

TEST REPORT

Applicant: Queclink Wireless Solutions Co., Ltd.
Address: No.30, Lane 500, Xinlong Road, Minhang District, Shanghai, 201101
Equipment Type: Industrial Router
Model Name: WR100LAU
Brand Name: Queclink
FCC ID: YQD-WR100LAU
Test Standard: 47 CFR Part 15 Subpart C (refer to section 3.1)
Sample Arrival Date: May 22, 2026
Test Date: May 23, 2026 - Jun. 27, 2026
Date of Issue: Jul. 24, 2026

ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

Tested by: Yang Wenxuan**Checked by:** Li Ganming**Approved by:** Tolan Tu
(Testing Director)

Revision History

Version	Issue Date	Revisions
<u>Rev. 01</u>	<u>Jul. 24, 2026</u>	<u>Initial Issue</u>

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1 GENERAL INFORMATION

1.1 Test Laboratory

Name	Shenzhen BALUN Technology Co., Ltd.
Address	601, Building 2, Intelligent Connected Vehicle Industrial Park, No.55, Xiangshan Road, Luotian Community, Yanluo Sub-district, Bao'an District, Shenzhen
Phone Number	+86 755 6685 0100

1.2 Test Location

Name	Shenzhen BALUN Technology Co., Ltd.
Location	☒ Building 2, Intelligent Connected Vehicle Industrial Park, No.55, Xiangshan Road, Luotian Community, Yanluo Sub-district, Bao'an District, Shenzhen, Guangdong
	☐ 1/F., Building B, Ganghongji High-Tech Intelligent Industrial Park, No.1008, Songbai Road, Yangguang Community, Xili Subdistrict, Nanshan District, Shenzhen, Guangdong
Accreditation Certificate	The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1196.

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	Queclink Wireless Solutions Co., Ltd.
Address	No.30, Lane 500, Xinlong Road, Minhang District, Shanghai, 201101

2.2 Manufacturer Information

Manufacturer	Queclink Wireless Solutions Co., Ltd.
Address	No.30, Lane 500, Xinlong Road, Minhang District, Shanghai, 201101

2.3 General Description for Equipment under Test (EUT)

EUT Name	Industrial Router
Model Name Under Test	WR100LAU
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	V1.05
Software Version	WR100_R00A15V02
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

2.4 Technical Information

Network and Wireless connectivity	2G Network GSM/GPRS/EDGE 850/1900 MHz 3G Network WCDMA/HSDPA/HSUPA Band 2/4/5 4G Network LTE FDD Band 2/4/5/7/66 WIFI 802.11b, 802.11g and 802.11n
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The requirement for the following technical information of the EUT was tested in this report:

Frequency Range	2.400 GHz - 2.4835 GHz
Modulation Technology	DSSS, OFDM
Product Type	☒ Mobile ☐ Portable ☐ Fix Location
Antenna System (eg., MIMO, Smart Antenna)	N/A
Categorization as Correlated or Completely Uncorrelated	N/A
Antenna Type	Dipole Antenna
Antenna Gain	2.01 dBi
About the Product	Only the WIFI 802.11b, 802.11g and 802.11n (HT20/40) was tested in this report.

2.5 Channel List

20 MHz		40 MHz	
Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)
1	2412	3	2422
2	2417	4	2427
3	2422	5	2432
4	2427	6	2437
5	2432	7	2442
6	2437	8	2447
7	2442	9	2452
8	2447		
9	2452		
10	2457		
11	2462		

Modulation technology	Modulation Type	Transfer Rate (Mbps)(Single RF path)
DSSS (802.11b)	DBPSK	1
	DQPSK	2
	CCK	5.5/11
OFDM (802.11g)	BPSK	6/9
	QPSK	12/18
	16QAM	24/36
	64QAM	48/54
OFDM (802.11n-20 MHz)	BPSK	6.5/7.2
	QPSK	13/19.5/14.4/21.7
	16QAM	26/39/28.9/43.3
	64QAM	52/58.5/65/57.8/65/72.2
OFDM (802.11n-40 MHz)	BPSK	13.5/15
	QPSK	27/40.5/30/45
	16QAM	54/81/60/90
	64QAM	108/121.5/135/120/150

Note: Preliminary tests were performed in different data rate in above table to find the worst radiated emission. The data rate shown in the table below is the worst-case rate with respect to the specific test item. Investigation has been done on all the possible configurations for searching the worst cases. The following table is a list of the test modes shown in this test report.

Test Items	Mode	Data Rate	Channel	
Output Power	11b/11g/11n20/11n40	1/6/6.5/13.5 Mbps	1/6/11	3/6/9
Occupied Bandwidth	11b/11g/11n20/11n40	1/6/6.5/13.5 Mbps	1/6/11	3/6/9
Conducted Spurious Emission	11b/11g/11n20/11n40	1/6/6.5/13.5 Mbps	1/6/11	3/6/9
Conducted Emission	11b/11g/11n20/11n40	1/6/6.5/13.5 Mbps	1/6/11	3/6/9
Radiated Spurious Emission	11b/11g/11n20/11n40	1/6/6.5/13.5 Mbps	1/6/11	3/6/9
Band Edge	11b/11g/11n20/11n40	1/6/6.5/13.5 Mbps	1/6/11	3/6/9
Power spectral density (PSD)	11b/11g/11n20/11n40	1/6/6.5/13.5 Mbps	1/6/11	3/6/9

Note: The above EUT information in section 2.5 was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

3 SUMMARY OF TEST RESULTS

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 15, Subpart C	Intentional radiators of radio frequency equipment
2	ANSI C63.10-2020 + Cor. 1-2023 + C63.10a-2024 + Errata to C63.10a-2024	American National Standard for Procedures for Compliance Testing of Unlicensed Wireless Devices
3	KDB Publication 558074 D01v05r02	GUIDANCE FOR COMPLIANCE MEASUREMENTS ON DIGITAL TRANSMISSION SYSTEM, FREQUENCY HOPPING SPREAD SPECTRUM SYSTEM, AND HYBRID SYSTEM DEVICES OPERATING UNDER SECTION 15.247 OF THE FCC RULES

3.2 Test Verdict

No.	Description	FCC PART No.	Test Result	Verdict
1	Antenna Requirement	15.203	N/A	Pass ^{Note}
2	Output Power	15.247 (b)	ANNEX A.1	Pass
3	Occupied Bandwidth	15.247 (a)	ANNEX A.2	Pass
4	Conducted Spurious Emission	15.247 (d)	ANNEX A.3	Pass
5	Band Edge(Authorized-band band-edge)	15.247 (d)	ANNEX A.4	Pass
6	Conducted Emission	15.207	ANNEX A.5	Pass
7	Radiated Spurious Emission	15.209; 15.247 (d)	ANNEX A.6	Pass
8	Band Edge(Restricted-band band-edge)	15.209; 15.247 (d)	ANNEX A.7	Pass
9	Power spectral density (PSD)	15.247 (e)	ANNEX A.8	Pass

Note: The EUT has a permanently and irreplaceable attached antenna, which complies with the requirement FCC 15.203.

4 GENERAL TEST CONFIGURATIONS

4.1 Test Environments

During the measurement, the normal environmental conditions were within the listed ranges:

Relative Humidity	46% to 68%	
Atmospheric Pressure	100 kPa to 102 kPa	
Temperature	NT (Normal Temperature)	+20.3℃ to +25.1℃
Working Voltage of the EUT	NV (Normal Voltage)	12 V

4.2 Test Equipment List

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Power Sensor	KEYSIGHT	U2063XA	MY58000247	2025.06.16	2026.06.15
				2026.06.01	2027.05.31
Spectrum Analyzer	KEYSIGHT	N9020A	MY56060183	2025.06.16	2026.06.15
				2026.06.01	2027.05.31
Spectrum Analyzer	ROHDE&SCHWARZ	FSV-40	101544	2025.10.30	2026.10.29
Spectrum Analyzer	KEYSIGHT	N9020A	MY54432240	2026.03.24	2027.03.23
Test Antenna-Bi-Log	SCHWARZBECK	VULB 9168	00884	2025.03.01	2028.02.29
Test Antenna-Horn	SCHWARZBECK	BBHA 9120D	01631	2025.02.22	2028.02.21
Test Antenna-Horn	A-INFO	LB-180400KF	J211060273	2024.06.15	2027.06.14
Anechoic Chamber	EMC Electronic Co, Ltd	9m*6m*6m	213	2026.03.03	2028.03.02
Amplifier	COM-MV	LSCX_LNA1-12G-01	180602	2026.05.20	2027.05.19
Amplifier	COM-MV	XKu_LNA7-18G-01	180601	2026.05.20	2027.05.19
Amplifier	COM-MV	KA LNA18 40G-01	10248150	2025.12.04	2026.12.03
EMI Receiver	ROHDE&SCHWARZ	ESR7	103027	2025.10.30	2026.10.29
Test Antenna-Loop	SCHWARZBECK	FMZB 1519	1519-037	2024.01.23	2027.01.22
Amplifier (30MHz-1GHz)	COM-MV	ZT30-1000M	B2018054558	2025.11.26	2026.11.25
Test Antenna-Bi-Log	SCHWARZBECK	VULB 9168	883	2025.03.23	2028.03.22
Anechoic Chamber(10m#2)	YiHeng	21m*11m*8m	101-1	2025.10.16	2028.10.15
EMI Receiver	Keysight	N9038A	MY55330120	2025.06.17	2026.06.16
				2026.06.02	2027.06.01
Amplifier(30MHz-1GHz)	COM-MV	ZT30-1000M	B2017119081	2025.11.26	2026.11.25
Test Antenna-Bi-Log	SCHWARZBECK	VULB 9168	9168-00867	2025.03.23	2028.03.22
Anechoic Chamber	YiHeng	9m*6m*6m	106-1	2026.01.20	2029.01.19

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
EMI Receiver	KEYSIGHT	N9010B	MY57110309	2025.09.25	2026.09.24
LISN	SCHWARZBECK	NSLK 8127	8127-687	2026.03.25	2027.03.24
ISN	TESEQ	ISN T800	34449	2025.10.20	2026.10.19
Shielded Room	Chang Chuang	4m*4m*3m	662	2025.10.12	2028.10.11

4.3 Test Software List

Description	Manufacturer	Software Version	Serial No.	Applicable test Setup
BL410R	BALUN	V2.1.1.488	N/A	The section 4.5.1
BL410E	BALUN	V22.930	N/A	The section 4.5.2&4.5.3&4.5.4&4.5.5

4.4 Measurement Uncertainty

The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2.

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Parameters	Uncertainty
Occupied Channel Bandwidth	2.8%
RF output power, conducted	1.28 dB
Power Spectral Density, conducted	1.30 dB
Unwanted Emissions, conducted	1.84 dB
All emissions, radiated	5.36 dB
Temperature	0.8°C
Humidity	4%

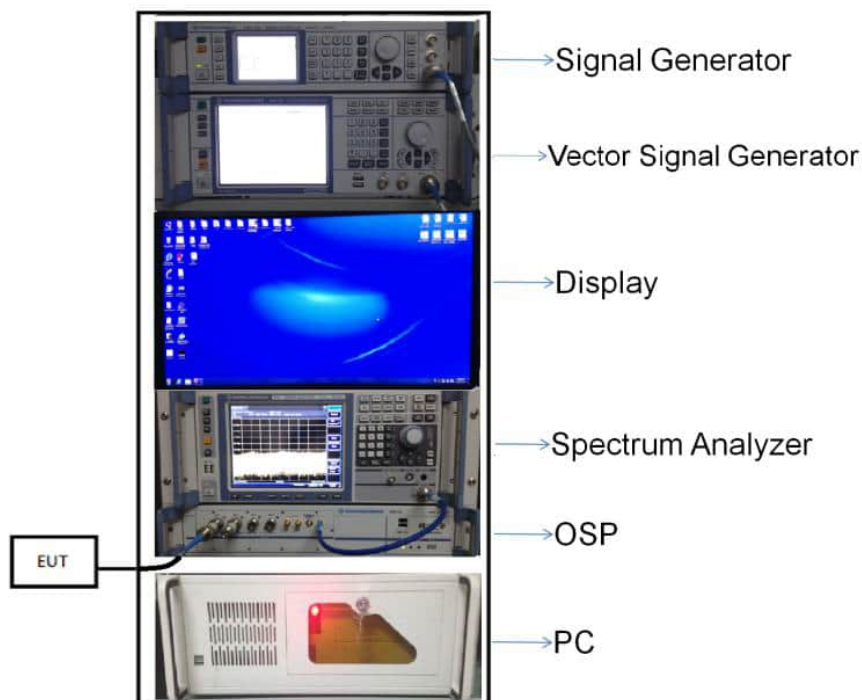
4.5 Description of Test Setup

4.5.1 For Antenna Port Test

Conducted value (dBm) = Measurement value (dBm) + cable loss (dB)

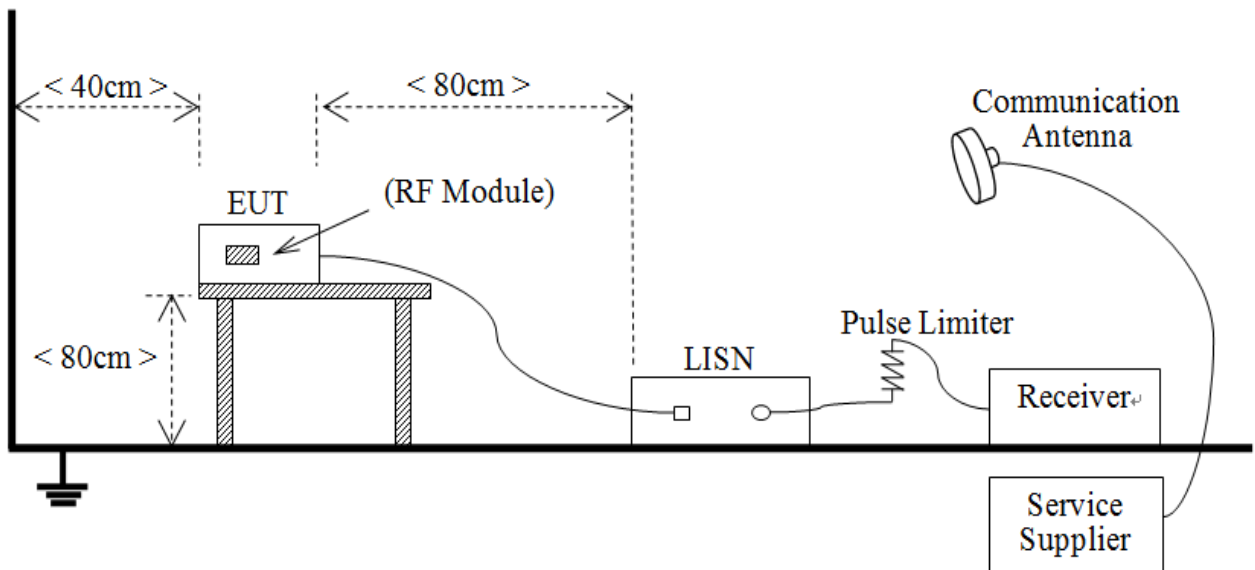
For example: the measurement value is 10 dBm and the cable 0.5dBm used, then the final result of EUT:

Conducted value (dBm) = 10 dBm + 0.5 dB = 10.5 dBm



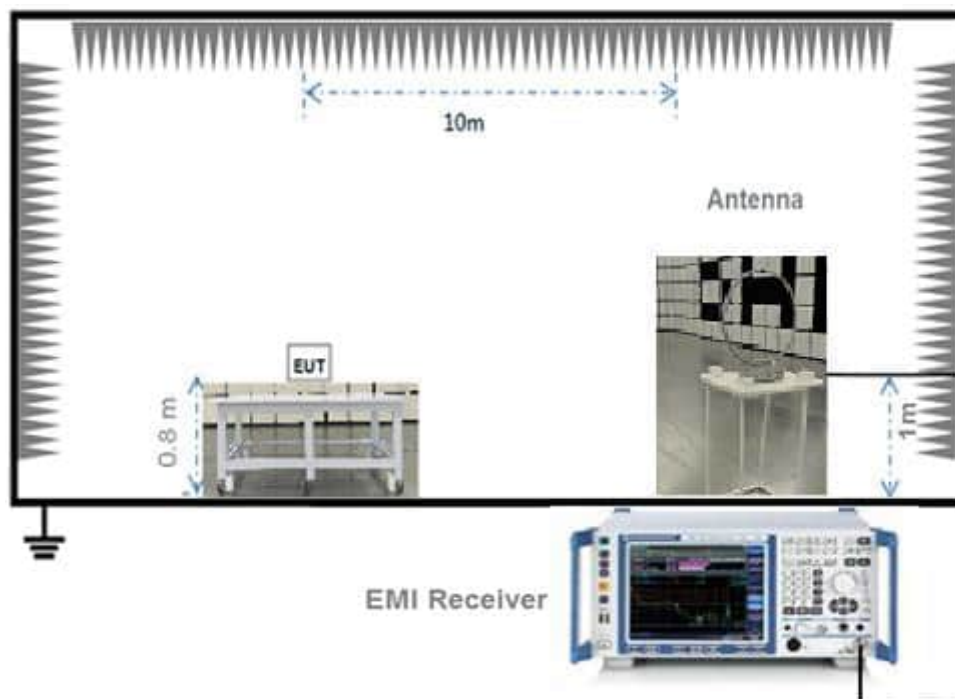
(Diagram 1)

4.5.2 For AC Power Supply Port Test



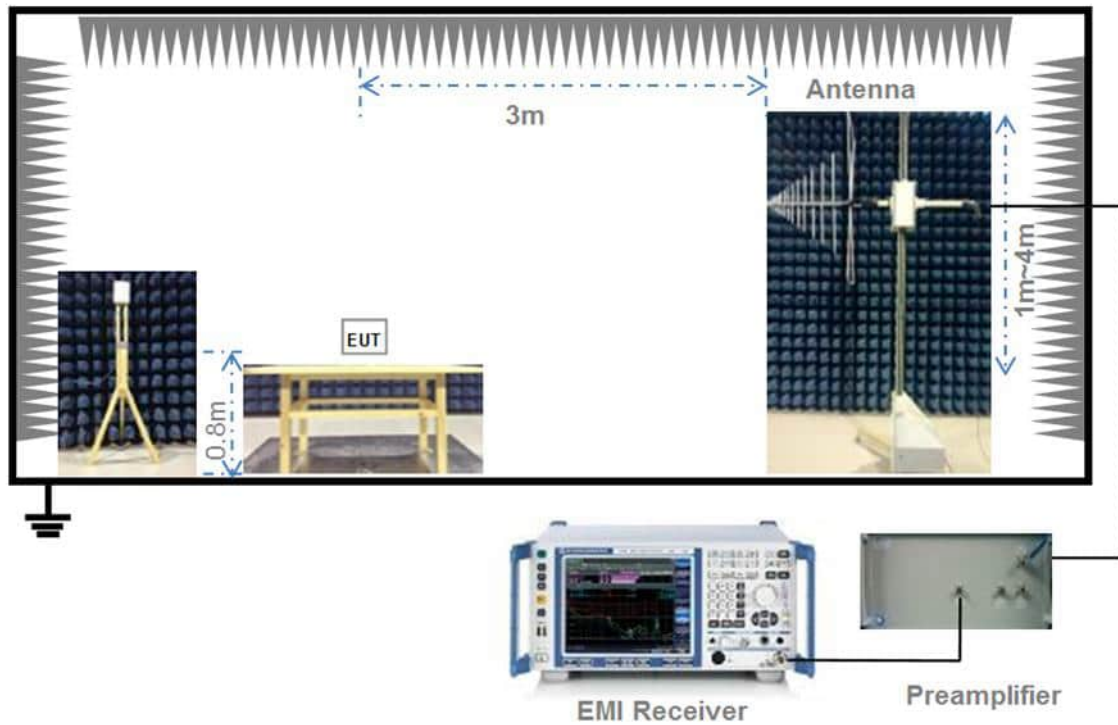
(Diagram 2)

4.5.3 For Radiated Test (Below 30 MHz)



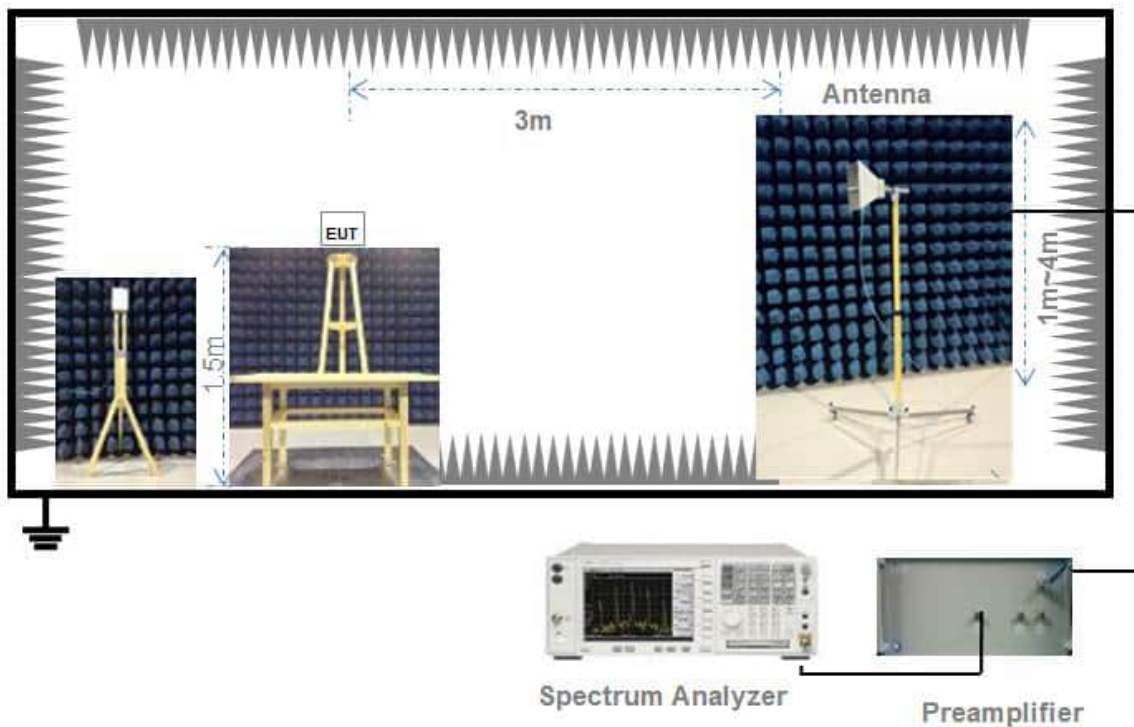
(Diagram 3)

4.5.4 For Radiated Test (30 MHz-1 GHz)



(Diagram 4)

4.5.5 For Radiated Test (Above 1 GHz)



(Diagram 5)

4.6 Measurement Results Explanation Example

4.6.1 For conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

4.6.2 For radiated band edges and spurious emission test:

$$E = \text{EIRP} - 20\log D + 104.8$$

where:

E = electric field strength in dB μ V/m,

EIRP = equivalent isotropic radiated power in dBm

D = specified measurement distance in meters.

EIRP = Measure Conducted output power Value (dBm) + Maximum transmit antenna gain (dBi) + the appropriate maximum ground reflection factor (dB)

5 TEST ITEMS

5.1 Antenna Requirements

5.1.1 Relevant Standards

FCC §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. 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.

If directional gain of transmitting antennas is greater than 6 dBi, the power shall be reduced by the same level in dB comparing to gain minus 6 dBi. For the fixed point-to-point operation, the power shall be reduced by one dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi. 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 FCC rule.

5.1.2 Antenna Anti-Replacement Construction

The Antenna Anti-Replacement as following method:

Protected Method	Description
The antenna is embedded in the product.	An embedded-in antenna design is used.

Reference Documents	Item
Photo	Please refer to the EUT Photo documents.

5.1.3 Antenna Gain

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.

5.2 Output Power

5.2.1 Test Limit

FCC § 15.247(b)

For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements.

5.2.2 Test Setup

See section 4.5.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.2.3 Test Procedure

Maximum peak conducted output power

The maximum peak conducted output power may be measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall utilize a fast-responding diode detector.

The EUT shall be transmitted at its maximum power control level.

Maximum conducted (average) output power (Reporting Only)

a) As an alternative to spectrum analyzer or EMI receiver measurements, measurements may be performed using a wideband RF power meter with a thermocouple detector or equivalent if all of the conditions listed below are satisfied.

- 1) The EUT is configured to transmit continuously, or to transmit with a constant duty factor.
 - 2) At all times when the EUT is transmitting, it shall be transmitting at its maximum power control level.
 - 3) The integration period of the power meter exceeds the repetition period of the transmitted signal by at least a factor of five.
- b) If the transmitter does not transmit continuously, measure the duty cycle (x) of the transmitter output signal.
- c) Measure the average power of the transmitter. This measurement is an average over both the on and off periods of the transmitter.
- d) Adjust the measurement in dBm by adding $10\log(1/x)$, where x is the duty cycle.

Measurements of duty cycle

The zero-span mode on a spectrum analyzer or EMI receiver if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the on and off times of the transmitted signal.

Set the center frequency of the instrument to the center frequency of the transmission.

Set $RBW \geq OBW$ if possible; otherwise, set RBW to the largest available value.

Set $VBW \geq RBW$. Set detector = peak or average.

The zero-span measurement method shall not be used unless both RBW and VBW are $> 50/T$ and the number of sweep points across duration T exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring duty cycle shall not be used if $T \leq 16.7$ microseconds.)

5.2.4 Test Result

Please refer to ANNEX A.1.

5.3 Occupied Bandwidth

5.3.1 Limit

FCC §15.247(a)

Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. In order to make an accurate measurement, set the span greater than RBW. The 6 dB bandwidth must be greater than 500 kHz.

5.3.2 Test Setup

See section 4.5.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.3.3 Test Procedure

Option 1:

Use the following spectrum analyzer settings:

Set RBW = shall be in the range of 1% to 5% of the OBW but not less than 100 kHz.

Set the video bandwidth (VBW) ≥ 3 RBW.

Detector = Peak.

Trace mode = max hold.

Sweep = No faster than coupled (auto) time.

Allow the trace to stabilize.

Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Option 2:

The automatic bandwidth measurement capability of an instrument may be employed using the X dB bandwidth mode with X set to 6 dB, if the functionality described in 11.8.1 (i.e., RBW = 100 kHz,

VBW $\geq 3 \times$ RBW, and peak detector with maximum hold) is implemented by the instrumentation function. When using this capability, care shall be taken so that the bandwidth measurement is not influenced by any intermediate power nulls in the fundamental emission that might be ≥ 6 dB.

99% bandwidth:

Use the following spectrum analyzer settings:

Set RBW = shall be in the range of 1% to 5% of the OBW.

Set the video bandwidth (VBW) ≥ 3 RBW.

Set the Span to 1.5 to 5 times of OBW.

Detector = Peak.

Trace mode = max hold.

The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission.

5.3.4 Test Result

Please refer to ANNEX A.2.

5.4 Conducted Spurious Emission

5.4.1 Limit

FCC §15.247(d)

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

5.4.2 Test Setup

See section 4.5.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.4.3 Test Procedure

The DTS rules specify that in any 100 kHz bandwidth outside of the authorized frequency band, the power shall be attenuated according to the following conditions:

- a) If the maximum peak conducted output power procedure was used to demonstrate compliance as described in 9.1, then the peak output power measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 20 dBc).
- b) If maximum conducted (average) output power was used to demonstrate compliance as described in 9.2, then the peak power in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 30 dBc).
- c) In either case, attenuation to levels below the 15.209 general radiated emissions limits is not required.

The following procedures shall be used to demonstrate compliance to these limits. Note that these procedures can be used in either an antenna-port conducted or radiated test set-up. Radiated tests must conform to the test site requirements and utilize maximization procedures defined herein.

Reference level measurement

Establish a reference level by using the following procedure:

Set instrument center frequency to DTS channel center frequency.

Set the span to ≥ 1.5 times the DTS bandwidth.

Set the RBW = 100 kHz.

Set the VBW $\geq 3 \times$ RBW.

Detector = peak.

Sweep time = auto couple.

Trace mode = max hold.

Allow trace to fully stabilize.

Use the peak marker function to determine the maximum PSD level.

Emission level measurement

Use the following spectrum analyzer settings:

Span = wide enough to capture the peak level of the in-band emission and all spurious emissions (e.g., harmonics) from the lowest frequency generated in the EUT up through the 10th harmonic. Typically, several plots are required to cover this entire span.

Set the RBW = 100 kHz.

Set the VBW $\geq 3 \times$ RBW.

Detector = peak.

Sweep time = auto couple.

Trace mode = max hold.

Allow trace to fully stabilize.

Use the peak marker function to determine the maximum amplitude level.

Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) are attenuated by at least the minimum requirements specified in 11.1 a) or 11.1 b). Report the three highest emissions relative to the limit.

5.4.4 Test Result

Please refer to ANNEX A.3.

5.5 Band Edge (Authorized-band band-edge)

5.5.1 Limit

FCC §15.247(d)

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

5.5.2 Test Setup

See section 4.5.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.5.3 Test Procedure

The DTS rules specify that in any 100 kHz bandwidth outside of the authorized frequency band, the power shall be attenuated according to the following conditions:

- a) If the maximum peak conducted output power procedure was used to demonstrate compliance as described in 9.1, then the peak output power measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 20 dBc).
- b) If maximum conducted (average) output power was used to demonstrate compliance as described in 9.2, then the peak power in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 30 dBc).
- c) In either case, attenuation to levels below the 15.209 general radiated emissions limits is not required.

The following procedures shall be used to demonstrate compliance to these limits. Note that these procedures can be used in either an antenna-port conducted or radiated test set-up. Radiated tests must conform to the test site requirements and utilize maximization procedures defined herein.

Reference level measurement:

Establish a reference level by using the following procedure:

Set instrument center frequency to DTS channel center frequency.

Set the span to ≥ 1.5 times the DTS bandwidth.

Set the RBW = 100 kHz.

Set the VBW $\geq 3 \times$ RBW.

Detector = peak.

Sweep time = No faster than coupled auto time.

Trace mode = max hold.

Allow trace to fully stabilize.

Use the peak marker function to determine the maximum PSD level.

Emission level measurement:

Use the following spectrum analyzer settings:

Span = wide enough to capture the peak level of the in-band emission and all spurious emissions (e.g., harmonics) from the lowest frequency generated in the EUT up through the 10th harmonic. Typically, several plots are required to cover this entire span.

Set the RBW = 100 kHz.

Set the VBW $\geq 3 \times$ RBW.

Detector = peak.

Sweep time = No faster than coupled auto time.

Trace mode = max hold.

Allow trace to fully stabilize.

Use the peak marker function to determine the maximum amplitude level.

Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) are attenuated by at least the minimum requirements specified in 11.1 a) or 11.1 b). Report the three highest emissions relative to the limit.

5.5.4 Test Result

Please refer to ANNEX A.4.

5.6 Conducted Emission

5.6.1 Limit

FCC §15.207

For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μ H/50 Ω line impedance stabilization network (LISN).

Frequency range (MHz)	Conducted Limit (dB μ V)	
	Quai-peak	Average
0.15 - 0.50	66 to 56	56 to 46
0.50 - 5	56	46
0.50 - 30	60	50

5.6.2 Test Setup

See section 4.5.2 for test setup description for the AC power supply port. The photo of test setup please refer to ANNEX B.

5.6.3 Test Procedure

The maximum conducted interference is searched using Peak (PK), if the emission levels more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed. Refer to recorded points and plots below.

Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 50/60 Hz and 240 VAC, 50/60 Hz) for which the device is capable of operation. A device rated for 50/60 Hz operation need not be tested at both frequencies provided the radiated and line conducted emissions are the same at both frequencies.

5.6.4 Test Result

Please refer to ANNEX A.5.

5.7 Radiated Spurious Emission

5.7.1 Limit

FCC §15.209&15.247(d)

Radiated emission outside the frequency band attenuation below the general limits specified in FCC section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in FCC section 15.205(a), must also comply with the radiated emission limits specified in FCC section 15.209(a).

According to FCC section 15.209 (a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (μV/m)	Measurement Distance (m)
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

Note:

1. For Above 1000 MHz, the emission limit in this paragraph is based on measurement instrumentation employing an average detector, measurement using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit.
2. For above 1000 MHz, limit field strength of harmonics: 54dBuV/m@3m (AV) and 74dBuV/m@3m (PK).

5.7.2 Test Setup

See section 4.5.3 to 4.5.5 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.7.3 Test Procedure

Since the emission limits are specified in terms of radiated field strength levels, measurements performed to demonstrate compliance have traditionally relied on a radiated test configuration. Radiated measurements remain the principal method for demonstrating compliance to the specified limits; however antenna-port conducted measurements are also now acceptable to demonstrate compliance (see below for details). When radiated measurements are utilized, test site requirements and procedures for maximizing and measuring radiated emissions that are described in ANSI C63.10 shall be followed.

Antenna-port conducted measurements may also be used as an alternative to radiated measurements for demonstrating compliance in the restricted frequency bands. If conducted measurements are performed, then proper impedance matching must be ensured and an additional radiated test for cabinet/case spurious emissions is required.

General Procedure for conducted measurements in restricted bands

- a) Measure the conducted output power (in dBm) using the detector specified (see guidance regarding measurement procedures for determining quasi-peak, peak, and average conducted output power, respectively).
- b) Add the maximum transmit antenna gain (in dBi) to the measured output power level to determine the EIRP level (see guidance on determining the applicable antenna gain)
- c) Add the appropriate maximum ground reflection factor to the EIRP level (6 dB for frequencies ≤ 30 MHz, 4.7 dB for frequencies between 30 MHz and 1000 MHz, inclusive and 0 dB for frequencies > 1000 MHz).
- d) For devices with multiple antenna-ports, measure the power of each individual chain and sum the EIRP of all chains in linear terms (e.g., Watts, mW).
- e) Convert the resultant EIRP level to an equivalent electric field strength using the following relationship:

$$E = \text{EIRP} - 20\log D + 104.8$$

where:

E = electric field strength in dB μ V/m,

EIRP = equivalent isotropic radiated power in dBm

D = specified measurement distance in meters.

- f) Compare the resultant electric field strength level to the applicable limit.
- g) Perform radiated spurious emission test.

Quasi-Peak measurement procedure

The specifications for measurements using the CISPR quasi-peak detector can be found in Publication 16 of the International Special Committee on Radio Frequency Interference (CISPR) of the International Electrotechnical Commission.

As an alternative to CISPR quasi-peak measurement, compliance can be demonstrated to the applicable emission limits using a peak detector.

Peak power measurement procedure

Peak emission levels are measured by setting the instrument as follows:

- a) RBW = as specified in Table 1.
- b) VBW $\geq 3 \times$ RBW.
- c) Detector = Peak.
- d) Sweep time = auto.
- e) Trace mode = max hold.
- f) Allow sweeps to continue until the trace stabilizes. (Note that the required measurement time may be

longer for low duty cycle applications).

Table 1—RBW as a function of frequency

Frequency	RBW
9-150 kHz	200-300 Hz
0.15-30 MHz	9-10 kHz
30-1000 MHz	100-120 kHz
> 1000 MHz	1 MHz

If the peak-detected amplitude can be shown to comply with the average limit, then it is not necessary to perform a separate average measurement.

Trace averaging across on and off times of the EUT transmissions followed by duty cycle correction

If continuous transmission of the EUT (i.e., duty cycle ≥ 98 percent) cannot be achieved and the duty cycle is constant (i.e., duty cycle variations are less than ± 2 percent), then the following procedure shall be used:

- a) The EUT shall be configured to operate at the maximum achievable duty cycle.
- b) Measure the duty cycle, x , of the transmitter output signal as described in section 6.0.
- c) RBW = 1 MHz (unless otherwise specified).
- d) VBW $\geq 3 \times$ RBW.
- e) Detector = RMS, if $\text{span}/(\# \text{ of points in sweep}) \leq (\text{RBW}/2)$. Satisfying this condition may require increasing the number of points in the sweep or reducing the span. If this condition cannot be satisfied, then the detector mode shall be set to peak.
- f) Averaging type = power (i.e., RMS).
 - 1) As an alternative, the detector and averaging type may be set for linear voltage averaging.
 - 2) Some instruments require linear display mode in order to use linear voltage averaging. Log or dB averaging shall not be used.
- g) Sweep time = auto.
- h) Perform a trace average of at least 100 traces.
- i) A correction factor shall be added to the measurement results prior to comparing to the emission limit in order to compute the emission level that would have been measured had the test been performed at 100 percent duty cycle. The correction factor is computed as follows:
 - 1) If power averaging (RMS) mode was used in step f), then the applicable correction factor is $10 \log(1/x)$, where x is the duty cycle.
 - 2) If linear voltage averaging mode was used in step f), then the applicable correction factor is $20 \log(1/x)$, where x is the duty cycle.
 - 3) If a specific emission is demonstrated to be continuous (≥ 98 percent duty cycle) rather than turning on and off with the transmit cycle, then no duty cycle correction is required for that emission.

NOTE: Reduction of the measured emission amplitude levels to account for operational duty factor is not permitted. Compliance is based on emission levels occurring during transmission - not on an average across on and off times of the transmitter.

Determining the applicable transmit antenna gain

A conducted power measurement will determine the maximum output power associated with a restricted band emission; however, in order to determine the associated EIRP level, the gain of the transmitting antenna (in dBi) must be added to the measured output power (in dBm).

Since the out-of-band characteristics of the EUT transmit antenna will often be unknown, the use of a conservative antenna gain value is necessary. Thus, when determining the EIRP based on the measured conducted power, the upper bound on antenna gain for a device with a single RF output shall be selected as the maximum in-band gain of the antenna across all operating bands, or 2 dBi, whichever is greater. However, for devices that operate in multiple frequency bands while using the same transmit antenna, the highest gain of the antenna within the operating band nearest in frequency to the restricted band emission being measured may be used in lieu of the overall highest gain when the emission is at a frequency that is within 20 percent of the nearest band edge frequency, but in no case shall a value less than 2 dBi be used.

See KDB 662911 for guidance on calculating the additional array gain term when determining the effective antenna gain for a EUT with multiple outputs occupying the same or overlapping frequency ranges in the same band.

Radiated spurious emission test

An additional consideration when performing conducted measurements of restricted band emissions is that unwanted emissions radiating from the EUT cabinet, control circuits, power leads, or intermediate circuit elements will likely go undetected in a conducted measurement configuration. To address this concern, a radiated test shall be performed to ensure that emissions emanating from the EUT cabinet (rather than the antenna port) also comply with the applicable limits.

For these cabinet radiated spurious emission measurements the EUT transmit antenna may be replaced with a termination matching the nominal impedance of the antenna. Procedures for performing radiated measurements are specified in ANSI C63.10. All detected emissions shall comply with the applicable limits.

The measurement frequency range is from 30 MHz to the 10th harmonic of the fundamental frequency. The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. Mid channels on all channel bandwidth verified. Only the worst RB size/offset presented.

The power of the EUT transmitting frequency should be ignored.

All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

Use the following spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured

RBW = 1 MHz for $f \geq 1$ GHz, 100 kHz for $f < 1$ GHz

VBW $\geq$ RBW

Sweep = auto

Detector function = peak

Trace = max hold

5.7.4 Test Result

Please refer to ANNEX A.6.

5.8 Band Edge (Restricted-band band-edge)

5.8.1 Limit

FCC §15.209&15.247(d)

Radiated emission outside the frequency band attenuation below the general limits specified in FCC section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in FCC section 15.205(a), must also comply with the radiated emission limits specified in FCC section 15.209(a).

5.8.2 Test Setup

See section 4.5.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.8.3 Test Procedure

The following procedures may be used to determine the average field strength or power of an unwanted emission that is within 2 MHz of the authorized band-edge. Use the procedure described in 11.12.3.2.2 when using an average detector and the EUT can be configured to transmit continuously (i.e., $D \geq 98\%$). Use the procedure described in 11.12.3.2.3 when using an average detector and the EUT cannot be configured to transmit continuously but the duty cycle is constant (i.e., duty cycle variations are less than $\pm 2\%$). Use the procedure described in 11.12.3.2.4 when using an average detector for those cases where the EUT cannot be configured to transmit continuously and the duty cycle is not constant (duty cycle variations equal or exceed 2%).

If the EUT can be configured or modified to transmit continuously ($D \geq 98\%$), measured using the following method (with EUT transmitting continuously):

Use the following spectrum analyzer settings:

Set instrument center frequency to the frequency of the emission to be measured (must be within 2 MHz of the authorized band-edge).

RBW = 100 kHz.

VBW $\geq [3 \times \text{RBW}]$.

Detector = Power averaging (rms), if $[\text{span} / (\# \text{ of points in sweep})] \leq (\text{RBW} / 2)$.

Averaging type = power (i.e., rms):

As an alternative, the detector and averaging type may be set for linear voltage averaging.

Some instruments require linear display mode to use linear voltage averaging. Log or dB averaging shall not be used.

Sweep time = auto.

Perform a trace average of at least 100 traces.

Compute the power by integrating the spectrum over 1 MHz using the analyzer's band-power

measurement function with band limits set equal to the emission frequency (femission) ± 0.5 MHz. If the instrument does not have a band-power function, then sum the amplitude levels (in power units) at 100 kHz intervals extending across the 1 MHz spectrum defined by femission) ± 0.5 MHz.

If continuous transmission of the EUT ($D \geq 98\%$) cannot be achieved and the duty cycle is constant (duty cycle variations are less $\pm 2\%$), then the following procedure may be used to measure the average power of unwanted emissions within 2 MHz of the authorized band-edge:

RBW = 100 kHz.

VBW $\geq [3 \times \text{RBW}]$.

Detector = Power averaging (rms), if $[\text{span} / (\# \text{ of points in sweep})] \leq (\text{RBW} / 2)$.

Averaging type = power (i.e., rms):

Detector = Power averaging (rms), if $[\text{span} / (\# \text{ of points in sweep})] \leq (\text{RBW} / 2)$. Satisfying this condition might require increasing the number of points in the sweep or reducing the span. If this condition cannot be satisfied, then the detector mode shall be set to peak.

Averaging type = power (i.e., rms):

- 1) As an alternative, the detector and averaging type may be set for linear voltage averaging
- 2) Some instruments require linear display mode to use linear voltage averaging. Log or dB averaging shall not be used.

Sweep time = auto.

Perform a trace average of at least 100 traces.

Compute the power by integrating the spectrum over 1 MHz using the instrument's band-power measurement function with band limits set equal to the emission frequency (femission) ± 0.5 MHz. If the spectrum analyzer does not have a band-power function, then sum the amplitude levels (in power units) at 100 kHz intervals extending across the 1 MHz spectrum defined by femission ± 0.5 MHz.

A correction factor shall be added to the measurement results prior to comparing with the emission limit to compute the emission level that would have been measured had the test been performed at 100% duty cycle. The correction factor is computed as follows:

1) If power averaging (rms) mode was used in step f), then the applicable correction factor is $[10 \log (1 / D)]$, where D is the duty cycle.

2) If linear voltage averaging mode was used in step f), then the applicable correction factor is $[20 \log (1 / D)]$, where D is the duty cycle.

3) If a specific emission is demonstrated to be continuous ($D \geq 98\%$) rather than turning ON and

OFF with the transmit cycle, then no duty cycle correction is required for that emission.

Reduction of the measured emission amplitude levels to account for operational duty cycle is not permitted. Determining compliance is based on emission levels occurring during transmission—it is not based on an average across ON and OFF times of the transmitter.

5.8.4 Test Result

Please refer to ANNEX A.7.

5.9 Power Spectral density (PSD)

5.9.1 Limit

FCC §15.247(e)

The same method of determining the conducted output power shall be used to determine the power spectral density. If a peak output power is measured, then a peak power spectral density measurement is required. If an average output power is measured, then an average power spectral density measurement should be used.

5.9.2 Test Setup

See section 4.5.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.9.3 Test Procedure

Set analyzer center frequency to DTS channel center frequency.

Set the span to 1.5 times the DTS bandwidth.

Set the RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.

Set the VBW $\geq 3 \text{ RBW}$.

Detector = peak.

Sweep time = auto couple.

Trace mode = max hold.

Allow trace to fully stabilize.

Use the peak marker function to determine the maximum amplitude level within the RBW.

If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

5.9.4 Test Result

Please refer to ANNEX A.8.

ANNEX A TEST RESULT

A.1 Output Power

Duty Cycle

Test Mode	On Time (ms)	On+Off time (ms)	Duty Cycle	Duty Factor
802.11b	12.17	12.24	99.43%	0.02
802.11g	2.022	2.075	97.45%	0.11
802.11n-20 MHz	1.885	1.938	97.27%	0.12
802.11n-40 MHz	0.9246	0.9645	95.86%	0.18

Peak Power Test Data**802.11b Mode:**

Channel	Measured Output Peak Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	14.92	31.05	30	1000	Pass
Middle	18.12	64.86			Pass
High	18.80	75.86			Pass

802.11g Mode:

Channel	Measured Output Peak Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	19.45	88.10	30	1000	Pass
Middle	23.86	243.22			Pass
High	20.30	107.15			Pass

802.11n-20 MHz Mode:

Channel	Measured Output Peak Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	20.37	108.89	30	1000	Pass
Middle	24.08	255.86			Pass
High	19.78	95.06			Pass

802.11n-40 MHz Mode:

Channel	Measured Output Peak Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	20.46	111.17	30	1000	Pass
Middle	23.45	221.31			Pass
High	20.39	109.40			Pass

Average Power Test Data

802.11b Mode:

Channel	Measured Output Average Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	11.71	14.83	30	1000	Pass
Middle	15.37	34.43			Pass
High	15.48	35.32			Pass

802.11g Mode:

Channel	Measured Output Average Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	11.02	12.65	30	1000	Pass
Middle	15.56	35.97			Pass
High	11.65	14.62			Pass

802.11n-20 MHz Mode:

Channel	Measured Output Average Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	11.96	15.70	30	1000	Pass
Middle	15.63	36.56			Pass
High	11.34	13.61			Pass

802.11n-40 MHz Mode:

Channel	Measured Output Average Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	11.69	14.76	30	1000	Pass
Middle	14.79	30.13			Pass
High	11.54	14.26			Pass

A.2 Occupied Bandwidth

Test Data

802.11b Mode:

Channel	6 dB Bandwidth (MHz)	99% Bandwidth (MHz)	6 dB Bandwidth Limits (kHz)
Low	10.400000	13.290000	≥ 500
Middle	10.400000	13.297000	≥ 500
High	10.300000	13.287000	≥ 500

802.11g Mode:

Channel	6 dB Bandwidth (MHz)	99% Bandwidth (MHz)	6 dB Bandwidth Limits (kHz)
Low	15.500000	16.307000	≥ 500
Middle	15.300000	16.291000	≥ 500
High	15.700000	16.279000	≥ 500

802.11n-20MHz Mode:

Channel	6 dB Bandwidth (MHz)	99% Bandwidth (MHz)	6 dB Bandwidth Limits (kHz)
Low	15.900000	17.294000	≥ 500
Middle	16.000000	17.290000	≥ 500
High	15.900000	17.287000	≥ 500

802.11n-40MHz Mode:

Channel	6 dB Bandwidth (MHz)	99% Bandwidth (MHz)	6 dB Bandwidth Limits (kHz)
Low	32.200000	35.761000	≥ 500
Middle	34.200000	35.772000	≥ 500
High	33.800000	35.764000	≥ 500

Test Plots

6 dB Bandwidth

802.11b LOW CHANNEL



802.11b MIDDLE CHANNEL



802.11b HIGH CHANNEL



802.11g LOW CHANNEL



802.11g MIDDLE CHANNEL



802.11g HIGH CHANNEL



802.11n-20 MHz LOW CHANNEL



802.11n-20 MHz MIDDLE CHANNEL



802.11n-20 MHz HIGH CHANNEL



802.11n-40 MHz LOW CHANNEL



802.11n-40 MHz MIDDLE CHANNEL

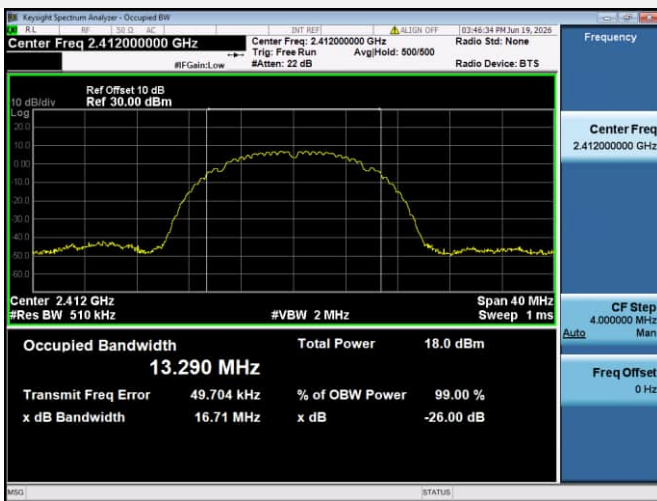


802.11n-40 MHz HIGH CHANNEL

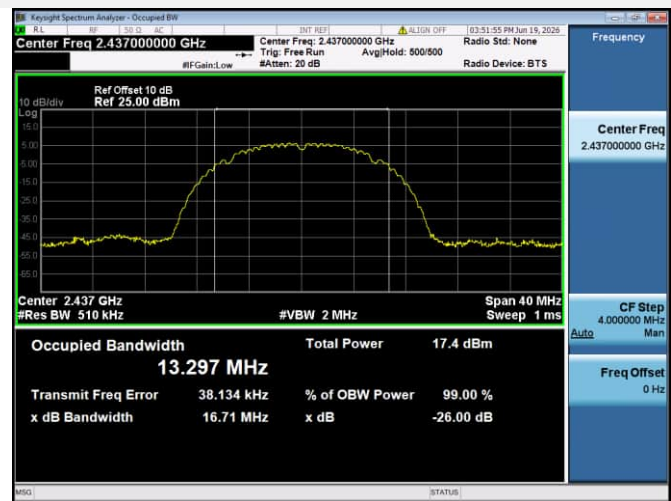


99% Bandwidth

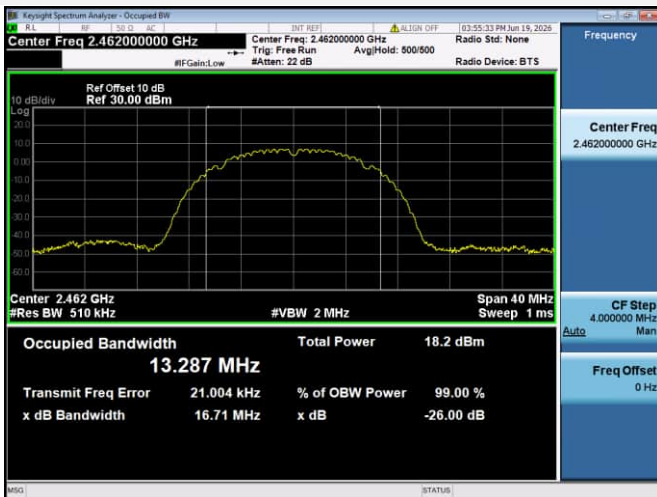
802.11b LOW CHANNEL



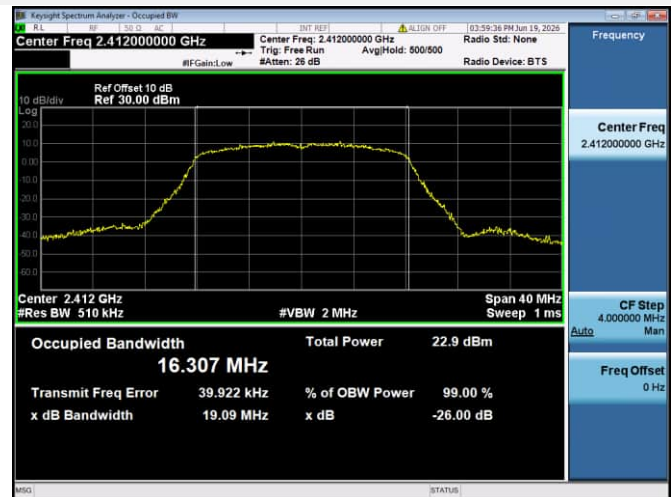
802.11b MIDDLE CHANNEL



802.11b HIGH CHANNEL



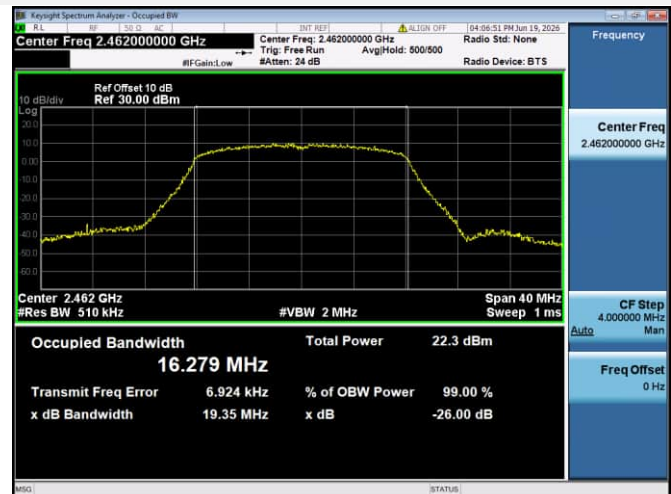
802.11g LOW CHANNEL



802.11g MIDDLE CHANNEL



802.11g HIGH CHANNEL



802.11n-20 MHz LOW CHANNEL



802.11n-20 MHz MIDDLE CHANNEL



802.11n-20 MHz HIGH CHANNEL



802.11n-40 MHz LOW CHANNEL



802.11n-40 MHz MIDDLE CHANNEL



802.11n-40 MHz HIGH CHANNEL



A.3 Conducted Spurious Emissions

Test Data

802.11b Mode:

Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-39.18	3.20	-16.80	Pass
Middle	-34.97	6.17	-13.83	Pass
High	-35.92	6.58	-13.43	Pass

802.11g Mode:

Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-40.45	1.74	-18.26	Pass
Middle	-35.59	5.64	-14.36	Pass
High	-38.59	1.91	-18.09	Pass

802.11n-20MHz Mode:

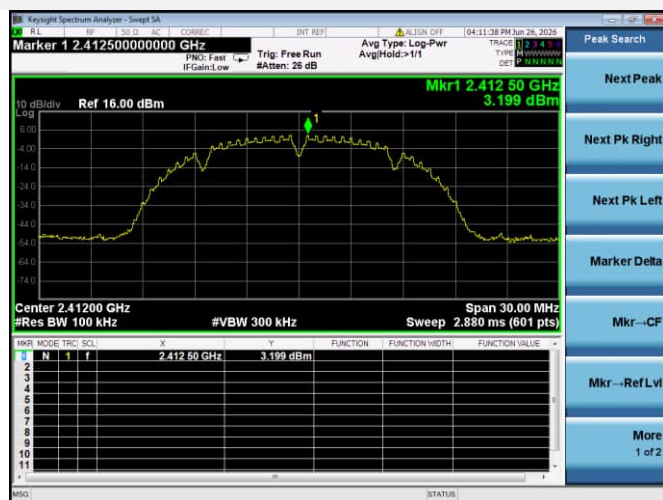
Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-38.22	2.58	-17.42	Pass
Middle	-36.23	6.12	-13.88	Pass
High	-39.04	1.95	-18.06	Pass

802.11n-40MHz Mode:

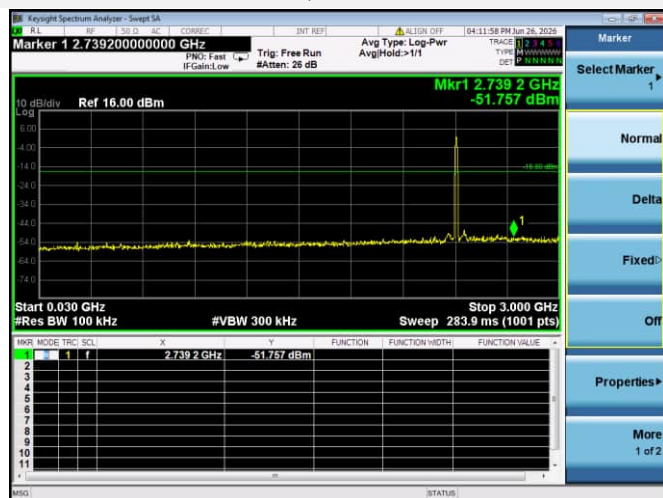
Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-38.47	-1.26	-21.26	Pass
Middle	-40.20	1.71	-18.29	Pass
High	-39.72	-1.48	-21.48	Pass

Test Plots

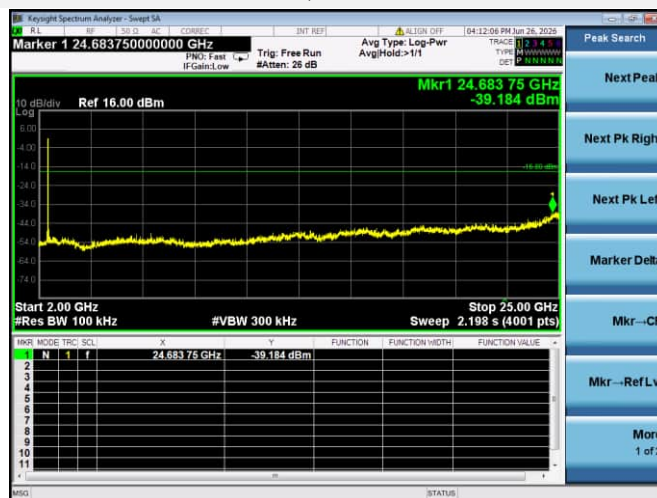
802.11b LOW CHANNEL CARRIER LEVEL



802.11b LOW CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



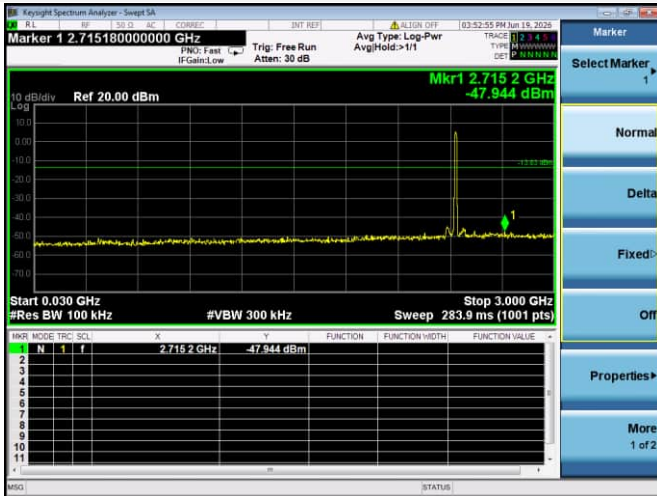
802.11b LOW CHANNEL, SPURIOUS 2 GHz ~ 25 GHz



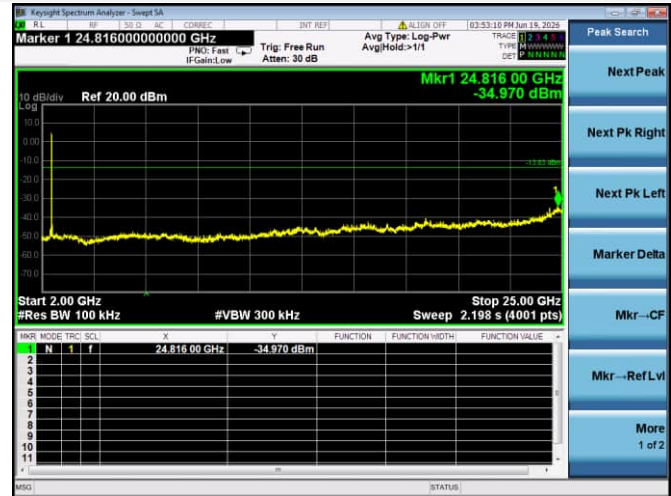
802.11b MIDDLE CHANNEL CARRIER LEVEL



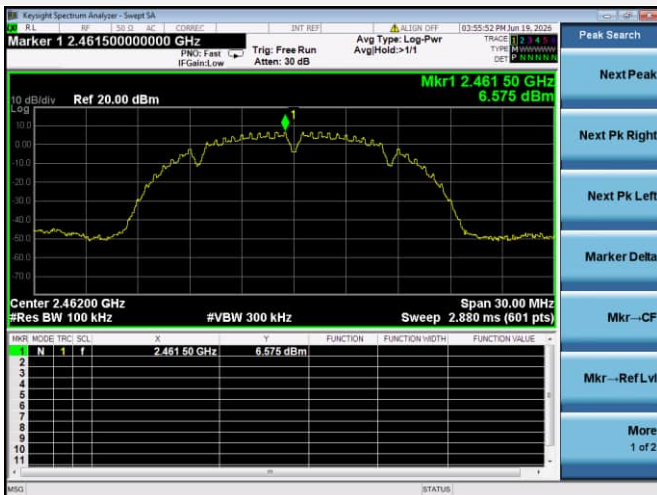
802.11b MIDDLE CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



