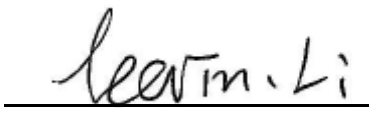
# FCC RADIO TEST REPORT

| | | |
|---|---|---|
| Applicant | : | Beijing Xiaomi Electronics Co.,Ltd |
| Address | : | Room 707,7F,Building 5,No 58,Jinghai Wulu Road, Beijing economic and Technological Development Zone,100176 Beijing City,China |
| Equipment | : | Mi TV Stick |
| Model No. | : | MDZ-24-AB |
| Trade Name | : | MI |
| FCC ID. | : | 2AIMRMITVMDZ24AB |
| Standard | : | FCC part 15 Subpart C §15.247 |

**I HEREBY CERTIFY THAT :**

**The sample was received on Jun. 10, 2021 and the testing was completed on Jul. 02, 2021 at Cerpass Technology Corp. The test result refers exclusively to the test presented test model / sample. Without written approval of Cerpass Technology Corp., the test report shall not be reproduced except in full.**

Approved by:



**Leevin Li /Supervisor**

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**History of this test report**

■ Original.

☐ Additional attachment as following record:

| Attachment No. | Issue Date | Description |
|---|---|---|
| DEFI2106033 | Jul. 05, 2021 | Initial Issue |
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# 1. Summary of Test Procedure and Test Results

## 1.1 Applicable Standards

**ANSI C63.10:2013**

**FCC Rules and Regulations Part 15 Subpart C §15.247**

| FCC Rule | . Description of Test | Result |
|---|---|---|
| FCC CFR Title 47 Part 15 Subpart C: Section 15.203/15.247 (b) | . Antenna Requirement | Pass |
| FCC CFR Title 47 Part 15 Subpart C: Section 15.207 | . AC Power Line Conducted Emission | Pass |
| FCC CFR Title 47 Part 15 Subpart C: Section 15.205/15.209; Part2 section 2.1051, 2.1053, 2.1057 | . Spurious Emission(Radiated) | Pass |
| FCC CFR Title 47 Part 15 Subpart C: Section 15.247(d); Part2 section 2.1051 and 2.1057 | . Spurious Emission(Conducted) | Pass |
| FCC CFR Title 47 Part 15 Subpart C: Section 15.247(a)(2); Part2 section 2.1049 | . 6dB Bandwidth | Pass |
| FCC CFR Title 47 Part 15 Subpart C: Section 15.247(b); Part2 section 2.1046 | . Maximum Peak Output Power | Pass |
| FCC CFR Title 47 Part 15 Subpart C: Section 15.247(e) | . Power Spectral Density | Pass |
| Note: Deviations Yes ☐ No ■<br>*The lab has reduced the uncertainty risk factor from test equipment, environment and staff technicians which according to the standard on contract. Therefore, the test result will only be determined by standard requirement. | | |

# 2. Test Configuration of Equipment under Test

## 2.1 Feature of Equipment under Test

| | |
|---|---|
| Product | Mi TV Stick |
| Test Model | MDZ-24-AB |
| Model Discrepancy | N/A |
| Frequency Range | 802.11b/g/n(20MHz): 2412-2462MHz<br>802.11n(40MHz): 2422-2452MHz |
| Modulation | BT: GFSK, π/4-DQPSK, 8DPSK<br>BLE: GFSK<br>802.11b: CCK, DQPSK, DBPSK<br>802.11a/g: 64-QAM,16-QAM, QPSK, BPSK<br>802.11n: 64-QAM,16-QAM, QPSK, BPSK, HT20/40<br>802.11ac: 256-QAM,64-QAM,16-QAM, QPSK, BPSK |
| Data Rate | BT:<br>GFSK:1Mbps, π/4-DQPSK: 2Mbps, 8DPSK:3Mbps<br>BLE:<br>GFSK: 1Mbps&2Mbps<br>WIFI 2.4G:<br>802.11b: 1, 2 ,5.5,11Mbps<br>802.11g: 6,9,12,18,24,36,48,54Mbps<br>802.11n: HT20 reach up to 72.2Mbps, HT40 reach up to 150Mbps<br>WIFI 5G:<br>802.11a: 6,9,12,18,24,36,48,54Mbps<br>802.11n: HT20 reach up to 72.2Mbps, HT40 reach up to150Mbps<br>802.11ac: VHT20 reach up to 86.7Mbps, VHT40 reach up to 200Mbps, VHT80 reach up to 433.3Mbps |
| Antenna Type | FPC Antenna |
| Power Source | Power Adapter<br>TPA-46B05100UU<br>Input:100-240V~ 50/60Hz 0.2A<br>Output:5.0V⎓1.0A |

Note:

1. The Equipment support 2.4G Wi- Fi, 5G Wi-Fi, BR/EDR and BLE function. The 2.4G Wi-Fi, BR/EDR and BLE operated at 2400MHz to 2483.5MHz, The 5G Wi-Fi operation 5150MHz to 5250MHz, and 5725MHz to 5850MHz.
2. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

## 2.2 Carrier Frequency of Channels

802.11b, 802.11g, 802.11n HT 20 (2412MHz~2462MHz)

| Channel | Frequency(MHz) | Channel | Frequency(MHz) |
|---|---|---|---|
| ***01** | **2412** | 07 | 2442 |
| 02 | 2417 | 08 | 2447 |
| 03 | 2422 | 09 | 2452 |
| 04 | 2427 | 10 | 2457 |
| 05 | 2432 | ***11** | **2462** |
| ***06** | **2437** | --- | --- |

802.11n HT40 (2422MHz~2452MHz)

| Channel | Frequency(MHz) | Channel | Frequency(MHz) |
|---|---|---|---|
| --- | --- | 07 | 2442 |
| --- | --- | 08 | 2447 |
| ***03** | **2422** | ***09** | **2452** |
| 04 | 2427 | --- | --- |
| 05 | 2432 | --- | --- |
| ***06** | **2437** | --- | --- |

Note: Channels remarked * are selected to perform test.

## 2.3 Test Mode and Test Software

a. During testing, the interface cables and equipment positions were varied according to ANSI C63.10.
b. The complete test system included Remote workstation and EUT for the RF test.
c. An executive program, " SecureCRT.exe" under Windows 7 system was executed to transmit and receive data via WLAN.
d. The following test modes were performed for the test:

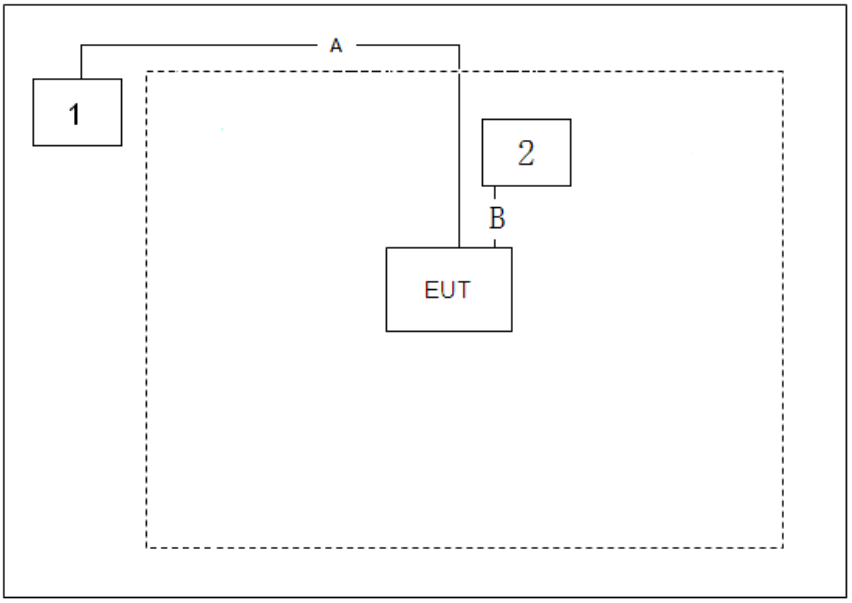
| Conducted Emissions from the AC mains power ports / Radiation Emissions (30MHz ~ 1GHz) | |
|---|---|
| Test Mode | Operating Description |
| 1 | 802.11b (11Mbps) for AC 120V |
| 2 | 802.11g (6Mbps) for AC 120V |
| 3 | 802.11n HT20 (6.5Mbps) for AC 120V |
| 4 | 802.11n HT40 (13.5Mbps) for AC 120V |
| 5 | 802.11g (6Mbps) for AC 240V |
| caused "Test Mode 2 and CH11:2462" generated the worst case, it was reported as the final data. | |
| Radiated emission (below 1GHz) | |
| Test Mode | Operating Description |
| 1 | 802.11b (11Mbps) |
| 2 | 802.11g (6Mbps) |
| 3 | 802.11n HT20 (6.5Mbps) |
| 4 | 802.11n HT40 (13.5Mbps) |
| caused "Test Mode 2 at CH11:2462" generated the worst case, it was reported as the final data. | |
| Radiated emission (above 1GHz) | |
| 1 | 802.11b (11Mbps) |
| 2 | 802.11g (6Mbps) |
| 3 | 802.11n HT20 (6.5Mbps) |
| 4 | 802.11n HT40 (13.5Mbps) |
| caused "Test Mode 1~4" generated the worst case, they were reported as the final data. | |

| Modulation Type | TX CONFIGURATION |
|---|---|
| 802.11b | 1TX |
| 802.11g | 1TX |
| 802.11n HT20 | 1TX |
| 802.11n HT40 | 1TX |

## 2.4 Description of Test System

| Product | | Manufacturer | Model No. | Serial No. | Power Cord |
|---|---|---|---|---|---|
| 1 | Notebook | Dell | Latitude 3500 | N/A | Non-Shielded, 1.8m |
| 2 | Adapter | TIANYIN | TPA-46B050100UU | N/A | N/A |

Connection Diagram




| Signal Cable Type | | Signal cable Description |
|---|---|---|
| A | USB Cable | Shielded, 5m |
| B | Micro USB Cable | Non Shielded, 0.8m |

## 2.5 General Information of Test

| | |
|---|---|
| Test Site | **Cerpass Technology Corporation(Cerpass Laboratory)**<br>Address: Room 102, No. 5, Xing'an Road, Chang'an Town, Dongguan City, Guangdong Province<br>Tel: +86-769-8547-1212<br>Fax: +86-769-8547-1912 |
| FCC Designation No.: | CN1288 |
| Frequency Range Investigated: | Conducted: from 150kHz to 30 MHz<br>Radiation: from 30 MHz to 25,000MHz |
| Test Distance: | The test distance of radiated emission from antenna to EUT is 3 M. |

| Test Item | Test Site | Test period | Environmental Conditions | Tested By |
|---|---|---|---|---|
| RF Conducted | RFCON01-DG | 2021/06/10~2021/06/29 | 22~26℃ / 50~60% | Amos Zhang |
| Radiated Emissions | 3M02-DG | 2021/06/10~2021/06/29 | 22~26℃ / 50~60% | Amos Zhang |
| AC Power Line Conducted Emission | CON01-DG | 2021/06/10~2021/06/29 | 22~26℃ / 50~60% | Amos Zhang |

## 2.6 Measurement Uncertainty

| Measurement Item | Uncertainty |
|---|---|
| AC Power Line Conduction(150K~30MHz) | ±2.88dB |
| Radiated Spurious Emission(9KHz~30MHz) | ±2.15dB |
| Radiated Spurious Emission(30MHz~1GHz) | ±4.95dB |
| Radiated Spurious Emission(1GHz~18GHz) | ±3.24dB |
| Radiated Spurious Emission(18GHz~40GHz) | ±5.43dB |
| 6dB Bandwidth&26dB Bandwidth | ±4.422% |
| Occupied Bandwidth | ±4.244% |
| Peak Output Power(Conducted Power Meter) | ±1.4 dB |
| Power Spectral Density | ±1.387 dB |
| Frequency Stability | ±0.6338Hz |

## 3. Test Equipment and Ancillaries Used for Tests

| Test Item | AC Power Line Conducted Emission | | | | |
|---|---|---|---|---|---|
| Instrument/Ancillary | Manufacturer | Model No. | Serial No. | Calibration Date | Valid Date. |
| Test Receiver | R&S | ESCI | 100564 | 2021.01.07 | 2022.01.06 |
| LISN | SCHWARZBECK | NSLK 8127 | 8127748 | 2021.01.07 | 2022.01.06 |
| LISN | SCHWARZBECK | NSLK 8127 | 8127749 | 2021.01.07 | 2022.01.06 |
| ISN | TESEQ | ISN T800 | 42809 | 2021.05.10 | 2022.05.09 |
| Pulse Limiter with 10dB Attenuation | SCHWARZBECK | VTSD 9561-F | 9561-F106 | 2021.01.07 | 2022.01.06 |
| Temperature/ Humidity Meter | GEMLEAD | STH200A | N/A | 2020.08.20 | 2021.08.19 |

| Test Item | Radiated Emissions | | | | |
|---|---|---|---|---|---|
| Instrument | Manufacturer | Model No. | Serial No. | Calibration Date | Valid Date |
| EMI Test Receiver | R&S | ESCI | 100563 | 2021.05.14 | 2022.05.13 |
| H64 Preamplifier | HP | 8447F | 3113A05582 | 2021.01.07 | 2022.01.06 |
| Loop Antenna | R&S | HFH2-Z2 | 100150 | 2020.06.08 | 2022.06.07 |
| Bilog Antenna | Sunol Science | JB1 | A072414-1 | 2020.06.08 | 2022.06.07 |
| Preamplifier | EMEC | EM01G18G | 060739 | 2021.05.14 | 2022.05.13 |
| Preamplifier | COM-POWER | PA-840 | 711885 | 2021.05.14 | 2022.05.13 |
| Horn Antenna | Sunol | DRH-118 | A072913 | 2019.09.07 | 2021.09.06 |
| Standard Gain Horn Antenna | TRC | HA-2640 | 18050 | 2020.06.08 | 2022.06.07 |
| Standard Gain Horn Antenna | TRC | HA-1726 | 18051 | 2020.06.08 | 2022.06.07 |
| FSQ Signal Analyzer | R&S | FSQ40 | 200012 | 2021.05.14 | 2022.05.13 |
| Temperature/ Humidity Meter | GEMLEAD | STH200A | N/A | 2020.08.20 | 2021.08.19 |

| Test Item | RF Conducted | | | | |
|---|---|---|---|---|---|
| Instrument | Manufacturer | Model No. | Serial No. | Calibration Date | Valid Date |
| MXA Signal Analyzer | KEYSIGHT | N9020A | US46220290 | 2021.05.14 | 2022.05.13 |
| ESG VECTOR SIGNAL GENERATOR | Agilent | E4438C | MY45092582 | 2021.05.14 | 2022.05.13 |
| MXG VECTOR SIGNAL GENERATOR | Agilent | N5182B | MY53050127 | 2021.05.14 | 2022.05.13 |
| USB Wideband Power Sensor | Boonton | 55006 | 9778 | 2021.01.07 | 2022.01.06 |
| Temperature/ Humidity Meter | mingle | ETH529 | N/A | 2021.01.07 | 2022.01.06 |

# 4. Antenna Requirements

## 4.1 Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

## 4.2 Antenna Construction and Directional Gain

| Antenna | Antenna Gain |
|---|---|
| FPC Antenna | 2.32dBi |

**(Non-Beamforming)**
2412-2462MHz
For Power directional gain= $G_{ant}$= 2.32 dBi
For PSD directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2$ /NANT]
= 2.32 (dBi)

# 5. Test of AC Power Line Conducted Emission

## 5.1 Test Limit

Conducted Emissions were measured from 150 kHz to 30 MHz with a bandwidth of 9 KHz on the 120 VAC power and return leads of the EUT according to the methods defined in ANSI C63.10-2013. The EUT was placed on a nonmetallic stand in a shielded room 0.8 meters above the ground plane as shown in section 6.2.2. The interface cables and equipment positioning were varied within limits of reasonable applications to determine the position produced maximum conducted emissions.

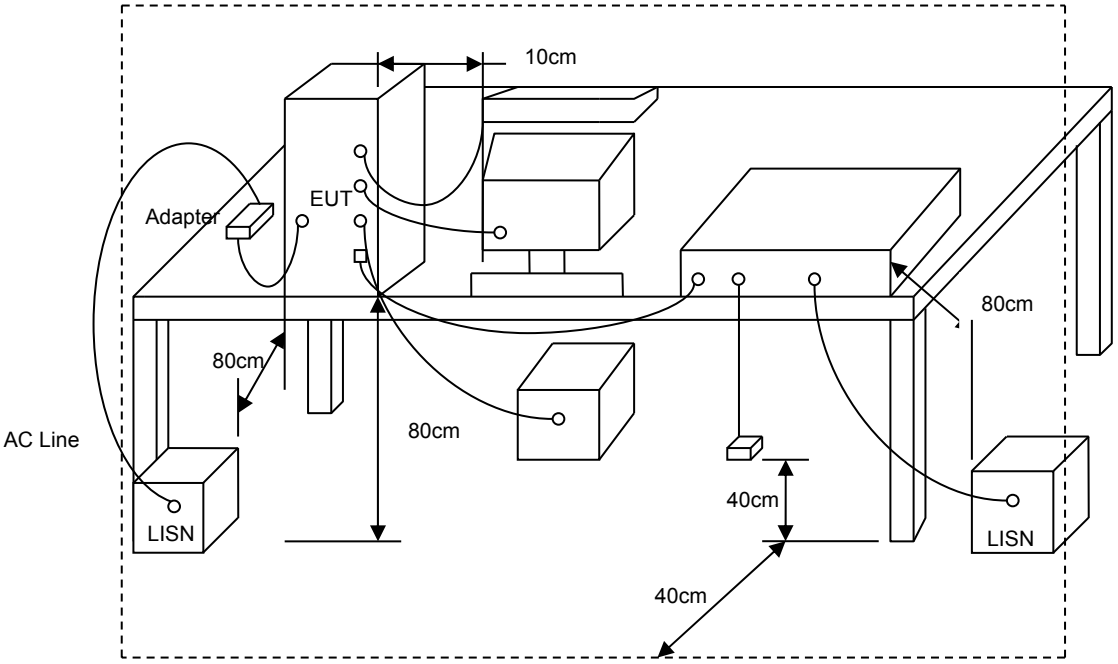
| Frequency (MHz) | Quasi Peak (dB μ V) | Average (dB μ V) |
|---|---|---|
| 0.15 – 0.5 | 66-56* | 56-46* |
| 0.5 – 5.0 | 56 | 46 |
| 5.0 – 30.0 | 60 | 50 |

*Decreases with the logarithm of the frequency.

## 5.2 Test Procedures

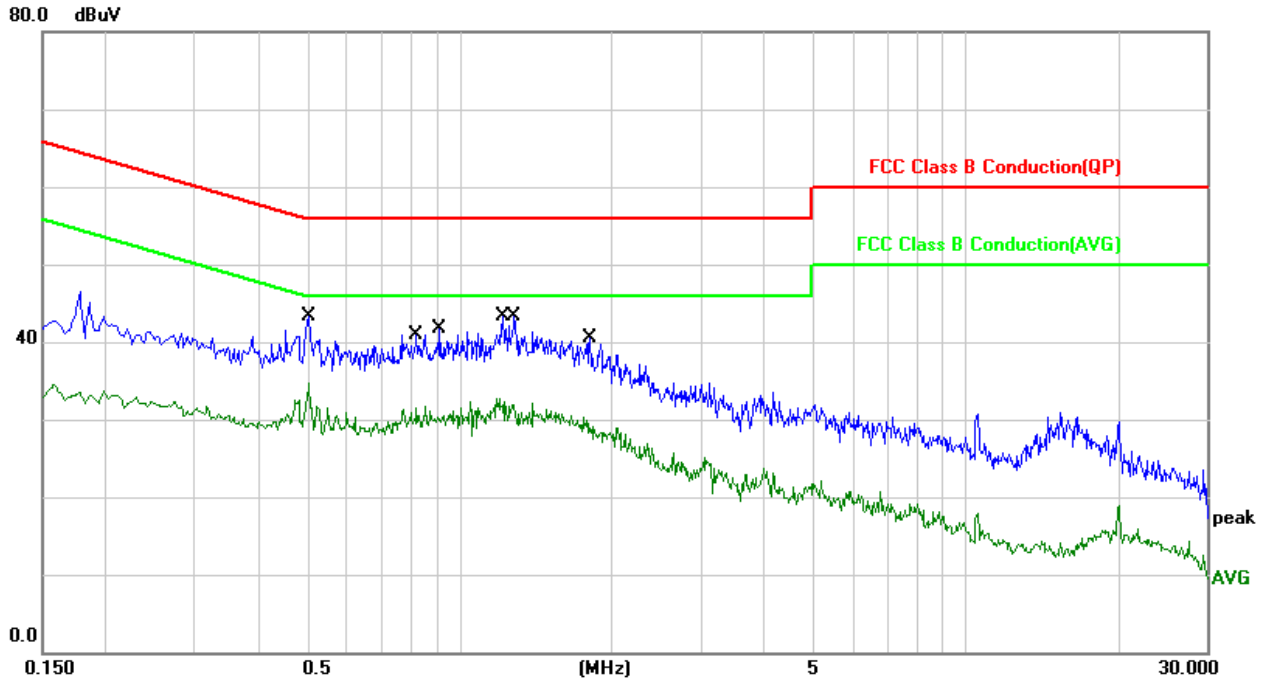
The EUT was setup according to ANSI C63.10, 2013 and tested according to DTS test procedure of Oct 2014 KDB558074 for compliance to FCC 47CFR 15.247 requirements. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs) Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source. The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length. Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

## 5.3 Typical Test Setup



## 5.4 Test Result and Data

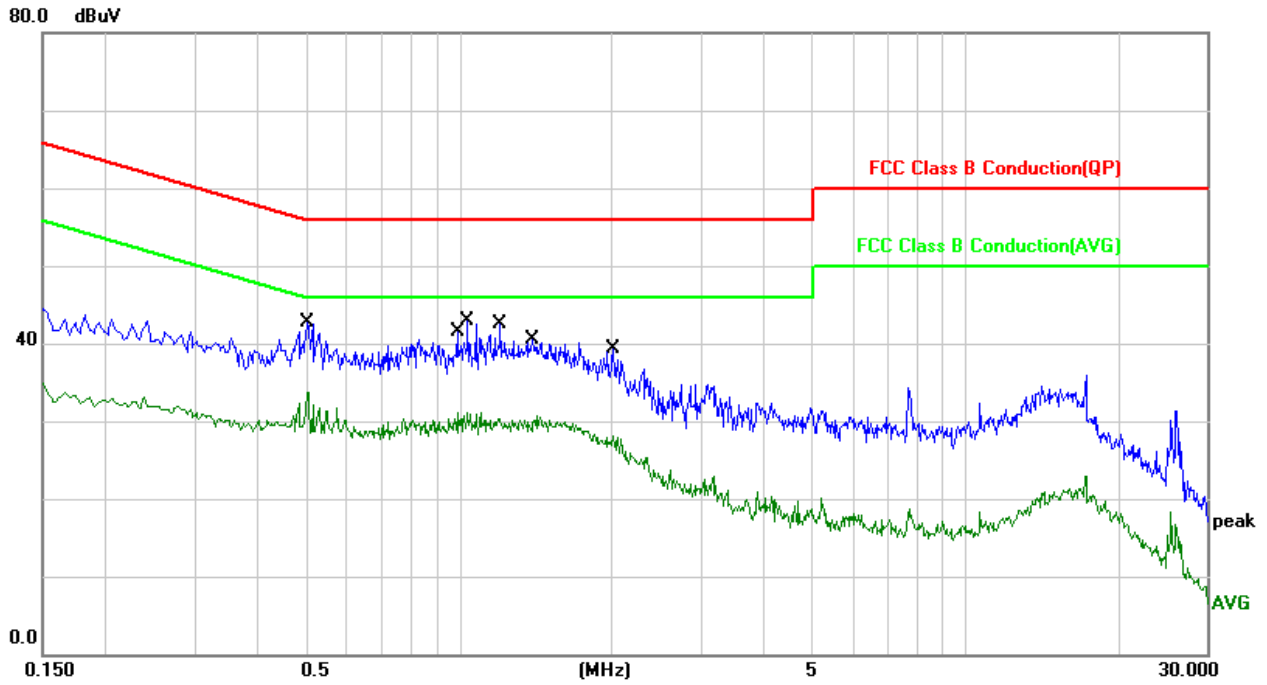
| Power: | AC 120V | Pol/Phase: | LINE |
|---|---|---|---|
| Test Mode: | Mode 2 | | |




| No. | Frequency (MHz) | Factor (dB) | Reading (dBuV) | Level (dBuV) | Limit (dBuV) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 | 0.5060 | 10.10 | 30.91 | 41.01 | 56.00 | -14.99 | QP |
| 2 | 0.5060 | 10.10 | 24.25 | 34.35 | 46.00 | -11.65 | AVG |
| 3 | 0.8260 | 10.06 | 26.28 | 36.34 | 56.00 | -19.66 | QP |
| 4 | 0.8260 | 10.06 | 20.65 | 30.71 | 46.00 | -15.29 | AVG |
| 5 | 0.9180 | 10.06 | 24.83 | 34.89 | 56.00 | -21.11 | QP |
| 6 | 0.9180 | 10.06 | 19.54 | 29.60 | 46.00 | -16.40 | AVG |
| 7 | 1.2180 | 10.02 | 24.73 | 34.75 | 56.00 | -21.25 | QP |
| 8 | 1.2180 | 10.02 | 19.51 | 29.53 | 46.00 | -16.47 | AVG |
| 9 | 1.2860 | 10.02 | 24.76 | 34.78 | 56.00 | -21.22 | QP |
| 10 | 1.2860 | 10.02 | 19.53 | 29.55 | 46.00 | -16.45 | AVG |
| 11 | 1.8100 | 9.99 | 24.15 | 34.14 | 56.00 | -21.86 | QP |
| 12 | 1.8100 | 9.99 | 18.82 | 28.81 | 46.00 | -17.19 | AVG |

Note: Level = Reading + Factor
Margin = Level – Limit

| Power: | AC 120V | Pol/Phase: | NEUTRAL |
|---|---|---|---|
| Test Mode: | Mode 2 | | |




| No. | Frequency (MHz) | Factor (dB) | Reading (dBuV) | Level (dBuV) | Limit (dBuV) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 | 0.5020 | 10.14 | 30.22 | 40.36 | 56.00 | -15.64 | QP |
| 2 | 0.5020 | 10.14 | 23.19 | 33.33 | 46.00 | -12.67 | AVG |
| 3 | 0.9940 | 10.06 | 24.56 | 34.62 | 56.00 | -21.38 | QP |
| 4 | 0.9940 | 10.06 | 18.88 | 28.94 | 46.00 | -17.06 | AVG |
| 5 | 1.0380 | 10.06 | 25.00 | 35.06 | 56.00 | -20.94 | QP |
| 6 | 1.0380 | 10.06 | 18.94 | 29.00 | 46.00 | -17.00 | AVG |
| 7 | 1.2059 | 10.06 | 24.85 | 34.91 | 56.00 | -21.09 | QP |
| 8 | 1.2059 | 10.06 | 19.43 | 29.49 | 46.00 | -16.51 | AVG |
| 9 | 1.3980 | 10.07 | 25.35 | 35.42 | 56.00 | -20.58 | QP |
| 10 | 1.3980 | 10.07 | 20.05 | 30.12 | 46.00 | -15.88 | AVG |
| 11 | 2.0140 | 10.08 | 22.14 | 32.22 | 56.00 | -23.78 | QP |
| 12 | 2.0140 | 10.08 | 16.64 | 26.72 | 46.00 | -19.28 | AVG |

Note: Level = Reading + Factor
Margin = Level – Limit

# 6. Test of Spurious Emission (Radiated)

## 6.1 Test Limit

In any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. If the transmitter measurement is based on the maximum conducted output power, the attenuation required under this paragraph shall be 30dB instead of 20dB. In addition, radiated emissions which fall in section 15.205(a) the restricted bands must also comply with the radiated emission limit specified in section 15.209(a).

| FREQUENCIES(MHz) | FIELD STRENGTH (microvolts/meter) | MEASUREMENT DISTANCE(meters) |
|---|---|---|
| 0.009~0.490 | 2400/F(kHz) | 300 |
| 0.490~1.705 | 24000/F(kHz) | 30 |
| 1.705~30.0 | 30 | 30 |
| 30~88 | 100 | 3 |
| 88~216 | 150 | 3 |
| 216~960 | 200 | 3 |
| Above 960 | 500 | 3 |

## 6.2 Test Procedures

a. The EUT was placed on a rotatable table top 0.8 meter for frequency below 1GHz and 1.5meter for frequency above 1GHz above ground.

b. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.

c. The table was rotated 360 degrees to determine the position of the highest radiation.

d. The antenna is a broadband antenna and its height is varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna are set to make the measurement.

e. For each suspected emission the EUT was arranged to its worst case and then tune the antenna tower (from 1 M to 4 M) and turn table (from 0 degree to 360 degrees) to find the maximum reading.

f. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.

g. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method and reported.

h. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than AVG limit (that means the emission level in peak mode also complies with the limit in AVG mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in AVG mode again and reported.

