

FCC/ISED

RF

TEST REPORT

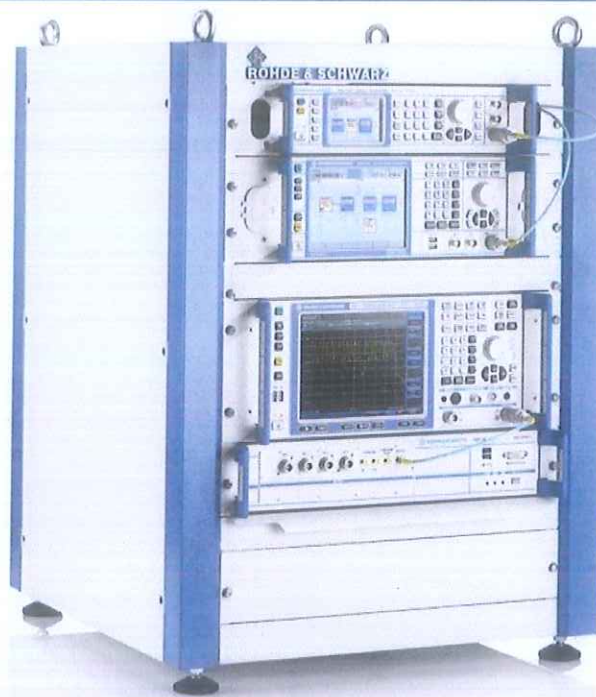
ISSUED BY
Shenzhen BALUN Technology Co., Ltd.



FOR
Smart Phone

ISSUED TO
Shenzhen UniStrong Science & Technology Co., Ltd.

B, 4-4Factory, Zhengcheng Road, FuyongBaoan District, Shenzhen,
China.



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Date: Mar. 20, 2018

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Date: Mar. 20, 2018

Report No.: BL-EC17C0360-604
EUT Name: Smart Phone
Model Name: UT10
Brand Name: UniStrong
Test Standard: 47 CFR Part 15 Subpart E
RSS-Gen (Issue 4, November 2014)
RSS-247 (Issue 2, February 2017)
FCC ID: 2AOPD-UT10
ISED Number: 11546A-UT10
Test conclusion: Pass
Test Date: Feb. 22, 2018 ~ Mar. 07, 2018
Date of Issue: Mar. 20, 2018

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Revision History

Version	Issue Date	Revisions Content
<u>Rev. 01</u>	<u>Mar. 07, 2018</u>	<u>Initial Issue</u>
<u>Rev. 02</u>	<u>Mar. 20, 2018</u>	<u>Updated ancillary equipment information.</u> <u>Revise the limit of power on page 29 and</u> <u>the limit of PSD on page 32. Revise the</u> <u>typesetting on page 91/95/97101/105.</u>

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1 ADMINISTRATIVE DATA (GENERAL INFORMATION)

1.1 Identification of the Testing Laboratory

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

1.2 Identification of the Responsible Testing Location

Test Location	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1st FL, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Accreditation Certificate	The laboratory has been listed by Industry Canada to perform electromagnetic emission measurements. The recognition numbers of test site are 11524A-1. The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1196. The laboratory is a testing organization accredited by American Association for Laboratory Accreditation(A2LA) according to ISO/IEC 17025. The accreditation certificate is 4344.01. The laboratory is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L6791.
Description	All measurement facilities used to collect the measurement data are located at Block B, FL 1, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China 518055

1.3 Laboratory Condition

Ambient Temperature	20 to 25°C
Ambient Relative Humidity	45% - 55%
Ambient Pressure	100 kPa - 102 kPa

1.4 Announce

- (1) The test report reference to the report template version v4.1.
- (2) The test report is invalid if not marked with the signatures of the persons responsible for preparing and approving the test report.
- (3) The test report is invalid if there is any evidence and/or falsification.
- (4) The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein.
- (5) This document may not be altered or revised in any way unless done so by BALUN and all revisions are duly noted in the revisions section.
- (6) Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.

2 PRODUCT INFORMATION

2.1 Applicant

Applicant	Shenzhen UniStrong Science & Technology Co., Ltd.
Address	B, 4-4Factory, Zhengcheng Road, FuyongBaoan District, Shenzhen, China

2.2 Manufacturer

Manufacturer	Shenzhen UniStrong Science & Technology Co., Ltd.
Address	B, 4-4Factory, Zhengcheng Road, FuyongBaoan District, Shenzhen, China

2.3 Factory

Factory	Shenzhen UniStrong Science & Technology Co., Ltd.
Address	B, 4-4Factory, Zhengcheng Road, FuyongBaoan District, Shenzhen, China

2.4 General Description for Equipment under Test (EUT)

EUT Name	Smart Phone
Model Name Under Test	UT10
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	UT10_V104
Software Version	UT10_V1.0
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A
Network and Wireless connectivity	2G Network GSM/GPRS/EDGE 850/900/1800/1900 MHz 3G Network WCDMA/HSDPA/HSUPA Band 1/2/5/8, 4G Network FDD LTE Band 1/2/3/4/5/7/8/17/20/28 TDD LTE Band 38/40/41 CDMA2000 800 MHz Bluetooth 4.0 (BR+EDR+BLE) WIFI 802.11b, 802.11g, 802.11n(HT20) and 802.11ac, 5.8G SRD, GPS, GLONASS, NFC, BDS

Note: The EUT's back cover has two specifications, one without adding a magnet, one with added magnet. Both covers were tested in this report. Only the worst test data under the back cover is attached to this report, namely the back cover with magnet.

2.5 Ancillary Equipment

Ancillary Equipment 1	Battery	
	Brand Name	SJYEnergy
	Model No.	BA7800
	Serial No.	N/A
	Capacity	8000 mAh
	Rated Voltage	3.8 V
	Limit Charge Voltage	4.35 V
Ancillary Equipment 2 ^{Note}	Adapter	
	Brand Name	N/A
	Model No.	ASUC71w-050912300
	Serial No.	ASUC71z-050912300 (z= a, e, i, w)
	Rated Input	100-240 V~, 0.7 A, 50/60 Hz
	Rated Output	5 V= 3 A or 9 V= 2 A or 12 V= 1.5 A
Ancillary Equipment 3	USB Cable	
	Length (Approx.)	1.0 m
Note: All adapter are same with electrical parameters and internal circuit structure, but only differ in model name and plug type. Adapter ASUC71w-050912300 was tested in this report.		

2.6 Technical Information

Frequency Range	Band I: 5150 MHz to 5250 MHz, Band IV: 5725 MHz to 5850 MHz
Product Type	☐ Mobile ☒ Portable ☐ Fix Location
Modulation technology	OFDM
Modulation Type	256QAM, 64QAM, 16QAM, BPSK, QPSK
Product Type	Indoor for IC standard Mobile and portable for FCC standard
Transfer Rate (Mbps) (Single RF path)	802.11ac: up to VHT-MCS9
Channel Bandwidth	802.11ac: 20 MHz, 40 MHz, 80 MHz
Maximum Output Power	Band I: 11.79 dBm Band IV: 13.93 dBm
Antenna System (eg., MIMO, Smart Antenna)	N/A
Categorization as Correlated or Completely Uncorrelated	N/A
Antenna Type	PCB Antenna
Antenna Gain	1.5 dBi
About the Product	The intended for used with information technology equipment.

2.7 Additional Instructions

Mode	☒ Special software is used. The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.
------	--

During testing, Channel and Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

EUT Software Settings:

Test Software Version	QRCT		
Support Units (Software installation media)	Description	Manufacturer	Model
	Notebook	Lenovo	X220

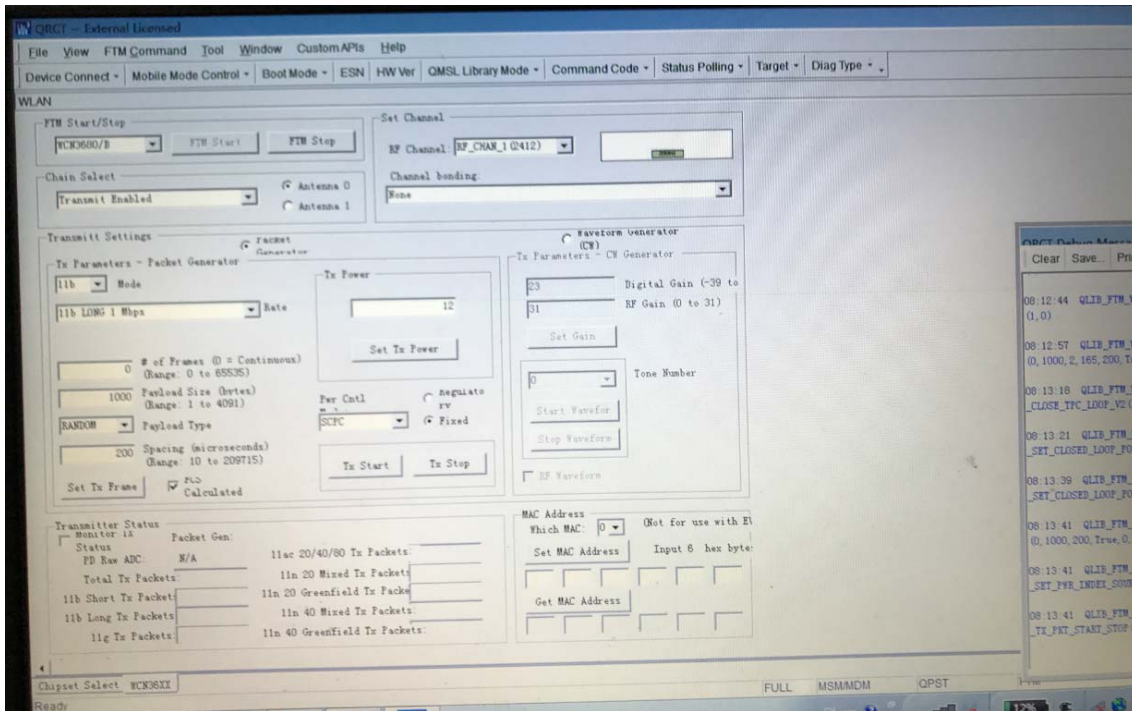
Band I (5150 - 5250 MHz) Power level setup in software

Mode	Channel	Frequency (MHz)	Soft Set
11ac (HT20)	CH36	5180	13
11ac (HT20)	CH44	5220	
11ac (HT20)	CH48	5240	
11ac (HT40)	CH38	5190	
11ac (HT40)	CH46	5230	
11ac (HT80)	CH42	5210	

Band IV (5725 - 5850 MHz) Power level setup in software

Mode	Channel	Frequency (MHz)	Soft Set
11ac (HT20)	CH149	5745	13
11ac (HT20)	CH157	5785	
11ac (HT20)	CH165	5825	
11ac (HT40)	CH151	5755	
11ac (HT40)	CH159	5795	
11ac (HT80)	CH155	5775	

Run Software



2.8 Channel List

20 MHz		40 MHz		80 MHz	
Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)
36	5180	38	5190	42	5210
40	5200	46	5230	58	5290
44	5220	54	5270	106	5530
48	5240	62	5310	155	5775
52	5260	102	5510		
56	5280	110	5550		
60	5300	134	5670		
64	5320	151	5755		
100	5500	159	5795		
104	5520				
108	5540				
112	5560				
116	5580				
132	5660				
136	5680				
140	5700				
149	5745				
153	5765				
157	5785				
161	5805				
165	5825				

Note: Until further notice, devices subject to this section shall not be capable of transmitting in the band 5600-5650 MHz. This restriction is for the protection of weather radars operating in this band.

The Lowest frequency, the middle frequency and the highest frequency of channel were selected to perform the test, and the selected channel see below:

For 802.11ac (HT20)

Band I (5150 - 5250 MHz)			Band IV (5725 - 5850 MHz)		
Channel Number	Channel	Frequency (MHz)	Channel Number	Channel	Frequency (MHz)
36	Low	5180	149	Low	5745
44	Mid	5220	157	Mid	5785
48	High	5240	165	High	5825

For 802.11ac (HT40)

Band I (5150 - 5250 MHz)			Band IV (5725 - 5850 MHz)		
Channel Number	Channel	Frequency (MHz)	Channel Number	Channel	Frequency (MHz)
38	Low	5190	151	Low	5755
46	High	5230	159	High	5795

For 802.11ac (HT80)

Band I (5150 - 5250 MHz)			Band IV (5725 - 5850 MHz)		
Channel Number	Channel	Frequency (MHz)	Channel Number	Channel	Frequency (MHz)
42	Low	5210	155	Low	5775

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	Modulation Type	Band I	Band IV
				Channel	Channel
RF Output Power	11ac(20 MHz)	6.5	BPSK	48/44/36	165/157/149
	11ac(40 MHz)	13.5		46/38	159/151
	11ac(80 MHz)	MCS0		42	155
Emission Bandwidth & 99% Occupied Bandwidth	11ac(20 MHz)	6.5	BPSK	48/44/36	165/157/149
	11ac(40 MHz)	13.5		46/38	159/151
	11ac(80 MHz)	VHT-MCS0		42	155
6 dB bandwidth	11ac(20 MHz)	6.5	BPSK	N/A	165/157/149
	11ac(40 MHz)	13.5		N/A	159/151
	11ac(80 MHz)	MCS0		N/A	155
Power Spectral Density	11ac(20 MHz)	6.5	BPSK	48/44/36	165/157/149
	11ac(40 MHz)	13.5		46/38	159/151
	11ac(80 MHz)	MCS0		42	155
Conducted Spurious Emission and Band Edge (Authorized-band)	11ac(20 MHz)	6.5	BPSK	48/44/36	165/157/149
	11ac(40 MHz)	13.5		46/38	159/151
	11ac(80 MHz)	MCS0		42	155
Radiated Spurious Emissions	11ac(20 MHz)	6.5	BPSK	48/44/36	165/157/149
	11ac(40 MHz)	13.5		46/38	159/151
	11ac(80 MHz)	MCS0		42	155
Band Edge (Restricted-band)	11ac(20 MHz)	6.5	BPSK	48/36	165/149
	11ac(40 MHz)	13.5		46/38	159/151
	11ac(80 MHz)	MCS0		42	155
Frequency Stability	Unmodulated	N/A	N/A	N/A	N/A

3 SUMMARY OF TEST RESULTS

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 15 Subpart E (10-1-16 Edition)	Unlicensed National Information Infrastructure Devices
2	KDB Publication 789033 D02v01r04	Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part 15, Subpart E
3	RSS-Gen (Issue 4, Nov. 2014)	General Requirements for Compliance of Radio Apparatus
4	RSS-247 (Issue 2, February 2017)	Digital Transmission Systems (DTSS), Frequency Hopping Systems(FHSS) and Licence-Exemp Local Area Network (LE-LAN) Devices
5	ANSI C63.10-2013	American National Standard for Testing Unlicensed Wireless Devices

3.2 Verdict

No.	Description	FCC Part No.	RSS Part No.	Test Result	Verdict
1	Antenna Requirement	15.203	RSS-247, 6.2	--	Pass ^{Note1}
2	RF Output Power	15.407(a)	RSS-247, 6.2	ANNEX A.1	Pass
3	Emission Bandwidth & 99% Occupied Bandwidth	15.407(a)	RSS-247, 6.2	ANNEX A.2	Pass
4	6 dB bandwidth	15.407(e)	RSS-247, 6.2	ANNEX A.3	Pass
5	Power Spectral Density	15.407(a)	RSS-247, 6.2	ANNEX A.4	Pass
6	Conducted Emission	15.207	RSS-GEN, 8.8	ANNEX A.5	Pass
7	Conducted Spurious Emission and Band Edge (Authorized-band)	15.407(b) 15.209	RSS-247, 6.2	ANNEX A.6	Pass
8	Radiated Spurious Emissions and Band Edge (Restricted-band)	15.407(b)	RSS-247, 6.2	ANNEX A.7	Pass
9	Frequency Stability	15.407(g)	--	ANNEX A.8	Pass
10	Receiver Spurious Emissions	--	RSS-Gen, 7.1.2	--	N/A ^{Note2}

Note ¹: The EUT has a permanently and irreplaceable attached antenna, which complies with the requirement FCC 15.203.

Note ²: 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	45% - 55%	
Atmospheric Pressure	100 kPa - 102 kPa	
Temperature	NT (Normal Temperature)	+22°C to +25°C
	LT (Low Temperature)	-20°C
	HT (High Temperature)	+45°C
Working Voltage of the EUT	NV (Normal Voltage)	3.8 V
	LV (Low Voltage)	3.7 V
	HV (High Voltage)	4.35 V

4.2 Test Equipment List

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer	ROHDE&SCHWARZ	FSV-30	103118	2017.06.12	2018.06.11
Switch Unit with OSP-B157	ROHDE&SCHWARZ	OSP120	101270	2017.06.12	2018.06.11
EMI Receiver	KEYSIGHT	N9038A	MY53220118	2017.09.07	2018.09.06
EMI Receiver	ROHDE&SCHWARZ	ESRP	101036	2017.06.22	2018.06.21
LISN	SCHWARZBECK	NSLK 8127	8127-687	2017.06.22	2018.06.21
Bluetooth Tester	ROHDE&SCHWARZ	CBT	101005	2017.06.12	2018.06.11
Power Splitter	KMW	DCPD-LDC	1305003215	--	--
Power Sensor	ROHDE&SCHWARZ	NRP-Z21	103971	2017.06.12	2018.06.11
Attenuator (20 dB)	KMW	ZA-S1-201	110617091	--	--
Attenuator (6 dB)	KMW	ZA-S1-61	1305003189	--	--
DC Power Supply	ROHDE&SCHWARZ	HMP2020	018141664	2017.06.22	2018.06.21
Temperature Chamber	ANGELANTIONI SCIENCE	NTH64-40A	1310	2017.06.22	2018.06.21
Test Antenna- Loop(9 kHz-30 MHz)	SCHWARZBECK	FMZB 1519	1519-037	2017.06.22	2018.06.21
Test Antenna- Bi-Log(30 MHz-3 GHz)	SCHWARZBECK	VULB 9163	9163-624	2017.11.07	2019.11.08
Test Antenna- Horn(1-18 GHz)	SCHWARZBECK	BBHA 9120D	9120D-1148	2017.07.22	2019.07.21
Test Antenna- Horn(15-26.5 GHz)	SCHWARZBECK	BBHA 9170	9170-305	2016.07.12	2018.07.11
Test Antenna- Horn (18-40 GHz)	A-INFO	LB- 180400KF	J211060273	2017.01.06	2019.01.05
Anechoic Chamber	RAINFORD	9m*6m*6m	N/A	2017.02.21	2019.02.20
Anechoic Chamber	EMC Electronic Co., Ltd	20.10*11.60 *7.35m	N/A	2016.08.09	2018.08.08
Shielded Enclosure	ChangNing	CN-130701	130703	--	--
Signal Generator	ROHDE&SCHWARZ	SMB100A	177746	2017.06.12	2018.06.11

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Power Amplifier	OPHIR RF	5225F	1037	2018.02.16	2019.02.15
Power Amplifier	OPHIR RF	5273F	1016	2018.02.16	2019.02.15
Directional Coupler	Werlantone	C5982-10	109275	N/A	N/A
Directional Coupler	Werlantone	CHP-273E	S00801z-01	N/A	N/A
Feld Strength Meter	Narda	EP601	511WX51129	2017.05.22	2018.05.21
Mouth Simulator	B&K	4227	2423931	2017.11.16	2018.11.15
Sound Calibrator	B&K	4231	2430337	2017.11.16	2018.11.15
Sound Level Meter	B&K	NL-20	00844023	2017.11.16	2018.11.15
Ear Simulator	B&K	4185	2409449	2017.11.16	2018.11.15
Ear Simulator	B&K	4195	2418189	2017.11.16	2018.11.15
Audio analyzer	B&K	UPL 16	100129	2017.11.16	2018.11.15

4.3 Measurement Uncertainty

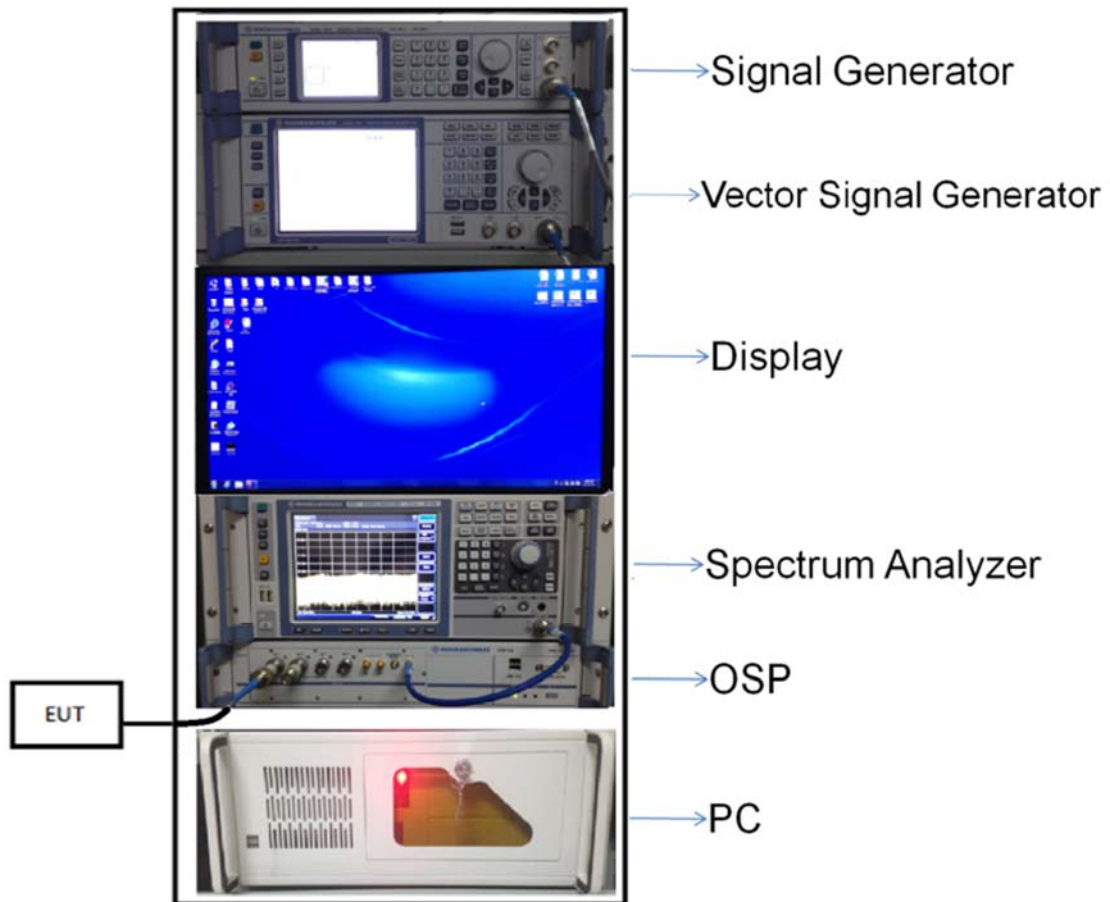
The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2.