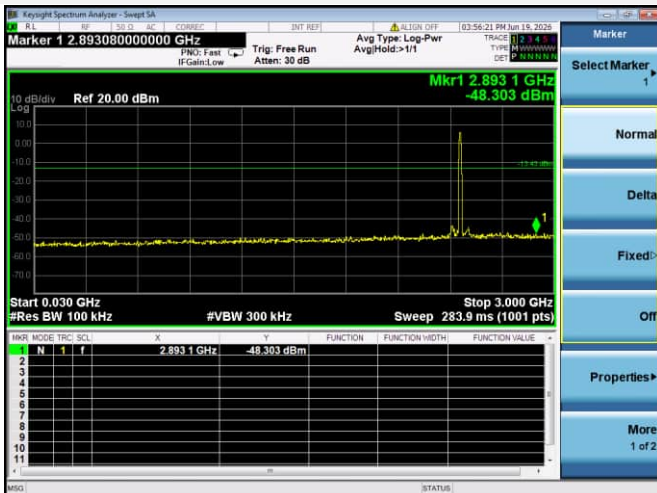
802.11b MIDDLE CHANNEL, SPURIOUS 2 GHz ~ 25 GHz



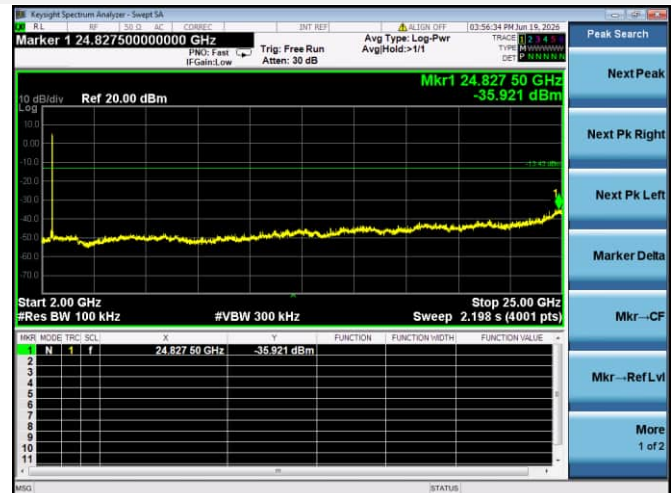
802.11b HIGH CHANNEL CARRIER LEVEL



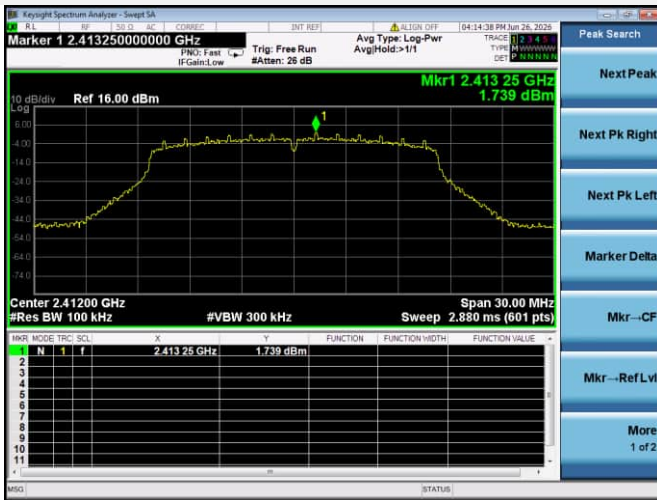
802.11b HIGH CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



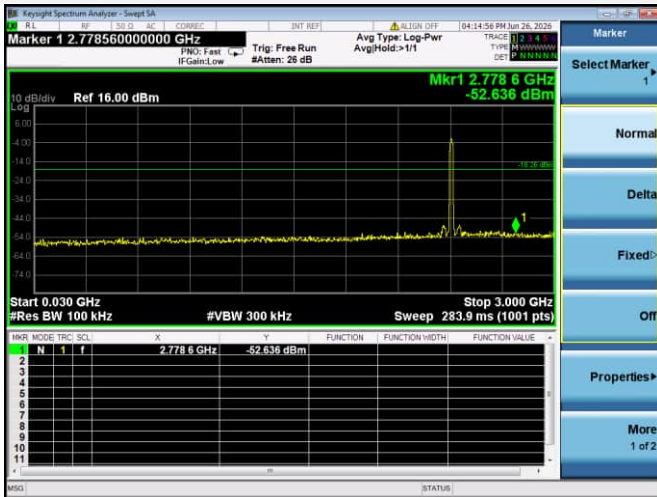
802.11b HIGH CHANNEL, SPURIOUS 2 GHz ~ 25 GHz



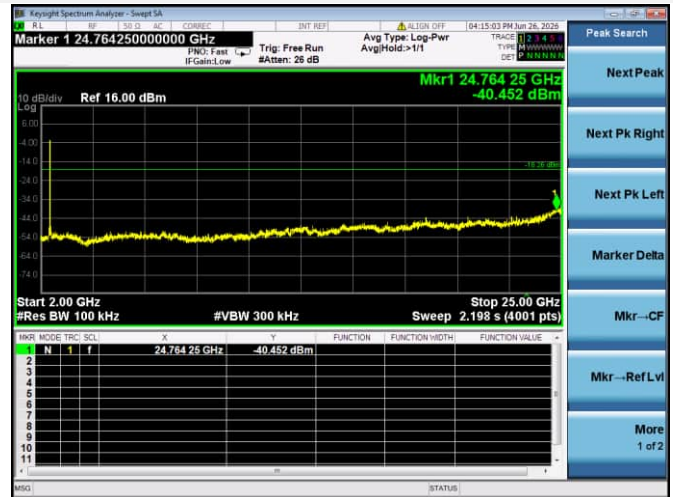
802.11g LOW CHANNEL CARRIER LEVEL



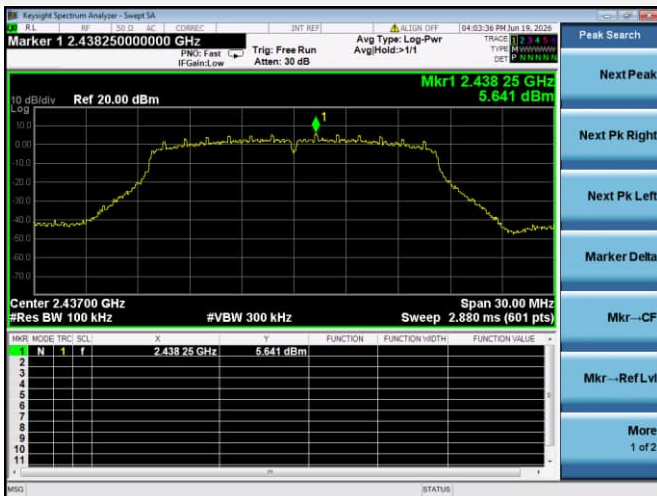
802.11g LOW CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



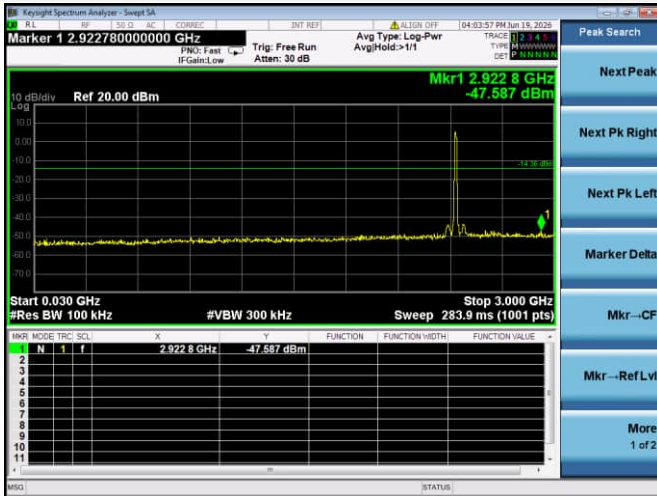
802.11g LOW CHANNEL, SPURIOUS 2 GHz ~ 25 GHz



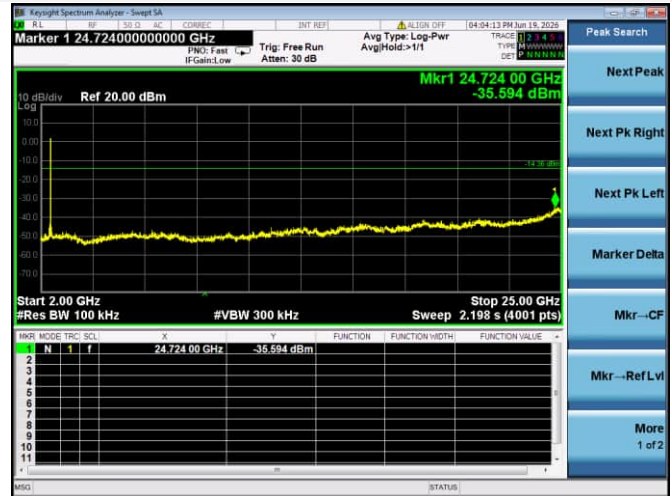
802.11g MIDDLE CHANNEL CARRIER LEVEL



802.11g MIDDLE CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



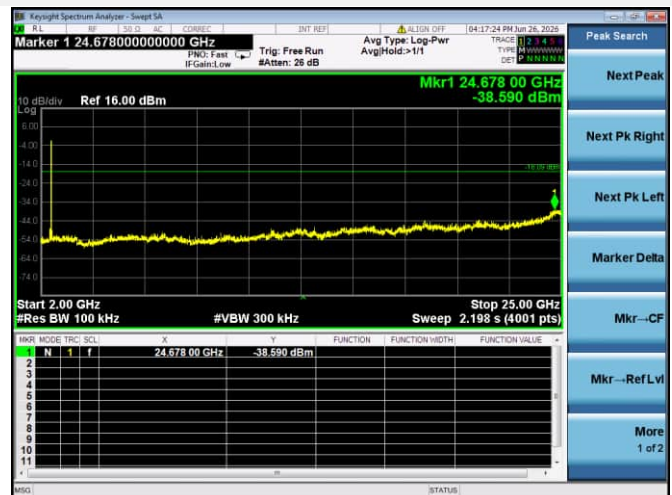
802.11g MIDDLE CHANNEL, SPURIOUS 2 GHz ~ 25 GHz



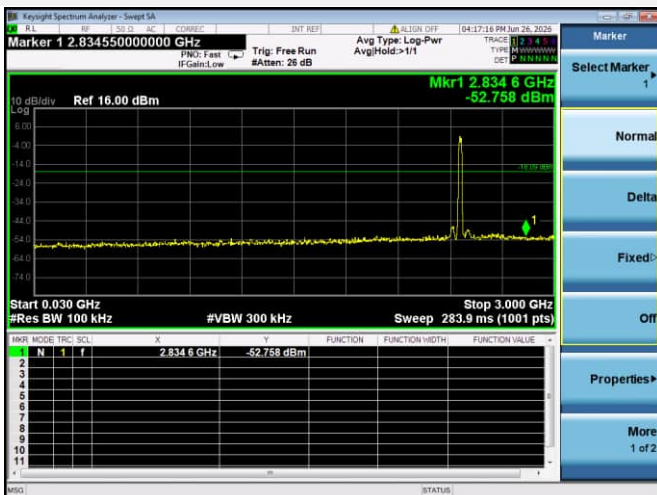
802.11g HIGH CHANNEL CARRIER LEVEL



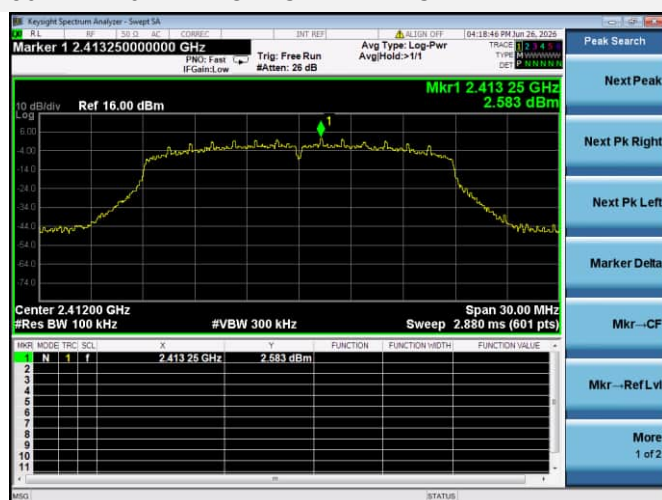
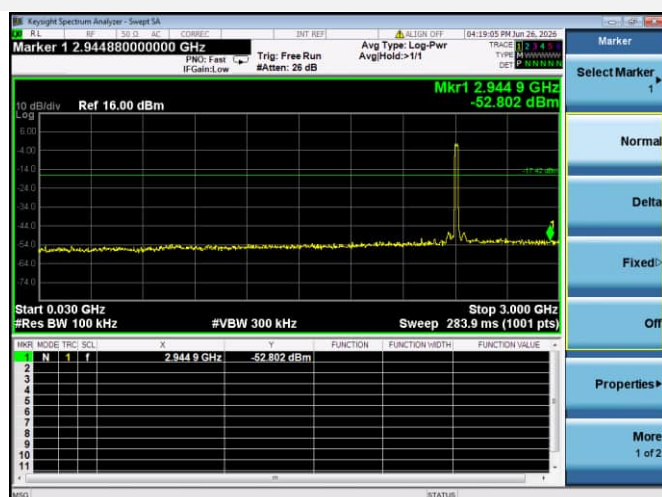
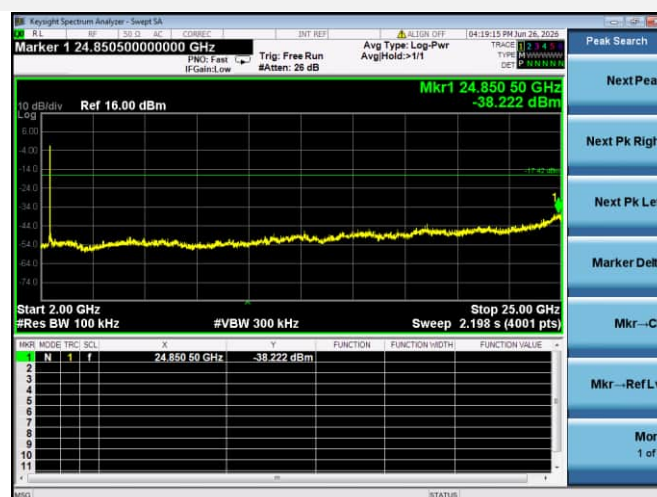
802.11g HIGH CHANNEL, SPURIOUS 2 GHz ~ 25 GHz



802.11g HIGH CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



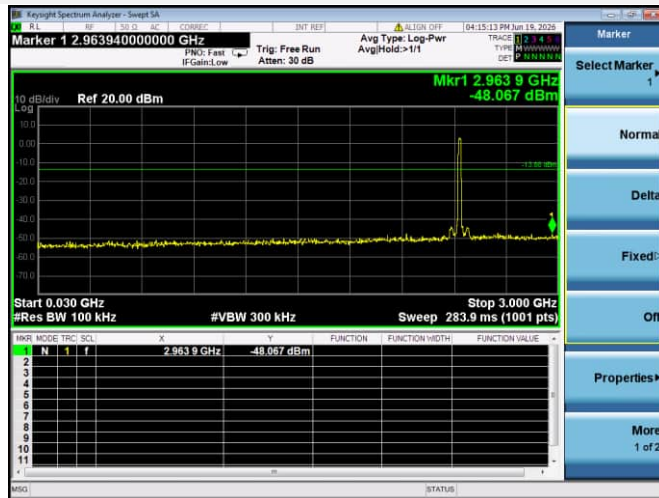
802.11n-20 MHz LOW CHANNEL CARRIER LEVEL

802.11n-20 MHz LOW CHANNEL, SPURIOUS
30 MHz ~ 3 GHz802.11n-20 MHz LOW CHANNEL, SPURIOUS
2 GHz ~ 25 GHz

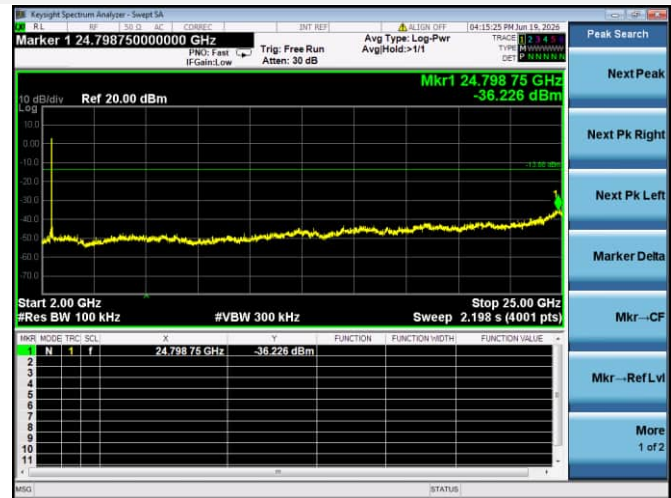
802.11n-20 MHz MIDDLE CHANNEL CARRIER LEVEL



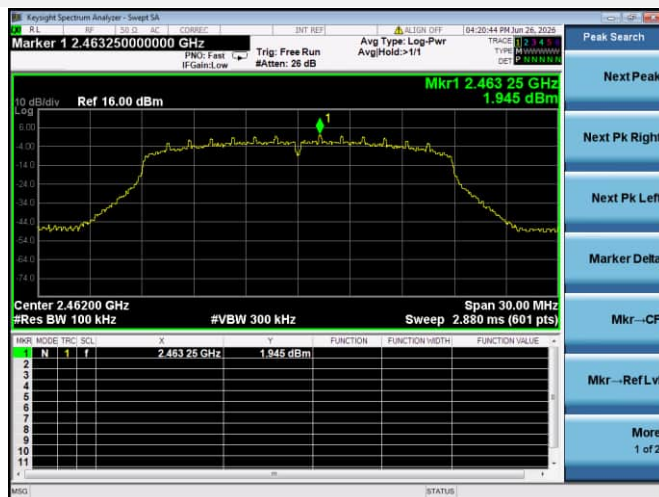
802.11n-20 MHz MIDDLE CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



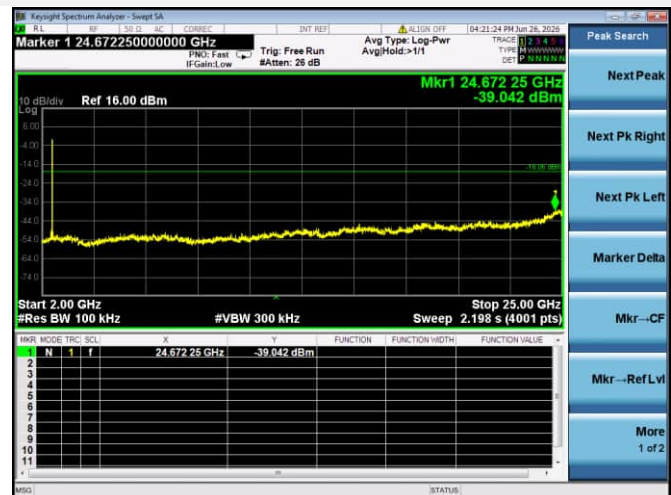
802.11n-20 MHz MIDDLE CHANNEL, SPURIOUS 2 GHz ~ 25 GHz



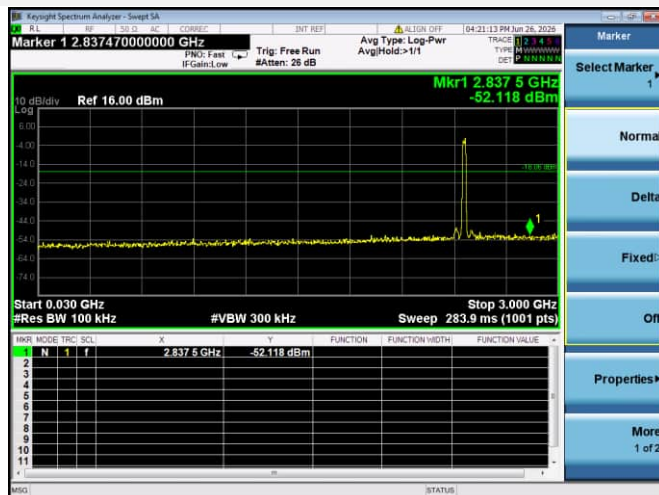
802.11n-20 MHz HIGH CHANNEL CARRIER LEVEL



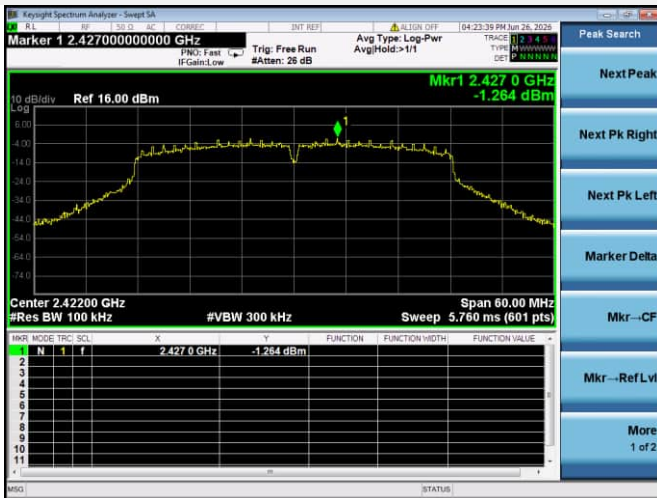
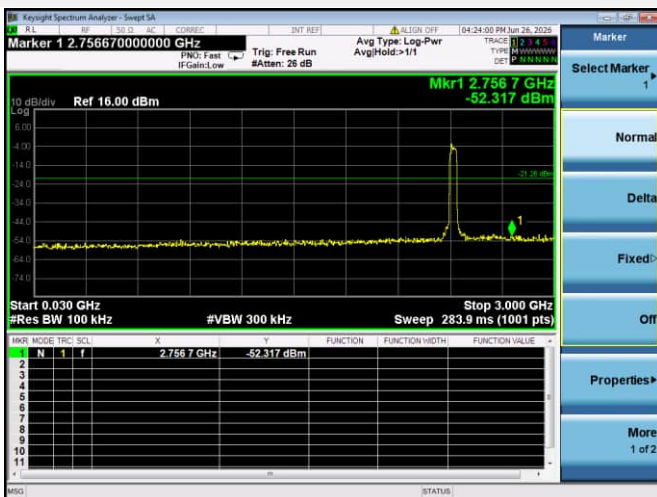
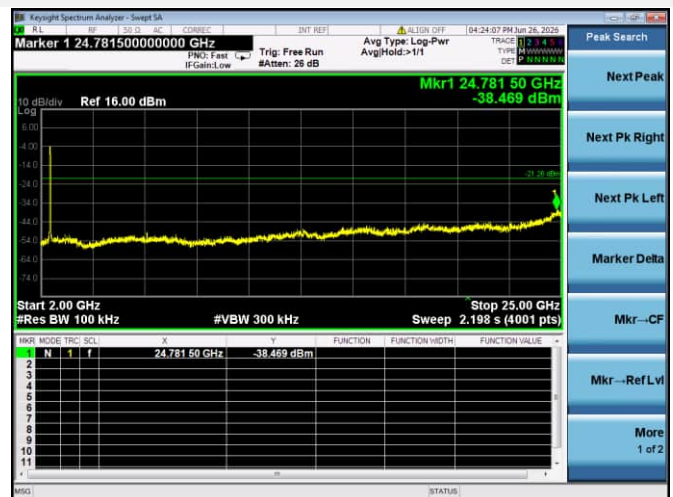
802.11n-20 MHz HIGH CHANNEL, SPURIOUS 2 GHz ~ 25 GHz



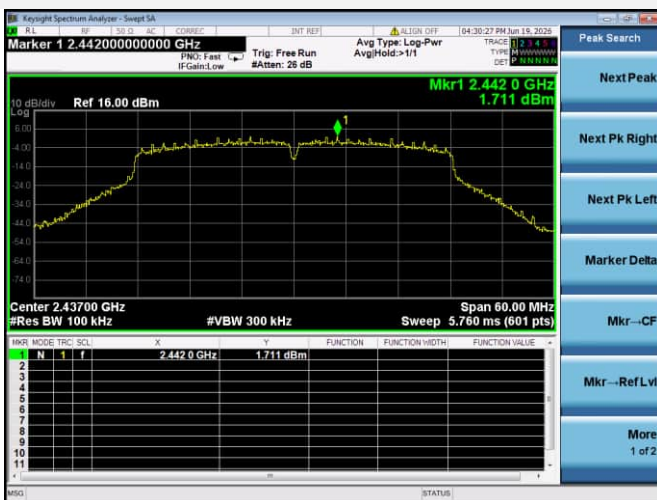
802.11n-20 MHz HIGH CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



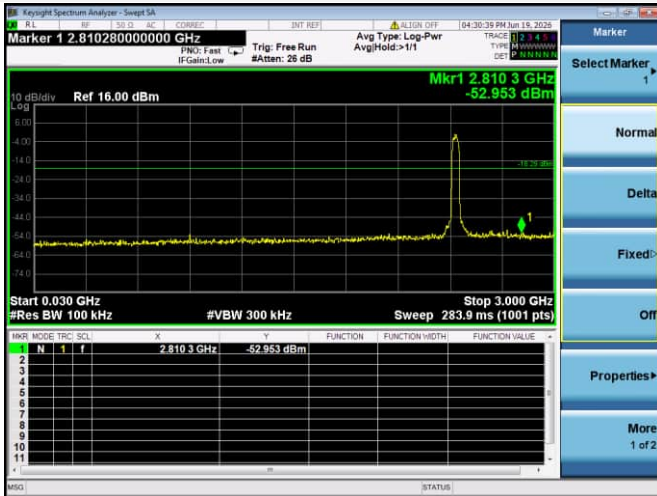
802.11n-40 MHz LOW CHANNEL CARRIER LEVEL

802.11n-40 MHz LOW CHANNEL, SPURIOUS
30 MHz ~ 3 GHz802.11n-40 MHz LOW CHANNEL, SPURIOUS
2 GHz ~ 25 GHz

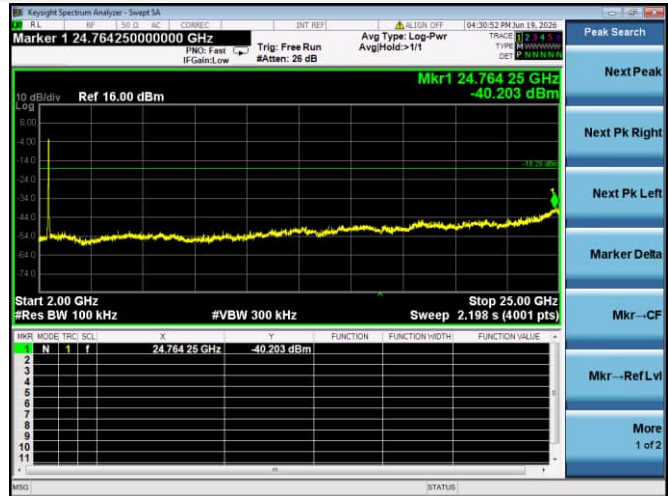
802.11n-40 MHz MIDDLE CHANNEL CARRIER LEVEL



802.11n-40 MHz MIDDLE CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



802.11n-40 MHz MIDDLE CHANNEL, SPURIOUS 2 GHz ~ 25 GHz



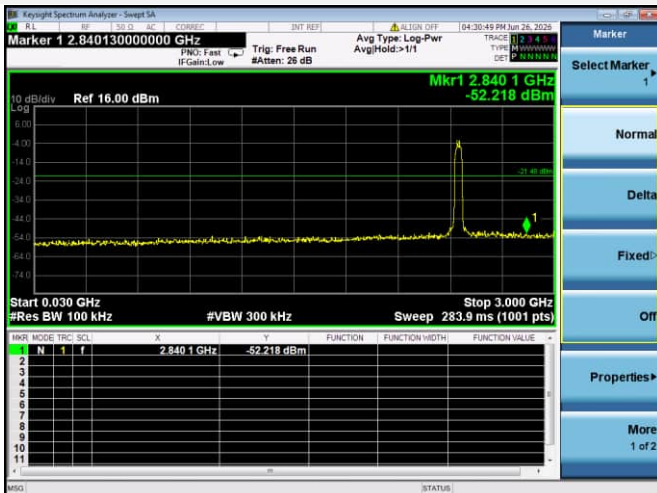
802.11n-40 MHz HIGH CHANNEL CARRIER LEVEL



802.11n-40 MHz HIGH CHANNEL, SPURIOUS 2 GHz ~ 25 GHz



802.11n-40 MHz HIGH CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



A.4 Band Edge (Authorized-band band-edge)

Note: The 99% OBW of the fundamental emission is without 2 MHz of the authorized band.

