

TEST REPORT

Applicant: REOLINK TECHNOLOGY PTE. LTD.
Address: 31 KAKI BUKIT ROAD 3, #06-02, TECHLINK,
SINGAPORE 417818
Equipment Type: WiFi module
Model Name: WL1NM1001
Brand Name: Reolink
FCC ID: 2BN5S-2503H
ISED Number: 33667-2503H
Test Standard: 47 CFR Part 15 Subpart C
RSS-Gen Issue 5
RSS-247 Issue 3
(refer to section 3.1)
Sample Arrival Date: Apr. 22, 2025
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ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

**Tested by:** Julie Zhu**Checked by:** Ye Hongji**Approved by:** Sunny Zou
(Technical Director)

Revision History

Version	Issue Date	Revisions
<u>Rev. 01</u>	<u>Jun. 17, 2025</u>	<u>Initial Issue</u>

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1 GENERAL INFORMATION

1.1 Test Laboratory

Name	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Phone Number	+86 755 6685 0100

1.2 Test Location

Name	Shenzhen BALUN Technology Co., Ltd.
Location	☒ Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
	☐ 1/F, Building B, Ganghongji High-tech Intelligent Industrial Park, No. 1008, Songbai Road, Yangguang Community, Xili Sub-district, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Accreditation Certificate	The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1196. The laboratory has been listed by Industry Canada to perform electromagnetic emission measurements. The recognition numbers of test site are 11524A.

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	REOLINK TECHNOLOGY PTE. LTD.
Address	31 KAKI BUKIT ROAD 3, #06-02, TECHLINK, SINGAPORE 417818

2.2 Manufacturer Information

Manufacturer	REOLINK TECHNOLOGY PTE. LTD.
Address	31 KAKI BUKIT ROAD 3, #06-02, TECHLINK, SINGAPORE 417818

2.3 General Description for Equipment under Test (EUT)

EUT Name	WiFi module
Model Name Under Test	WL1NM1001
Series Model Name	N/A
Description of Model name differentiation	N/A
Serial Number	952700Y006OCBLOR
Hardware Version	N/A
Software Version	N/A
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

2.4 Technical Information

Network and Wireless connectivity	Bluetooth (BLE) WIFI 802.11a, 802.11b, 802.11g, 802.11n, 802.11ac and 802.11ax
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The requirement for the following technical information of the EUT was tested in this report:

Frequency Range	802.11b/g/n/ax(20 MHz): 2.412 GHz - 2.462 GHz $f_c = 2412 \text{ MHz} + (N-1)*5 \text{ MHz}$, where - f_c = "Operating Frequency" in MHz, - N = "Channel Number" with the range from 1 to 11.	
Modulation Technology	DSSS, OFDM, OFDMA	
Product Type	☒ Mobile ☐ Portable ☐ Fix Location	
Antenna System (eg., MIMO, Smart Antenna)	N/A	
Categorization as Correlated or Completely Uncorrelated	N/A	
Antenna Type	ANT1	FPC Antenna
	ANT2	Dipole Antenna
	ANT3	Dipole Antenna
	ANT4	Dipole Antenna
	ANT5	Dipole Antenna
Antenna Gain	ANT1	3.3 dBi
	ANT2	2.89 dBi
	ANT3	4.4 dBi
	ANT4	3.81 dBi
	ANT5	3.05 dBi
About the Product	Only the WIFI 802.11b, 802.11g, 802.11n (HT20) and 802.11ax (HE20) was tested in this report.	

Antenna Information:

Serial Number	Antenna Name	Antenna Manufacturer	Model	Antenna Type
ANT1	Argus 4 Pro Argus 4	SHENZHEN LINRONG TECHNOLOGY CO., LTD	03.10.03.003	FPC Antenna
ANT2	Argus PT Ultra@Reolink Argus PT	SHENZHENYINGJIACHUANG ELECTRONIC TECHNOLOGY CO. LTD.	54.07.001.0147	Dipole Antenna
ANT3	Reolink Altas PT Ultra	Shenzhen Be-Comfortable Technology Co. Ltd	53.05.004.0014	Dipole Antenna
ANT4	Reolink Altas	SHENZHEN LINRONG TECHNOLOGY CO., LTD	03.14.03.001	Dipole Antenna
ANT5	Reolink TrackMix	Shenzhen Be-Comfortable Technology Co. Ltd	62.04.042.0055	Dipole Antenna
Note: All antenna model are alternative antenna, the max gain antenna is chosen for all test.				

802.11ax RU configuration table				
Mode	Full RU (SU)	RU_26	RU_52	RU_106
802.11ax20	√	--	--	--

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
OFDMA (802.11ax-20 MHz)	BPSK	4
	QPSK	16/24/17/26
	16QAM	33/49/34/52
	64QAM	65/73/81/69/77/86
	256QAM	98/108/103/115
	1024QAM	122/135/129/143

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/11n20/11ax20	1/6/6.5/4 Mbps	1/6/11
Occupied Bandwidth	11b/11g/11n20/11ax20	1/6/6.5/4 Mbps	1/6/11
Conducted Spurious Emission	11b/11g/11n20/11ax20	1/6/6.5/4 Mbps	1/6/11
Conducted Emission	11b/11g/11n20/11ax20	1/6/6.5/4 Mbps	1/6/11
Radiated Spurious Emission	11b/11g/11n20/11ax20	1/6/6.5/4 Mbps	1/6/11
Band Edge	11b/11g/11n20/11ax20	1/6/6.5/4 Mbps	1/6/11
Power spectral density (PSD)	11b/11g/11n20/11ax20	1/6/6.5/4 Mbps	1/6/11

Note: The above EUT information in section 2.4 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	RSS-Gen Issue 5	General Requirements for Compliance of Radio Apparatus
3	RSS-247 Issue 3	Digital Transmission Systems (DTSS), Frequency Hopping Systems(FHSS) and Licence-Exempt Local Area Network (LE-LAN) Devices
4	KDB Publication 662911 D01v02r01	Emissions Testing of Transmitters with Multiple Outputs in the Same Band (e.g., MIMO, Smart Antenna, etc)
5	ANSI C63.10-2013	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
6	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.	ISED Part No.	Test Result	Verdict
1	Antenna Requirement	15.203	RSS-247, 5.4 (f)	N/A	Pass ^{Note 1}
2	Output Power	15.247 (b)	RSS-247, 5.4 (d)	ANNEX A.1	Pass
3	Occupied Bandwidth	15.247 (a)	RSS-GEN, 6.7; RSS-247, 5.2 (a)	ANNEX A.2	Pass
4	Conducted Spurious Emission	15.247 (d)	RSS-247, 5.5	ANNEX A.3	Pass
5	Band Edge(Authorized-band band-edge)	15.247 (d)	RSS-GEN, 8.9; RSS-247, 5.5	ANNEX A.4	Pass
6	Conducted Emission	15.207	RSS-GEN, 8.8	ANNEX A.5	Pass
7	Radiated Spurious Emission	15.209; 15.247 (d)	RSS-247, 5.5	ANNEX A.6	Pass
8	Band Edge(Restricted-band band-edge)	15.209; 15.247 (d)	RSS-247, 5.5	ANNEX A.7	Pass
9	Power spectral density (PSD)	15.247 (e)	RSS-247, 5.2 (b)	ANNEX A.8	Pass
10	Receiver Spurious Emissions	N/A	RSS-Gen, 7.3	N/A	N/A ^{Note 2}

Note¹: The EUT has a permanently and irreplaceable attached antenna, which complies with the requirement FCC 15.203.

Note²: Only radio communication receivers operating in stand-alone mode within the band 30-960 MHz, as well as scanner receivers, are subject to Industry Canada requirements, so this test is not applicable.

4 GENERAL TEST CONFIGURATIONS

4.1 Test Environments

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

Relative Humidity	49% to 65%	
Atmospheric Pressure	100 kPa to 102 kPa	
Temperature	NT (Normal Temperature)	+21.6℃ to +25.1℃
Working Voltage of the EUT	NV (Normal Voltage)	5V

4.2 Test Equipment List

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer	KEYSIGHT	N9020A	MY46471071	2024.07.04	2025.07.03
Spectrum Analyzer	ROHDE&SCHWARZ	FSV-40	101544	2024.12.16	2025.12.15
Power Sensor	KEYSIGHT	U2063XA	MY58000247	2024.07.04	2025.07.03
Spectrum Analyzer	KEYSIGHT	N9020A	MY50531259	2024.08.01	2025.07.31
Test Antenna-Horn	SCHWARZBECK	BBHA 9120D	02460	2024.05.16	2027.05.15
Test Antenna-Horn	A-INFO	LB-180400KF	J211060273	2024.06.15	2027.06.14
Anechoic Chamber	RAINFORD	9m*6m*6m	140	2024.07.28	2027.07.27
Amplifier	COM-MV	LSCX_LNA1-12G-01	7210214	2024.08.01	2025.07.31
Amplifier	COM-MV	XKu_LNA7-18G-01	7210209	2024.08.01	2025.07.31
Amplifier	COM-MV	KA LNA18 40G-01	18050001	2024.12.05	2025.12.04
EMI Receiver	ROHDE&SCHWARZ	ESRP	101036	2024.08.01	2025.07.31
Test Antenna-Bi-Log	SCHWARZBECK	VULB 9168	9168-01162	2023.08.04	2026.08.03
Test Antenna-Loop	SCHWARZBECK	FMZB 1519	1519-037	2024.01.23	2027.01.22
Amplifier	COM-MV	ZT30-1000M	B2018054558	2024.11.28	2025.11.27
Anechoic Chamber	EMC Electronic Co., Ltd	20.10*11.60*7.35m	130	2024.07.13	2027.07.12
EMI Receiver	KEYSIGHT	N9010B	MY57110309	2024.08.01	2025.07.31
LISN	SCHWARZBECK	NSLK 8127	8127-687	2025.04.29	2026.04.28
Shielded Enclosure	YiHeng Electronic Co., Ltd	3.5m*3.1m*2.8m	112	2025.02.14	2028.02.13

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℃
Humidity	4%

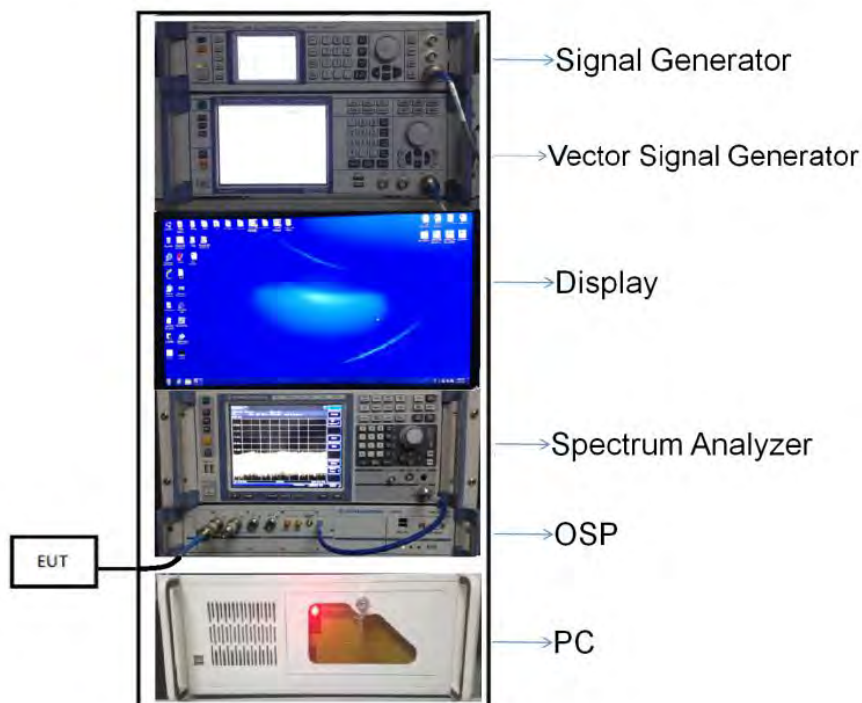
4.5 Description of Test Setup

4.5.1 For Antenna Port Test

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

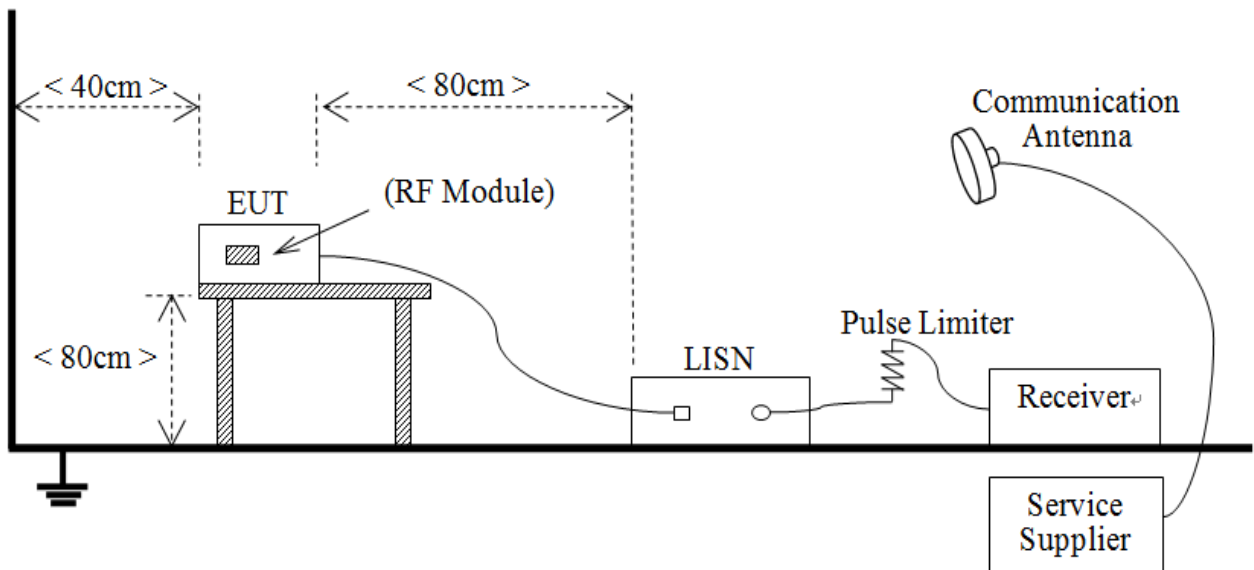
For example: the measurement value is 10 dBm and the cable 0.5dBm used, then the final result of EUT:

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



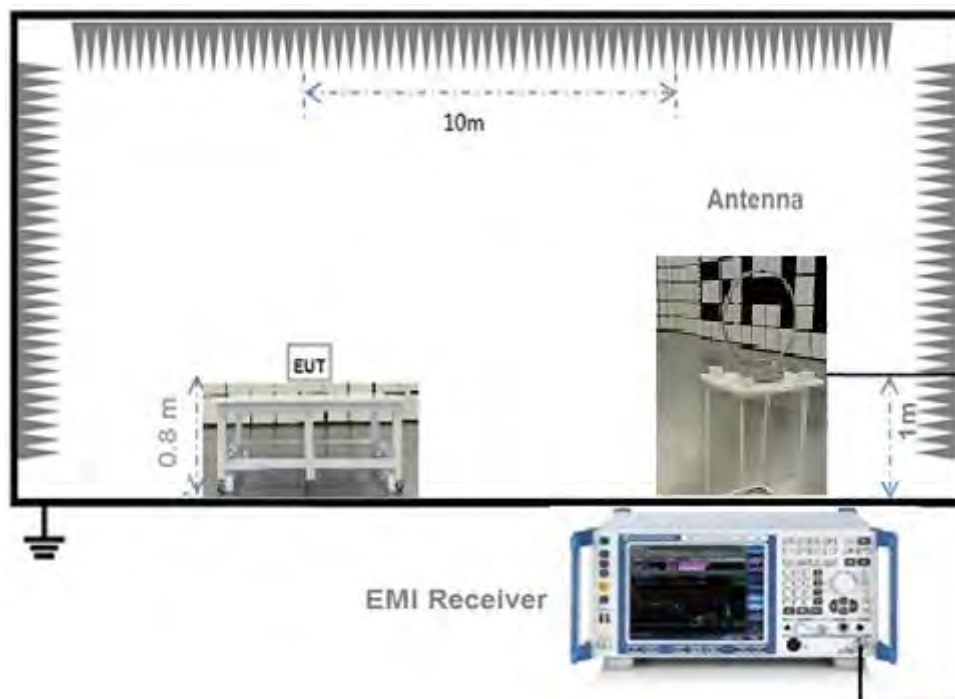
(Diagram 1)

4.5.2 For AC Power Supply Port Test



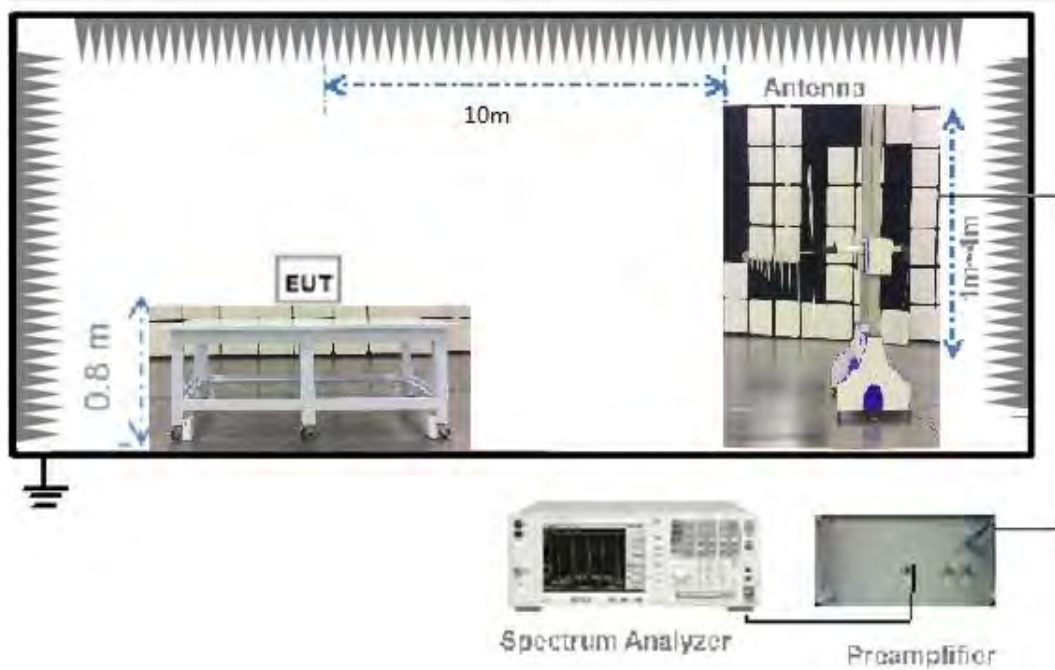
(Diagram 2)

4.5.3 For Radiated Test (Below 30 MHz)



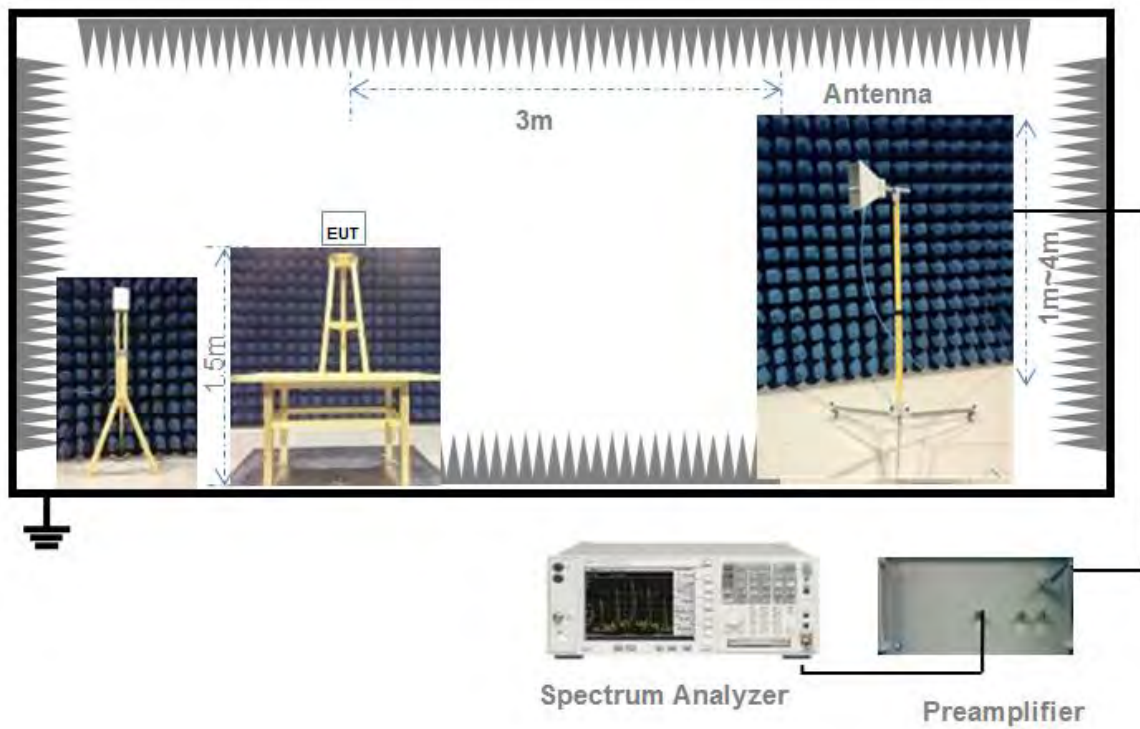
(Diagram 3)

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; RSS-247, 5.4 (f)

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 External in the product.	The antenna is the unique connector with a wire antenna.

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); RSS-247, 5.4 (d)

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.

EIRP= Maximum peak conducted output power +Antenna Gain.

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); RSS-GEN, 6.7; RSS-247, 5.2 (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

Use the following spectrum analyzer settings:

Set RBW = 100 kHz.

Set the video bandwidth (VBW) ≥ 3 RBW.

Detector = Peak.

Trace mode = max hold.

Sweep = auto couple.

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.

