18.12 | 56.00 | 37.63 | 0.06 | 0.19 | QP | NEUTRAL |
| 11 | 1.0824 | 28.20 | -17.80 | 46.00 | 27.94 | 0.06 | 0.20 | Average | NEUTRAL |
| 12 | 1.0824 | 38.01 | -17.99 | 56.00 | 37.75 | 0.06 | 0.20 | QP | NEUTRAL |
| 13 | 1.8288 | 27.74 | -18.26 | 46.00 | 27.42 | 0.07 | 0.25 | Average | NEUTRAL |
| 14 | 1.8288 | 37.78 | -18.22 | 56.00 | 37.46 | 0.07 | 0.25 | QP | NEUTRAL |
| 15 | 2.4606 | 27.41 | -18.59 | 46.00 | 27.05 | 0.08 | 0.28 | Average | NEUTRAL |
| 16 | 2.4606 | 36.81 | -19.19 | 56.00 | 36.45 | 0.08 | 0.28 | QP | NEUTRAL |

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** | CTX | | |




| | Freq | Level | Over Limit | Limit Line | Read Level | LISN Factor | Cable Loss | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB | dBuV | dBuV | dB | dB | | |
| 1 | 0.3465 | 31.52 | -17.53 | 49.05 | 31.28 | 0.05 | 0.19 | Average | LINE |
| 2 | 0.3465 | 43.78 | -15.27 | 59.05 | 43.54 | 0.05 | 0.19 | QP | LINE |
| 3 | 0.4171 | 39.40 | -8.11 | 47.51 | 39.15 | 0.05 | 0.20 | Average | LINE |
| 4 | 0.4171 | 49.85 | -7.66 | 57.51 | 49.60 | 0.05 | 0.20 | QP | LINE |
| 5 | 0.5407 | 32.04 | -13.96 | 46.00 | 31.79 | 0.05 | 0.20 | Average | LINE |
| 6 | 0.5407 | 43.55 | -12.45 | 56.00 | 43.30 | 0.05 | 0.20 | QP | LINE |
| 7 | 0.7876 | 30.20 | -15.80 | 46.00 | 29.95 | 0.06 | 0.19 | Average | LINE |
| 8 | 0.7876 | 42.75 | -13.25 | 56.00 | 42.50 | 0.06 | 0.19 | QP | LINE |
| 9 | 1.0430 | 30.74 | -15.26 | 46.00 | 30.49 | 0.06 | 0.19 | Average | LINE |
| 10 | 1.0430 | 42.62 | -13.38 | 56.00 | 42.37 | 0.06 | 0.19 | QP | LINE |
| 11 | 1.3238 | 31.49 | -14.51 | 46.00 | 31.22 | 0.06 | 0.21 | Average | LINE |
| 12 | 1.3238 | 42.74 | -13.26 | 56.00 | 42.47 | 0.06 | 0.21 | QP | LINE |
| 13 | 1.5274 | 30.99 | -15.01 | 46.00 | 30.69 | 0.07 | 0.23 | Average | LINE |
| 14 | 1.5274 | 42.70 | -13.30 | 56.00 | 42.40 | 0.07 | 0.23 | QP | LINE |
| 15 | 2.1783 | 30.35 | -15.65 | 46.00 | 30.01 | 0.07 | 0.27 | Average | LINE |
| 16 | 2.1783 | 41.29 | -14.71 | 56.00 | 40.95 | 0.07 | 0.27 | QP | LINE |
| 17 | 2.4868 | 30.41 | -15.59 | 46.00 | 30.05 | 0.08 | 0.28 | Average | LINE |
| 18 | 2.4868 | 40.93 | -15.07 | 56.00 | 40.57 | 0.08 | 0.28 | QP | LINE |

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 DTS Bandwidth

## 3.2.1 6dB Bandwidth Limit

| 6dB Bandwidth Limit |
|---|
| **Systems using digital modulation techniques:** |
| ▪ 6 dB bandwidth ≥ 500 kHz. |

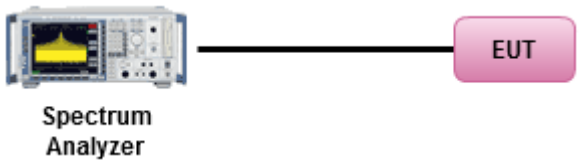
## 3.2.2 Measuring Instruments

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 558074, clause 8.1 Option 1 for 6 dB bandwidth measurement. |
| | ☐ Refer as FCC KDB 558074, clause 8.2 Option 2 for 6 dB bandwidth measurement. |
| | ☐ Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing. |

## 3.2.4 Test Setup

| Emission Bandwidth |
|---|
|   |

### 3.2.5 Test Result of Emission Bandwidth

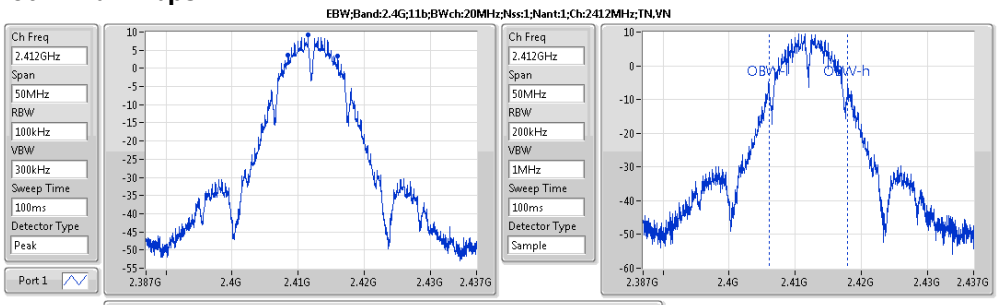
| Mode | Result | Limit (Hz) | P1-N dB (Hz) | P1-OBW (Hz) |
|---|---|---|---|---|
| 802.11b 1Mbps 2412MHz 1TX | Pass | 500k | 7.55M | 11.844M |
| 802.11b 1Mbps 2437MHz 1TX | Pass | 500k | 7.05M | 11.844M |
| 802.11b 1Mbps 2462MHz 1TX | Pass | 500k | 6.55M | 11.944M |
| 802.11g 6Mbps 2412MHz 1TX | Pass | 500k | 15.25M | 16.367M |
| 802.11g 6Mbps 2437MHz 1TX | Pass | 500k | 12.9M | 16.392M |
| 802.11g 6Mbps 2462MHz 1TX | Pass | 500k | 15.425M | 16.367M |
| 802.11ac VHT20 MCS0 2412MHz 1TX | Pass | 500k | 15M | 17.591M |
| 802.11ac VHT20 MCS0 2437MHz 1TX | Pass | 500k | 17M | 17.566M |
| 802.11ac VHT20 MCS0 2462MHz 1TX | Pass | 500k | 11.425M | 17.566M |
| 802.11ac VHT40 MCS0 2422MHz 1TX | Pass | 500k | 34.65M | 35.632M |
| 802.11ac VHT40 MCS0 2437MHz 1TX | Pass | 500k | 33.8M | 35.632M |
| 802.11ac VHT40 MCS0 2452MHz 1TX | Pass | 500k | 35.05M | 35.732M |

Note: N dB BW = 6dB BW

| Mode | Result | Limit (Hz) | P1-N dB (Hz) | P1-OBW (Hz) |
|---|---|---|---|---|
| 802.11b 1Mbps 2412MHz 2TX | Pass | 500k | 6.575M | 7.05M |
| 802.11b 1Mbps 2437MHz 2TX | Pass | 500k | 7.525M | 8.475M |
| 802.11b 1Mbps 2462MHz 2TX | Pass | 500k | 7.025M | 7.025M |
| 802.11g 6Mbps 2412MHz 2TX | Pass | 500k | 15.05M | 14.925M |
| 802.11g 6Mbps 2437MHz 2TX | Pass | 500k | 15.125M | 15.075M |
| 802.11g 6Mbps 2462MHz 2TX | Pass | 500k | 15.125M | 13.875M |
| 802.11ac VHT20(BF)MSC0 2412MHz 2TX | Pass | 500k | 15.05M | 15.125M |
| 802.11ac VHT20(BF)MSC0 2437MHz 2TX | Pass | 500k | 13.925M | 15.7M |
| 802.11ac VHT20(BF)MSC0 2462MHz 2TX | Pass | 500k | 15.075M | 15.125M |
| 802.11ac VHT40(BF)MCS0 2422MHz 2TX | Pass | 500k | 35.05M | 35M |
| 802.11ac VHT40(BF)MCS0 2437MHz 2TX | Pass | 500k | 35.2M | 35.1M |
| 802.11ac VHT40(BF)MCS0 2452MHz 2TX | Pass | 500k | 35.2M | 35.1M |

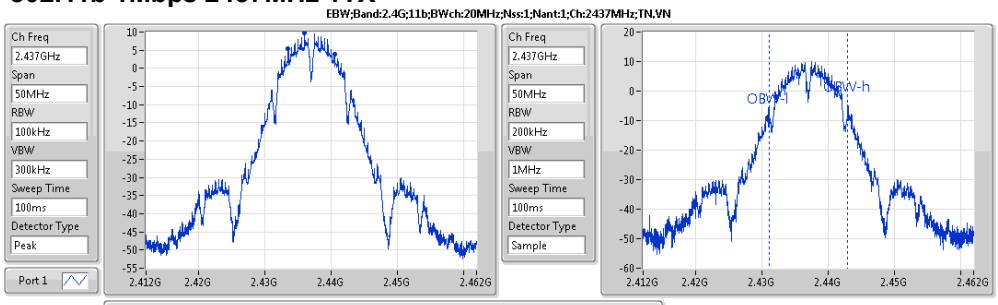
Note: N dB BW = 6dB BW

### 802.11b 1Mbps 2412MHz 1TX



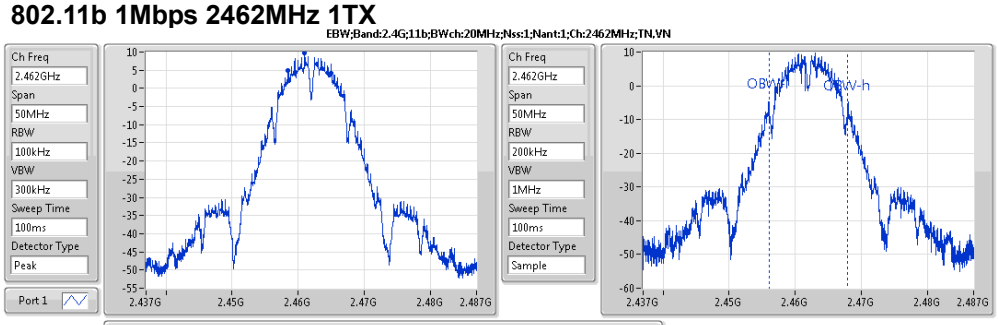

| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---|---|---|---|---|---|---|---|
| 7.55M | 2.408475G | 2.416025G | 11.844M | 2.406078G | 2.417922G | 500k | 1 |

### 802.11b 1Mbps 2437MHz 1TX



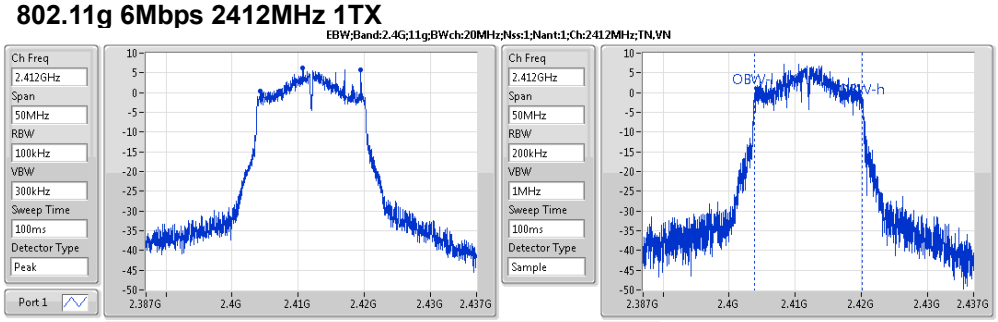

| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---|---|---|---|---|---|---|---|
| 7.05M | 2.433475G | 2.440525G | 11.844M | 2.431128G | 2.442972G | 500k | 1 |

### 802.11b 1Mbps 2462MHz 1TX



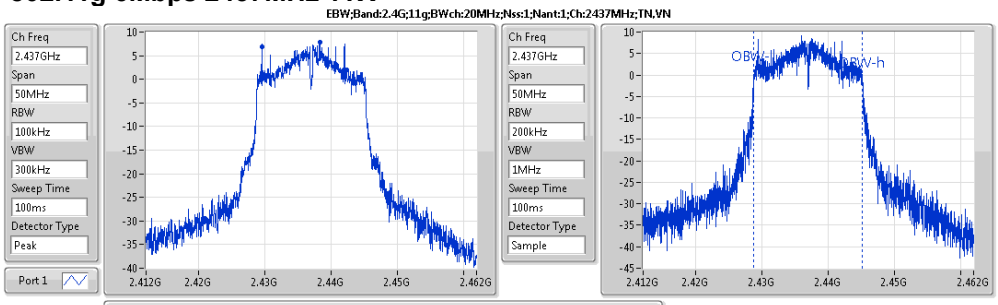

| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---|---|---|---|---|---|---|---|
| 6.55M | 2.4585G | 2.46505G | 11.944M | 2.456028G | 2.467972G | 500k | 1 |

### 802.11g 6Mbps 2412MHz 1TX



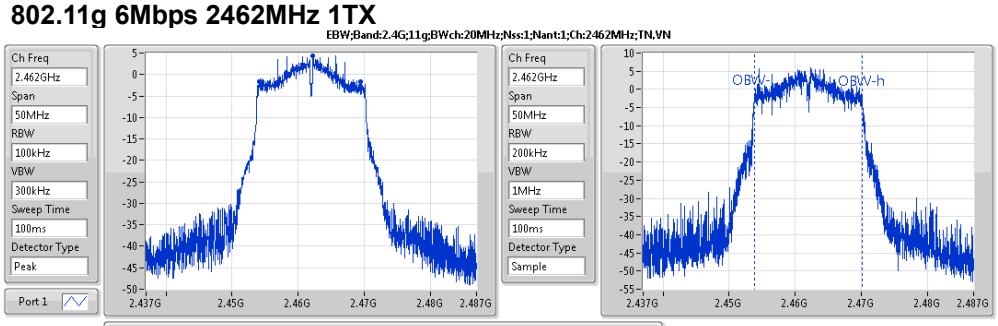

| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---|---|---|---|---|---|---|---|
| 15.25M | 2.40425G | 2.4195G | 16.367M | 2.403804G | 2.420171G | 500k | 1 |

## 802.11g 6Mbps 2437MHz 1TX



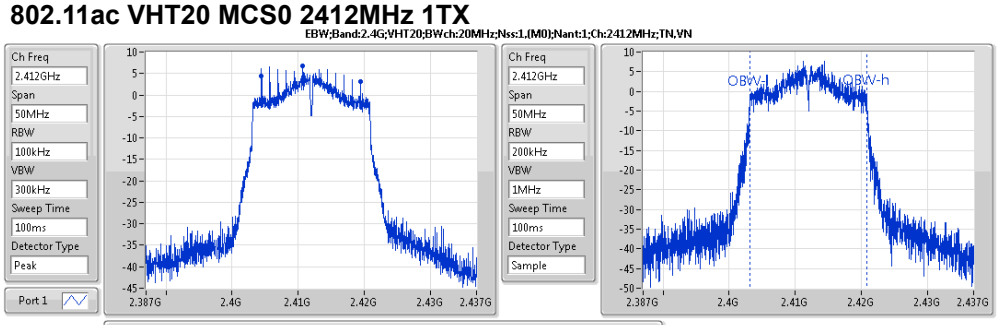

| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---|---|---|---|---|---|---|---|
| 12.9M | 2.4295G | 2.4424G | 16.392M | 2.428779G | 2.445171G | 500k | 1 |

## 802.11g 6Mbps 2462MHz 1TX



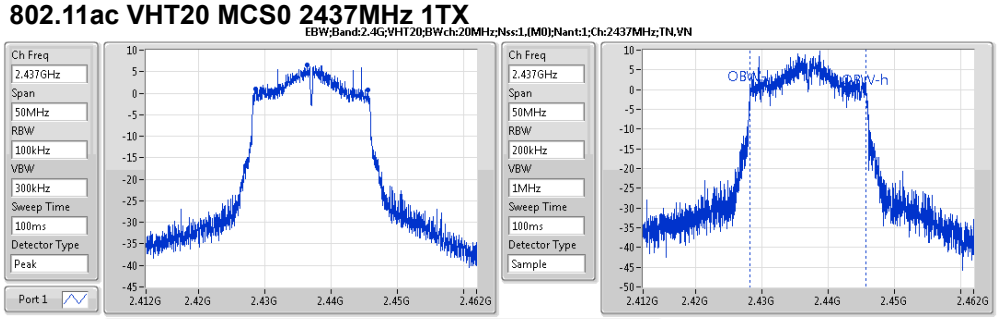

| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---|---|---|---|---|---|---|---|
| 15.425M | 2.454075G | 2.4695G | 16.367M | 2.453804G | 2.470171G | 500k | 1 |

## 802.11ac VHT20 MCS0 2412MHz 1TX



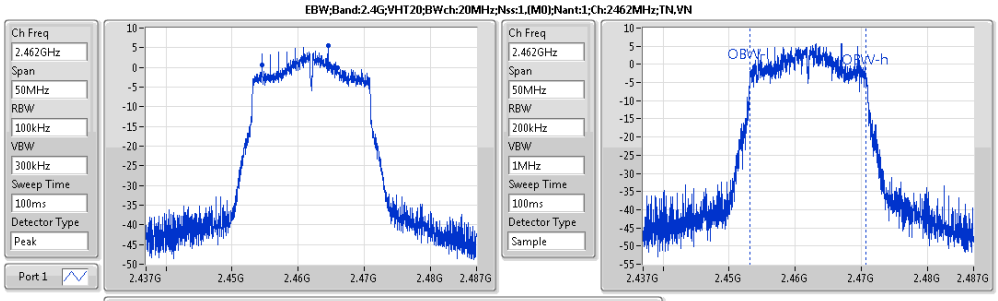

| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---|---|---|---|---|---|---|---|
| 15M | 2.40445G | 2.41945G | 17.591M | 2.403204G | 2.420796G | 500k | 1 |

## 802.11ac VHT20 MCS0 2437MHz 1TX



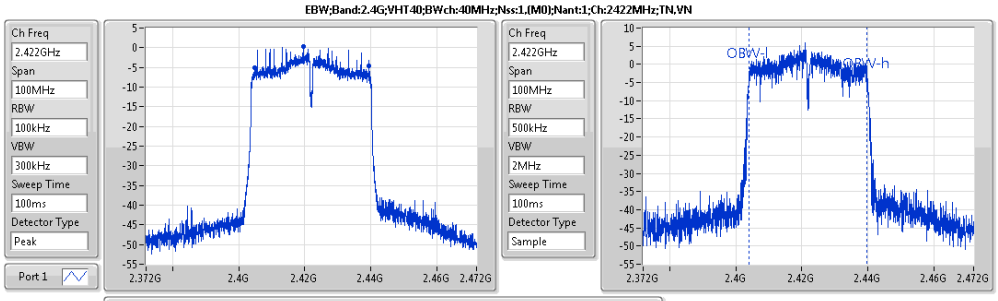

| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---|---|---|---|---|---|---|---|
| 17M | 2.428525G | 2.445525G | 17.566M | 2.428204G | 2.445771G | 500k | 1 |

## 802.11ac VHT20 MCS0 2462MHz 1TX



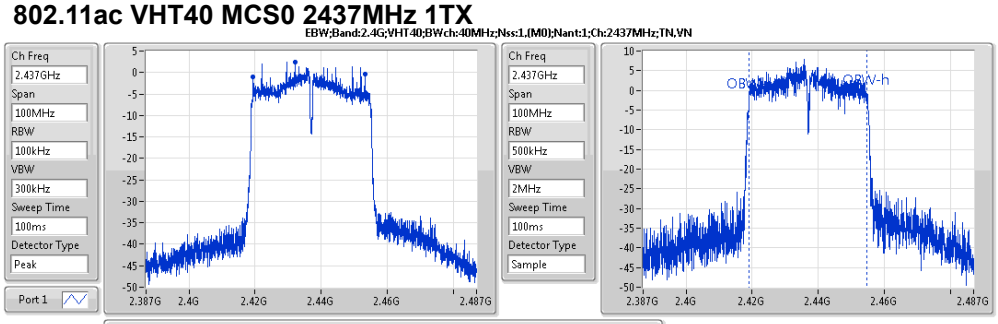

| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---|---|---|---|---|---|---|---|
| 11.425M | 2.45455G | 2.465975G | 17.566M | 2.453204G | 2.470771G | 500k | 1 |

## 802.11ac VHT40 MCS0 2422MHz 1TX



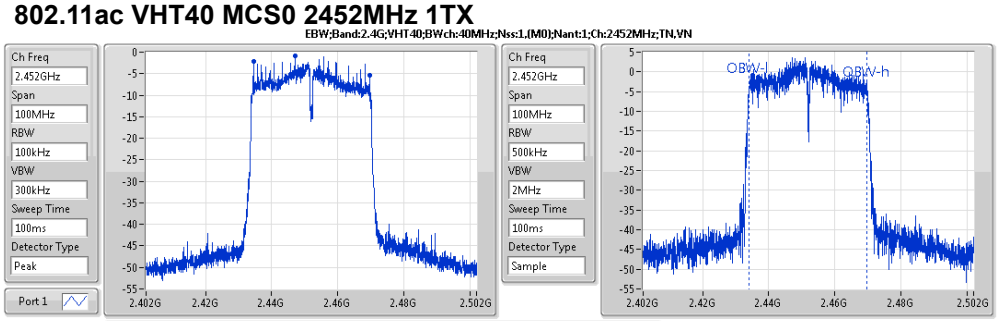

| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---|---|---|---|---|---|---|---|
| 34.65M | 2.40485G | 2.4395G | 35.632M | 2.404109G | 2.439741G | 500k | 1 |

## 802.11ac VHT40 MCS0 2437MHz 1TX



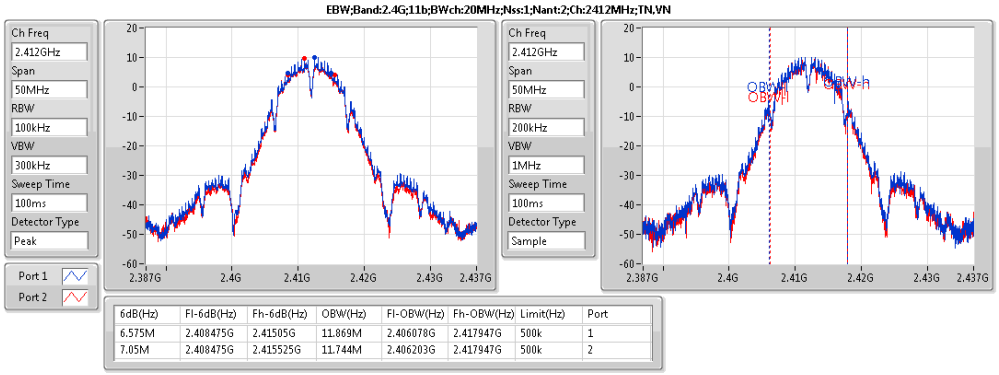

| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---|---|---|---|---|---|---|---|
| 33.8M | 2.41945G | 2.45325G | 35.632M | 2.419159G | 2.454791G | 500k | 1 |

## 802.11ac VHT40 MCS0 2452MHz 1TX



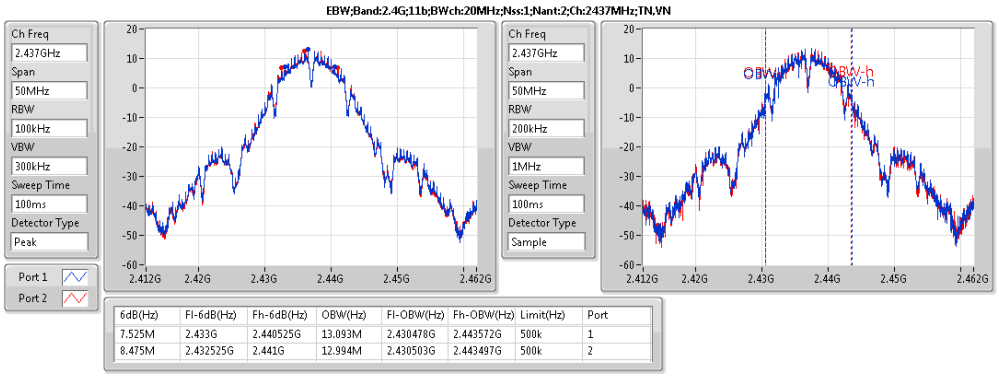

| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---|---|---|---|---|---|---|---|
| 35.05M | 2.4345G | 2.46955G | 35.732M | 2.434059G | 2.469791G | 500k | 1 |

### 802.11b 1Mbps 2412MHz 2TX



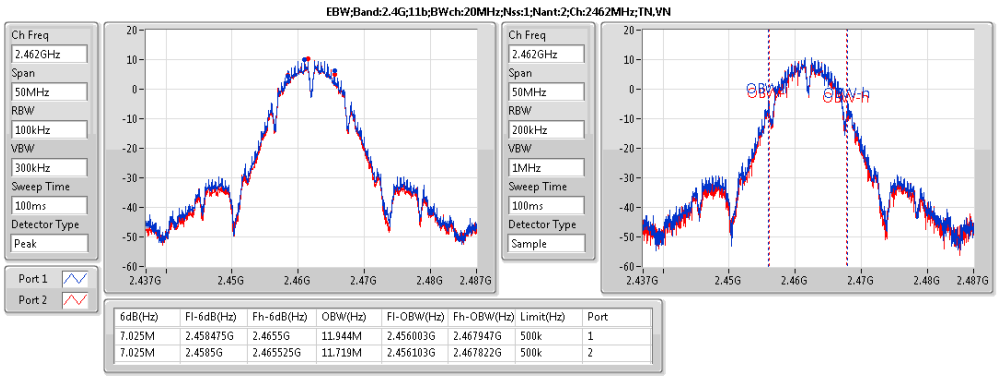

| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---|---|---|---|---|---|---|---|
| 6.575M | 2.408475G | 2.41505G | 11.869M | 2.406078G | 2.417947G | 500k | 1 |
| 7.05M | 2.408475G | 2.415525G | 11.744M | 2.406203G | 2.417947G | 500k | 2 |

### 802.11b 1Mbps 2437MHz 2TX



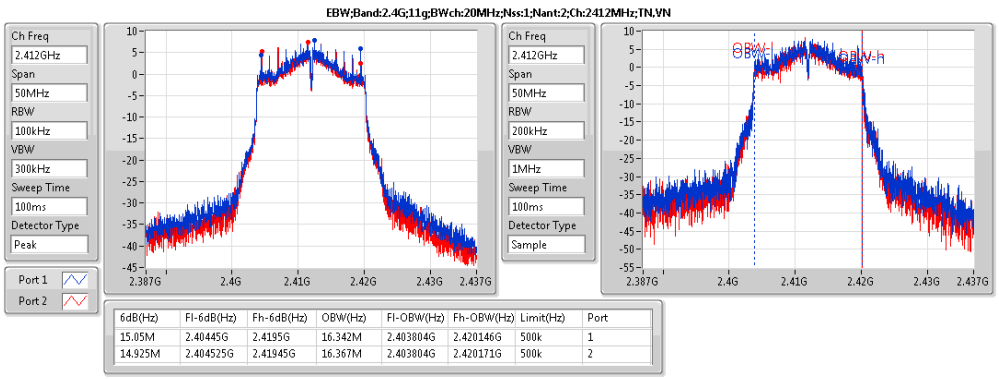

| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---|---|---|---|---|---|---|---|
| 7.525M | 2.433G | 2.440525G | 13.093M | 2.430478G | 2.443572G | 500k | 1 |
| 8.475M | 2.432525G | 2.441G | 12.994M | 2.430503G | 2.443497G | 500k | 2 |

### 802.11b 1Mbps 2462MHz 2TX



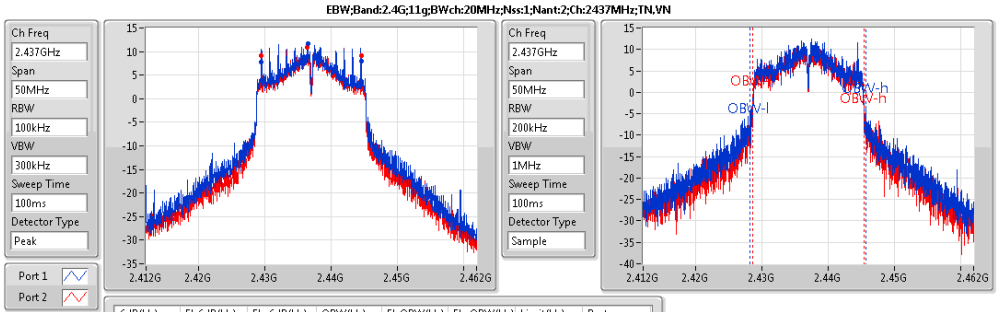

| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---|---|---|---|---|---|---|---|
| 7.025M | 2.458475G | 2.4655G | 11.944M | 2.456003G | 2.467947G | 500k | 1 |
| 7.025M | 2.4585G | 2.465525G | 11.719M | 2.456103G | 2.467822G | 500k | 2 |

### 802.11g 6Mbps 2412MHz 2TX



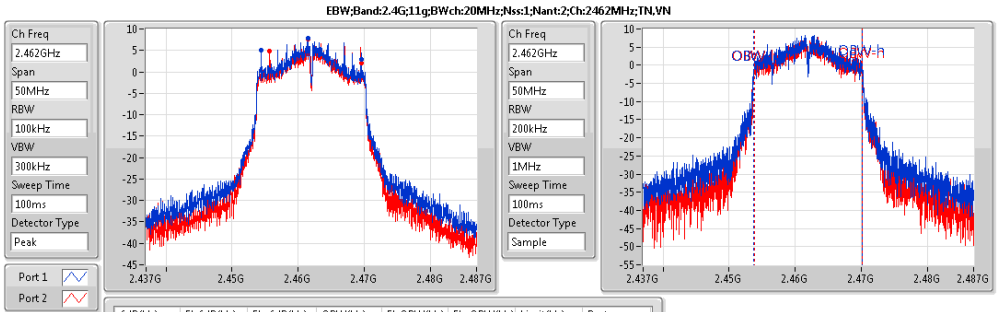

| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---|---|---|---|---|---|---|---|
| 15.05M | 2.40445G | 2.4195G | 16.342M | 2.403804G | 2.420146G | 500k | 1 |
| 14.925M | 2.404525G | 2.41945G | 16.367M | 2.403804G | 2.420171G | 500k | 2 |

### 802.11g 6Mbps 2437MHz 2TX



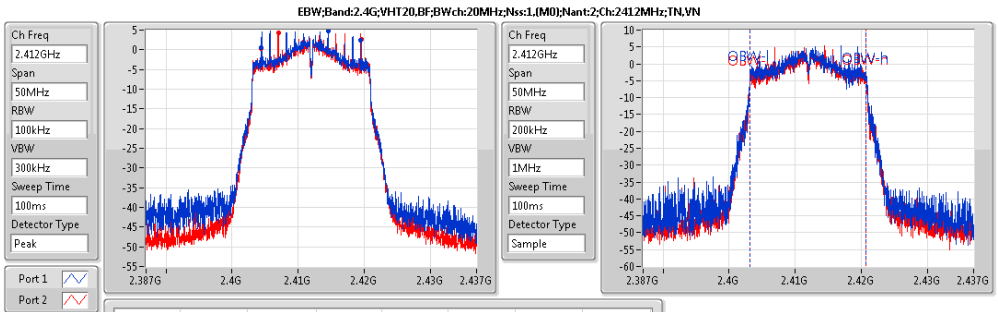

| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---|---|---|---|---|---|---|---|
| 15.125M | 2.42945G | 2.444575G | 17.516M | 2.428204G | 2.445721G | 500k | 1 |
| 15.075M | 2.429475G | 2.44455G | 16.792M | 2.428629G | 2.445421G | 500k | 2 |

### 802.11g 6Mbps 2462MHz 2TX



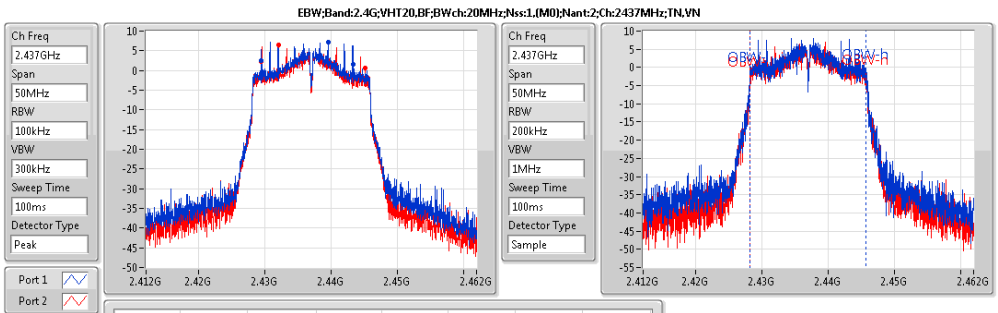

| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---|---|---|---|---|---|---|---|
| 15.125M | 2.45445G | 2.469575G | 16.392M | 2.453779G | 2.470171G | 500k | 1 |
| 13.875M | 2.4557G | 2.469575G | 16.342M | 2.453804G | 2.470146G | 500k | 2 |