Test Data

802.11b Mode:

Channel	Measured Max. Band Edge Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low Channel	-51.57	3.20	-16.80	Pass
High Channel	-47.65	6.58	-13.43	Pass

802.11g Mode:

Channel	Measured Max. Band Edge Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low Channel	-45.95	1.74	-18.26	Pass
High Channel	-50.48	1.91	-18.09	Pass

802.11n-20 MHz Mode:

Channel	Measured Max. Band Edge Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low Channel	-43.41	2.58	-17.42	Pass
High Channel	-51.31	1.95	-18.06	Pass

802.11n-40 MHz Mode:

Channel	Measured Max. Band Edge Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low Channel	-31.62	-1.26	-21.26	Pass
High Channel	-46.60	-1.48	-21.48	Pass

Test Plots

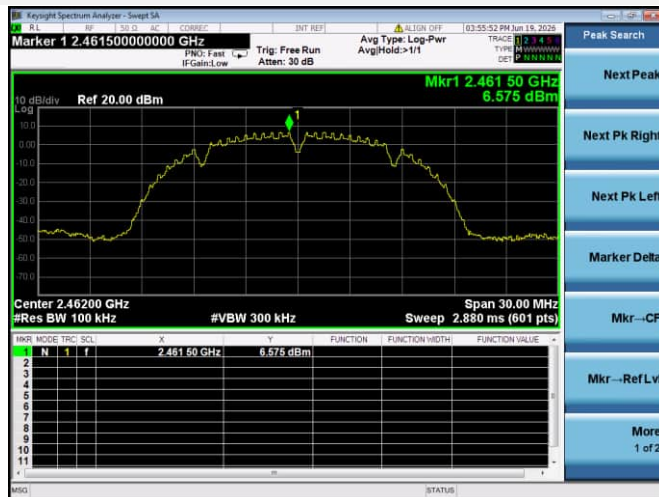
802.11b LOW CHANNEL, CARRIER LEVEL



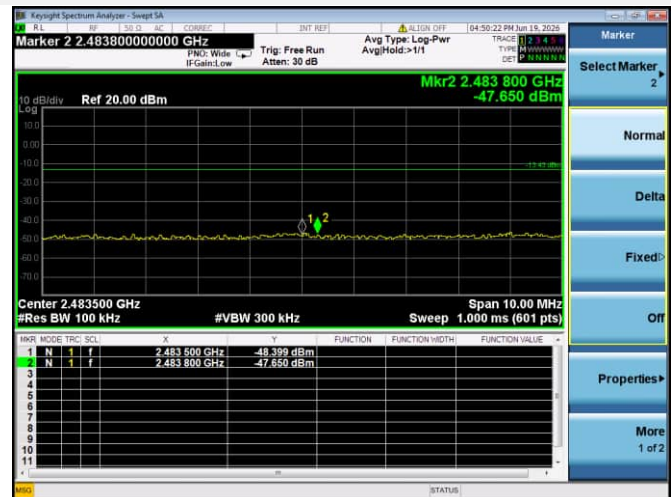
802.11b LOW CHANNEL, BAND EDGE



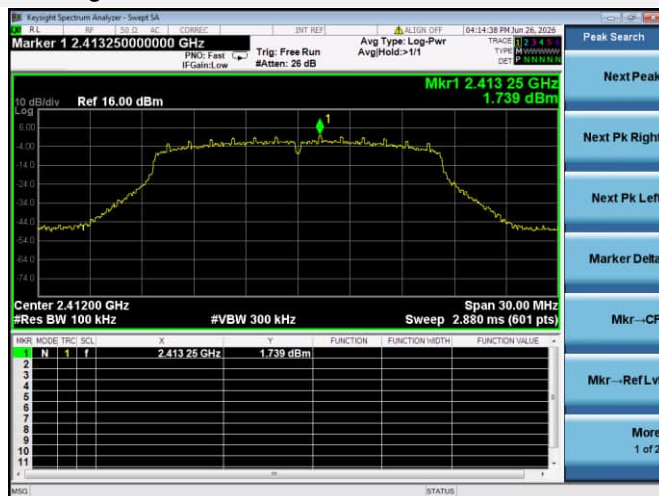
802.11b HIGH CHANNEL, CARRIER LEVEL



802.11b HIGH CHANNEL, BAND EDGE



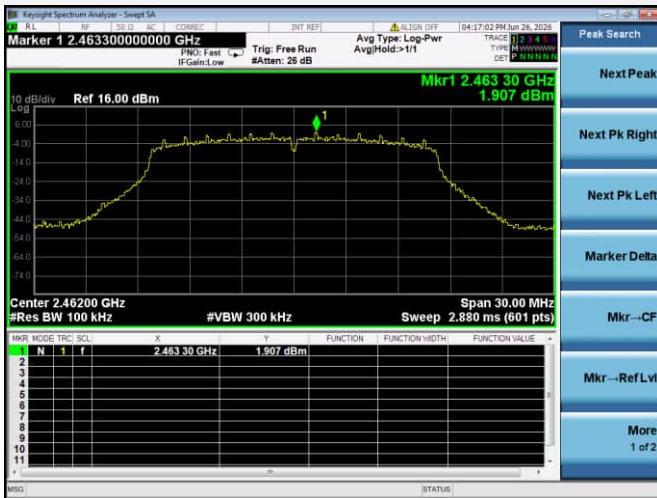
802.11g LOW CHANNEL, CARRIER LEVEL



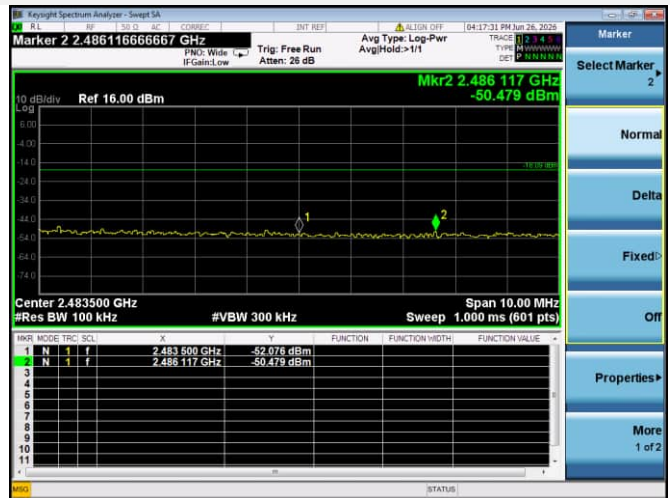
802.11g LOW CHANNEL, BAND EDGE



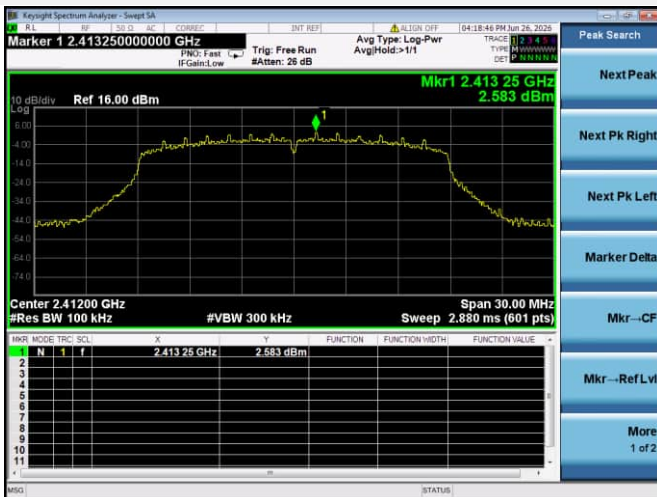
802.11g HIGH CHANNEL, CARRIER LEVEL



802.11g HIGH CHANNEL, BAND EDGE



802.11n-20 MHz LOW CHANNEL, CARRIER LEVEL



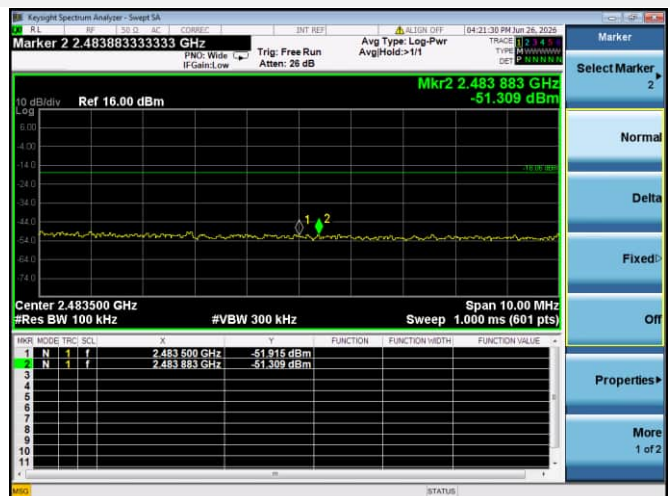
802.11n-20 MHz LOW CHANNEL, BAND EDGE



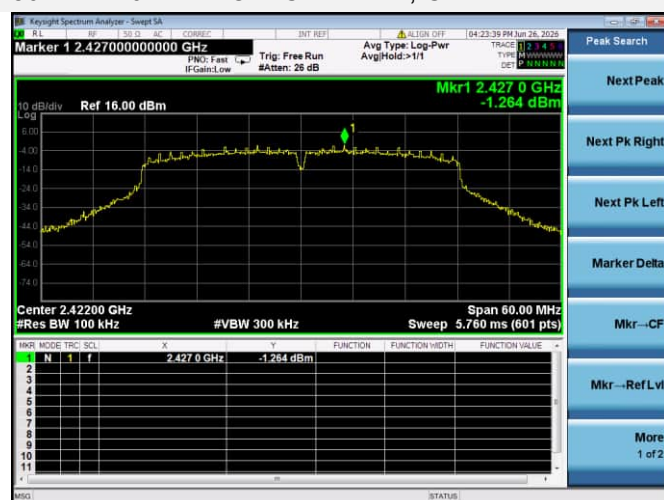
802.11n-20 MHz HIGH CHANNEL, CARRIER LEVEL



802.11n-20 MHz HIGH CHANNEL, BAND EDGE



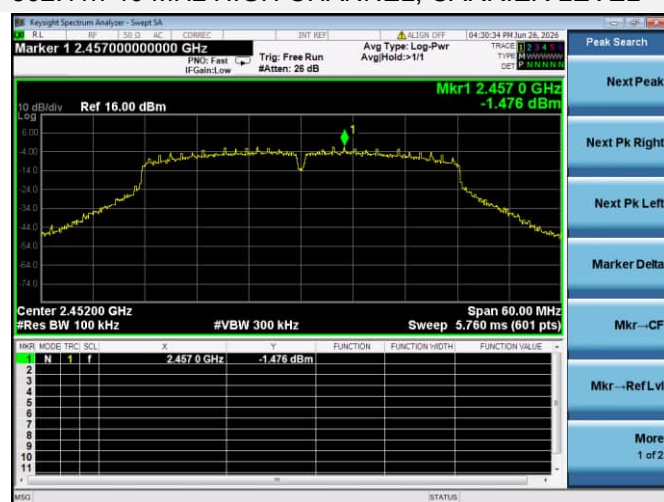
802.11n-40 MHz LOW CHANNEL, CARRIER LEVEL



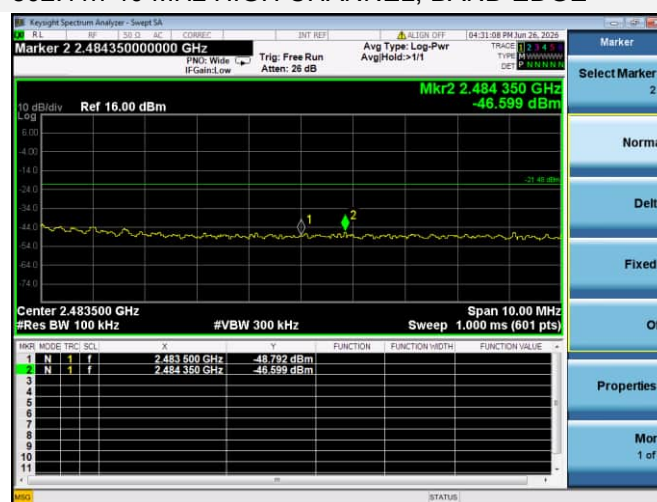
802.11n-40 MHz LOW CHANNEL, BAND EDGE



802.11n-40 MHz HIGH CHANNEL, CARRIER LEVEL



802.11n-40 MHz HIGH CHANNEL, BAND EDGE



A.5 Conducted Emissions

Note ¹: The EUT is working in the Normal link mode. All modes have been tested and normal link mode is worst.

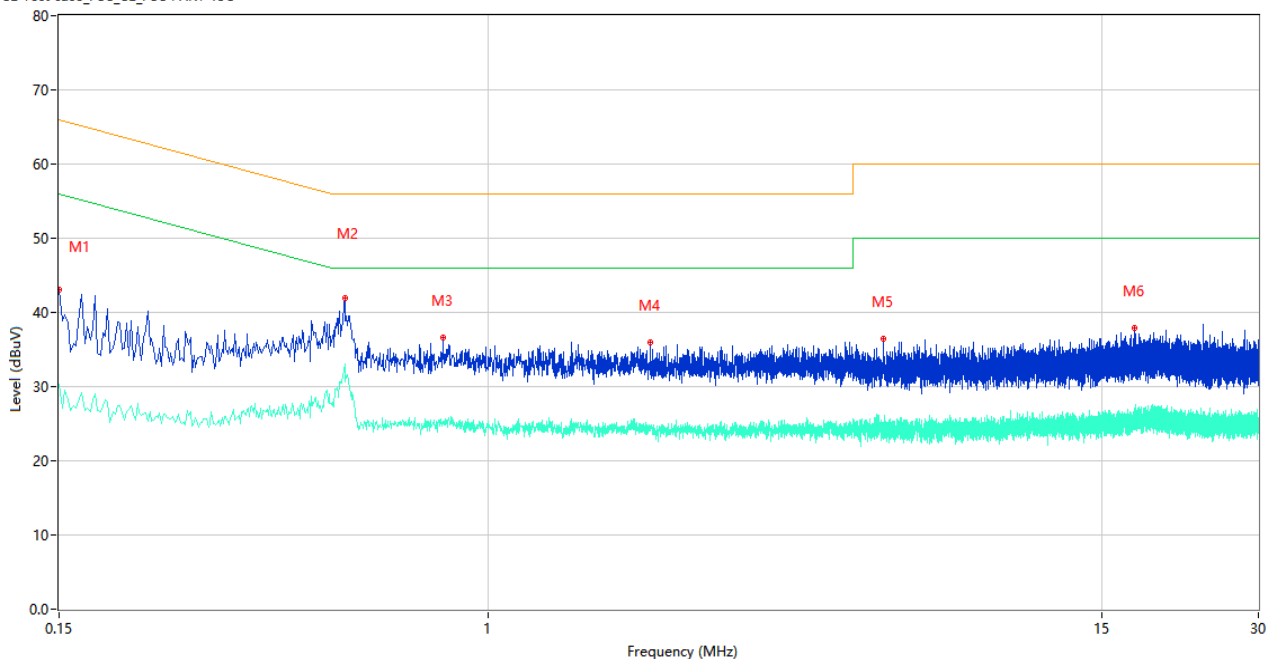
Note ²: Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 60 Hz and 240 VAC, 50 Hz) for which the device is capable of operation. So, The configuration 120 VAC, 60 Hz and 240 VAC, 50 Hz were tested respectively, but only the worst configuration (120 VAC, 60 Hz) shown here.

Note ³: Results (dBuV) = Original reading level of Spectrum Analyzer (dBuV) + Factor (dB)

Test Data and Plots

PHASE L

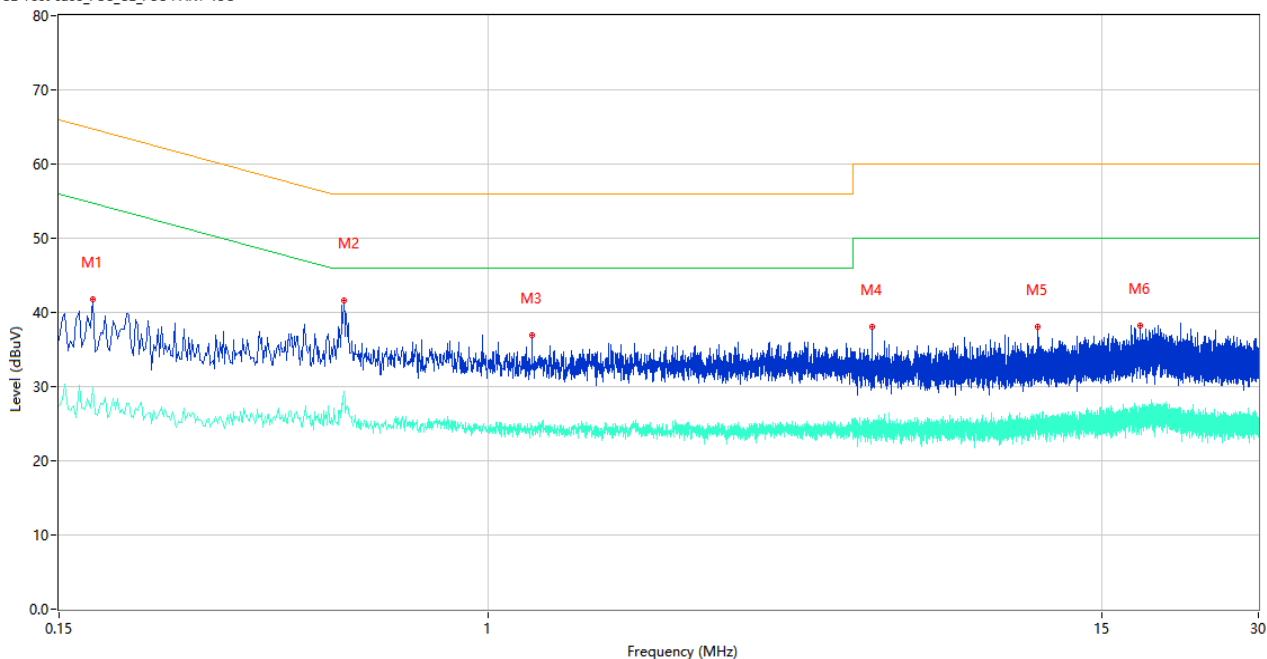
CE Test case_FCC_CE_FCC PART 15C



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.150	43.11	9.86	66.00	22.89	Peak	L	Pass
1**	0.150	30.27	9.86	56.00	25.73	AV	L	Pass
2	0.530	41.95	10.07	56.00	14.05	Peak	L	Pass
2**	0.530	33.11	10.07	46.00	12.89	AV	L	Pass
3	0.818	36.56	10.62	56.00	19.44	Peak	L	Pass
3**	0.818	25.29	10.62	46.00	20.71	AV	L	Pass
4	2.046	35.92	10.54	56.00	20.08	Peak	L	Pass
4**	2.046	24.21	10.54	46.00	21.79	AV	L	Pass
5	5.720	36.38	10.44	60.00	23.62	Peak	L	Pass
5**	5.720	24.46	10.44	50.00	25.54	AV	L	Pass
6	17.386	37.85	11.10	60.00	22.15	Peak	L	Pass
6**	17.386	26.56	11.10	50.00	23.44	AV	L	Pass

PHASE N

CE Test case_FCC_CE_FCC PART 15C



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.174	41.70	9.85	64.77	23.07	Peak	N	Pass
1**	0.174	29.86	9.85	54.77	24.91	AV	N	Pass
2	0.528	41.54	10.07	56.00	14.46	Peak	N	Pass
2**	0.528	29.35	10.07	46.00	16.65	AV	N	Pass
3	1.212	36.87	10.10	56.00	19.13	Peak	N	Pass
3**	1.212	23.55	10.10	46.00	22.45	AV	N	Pass
4	5.446	38.12	10.16	60.00	21.88	Peak	N	Pass
4**	5.446	25.22	10.16	50.00	24.78	AV	N	Pass
5	11.292	38.05	10.50	60.00	21.95	Peak	N	Pass
5**	11.292	25.14	10.50	50.00	24.86	AV	N	Pass
6	17.824	38.24	10.99	60.00	21.76	Peak	N	Pass
6**	17.824	26.54	10.99	50.00	23.46	AV	N	Pass

A.6 Radiated Emission

Note ¹: The symbol of “--” in the table which means not application.

Note ²: For the test data above 1 GHz, According the ANSI C63.10-2020 + Cor. 1-2023 + C63.10a-2024 + Errata to C63.10a-2024, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

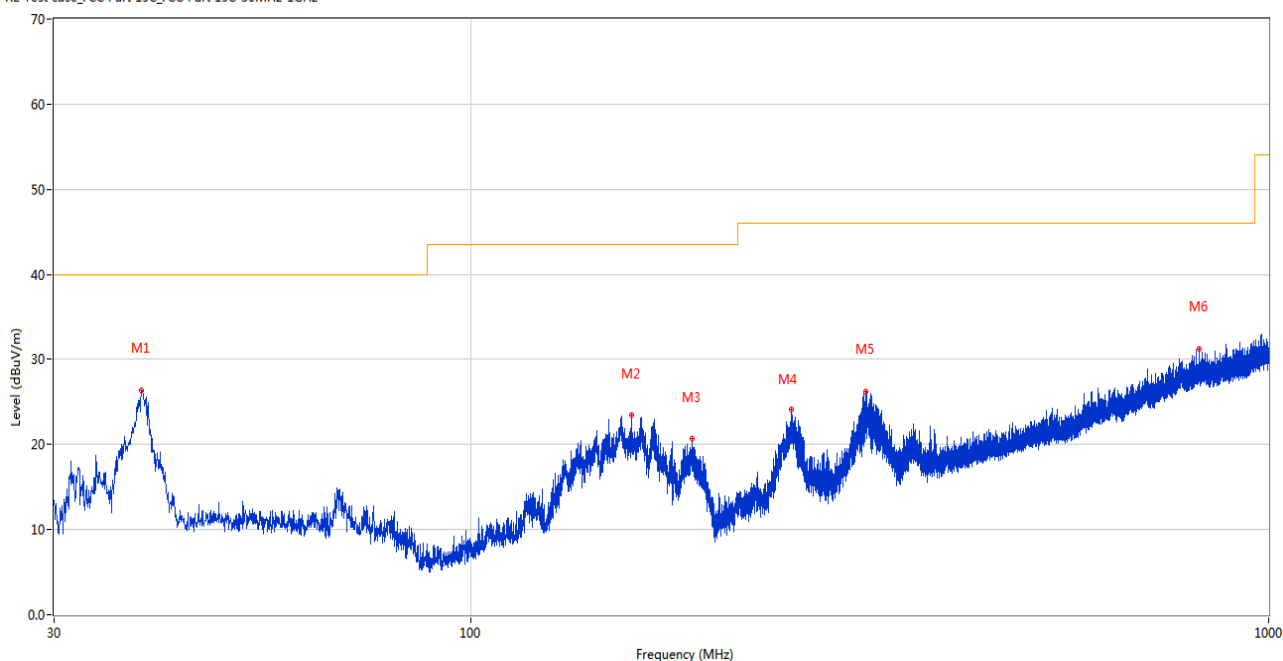
Note ³: The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line per 15.31(o) was not reported.

Note ⁴: The EUT is working in the Normal link mode below 1 GHz. All modes have been tested and normal link mode is worst.

Test Data and Plots

30 MHz to 1 GHz, ANT H

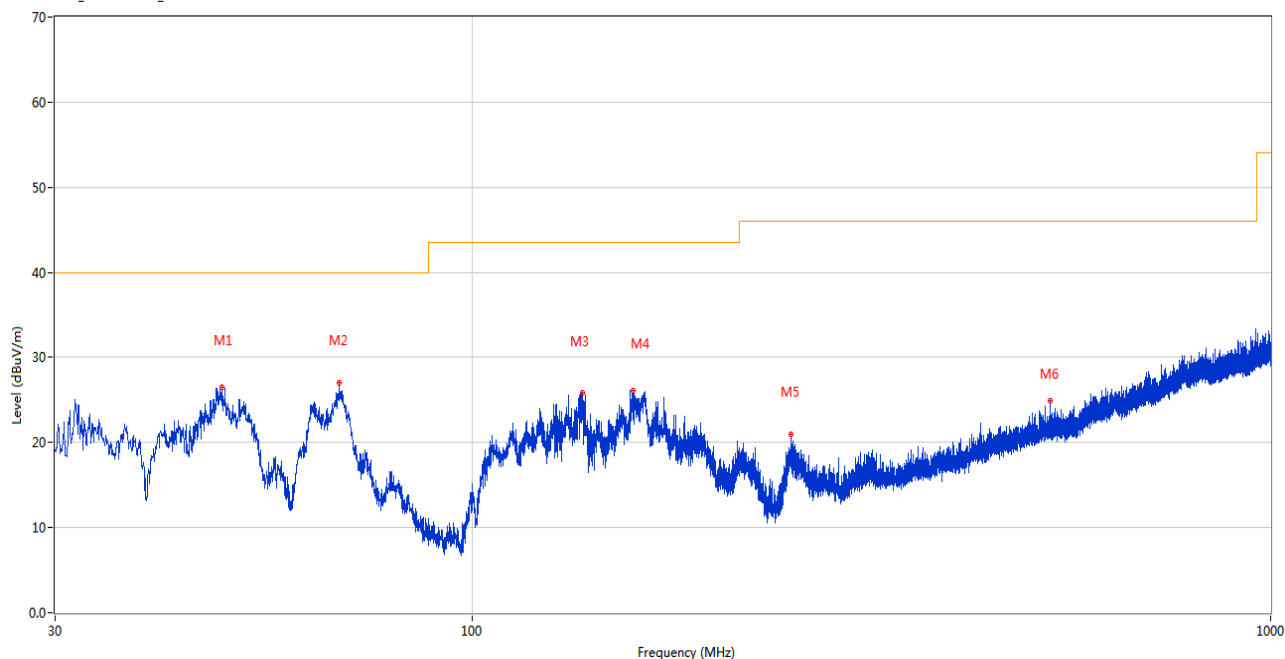
RE Test case_FCC Part 15C_FCC Part 15C-30MHz-1GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	38.633	26.41	-25.69	40.0	13.59	Peak	54.00	100	Horizontal	Pass
2	159.010	23.41	-23.72	43.5	20.09	Peak	28.00	200	Horizontal	Pass
3	189.128	20.64	-26.28	43.5	22.86	Peak	253.00	200	Horizontal	Pass
4	251.839	24.11	-24.39	46.0	21.89	Peak	236.00	100	Horizontal	Pass
5	312.318	26.24	-21.73	46.0	19.76	Peak	246.00	100	Horizontal	Pass
6	818.804	31.27	-8.73	46.0	14.73	Peak	0.00	200	Horizontal	Pass

30 MHz to 1 GHz, ANT V

RE Test case_FCC Part 15C_FCC Part 15C-30MHz-1GHz



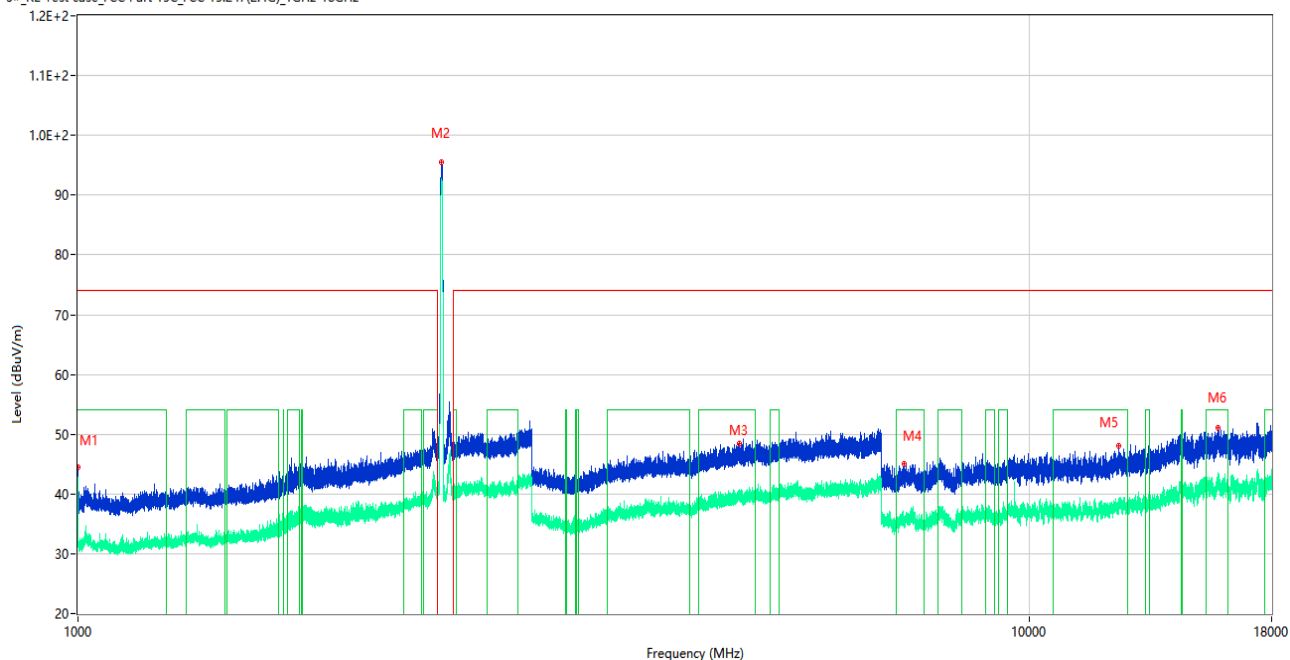
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	48.575	26.47	-24.79	40.0	13.53	Peak	147.00	100	Vertical	Pass
2	68.073	27.01	-26.67	40.0	12.99	Peak	66.00	100	Vertical	Pass
3	137.282	25.85	-24.79	43.5	17.65	Peak	213.00	100	Vertical	Pass
4	158.864	26.12	-23.71	43.5	17.38	Peak	229.00	100	Vertical	Pass
5	250.432	20.97	-24.43	46.0	25.03	Peak	74.00	100	Vertical	Pass
6	529.404	24.97	-15.18	46.0	21.03	Peak	205.00	100	Vertical	Pass

Note¹: The marked spikes near 2400 MHz with circle should be ignored because they are Fundamental signal.

Note²: The spurious above 18G is noise only, do not show on the report.