5.3.4 Test Result

Please refer to ANNEX A.2.

5.4 Conducted Spurious Emission

5.4.1 Limit

FCC §15.247(d); RSS-247, 5.5

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); RSS-GEN, 8.9, RSS-247, 5.5

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 following procedures may be used to determine the peak or average field strength or power of an unwanted emission that is within 2 MHz of the authorized band edge. If a peak detector is utilized, use the procedure described in 13.2.1. Use the procedure described in 13.2.2 when using an average detector and the EUT can be configured to transmit continuously (i.e., duty cycle $\geq 98\%$). Use the procedure described in 13.2.3 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 ± 2 percent). Use the procedure described in 13.2.4 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 percent).

When using a peak detector to measure unwanted emissions at or near the band edge (within 2 MHz of the authorized band), the following integration procedure can be used.

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

Set span to 2 MHz

RBW = 100 kHz.

VBW $\geq 3 \times$ RBW.

Detector = peak.

Sweep time = auto.

Trace mode = max hold.

Allow sweep to continue until the trace stabilizes (required measurement time may increase for low duty cycle applications)

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.

Standard method(The 99% OBW of the fundamental emission is without 2 MHz of the authorized band):

Span: Wide enough to capture the peak level of the emission operating on the channel closest to the band edge, as well as any modulation products that fall outside of the authorized band of operation.

Reference level: As required to keep the signal from exceeding the maximum instrument input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than $[10 \log (\text{OBW/RBW})]$ below the reference level. Specific guidance is given in 4.1.5.2.

Attenuation: Auto (at least 10 dB preferred).

Sweep time: Coupled.

Resolution bandwidth: 100 kHz.

Video bandwidth: 300 kHz.

Detector: Peak.

Trace: Max hold.

5.5.4 Test Result

Please refer to ANNEX A.4.

5.6 Conducted Emission

5.6.1 Limit

FCC §15.207; RSS-GEN, 8.8

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); RSS-247, 5.5

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 ($\mu\text{V/m}$)	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); RSS-247, 5.5

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 measurement frequency range is from 9 kHz 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

For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported, Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

For transmitters operating above 1 GHz repeat the measurement with an average detector.

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); RSS-247, 5.2 (b)

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	1.298	1.633	79.49%	1.00
802.11g	1.386	1.725	80.35%	0.95
802.11n-20 MHz	1.294	1.634	79.19%	1.01
802.11ax-20 MHz	1.012	1.349	75.02%	1.25

Note: All antenna were pre tested, but only the worst case has been reported in this report.

Peak Power Test Data

ANT3

802.11b Mode:

Channel	Measured Output Peak Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	17.21	52.60	30	1000	Pass
Middle	17.27	53.33			Pass
High	17.84	60.81			Pass

802.11g Mode:

Channel	Measured Output Peak Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	20.54	113.24	30	1000	Pass
Middle	20.89	122.74			Pass
High	21.42	138.68			Pass

802.11n-20 MHz Mode:

Channel	Measured Output Peak Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	21.59	144.21	30	1000	Pass
Middle	21.69	147.57			Pass
High	21.70	147.91			Pass

802.11ax-20 MHz(SU) Mode:

Channel	Measured Output Peak Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	23.54	225.94	30	1000	Pass
Middle	23.65	231.74			Pass
High	23.76	237.68			Pass

Average Power Test DataANT3

802.11b Mode:

Channel	Measured Output Average Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	15.07	32.14	30	1000	Pass
Middle	15.36	34.36			Pass
High	15.88	38.73			Pass

802.11g Mode:

Channel	Measured Output Average Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	15.40	34.67	30	1000	Pass
Middle	14.96	31.33			Pass
High	15.50	35.48			Pass

802.11n-20 MHz Mode:

Channel	Measured Output Average Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	15.68	36.98	30	1000	Pass
Middle	15.79	37.93			Pass
High	15.78	37.84			Pass

802.11ax-20 MHz(SU) Mode:

Channel	Measured Output Average Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	15.82	38.19	30	1000	Pass
Middle	15.93	39.17			Pass
High	16.04	40.18			Pass

E.I.R.P Test Data (For ISED)ANT3

802.11b Mode:

Channel	E.I.R.P		Limit		Verdict
	dBm	mW	dBm	W	
Low	21.61	144.88	36	4	Pass
Middle	21.67	146.89			Pass
High	22.24	167.49			Pass

802.11g Mode:

Channel	E.I.R.P		Limit		Verdict
	dBm	mW	dBm	W	
Low	24.94	311.89	36	4	Pass
Middle	25.29	338.06			Pass
High	25.82	381.94			Pass

802.11n-20 MHz Mode:

Channel	E.I.R.P		Limit		Verdict
	dBm	mW	dBm	W	
Low	25.99	397.19	36	4	Pass
Middle	26.09	406.44			Pass
High	26.10	407.38			Pass

802.11ax-20 MHz(SU) Mode:

Channel	E.I.R.P		Limit		Verdict
	dBm	mW	dBm	W	
Low	27.94	622.30	36	4	Pass
Middle	28.05	638.26			Pass
High	28.16	654.64			Pass

A.2 Occupied Bandwidth

Note: All antenna were pre tested, but only the worst case has been reported in this report.

Test Data

ANT3

802.11b Mode:

Channel	6 dB Bandwidth (MHz)	99% Bandwidth (MHz)	6 dB Bandwidth Limits (kHz)
Low	8.300000	12.834000	≥500
Middle	8.300000	12.861000	≥500
High	8.300000	12.875000	≥500

802.11g Mode:

Channel	6 dB Bandwidth (MHz)	99% Bandwidth (MHz)	6 dB Bandwidth Limits (kHz)
Low	15.200000	17.032000	≥500
Middle	15.300000	16.999000	≥500
High	15.200000	17.035000	≥500

802.11n-20MHz Mode:

Channel	6 dB Bandwidth (MHz)	99% Bandwidth (MHz)	6 dB Bandwidth Limits (kHz)
Low	15.300000	17.867000	≥500
Middle	15.200000	17.871000	≥500
High	15.300000	17.892000	≥500

802.11ax-20 MHz(SU) Mode:

Channel	6 dB Bandwidth (MHz)	99% Bandwidth (MHz)	6 dB Bandwidth Limits (kHz)
Low	18.200000	18.852000	≥500
Middle	18.200000	18.848000	≥500
High	18.100000	18.855000	≥500

Test Plots

ANT3

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



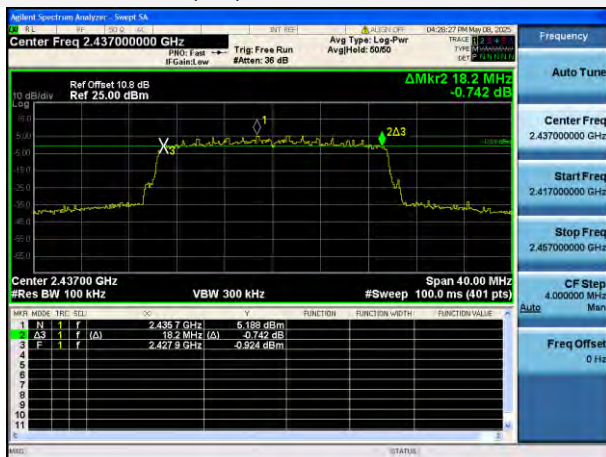
802.11n-20 MHz HIGH CHANNEL



802.11ax-20 MHz(SU) LOW CHANNEL



802.11ax-20 MHz(SU) MIDDLE CHANNEL



802.11ax-20 MHz(SU) 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



802.11ax-20 MHz(SU) LOW CHANNEL



802.11ax-20 MHz(SU) MIDDLE CHANNEL



802.11ax-20 MHz(SU) HIGH CHANNEL



A.3 Conducted Spurious Emissions

Note: All antenna were pre tested, but only the worst case has been reported in this report.

Test Data

ANT3

802.11b Mode:

Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-45.14	5.57	-14.43	Pass
Middle	-45.18	5.38	-14.62	Pass
High	-44.60	5.85	-14.15	Pass

802.11g Mode:

Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-44.45	4.70	-15.30	Pass
Middle	-44.53	5.14	-14.86	Pass
High	-45.14	5.63	-14.37	Pass

802.11n-20MHz Mode:

Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-44.71	5.83	-14.17	Pass
Middle	-44.84	6.16	-13.84	Pass
High	-44.97	6.17	-13.83	Pass

802.11ax-20 MHz(SU) Mode:

Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-42.95	5.69	-14.31	Pass
Middle	-44.43	5.20	-14.80	Pass
High	-44.46	5.22	-14.78	Pass

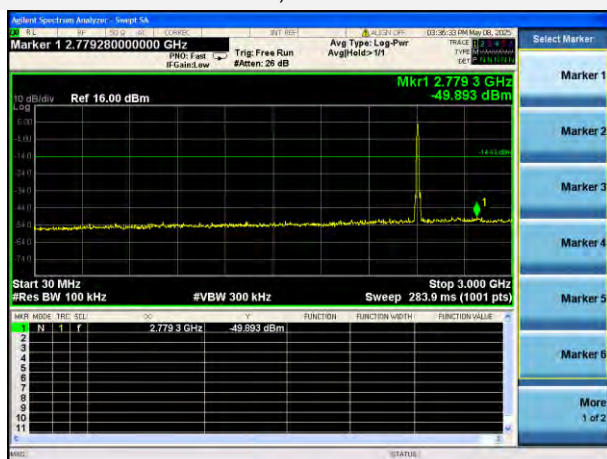
Test Plots

ANT3

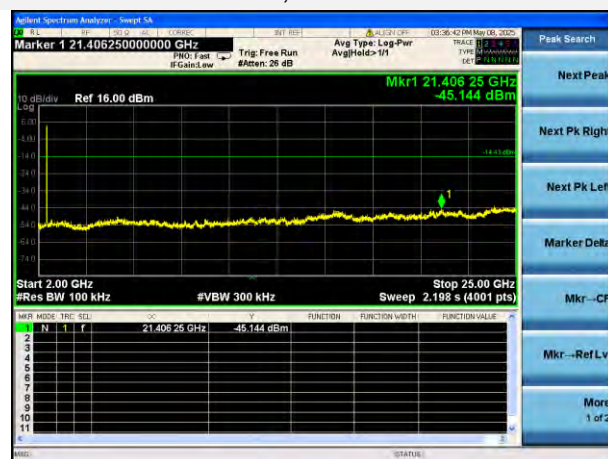
802.11b LOW CHANNEL CARRIER LEVEL



802.11b LOW CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



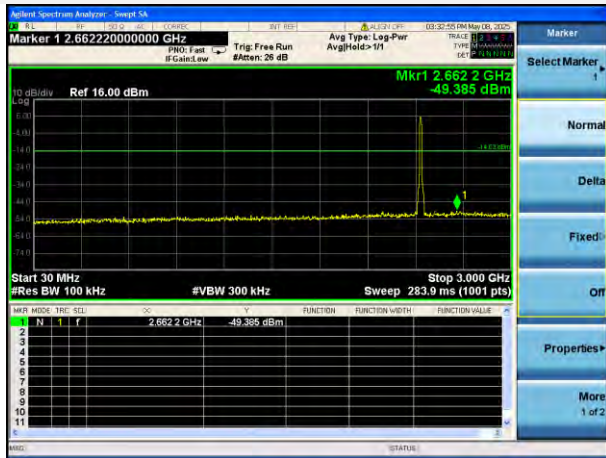
802.11b LOW CHANNEL, SPURIOUS 2 GHz ~ 25 GHz



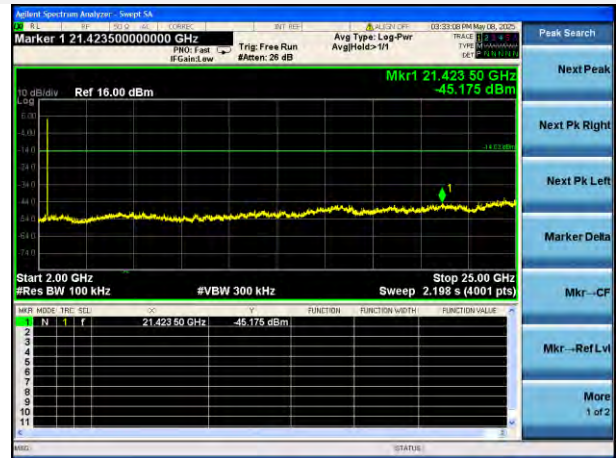
802.11b MIDDLE CHANNEL CARRIER LEVEL



802.11b MIDDLE CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



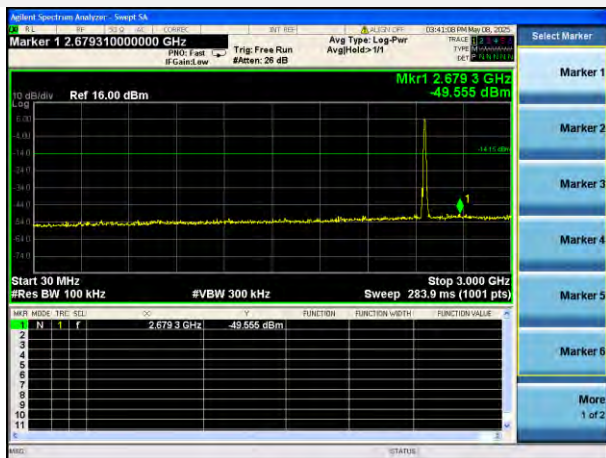
802.11b MIDDLE CHANNEL, SPURIOUS 2 GHz ~ 25 GHz



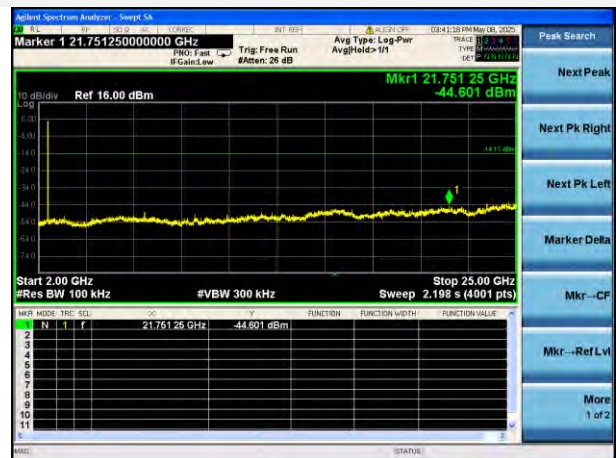
802.11b HIGH CHANNEL CARRIER LEVEL



802.11b HIGH CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



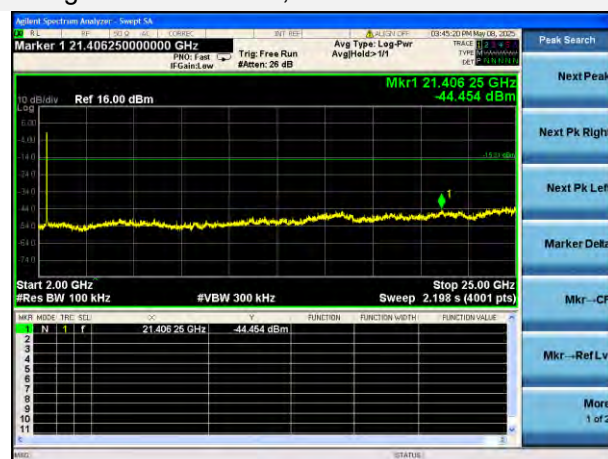
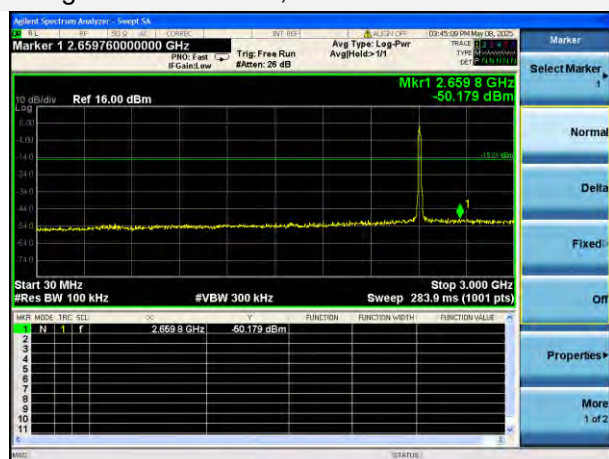
802.11b HIGH CHANNEL, SPURIOUS 2 GHz ~ 25 GHz



802.11g LOW CHANNEL CARRIER LEVEL



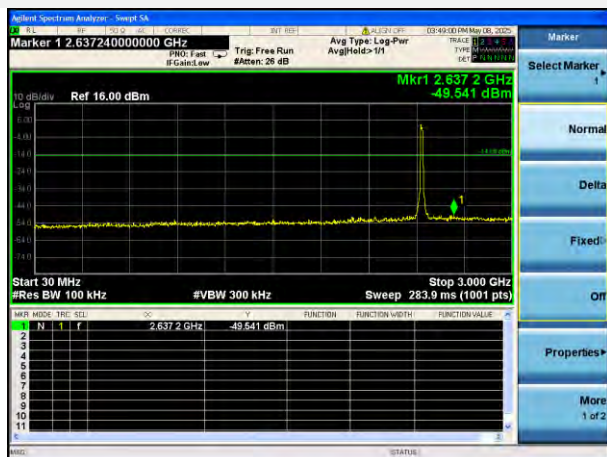
802.11g LOW CHANNEL, SPURIOUS 30 MHz ~ 3 GHz 802.11g LOW CHANNEL, SPURIOUS 2 GHz ~ 25 GHz



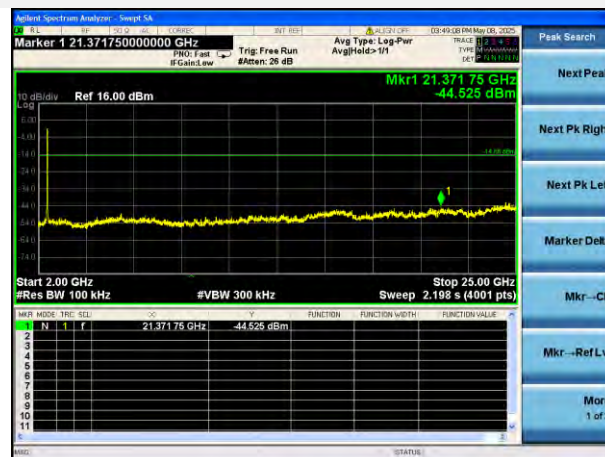
802.11g MIDDLE CHANNEL CARRIER LEVEL



802.11g MIDDLE CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



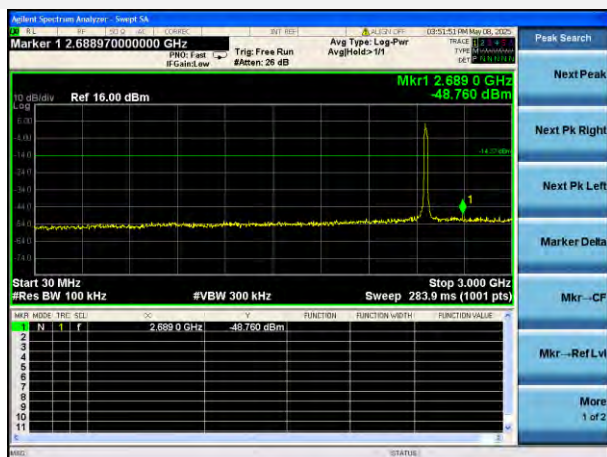
802.11g MIDDLE CHANNEL, SPURIOUS 2 GHz ~ 25 GHz



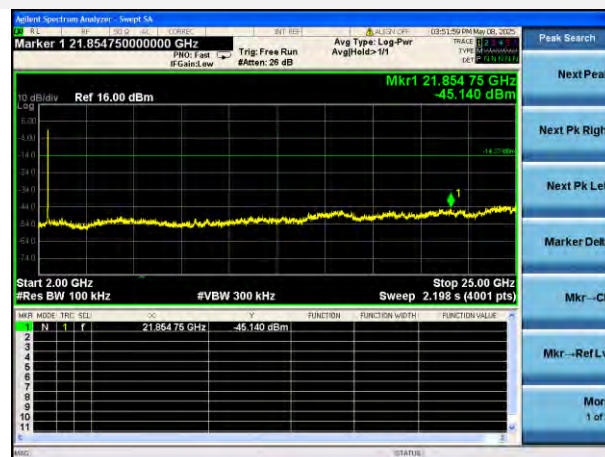
802.11g HIGH CHANNEL CARRIER LEVEL



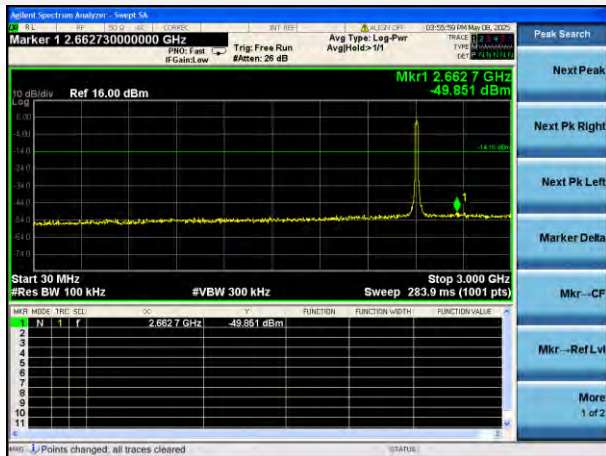
802.11g HIGH CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



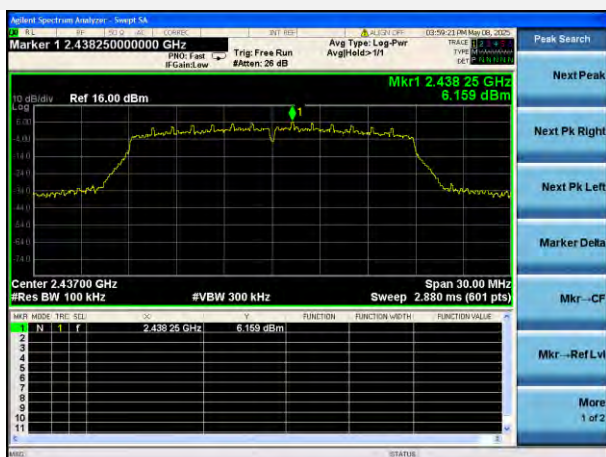
802.11g HIGH CHANNEL, SPURIOUS 2 GHz ~ 25 GHz



