



FCC TEST REPORT

FCC ID:2AP9Y-XM1000S

| | | |
|--|---|--|
| Product | : | Wireless Video Transmission System with intercom |
| Model Name | : | XM1000S |
| Brand | : | FORHOPE |
| Report No. | : | PTC20120303601E-FC02 |
| Prepared for | | |
| Shenzhen Forhope Science Technology Co., Ltd. | | |
| Rm 601, 6/F., Baojie'an Economic Trading Center, Xihu and Labor Road Cross, Xixiang, Bao'an District, Shenzhen, China P.C. 518102 | | |
| Prepared by | | |
| Precise Testing & Certification Co., Ltd. | | |
| Building 1, No. 6, Tongxin Road, Dongcheng Street, Dongguan, Guangdong, China. | | |
| | | |



1 TEST RESULT CERTIFICATION

Applicant's name : Shenzhen Forhope Science Technology Co., Ltd.
Address : Rm 601, 6/F., Baojie'an Economic Trading Center, Xihu and Labor Road Cross, Xixiang, Bao'an District, Shenzhen, China P.C. 518102
Manufacture's name : Shenzhen Forhope Science Technology Co., Ltd.
Address : Rm 601, 6/F., Baojie'an Economic Trading Center, Xihu and Labor Road Cross, Xixiang, Bao'an District, Shenzhen, China P.C. 518102
Product name : Wireless Video Transmission System with intercom
Model name : XM1000S
Standards : FCC Part15 Subpart E , Paragraph 15.407
ANSI C63.10: 2013,
Test procedure : KDB 789033 D02 General UNII Test Procedures New Rules v02r01
KDB662911 D01 Multiple Transmitter Output v02r01
Test Date : Dec 16, 2020 to Apr 12, 2021
Date of Issue : Apr 12, 2021
Test Result : Pass

This device described above has been tested by PTC, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Test Engineer:

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Leo Yang / Engineer

Technical Manager:

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Chris Du / Manager



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2 Test Summary

| Standard | Test Type | Result |
|------------------------|--------------------------------|--------|
| 15.207 & 15.407 | Conducted Emission | PASS |
| 15.205/15.209 | Spurious Emission | PASS |
| 15.407(b) | Band Edge | PASS |
| 15.407(a)(5)&15.407(e) | Occupy Bandwidth | PASS |
| 15.407(a)(3) | Maximum Conducted Output Power | PASS |
| 15.407(a)(1)(3) | Peak Power Spectral Density | PASS |
| 15.203 | Antenna Requirement | PASS |



2.1 Description of Test Modes

To investigate the maximum EMI emission characteristics generated from EUT, the test system was pre-scanning tested based on the consideration of following EUT operation mode or test configuration mode which possibly have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

| Mode | Test channel | Frequency (MHz) |
|-----------------|--------------|-----------------|
| OFDM(802.11n20) | CH 149 | 5745MHz |
| | CH 157 | 5785MHz |
| | CH 165 | 5825MHz |

Note:

1. The measurements are performed at the highest, middle, lowest available channels.
2. The EUT has been tested as an independent unit. And Continual Transmitting in maximum power.
3. For the relevant Conducted Measurement, the temporary antenna connector is used during the measurement. Antenna Connector Impedance: 50Ω, Cable Loss: 1.0 dB
4. The EUT was programmed to be in continuously transmitting mode and the transmit duty cycle is more than 98%



3 General Information

3.1 Antenna Information

| Ant No | Brand | Model | AntennaType | Connector | Gain(dbi) |
|--------|-------|-------|------------------|-----------|-----------|
| 1 | - | - | Columnar antenna | - | 5 |
| 2 | - | - | Columnar antenna | - | 5 |

Note:

1. The EUT has Two antennas, which can support IEEE802.11N20, and can support IEEE802.11N20 with the MIMO function
2. According to ANSI C63.10:2013 14.4.3.2.5 a):
Directional gain=5dbi+10xlog(2/1)db=8.01dBi > 6dBi



3.2 General Description of E.U.T.

| | | |
|----------------------|---|---|
| Product Name | : | Wireless Video Transmission System with intercom |
| Model Name | : | XM1000S |
| Additional model | : | N/A |
| Operation Frequency | : | 5745MHz~5825MHz |
| Number of Channel | : | 5 Channels for 802.11n(HT20) |
| Type of Modulation | : | OFDM with BPSK/QPSK/16QAM/64QAM/256QAM |
| Antenna installation | : | Columnar antenna |
| Antenna Gain | : | 5dBi |
| The directional gain | : | 8.01 dBi |
| Power supply | : | Input:DC 12V 0.65A |
| Hardware Version | : | 5800-HI3520-T0forTransmitter 5800-AMN001-R0 for Receiver |
| Software Version | : | XM1000_TX_FCC&IC for Transmitter XM1000_RX_FCC&IC for Receiver |



3.1 Channel List

802.11n20

| Channel | Freq. (MHz) | Channel | Freq. (MHz) |
|---------|----------------|---------|----------------|
| 149 | 5745 | 153 | 5765 |
| 157 | 5785 | 161 | 5805 |
| 165 | 5825 | | |

3.2 Test Site

Precise Testing & Certification Co., Ltd.

Building 1, No. 6, Tongxin Road, Dongcheng Street, Dongguan, Guangdong, China

FCC Registration Number: 790290

A2LA Certificate No.: 4408.01

IC Registration Number: 12191A-1



4 Equipment During Test

4.1 Equipments List

RF Conducted Test

| Name of Equipment | Manufacturer | Model | Serial No. | Characteristics | Calibration Due |
|---------------------|--------------|---------|---------------|-----------------|-----------------|
| MXG Signal Analyzer | Agilent | N9020A | SER MY5111038 | 10Hz-30GHz | Aug. 21, 2021 |
| Coaxial Cable | CDS | 79254 | 46107086 | 10Hz-30GHz | Aug. 21, 2021 |
| Power Meter | Anritsu | ML2495A | 0949003 | 300MHz-40GHz | Aug. 21, 2021 |
| Power Sensor | Anritsu | MA2411B | 0917017 | 300MHz-40GHz | Aug. 21, 2021 |

Remark: The temporary antenna connector is soldered on the PCB board in order to perform conducted tests and this temporary antenna connector is listed in the equipment list.

Radiated Emissions

| Name of Equipment | Manufacturer | Model | Serial No. | Characteristics | Calibration Due |
|------------------------------|---------------|------------|--------------|-----------------|-----------------|
| EMI Test Receiver | Rohde&Schwarz | ESCI | 101417 | 9KHz-3GHz | Aug. 19, 2021 |
| Loop Antenna | Schwarzbeck | FMZB 1519 | 012 | 9 KHz -30MHz | Aug. 21, 2021 |
| Bilog Antenna | SCHWARZBECK | VULB9160 | 9160-3355 | 25MHz-2GHz | Aug. 21, 2021 |
| Preamplifier (low frequency) | SCHWARZBECK | BBV 9475 | 9745-0013 | 1MHz-1GHz | Aug. 19, 2021 |
| Cable | Schwarzbeck | PLF-100 | 549489 | 9KHz-3GHz | Aug. 19, 2021 |
| Spectrum Analyzer | Agilent | E4407B | MY45109572 | 9KHz-40GHz | Aug. 19, 2021 |
| Horn Antenna | SCHWARZBECK | 9120D | 9120D-1246 | 1GHz-18GHz | Aug. 21, 2021 |
| Power Amplifier | LUNAR EM | LNA1G18-40 | J10100000081 | 1GHz-26.5GHz | Aug. 19, 2021 |
| Horn Antenna | SCHWARZBECK | BBHA 9170 | 9170-181 | 14GHz-40GHz | Aug. 21, 2021 |
| Amplifier | SCHWARZBECK | BBV 9721 | 9721-205 | 18GHz-40GHz | Aug. 19, 2021 |
| Cable | H+S | CBL-26 | N/A | 1GHz-26.5GHz | Aug. 19, 2021 |
| RF Cable | R&S | R204 | R21X | 1GHz-40GHz | Aug. 19, 2021 |



Conducted Emissions

| Name of Equipment | Manufacturer | Model | Serial No. | Calibration Due |
|--------------------------|---------------|----------|------------|-----------------|
| EMI Test Receiver | Rohde&Schwarz | ESCI | 101417 | Aug. 19, 2021 |
| Artificial Mains Network | Rohde&Schwarz | ENV216 | 102453 | Aug. 19, 2021 |
| ISN | SCHWARZBECK | NTFM8131 | 00257 | Aug. 19, 2021 |

4.2 Measurement Uncertainty

| | | |
|------------------------|---|--------------------------|
| Radiation Uncertainty | : | Ur = 3.9 dB (Horizontal) |
| | | Ur = 3.8 dB (Vertical) |
| | | |
| Conduction Uncertainty | : | Uc = 3.4 dB |

4.3 Description of Support Units

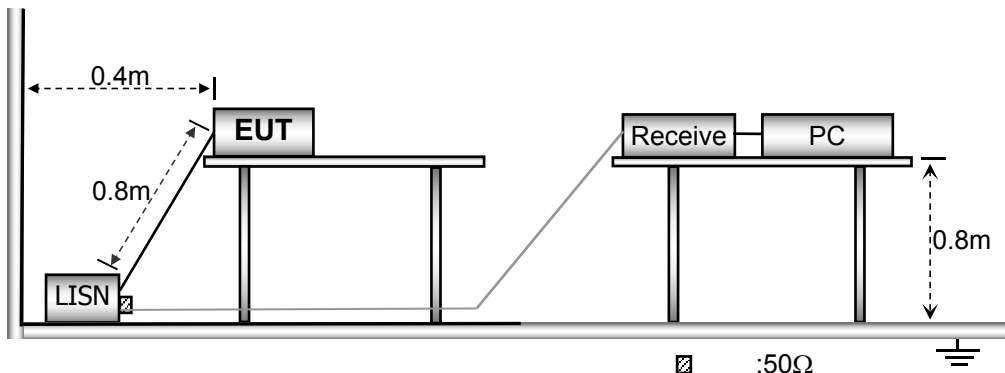
| Equipment | Model No. | Series No. |
|-----------|---|------------|
| N/A | Input:AC100-120V, Output : DC12V 0.65A | N/A |

5 Conducted Emission Test

5.1 Test Standard and Limit

| | | | |
|--|----------------------------------|--------------------------------|---------------|
| Test Standard | FCC Part15 Section 15.207&15.407 | | |
| Test Limit | Frequency | Maximum RF Line Voltage (dBuV) | |
| | | Quasi-peak Level | Average Level |
| | 150kHz~500kHz | 66 ~ 56 * | 56 ~ 46 * |
| | 500kHz~5MHz | 56 | 46 |
| | 5MHz~30MHz | 60 | 50 |
| Remark: (1) *Decreasing linearly with logarithm of the frequency. (2) The lower limit shall apply at the transition frequency. | | | |

5.2 Test Setup



5.3 Test Procedure

The EUT system is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to FCC ANSI C63.10-2013 on Conducted Emission Measurement.

The bandwidth of test receiver (ESCI) set at 9kHz.

The frequency range from 150kHz to 30MHz is checked.



5.4 Test Data

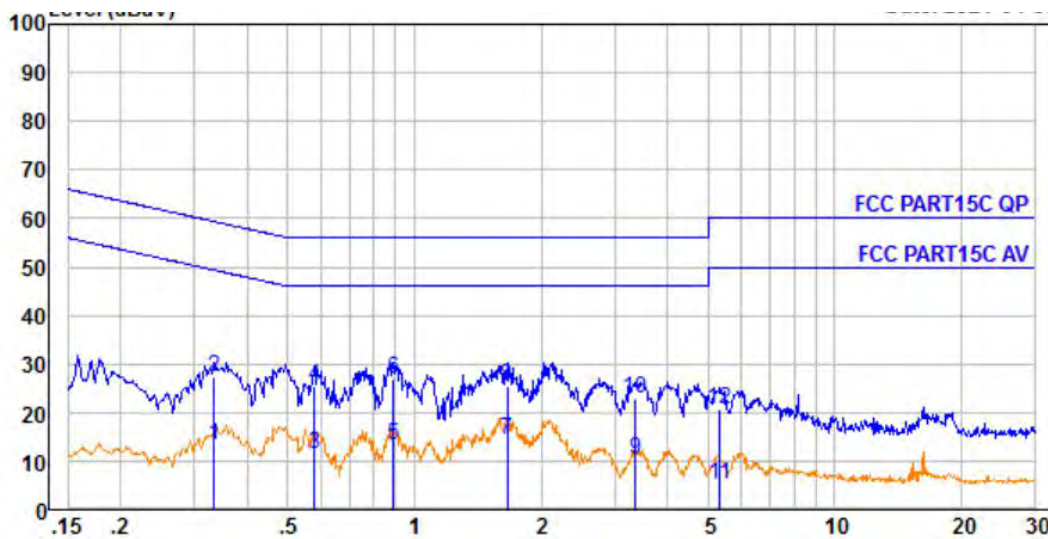
Note: During the test, pre-scan 120Vac/60Hz and 240Vac/60Hz of the Power supply, found 120Vac/60Hz was worse case mode, the report only reflects the worst mode.