1 GHz to 18 GHz, ANT H 802.11b Low Channel

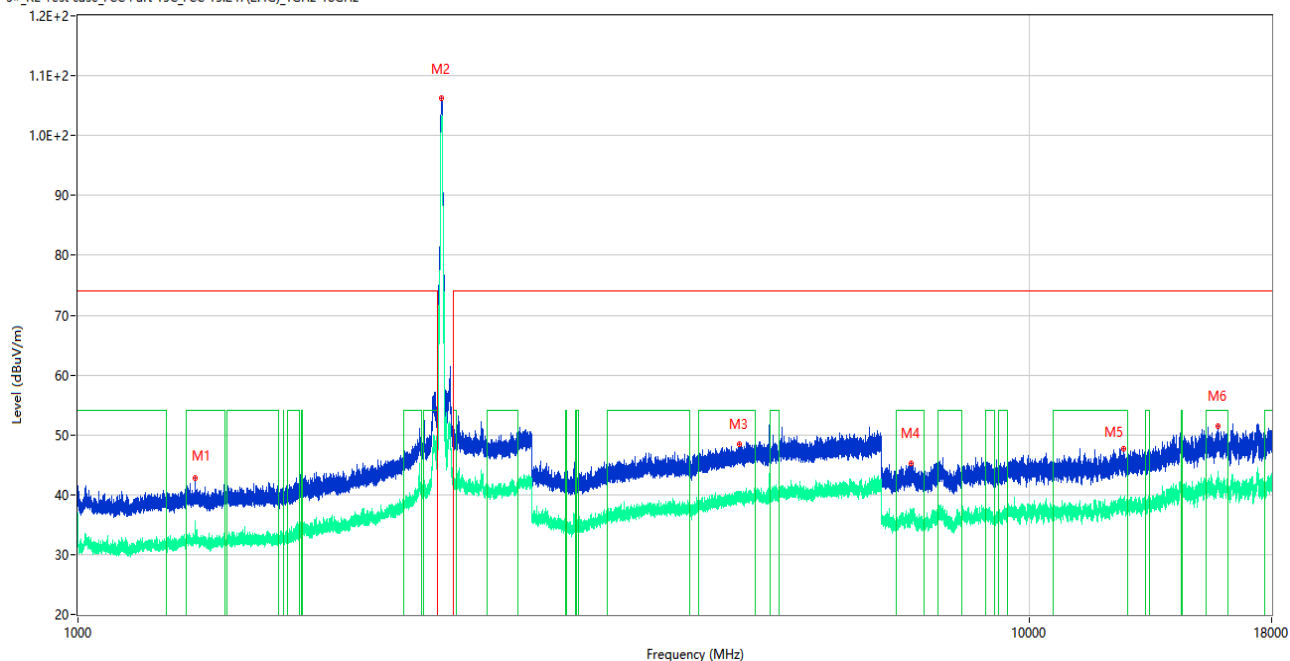
3#_RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1000.100	44.55	74.0	29.45	Peak	126.00	100	Horizontal	Pass
1**	1000.100	41.83	54.0	12.17	AV	126.00	100	Horizontal	Pass
2	2413.200	95.49	--	--	Peak	3.00	150	Horizontal	N/A
2**	2413.200	92.57	--	--	AV	3.00	150	Horizontal	N/A
3	4963.400	48.41	74.0	25.59	Peak	61.00	200	Horizontal	Pass
3**	4963.400	39.40	54.0	14.60	AV	61.00	200	Horizontal	Pass
4	7386.975	45.01	74.0	28.99	Peak	33.00	400	Horizontal	Pass
4**	7386.975	35.23	54.0	18.77	AV	33.00	400	Horizontal	Pass
5	12443.813	48.10	74.0	25.90	Peak	243.00	150	Horizontal	Pass
5**	12443.813	38.11	54.0	15.89	AV	243.00	150	Horizontal	Pass
6	15808.912	51.07	74.0	22.93	Peak	207.00	400	Horizontal	Pass
6**	15808.912	43.15	54.0	10.85	AV	207.00	400	Horizontal	Pass

1 GHz to 18 GHz, ANT V 802.11b Low Channel

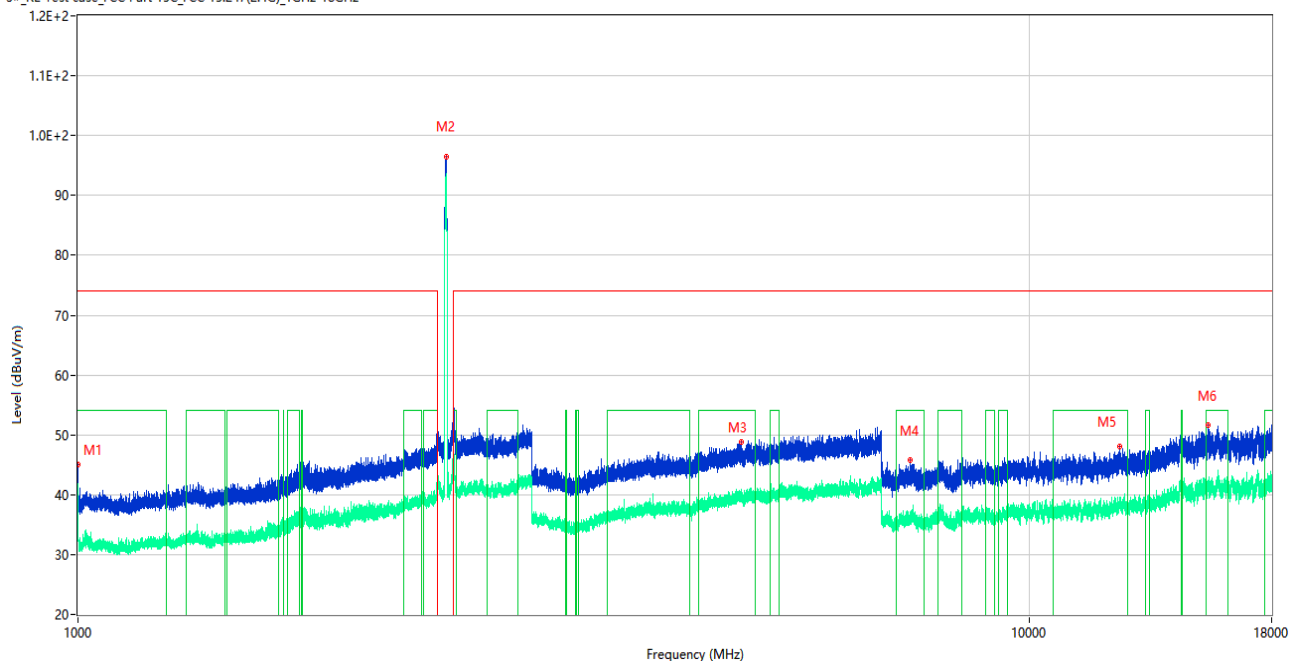
3#_RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1329.100	42.78	74.0	31.22	Peak	175.00	200	Vertical	Pass
1**	1329.100	34.63	54.0	19.37	AV	175.00	200	Vertical	Pass
2	2413.500	106.19	--	--	Peak	43.00	100	Vertical	N/A
2**	2413.500	103.24	--	--	AV	43.00	100	Vertical	N/A
3	4956.600	48.41	74.0	25.59	Peak	77.00	200	Vertical	Pass
3**	4956.600	39.33	54.0	14.67	AV	77.00	200	Vertical	Pass
4	7526.125	45.32	74.0	28.68	Peak	15.00	300	Vertical	Pass
4**	7526.125	35.38	54.0	18.62	AV	15.00	300	Vertical	Pass
5	12594.463	47.67	74.0	26.33	Peak	174.00	150	Vertical	Pass
5**	12594.463	38.84	54.0	15.16	AV	174.00	150	Vertical	Pass
6	15800.776	51.52	74.0	22.48	Peak	110.00	100	Vertical	Pass
6**	15800.776	42.53	54.0	11.47	AV	110.00	100	Vertical	Pass

1 GHz to 18 GHz, ANT H 802.11b Middle Channel

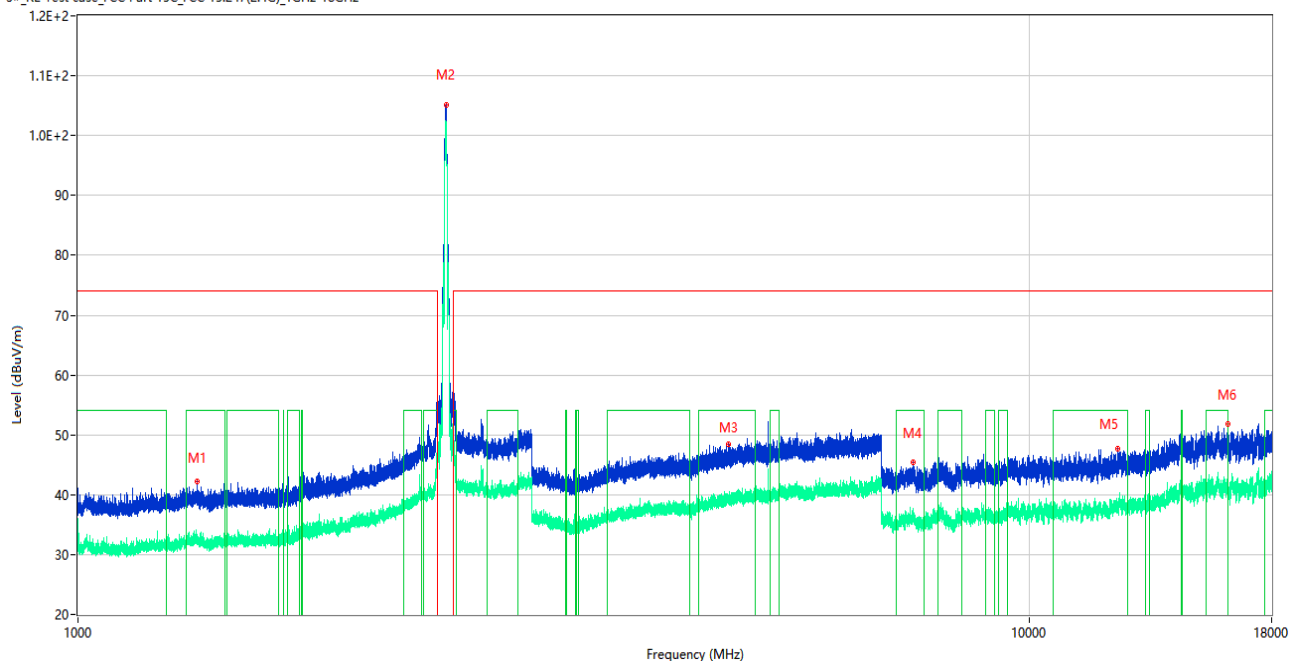
3#_RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1000.100	44.99	74.0	29.01	Peak	122.00	200	Horizontal	Pass
1**	1000.100	41.93	54.0	12.07	AV	122.00	200	Horizontal	Pass
2	2438.500	96.45	--	--	Peak	67.00	100	Horizontal	N/A
2**	2438.500	93.50	--	--	AV	67.00	100	Horizontal	N/A
3	4980.400	48.77	74.0	25.23	Peak	360.00	100	Horizontal	Pass
3**	4980.400	40.36	54.0	13.64	AV	360.00	100	Horizontal	Pass
4	7496.225	45.75	74.0	28.25	Peak	50.00	200	Horizontal	Pass
4**	7496.225	35.82	54.0	18.18	AV	50.00	200	Horizontal	Pass
5	12461.638	48.05	74.0	25.95	Peak	136.00	100	Horizontal	Pass
5**	12461.638	38.56	54.0	15.44	AV	136.00	100	Horizontal	Pass
6	15450.863	51.59	74.0	22.41	Peak	286.00	200	Horizontal	Pass
6**	15450.863	42.13	54.0	11.87	AV	286.00	200	Horizontal	Pass

1 GHz to 18 GHz, ANT V 802.11b Middle Channel

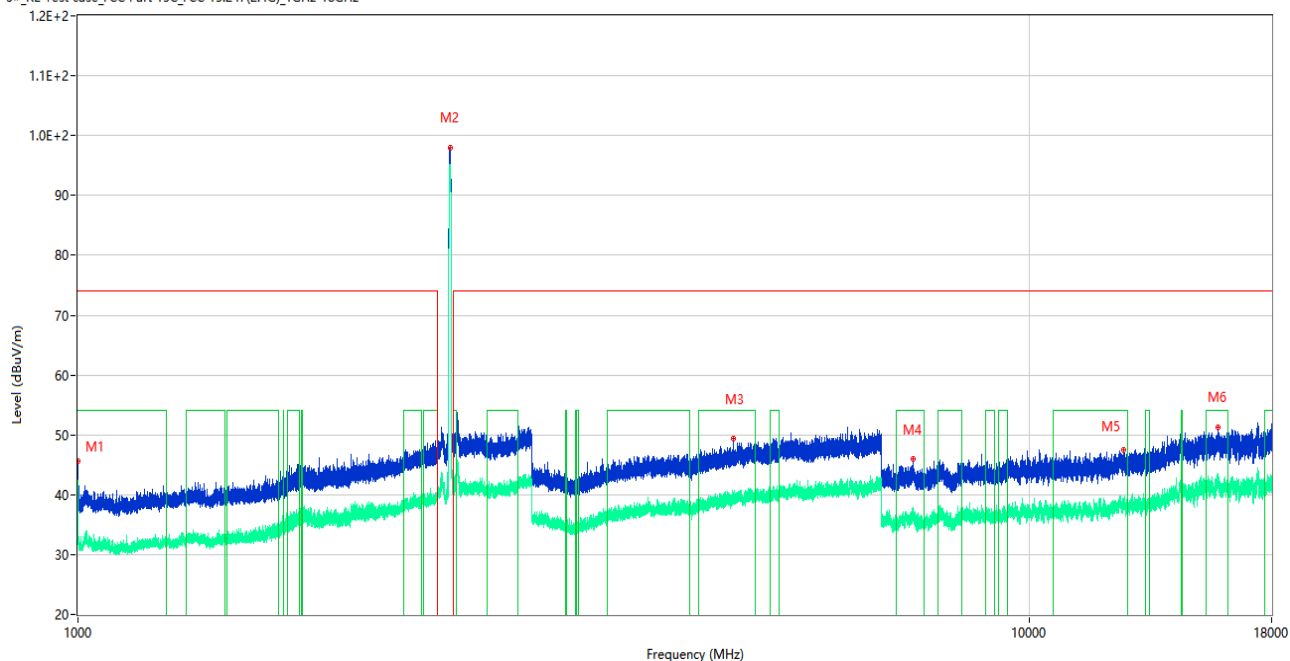
3#_RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1333.600	42.25	74.0	31.75	Peak	124.00	300	Vertical	Pass
1**	1333.600	31.80	54.0	22.20	AV	124.00	300	Vertical	Pass
2	2438.400	105.19	--	--	Peak	68.00	150	Vertical	N/A
2**	2438.400	102.27	--	--	AV	68.00	150	Vertical	N/A
3	4826.000	48.41	74.0	25.59	Peak	167.00	150	Vertical	Pass
3**	4826.000	39.13	54.0	14.87	AV	167.00	150	Vertical	Pass
4	7553.150	45.33	74.0	28.67	Peak	360.00	400	Vertical	Pass
4**	7553.150	36.73	54.0	17.27	AV	360.00	400	Vertical	Pass
5	12386.312	47.74	74.0	26.26	Peak	348.00	150	Vertical	Pass
5**	12386.312	37.16	54.0	16.84	AV	348.00	150	Vertical	Pass
6	16176.151	51.74	74.0	22.26	Peak	148.00	200	Vertical	Pass
6**	16176.151	42.75	54.0	11.25	AV	148.00	200	Vertical	Pass

1 GHz to 18 GHz, ANT H 802.11b High Channel

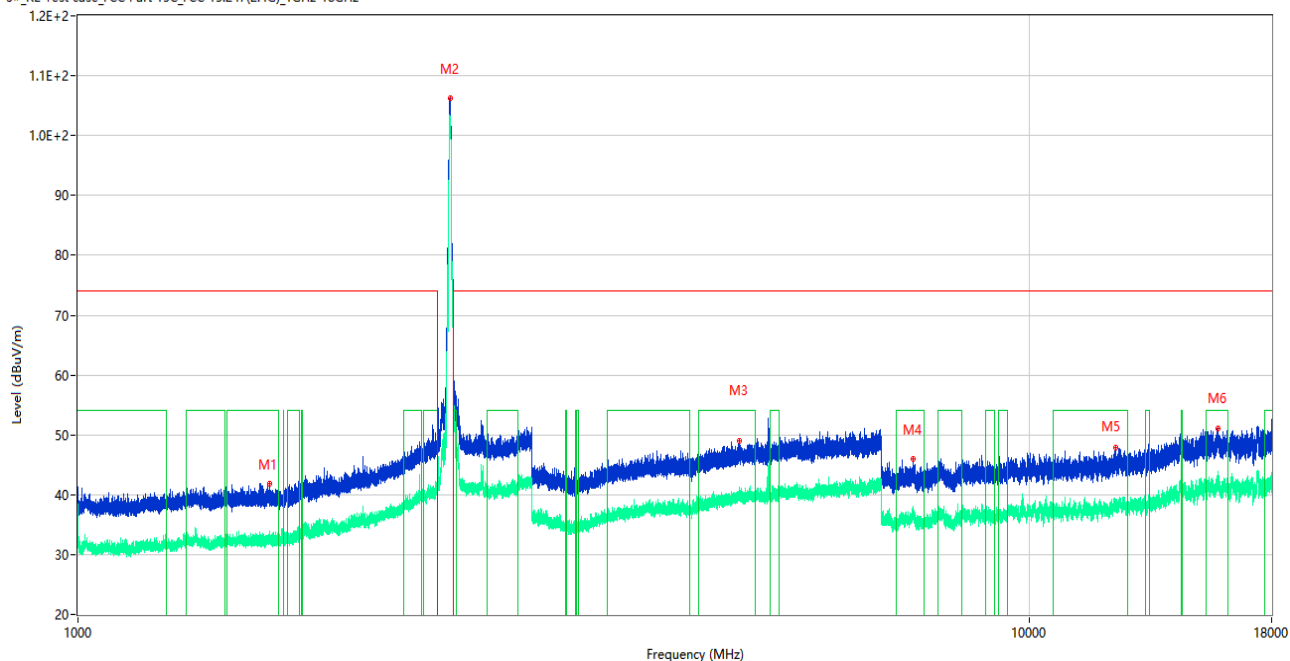
3#_RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1000.000	45.58	74.0	28.42	Peak	91.00	400	Horizontal	Pass
1**	1000.000	42.03	54.0	11.97	AV	91.00	400	Horizontal	Pass
2	2463.300	97.99	--	--	Peak	67.00	200	Horizontal	N/A
2**	2463.300	95.07	--	--	AV	67.00	200	Horizontal	N/A
3	4886.200	49.35	74.0	24.65	Peak	176.00	150	Horizontal	Pass
3**	4886.200	39.15	54.0	14.85	AV	176.00	150	Horizontal	Pass
4	7556.600	45.96	74.0	28.04	Peak	101.00	300	Horizontal	Pass
4**	7556.600	37.40	54.0	16.60	AV	101.00	300	Horizontal	Pass
5	12582.100	47.52	74.0	26.48	Peak	347.00	200	Horizontal	Pass
5**	12582.100	38.07	54.0	15.93	AV	347.00	200	Horizontal	Pass
6	15807.075	51.34	74.0	22.66	Peak	306.00	200	Horizontal	Pass
6**	15807.075	42.35	54.0	11.65	AV	306.00	200	Horizontal	Pass

1 GHz to 18 GHz, ANT V 802.11b High Channel

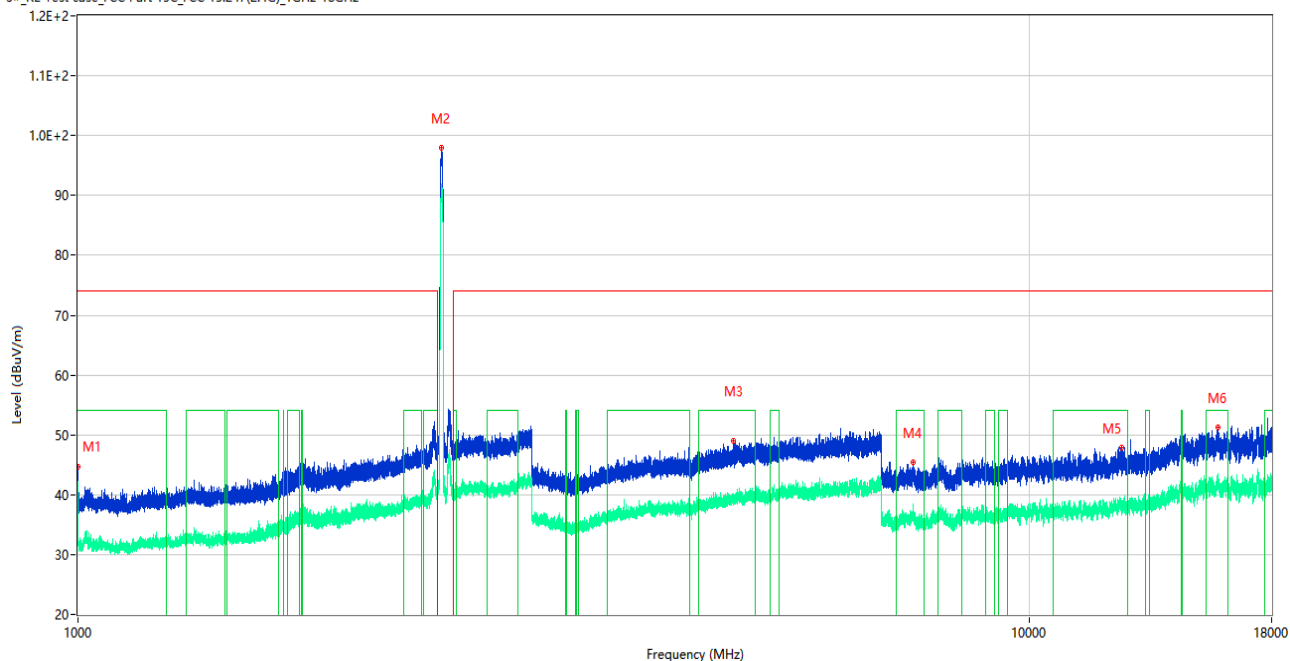
3#_RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1589.000	41.93	74.0	32.07	Peak	256.00	400	Vertical	Pass
1**	1589.000	32.58	54.0	21.42	AV	256.00	400	Vertical	Pass
2	2463.400	106.18	--	--	Peak	140.00	100	Vertical	N/A
2**	2463.400	103.33	--	--	AV	140.00	100	Vertical	N/A
3	4962.800	48.92	74.0	25.08	Peak	181.00	200	Vertical	Pass
3**	4962.800	39.75	54.0	14.25	AV	181.00	200	Vertical	Pass
4	7557.463	45.96	74.0	28.04	Peak	101.00	300	Vertical	Pass
4**	7557.463	36.19	54.0	17.81	AV	101.00	300	Vertical	Pass
5	12344.625	47.89	74.0	26.11	Peak	49.00	150	Vertical	Pass
5**	12344.625	38.21	54.0	15.79	AV	49.00	150	Vertical	Pass
6	15813.375	51.08	74.0	22.92	Peak	344.00	400	Vertical	Pass
6**	15813.375	42.82	54.0	11.18	AV	344.00	400	Vertical	Pass

1 GHz to 18 GHz, ANT H 802.11g Low Channel

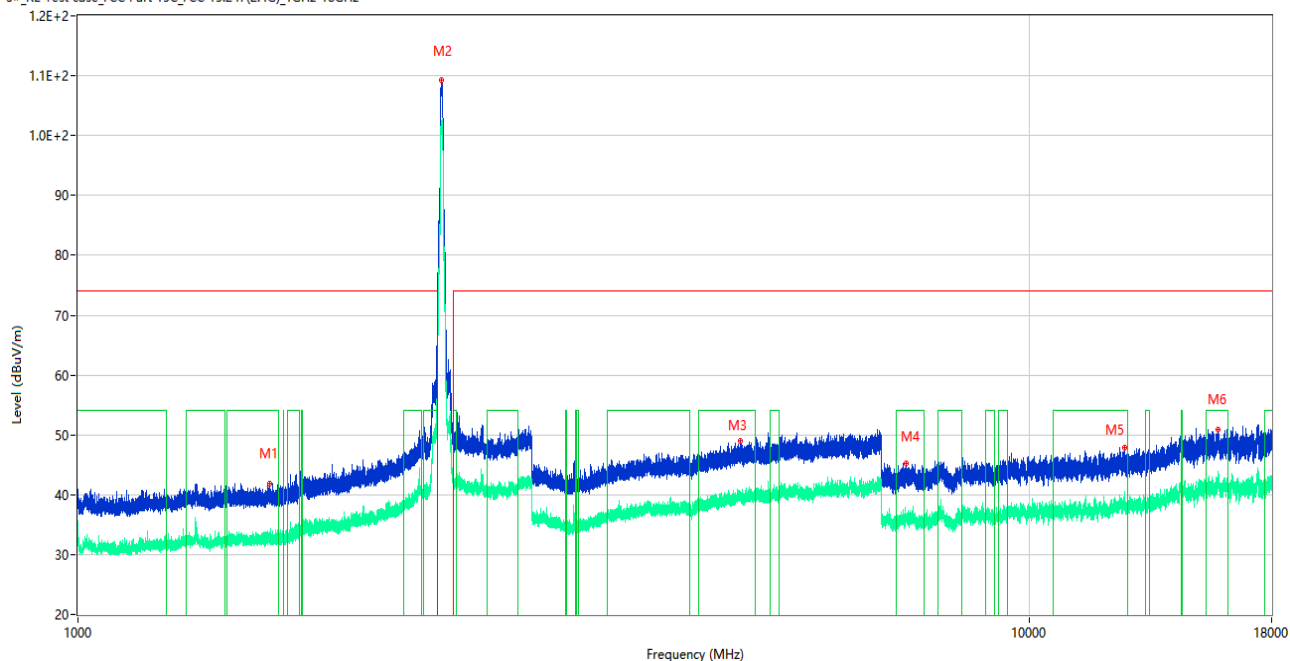
3#_RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1000.000	44.76	74.0	29.24	Peak	79.00	400	Horizontal	Pass
1**	1000.000	42.17	54.0	11.83	AV	79.00	400	Horizontal	Pass
2	2413.900	97.93	--	--	Peak	67.00	200	Horizontal	N/A
2**	2413.900	90.35	--	--	AV	67.00	200	Horizontal	N/A
3	4891.200	49.02	74.0	24.98	Peak	173.00	200	Horizontal	Pass
3**	4891.200	39.17	54.0	14.83	AV	173.00	200	Horizontal	Pass
4	7549.700	45.37	74.0	28.63	Peak	268.00	300	Horizontal	Pass
4**	7549.700	36.36	54.0	17.64	AV	268.00	300	Horizontal	Pass
5	12515.112	47.80	74.0	26.20	Peak	176.00	200	Horizontal	Pass
5**	12515.112	38.23	54.0	15.77	AV	176.00	200	Horizontal	Pass
6	15799.725	51.18	74.0	22.82	Peak	268.00	200	Horizontal	Pass
6**	15799.725	43.06	54.0	10.94	AV	268.00	200	Horizontal	Pass

1 GHz to 18 GHz, ANT V 802.11g Low Channel

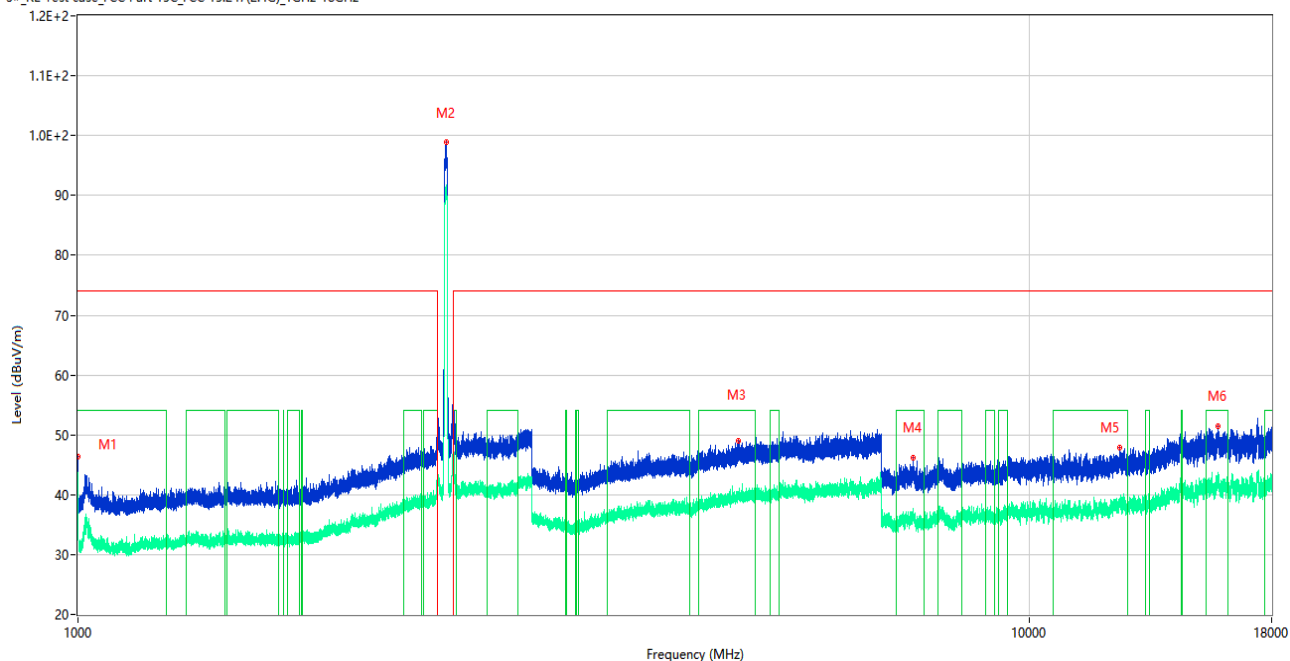
3#_RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1589.000	41.90	74.0	32.10	Peak	16.00	300	Vertical	Pass
1**	1589.000	32.50	54.0	21.50	AV	16.00	300	Vertical	Pass
2	2410.200	109.20	--	--	Peak	77.00	200	Vertical	N/A
2**	2410.200	101.67	--	--	AV	77.00	200	Vertical	N/A
3	4974.400	48.93	74.0	25.07	Peak	171.00	200	Vertical	Pass
3**	4974.400	39.57	54.0	14.43	AV	171.00	200	Vertical	Pass
4	7427.800	45.26	74.0	28.74	Peak	0.00	100	Vertical	Pass
4**	7427.800	35.66	54.0	18.34	AV	0.00	100	Vertical	Pass
5	12597.913	47.96	74.0	26.04	Peak	340.00	200	Vertical	Pass
5**	12597.913	38.55	54.0	15.45	AV	340.00	200	Vertical	Pass
6	15796.312	50.97	74.0	23.03	Peak	344.00	200	Vertical	Pass
6**	15796.312	42.96	54.0	11.04	AV	344.00	200	Vertical	Pass