### 802.11ac VHT20(BF)MCS0 2412MHz 2TX



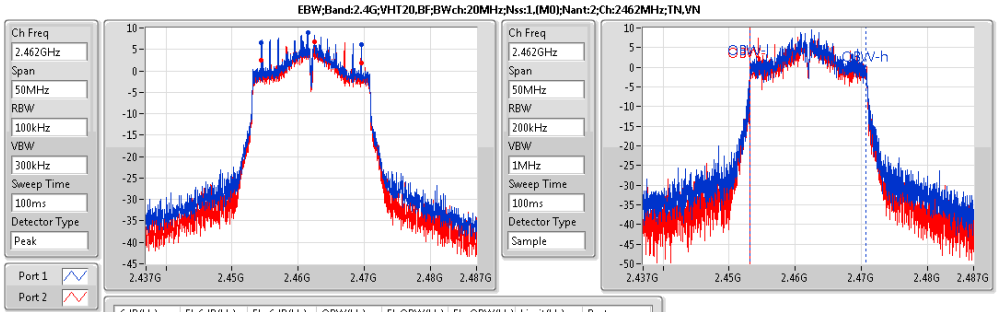

| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---|---|---|---|---|---|---|---|
| 15.05M | 2.404425G | 2.419475G | 17.566M | 2.403204G | 2.420771G | 500k | 1 |
| 15.125M | 2.404425G | 2.41955G | 17.566M | 2.403179G | 2.420746G | 500k | 2 |

### 802.11ac VHT20(BF)MCS0 2437MHz 2TX



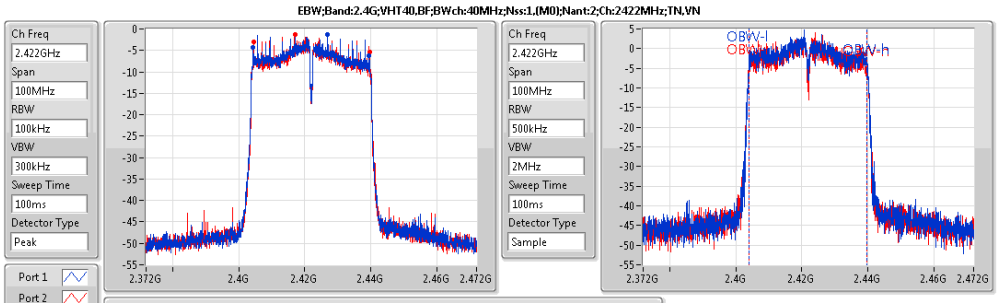

| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---|---|---|---|---|---|---|---|
| 13.925M | 2.429425G | 2.44335G | 17.566M | 2.428204G | 2.445771G | 500k | 1 |
| 15.7M | 2.429425G | 2.445125G | 17.566M | 2.428204G | 2.445771G | 500k | 2 |

## 802.11ac VHT20(BF)MCS0 2462MHz 2TX



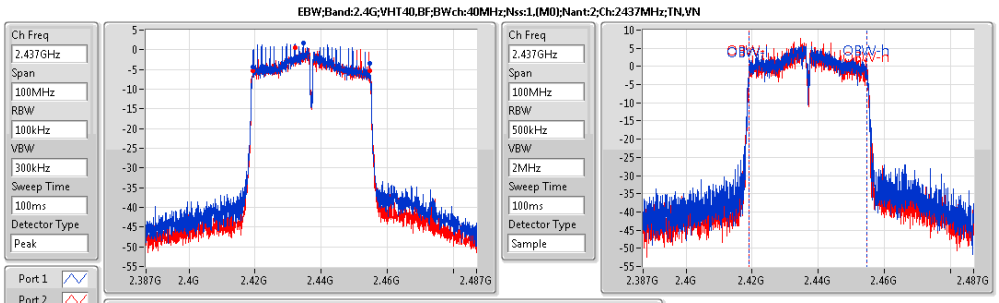

| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---|---|---|---|---|---|---|---|
| 15.075M | 2.454475G | 2.46955G | 17.591M | 2.453179G | 2.470771G | 500k | 1 |
| 15.125M | 2.454425G | 2.46955G | 17.566M | 2.453204G | 2.470771G | 500k | 2 |

## 802.11ac VHT40(BF)MCS0 2422MHz 2TX



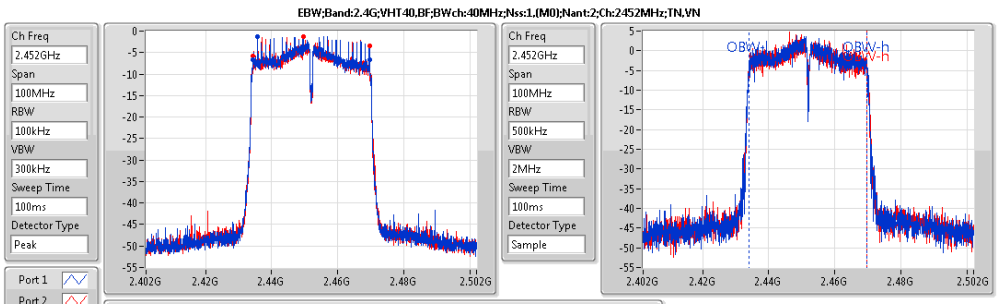

| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---|---|---|---|---|---|---|---|
| 35.05M | 2.40445G | 2.4395G | 35.682M | 2.404109G | 2.439791G | 500k | 1 |
| 35M | 2.40455G | 2.43955G | 35.632M | 2.404159G | 2.439791G | 500k | 2 |

## 802.11ac VHT40(BF)MCS0 2437MHz 2TX




| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---|---|---|---|---|---|---|---|
| 35.2M | 2.4194G | 2.4546G | 35.582M | 2.419159G | 2.454741G | 500k | 1 |
| 35.1M | 2.41945G | 2.45455G | 35.632M | 2.419159G | 2.454791G | 500k | 2 |

## 802.11ac VHT40(BF)MCS0 2452MHz 2TX




| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---|---|---|---|---|---|---|---|
| 35.2M | 2.4344G | 2.4696G | 35.632M | 2.434109G | 2.469741G | 500k | 1 |
| 35.1M | 2.43445G | 2.46955G | 35.582M | 2.434109G | 2.469691G | 500k | 2 |

# 3.3 Maximum Conducted Output Power

## 3.3.1 Maximum Conducted Output Power Limit

| Maximum Conducted Output Power Limit | | |
|---|---|---|
| | ▪ If $G_{TX} \leq 6$ dBi, then $P_{Out} \leq 30$ dBm (1 W) | |
| | ▪ Point-to-multipoint systems (P2M): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)$ dBm | |
| | ▪ Point-to-point systems (P2P): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)/3$ dBm | |
| | ▪ Smart antenna system (SAS): | |
| | | - Single beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)/3$ dBm |
| | | - Overlap beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)/3$ dBm |
| | | - Aggregate power on all beams: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)/3 + 8$dB dBm |
| **$P_{Out}$** = maximum peak conducted output power or maximum conducted output power in dBm,<br>**$G_{TX}$** = the maximum transmitting antenna directional gain in dBi. | | |

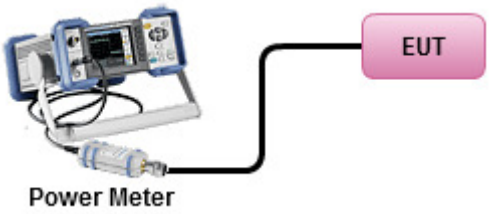
## 3.3.2 Measuring Instruments

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

### 3.3.3 Test Procedures

| Test Method | |
|---|---|
| ▪ Maximum Peak Conducted Output Power | |
| | ☐ Refer as FCC KDB 558074, clause 9.1.1 Option 1 (RBW ≥ EBW method). |
| | ☐ Refer as FCC KDB 558074, clause 9.1.2 Option 2 (peak power meter for VBW ≥ DTS BW) |
| ▪ Maximum Conducted Output Power | |
| | [duty cycle ≥ 98% or external video / power trigger] |
| | ☐ Refer as FCC KDB 558074, clause 9.2.2.2 Method AVGSA-1 (spectral trace averaging). |
| | ☐ Refer as FCC KDB 558074, clause 9.2.2.3 Method AVGSA-1 Alt. (slow sweep speed) |
| | duty cycle < 98% and average over on/off periods with duty factor |
| | ☐ Refer as FCC KDB 558074, clause 9.2.2.4 Method AVGSA-2 (spectral trace averaging). |
| | ☐ Refer as FCC KDB 558074, clause 9.2.2.5 Method AVGSA-2 Alt. (slow sweep speed) |
| | RF power meter and average over on/off periods with duty factor or gated trigger |
| | ☒ Refer as FCC KDB 558074, clause 9.2.3 Method AVGPM-G (using an RF average power meter). |
| | ☐ Refer as FCC KDB 558074, clause 9.1.2 PKPM1 Peak power meter method. |
| ▪ For conducted measurement. | |
| | ▪ If 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

| Maximum Conducted Output Power (Power Meter) |
|---|
|  |

### 3.3.5 Test Result of Maximum Conducted Output Power

| Mode | Result | Directional Gain (dBi) | Port 1 (dBm) | Output Power Limit (dBm) | EIRP (dBm) |
|---|---|---|---|---|---|
| 802.11b 1Mbps 2412MHz 1TX | Pass | 4.02 | 18.17 | 30.00 | 22.19 |
| 802.11b 1Mbps 2437MHz 1TX | Pass | 4.02 | 22.90 | 30.00 | 26.92 |
| 802.11b 1Mbps 2462MHz 1TX | Pass | 4.02 | 18.72 | 30.00 | 22.74 |
| 802.11g 6Mbps 2412MHz 1TX | Pass | 4.02 | 17.42 | 30.00 | 21.44 |
| 802.11g 6Mbps 2437MHz 1TX | Pass | 4.02 | 19.03 | 30.00 | 23.05 |
| 802.11g 6Mbps 2462MHz 1TX | Pass | 4.02 | 16.23 | 30.00 | 20.25 |
| 802.11ac VHT20 MCS0 2412MHz 1TX | Pass | 4.02 | 17.13 | 30.00 | 21.15 |
| 802.11ac VHT20 MCS0 2437MHz 1TX | Pass | 4.02 | 19.89 | 30.00 | 23.91 |
| 802.11ac VHT20 MCS0 2462MHz 1TX | Pass | 4.02 | 17.33 | 30.00 | 21.35 |
| 802.11ac VHT40 MCS0 2422MHz 1TX | Pass | 4.02 | 15.79 | 30.00 | 19.81 |
| 802.11ac VHT40 MCS0 2437MHz 1TX | Pass | 4.02 | 17.55 | 30.00 | 21.57 |
| 802.11ac VHT40 MCS0 2452MHz 1TX | Pass | 4.02 | 15.73 | 30.00 | 19.75 |

| Mode | Result | Directional Gain (dBi) | Port 1 (dBm) | Port 2 (dBm) | Total Power (dBm) | Output Power Limit (dBm) | EIRP (dBm) |
|---|---|---|---|---|---|---|---|
| 802.11b 1Mbps 2412MHz 2TX | Pass | 4.02 | 18.72 | 18.51 | 21.63 | 30.00 | 25.65 |
| 802.11b 1Mbps 2437MHz 2TX | Pass | 4.02 | 22.86 | 22.51 | 25.70 | 30.00 | 29.72 |
| 802.11b 1Mbps 2462MHz 2TX | Pass | 4.02 | 19.54 | 19.30 | 22.43 | 30.00 | 26.45 |
| 802.11g 6Mbps 2412MHz 2TX | Pass | 4.02 | 19.18 | 18.29 | 21.77 | 30.00 | 25.79 |
| 802.11g 6Mbps 2437MHz 2TX | Pass | 4.02 | 19.72 | 19.12 | 22.44 | 30.00 | 26.46 |
| 802.11g 6Mbps 2462MHz 2TX | Pass | 4.02 | 17.02 | 16.43 | 19.75 | 30.00 | 23.77 |
| 802.11ac VHT20(BF)MCS0 2412MHz 2TX | Pass | 7.03 | 16.3 | 16.38 | 19.35 | 28.97 | 26.38 |
| 802.11ac VHT20(BF)MCS0 2437MHz 2TX | Pass | 7.03 | 18.85 | 18.69 | 21.78 | 28.97 | 28.81 |
| 802.11ac VHT20(BF)MCS0 2462MHz 2TX | Pass | 7.03 | 16.57 | 16.34 | 19.47 | 28.97 | 26.50 |
| 802.11ac VHT40(BF)MCS0 2422MHz 2TX | Pass | 7.03 | 14.69 | 14.60 | 17.66 | 28.97 | 24.69 |
| 802.11ac VHT40(BF)MCS0 2437MHz 2TX | Pass | 7.03 | 16.36 | 16.34 | 19.36 | 28.97 | 26.39 |
| 802.11ac VHT40(BF)MCS0 2452MHz 2TX | Pass | 7.03 | 14.12 | 14.08 | 17.11 | 28.97 | 24.14 |

Note: For 802.11ac VHT20(BF) and 802.11ac VHT40(BF)

$$Directional\,Gain = 10\log\left[\frac{\sum_{j=1}^{Nss}\left\{\sum_{K=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$$ =7.03dBi >6dBi, so limit=30 – (7.03 – 6)=28.97dBm.

# 3.4 Power Spectral Density

## 3.4.1 Power Spectral Density Limit

| Power Spectral Density Limit |
|---|
| ▪ Power Spectral Density (PSD) ≤ 8 dBm/3kHz |

## 3.4.2 Measuring Instruments

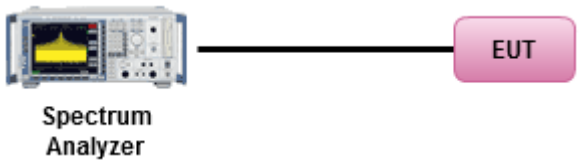
Refer a test equipment and calibration data table in this test report.

## 3.4.3 Test Procedures

| Test Method | | |
|---|---|---|
| ▪ Peak power spectral density procedures that the same method as used to determine the conducted output power. If maximum peak conducted output power was measured to demonstrate compliance to the output power limit, then the peak PSD procedure below (Method PKPSD) shall be used. If maximum conducted output power was measured to demonstrate compliance to the output power limit, then one of the average PSD procedures shall be used, as applicable based on the following criteria (the peak PSD procedure is also an acceptable option). | | |
| | ☒ Refer as FCC KDB 558074, clause 10.2 Method PKPSD (RBW=3-100kHz; Detector=peak). | |
| | [duty cycle ≥ 98% or external video / power trigger] | |
| | ☐ Refer as FCC KDB 558074, clause 10.3 Method AVGPSD-1 (spectral trace averaging). | |
| | ☐ Refer as FCC KDB 558074, clause 10.4 Method AVGPSD-2 (slow sweep speed) | |
| | duty cycle < 98% and average over on/off periods with duty factor | |
| | ☐ Refer as FCC KDB 558074, clause 10.5 Method AVGPSD-1 Alt (spectral trace averaging). | |
| | ☐ Refer as FCC KDB 558074, clause 10.6 Method AVGPSD-2 Alt. (slow sweep speed) | |
| ▪ For conducted measurement. | | |
| | ▪ If 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 spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace. |
| | | ☐ Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits, |
| | | ☐ Option 3: 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. |

### 3.4.4 Test Setup

**Power Spectral Density**



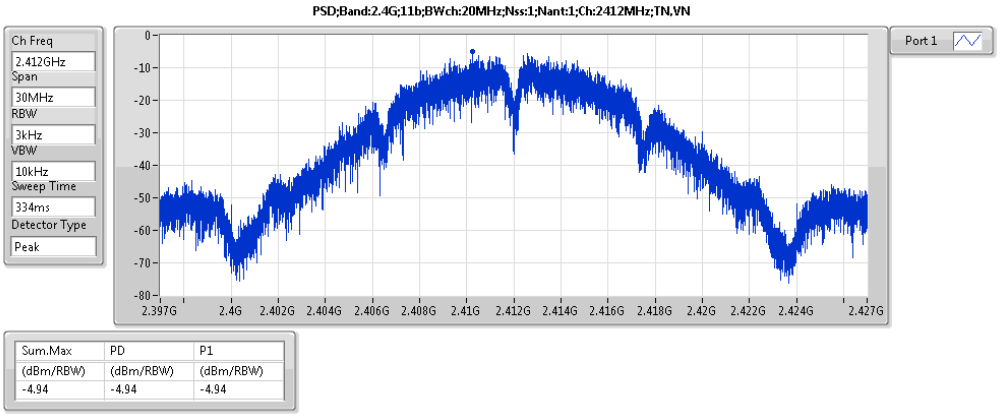
### 3.4.5 Test Result of Power Spectral Density

| Mode | Result | Directional Gain (dBi) | Port 1 (dBm/3kHz) | PSD.Limit (dBm/3kHz) |
|---|---|---|---|---|
| 802.11b 1Mbps 2412MHz 1TX | Pass | 4.02 | -4.94 | 8.00 |
| 802.11b 1Mbps 2437MHz 1TX | Pass | 4.02 | -3.79 | 8.00 |
| 802.11b 1Mbps 2462MHz 1TX | Pass | 4.02 | -5.36 | 8.00 |
| 802.11g 6Mbps 2412MHz 1TX | Pass | 4.02 | -6.05 | 8.00 |
| 802.11g 6Mbps 2437MHz 1TX | Pass | 4.02 | -4.96 | 8.00 |
| 802.11g 6Mbps 2462MHz 1TX | Pass | 4.02 | -7.79 | 8.00 |
| 802.11ac VHT20 MCS0 2412MHz 1TX | Pass | 4.02 | -6.33 | 8.00 |
| 802.11ac VHT20 MCS0 2437MHz 1TX | Pass | 4.02 | -5.60 | 8.00 |
| 802.11ac VHT20 MCS0 2462MHz 1TX | Pass | 4.02 | -8.59 | 8.00 |
| 802.11ac VHT40 MCS0 2422MHz 1TX | Pass | 4.02 | -12.14 | 8.00 |
| 802.11ac VHT40 MCS0 2437MHz 1TX | Pass | 4.02 | -11.71 | 8.00 |
| 802.11ac VHT40 MCS0 2452MHz 1TX | Pass | 4.02 | -14.59 | 8.00 |

| Mode | Result | Directional Gain (dBi) | Port 1 (dBm/3kHz) | Port 2 (dBm/3kHz) | Total PSD (dBm/3kHz) | PSD.Limit (dBm/3kHz) |
|---|---|---|---|---|---|---|
| 802.11b 1Mbps 2412MHz 2TX | Pass | 7.03 | -4.42 | -5.76 | -3.79 | 6.97 |
| 802.11b 1Mbps 2437MHz 2TX | Pass | 7.03 | -2.12 | 0.13 | 0.27 | 6.97 |
| 802.11b 1Mbps 2462MHz 2TX | Pass | 7.03 | -4.00 | -3.47 | -2.26 | 6.97 |
| 802.11g 6Mbps 2412MHz 2TX | Pass | 7.03 | -6.00 | -6.92 | -4.12 | 6.97 |
| 802.11g 6Mbps 2437MHz 2TX | Pass | 7.03 | -2.46 | -2.72 | -0.41 | 6.97 |
| 802.11g 6Mbps 2462MHz 2TX | Pass | 7.03 | -5.87 | -7.11 | -4.03 | 6.97 |
| 802.11ac VHT20(BF)MCS0 2412MHz 2TX | Pass | 7.03 | -9.66 | -9.87 | -7.35 | 6.97 |
| 802.11ac VHT20(BF)MCS0 2437MHz 2TX | Pass | 7.03 | -6.82 | -8.09 | -5.82 | 6.97 |
| 802.11ac VHT20(BF)MCS0 2462MHz 2TX | Pass | 7.03 | -6.15 | -7.44 | -4.82 | 6.97 |
| 802.11ac VHT40(BF)MCS0 2422MHz 2TX | Pass | 7.03 | -8.49 | -9.19 | -5.86 | 6.97 |
| 802.11ac VHT40(BF)MCS0 2437MHz 2TX | Pass | 7.03 | -4.94 | -6.24 | -3.87 | 6.97 |
| 802.11ac VHT40(BF)MCS0 2452MHz 2TX | Pass | 7.03 | -8.32 | -8.40 | -6.92 | 6.97 |

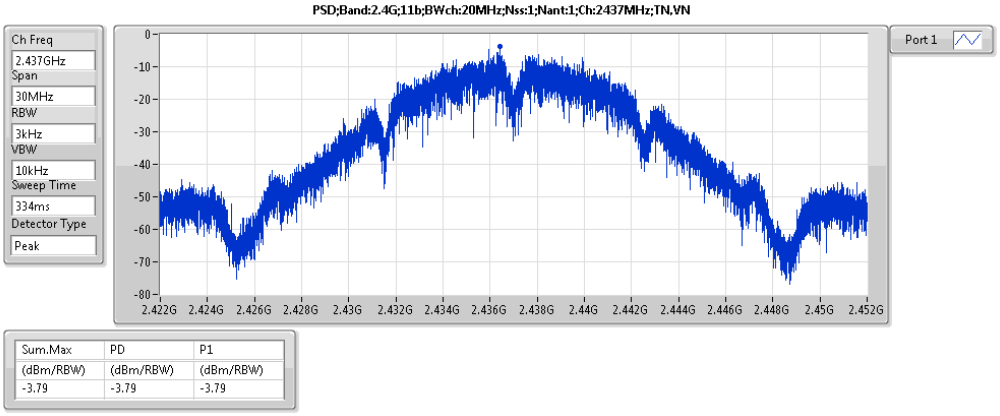
Note: $Directional\,Gain = 10\log\left[\frac{\sum_{j=1}^{Nss}\left\{\sum_{K=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ =7.03dBi >6dBi, so limit=8 – (7.03 – 6)=6.97dBm/3kHz.

### 802.11b 1Mbps 2412MHz 1TX



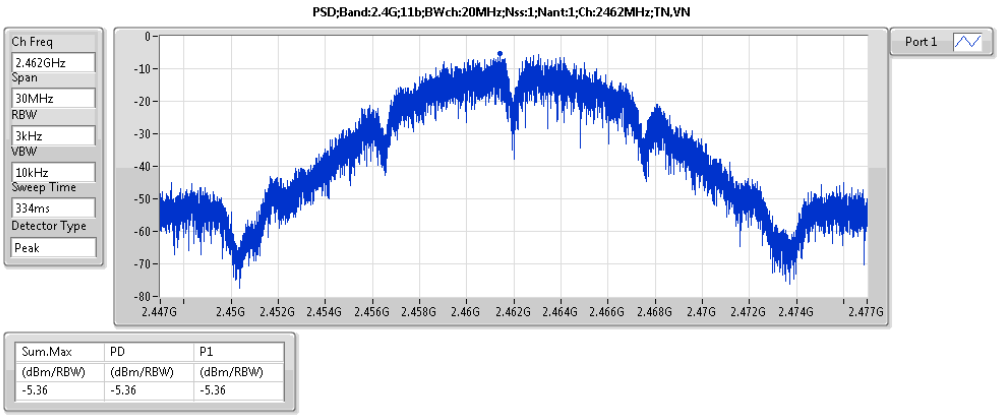

| Sum.Max | PD | P1 |
|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -4.94 | -4.94 | -4.94 |

### 802.11b 1Mbps 2437MHz 1TX



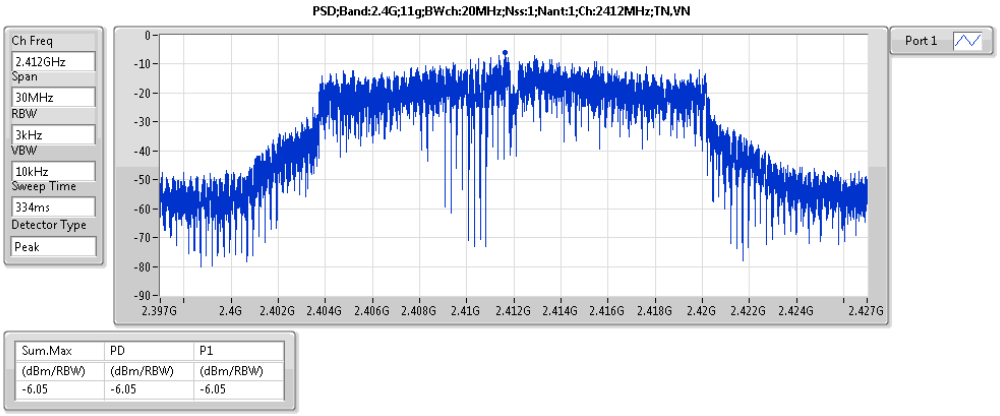

| Sum.Max | PD | P1 |
|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -3.79 | -3.79 | -3.79 |

### 802.11b 1Mbps 2462MHz 1TX



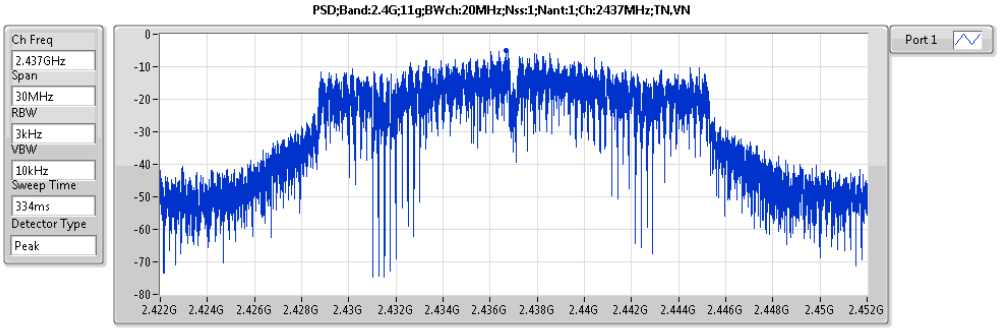

| Sum.Max | PD | P1 |
|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -5.36 | -5.36 | -5.36 |

### 802.11g 6Mbps 2412MHz 1TX



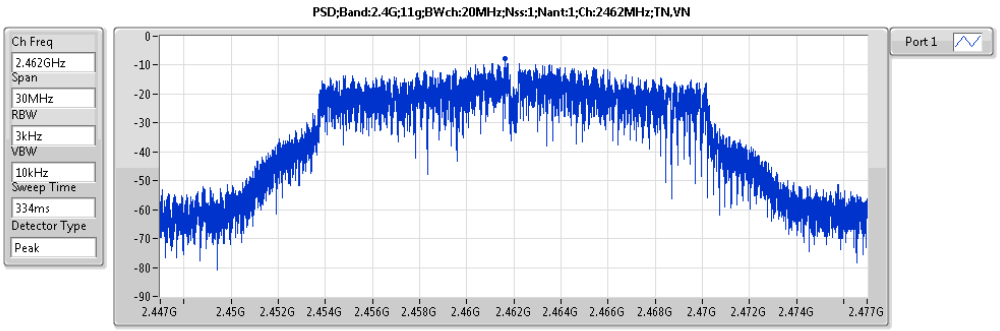

| Sum.Max | PD | P1 |
|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -6.05 | -6.05 | -6.05 |

### 802.11g 6Mbps 2437MHz 1TX



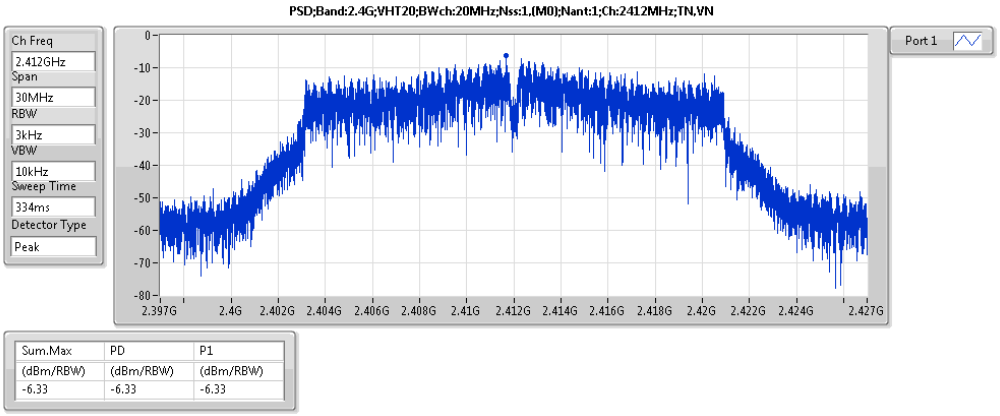

| Sum.Max | PD | P1 |
|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -4.96 | -4.96 | -4.96 |

### 802.11g 6Mbps 2462MHz 1TX



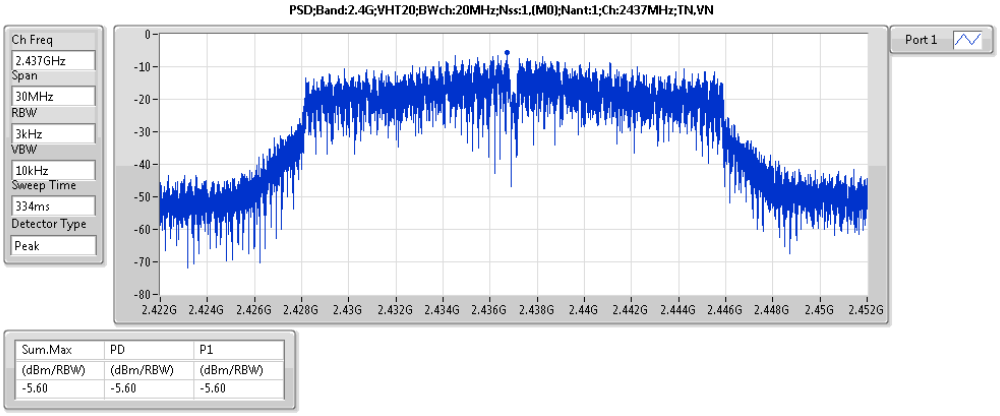

| Sum.Max | PD | P1 |
|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -7.79 | -7.79 | -7.79 |

### 802.11ac VHT20 MCS0 2412MHz 1TX



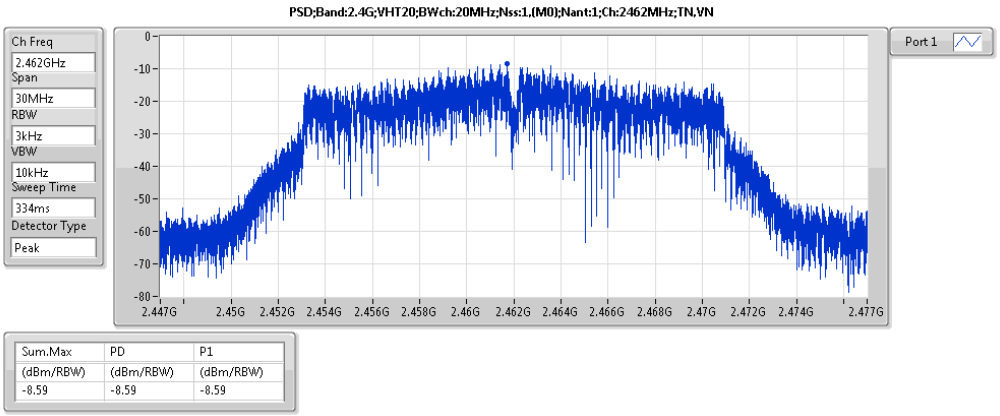

| Sum.Max | PD | P1 |
|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -6.33 | -6.33 | -6.33 |

### 802.11ac VHT20 MCS0 2437MHz 1TX



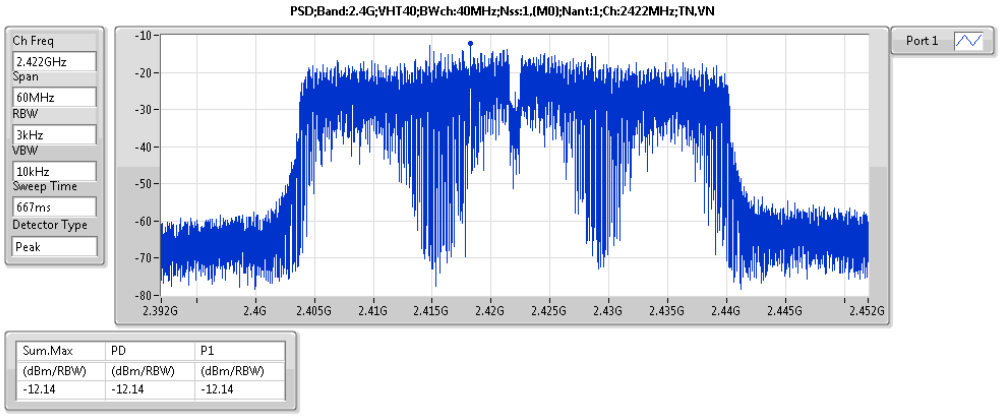

| Sum.Max | PD | P1 |
|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -5.60 | -5.60 | -5.60 |

### 802.11ac VHT20 MCS0 2462MHz 1TX



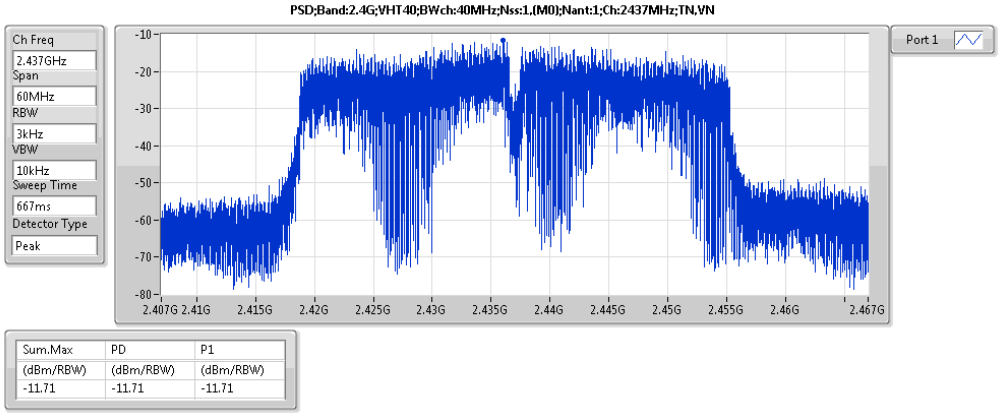

| Sum.Max | PD | P1 |
|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -8.59 | -8.59 | -8.59 |