Conducted Emission Test Data

Test Specification: AC 120V/60Hz

Comment: Live Line

Tem.: 23.5°C Hum.: 55%



| No. | Freq MHz | Cable Loss dB | AMN Factor dB | Receiver Reading dBµV | Emission Level dBµV | Limit dBµV | Over Limit dB | Remark |
|-----|----------|---------------|---------------|-----------------------|---------------------|------------|---------------|---------|
| 1. | 0.334 | 0.38 | 9.60 | 3.33 | 13.31 | 49.35 | -36.04 | Average |
| 2. | 0.334 | 0.38 | 9.60 | 17.32 | 27.30 | 59.35 | -32.05 | QP |
| 3. | 0.579 | 0.43 | 9.61 | 1.42 | 11.46 | 46.00 | -34.54 | Average |
| 4. | 0.579 | 0.43 | 9.61 | 15.24 | 25.28 | 56.00 | -30.72 | QP |
| 5. | 0.890 | 0.45 | 9.61 | 3.11 | 13.17 | 46.00 | -32.83 | Average |
| 6. | 0.890 | 0.45 | 9.61 | 16.89 | 26.95 | 56.00 | -29.05 | QP |
| 7. | 1.662 | 0.47 | 9.61 | 4.21 | 14.29 | 46.00 | -31.71 | Average |
| 8. | 1.662 | 0.47 | 9.61 | 15.21 | 25.29 | 56.00 | -30.71 | QP |
| 9. | 3.364 | 0.47 | 9.64 | 0.09 | 10.20 | 46.00 | -35.80 | Average |
| 10. | 3.364 | 0.47 | 9.64 | 12.89 | 23.00 | 56.00 | -33.00 | QP |
| 11. | 5.333 | 0.51 | 9.69 | -5.15 | 5.05 | 50.00 | -44.95 | Average |
| 12. | 5.333 | 0.51 | 9.69 | 10.46 | 20.66 | 60.00 | -39.34 | QP |

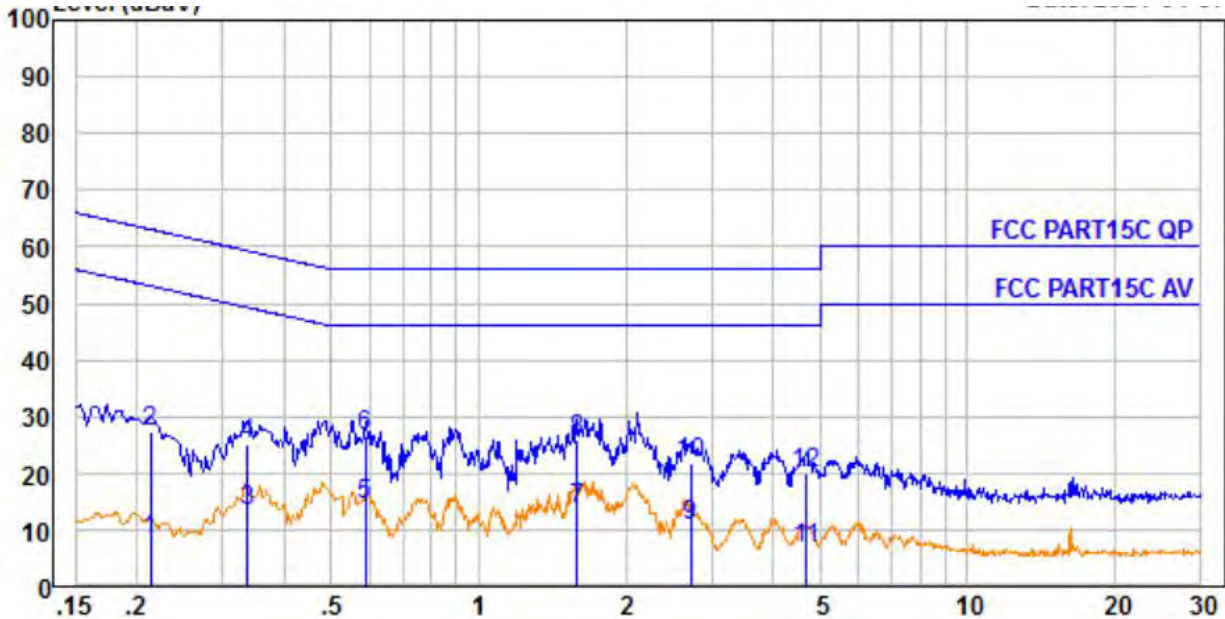


Conducted Emission Test Data

Test Specification: AC 120V/60Hz

Comment: Neutral Line

Tem.: 23.5°C Hum.: 55%



| No. | Freq MHz | Cable Loss dB | AMN Factor dB | Receiver Reading dBµV | Emission Level dBµV | Limit dBµV | Over Limit dB | Remark |
|-----|----------|---------------|---------------|-----------------------|---------------------|------------|---------------|---------|
| 1. | 0.214 | 0.29 | 9.61 | -1.86 | 8.04 | 53.05 | -45.01 | Average |
| 2. | 0.214 | 0.29 | 9.61 | 17.33 | 27.23 | 63.05 | -35.82 | QP |
| 3. | 0.337 | 0.38 | 9.62 | 3.30 | 13.30 | 49.27 | -35.97 | Average |
| 4. | 0.337 | 0.38 | 9.62 | 15.02 | 25.02 | 59.27 | -34.25 | QP |
| 5. | 0.589 | 0.43 | 9.63 | 4.21 | 14.27 | 46.00 | -31.73 | Average |
| 6. | 0.589 | 0.43 | 9.63 | 16.45 | 26.51 | 56.00 | -29.49 | QP |
| 7. | 1.593 | 0.47 | 9.64 | 3.52 | 13.63 | 46.00 | -32.37 | Average |
| 8. | 1.593 | 0.47 | 9.64 | 15.62 | 25.73 | 56.00 | -30.27 | QP |
| 9. | 2.721 | 0.47 | 9.65 | 0.42 | 10.54 | 46.00 | -35.46 | Average |
| 10. | 2.721 | 0.47 | 9.65 | 11.66 | 21.78 | 56.00 | -34.22 | QP |
| 11. | 4.696 | 0.49 | 9.70 | -3.59 | 6.60 | 46.00 | -39.40 | Average |
| 12. | 4.696 | 0.49 | 9.70 | 9.84 | 20.03 | 56.00 | -35.97 | QP |



6 . Radiation Spurious Emission and Band Edge

6.1 Test Standard and Limit

| Test Standard | FCC Part15 C Section 15.209, 15.205 and 15.407 | | | | |
|---------------|--|----------------------------------|----------------|------------|--------------------------|
| Test Limit | Frequency (MHz) | Field strength (microvolt/meter) | Limit (dBuV/m) | Remark | Measurement distance (m) |
| | 0.009MHz~0.490MHz | 2400/F(kHz) | - | - | 300 |
| | 0.490MHz-1.705MHz | 24000/F(kHz) | - | - | 30 |
| | 1.705MHz-30MHz | 30 | - | - | 30 |
| | 30MHz~88MHz | 100 | 40.0 | Quasi-peak | 3 |
| | 88MHz~216MHz | 150 | 43.5 | Quasi-peak | 3 |
| | 216MHz~960MHz | 200 | 46.0 | Quasi-peak | 3 |
| | 960MHz~1000MHz | 500 | 54.0 | Quasi-peak | 3 |
| | Above 1000MHz | 500 | 54.0 | Average | 3 |
| | | - | 68.2 | Peak | 3 |

Remark:

(1)The lower limit shall apply at the transition frequency.

(2) 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.

(3)Above 1GHz limit: $E[dBuV/m] = EIRP[dBm] + 95.2=68.2 dBuV/m$, for $EIPR[dBm]=-27dBm$.

6.2 Test Setup

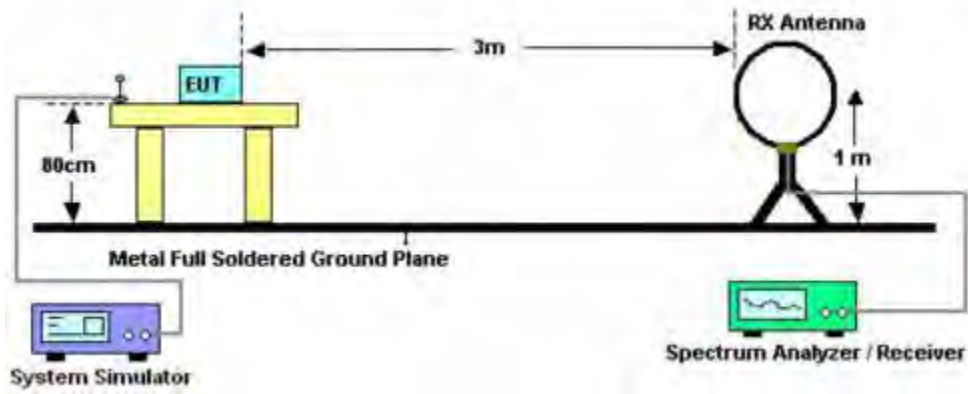


Figure 1. Below 30MHz

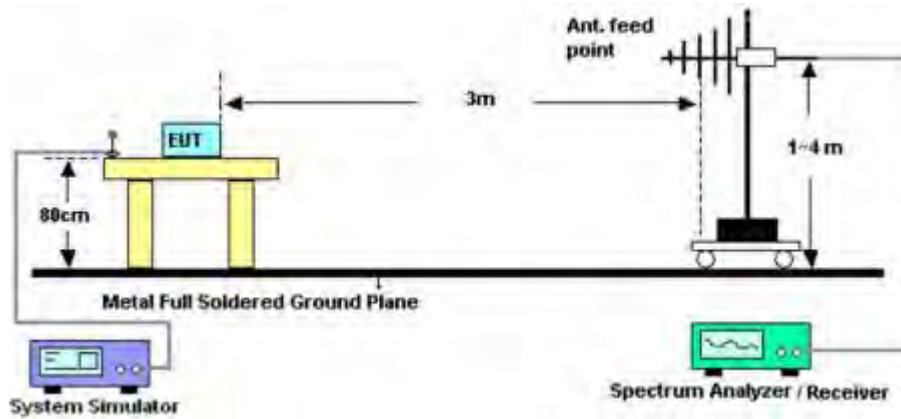


Figure 2. 30MHz to 1GHz

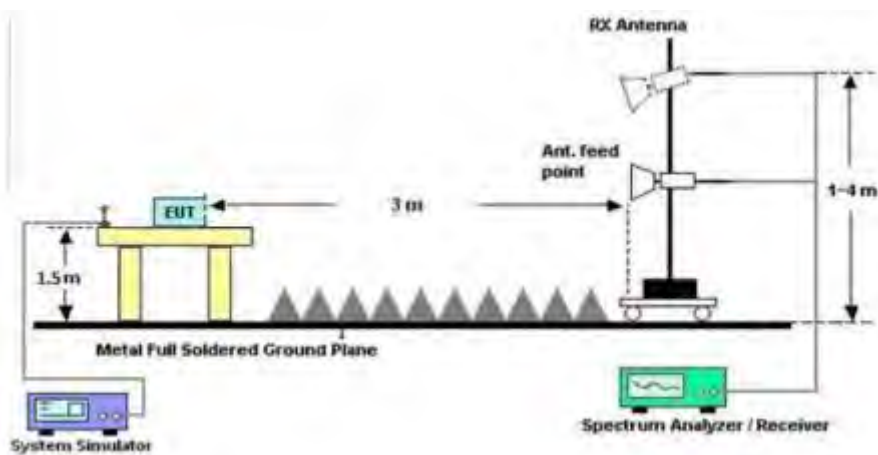


Figure 3. Above 1 GHz



6.3 Test Procedure

For below 1GHz: The EUT is placed on a turntable, which is 0.8m above the ground plane.