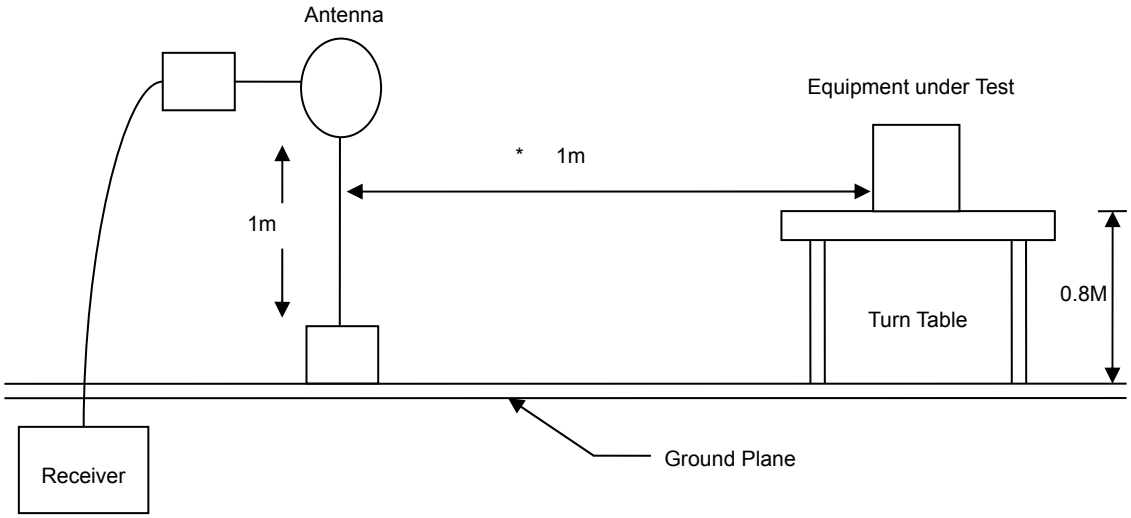
i. “Cone of radiation” has been considered to be 3dB bandwidth of the measurement antenna.

Note: The supporting fixture shall permit orientation of the EUT in each of three orthogonal axis positions sch that emissions from the EUT are maximized.

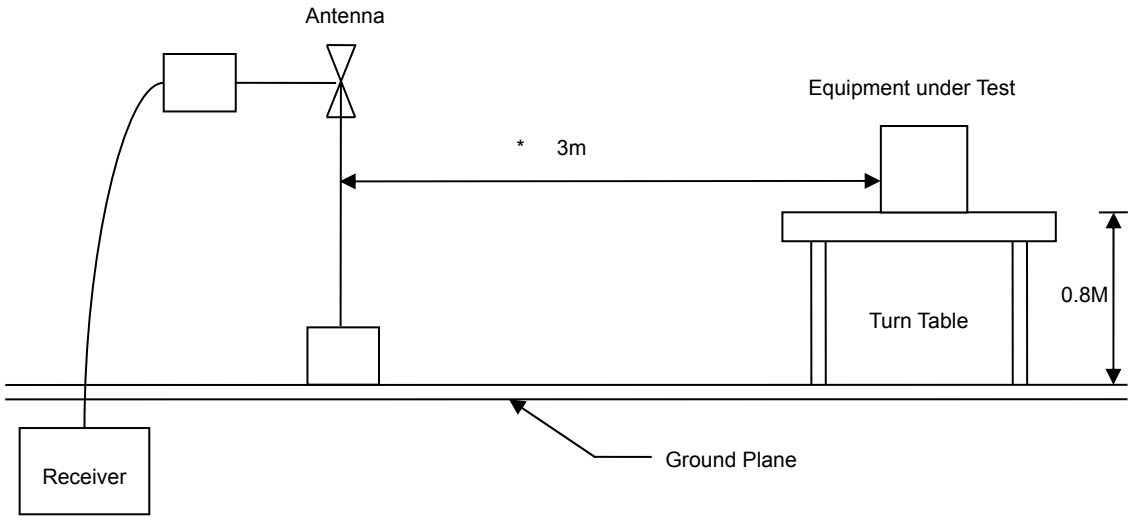
**(X-AXIS is the worst.)**

## 6.3 Typical Test Setup

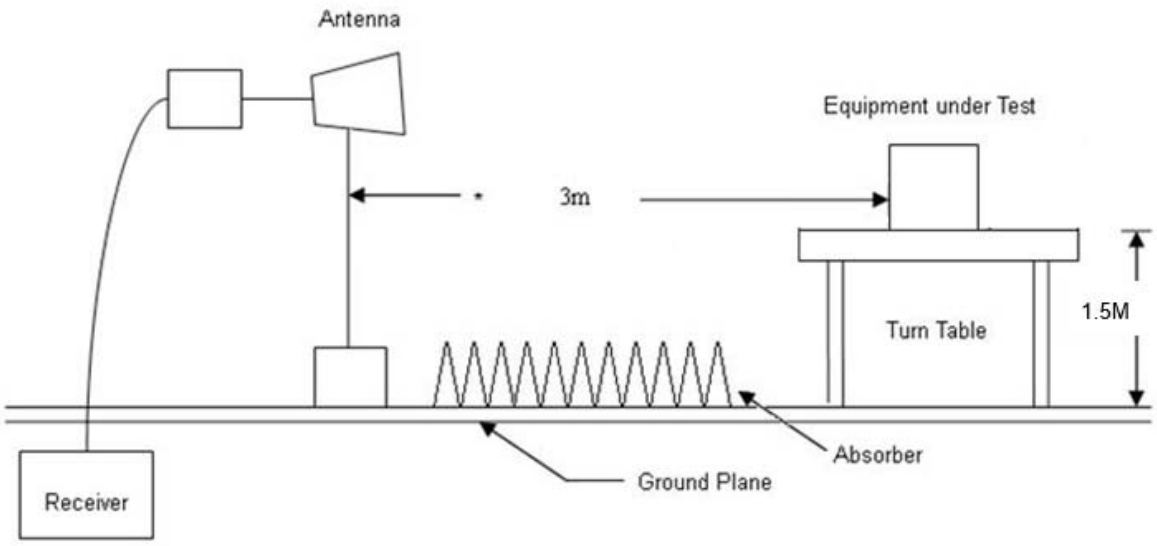
Below 30MHz test setup




30MHz- 1GHz Test Setup




Above 1GHz Test Setup



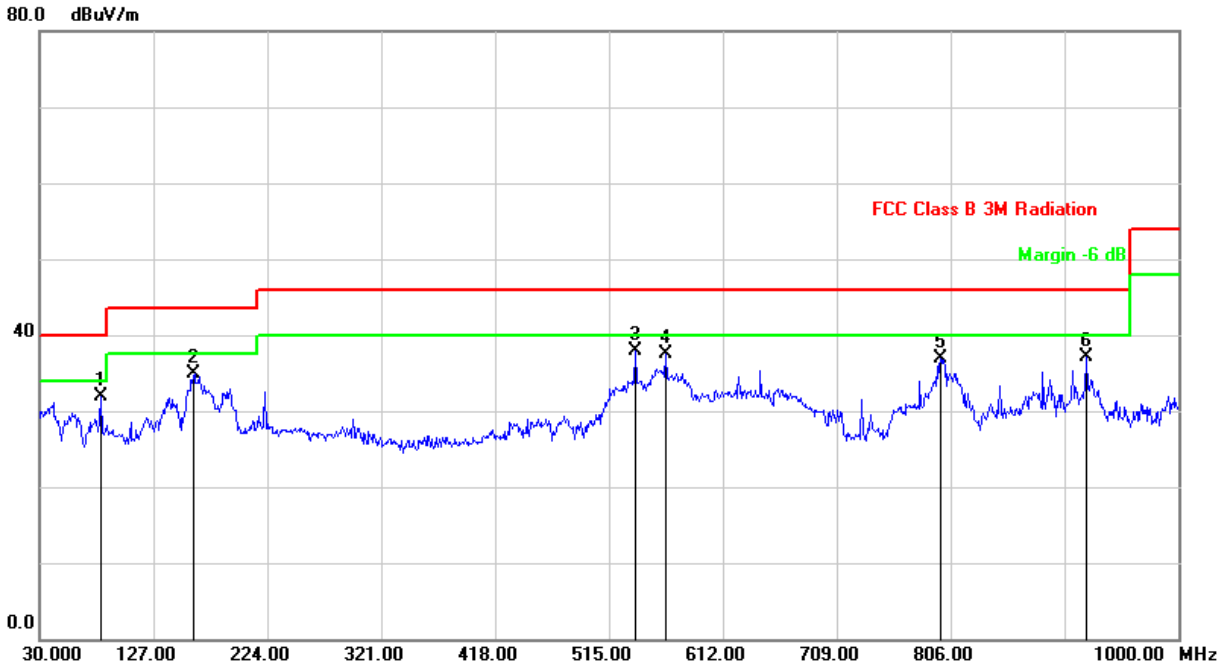
## 6.4 Test Result and Data (9KHz ~ 30MHz)

The 9kHz-30MHz spurious emission is under limit 20dB more.

## 6.5 Test Result and Data (30MHz ~ 1GHz)

| Power | AC 120V/60Hz | Pol/Phase | VERTICAL |
|---|---|---|---|
| Test Mode | Mode 2 CH11:2462 | | |

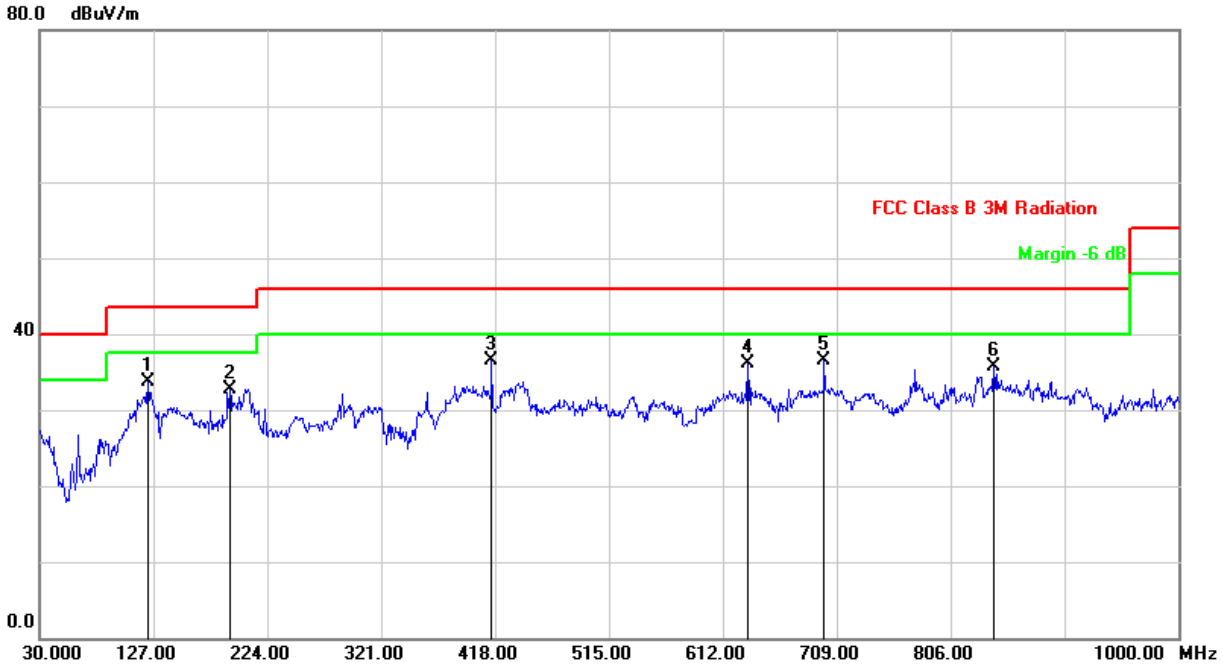
Note : Level = Reading + Factor
Margin = Level – Limit
Factor = Antenna Factor + Cable Loss – Amplifier Factor
The 9KHz -30MHz spurious emission is under limit 20dB more




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 82.3799 | -21.41 | 53.27 | 31.86 | 40.00 | -8.14 | peak | 100 | 302 |
| 2 | 161.9199 | -20.60 | 55.45 | 34.85 | 43.50 | -8.65 | peak | 100 | 116 |
| 3 | 537.3096 | -3.10 | 40.97 | 37.87 | 46.00 | -8.13 | peak | 200 | 278 |
| 4 | 563.5000 | -2.07 | 39.59 | 37.52 | 46.00 | -8.48 | peak | 100 | 192 |
| 5 | 797.2698 | -18.83 | 55.73 | 36.90 | 46.00 | -9.10 | peak | 200 | 318 |
| 6 | 921.4298 | -18.13 | 55.17 | 37.04 | 46.00 | -8.96 | peak | 100 | 211 |

| Power | AC 120V/60Hz | Pol/Phase | HORIZONTAL |
|---|---|---|---|
| Test Mode | Mode 2 CH11:2462 | | |

Note : Level = Reading + Factor
Margin = Level – Limit
Factor = Antenna Factor + Cable Loss – Amplifier Factor
The 9KHz -30MHz spurious emission is under limit 20dB more

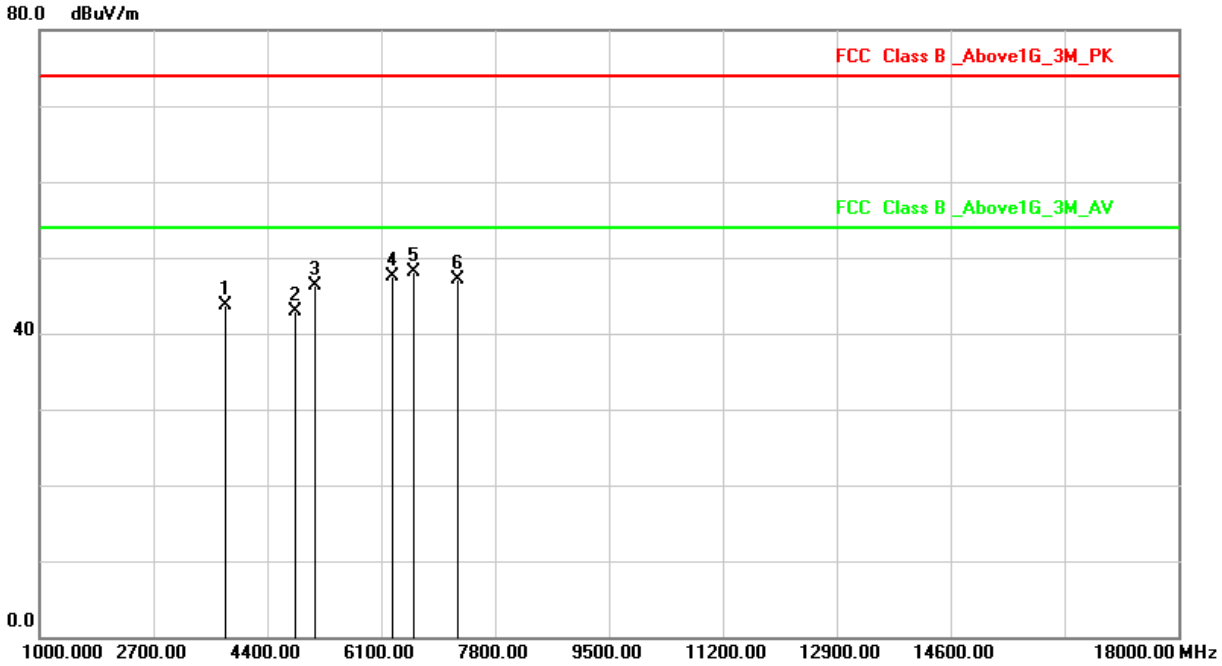



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 122.1500 | -20.97 | 54.71 | 33.74 | 43.50 | -9.76 | peak | 200 | 322 |
| 2 | 191.9900 | -20.34 | 53.10 | 32.76 | 43.50 | -10.74 | peak | 200 | 269 |
| 3 | 415.0899 | -3.59 | 40.03 | 36.44 | 46.00 | -9.56 | peak | 100 | 162 |
| 4 | 633.3400 | 1.67 | 34.46 | 36.13 | 46.00 | -9.87 | peak | 200 | 234 |
| 5 | 698.3300 | -19.35 | 55.80 | 36.45 | 46.00 | -9.55 | peak | 200 | 187 |
| 6 | 842.8600 | -18.64 | 54.41 | 35.77 | 46.00 | -10.23 | peak | 100 | 321 |

## 6.6 Test Result and Data (1GHz ~ 25GHz)

| Power | AC 120V/60Hz | Pol/Phase | VERTICAL |
|---|---|---|---|
| Test Mode | Mode 1, CH01 | Operation mode | TX |

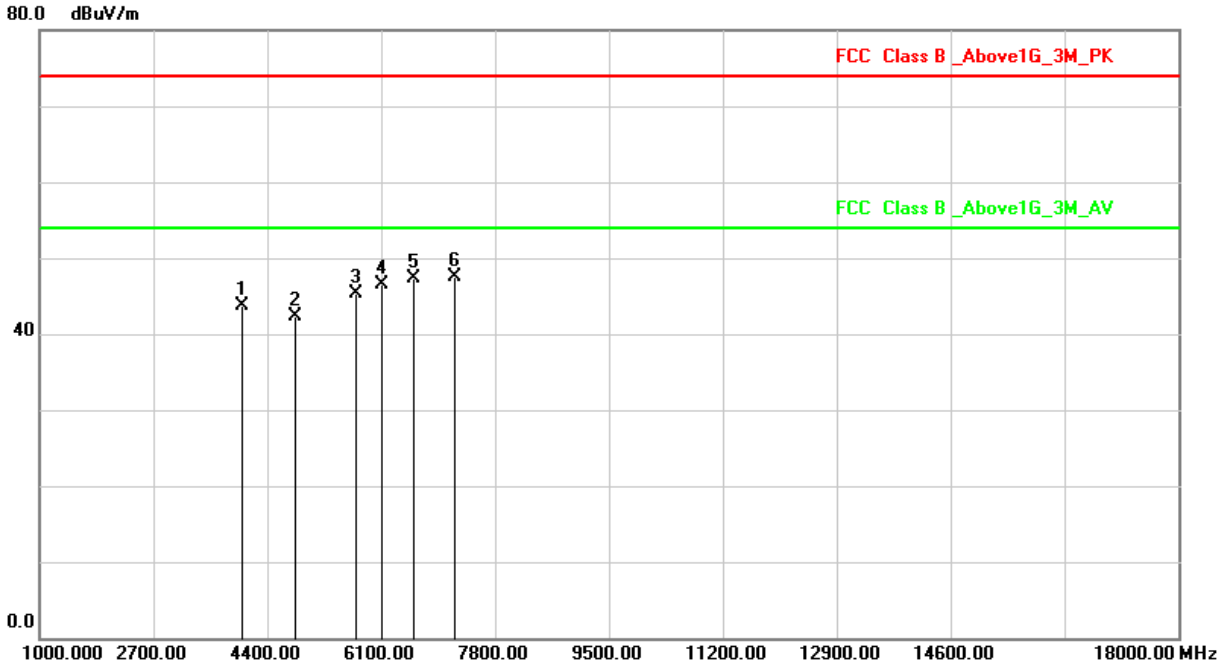
Note : Level = Reading + Factor
Margin = Level – Limit
Factor = Antenna Factor + Cable Loss – Amplifier Factor
The 18000MHz - 25000MHz spurious emission is under limit 20dB more.




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. |
|---|---|---|---|---|---|---|---|
| 1 | 3771.000 | -4.07 | 47.78 | 43.71 | 74.00 | -30.29 | peak |
| 2 | 4824.000 | -1.71 | 44.68 | 42.97 | 74.00 | -31.03 | peak |
| 3 | 5114.000 | -0.95 | 47.19 | 46.24 | 74.00 | -27.76 | peak |
| 4 | 6270.000 | 2.67 | 44.86 | 47.53 | 74.00 | -26.47 | peak |
| 5 | 6576.000 | 3.59 | 44.55 | 48.14 | 74.00 | -25.86 | peak |
| 6 | 7236.000 | 3.61 | 43.57 | 47.18 | 74.00 | -26.82 | peak |

| Power | AC 120V/60Hz | Pol/Phase | HORIZONTAL |
|---|---|---|---|
| Test Mode | Mode 1, CH01 | Operation mode | TX |

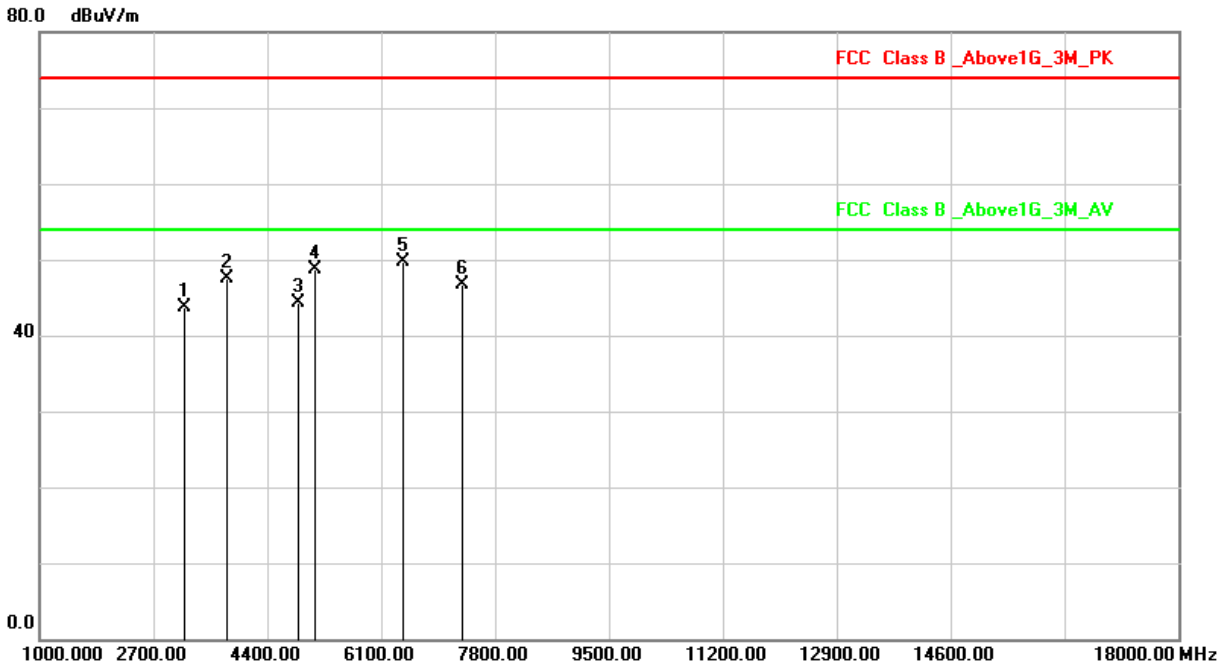
Note : Level = Reading + Factor
Margin = Level – Limit
Factor = Antenna Factor + Cable Loss – Amplifier Factor
The 18000MHz - 25000MHz spurious emission is under limit 20dB more.




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. |
|---|---|---|---|---|---|---|---|
| 1 | 4026.000 | -3.64 | 47.36 | 43.72 | 74.00 | -30.28 | peak |
| 2 | 4824.000 | -1.71 | 44.10 | 42.39 | 74.00 | -31.61 | peak |
| 3 | 5726.000 | 0.40 | 44.98 | 45.38 | 74.00 | -28.62 | peak |
| 4 | 6100.000 | 1.91 | 44.66 | 46.57 | 74.00 | -27.43 | peak |
| 5 | 6576.000 | 3.59 | 43.78 | 47.37 | 74.00 | -26.63 | peak |
| 6 | 7206.000 | 3.47 | 44.07 | 47.54 | 74.00 | -26.46 | peak |

| Power | AC 120V/60Hz | Pol/Phase | VERTICAL |
|---|---|---|---|
| Test Mode | Mode 1, CH06 | Operation mode | TX |

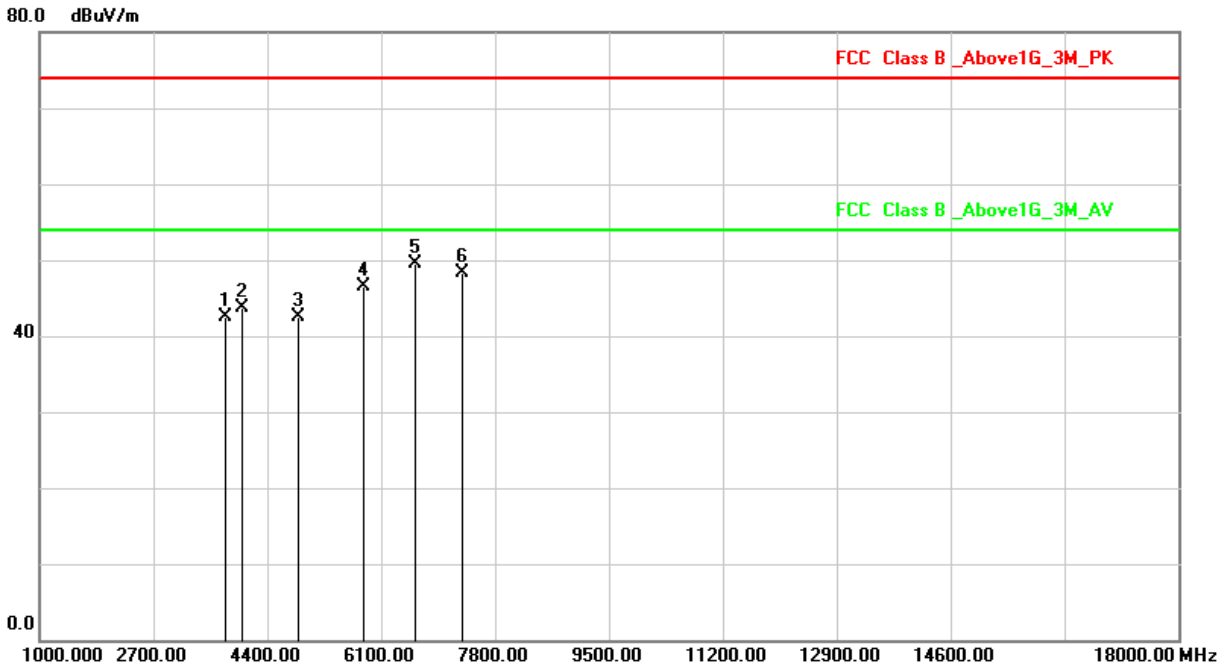
Note : Level = Reading + Factor
Margin = Level – Limit
Factor = Antenna Factor + Cable Loss – Amplifier Factor
The 18000MHz - 25000MHz spurious emission is under limit 20dB more.




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. |
|---|---|---|---|---|---|---|---|
| 1 | 3159.000 | -5.06 | 48.74 | 43.68 | 74.00 | -30.32 | peak |
| 2 | 3805.000 | -4.00 | 51.45 | 47.45 | 74.00 | -26.55 | peak |
| 3 | 4874.000 | -1.49 | 45.89 | 44.40 | 74.00 | -29.60 | peak |
| 4 | 5114.000 | -0.95 | 49.69 | 48.74 | 74.00 | -25.26 | peak |
| 5 | 6423.000 | 3.20 | 46.53 | 49.73 | 74.00 | -24.27 | peak |
| 6 | 7311.000 | 3.93 | 42.82 | 46.75 | 74.00 | -27.25 | peak |

| Power | AC 120V/60Hz | Pol/Phase | HORIZONTAL |
|---|---|---|---|
| Test Mode | Mode 1, CH06 | Operation mode | TX |

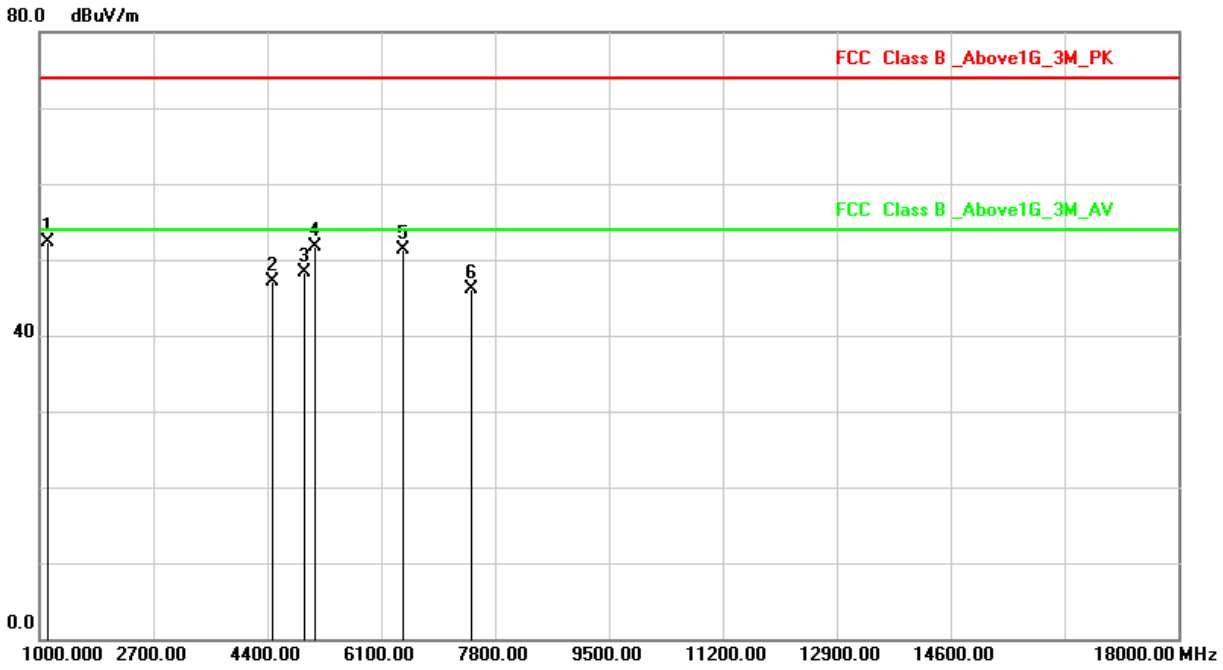
Note : Level = Reading + Factor
Margin = Level – Limit
Factor = Antenna Factor + Cable Loss – Amplifier Factor
The 18000MHz - 25000MHz spurious emission is under limit 20dB more.