### 802.11ac VHT40 MCS0 2422MHz 1TX



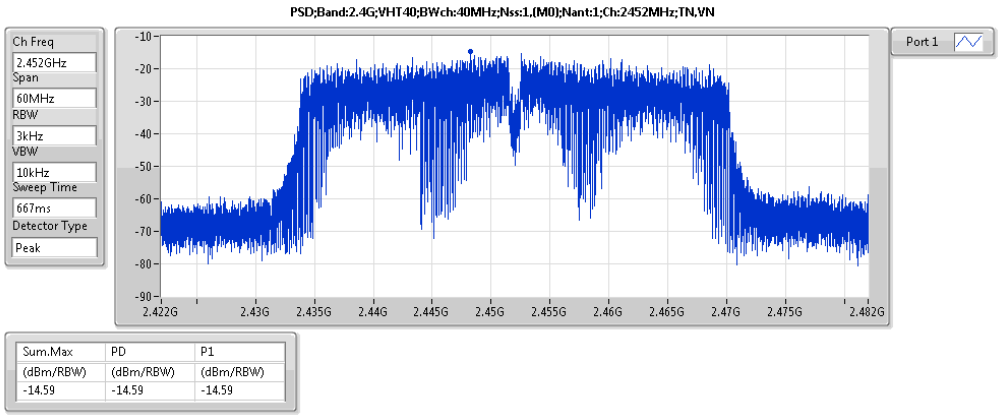

| Sum.Max | PD | P1 |
|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -12.14 | -12.14 | -12.14 |

### 802.11ac VHT40 MCS0 2437MHz 1TX



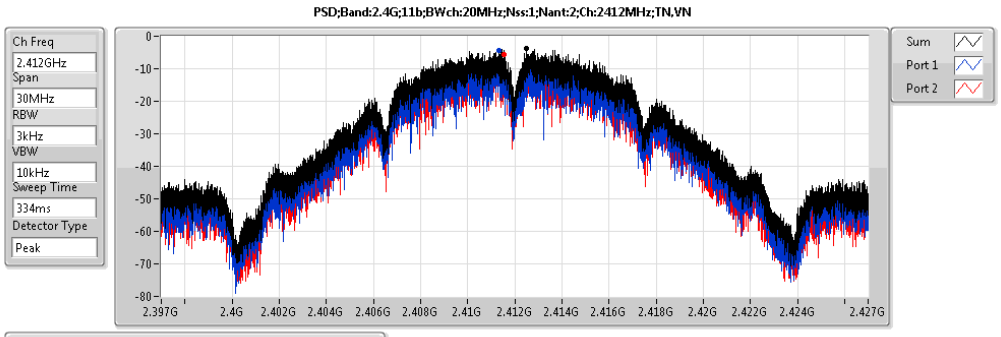

| Sum.Max | PD | P1 |
|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -11.71 | -11.71 | -11.71 |

### 802.11ac VHT40 MCS0 2452MHz 1TX



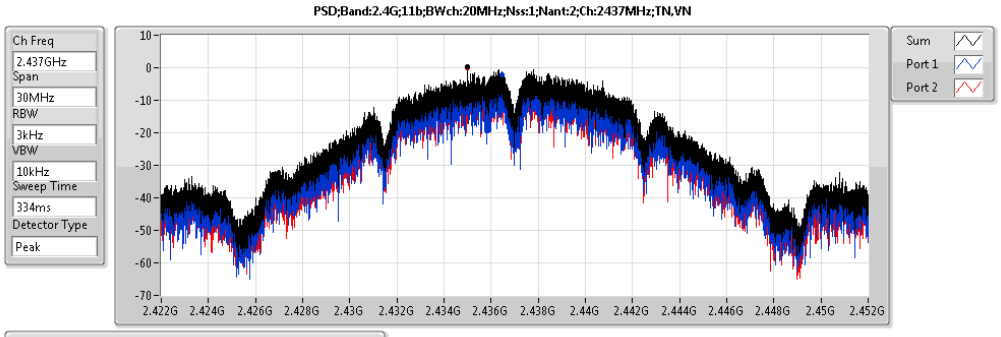

| Sum.Max | PD | P1 |
|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -14.59 | -14.59 | -14.59 |

### 802.11b 1Mbps 2412MHz 2TX



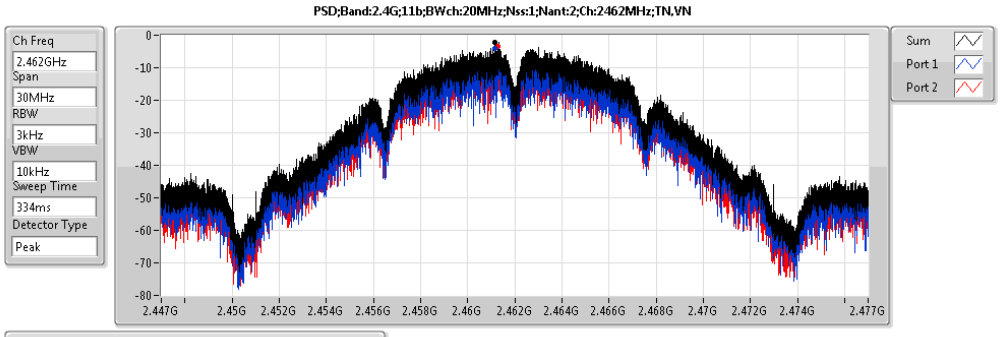

| Sum.Max | PD | P1 | P2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -3.79 | -3.79 | -4.42 | -5.76 |

### 802.11b 1Mbps 2437MHz 2TX



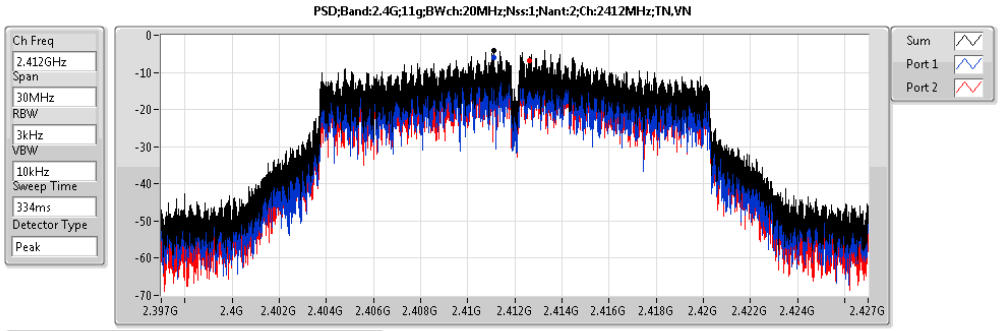

| Sum.Max | PD | P1 | P2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| 0.27 | 0.27 | -2.12 | 0.13 |

### 802.11b 1Mbps 2462MHz 2TX



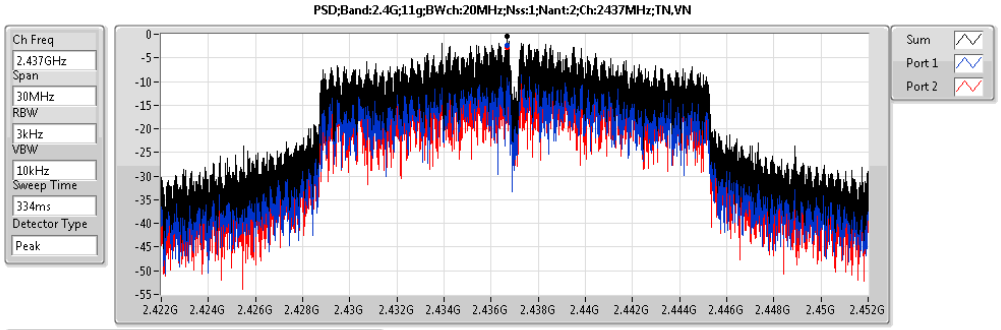

| Sum.Max | PD | P1 | P2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -2.26 | -2.26 | -4.00 | -3.47 |

### 802.11g 6Mbps 2412MHz 2TX



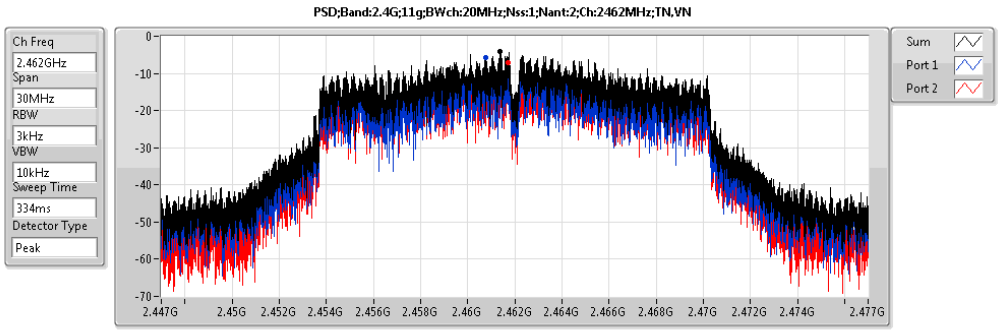

| Sum.Max | PD | P1 | P2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -4.12 | -4.12 | -6.00 | -6.92 |

### 802.11g 6Mbps 2437MHz 2TX



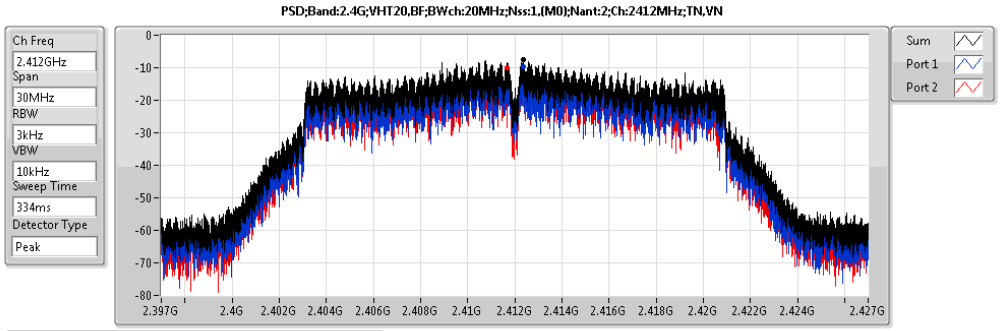

| Sum.Max | PD | P1 | P2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -0.41 | -0.41 | -2.46 | -2.72 |

### 802.11g 6Mbps 2462MHz 2TX



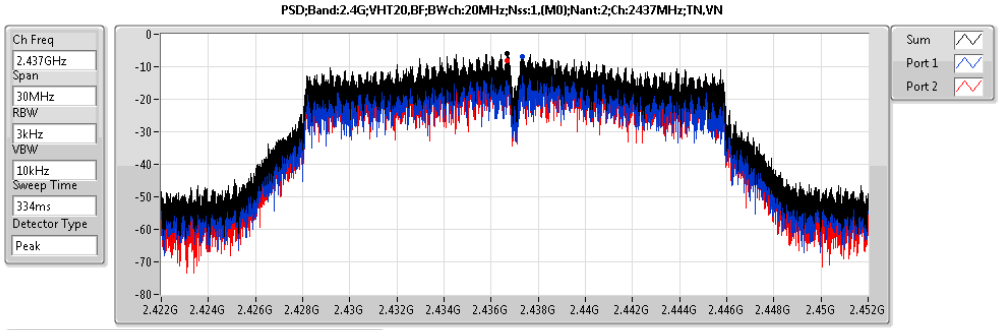

| Sum.Max | PD | P1 | P2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -4.03 | -4.03 | -5.87 | -7.11 |

### 802.11ac VHT20(BF)MCS0 2412MHz 2TX



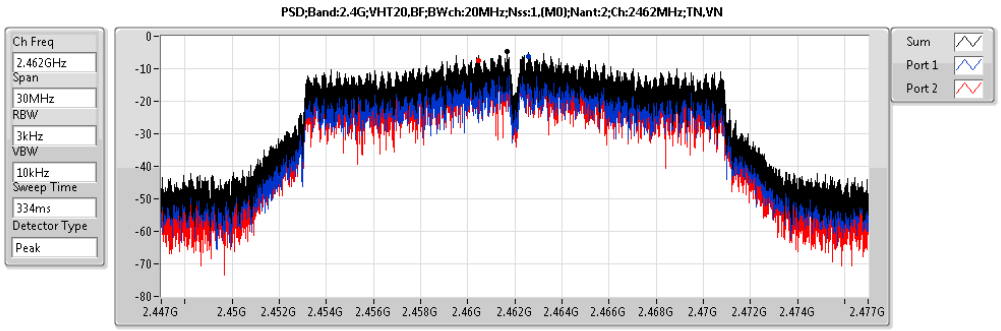

| Sum.Max | PD | P1 | P2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -7.35 | -7.35 | -9.66 | -9.87 |

### 802.11ac VHT20(BF)MCS0 2437MHz 2TX



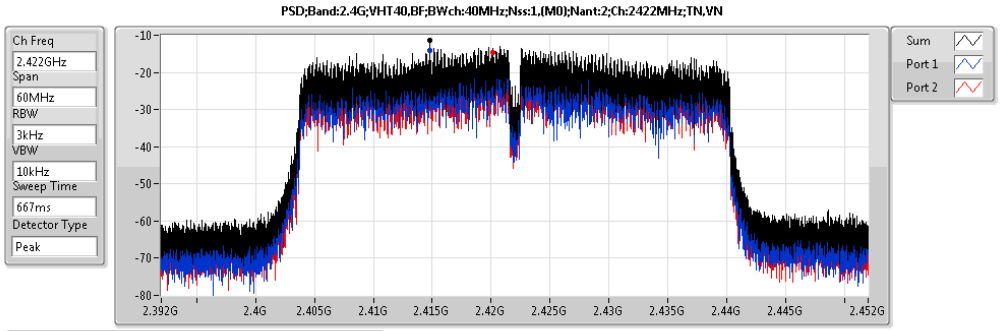

| Sum.Max | PD | P1 | P2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -5.82 | -5.82 | -6.82 | -8.09 |

### 802.11ac VHT20(BF)MCS0 2462MHz 2TX



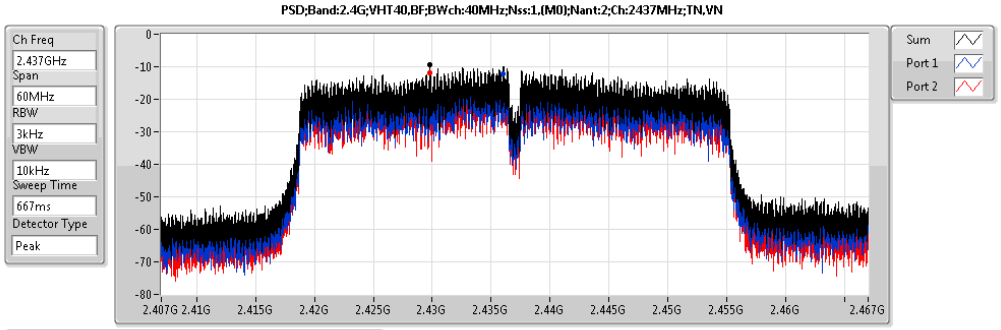

| Sum.Max | PD | P1 | P2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -4.82 | -4.82 | -6.15 | -7.44 |

### 802.11ac VHT40(BF)MCS0 2422MHz 2TX



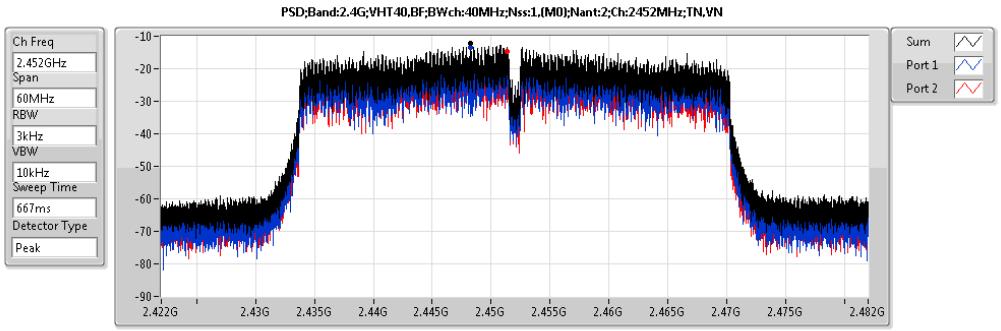

| Sum.Max | PD | P1 | P2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -11.50 | -11.50 | -14.19 | -14.72 |

### 802.11ac VHT40(BF)MCS0 2437MHz 2TX




| Sum.Max | PD | P1 | P2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -9.25 | -9.25 | -12.12 | -11.79 |

### 802.11ac VHT40(BF)MCS0 2452MHz 2TX




| Sum.Max | PD | P1 | P2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -12.11 | -12.11 | -13.48 | -14.64 |

# 3.5 Emissions in Non-restricted Frequency Bands

## 3.5.1 Emissions in Non-restricted Frequency Bands Limit

| Un-restricted Band Emissions Limit | |
|---|---|
| **RF output power procedure** | **Limit (dB)** |
| Peak output power procedure | 20 |
| Average output power procedure | 30 |

Note 1: If the peak output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum measured in-band peak PSD level.
Note 2: If the average output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the power in any 100 kHz outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum measured in-band average PSD level.

## 3.5.2 Measuring Instruments

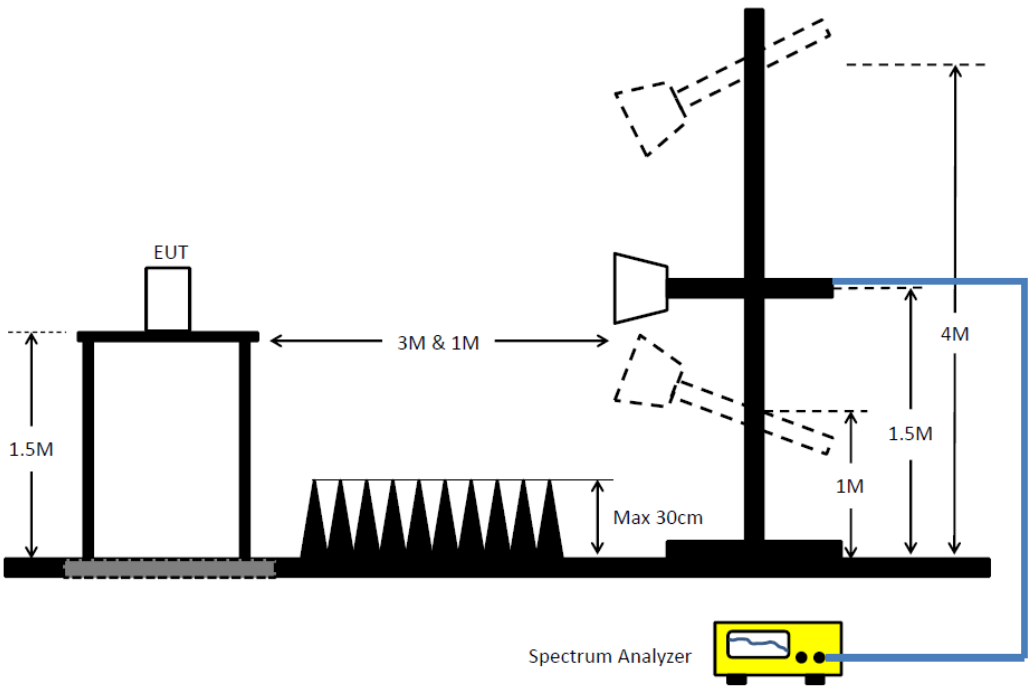
Refer a test equipment and calibration data table in this test report.

## 3.5.3 Test Procedures

| Test Method |
|---|
| ▪ Refer as FCC KDB 558074, clause 11 for unwanted emissions into non-restricted bands. |

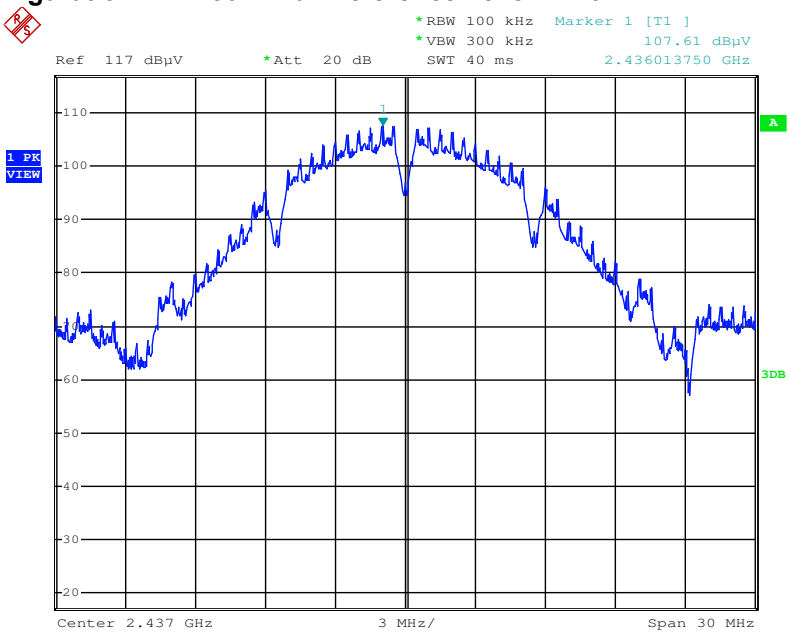
## 3.5.4 Test Setup

**Emissions in Non-restricted Frequency Bands**



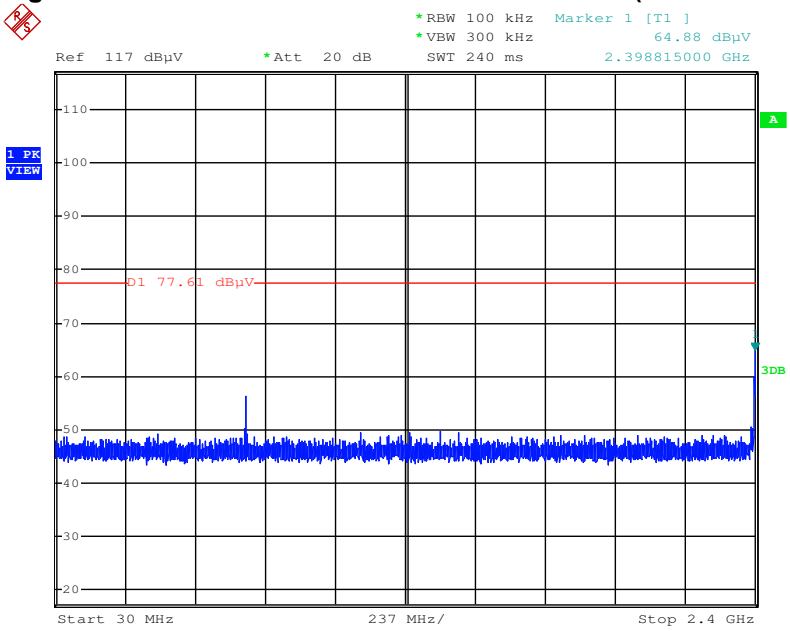
## 3.5.5 Test Result of Emissions in Non-restricted Frequency Bands