For above 1GHz: The EUT is placed on a turntable, which is 1.5m above the ground plane.

The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna which is mounted on a antenna tower. The antenna can be moved up and down from 1 to 4 meters to find out the maximum emission level. Rotated the EUT through three orthogonal axes to determine the maximum emissions, both horizontal and vertical polarization of the antenna are set on test. The EUT is tested in 9*6*6 Chamber. The device is evaluated in xyz orientation.

For the radiated emission test above 1GHz:

Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.

For 9kHz to 150kHz, Set the spectrum analyzer as:

RBW = 200Hz, VBW =1kHz, Detector= Quasi-Peak, Trace mode= Max hold, Sweep- auto couple.

For 150kHz to 30MHz, Set the spectrum analyzer as:

RBW = 9KHz, VBW =30kHz, Detector= Quasi-Peak, Trace mode= Max hold, Sweep- auto couple.

For 30MHz to 1000MHz, Set the spectrum analyzer as:

RBW = 100kHz, VBW =300kHz, Detector= Quasi-Peak, Trace mode= Max hold, Sweep- auto couple.

For above 1GHz, Set the spectrum analyzer as:

RBW =1MHz, VBW =1MHz, Detector= Peak, Trace mode= Max hold, Sweep- auto couple.

RBW =1MHz, VBW =10Hz, Detector= Average, Trace mode= Max hold, Sweep- auto couple.



6.4 Test Data

PASS

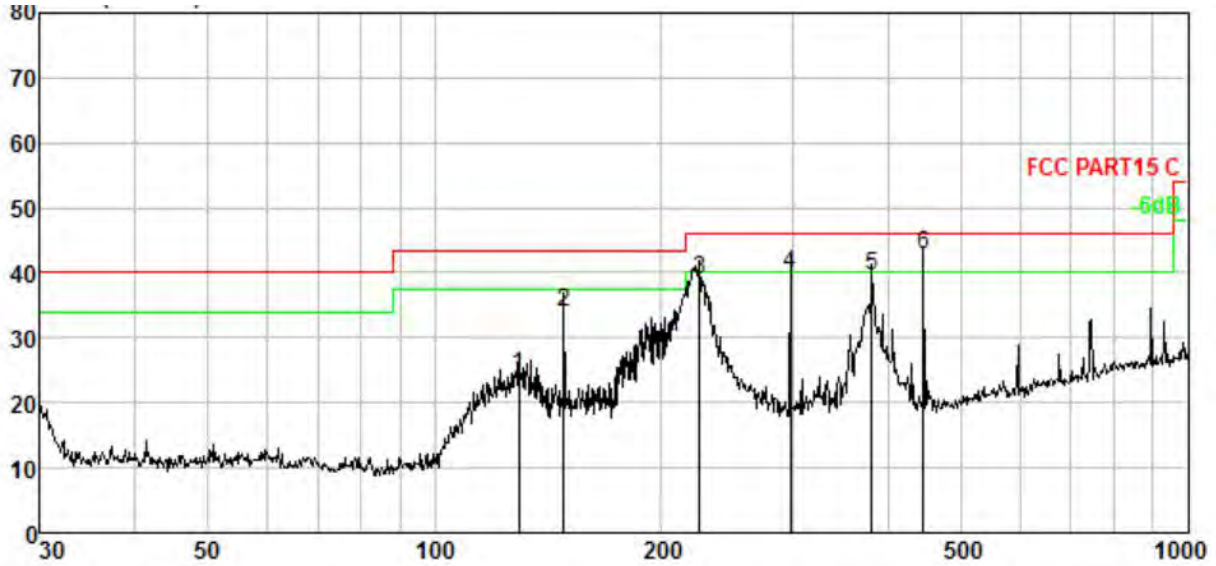
The test results of 9kHz-30MHz was attenuated more than 20dB below the permissible limits, so the results don't record in the report.

During the test, pre-scan all modes, and found MIMO mode is the worst case and only the worst case is recorded in the report.



Test Results (30~1000MHz)

Temp.(°C)/Hum.(%RH): 24.5°C/52%RH Test Mode: TX Mode
 Power Source: DC 12V Polarization: Horizontal

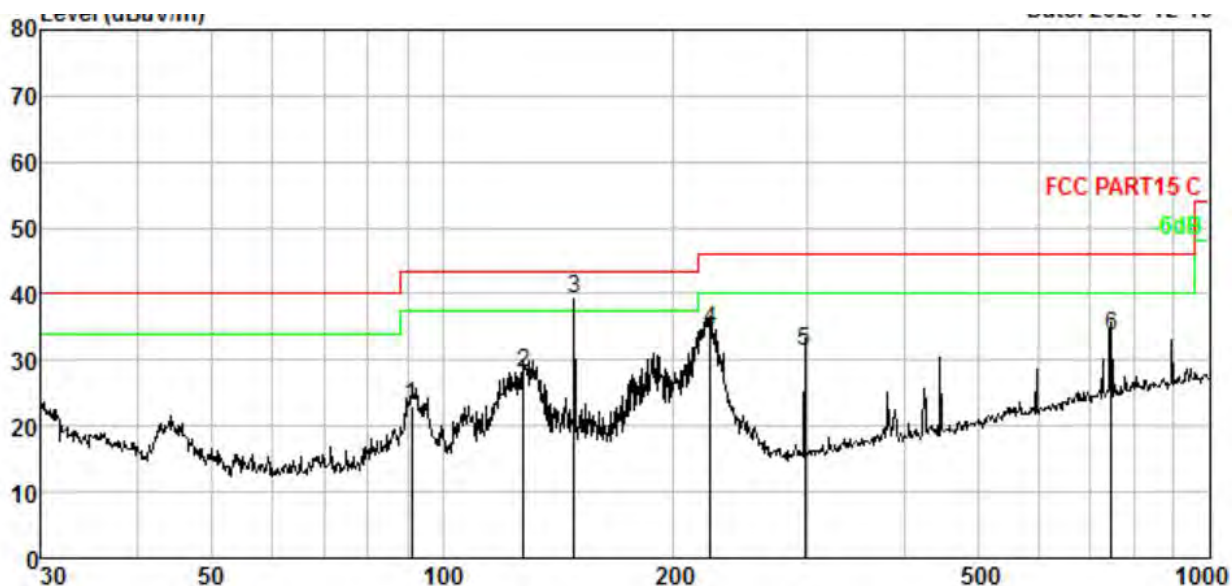


| No. | Freq MHz | Cable Loss dB | ANT Factor dB/m | Receiver Reading dBuV | Preamplifier Factor dB | Emission Level dBuV/m | Limit dBuV/m | Over Limit dB | Remark |
|-----|----------|---------------|-----------------|-----------------------|------------------------|-----------------------|--------------|---------------|--------|
| 1. | 129.468 | 3.72 | 12.64 | 37.97 | 30.01 | 24.32 | 43.50 | -19.18 | QP |
| 2. | 148.441 | 3.95 | 13.65 | 46.40 | 30.02 | 33.98 | 43.50 | -9.52 | QP |
| 3. | 225.308 | 4.67 | 11.80 | 52.54 | 30.12 | 38.89 | 46.00 | -7.11 | QP |
| 4. | 297.224 | 5.14 | 13.16 | 51.78 | 30.31 | 39.77 | 46.00 | -6.23 | QP |
| 5. | 381.249 | 5.58 | 14.66 | 49.83 | 30.64 | 39.43 | 46.00 | -6.57 | QP |
| 6. | 446.414 | 5.85 | 15.83 | 51.99 | 30.80 | 42.87 | 46.00 | -3.13 | QP |



Test Results (30~1000MHz)

Temp.(°C)/Hum.(%RH): 24.5°C/52%RH Test Mode: TX Mode
 Power Source: DC 12V Polarization: Vertical



| No. | Freq MHz | Cable Loss dB | ANT Factor dB/m | Receiver Reading dBuV | Preamp Factor dB | Emission Level dBuV/m | Limit dBuV/m | Over Limit dB | Remark |
|-----|----------|---------------|-----------------|-----------------------|------------------|-----------------------|--------------|---------------|--------|
| 1. | 91.175 | 3.11 | 9.18 | 40.72 | 29.98 | 23.03 | 43.50 | -20.47 | QP |
| 2. | 127.665 | 3.69 | 12.52 | 41.80 | 30.01 | 28.00 | 43.50 | -15.50 | QP |
| 3. | 148.441 | 3.95 | 13.65 | 51.72 | 30.02 | 39.30 | 43.50 | -4.20 | QP |
| 4. | 223.733 | 4.65 | 11.75 | 48.30 | 30.12 | 34.58 | 46.00 | -11.42 | QP |
| 5. | 297.224 | 5.14 | 13.16 | 43.25 | 30.31 | 31.24 | 46.00 | -14.76 | QP |
| 6. | 744.866 | 6.73 | 20.64 | 37.35 | 31.12 | 33.60 | 46.00 | -12.40 | QP |



Test Results (Above 1000MHz)

ANT A:

| | | | |
|------------|-----------------|---------------|--------|
| Test mode: | IEEE 802.11 N20 | Test channel: | Low CH |
|------------|-----------------|---------------|--------|

Peak value:

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Pol. |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|------|
| 11490.00 | 40.24 | 31.98 | 17.08 | 33.91 | 55.39 | 68.20 | -12.81 | V |
| 17235.00 | 39.68 | 32.65 | 20.03 | 34.85 | 57.51 | 68.20 | -10.69 | V |
| 11490.00 | 41.99 | 31.98 | 17.08 | 33.91 | 57.14 | 68.20 | -11.06 | H |
| 17235.00 | 40.92 | 32.65 | 20.03 | 34.85 | 58.75 | 68.20 | -9.45 | H |

Average value:

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Pol. |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|------|
| 11490.00 | 28.92 | 31.98 | 17.08 | 33.91 | 44.07 | 54.00 | -9.93 | V |
| 17235.00 | 28.73 | 32.65 | 20.03 | 34.85 | 46.56 | 54.00 | -7.44 | V |
| 11490.00 | 29.16 | 31.98 | 17.08 | 33.91 | 44.31 | 54.00 | -9.69 | H |
| 17235.00 | 27.72 | 32.65 | 20.03 | 34.85 | 45.55 | 54.00 | -8.45 | H |

| | | | |
|------------|-----------------|---------------|--------|
| Test mode: | IEEE 802.11 N20 | Test channel: | Mid CH |
|------------|-----------------|---------------|--------|

Peak value:

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Pol. |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|------|
| 11570.00 | 39.84 | 32.44 | 17.18 | 33.91 | 55.55 | 68.20 | -12.65 | V |
| 17355.00 | 40.70 | 32.78 | 20.12 | 34.86 | 58.74 | 68.20 | -9.46 | V |
| 11570.00 | 41.67 | 32.44 | 17.18 | 33.91 | 57.38 | 68.20 | -10.82 | H |
| 17355.00 | 41.90 | 32.78 | 20.12 | 34.86 | 59.94 | 68.20 | -8.26 | H |



Average value:

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Pol. |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|------|
| 11570.00 | 27.38 | 32.44 | 17.18 | 33.91 | 43.09 | 54.00 | -10.91 | V |
| 17355.00 | 27.87 | 32.78 | 20.12 | 34.86 | 45.91 | 54.00 | -8.09 | V |
| 11570.00 | 27.13 | 32.44 | 17.18 | 33.91 | 42.84 | 54.00 | -11.16 | H |
| 17355.00 | 27.30 | 32.78 | 20.12 | 34.86 | 45.34 | 54.00 | -8.66 | H |

| | | | |
|------------|-----------------|---------------|---------|
| Test mode: | IEEE 802.11 N20 | Test channel: | High CH |
|------------|-----------------|---------------|---------|