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

Measurement	Value
Occupied Channel Bandwidth	±4%
RF output power, conducted	±1.4 dB
Power Spectral Density, conducted	±2.5 dB
Unwanted Emissions, conducted	±2.8 dB
All emissions, radiated	±5.4 dB
Temperature	±1°C
Humidity	±4%

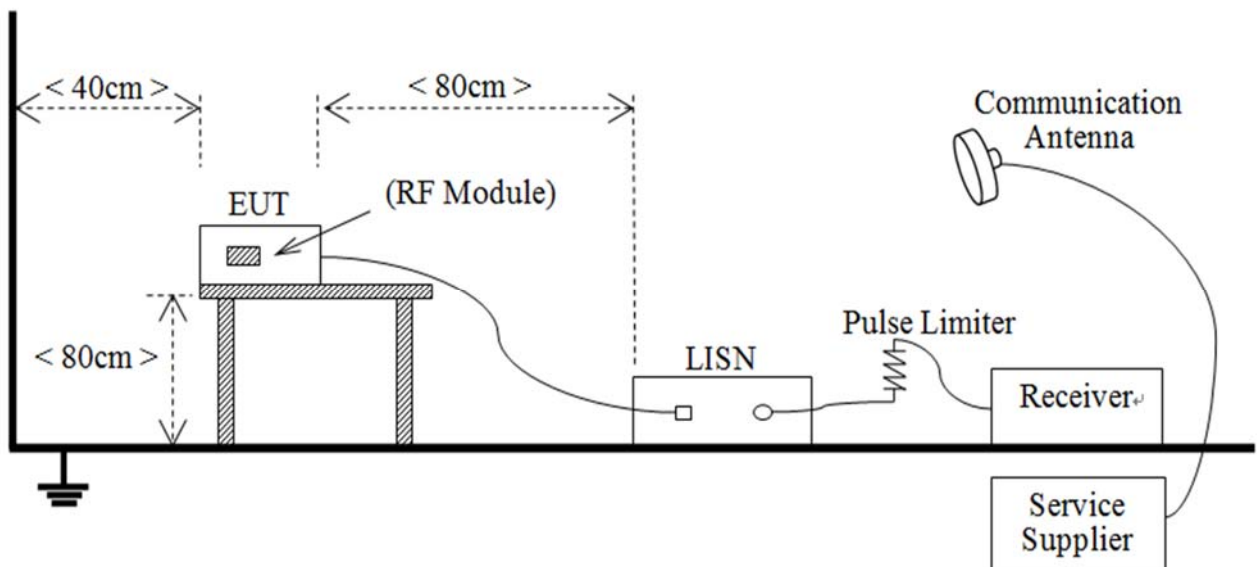
4.4 Description of Test Setup

4.4.1 For Antenna Port Test



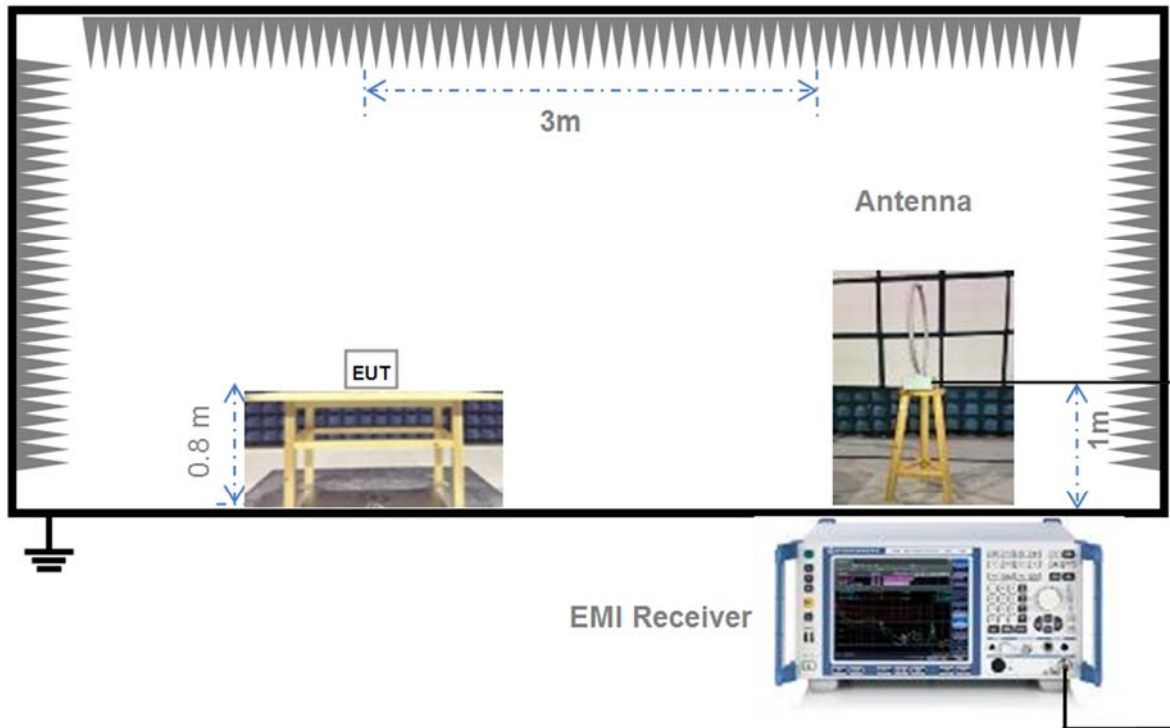
(Diagram 1)

4.4.2 For AC Power Supply Port Test



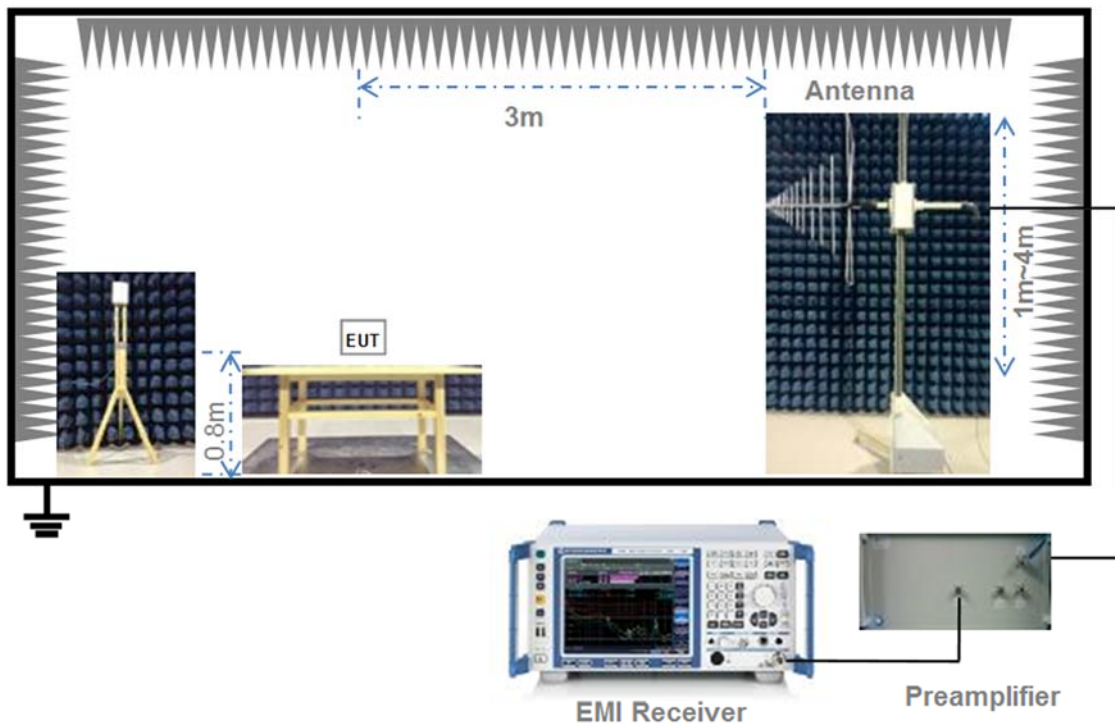
(Diagram 2)

4.4.3 For Radiated Test (Below 30 MHz)



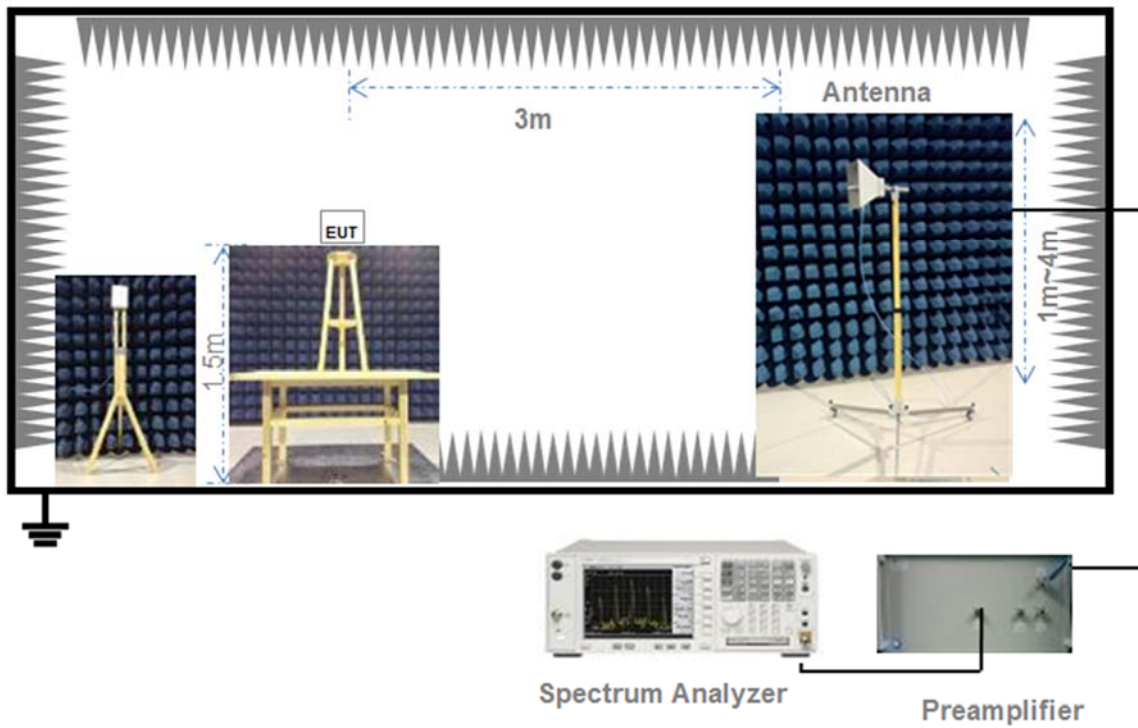
(Diagram 3)

4.4.4 For Radiated Test (30 MHz-1 GHz)



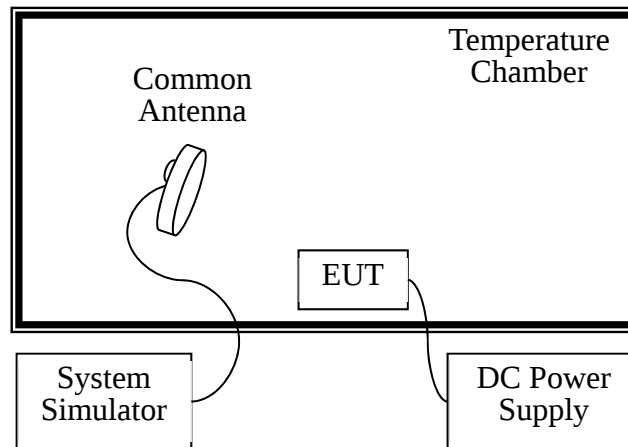
(Diagram 4)

4.4.5 For Radiated Test (Above 1 GHz)



(Diagram 5)

4.4.6 For Frequency Stability Test



(Diagram 6)

5 TEST ITEMS

5.1 RF Output Power

5.1.1 Test Limit

FCC §15.407(a)

The maximum conducted output power should not exceed:

Frequency Band (MHz)	Limit
5150-5250	250 mW
5250-5350	250 mW or 11 dBm + 10log B, whichever is less.
5470-5725	250 mW or 11 dBm + 10log B, whichever is less.
5725-5850	1 W
Note: Where "B" is the 26 dB emissions bandwidth in MHz.	

RSS-247, 6.2

The maximum conducted output power shall not exceed:

Frequency Band (MHz)	Limit
5150-5250	N/A
5250-5350	250 mW or 11 dBm + 10log B, whichever is less.
5470-5725	250 mW or 11 dBm + 10log B, whichever is less.
5725-5850	1 W
Note: Where "B" is the 99% emissions bandwidth in MHz.	

The maximum e.i.r.p. shall not exceed:

Frequency Band (MHz)	Limit
5150-5250	200 mW or 10 dBm + 10log B, whichever is less.
5250-5350	1W or 17 dBm + 10log B, whichever is less.
5470-5725	1W or 17 dBm + 10log B, whichever is less.
5725-5850	N/A
Note: Where "B" is the 99% emissions bandwidth in MHz.	

5.1.2 Test Setup

The section 4.4.1 (Diagram 1) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

5.1.3 Test Procedure

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

The E.I.R.P used radiated test method. At a test site that has been validated using the procedures of ANSI C63.4 or the latest CISPR 16-1-4 for measurements above 1 GHz, so as to simulate a near free-space environment.

5.1.4 Test Result

Please refer to ANNEX A.1.

5.2 Emission Bandwidth and 6 dB Bandwidth

5.2.1 Limit

FCC §15.407(a), RSS-247, 6.2

Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

5.2.2 Test Setup

The test setup photo please refer to 4.4.1 (Diagram 1) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

5.2.3 Test Procedure

Emission bandwidth

1. Set RBW = approximately 1% of the emission bandwidth.
2. Set VBW $\geq 3 \times$ RBW,
3. Detector = Peak.
4. Trace mode = Max hold.
5. Measure the maximum width of the emission that is 26 dB down from the peak of the emission.

Occupied Bandwidth

1. Set Span = 1.5 times to 5.0 times the OBW
2. Set RBW = 1% to 5% of the OBW.
3. Set VBW $\geq 3 \times$ RBW, Detector = Peak.
4. Trace mode = Max hold.
5. Use the 99% power bandwidth function of the instrument.

6 dB bandwidth

1. Set RBW = 100 kHz, VBW = 300 kHz.
2. Detector = Peak. Trace mode = Max hold.
3. Allow the trace to stabilize.
4. 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.

5.2.4 Test Result

Please refer to ANNEX A.2 and ANNEX A.3.

5.3 Power Spectral density (PSD)

5.3.1 Limit

FCC §15.407(a)

The maximum power spectral density should not exceed:

Frequency Band (MHz)	Limit
5150-5250	11 dBm/MHz
5250-5350	11 dBm/MHz
5470-5725	11 dBm/MHz
5725-5850	30 dBm/500kHz

RSS-247, 6.2

The maximum power spectral density should not exceed:

Frequency Band (MHz)	Limit
5150-5250	N/A
5250-5350	11 dBm/MHz
5470-5725	11 dBm/MHz
5725-5850	30 dBm/500kHz

The e.i.r.p. spectral density should not exceed:

Frequency Band (MHz)	Limit
5150-5250	10 dBm/MHz
5250-5350	N/A
5470-5725	N/A
5725-5850	N/A

5.3.2 Test Setup

The section 4.4.1 (Diagram 1) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

5.3.3 Test Procedure

Set the spectrum analyzer or EMI receiver span to view the entire emission bandwidth.

1. Set RBW = 510 kHz/1 MHz, VBW $\geq 3 \times$ RBW, Sweep time = Auto, Detector = RMS.
2. Allow the sweeps to continue until the trace stabilizes.
3. Use the peak marker function to determine the maximum amplitude level.
4. The E.I.R.P spectral density used radiated test method. At a test site that has been validated using the procedures of ANSI C63.4 or the latest CISPR 16-1-4 for measurements above 1 GHz, so as to simulate a near free-space environment.

5.3.4 Test Result

Please refer to ANNEX A.4.

5.4 Conducted Emission

5.4.1 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

5.4.2 Test Setup

The section 4.4.2 (Diagram 2) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

5.4.3 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.

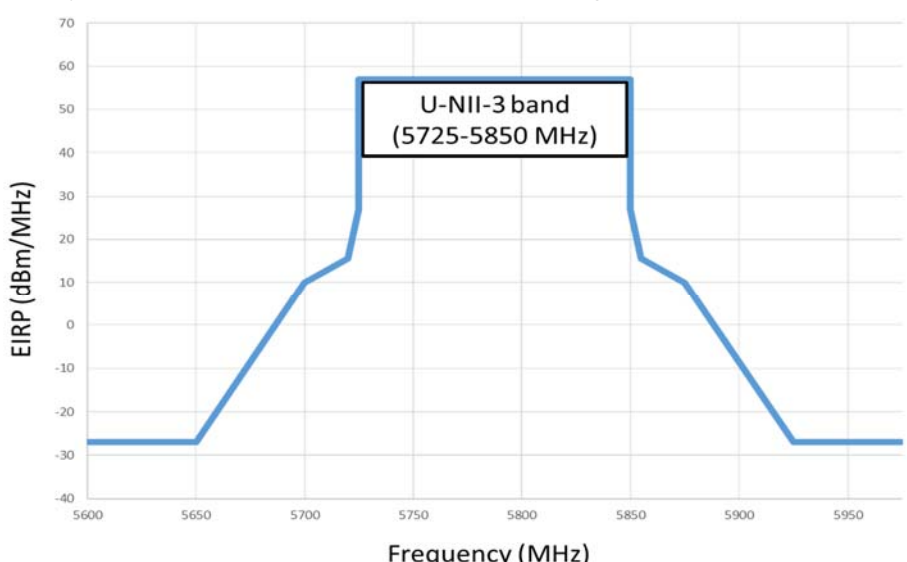
5.4.4 Test Result

Please refer to ANNEX A.5.

5.5 Conducted Spurious Emission and Band Edge (Authorized-band)

5.5.1 Limit

FCC §15.407(b)

Un-restricted band emissions	
Frequency Band (MHz)	Limit
5150 - 5250	Outside of the 5.15-5.35 GHz band: e.i.r.p. -27 dBm
5250 - 5350	Outside of the 5.15-5.35 GHz band: e.i.r.p. -27 dBm
5470 - 5725	Outside of the 5.47-5.725 GHz band: e.i.r.p. -27 dBm
5725 - 5850	All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge. 

RSS-247, 6.2

Un-restricted band emissions	
Frequency Band (MHz)	Limit
5150 - 5250	Outside of the 5.15-5.35 GHz band: e.i.r.p. -27 dBm, However, any unwanted emissions that fall into the band 5250-5350 MHz must be 26 dBc, when measured using a resolution bandwidth between 1 and 5% of the occupied bandwidth, above 5.25 GHz.
5250 - 5350	Outside of the 5.15-5.35 GHz band: e.i.r.p. -27 dBm. And any emissions within the band 5150-5250 MHz shall meet the power spectral density limits of 10 dBm/MHz, The device shall be labelled "for indoor use only."
5470 - 5725	Outside of the 5.47-5.725 GHz band: e.i.r.p. -27 dBm
5725 - 5850	5715 -5725 MHz: e.i.r.p. -17 dBm 5850 -5860 MHz: e.i.r.p. -17 dBm Other un-restricted band: e.i.r.p. -27 dBm

5.5.2 Test Setup

See section 4.4.2 (Diagram 2) for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.5.3 Test Procedure

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.

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

Allow the trace to stabilize

5.5.4 Test Result

Please refer to ANNEX A.6.

5.6 Radiated Spurious Emissions and Band Edge (Restricted-band)

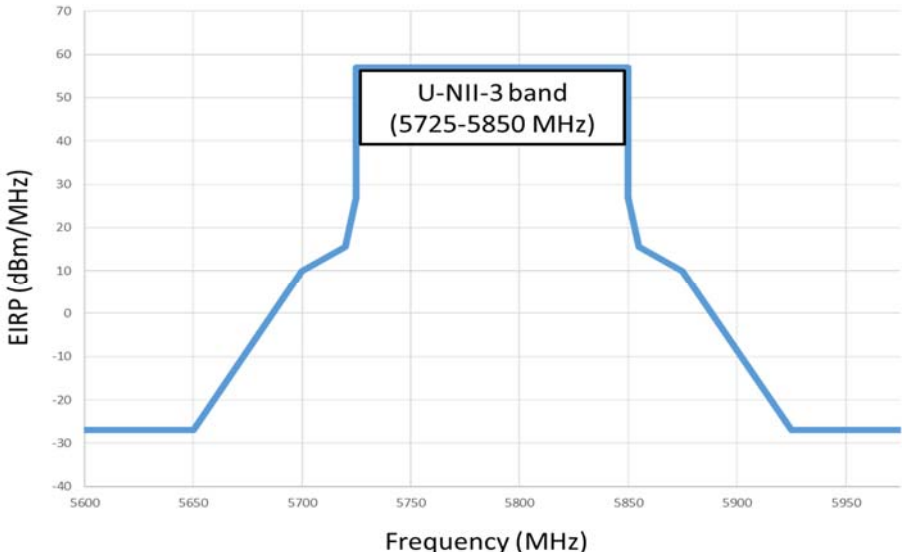
5.6.1 Limit

FCC §15.209 & 15.407(b), RSS-247, 6.2

Frequency (MHz)	Field Strength (μV/m)	Measurement Distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

Note¹: The Limit for radiated test was performed according to FCC Part 15C

Note²: The tighter limit applies at the band edge.

Un-restricted band emissions	
Out Operating Band (MHz)	Limit
5150 - 5250	e.i.r.p. -27 dBm (68.2 dBuV/m@3m)
5250 - 5350	e.i.r.p. -27 dBm (68.2 dBuV/m@3m)
5470 - 5725	e.i.r.p. -27 dBm (68.2 dBuV/m@3m)
5725 - 5850	All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge. 

Note: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength.

5.6.2 Test Setup

The section 4.4.3-4.4.5 (Diagram 3 - Diagram 5) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

5.6.3 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

5.6.4 Test Result

Please refer to ANNEX A.7 and Please refer to ANNEX A.9

5.7 Frequency Stability

5.7.1 Limit

FCC §15.407(g)

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

5.7.2 Test Setup

The section 4.4.6 (Diagram 6) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

5.7.3 Test Procedure

The EUT is installed in an environment test chamber with external power source.

Set the chamber to operate at 50 centigrade and external power source to output at nominal voltage of EUT.

A sufficient stabilization period at each temperatures is used prior to each frequency measurement.

When temperature is stabled, measure the frequency stability.

The test shall be performed under -30 to 50 centigrade and 85 to 115 percent of the nominal voltage.

Change setting of chamber and external power source to complete all conditions.

5.7.4 Test Result

Please refer to ANNEX A.8.