### Plot on Configuration IEEE 802.11b / Reference Level / Ant. 1



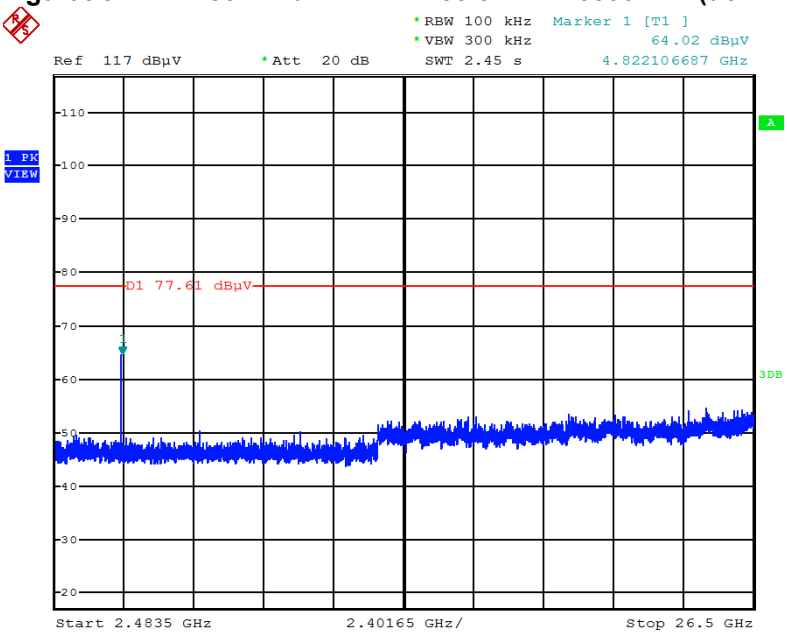

Date: 23.SEP.2016 01:45:56

### Plot on Configuration IEEE 802.11b / CH 1 / 30MHz~2400MHz (down 30dBc) / Ant. 1



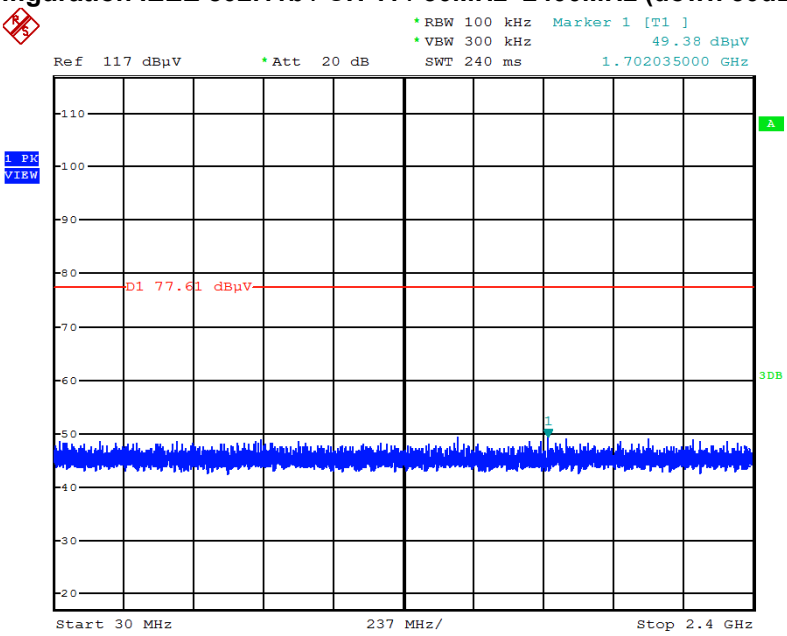

Date: 23.SEP.2016 01:47:27

**Plot on Configuration IEEE 802.11b / CH 1 / 2483.5MHz~26500MHz (down 30dBc) / Ant. 1**



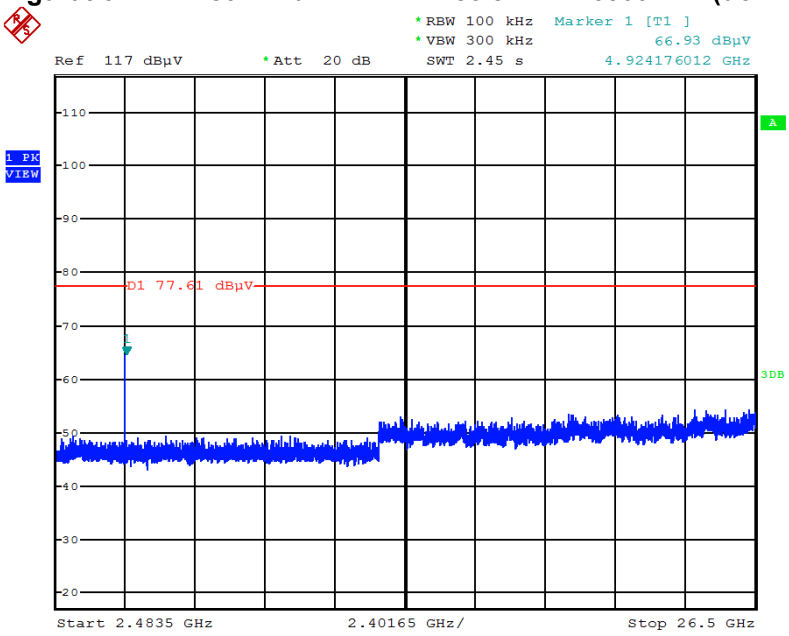

Date: 23.SEP.2016 01:49:35

**Plot on Configuration IEEE 802.11b / CH 11 / 30MHz~2400MHz (down 30dBc) / Ant. 1**



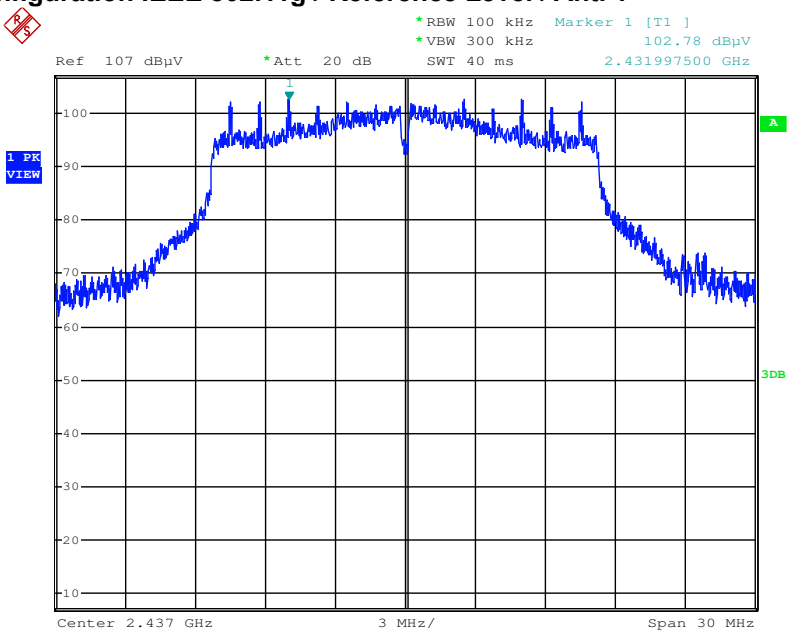

Date: 23.SEP.2016 01:50:40

**Plot on Configuration IEEE 802.11b / CH 11 / 2483.5MHz~26500MHz (down 30dBc) / Ant. 1**



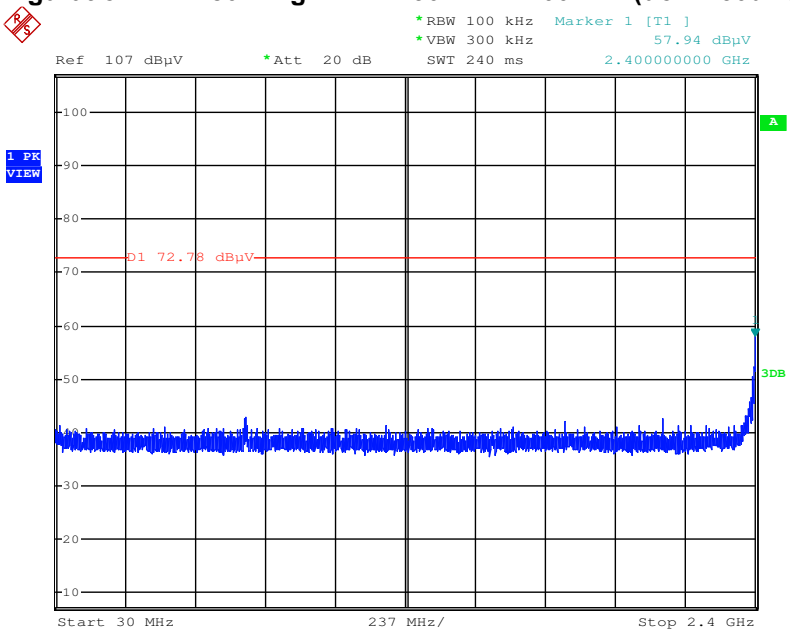

Date: 23.SEP.2016 01:50:20

**Plot on Configuration IEEE 802.11g / Reference Level / Ant. 1**



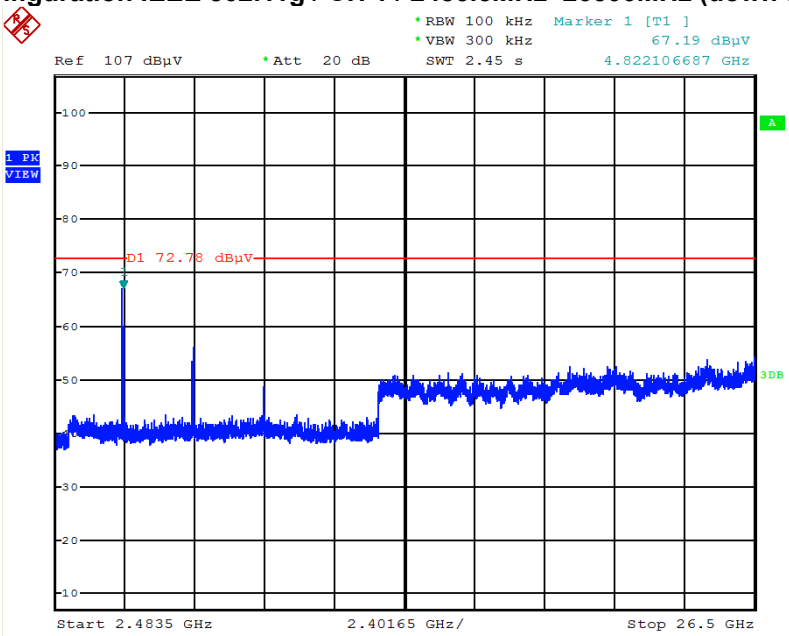

Date: 23.SEP.2016 01:40:11

**Plot on Configuration IEEE 802.11g / CH 1 / 30MHz~2400MHz (down 30dBc) / Ant. 1**



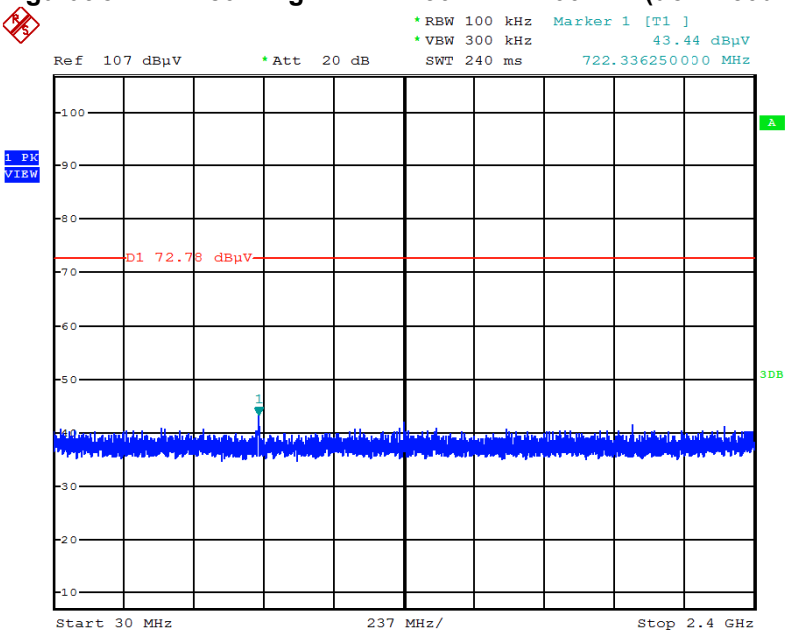

Date: 23.SEP.2016 01:41:53

**Plot on Configuration IEEE 802.11g / CH 1 / 2483.5MHz~26500MHz (down 30dBc) / Ant. 1**



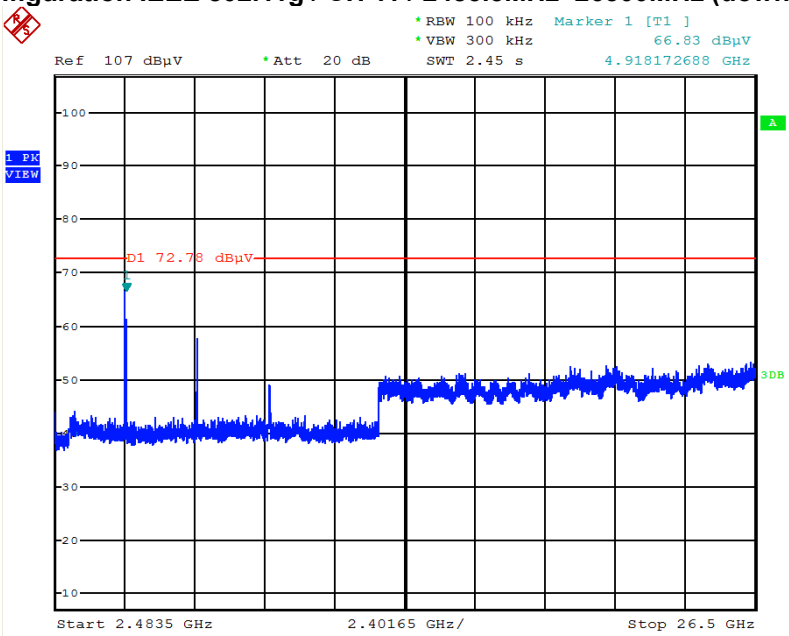

Date: 23.SEP.2016 01:42:35

**Plot on Configuration IEEE 802.11g / CH 11 / 30MHz~2400MHz (down 30dBc) / Ant. 1**



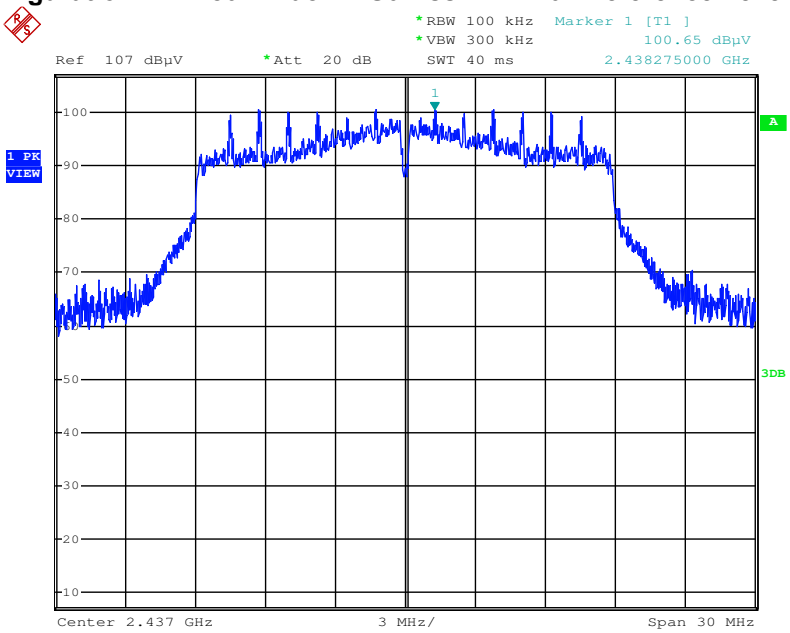

Date: 23.SEP.2016 01:44:07

**Plot on Configuration IEEE 802.11g / CH 11 / 2483.5MHz~26500MHz (down 30dBc) / Ant. 1**



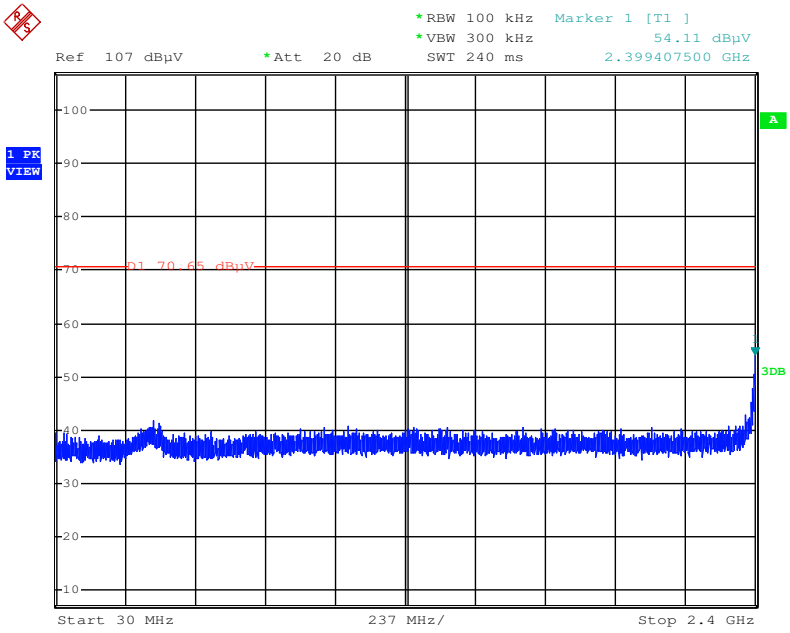

Date: 23.SEP.2016 01:43:43

**Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Reference Level / Ant. 1**



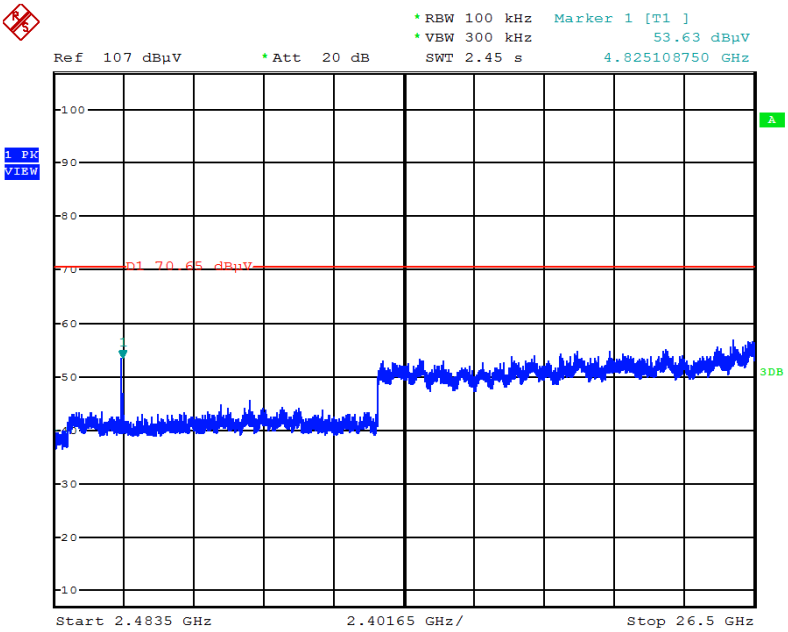

Date: 15.OCT.2016 00:26:07

**Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / CH 1 / 30MHz~2400MHz (down 30dBc) / Ant. 1**



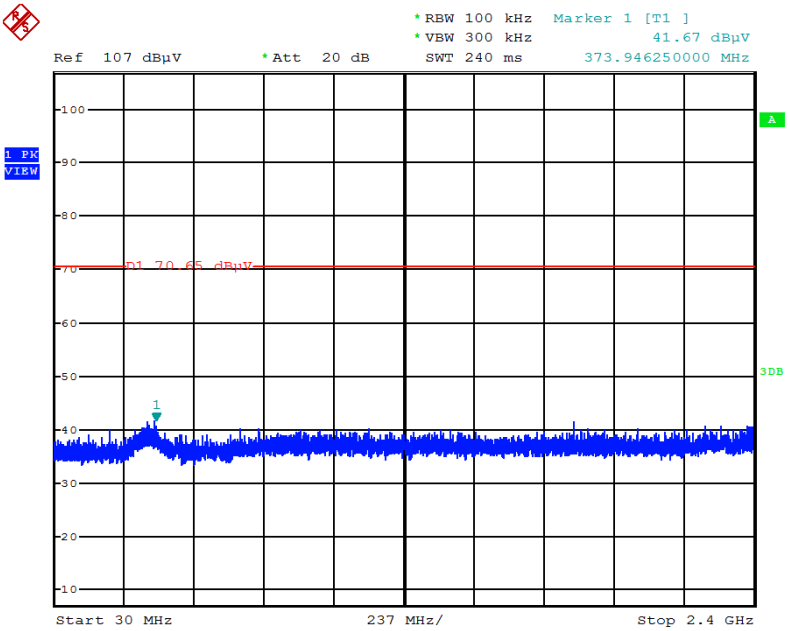

Date: 15.OCT.2016 00:27:22

**Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / CH 1 / 2483.5MHz~26500MHz (down 30dBc) / Ant. 1**



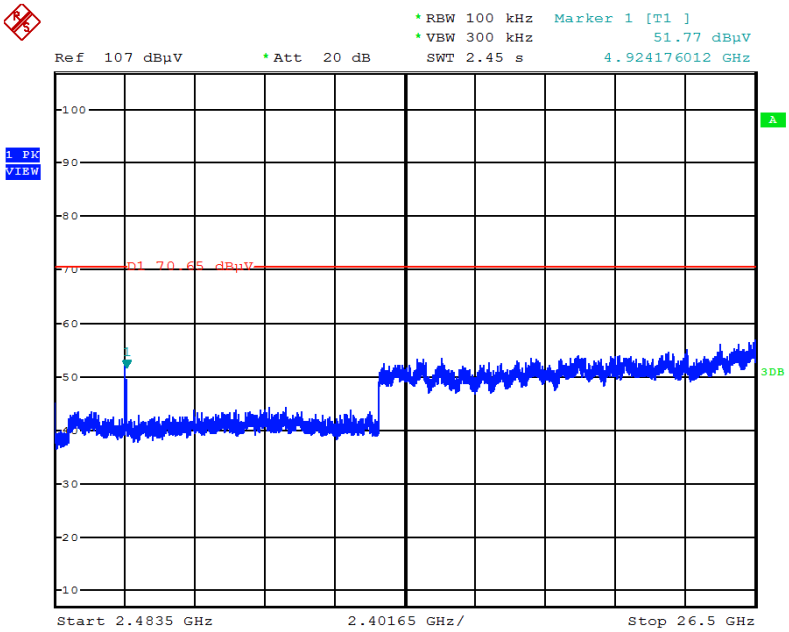

Date: 15.OCT.2016 00:28:36

**Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / CH 11 / 30MHz~2400MHz (down 30dBc) / Ant. 1**



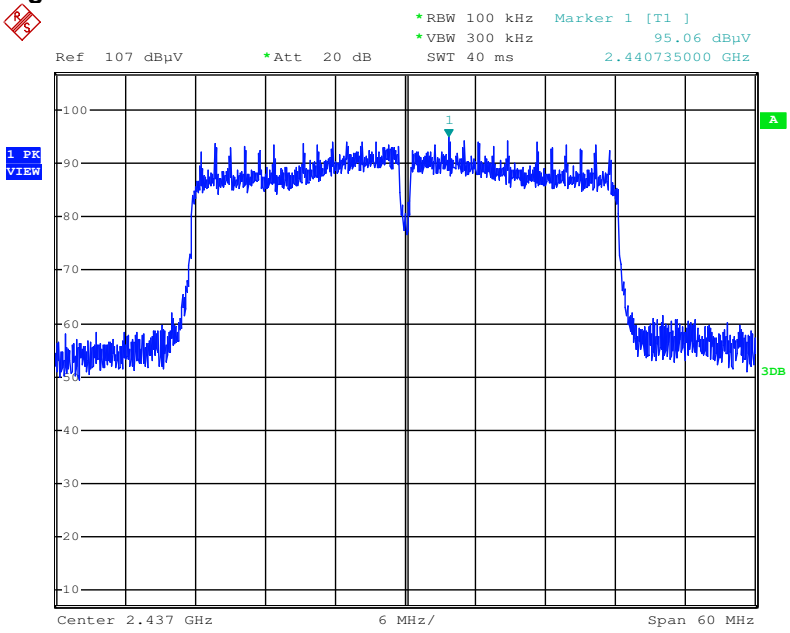

Date: 15.OCT.2016 00:30:05

**Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / CH 11 / 2483.5MHz~26500MHz (down 30dBc) / Ant. 1**



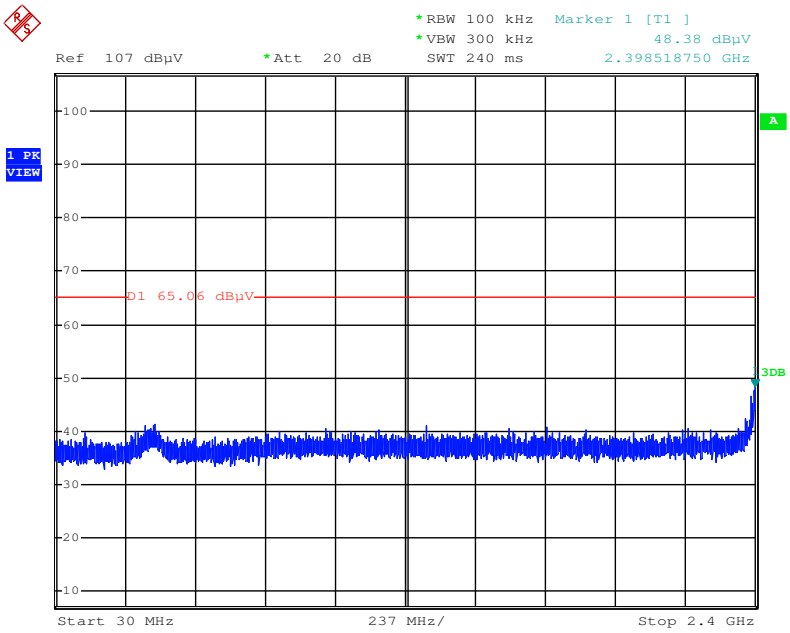

Date: 15.OCT.2016 00:29:37

**Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Reference Level / Ant. 1**



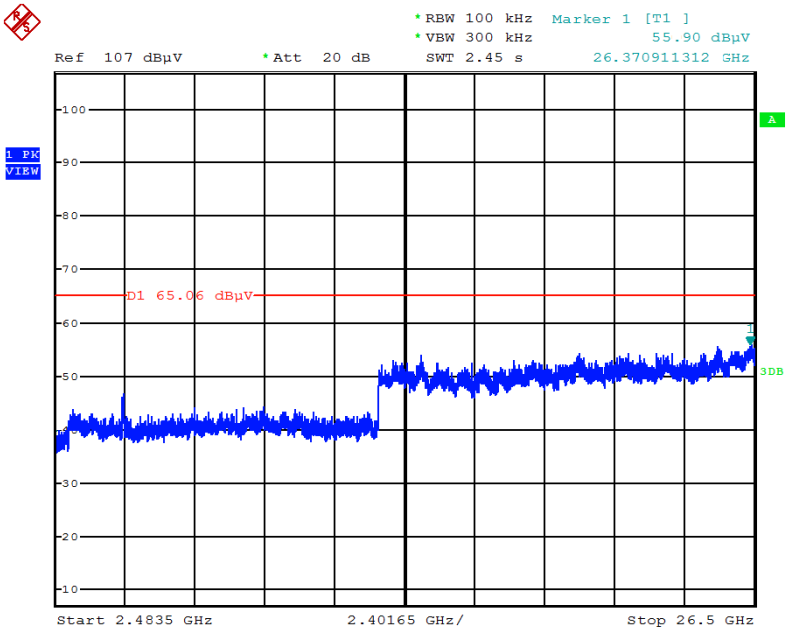

Date: 15.OCT.2016 00:31:31

**Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / CH 3 / 30MHz~2400MHz (down 30dBc) / Ant. 1**



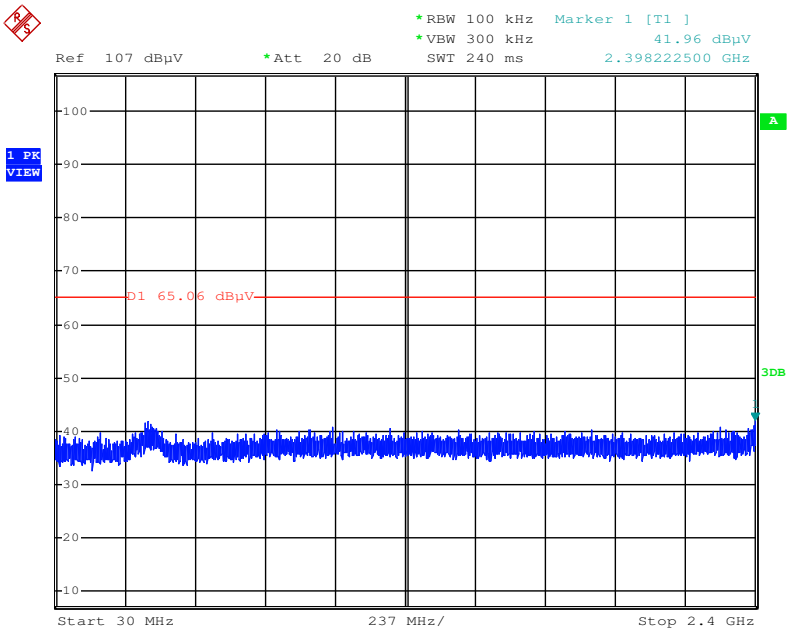

Date: 15.OCT.2016 00:32:20

**Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / CH 3 / 2483.5MHz~26500MHz (down 30dBc) / Ant. 1**



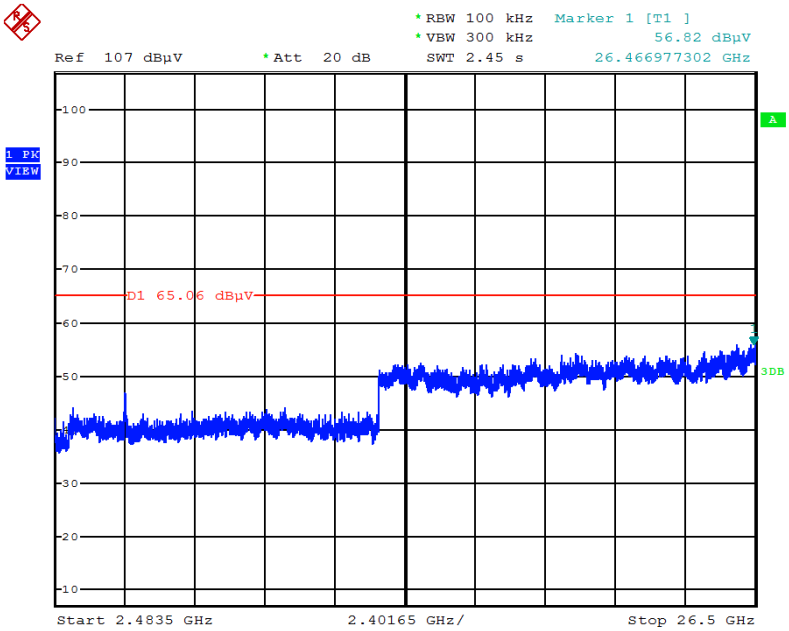

Date: 15.OCT.2016 00:32:50

**Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / CH 9 / 30MHz~2400MHz (down 30dBc) / Ant. 1**



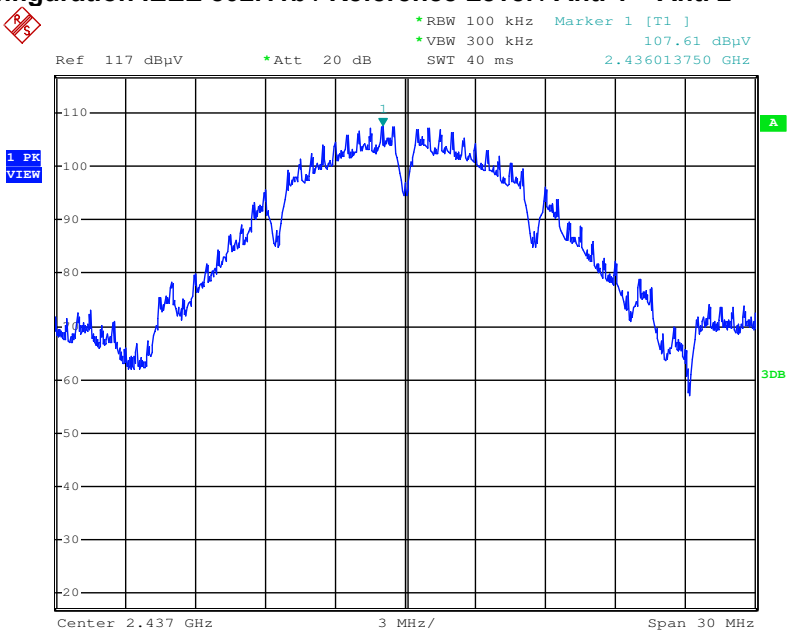

Date: 15.OCT.2016 00:34:09

**Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / CH 9 / 2483.5MHz~26500MHz (down 30dBc) / Ant. 1**



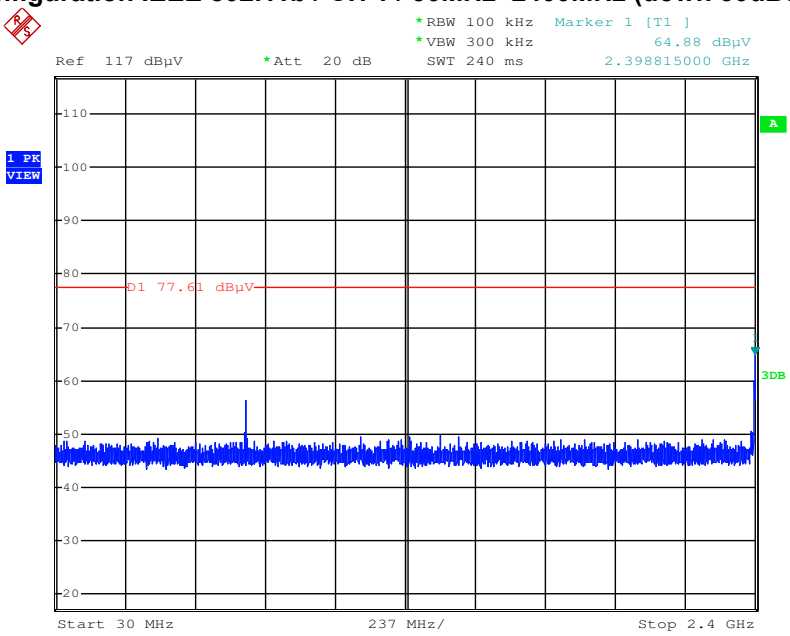

Date: 15.OCT.2016 00:33:30

**Plot on Configuration IEEE 802.11b / Reference Level / Ant. 1 + Ant. 2**



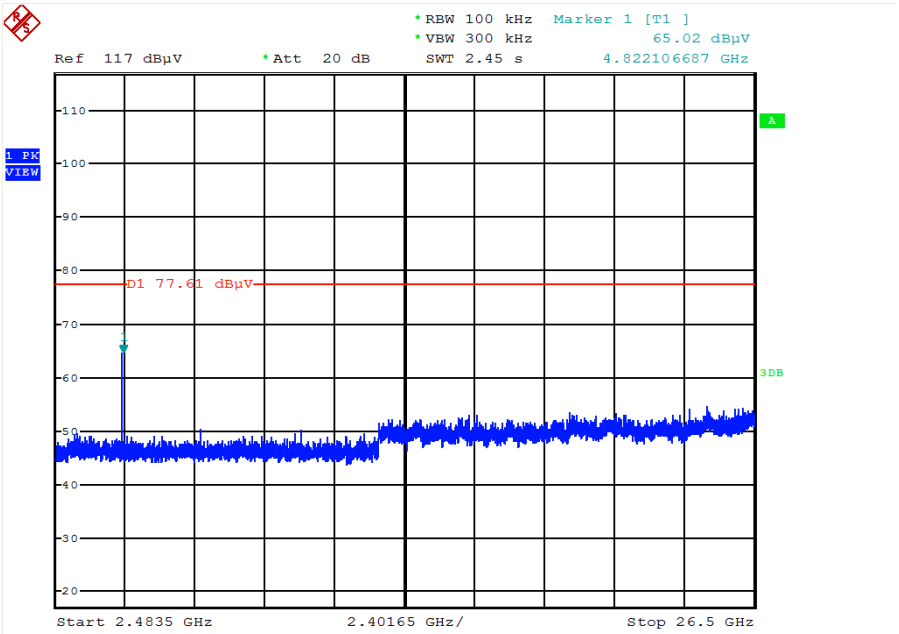

Date: 23.SEP.2016 01:45:56

**Plot on Configuration IEEE 802.11b / CH 1 / 30MHz~2400MHz (down 30dBc) / Ant. 1 + Ant. 2**



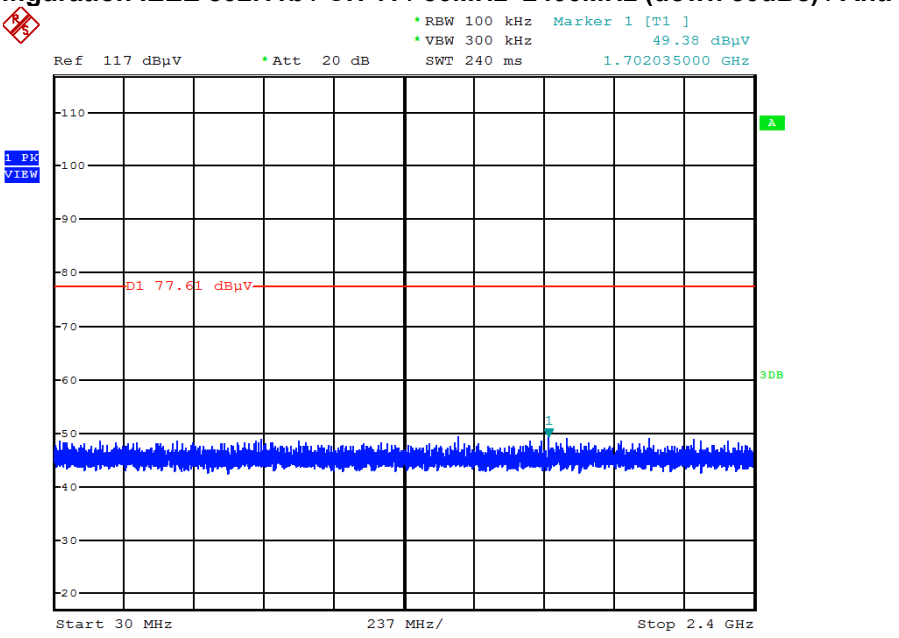

Date: 23.SEP.2016 01:47:27

**Plot on Configuration IEEE 802.11b / CH 1 / 2483.5MHz~26500MHz (down 30dBc) / Ant. 1 + Ant. 2**



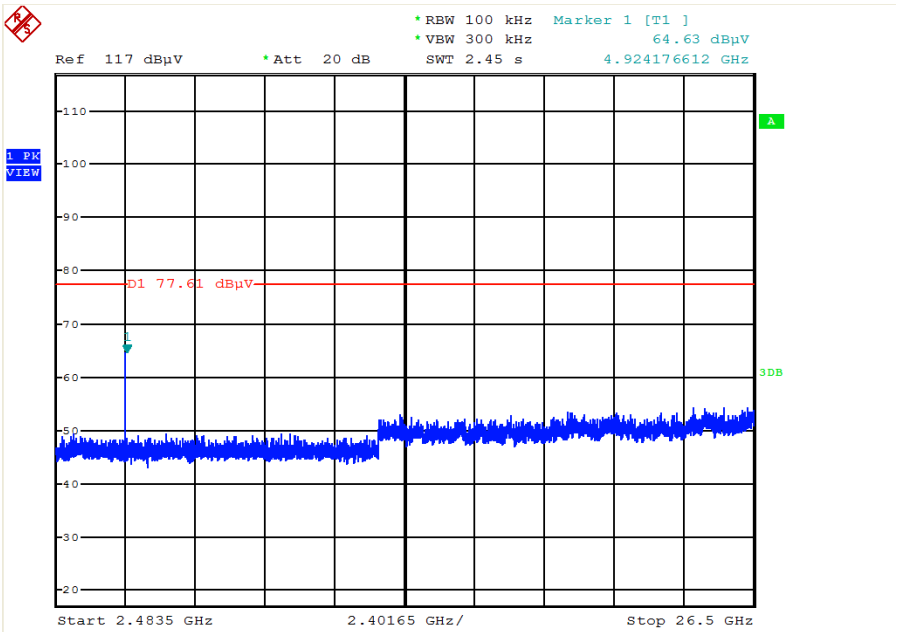

Date: 23.SEP.2016 01:49:35

**Plot on Configuration IEEE 802.11b / CH 11 / 30MHz~2400MHz (down 30dBc) / Ant. 1 + Ant. 2**



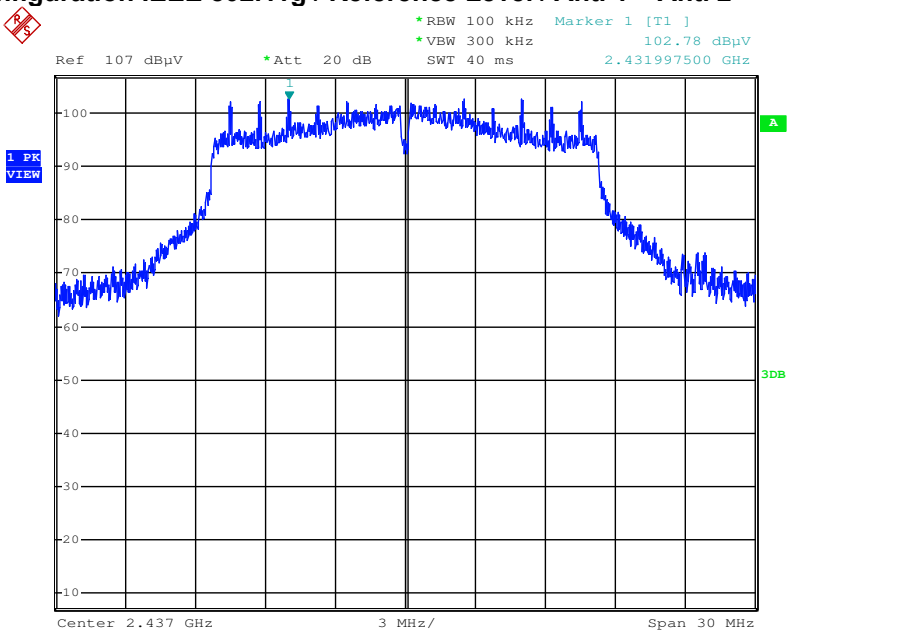

Date: 23.SEP.2016 01:50:40

**Plot on Configuration IEEE 802.11b / CH 11 / 2483.5MHz~26500MHz (down 30dBc) / Ant. 1 + Ant. 2**



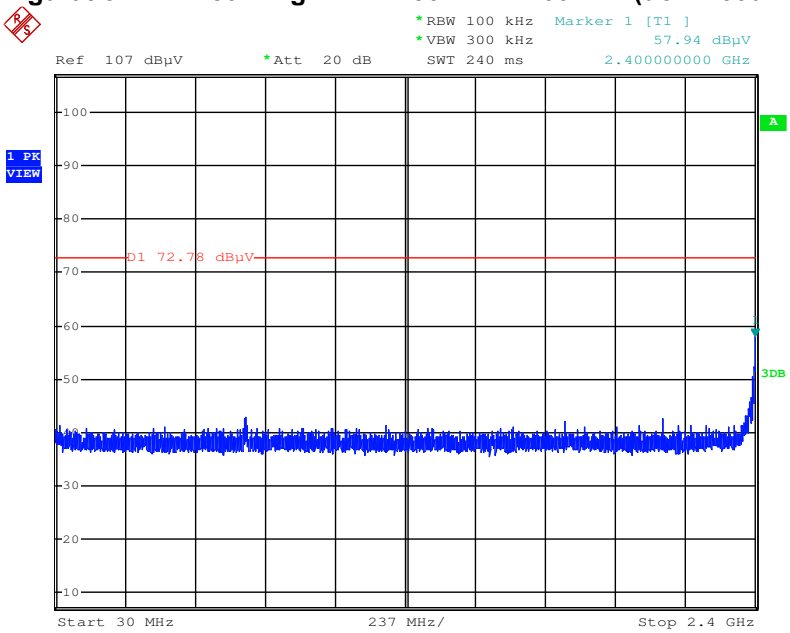

Date: 23.SEP.2016 01:50:20

**Plot on Configuration IEEE 802.11g / Reference Level / Ant. 1 + Ant. 2**



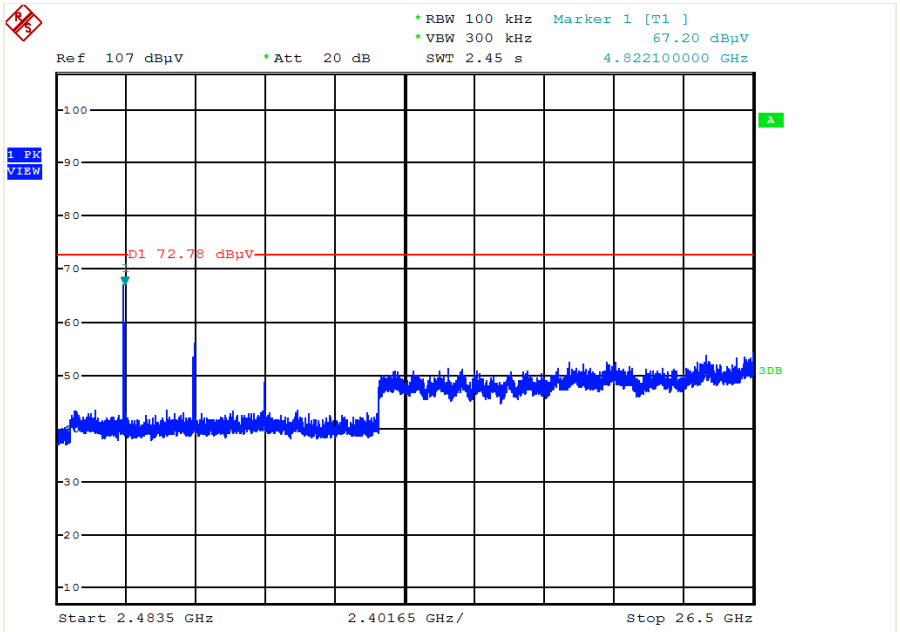

Date: 23.SEP.2016 01:40:11

**Plot on Configuration IEEE 802.11g / CH 1 / 30MHz~2400MHz (down 30dBc) / Ant. 1 + Ant. 2**



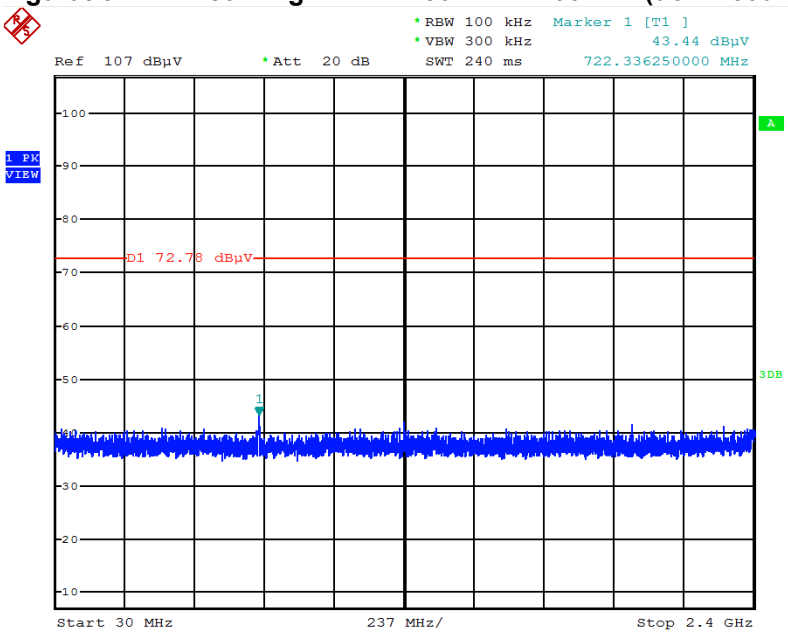

Date: 23.SEP.2016 01:41:53

**Plot on Configuration IEEE 802.11g / CH 1 / 2483.5MHz~26500MHz (down 30dBc) / Ant. 1 + Ant. 2**



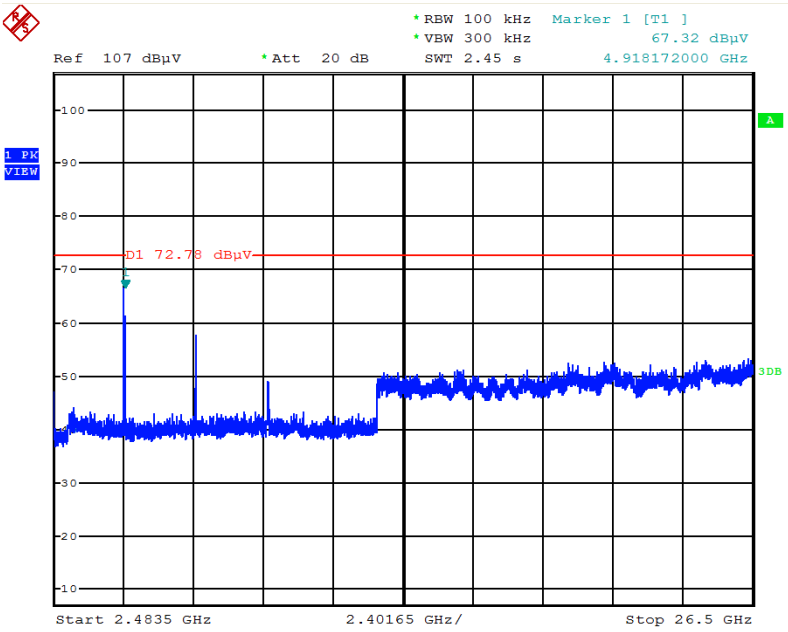

Date: 23.SEP.2016 01:42:35

**Plot on Configuration IEEE 802.11g / CH 11 / 30MHz~2400MHz (down 30dBc) / Ant. 1 + Ant. 2**



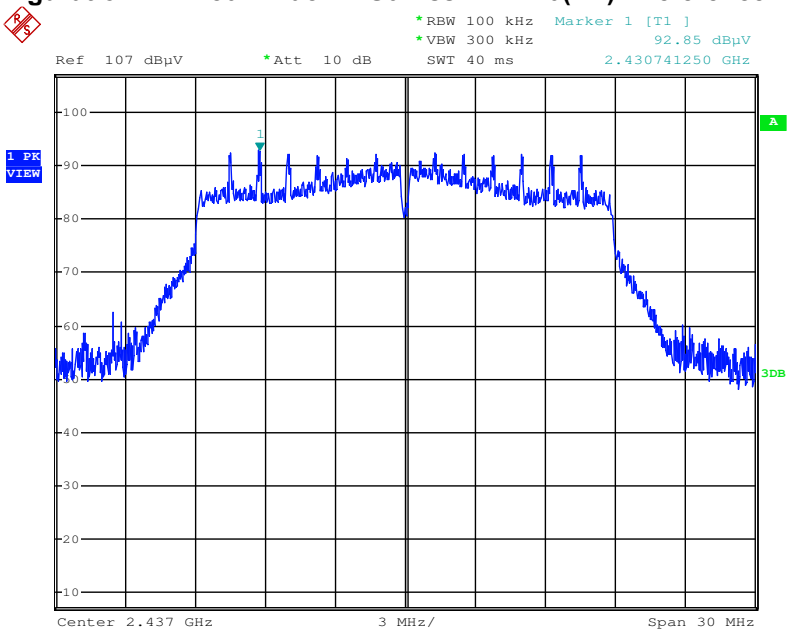

Date: 23.SEP.2016 01:44:07

**Plot on Configuration IEEE 802.11g / CH 11 / 2483.5MHz~26500MHz (down 30dBc) / Ant. 1 + Ant. 2**



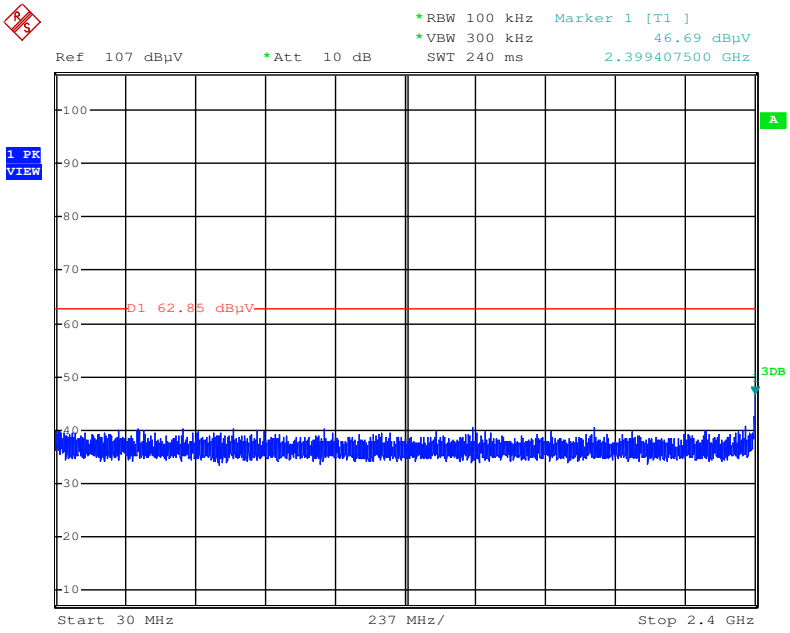

Date: 23.SEP.2016 01:43:43

**Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20(BF) / Reference Level / Ant. 1 + Ant. 2**



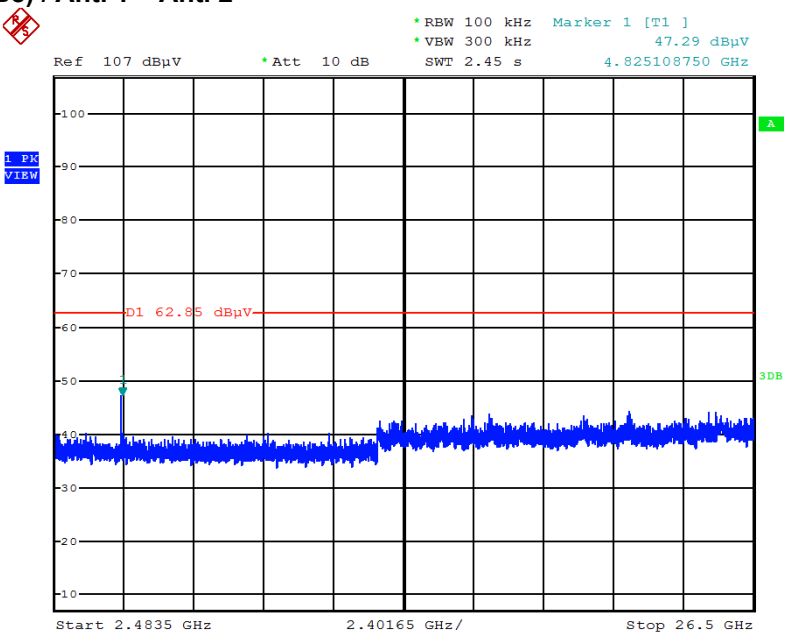

Date: 23.SEP.2016 22:45:55

**Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20(BF) / CH 1 / 30MHz~2400MHz (down 30dBc) / Ant. 1 + Ant. 2**



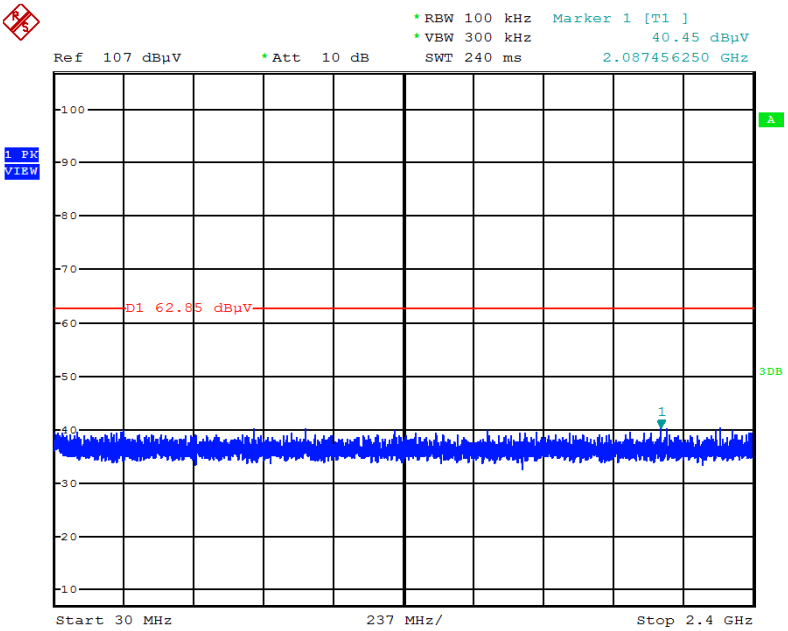

Date: 23.SEP.2016 22:47:35

**Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20(BF) / CH 1 / 2483.5MHz~26500MHz (down 30dBc) / Ant. 1 + Ant. 2**



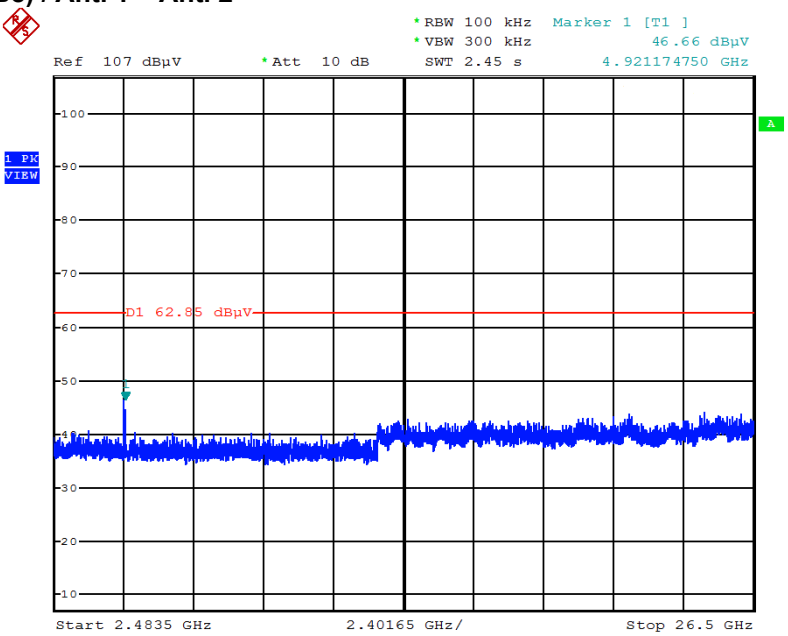

Date: 23.SEP.2016 22:48:02

**Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20(BF) / CH 11 / 30MHz~2400MHz (down 30dBc) / Ant. 1 + Ant. 2**



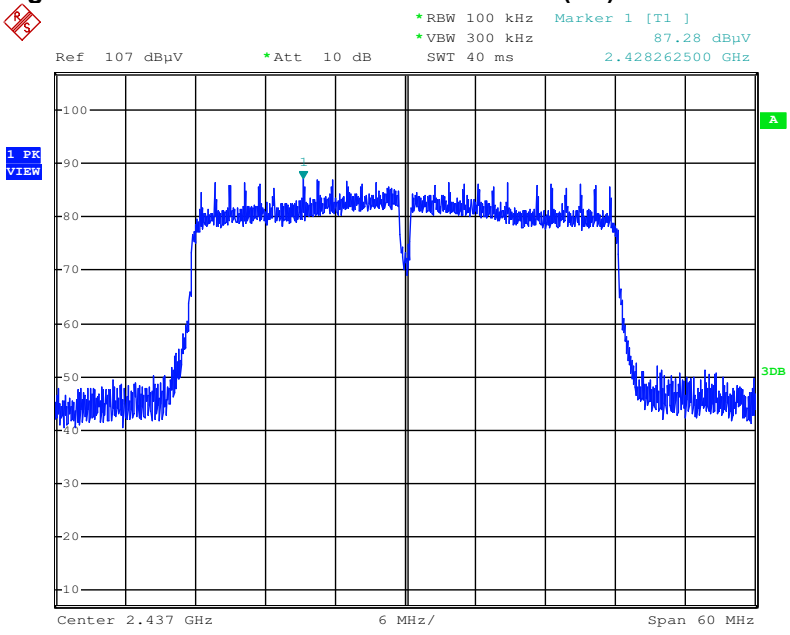

Date: 23.SEP.2016 22:49:01

**Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20(BF) / CH 11 / 2483.5MHz~26500MHz (down 30dBc) / Ant. 1 + Ant. 2**



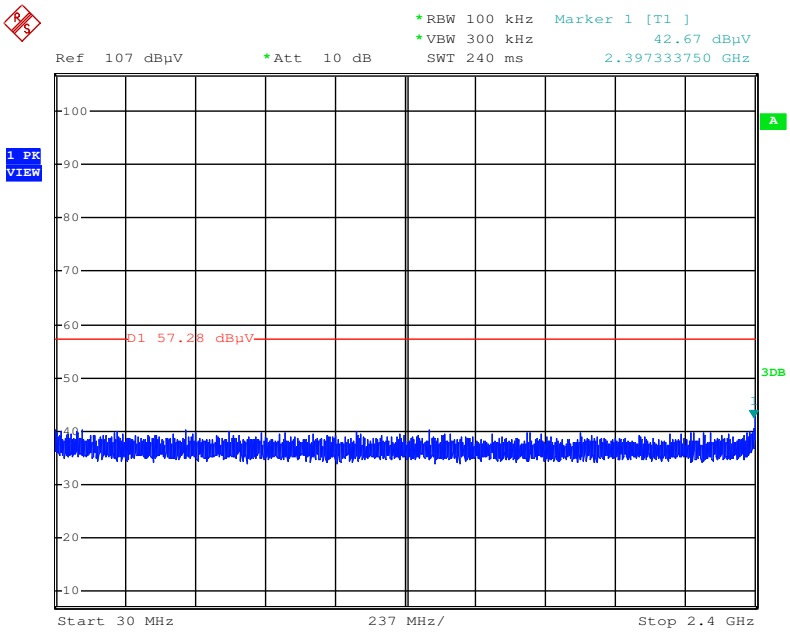

Date: 23.SEP.2016 22:48:39

**Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40(BF) / Reference Level / Ant. 1 + Ant. 2**



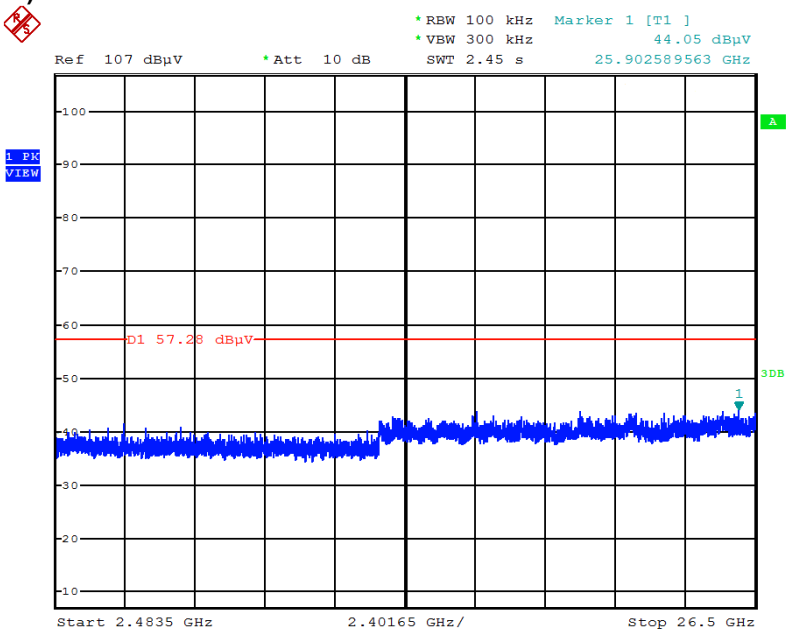

Date: 23.SEP.2016 22:50:22

**Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40(BF) / CH 3 / 30MHz~2400MHz (down 30dBc) / Ant. 1 + Ant. 2**



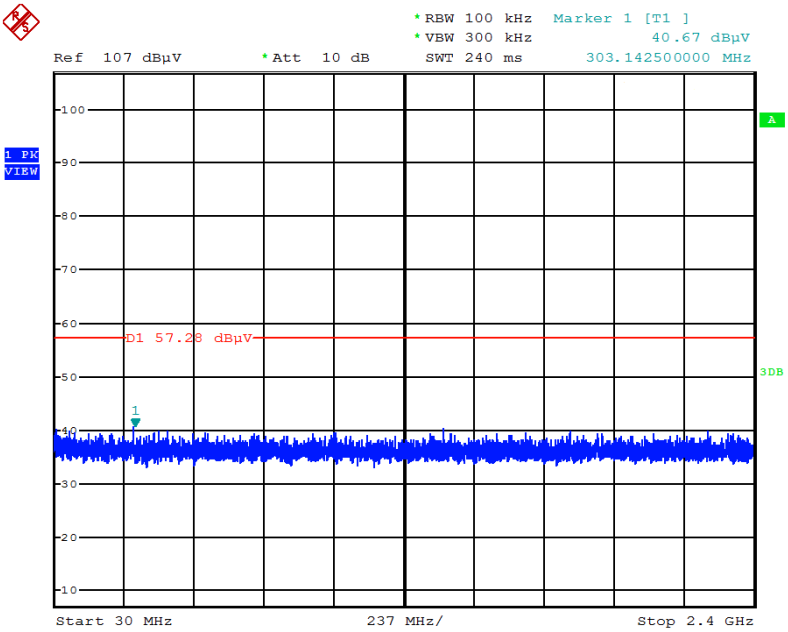

Date: 23.SEP.2016 22:51:10

**Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40(BF) / CH 3 / 2483.5MHz~26500MHz (down 30dBc) / Ant. 1 + Ant. 2**



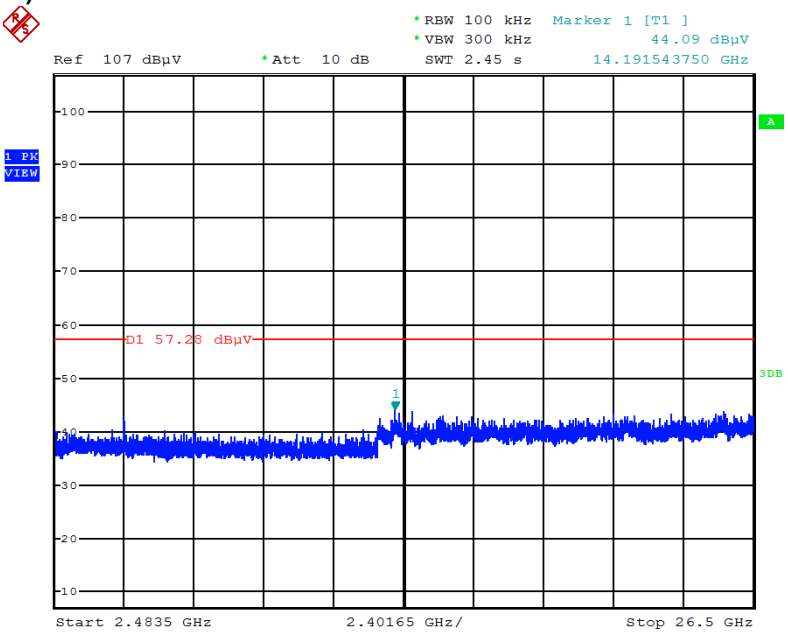

Date: 23.SEP.2016 22:51:39

**Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40(BF) / CH 9 / 30MHz~2400MHz (down 30dBc) / Ant. 1 + Ant. 2**




Date: 23.SEP.2016 22:52:31

**Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40(BF) / CH 9 / 2483.5MHz~26500MHz (down 30dBc) / Ant. 1 + Ant. 2**




Date: 23.SEP.2016 22:52:14

# 3.6 Emissions in Restricted Frequency Bands

## 3.6.1 Emissions in Restricted Frequency Bands Limit

| Restricted Band Emissions 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.

## 3.6.2 Measuring Instruments

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

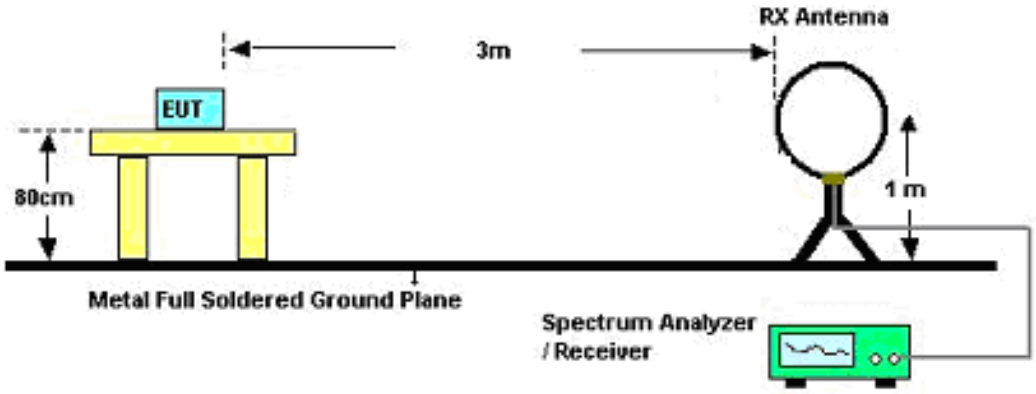
### 3.6.3 Test Procedures

| Test Method | | |
|---|---|---|
| ▪ The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor]. | | |
| ▪ Refer as ANSI C63.10, clause 6.9.2.2 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band. | | |
| ▪ For the transmitter unwanted emissions shall be measured using following options below: | | |
| | ▪ Refer as FCC KDB 558074, clause 12 for unwanted emissions into restricted bands. | |
| | | ☐ Refer as FCC KDB 558074, clause 12.2.5.1 Option 1 (trace averaging for duty cycle ≥98%) |
| | | ☐ Refer as FCC KDB 558074, clause 12.2.5.2 Option 2 (trace averaging + duty factor). |
| | | ☒ Refer as FCC KDB 558074, clause 12.2.5.3 Option 3 (Reduced VBW≥1/T). |
| | | ☐ 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 558074, clause 12.2.4 measurement procedure peak limit. |
| ▪ For the transmitter band-edge emissions shall be measured using following options below: | | |
| | ▪ Refer as FCC KDB 558074 clause 13.1, When the performing peak or average radiated measurements, emissions within 2 MHz of the authorized band edge may be measured using the marker-delta method described below. | |
| | ▪ Refer as FCC KDB 558074, clause 13.2 (ANSI C63.10, clause 6.9.3) for marker-delta method for band-edge measurements. | |
| | ▪ Refer as FCC KDB 558074, clause 13.3 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels (i.e., 1 MHz). | |
| ▪ For conducted and cabinet radiation measurement, refer as FCC KDB 558074, clause 12.2.2. | | |
| | ▪ 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 | |
| | ▪ For FCC KDB 662911 The methodology described here may overestimate array gain, thereby resulting in apparent failures to satisfy the out-of-band limits even if the device is actually compliant. In such cases, compliance may be demonstrated by performing radiated tests around the frequencies at which the apparent failures occurred. | |

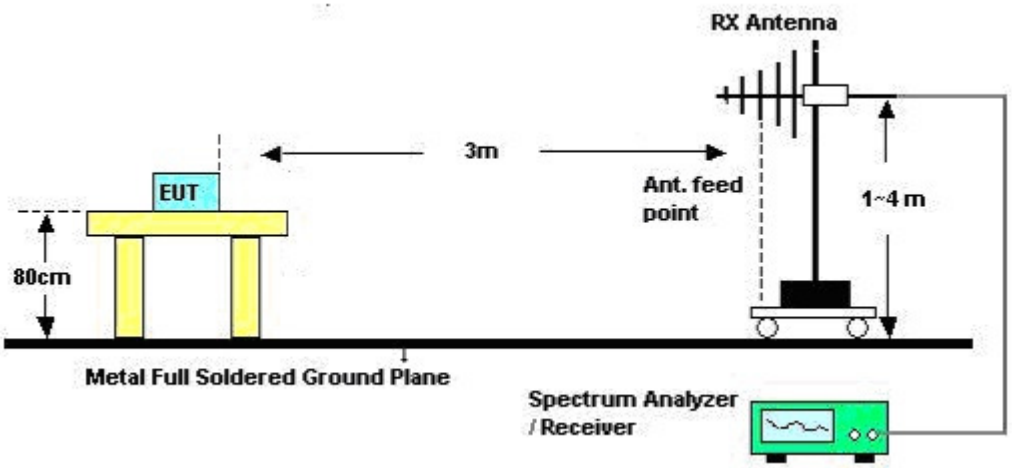
### 3.6.4 Test Setup

**Transmitter Radiated Emissions**

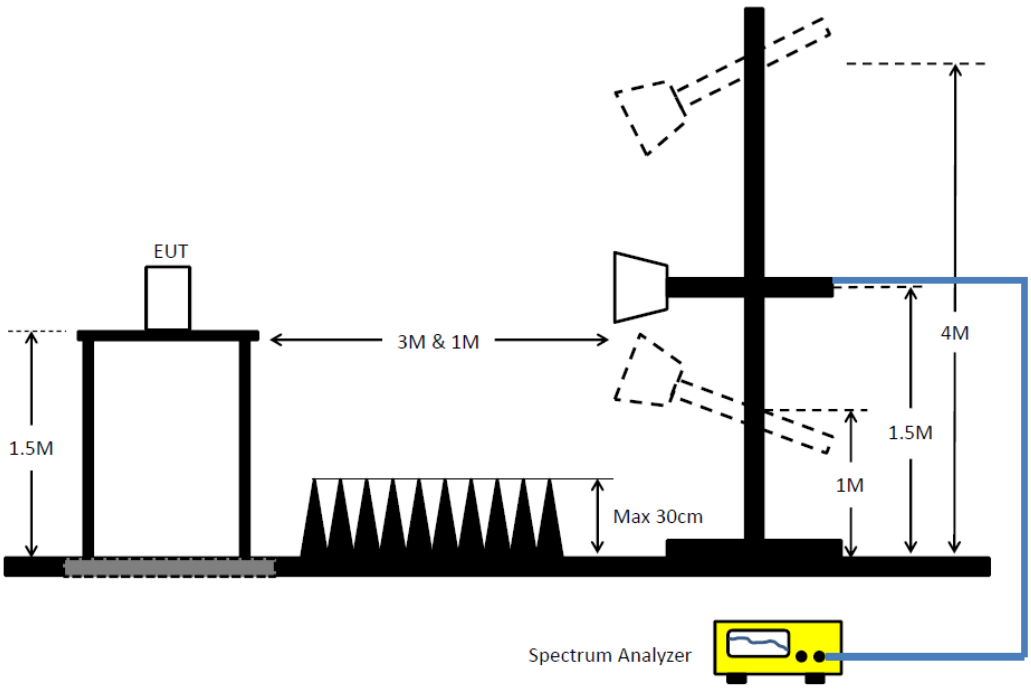
**9kHz ~30MHz**




**30MHz~1GHz**



**Above 1GHz**

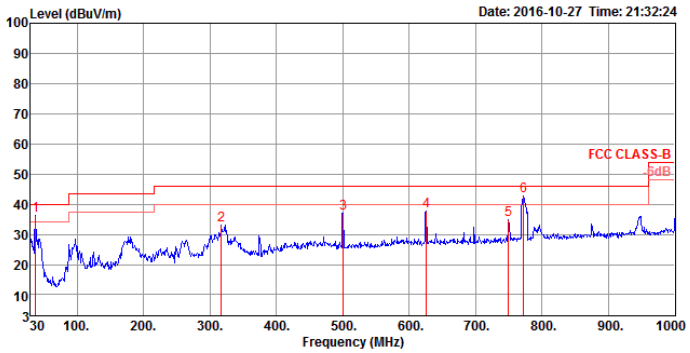



### 3.6.5 Transmitter Radiated Unwanted Emissions (Below 30MHz)

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

### 3.6.6 Test Result of Transmitter Radiated Unwanted Emissions

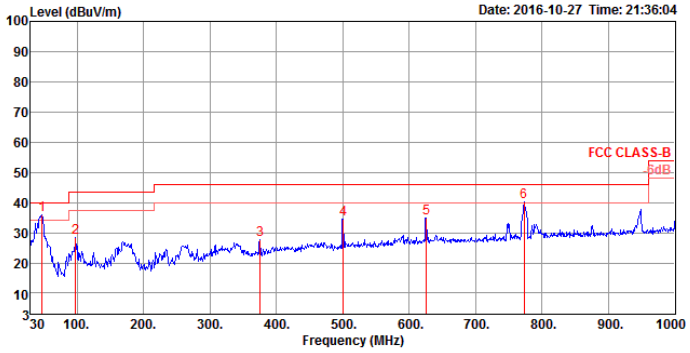
| RSE below 1GHz Result | | | |
|---|---|---|---|
| **Operating Mode** | 3 | **Polarization** | Horizontal |
| **Operating Function** | CTX | | |




| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 37.76 | 36.17 | 40.00 | -3.83 | 46.81 | 0.58 | 21.51 | 32.73 | 150 | 0 | Peak | HORIZONTAL |
| 2 | 317.12 | 33.03 | 46.00 | -12.97 | 43.16 | 1.71 | 20.48 | 32.32 | 100 | 141 | Peak | HORIZONTAL |
| 3 | 500.45 | 37.05 | 46.00 | -8.95 | 43.14 | 2.18 | 24.03 | 32.30 | 200 | 154 | Peak | HORIZONTAL |
| 4 | 625.58 | 37.64 | 46.00 | -8.36 | 41.83 | 2.44 | 25.77 | 32.40 | 150 | 160 | Peak | HORIZONTAL |
| 5 | 749.74 | 34.82 | 46.00 | -11.18 | 37.97 | 2.73 | 26.40 | 32.28 | 150 | 220 | Peak | HORIZONTAL |
| 6 | 772.05 | 42.74 | 46.00 | -3.26 | 45.54 | 2.86 | 26.58 | 32.24 | 100 | 360 | Peak | HORIZONTAL |

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.)

| RSE below 1GHz Result | | | |
|---|---|---|---|
| **Operating Mode** | 3 | **Polarization** | Vertical |
| **Operating Function** | CTX | | |




| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 47.46 | 36.01 | 40.00 | -3.99 | 51.80 | 0.65 | 16.00 | 32.44 | 100 | 250 | Peak | VERTICAL |
| 2 | 97.90 | 28.41 | 43.50 | -15.09 | 42.73 | 0.95 | 17.18 | 32.45 | 150 | 195 | Peak | VERTICAL |
| 3 | 375.32 | 27.72 | 46.00 | -18.28 | 36.06 | 1.89 | 22.08 | 32.31 | 150 | 172 | Peak | VERTICAL |
| 4 | 500.45 | 34.37 | 46.00 | -11.63 | 40.46 | 2.18 | 24.03 | 32.30 | 100 | 235 | Peak | VERTICAL |
| 5 | 625.58 | 34.98 | 46.00 | -11.02 | 39.17 | 2.44 | 25.77 | 32.40 | 200 | 211 | Peak | VERTICAL |
| 6 | 773.02 | 40.32 | 46.00 | -5.68 | 43.09 | 2.87 | 26.60 | 32.24 | 100 | 105 | Peak | VERTICAL |

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.)