Peak value:

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Pol. |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|------|
| 11650.00 | 39.70 | 32.59 | 18.02 | 33.92 | 56.39 | 68.20 | -11.81 | V |
| 17475.00 | 39.88 | 32.87 | 20.15 | 34.88 | 58.02 | 68.20 | -10.18 | V |
| 11650.00 | 41.55 | 32.59 | 18.02 | 33.92 | 58.24 | 68.20 | -9.96 | H |
| 17475.00 | 41.70 | 32.87 | 20.15 | 34.88 | 59.84 | 68.20 | -8.36 | H |

Average value:

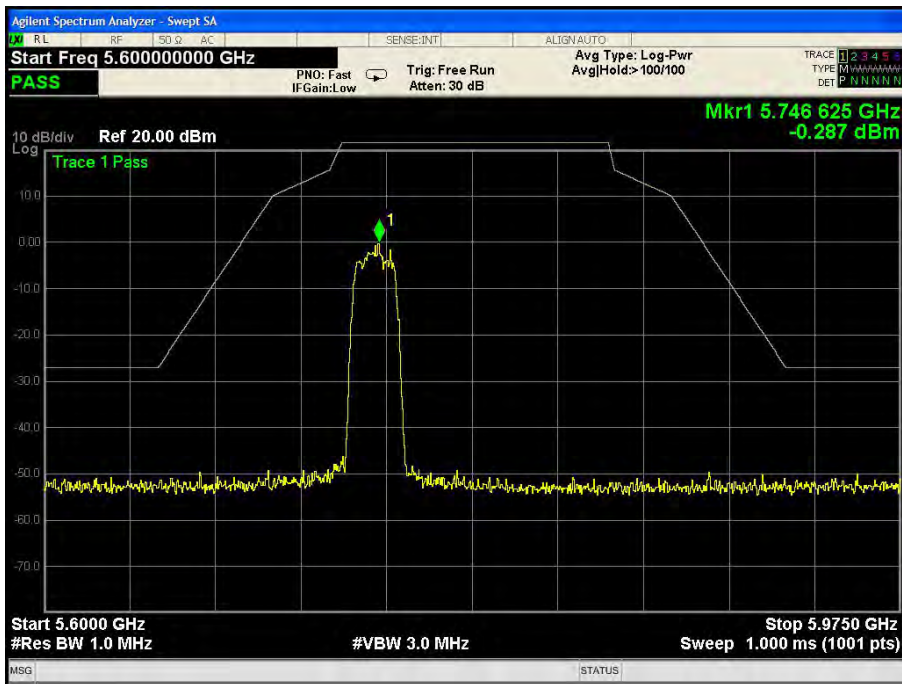
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Pol. |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|------|
| 11650.00 | 27.45 | 32.59 | 18.02 | 33.92 | 44.14 | 54.00 | -9.86 | V |
| 17475.00 | 27.26 | 32.87 | 20.15 | 34.88 | 45.40 | 54.00 | -8.60 | V |
| 11650.00 | 28.39 | 32.59 | 18.02 | 33.92 | 45.08 | 54.00 | -8.92 | H |
| 17475.00 | 27.03 | 32.87 | 20.15 | 34.88 | 45.17 | 54.00 | -8.83 | H |

Note:

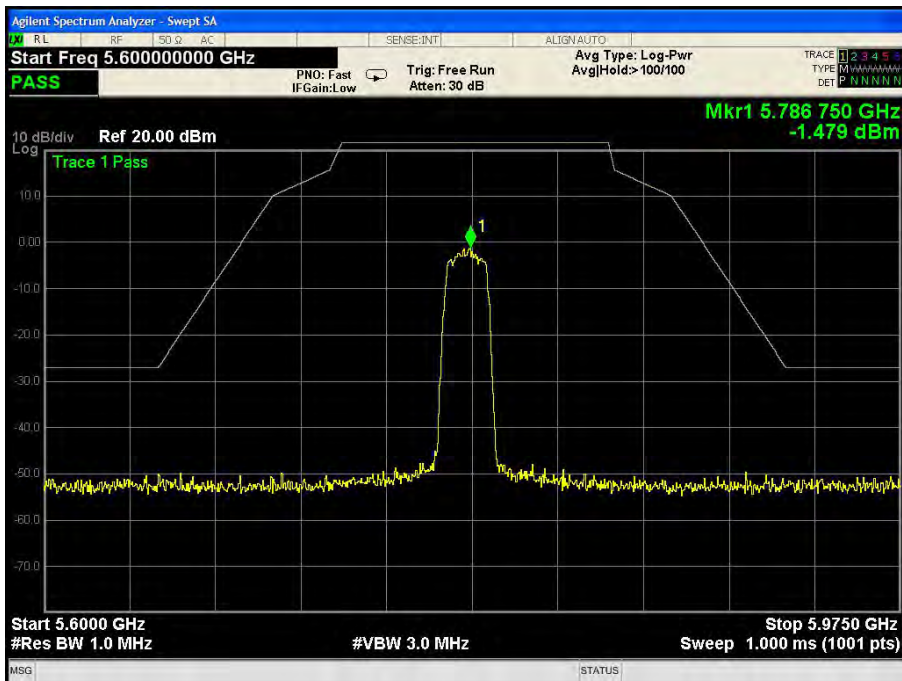
1. Final Level =Receiver Read level + Antenna Factor + Cable Loss–Preamplifier Factor
2. Product support 802.11 N (HT20) mode only, report only N20 test data
3. All other emissions moran 30dB below the limit



Band Edge test:



802.11n(20): Band Edge, Left Side



802.11n(20): Band Edge, Right Side



Test Results (Above 1000MHz)

ANT B:

| | | | |
|------------|-----------------|---------------|--------|
| Test mode: | IEEE 802.11 N20 | Test channel: | Low CH |
|------------|-----------------|---------------|--------|

Peak value:

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Pol. |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|------|
| 11490.00 | 41.93 | 31.98 | 17.08 | 33.91 | 57.08 | 68.20 | -11.12 | V |
| 17235.00 | 40.88 | 32.65 | 20.03 | 34.85 | 58.71 | 68.20 | -9.49 | V |
| 11490.00 | 41.64 | 31.98 | 17.08 | 33.91 | 56.79 | 68.20 | -11.41 | H |
| 17235.00 | 39.70 | 32.65 | 20.03 | 34.85 | 57.53 | 68.20 | -10.67 | H |

Average value:

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Pol. |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|------|
| 11490.00 | 27.75 | 31.98 | 17.08 | 33.91 | 42.90 | 54.00 | -11.10 | V |
| 17235.00 | 27.18 | 32.65 | 20.03 | 34.85 | 45.01 | 54.00 | -8.99 | V |
| 11490.00 | 29.26 | 31.98 | 17.08 | 33.91 | 44.41 | 54.00 | -9.59 | H |
| 17235.00 | 27.54 | 32.65 | 20.03 | 34.85 | 45.37 | 54.00 | -8.63 | H |

| | | | |
|------------|-----------------|---------------|--------|
| Test mode: | IEEE 802.11 N20 | Test channel: | Mid CH |
|------------|-----------------|---------------|--------|

Peak value:

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Pol. |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|------|
| 11570.00 | 41.57 | 32.44 | 17.18 | 33.91 | 57.28 | 68.20 | -10.92 | V |
| 17355.00 | 39.59 | 32.78 | 20.12 | 34.86 | 57.63 | 68.20 | -10.57 | V |
| 11570.00 | 41.60 | 32.44 | 17.18 | 33.91 | 57.31 | 68.20 | -10.89 | H |
| 17355.00 | 41.37 | 32.78 | 20.12 | 34.86 | 59.41 | 68.20 | -8.79 | H |



Average value:

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Pol. |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|------|
| 11570.00 | 27.33 | 32.44 | 17.18 | 33.91 | 43.04 | 54.00 | -10.96 | V |
| 17355.00 | 29.75 | 32.78 | 20.12 | 34.86 | 47.79 | 54.00 | -6.21 | V |
| 11570.00 | 28.03 | 32.44 | 17.18 | 33.91 | 43.74 | 54.00 | -10.26 | H |
| 17355.00 | 29.35 | 32.78 | 20.12 | 34.86 | 47.39 | 54.00 | -6.61 | H |

| | | | |
|------------|-----------------|---------------|---------|
| Test mode: | IEEE 802.11 N20 | Test channel: | High CH |
|------------|-----------------|---------------|---------|

Peak value:

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Pol. |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|------|
| 11650.00 | 39.71 | 32.59 | 18.02 | 33.92 | 56.40 | 68.20 | -11.80 | V |
| 17475.00 | 41.44 | 32.87 | 20.15 | 34.88 | 59.58 | 68.20 | -8.62 | V |
| 11650.00 | 41.58 | 32.59 | 18.02 | 33.92 | 58.27 | 68.20 | -9.93 | H |
| 17475.00 | 40.95 | 32.87 | 20.15 | 34.88 | 59.09 | 68.20 | -9.11 | H |

Average value:

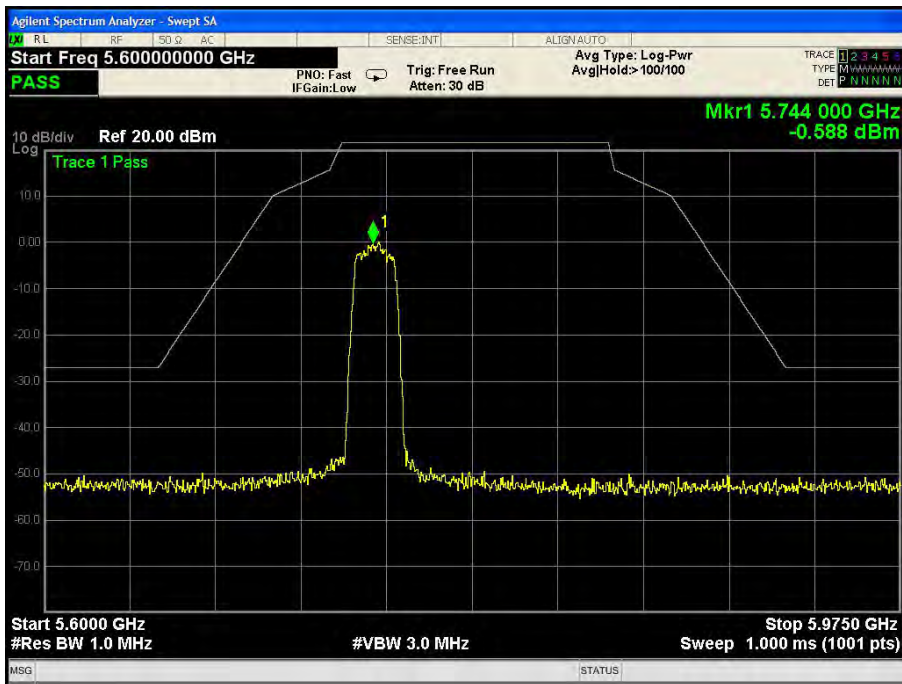
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Pol. |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|------|
| 11650.00 | 27.40 | 32.59 | 18.02 | 33.92 | 44.09 | 54.00 | -9.91 | V |
| 17475.00 | 28.87 | 32.87 | 20.15 | 34.88 | 47.01 | 54.00 | -6.99 | V |
| 11650.00 | 29.59 | 32.59 | 18.02 | 33.92 | 46.28 | 54.00 | -7.72 | H |
| 17475.00 | 29.91 | 32.87 | 20.15 | 34.88 | 48.05 | 54.00 | -5.95 | H |

Note:

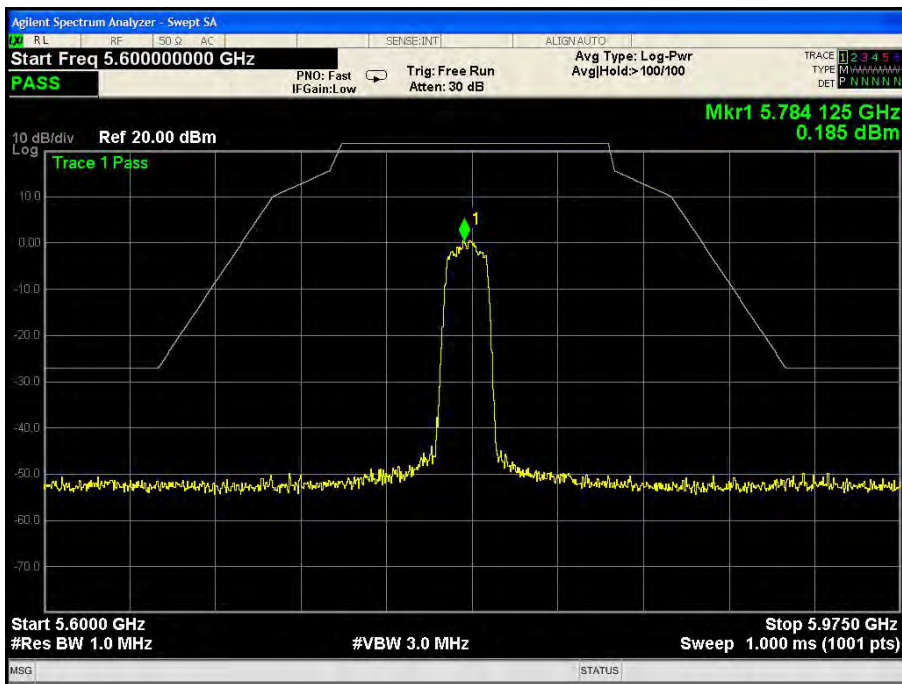
1. Final Level =Receiver Read level + Antenna Factor + Cable Loss–Preamplifier Factor
2. Product support 802.11 N (HT20) mode only, report only N20 test data
3. All other emissions moran 30dB below the limit



Band Edge test:



802.11n(20): Band Edge, Left Side



802.11n(20): Band Edge, Right Side



Test Results (Above 1000MHz)

ANT A+B

| | | | |
|------------|-----------------|---------------|--------|
| Test mode: | IEEE 802.11 N20 | Test channel: | Low CH |
|------------|-----------------|---------------|--------|

Peak value:

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Pol. |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|------|
| 11490.00 | 42.18 | 31.98 | 17.08 | 33.91 | 57.33 | 68.20 | -10.87 | V |
| 17235.00 | 41.75 | 32.65 | 20.03 | 34.85 | 59.58 | 68.20 | -8.62 | V |
| 11490.00 | 42.18 | 31.98 | 17.08 | 33.91 | 57.33 | 68.20 | -10.87 | H |
| 17235.00 | 41.49 | 32.65 | 20.03 | 34.85 | 59.32 | 68.20 | -8.88 | H |

Average value:

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Pol. |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|------|
| 11490.00 | 29.10 | 31.98 | 17.08 | 33.91 | 44.25 | 54.00 | -9.75 | V |
| 17235.00 | 29.36 | 32.65 | 20.03 | 34.85 | 47.19 | 54.00 | -6.81 | V |
| 11490.00 | 30.65 | 31.98 | 17.08 | 33.91 | 45.80 | 54.00 | -8.20 | H |
| 17235.00 | 29.40 | 32.65 | 20.03 | 34.85 | 47.23 | 54.00 | -6.77 | H |

| | | | |
|------------|-----------------|---------------|--------|
| Test mode: | IEEE 802.11 N20 | Test channel: | Mid CH |
|------------|-----------------|---------------|--------|

Peak value:

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Pol. |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|------|
| 11570.00 | 40.45 | 32.44 | 17.18 | 33.91 | 56.16 | 68.20 | -12.04 | V |
| 17355.00 | 42.91 | 32.78 | 20.12 | 34.86 | 60.95 | 68.20 | -7.25 | V |
| 11570.00 | 40.78 | 32.44 | 17.18 | 33.91 | 56.49 | 68.20 | -11.71 | H |
| 17355.00 | 42.72 | 32.78 | 20.12 | 34.86 | 60.76 | 68.20 | -7.44 | H |



Average value:

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Pol. |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|------|
| 11570.00 | 30.34 | 32.44 | 17.18 | 33.91 | 46.05 | 54.00 | -7.95 | V |
| 17355.00 | 29.15 | 32.78 | 20.12 | 34.86 | 47.19 | 54.00 | -6.81 | V |
| 11570.00 | 30.06 | 32.44 | 17.18 | 33.91 | 45.77 | 54.00 | -8.23 | H |
| 17355.00 | 29.77 | 32.78 | 20.12 | 34.86 | 47.81 | 54.00 | -6.19 | H |

| | | | |
|------------|-----------------|---------------|---------|
| Test mode: | IEEE 802.11 N20 | Test channel: | High CH |
|------------|-----------------|---------------|---------|

Peak value:

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Pol. |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|------|
| 11650.00 | 42.83 | 32.59 | 18.02 | 33.92 | 59.52 | 68.20 | -8.68 | V |
| 17475.00 | 40.96 | 32.87 | 20.15 | 34.88 | 59.10 | 68.20 | -9.10 | V |
| 11650.00 | 42.96 | 32.59 | 18.02 | 33.92 | 59.65 | 68.20 | -8.55 | H |
| 17475.00 | 40.72 | 32.87 | 20.15 | 34.88 | 58.86 | 68.20 | -9.34 | H |

Average value:

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Pol. |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|------|
| 11650.00 | 30.24 | 32.59 | 18.02 | 33.92 | 46.93 | 54.00 | -7.07 | V |
| 17475.00 | 29.93 | 32.87 | 20.15 | 34.88 | 48.07 | 54.00 | -5.93 | V |
| 11650.00 | 30.91 | 32.59 | 18.02 | 33.92 | 47.60 | 54.00 | -6.40 | H |
| 17475.00 | 28.19 | 32.87 | 20.15 | 34.88 | 46.33 | 54.00 | -7.67 | H |

Note:

1. Final Level =Receiver Read level + Antenna Factor + Cable Loss–Preamplifier Factor
- 2.Product support 802.11 N (HT20) mode only, report only N20 test data
- 3.All other emissions moran 30dB below the limit

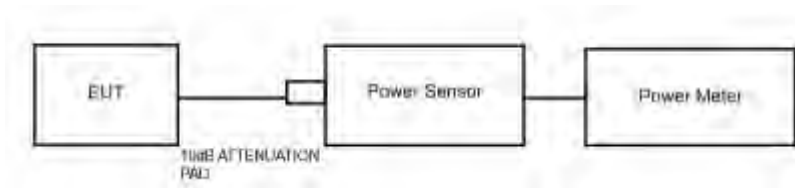


7 Maximum Peak Output Power Test

7.1 Test Standard and Limit

| | |
|---------------|-------------------------------------|
| Test Standard | FCC Part15 C Section 15.407 (a) (3) |
| Test Limit | 30dBm |

7.2 Test Setup



7.3 Test Procedure

1. The Transmitter output (antenna port) was connected to the power meter.
2. Turn on the EUT and power meter and then record the power value.
3. Repeat above procedures on all channels needed to be tested.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.



7.4 Test Data

| | | | |
|--------------|--------------------------|-------------|--------------------|
| Test Item | : Max. peak output power | Test Mode | : CH Low ~ CH High |
| Test Voltage | : DC 12V | Test Result | : PASS |

ANT A:

| Mode | Channel Frequency (MHz) | Peak Power output (dBm) | Correctional Limit (dBm) | Results |
|-----------|-------------------------|-------------------------|--------------------------|---------|
| 802.11n20 | 5745 | 13.25 | 30 | PASS |
| | 5785 | 12.84 | 30 | PASS |
| | 5825 | 12.79 | 30 | PASS |

ANT B:

| Mode | Channel Frequency (MHz) | Peak Power output (dBm) | Correctional Limit (dBm) | Results |
|-----------|-------------------------|-------------------------|--------------------------|---------|
| 802.11n20 | 5745 | 12.66 | 30 | PASS |
| | 5785 | 12.18 | 30 | PASS |
| | 5825 | 13.00 | 30 | PASS |

ANT A+B

| Mode | Channel Frequency (MHz) | Peak Power output (dBm) | Correctional Limit (dBm) | Results |
|-----------|-------------------------|-------------------------|--------------------------|---------|
| 802.11n20 | 5745 | 16.19 | 27.99 | PASS |
| | 5785 | 15.77 | 27.99 | PASS |
| | 5825 | 16.12 | 27.99 | PASS |

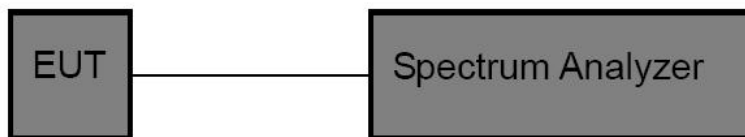


8 Occupy Bandwidth Test

8.1 Test Standard

| | |
|---------------|--|
| Test Standard | FCC Part15 C Section 15.407 (a)(5)&15.407(e) |
|---------------|--|

8.2 Test Setup



8.3 Test Procedure

1. Place the EUT on the table and set it in the transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
3. Set the spectrum analyzer as:

26 dB & 99% bandwidth

RBW = approximately 1% of the emission bandwidth;

Set the VBW > RBW;

Detector= Peak

Trace mode= Max hold.

Sweep- auto couple.

6 dB bandwidth

RBW = 100kHz;

Set the video bandwidth (VBW) \geq 3 RBW;

Detector= Peak

Trace mode= Max hold.

Sweep- auto couple.



4. Measure the maximum width of the emission that is 26dB /6dB down from the maximum of the emission. Compare this with the RBW setting of the analyzer
5. Repeat until all the rest channels are investigated.

8.4 Test Data

| | | | |
|--------------|----------------|-------------|--------------------|
| Test Item | : 6dB &26dB BW | Test Mode | : CH Low ~ CH High |
| Test Voltage | : DC 12V | Test Result | : PASS |

ANT A:

| Mode | Channel Frequency (MHz) | 6dB BW(MHz) | Limit | Results |
|-----------|-------------------------|-------------|---------|---------|
| 802.11n20 | 5745 | 17.20 | >0.5MHz | PASS |
| | 5785 | 17.34 | | PASS |
| | 5825 | 16.92 | | PASS |

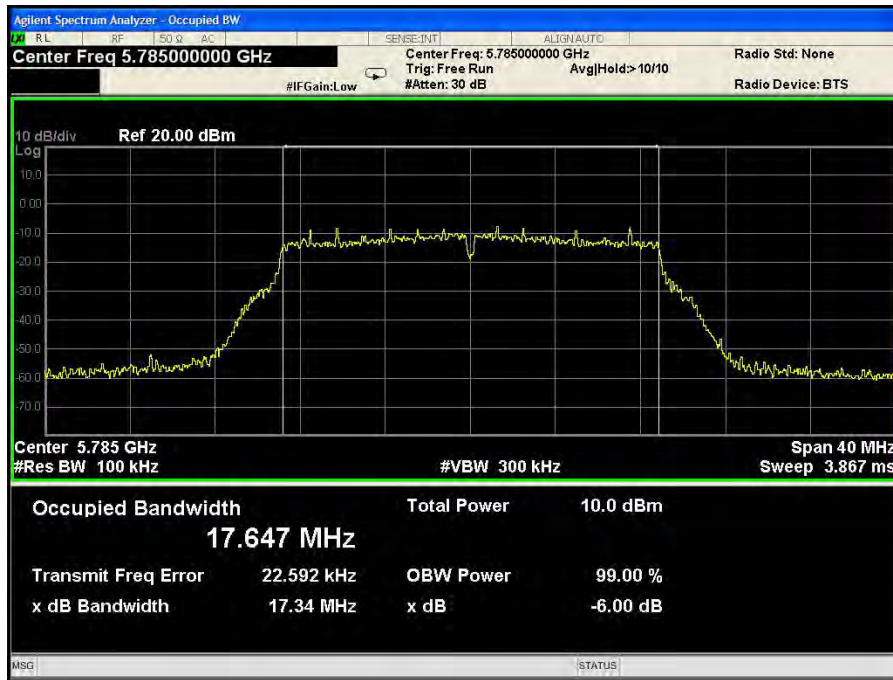
| Mode | Channel Frequency (MHz) | 26dB BW(MHz) | 99% Bandwidth (MHz) |
|-----------|-------------------------|--------------|---------------------|
| 802.11n20 | 5745 | 21.38 | 17.785 |
| | 5785 | 21.35 | 17.806 |
| | 5825 | 21.20 | 17.759 |