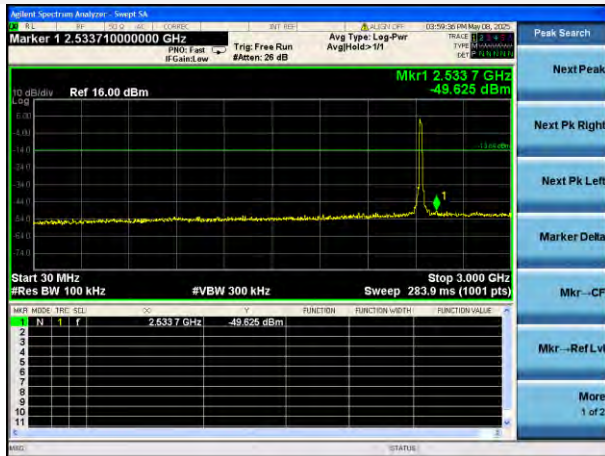
802.11n-20 MHz LOW CHANNEL CARRIER LEVEL

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



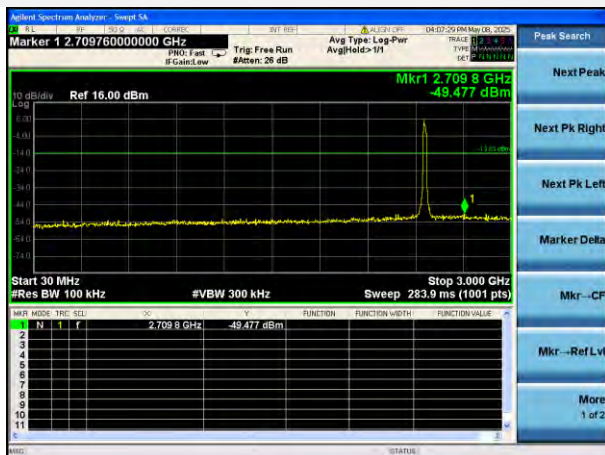
802.11n-20 MHz MIDDLE CHANNEL, SPURIOUS 2 GHz ~ 25 GHz



802.11n-20 MHz HIGH CHANNEL CARRIER LEVEL



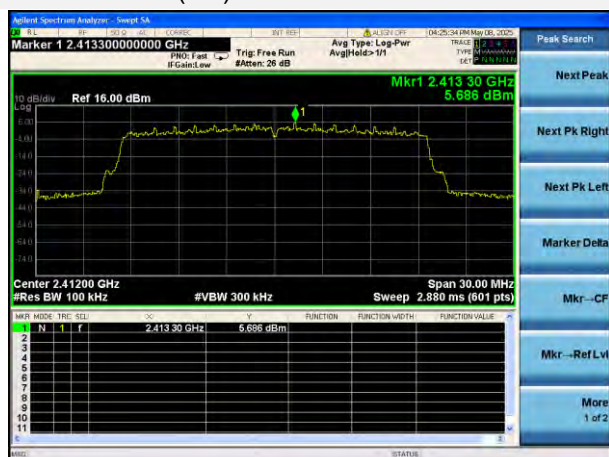
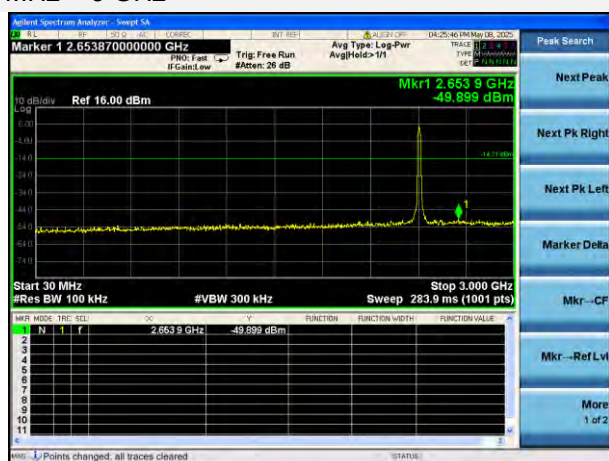
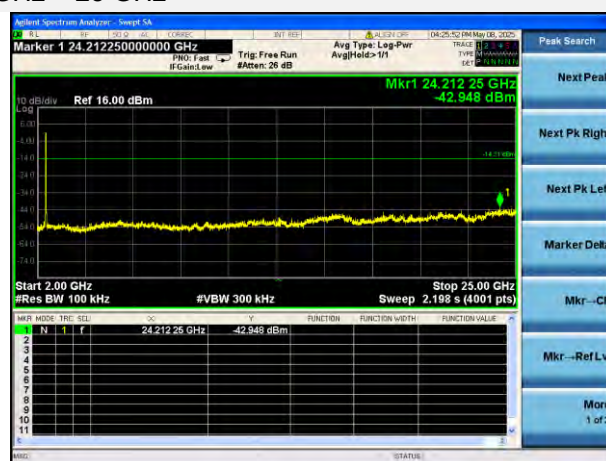
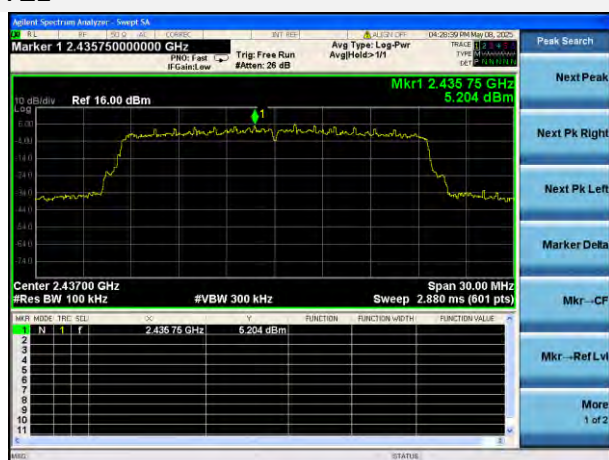
802.11n-20 MHz HIGH CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



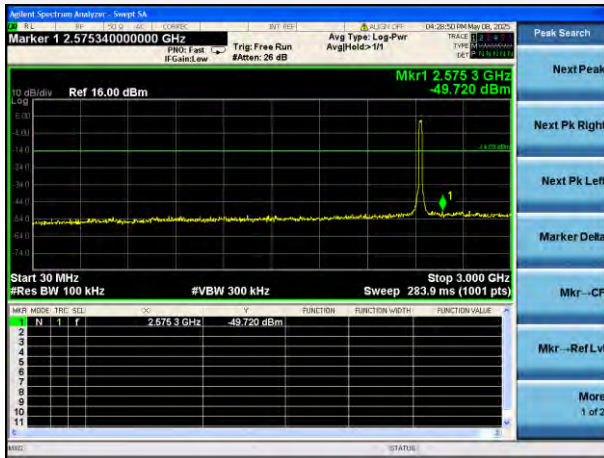
802.11n-20 MHz HIGH CHANNEL, SPURIOUS 2 GHz ~ 25 GHz



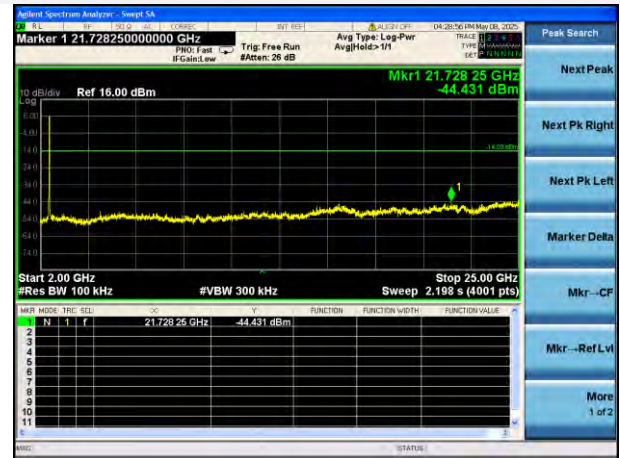
802.11ax-20 MHz(SU) LOW CHANNEL CARRIER LEVEL

802.11ax-20 MHz(SU) LOW CHANNEL, SPURIOUS
30 MHz ~ 3 GHz802.11ax-20 MHz(SU) LOW CHANNEL, SPURIOUS
2 GHz ~ 25 GHz802.11ax-20 MHz(SU) MIDDLE CHANNEL CARRIER
LEVEL

802.11ax-20 MHz(SU) MIDDLE CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



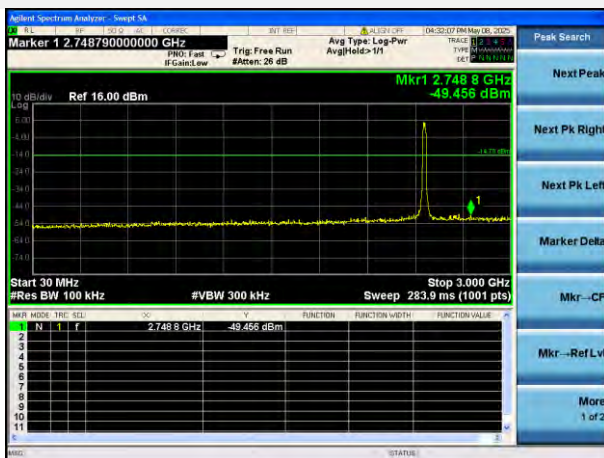
802.11ax-20 MHz(SU) MIDDLE CHANNEL, SPURIOUS 2 GHz ~ 25 GHz



802.11ax-20 MHz(SU) HIGH CHANNEL CARRIER LEVEL



802.11ax-20 MHz(SU) HIGH CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



802.11ax-20 MHz(SU) HIGH CHANNEL, SPURIOUS 2 GHz ~ 25 GHz



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

Note ¹: The 99% OBW of the fundamental emission is without 2 MHz of the authorized band.

Note ²: All antenna were pre tested, but only the worst case has been reported in this report.

Test Data

ANT3

802.11b Mode:

Channel	Measured Max. Band Edge Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low Channel	-34.58	5.57	-14.43	Pass
High Channel	-50.26	5.85	-14.15	Pass

802.11g Mode:

Channel	Measured Max. Band Edge Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low Channel	-35.22	4.70	-15.30	Pass
High Channel	-43.40	5.63	-14.37	Pass

802.11n-20 MHz Mode:

Channel	Measured Max. Band Edge Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low Channel	-33.74	5.83	-14.17	Pass
High Channel	-41.78	6.17	-13.83	Pass

802.11ax-20 MHz(SU) Mode:

Channel	Measured Max. Band Edge Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low Channel	-34.97	5.69	-14.31	Pass
High Channel	-36.43	5.22	-14.78	Pass

Test Plots

ANT3

802.11b LOW CHANNEL, CARRIER LEVEL



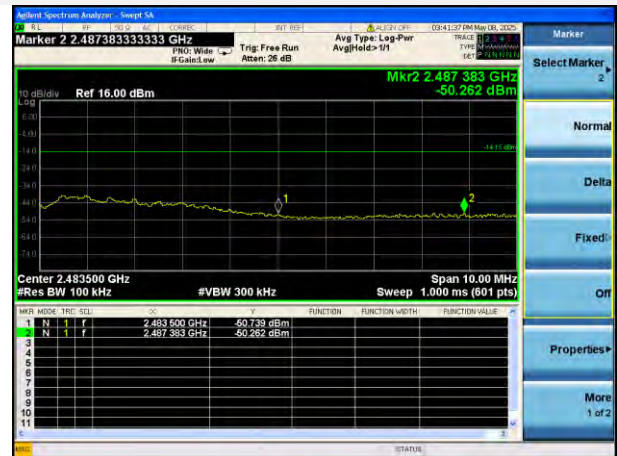
802.11b LOW CHANNEL, BAND EDGE



802.11b HIGH CHANNEL, CARRIER LEVEL



802.11b HIGH CHANNEL, BAND EDGE



802.11g LOW CHANNEL, CARRIER LEVEL



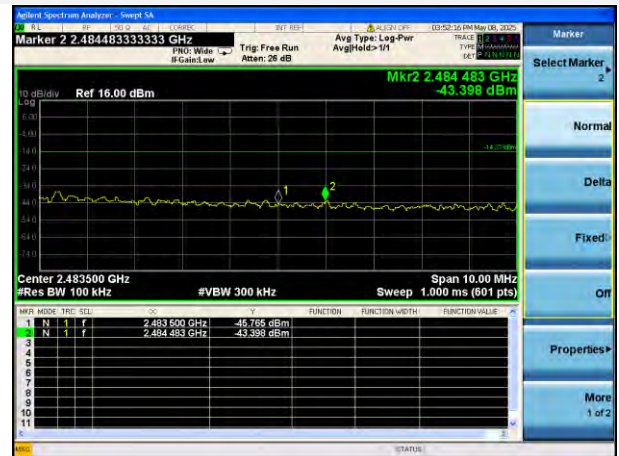
802.11g LOW CHANNEL, BAND EDGE



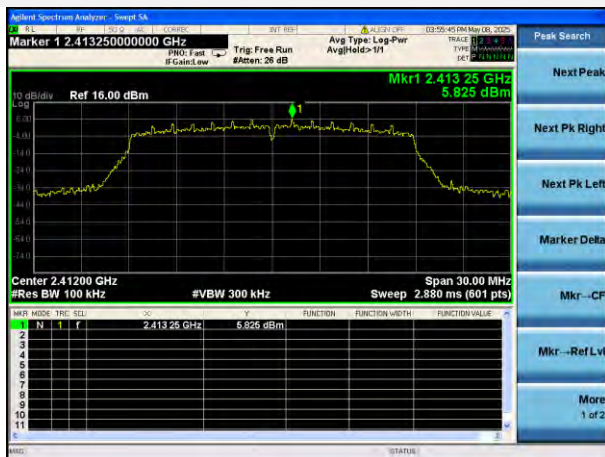
802.11g HIGH CHANNEL, CARRIER LEVEL



802.11g HIGH CHANNEL, BAND EDGE



802.11n-20 MHz LOW CHANNEL, CARRIER LEVEL



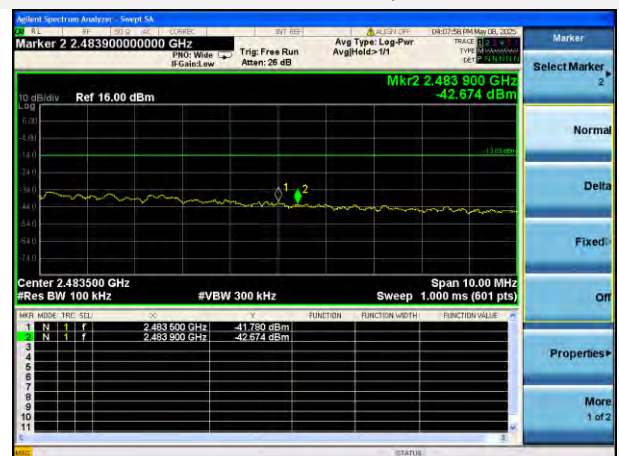
802.11n-20 MHz LOW CHANNEL, BAND EDGE



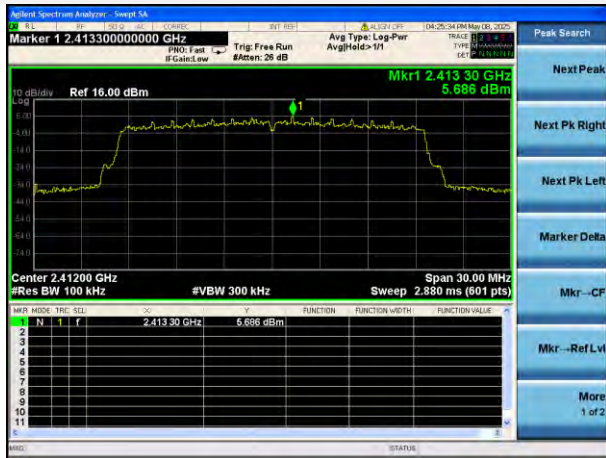
802.11n-20 MHz HIGH CHANNEL, CARRIER LEVEL



802.11n-20 MHz HIGH CHANNEL, BAND EDGE



802.11ax-20 MHz(SU) LOW CHANNEL, CARRIER LEVEL



802.11ax-20 MHz(SU) LOW CHANNEL, BAND EDGE



802.11ax-20 MHz(SU) HIGH CHANNEL, CARRIER LEVEL



802.11ax-20 MHz(SU) 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.

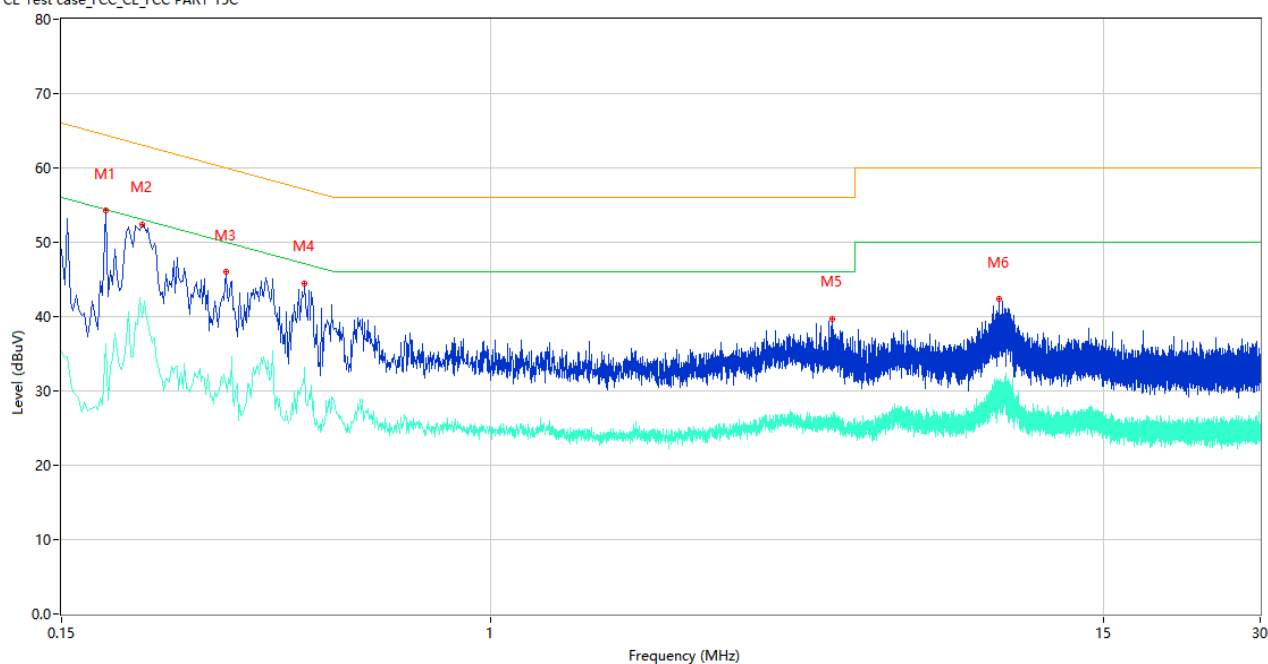
Note ³: Results (dBuV) = Original reading level of Spectrum Analyzer (dBuV) + Factor (dB)

Test Data and Plots

ANT3

PHASE L

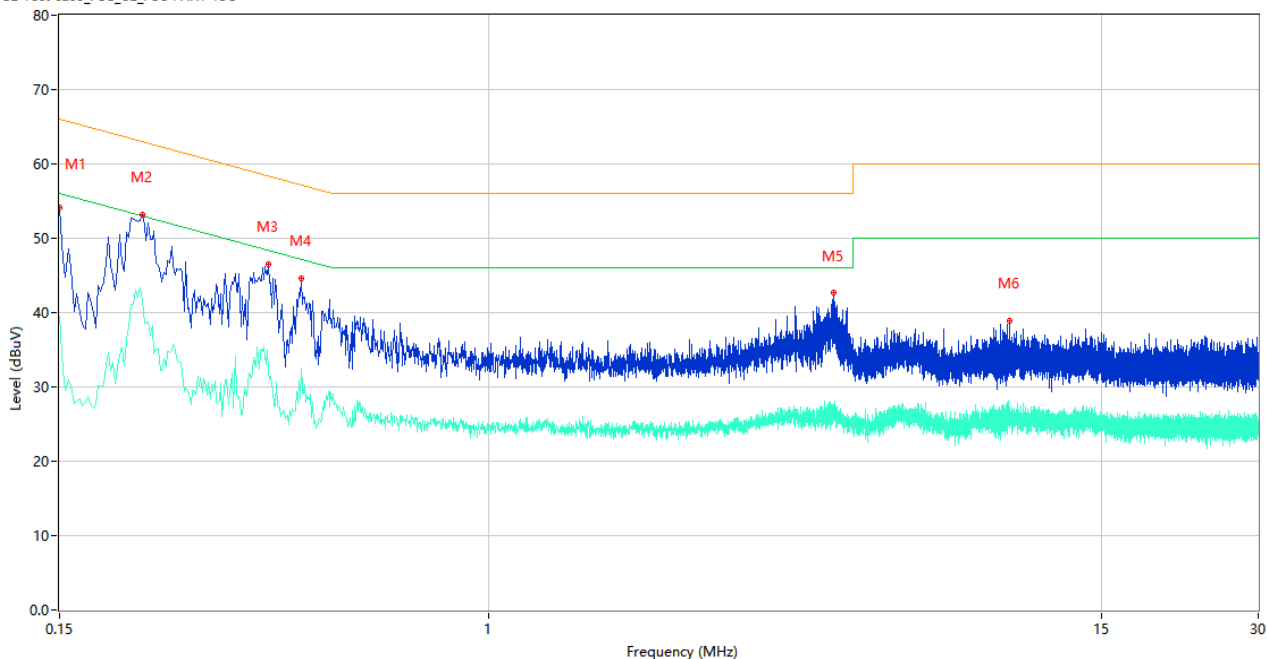
CE Test case_FCC_CE_FCC PART 15C



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.182	54.27	9.83	64.39	10.12	Peak	L	Pass
1**	0.182	36.37	9.83	54.39	18.02	AV	L	Pass
2	0.214	52.45	9.83	63.05	10.60	Peak	L	Pass
2**	0.214	39.83	9.83	53.05	13.22	AV	L	Pass
3	0.310	46.01	10.02	59.97	13.96	Peak	L	Pass
3**	0.310	31.00	10.02	49.97	18.97	AV	L	Pass
4	0.440	44.49	10.16	57.06	12.57	Peak	L	Pass
4**	0.440	33.19	10.16	47.06	13.87	AV	L	Pass
5	4.528	39.71	10.42	56.00	16.29	Peak	L	Pass
5**	4.528	26.55	10.42	46.00	19.45	AV	L	Pass
6	9.462	42.31	10.23	60.00	17.69	Peak	L	Pass
6**	9.462	30.22	10.23	50.00	19.78	AV	L	Pass