## Radiated Emissions (1GHz~10th Harmonic)

| Configurations | IEEE 802.11b CH 1 / Ant. 1 |
|---|---|

***Horizontal***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4823.92 | 53.84 | 74.00 | -20.16 | 47.52 | 6.26 | 33.11 | 33.05 | 110 | 68 | Peak | HORIZONTAL |
| 2 | 4823.98 | 49.21 | 54.00 | -4.79 | 42.89 | 6.26 | 33.11 | 33.05 | 110 | 68 | Average | HORIZONTAL |

***Vertical***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4824.00 | 54.10 | 74.00 | -19.90 | 47.78 | 6.26 | 33.11 | 33.05 | 281 | 151 | Peak | VERTICAL |
| 2 | 4824.02 | 50.22 | 54.00 | -3.78 | 43.90 | 6.26 | 33.11 | 33.05 | 281 | 151 | Average | VERTICAL |

| Configurations | IEEE 802.11b CH 6 / Ant. 1 |
|---|---|

***Horizontal***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4874.00 | 48.49 | 54.00 | -5.51 | 42.01 | 6.28 | 33.23 | 33.03 | 125 | 359 | Average | HORIZONTAL |
| 2 | 4874.02 | 53.20 | 74.00 | -20.80 | 46.72 | 6.28 | 33.23 | 33.03 | 125 | 359 | Peak | HORIZONTAL |

***Vertical***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4873.98 | 55.35 | 74.00 | -18.65 | 48.87 | 6.28 | 33.23 | 33.03 | 275 | 144 | Peak | VERTICAL |
| 2 | 4874.04 | 52.80 | 54.00 | -1.20 | 46.32 | 6.28 | 33.23 | 33.03 | 275 | 144 | Average | VERTICAL |

| Configurations | IEEE 802.11b CH 11 / Ant. 1 |
|---|---|

***Horizontal***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4923.98 | 53.05 | 74.00 | -20.95 | 46.41 | 6.29 | 33.35 | 33.00 | 106 | 66 | Peak | HORIZONTAL |
| 2 | 4924.02 | 48.77 | 54.00 | -5.23 | 42.13 | 6.29 | 33.35 | 33.00 | 106 | 66 | Average | HORIZONTAL |

***Vertical***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4924.02 | 51.38 | 54.00 | -2.62 | 44.74 | 6.29 | 33.35 | 33.00 | 269 | 151 | Average | VERTICAL |
| 2 | 4924.08 | 55.14 | 74.00 | -18.86 | 48.50 | 6.29 | 33.35 | 33.00 | 269 | 151 | Peak | VERTICAL |

| Configurations | IEEE 802.11g CH 1 / Ant. 1 |
|---|---|

***Horizontal***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4823.84 | 35.64 | 54.00 | -18.36 | 28.47 | 7.79 | 31.12 | 31.74 | 109 | 81 | Average | HORIZONTAL |
| 2 | 4824.56 | 49.53 | 74.00 | -24.47 | 42.36 | 7.79 | 31.12 | 31.74 | 109 | 81 | Peak | HORIZONTAL |

***Vertical***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4823.39 | 49.09 | 74.00 | -24.91 | 41.92 | 7.79 | 31.12 | 31.74 | 164 | 132 | Peak | VERTICAL |
| 2 | 4824.32 | 35.74 | 54.00 | -18.26 | 28.57 | 7.79 | 31.12 | 31.74 | 164 | 132 | Average | VERTICAL |

| Configurations | IEEE 802.11g CH 6 / Ant. 1 |
|---|---|

***Horizontal***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4874.11 | 36.21 | 54.00 | -17.79 | 28.86 | 7.86 | 31.21 | 31.72 | 148 | 9 | Average | HORIZONTAL |
| 2 | 4874.69 | 48.93 | 74.00 | -25.07 | 41.58 | 7.86 | 31.21 | 31.72 | 148 | 9 | Peak | HORIZONTAL |

***Vertical***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4873.38 | 51.32 | 74.00 | -22.68 | 43.97 | 7.86 | 31.21 | 31.72 | 144 | 132 | Peak | VERTICAL |
| 2 | 4874.16 | 38.24 | 54.00 | -15.76 | 30.89 | 7.86 | 31.21 | 31.72 | 144 | 132 | Average | VERTICAL |

| Configurations | IEEE 802.11g CH 11 / Ant. 1 |
|---|---|

***Horizontal***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4923.02 | 34.28 | 54.00 | -19.72 | 26.78 | 7.93 | 31.27 | 31.70 | 103 | 4 | Average | HORIZONTAL |
| 2 | 4923.38 | 48.23 | 74.00 | -25.77 | 40.73 | 7.93 | 31.27 | 31.70 | 103 | 4 | Peak | HORIZONTAL |

***Vertical***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4924.48 | 35.29 | 54.00 | -18.71 | 27.77 | 7.93 | 31.29 | 31.70 | 151 | 131 | Average | VERTICAL |
| 2 | 4925.25 | 47.98 | 74.00 | -26.02 | 40.46 | 7.93 | 31.29 | 31.70 | 151 | 131 | Peak | VERTICAL |

| Configurations | IEEE 802.11ac MCS0/Nss1 VHT20 CH 1 / Ant. 1 |
|---|---|

***Horizontal***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4823.25 | 47.17 | 74.00 | -26.83 | 43.93 | 4.94 | 32.82 | 34.52 | 139 | 96 | Peak | HORIZONTAL |
| 2 | 4826.61 | 33.85 | 54.00 | -20.15 | 30.59 | 4.94 | 32.84 | 34.52 | 139 | 96 | Average | HORIZONTAL |

***Vertical***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4823.48 | 36.90 | 54.00 | -17.10 | 33.66 | 4.94 | 32.82 | 34.52 | 285 | 160 | Average | VERTICAL |
| 2 | 4824.16 | 49.56 | 74.00 | -24.44 | 46.32 | 4.94 | 32.82 | 34.52 | 285 | 160 | Peak | VERTICAL |

| Configurations | IEEE 802.11ac MCS0/Nss1 VHT20 CH 6 / Ant. 1 |
|---|---|

***Horizontal***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4874.06 | 35.76 | 54.00 | -18.24 | 32.42 | 4.94 | 32.91 | 34.51 | 130 | 81 | Average | HORIZONTAL |
| 2 | 4880.05 | 48.35 | 74.00 | -25.65 | 45.00 | 4.94 | 32.91 | 34.50 | 130 | 81 | Peak | HORIZONTAL |

***Vertical***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4872.23 | 36.20 | 54.00 | -17.80 | 32.86 | 4.94 | 32.91 | 34.51 | 255 | 164 | Average | VERTICAL |
| 2 | 4879.62 | 49.99 | 74.00 | -24.01 | 46.64 | 4.94 | 32.91 | 34.50 | 255 | 164 | Peak | VERTICAL |

| Configurations | IEEE 802.11ac MCS0/Nss1 VHT20 CH 11 / Ant. 1 |
|---|---|

***Horizontal***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4922.84 | 45.58 | 74.00 | -28.42 | 42.16 | 4.94 | 32.97 | 34.49 | 100 | 348 | Peak | HORIZONTAL |
| 2 | 4925.33 | 33.46 | 54.00 | -20.54 | 30.02 | 4.94 | 32.99 | 34.49 | 100 | 348 | Average | HORIZONTAL |

***Vertical***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4922.06 | 45.48 | 74.00 | -28.52 | 42.06 | 4.94 | 32.97 | 34.49 | 150 | 262 | Peak | VERTICAL |
| 2 | 4924.09 | 32.41 | 54.00 | -21.59 | 28.97 | 4.94 | 32.99 | 34.49 | 150 | 262 | Average | VERTICAL |

| Configurations | IEEE 802.11ac MCS0/Nss1 VHT40 CH 3 / Ant. 1 |
|---|---|

***Horizontal***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4842.31 | 46.75 | 74.00 | -27.25 | 44.17 | 4.24 | 32.86 | 34.52 | 132 | 153 | Peak | HORIZONTAL |
| 2 | 4842.78 | 32.79 | 54.00 | -21.21 | 30.21 | 4.24 | 32.86 | 34.52 | 132 | 153 | Average | HORIZONTAL |

***Vertical***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4841.55 | 32.82 | 54.00 | -21.18 | 30.24 | 4.24 | 32.86 | 34.52 | 195 | 189 | Average | VERTICAL |
| 2 | 4844.61 | 45.56 | 74.00 | -28.44 | 42.98 | 4.24 | 32.86 | 34.52 | 195 | 189 | Peak | VERTICAL |

| Configurations | IEEE 802.11ac MCS0/Nss1 VHT40 CH 6 / Ant. 1 |
|---|---|

***Horizontal***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4874.00 | 46.52 | 74.00 | -27.48 | 43.18 | 4.94 | 32.91 | 34.51 | 119 | 92 | Peak | HORIZONTAL |
| 2 | 4874.00 | 33.20 | 54.00 | -20.80 | 29.86 | 4.94 | 32.91 | 34.51 | 119 | 92 | Average | HORIZONTAL |

***Vertical***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4874.00 | 47.43 | 74.00 | -26.57 | 44.09 | 4.94 | 32.91 | 34.51 | 243 | 153 | Peak | VERTICAL |
| 2 | 4874.00 | 33.30 | 54.00 | -20.70 | 29.96 | 4.94 | 32.91 | 34.51 | 243 | 153 | Average | VERTICAL |

| Configurations | IEEE 802.11ac MCS0/Nss1 VHT40 CH 9 / Ant. 1 |
|---|---|

***Horizontal***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4904.00 | 46.19 | 74.00 | -27.81 | 42.80 | 4.94 | 32.95 | 34.50 | 113 | 328 | Peak | HORIZONTAL |
| 2 | 4904.00 | 32.76 | 54.00 | -21.24 | 29.37 | 4.94 | 32.95 | 34.50 | 113 | 328 | Average | HORIZONTAL |

***Vertical***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4904.00 | 45.33 | 74.00 | -28.67 | 41.94 | 4.94 | 32.95 | 34.50 | 230 | 195 | Peak | VERTICAL |
| 2 | 4904.00 | 32.82 | 54.00 | -21.18 | 29.43 | 4.94 | 32.95 | 34.50 | 230 | 195 | Average | VERTICAL |

| Configurations | IEEE 802.11b CH 1 / Ant. 1 + Ant. 2 |
|---|---|

***Horizontal***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4823.98 | 53.11 | 74.00 | -20.89 | 45.94 | 7.79 | 31.12 | 31.74 | 291 | 79 | Peak | HORIZONTAL |
| 2 | 4824.00 | 48.25 | 54.00 | -5.75 | 41.08 | 7.79 | 31.12 | 31.74 | 291 | 79 | Average | HORIZONTAL |

***Vertical***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4823.96 | 52.36 | 74.00 | -21.64 | 45.19 | 7.79 | 31.12 | 31.74 | 166 | 132 | Peak | VERTICAL |
| 2 | 4824.00 | 46.76 | 54.00 | -7.24 | 39.59 | 7.79 | 31.12 | 31.74 | 166 | 132 | Average | VERTICAL |

| Configurations | IEEE 802.11b CH 6 / Ant. 1 + Ant. 2 |
|---|---|

***Horizontal***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4873.98 | 45.33 | 54.00 | -8.67 | 37.98 | 7.86 | 31.21 | 31.72 | 153 | 9 | Average | HORIZONTAL |
| 2 | 4874.14 | 51.41 | 74.00 | -22.59 | 44.06 | 7.86 | 31.21 | 31.72 | 153 | 9 | Peak | HORIZONTAL |

***Vertical***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4873.96 | 47.37 | 54.00 | -6.63 | 40.02 | 7.86 | 31.21 | 31.72 | 150 | 134 | Average | VERTICAL |
| 2 | 4874.00 | 52.99 | 74.00 | -21.01 | 45.64 | 7.86 | 31.21 | 31.72 | 150 | 134 | Peak | VERTICAL |

| Configurations | IEEE 802.11b CH 11 / Ant. 1 + Ant. 2 |
|---|---|

***Horizontal***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4924.00 | 51.12 | 74.00 | -22.88 | 43.60 | 7.93 | 31.29 | 31.70 | 114 | 6 | Peak | HORIZONTAL |
| 2 | 4924.04 | 45.85 | 54.00 | -8.15 | 38.33 | 7.93 | 31.29 | 31.70 | 114 | 6 | Average | HORIZONTAL |

***Vertical***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4924.04 | 48.25 | 54.00 | -5.75 | 40.73 | 7.93 | 31.29 | 31.70 | 137 | 131 | Average | VERTICAL |
| 2 | 4924.06 | 53.03 | 74.00 | -20.97 | 45.51 | 7.93 | 31.29 | 31.70 | 137 | 131 | Peak | VERTICAL |

| Configurations | IEEE 802.11g CH 1 / Ant. 1 + Ant. 2 |
|---|---|

***Horizontal***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4823.63 | 47.99 | 74.00 | -26.01 | 40.82 | 7.79 | 31.12 | 31.74 | 147 | 0 | Peak | HORIZONTAL |
| 2 | 4824.00 | 34.70 | 54.00 | -19.30 | 27.53 | 7.79 | 31.12 | 31.74 | 147 | 0 | Average | HORIZONTAL |

***Vertical***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4823.99 | 48.26 | 74.00 | -25.74 | 41.09 | 7.79 | 31.12 | 31.74 | 133 | 130 | Peak | VERTICAL |
| 2 | 4824.12 | 34.54 | 54.00 | -19.46 | 27.37 | 7.79 | 31.12 | 31.74 | 133 | 130 | Average | VERTICAL |

| Configurations | IEEE 802.11g CH 6 / Ant. 1 + Ant. 2 |
|---|---|

***Horizontal***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4873.82 | 47.88 | 74.00 | -26.12 | 40.53 | 7.86 | 31.21 | 31.72 | 118 | 8 | Peak | HORIZONTAL |
| 2 | 4874.36 | 34.25 | 54.00 | -19.75 | 26.90 | 7.86 | 31.21 | 31.72 | 118 | 8 | Average | HORIZONTAL |

***Vertical***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4874.06 | 48.23 | 74.00 | -25.77 | 40.88 | 7.86 | 31.21 | 31.72 | 124 | 136 | Peak | VERTICAL |
| 2 | 4874.09 | 36.29 | 54.00 | -17.71 | 28.94 | 7.86 | 31.21 | 31.72 | 124 | 136 | Average | VERTICAL |

| Configurations | IEEE 802.11g CH 11 / Ant. 1 + Ant. 2 |
|---|---|

***Horizontal***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4923.92 | 48.76 | 74.00 | -25.24 | 41.24 | 7.93 | 31.29 | 31.70 | 109 | 80 | Peak | HORIZONTAL |
| 2 | 4924.07 | 34.81 | 54.00 | -19.19 | 27.29 | 7.93 | 31.29 | 31.70 | 109 | 80 | Average | HORIZONTAL |

***Vertical***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4924.03 | 34.47 | 54.00 | -19.53 | 26.95 | 7.93 | 31.29 | 31.70 | 120 | 91 | Average | VERTICAL |
| 2 | 4924.21 | 48.66 | 74.00 | -25.34 | 41.14 | 7.93 | 31.29 | 31.70 | 120 | 91 | Peak | VERTICAL |

| Configurations | IEEE 802.11ac MCS0/Nss1 VHT20(BF) CH 1 / Ant. 1 + Ant. 2 |
|---|---|

***Horizontal***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4824.96 | 39.60 | 54.00 | -14.40 | 31.97 | 6.26 | 33.11 | 31.74 | 116 | 345 | Average | HORIZONTAL |
| 2 | 4829.60 | 51.72 | 74.00 | -22.28 | 44.05 | 6.27 | 33.14 | 31.74 | 116 | 345 | Peak | HORIZONTAL |

***Vertical***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4822.00 | 38.10 | 54.00 | -15.90 | 30.47 | 6.26 | 33.11 | 31.74 | 108 | 220 | Average | VERTICAL |
| 2 | 4830.00 | 50.60 | 74.00 | -23.40 | 42.93 | 6.27 | 33.14 | 31.74 | 108 | 220 | Peak | VERTICAL |

| Configurations | IEEE 802.11ac MCS0/Nss1 VHT20(BF) CH 6 / Ant. 1 + Ant. 2 |
|---|---|

***Horizontal***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4875.28 | 40.58 | 54.00 | -13.42 | 32.79 | 6.28 | 33.23 | 31.72 | 123 | 8 | Average | HORIZONTAL |
| 2 | 4875.48 | 52.64 | 74.00 | -21.36 | 44.85 | 6.28 | 33.23 | 31.72 | 123 | 8 | Peak | HORIZONTAL |

***Vertical***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4871.72 | 39.68 | 54.00 | -14.32 | 31.89 | 6.28 | 33.23 | 31.72 | 127 | 157 | Average | VERTICAL |
| 2 | 4875.32 | 51.51 | 74.00 | -22.49 | 43.72 | 6.28 | 33.23 | 31.72 | 127 | 157 | Peak | VERTICAL |

| Configurations | IEEE 802.11ac MCS0/Nss1 VHT20(BF) CH 11 / Ant. 1 + Ant. 2 |
|---|---|

***Horizontal***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4922.48 | 38.82 | 54.00 | -15.18 | 30.91 | 6.29 | 33.32 | 31.70 | 122 | 291 | Average | HORIZONTAL |
| 2 | 4923.76 | 51.55 | 74.00 | -22.45 | 43.61 | 6.29 | 33.35 | 31.70 | 122 | 291 | Peak | HORIZONTAL |

***Vertical***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4923.36 | 38.50 | 54.00 | -15.50 | 30.59 | 6.29 | 33.32 | 31.70 | 129 | 156 | Average | VERTICAL |
| 2 | 4926.72 | 50.57 | 74.00 | -23.43 | 42.62 | 6.29 | 33.35 | 31.69 | 129 | 156 | Peak | VERTICAL |

| Configurations | IEEE 802.11ac MCS0/Nss1 VHT40(BF) CH 3 / Ant. 1 + Ant. 2 |
|---|---|

***Horizontal***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4839.44 | 50.58 | 74.00 | -23.42 | 42.88 | 6.27 | 33.17 | 31.74 | 126 | 214 | Peak | HORIZONTAL |
| 2 | 4850.32 | 37.86 | 54.00 | -16.14 | 30.15 | 6.27 | 33.17 | 31.73 | 126 | 214 | Average | HORIZONTAL |

***Vertical***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4837.60 | 37.29 | 54.00 | -16.71 | 29.62 | 6.27 | 33.14 | 31.74 | 124 | 136 | Average | VERTICAL |
| 2 | 4839.92 | 49.86 | 74.00 | -24.14 | 42.16 | 6.27 | 33.17 | 31.74 | 124 | 136 | Peak | VERTICAL |

| Configurations | IEEE 802.11ac MCS0/Nss1 VHT40(BF) CH 6 / Ant. 1 + Ant. 2 |
|---|---|

***Horizontal***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4865.64 | 50.29 | 74.00 | -23.71 | 42.54 | 6.27 | 33.20 | 31.72 | 136 | 158 | Peak | HORIZONTAL |
| 2 | 4872.76 | 38.25 | 54.00 | -15.75 | 30.46 | 6.28 | 33.23 | 31.72 | 136 | 158 | Average | HORIZONTAL |

***Vertical***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4873.00 | 37.40 | 54.00 | -16.60 | 29.61 | 6.28 | 33.23 | 31.72 | 115 | 105 | Average | VERTICAL |
| 2 | 4875.60 | 50.05 | 74.00 | -23.95 | 42.26 | 6.28 | 33.23 | 31.72 | 115 | 105 | Peak | VERTICAL |

| Configurations | IEEE 802.11ac MCS0/Nss1 VHT40(BF) CH 9 / Ant. 1 + Ant. 2 |
|---|---|

***Horizontal***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4899.32 | 49.97 | 74.00 | -24.03 | 42.10 | 6.28 | 33.29 | 31.70 | 138 | 187 | Peak | HORIZONTAL |
| 2 | 4910.48 | 37.94 | 54.00 | -16.06 | 30.03 | 6.29 | 33.32 | 31.70 | 138 | 187 | Average | HORIZONTAL |

***Vertical***

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 4907.20 | 37.87 | 54.00 | -16.13 | 30.00 | 6.28 | 33.29 | 31.70 | 143 | 166 | Average | VERTICAL |
| 2 | 4910.20 | 50.47 | 74.00 | -23.53 | 42.56 | 6.29 | 33.32 | 31.70 | 143 | 166 | Peak | VERTICAL |

Note:

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

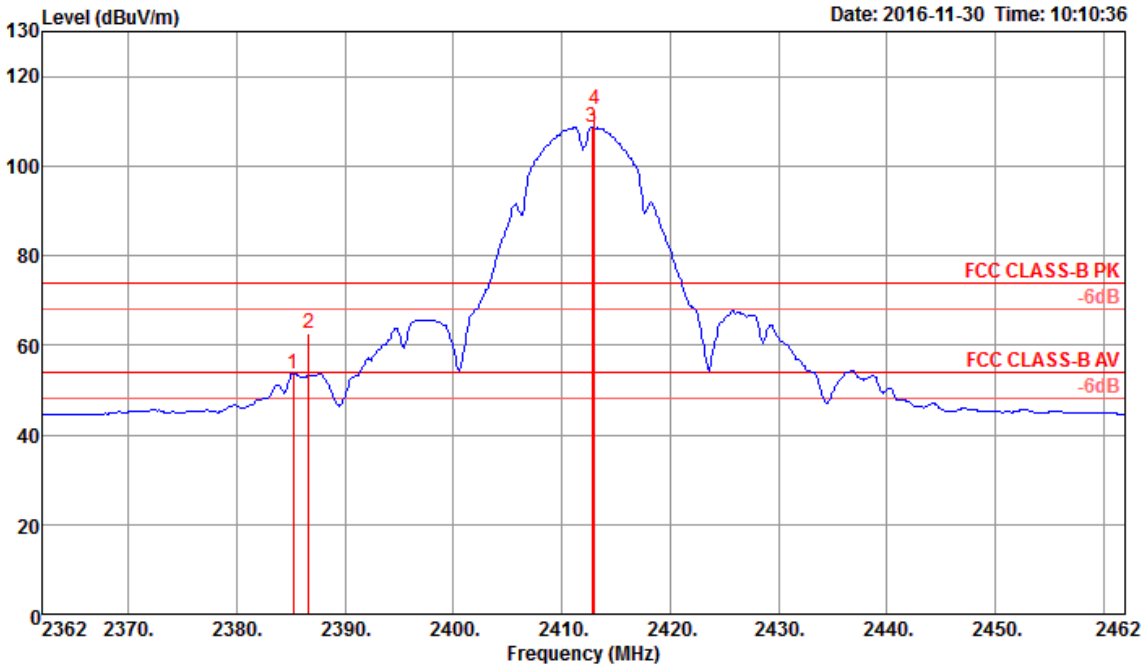
Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

## Band Edge Emissions

| Configurations | IEEE 802.11b CH 1, 6, 11 / Ant. 1 |
|---|---|

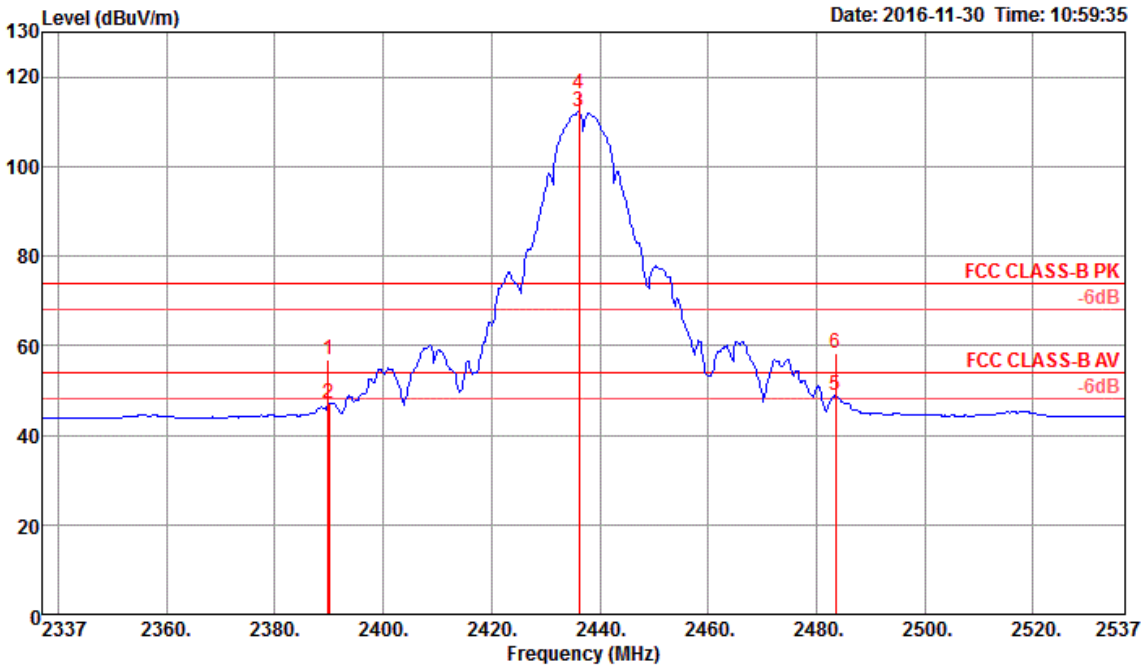
**Channel 1**




| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 2385.20 | 53.77 | 54.00 | -0.23 | 21.86 | 3.60 | 28.31 | 0.00 | 109 | 89 | Average | HORIZONTAL |
| 2 | 2386.60 | 62.65 | 74.00 | -11.35 | 30.74 | 3.60 | 28.31 | 0.00 | 109 | 89 | Peak | HORIZONTAL |
| 3 @ | 2412.80 | 108.70 | | | 76.72 | 3.62 | 28.36 | 0.00 | 109 | 89 | Average | HORIZONTAL |
| 4 @ | 2413.00 | 112.74 | | | 80.76 | 3.62 | 28.36 | 0.00 | 109 | 89 | Peak | HORIZONTAL |

Item 3, 4 are the fundamental frequency at 2412 MHz.

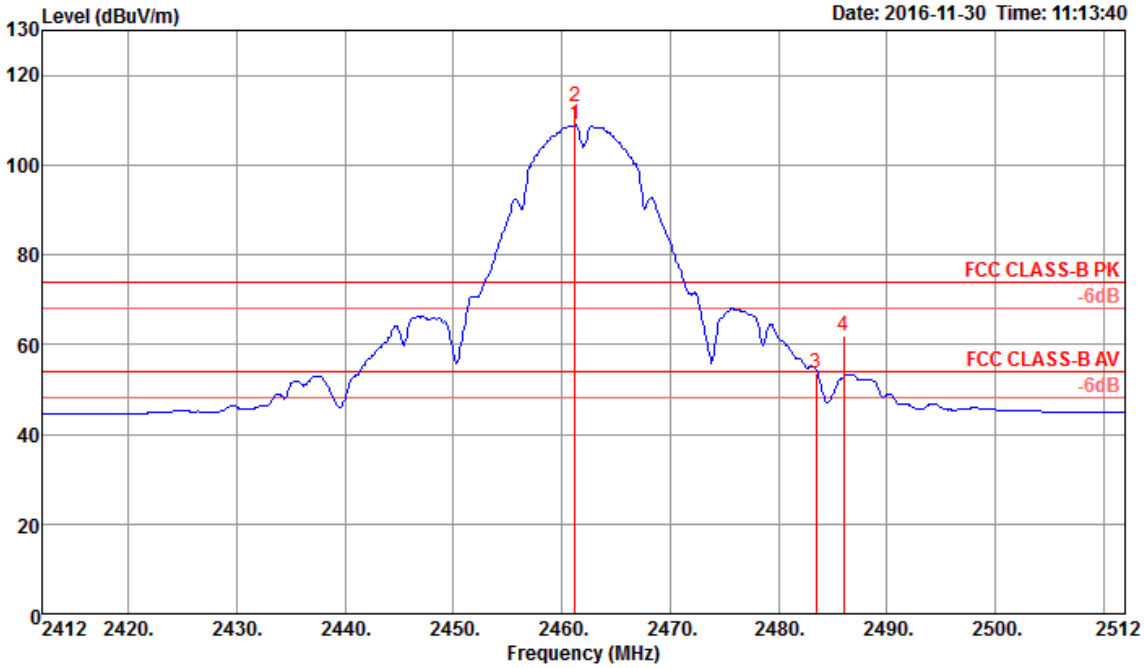
**Channel 6**




| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 2389.80 | 56.78 | 74.00 | -17.22 | 24.87 | 3.60 | 28.31 | 0.00 | 164 | 81 | Peak | HORIZONTAL |
| 2 | 2390.00 | 47.07 | 54.00 | -6.93 | 15.16 | 3.60 | 28.31 | 0.00 | 164 | 81 | Average | HORIZONTAL |
| 3 @ | 2436.20 | 112.31 | | | 80.28 | 3.64 | 28.39 | 0.00 | 164 | 81 | Average | HORIZONTAL |
| 4 @ | 2436.20 | 116.12 | | | 84.09 | 3.64 | 28.39 | 0.00 | 164 | 81 | Peak | HORIZONTAL |
| 5 | 2483.50 | 48.76 | 54.00 | -5.24 | 16.60 | 3.68 | 28.48 | 0.00 | 164 | 81 | Average | HORIZONTAL |
| 6 | 2483.50 | 58.44 | 74.00 | -15.56 | 26.28 | 3.68 | 28.48 | 0.00 | 164 | 81 | Peak | HORIZONTAL |

Item 3, 4 are the fundamental frequency at 2437 MHz.