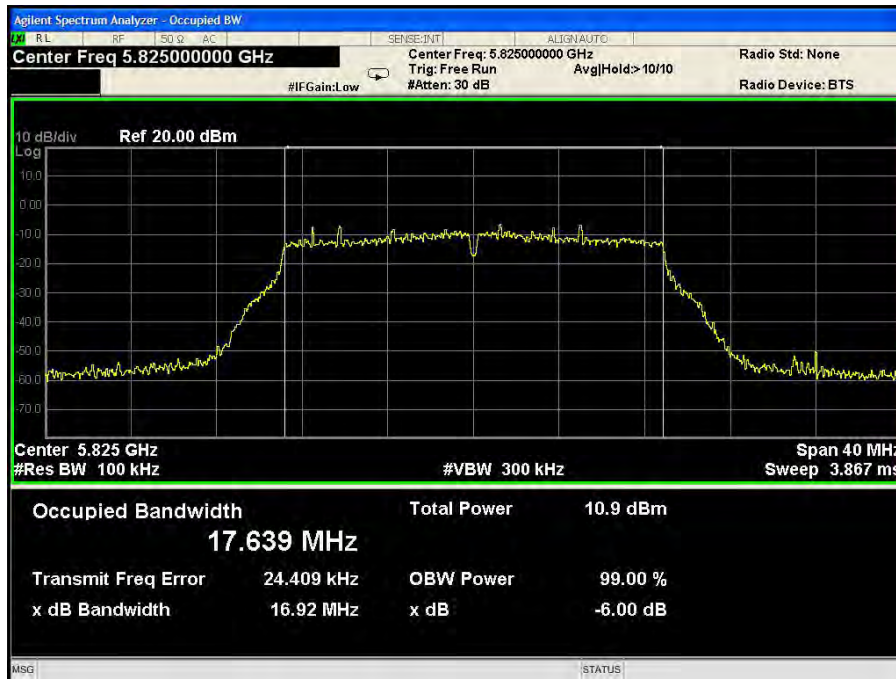
6dB Bandwidth



Test Mode: 802.11n20---Low



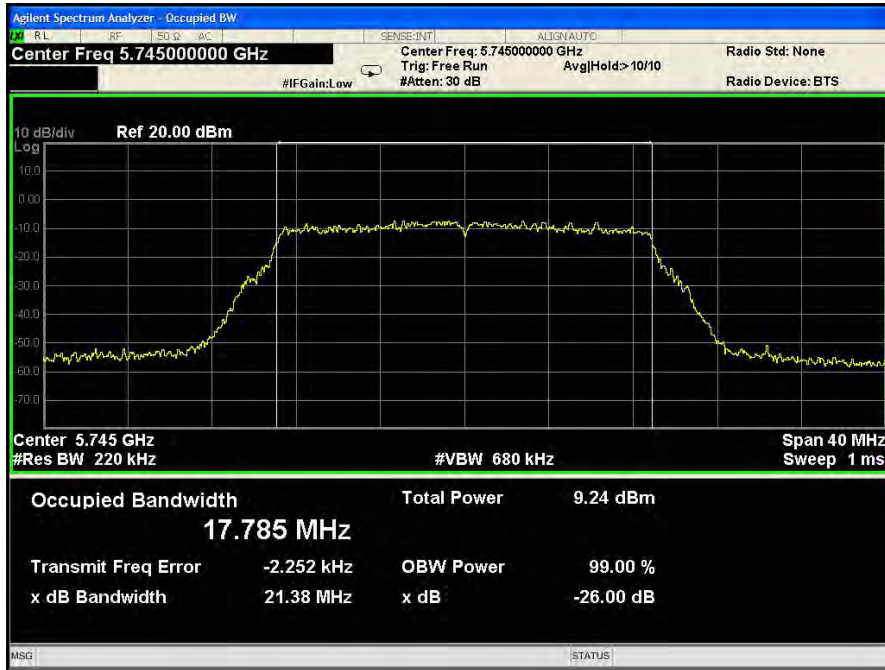
Test Mode: 802.11n20---Middle



Test Mode: 802.11n20---High



26dB & 99% Bandwidth



Test Mode: 802.11N20--Low



Test Mode: 802.11N20---Middle



Test Mode: 802.11N20---High

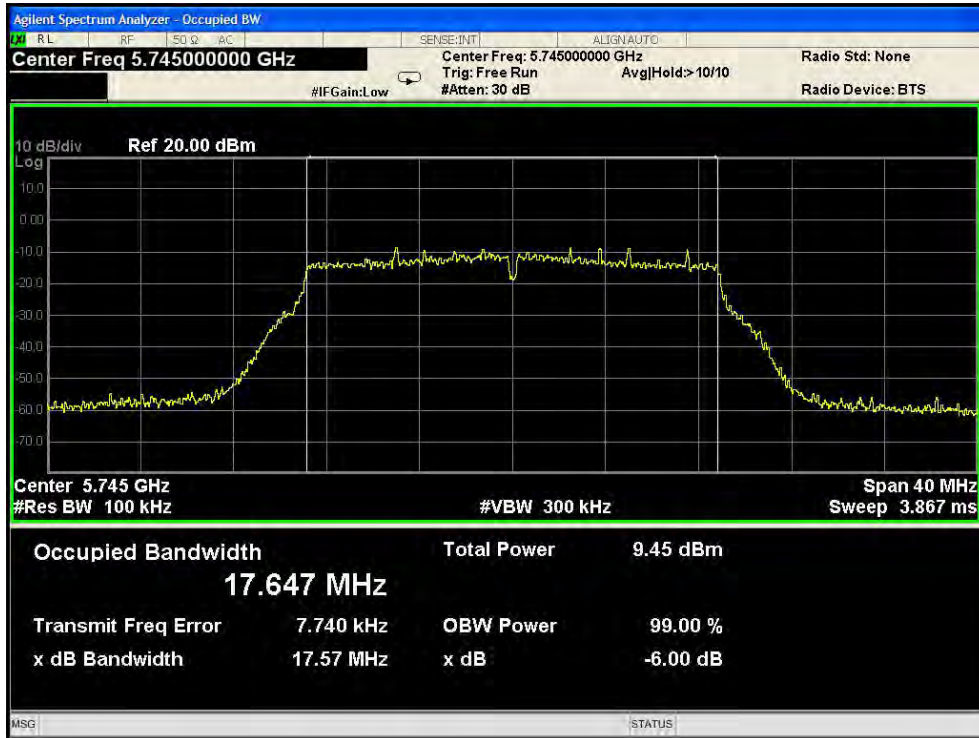
ANT B:

| Mode | Channel Frequency (MHz) | 6dB BW(MHz) | Limit | Results |
|-----------|-------------------------|-------------|---------|---------|
| 802.11n20 | 5745 | 17.57 | >0.5MHz | PASS |
| | 5785 | 17.58 | | PASS |
| | 5825 | 17.07 | | PASS |

| Mode | Channel Frequency (MHz) | 26dB BW(MHz) | 99% Bandwidth (MHz) |
|-----------|-------------------------|--------------|---------------------|
| 802.11n20 | 5745 | 21.27 | 17.838 |
| | 5785 | 21.53 | 17.828 |
| | 5825 | 21.45 | 17.767 |