PHASE N

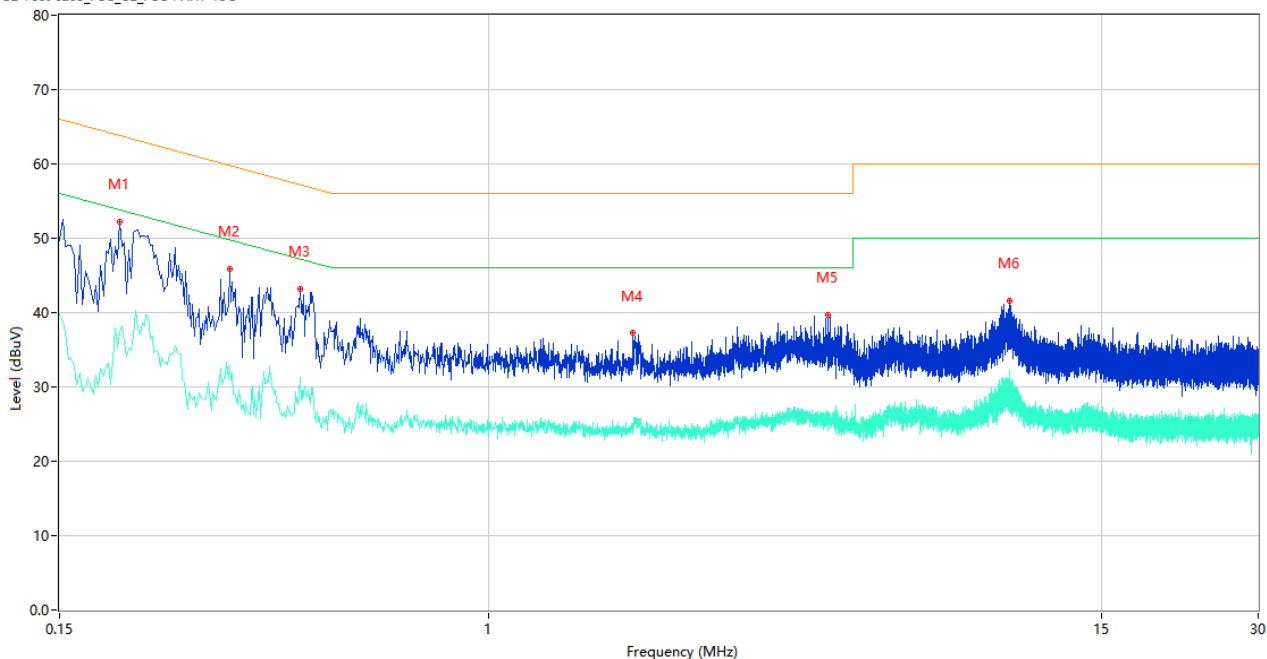
CE Test case_FCC_CE_FCC PART 15C



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.150	54.16	9.83	66.00	11.84	Peak	N	Pass
1**	0.150	39.60	9.83	56.00	16.40	AV	N	Pass
2	0.216	53.21	9.83	62.97	9.76	Peak	N	Pass
2**	0.216	41.62	9.83	52.97	11.35	AV	N	Pass
3	0.378	46.57	10.68	58.32	11.75	Peak	N	Pass
3**	0.378	32.12	10.68	48.32	16.20	AV	N	Pass
4	0.436	44.64	10.20	57.14	12.50	Peak	N	Pass
4**	0.436	32.40	10.20	47.14	14.74	AV	N	Pass
5	4.596	42.68	10.58	56.00	13.32	Peak	N	Pass
5**	4.596	27.39	10.58	46.00	18.61	AV	N	Pass
6	9.984	38.90	10.47	60.00	21.10	Peak	N	Pass
6**	9.984	26.02	10.47	50.00	23.98	AV	N	Pass

ANT1**PHASE L**

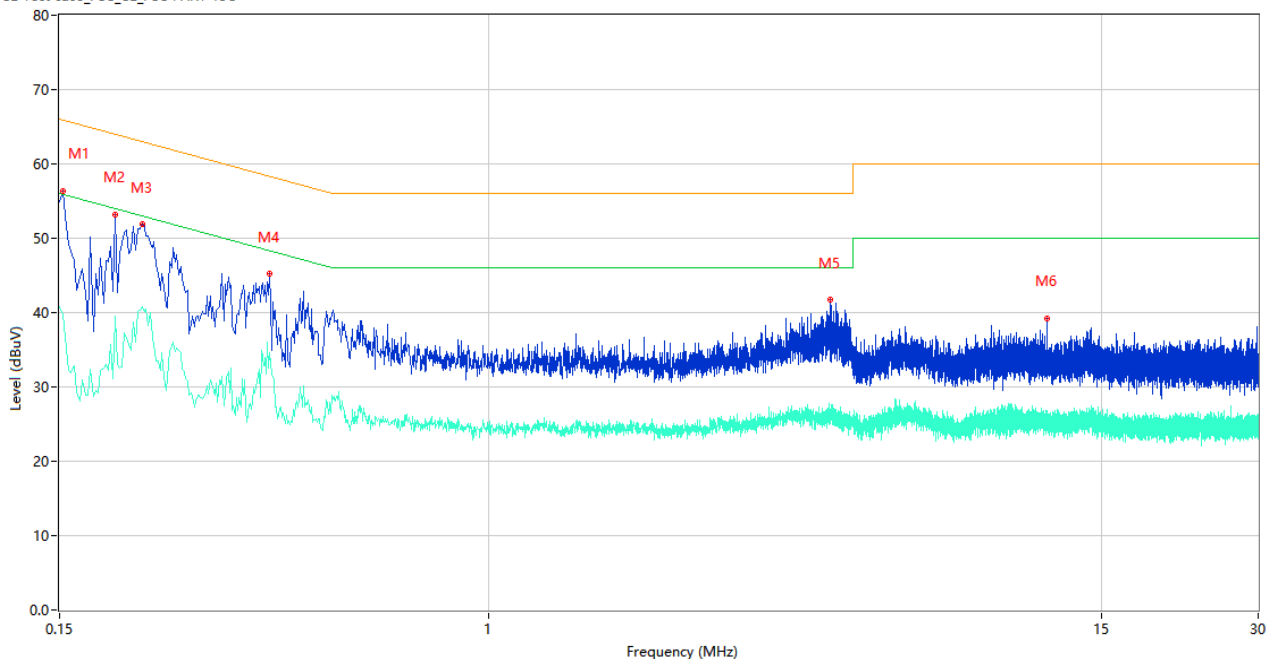
CE Test case_FCC_CE_FCC PART 15C



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.196	52.30	9.83	63.78	11.48	Peak	L	Pass
1**	0.196	37.30	9.83	53.78	16.48	AV	L	Pass
2	0.318	45.88	10.17	59.76	13.88	Peak	L	Pass
2**	0.318	32.85	10.17	49.76	16.91	AV	L	Pass
3	0.434	43.21	10.22	57.18	13.97	Peak	L	Pass
3**	0.434	31.33	10.22	47.18	15.85	AV	L	Pass
4	1.894	37.24	10.72	56.00	18.76	Peak	L	Pass
4**	1.894	25.02	10.72	46.00	20.98	AV	L	Pass
5	4.476	39.75	10.32	56.00	16.25	Peak	L	Pass
5**	4.476	26.60	10.32	46.00	19.40	AV	L	Pass
6	9.978	41.65	10.49	60.00	18.35	Peak	L	Pass
6**	9.978	28.56	10.49	50.00	21.44	AV	L	Pass

PHASE N

CE Test case_FCC_CE_FCC PART 15C

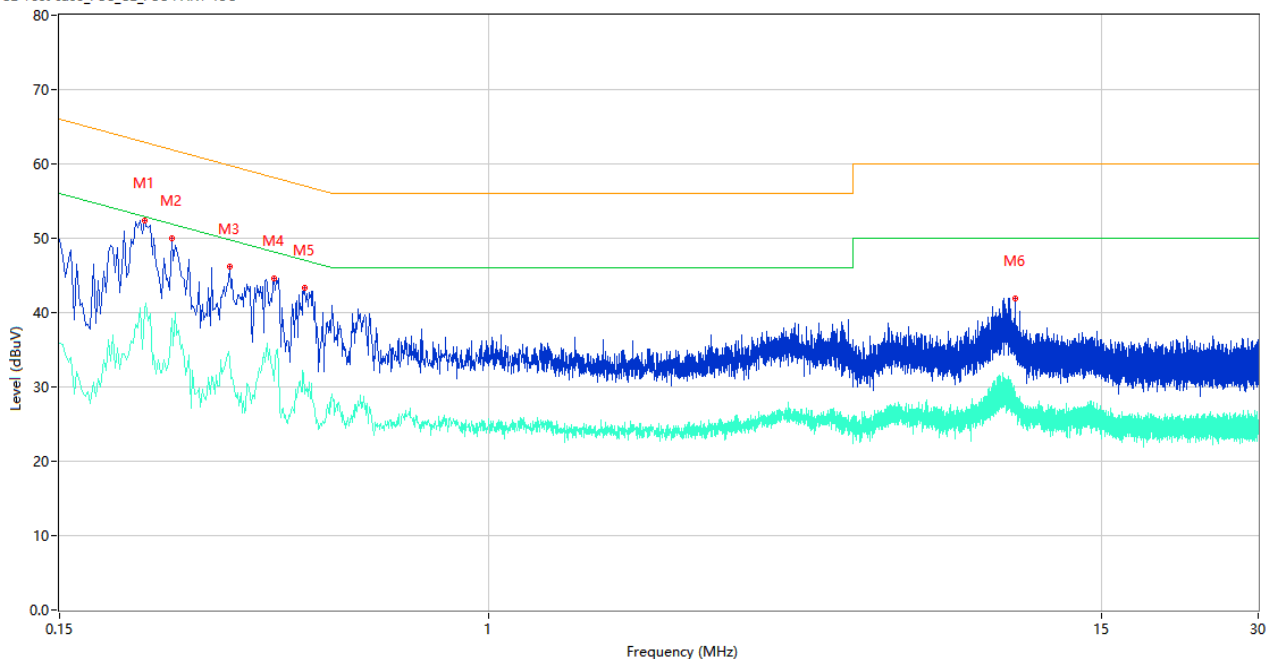


No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.152	56.33	9.83	65.89	9.56	Peak	N	Pass
1**	0.152	39.80	9.83	55.89	16.09	AV	N	Pass
2	0.192	53.23	9.83	63.95	10.72	Peak	N	Pass
2**	0.192	39.45	9.83	53.95	14.50	AV	N	Pass
3	0.216	51.86	9.83	62.97	11.11	Peak	N	Pass
3**	0.216	40.74	9.83	52.97	12.23	AV	N	Pass
4	0.380	45.17	10.68	58.28	13.11	Peak	N	Pass
4**	0.380	34.60	10.68	48.28	13.68	AV	N	Pass
5	4.528	41.73	10.42	56.00	14.27	Peak	N	Pass
5**	4.528	25.87	10.42	46.00	20.13	AV	N	Pass
6	11.772	39.22	10.39	60.00	20.78	Peak	N	Pass
6**	11.772	24.48	10.39	50.00	25.52	AV	N	Pass

ANT2

PHASE L

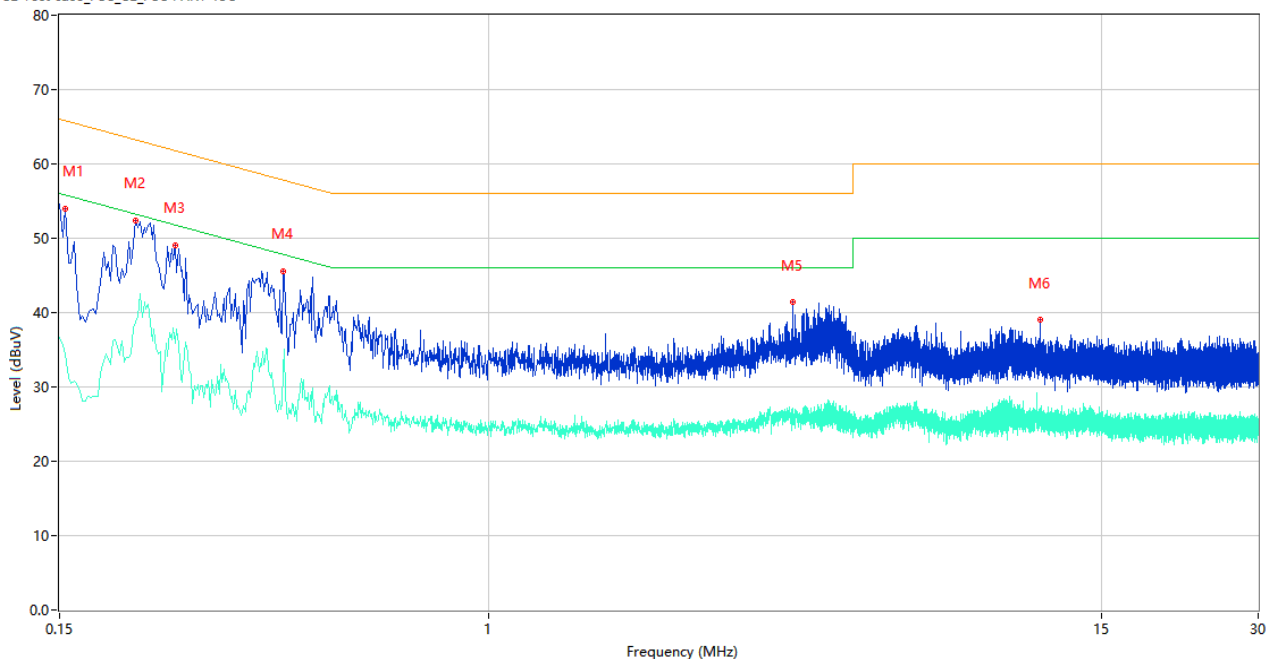
CE Test case_FCC_CE_FCC PART 15C



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.218	52.41	9.83	62.89	10.48	Peak	L	Pass
1**	0.218	40.52	9.83	52.89	12.37	AV	L	Pass
2	0.246	50.05	9.82	61.89	11.84	Peak	L	Pass
2**	0.246	39.14	9.82	51.89	12.75	AV	L	Pass
3	0.318	46.26	10.17	59.76	13.50	Peak	L	Pass
3**	0.318	33.75	10.17	49.76	16.01	AV	L	Pass
4	0.388	44.62	10.64	58.11	13.49	Peak	L	Pass
4**	0.388	30.84	10.64	48.11	17.27	AV	L	Pass
5	0.444	43.35	10.11	56.99	13.64	Peak	L	Pass
5**	0.444	28.97	10.11	46.99	18.02	AV	L	Pass
6	10.244	41.95	10.51	60.00	18.05	Peak	L	Pass
6**	10.244	28.12	10.51	50.00	21.88	AV	L	Pass

PHASE N

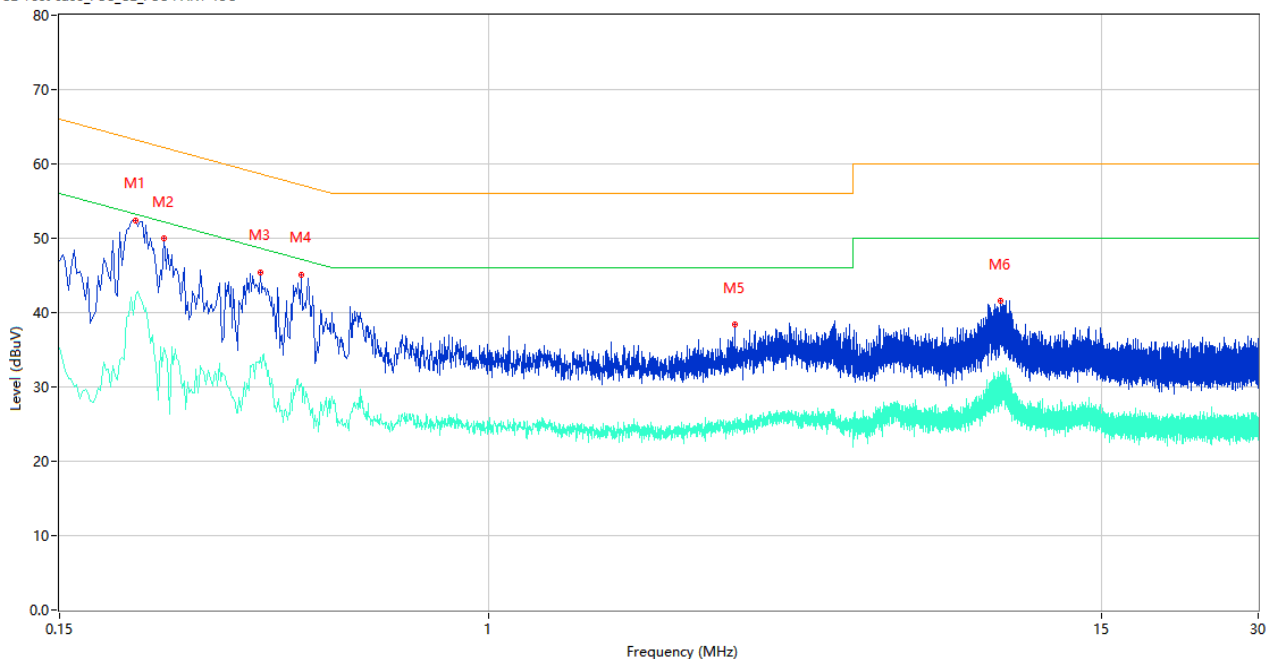
CE Test case_FCC_CE_FCC PART 15C



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.154	53.99	9.83	65.78	11.79	Peak	N	Pass
1**	0.154	34.51	9.83	55.78	21.27	AV	N	Pass
2	0.210	52.40	9.83	63.21	10.81	Peak	N	Pass
2**	0.210	38.69	9.83	53.21	14.52	AV	N	Pass
3	0.250	49.07	9.82	61.76	12.69	Peak	N	Pass
3**	0.250	35.88	9.82	51.76	15.88	AV	N	Pass
4	0.404	45.60	10.54	57.77	12.17	Peak	N	Pass
4**	0.404	32.38	10.54	47.77	15.39	AV	N	Pass
5	3.838	41.39	10.31	56.00	14.61	Peak	N	Pass
5**	3.838	27.14	10.31	46.00	18.86	AV	N	Pass
6	11.460	39.03	10.55	60.00	20.97	Peak	N	Pass
6**	11.460	25.70	10.55	50.00	24.30	AV	N	Pass

ANT4**PHASE L**

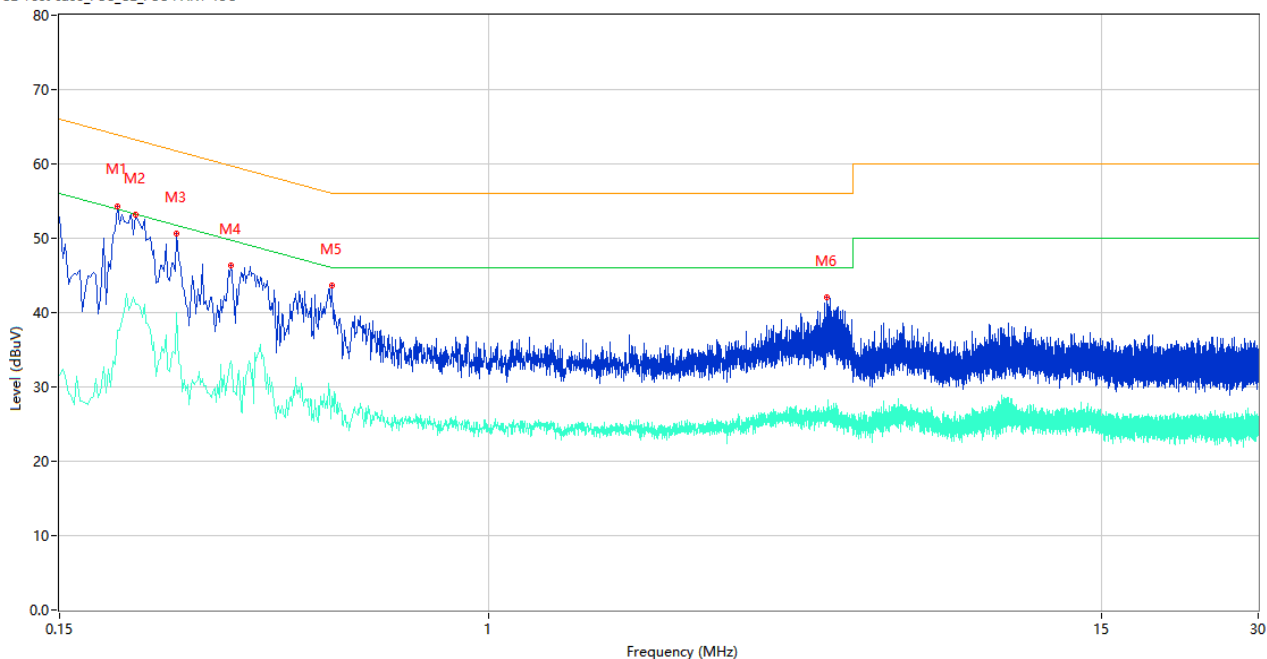
CE Test case_FCC_CE_FCC PART 15C



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.210	52.40	9.83	63.21	10.81	Peak	L	Pass
1**	0.210	42.23	9.83	53.21	10.98	AV	L	Pass
2	0.238	49.98	9.82	62.17	12.19	Peak	L	Pass
2**	0.238	35.30	9.82	52.17	16.87	AV	L	Pass
3	0.364	45.46	10.74	58.64	13.18	Peak	L	Pass
3**	0.364	33.98	10.74	48.64	14.66	AV	L	Pass
4	0.436	45.12	10.20	57.14	12.02	Peak	L	Pass
4**	0.436	30.43	10.20	47.14	16.71	AV	L	Pass
5	2.970	38.35	10.25	56.00	17.65	Peak	L	Pass
5**	2.970	25.69	10.25	46.00	20.31	AV	L	Pass
6	9.624	41.51	10.20	60.00	18.49	Peak	L	Pass
6**	9.624	31.27	10.20	50.00	18.73	AV	L	Pass