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. |
|---|---|---|---|---|---|---|---|
| 1 | 3771.000 | -4.07 | 46.53 | 42.46 | 74.00 | -31.54 | peak |
| 2 | 4026.000 | -3.64 | 47.36 | 43.72 | 74.00 | -30.28 | peak |
| 3 | 4874.000 | -1.49 | 44.05 | 42.56 | 74.00 | -31.44 | peak |
| 4 | 5828.000 | 0.66 | 45.88 | 46.54 | 74.00 | -27.46 | peak |
| 5 | 6610.000 | 3.59 | 45.97 | 49.56 | 74.00 | -24.44 | peak |
| 6 | 7311.000 | 3.93 | 44.30 | 48.23 | 74.00 | -25.77 | peak |

| Power | AC 120V/60Hz | Pol/Phase | VERTICAL |
|---|---|---|---|
| Test Mode | Mode 1, CH11 | Operation mode | TX |

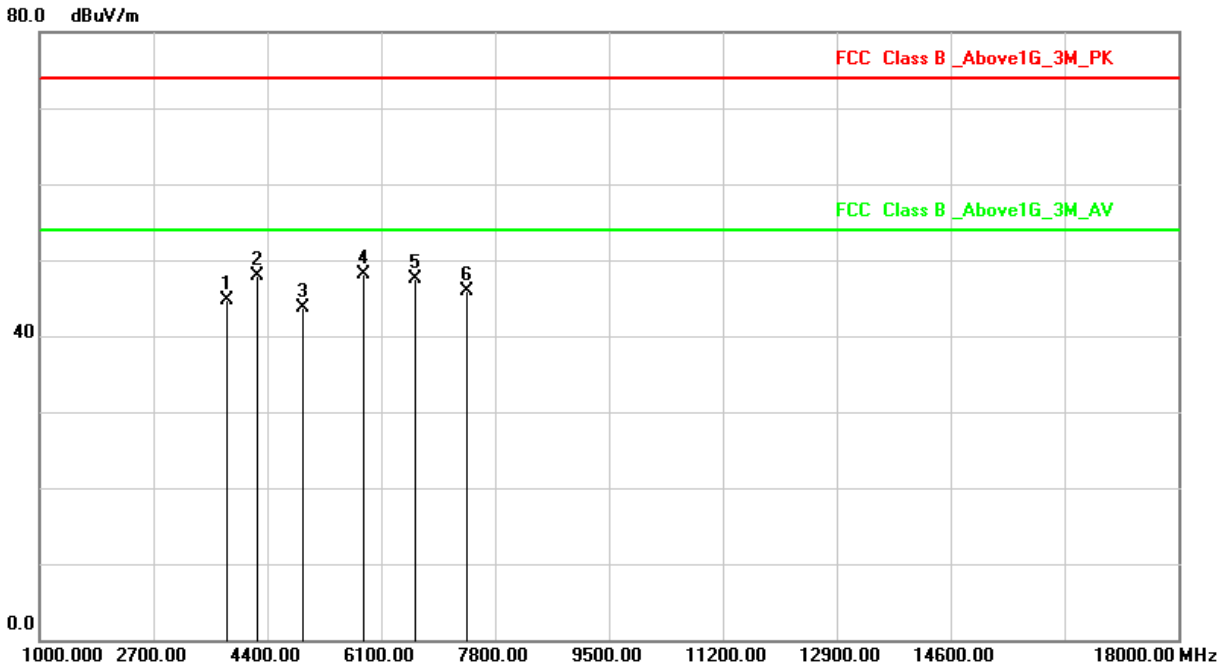
Note : Level = Reading + Factor
Margin = Level – Limit
Factor = Antenna Factor + Cable Loss – Amplifier Factor
The 18000MHz - 25000MHz spurious emission is under limit 20dB more.




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. |
|---|---|---|---|---|---|---|---|
| 1 | 1119.000 | -11.25 | 63.51 | 52.26 | 74.00 | -21.74 | peak |
| 2 | 4468.000 | -2.19 | 49.38 | 47.19 | 74.00 | -26.81 | peak |
| 3 | 4960.000 | -1.13 | 49.50 | 48.37 | 74.00 | -25.63 | peak |
| 4 | 5114.000 | -0.95 | 52.69 | 51.74 | 74.00 | -22.26 | peak |
| 5 | 6423.000 | 3.20 | 48.03 | 51.23 | 74.00 | -22.77 | peak |
| 6 | 7440.000 | 4.46 | 41.66 | 46.12 | 74.00 | -27.88 | peak |

| Power | AC 120V/60Hz | Pol/Phase | HORIZONTAL |
|---|---|---|---|
| Test Mode | Mode 1, CH11 | Operation mode | TX |

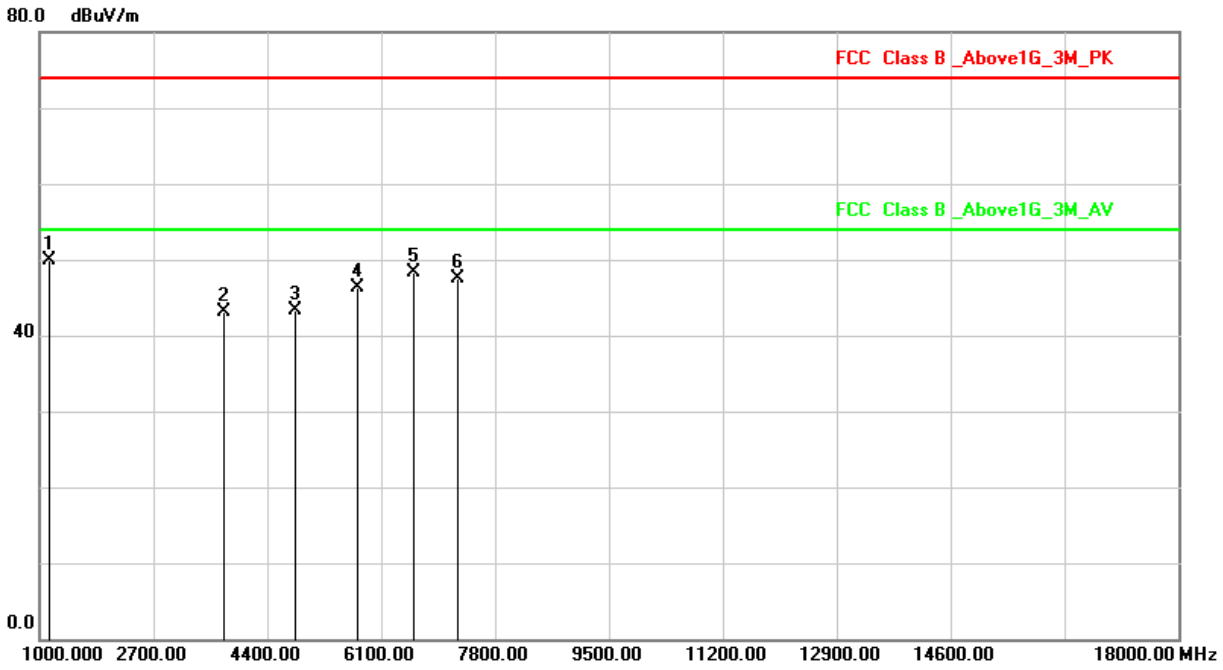
Note : Level = Reading + Factor
Margin = Level – Limit
Factor = Antenna Factor + Cable Loss – Amplifier Factor
The 18000MHz - 25000MHz spurious emission is under limit 20dB more.




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. |
|---|---|---|---|---|---|---|---|
| 1 | 3805.000 | -4.00 | 48.73 | 44.73 | 74.00 | -29.27 | peak |
| 2 | 4247.000 | -2.54 | 50.38 | 47.84 | 74.00 | -26.16 | peak |
| 3 | 4924.000 | -1.28 | 44.97 | 43.69 | 74.00 | -30.31 | peak |
| 4 | 5828.000 | 0.66 | 47.38 | 48.04 | 74.00 | -25.96 | peak |
| 5 | 6610.000 | 3.59 | 43.97 | 47.56 | 74.00 | -26.44 | peak |
| 6 | 7386.000 | 4.27 | 41.60 | 45.87 | 74.00 | -28.13 | peak |

| Power | AC 120V/60Hz | Pol/Phase | VERTICAL |
|---|---|---|---|
| Test Mode | Mode 2, CH01 | Operation mode | TX |

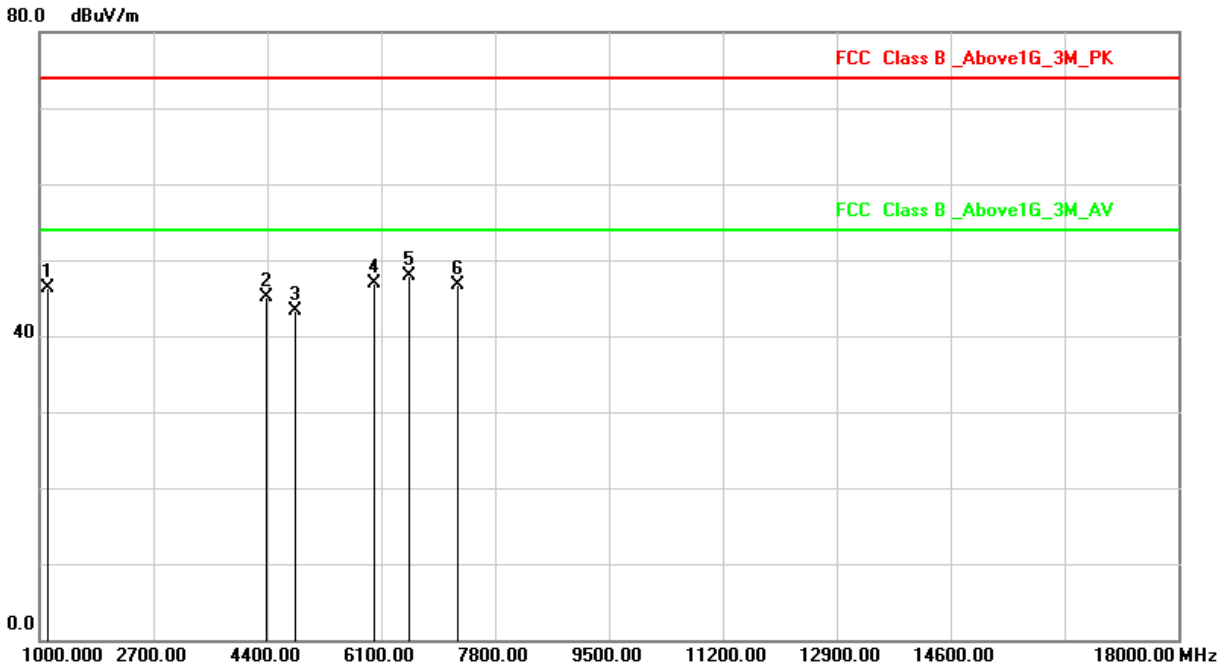
Note : Level = Reading + Factor
Margin = Level – Limit
Factor = Antenna Factor + Cable Loss – Amplifier Factor
The 18000MHz - 25000MHz spurious emission is under limit 20dB more.




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. |
|---|---|---|---|---|---|---|---|
| 1 | 1136.000 | -11.20 | 61.04 | 49.84 | 74.00 | -24.16 | peak |
| 2 | 3754.000 | -4.11 | 47.16 | 43.05 | 74.00 | -30.95 | peak |
| 3 | 4824.000 | -1.71 | 44.96 | 43.25 | 74.00 | -30.75 | peak |
| 4 | 5743.000 | 0.44 | 45.79 | 46.23 | 74.00 | -27.77 | peak |
| 5 | 6576.000 | 3.59 | 44.73 | 48.32 | 74.00 | -25.68 | peak |
| 6 | 7236.000 | 3.61 | 43.97 | 47.58 | 74.00 | -26.42 | peak |

| Power | AC 120V/60Hz | Pol/Phase | HORIZONTAL |
|---|---|---|---|
| Test Mode | Mode 2, CH01 | Operation mode | TX |

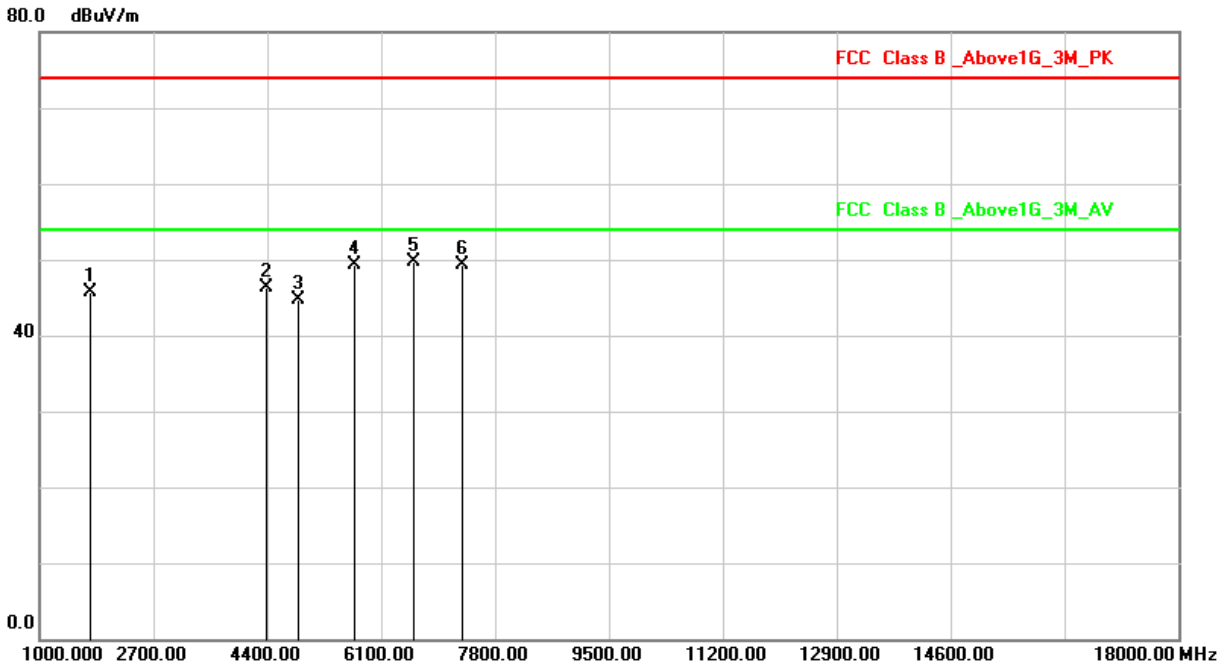
Note : Level = Reading + Factor
Margin = Level – Limit
Factor = Antenna Factor + Cable Loss – Amplifier Factor
The 18000MHz - 25000MHz spurious emission is under limit 20dB more.




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. |
|---|---|---|---|---|---|---|---|
| 1 | 1119.000 | -11.25 | 57.64 | 46.39 | 74.00 | -27.61 | peak |
| 2 | 4383.000 | -2.48 | 47.53 | 45.05 | 74.00 | -28.95 | peak |
| 3 | 4824.000 | -1.71 | 44.96 | 43.25 | 74.00 | -30.75 | peak |
| 4 | 5998.000 | 1.37 | 45.45 | 46.82 | 74.00 | -27.18 | peak |
| 5 | 6508.000 | 3.52 | 44.39 | 47.91 | 74.00 | -26.09 | peak |
| 6 | 7236.000 | 3.61 | 43.10 | 46.71 | 74.00 | -27.29 | peak |

| Power | AC 120V/60Hz | Pol/Phase | VERTICAL |
|---|---|---|---|
| Test Mode | Mode 2, CH06 | Operation mode | TX |

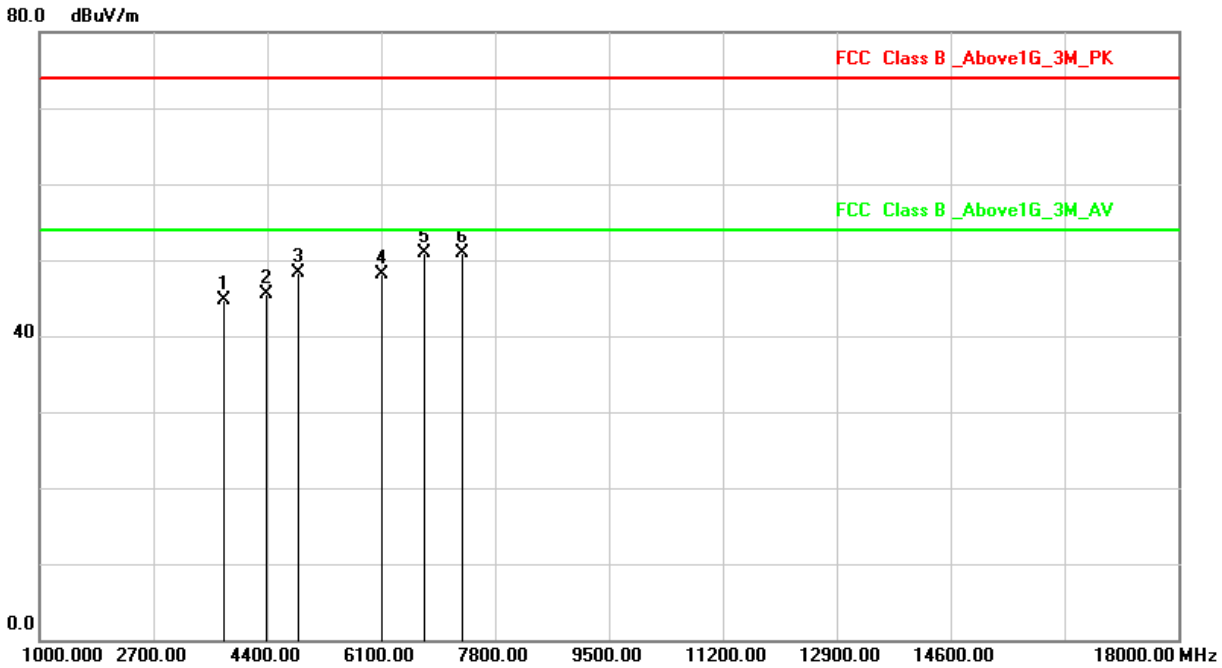
Note : Level = Reading + Factor
Margin = Level – Limit
Factor = Antenna Factor + Cable Loss – Amplifier Factor
The 18000MHz - 25000MHz spurious emission is under limit 20dB more.




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. |
|---|---|---|---|---|---|---|---|
| 1 | 1765.000 | -8.19 | 53.92 | 45.73 | 74.00 | -28.27 | peak |
| 2 | 4383.000 | -2.48 | 48.74 | 46.26 | 74.00 | -27.74 | peak |
| 3 | 4874.000 | -1.49 | 46.18 | 44.69 | 74.00 | -29.31 | peak |
| 4 | 5692.000 | 0.34 | 49.05 | 49.39 | 74.00 | -24.61 | peak |
| 5 | 6593.000 | 3.60 | 46.19 | 49.79 | 74.00 | -24.21 | peak |
| 6 | 7311.000 | 3.93 | 45.35 | 49.28 | 74.00 | -24.72 | peak |

| Power | AC 120V/60Hz | Pol/Phase | HORIZONTAL |
|---|---|---|---|
| Test Mode | Mode 2, CH06 | Operation mode | TX |

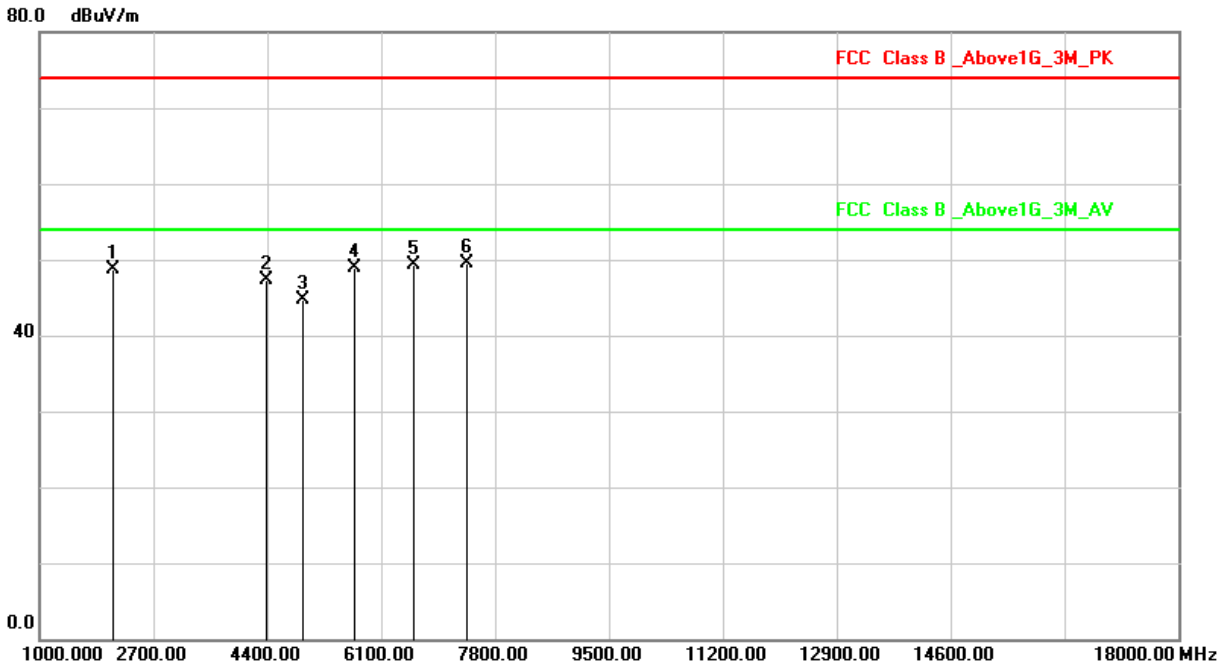
Note : Level = Reading + Factor
Margin = Level – Limit
Factor = Antenna Factor + Cable Loss – Amplifier Factor
The 18000MHz - 25000MHz spurious emission is under limit 20dB more.




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. |
|---|---|---|---|---|---|---|---|
| 1 | 3754.000 | -4.11 | 48.74 | 44.63 | 74.00 | -29.37 | peak |
| 2 | 4383.000 | -2.48 | 48.03 | 45.55 | 74.00 | -28.45 | peak |
| 3 | 4874.000 | -1.49 | 49.88 | 48.39 | 74.00 | -25.61 | peak |
| 4 | 6100.000 | 1.91 | 46.28 | 48.19 | 74.00 | -25.81 | peak |
| 5 | 6746.000 | 3.41 | 47.46 | 50.87 | 74.00 | -23.13 | peak |
| 6 | 7311.000 | 3.93 | 46.93 | 50.86 | 74.00 | -23.14 | peak |

| Power | AC 120V/60Hz | Pol/Phase | VERTICAL |
|---|---|---|---|
| Test Mode | Mode 2, CH11 | Operation mode | TX |

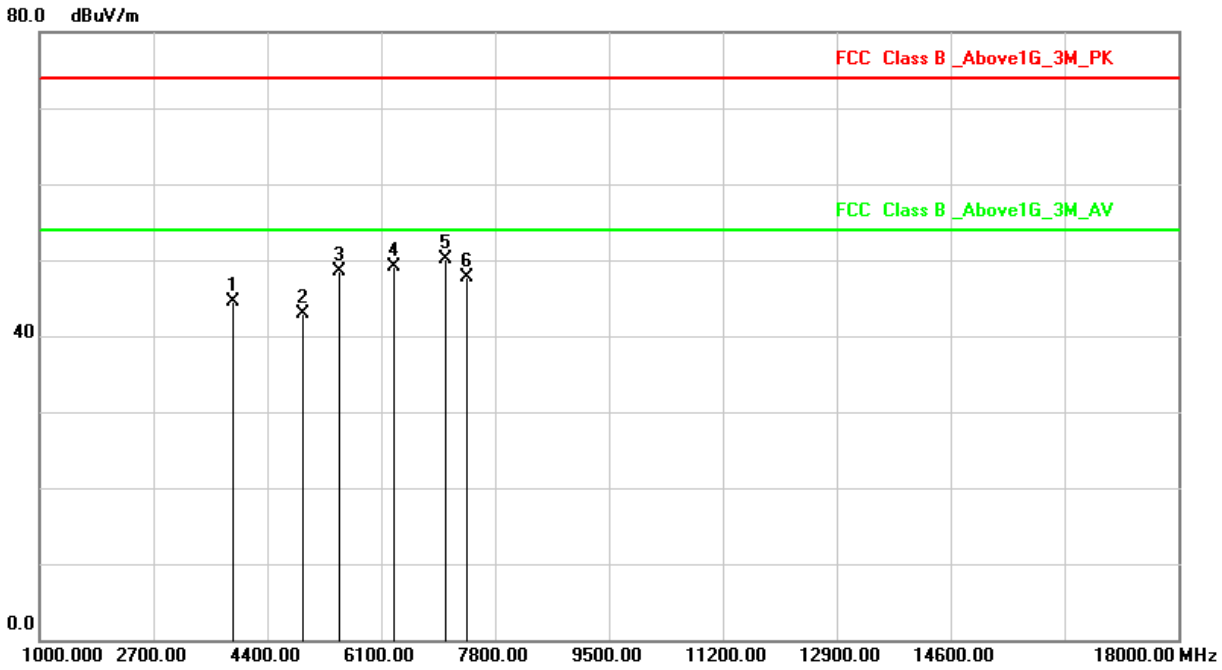
Note : Level = Reading + Factor
Margin = Level – Limit
Factor = Antenna Factor + Cable Loss – Amplifier Factor
The 18000MHz - 25000MHz spurious emission is under limit 20dB more.




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. |
|---|---|---|---|---|---|---|---|
| 1 | 2105.000 | -7.33 | 56.11 | 48.78 | 74.00 | -25.22 | peak |
| 2 | 4383.000 | -2.48 | 49.74 | 47.26 | 74.00 | -26.74 | peak |
| 3 | 4924.000 | -1.28 | 46.03 | 44.75 | 74.00 | -29.25 | peak |
| 4 | 5692.000 | 0.34 | 48.55 | 48.89 | 74.00 | -25.11 | peak |
| 5 | 6593.000 | 3.60 | 45.69 | 49.29 | 74.00 | -24.71 | peak |
| 6 | 7386.000 | 4.27 | 45.27 | 49.54 | 74.00 | -24.46 | peak |

| Power | AC 120V/60Hz | Pol/Phase | HORIZONTAL |
|---|---|---|---|
| Test Mode | Mode 2, CH11 | Operation mode | TX |

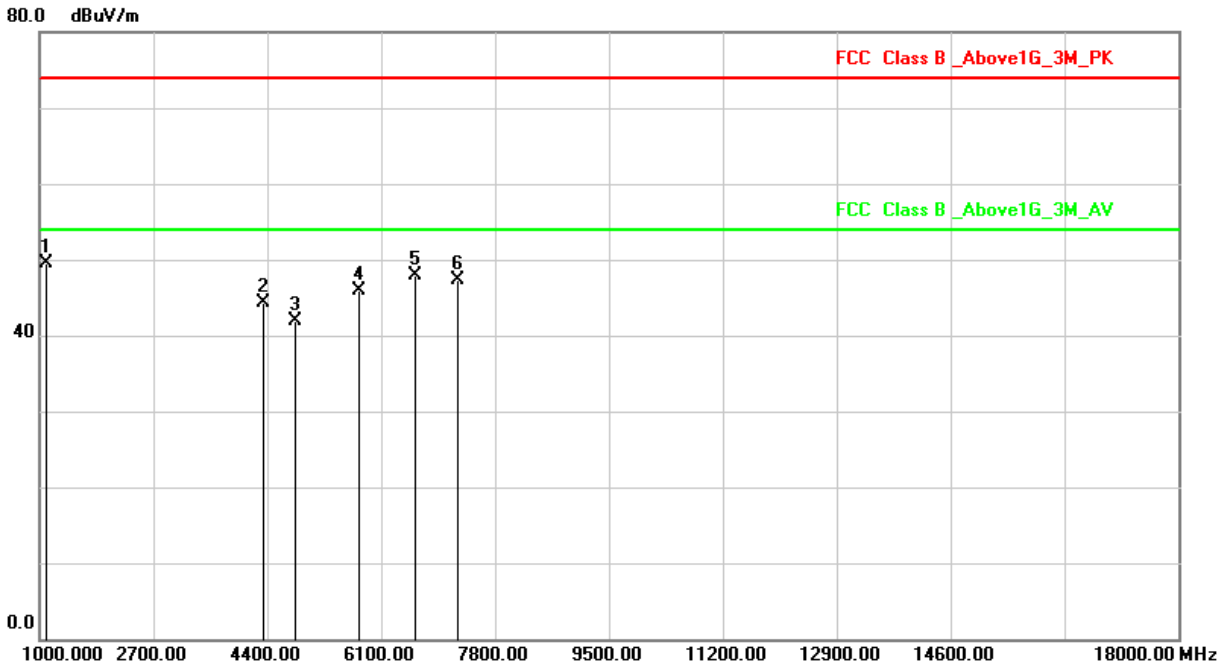
Note : Level = Reading + Factor
Margin = Level – Limit
Factor = Antenna Factor + Cable Loss – Amplifier Factor
The 18000MHz - 25000MHz spurious emission is under limit 20dB more.