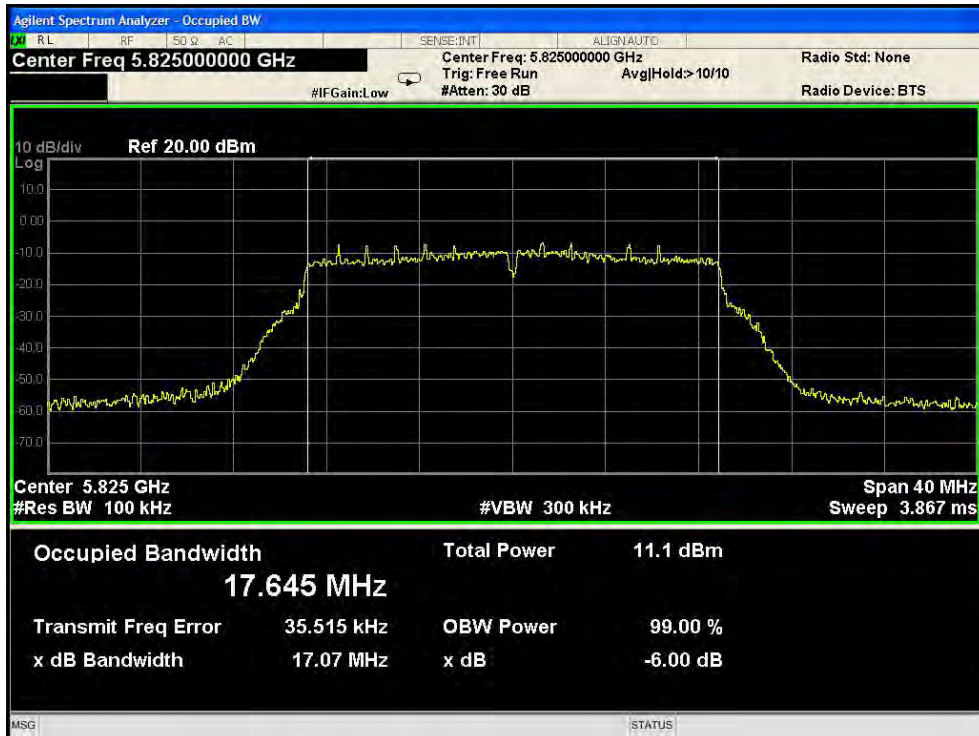
6dB Bandwidth



Test Mode: 802.11n20---Low



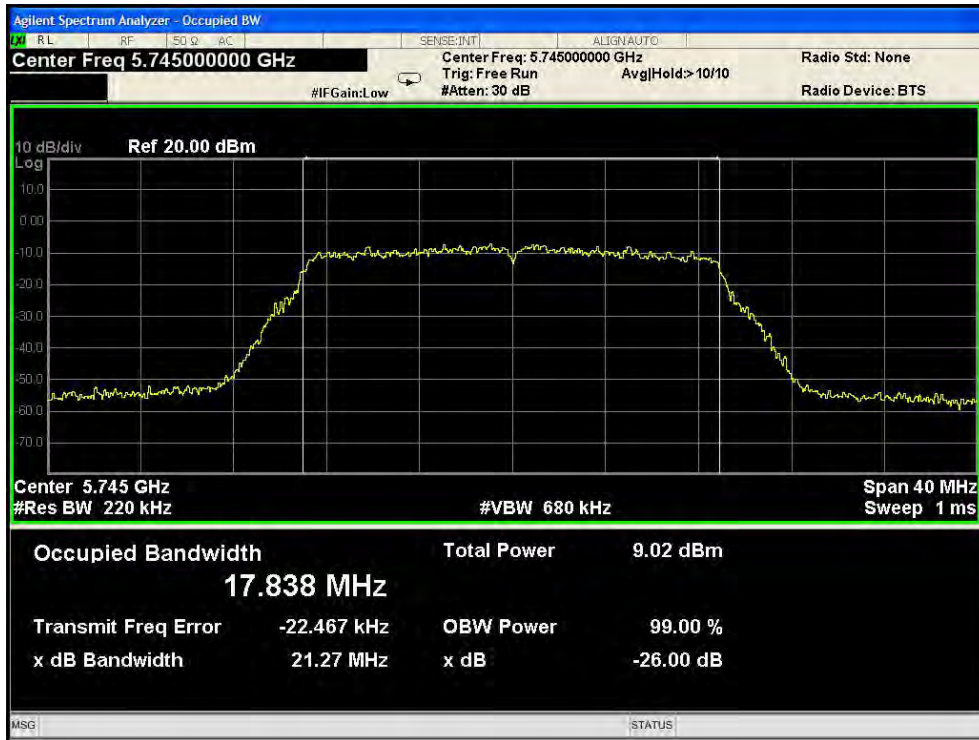
Test Mode: 802.11n20---Middle



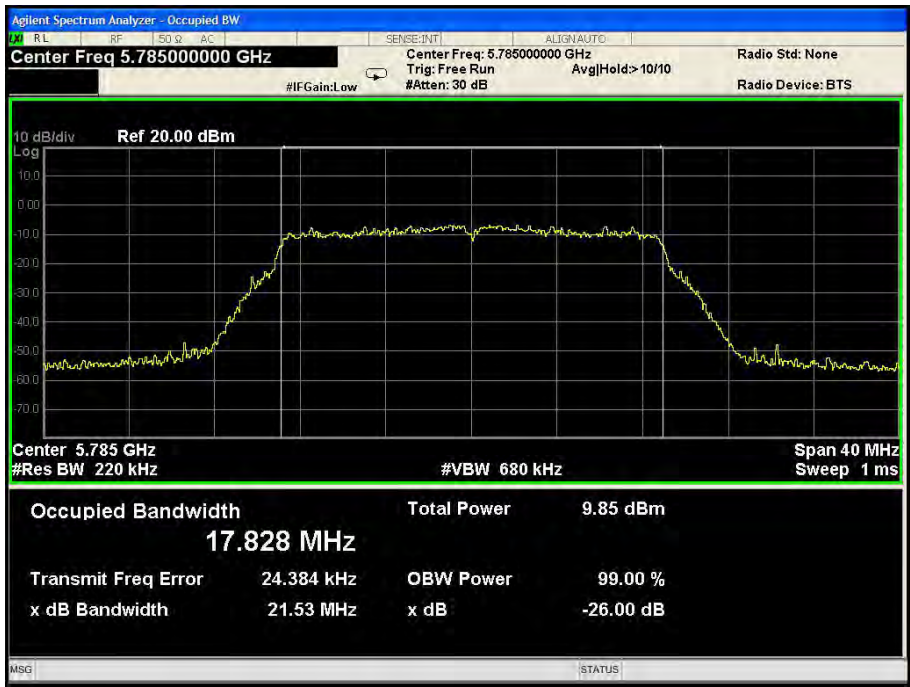


Test Mode: 802.11n20---High

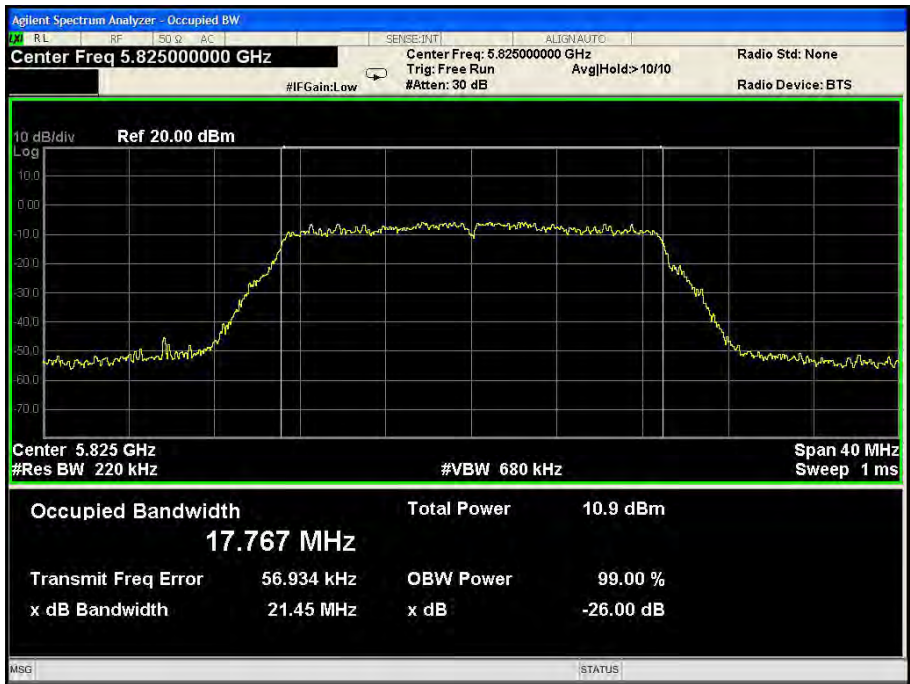
26dB & 99% Bandwidth



Test Mode: 802.11n20---Low



Test Mode: 802.11n20---Middle



Test Mode: 802.11n20---High

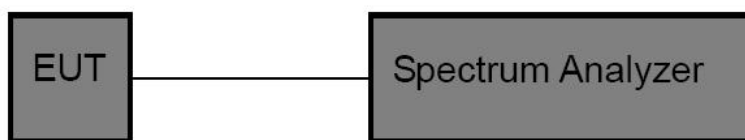


9 Power Spectral Density Test

9.1 Test Standard and Limit

| | |
|---------------|-------------------------------------|
| Test Standard | FCC Part15 C Section 15.407 (a) (3) |
| Test Limit | 30 dBm/500KHz |

9.2 Test Setup



9.3 Test Procedure

For devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz, the above procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in § 15.407(a)(5). For devices operating in the band 5.725-5.85 GHz, the rules specify a measurement bandwidth of 500 kHz. Many spectrum analyzers do not have 500 kHz RBW, thus a narrower RBW may need to be used. The rules permit the use of a RBWs less than 1 MHz, or 500 kHz, “provided that the measured power is integrated over the full reference bandwidth” to show the total power over the specified measurement bandwidth (i.e., 1 MHz, or 500 kHz).

1. The EUT is directly connected to the spectrum analyzer;
2. Set RBW =1MHz;
3. Set VBW \geq 3 RBW=3MHz;
3. Set the span to encompass the entire emissions bandwidth (EBW) of the signal;
5. Detector=RMS;
6. Sweep time= auto couple;
7. Trace mode=max. hold;



9.4 Test Data

| | | | |
|--------------|--------------------------|-------------|--------------------|
| Test Item | : Power Spectral Density | Test Mode | : CH Low ~ CH High |
| Test Voltage | : DC 12V | Test Result | : PASS |

ANT A:

| Mode | Channel Frequency (MHz) | Test Power Spectral Density (dBm/510KHz) | Final Power Spectral Density (dBm/500KHz) | Limit | Results |
|-----------|-------------------------|--|---|-------|---------|
| 802.11n20 | 5745 | -2.163 | -2.249 | 30 | PASS |
| | 5785 | -1.630 | -1.716 | 30 | PASS |
| | 5825 | -1.667 | -1.753 | 30 | PASS |

Remark: Final Power Spectral Density=Test Power Spectral Density+10log10(500/510)

ANT B:

| Mode | Channel Frequency (MHz) | Test Power Spectral Density (dBm/510KHz) | Final Power Spectral Density (dBm/500KHz) | Limit | Results |
|-----------|-------------------------|--|---|-------|---------|
| 802.11n20 | 5745 | -1.863 | -1.949 | 30 | PASS |
| | 5785 | -2.581 | -2.667 | 30 | PASS |
| | 5825 | -2.724 | -2.810 | 30 | PASS |

Remark: Final Power Spectral Density=Test Power Spectral Density+10log10(500/510)

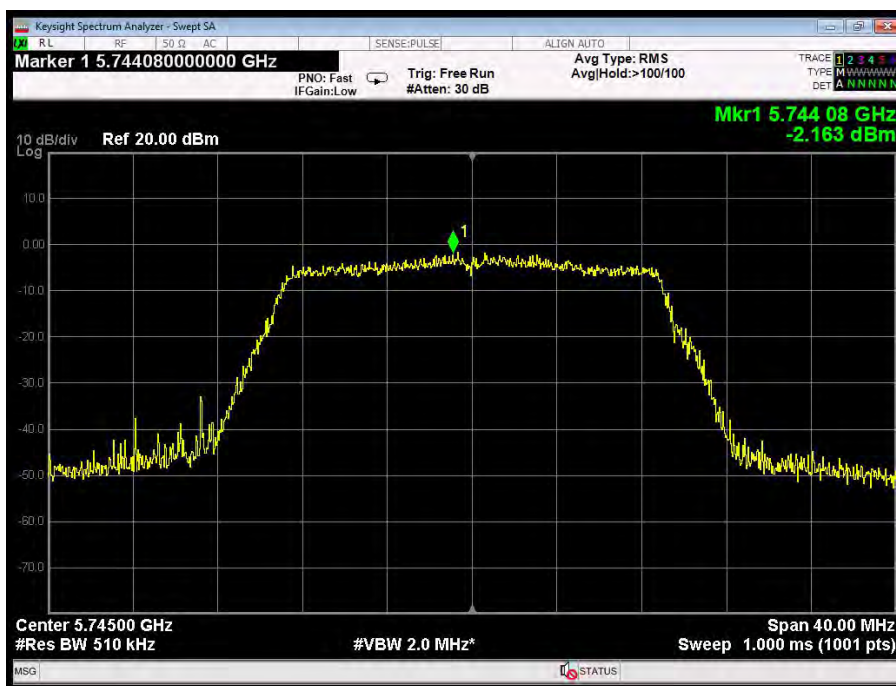


ANT A+B

| Mode | Channel Frequency (MHz) | Final Power Spectral Density (dBm/510KHz) | Final Power Spectral Density (dBm/500KHz) | Limit | Results |
|-----------|-------------------------|---|---|-------|---------|
| 802.11n20 | 5745 | 3.35 | 3.264 | 27.99 | PASS |
| | 5785 | 3.05 | 2.964 | 27.99 | PASS |
| | 5825 | 2.69 | 2.604 | 27.99 | PASS |

Remark: Final Power Spectral Density=Test Power Spectral Density+10log10(500/510)