1 GHz to 18 GHz, ANT H 802.11g Middle Channel

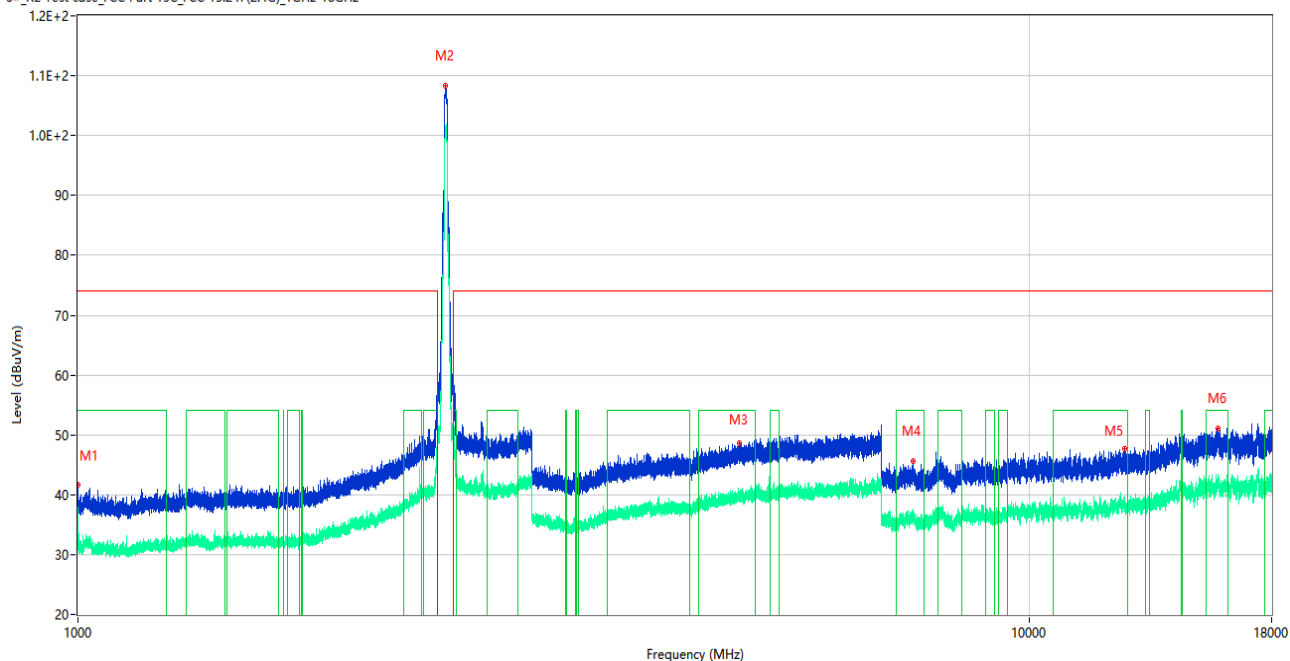
3#_RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1000.100	46.44	74.0	27.56	Peak	133.00	300	Horizontal	Pass
1**	1000.100	43.01	54.0	10.99	AV	133.00	300	Horizontal	Pass
2	2440.500	98.85	--	--	Peak	82.00	150	Horizontal	N/A
2**	2440.500	91.23	--	--	AV	82.00	150	Horizontal	N/A
3	4951.000	48.95	74.0	25.05	Peak	341.00	200	Horizontal	Pass
3**	4951.000	39.73	54.0	14.27	AV	341.00	200	Horizontal	Pass
4	7552.288	46.19	74.0	27.81	Peak	345.00	200	Horizontal	Pass
4**	7552.288	36.69	54.0	17.31	AV	345.00	200	Horizontal	Pass
5	12467.387	47.96	74.0	26.04	Peak	16.00	150	Horizontal	Pass
5**	12467.387	39.35	54.0	14.65	AV	16.00	150	Horizontal	Pass
6	15819.150	51.45	74.0	22.55	Peak	325.00	200	Horizontal	Pass
6**	15819.150	43.04	54.0	10.96	AV	325.00	200	Horizontal	Pass

1 GHz to 18 GHz, ANT V 802.11g Middle Channel

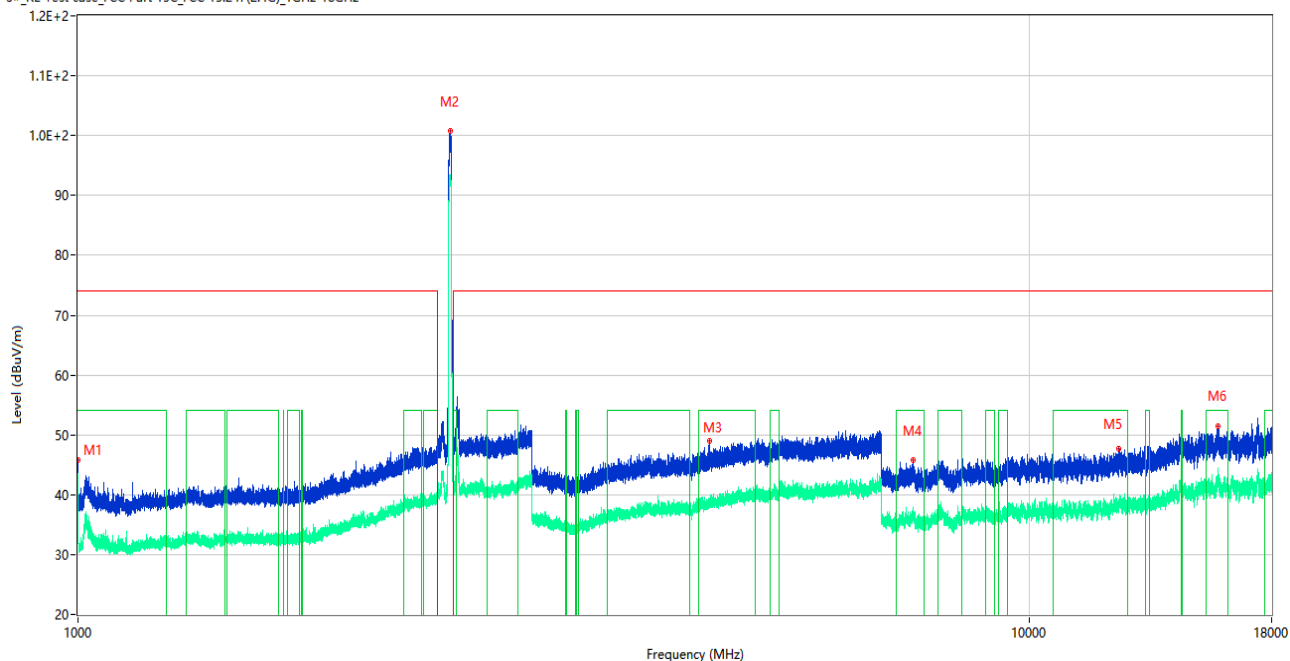
3#_RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1000.200	41.62	74.0	32.38	Peak	38.00	200	Vertical	Pass
1**	1000.200	37.87	54.0	16.13	AV	38.00	200	Vertical	Pass
2	2435.400	108.41	--	--	Peak	81.00	150	Vertical	N/A
2**	2435.400	101.18	--	--	AV	81.00	150	Vertical	N/A
3	4959.800	48.60	74.0	25.40	Peak	319.00	100	Vertical	Pass
3**	4959.800	40.52	54.0	13.48	AV	319.00	100	Vertical	Pass
4	7548.263	45.61	74.0	28.39	Peak	135.00	400	Vertical	Pass
4**	7548.263	36.49	54.0	17.51	AV	135.00	400	Vertical	Pass
5	12598.776	47.62	74.0	26.38	Peak	221.00	100	Vertical	Pass
5**	12598.776	39.35	54.0	14.65	AV	221.00	100	Vertical	Pass
6	15802.613	51.14	74.0	22.86	Peak	114.00	100	Vertical	Pass
6**	15802.613	43.34	54.0	10.66	AV	114.00	100	Vertical	Pass

1 GHz to 18 GHz, ANT H 802.11g High Channel

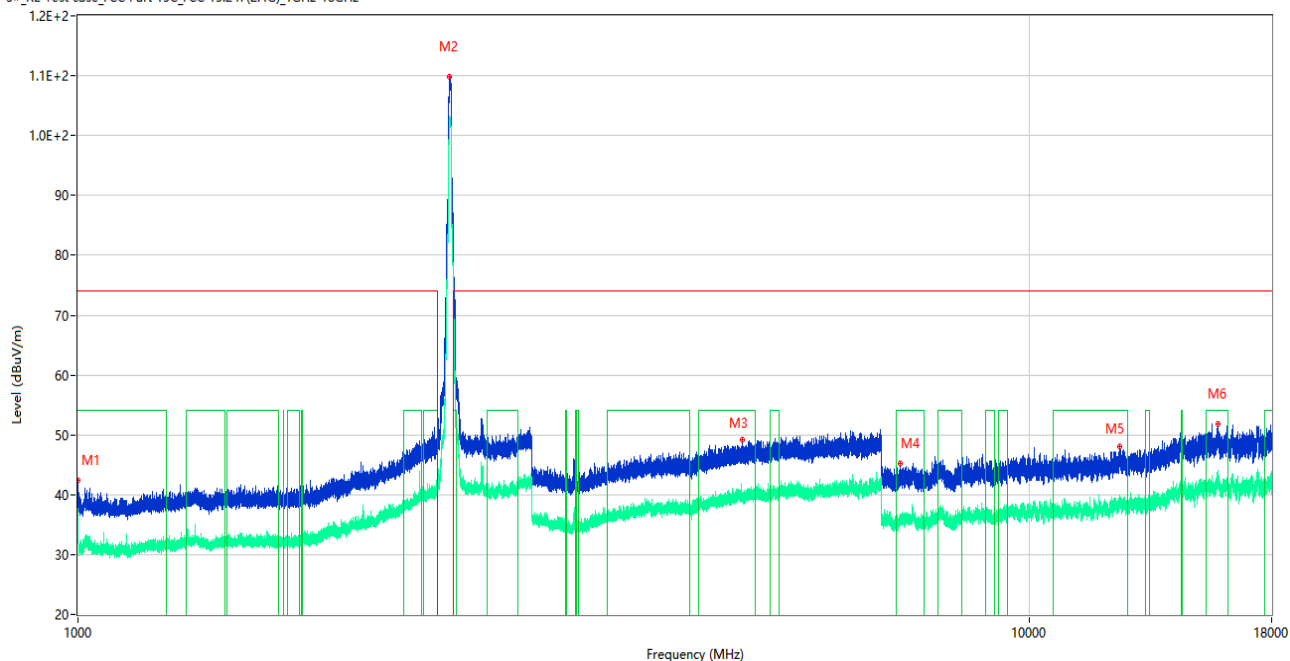
3#_RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1000.200	45.78	74.0	28.22	Peak	121.00	100	Horizontal	Pass
1**	1000.200	42.52	54.0	11.48	AV	121.00	100	Horizontal	Pass
2	2464.000	100.76	--	--	Peak	72.00	200	Horizontal	N/A
2**	2464.000	92.81	--	--	AV	72.00	200	Horizontal	N/A
3	4609.800	48.98	74.0	25.02	Peak	283.00	100	Horizontal	Pass
3**	4609.800	38.67	54.0	15.33	AV	283.00	100	Horizontal	Pass
4	7552.862	45.75	74.0	28.25	Peak	0.00	200	Horizontal	Pass
4**	7552.862	37.32	54.0	16.68	AV	0.00	200	Horizontal	Pass
5	12441.513	47.67	74.0	26.33	Peak	0.00	150	Horizontal	Pass
5**	12441.513	38.97	54.0	15.03	AV	0.00	150	Horizontal	Pass
6	15804.450	51.46	74.0	22.54	Peak	71.00	400	Horizontal	Pass
6**	15804.450	42.96	54.0	11.04	AV	71.00	400	Horizontal	Pass

1 GHz to 18 GHz, ANT V 802.11g High Channel

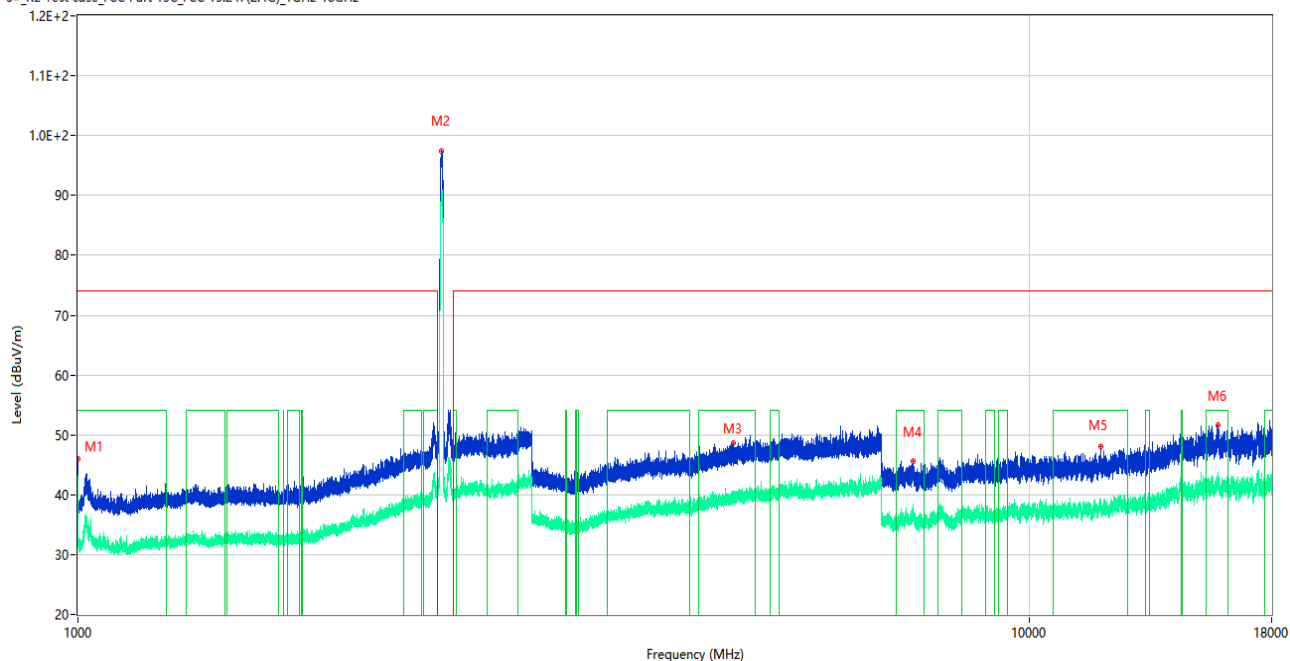
3#_RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1000.100	42.47	74.0	31.53	Peak	41.00	300	Vertical	Pass
1**	1000.100	36.60	54.0	17.40	AV	41.00	300	Vertical	Pass
2	2459.600	109.84	--	--	Peak	46.00	150	Vertical	N/A
2**	2459.600	102.78	--	--	AV	46.00	150	Vertical	N/A
3	4992.400	49.12	74.0	24.88	Peak	352.00	150	Vertical	Pass
3**	4992.400	39.33	54.0	14.67	AV	352.00	150	Vertical	Pass
4	7316.250	45.30	74.0	28.70	Peak	70.00	300	Vertical	Pass
4**	7316.250	36.17	54.0	17.83	AV	70.00	300	Vertical	Pass
5	12453.588	48.00	74.0	26.00	Peak	53.00	100	Vertical	Pass
5**	12453.588	38.10	54.0	15.90	AV	53.00	100	Vertical	Pass
6	15807.863	51.83	74.0	22.17	Peak	324.00	300	Vertical	Pass
6**	15807.863	42.11	54.0	11.89	AV	324.00	300	Vertical	Pass

1 GHz to 18 GHz, ANT H 802.11n20 Low Channel

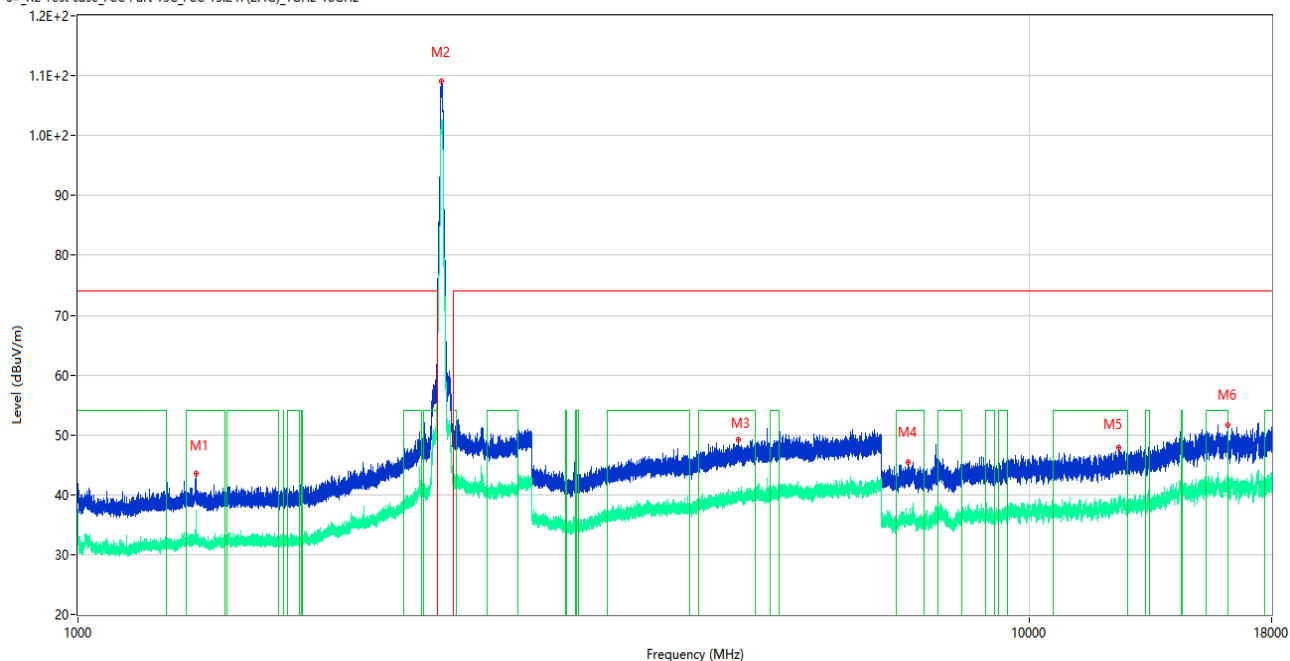
3#_RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1000.100	45.98	74.0	28.02	Peak	127.00	100	Horizontal	Pass
1**	1000.100	42.80	54.0	11.20	AV	127.00	100	Horizontal	Pass
2	2413.600	97.45	--	--	Peak	84.00	150	Horizontal	N/A
2**	2413.600	90.20	--	--	AV	84.00	150	Horizontal	N/A
3	4890.200	48.62	74.0	25.38	Peak	341.00	150	Horizontal	Pass
3**	4890.200	40.76	54.0	13.24	AV	341.00	150	Horizontal	Pass
4	7547.975	45.56	74.0	28.44	Peak	220.00	300	Horizontal	Pass
4**	7547.975	37.00	54.0	17.00	AV	220.00	300	Horizontal	Pass
5	11892.963	48.05	74.0	25.95	Peak	360.00	100	Horizontal	Pass
5**	11892.963	38.07	54.0	15.93	AV	360.00	100	Horizontal	Pass
6	15795.262	51.61	74.0	22.39	Peak	343.00	200	Horizontal	Pass
6**	15795.262	42.94	54.0	11.06	AV	343.00	200	Horizontal	Pass

1 GHz to 18 GHz, ANT V 802.11n20 Low Channel

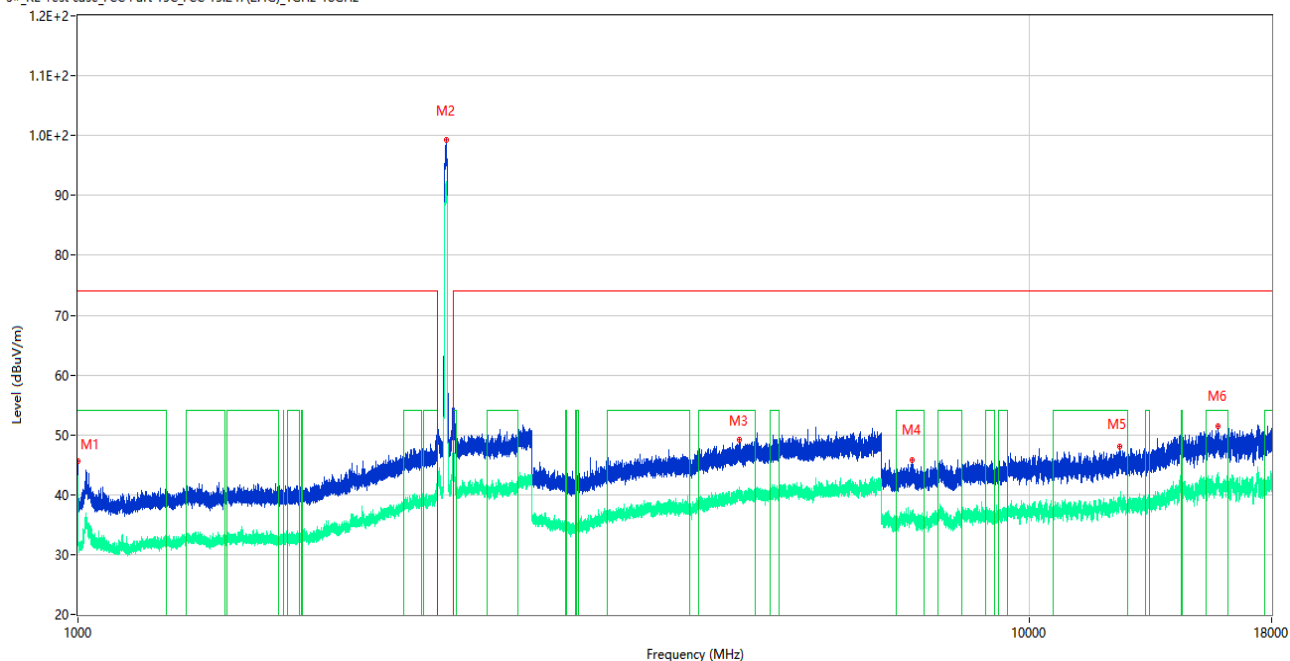
3#_RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1332.500	43.53	74.0	30.47	Peak	124.00	200	Vertical	Pass
1**	1332.500	32.47	54.0	21.53	AV	124.00	200	Vertical	Pass
2	2413.200	109.06	--	--	Peak	18.00	100	Vertical	N/A
2**	2413.200	101.93	--	--	AV	18.00	100	Vertical	N/A
3	4945.000	49.14	74.0	24.86	Peak	283.00	100	Vertical	Pass
3**	4945.000	40.18	54.0	13.82	AV	283.00	100	Vertical	Pass
4	7469.487	45.47	74.0	28.53	Peak	16.00	200	Vertical	Pass
4**	7469.487	36.24	54.0	17.76	AV	16.00	200	Vertical	Pass
5	12434.612	47.85	74.0	26.15	Peak	74.00	100	Vertical	Pass
5**	12434.612	37.94	54.0	16.06	AV	74.00	100	Vertical	Pass
6	16184.549	51.71	74.0	22.29	Peak	0.00	300	Vertical	Pass
6**	16184.549	41.80	54.0	12.20	AV	0.00	300	Vertical	Pass

1 GHz to 18 GHz, ANT H 802.11n20 Middle Channel

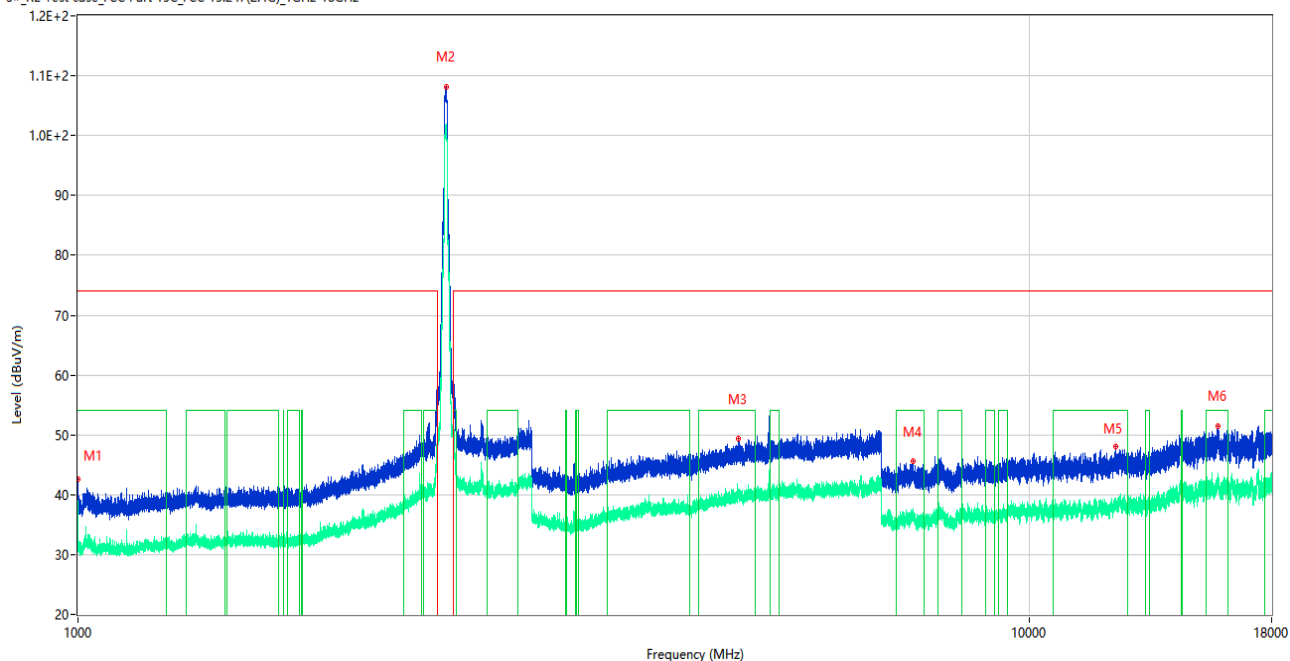
3#_RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1000.100	45.55	74.0	28.45	Peak	120.00	400	Horizontal	Pass
1**	1000.100	43.01	54.0	10.99	AV	120.00	400	Horizontal	Pass
2	2439.400	99.27	--	--	Peak	84.00	150	Horizontal	N/A
2**	2439.400	91.28	--	--	AV	84.00	150	Horizontal	N/A
3	4955.600	49.24	74.0	24.76	Peak	236.00	200	Horizontal	Pass
3**	4955.600	39.72	54.0	14.28	AV	236.00	200	Horizontal	Pass
4	7540.788	45.83	74.0	28.17	Peak	284.00	100	Horizontal	Pass
4**	7540.788	36.44	54.0	17.56	AV	284.00	100	Horizontal	Pass
5	12465.662	48.03	74.0	25.97	Peak	301.00	200	Horizontal	Pass
5**	12465.662	38.53	54.0	15.47	AV	301.00	200	Horizontal	Pass
6	15799.200	51.49	74.0	22.51	Peak	360.00	200	Horizontal	Pass
6**	15799.200	42.38	54.0	11.62	AV	360.00	200	Horizontal	Pass

1 GHz to 18 GHz, ANT V 802.11n20 Middle Channel

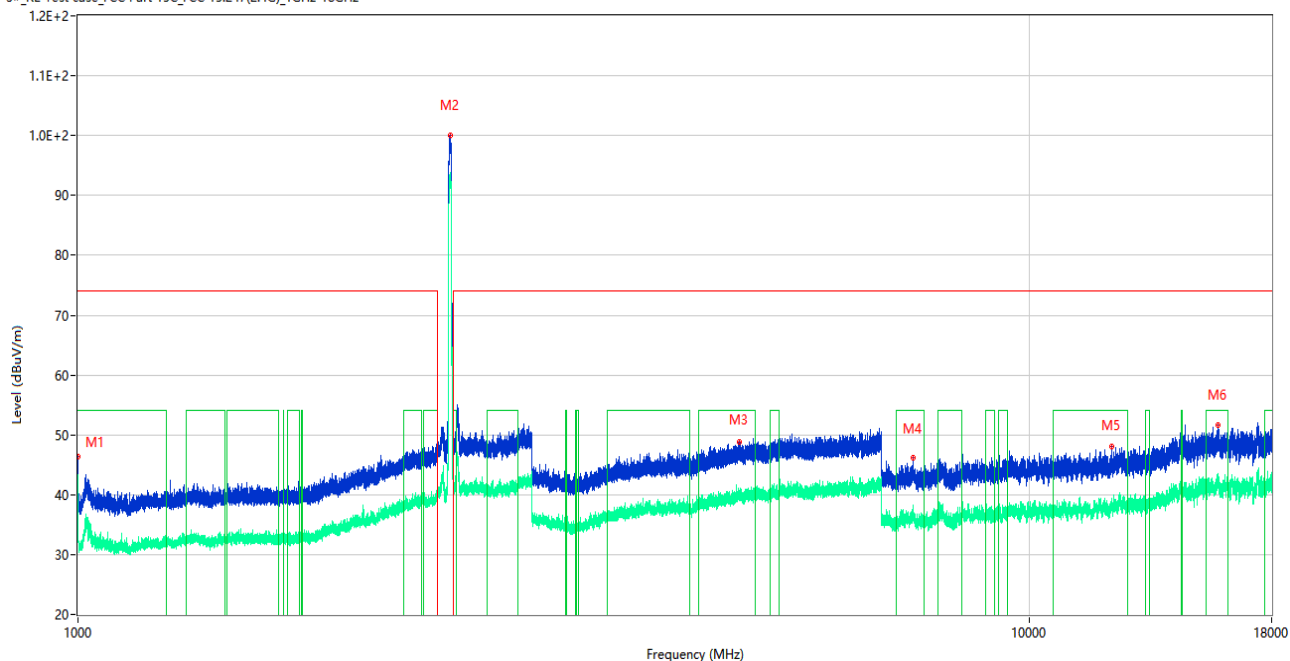
3#_RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1000.000	42.60	74.0	31.40	Peak	41.00	200	Vertical	Pass
1**	1000.000	37.73	54.0	16.27	AV	41.00	200	Vertical	Pass
2	2441.500	108.16	--	--	Peak	54.00	100	Vertical	N/A
2**	2441.500	101.12	--	--	AV	54.00	100	Vertical	N/A
3	4943.800	49.33	74.0	24.67	Peak	304.00	100	Vertical	Pass
3**	4943.800	39.66	54.0	14.34	AV	304.00	100	Vertical	Pass
4	7547.975	45.52	74.0	28.48	Peak	49.00	300	Vertical	Pass
4**	7547.975	37.16	54.0	16.84	AV	49.00	300	Vertical	Pass
5	12338.013	47.97	74.0	26.03	Peak	49.00	150	Vertical	Pass
5**	12338.013	38.24	54.0	15.76	AV	49.00	150	Vertical	Pass
6	15808.388	51.45	74.0	22.55	Peak	190.00	400	Vertical	Pass
6**	15808.388	42.33	54.0	11.67	AV	190.00	400	Vertical	Pass