ANNEX A TEST RESULT

A.1 RF Output Power

Note ¹: For FCC standard, if transmitting antennas of directional gain greater than 6 dBi are used, all band maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Note ²: For IC standard, the band IV (5725 - 5850 MHz) maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Test Data

Conducted Power

Band I (5150 - 5250 MHz)						
Mode	Channel	Frequency (MHz)	Conducted Power (dBm)	Conducted Power Total (mW)	FCC Limit (mW)	Verdict
11ac (HT20)	CH36	5180	10.54	11.32	250	Pass
11ac (HT20)	CH44	5220	11.54	14.26	250	Pass
11ac (HT20)	CH48	5240	10.61	11.51	250	Pass
11ac (HT40)	CH38	5190	10.62	11.53	250	Pass
11ac (HT40)	CH46	5230	11.79	15.10	250	Pass
11ac (HT80)	CH42	5210	11.19	13.15	250	Pass

Band IV (5725 - 5850 MHz)						
Mode	Channel	Frequency (MHz)	Conducted Power (dBm)	Conducted Power Total (mW)	FCC/IC Limit (W)	Verdict
11ac (HT20)	CH149	5745	13.87	24.38	1.00	Pass
11ac (HT20)	CH157	5785	13.39	21.83	1.00	Pass
11ac (HT20)	CH165	5825	12.96	19.77	1.00	Pass
11ac (HT40)	CH151	5755	13.30	21.38	1.00	Pass
11ac (HT40)	CH159	5795	13.93	24.72	1.00	Pass
11ac (HT80)	CH155	5775	12.95	19.72	1.00	Pass

EIRP Power

Band I (5150 - 5250 MHz)						
Mode	Channel	Frequency (MHz)	EIRP Power Total (dBm)	EIRP Power Total (mW)	IC Limit (mW)	Verdict
11ac (HT20)	CH36	5180	12.04	16.00	176	Pass
11ac (HT20)	CH44	5220	13.04	20.14	176	Pass
11ac (HT20)	CH48	5240	12.11	16.26	176	Pass
11ac (HT40)	CH38	5190	12.12	16.29	200	Pass
11ac (HT40)	CH46	5230	13.29	21.33	200	Pass
11ac (HT80)	CH42	5210	12.69	18.58	200	Pass

A.2 Emission Bandwidth & 99% Bandwidth

Note: Test plots please refer to the document “Annex No.: BL-EC17C0360-604 Data Part 1.pdf”.

Test Data

Band I (5150 - 5250 MHz)				
Mode	Channel	Frequency(MHz)	26 dB Bandwidth (MHz)	99% Bandwidth (MHz)
11ac (HT20)	CH36	5180	18.80	18.87
11ac (HT20)	CH44	5220	18.84	19.04
11ac (HT20)	CH48	5240	18.8	19.04
11ac (HT40)	CH38	5190	40.40	37.40
11ac (HT40)	CH46	5230	40.30	37.63
11ac (HT80)	CH42	5210	81.30	74.79

Band IV (5725 - 5850 MHz)				
Mode	Channel	Frequency(MHz)	26 dB Bandwidth (MHz)	99% Bandwidth (MHz)
11ac (HT20)	CH149	5745	18.86	18.93
11ac (HT20)	CH157	5785	18.62	19.04
11ac (HT20)	CH165	5825	19.06	18.87
11ac (HT40)	CH151	5755	40.70	37.40
11ac (HT40)	CH159	5795	40.50	37.16
11ac (HT80)	CH155	5775	85.80	75.25

A.3 6 dB Bandwidth

Note: Test plots please refer to the document "Annex No.: BL-EC17C0360-604 Data Part 2.pdf".

Test Data

Band IV (5725 - 5850 MHz)					
Mode	Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Limit (kHz)	Verdict
11ac (HT20)	CH149	5745	17.42	500	Pass
11ac (HT20)	CH157	5785	17.87	500	Pass
11ac (HT20)	CH165	5825	17.92	500	Pass
11ac (HT40)	CH151	5755	33.62	500	Pass
11ac (HT40)	CH159	5795	32.62	500	Pass
11ac (HT80)	CH155	5775	72.67	500	Pass

A.4 Power Spectral Density

Note: Test plots please refer to the document "Annex No.: BL-EC17C0360-604 Data Part 3.pdf".

Test Data

Note 1: The RBW used in Band IV is 1 MHz, and the PSD factor is: $10 \cdot \log(500 \text{ kHz/RBW}) = -3 \text{ dBm}$.

Band I (5150 - 5250 MHz)					
Mode	Channel	Frequency (MHz)	PSD (dBm/MHz)	FCC Limit (dBm/MHz)	Verdict
11n (HT20)	CH36	5180	-1.32	11	Pass
11n (HT20)	CH44	5220	-0.29	11	Pass
11n (HT20)	CH48	5240	1.20	11	Pass
11n (HT40)	CH38	5190	-3.72	11	Pass
11n (HT40)	CH46	5230	-2.18	11	Pass
11ac (HT80)	CH42	5210	-6.46	11	Pass

Band IV (5725 - 5850 MHz)					
Mode	Channel	Frequency (MHz)	PSD (dBm/MHz)	FCC/IC Limit (dBm/500 kHz)	Verdict
11n (HT20)	CH149	5745	-3.03	30	Pass
11n (HT20)	CH157	5785	-3.31	30	Pass
11n (HT20)	CH165	5825	-3.80	30	Pass
11n (HT40)	CH151	5755	-19.13	30	Pass
11n (HT40)	CH159	5795	-18.61	30	Pass
11ac (HT80)	CH155	5775	-12.54	30	Pass

EIRP PSD

Band I (5150 - 5250 MHz)					
Mode	Channel	Frequency (MHz)	PSD (dBm/MHz)	IC Limit (dBm/MHz)	Verdict
11n (HT20)	CH36	5180	0.18	10	Pass
11n (HT20)	CH44	5220	1.21	10	Pass
11n (HT20)	CH48	5240	2.70	10	Pass
11n (HT40)	CH38	5190	-2.22	10	Pass
11n (HT40)	CH46	5230	-0.68	10	Pass
11ac (HT80)	CH42	5210	-4.96	10	Pass

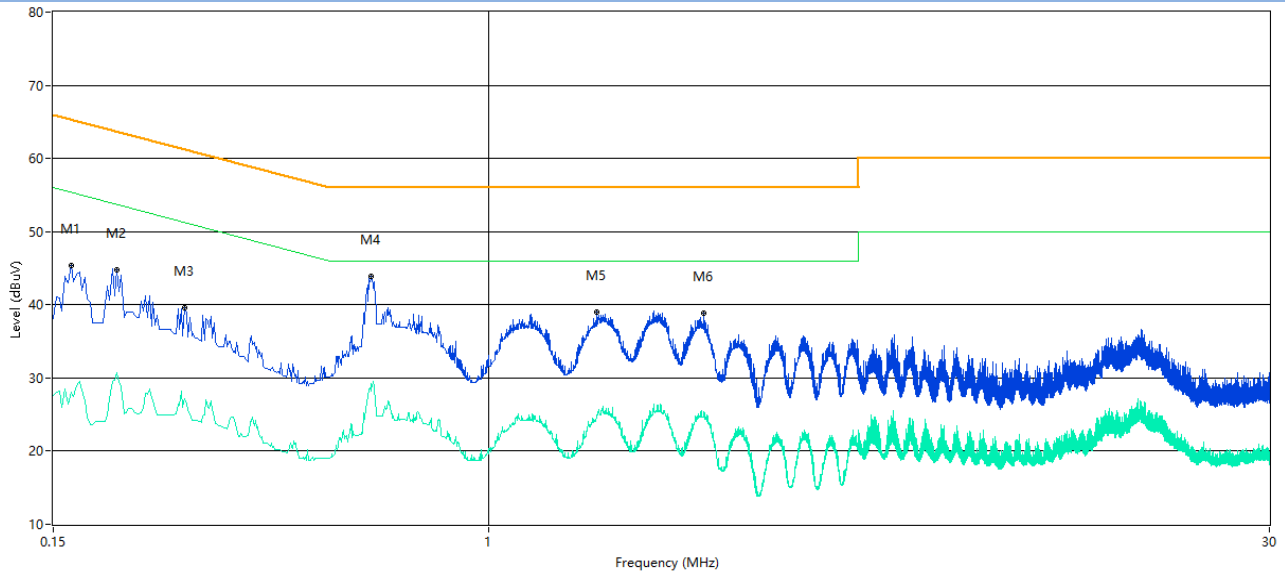
A.5 Conducted Emissions

Note¹: The EUT is working in the Normal link mode.

Note²: 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.

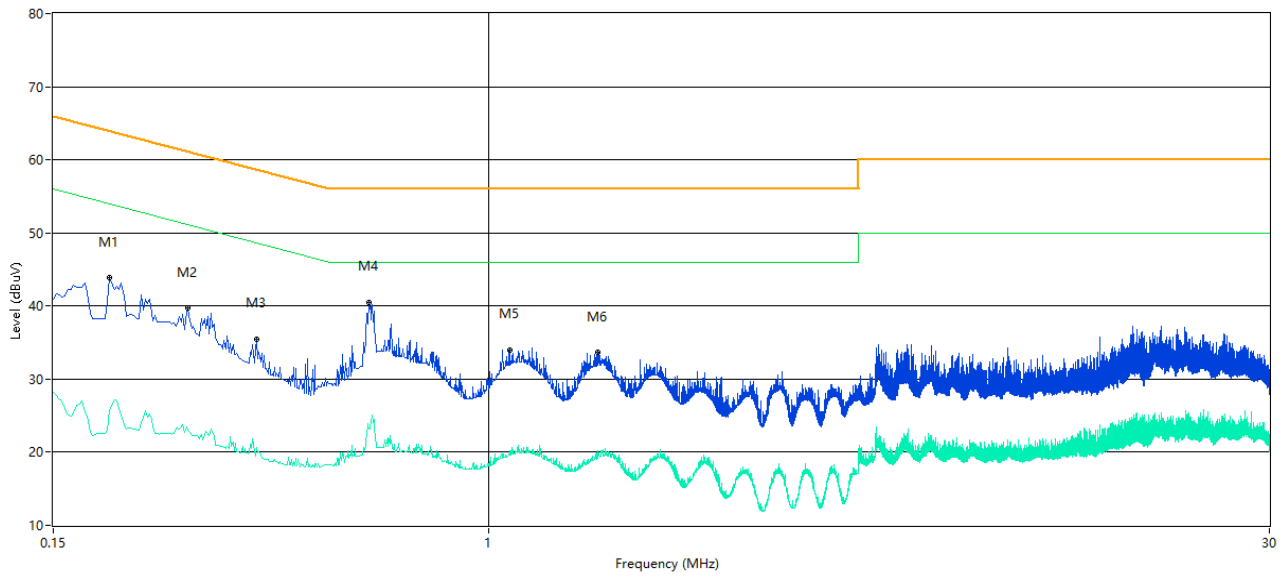
Test Data and Plots

PHASE L



Frequency (MHz)	Peak Level (dBuV)	Q-peak Level (dBuV)	Average Level (dBuV)	Factor (dB)	QP Limit (dBuV)	AV Limit (dBuV)	Margin (dB)	Line	Verdict
0.162	46.35	40.60	28.68	10.01	65.4	55.4	24.80	L Line	Pass
0.198	45.19	41.00	30.22	10.01	63.7	53.7	22.70	L Line	Pass
0.266	40.15	34.96	26.39	10.01	61.2	51.2	24.81	L Line	Pass
0.600	44.80	41.01	29.57	10.02	56.0	46.0	14.99	L Line	Pass
1.604	39.43	34.53	25.18	10.05	56.0	46.0	20.82	L Line	Pass
2.554	38.58	33.58	25.47	10.08	56.0	46.0	20.53	L Line	Pass

PHASE N



Frequency (MHz)	Peak Level (dBuV)	Q-peak Level (dBuV)	Average Level (dBuV)	Factor (dB)	QP Limit (dBuV)	AV Limit (dBuV)	Margin (dB)	Line	Verdict
0.192	47.95	44.36	28.87	10.01	63.9	53.9	19.54	N Line	Pass
0.270	39.76	32.98	22.70	10.01	61.1	51.1	28.12	N Line	Pass
0.364	39.35	33.53	22.46	10.01	58.6	48.6	25.07	N Line	Pass
0.594	36.55	29.34	20.52	10.02	56.0	46.0	25.48	N Line	Pass
1.096	40.13	34.72	21.71	10.04	56.0	46.0	21.28	N Line	Pass
1.606	38.17	31.76	19.43	10.05	56.0	46.0	24.24	N Line	Pass

A.6 Conducted Spurious Emission and Band Edge (Authorized-band)

Note: Test plots please refer to the document “Annex No.: BL-EC17C0360-604 Data Part 4.pdf”.

Test Band	Mode	Channel	Verdict
Band I	802.11ac(HT20)	Low	Pass
		Middle	Pass
		High	Pass
	802.11ac(HT40)	Low	Pass
		High	Pass
	802.11ac(HT80)	Low	Pass
Band IV	802.11ac(HT20)	Low	Pass
		Middle	Pass
		High	Pass
	802.11ac(HT40)	Low	Pass
		High	Pass
	802.11ac(HT80)	Low	Pass

A.7 Radiated Spurious Emissions and Band Edge (Restricted-band)

Test Data

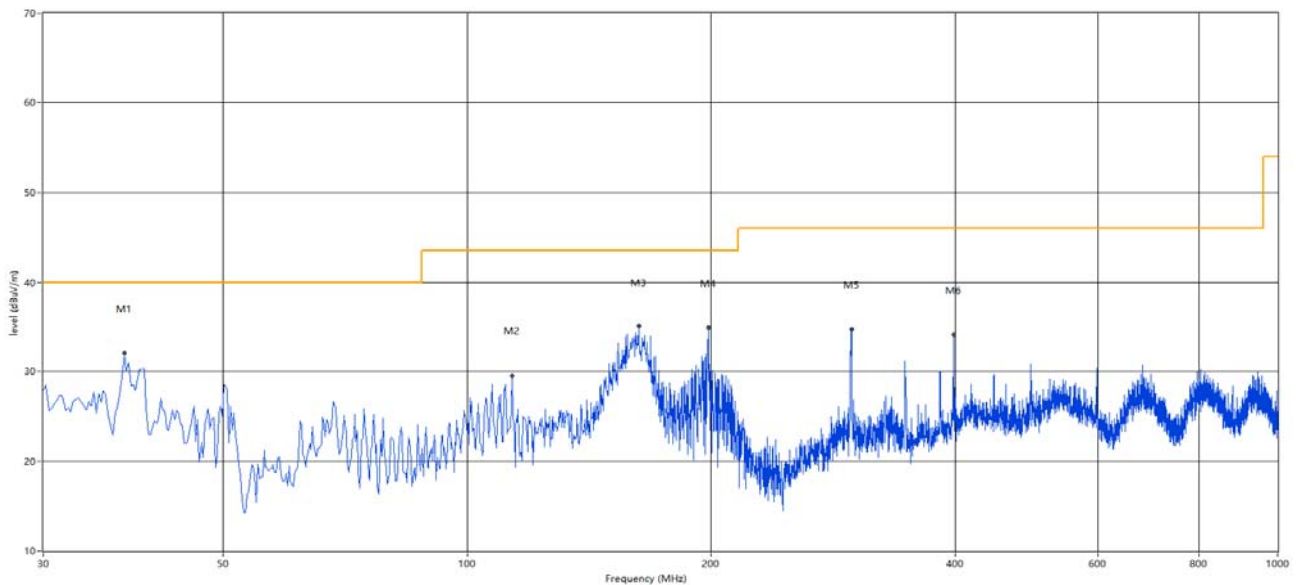
Note 1: The symbol of “--” in the table which means not application.

Note 2: For the test data above 1 GHz, According the ANSI C63.4, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

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

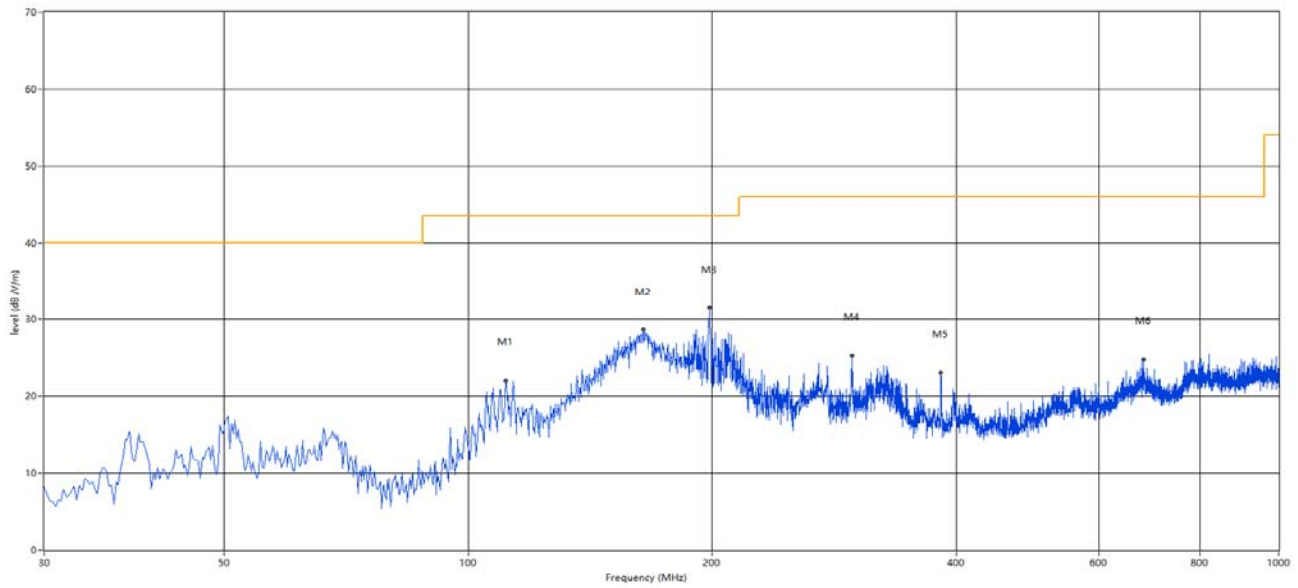
Note 4: The EUT is working in the Normal link mode below 1 GHz.

30 MHz to 1 GHz, ANT V



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
37.758	31.96	--	--	-27.62	--	40.0	--	8.04	282.00	100	Vertical	Pass
113.642	29.48	--	--	-29.29	--	43.5	--	14.02	6.00	100	Vertical	Pass
162.857	35.00	--	--	-31.42	--	43.5	--	8.50	3.00	100	Vertical	Pass
198.738	34.84	--	--	-28.75	--	43.5	--	8.66	0.00	100	Vertical	Pass
298.138	34.69	--	--	-26.70	--	46.0	--	11.31	1.00	100	Vertical	Pass
398.023	34.08	--	--	-24.23	--	46.0	--	11.92	164.00	100	Vertical	Pass

30 MHz to 1 GHz, ANT H

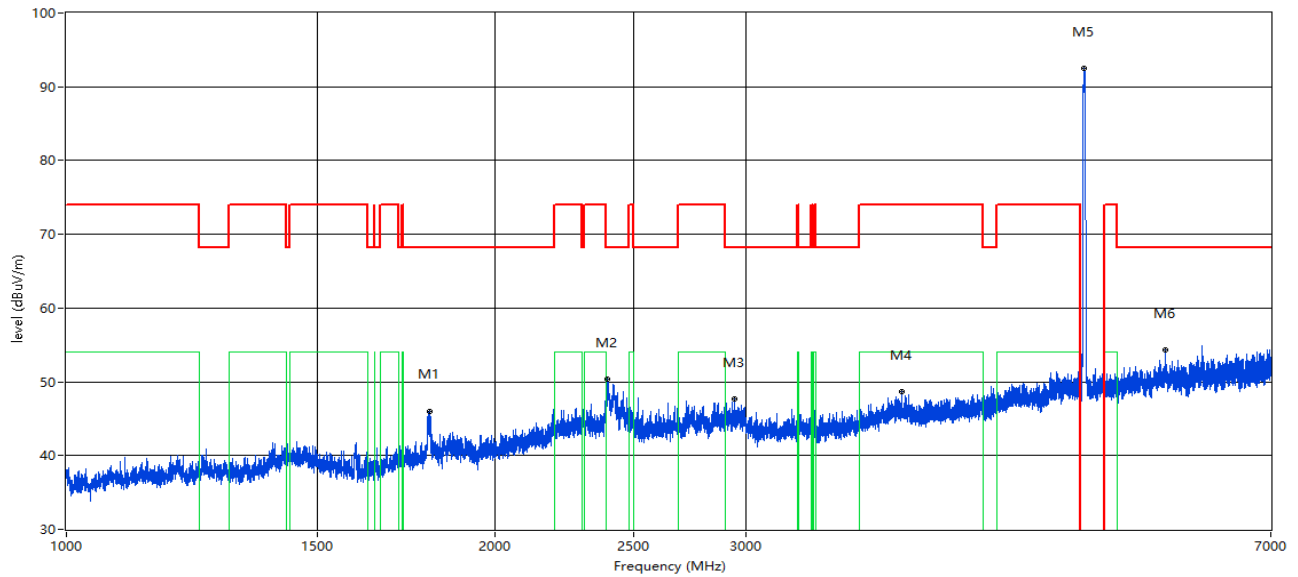


Frequency (MHz)	Peak Level (dBμV/m)	Q-peak Level (dBμV/m)	Average Level (dBμV/m)	Factor (dB)	PK Limit (dBμV/m)	QP Limit (dBμV/m)	AV Limit (dBμV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
111.217	21.99	--	--	-28.90	--	43.5	--	21.51	15.00	100	Horizontal	Pass
164.554	28.68	--	--	-31.35	--	43.5	--	14.82	332.00	100	Horizontal	Pass
198.495	34.56	--	--	-28.77	--	43.5	--	8.94	4.00	100	Horizontal	Pass
297.653	31.26	--	--	-26.70	--	46.0	--	14.74	1.00	100	Horizontal	Pass
383.234	23.04	--	--	-24.58	--	46.0	--	22.96	323.00	100	Horizontal	Pass
680.707	24.79	--	--	-17.62	--	46.0	--	21.21	151.00	100	Horizontal	Pass

Note 1: The spurious above 18G is noise only, do not show on the report.