PHASE N

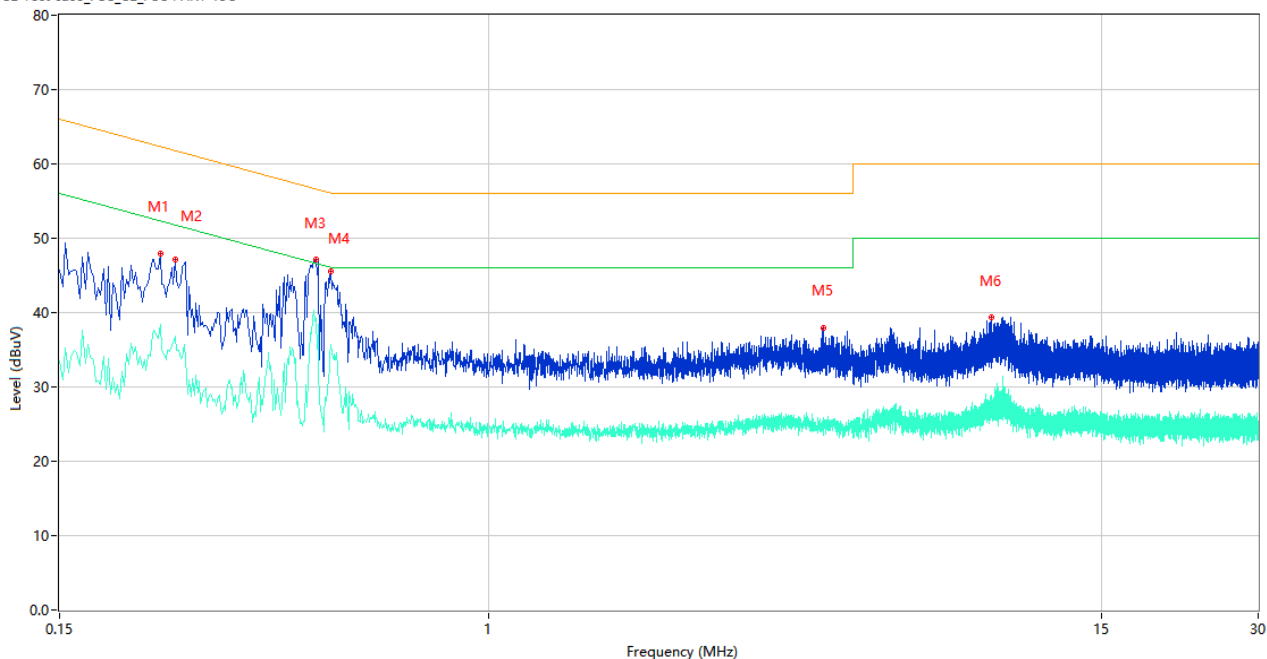
CE Test case_FCC_CE_FCC PART 15C



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.194	54.31	9.83	63.86	9.55	Peak	N	Pass
1**	0.194	37.62	9.83	53.86	16.24	AV	N	Pass
2	0.210	53.11	9.83	63.21	10.10	Peak	N	Pass
2**	0.210	41.16	9.83	53.21	12.05	AV	N	Pass
3	0.252	50.58	9.82	61.69	11.11	Peak	N	Pass
3**	0.252	40.06	9.82	51.69	11.63	AV	N	Pass
4	0.320	46.33	10.21	59.71	13.38	Peak	N	Pass
4**	0.320	33.42	10.21	49.71	16.29	AV	N	Pass
5	0.500	43.63	9.99	56.00	12.37	Peak	N	Pass
5**	0.500	28.71	9.99	46.00	17.29	AV	N	Pass
6	4.456	42.00	10.16	56.00	14.00	Peak	N	Pass
6**	4.456	27.15	10.16	46.00	18.85	AV	N	Pass

ANT5**PHASE L**

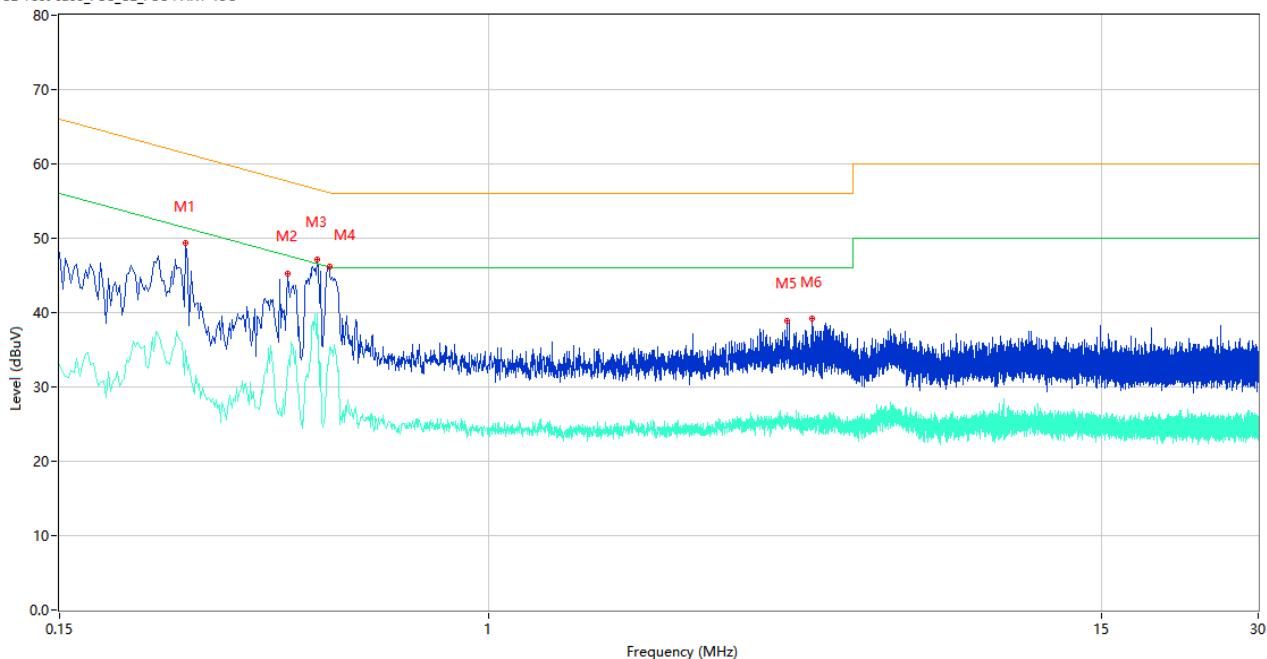
CE Test case_FCC_CE_FCC PART 15C



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.234	47.91	9.82	62.31	14.40	Peak	L	Pass
1**	0.234	38.34	9.82	52.31	13.97	AV	L	Pass
2	0.250	47.22	9.82	61.76	14.54	Peak	L	Pass
2**	0.250	36.76	9.82	51.76	15.00	AV	L	Pass
3	0.466	47.11	10.03	56.58	9.47	Peak	L	Pass
3**	0.466	39.14	10.03	46.58	7.44	AV	L	Pass
4	0.498	45.56	9.99	56.03	10.47	Peak	L	Pass
4**	0.498	35.74	9.99	46.03	10.29	AV	L	Pass
5	4.392	37.96	10.41	56.00	18.04	Peak	L	Pass
5**	4.392	25.13	10.41	46.00	20.87	AV	L	Pass
6	9.246	39.29	10.39	60.00	20.71	Peak	L	Pass
6**	9.246	27.61	10.39	50.00	22.39	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	0.262	49.32	9.82	61.37	12.05	Peak	N	Pass
1**	0.262	34.86	9.82	51.37	16.51	AV	N	Pass
2	0.412	45.24	10.46	57.61	12.37	Peak	N	Pass
2**	0.412	32.14	10.46	47.61	15.47	AV	N	Pass
3	0.468	47.14	10.03	56.55	9.41	Peak	N	Pass
3**	0.468	39.77	10.03	46.55	6.78	AV	N	Pass
4	0.494	46.13	10.00	56.10	9.97	Peak	N	Pass
4**	0.494	35.44	10.00	46.10	10.66	AV	N	Pass
5	3.732	38.93	10.42	56.00	17.07	Peak	N	Pass
5**	3.732	26.01	10.42	46.00	19.99	AV	N	Pass
6	4.172	39.16	10.04	56.00	16.84	Peak	N	Pass
6**	4.172	25.36	10.04	46.00	20.64	AV	N	Pass

A.6 Radiated Emission

Note¹: The symbol of “--” in the table which means not application.

Note²: For the test data above 1 GHz, According the ANSI C63.10-2013, 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.

Note³: 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.

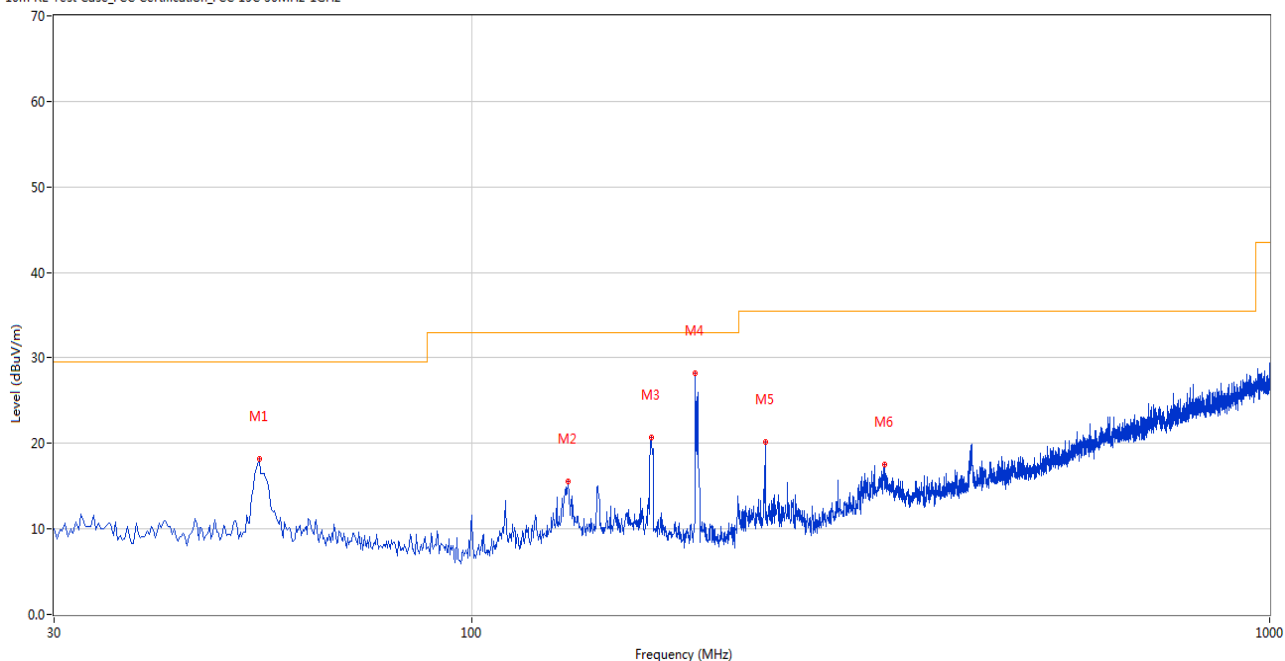
Note⁴: The EUT is working in the Normal link mode below 1 GHz. All modes have been tested and normal link mode is worst.

Test Data and Plots

ANT3

30 MHz to 1 GHz, ANT H

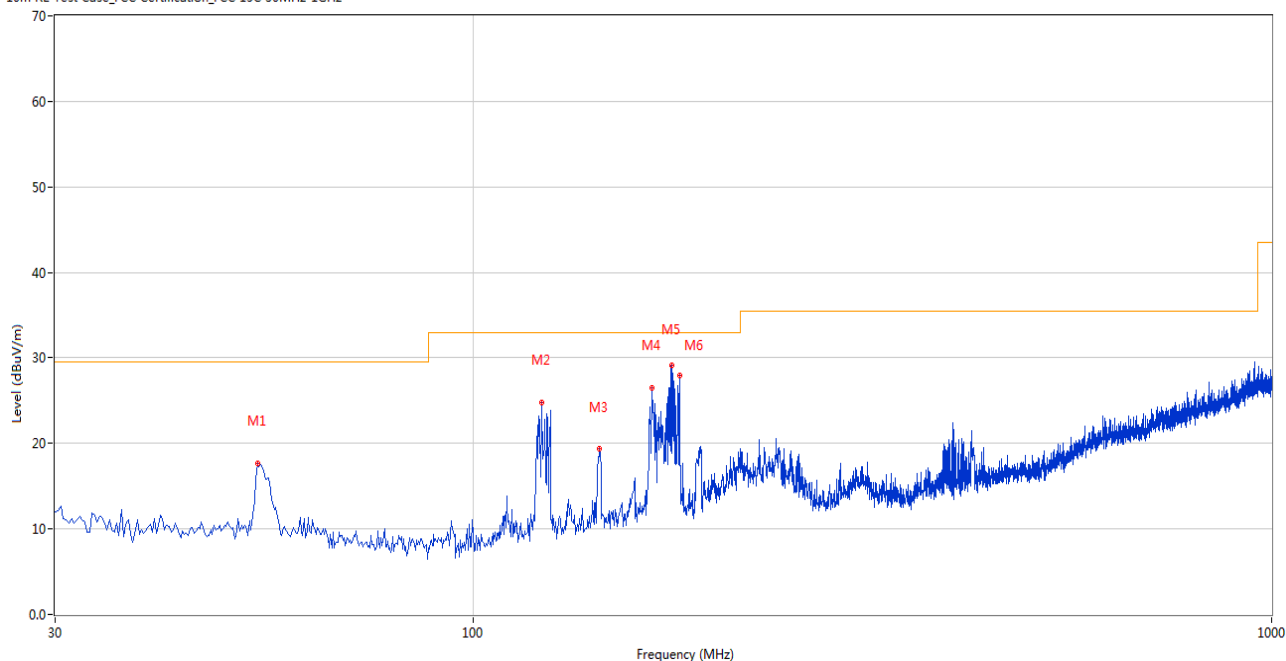
10m RE Test Case_FCC Certification_FCC 15C 30MHz-1GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	54.244	18.25	-27.10	29.5	11.25	Peak	309.00	100	Horizontal	Pass
2	132.067	15.60	-27.19	33.0	17.40	Peak	173.00	100	Horizontal	Pass
3	167.948	20.67	-26.68	33.0	12.33	Peak	189.00	100	Horizontal	Pass
4	190.737	28.24	-28.81	33.0	4.76	Peak	15.00	100	Horizontal	Pass
5	233.407	20.17	-28.56	35.5	15.33	Peak	182.00	100	Horizontal	Pass
6	328.928	17.53	-24.83	35.5	17.97	Peak	43.00	100	Horizontal	Pass

30 MHz to 1 GHz, ANT V

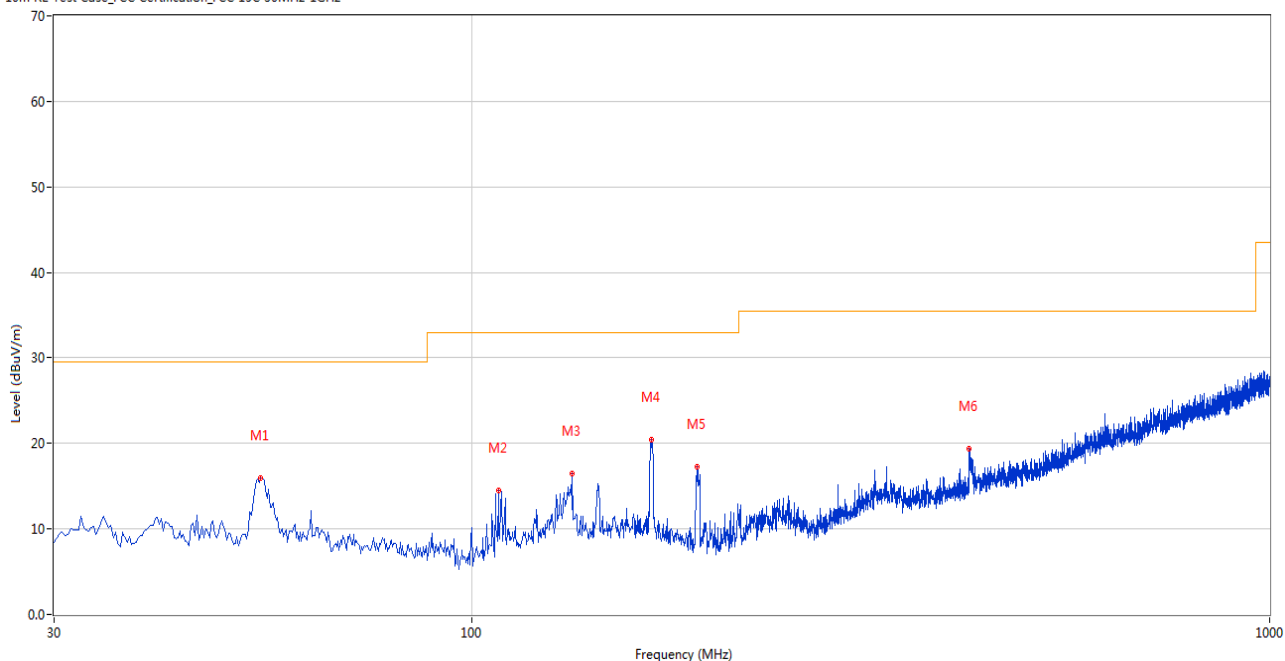
10m RE Test Case_FCC Certification_FCC 15C 30MHz-1GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	53.759	17.61	-27.06	29.5	11.89	Peak	223.00	100	Vertical	Pass
2	122.127	24.83	-27.99	33.0	8.17	Peak	177.00	100	Vertical	Pass
3	144.189	19.32	-26.55	33.0	13.68	Peak	90.00	100	Vertical	Pass
4	167.463	26.55	-26.56	33.0	6.45	Peak	13.00	100	Vertical	Pass
5	177.646	29.09	-27.60	33.0	3.91	Peak	96.00	100	Vertical	Pass
6	181.525	27.97	-27.68	33.0	5.03	Peak	96.00	100	Vertical	Pass

ANT1**30 MHz to 1 GHz, ANT H**

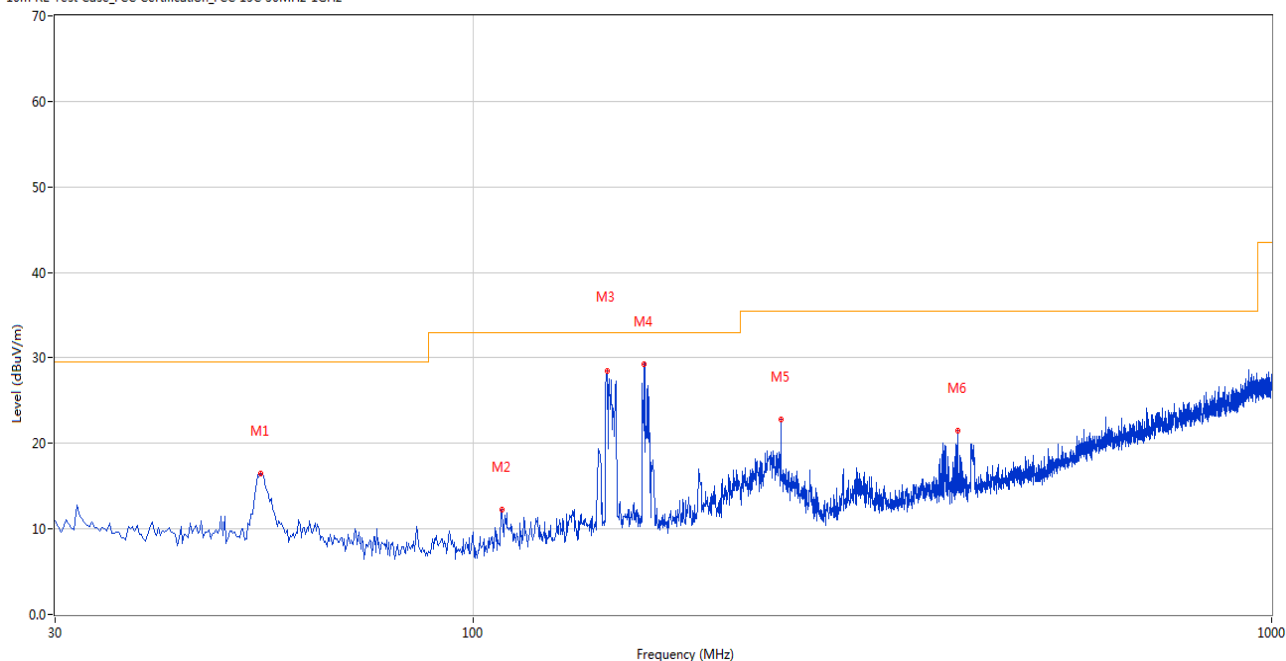
10m RE Test Case_FCC Certification_FCC 15C 30MHz-1GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	54.486	15.99	-27.12	29.5	13.51	Peak	118.00	100	Horizontal	Pass
2	108.065	14.45	-29.15	33.0	18.55	Peak	40.00	100	Horizontal	Pass
3	133.522	16.46	-27.21	33.0	16.54	Peak	198.00	100	Horizontal	Pass
4	167.948	20.42	-26.68	33.0	12.58	Peak	198.00	100	Horizontal	Pass
5	191.950	17.23	-28.80	33.0	15.77	Peak	25.00	100	Horizontal	Pass
6	420.570	19.34	-22.08	35.5	16.16	Peak	263.00	100	Horizontal	Pass