1 GHz to 18 GHz, ANT H 802.11n20 High Channel

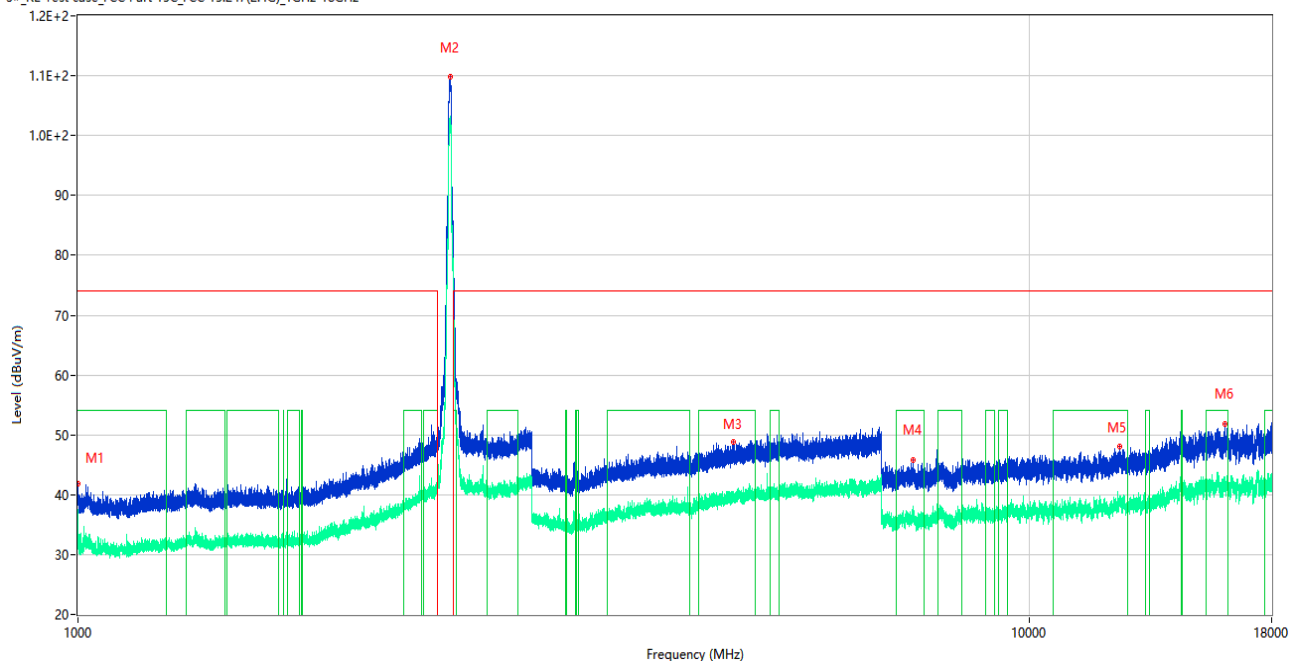
3#_RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1000.200	46.43	74.0	27.57	Peak	129.00	400	Horizontal	Pass
1**	1000.200	43.22	54.0	10.78	AV	129.00	400	Horizontal	Pass
2	2465.400	100.12	--	--	Peak	28.00	200	Horizontal	N/A
2**	2465.400	92.72	--	--	AV	28.00	200	Horizontal	N/A
3	4956.400	48.90	74.0	25.10	Peak	95.00	150	Horizontal	Pass
3**	4956.400	40.23	54.0	13.77	AV	95.00	150	Horizontal	Pass
4	7549.412	46.10	74.0	27.90	Peak	187.00	300	Horizontal	Pass
4**	7549.412	38.26	54.0	15.74	AV	187.00	300	Horizontal	Pass
5	12208.638	48.01	74.0	25.99	Peak	13.00	150	Horizontal	Pass
5**	12208.638	38.74	54.0	15.26	AV	13.00	150	Horizontal	Pass
6	15799.725	51.65	74.0	22.35	Peak	89.00	200	Horizontal	Pass
6**	15799.725	43.29	54.0	10.71	AV	89.00	200	Horizontal	Pass

1 GHz to 18 GHz, ANT V 802.11n20 High Channel

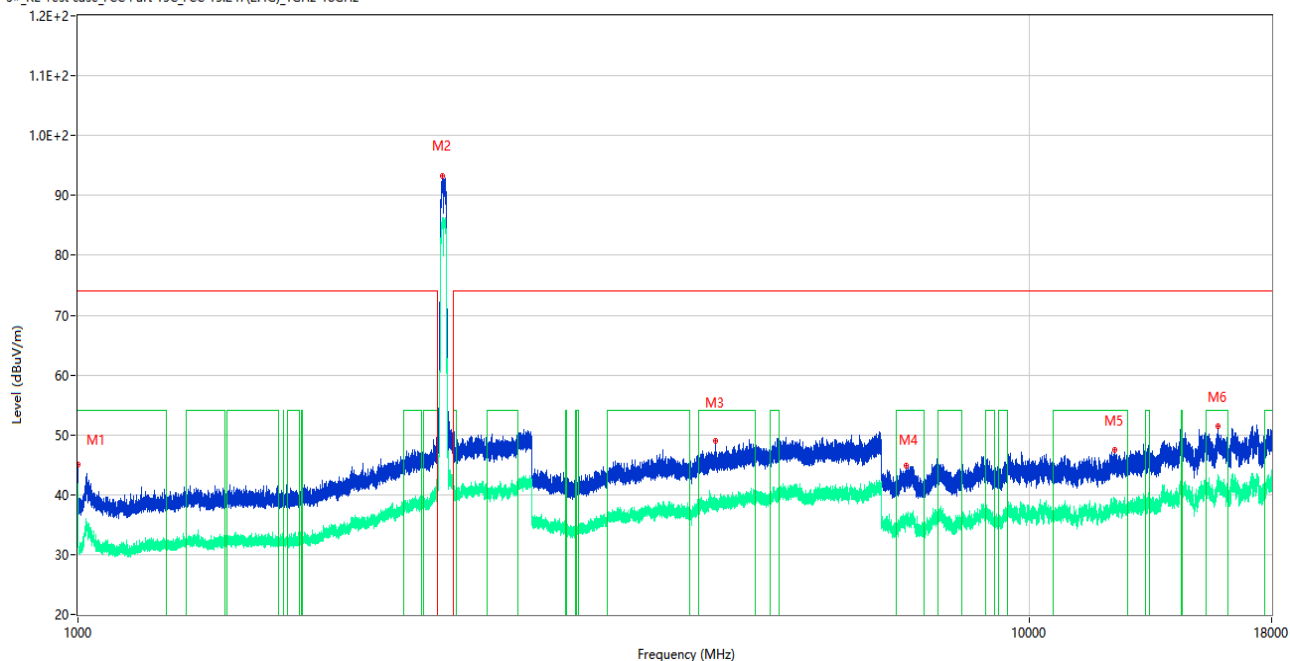
3#_RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1000.800	41.85	74.0	32.15	Peak	70.00	100	Vertical	Pass
1**	1000.800	32.17	54.0	21.83	AV	70.00	100	Vertical	Pass
2	2463.100	109.80	--	--	Peak	95.00	150	Vertical	N/A
2**	2463.100	102.12	--	--	AV	95.00	150	Vertical	N/A
3	4891.200	48.88	74.0	25.12	Peak	182.00	100	Vertical	Pass
3**	4891.200	39.17	54.0	14.83	AV	182.00	100	Vertical	Pass
4	7554.300	45.87	74.0	28.13	Peak	323.00	100	Vertical	Pass
4**	7554.300	37.11	54.0	16.89	AV	323.00	100	Vertical	Pass
5	12465.950	47.97	74.0	26.03	Peak	150.00	100	Vertical	Pass
5**	12465.950	39.07	54.0	14.93	AV	150.00	100	Vertical	Pass
6	16084.537	51.82	74.0	22.18	Peak	344.00	200	Vertical	Pass
6**	16084.537	41.38	54.0	12.62	AV	344.00	200	Vertical	Pass

1 GHz to 18 GHz, ANT H 802.11n40 Low Channel

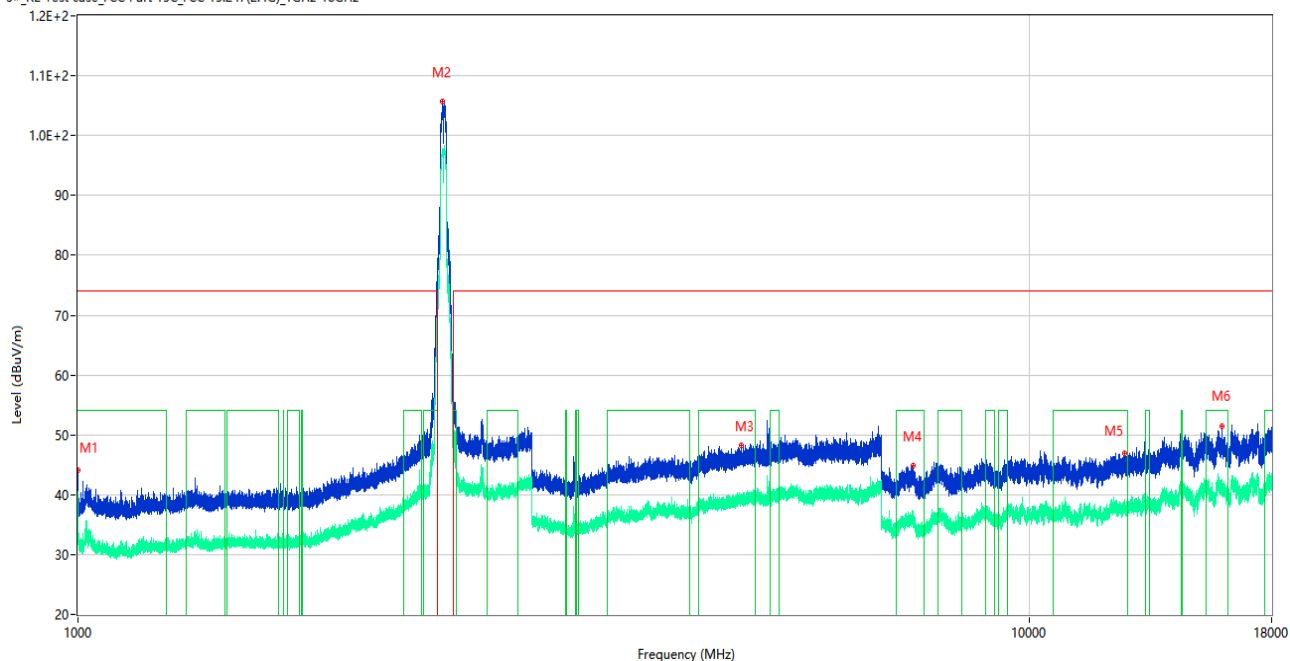
3#_RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1000.000	45.13	74.0	28.87	Peak	90.00	400	Horizontal	Pass
1**	1000.000	41.56	54.0	12.44	AV	90.00	400	Horizontal	Pass
2	2417.500	93.27	--	--	Peak	35.00	200	Horizontal	N/A
2**	2417.500	85.74	--	--	AV	35.00	200	Horizontal	N/A
3	4683.800	49.05	74.0	24.95	Peak	229.00	100	Horizontal	Pass
3**	4683.800	38.19	54.0	15.81	AV	229.00	100	Horizontal	Pass
4	7434.413	44.88	74.0	29.12	Peak	174.00	400	Horizontal	Pass
4**	7434.413	36.14	54.0	17.86	AV	174.00	400	Horizontal	Pass
5	12311.276	47.44	74.0	26.56	Peak	278.00	150	Horizontal	Pass
5**	12311.276	37.80	54.0	16.20	AV	278.00	150	Horizontal	Pass
6	15807.863	51.37	74.0	22.63	Peak	131.00	300	Horizontal	Pass
6**	15807.863	42.13	54.0	11.87	AV	131.00	300	Horizontal	Pass

1 GHz to 18 GHz, ANT V 802.11n40 Low Channel

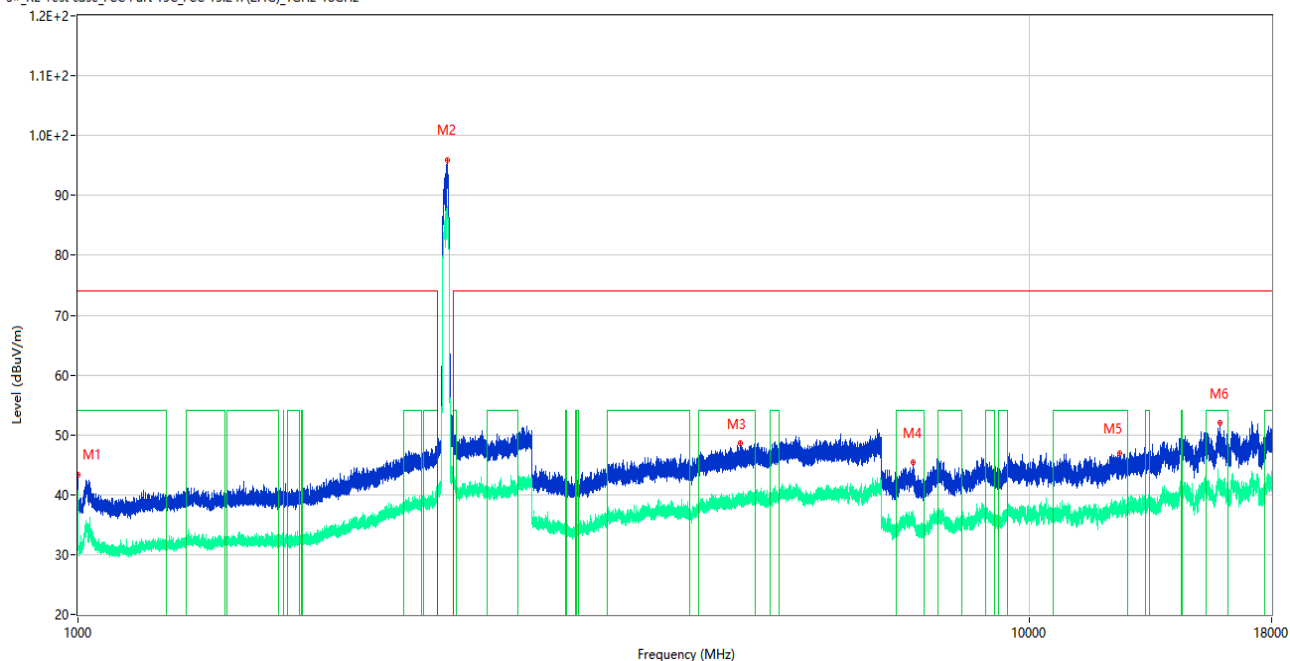
3#_RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1000.300	44.08	74.0	29.92	Peak	318.00	200	Vertical	Pass
1**	1000.300	39.85	54.0	14.15	AV	318.00	200	Vertical	Pass
2	2418.200	105.65	--	--	Peak	48.00	100	Vertical	N/A
2**	2418.200	96.76	--	--	AV	48.00	100	Vertical	N/A
3	4989.200	48.30	74.0	25.70	Peak	224.00	150	Vertical	Pass
3**	4989.200	38.95	54.0	15.05	AV	224.00	150	Vertical	Pass
4	7550.275	44.83	74.0	29.17	Peak	333.00	300	Vertical	Pass
4**	7550.275	36.71	54.0	17.29	AV	333.00	300	Vertical	Pass
5	12603.662	46.95	74.0	27.05	Peak	49.00	200	Vertical	Pass
5**	12603.662	37.99	54.0	16.01	AV	49.00	200	Vertical	Pass
6	15966.412	51.50	74.0	22.50	Peak	133.00	400	Vertical	Pass
6**	15966.412	41.39	54.0	12.61	AV	133.00	400	Vertical	Pass

1 GHz to 18 GHz, ANT H 802.11n40 Middle Channel

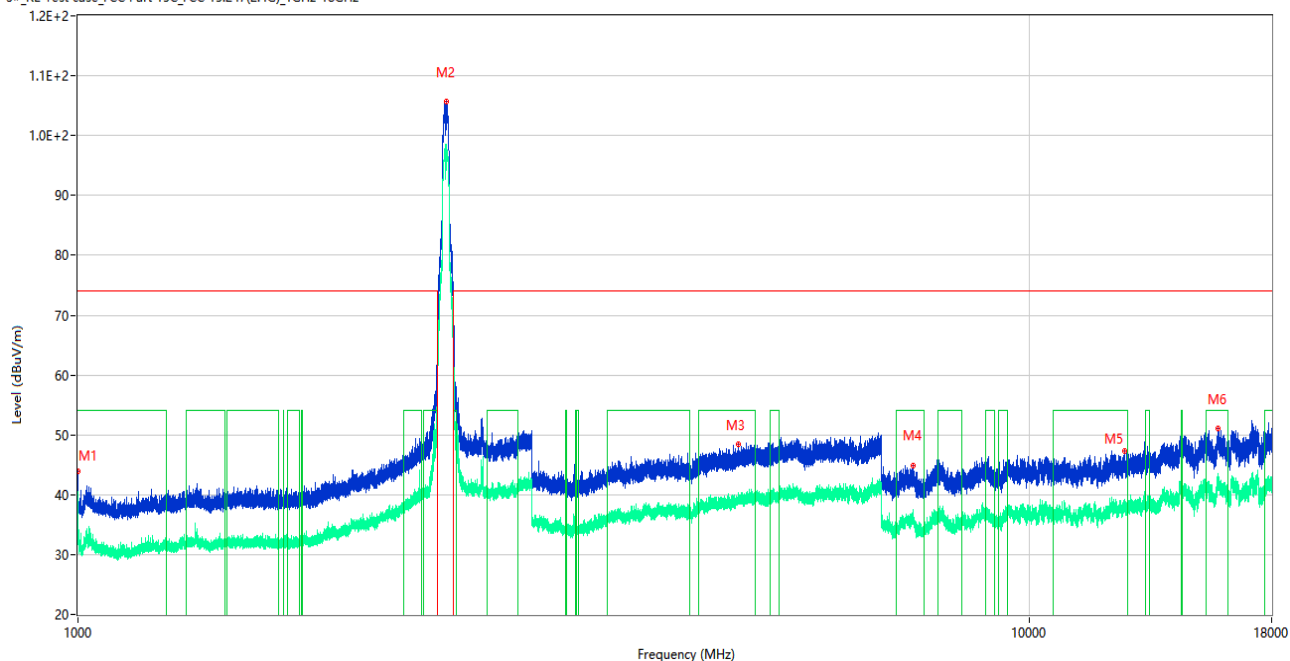
3#_RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1000.200	43.32	74.0	30.68	Peak	93.00	300	Horizontal	Pass
1**	1000.200	40.26	54.0	13.74	AV	93.00	300	Horizontal	Pass
2	2443.800	95.90	--	--	Peak	79.00	200	Horizontal	N/A
2**	2443.800	87.50	--	--	AV	79.00	200	Horizontal	N/A
3	4970.800	48.58	74.0	25.42	Peak	303.00	100	Horizontal	Pass
3**	4970.800	38.98	54.0	15.02	AV	303.00	100	Horizontal	Pass
4	7553.150	45.37	74.0	28.63	Peak	49.00	300	Horizontal	Pass
4**	7553.150	36.31	54.0	17.69	AV	49.00	300	Horizontal	Pass
5	12473.138	46.93	74.0	27.07	Peak	257.00	100	Horizontal	Pass
5**	12473.138	37.17	54.0	16.83	AV	257.00	100	Horizontal	Pass
6	15888.187	51.95	74.0	22.05	Peak	325.00	200	Horizontal	Pass
6**	15888.187	41.50	54.0	12.50	AV	325.00	200	Horizontal	Pass

1 GHz to 18 GHz, ANT V 802.11n40 Middle Channel

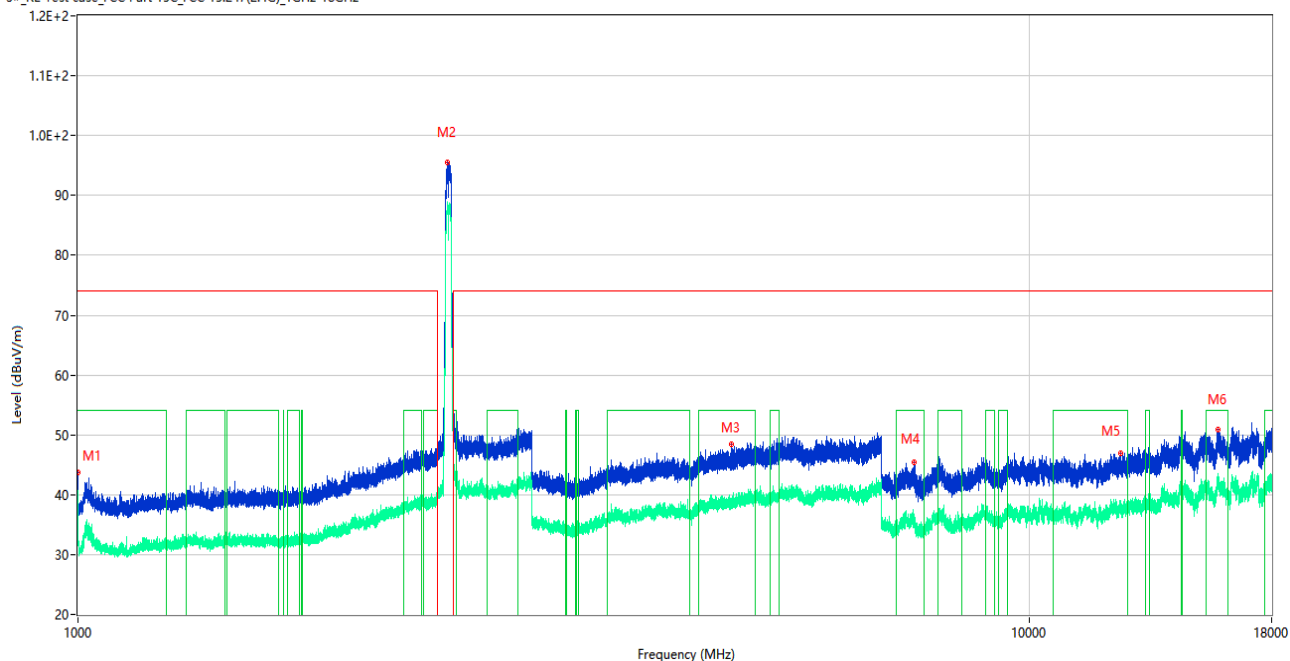
3#_RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1000.100	43.91	74.0	30.09	Peak	312.00	400	Vertical	Pass
1**	1000.100	40.07	54.0	13.93	AV	312.00	400	Vertical	Pass
2	2441.800	105.62	--	-7.62	Peak	98.00	100	Vertical	N/A
2**	2441.800	97.10	--	-97.10	AV	98.00	100	Vertical	N/A
3	4943.400	48.39	74.0	25.61	Peak	181.00	200	Vertical	Pass
3**	4943.400	38.86	54.0	15.14	AV	181.00	200	Vertical	Pass
4	7557.175	44.87	74.0	29.13	Peak	349.00	300	Vertical	Pass
4**	7557.175	36.56	54.0	17.44	AV	349.00	300	Vertical	Pass
5	12615.451	47.29	74.0	26.71	Peak	76.00	100	Vertical	Pass
5**	12615.451	37.62	54.0	16.38	AV	76.00	100	Vertical	Pass
6	15803.138	51.01	74.0	22.99	Peak	102.00	100	Vertical	Pass
6**	15803.138	42.44	54.0	11.56	AV	102.00	100	Vertical	Pass

1 GHz to 18 GHz, ANT H 802.11n40 High Channel

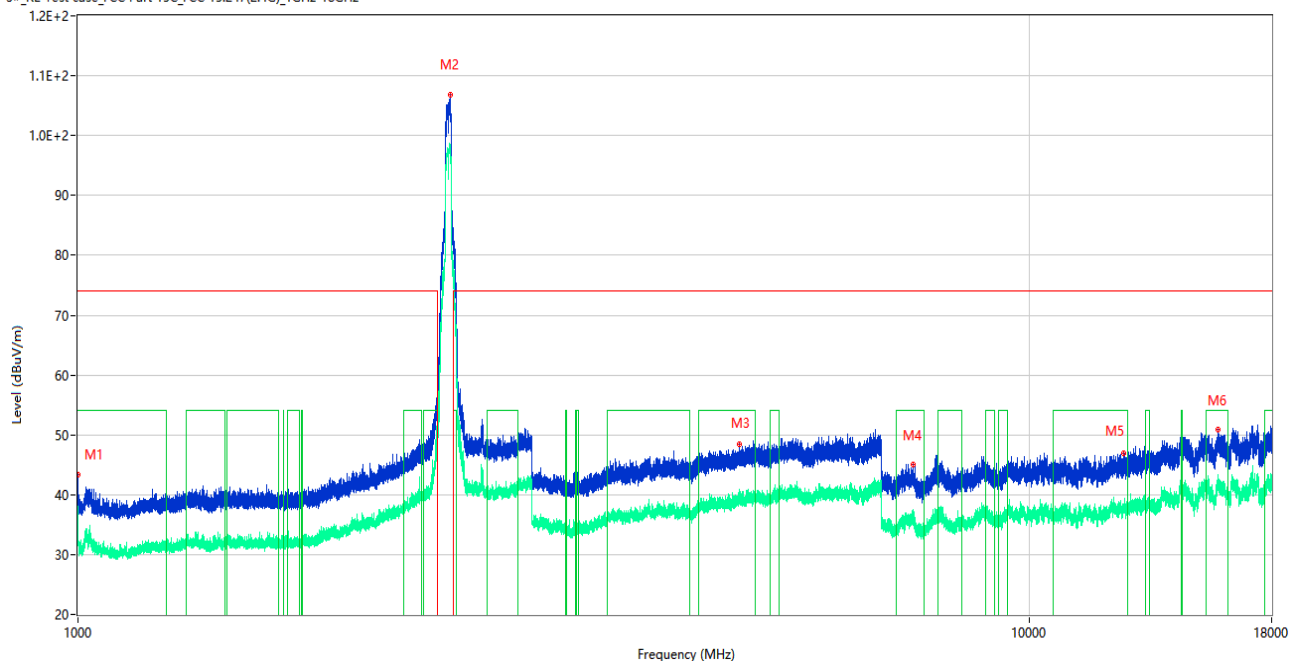
3#_RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1000.200	43.79	74.0	30.21	Peak	117.00	300	Horizontal	Pass
1**	1000.200	40.61	54.0	13.39	AV	117.00	300	Horizontal	Pass
2	2448.600	95.58	--	--	Peak	73.00	200	Horizontal	N/A
2**	2448.600	87.75	--	--	AV	73.00	200	Horizontal	N/A
3	4861.600	48.50	74.0	25.50	Peak	340.00	200	Horizontal	Pass
3**	4861.600	38.46	54.0	15.54	AV	340.00	200	Horizontal	Pass
4	7569.825	45.41	74.0	28.59	Peak	360.00	100	Horizontal	Pass
4**	7569.825	36.80	54.0	17.20	AV	360.00	100	Horizontal	Pass
5	12474.287	46.95	74.0	27.05	Peak	340.00	200	Horizontal	Pass
5**	12474.287	38.03	54.0	15.97	AV	340.00	200	Horizontal	Pass
6	15797.888	50.88	74.0	23.12	Peak	149.00	200	Horizontal	Pass
6**	15797.888	41.99	54.0	12.01	AV	149.00	200	Horizontal	Pass

1 GHz to 18 GHz, ANT V 802.11n40 High Channel

3#_RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1000.100	43.42	74.0	30.58	Peak	69.00	100	Vertical	Pass
1**	1000.100	37.82	54.0	16.18	AV	69.00	100	Vertical	Pass
2	2461.000	106.81	--	--	Peak	147.00	150	Vertical	N/A
2**	2461.000	98.22	--	--	AV	147.00	150	Vertical	N/A
3	4959.600	48.35	74.0	25.65	Peak	340.00	200	Vertical	Pass
3**	4959.600	39.07	54.0	14.93	AV	340.00	200	Vertical	Pass
4	7548.550	45.02	74.0	28.98	Peak	118.00	300	Vertical	Pass
4**	7548.550	36.75	54.0	17.25	AV	118.00	300	Vertical	Pass
5	12587.563	46.87	74.0	27.13	Peak	170.00	200	Vertical	Pass
5**	12587.563	38.03	54.0	15.97	AV	170.00	200	Vertical	Pass
6	15813.112	50.87	74.0	23.13	Peak	55.00	300	Vertical	Pass
6**	15813.112	41.87	54.0	12.13	AV	55.00	300	Vertical	Pass

A.7 Band Edge (Restricted-band band-edge)

Note ¹: The lowest and highest channels are tested to verify the band edge emissions. Please refer to the following the plots for emissions values.

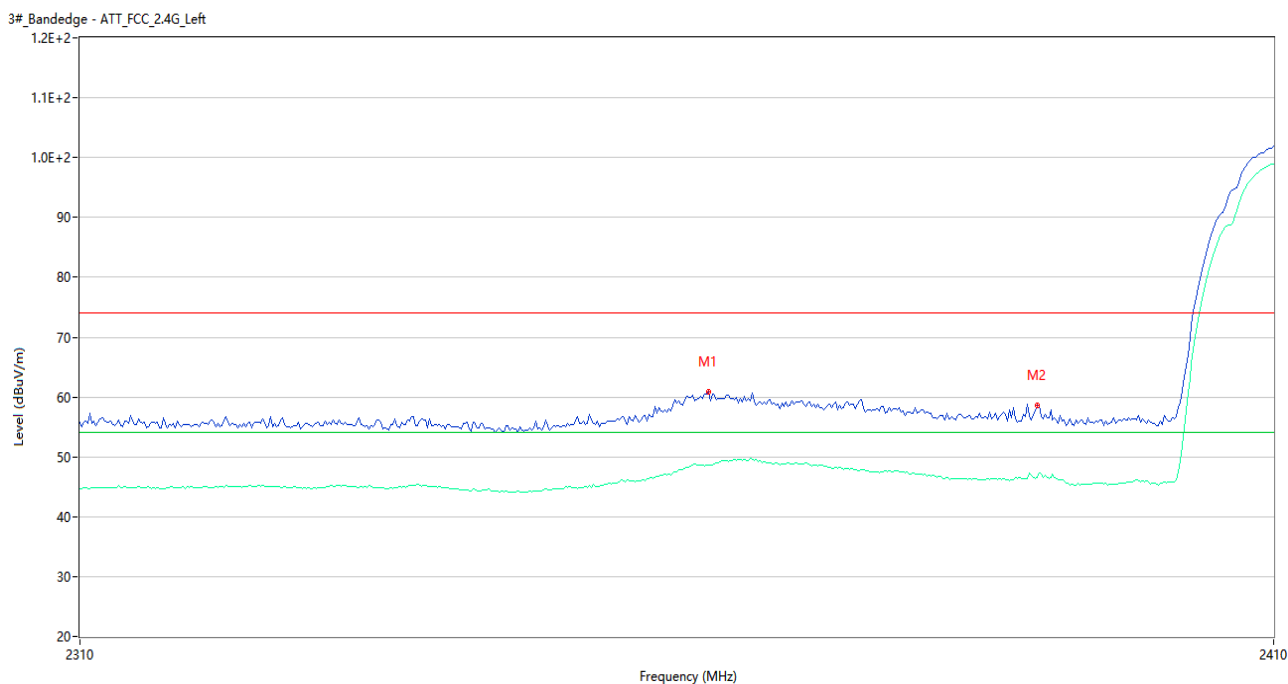
Note ²: The test data all are tested in the vertical and horizontal antenna which the trace is max hold. So these plots have shown the worst case.

Note ³: According the ANSI C63.10-2020 + Cor. 1-2023 + C63.10a-2024 + Errata to C63.10a-2024, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

Note ⁴: Both horizontal and vertical directions were pre tested, only the worst configuration has been reported in this report.