1 GHz to 7 GHz, ANT V Band I 11ac20 Low channel

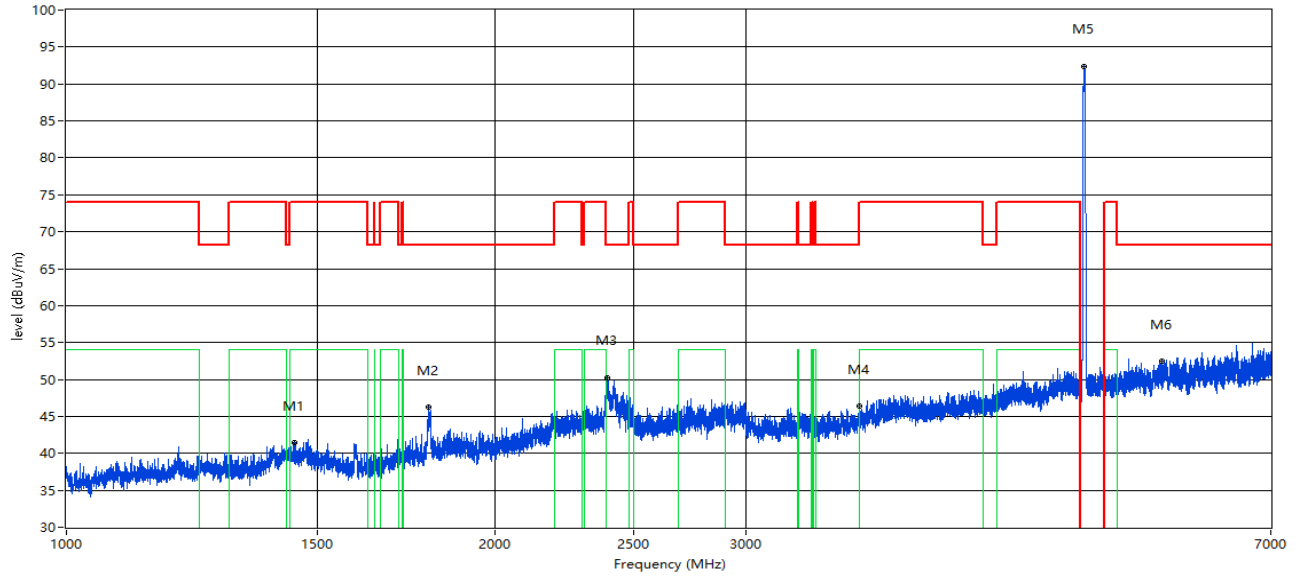
REmission Test case_FCC_Part 15C_FCC 15.247(2.4G)_1GHz-7GHz 5G_Band1



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1798.650	46.00	--	--	-10.74	68.2	--	--	22.20	2.00	100	Vertical	Pass
2396.825	50.37	--	--	0.02	68.2	--	--	17.83	64.00	100	Vertical	Pass
2945.507	47.63	--	--	-3.80	68.2	--	--	20.57	10.00	100	Vertical	Pass
3856.393	48.68	--	--	-3.23	74.0	--	54.0	5.32	35.00	100	Vertical	Pass
5174.353	92.47	--	--	0.42	--	--	--	--	4.00	100	Vertical	Pass
5907.012	54.29	--	--	3.46	68.2	--	--	13.91	310.00	100	Vertical	Pass

1 GHz to 7 GHz, ANT H Band I 11ac20 Low channel

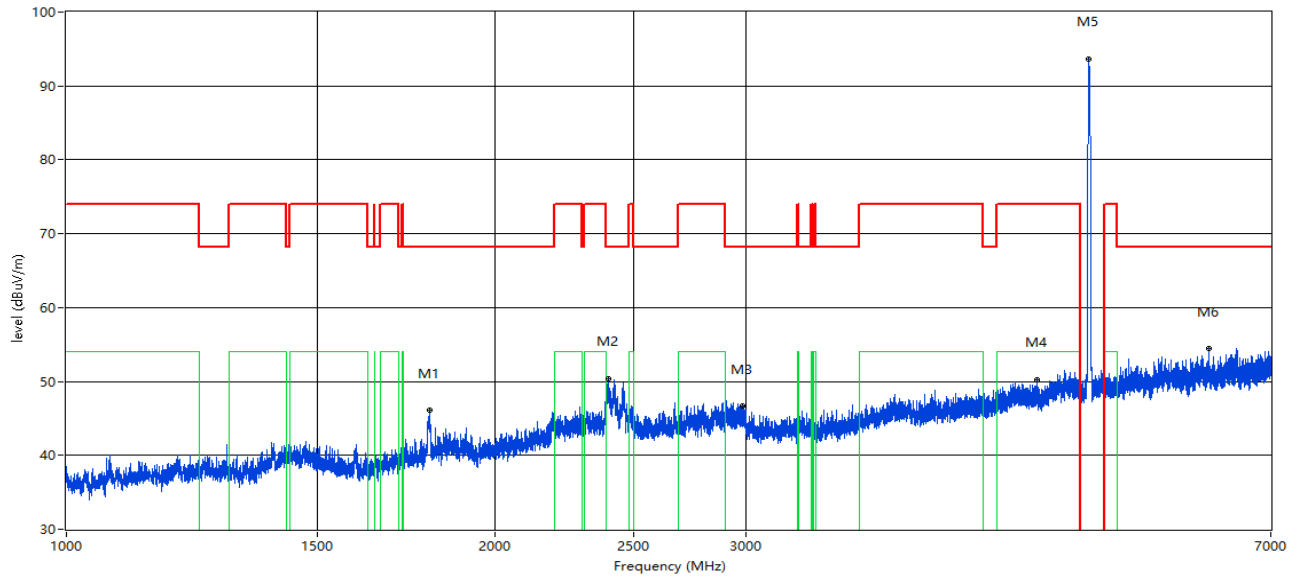
REmission Test case_FCC_Part 15C_FCC 15.247(2.4G)_1GHz-7GHz 5G_Band1



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1445.194	41.45	--	--	-11.52	74.0	--	54.0	12.55	14.00	100	Horizontal	Pass
1795.401	46.24	--	--	-10.94	68.2	--	--	21.96	15.00	100	Horizontal	Pass
2397.075	50.28	--	--	0.01	68.2	--	--	17.92	6.00	100	Horizontal	Pass
3604.049	46.36	--	--	-3.94	74.0	--	54.0	7.64	3.00	100	Horizontal	Pass
5174.353	92.42	--	--	0.42	--	--	--	--	12.00	100	Horizontal	Pass
5872.516	52.43	--	--	2.42	68.2	--	--	15.77	5.00	100	Horizontal	Pass

1 GHz to 7 GHz, ANT V Band I 11ac20 Middle channel

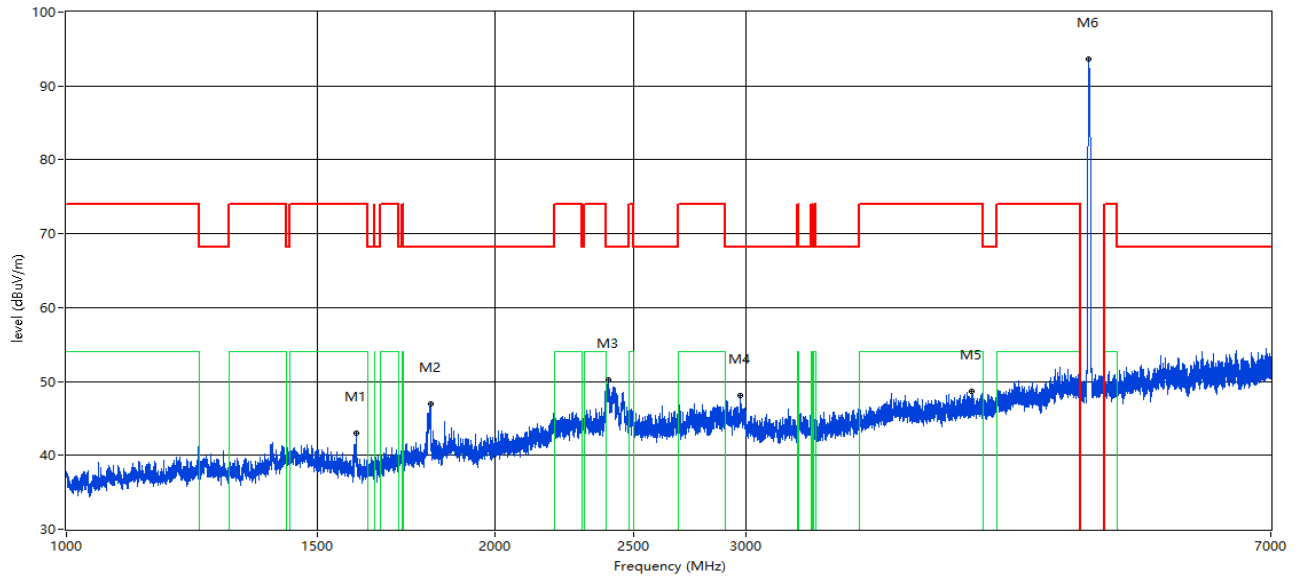
REmission Test case_FCC_Part 15C_FCC 15.247(2.4G)_1GHz-7GHz 5G_Band1



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1798.650	46.11	--	--	-10.74	68.2	--	--	22.09	1.00	100	Vertical	Pass
2399.825	50.43	--	--	-0.08	68.2	--	--	17.77	2.00	100	Vertical	Pass
2983.502	46.62	--	--	-3.57	68.2	--	--	21.58	241.00	100	Vertical	Pass
4798.275	50.25	--	--	-0.31	74.0	--	54.0	3.75	4.00	100	Vertical	Pass
5214.473	93.70	--	--	0.65	--	--	--	--	1.00	100	Vertical	Pass
6334.708	54.51	--	--	4.72	68.2	--	--	13.69	348.00	100	Vertical	Pass

1 GHz to 7 GHz, ANT H Band I 11ac20 Middle channel

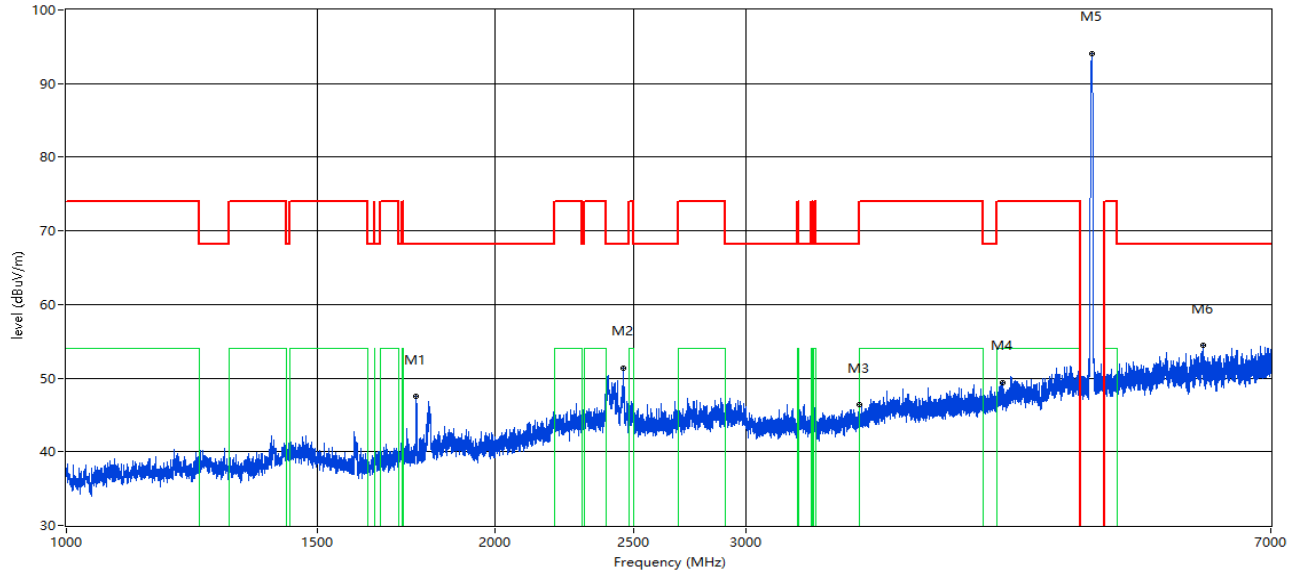
REmission Test case_FCC_Part 15C_FCC 15.247(2.4G)_1GHz-7GHz 5G_Band1



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1597.675	42.99	--	--	-12.44	74.0	--	54.0	11.01	3.00	100	Horizontal	Pass
1800.150	46.91	--	--	-10.79	68.2	--	--	21.29	2.00	100	Horizontal	Pass
2400.075	50.15	--	--	-0.09	68.2	--	--	18.05	78.00	100	Horizontal	Pass
2971.504	48.16	--	--	-3.15	68.2	--	--	20.04	172.00	100	Horizontal	Pass
4321.335	48.65	--	--	-2.08	74.0	--	54.0	5.35	119.00	100	Horizontal	Pass
5214.098	93.60	--	--	0.68	--	--	--	--	111.00	100	Horizontal	Pass

1 GHz to 7 GHz, ANT V Band I 11ac20 High channel

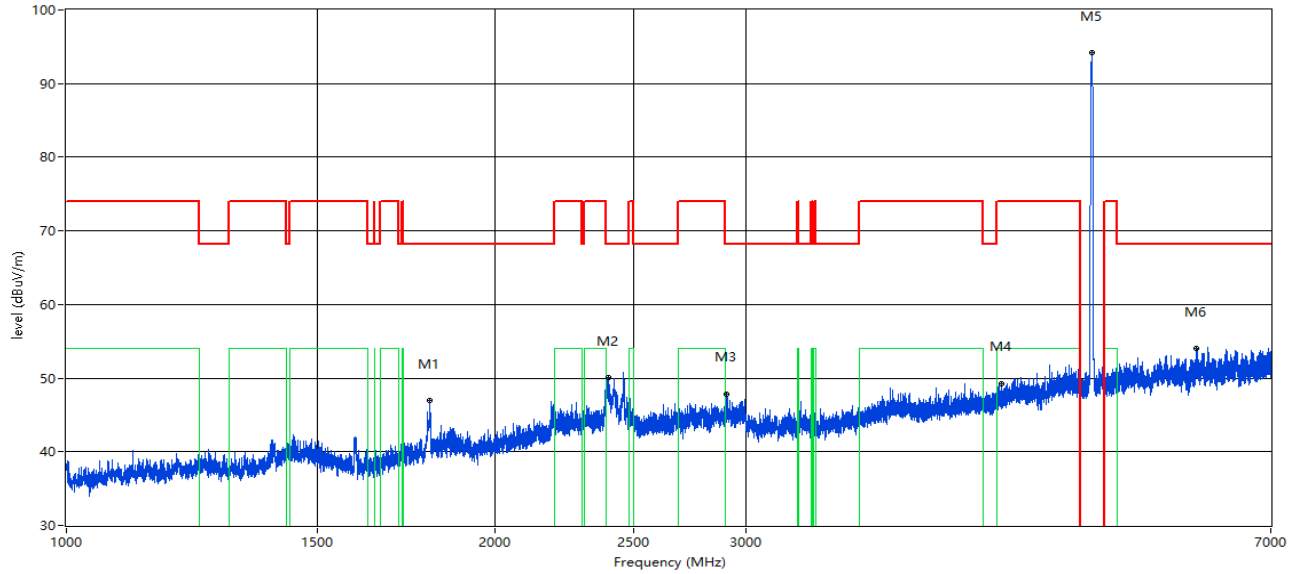
REmission Test case_FCC_Part 15C_FCC 15.247(2.4G)_1GHz-7GHz 5G_Band1



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1759.905	47.47	--	--	-10.96	68.2	--	--	20.73	135.00	100	Vertical	Pass
2459.318	51.38	--	--	-2.25	68.2	--	--	16.82	3.00	100	Vertical	Pass
3603.300	46.39	--	--	-3.88	74.0	--	54.0	7.61	338.00	100	Vertical	Pass
4538.058	49.41	--	--	-1.50	74.0	--	54.0	4.59	66.00	100	Vertical	Pass
5246.344	94.09	--	--	1.00	--	--	--	--	22.00	100	Vertical	Pass
6272.341	54.44	--	--	4.53	68.2	--	--	13.76	191.00	100	Vertical	Pass

1 GHz to 7 GHz, ANT H Band I 11ac20 High channel

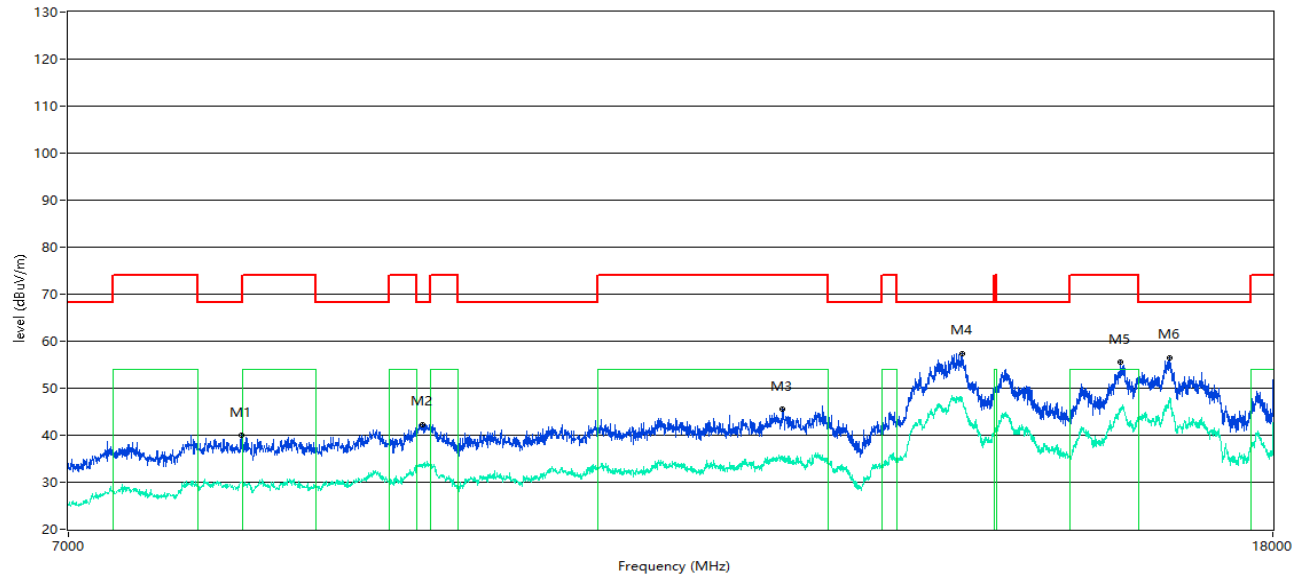
REmission Test case_FCC_Part 15C_FCC 15.247(2.4G)_1GHz-7GHz 5G_Band1



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1798.400	46.91	--	--	-10.73	68.2	--	--	21.29	68.00	100	Horizontal	Pass
2398.575	50.15	--	--	-0.05	68.2	--	--	18.05	12.00	100	Horizontal	Pass
2905.762	47.84	--	--	-3.23	68.2	--	--	20.36	106.00	100	Horizontal	Pass
4531.684	49.28	--	--	-1.53	74.0	--	54.0	4.72	47.00	100	Horizontal	Pass
5245.219	94.19	--	--	0.99	--	--	--	--	223.00	100	Horizontal	Pass
6204.099	54.02	--	--	4.37	68.2	--	--	14.18	277.00	100	Horizontal	Pass

7 GHz to 18 GHz, ANT V Band I 11ac20 Low channel

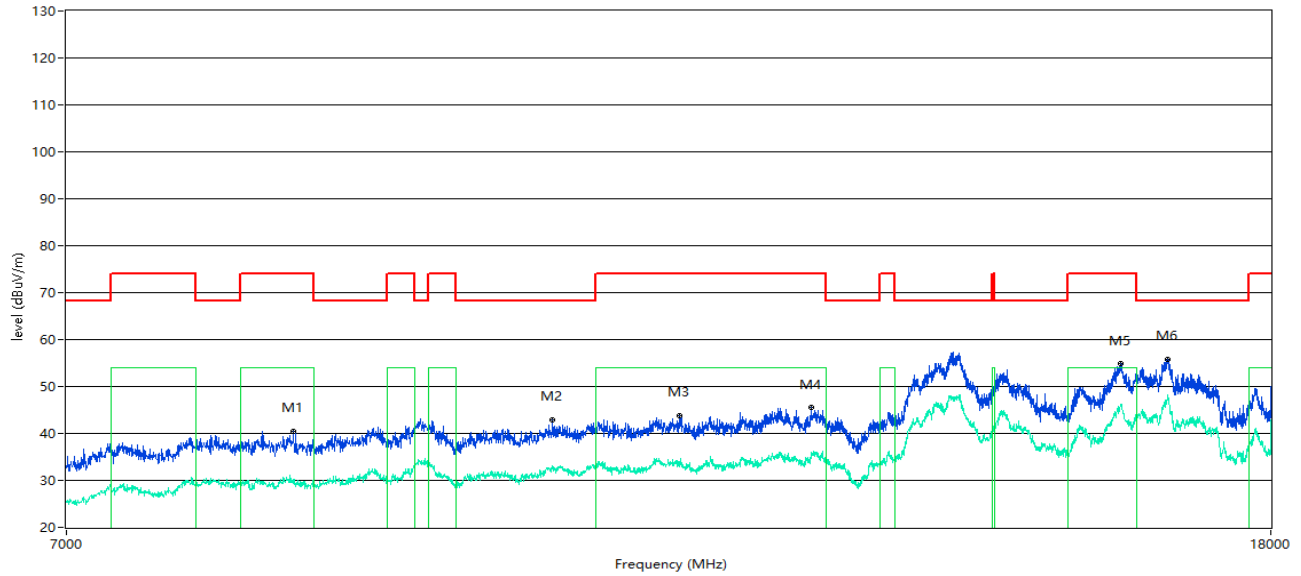
REmission Test case_FCC_Part 15E_FCC 15.407(5G)_7GHz-18GHz



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
8014.496	39.90	--	30.1	-9.06	68.2	--	--	28.30	13.00	100	Vertical	Pass
9237.941	42.17	--	33.4	-4.58	68.2	--	--	26.03	13.00	100	Vertical	Pass
12253.937	45.54	--	35.3	-0.44	74.0	--	54.0	18.70	11.00	100	Vertical	Pass
14112.472	57.38	--	47.9	13.97	68.2	--	--	10.82	0.00	100	Vertical	Pass
15979.255	55.54	--	45.6	10.02	74.0	--	54.0	8.40	8.00	100	Vertical	Pass
16606.098	56.49	--	48.0	11.92	68.2	--	--	11.71	4.00	100	Vertical	Pass

7 GHz to 18 GHz, ANT H Band I 11ac20 Low channel

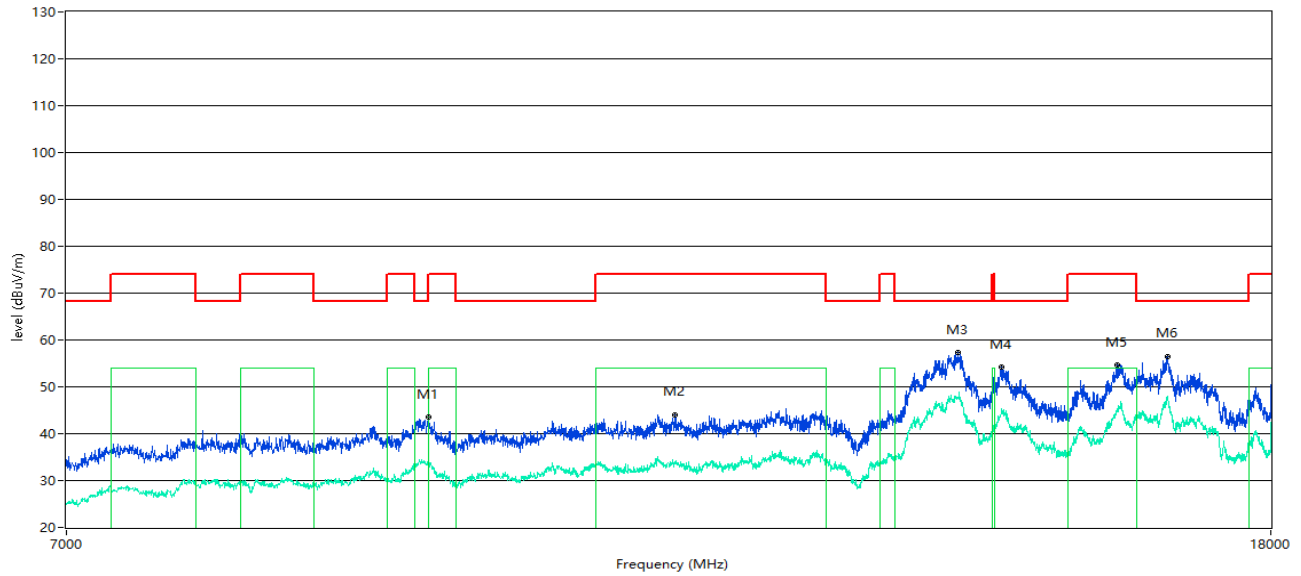
REmission Test case_FCC_Part 15E_FCC 15.407(5G)_7GHz-18GHz_B1



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
8363.659	40.41	--	30.2	-7.10	74.0	--	54.0	23.80	103.00	100	Horizontal	Pass
10249.688	42.96	--	32.9	-2.22	68.2	--	--	25.24	2.00	100	Horizontal	Pass
11319.170	43.86	--	33.5	-1.67	74.0	--	54.0	20.50	254.00	100	Horizontal	Pass
12556.361	45.48	--	36.0	-0.07	74.0	--	54.0	18.00	38.00	100	Horizontal	Pass
16006.748	54.82	--	46.1	10.53	74.0	--	54.0	7.90	16.00	100	Horizontal	Pass
16597.851	55.89	--	48.3	12.09	68.2	--	--	12.31	48.00	100	Horizontal	Pass