30 MHz to 1 GHz, ANT V

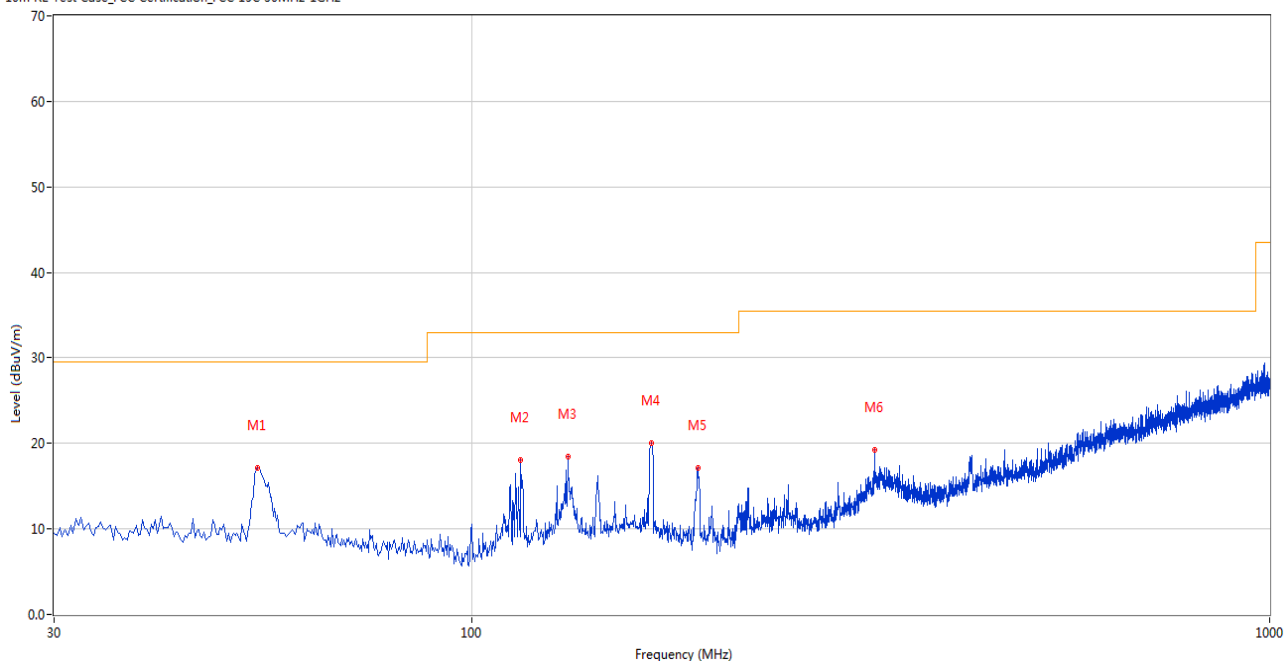
10m RE Test Case_FCC Certification_FCC 15C 30MHz-1GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	54.244	16.49	-27.10	29.5	13.01	Peak	360.00	100	Vertical	Pass
2	108.793	12.20	-29.15	33.0	20.80	Peak	72.00	100	Vertical	Pass
3	147.341	28.50	-26.24	33.0	4.50	Peak	0.00	100	Vertical	Pass
4	163.827	29.20	-26.27	33.0	3.80	Peak	155.00	100	Vertical	Pass
5	243.104	22.83	-27.85	35.5	12.67	Peak	189.00	100	Vertical	Pass
6	405.054	21.44	-22.52	35.5	14.06	Peak	115.00	100	Vertical	Pass

ANT2**30 MHz to 1 GHz, ANT H**

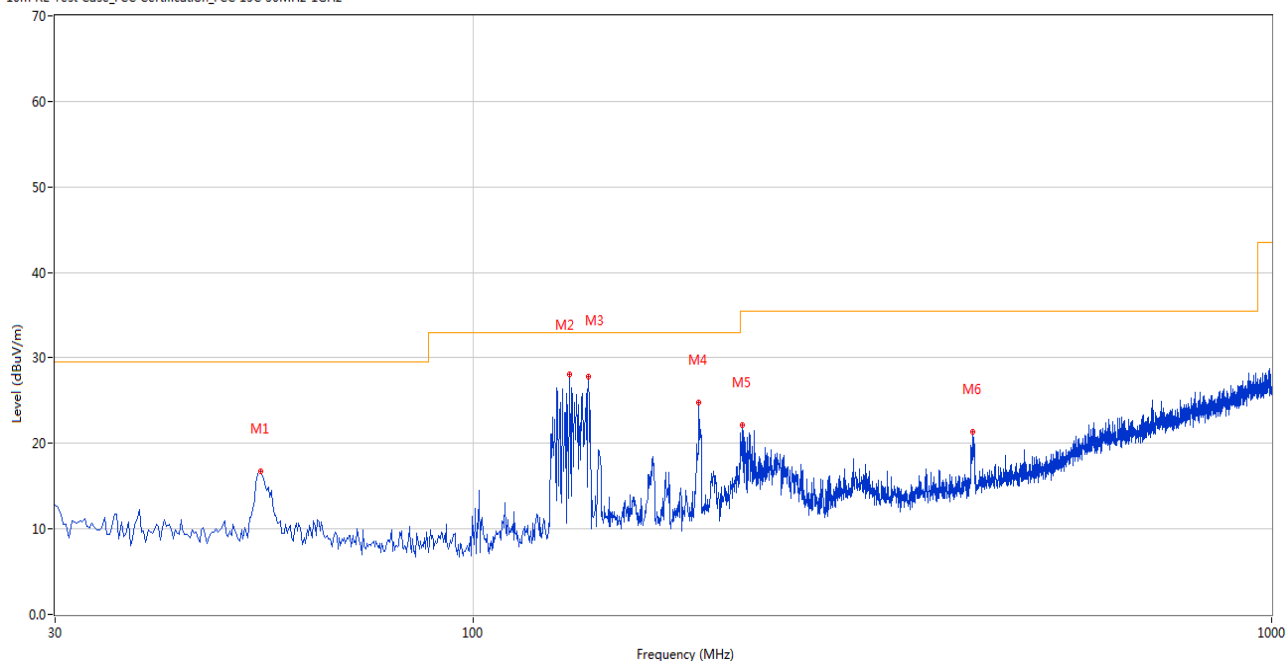
10m RE Test Case_FCC Certification_FCC 15C 30MHz-1GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	54.002	17.11	-27.08	29.5	12.39	Peak	8.00	100	Horizontal	Pass
2	115.339	18.01	-28.61	33.0	14.99	Peak	360.00	100	Horizontal	Pass
3	132.067	18.43	-27.19	33.0	14.57	Peak	185.00	100	Horizontal	Pass
4	168.190	19.98	-26.73	33.0	13.02	Peak	185.00	100	Horizontal	Pass
5	192.192	17.13	-28.77	33.0	15.87	Peak	163.00	100	Horizontal	Pass
6	319.958	19.31	-25.22	35.5	16.19	Peak	169.00	100	Horizontal	Pass

30 MHz to 1 GHz, ANT V

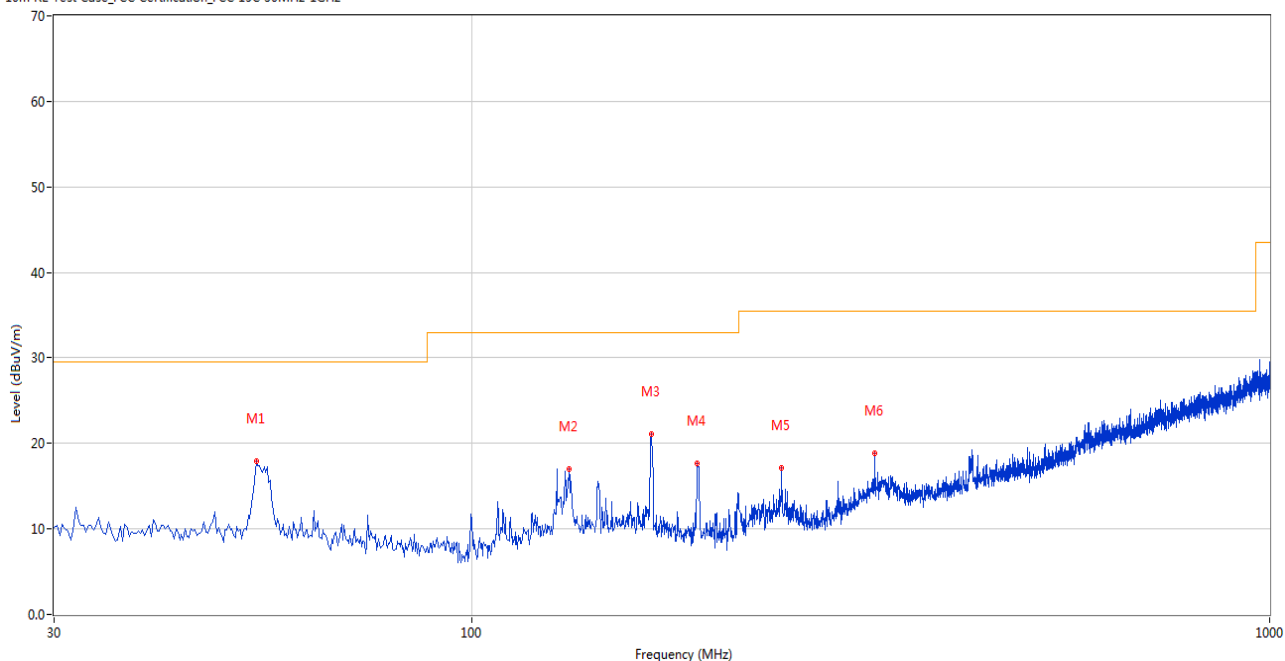
10m RE Test Case_FCC Certification_FCC 15C 30MHz-1GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	54.244	16.79	-27.10	29.5	12.71	Peak	211.00	100	Vertical	Pass
2	132.309	28.11	-27.19	33.0	4.89	Peak	326.00	100	Vertical	Pass
3	139.583	27.83	-26.81	33.0	5.17	Peak	326.00	100	Vertical	Pass
4	191.707	24.83	-28.81	33.0	8.17	Peak	35.00	100	Vertical	Pass
5	217.406	22.12	-29.19	35.5	13.38	Peak	118.00	100	Vertical	Pass
6	422.509	21.39	-21.97	35.5	14.11	Peak	199.00	100	Vertical	Pass

ANT4**30 MHz to 1 GHz, ANT H**

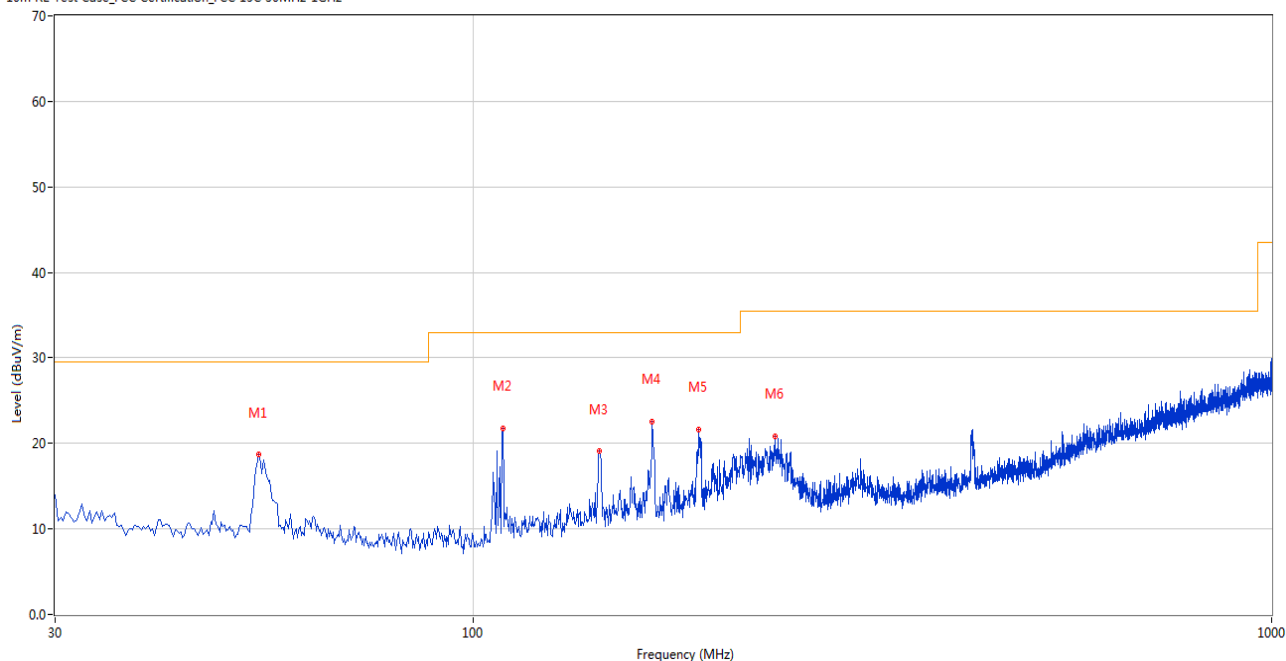
10m RE Test Case_FCC Certification_FCC 15C 30MHz-1GHz



No.	Frequency (MHz)	Results (dBUV/m)	Factor (dB)	Limit (dBUV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	53.759	17.89	-27.06	29.5	11.61	Peak	146.00	100	Horizontal	Pass
2	132.552	17.03	-27.20	33.0	15.97	Peak	186.00	100	Horizontal	Pass
3	167.948	21.07	-26.68	33.0	11.93	Peak	180.00	100	Horizontal	Pass
4	191.950	17.65	-28.80	33.0	15.35	Peak	195.00	100	Horizontal	Pass
5	244.801	17.19	-27.90	35.5	18.31	Peak	195.00	100	Horizontal	Pass
6	319.958	18.90	-25.22	35.5	16.60	Peak	22.00	100	Horizontal	Pass

30 MHz to 1 GHz, ANT V

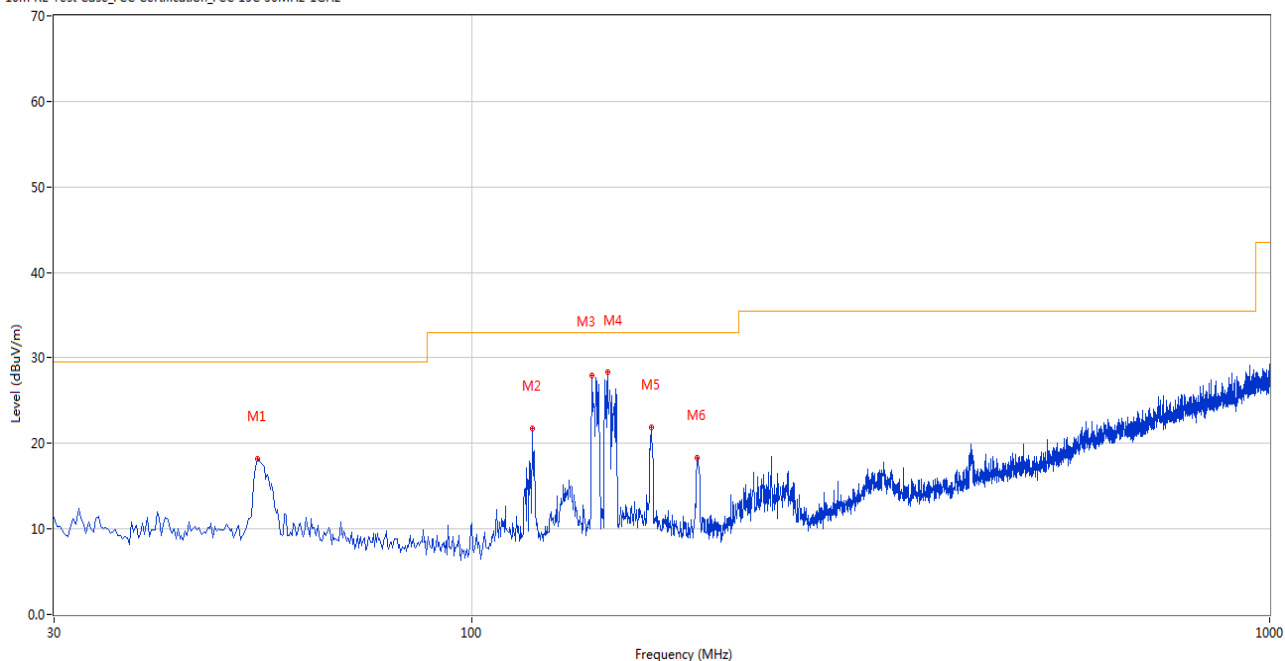
10m RE Test Case_FCC Certification_FCC 15C 30MHz-1GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	54.002	18.66	-27.08	29.5	10.84	Peak	202.00	100	Vertical	Pass
2	109.035	21.73	-29.15	33.0	11.27	Peak	59.00	100	Vertical	Pass
3	144.189	19.05	-26.55	33.0	13.95	Peak	115.00	100	Vertical	Pass
4	167.706	22.52	-26.62	33.0	10.48	Peak	118.00	100	Vertical	Pass
5	191.950	21.62	-28.80	33.0	11.38	Peak	56.00	100	Vertical	Pass
6	239.225	20.79	-28.14	35.5	14.71	Peak	217.00	100	Vertical	Pass

ANT5**30 MHz to 1 GHz, ANT H**

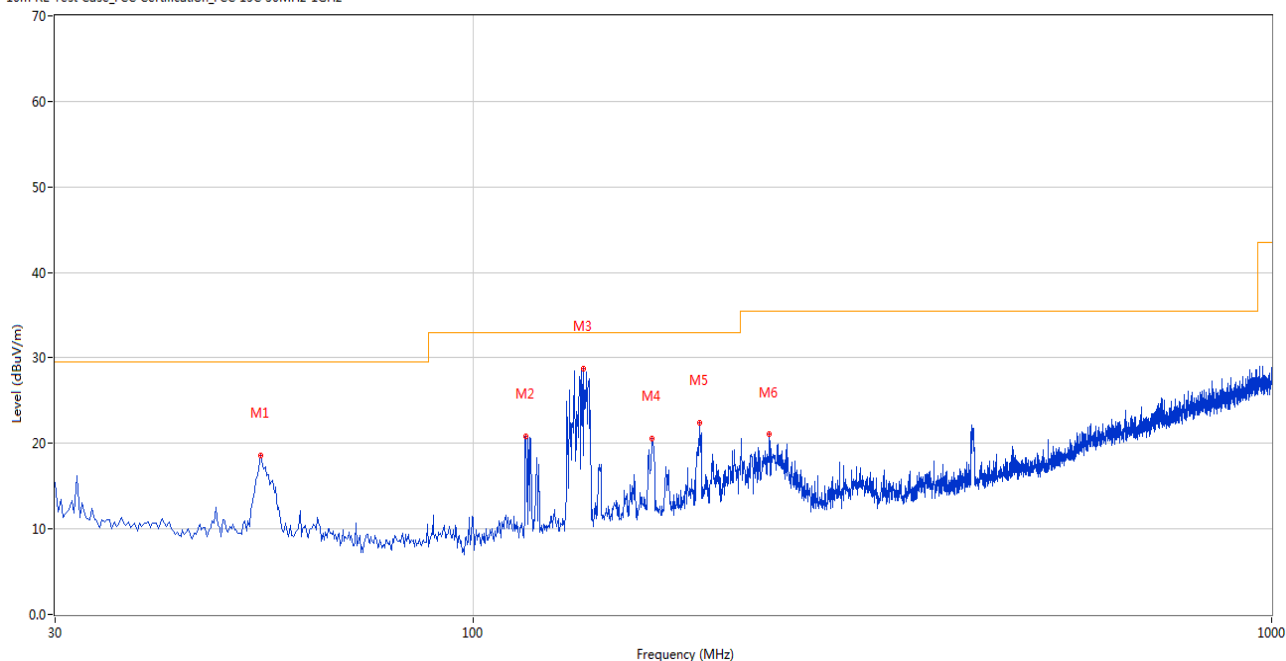
10m RE Test Case_FCC Certification_FCC 15C 30MHz-1GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	54.002	18.20	-27.08	29.5	11.30	Peak	171.00	100	Horizontal	Pass
2	119.218	21.78	-28.14	33.0	11.22	Peak	332.00	100	Horizontal	Pass
3	141.522	27.89	-26.76	33.0	5.11	Peak	165.00	100	Horizontal	Pass
4	148.068	28.37	-26.33	33.0	4.63	Peak	2.00	100	Horizontal	Pass
5	167.948	21.84	-26.68	33.0	11.16	Peak	183.00	100	Horizontal	Pass
6	191.950	18.32	-28.80	33.0	14.68	Peak	22.00	100	Horizontal	Pass

30 MHz to 1 GHz, ANT V

10m RE Test Case_FCC Certification_FCC 15C 30MHz-1GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	54.244	18.62	-27.10	29.5	10.88	Peak	245.00	100	Vertical	Pass
2	116.551	20.79	-28.49	33.0	12.21	Peak	165.00	100	Vertical	Pass
3	137.643	28.74	-26.90	33.0	4.26	Peak	84.00	100	Vertical	Pass
4	167.706	20.52	-26.62	33.0	12.48	Peak	127.00	100	Vertical	Pass
5	192.434	22.41	-28.74	33.0	10.59	Peak	81.00	100	Vertical	Pass
6	234.861	21.03	-28.50	35.5	14.47	Peak	335.00	100	Vertical	Pass

Note ¹: The marked spikes near 2400 MHz with circle should be ignored because they are Fundamental signal.