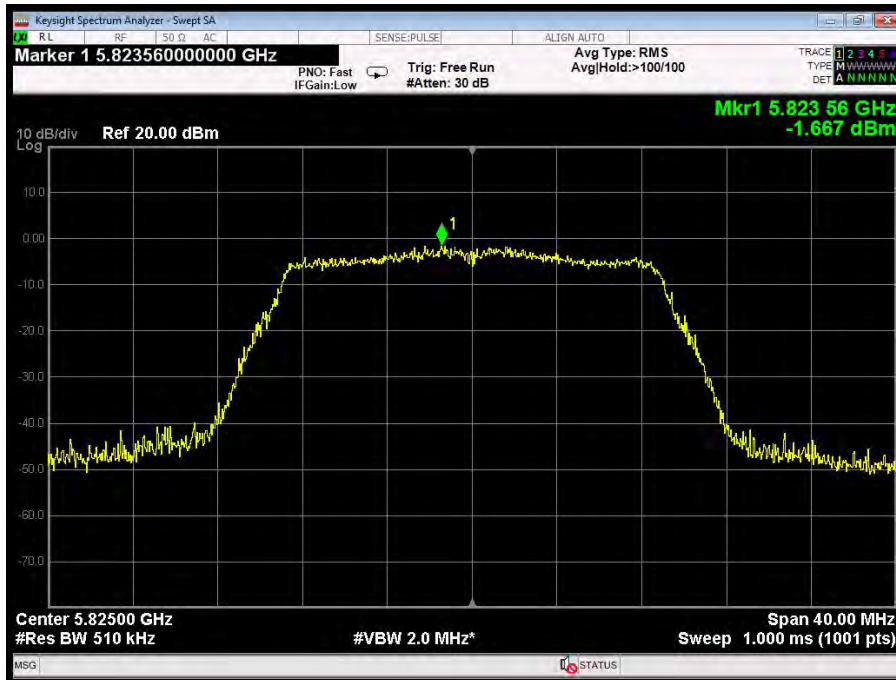
ANT A



Test Mode: 802.11n20---Low



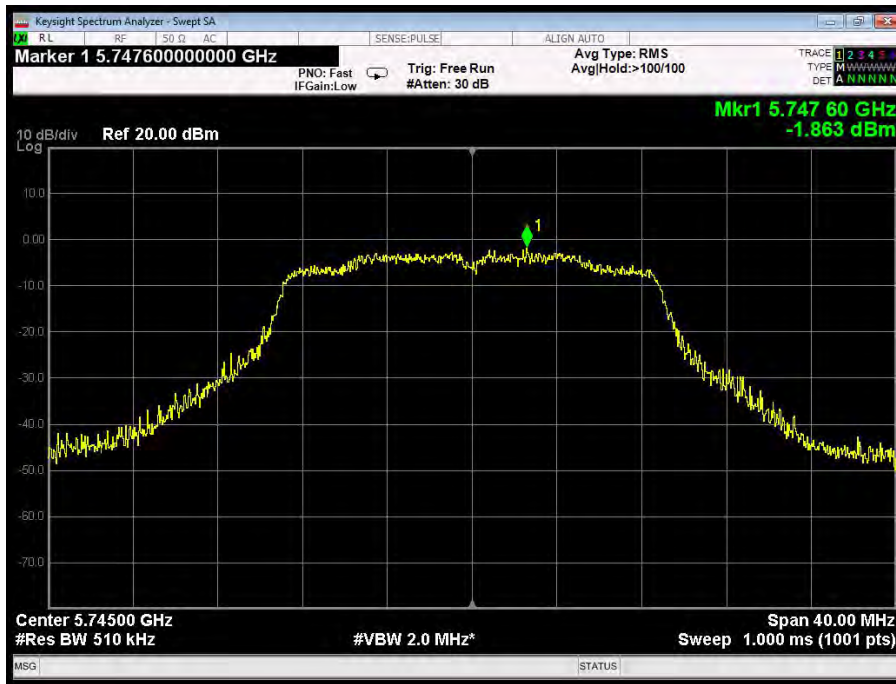
Test Mode: 802.11n20---Middle



Test Mode: 802.11n20---High



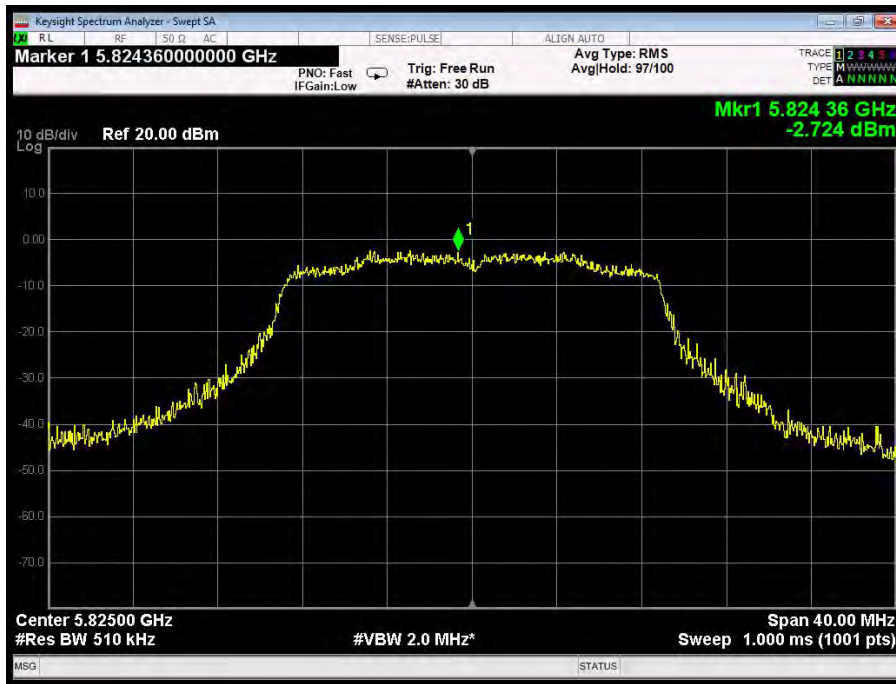
ANT B



Test Mode: 802.11n20---Low



Test Mode: 802.11n20---Middle



Test Mode: 802.11n20---High



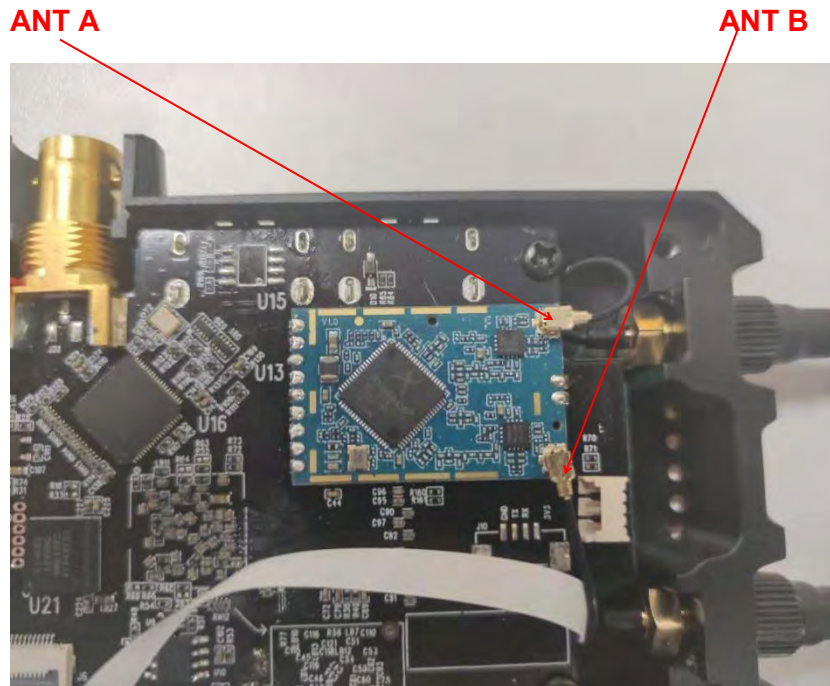
10 Antenna Requirement

10.1 Test Standard and Requirement

| Test Standard | FCC Part15 Section 15.203 /15.407 |
|---------------|---|
| Requirement | <p>1) 15.203 requirement:</p> <p>An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.</p> <p>2) 15.407 requirement:</p> <p>An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217, §15.219, or §15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.</p> |

10.2 Antenna Connected Construction

The antenna is a Columnar Antenna which permanently attached, and the best case gain of the antenna is 5 dBi. It complies with the standard requirement.

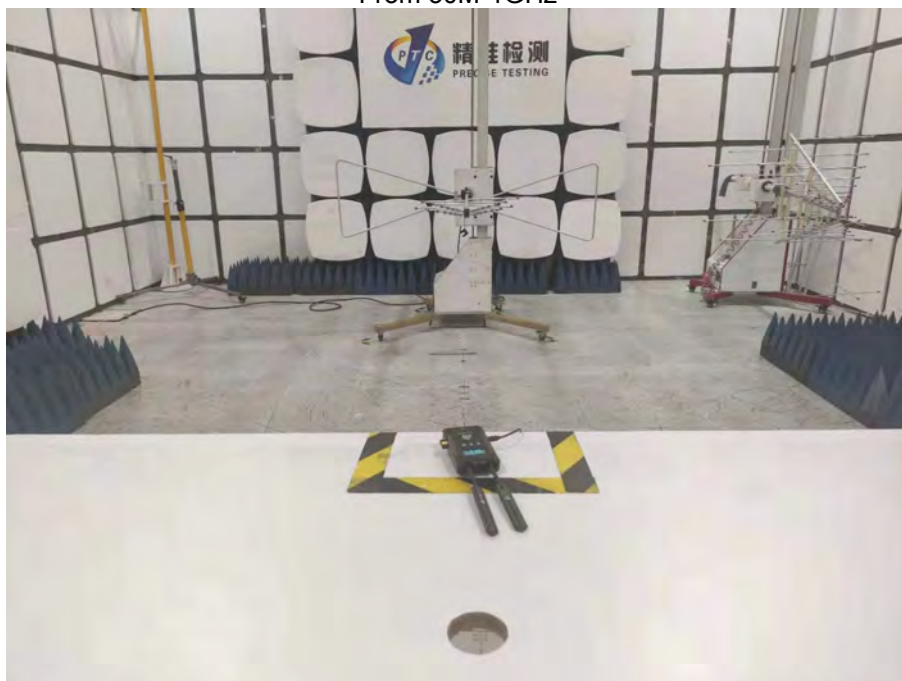


11 APPENDIX I -- PHOTOGRAPH

Conducted Emission



Radiated Emissions
From 30M-1GHz



Radiated Emissions
Above 1GHz

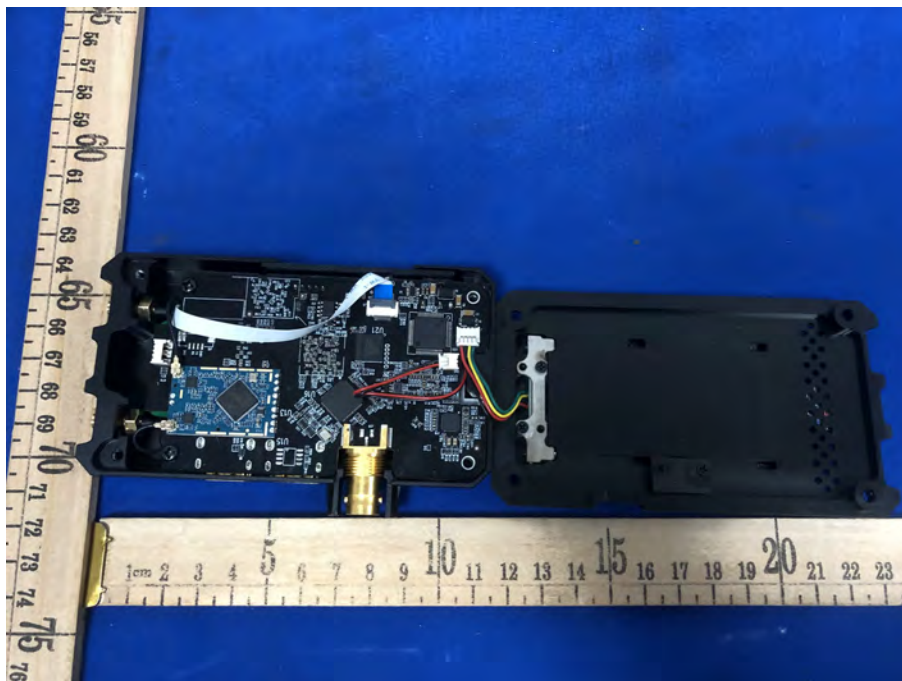


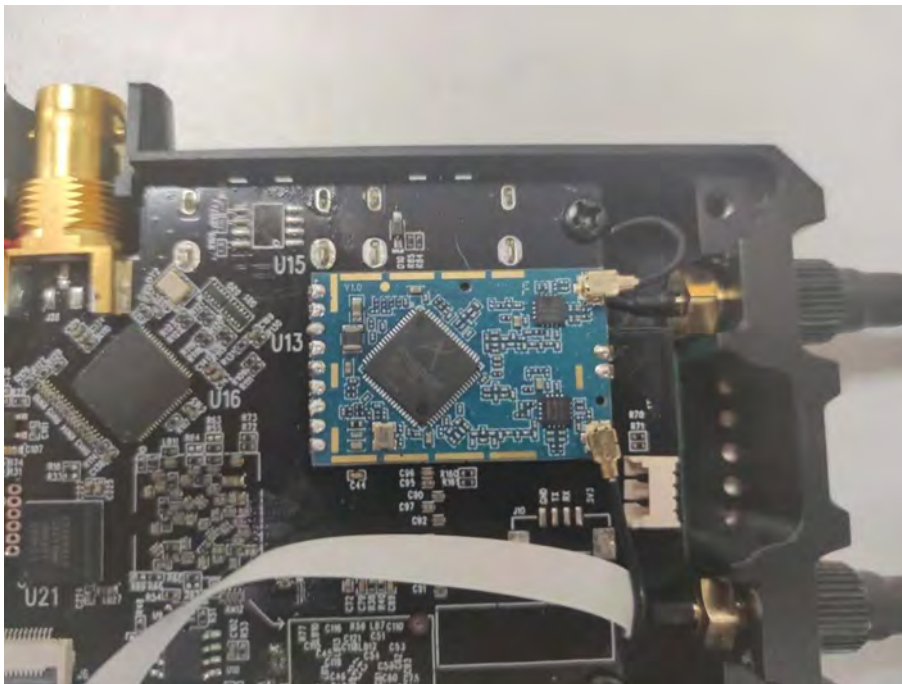
12 APPENDIX I -- PHOTOGRAPH











----- End of Report -----