7 GHz to 18 GHz, ANT V Band I 11ac20 Middle channel

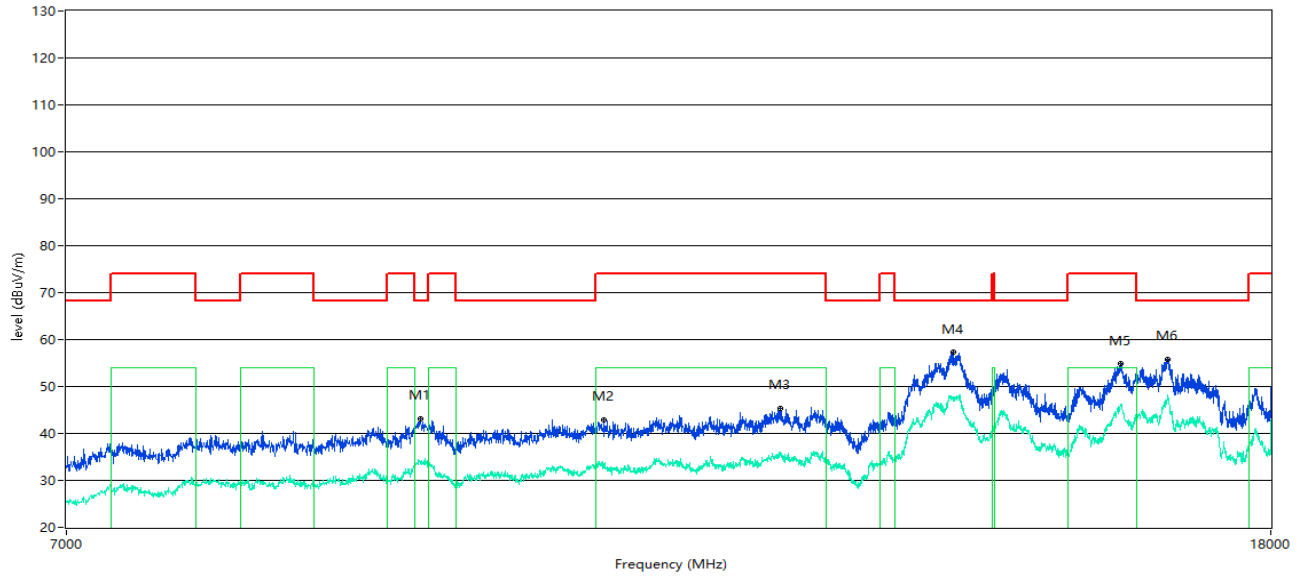
REmission Test case_FCC_Part 15E_FCC 15.407(5G)_7GHz-18GHz



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
9295.676	43.49	--	33.7	-4.02	68.2	--	--	24.71	150.00	100	Vertical	Pass
11283.429	44.02	--	34.0	-1.72	74.0	--	54.0	20.00	6.00	100	Vertical	Pass
14087.728	57.26	--	47.8	14.85	68.2	--	--	10.94	73.00	100	Vertical	Pass
14574.356	54.22	--	45.3	10.08	68.2	--	--	13.98	15.00	100	Vertical	Pass
15951.762	54.67	--	45.4	8.91	74.0	--	54.0	8.60	204.00	100	Vertical	Pass
16597.851	56.54	--	47.7	12.09	68.2	--	--	11.66	8.00	100	Vertical	Pass

7 GHz to 18 GHz, ANT H Band I 11ac20 Middle channel

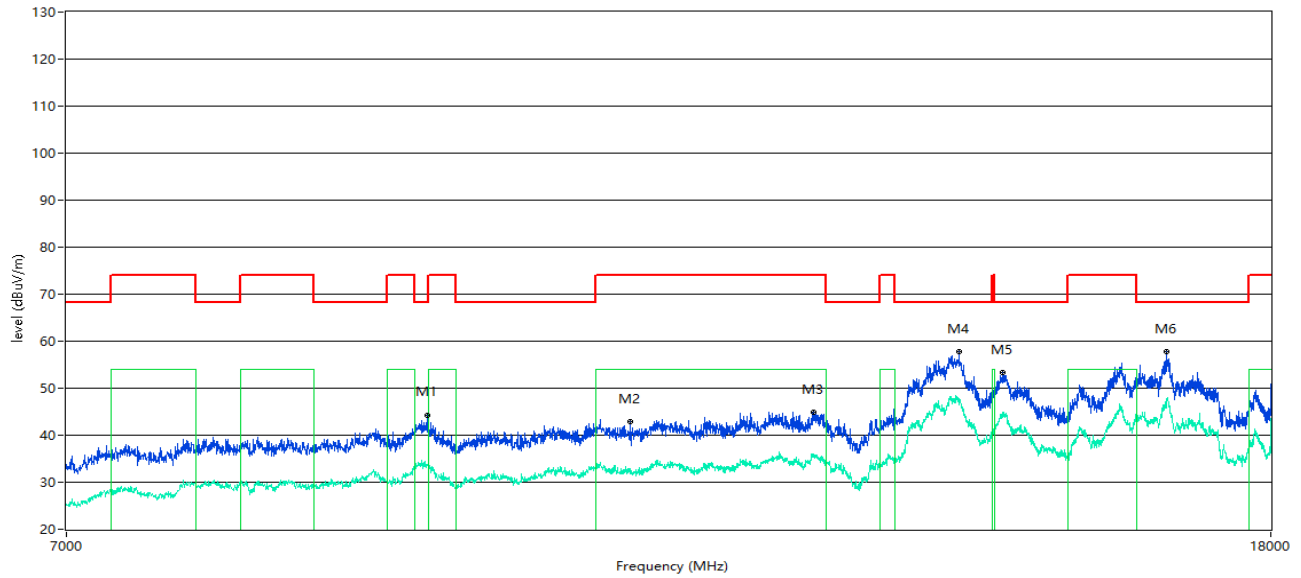
REmission Test case_FCC_Part 15E_FCC 15.407(5G)_7GHz-18GHz_B1



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
9240.690	43.21	--	33.5	-4.57	68.2	--	--	24.99	13.00	100	Horizontal	Pass
10670.332	42.95	--	33.2	-1.76	74.0	--	54.0	20.80	47.00	100	Horizontal	Pass
12251.187	45.34	--	36.1	-0.44	74.0	--	54.0	17.90	15.00	100	Horizontal	Pass
14032.742	57.23	--	47.3	14.28	68.2	--	--	10.97	78.00	100	Horizontal	Pass
16006.748	54.82	--	46.1	10.53	74.0	--	54.0	7.90	8.00	100	Horizontal	Pass
16597.851	55.89	--	48.3	12.09	68.2	--	--	12.31	324.00	100	Horizontal	Pass

7 GHz to 18 GHz, ANT V Band I 11ac20 High channel

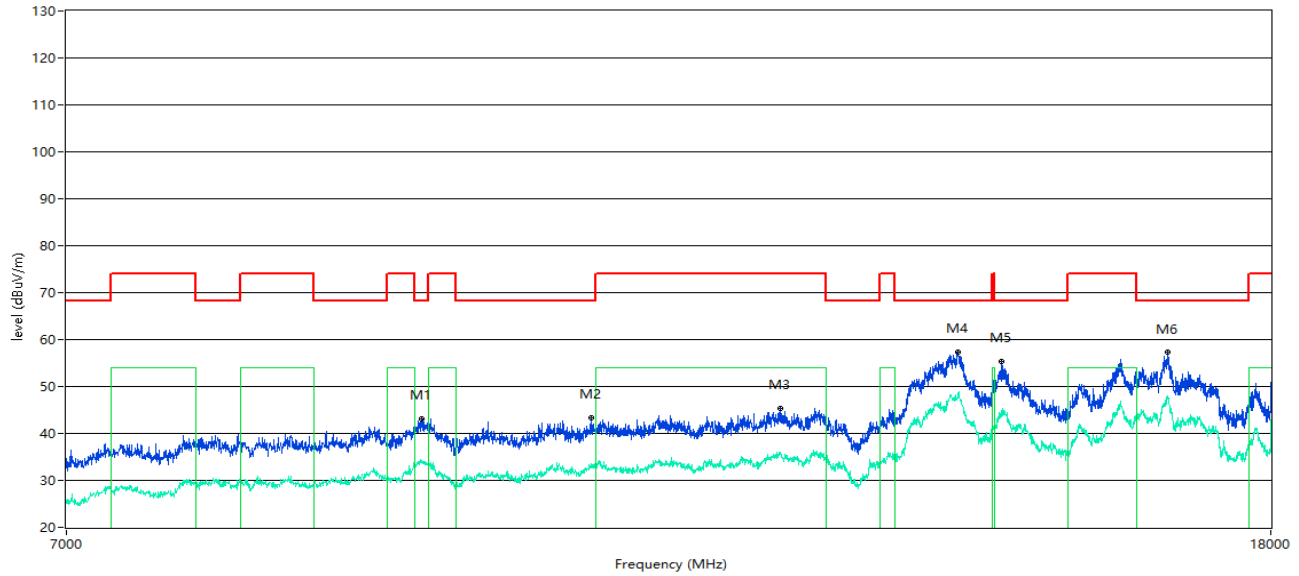
REmission Test case_FCC_Part 15E_FCC 15.407(5G)_7GHz-18GHz



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
9287.428	44.27	--	33.7	-4.06	68.2	--	--	23.93	29.00	100	Vertical	Pass
10893.027	42.98	--	32.8	-2.06	74.0	--	54.0	21.20	185.00	100	Vertical	Pass
12578.355	44.88	--	35.8	0.12	74.0	--	54.0	18.20	0.00	100	Vertical	Pass
14098.725	57.74	--	47.4	14.80	68.2	--	--	10.46	38.00	100	Vertical	Pass
14590.852	53.28	--	44.8	10.28	68.2	--	--	14.92	237.00	100	Vertical	Pass
16589.603	57.68	--	47.8	11.84	68.2	--	--	10.52	15.00	100	Vertical	Pass

7 GHz to 18 GHz, ANT H Band I 11ac20 High channel

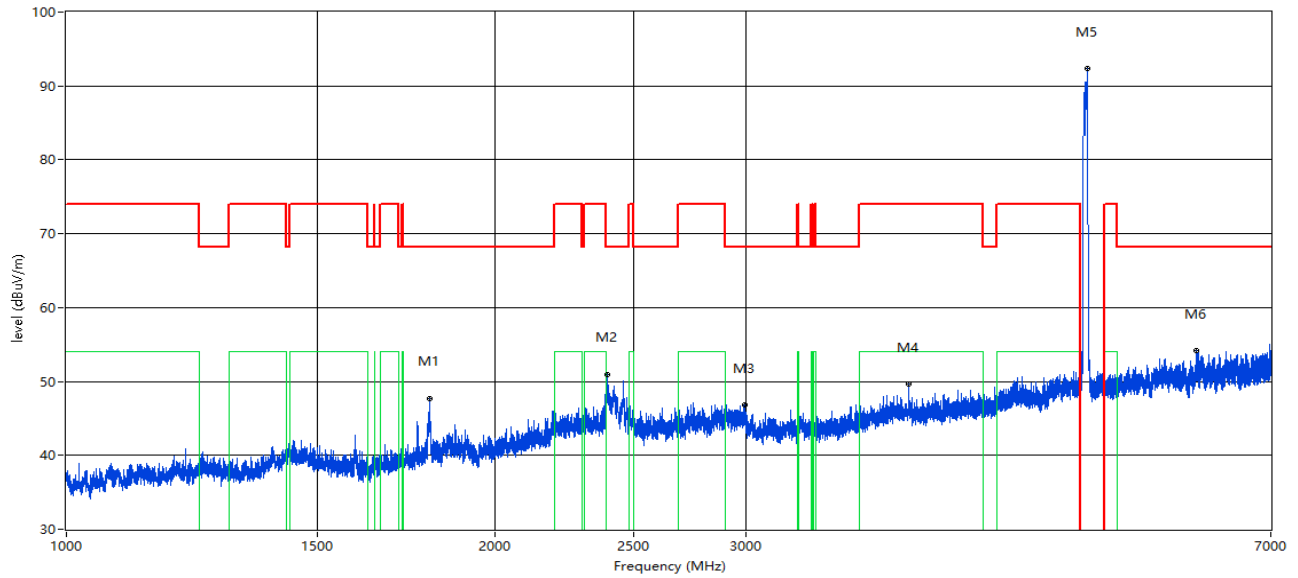
REmission Test case_FCC_Part 15E_FCC 15.407(5G)_7GHz-18GHz_B1



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
9251.687	43.20	--	34.3	-4.36	68.2	--	--	25.00	104.00	100	Horizontal	Pass
10563.109	43.37	--	33.4	-2.07	68.2	--	--	24.83	66.00	100	Horizontal	Pass
12251.187	45.35	--	35.8	-0.44	74.0	--	54.0	18.20	25.00	100	Horizontal	Pass
14087.728	57.43	--	47.7	14.85	68.2	--	--	10.77	3.00	100	Horizontal	Pass
14577.106	55.42	--	45.0	10.11	68.2	--	--	12.78	254.00	100	Horizontal	Pass
16597.851	57.24	--	47.9	12.09	68.2	--	--	10.96	0.00	100	Horizontal	Pass

1 GHz to 7 GHz, ANT V Band I 11ac40 Low channel

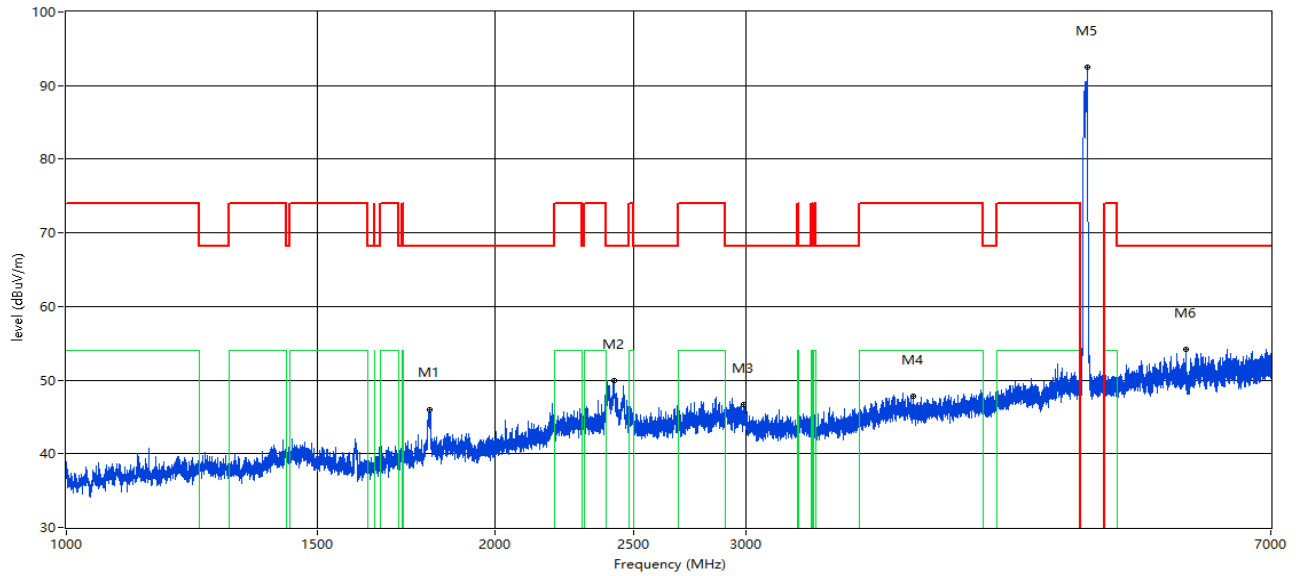
REmission Test case_FCC_Part 15C_FCC 15.247(2.4G)_1GHz-7GHz 5G_Band1



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1798.650	47.72	--	--	-10.74	68.2	--	--	20.48	5.00	100	Vertical	Pass
2397.075	50.90	--	--	0.01	68.2	--	--	17.30	55.00	100	Vertical	Pass
2992.251	46.84	--	--	-2.75	68.2	--	--	21.36	5.00	100	Vertical	Pass
3898.013	49.72	--	--	-2.44	74.0	--	54.0	4.28	119.00	100	Vertical	Pass
5202.100	92.34	--	--	0.73	--	--	--	--	286.00	100	Vertical	Pass
6210.849	54.12	--	--	4.31	68.2	--	--	14.08	187.00	100	Vertical	Pass

1 GHz to 7 GHz, ANT H Band I 11ac40 Low channel

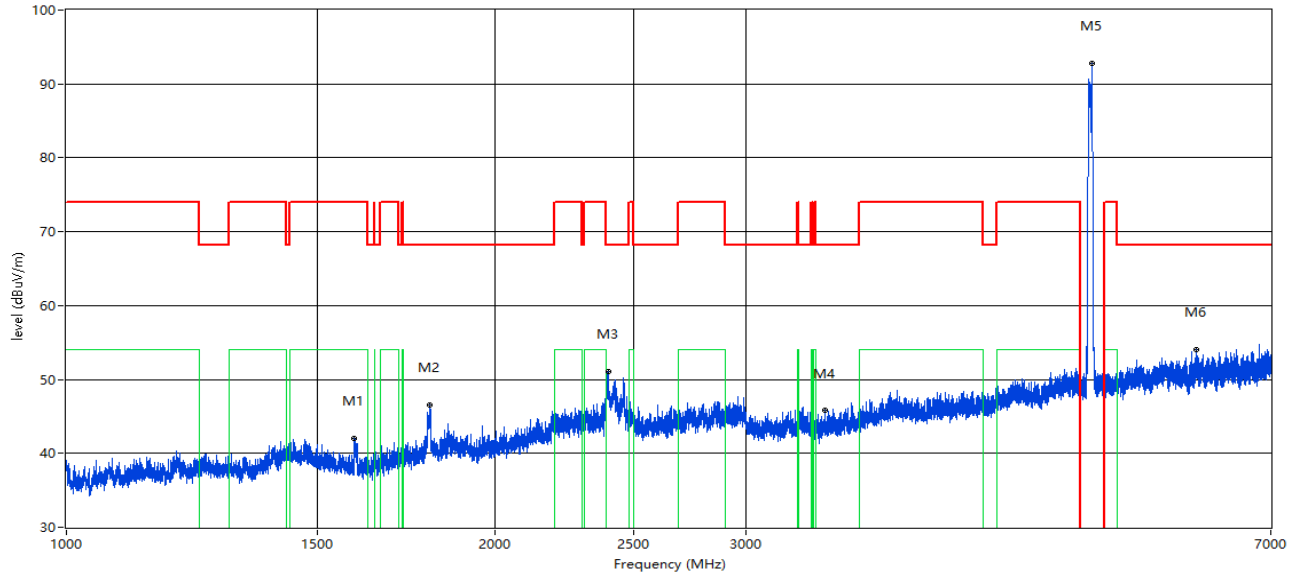
REmission Test case_FCC_Part 15C_FCC 15.247(2.4G)_1GHz-7GHz 5G_Band1



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1798.650	46.01	--	--	-10.74	68.2	--	--	22.19	61.00	100	Horizontal	Pass
2421.822	49.92	--	--	-0.82	68.2	--	--	18.28	5.00	100	Horizontal	Pass
2985.752	46.62	--	--	-3.25	68.2	--	--	21.58	47.00	100	Horizontal	Pass
3930.259	47.78	--	--	-3.13	74.0	--	54.0	6.22	225.00	100	Horizontal	Pass
5202.100	92.44	--	--	0.73	--	--	--	--	102.00	100	Horizontal	Pass
6098.238	54.16	--	--	4.07	68.2	--	--	14.04	5.00	100	Horizontal	Pass

1 GHz to 7 GHz, ANT V Band I 11ac40 High channel

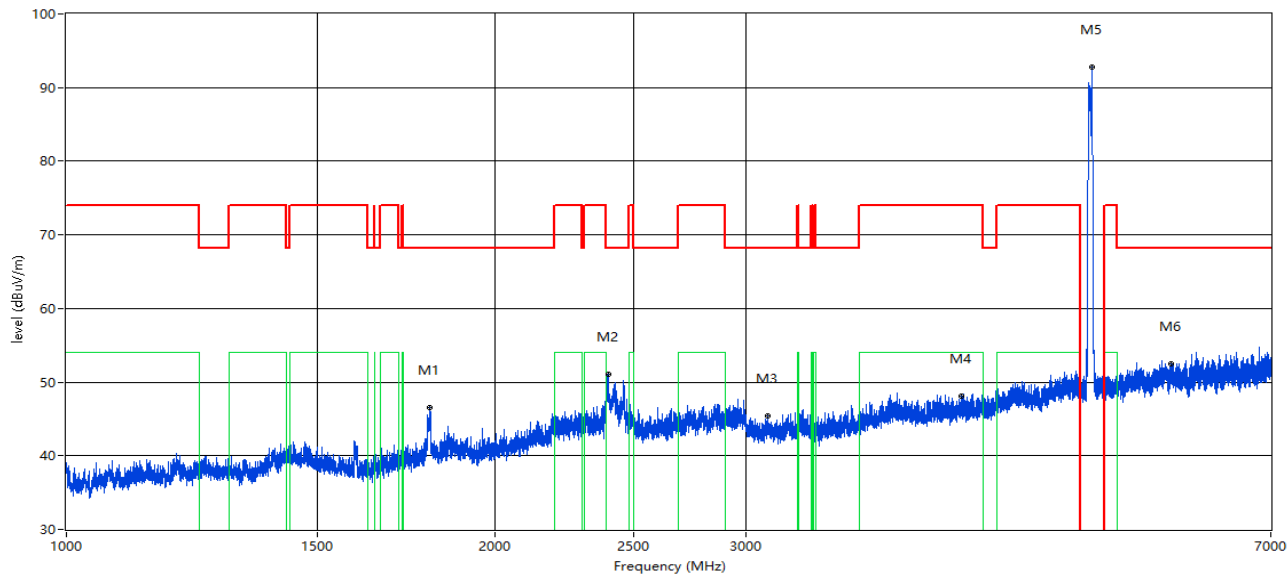
REmission Test case_FCC_Part 15C_FCC 15.247(2.4G)_1GHz-7GHz 5G_Band1



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1592.676	41.99	--	--	-12.00	74.0	--	54.0	12.01	127.00	100	Vertical	Pass
1799.400	46.58	--	--	-10.76	68.2	--	--	21.62	3.00	100	Vertical	Pass
2398.575	51.13	--	--	-0.05	68.2	--	--	17.07	45.00	100	Vertical	Pass
3403.825	45.86	--	--	-5.57	68.2	--	--	22.34	50.00	100	Vertical	Pass
5242.220	92.82	--	--	0.79	--	--	--	--	4.00	100	Vertical	Pass
6206.599	54.00	--	--	4.44	68.2	--	--	14.20	207.00	100	Vertical	Pass