Note ²: The spurious above 18G is noise only, do not show on the report.

ANT3

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1329.818	43.90	74.0	30.10	Peak	92.00	100	Horizontal	Pass
1**	1329.818	38.36	54.0	15.64	AV	92.00	100	Horizontal	Pass
2	2993.835	49.34	74.0	24.66	Peak	215.00	400	Horizontal	Pass
2**	2993.835	42.24	54.0	11.76	AV	215.00	400	Horizontal	Pass
3	4932.093	49.58	74.0	24.42	Peak	131.00	200	Horizontal	Pass
3**	4932.093	39.14	54.0	14.86	AV	131.00	200	Horizontal	Pass
4	6809.967	57.27	74.0	16.73	Peak	135.00	300	Horizontal	Pass
4**	6809.967	45.01	54.0	8.99	AV	135.00	300	Horizontal	Pass
5	13415.040	56.61	74.0	17.39	Peak	8.00	100	Horizontal	Pass
5**	13415.040	45.34	54.0	8.66	AV	8.00	100	Horizontal	Pass
6	17425.349	55.54	74.0	18.46	Peak	305.00	400	Horizontal	Pass
6**	17425.349	46.36	54.0	7.64	AV	305.00	400	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1333.198	42.86	74.0	31.14	Peak	231.00	100	Vertical	Pass
1**	1333.198	35.21	54.0	18.79	AV	231.00	100	Vertical	Pass
2	2983.553	49.97	74.0	24.03	Peak	267.00	200	Vertical	Pass
2**	2983.553	40.25	54.0	13.75	AV	267.00	200	Vertical	Pass
3	4850.373	51.55	74.0	22.45	Peak	308.00	200	Vertical	Pass
3**	4850.373	40.17	54.0	13.83	AV	308.00	200	Vertical	Pass
4	6603.957	56.29	74.0	17.71	Peak	203.00	200	Vertical	Pass
4**	6603.957	46.91	54.0	7.09	AV	203.00	200	Vertical	Pass
5	13435.497	54.45	74.0	19.55	Peak	145.00	300	Vertical	Pass
5**	13435.497	48.50	54.0	5.50	AV	145.00	300	Vertical	Pass
6	17417.891	59.55	74.0	14.45	Peak	57.00	300	Vertical	Pass
6**	17417.891	45.51	54.0	8.49	AV	57.00	300	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1327.980	47.51	74.0	26.49	Peak	26.00	100	Horizontal	Pass
1**	1327.980	36.05	54.0	17.95	AV	26.00	100	Horizontal	Pass
2	2995.598	50.97	74.0	23.03	Peak	235.00	400	Horizontal	Pass
2**	2995.598	39.40	54.0	14.60	AV	235.00	400	Horizontal	Pass
3	4935.618	52.52	74.0	21.48	Peak	49.00	200	Horizontal	Pass
3**	4935.618	39.70	54.0	14.30	AV	49.00	200	Horizontal	Pass
4	6804.470	55.57	74.0	18.43	Peak	274.00	200	Horizontal	Pass
4**	6804.470	46.49	54.0	7.51	AV	274.00	200	Horizontal	Pass
5	13408.784	52.71	74.0	21.29	Peak	176.00	400	Horizontal	Pass
5**	13408.784	44.68	54.0	9.32	AV	176.00	400	Horizontal	Pass
6	17423.227	56.05	74.0	17.95	Peak	139.00	300	Horizontal	Pass
6**	17423.227	48.69	54.0	5.31	AV	139.00	300	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1330.148	44.33	74.0	29.67	Peak	326.00	200	Vertical	Pass
1**	1330.148	36.63	54.0	17.37	AV	326.00	200	Vertical	Pass
2	2980.649	52.60	74.0	21.40	Peak	286.00	400	Vertical	Pass
2**	2980.649	41.93	54.0	12.07	AV	286.00	400	Vertical	Pass
3	4852.002	46.84	74.0	27.16	Peak	105.00	200	Vertical	Pass
3**	4852.002	42.75	54.0	11.25	AV	105.00	200	Vertical	Pass
4	6605.995	53.36	74.0	20.64	Peak	13.00	300	Vertical	Pass
4**	6605.995	43.98	54.0	10.02	AV	13.00	300	Vertical	Pass
5	13433.424	54.01	74.0	19.99	Peak	248.00	100	Vertical	Pass
5**	13433.424	45.08	54.0	8.92	AV	248.00	100	Vertical	Pass
6	17417.173	54.44	74.0	19.56	Peak	356.00	200	Vertical	Pass
6**	17417.173	47.82	54.0	6.18	AV	356.00	200	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1326.365	41.90	74.0	32.10	Peak	345.00	300	Horizontal	Pass
1**	1326.365	36.98	54.0	17.02	AV	345.00	300	Horizontal	Pass
2	2999.051	47.30	74.0	26.70	Peak	27.00	300	Horizontal	Pass
2**	2999.051	40.52	54.0	13.48	AV	27.00	300	Horizontal	Pass
3	4936.245	49.47	74.0	24.53	Peak	50.00	200	Horizontal	Pass
3**	4936.245	41.35	54.0	12.65	AV	50.00	200	Horizontal	Pass
4	6804.815	52.85	74.0	21.15	Peak	354.00	300	Horizontal	Pass
4**	6804.815	44.82	54.0	9.18	AV	354.00	300	Horizontal	Pass
5	13413.644	58.43	74.0	15.57	Peak	238.00	200	Horizontal	Pass
5**	13413.644	45.84	54.0	8.16	AV	238.00	200	Horizontal	Pass
6	17426.042	53.04	74.0	20.96	Peak	36.00	100	Horizontal	Pass
6**	17426.042	44.76	54.0	9.24	AV	36.00	100	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1332.060	44.93	74.0	29.07	Peak	59.00	400	Vertical	Pass
1**	1332.060	39.11	54.0	14.89	AV	59.00	400	Vertical	Pass
2	2979.076	53.02	74.0	20.98	Peak	116.00	300	Vertical	Pass
2**	2979.076	43.94	54.0	10.06	AV	116.00	300	Vertical	Pass
3	4857.359	51.73	74.0	22.27	Peak	141.00	200	Vertical	Pass
3**	4857.359	39.87	54.0	14.13	AV	141.00	200	Vertical	Pass
4	6604.208	53.13	74.0	20.87	Peak	141.00	100	Vertical	Pass
4**	6604.208	46.99	54.0	7.01	AV	141.00	100	Vertical	Pass
5	13432.768	53.60	74.0	20.40	Peak	44.00	200	Vertical	Pass
5**	13432.768	48.47	54.0	5.53	AV	44.00	200	Vertical	Pass
6	17416.685	57.42	74.0	16.58	Peak	298.00	400	Vertical	Pass
6**	17416.685	46.66	54.0	7.34	AV	298.00	400	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1331.884	47.25	74.0	26.75	Peak	294.00	400	Horizontal	Pass
1**	1331.884	35.68	54.0	18.32	AV	294.00	400	Horizontal	Pass
2	3000.171	51.00	74.0	23.00	Peak	18.00	400	Horizontal	Pass
2**	3000.171	41.78	54.0	12.22	AV	18.00	400	Horizontal	Pass
3	4933.346	50.15	74.0	23.85	Peak	29.00	200	Horizontal	Pass
3**	4933.346	39.40	54.0	14.60	AV	29.00	200	Horizontal	Pass
4	6809.086	57.22	74.0	16.78	Peak	226.00	100	Horizontal	Pass
4**	6809.086	45.38	54.0	8.62	AV	226.00	100	Horizontal	Pass
5	13414.625	56.52	74.0	17.48	Peak	176.00	100	Horizontal	Pass
5**	13414.625	48.60	54.0	5.40	AV	176.00	100	Horizontal	Pass
6	17428.064	58.13	74.0	15.87	Peak	11.00	400	Horizontal	Pass
6**	17428.064	44.78	54.0	9.22	AV	11.00	400	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1335.940	43.80	74.0	30.20	Peak	273.00	200	Vertical	Pass
1**	1335.940	38.88	54.0	15.12	AV	273.00	200	Vertical	Pass
2	2982.130	53.03	74.0	20.97	Peak	30.00	400	Vertical	Pass
2**	2982.130	40.88	54.0	13.12	AV	30.00	400	Vertical	Pass
3	4852.031	47.39	74.0	26.61	Peak	61.00	200	Vertical	Pass
3**	4852.031	39.14	54.0	14.86	AV	61.00	200	Vertical	Pass
4	6605.842	54.22	74.0	19.78	Peak	340.00	400	Vertical	Pass
4**	6605.842	44.16	54.0	9.84	AV	340.00	400	Vertical	Pass
5	13436.042	57.68	74.0	16.32	Peak	30.00	300	Vertical	Pass
5**	13436.042	46.71	54.0	7.29	AV	30.00	300	Vertical	Pass
6	17417.613	56.27	74.0	17.73	Peak	16.00	400	Vertical	Pass
6**	17417.613	49.78	54.0	4.22	AV	16.00	400	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1328.686	42.53	74.0	31.47	Peak	257.00	200	Horizontal	Pass
1**	1328.686	36.45	54.0	17.55	AV	257.00	200	Horizontal	Pass
2	2999.165	50.16	74.0	23.84	Peak	212.00	300	Horizontal	Pass
2**	2999.165	39.06	54.0	14.94	AV	212.00	300	Horizontal	Pass
3	4932.354	50.36	74.0	23.64	Peak	16.00	200	Horizontal	Pass
3**	4932.354	43.38	54.0	10.62	AV	16.00	200	Horizontal	Pass
4	6806.562	56.57	74.0	17.43	Peak	134.00	300	Horizontal	Pass
4**	6806.562	43.00	54.0	11.00	AV	134.00	300	Horizontal	Pass
5	13409.874	54.69	74.0	19.31	Peak	360.00	300	Horizontal	Pass
5**	13409.874	46.86	54.0	7.14	AV	360.00	300	Horizontal	Pass
6	17426.837	54.57	74.0	19.43	Peak	127.00	300	Horizontal	Pass
6**	17426.837	45.78	54.0	8.22	AV	127.00	300	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1335.749	44.94	74.0	29.06	Peak	266.00	400	Vertical	Pass
1**	1335.749	35.80	54.0	18.20	AV	266.00	400	Vertical	Pass
2	2984.013	50.23	74.0	23.77	Peak	187.00	100	Vertical	Pass
2**	2984.013	41.83	54.0	12.17	AV	187.00	100	Vertical	Pass
3	4857.724	48.47	74.0	25.53	Peak	337.00	200	Vertical	Pass
3**	4857.724	42.35	54.0	11.65	AV	337.00	200	Vertical	Pass
4	6609.657	52.88	74.0	21.12	Peak	122.00	300	Vertical	Pass
4**	6609.657	43.47	54.0	10.53	AV	122.00	300	Vertical	Pass
5	13438.109	54.79	74.0	19.21	Peak	11.00	200	Vertical	Pass
5**	13438.109	45.29	54.0	8.71	AV	11.00	200	Vertical	Pass
6	17416.078	59.63	74.0	14.37	Peak	90.00	200	Vertical	Pass
6**	17416.078	45.46	54.0	8.54	AV	90.00	200	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1331.553	44.48	74.0	29.52	Peak	12.00	200	Horizontal	Pass
1**	1331.553	38.69	54.0	15.31	AV	12.00	200	Horizontal	Pass
2	2998.942	48.42	74.0	25.58	Peak	250.00	200	Horizontal	Pass
2**	2998.942	41.87	54.0	12.13	AV	250.00	200	Horizontal	Pass
3	4933.859	51.10	74.0	22.90	Peak	232.00	200	Horizontal	Pass
3**	4933.859	42.78	54.0	11.22	AV	232.00	200	Horizontal	Pass
4	6807.887	57.33	74.0	16.67	Peak	61.00	400	Horizontal	Pass
4**	6807.887	45.78	54.0	8.22	AV	61.00	400	Horizontal	Pass
5	13408.154	57.88	74.0	16.12	Peak	42.00	200	Horizontal	Pass
5**	13408.154	47.74	54.0	6.26	AV	42.00	200	Horizontal	Pass
6	17424.644	53.42	74.0	20.58	Peak	126.00	400	Horizontal	Pass
6**	17424.644	47.79	54.0	6.21	AV	126.00	400	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1336.818	44.22	74.0	29.78	Peak	13.00	400	Vertical	Pass
1**	1336.818	39.25	54.0	14.75	AV	13.00	400	Vertical	Pass
2	2979.959	52.80	74.0	21.20	Peak	175.00	400	Vertical	Pass
2**	2979.959	39.35	54.0	14.65	AV	175.00	400	Vertical	Pass
3	4857.483	48.49	74.0	25.51	Peak	157.00	200	Vertical	Pass
3**	4857.483	43.13	54.0	10.87	AV	157.00	200	Vertical	Pass
4	6606.178	54.48	74.0	19.52	Peak	346.00	300	Vertical	Pass
4**	6606.178	43.03	54.0	10.97	AV	346.00	300	Vertical	Pass
5	13437.824	52.71	74.0	21.29	Peak	329.00	100	Vertical	Pass
5**	13437.824	45.81	54.0	8.19	AV	329.00	100	Vertical	Pass
6	17420.494	54.38	74.0	19.62	Peak	98.00	300	Vertical	Pass
6**	17420.494	47.51	54.0	6.49	AV	98.00	300	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1332.609	44.66	74.0	29.34	Peak	81.00	100	Horizontal	Pass
1**	1332.609	35.45	54.0	18.55	AV	81.00	100	Horizontal	Pass
2	2993.087	49.48	74.0	24.52	Peak	205.00	400	Horizontal	Pass
2**	2993.087	43.24	54.0	10.76	AV	205.00	400	Horizontal	Pass
3	4937.080	54.53	74.0	19.47	Peak	171.00	200	Horizontal	Pass
3**	4937.080	43.64	54.0	10.36	AV	171.00	200	Horizontal	Pass
4	6810.260	57.44	74.0	16.56	Peak	156.00	400	Horizontal	Pass
4**	6810.260	43.56	54.0	10.44	AV	156.00	400	Horizontal	Pass
5	13407.594	57.48	74.0	16.52	Peak	144.00	200	Horizontal	Pass
5**	13407.594	48.43	54.0	5.57	AV	144.00	200	Horizontal	Pass
6	17425.613	58.95	74.0	15.05	Peak	253.00	300	Horizontal	Pass
6**	17425.613	46.98	54.0	7.02	AV	253.00	300	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1333.605	45.38	74.0	28.62	Peak	152.00	100	Vertical	Pass
1**	1333.605	36.21	54.0	17.79	AV	152.00	100	Vertical	Pass
2	2978.384	49.12	74.0	24.88	Peak	120.00	200	Vertical	Pass
2**	2978.384	43.65	54.0	10.35	AV	120.00	200	Vertical	Pass
3	4856.052	51.95	74.0	22.05	Peak	262.00	200	Vertical	Pass
3**	4856.052	43.32	54.0	10.68	AV	262.00	200	Vertical	Pass
4	6608.196	56.72	74.0	17.28	Peak	225.00	300	Vertical	Pass
4**	6608.196	46.55	54.0	7.45	AV	225.00	300	Vertical	Pass
5	13432.263	54.51	74.0	19.49	Peak	247.00	100	Vertical	Pass
5**	13432.263	48.12	54.0	5.88	AV	247.00	100	Vertical	Pass
6	17415.693	58.81	74.0	15.19	Peak	152.00	100	Vertical	Pass
6**	17415.693	50.11	54.0	3.89	AV	152.00	100	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1327.716	43.96	74.0	30.04	Peak	153.00	100	Horizontal	Pass
1**	1327.716	37.00	54.0	17.00	AV	153.00	100	Horizontal	Pass
2	2996.458	51.22	74.0	22.78	Peak	9.00	400	Horizontal	Pass
2**	2996.458	40.49	54.0	13.51	AV	9.00	400	Horizontal	Pass
3	4933.210	54.32	74.0	19.68	Peak	1.00	200	Horizontal	Pass
3**	4933.210	41.94	54.0	12.06	AV	1.00	200	Horizontal	Pass
4	6807.607	51.82	74.0	22.18	Peak	246.00	300	Horizontal	Pass
4**	6807.607	42.91	54.0	11.09	AV	246.00	300	Horizontal	Pass
5	13413.749	55.95	74.0	18.05	Peak	231.00	200	Horizontal	Pass
5**	13413.749	48.14	54.0	5.86	AV	231.00	200	Horizontal	Pass
6	17425.490	58.38	74.0	15.62	Peak	111.00	400	Horizontal	Pass
6**	17425.490	48.74	54.0	5.26	AV	111.00	400	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1335.453	46.83	74.0	27.17	Peak	190.00	300	Vertical	Pass
1**	1335.453	35.69	54.0	18.31	AV	190.00	300	Vertical	Pass
2	2982.944	51.21	74.0	22.79	Peak	89.00	200	Vertical	Pass
2**	2982.944	44.43	54.0	9.57	AV	89.00	200	Vertical	Pass
3	4857.573	47.40	74.0	26.60	Peak	21.00	200	Vertical	Pass
3**	4857.573	38.36	54.0	15.64	AV	21.00	200	Vertical	Pass
4	6606.805	51.94	74.0	22.06	Peak	49.00	100	Vertical	Pass
4**	6606.805	46.60	54.0	7.40	AV	49.00	100	Vertical	Pass
5	13434.486	53.87	74.0	20.13	Peak	119.00	300	Vertical	Pass
5**	13434.486	47.85	54.0	6.15	AV	119.00	300	Vertical	Pass
6	17413.866	55.48	74.0	18.52	Peak	106.00	400	Vertical	Pass
6**	17413.866	49.36	54.0	4.64	AV	106.00	400	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1330.486	44.31	74.0	29.69	Peak	201.00	300	Horizontal	Pass
1**	1330.486	39.77	54.0	14.23	AV	201.00	300	Horizontal	Pass
2	2997.316	47.75	74.0	26.25	Peak	294.00	100	Horizontal	Pass
2**	2997.316	39.16	54.0	14.84	AV	294.00	100	Horizontal	Pass
3	4934.489	53.24	74.0	20.76	Peak	333.00	200	Horizontal	Pass
3**	4934.489	40.44	54.0	13.56	AV	333.00	200	Horizontal	Pass
4	6809.674	54.32	74.0	19.68	Peak	7.00	300	Horizontal	Pass
4**	6809.674	42.56	54.0	11.44	AV	7.00	300	Horizontal	Pass
5	13414.742	57.07	74.0	16.93	Peak	185.00	200	Horizontal	Pass
5**	13414.742	47.88	54.0	6.12	AV	185.00	200	Horizontal	Pass
6	17425.352	55.29	74.0	18.71	Peak	217.00	100	Horizontal	Pass
6**	17425.352	49.66	54.0	4.34	AV	217.00	100	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1332.170	42.74	74.0	31.26	Peak	120.00	100	Vertical	Pass
1**	1332.170	40.17	54.0	13.83	AV	120.00	100	Vertical	Pass
2	2983.910	47.54	74.0	26.46	Peak	146.00	300	Vertical	Pass
2**	2983.910	43.05	54.0	10.95	AV	146.00	300	Vertical	Pass
3	4853.327	47.77	74.0	26.23	Peak	311.00	200	Vertical	Pass
3**	4853.327	41.51	54.0	12.49	AV	311.00	200	Vertical	Pass
4	6605.038	54.92	74.0	19.08	Peak	253.00	200	Vertical	Pass
4**	6605.038	42.87	54.0	11.13	AV	253.00	200	Vertical	Pass
5	13431.771	57.16	74.0	16.84	Peak	53.00	100	Vertical	Pass
5**	13431.771	44.25	54.0	9.75	AV	53.00	100	Vertical	Pass
6	17413.054	57.28	74.0	16.72	Peak	129.00	400	Vertical	Pass
6**	17413.054	46.14	54.0	7.86	AV	129.00	400	Vertical	Pass

1 GHz to 18 GHz, ANT H 802.11ax20(SU) Low Channel

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1333.111	45.91	74.0	28.09	Peak	198.00	300	Horizontal	Pass
1**	1333.111	34.62	54.0	19.38	AV	198.00	300	Horizontal	Pass
2	2993.111	52.99	74.0	21.01	Peak	205.00	400	Horizontal	Pass
2**	2993.111	41.80	54.0	12.20	AV	205.00	400	Horizontal	Pass
3	4936.296	52.41	74.0	21.59	Peak	89.00	200	Horizontal	Pass
3**	4936.296	43.90	54.0	10.10	AV	89.00	200	Horizontal	Pass
4	6805.662	57.27	74.0	16.73	Peak	144.00	400	Horizontal	Pass
4**	6805.662	47.29	54.0	6.71	AV	144.00	400	Horizontal	Pass
5	13413.281	56.27	74.0	17.73	Peak	139.00	200	Horizontal	Pass
5**	13413.281	48.84	54.0	5.16	AV	139.00	200	Horizontal	Pass
6	17426.426	56.22	74.0	17.78	Peak	84.00	100	Horizontal	Pass
6**	17426.426	49.21	54.0	4.79	AV	84.00	100	Horizontal	Pass

1 GHz to 18 GHz, ANT V802.11ax20(SU) Low Channel

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1329.035	43.62	74.0	30.38	Peak	218.00	400	Vertical	Pass
1**	1329.035	36.94	54.0	17.06	AV	218.00	400	Vertical	Pass
2	2979.507	48.76	74.0	25.24	Peak	169.00	100	Vertical	Pass
2**	2979.507	43.34	54.0	10.66	AV	169.00	100	Vertical	Pass
3	4855.796	47.14	74.0	26.86	Peak	198.00	200	Vertical	Pass
3**	4855.796	42.53	54.0	11.47	AV	198.00	200	Vertical	Pass
4	6604.144	54.83	74.0	19.17	Peak	60.00	400	Vertical	Pass
4**	6604.144	44.41	54.0	9.59	AV	60.00	400	Vertical	Pass
5	13433.121	54.30	74.0	19.70	Peak	33.00	100	Vertical	Pass
5**	13433.121	46.87	54.0	7.13	AV	33.00	100	Vertical	Pass
6	17414.516	58.74	74.0	15.26	Peak	123.00	300	Vertical	Pass
6**	17414.516	46.31	54.0	7.69	AV	123.00	300	Vertical	Pass