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. |
|---|---|---|---|---|---|---|---|
| 1 | 3890.000 | -3.92 | 48.44 | 44.52 | 74.00 | -29.48 | peak |
| 2 | 4924.000 | -1.28 | 44.19 | 42.91 | 74.00 | -31.09 | peak |
| 3 | 5471.000 | -0.54 | 49.06 | 48.52 | 74.00 | -25.48 | peak |
| 4 | 6287.000 | 2.73 | 46.31 | 49.04 | 74.00 | -24.96 | peak |
| 5 | 7052.000 | 3.53 | 46.63 | 50.16 | 74.00 | -23.84 | peak |
| 6 | 7386.000 | 4.27 | 43.43 | 47.70 | 74.00 | -26.30 | peak |

| Power | AC 120V/60Hz | Pol/Phase | VERTICAL |
|---|---|---|---|
| Test Mode | Mode 3, CH01 | Operation mode | TX |

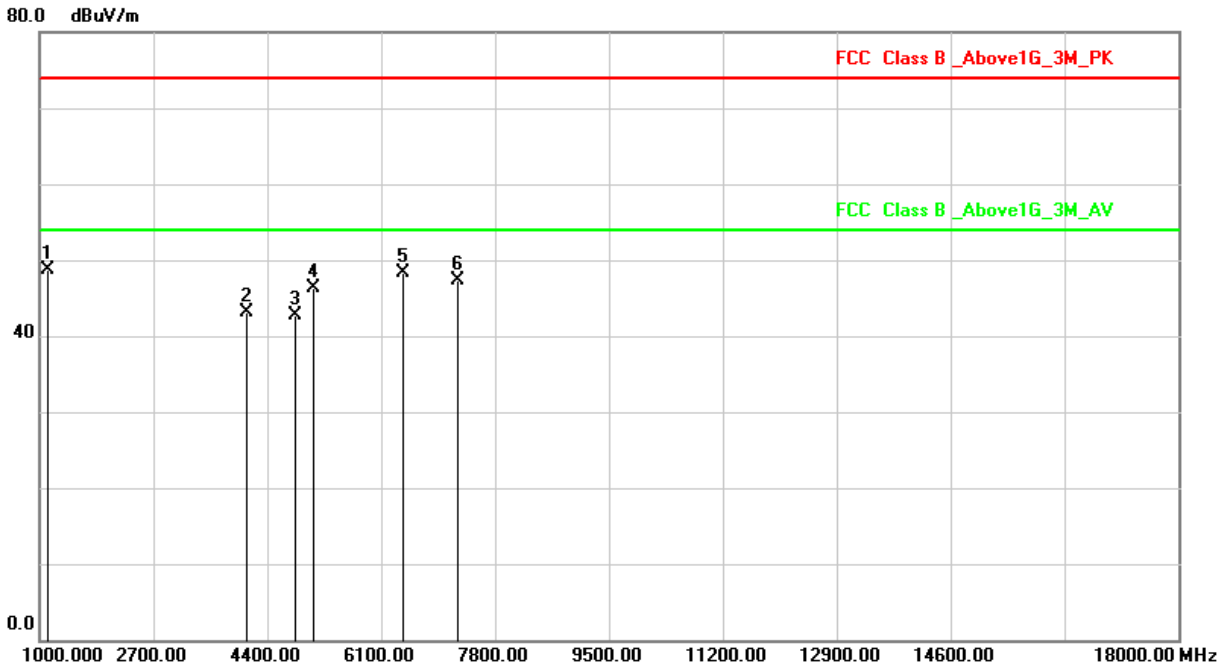
Note : Level = Reading + Factor
Margin = Level – Limit
Factor = Antenna Factor + Cable Loss – Amplifier Factor
The 18000MHz - 25000MHz spurious emission is under limit 20dB more.




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. |
|---|---|---|---|---|---|---|---|
| 1 | 1102.000 | -11.31 | 60.88 | 49.57 | 74.00 | -24.43 | peak |
| 2 | 4332.000 | -2.50 | 46.71 | 44.21 | 74.00 | -29.79 | peak |
| 3 | 4824.000 | -1.71 | 43.68 | 41.97 | 74.00 | -32.03 | peak |
| 4 | 5777.000 | 0.50 | 45.47 | 45.97 | 74.00 | -28.03 | peak |
| 5 | 6610.000 | 3.59 | 44.40 | 47.99 | 74.00 | -26.01 | peak |
| 6 | 7236.000 | 3.61 | 43.75 | 47.36 | 74.00 | -26.64 | peak |

| Power | AC 120V/60Hz | Pol/Phase | HORIZONTAL |
|---|---|---|---|
| Test Mode | Mode 3, CH01 | Operation mode | TX |

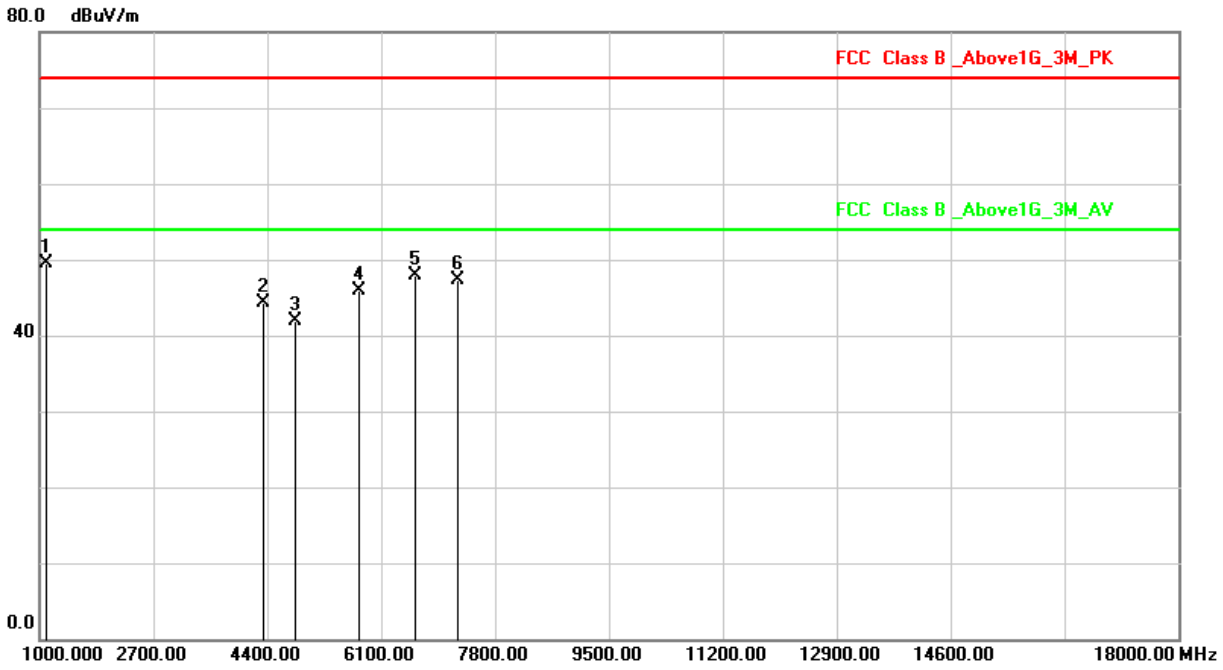
Note : Level = Reading + Factor
Margin = Level – Limit
Factor = Antenna Factor + Cable Loss – Amplifier Factor
The 18000MHz - 25000MHz spurious emission is under limit 20dB more.




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. |
|---|---|---|---|---|---|---|---|
| 1 | 1119.000 | -11.25 | 59.90 | 48.65 | 74.00 | -25.35 | peak |
| 2 | 4094.000 | -3.21 | 46.35 | 43.14 | 74.00 | -30.86 | peak |
| 3 | 4824.000 | -1.71 | 44.41 | 42.70 | 74.00 | -31.30 | peak |
| 4 | 5097.000 | -0.94 | 47.31 | 46.37 | 74.00 | -27.63 | peak |
| 5 | 6423.000 | 3.20 | 45.13 | 48.33 | 74.00 | -25.67 | peak |
| 6 | 7236.000 | 3.61 | 43.63 | 47.24 | 74.00 | -26.76 | peak |

| Power | AC 120V/60Hz | Pol/Phase | VERTICAL |
|---|---|---|---|
| Test Mode | Mode 3, CH06 | Operation mode | TX |

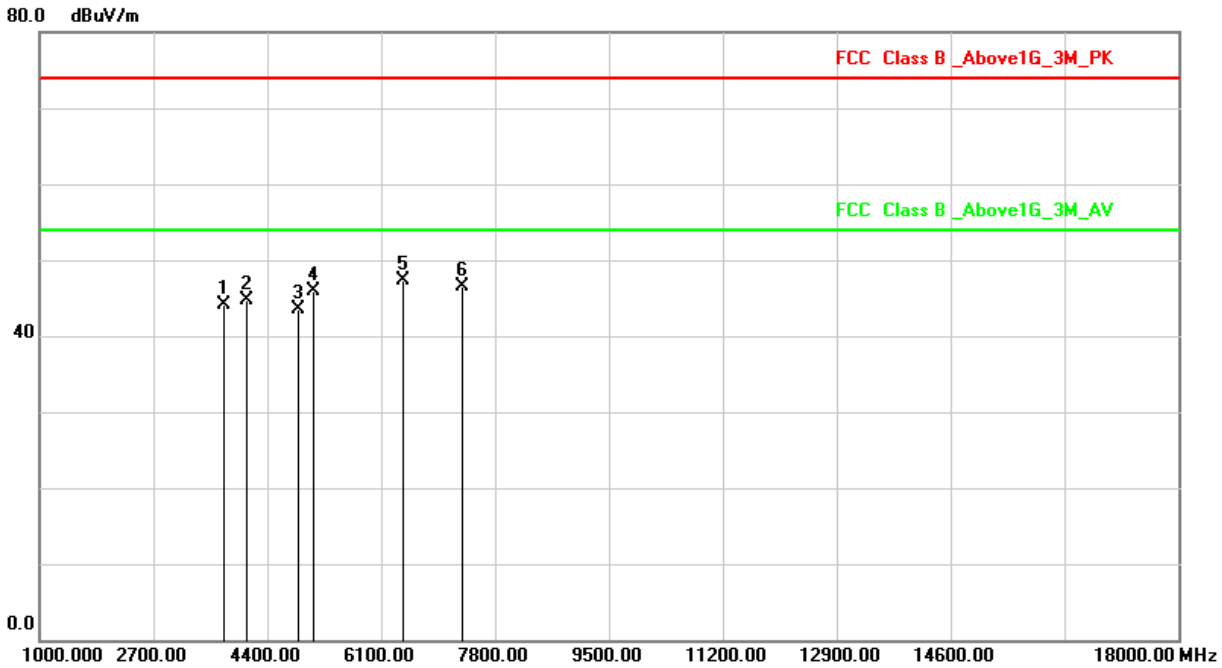
Note : Level = Reading + Factor
Margin = Level – Limit
Factor = Antenna Factor + Cable Loss – Amplifier Factor
The 18000MHz - 25000MHz spurious emission is under limit 20dB more.




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. |
|---|---|---|---|---|---|---|---|
| 1 | 1102.000 | -11.31 | 60.88 | 49.57 | 74.00 | -24.43 | peak |
| 2 | 4332.000 | -2.50 | 46.71 | 44.21 | 74.00 | -29.79 | peak |
| 3 | 4824.000 | -1.71 | 43.68 | 41.97 | 74.00 | -32.03 | peak |
| 4 | 5777.000 | 0.50 | 45.47 | 45.97 | 74.00 | -28.03 | peak |
| 5 | 6610.000 | 3.59 | 44.40 | 47.99 | 74.00 | -26.01 | peak |
| 6 | 7236.000 | 3.61 | 43.75 | 47.36 | 74.00 | -26.64 | peak |

| Power | AC 120V/60Hz | Pol/Phase | HORIZONTAL |
|---|---|---|---|
| Test Mode | Mode 3, CH06 | Operation mode | TX |

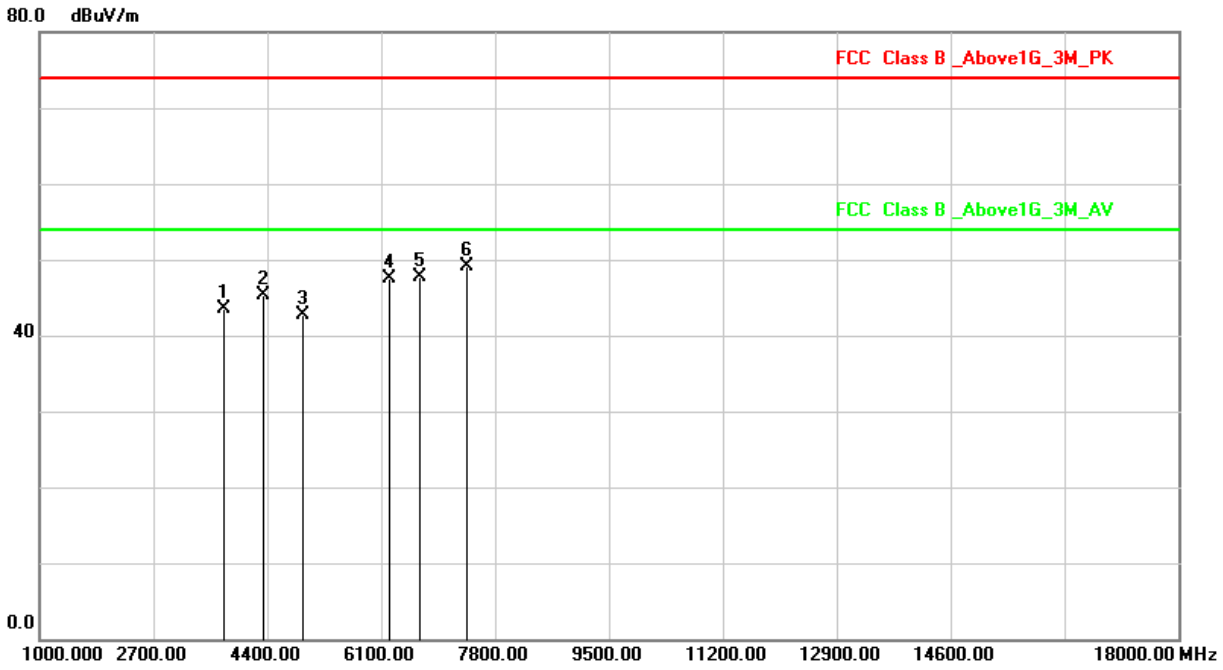
Note : Level = Reading + Factor
Margin = Level – Limit
Factor = Antenna Factor + Cable Loss – Amplifier Factor
The 18000MHz - 25000MHz spurious emission is under limit 20dB more.




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. |
|---|---|---|---|---|---|---|---|
| 1 | 3754.000 | -4.11 | 48.21 | 44.10 | 74.00 | -29.90 | peak |
| 2 | 4094.000 | -3.21 | 47.85 | 44.64 | 74.00 | -29.36 | peak |
| 3 | 4874.000 | -1.49 | 45.05 | 43.56 | 74.00 | -30.44 | peak |
| 4 | 5097.000 | -0.94 | 46.81 | 45.87 | 74.00 | -28.13 | peak |
| 5 | 6423.000 | 3.20 | 44.13 | 47.33 | 74.00 | -26.67 | peak |
| 6 | 7311.000 | 3.93 | 42.62 | 46.55 | 74.00 | -27.45 | peak |

| Power | AC 120V/60Hz | Pol/Phase | VERTICAL |
|---|---|---|---|
| Test Mode | Mode 3, CH11 | Operation mode | TX |

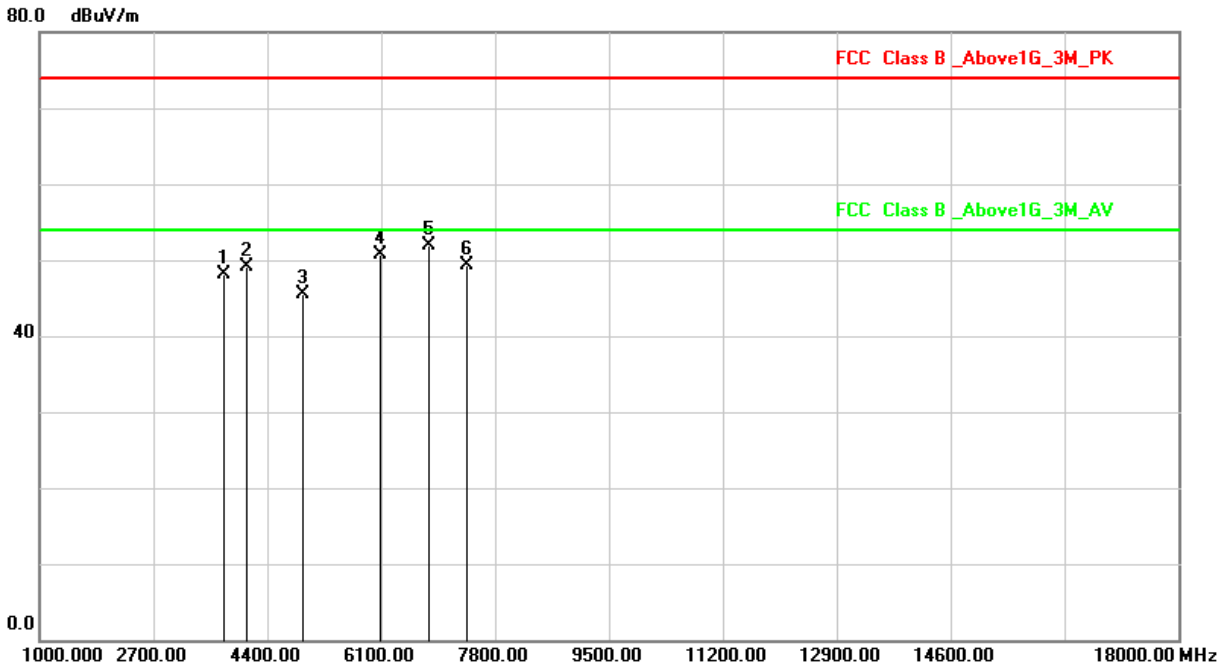
Note : Level = Reading + Factor
Margin = Level – Limit
Factor = Antenna Factor + Cable Loss – Amplifier Factor
The 18000MHz - 25000MHz spurious emission is under limit 20dB more.




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. |
|---|---|---|---|---|---|---|---|
| 1 | 3754.000 | -4.11 | 47.71 | 43.60 | 74.00 | -30.40 | peak |
| 2 | 4332.000 | -2.50 | 47.71 | 45.21 | 74.00 | -28.79 | peak |
| 3 | 4924.000 | -1.28 | 44.05 | 42.77 | 74.00 | -31.23 | peak |
| 4 | 6219.000 | 2.49 | 45.06 | 47.55 | 74.00 | -26.45 | peak |
| 5 | 6678.000 | 3.51 | 44.28 | 47.79 | 74.00 | -26.21 | peak |
| 6 | 7386.000 | 4.27 | 44.79 | 49.06 | 74.00 | -24.94 | peak |

| Power | AC 120V/60Hz | Pol/Phase | HORIZONTAL |
|---|---|---|---|
| Test Mode | Mode 3, CH11 | Operation mode | TX |

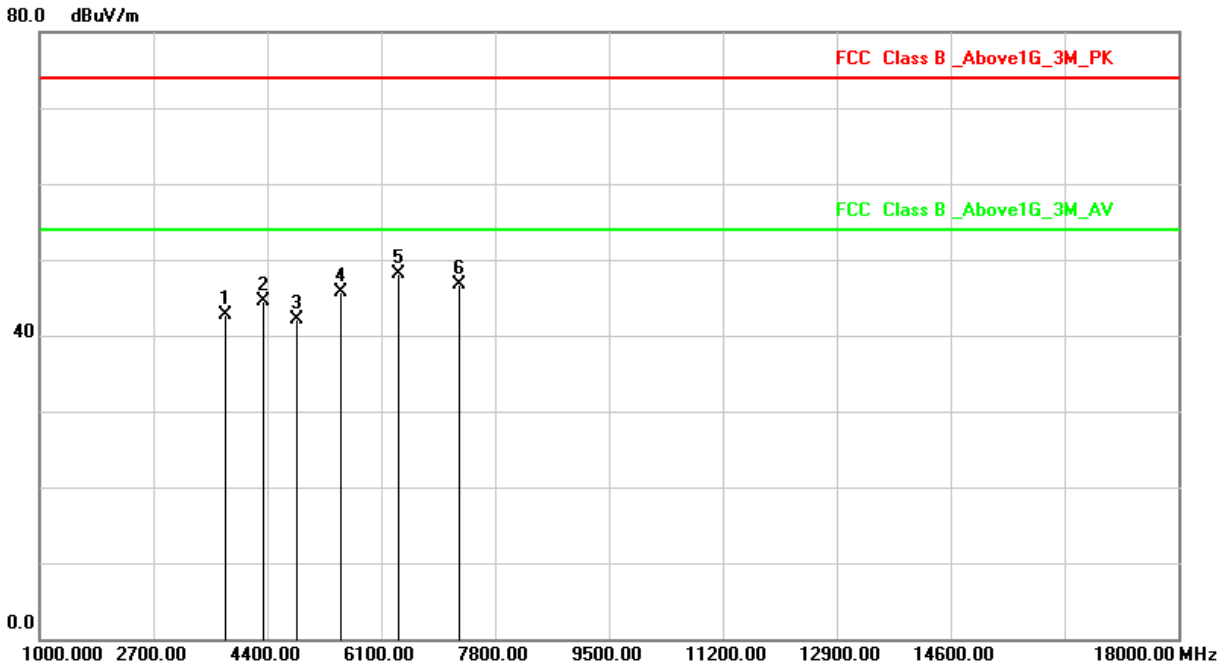
Note : Level = Reading + Factor
Margin = Level – Limit
Factor = Antenna Factor + Cable Loss – Amplifier Factor
The 18000MHz - 25000MHz spurious emission is under limit 20dB more.




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. |
|---|---|---|---|---|---|---|---|
| 1 | 3754.000 | -4.11 | 52.21 | 48.10 | 74.00 | -25.90 | peak |
| 2 | 4094.000 | -3.21 | 52.35 | 49.14 | 74.00 | -24.86 | peak |
| 3 | 4924.000 | -1.28 | 46.78 | 45.50 | 74.00 | -28.50 | peak |
| 4 | 6083.000 | 1.81 | 48.90 | 50.71 | 74.00 | -23.29 | peak |
| 5 | 6814.000 | 3.34 | 48.61 | 51.95 | 74.00 | -22.05 | peak |
| 6 | 7386.000 | 4.27 | 44.95 | 49.22 | 74.00 | -24.78 | peak |

| Power | AC 120V/60Hz | Pol/Phase | VERTICAL |
|---|---|---|---|
| Test Mode | Mode 4, CH03 | Operation mode | TX |

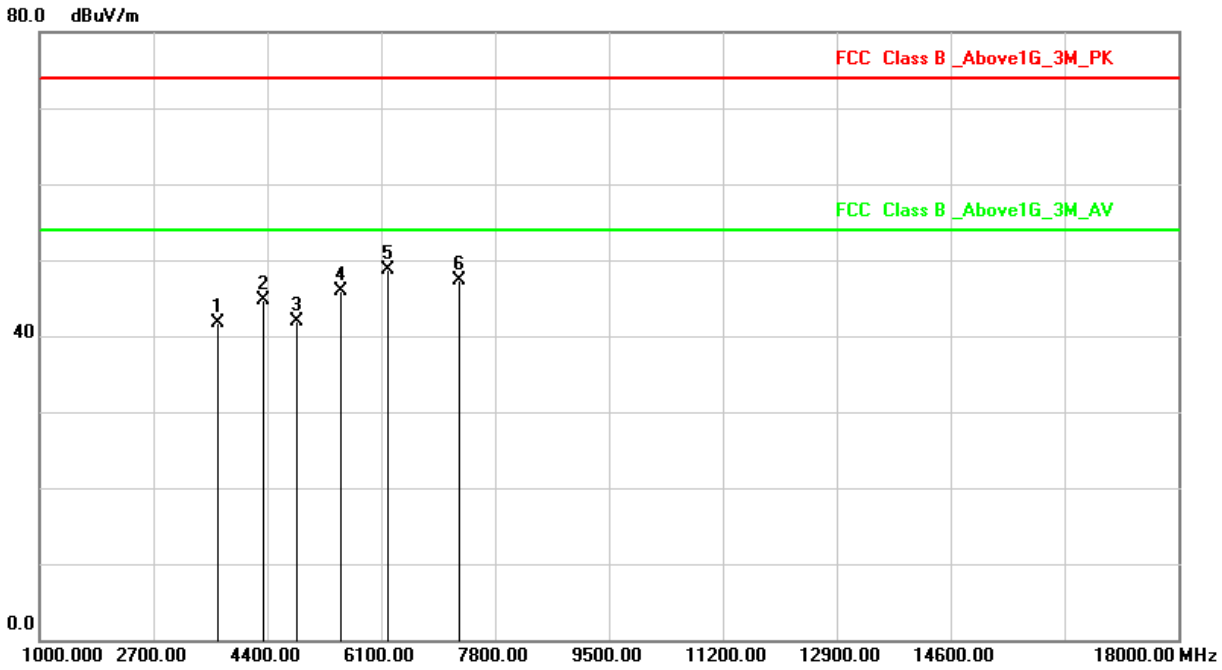
Note : Level = Reading + Factor
Margin = Level – Limit
Factor = Antenna Factor + Cable Loss – Amplifier Factor
The 18000MHz - 25000MHz spurious emission is under limit 20dB more.




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. |
|---|---|---|---|---|---|---|---|
| 1 | 3771.000 | -4.07 | 46.83 | 42.76 | 74.00 | -31.24 | peak |
| 2 | 4349.000 | -2.49 | 46.99 | 44.50 | 74.00 | -29.50 | peak |
| 3 | 4844.000 | -1.62 | 43.68 | 42.06 | 74.00 | -31.94 | peak |
| 4 | 5505.000 | -0.39 | 46.03 | 45.64 | 74.00 | -28.36 | peak |
| 5 | 6355.000 | 2.95 | 45.17 | 48.12 | 74.00 | -25.88 | peak |
| 6 | 7266.000 | 3.75 | 42.92 | 46.67 | 74.00 | -27.33 | peak |

| Power | AC 120V/60Hz | Pol/Phase | HORIZONTAL |
|---|---|---|---|
| Test Mode | Mode 4, CH03 | Operation mode | TX |

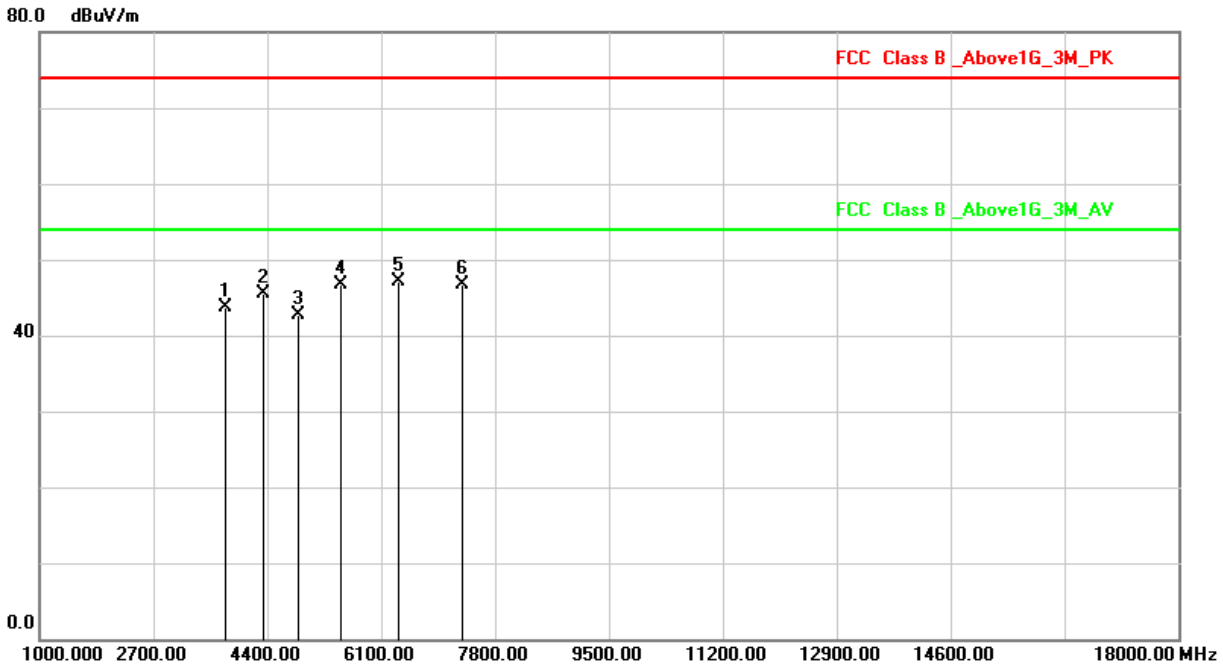
Note : Level = Reading + Factor
Margin = Level – Limit
Factor = Antenna Factor + Cable Loss – Amplifier Factor
The 18000MHz - 25000MHz spurious emission is under limit 20dB more.