1 GHz to 7 GHz, ANT H Band I 11ac40 High channel

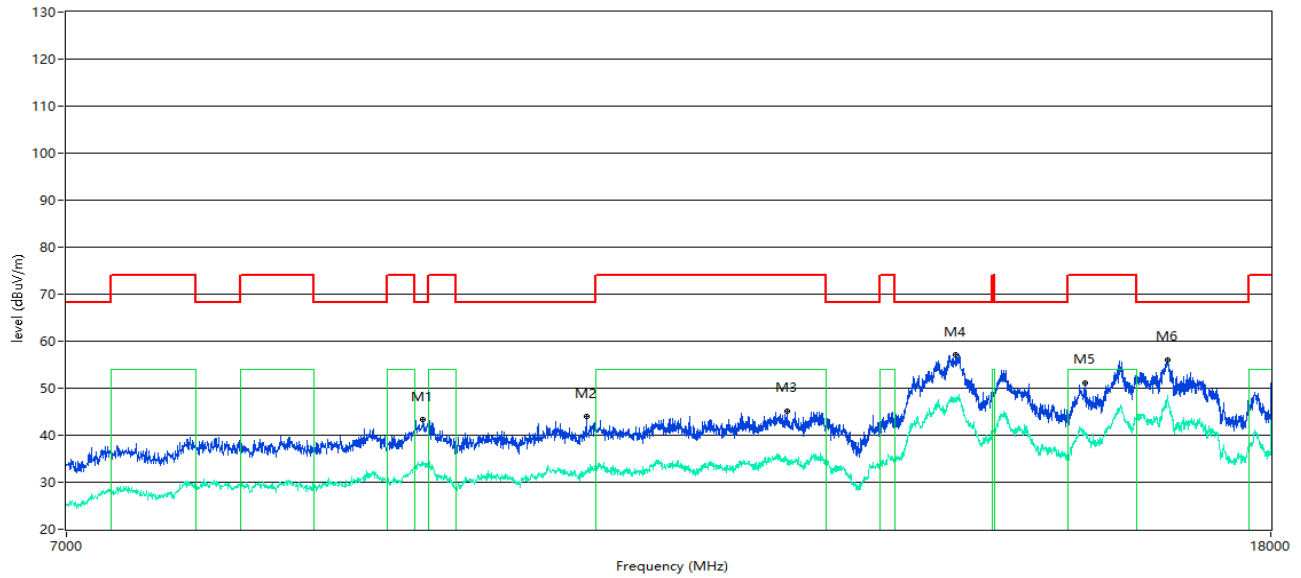
REmission Test case_FCC_Part 15C_FCC 15.247(2.4G)_1GHz-7GHz 5G_Band1



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1799.400	46.58	--	--	-10.76	68.2	--	--	21.62	80.00	100	Horizontal	Pass
2398.575	51.13	--	--	-0.05	68.2	--	--	17.07	3.00	100	Horizontal	Pass
3104.987	45.45	--	--	-5.11	68.2	--	--	22.75	26.00	100	Horizontal	Pass
4242.220	48.15	--	--	-2.12	74.0	--	54.0	5.85	69.00	100	Horizontal	Pass
5242.220	92.82	--	--	0.79	--	--	--	--	223.00	100	Horizontal	Pass
5962.880	52.53	--	--	3.76	68.2	--	--	15.67	16.00	100	Horizontal	Pass

7 GHz to 18 GHz, ANT V Band I 11ac40 Low channel

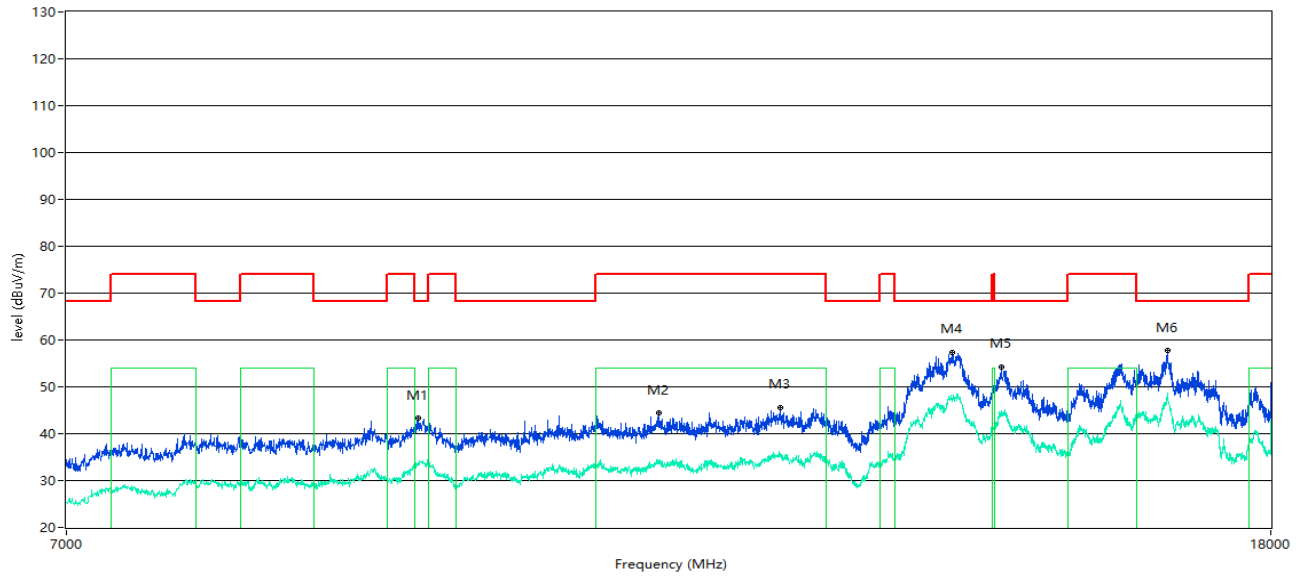
REmission Test case_FCC_Part 15E_FCC 15.407(5G)_7GHz-18GHz



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
9259.935	43.26	--	34.4	-4.28	68.2	--	--	24.94	0.00	100	Vertical	Pass
10521.870	43.93	--	32.2	-2.53	68.2	--	--	24.27	56.00	100	Vertical	Pass
12314.421	45.18	--	34.8	-0.51	74.0	--	54.0	19.20	73.00	100	Vertical	Pass
14062.984	57.11	--	48.0	14.50	68.2	--	--	11.09	15.00	100	Vertical	Pass
15566.858	51.16	--	40.2	3.95	74.0	--	54.0	13.80	160.00	100	Vertical	Pass
16600.600	56.05	--	48.2	12.12	68.2	--	--	12.15	8.00	100	Vertical	Pass

7 GHz to 18 GHz, ANT H Band I 11ac40 Low channel

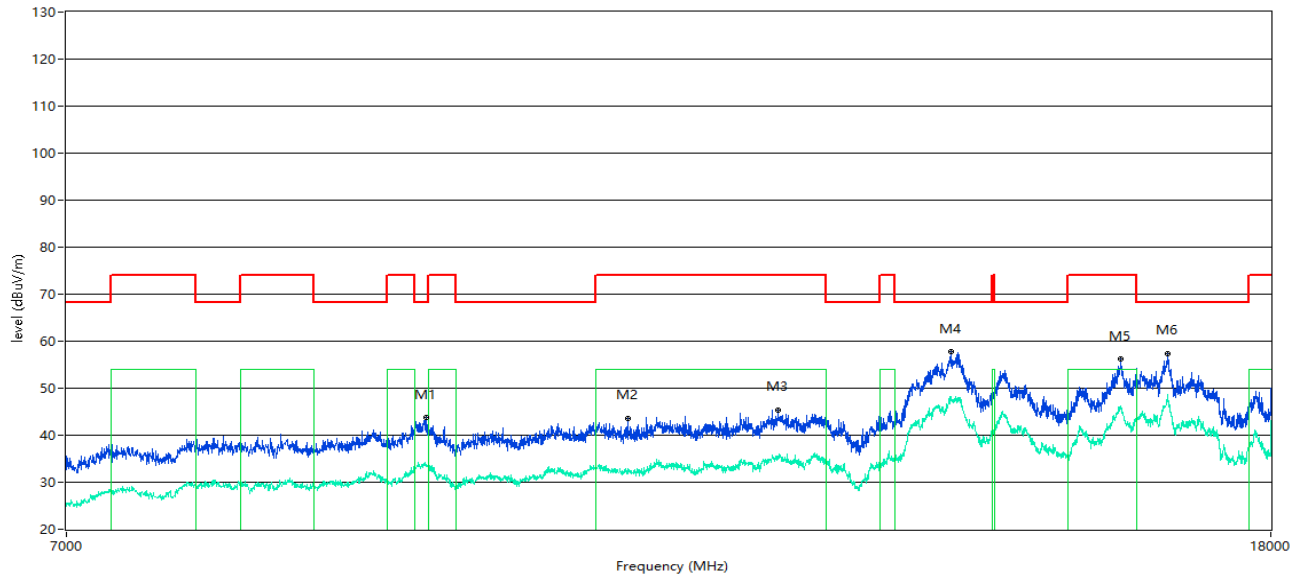
REmission Test case_FCC_Part 15E_FCC 15.407(5G)_7GHz-18GHz_B1



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
9224.194	43.27	--	33.6	-4.69	68.2	--	--	24.93	13.00	100	Horizontal	Pass
11134.966	44.35	--	34.0	-1.92	74.0	--	54.0	20.00	150.00	100	Horizontal	Pass
12253.937	45.53	--	35.9	-0.44	74.0	--	54.0	18.10	2.00	100	Horizontal	Pass
14027.243	57.36	--	46.8	14.27	68.2	--	--	10.84	70.00	100	Horizontal	Pass
14574.356	54.29	--	44.7	10.08	68.2	--	--	13.91	31.00	100	Horizontal	Pass
16600.600	57.67	--	48.7	12.12	68.2	--	--	10.53	28.00	100	Horizontal	Pass

7 GHz to 18 GHz, ANT V Band I 11ac40 High channel

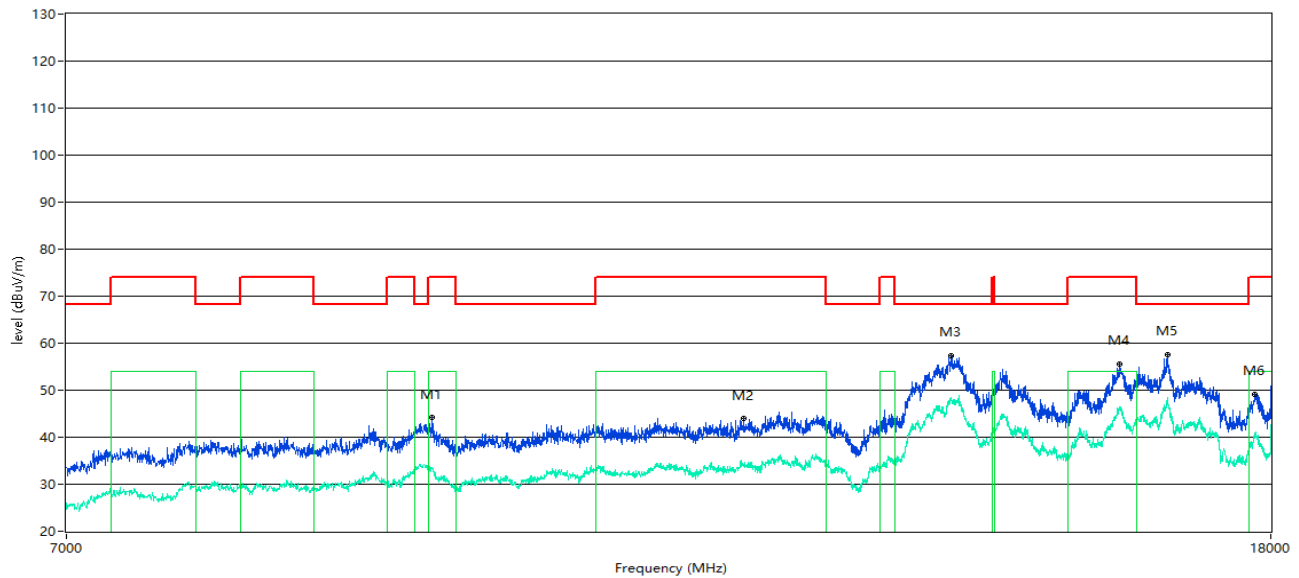
REmission Test case_FCC_Part 15E_FCC 15.407(5G)_7GHz-18GHz



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
9279.180	43.68	--	33.7	-4.15	68.2	--	--	24.52	104.00	100	Vertical	Pass
10868.283	43.64	--	32.8	-1.92	74.0	--	54.0	21.20	16.00	100	Vertical	Pass
12226.443	45.40	--	35.0	-0.37	74.0	--	54.0	19.00	87.00	100	Vertical	Pass
14010.747	57.69	--	48.2	14.28	68.2	--	--	10.51	15.00	100	Vertical	Pass
16006.748	56.11	--	46.2	10.53	74.0	--	54.0	7.80	46.00	100	Vertical	Pass
16603.349	57.42	--	47.7	12.02	68.2	--	--	10.78	4.00	100	Vertical	Pass

7 GHz to 18 GHz, ANT H Band I 11ac40 High channel

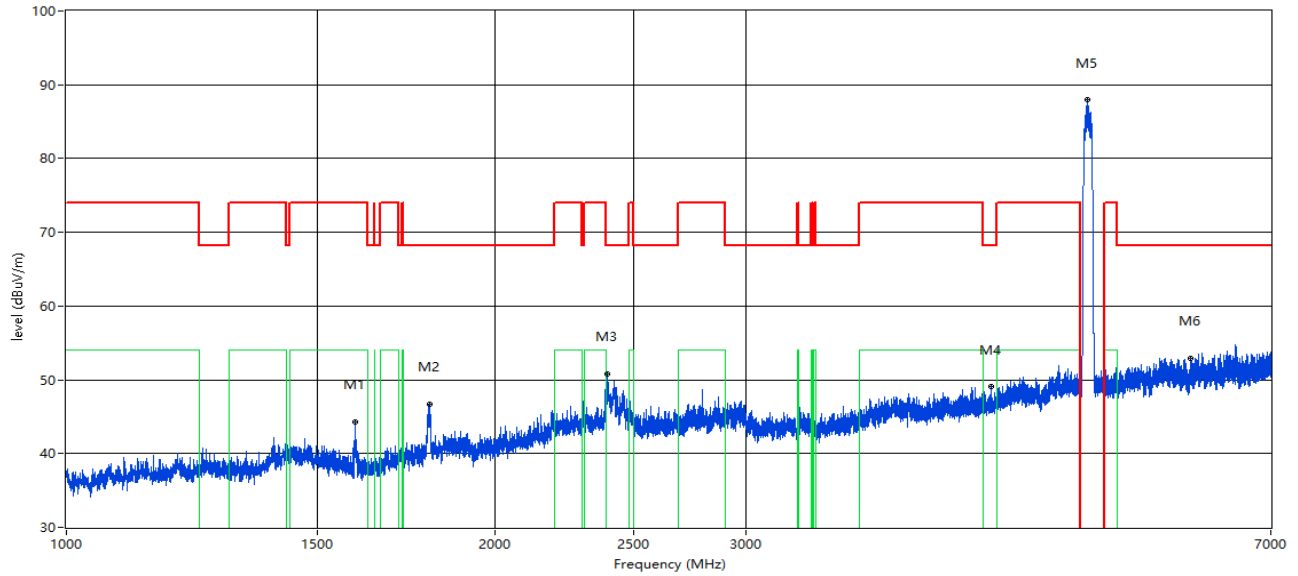
REmission Test case_FCC_Part 15E_FCC 15.407(5G)_7GHz-18GHz_B1



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
9320.420	44.20	--	33.4	-4.45	74.0	--	54.0	20.60	52.00	100	Horizontal	Pass
11904.774	43.99	--	34.1	-0.78	74.0	--	54.0	19.90	101.00	100	Horizontal	Pass
14013.497	57.37	--	48.2	14.26	68.2	--	--	10.83	7.00	100	Horizontal	Pass
15984.754	55.59	--	45.9	10.16	74.0	--	54.0	8.10	0.00	100	Horizontal	Pass
16600.600	57.57	--	48.6	12.12	68.2	--	--	10.63	49.00	100	Horizontal	Pass
17774.556	49.17	--	40.9	6.75	74.0	--	54.0	13.10	165.00	100	Horizontal	Pass

1 GHz to 7 GHz, ANT V Band I 11ac80 Low channel

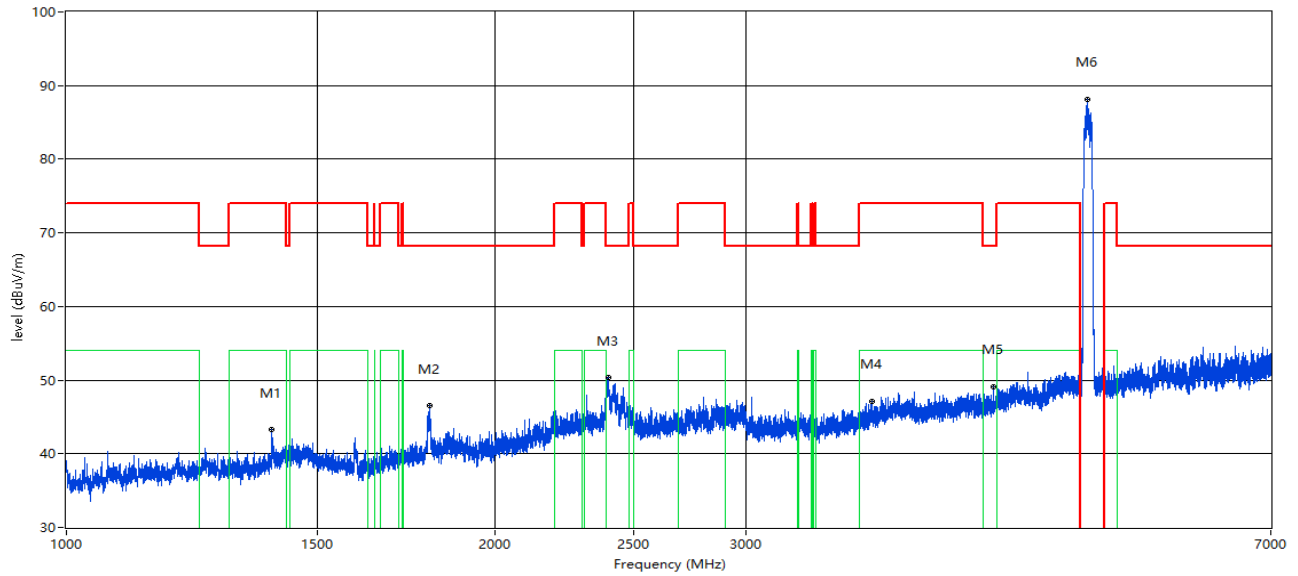
REmission Test case_FCC_Part 15C_FCC 15.247(2.4G)_1GHz-7GHz 5G_Band1



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1593.676	44.35	--	--	-11.98	74.0	--	54.0	9.65	4.00	100	Vertical	Pass
1799.900	46.71	--	--	-10.78	68.2	--	--	21.49	28.00	100	Vertical	Pass
2398.075	50.83	--	--	-0.03	68.2	--	--	17.37	15.00	100	Vertical	Pass
4452.193	49.07	--	--	-1.60	68.2	--	--	19.13	64.00	100	Vertical	Pass
5205.474	87.92	--	--	0.80	--	--	--	--	194.00	100	Vertical	Pass
6147.357	52.94	--	--	3.79	68.2	--	--	15.26	338.00	100	Vertical	Pass

1 GHz to 7 GHz, ANT H Band I 11ac80 Low channel

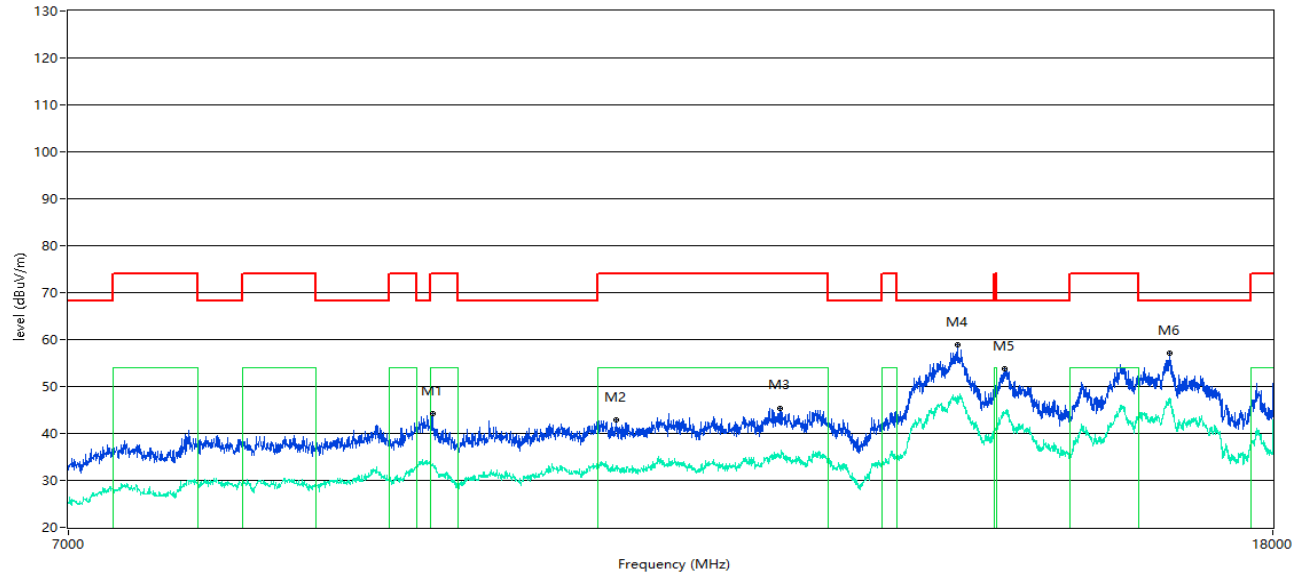
REmission Test case_FCC_Part 15C_FCC 15.247(2.4G)_1GHz-7GHz 5G_Band1



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1393.951	43.34	--	--	-12.13	74.0	--	54.0	10.66	74.00	100	Horizontal	Pass
1799.400	46.55	--	--	-10.76	68.2	--	--	21.65	36.00	100	Horizontal	Pass
2399.075	50.30	--	--	-0.06	68.2	--	--	17.90	238.00	100	Horizontal	Pass
3674.541	47.15	--	--	-3.36	74.0	--	54.0	6.85	58.00	100	Horizontal	Pass
4473.941	49.13	--	--	-1.46	68.2	--	--	19.07	4.00	100	Horizontal	Pass
5205.474	88.15	--	--	0.80	--	--	--	--	200.00	100	Horizontal	Pass