1 GHz to 18 GHz, ANT H 802.11ax20(SU) Middle Channel

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1328.922	41.84	74.0	32.16	Peak	299.00	200	Horizontal	Pass
1**	1328.922	37.49	54.0	16.51	AV	299.00	200	Horizontal	Pass
2	2999.257	48.73	74.0	25.27	Peak	145.00	100	Horizontal	Pass
2**	2999.257	39.95	54.0	14.05	AV	145.00	100	Horizontal	Pass
3	4932.188	50.93	74.0	23.07	Peak	250.00	200	Horizontal	Pass
3**	4932.188	39.79	54.0	14.21	AV	250.00	200	Horizontal	Pass
4	6808.579	56.82	74.0	17.18	Peak	300.00	400	Horizontal	Pass
4**	6808.579	46.17	54.0	7.83	AV	300.00	400	Horizontal	Pass
5	13408.386	55.15	74.0	18.85	Peak	158.00	200	Horizontal	Pass
5**	13408.386	45.06	54.0	8.94	AV	158.00	200	Horizontal	Pass
6	17425.403	54.05	74.0	19.95	Peak	244.00	200	Horizontal	Pass
6**	17425.403	48.69	54.0	5.31	AV	244.00	200	Horizontal	Pass

1 GHz to 18 GHz, ANT V 802.11ax20(SU) Middle Channel

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1335.415	44.53	74.0	29.47	Peak	249.00	100	Vertical	Pass
1**	1335.415	35.37	54.0	18.63	AV	249.00	100	Vertical	Pass
2	2979.128	47.79	74.0	26.21	Peak	250.00	200	Vertical	Pass
2**	2979.128	39.48	54.0	14.52	AV	250.00	200	Vertical	Pass
3	4852.899	47.76	74.0	26.24	Peak	345.00	200	Vertical	Pass
3**	4852.899	38.20	54.0	15.80	AV	345.00	200	Vertical	Pass
4	6606.035	53.80	74.0	20.20	Peak	47.00	400	Vertical	Pass
4**	6606.035	47.72	54.0	6.28	AV	47.00	400	Vertical	Pass
5	13431.499	53.87	74.0	20.13	Peak	200.00	400	Vertical	Pass
5**	13431.499	44.55	54.0	9.45	AV	200.00	400	Vertical	Pass
6	17416.141	58.82	74.0	15.18	Peak	63.00	100	Vertical	Pass
6**	17416.141	48.25	54.0	5.75	AV	63.00	100	Vertical	Pass

1 GHz to 18 GHz, ANT H802.11ax20(SU) High Channel

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1326.010	47.46	74.0	26.54	Peak	65.00	400	Horizontal	Pass
1**	1326.010	35.28	54.0	18.72	AV	65.00	400	Horizontal	Pass
2	2994.512	49.78	74.0	24.22	Peak	241.00	400	Horizontal	Pass
2**	2994.512	41.60	54.0	12.40	AV	241.00	400	Horizontal	Pass
3	4932.071	52.01	74.0	21.99	Peak	30.00	200	Horizontal	Pass
3**	4932.071	41.45	54.0	12.55	AV	30.00	200	Horizontal	Pass
4	6809.280	53.67	74.0	20.33	Peak	336.00	400	Horizontal	Pass
4**	6809.280	45.69	54.0	8.31	AV	336.00	400	Horizontal	Pass
5	13414.965	56.16	74.0	17.84	Peak	178.00	100	Horizontal	Pass
5**	13414.965	46.36	54.0	7.64	AV	178.00	100	Horizontal	Pass
6	17423.116	56.38	74.0	17.62	Peak	20.00	100	Horizontal	Pass
6**	17423.116	47.63	54.0	6.37	AV	20.00	100	Horizontal	Pass

1 GHz to 18 GHz, ANT V 802.11ax20(SU) High Channel

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1334.279	43.19	74.0	30.81	Peak	164.00	200	Vertical	Pass
1**	1334.279	39.64	54.0	14.36	AV	164.00	200	Vertical	Pass
2	2984.470	51.24	74.0	22.76	Peak	26.00	100	Vertical	Pass
2**	2984.470	40.85	54.0	13.15	AV	26.00	100	Vertical	Pass
3	4857.780	49.73	74.0	24.27	Peak	200.00	200	Vertical	Pass
3**	4857.780	42.06	54.0	11.94	AV	200.00	200	Vertical	Pass
4	6603.792	55.32	74.0	18.68	Peak	198.00	100	Vertical	Pass
4**	6603.792	42.59	54.0	11.41	AV	198.00	100	Vertical	Pass
5	13432.643	55.57	74.0	18.43	Peak	354.00	100	Vertical	Pass
5**	13432.643	43.63	54.0	10.37	AV	354.00	100	Vertical	Pass
6	17413.379	56.61	74.0	17.39	Peak	175.00	100	Vertical	Pass
6**	17413.379	48.23	54.0	5.77	AV	175.00	100	Vertical	Pass

ANT1**1 GHz to 18 GHz, ANT H802.11ax20(SU) High Channel**

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1326.735	47.37	74.0	26.63	Peak	154.00	200	Horizontal	Pass
1**	1326.735	36.65	54.0	17.35	AV	154.00	200	Horizontal	Pass
2	2999.681	49.52	74.0	24.48	Peak	269.00	100	Horizontal	Pass
2**	2999.681	40.28	54.0	13.72	AV	269.00	100	Horizontal	Pass
3	4935.613	50.02	74.0	23.98	Peak	292.00	200	Horizontal	Pass
3**	4935.613	43.49	54.0	10.51	AV	292.00	200	Horizontal	Pass
4	6805.495	53.09	74.0	20.91	Peak	21.00	300	Horizontal	Pass
4**	6805.495	45.98	54.0	8.02	AV	21.00	300	Horizontal	Pass
5	13415.169	52.98	74.0	21.02	Peak	160.00	300	Horizontal	Pass
5**	13415.169	45.77	54.0	8.23	AV	160.00	300	Horizontal	Pass
6	17426.216	53.57	74.0	20.43	Peak	110.00	200	Horizontal	Pass
6**	17426.216	49.52	54.0	4.48	AV	110.00	200	Horizontal	Pass

1 GHz to 18 GHz, ANT V 802.11ax20(SU) High Channel

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1333.808	46.56	74.0	27.44	Peak	296.00	400	Vertical	Pass
1**	1333.808	34.84	54.0	19.16	AV	296.00	400	Vertical	Pass
2	2980.748	49.83	74.0	24.17	Peak	102.00	100	Vertical	Pass
2**	2980.748	43.57	54.0	10.43	AV	102.00	100	Vertical	Pass
3	4851.246	49.41	74.0	24.59	Peak	11.00	200	Vertical	Pass
3**	4851.246	41.91	54.0	12.09	AV	11.00	200	Vertical	Pass
4	6610.702	54.32	74.0	19.68	Peak	340.00	400	Vertical	Pass
4**	6610.702	42.51	54.0	11.49	AV	340.00	400	Vertical	Pass
5	13435.964	55.53	74.0	18.47	Peak	241.00	300	Vertical	Pass
5**	13435.964	46.26	54.0	7.74	AV	241.00	300	Vertical	Pass
6	17417.236	56.60	74.0	17.40	Peak	123.00	200	Vertical	Pass
6**	17417.236	44.82	54.0	9.18	AV	123.00	200	Vertical	Pass

ANT2**1 GHz to 18 GHz, ANT H802.11ax20(SU) High Channel**

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1329.191	43.74	74.0	30.26	Peak	82.00	400	Horizontal	Pass
1**	1329.191	39.72	54.0	14.28	AV	82.00	400	Horizontal	Pass
2	2997.459	51.09	74.0	22.91	Peak	243.00	300	Horizontal	Pass
2**	2997.459	43.83	54.0	10.17	AV	243.00	300	Horizontal	Pass
3	4932.813	52.43	74.0	21.57	Peak	286.00	200	Horizontal	Pass
3**	4932.813	40.33	54.0	13.67	AV	286.00	200	Horizontal	Pass
4	6809.262	54.80	74.0	19.20	Peak	141.00	300	Horizontal	Pass
4**	6809.262	45.93	54.0	8.07	AV	141.00	300	Horizontal	Pass
5	13412.611	52.81	74.0	21.19	Peak	172.00	300	Horizontal	Pass
5**	13412.611	48.13	54.0	5.87	AV	172.00	300	Horizontal	Pass
6	17428.732	56.91	74.0	17.09	Peak	288.00	100	Horizontal	Pass
6**	17428.732	48.43	54.0	5.57	AV	288.00	100	Horizontal	Pass

1 GHz to 18 GHz, ANT V 802.11ax20(SU) High Channel

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1336.458	43.59	74.0	30.41	Peak	231.00	300	Vertical	Pass
1**	1336.458	38.12	54.0	15.88	AV	231.00	300	Vertical	Pass
2	2984.442	53.01	74.0	20.99	Peak	11.00	100	Vertical	Pass
2**	2984.442	40.41	54.0	13.59	AV	11.00	100	Vertical	Pass
3	4857.165	50.77	74.0	23.23	Peak	277.00	200	Vertical	Pass
3**	4857.165	38.75	54.0	15.25	AV	277.00	200	Vertical	Pass
4	6607.972	52.97	74.0	21.03	Peak	249.00	100	Vertical	Pass
4**	6607.972	42.82	54.0	11.18	AV	249.00	100	Vertical	Pass
5	13435.671	53.87	74.0	20.13	Peak	9.00	400	Vertical	Pass
5**	13435.671	46.87	54.0	7.13	AV	9.00	400	Vertical	Pass
6	17419.087	59.84	74.0	14.16	Peak	44.00	400	Vertical	Pass
6**	17419.087	44.94	54.0	9.06	AV	44.00	400	Vertical	Pass

ANT4**1 GHz to 18 GHz, ANT H802.11ax20(SU) High Channel**

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1333.567	43.65	74.0	30.35	Peak	52.00	100	Horizontal	Pass
1**	1333.567	38.92	54.0	15.08	AV	52.00	100	Horizontal	Pass
2	2995.837	52.66	74.0	21.34	Peak	50.00	100	Horizontal	Pass
2**	2995.837	39.01	54.0	14.99	AV	50.00	100	Horizontal	Pass
3	4938.095	53.61	74.0	20.39	Peak	314.00	200	Horizontal	Pass
3**	4938.095	40.18	54.0	13.82	AV	314.00	200	Horizontal	Pass
4	6809.478	55.16	74.0	18.84	Peak	295.00	100	Horizontal	Pass
4**	6809.478	43.56	54.0	10.44	AV	295.00	100	Horizontal	Pass
5	13411.801	57.37	74.0	16.63	Peak	57.00	100	Horizontal	Pass
5**	13411.801	47.57	54.0	6.43	AV	57.00	100	Horizontal	Pass
6	17429.788	57.61	74.0	16.39	Peak	211.00	400	Horizontal	Pass
6**	17429.788	45.73	54.0	8.27	AV	211.00	400	Horizontal	Pass

1 GHz to 18 GHz, ANT V 802.11ax20(SU) High Channel

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1331.352	48.07	74.0	25.93	Peak	67.00	400	Vertical	Pass
1**	1331.352	39.64	54.0	14.36	AV	67.00	400	Vertical	Pass
2	2979.960	51.64	74.0	22.36	Peak	144.00	300	Vertical	Pass
2**	2979.960	39.22	54.0	14.78	AV	144.00	300	Vertical	Pass
3	4856.044	51.99	74.0	22.01	Peak	180.00	200	Vertical	Pass
3**	4856.044	40.47	54.0	13.53	AV	180.00	200	Vertical	Pass
4	6603.378	53.34	74.0	20.66	Peak	348.00	100	Vertical	Pass
4**	6603.378	47.74	54.0	6.26	AV	348.00	100	Vertical	Pass
5	13433.873	57.17	74.0	16.83	Peak	46.00	400	Vertical	Pass
5**	13433.873	46.57	54.0	7.43	AV	46.00	400	Vertical	Pass
6	17415.045	57.66	74.0	16.34	Peak	24.00	400	Vertical	Pass
6**	17415.045	50.28	54.0	3.72	AV	24.00	400	Vertical	Pass

ANT5**1 GHz to 18 GHz, ANT H802.11ax20(SU) High Channel**

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1331.389	46.24	74.0	27.76	Peak	5.00	400	Horizontal	Pass
1**	1331.389	39.58	54.0	14.42	AV	5.00	400	Horizontal	Pass
2	2995.317	47.90	74.0	26.10	Peak	153.00	200	Horizontal	Pass
2**	2995.317	39.32	54.0	14.68	AV	153.00	200	Horizontal	Pass
3	4937.312	54.22	74.0	19.78	Peak	317.00	200	Horizontal	Pass
3**	4937.312	42.47	54.0	11.53	AV	317.00	200	Horizontal	Pass
4	6804.895	57.30	74.0	16.70	Peak	285.00	200	Horizontal	Pass
4**	6804.895	46.81	54.0	7.19	AV	285.00	200	Horizontal	Pass
5	13410.364	54.16	74.0	19.84	Peak	280.00	100	Horizontal	Pass
5**	13410.364	45.74	54.0	8.26	AV	280.00	100	Horizontal	Pass
6	17427.889	58.41	74.0	15.59	Peak	342.00	300	Horizontal	Pass
6**	17427.889	47.64	54.0	6.36	AV	342.00	300	Horizontal	Pass

1 GHz to 18 GHz, ANT V 802.11ax20(SU) High Channel

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1333.512	43.56	74.0	30.44	Peak	233.00	300	Vertical	Pass
1**	1333.512	35.75	54.0	18.25	AV	233.00	300	Vertical	Pass
2	2979.756	50.94	74.0	23.06	Peak	137.00	300	Vertical	Pass
2**	2979.756	40.52	54.0	13.48	AV	137.00	300	Vertical	Pass
3	4857.975	47.48	74.0	26.52	Peak	203.00	200	Vertical	Pass
3**	4857.975	41.28	54.0	12.72	AV	203.00	200	Vertical	Pass
4	6607.408	52.04	74.0	21.96	Peak	222.00	400	Vertical	Pass
4**	6607.408	46.88	54.0	7.12	AV	222.00	400	Vertical	Pass
5	13436.584	54.70	74.0	19.30	Peak	63.00	300	Vertical	Pass
5**	13436.584	47.77	54.0	6.23	AV	63.00	300	Vertical	Pass
6	17414.047	54.76	74.0	19.24	Peak	116.00	100	Vertical	Pass
6**	17414.047	46.68	54.0	7.32	AV	116.00	100	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 C63.10-2013, 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.

Test DataANT3

802.11b LOW CHANNEL

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2384.518	58.81	74.0	15.19	Peak	288.00	100	Horizontal	Pass
1**	2384.518	46.18	54.0	7.82	AV	288.00	100	Horizontal	Pass
2	2390.000	55.6	74.0	18.40	Peak	311.00	200	Horizontal	Pass
2**	2390.000	45.82	54.0	8.18	AV	311.00	200	Horizontal	Pass

802.11b HIGH CHANNEL

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.500	56.09	74.0	17.91	Peak	337.00	100	Horizontal	Pass
1**	2483.500	44.96	54.0	9.04	AV	337.00	100	Horizontal	Pass
2	2487.943	60.22	74.0	13.78	Peak	3.00	300	Horizontal	Pass
2**	2487.943	46.8	54.0	7.20	AV	3.00	300	Horizontal	Pass

802.11g LOW CHANNEL

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2385.112	57.21	74.0	16.79	Peak	139.00	300	Horizontal	Pass
1**	2385.112	47.08	54.0	6.92	AV	139.00	300	Horizontal	Pass
2	2390.000	55.04	74.0	18.96	Peak	321.00	300	Horizontal	Pass
2**	2390.000	45.03	54.0	8.97	AV	321.00	300	Horizontal	Pass

802.11g HIGH CHANNEL

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.500	57.35	74.0	16.65	Peak	56.00	100	Horizontal	Pass
1**	2483.500	44.79	54.0	9.21	AV	56.00	100	Horizontal	Pass
2	2487.937	58.8	74.0	15.20	Peak	181.00	300	Horizontal	Pass
2**	2487.937	47.58	54.0	6.42	AV	181.00	300	Horizontal	Pass

802.11n20 LOW CHANNEL

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2385.613	57.89	74.0	16.11	Peak	97.00	100	Horizontal	Pass
1**	2385.613	46.16	54.0	7.84	AV	97.00	100	Horizontal	Pass
2	2390.000	56.48	74.0	17.52	Peak	2.00	200	Horizontal	Pass
2**	2390.000	43.77	54.0	10.23	AV	2.00	200	Horizontal	Pass

802.11n20 HIGH CHANNEL

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.500	55.92	74.0	18.08	Peak	305.00	300	Horizontal	Pass
1**	2483.500	47.15	54.0	6.85	AV	305.00	300	Horizontal	Pass
2	2488.915	57.45	74.0	16.55	Peak	175.00	300	Horizontal	Pass
2**	2488.915	45.89	54.0	8.11	AV	175.00	300	Horizontal	Pass

802.11ax20(SU) LOW CHANNEL

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2384.800	58.02	74.0	15.98	Peak	231.00	200	Horizontal	Pass
1**	2384.800	48.62	54.0	5.38	AV	231.00	200	Horizontal	Pass
2	2390.000	56.98	74.0	17.02	Peak	349.00	200	Horizontal	Pass
2**	2390.000	47.09	54.0	6.91	AV	349.00	200	Horizontal	Pass

802.11ax20(SU) HIGH CHANNEL

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.500	55.5	74.0	18.50	Peak	171.00	300	Horizontal	Pass
1**	2483.500	47.86	54.0	6.14	AV	171.00	300	Horizontal	Pass
2	2488.017	58.09	74.0	15.91	Peak	145.00	200	Horizontal	Pass
2**	2488.017	47.89	54.0	6.11	AV	145.00	200	Horizontal	Pass

ANT1**802.11ax20(SU) HIGH CHANNEL**

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.500	53.96	74.0	20.04	Peak	134.00	100	Horizontal	Pass
1**	2483.500	47.5	54.0	6.50	AV	134.00	100	Horizontal	Pass
2	2488.447	60.08	74.0	13.92	Peak	318.00	300	Horizontal	Pass
2**	2488.447	45.1	54.0	8.90	AV	318.00	300	Horizontal	Pass

ANT2**802.11ax20(SU) HIGH CHANNEL**

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.500	54.86	74.0	19.14	Peak	328.00	300	Horizontal	Pass
1**	2483.500	45.12	54.0	8.88	AV	328.00	300	Horizontal	Pass
2	2487.828	57.94	74.0	16.06	Peak	248.00	100	Horizontal	Pass
2**	2487.828	46.04	54.0	7.96	AV	248.00	100	Horizontal	Pass

ANT4**802.11ax20(SU) HIGH CHANNEL**

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.500	57.31	74.0	16.69	Peak	151.00	100	Horizontal	Pass
1**	2483.500	47.16	54.0	6.84	AV	151.00	100	Horizontal	Pass
2	2486.817	59.39	74.0	14.61	Peak	230.00	100	Horizontal	Pass
2**	2486.817	47.12	54.0	6.88	AV	230.00	100	Horizontal	Pass

ANT5**802.11ax20(SU) HIGH CHANNEL**

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.500	55.3	74.0	18.70	Peak	34.00	200	Horizontal	Pass
1**	2483.500	45.62	54.0	8.38	AV	34.00	200	Horizontal	Pass
2	2488.151	57.92	74.0	16.08	Peak	348.00	300	Horizontal	Pass
2**	2488.151	46.36	54.0	7.64	AV	348.00	300	Horizontal	Pass

A.8 Power Spectral Density (PSD)

Note: All antenna were pre tested, but only the worst case has been reported in this report.

Test Data

ANT3

802.11b Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-10.29	8
Middle	-12.05	8
High	-10.74	8

802.11g Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-10.73	8
Middle	-11.50	8
High	-11.34	8

802.11n-20 MHz Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-11.24	8
Middle	-11.20	8
High	-8.11	8

802.11ax-20 MHz(SU) Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-10.52	8
Middle	-9.87	8
High	-10.84	8

Test Plots

ANT3

802.11b LOW CHANNEL



802.11b MIDDLE CHANNEL



802.11b HIGH CHANNEL



802.11g LOW CHANNEL



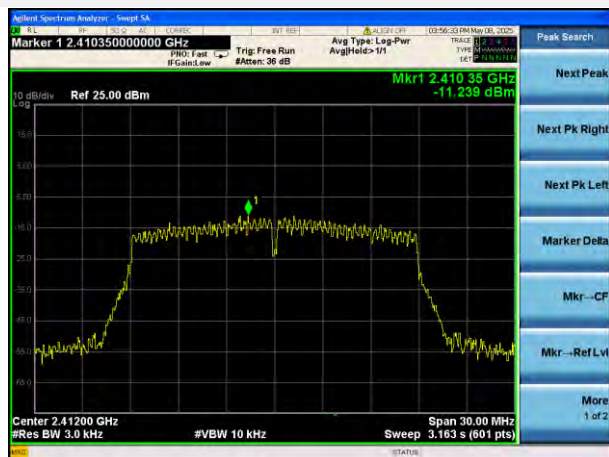
802.11g MIDDLE CHANNEL



802.11g HIGH CHANNEL



802.11n-20 MHz LOW CHANNEL



802.11n-20 MHz MIDDLE CHANNEL



802.11n-20 MHz HIGH CHANNEL



802.11ax-20 MHz(SU) LOW CHANNEL



802.11ax-20 MHz(SU) MIDDLE CHANNEL



802.11ax-20 MHz(SU) HIGH CHANNEL



ANNEX B TEST SETUP PHOTOS

Please refer the document “BL-SZ2541261-AR.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “BL-SZ2541261-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “BL-SZ2541261-AI.PDF”.

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--END OF REPORT--