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. |
|---|---|---|---|---|---|---|---|
| 1 | 3652.000 | -4.33 | 46.03 | 41.70 | 74.00 | -32.30 | peak |
| 2 | 4349.000 | -2.49 | 47.26 | 44.77 | 74.00 | -29.23 | peak |
| 3 | 4844.000 | -1.62 | 43.46 | 41.84 | 74.00 | -32.16 | peak |
| 4 | 5488.000 | -0.47 | 46.38 | 45.91 | 74.00 | -28.09 | peak |
| 5 | 6202.000 | 2.44 | 46.21 | 48.65 | 74.00 | -25.35 | peak |
| 6 | 7266.000 | 3.75 | 43.64 | 47.39 | 74.00 | -26.61 | peak |

| Power | AC 120V/60Hz | Pol/Phase | VERTICAL |
|---|---|---|---|
| Test Mode | Mode 4, CH06 | Operation mode | TX |

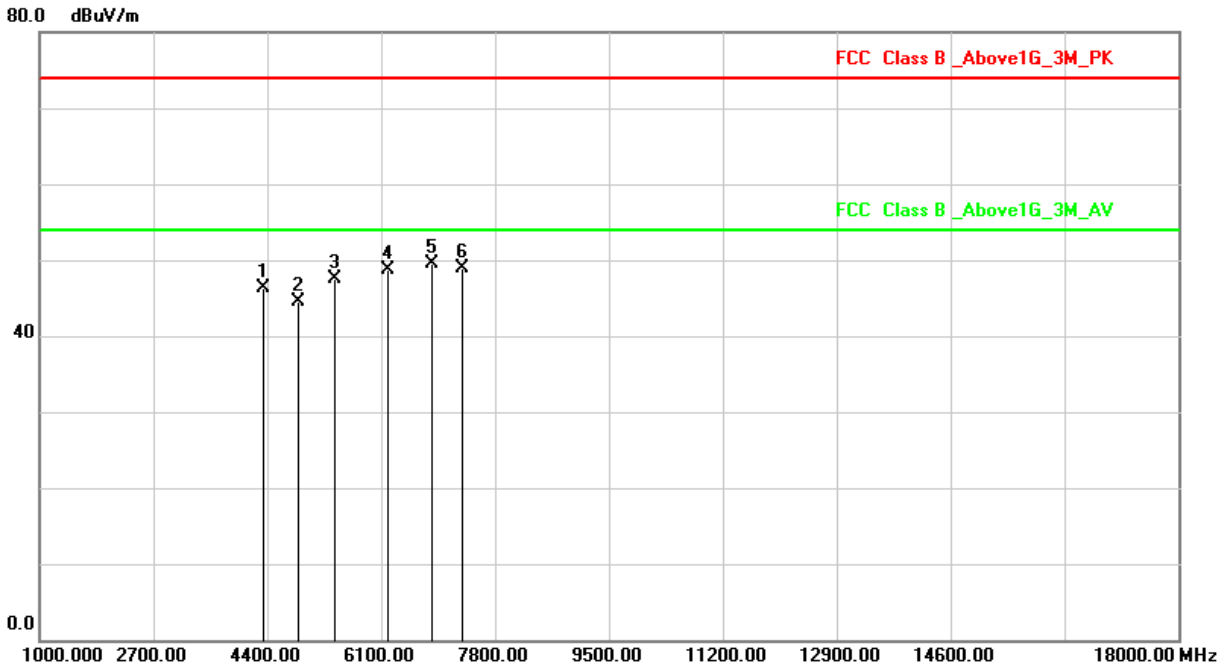
Note : Level = Reading + Factor
Margin = Level – Limit
Factor = Antenna Factor + Cable Loss – Amplifier Factor
The 18000MHz - 25000MHz spurious emission is under limit 20dB more.




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. |
|---|---|---|---|---|---|---|---|
| 1 | 3771.000 | -4.07 | 47.83 | 43.76 | 74.00 | -30.24 | peak |
| 2 | 4349.000 | -2.49 | 47.99 | 45.50 | 74.00 | -28.50 | peak |
| 3 | 4874.000 | -1.49 | 44.13 | 42.64 | 74.00 | -31.36 | peak |
| 4 | 5505.000 | -0.39 | 47.03 | 46.64 | 74.00 | -27.36 | peak |
| 5 | 6355.000 | 2.95 | 44.17 | 47.12 | 74.00 | -26.88 | peak |
| 6 | 7311.000 | 3.93 | 42.84 | 46.77 | 74.00 | -27.23 | peak |

| Power | AC 120V/60Hz | Pol/Phase | HORIZONTAL |
|---|---|---|---|
| Test Mode | Mode 4, CH06 | Operation mode | TX |

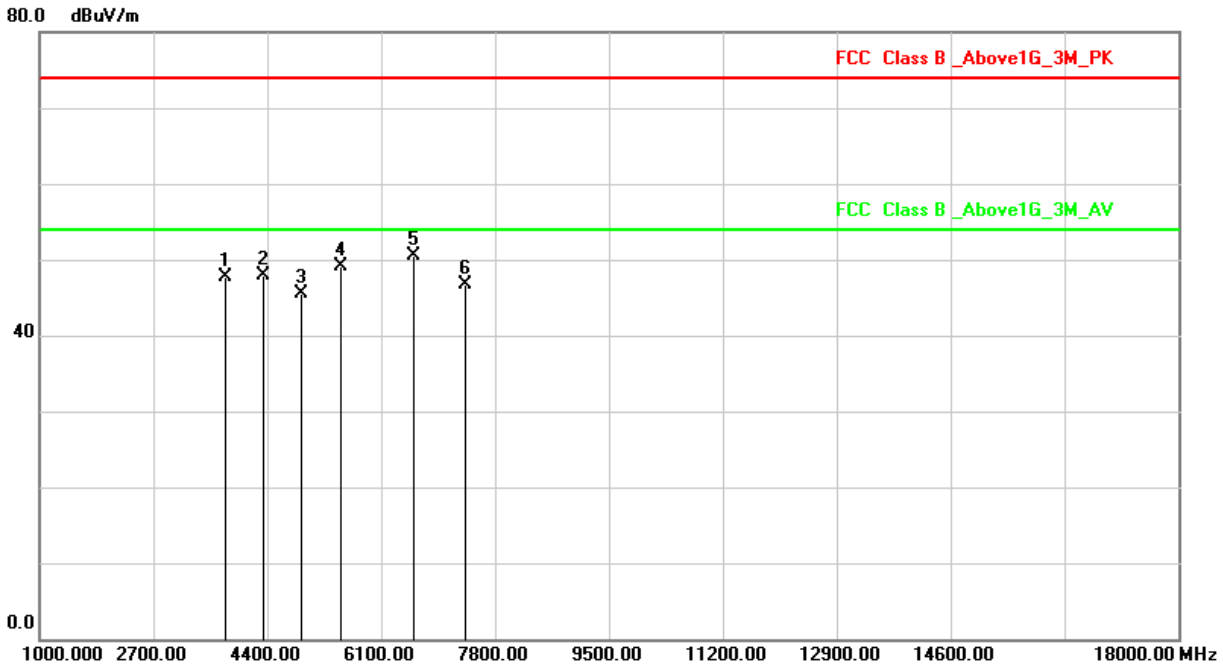
Note : Level = Reading + Factor
Margin = Level – Limit
Factor = Antenna Factor + Cable Loss – Amplifier Factor
The 18000MHz - 25000MHz spurious emission is under limit 20dB more.




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. |
|---|---|---|---|---|---|---|---|
| 1 | 4349.000 | -2.49 | 48.76 | 46.27 | 74.00 | -27.73 | peak |
| 2 | 4874.000 | -1.49 | 45.98 | 44.49 | 74.00 | -29.51 | peak |
| 3 | 5403.000 | -0.80 | 48.38 | 47.58 | 74.00 | -26.42 | peak |
| 4 | 6202.000 | 2.44 | 46.21 | 48.65 | 74.00 | -25.35 | peak |
| 5 | 6865.000 | 3.40 | 46.08 | 49.48 | 74.00 | -24.52 | peak |
| 6 | 7311.000 | 3.93 | 44.95 | 48.88 | 74.00 | -25.12 | peak |

| Power | AC 120V/60Hz | Pol/Phase | VERTICAL |
|---|---|---|---|
| Test Mode | Mode 4, CH09 | Operation mode | TX |

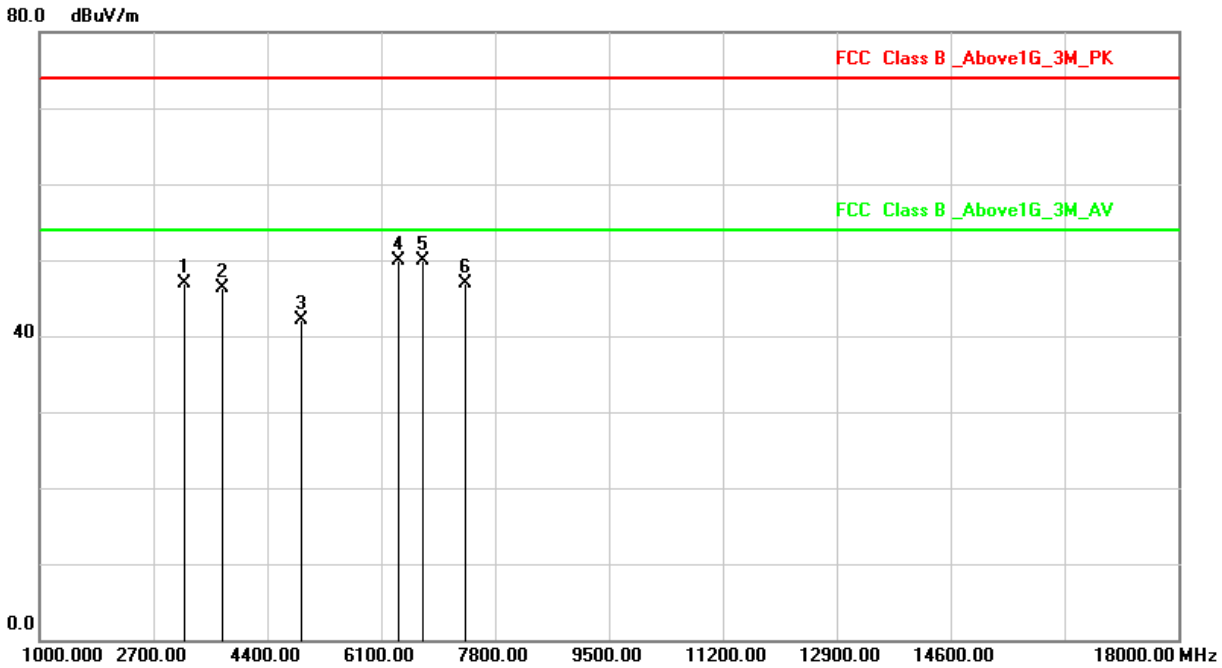
Note : Level = Reading + Factor
Margin = Level – Limit
Factor = Antenna Factor + Cable Loss – Amplifier Factor
The 18000MHz - 25000MHz spurious emission is under limit 20dB more.




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. |
|---|---|---|---|---|---|---|---|
| 1 | 3771.000 | -4.07 | 51.83 | 47.76 | 74.00 | -26.24 | peak |
| 2 | 4349.000 | -2.49 | 50.49 | 48.00 | 74.00 | -26.00 | peak |
| 3 | 4904.000 | -1.36 | 46.77 | 45.41 | 74.00 | -28.59 | peak |
| 4 | 5505.000 | -0.39 | 49.53 | 49.14 | 74.00 | -24.86 | peak |
| 5 | 6593.000 | 3.60 | 46.98 | 50.58 | 74.00 | -23.42 | peak |
| 6 | 7356.000 | 4.13 | 42.56 | 46.69 | 74.00 | -27.31 | peak |

| Power | AC 120V/60Hz | Pol/Phase | HORIZONTAL |
|---|---|---|---|
| Test Mode | Mode 4, CH09 | Operation mode | TX |

Note : Level = Reading + Factor
Margin = Level – Limit
Factor = Antenna Factor + Cable Loss – Amplifier Factor
The 18000MHz - 25000MHz spurious emission is under limit 20dB more.




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. |
|---|---|---|---|---|---|---|---|
| 1 | 3159.000 | -5.06 | 51.96 | 46.90 | 74.00 | -27.10 | peak |
| 2 | 3737.000 | -4.14 | 50.52 | 46.38 | 74.00 | -27.62 | peak |
| 3 | 4904.000 | -1.36 | 43.42 | 42.06 | 74.00 | -31.94 | peak |
| 4 | 6355.000 | 2.95 | 47.02 | 49.97 | 74.00 | -24.03 | peak |
| 5 | 6729.000 | 3.43 | 46.44 | 49.87 | 74.00 | -24.13 | peak |
| 6 | 7356.000 | 4.13 | 42.86 | 46.99 | 74.00 | -27.01 | peak |

## 6.7 Restricted Bands of Operation

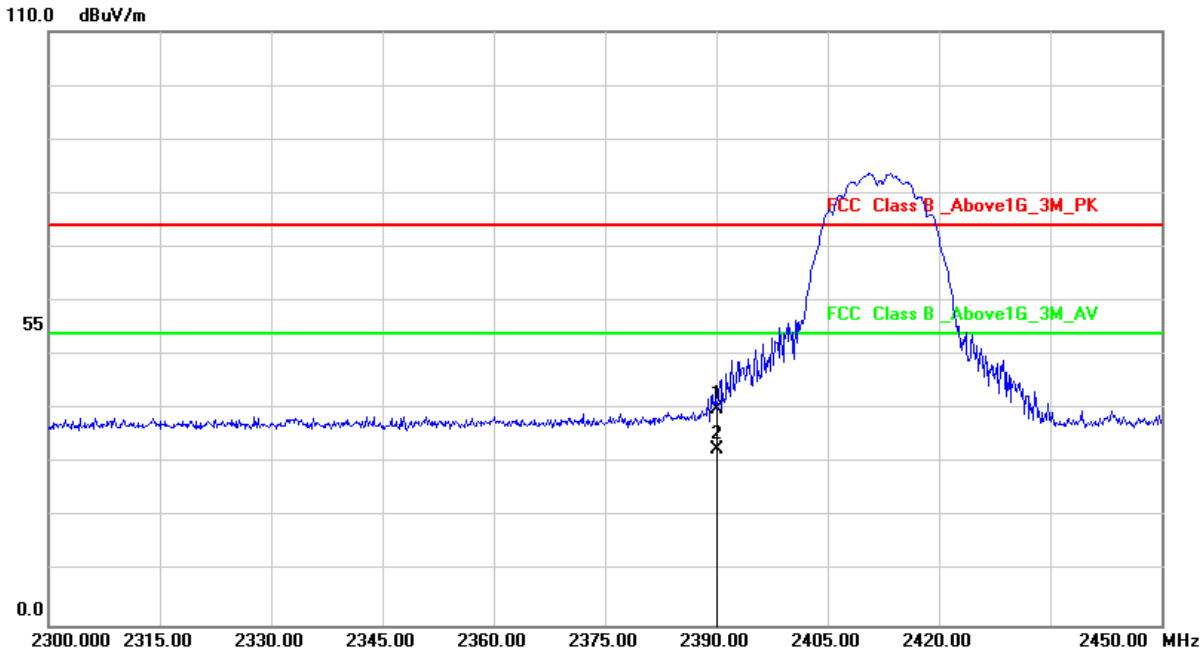
Only spurious emissions are permitted in any of the frequency bands listed below:

| MHz | MHz | MHz | GHz |
|---|---|---|---|
| 0.09000 – 0.11000 | 16.42000 – 16.42300 | 399.9 – 410.0 | 4.500 – 5.250 |
| 0.49500 – 0.505** | 16.69475 – 16.69525 | 608.0 – 614.0 | 5.350 – 5.460 |
| 2.17350 – 2.19050 | 16.80425 – 16.80475 | 960.0 – 1240.0 | 7.250 – 7.750 |
| 4.12500 – 4.12800 | 25.50000 – 25.67000 | 1300.0 – 1427.0 | 8.025 – 8.500 |
| 4.17725 – 4.17775 | 37.50000 – 38.25000 | 1435.0 – 1626.5 | 9.000 – 9.200 |
| 4.20725 – 4.20775 | 73.00000 – 74.60000 | 1645.5 – 1646.5 | 9.300 – 9.500 |
| 6.21500 – 6.21800 | 74.80000 – 75.20000 | 1660.0 – 1710.0 | 10.600 – 12.700 |
| 6.26775 – 6.26825 | 108.00000 – 121.94000 | 1718.8 – 1722.2 | 13.250 – 13.400 |
| 6.31175 – 6.31225 | 123.00000 – 138.00000 | 2200.0 – 2300.0 | 14.470 – 14.500 |
| 8.29100 – 8.29400 | 149.90000 – 150.05000 | 2310.0 – 2390.0 | 15.350 – 16.200 |
| 8.36200 – 8.36600 | 156.52475 – 156.52525 | 2483.5 – 2500.0 | 17.700 – 21.400 |
| 8.37625 – 8.38675 | 156.70000 – 156.90000 | 2655.0 – 2900.0 | 22.010 – 23.120 |
| 8.41425 – 8.41475 | 162.01250 – 167.17000 | 3260.0 – 3267.0 | 23.600 – 24.000 |
| 12.29000 – 12.29300 | 167.72000 – 173.20000 | 3332.0 – 3339.0 | 31.200 – 31.800 |
| 12.51975 – 12.52025 | 240.00000 – 285.00000 | 3345.8 – 3358.0 | 36.430 – 36.500 |
| 12.57675 – 12.57725 | 322.00000 – 335.40000 | 3600.0 – 4400.0 | Above 38.6 |
| 13.36000 – 13.41000 | | | |

**: Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz

## 6.8 Restrict Band Emission Measurement Data

| | | | |
|---|---|---|---|
| Power : | AC 120V/60Hz | Pol/Phase : | VERTICAL |
| Test Mode : | 802.11b, CH01 | | |

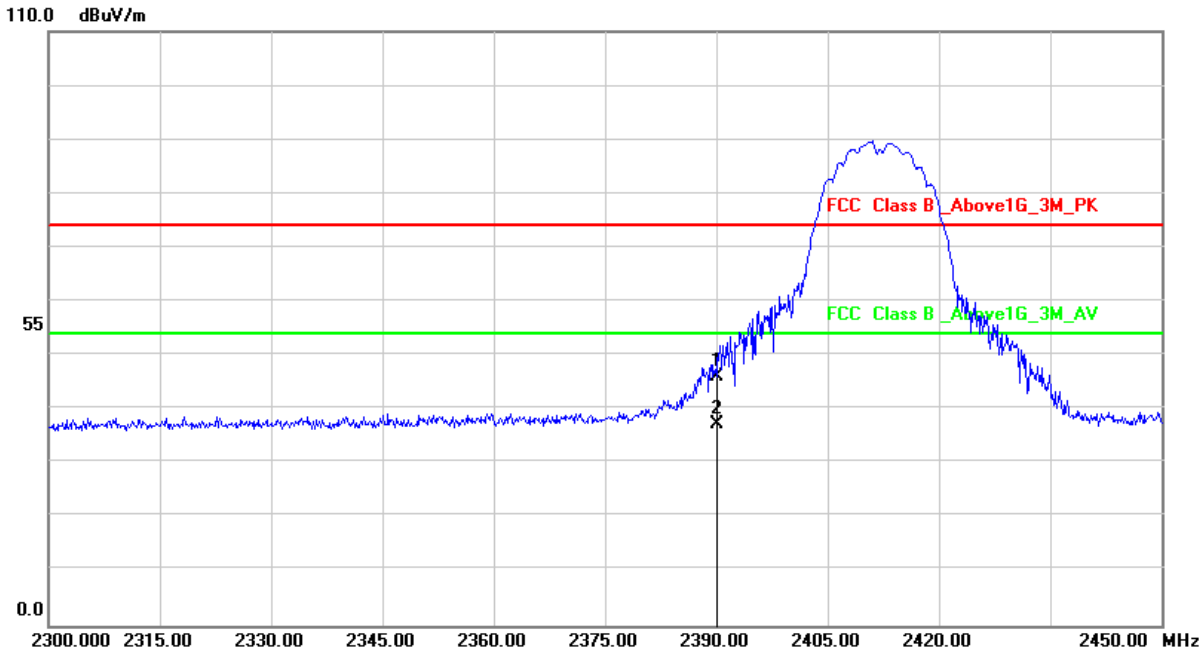



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 | 2390.000 | -6.23 | 46.33 | 40.10 | 74.00 | -33.90 | peak |
| 2 | 2390.000 | -6.23 | 38.69 | 32.46 | 54.00 | -21.54 | AVG |

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Power | : | AC 120V/60Hz | | Pol/Phase | : | HORIZONTAL | |
| Test Mode | : | 802.11b, CH01 | | | | | |

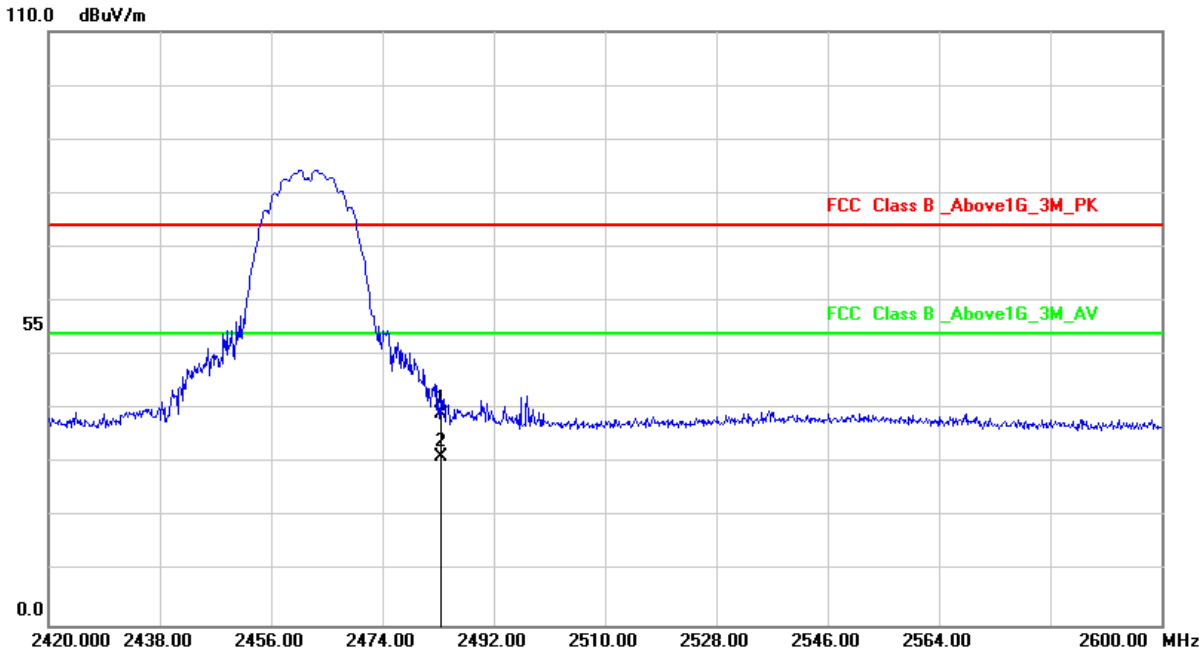



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 | 2390.000 | -6.23 | 52.38 | 46.15 | 74.00 | -27.85 | peak |
| 2 | 2390.000 | -6.23 | 43.50 | 37.27 | 54.00 | -16.73 | AVG |

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Power | : | AC 120V/60Hz | | Pol/Phase | : | VERTICAL | |
| Test Mode | : | 802.11b, CH11 | | | | | |

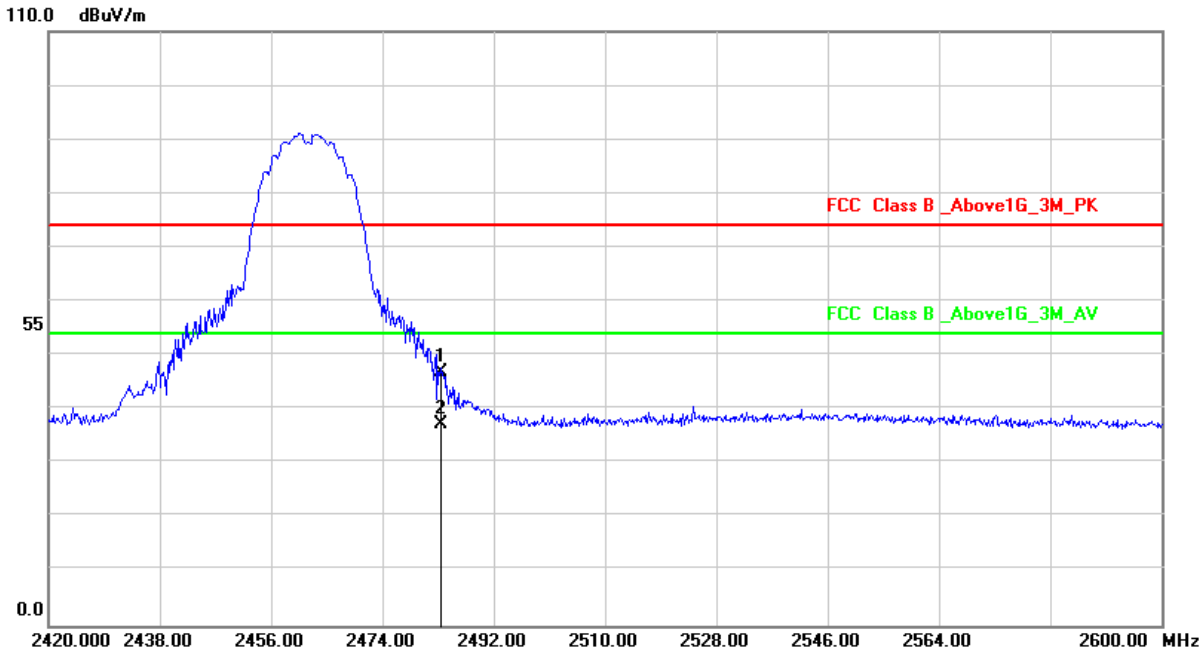



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 | 2483.500 | -5.89 | 44.97 | 39.08 | 74.00 | -34.92 | peak |
| 2 | 2483.500 | -5.89 | 37.16 | 31.27 | 54.00 | -22.73 | AVG |

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Power | : | AC 120V/60Hz | | Pol/Phase | : | HORIZONTAL | |
| Test Mode | : | 802.11b, CH11 | | | | | |

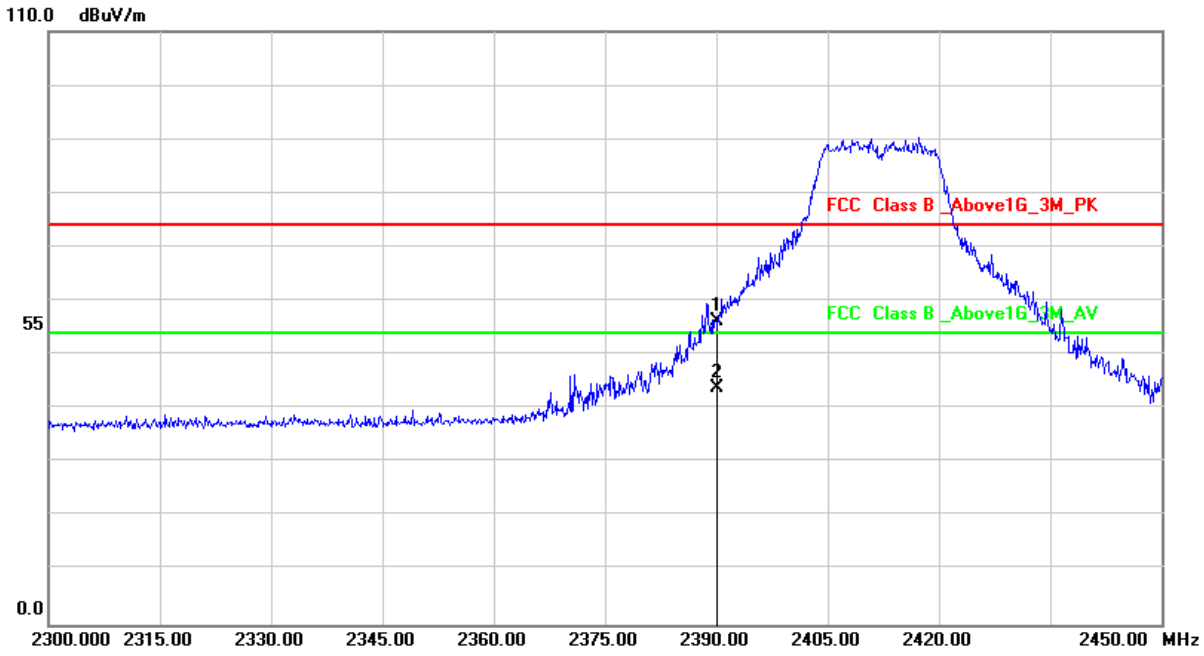



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 | 2483.500 | -5.89 | 52.87 | 46.98 | 74.00 | -27.02 | peak |
| 2 | 2483.500 | -5.89 | 43.14 | 37.25 | 54.00 | -16.75 | AVG |