**Channel 11**

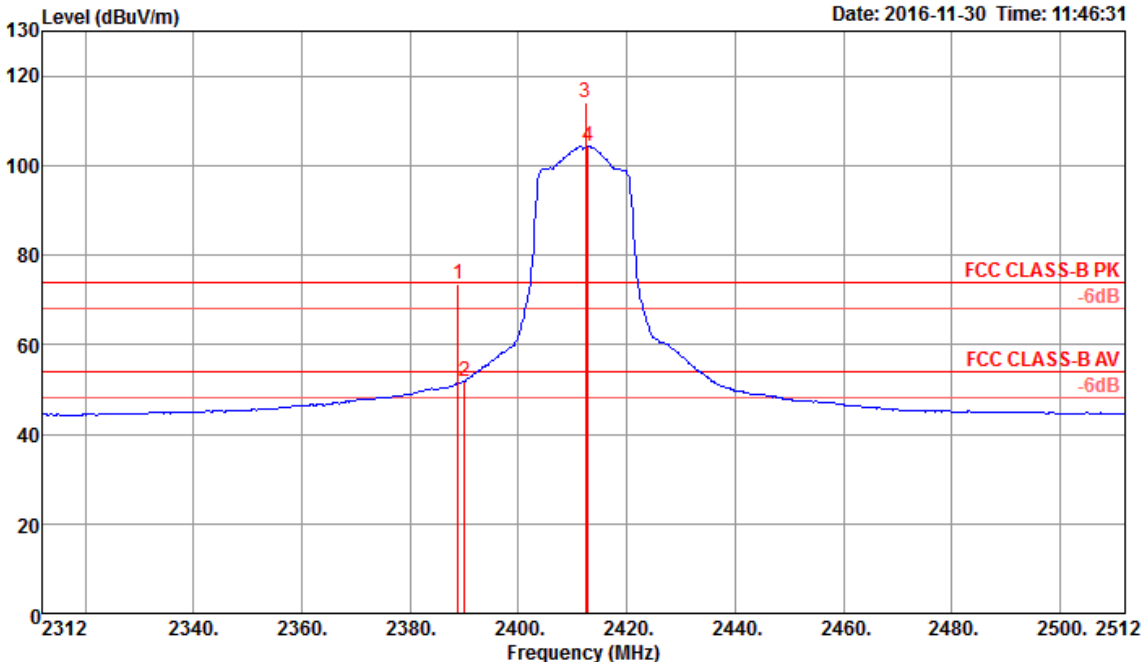



| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 @ | 2461.20 | 108.98 | | | 76.88 | 3.66 | 28.44 | 0.00 | 185 | 85 | Average | HORIZONTAL |
| 2 @ | 2461.20 | 112.84 | | | 80.74 | 3.66 | 28.44 | 0.00 | 185 | 85 | Peak | HORIZONTAL |
| 3 | 2483.50 | 53.73 | 54.00 | -0.27 | 21.57 | 3.68 | 28.48 | 0.00 | 185 | 85 | Average | HORIZONTAL |
| 4 | 2486.00 | 61.83 | 74.00 | -12.17 | 29.67 | 3.68 | 28.48 | 0.00 | 185 | 85 | Peak | HORIZONTAL |

Item 1, 2 are the fundamental frequency at 2462 MHz.

| Configurations | IEEE 802.11g CH 1, 6, 11 / Ant. 1 |
|---|---|

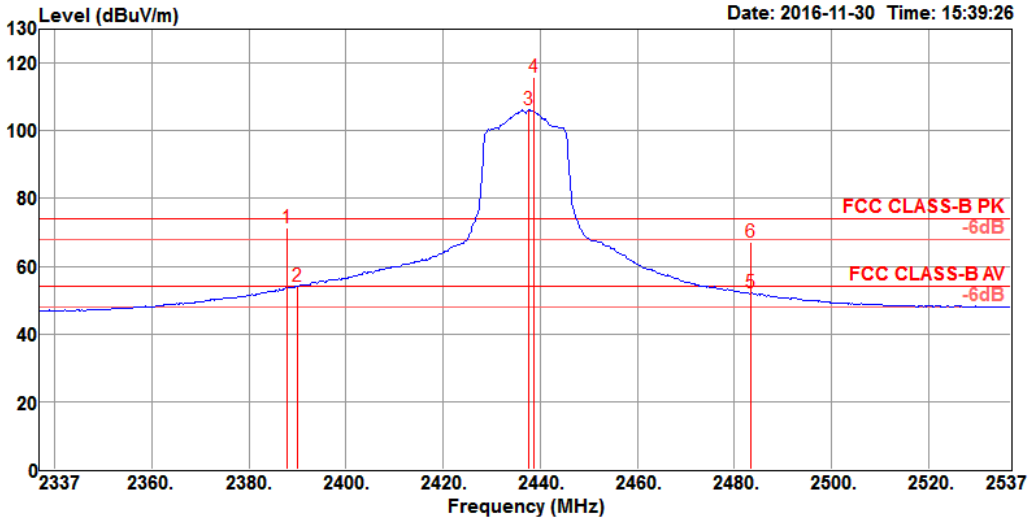
**Channel 1**




| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 2388.80 | 73.59 | 74.00 | -0.41 | 41.68 | 3.60 | 28.31 | 0.00 | 110 | 80 | Peak | HORIZONTAL |
| 2 | 2390.00 | 51.70 | 54.00 | -2.30 | 19.79 | 3.60 | 28.31 | 0.00 | 110 | 80 | Average | HORIZONTAL |
| 3 @ | 2412.40 | 113.99 | | | 82.01 | 3.62 | 28.36 | 0.00 | 110 | 80 | Peak | HORIZONTAL |
| 4 @ | 2412.80 | 104.45 | | | 72.47 | 3.62 | 28.36 | 0.00 | 110 | 80 | Average | HORIZONTAL |

Item 3, 4 are the fundamental frequency at 2412 MHz.

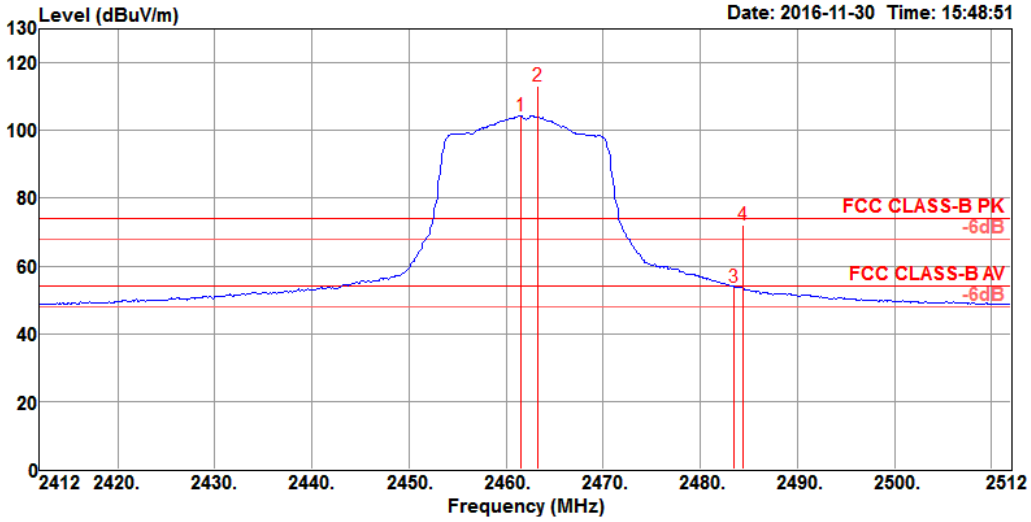
**Channel 6**




| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 2387.96 | 71.26 | 74.00 | -2.74 | 39.30 | 4.89 | 27.07 | 0.00 | 120 | 101 | Peak | HORIZONTAL |
| 2 | 2390.00 | 53.96 | 54.00 | -0.04 | 22.00 | 4.89 | 27.07 | 0.00 | 120 | 101 | Average | HORIZONTAL |
| 3 @ | 2437.64 | 106.16 | | | 74.04 | 4.95 | 27.17 | 0.00 | 120 | 101 | Average | HORIZONTAL |
| 4 @ | 2438.60 | 115.71 | | | 83.59 | 4.95 | 27.17 | 0.00 | 120 | 101 | Peak | HORIZONTAL |
| 5 | 2483.50 | 52.11 | 54.00 | -1.89 | 19.86 | 4.98 | 27.27 | 0.00 | 120 | 101 | Average | HORIZONTAL |
| 6 | 2483.50 | 67.22 | 74.00 | -6.78 | 34.97 | 4.98 | 27.27 | 0.00 | 120 | 101 | Peak | HORIZONTAL |

Item 3, 4 are the fundamental frequency at 2437 MHz.

**Channel 11**

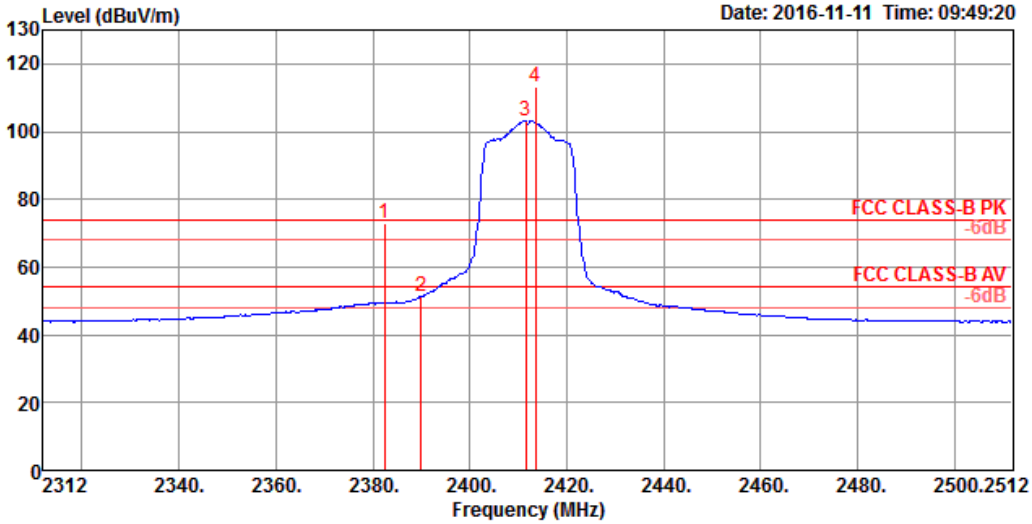



| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 @ | 2461.52 | 104.40 | | | 72.20 | 4.97 | 27.23 | 0.00 | 121 | 101 | Average | HORIZONTAL |
| 2 @ | 2463.28 | 113.20 | | | 81.00 | 4.97 | 27.23 | 0.00 | 121 | 101 | Peak | HORIZONTAL |
| 3 | 2483.50 | 53.84 | 54.00 | -0.16 | 21.59 | 4.98 | 27.27 | 0.00 | 121 | 101 | Average | HORIZONTAL |
| 4 | 2484.44 | 72.15 | 74.00 | -1.85 | 39.90 | 4.98 | 27.27 | 0.00 | 121 | 101 | Peak | HORIZONTAL |

Item 1, 2 are the fundamental frequency at 2462 MHz.

| Configurations | IEEE 802.11ac MCS0/Nss1 VHT20 CH 1, 6, 11 / Ant. 1 |
|---|---|

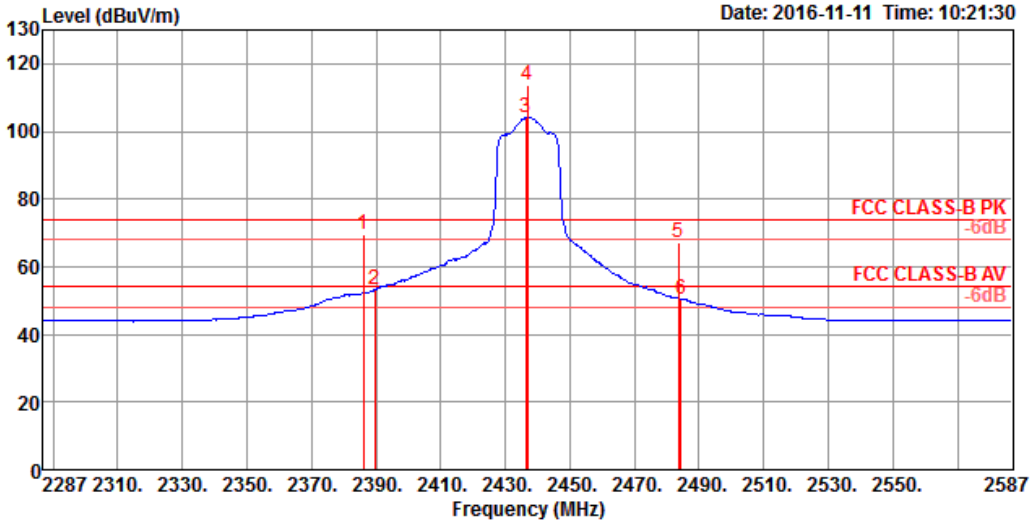
**Channel 1**




| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 2382.40 | 73.07 | 74.00 | -0.93 | 41.18 | 3.98 | 27.91 | 0.00 | 112 | 100 | Peak | HORIZONTAL |
| 2 | 2390.00 | 51.19 | 54.00 | -2.81 | 19.31 | 3.98 | 27.90 | 0.00 | 112 | 100 | Average | HORIZONTAL |
| 3 @ | 2411.60 | 103.32 | | | 71.43 | 4.01 | 27.88 | 0.00 | 112 | 100 | Average | HORIZONTAL |
| 4 @ | 2413.60 | 113.01 | | | 81.12 | 4.01 | 27.88 | 0.00 | 112 | 100 | Average | HORIZONTAL |

Item 3, 4 are the fundamental frequency at 2412 MHz.

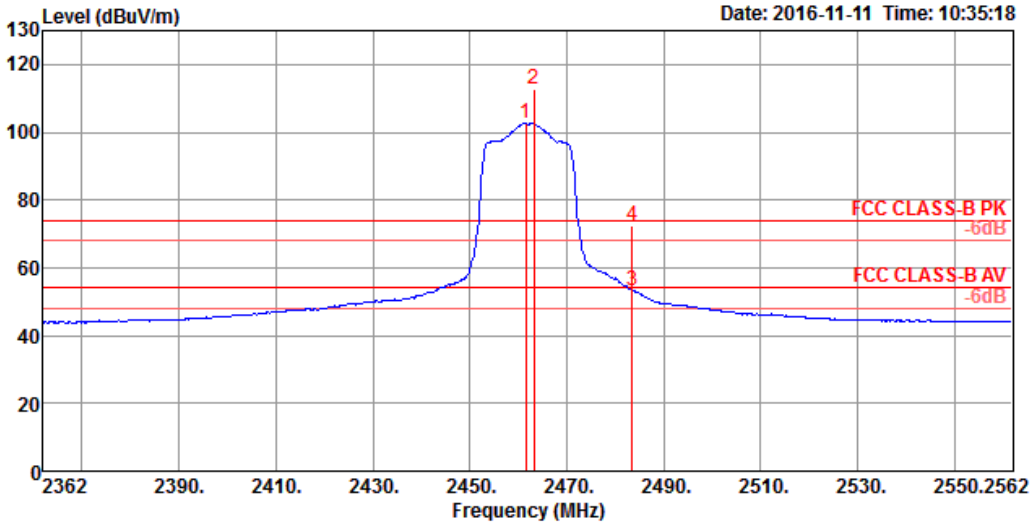
**Channel 6**




| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 2386.00 | 69.70 | 74.00 | -4.30 | 37.82 | 3.98 | 27.90 | 0.00 | 150 | 99 | Peak | HORIZONTAL |
| 2 | 2389.60 | 53.37 | 54.00 | -0.63 | 21.49 | 3.98 | 27.90 | 0.00 | 150 | 99 | Average | HORIZONTAL |
| 3 @ | 2436.40 | 104.30 | | | 72.40 | 4.04 | 27.86 | 0.00 | 150 | 99 | Average | HORIZONTAL |
| 4 @ | 2437.00 | 113.56 | | | 81.66 | 4.04 | 27.86 | 0.00 | 150 | 99 | Peak | HORIZONTAL |
| 5 | 2483.50 | 67.03 | 74.00 | -6.97 | 35.11 | 4.11 | 27.81 | 0.00 | 150 | 99 | Peak | HORIZONTAL |
| 6 | 2484.40 | 50.49 | 54.00 | -3.51 | 18.57 | 4.11 | 27.81 | 0.00 | 150 | 99 | Average | HORIZONTAL |

Item 3, 4 are the fundamental frequency at 2437 MHz.

**Channel 11**

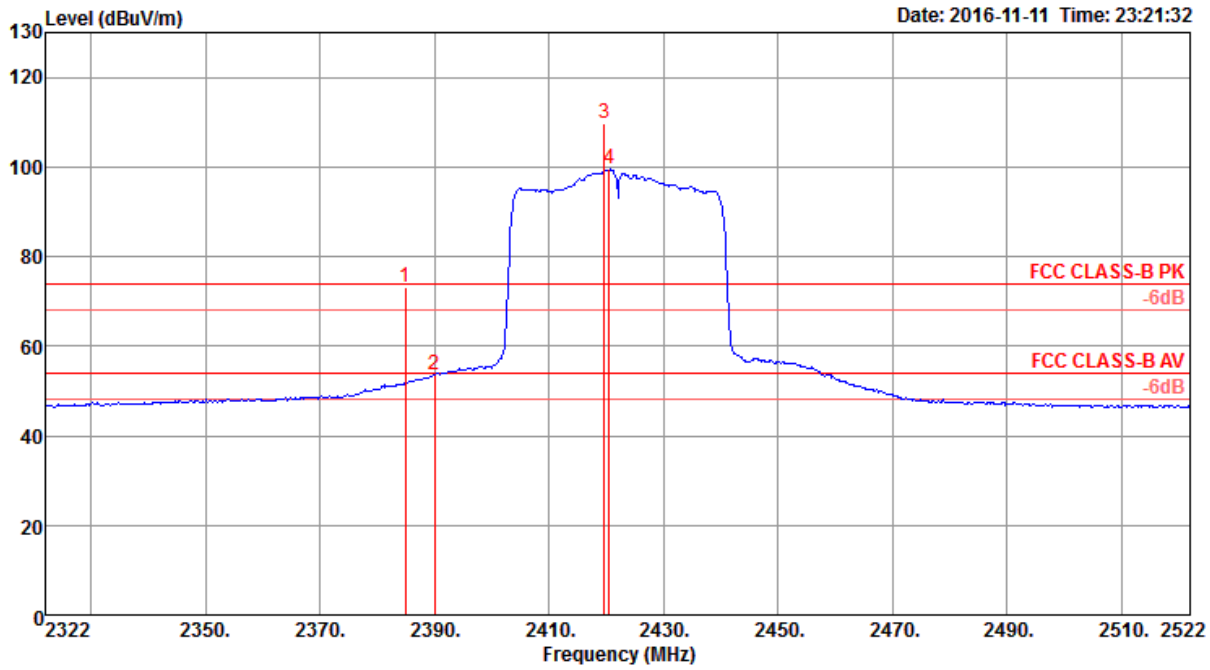



| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 @ | 2461.60 | 102.85 | | | 70.94 | 4.08 | 27.83 | 0.00 | 100 | 103 | Average | HORIZONTAL |
| 2 @ | 2463.20 | 112.76 | | | 80.85 | 4.08 | 27.83 | 0.00 | 100 | 103 | Peak | HORIZONTAL |
| 3 | 2483.50 | 53.46 | 54.00 | -0.54 | 21.54 | 4.11 | 27.81 | 0.00 | 100 | 103 | Average | HORIZONTAL |
| 4 | 2483.50 | 72.59 | 74.00 | -1.41 | 40.67 | 4.11 | 27.81 | 0.00 | 100 | 103 | Peak | HORIZONTAL |

Item 1, 2 are the fundamental frequency at 2462 MHz.

| Configurations | IEEE 802.11ac MCS0/Nss1 VHT40 CH 3, 6, 9 / Ant. 1 |
|---|---|

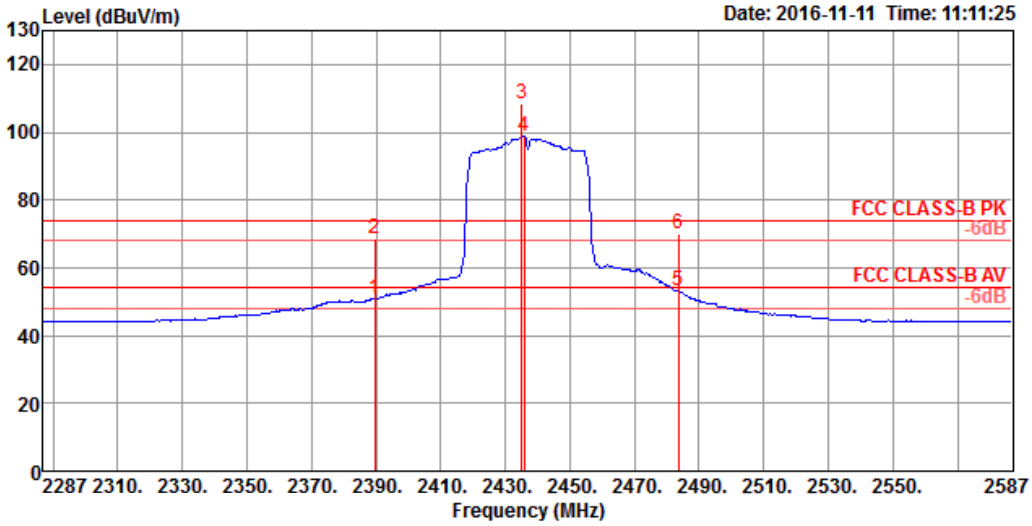
**Channel 3**




| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 2384.95 | 73.15 | 74.00 | -0.85 | 42.27 | 2.86 | 28.02 | 0.00 | 101 | 100 | Peak | HORIZONTAL |
| 2 | 2390.00 | 53.60 | 54.00 | -0.40 | 22.72 | 2.86 | 28.02 | 0.00 | 101 | 100 | Average | HORIZONTAL |
| 3 @ | 2419.68 | 109.82 | | | 78.95 | 2.88 | 27.99 | 0.00 | 101 | 100 | Peak | HORIZONTAL |
| 4 @ | 2420.55 | 99.43 | | | 68.56 | 2.88 | 27.99 | 0.00 | 101 | 100 | Average | HORIZONTAL |

Item 3, 4 are the fundamental frequency at 2422 MHz.

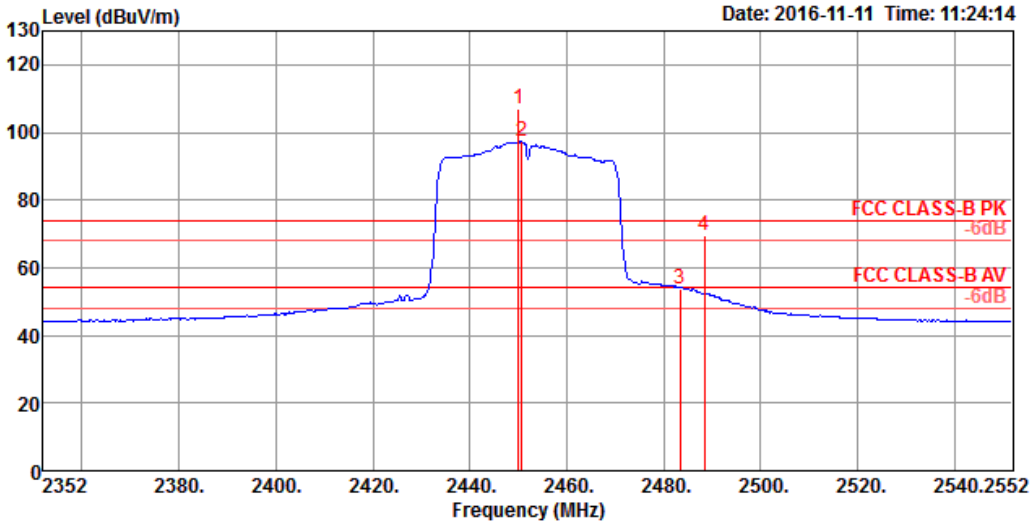
**Channel 6**




| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 2389.60 | 50.78 | 54.00 | -3.22 | 18.90 | 3.98 | 27.90 | 0.00 | 150 | 97 | Average | HORIZONTAL |
| 2 | 2389.60 | 68.63 | 74.00 | -5.37 | 36.75 | 3.98 | 27.90 | 0.00 | 150 | 97 | Peak | HORIZONTAL |
| 3 @ | 2435.20 | 108.31 | | | 76.41 | 4.04 | 27.86 | 0.00 | 150 | 97 | Peak | HORIZONTAL |
| 4 @ | 2435.80 | 98.74 | | | 66.84 | 4.04 | 27.86 | 0.00 | 150 | 97 | Average | HORIZONTAL |
| 5 | 2483.50 | 53.10 | 54.00 | -0.90 | 21.18 | 4.11 | 27.81 | 0.00 | 150 | 97 | Average | HORIZONTAL |
| 6 | 2483.50 | 69.93 | 74.00 | -4.07 | 38.01 | 4.11 | 27.81 | 0.00 | 150 | 97 | Peak | HORIZONTAL |

Item 3, 4 are the fundamental frequency at 2437 MHz.

**Channel 9**

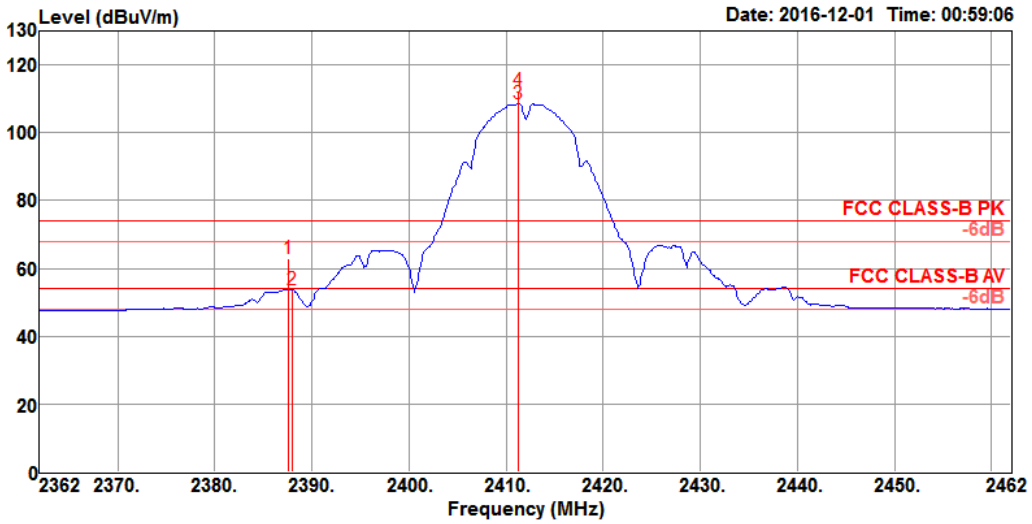



| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 @ | 2450.00 | 106.80 | | | 74.89 | 4.06 | 27.85 | 0.00 | 154 | 98 | Peak | HORIZONTAL |
| 2 @ | 2450.80 | 97.21 | | | 65.30 | 4.06 | 27.85 | 0.00 | 154 | 98 | Average | HORIZONTAL |
| 3 | 2483.50 | 53.94 | 54.00 | -0.06 | 22.02 | 4.11 | 27.81 | 0.00 | 154 | 98 | Average | HORIZONTAL |
| 4 | 2488.40 | 69.73 | 74.00 | -4.27 | 37.80 | 4.12 | 27.81 | 0.00 | 154 | 98 | Peak | HORIZONTAL |

Item 1, 2 are the fundamental frequency at 2452 MHz.

| Configurations | IEEE 802.11b CH 1, 6, 11 / Ant. 1 + Ant. 2 |
|---|---|

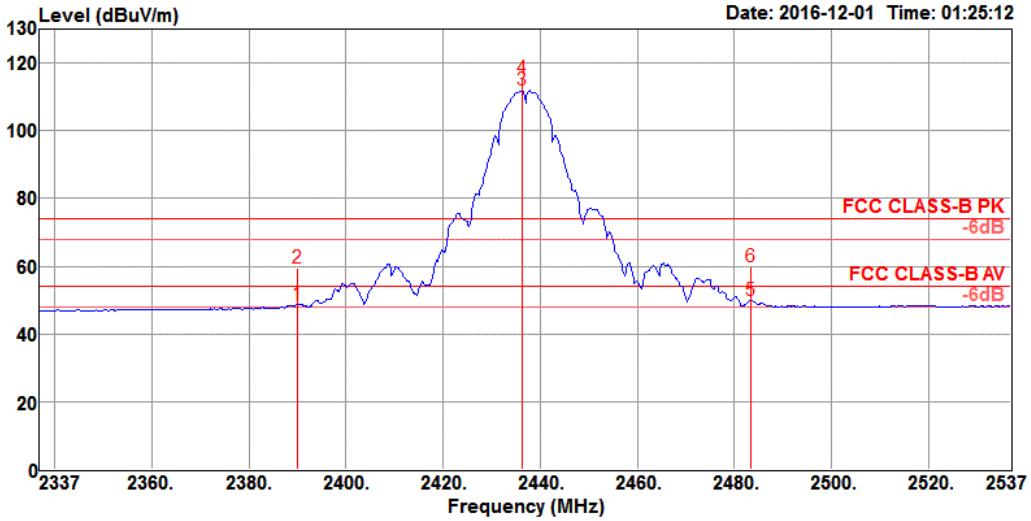
**Channel 1**




| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 2387.60 | 62.87 | 74.00 | -11.13 | 30.91 | 4.89 | 27.07 | 0.00 | 100 | 87 | Peak | HORIZONTAL |
| 2 | 2388.00 | 53.78 | 54.00 | -0.22 | 21.82 | 4.89 | 27.07 | 0.00 | 100 | 87 | Average | HORIZONTAL |
| 3 @ | 2411.20 | 108.69 | | | 76.65 | 4.91 | 27.13 | 0.00 | 100 | 87 | Average | HORIZONTAL |
| 4 @ | 2411.20 | 112.31 | | | 80.27 | 4.91 | 27.13 | 0.00 | 100 | 87 | Peak | HORIZONTAL |

Item 3, 4 are the fundamental frequency at 2412 MHz.

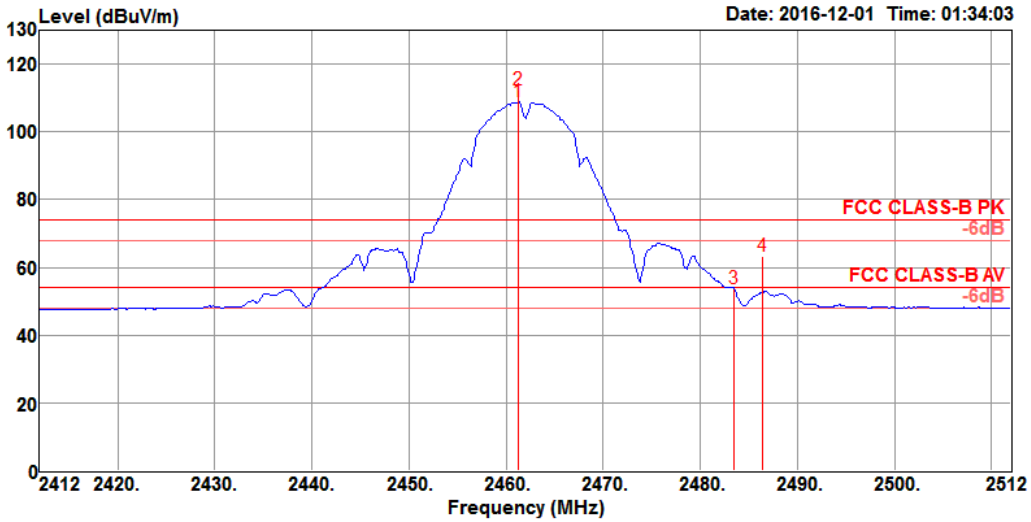
**Channel 6**




| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 2390.00 | 48.60 | 54.00 | -5.40 | 16.64 | 4.89 | 27.07 | 0.00 | 100 | 89 | Average | HORIZONTAL |
| 2 | 2390.00 | 59.29 | 74.00 | -14.71 | 27.33 | 4.89 | 27.07 | 0.00 | 100 | 89 | Peak | HORIZONTAL |
| 3 @ | 2436.20 | 111.97 | | | 79.87 | 4.93 | 27.17 | 0.00 | 100 | 89 | Average | HORIZONTAL |
| 4 @ | 2436.20 | 115.44 | | | 83.34 | 4.93 | 27.17 | 0.00 | 100 | 89 | Peak | HORIZONTAL |
| 5 | 2483.50 | 49.76 | 54.00 | -4.24 | 17.51 | 4.98 | 27.27 | 0.00 | 100 | 89 | Average | HORIZONTAL |
| 6 | 2483.50 | 59.97 | 74.00 | -14.03 | 27.72 | 4.98 | 27.27 | 0.00 | 100 | 89 | Peak | HORIZONTAL |

Item 3, 4 are the fundamental frequency at 2437 MHz.

**Channel 11**

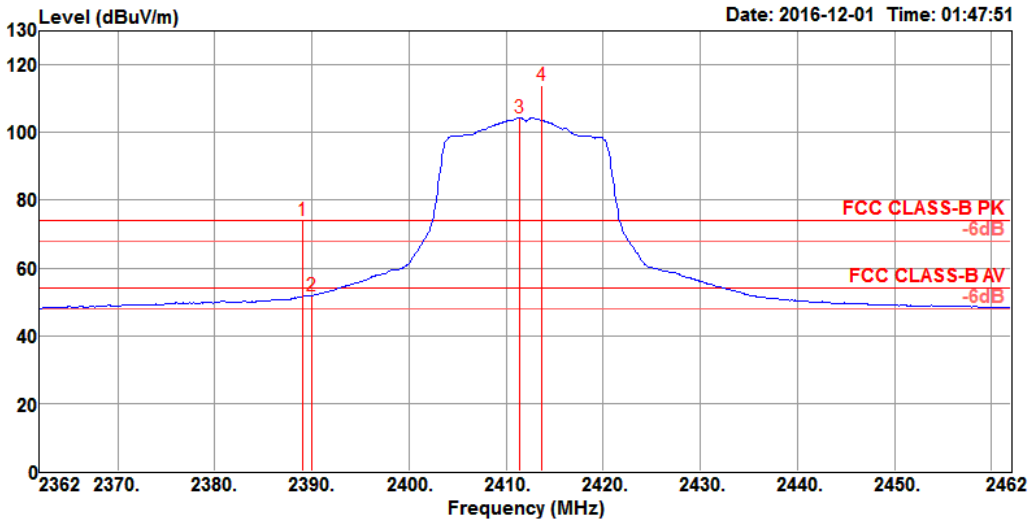



| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 @ | 2461.20 | 108.78 | | | 76.58 | 4.97 | 27.23 | 0.00 | 158 | 87 | Average | HORIZONTAL |
| 2 @ | 2461.20 | 112.36 | | | 80.16 | 4.97 | 27.23 | 0.00 | 158 | 87 | Peak | HORIZONTAL |
| 3 | 2483.50 | 53.77 | 54.00 | -0.23 | 21.52 | 4.98 | 27.27 | 0.00 | 158 | 87 | Average | HORIZONTAL |
| 4 | 2486.40 | 63.28 | 74.00 | -10.72 | 31.03 | 4.98 | 27.27 | 0.00 | 158 | 87 | Peak | HORIZONTAL |

Item 1, 2 are the fundamental frequency at 2462 MHz.

| Configurations | IEEE 802.11g CH 1, 6, 11 / Ant. 1 + Ant. 2 |
|---|---|

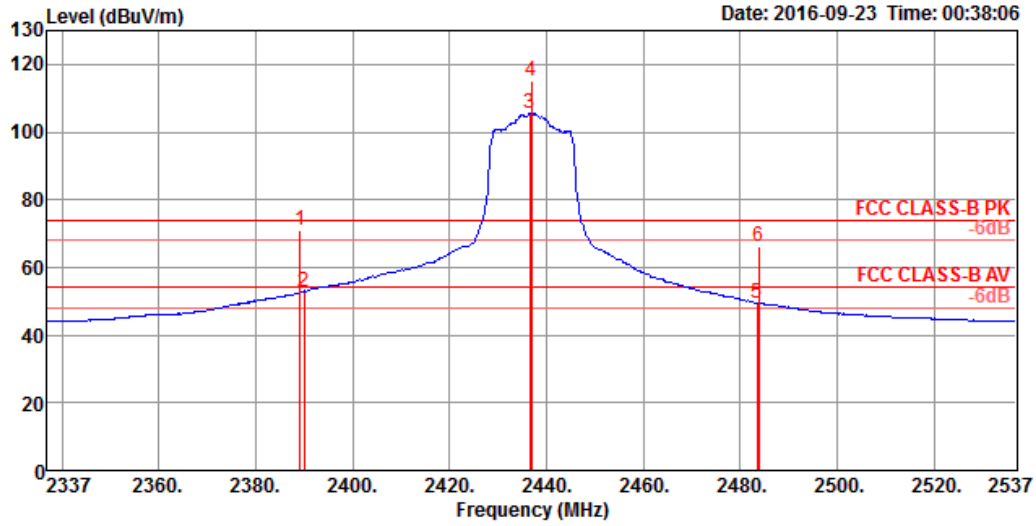
**Channel 1**




| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 2389.00 | 73.88 | 74.00 | -0.12 | 41.92 | 4.89 | 27.07 | 0.00 | 102 | 86 | Peak | HORIZONTAL |
| 2 | 2390.00 | 51.80 | 54.00 | -2.20 | 19.84 | 4.89 | 27.07 | 0.00 | 102 | 86 | Average | HORIZONTAL |
| 3 @ | 2411.40 | 104.34 | | | 72.30 | 4.91 | 27.13 | 0.00 | 102 | 86 | Average | HORIZONTAL |
| 4 @ | 2413.60 | 113.79 | | | 81.75 | 4.91 | 27.13 | 0.00 | 102 | 86 | Peak | HORIZONTAL |

Item 3, 4 are the fundamental frequency at 2412 MHz.