7 GHz to 18 GHz, ANT V Band I 11ac80 Low channel

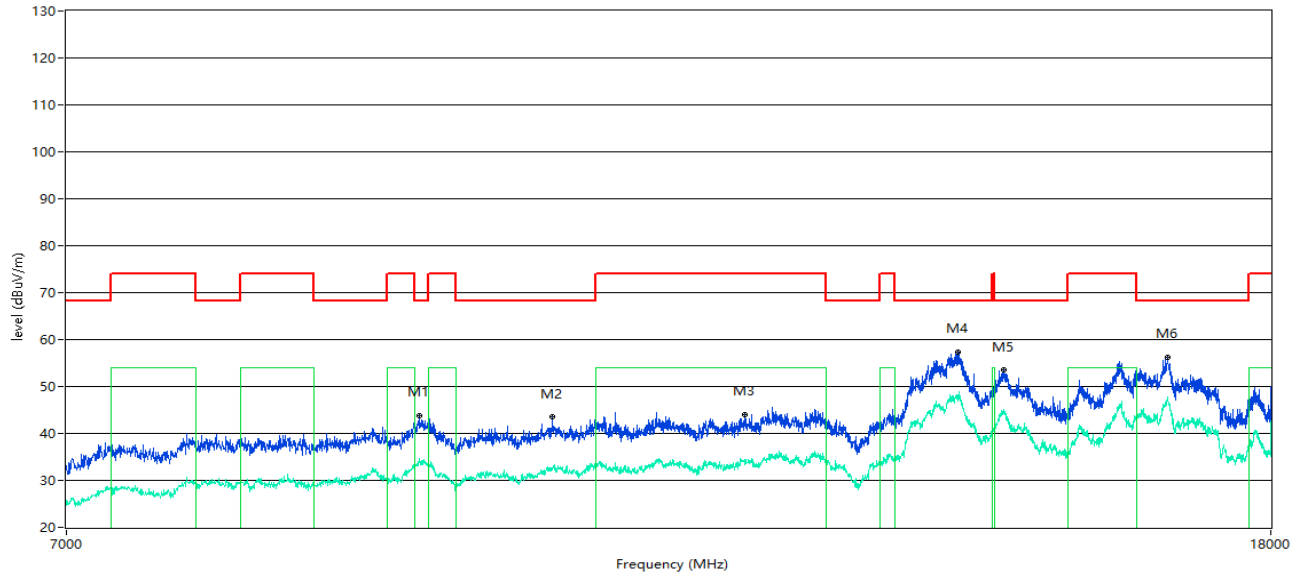
REmission Test case_FCC_Part 15E_FCC 15.407(5G)_7GHz-18GHz



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
9314.921	44.12	--	33.5	-4.38	74.0	--	54.0	20.50	67.00	100	Vertical	Pass
10752.812	42.80	--	33.2	-1.90	74.0	--	54.0	20.80	2.00	100	Vertical	Pass
12229.193	45.36	--	35.1	-0.40	74.0	--	54.0	18.90	103.00	100	Vertical	Pass
14060.235	58.79	--	47.5	14.46	68.2	--	--	9.41	15.00	100	Vertical	Pass
14585.354	53.74	--	44.2	10.15	68.2	--	--	14.46	85.00	100	Vertical	Pass
16600.600	57.04	--	47.4	12.12	68.2	--	--	11.16	335.00	100	Vertical	Pass

7 GHz to 18 GHz, ANT H Band I 11ac80 Low channel

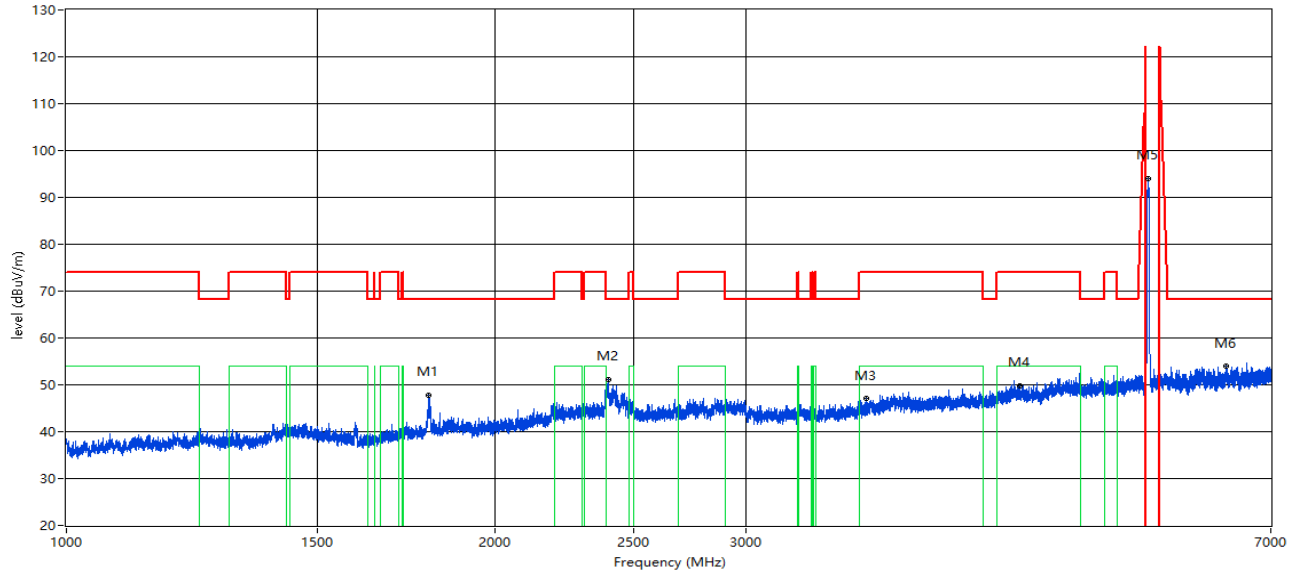
REmission Test case_FCC_Part 15E_FCC 15.407(5G)_7GHz-18GHz



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
9229.693	43.85	--	34.6	-4.64	68.2	--	--	24.35	18.00	100	Horizontal	Pass
10246.938	43.54	--	32.7	-2.22	68.2	--	--	24.66	222.00	100	Horizontal	Pass
11915.771	44.08	--	34.3	-0.77	74.0	--	54.0	19.70	15.00	100	Horizontal	Pass
14079.480	57.44	--	47.5	14.72	68.2	--	--	10.76	7.00	100	Horizontal	Pass
14601.850	53.45	--	44.4	10.32	68.2	--	--	14.75	330.00	100	Horizontal	Pass
16606.098	56.28	--	47.7	11.92	68.2	--	--	11.92	8.00	100	Horizontal	Pass

1 GHz to 7 GHz, ANT V Band IV 11ac20 Low channel

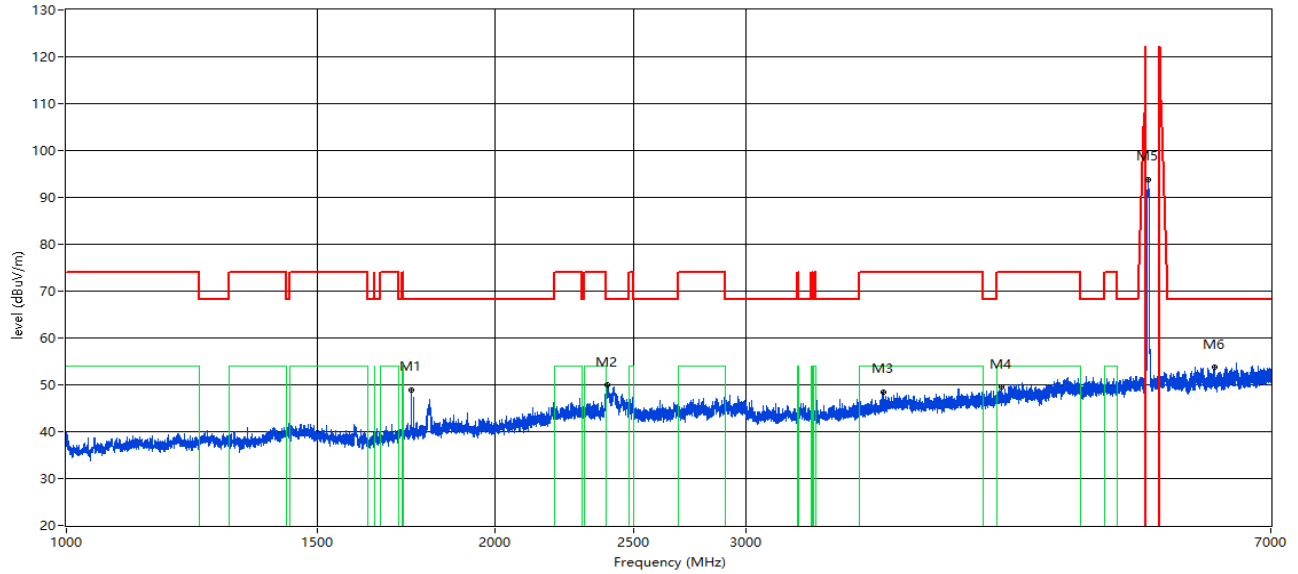
REmission Test case_FCC_Part 15E_FCC 15.407(5G BAND 4)_1GHz-7GHz



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1795.401	47.83	--	--	-10.94	68.2	--	--	20.37	15.00	100	Vertical	Pass
2399.575	51.19	--	--	-0.07	68.2	--	--	17.01	48.00	100	Vertical	Pass
3644.544	47.08	--	--	-3.88	74.0	--	54.0	6.92	227.00	100	Vertical	Pass
4668.916	49.78	--	--	-0.21	74.0	--	54.0	4.22	13.00	100	Vertical	Pass
5739.033	94.03	--	--	1.87	--	--	--	--	6.00	100	Vertical	Pass
6512.436	53.94	--	--	5.68	68.2	--	--	14.26	40.00	100	Vertical	Pass

1 GHz to 7 GHz, ANT H Band IV 11ac20 Low channel

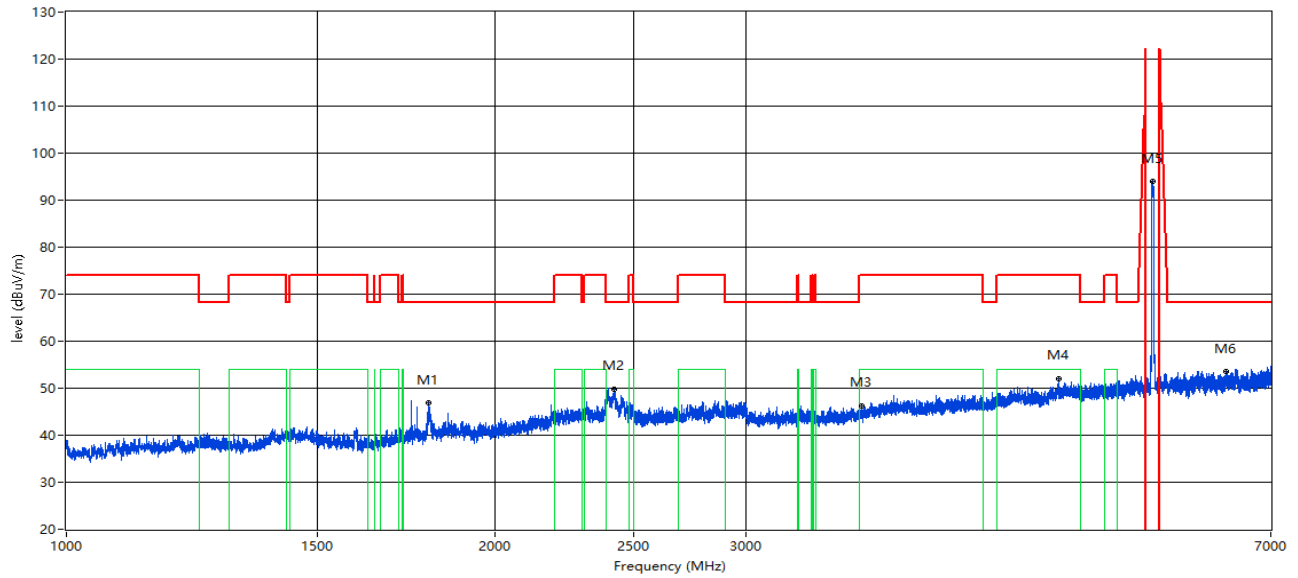
REmission Test case_FCC_Part 15E_FCC 15.407(5G BAND 4)_1GHz-7GHz



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1745.657	48.97	--	--	-11.32	68.2	--	--	19.23	161.00	100	Horizontal	Pass
2397.075	49.95	--	--	0.01	68.2	--	--	18.25	2.00	100	Horizontal	Pass
3747.282	48.45	--	--	-3.28	74.0	--	54.0	5.55	16.00	100	Horizontal	Pass
4531.309	49.49	--	--	-1.54	74.0	--	54.0	4.51	342.00	100	Horizontal	Pass
5739.033	93.86	--	--	1.87	--	--	--	--	0.00	100	Horizontal	Pass
6389.451	53.76	--	--	4.21	68.2	--	--	14.44	123.00	100	Horizontal	Pass

1 GHz to 7 GHz, ANT V Band IV 11ac20 Middle channel

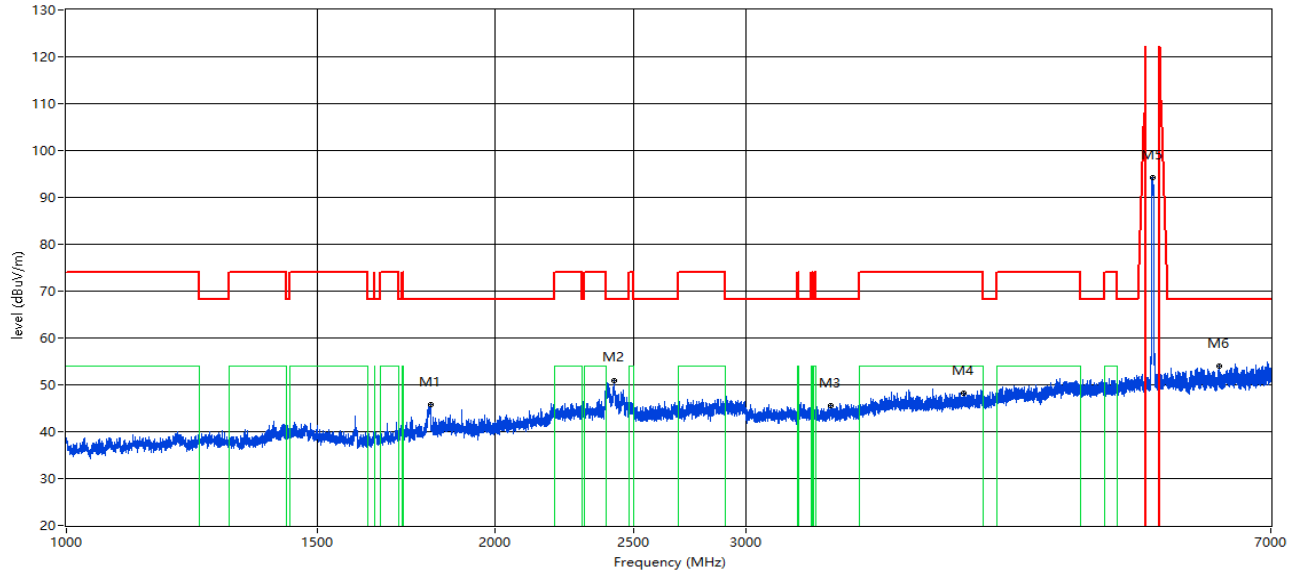
REmission Test case_FCC_Part 15E_FCC 15.407(5G BAND 4)_1GHz-7GHz



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1794.651	46.87	--	--	-10.99	68.2	--	--	21.33	33.00	100	Vertical	Pass
2424.572	49.82	--	--	-0.94	68.2	--	--	18.38	247.00	100	Vertical	Pass
3611.924	46.24	--	--	-3.88	74.0	--	54.0	7.76	302.00	100	Vertical	Pass
4966.254	51.97	--	--	1.32	74.0	--	54.0	2.03	81.00	100	Vertical	Pass
5781.027	93.98	--	--	2.11	--	--	--	--	338.00	100	Vertical	Pass
6514.436	53.51	--	--	5.59	68.2	--	--	14.69	3.00	100	Vertical	Pass

1 GHz to 7 GHz, ANT H Band IV 11ac20 Middle channel

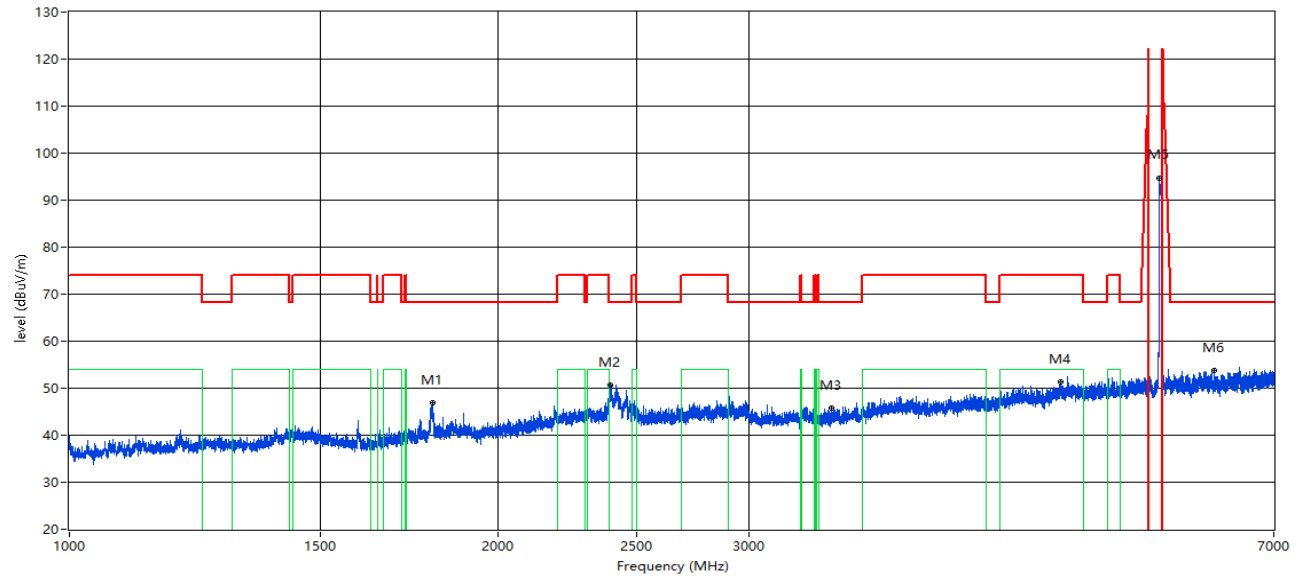
REmission Test case_FCC_Part 15E_FCC 15.407(5G BAND 4)_1GHz-7GHz



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1800.150	45.68	--	--	-10.79	68.2	--	--	22.52	136.00	100	Horizontal	Pass
2420.822	50.98	--	--	-0.79	68.2	--	--	17.22	23.00	100	Horizontal	Pass
3438.695	45.51	--	--	-4.98	68.2	--	--	22.69	15.00	100	Horizontal	Pass
4264.342	48.11	--	--	-1.80	74.0	--	54.0	5.89	71.00	100	Horizontal	Pass
5779.528	94.13	--	--	2.09	--	--	--	--	3.00	100	Horizontal	Pass
6437.695	54.05	--	--	4.33	68.2	--	--	14.15	97.00	100	Horizontal	Pass

1 GHz to 7 GHz, ANT V Band IV 11ac20 High channel

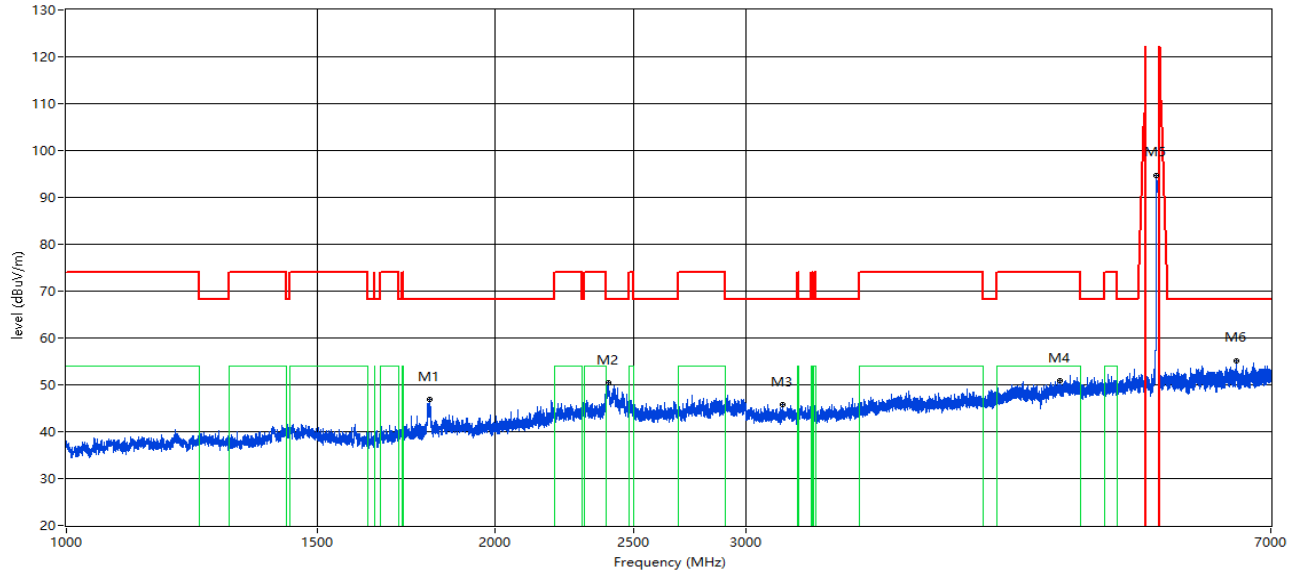
REmission Test case_FCC_Part 15E_FCC 15.407(5G BAND 4)_1GHz-7GHz



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1797.900	46.80	--	--	-10.75	68.2	--	--	21.40	159.00	100	Vertical	Pass
2398.075	50.61	--	--	-0.03	68.2	--	--	17.59	181.00	100	Vertical	Pass
3425.572	45.73	--	--	-5.00	68.2	--	--	22.47	125.00	100	Vertical	Pass
4964.379	51.23	--	--	1.40	74.0	--	54.0	2.77	245.00	100	Vertical	Pass
5819.273	94.68	--	--	2.76	--	--	--	--	4.00	100	Vertical	Pass
6355.081	53.86	--	--	3.46	68.2	--	--	14.34	95.00	100	Vertical	Pass

1 GHz to 7 GHz, ANT H Band IV 11ac20 High channel

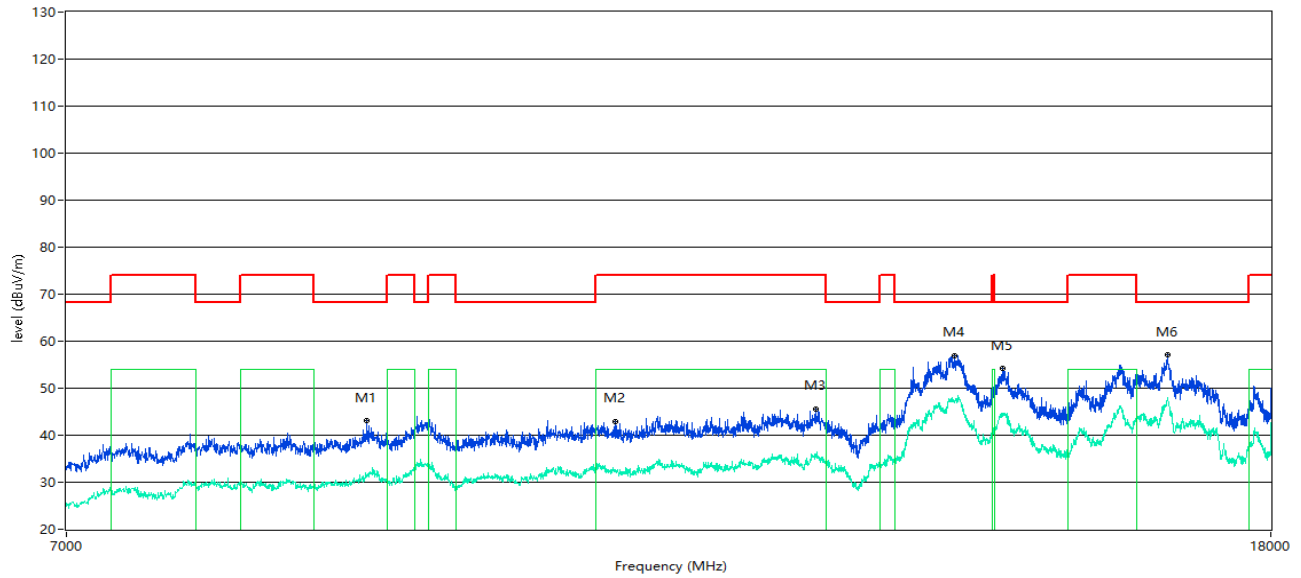
REmission Test case_FCC_Part 15E_FCC 15.407(5G BAND 4)_1GHz-7GHz