Test Data and Plots

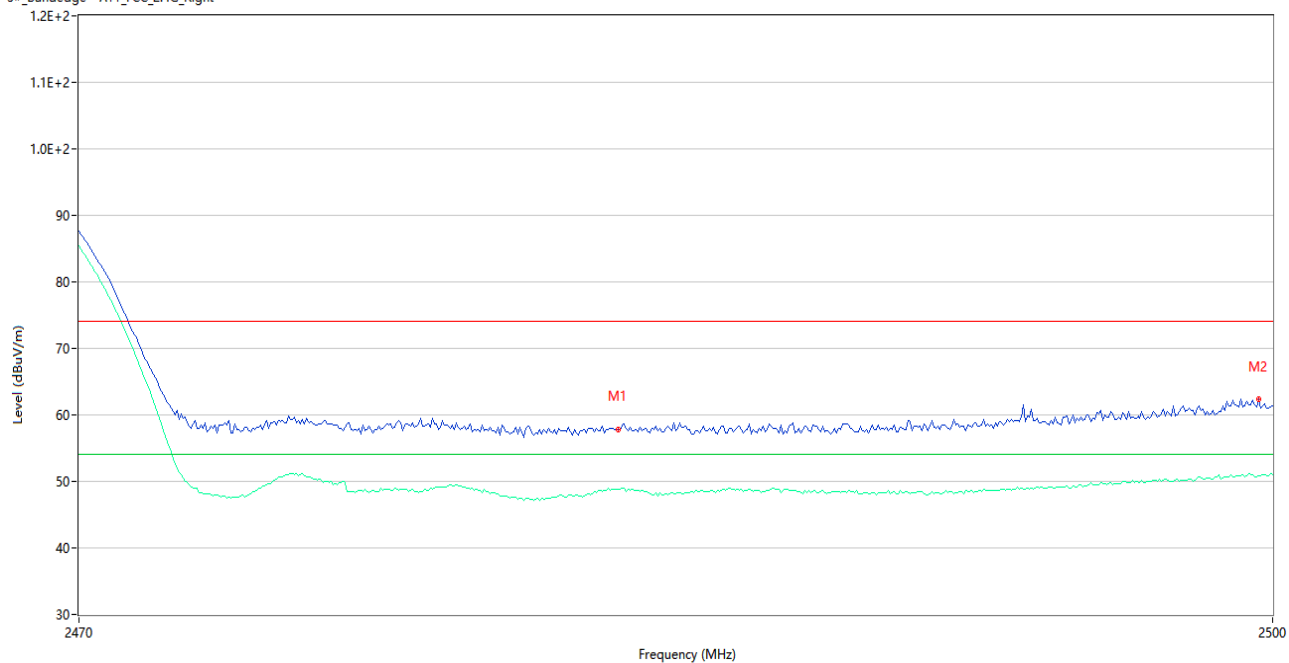
802.11b LOW CHANNEL



No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2362.167	60.89	74.0	13.11	Peak	103.00	100	Vertical	Pass
1**	2362.167	48.64	54.0	5.36	AV	103.00	100	Vertical	Pass
2	2389.833	58.66	74.0	15.34	Peak	360.00	200	Vertical	Pass
2**	2389.833	46.54	54.0	7.46	AV	360.00	200	Vertical	Pass

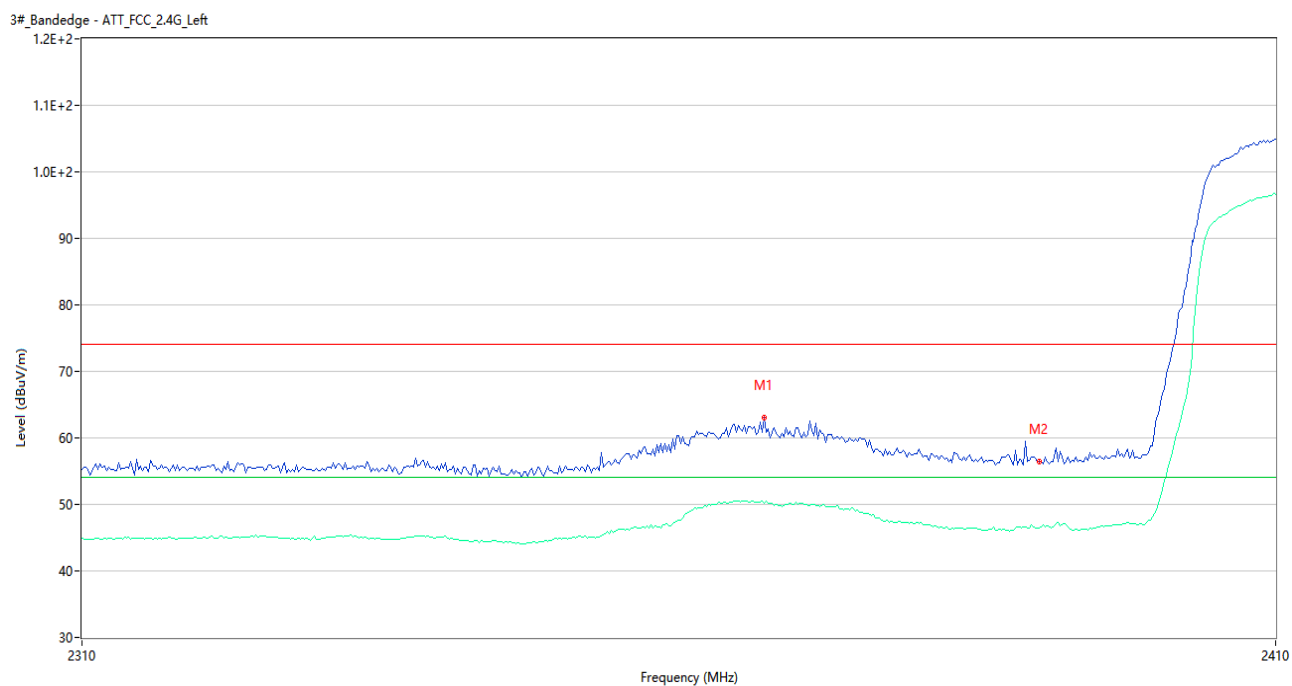
802.11b HIGH CHANNEL

3#_Bandedge - ATT_FCC_2.4G_Right



No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.500	57.82	74.0	16.18	Peak	91.00	200	Vertical	Pass
1**	2483.500	48.80	54.0	5.20	AV	91.00	200	Vertical	Pass
2	2499.650	62.34	74.0	11.66	Peak	93.00	200	Vertical	Pass
2**	2499.650	50.86	54.0	3.14	AV	93.00	200	Vertical	Pass

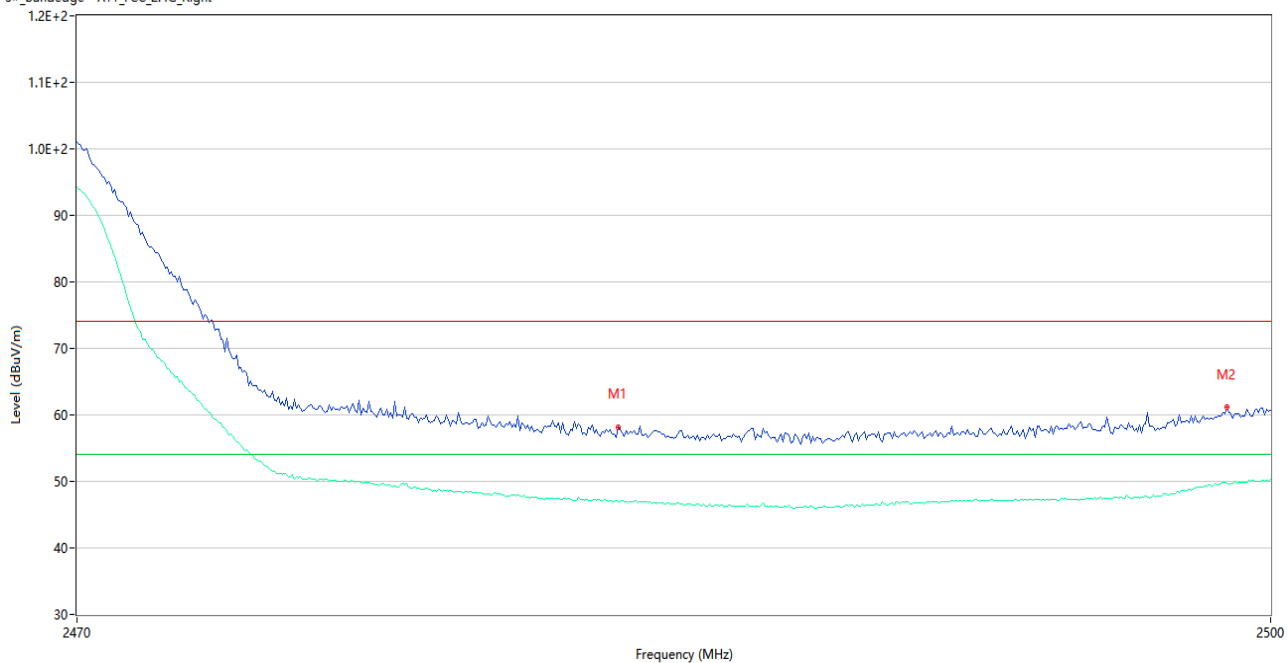
802.11g LOW CHANNEL



No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2366.667	62.99	74.0	11.01	Peak	116.00	150	Vertical	Pass
1**	2366.667	50.23	54.0	3.77	AV	116.00	150	Vertical	Pass
2	2389.833	56.43	74.0	17.57	Peak	52.00	100	Vertical	Pass
2**	2389.833	46.51	54.0	7.49	AV	52.00	100	Vertical	Pass

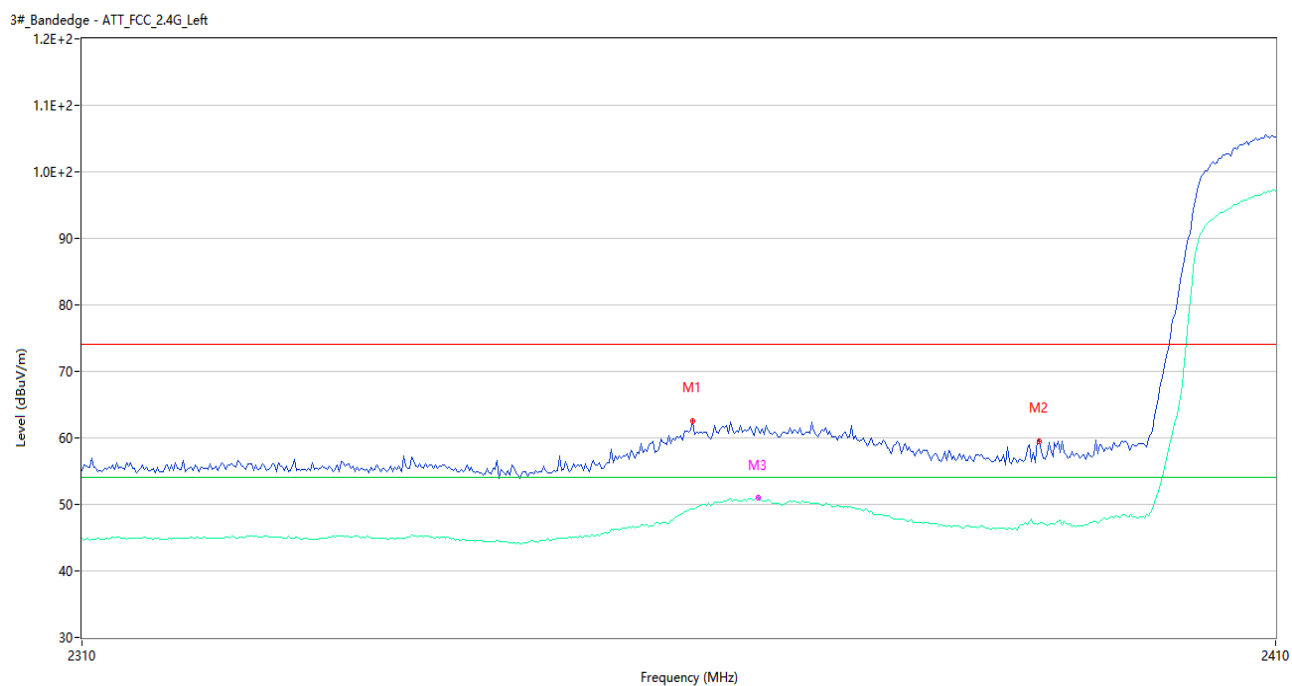
802.11g HIGH CHANNEL

3#_Bandedge - ATT_FCC_2.4G_Right



No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.550	58.20	74.0	15.80	Peak	360.00	100	Vertical	Pass
1**	2483.550	46.98	54.0	7.02	AV	360.00	100	Vertical	Pass
2	2498.900	61.14	74.0	12.86	Peak	102.00	200	Vertical	Pass
2**	2498.900	49.62	54.0	4.38	AV	102.00	200	Vertical	Pass

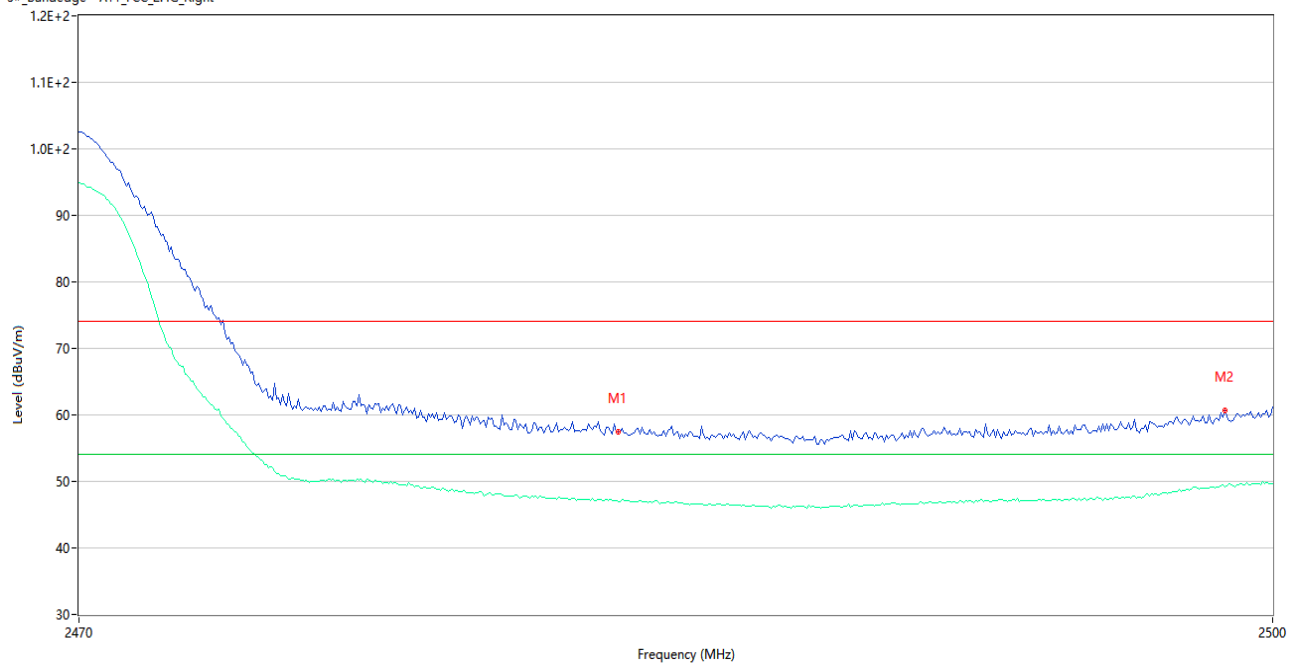
802.11n20 LOW CHANNEL



No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2360.667	62.61	74.0	11.39	Peak	109.00	100	Vertical	Pass
1**	2360.667	49.27	54.0	4.73	AV	109.00	100	Vertical	Pass
2	2389.833	59.52	74.0	14.48	Peak	154.00	150	Vertical	Pass
2**	2389.833	47.19	54.0	6.81	AV	154.00	150	Vertical	Pass
3	2366.167	61.30	74.0	12.70	Peak	115.00	150	Vertical	Pass
3**	2366.167	50.96	54.0	3.04	AV	115.00	150	Vertical	Pass

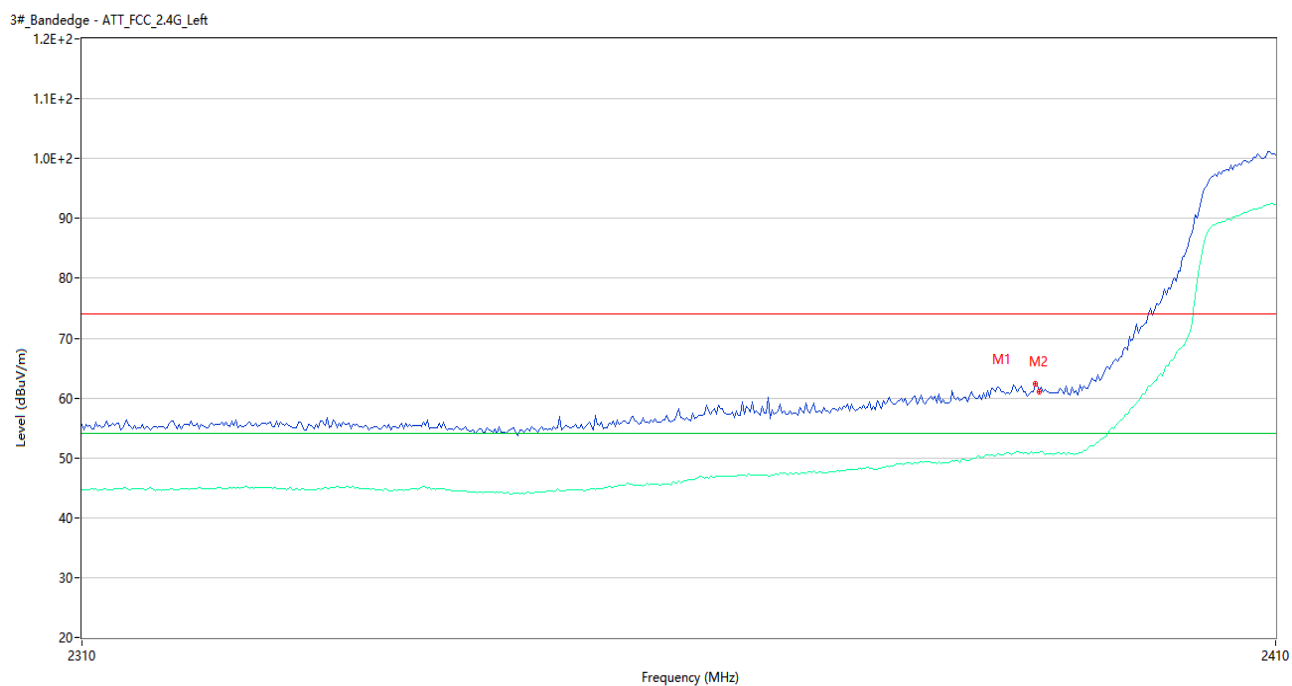
802.11n20 HIGH CHANNEL

3#_Bandedge - ATT_FCC_2.4G_Right



No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.500	57.53	74.0	16.47	Peak	166.00	200	Vertical	Pass
1**	2483.500	46.98	54.0	7.02	AV	166.00	200	Vertical	Pass
2	2498.800	60.74	74.0	13.26	Peak	92.00	100	Vertical	Pass
2**	2498.800	49.21	54.0	4.79	AV	92.00	100	Vertical	Pass

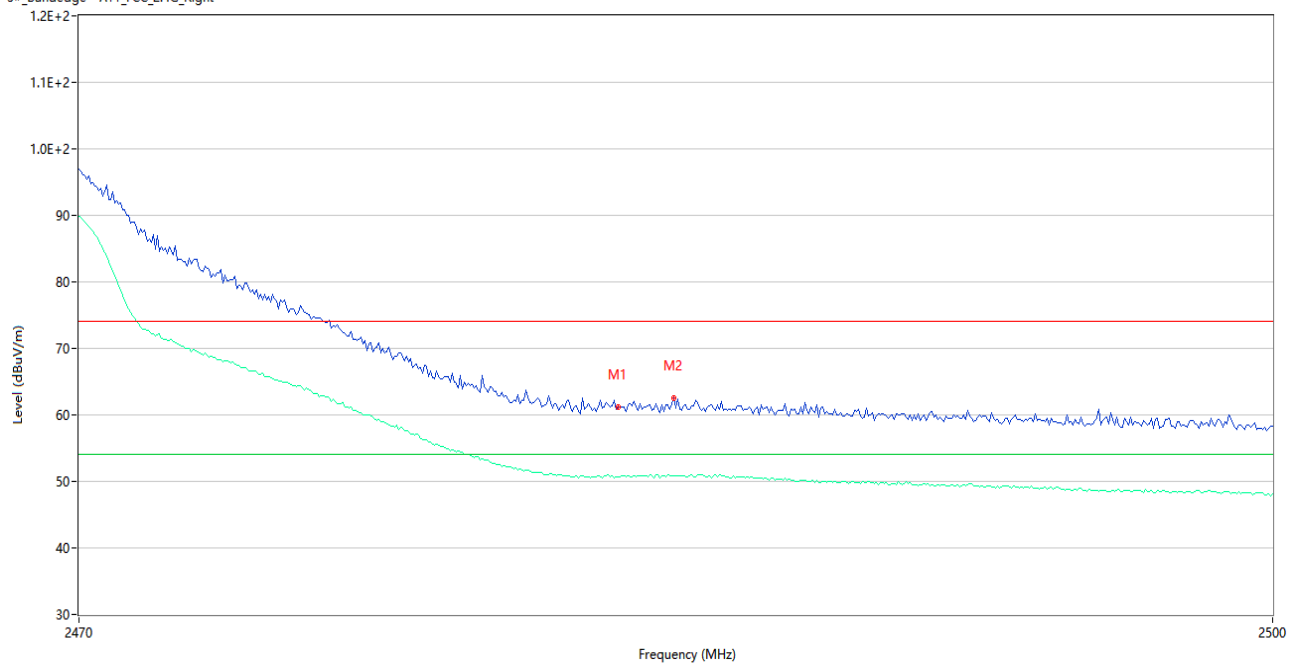
802.11n40 LOW CHANNEL



No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2389.500	62.39	74.0	11.61	Peak	107.00	150	Vertical	Pass
1**	2389.500	50.81	54.0	3.19	AV	107.00	150	Vertical	Pass
2	2389.833	61.10	74.0	12.90	Peak	153.00	100	Vertical	Pass
2**	2389.833	50.91	54.0	3.09	AV	153.00	100	Vertical	Pass

802.11n40 HIGH CHANNEL

3#_Bandedge - ATT_FCC_2.4G_Right



No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.500	61.16	74.0	12.84	Peak	41.00	200	Vertical	Pass
1**	2483.500	50.71	54.0	3.29	AV	41.00	200	Vertical	Pass
2	2484.900	62.52	74.0	11.48	Peak	36.00	100	Vertical	Pass
2**	2484.900	50.91	54.0	3.09	AV	36.00	100	Vertical	Pass

A.8 Power Spectral Density (PSD)

Test Data

802.11b Mode:

Channel	Spectral Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
Low	-11.62	8	Pass
Middle	-7.94	8	Pass
High	-8.24	8	Pass

802.11g Mode:

Channel	Spectral Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
Low	-13.13	8	Pass
Middle	-9.58	8	Pass
High	-13.13	8	Pass

802.11n-20 MHz Mode:

Channel	Spectral Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
Low	-12.51	8	Pass
Middle	-8.85	8	Pass
High	-13.63	8	Pass

802.11n-40 MHz Mode:

Channel	Spectral Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
Low	-14.71	8	Pass
Middle	-12.76	8	Pass
High	-16.86	8	Pass

Test Plots

802.11b LOW CHANNEL



802.11b MIDDLE CHANNEL



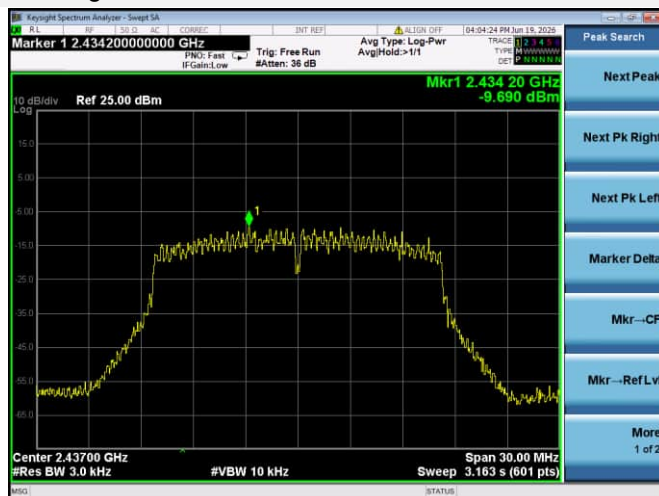
802.11b HIGH CHANNEL



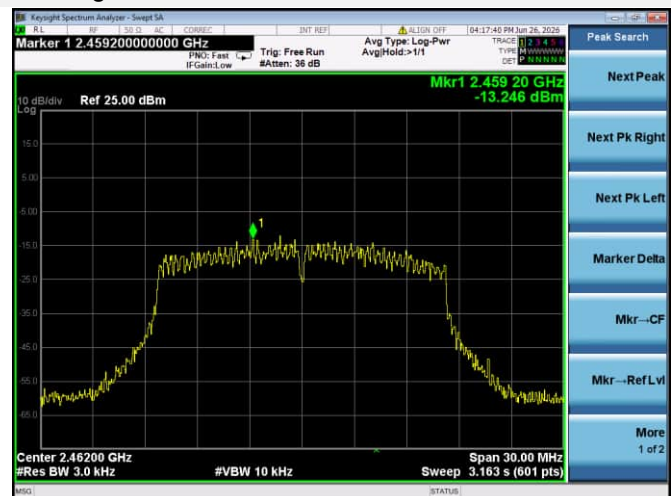
802.11g LOW CHANNEL



802.11g MIDDLE CHANNEL



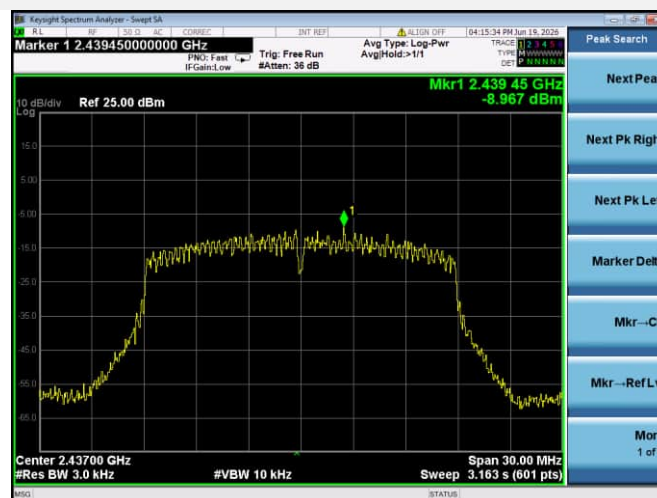
802.11g HIGH CHANNEL



802.11n-20 MHz LOW CHANNEL



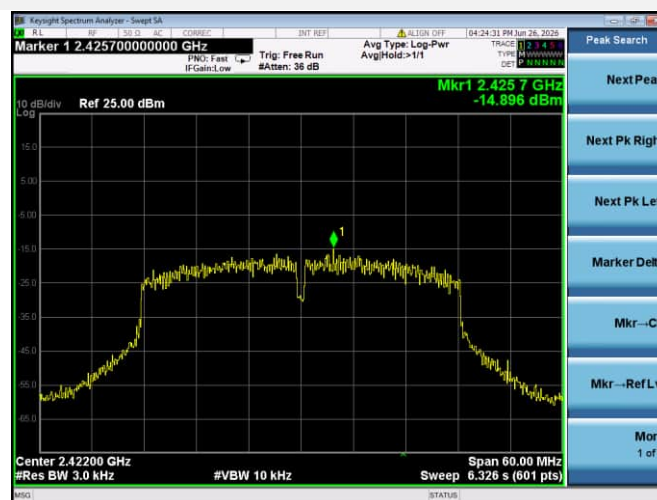
802.11n-20 MHz MIDDLE CHANNEL



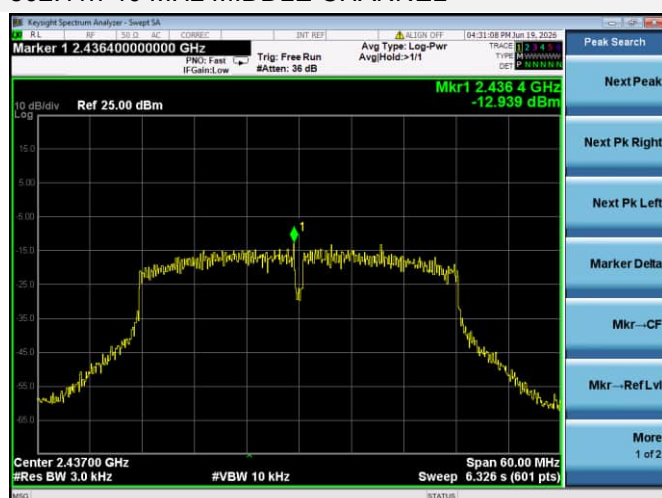
802.11n-20 MHz HIGH CHANNEL



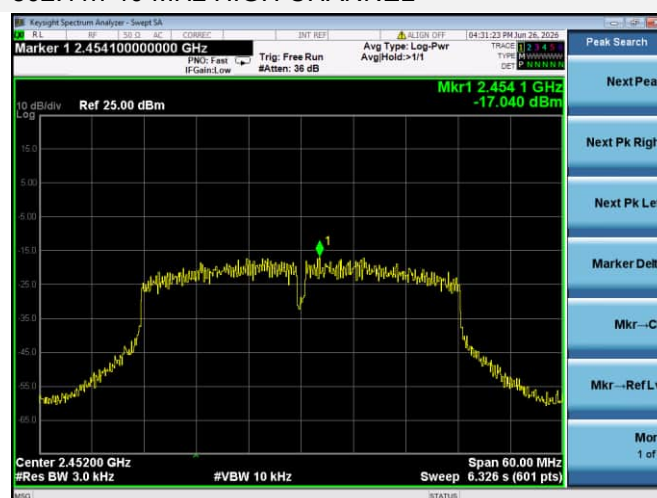
802.11n-40 MHz LOW CHANNEL



802.11n-40 MHz MIDDLE CHANNEL



802.11n-40 MHz HIGH CHANNEL



ANNEX B TEST SETUP PHOTOS

Please refer the document “Ti-EE26050379-AR.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “Ti-EE26050379-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “Ti-EE26050379-AI.PDF”.

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--END OF REPORT--