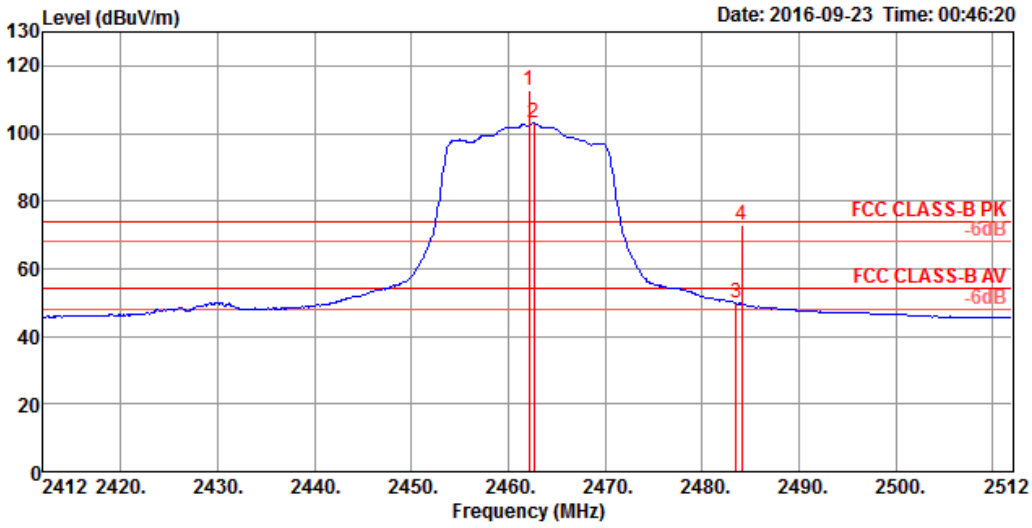
**Channel 6**




| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 2389.20 | 71.15 | 74.00 | -2.85 | 39.27 | 3.98 | 27.90 | 0.00 | 142 | 90 | Peak | HORIZONTAL |
| 2 | 2390.00 | 52.92 | 54.00 | -1.08 | 21.04 | 3.98 | 27.90 | 0.00 | 142 | 90 | Average | HORIZONTAL |
| 3 @ | 2436.60 | 105.50 | | | 73.60 | 4.04 | 27.86 | 0.00 | 142 | 90 | Average | HORIZONTAL |
| 4 @ | 2437.00 | 115.32 | | | 83.42 | 4.04 | 27.86 | 0.00 | 142 | 90 | Peak | HORIZONTAL |
| 5 | 2483.50 | 49.54 | 54.00 | -4.46 | 17.62 | 4.11 | 27.81 | 0.00 | 142 | 90 | Average | HORIZONTAL |
| 6 | 2483.80 | 66.24 | 74.00 | -7.76 | 34.32 | 4.11 | 27.81 | 0.00 | 142 | 90 | Peak | HORIZONTAL |

Item 3, 4 are the fundamental frequency at 2437 MHz.

**Channel 11**

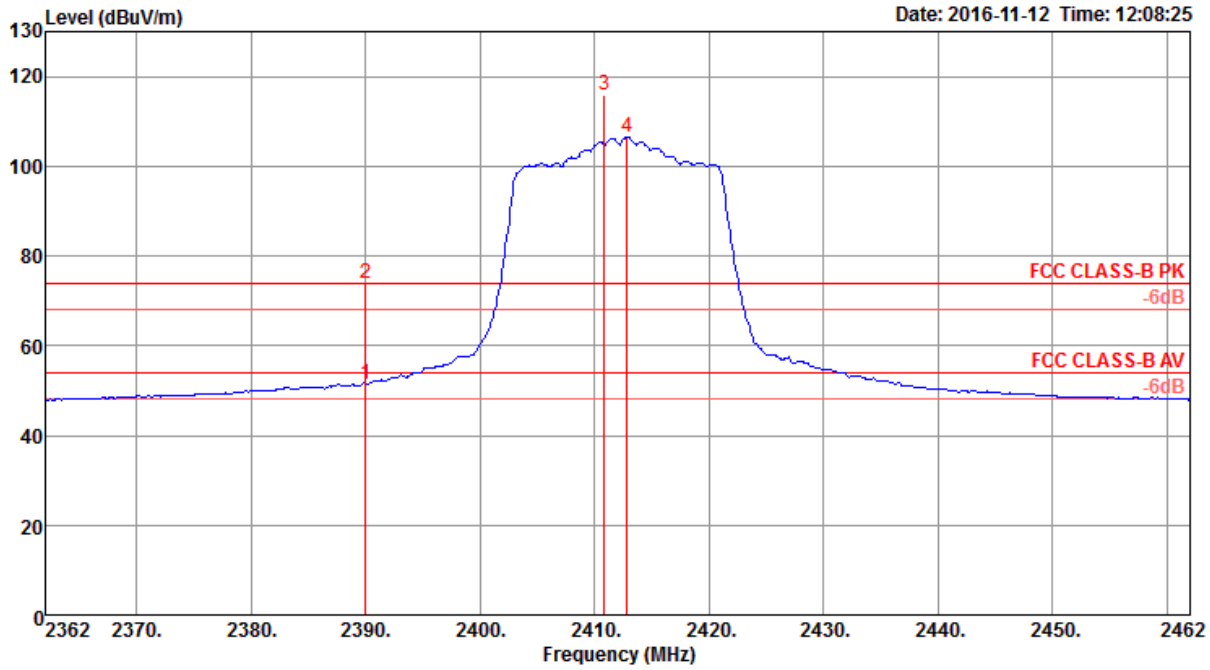



| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 @ | 2462.10 | 112.79 | | | 80.88 | 4.08 | 27.83 | 0.00 | 100 | 89 | Peak | HORIZONTAL |
| 2 @ | 2462.60 | 102.95 | | | 71.04 | 4.08 | 27.83 | 0.00 | 100 | 89 | Average | HORIZONTAL |
| 3 | 2483.50 | 49.73 | 54.00 | -4.27 | 17.81 | 4.11 | 27.81 | 0.00 | 100 | 89 | Average | HORIZONTAL |
| 4 | 2484.10 | 72.99 | 74.00 | -1.01 | 41.07 | 4.11 | 27.81 | 0.00 | 100 | 89 | Peak | HORIZONTAL |

Item 1, 2 are the fundamental frequency at 2462 MHz.

| Configurations | IEEE 802.11ac MCS0/Nss1 VHT20(BF) CH 1, 6, 11 / Ant. 1 + Ant. 2 |
|---|---|

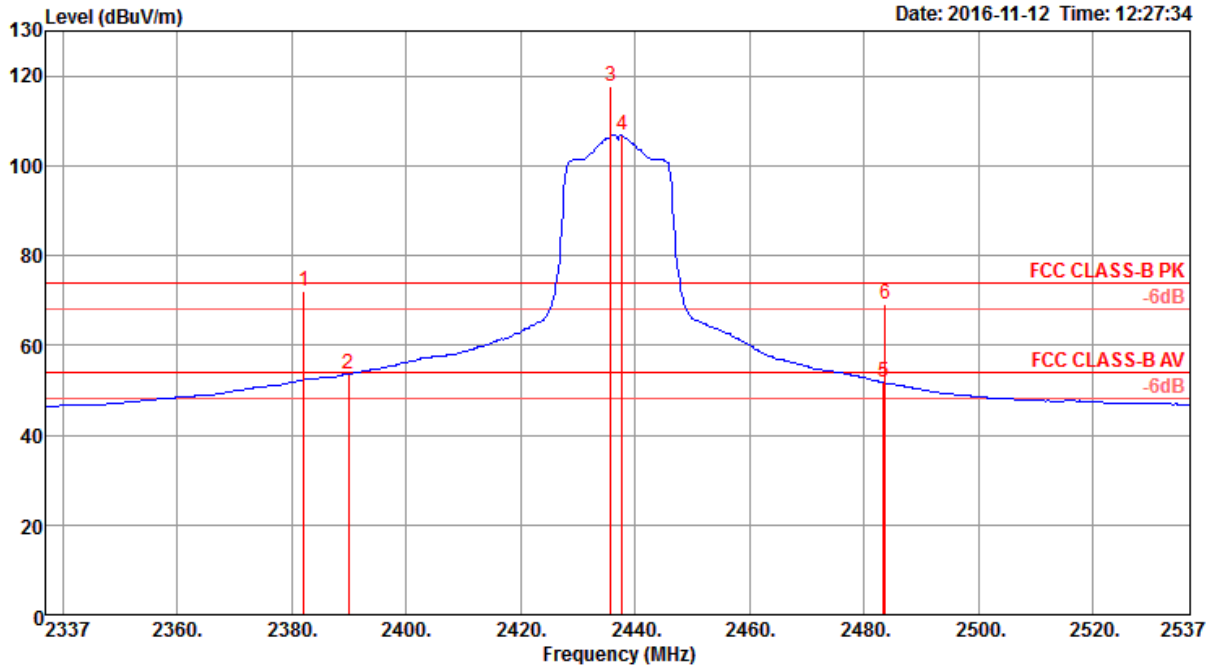
**Channel 1**




| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 2390.00 | 51.45 | 54.00 | -2.55 | 19.54 | 3.60 | 28.31 | 0.00 | 128 | 117 | Average | HORIZONTAL |
| 2 | 2390.00 | 73.77 | 74.00 | -0.23 | 41.86 | 3.60 | 28.31 | 0.00 | 128 | 117 | Peak | HORIZONTAL |
| 3 @ | 2410.80 | 115.85 | | | 83.88 | 3.62 | 28.35 | 0.00 | 128 | 117 | Peak | HORIZONTAL |
| 4 @ | 2412.80 | 106.42 | | | 74.44 | 3.62 | 28.36 | 0.00 | 128 | 117 | Average | HORIZONTAL |

Item 3, 4 are the fundamental frequency at 2412 MHz.

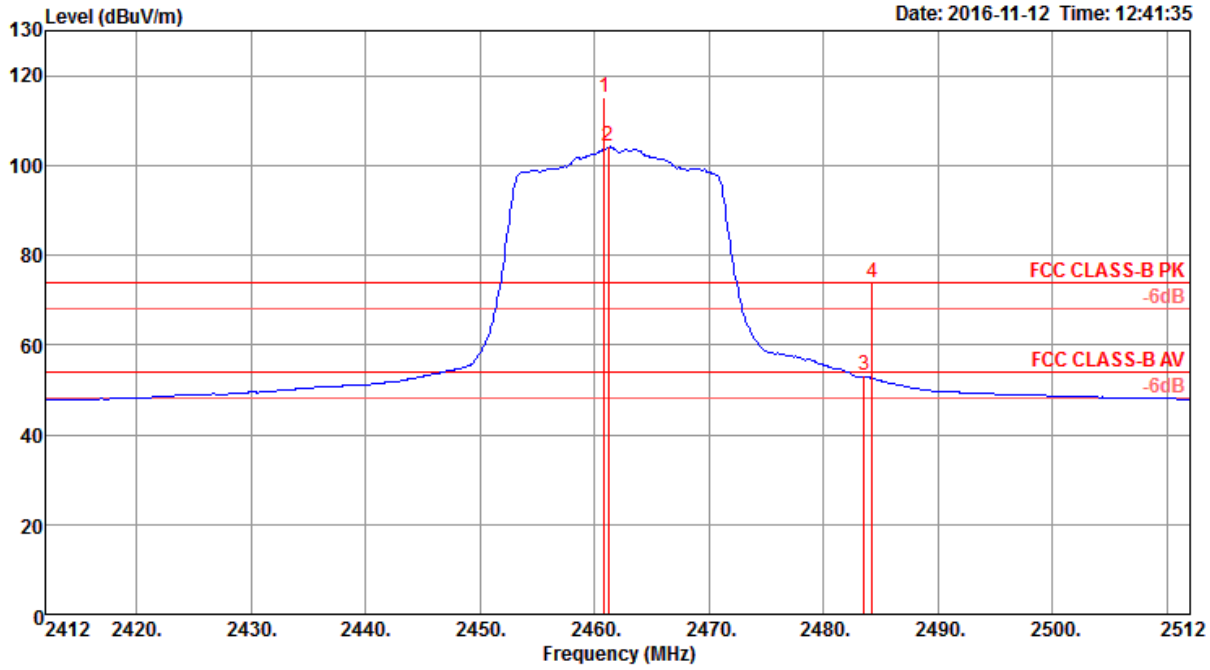
**Channel 6**




| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 2382.20 | 72.09 | 74.00 | -1.91 | 40.20 | 3.59 | 28.30 | 0.00 | 125 | 102 | Peak | HORIZONTAL |
| 2 | 2390.00 | 53.71 | 54.00 | -0.29 | 21.80 | 3.60 | 28.31 | 0.00 | 125 | 102 | Average | HORIZONTAL |
| 3 @ | 2435.80 | 117.78 | | | 85.75 | 3.64 | 28.39 | 0.00 | 125 | 102 | Peak | HORIZONTAL |
| 4 @ | 2437.80 | 106.76 | | | 74.73 | 3.64 | 28.39 | 0.00 | 125 | 102 | Average | HORIZONTAL |
| 5 | 2483.50 | 51.70 | 54.00 | -2.30 | 19.54 | 3.68 | 28.48 | 0.00 | 125 | 102 | Average | HORIZONTAL |
| 6 | 2483.80 | 69.06 | 74.00 | -4.94 | 36.90 | 3.68 | 28.48 | 0.00 | 125 | 102 | Peak | HORIZONTAL |

Item 3, 4 are the fundamental frequency at 2437 MHz.

**Channel 11**

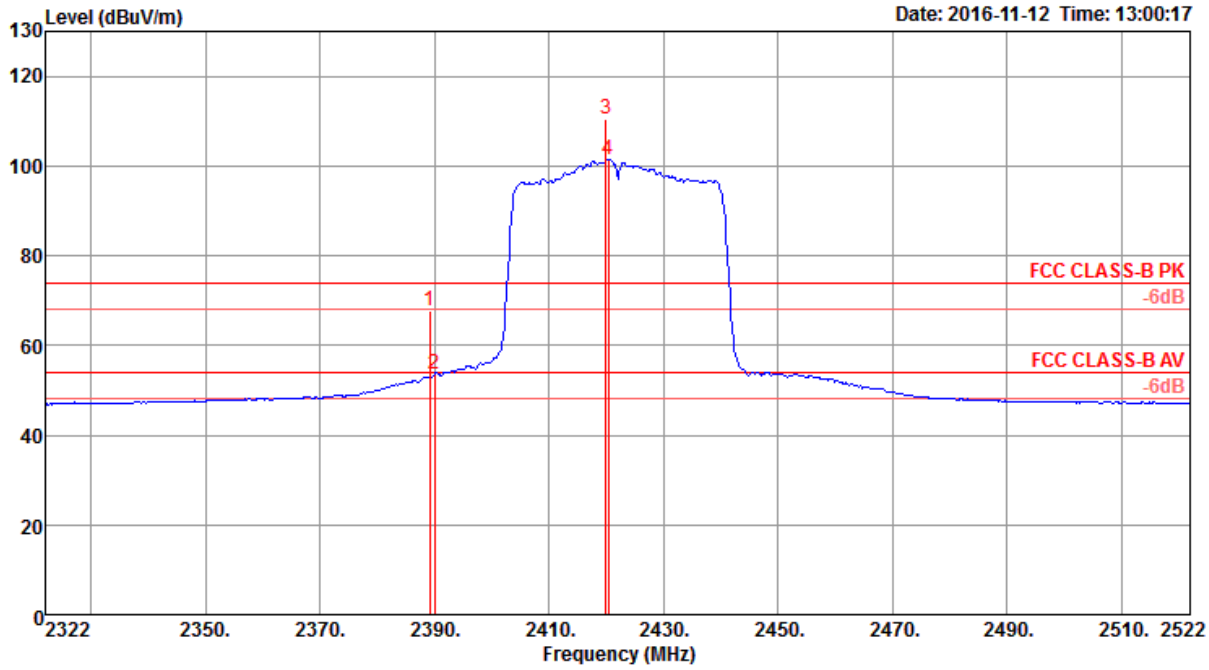



| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 @ | 2460.80 | 115.09 | | | 82.99 | 3.66 | 28.44 | 0.00 | 143 | 104 | Peak | HORIZONTAL |
| 2 @ | 2461.20 | 104.14 | | | 72.04 | 3.66 | 28.44 | 0.00 | 143 | 104 | Average | HORIZONTAL |
| 3 | 2483.50 | 53.20 | 54.00 | -0.80 | 21.04 | 3.68 | 28.48 | 0.00 | 143 | 104 | Average | HORIZONTAL |
| 4 | 2484.20 | 73.95 | 74.00 | -0.05 | 41.79 | 3.68 | 28.48 | 0.00 | 143 | 104 | Peak | HORIZONTAL |

Item 1, 2 are the fundamental frequency at 2462 MHz.

| Configurations | IEEE 802.11ac MCS0/Nss1 VHT40(BF) CH 3, 6, 9 / Ant. 1 + Ant. 2 |
|---|---|

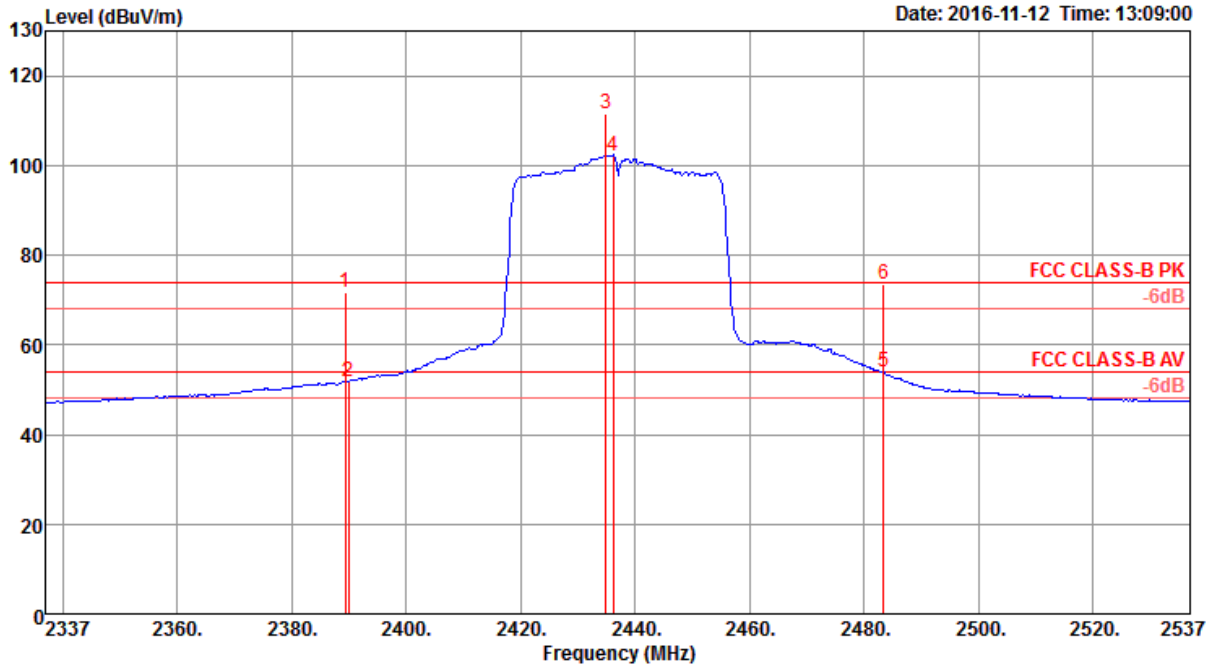
**Channel 3**




| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 2389.20 | 67.77 | 74.00 | -6.23 | 35.86 | 3.60 | 28.31 | 0.00 | 131 | 114 | Peak | HORIZONTAL |
| 2 | 2390.00 | 53.76 | 54.00 | -0.24 | 21.85 | 3.60 | 28.31 | 0.00 | 131 | 114 | Average | HORIZONTAL |
| 3 @ | 2420.00 | 110.36 | | | 78.36 | 3.63 | 28.37 | 0.00 | 131 | 114 | Peak | HORIZONTAL |
| 4 @ | 2420.40 | 101.39 | | | 69.39 | 3.63 | 28.37 | 0.00 | 131 | 114 | Average | HORIZONTAL |

Item 3, 4 are the fundamental frequency at 2422 MHz.

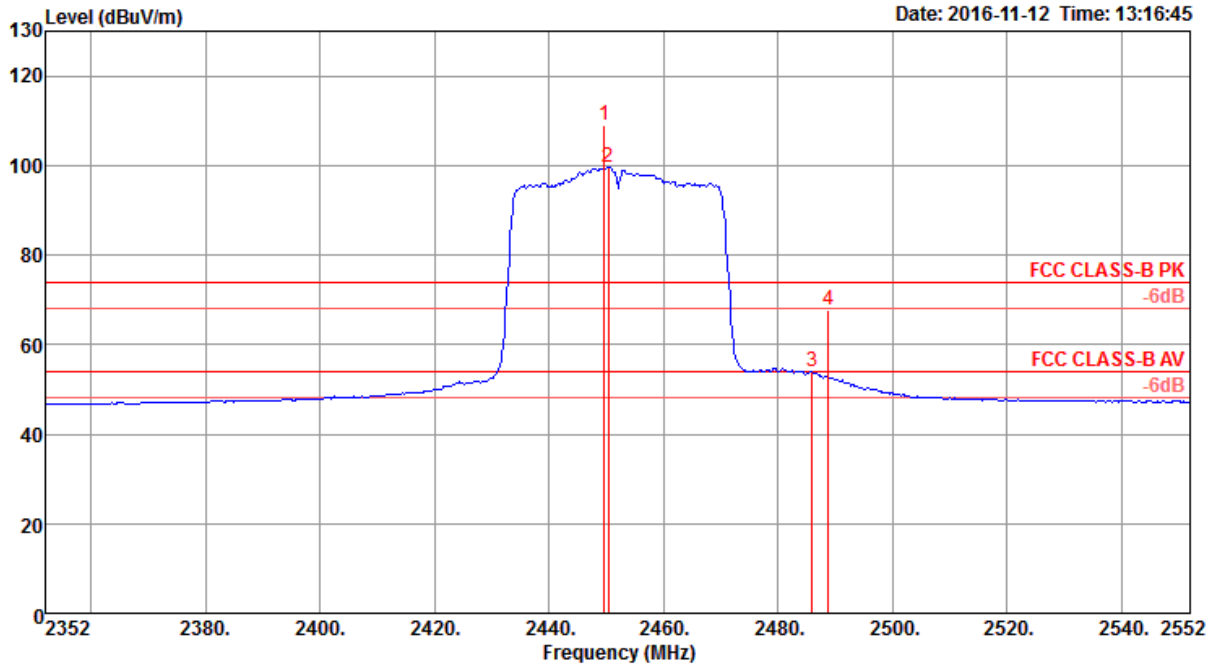
**Channel 6**




| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 2389.40 | 71.66 | 74.00 | -2.34 | 39.75 | 3.60 | 28.31 | 0.00 | 147 | 106 | Peak | HORIZONTAL |
| 2 | 2390.00 | 51.90 | 54.00 | -2.10 | 19.99 | 3.60 | 28.31 | 0.00 | 147 | 106 | Average | HORIZONTAL |
| 3 @ | 2435.00 | 111.44 | | | 79.41 | 3.64 | 28.39 | 0.00 | 147 | 106 | Peak | HORIZONTAL |
| 4 @ | 2436.20 | 102.30 | | | 70.27 | 3.64 | 28.39 | 0.00 | 147 | 106 | Average | HORIZONTAL |
| 5 | 2483.50 | 53.79 | 54.00 | -0.21 | 21.63 | 3.68 | 28.48 | 0.00 | 147 | 106 | Average | HORIZONTAL |
| 6 | 2483.50 | 73.56 | 74.00 | -0.44 | 41.40 | 3.68 | 28.48 | 0.00 | 147 | 106 | Peak | HORIZONTAL |

Item 3, 4 are the fundamental frequency at 2437 MHz.

**Channel 9**




| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 @ | 2449.60 | 108.86 | | | 76.79 | 3.65 | 28.42 | 0.00 | 124 | 121 | Peak | HORIZONTAL |
| 2 @ | 2450.40 | 99.67 | | | 67.60 | 3.65 | 28.42 | 0.00 | 124 | 121 | Average | HORIZONTAL |
| 3 | 2486.00 | 53.80 | 54.00 | -0.20 | 21.64 | 3.68 | 28.48 | 0.00 | 124 | 121 | Average | HORIZONTAL |
| 4 | 2488.80 | 67.56 | 74.00 | -6.44 | 35.40 | 3.68 | 28.48 | 0.00 | 124 | 121 | Peak | HORIZONTAL |

Item 1, 2 are the fundamental frequency at 2452 MHz.

Note:

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

# 4 Test Equipment and Calibration Data

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Remark |
|---|---|---|---|---|---|---|
| LISN | Schwarzbeck | NSLK 8127 | 8127650 | 9kHz ~ 30MHz | Nov. 16, 2015 | Conduction (CO02-CB) |
| LISN | Schwarzbeck | NSLK 8127 | 8127478 | 9kHz ~ 30MHz | Nov. 13, 2015 | Conduction (CO02-CB) |
| EMI Receiver | Agilent | N9038A | MY52260140 | 9kHz ~ 8.4GHz | Jan. 18, 2016 | Conduction (CO02-CB) |
| COND Cable | Woken | Cable | 01 | 0.15MHz ~ 30MHz | Dec. 01, 2015 | Conduction (CO02-CB) |
| Software | Audix | E3 | 6.120210n | - | N.C.R. | Conduction (CO02-CB) |
| Pulse Limiter | Schwarzbeck | VTSD 9561F | 9561-F073 | 9kHz ~ 30MHz | Sep. 30, 2015 | Conduction (CO02-CB) |
| BILOG ANTENNA with 6dB Attenator | TESEQ & EMCI | CBL6112D & N-6-06 | 37880 & AT-N0609 | 20MHz ~ 2GHz | Aug. 30, 2016 | Radiation (03CH01-CB) |
| Horn Antenna | EMCO | 3115 | 00075790 | 750MHz ~ 18GHz | Oct. 22, 2015 | Radiation (03CH01-CB) |
| Horn Antenna | EMCO | 3115 | 00075790 | 750MHz ~ 18GHz | Nov. 10, 2016 | Radiation (03CH01-CB) |
| Horn Antenna | Schwarzbeck | BBHA 9170 | BBHA9170252 | 15GHz ~ 40GHz | Jul. 25, 2016 | Radiation (03CH01-CB) |
| Pre-Amplifier | Agilent | 8447D | 2944A10991 | 0.1MHz ~ 1.3GHz | Mar. 15, 2016 | Radiation (03CH01-CB) |
| Pre-Amplifier | Agilent | 8449B | 3008A02310 | 1GHz ~ 26.5GHz | Jan. 18, 2016 | Radiation (03CH01-CB) |
| Pre-Amplifier | MITEQ | TTA1840-35-HG | 1864479 | 18GHz ~ 40GHz | Jun. 28, 2016 | Radiation (03CH01-CB) |
| Spectrum Analyzer | Agilent | N9010A | MY52220519 | 10kHz~44GHz | Jan. 19, 2016 | Radiation (03CH01-CB) |
| EMI Test | R&S | ESCS | 100355 | 9kHz ~ 2.75GHz | May 16, 2016 | Radiation (03CH01-CB) |
| RF Cable-low | Woken | Low Cable-1 | N/A | 30 MHz ~ 1 GHz | Nov. 02, 2015 | Radiation (03CH01-CB) |
| RF Cable-low | Woken | Low Cable-1 | N/A | 30 MHz ~ 1 GHz | Oct. 24, 2016 | Radiation (03CH01-CB) |
| RF Cable-high | Woken | High Cable-16 | N/A | 1 GHz ~ 18 GHz | Nov. 02, 2015 | Radiation (03CH01-CB) |
| RF Cable-high | Woken | High Cable-16 | N/A | 1 GHz ~ 18 GHz | Oct. 24, 2016 | Radiation (03CH01-CB) |
| RF Cable-high | Woken | High Cable-17 | N/A | 1 GHz ~ 18 GHz | Nov. 02, 2015 | Radiation (03CH01-CB) |
| RF Cable-high | Woken | High Cable-17 | N/A | 1 GHz ~ 18 GHz | Oct. 24, 2016 | Radiation (03CH01-CB) |
| RF Cable-high | Woken | High Cable-40G-1 | N/A | 18GHz ~ 40 GHz | Nov. 02, 2015 | Radiation (03CH01-CB) |
| RF Cable-high | Woken | High Cable-40G-1 | N/A | 18GHz ~ 40 GHz | Oct. 24, 2016 | Radiation (03CH01-CB) |
| RF Cable-high | Woken | High Cable-40G-2 | N/A | 18GHz ~ 40 GHz | Nov. 02, 2015 | Radiation (03CH01-CB) |

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Remark |
|---|---|---|---|---|---|---|
| RF Cable-high | Woken | High Cable-40G-2 | N/A | 18GHz ~ 40 GHz | Oct. 24, 2016 | Radiation (03CH01-CB) |
| Loop Antenna | Teseq | HLA 6120 | 24155 | 9kHz - 30 MHz | Mar. 16, 2016* | Radiation (03CH01-CB) |
| Test Software | Audix | E3 | 6.2009-l0-7 | N/A | N/A | Radiation (03CH01-CB) |
| Spectrum Analyzer | R&S | FSV40 | 101027 | 9kHz~40GHz | Jul. 26, 2016 | Conducted (TH01-CB) |
| RF Cable-high | Woken | RG402 | High Cable-6 | 1 GHz – 26.5 GHz | Nov. 02, 2015 | Conducted (TH01-CB) |
| RF Cable-high | Woken | RG402 | High Cable-6 | 1 GHz – 26.5 GHz | Oct. 24, 2016 | Conducted (TH01-CB) |
| RF Cable-high | Woken | RG402 | High Cable-7 | 1 GHz – 26.5 GHz | Nov. 02, 2015 | Conducted (TH01-CB) |
| RF Cable-high | Woken | RG402 | High Cable-7 | 1 GHz – 26.5 GHz | Oct. 24, 2016 | Conducted (TH01-CB) |
| RF Cable-high | Woken | RG402 | High Cable-8 | 1 GHz – 26.5 GHz | Nov. 02, 2015 | Conducted (TH01-CB) |
| RF Cable-high | Woken | RG402 | High Cable-8 | 1 GHz – 26.5 GHz | Oct. 24, 2016 | Conducted (TH01-CB) |
| RF Cable-high | Woken | RG402 | High Cable-9 | 1 GHz – 26.5 GHz | Nov. 02, 2015 | Conducted (TH01-CB) |
| RF Cable-high | Woken | RG402 | High Cable-9 | 1 GHz – 26.5 GHz | Oct. 24, 2016 | Conducted (TH01-CB) |
| RF Cable-high | Woken | RG402 | High Cable-10 | 1 GHz – 26.5 GHz | Nov. 02, 2015 | Conducted (TH01-CB) |
| RF Cable-high | Woken | RG402 | High Cable-10 | 1 GHz – 26.5 GHz | Oct. 24, 2016 | Conducted (TH01-CB) |
| Power Sensor | Agilent | U2021XA | MY53410001 | 50MHz~18GHz | Nov. 02, 2015 | Conducted (TH01-CB) |

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

"*" Calibration Interval of instruments listed above is two years.

N.C.R. means Non-Calibration required.