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Power | : | AC 120V/60Hz | | Pol/Phase | : | VERTICAL | |
| Test Mode | : | 802.11g, CH01 | | | | | |

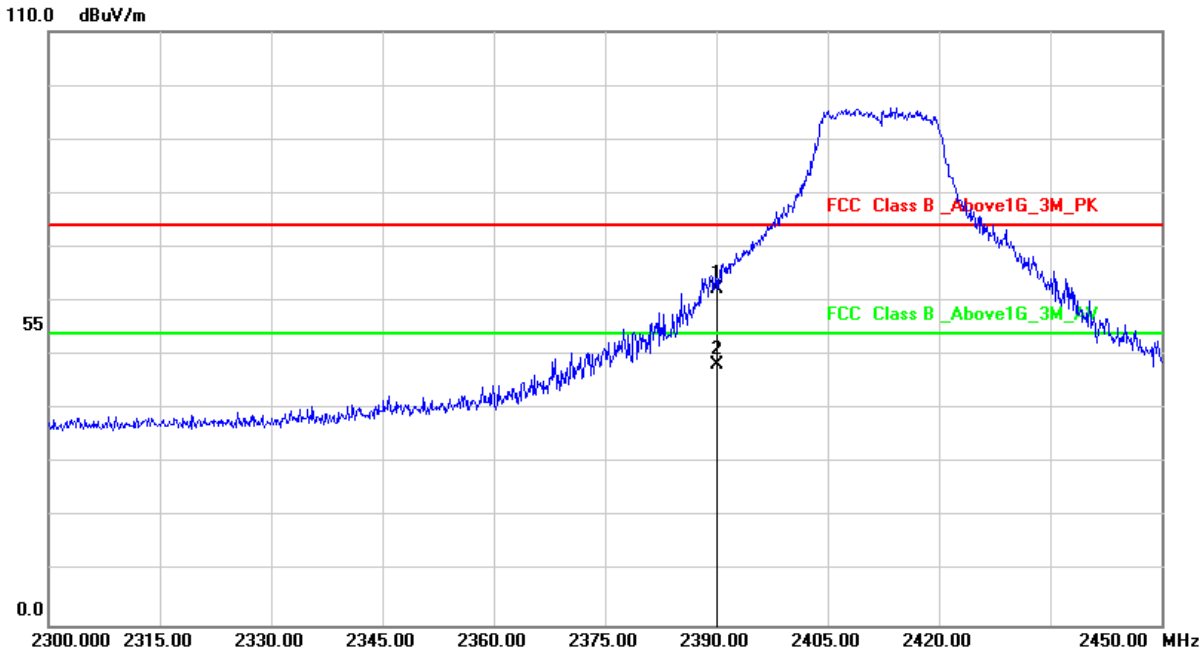



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 | 2390.000 | -6.23 | 62.34 | 56.11 | 74.00 | -17.89 | peak |
| 2 | 2390.000 | -6.23 | 50.07 | 43.84 | 54.00 | -10.16 | AVG |

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Power | : | AC 120V/60Hz | | Pol/Phase | : | HORIZONTAL | |
| Test Mode | : | 802.11g, CH01 | | | | | |

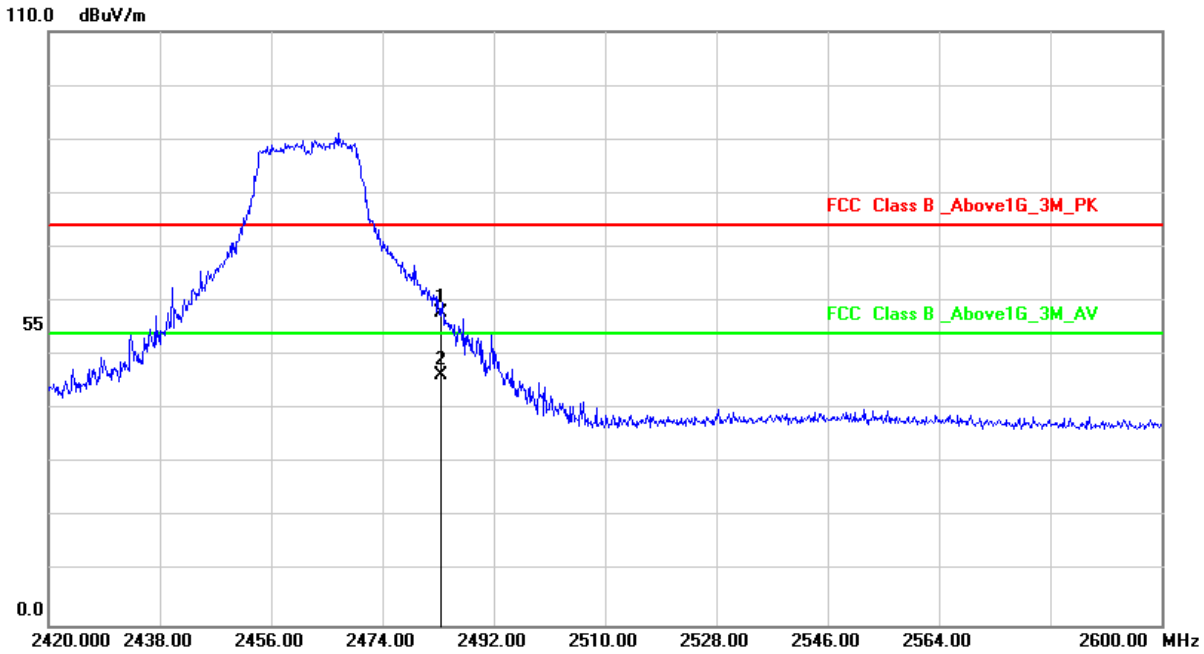



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 | 2390.000 | -6.23 | 68.57 | 62.34 | 74.00 | -11.66 | peak |
| 2 | 2390.000 | -6.23 | 54.39 | 48.16 | 54.00 | -5.84 | AVG |

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Power | : | AC 120V/60Hz | | Pol/Phase | : | VERTICAL | |
| Test Mode | : | 802.11g, CH11 | | | | | |

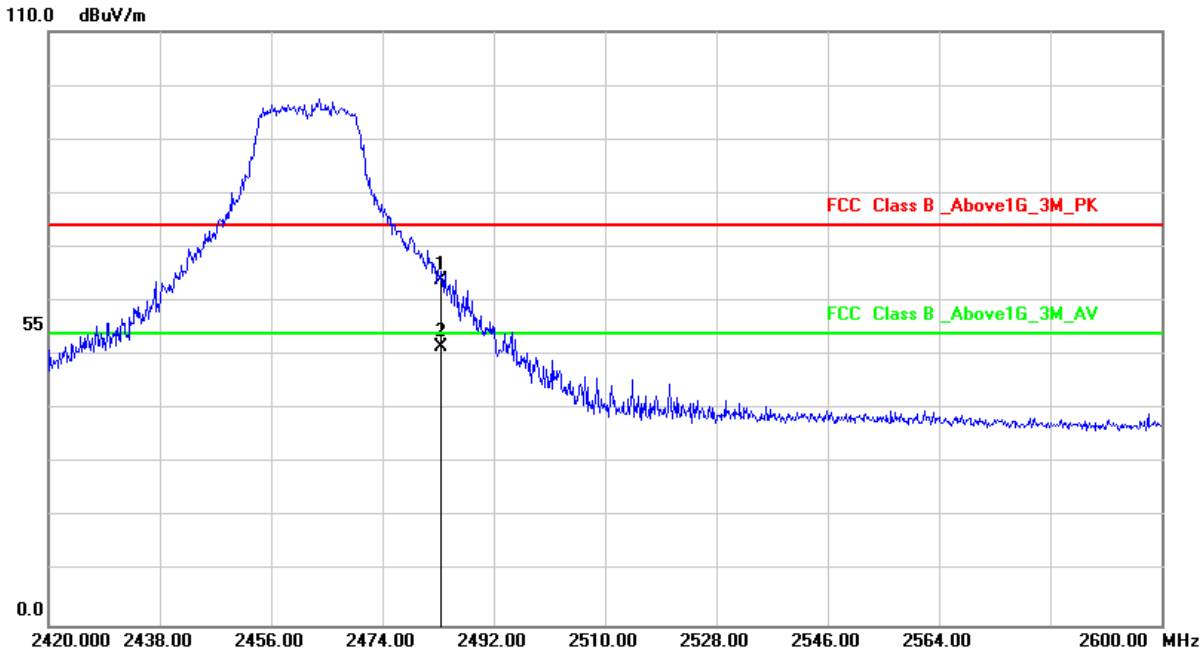



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 | 2483.500 | -5.89 | 63.91 | 58.02 | 74.00 | -15.98 | peak |
| 2 | 2483.500 | -5.89 | 52.17 | 46.28 | 54.00 | -7.72 | AVG |

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Power | : | AC 120V/60Hz | | Pol/Phase | : | HORIZONTAL | |
| Test Mode | : | 802.11g, CH11 | | | | | |

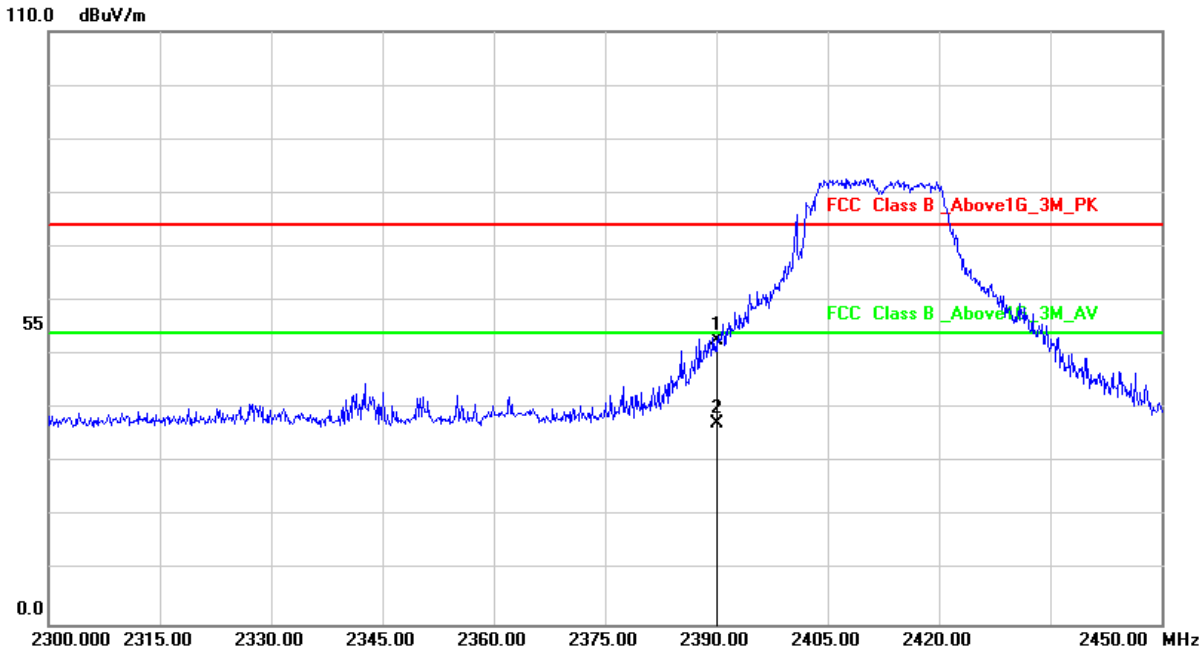



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 | 2483.500 | -5.89 | 69.96 | 64.07 | 74.00 | -9.93 | peak |
| 2 | 2483.500 | -5.89 | 57.35 | 51.46 | 54.00 | -2.54 | AVG |

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Power | : | AC 120V/60Hz | | Pol/Phase | : | VERTICAL | |
| Test Mode | : | 802.11n HT20, CH01 | | | | | |

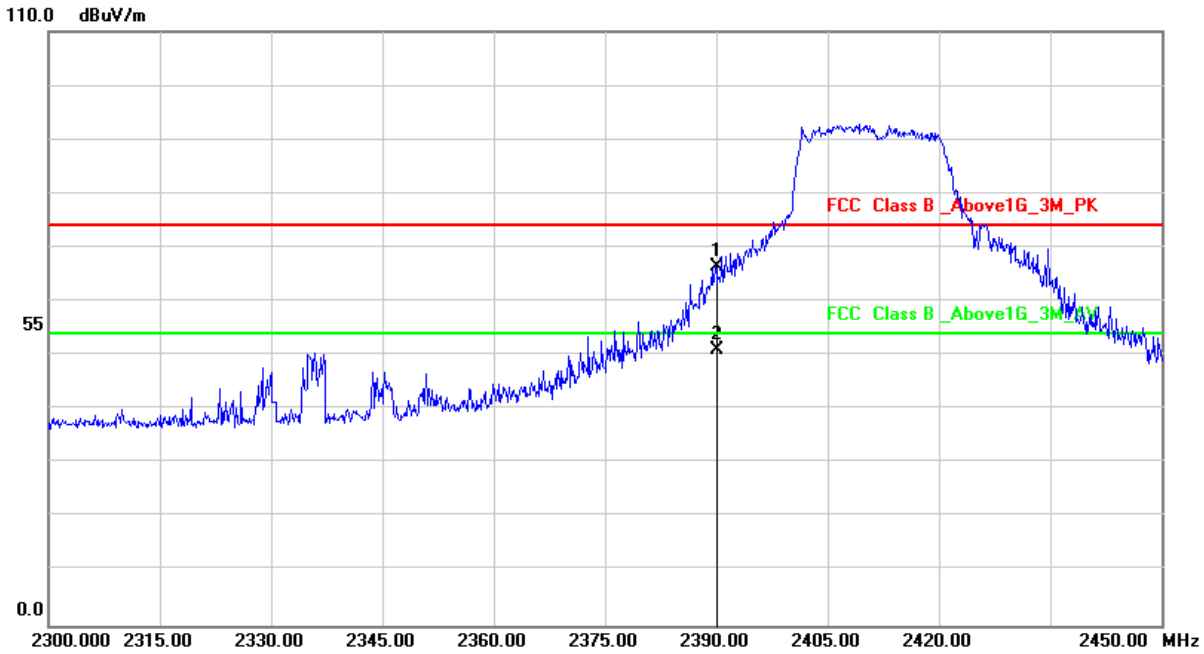



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 | 2390.000 | -6.23 | 58.78 | 52.55 | 74.00 | -21.45 | peak |
| 2 | 2390.000 | -6.23 | 43.59 | 37.36 | 54.00 | -16.64 | AVG |

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Power | : | AC 120V/60Hz | | Pol/Phase | : | HORIZONTAL | |
| Test Mode | : | 802.11n HT20, CH01 | | | | | |

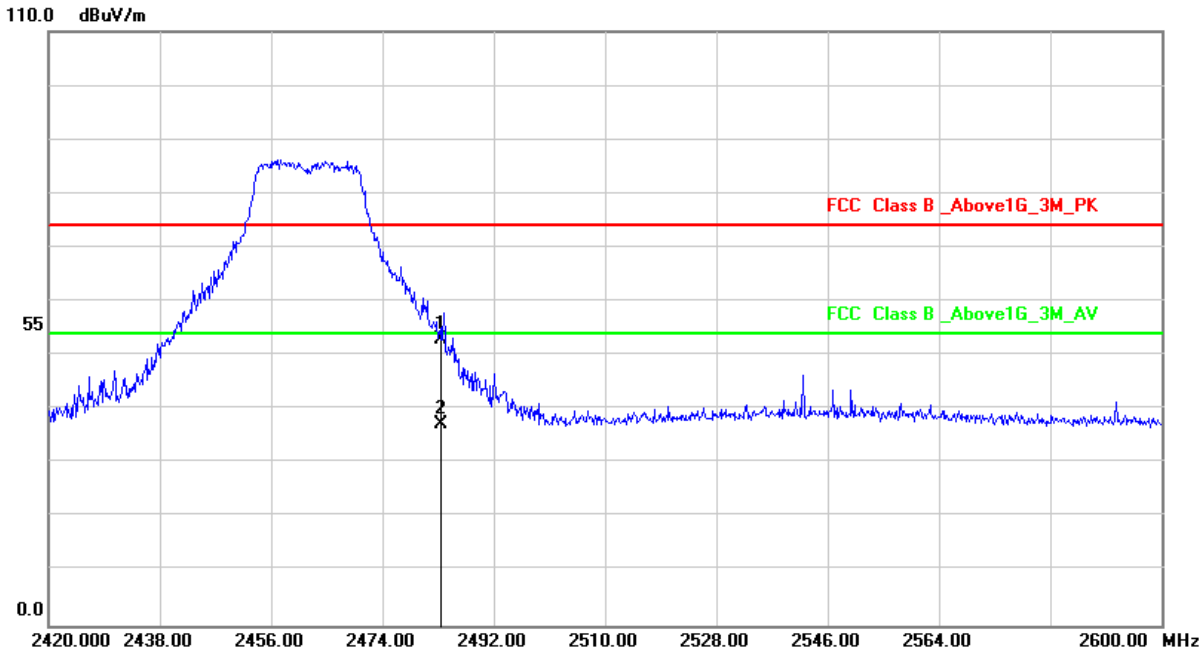



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 | 2390.000 | -6.23 | 72.63 | 66.40 | 74.00 | -7.60 | peak |
| 2 | 2390.000 | -6.23 | 57.31 | 51.08 | 54.00 | -2.92 | AVG |

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Power | : | AC 120V/60Hz | | Pol/Phase | : | VERTICAL | |
| Test Mode | : | 802.11n HT20, CH11 | | | | | |

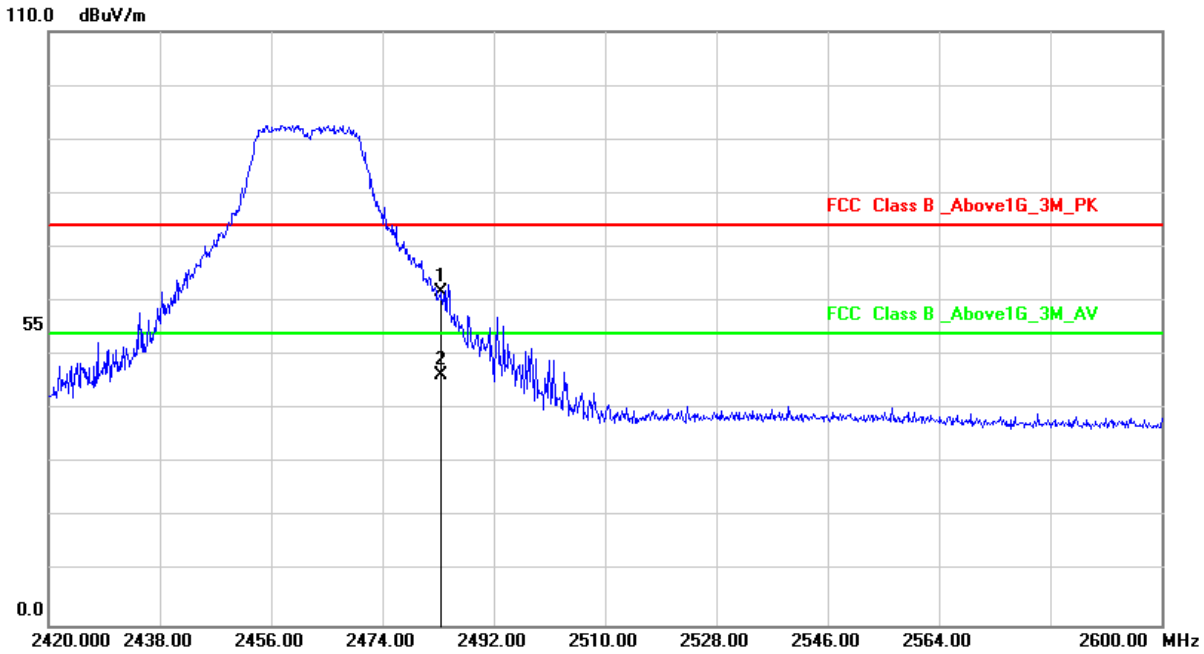



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 | 2483.500 | -5.89 | 58.71 | 52.82 | 74.00 | -21.18 | peak |
| 2 | 2483.500 | -5.89 | 43.13 | 37.24 | 54.00 | -16.76 | AVG |

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Power | : | AC 120V/60Hz | | Pol/Phase | : | HORIZONTAL | |
| Test Mode | : | 802.11n HT20, CH11 | | | | | |

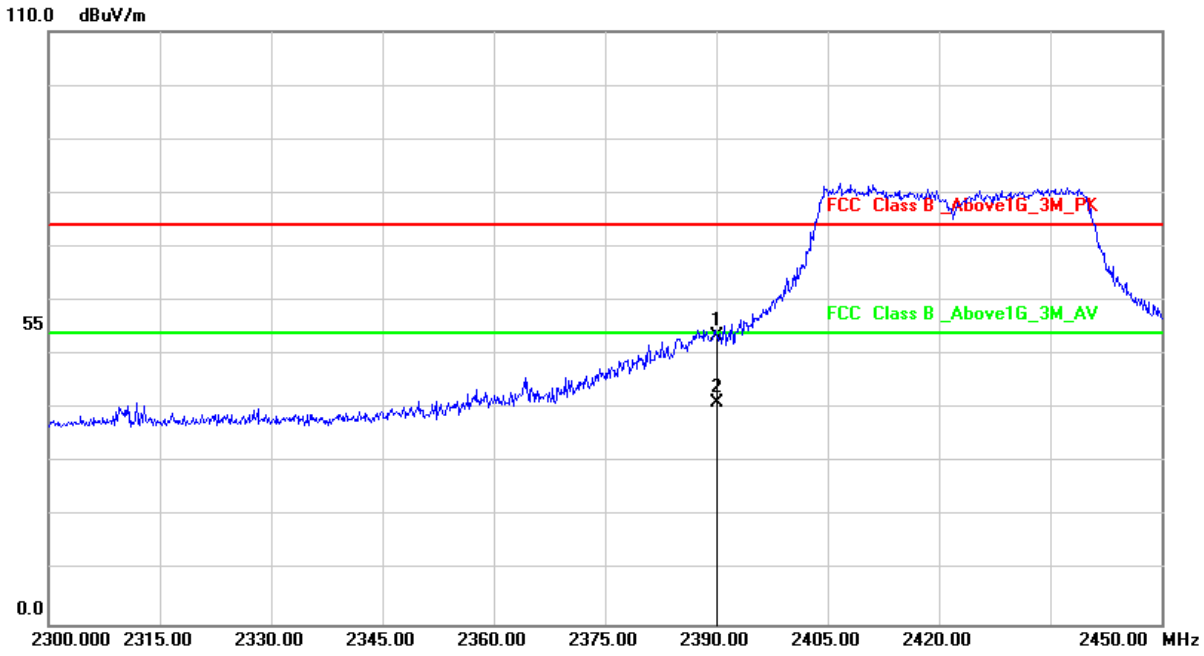



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 | 2483.500 | -5.89 | 67.68 | 61.79 | 74.00 | -12.21 | peak |
| 2 | 2483.500 | -5.89 | 52.27 | 46.38 | 54.00 | -7.62 | AVG |

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Power | : | AC 120V/60Hz | | Pol/Phase | : | VERTICAL | |
| Test Mode | : | 802.11n HT40, CH03 | | | | | |

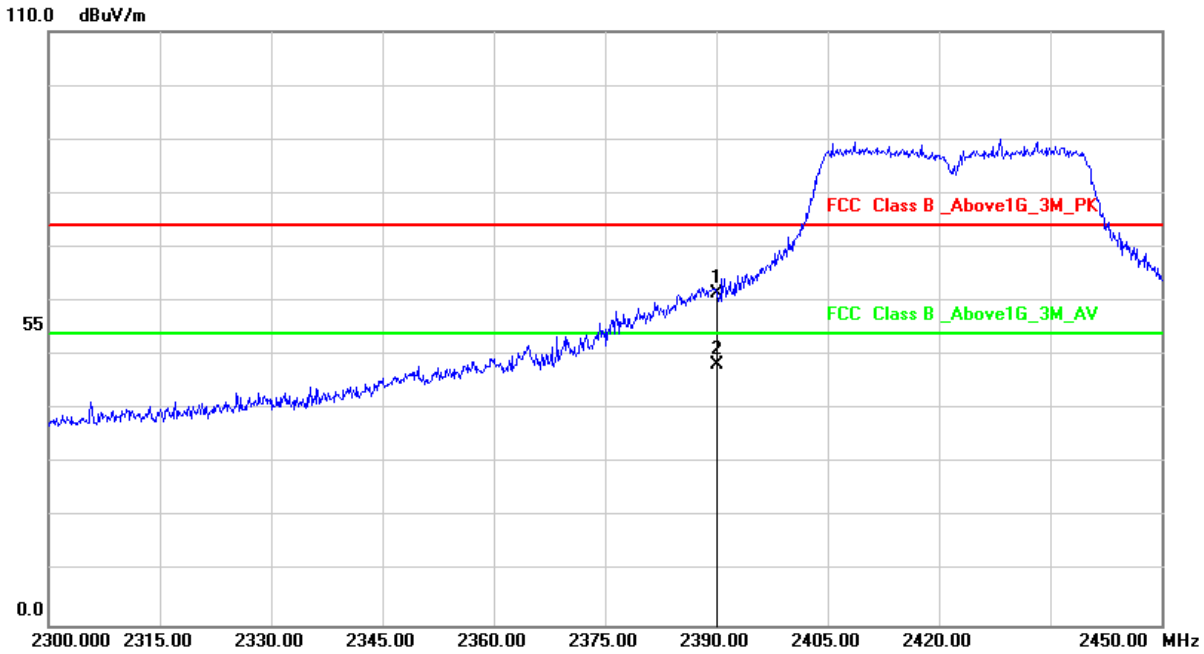



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 | 2390.000 | -6.23 | 59.81 | 53.58 | 74.00 | -20.42 | peak |
| 2 | 2390.000 | -6.23 | 47.26 | 41.03 | 54.00 | -12.97 | AVG |

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Power | : | AC 120V/60Hz | | Pol/Phase | : | HORIZONTAL | |
| Test Mode | : | 802.11n HT40, CH03 | | | | | |

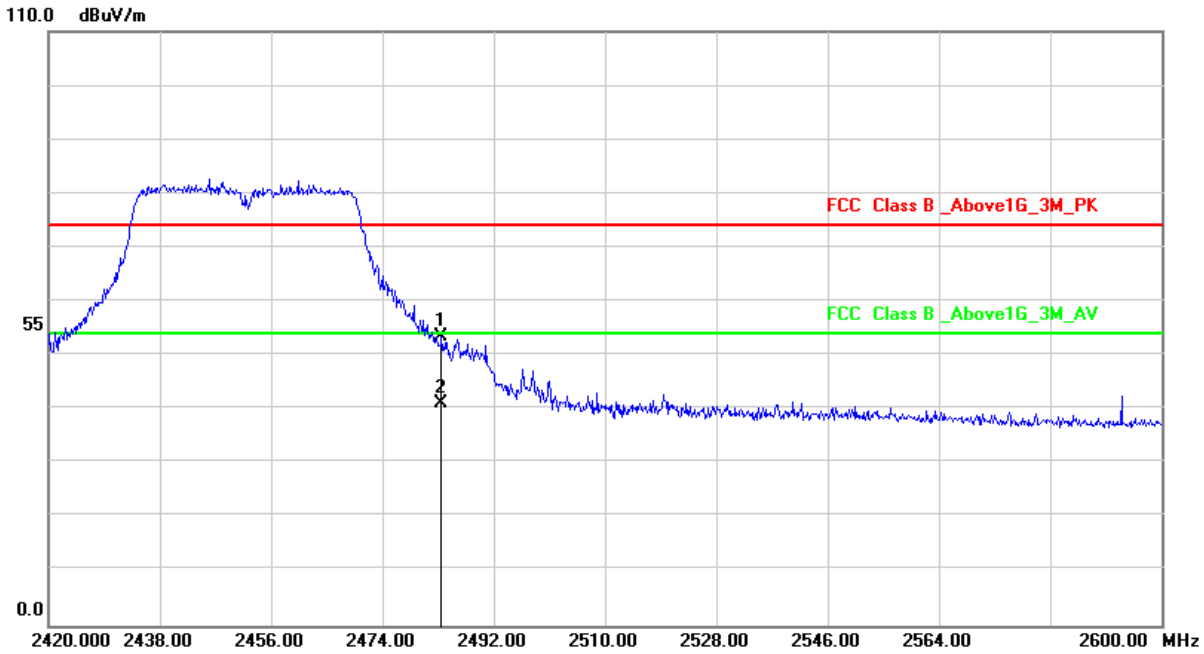



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 | 2390.000 | -6.23 | 67.61 | 61.38 | 74.00 | -12.62 | peak |
| 2 | 2390.000 | -6.23 | 54.39 | 48.16 | 54.00 | -5.84 | AVG |

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Power | : | AC 120V/60Hz | | Pol/Phase | : | VERTICAL | |
| Test Mode | : | 802.11n HT40, CH09 | | | | | |

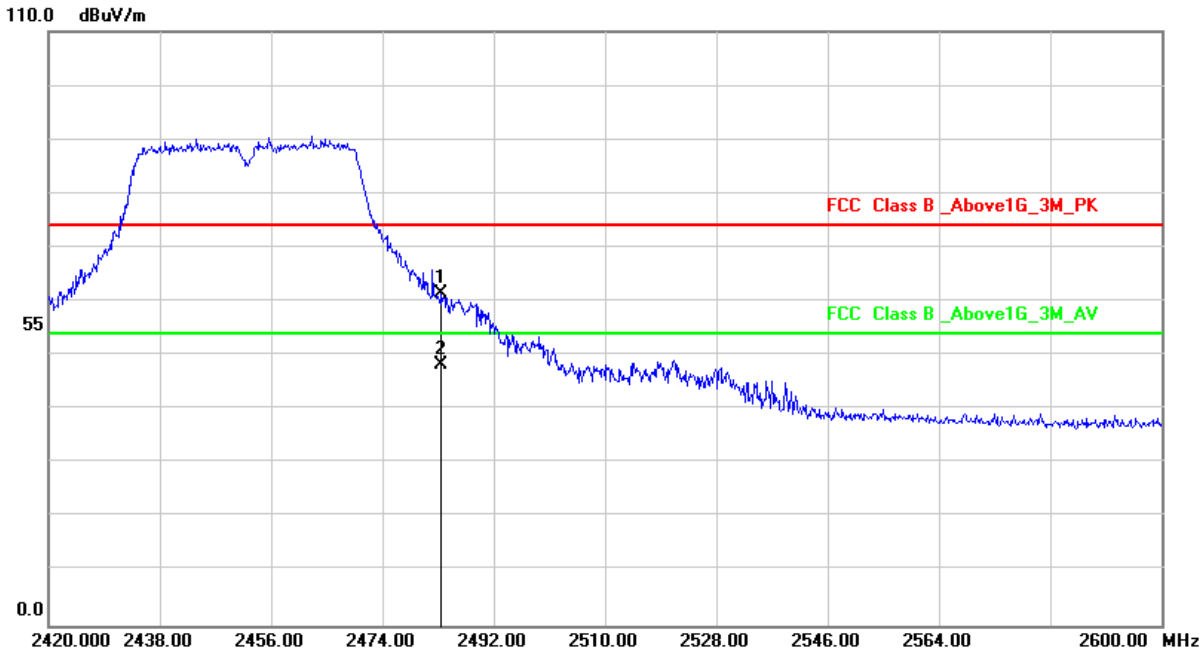



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 | 2483.500 | -5.89 | 59.38 | 53.49 | 74.00 | -20.51 | peak |
| 2 | 2483.500 | -5.89 | 47.12 | 41.23 | 54.00 | -12.77 | AVG |

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Power | : | AC 120V/60Hz | | Pol/Phase | : | HORIZONTAL | |
| Test Mode | : | 802.11n HT40, CH09 | | | | | |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 | 2483.500 | -5.89 | 67.37 | 61.48 | 74.00 | -12.52 | peak |
| 2 | 2483.500 | -5.89 | 54.16 | 48.27 | 54.00 | -5.73 | AVG |

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor

# 7. Test of Conducted Spurious Emission

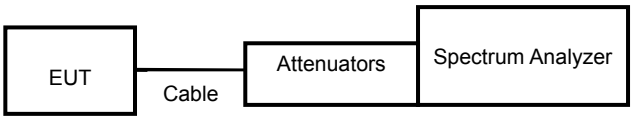
## 7.1 Test Limit

Below –20dB of the highest emission level of operating band (In 100 kHz Resolution Bandwidth)

## 7.2 Test Procedure

a. The transmitter output was connected to the spectrum analyzer via a low loss cable.
b. Set RBW of spectrum analyzer to 100 KHz and VBW of spectrum analyzer to 300 KHz with convenient frequency span including 100 KHz bandwidth from band edge.
c. Peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 20dB relative to the maximum measured in-band peak PSD level.
d. The band edges was measured and recorded.

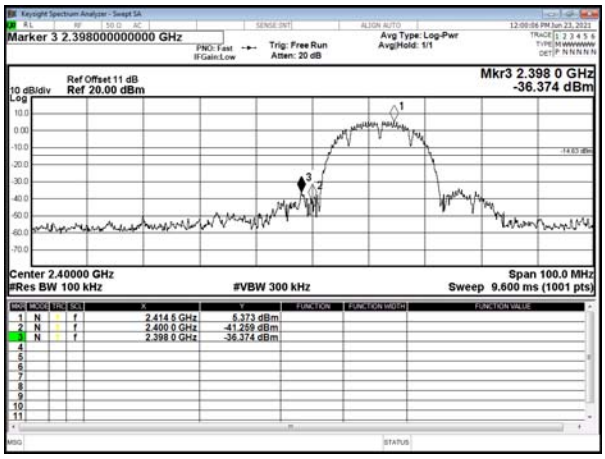
## 7.3 Test Setup Layout

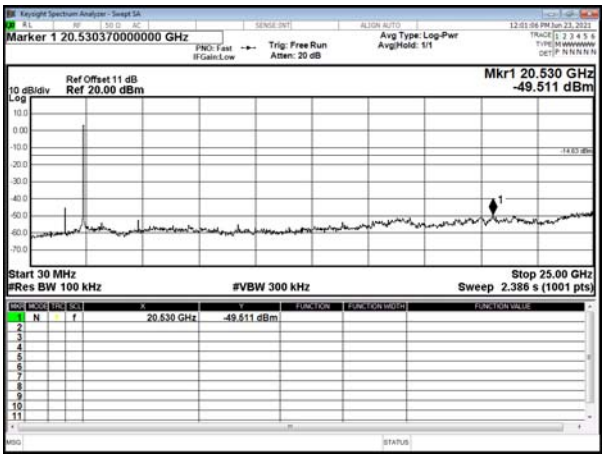



## 7.4 Test Result and Data

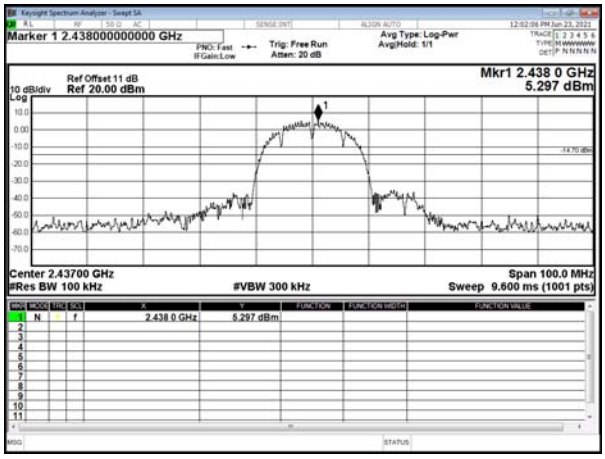
Note: Test plots refers to the following pages.

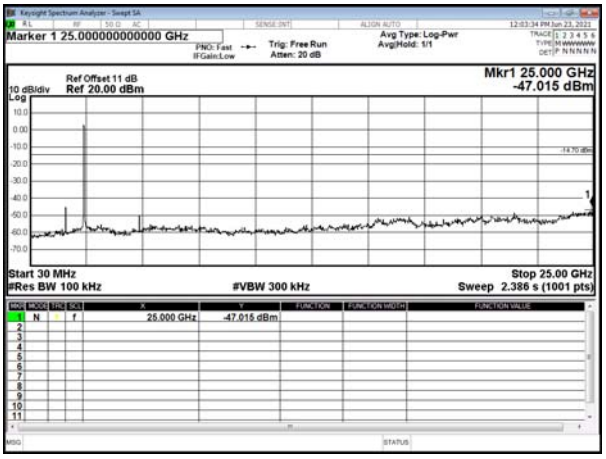
Modulation Standard: 802.11b
Channel: 01



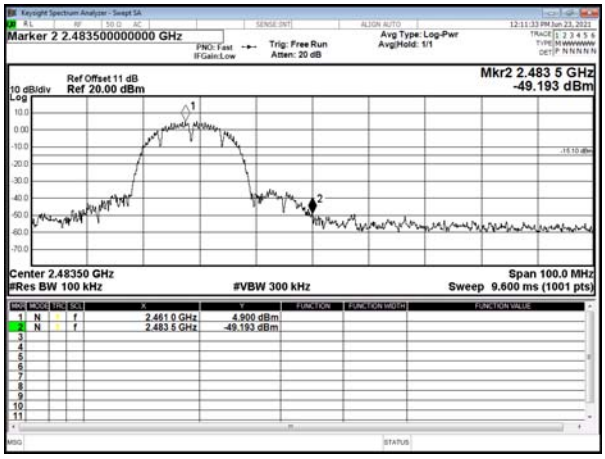



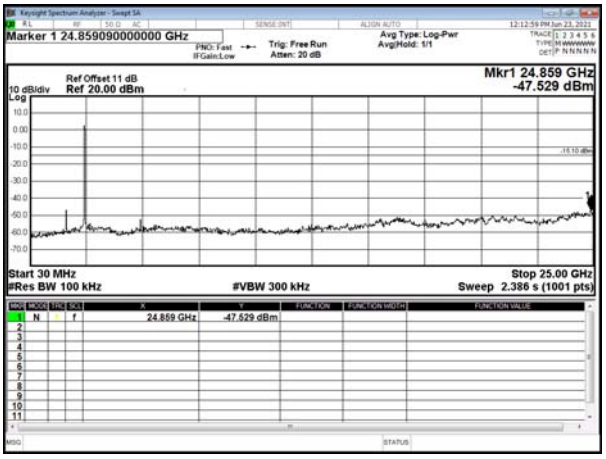

Modulation Standard: 802.11b
Channel: 06



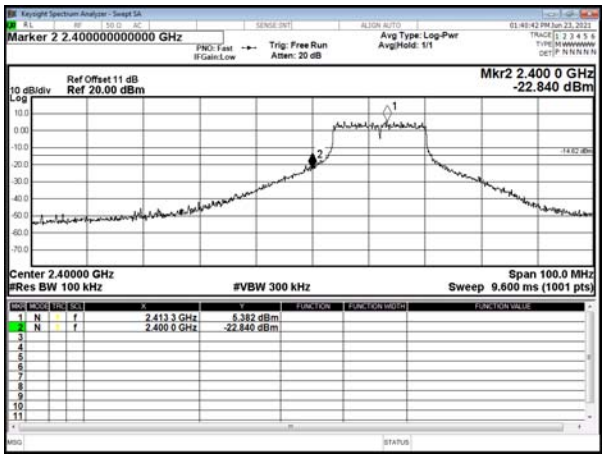



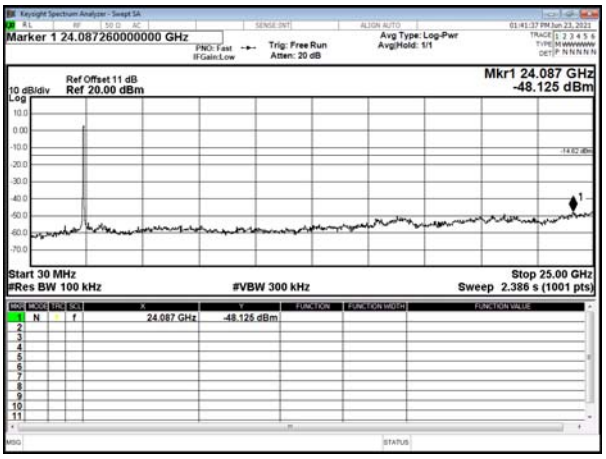

Modulation Standard: 802.11b
Channel: 11



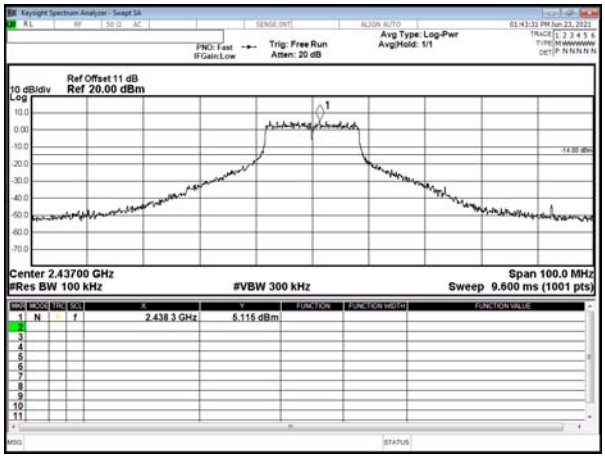



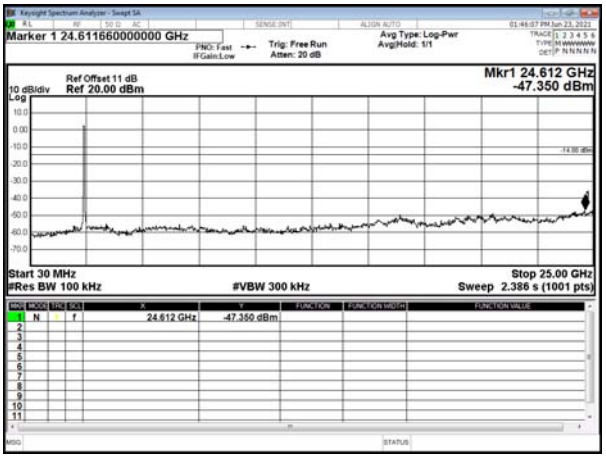
Modulation Standard: 802.11g
Channel: 01



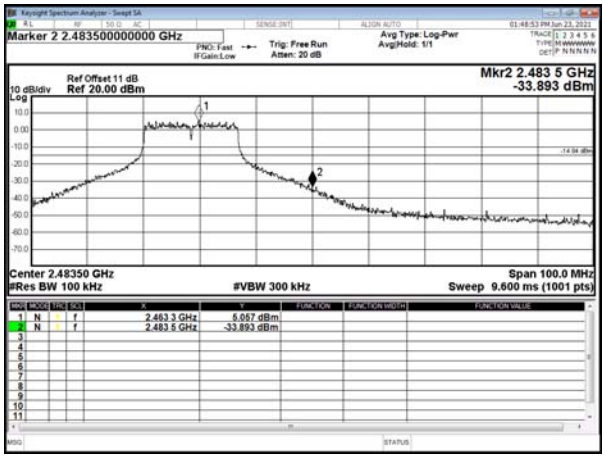



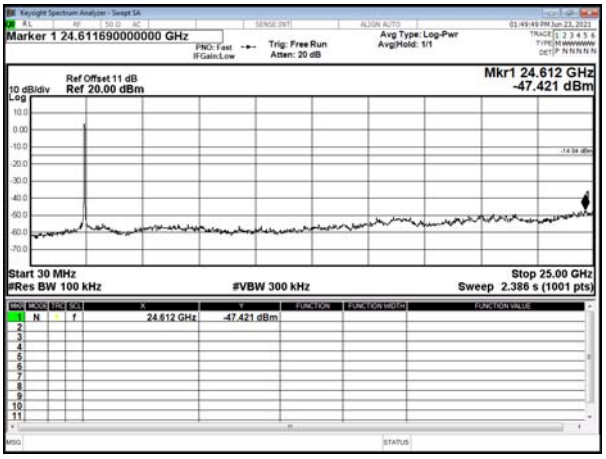

Modulation Standard: 802.11g
Channel: 06



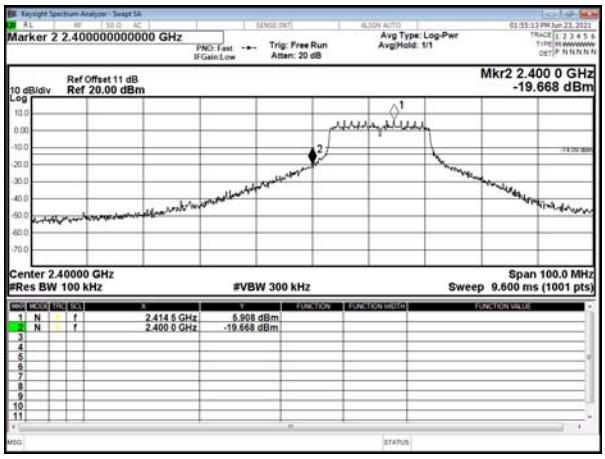



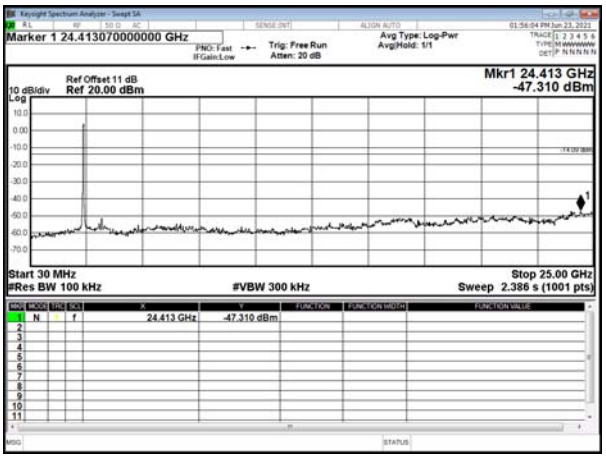

Modulation Standard: 802.11g
Channel: 11



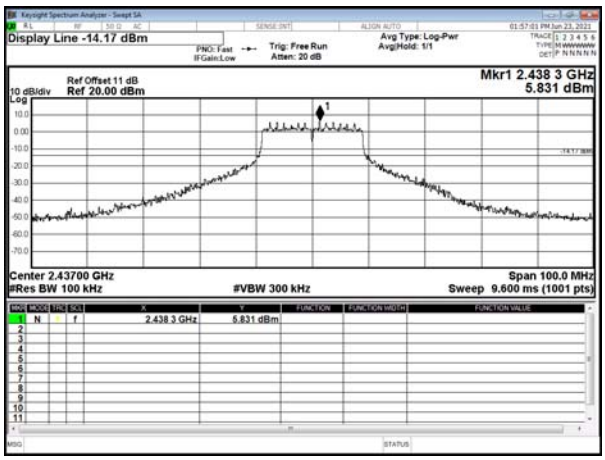



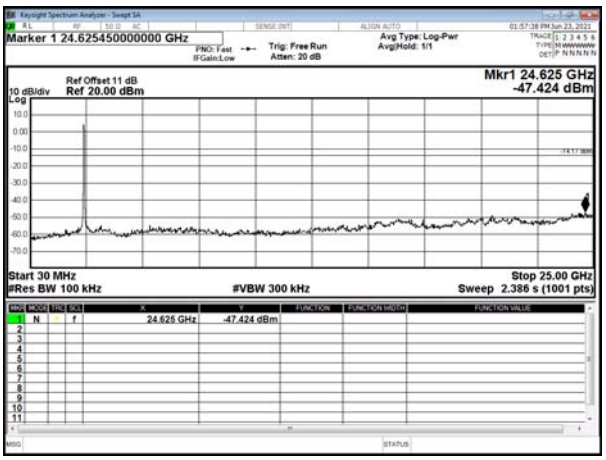
Modulation Standard: 802.11n HT20
Channel: 01



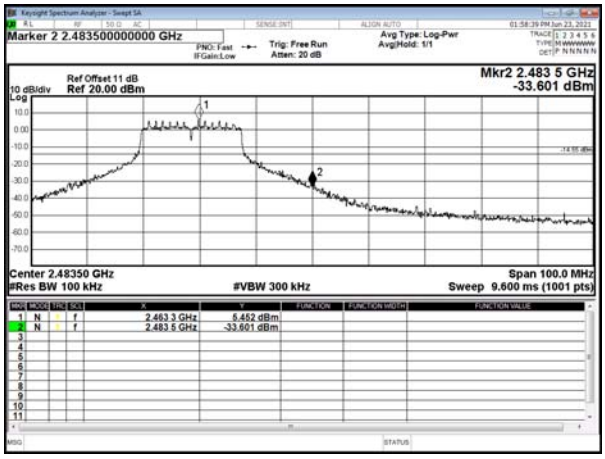



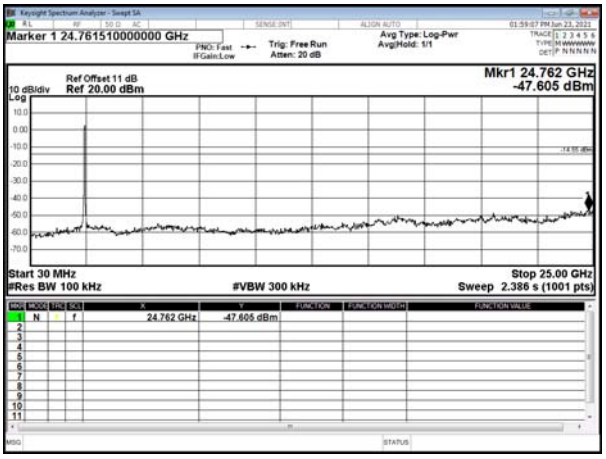

Modulation Standard: 802.11n HT20
Channel: 06



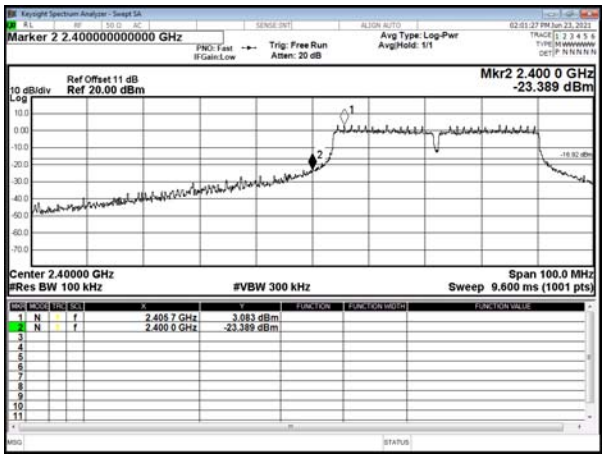



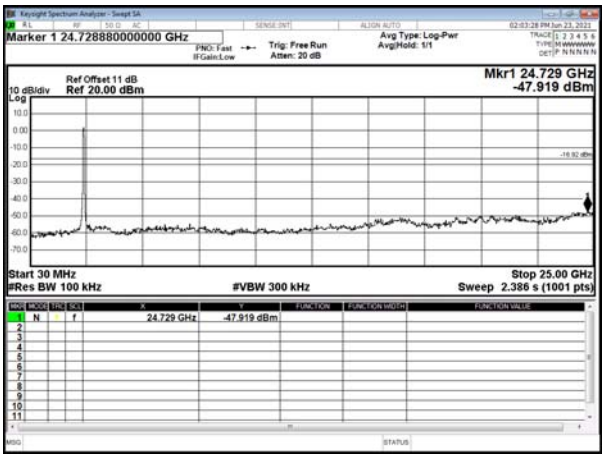

Modulation Standard: 802.11n HT20
Channel: 11



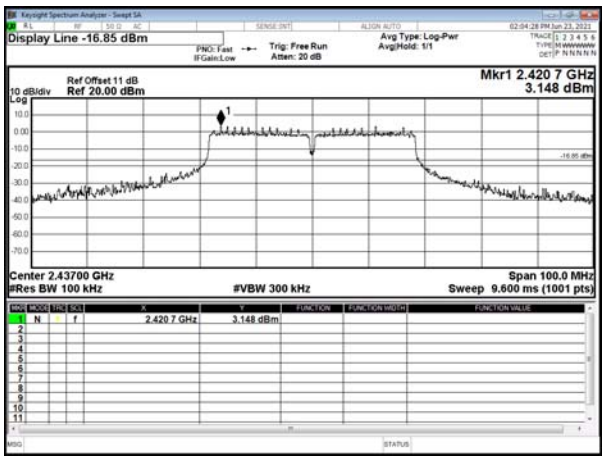



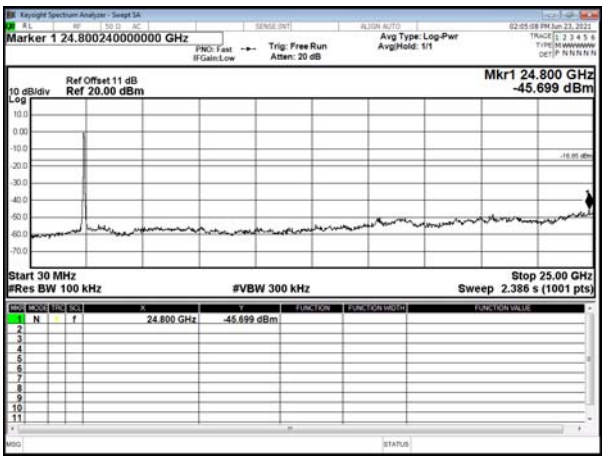
Modulation Standard: 802.11n HT40
Channel: 03



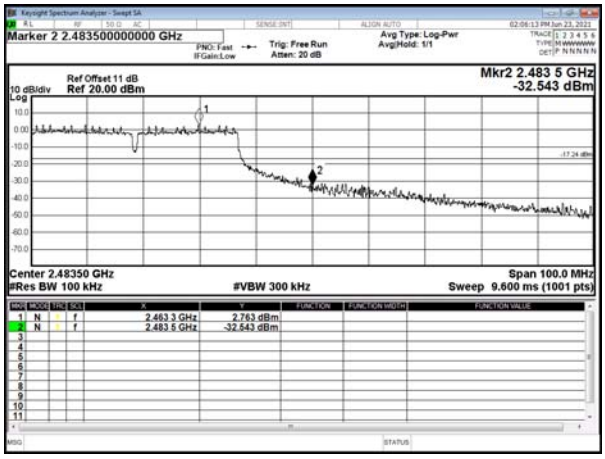



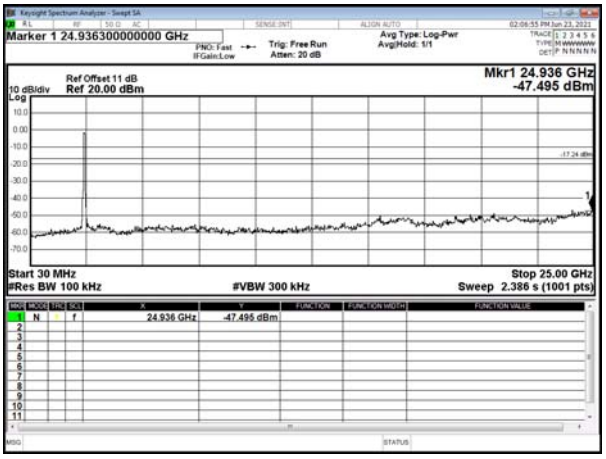

Modulation Standard: 802.11n HT40
Channel: 06




Modulation Standard: 802.11n HT40
Channel: 09



# 8. On Time, Duty Cycle and Measurement methods

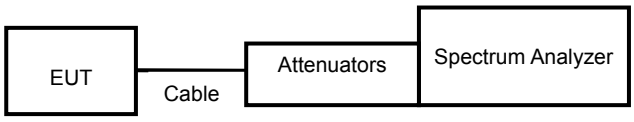
## 8.1 Test Limit

None; for reporting purposes only.

## 8.2 Test Procedure

Zero-Span Spectrum Analyzer Method.

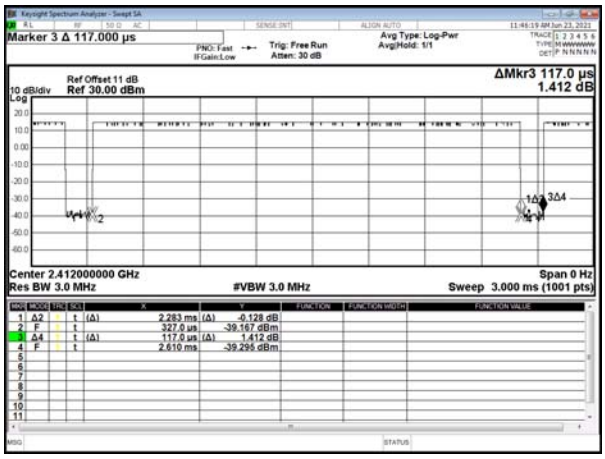
## 8.3 Test Setup Layout



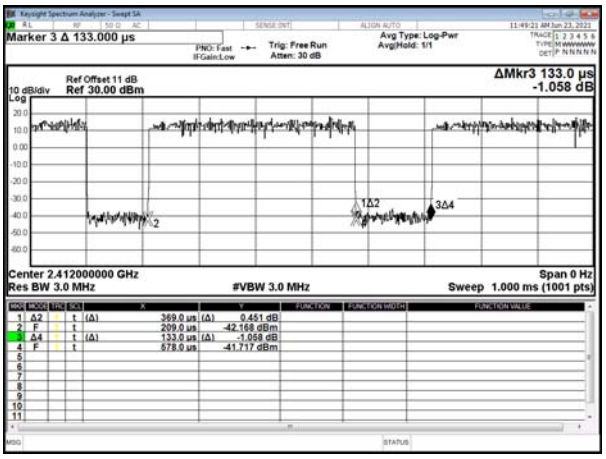

## 8.4 Test Result and Data

| Modulation Type | On Time (ms) | Period Time (ms) | Duty Cycle (%) |
|---|---|---|---|
| 11b,1M | 2.29 | 0.12 | 95.13% |
| 11g,6M | 0.41 | 0.13 | 75.37% |
| 11n HT20 | 0.37 | 0.13 | 73.51% |
| 11n HT40 | 0.85 | 0.12 | 87.50% |

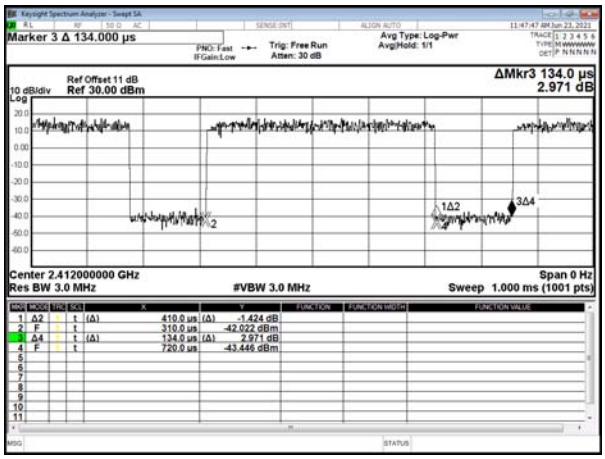
Modulation Type: 802.11b(1Mbps)



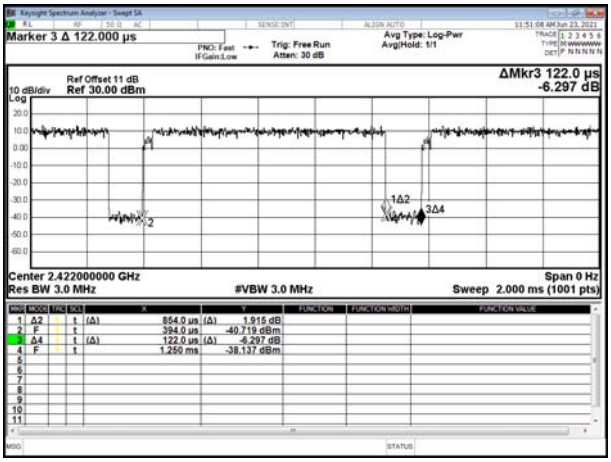

Modulation Type: 802.11n HT20(6.5Mbps)




Modulation Type: 802.11g(6Mbps)




Modulation Type: 802.11n HT40(13.5Mbps)



# 9. 6dB Bandwidth Measurement Data

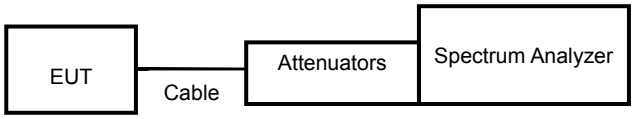
## 9.1 Test Limit

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

## 9.2 Test Procedures

a. The transmitter output was connected to the spectrum analyzer.
b. Set RBW of spectrum analyzer to 100 KHz and VBW to 300 KHz.
c. Set spectrum analyzer X dB to 6 dB.
d. Set spectrum analyzer peak detector with maximum hold.

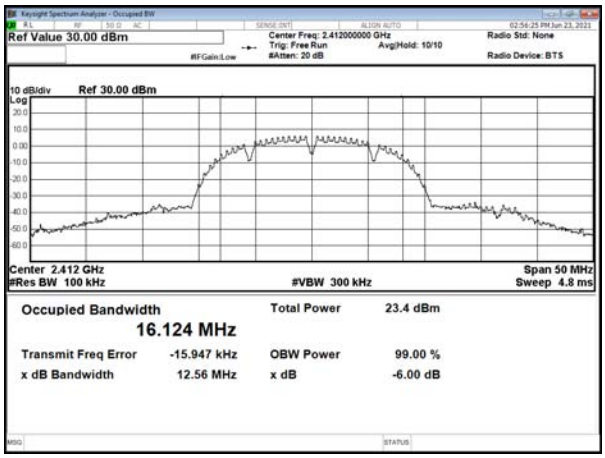
## 9.3 Test Setup Layout



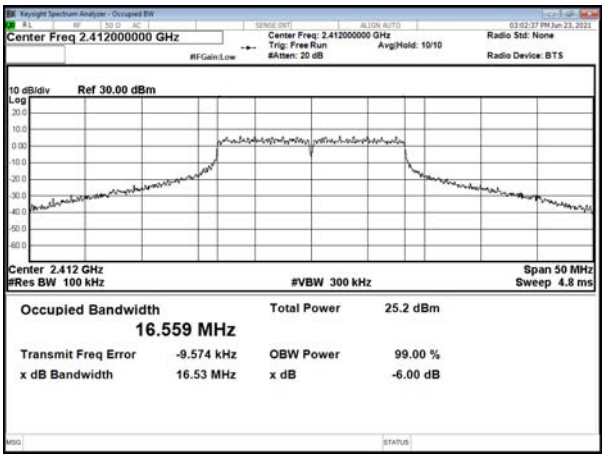
## 9.4 Test Result and Data

| Modulation Type | Channel | Frequency (MHz) | 6dB Bandwidth (MHz) | Limit (MHz) |
|---|---|---|---|---|
| IEEE 802.11b | 01 | 2412 | 12.56 | 0.5 |
| | 06 | 2437 | 11.11 | 0.5 |
| | 11 | 2462 | 11.11 | 0.5 |
| IEEE 802.11g | 01 | 2412 | 16.53 | 0.5 |
| | 06 | 2437 | 16.54 | 0.5 |
| | 11 | 2462 | 16.53 | 0.5 |
| IEEE 802.11n HT20 | 01 | 2412 | 17.64 | 0.5 |
| | 06 | 2437 | 17.65 | 0.5 |
| | 11 | 2462 | 17.64 | 0.5 |
| IEEE 802.11n HT40 | 03 | 2422 | 36.47 | 0.5 |
| | 06 | 2437 | 36.44 | 0.5 |
| | 09 | 2452 | 36.47 | 0.5 |

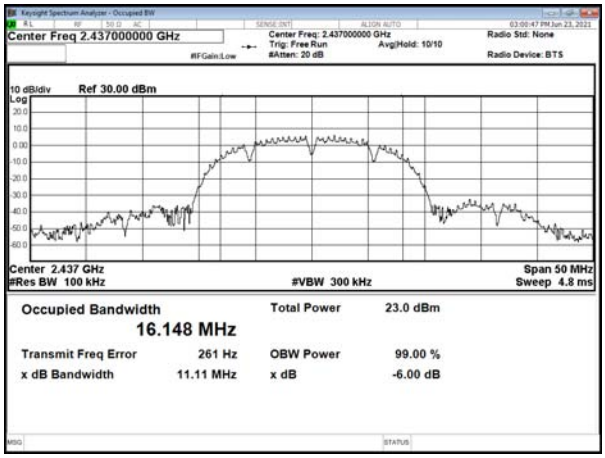
Modulation Type: 802.11b
CH01



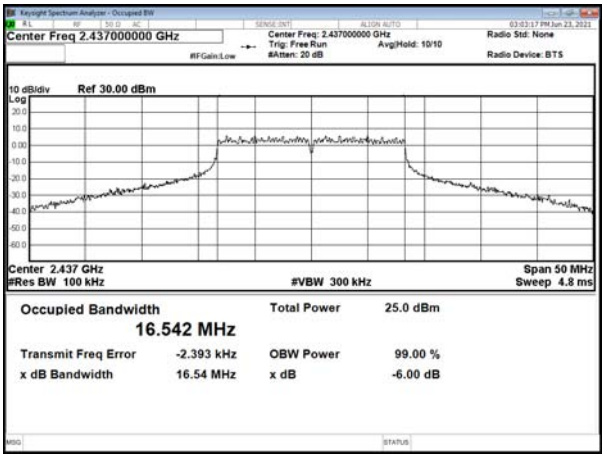

Modulation Type: 802.11g
CH01



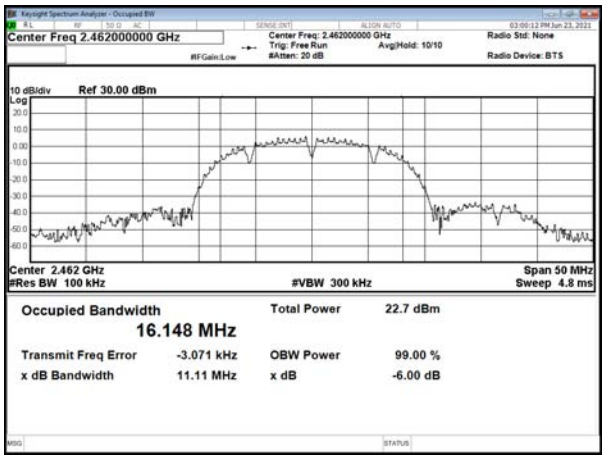

CH06



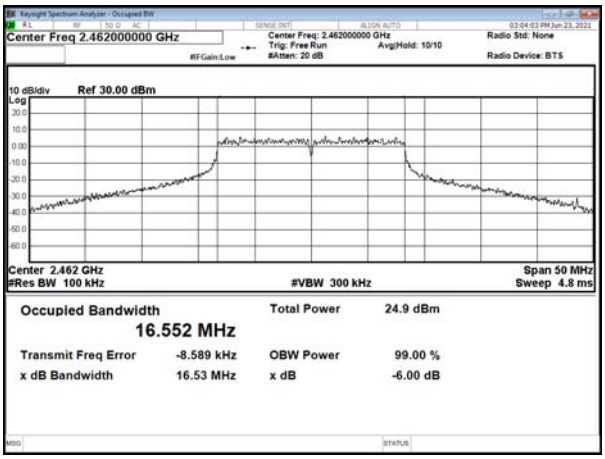

CH06



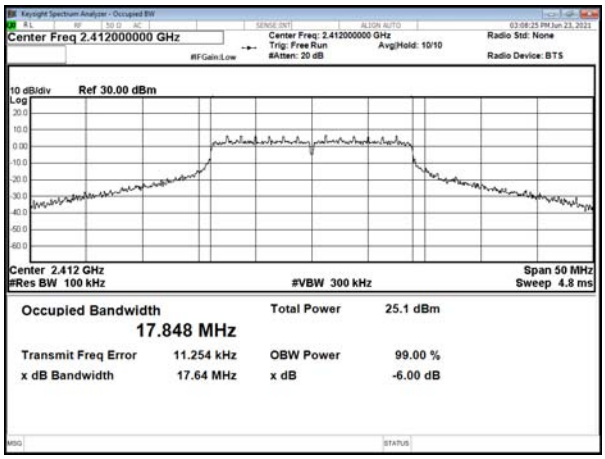

CH11



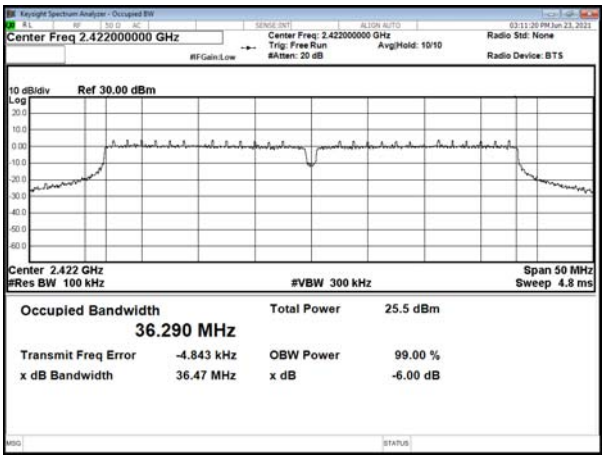

CH11



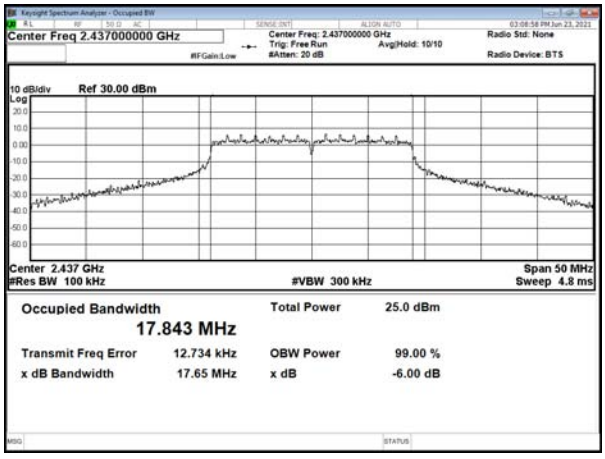
Modulation Type: 802.11n HT20
CH01



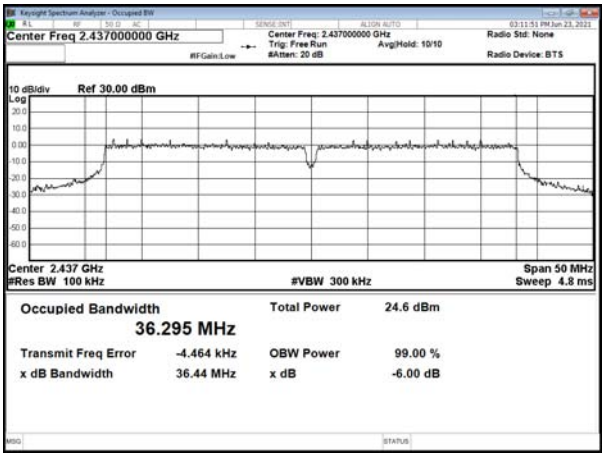

Modulation Type: 802.11n HT40
CH03



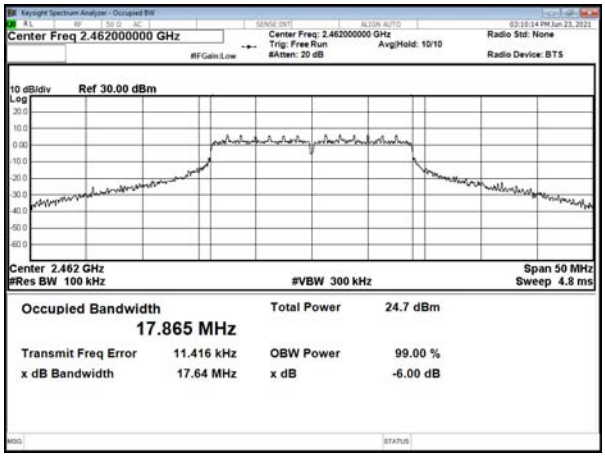

CH06



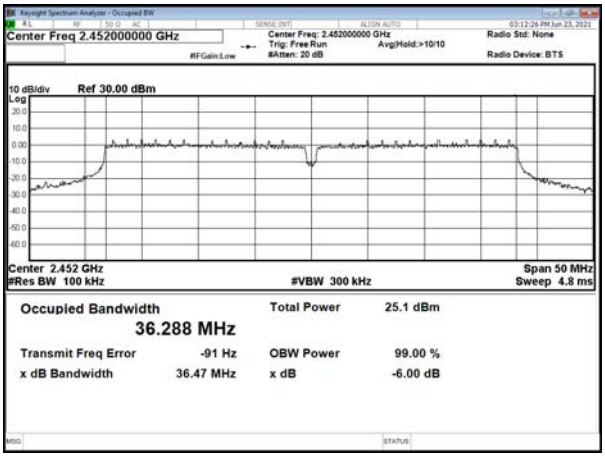

CH06




CH11




CH09



# 10. Maximum Peak Output Power

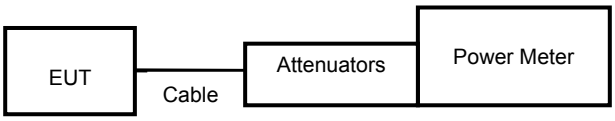
## 10.1 Test Limit

The Maximum Peak Output Power Measurement is 30dBm.

## 10.2 Test Procedures

The antenna port (RF output) of the EUT was connected to the input (RF input) of a power meter. Power was read directly from the meter and cable loss connection was added to the reading to obtain power at the EUT antenna terminal. The EUT Output Power was set to maximum to produce the worse case test result.

## 10.3 Test Setup Layout



## 10.4Test Result and Data

| Modulation Type | Channel | Frequency (MHz) | Conducted( peak) output power (dBm) | Total peak power (dBm) | Total peak power (mW) | Power Limit (dBm) |
|---|---|---|---|---|---|---|
| 11b | 1 | 2412 | 18.87 | 18.87 | 77.090 | 30.00 |
| | 6 | 2437 | 18.40 | 18.40 | 69.183 | 30.00 |
| | 11 | 2462 | 18.09 | 18.09 | 64.417 | 30.00 |
| 11g | 1 | 2412 | 25.12 | 25.12 | 325.087 | 30.00 |
| | 6 | 2437 | 24.97 | 24.97 | 314.051 | 30.00 |
| | 11 | 2462 | 24.11 | 24.11 | 257.632 | 30.00 |
| 11n HT20 | 1 | 2412 | 25.28 | 25.28 | 337.287 | 30.00 |
| | 6 | 2437 | 24.77 | 24.77 | 299.916 | 30.00 |
| | 11 | 2462 | 25.27 | 25.27 | 336.512 | 30.00 |
| 11n HT40 | 3 | 2422 | 22.18 | 22.18 | 165.196 | 30.00 |
| | 6 | 2437 | 21.62 | 21.62 | 145.211 | 30.00 |
| | 9 | 2452 | 21.38 | 21.38 | 137.404 | 30.00 |

# 11. Power Spectral Density

## 11.1 Test Limit

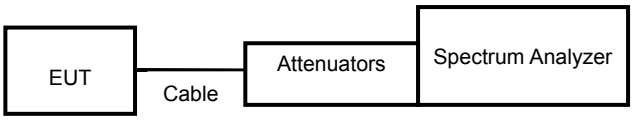
The Maximum of Power Spectral Density Measurement is 8dBm.

If transmitting antennas of directional gain greater than 6 dBi are used, the power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi

## 11.2 Test Procedures

a. The transmitter output was connected to spectrum analyzer.
b. The spectrum analyzer's resolution bandwidth were set at 3kHz RBW and 10KHz VBW as that of the fundamental frequency. Set the sweep time=auto couple.
c. The power spectral density was measured and recorded.

## 11.3 Test Setup Layout

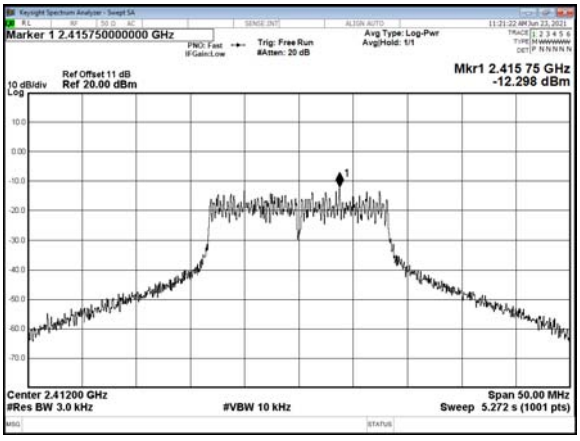


## 11.4 Test Result and Data

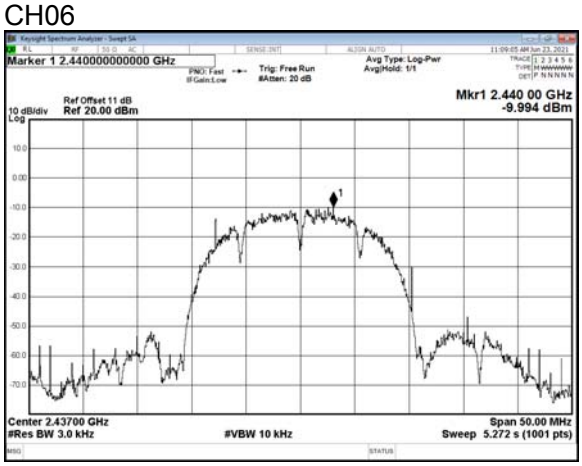
| Modulation Type | Channel | Frequency (MHz) | Maximum Power Density of 3KHz Bandwidth(dBm) | Sum chain (dBm) | Duty Cycle CF(dB) | Total PSD (dBm) | Limit (dBm) |
|---|---|---|---|---|---|---|---|
| 11b | 1 | 2412 | -10.108 | -10.11 | 0.00 | -10.11 | 8.00 |
| | 6 | 2437 | -9.994 | -9.99 | 0.00 | -9.99 | 8.00 |
| | 11 | 2462 | -11.107 | -11.11 | 0.00 | -11.11 | 8.00 |
| 11g | 1 | 2412 | -12.298 | -12.30 | 0.00 | -12.30 | 8.00 |
| | 6 | 2437 | -10.337 | -10.34 | 0.00 | -10.34 | 8.00 |
| | 11 | 2462 | -10.852 | -10.85 | 0.00 | -10.85 | 8.00 |
| 11n HT20 | 1 | 2412 | -8.818 | -8.82 | 0.00 | -8.82 | 8.00 |
| | 6 | 2437 | -8.875 | -8.88 | 0.00 | -8.88 | 8.00 |
| | 11 | 2462 | -11.131 | -11.13 | 0.00 | -11.13 | 8.00 |
| 11n HT40 | 3 | 2422 | -12.052 | -12.05 | 0.00 | -12.05 | 8.00 |
| | 6 | 2437 | -12.548 | -12.55 | 0.00 | -12.55 | 8.00 |
| | 9 | 2452 | -12.862 | -12.86 | 0.00 | -12.86 | 8.00 |

Modulation Type: 802.11b
CH01

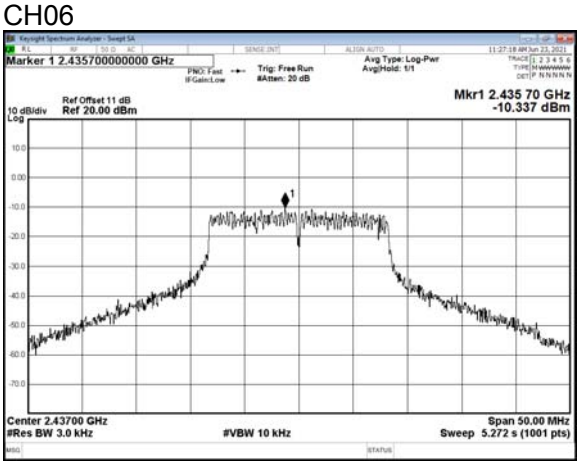

Modulation Type: 802.11g
CH01




CH06

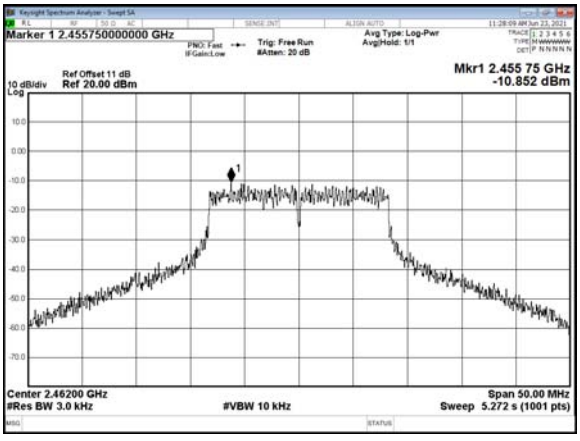



CH06



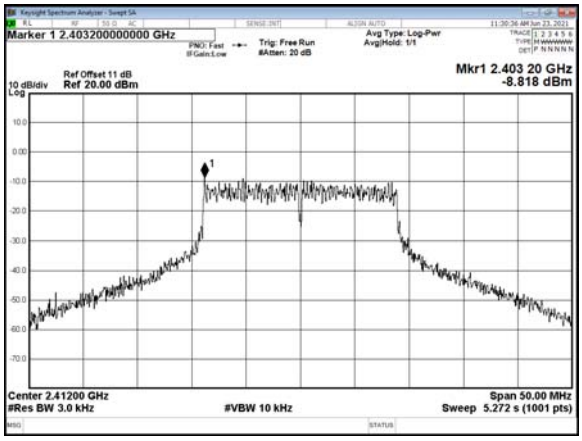

CH11


CH11



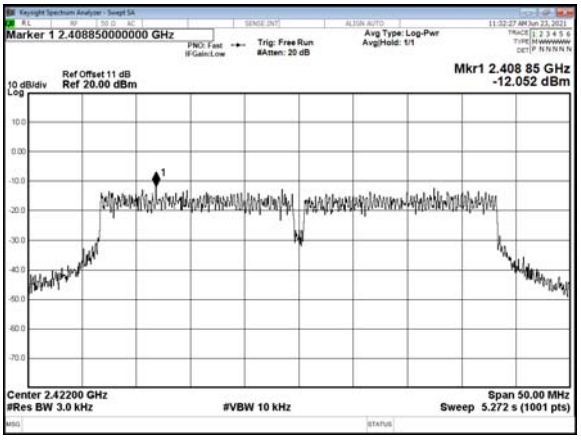
Modulation Type: 802.11n HT20

CH01

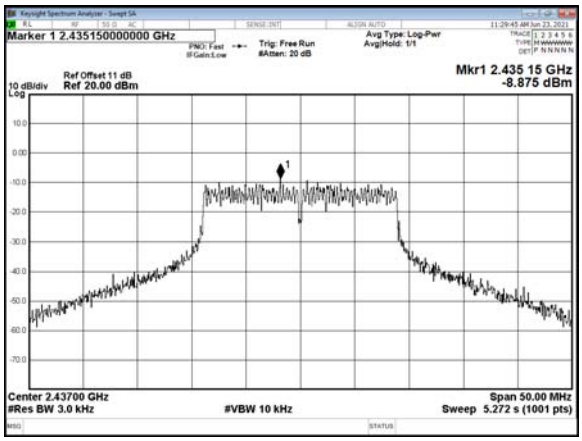



Modulation Type: 802.11n HT40

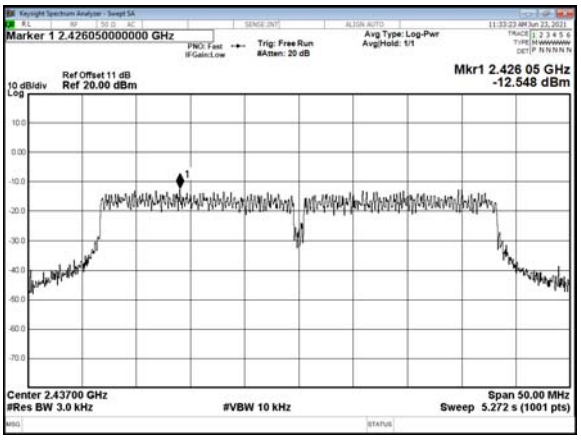
CH03



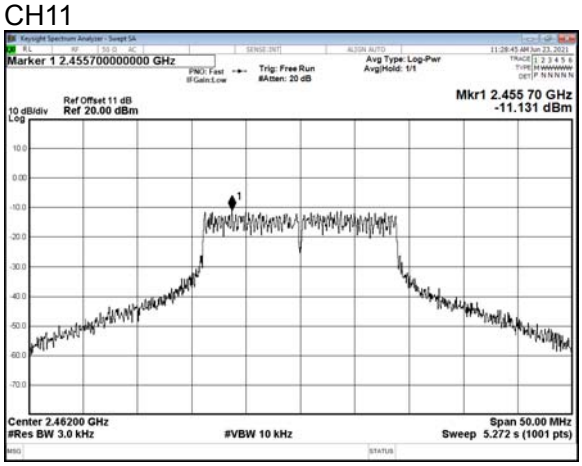

CH06



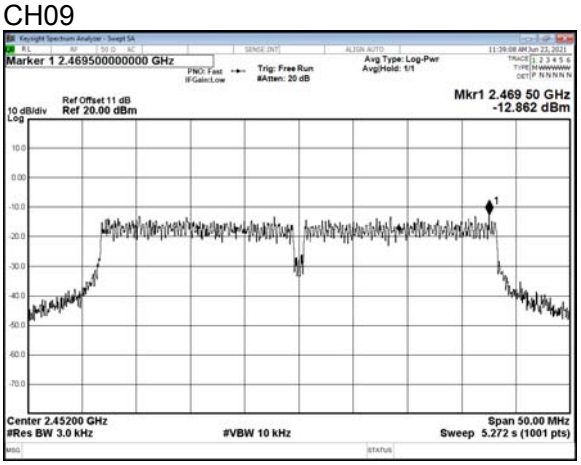

CH06




CH11




CH09




**---------- End of the report ----------**