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1798.400	46.88	--	--	-10.73	68.2	--	--	21.32	2.00	100	Horizontal	Pass
2398.575	50.36	--	--	-0.05	68.2	--	--	17.84	136.00	100	Horizontal	Pass
3181.477	45.71	--	--	-6.01	68.2	--	--	22.49	157.00	100	Horizontal	Pass
4980.877	50.88	--	--	1.54	74.0	--	54.0	3.12	195.00	100	Horizontal	Pass
5819.273	94.67	--	--	2.76	--	--	--	--	36.00	100	Horizontal	Pass
6619.298	55.15	--	--	5.48	68.2	--	--	13.05	173.00	100	Horizontal	Pass

7 GHz to 18 GHz, ANT V Band IV 11ac20 Low channel

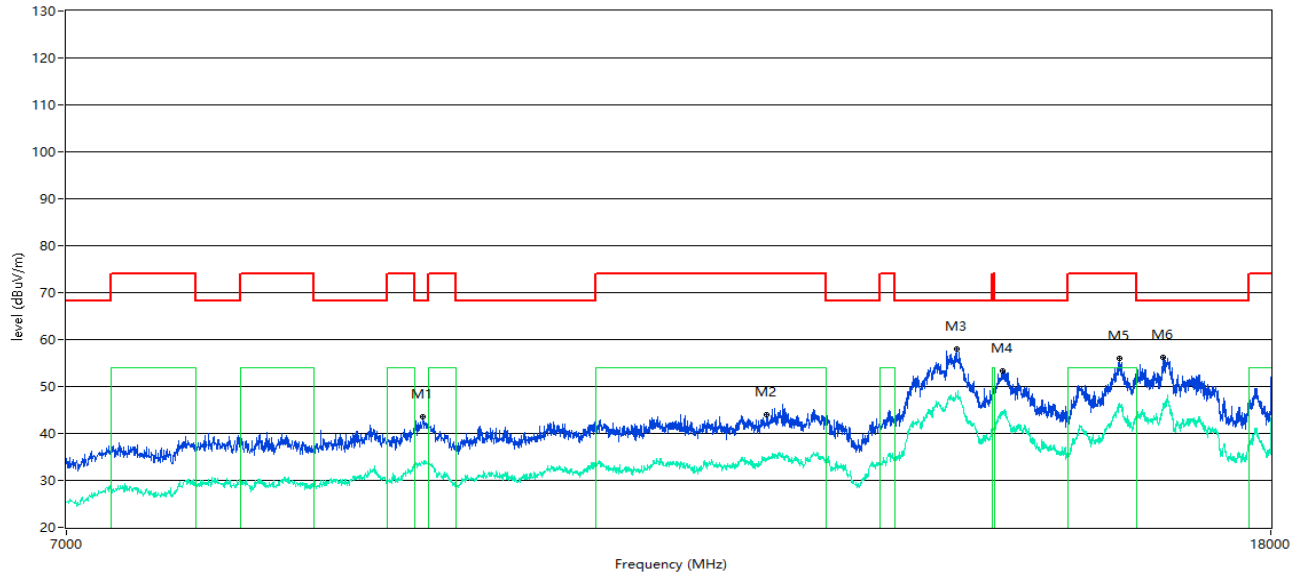
REmission Test case_FCC_Part 15E_FCC 15.407(5G)_7GHz-18GHz_B1



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
8861.285	43.10	--	31.6	-5.63	68.2	--	--	25.10	0.00	100	Vertical	Pass
10761.060	42.95	--	32.6	-1.82	74.0	--	54.0	21.40	134.00	100	Vertical	Pass
12597.601	45.58	--	35.9	0.29	74.0	--	54.0	18.10	1.00	100	Vertical	Pass
14040.990	56.95	--	47.4	14.29	68.2	--	--	11.25	11.00	100	Vertical	Pass
14588.103	54.21	--	44.4	10.22	68.2	--	--	13.99	67.00	100	Vertical	Pass
16600.600	57.08	--	48.0	12.12	68.2	--	--	11.12	12.00	100	Vertical	Pass

7 GHz to 18 GHz, ANT H Band IV 11ac20 Low channel

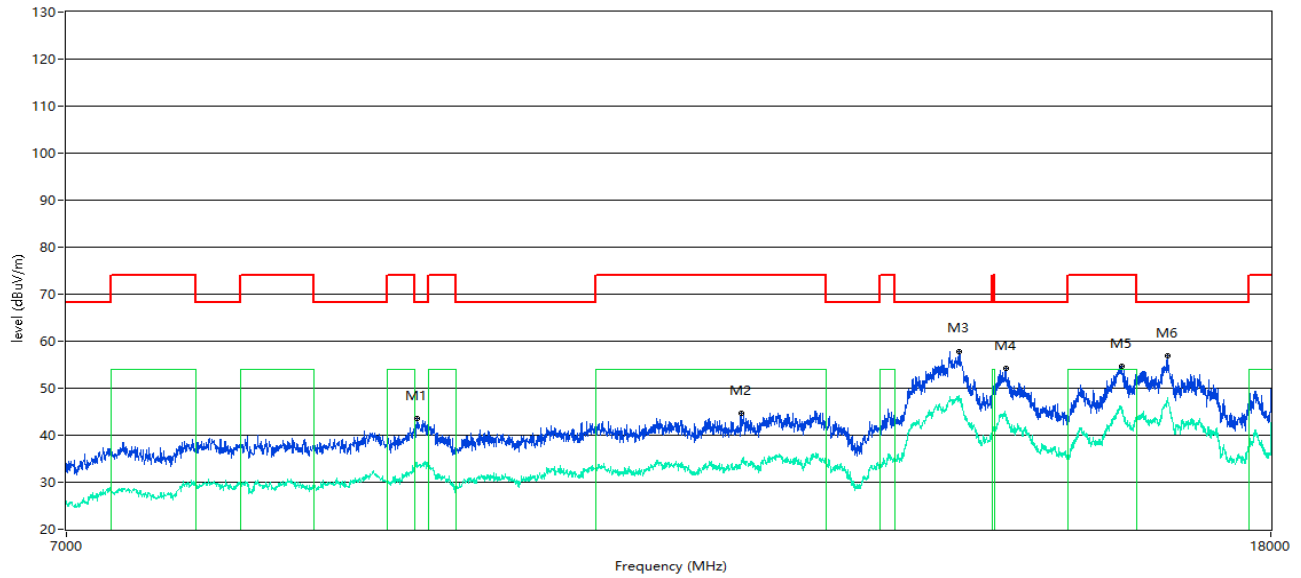
REmission Test case_FCC_Part 15E_FCC 15.407(5G)_7GHz-18GHz_B1



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
9259.935	43.55	--	33.6	-4.28	68.2	--	--	24.65	9.00	100	Horizontal	Pass
12124.719	43.92	--	34.5	-0.95	74.0	--	54.0	19.50	15.00	100	Horizontal	Pass
14065.734	57.91	--	47.7	14.54	68.2	--	--	10.29	3.00	100	Horizontal	Pass
14582.604	53.24	--	44.5	10.13	68.2	--	--	14.96	224.00	100	Horizontal	Pass
15982.004	55.96	--	45.6	10.09	74.0	--	54.0	8.40	35.00	100	Horizontal	Pass
16537.366	56.12	--	45.9	10.60	68.2	--	--	12.08	15.00	100	Horizontal	Pass

7 GHz to 18 GHz, ANT V Band IV 11ac20 Middle channel

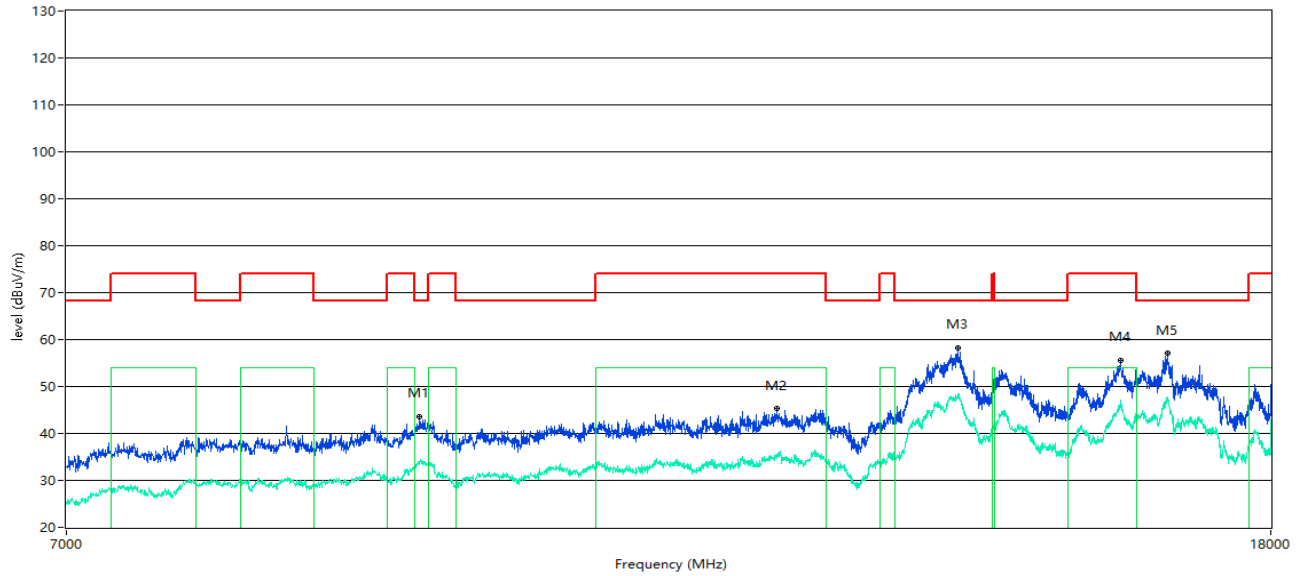
REmission Test case_FCC_Part 15E_FCC 15.407(5G)_7GHz-18GHz_B1



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
9215.946	43.53	--	33.1	-4.68	68.2	--	--	24.67	0.00	100	Vertical	Pass
11885.529	44.57	--	34.3	-0.87	74.0	--	54.0	19.70	28.00	100	Vertical	Pass
14095.976	57.81	--	48.4	14.77	68.2	--	--	10.39	165.00	100	Vertical	Pass
14626.593	54.18	--	44.4	9.83	68.2	--	--	14.02	77.00	100	Vertical	Pass
16014.996	54.56	--	45.7	10.25	74.0	--	54.0	8.30	8.00	100	Vertical	Pass
16606.098	56.86	--	47.5	11.92	68.2	--	--	11.34	15.00	100	Vertical	Pass

7 GHz to 18 GHz, ANT H Band IV 11ac20 Middle channel

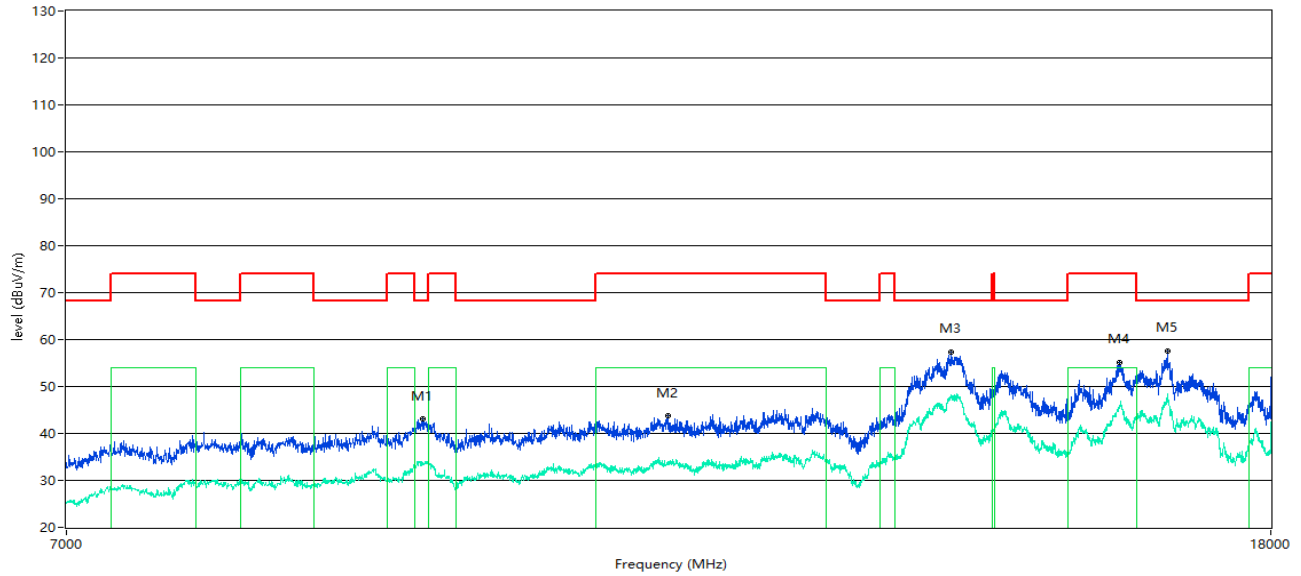
REmission Test case_FCC_Part 15E_FCC 15.407(5G)_7GHz-18GHz_B1



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
9235.191	43.58	--	33.9	-4.58	68.2	--	--	24.62	10.00	100	Horizontal	Pass
12223.694	45.28	--	35.4	-0.35	74.0	--	54.0	18.60	172.00	100	Horizontal	Pass
14082.229	58.22	--	48.5	14.79	68.2	--	--	9.98	3.00	100	Horizontal	Pass
16003.999	55.59	--	46.3	10.62	74.0	--	54.0	7.70	354.00	100	Horizontal	Pass
16595.101	57.09	--	47.7	12.00	68.2	--	--	11.11	20.00	100	Horizontal	Pass

7 GHz to 18 GHz, ANT V Band IV 11ac20 High channel

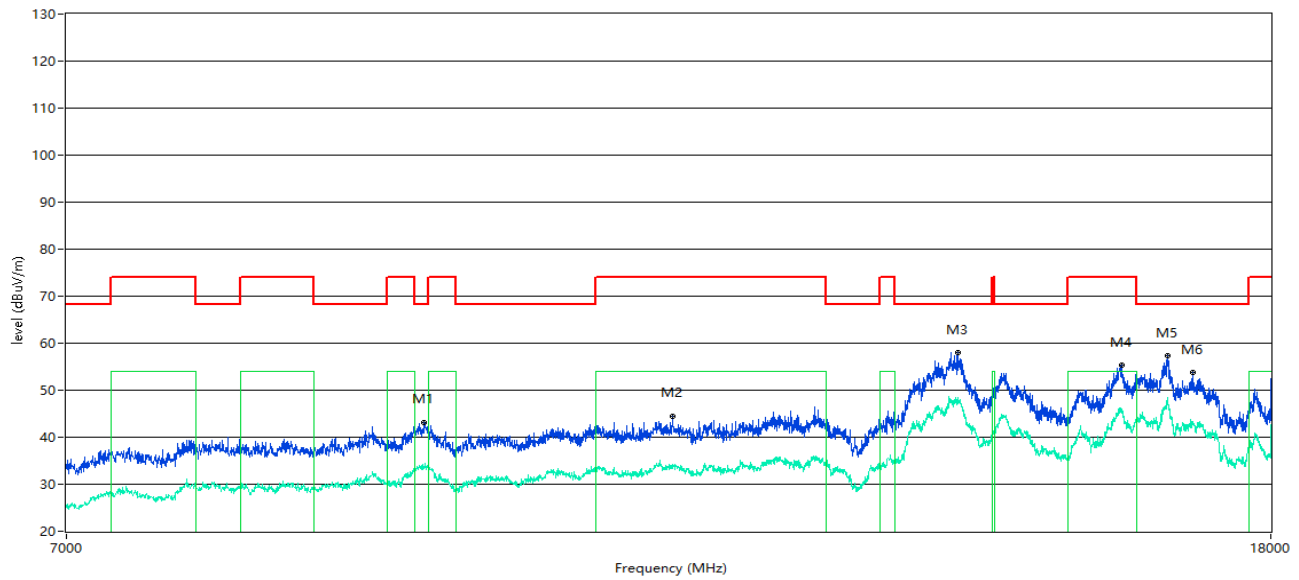
REmission Test case_FCC_Part 15E_FCC 15.407(5G)_7GHz-18GHz_B1



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
9257.186	43.09	--	33.8	-4.29	68.2	--	--	25.11	75.00	100	Vertical	Pass
11217.446	43.68	--	34.0	-1.89	74.0	--	54.0	20.00	10.00	100	Vertical	Pass
14007.998	57.38	--	47.7	14.26	68.2	--	--	10.82	332.00	100	Vertical	Pass
15984.754	55.12	--	46.0	10.16	74.0	--	54.0	8.00	62.00	100	Vertical	Pass
16600.600	57.63	--	48.4	12.12	68.2	--	--	10.57	12.00	100	Vertical	Pass

7 GHz to 18 GHz, ANT H Band IV 11ac20 High channel

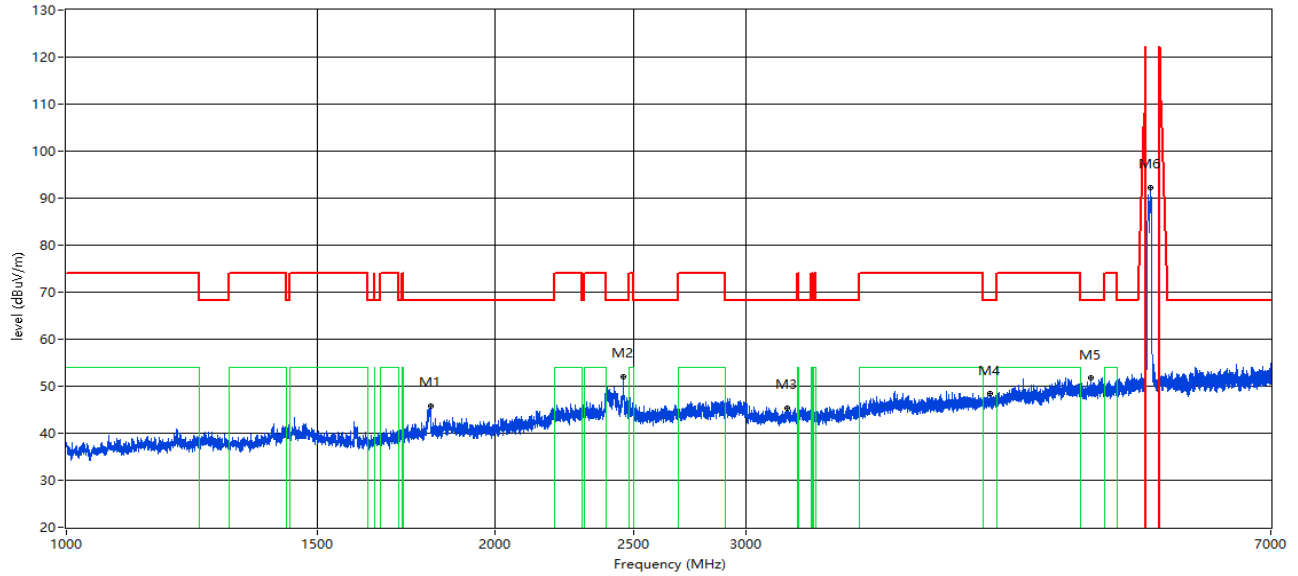
REmission Test case_FCC_Part 15E_FCC 15.407(5G)_7GHz-18GHz_B1



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
9268.183	43.21	--	33.4	-4.12	68.2	--	--	24.99	152.00	100	Horizontal	Pass
11258.685	44.52	--	34.3	-1.74	74.0	--	54.0	19.70	28.00	100	Horizontal	Pass
14082.229	57.98	--	48.5	14.79	68.2	--	--	10.22	3.00	100	Horizontal	Pass
16014.996	55.31	--	45.3	10.25	74.0	--	54.0	8.70	8.00	100	Horizontal	Pass
16608.848	57.26	--	47.2	11.82	68.2	--	--	10.94	62.00	100	Horizontal	Pass
16930.517	53.75	--	43.2	8.83	68.2	--	--	14.45	13.00	100	Horizontal	Pass

1 GHz to 7 GHz, ANT V Band IV 11ac40 Low channel

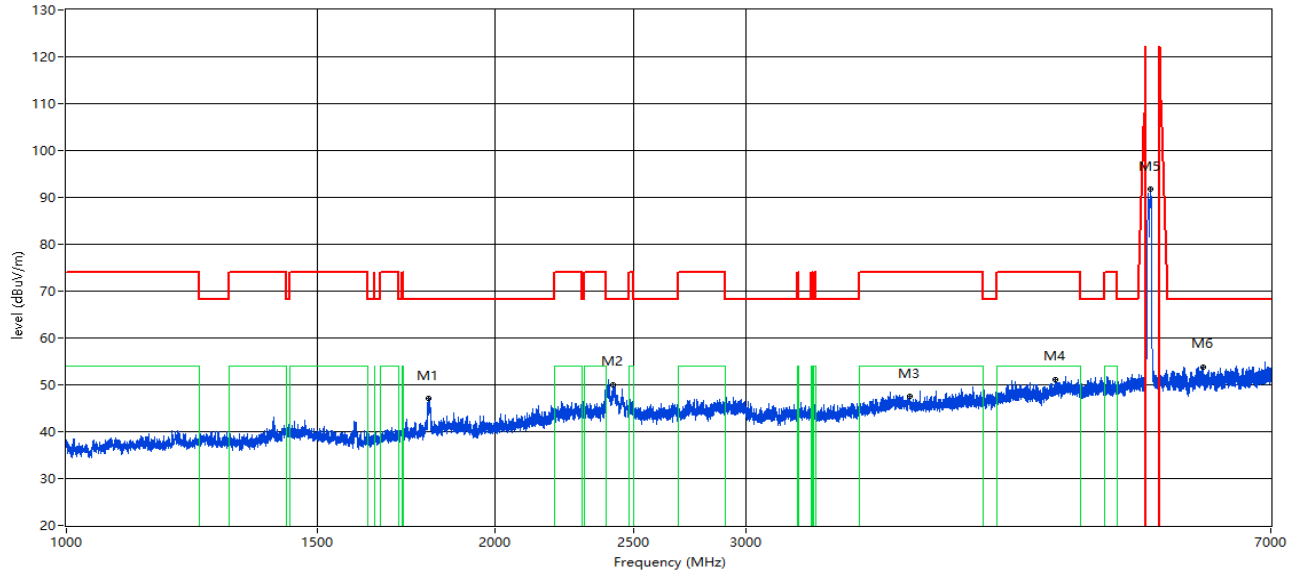
REmission Test case_FCC_Part 15E_FCC 15.407(5G BAND 4)_1GHz-7GHz



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1801.900	45.82	--	--	-10.84	68.2	--	--	22.38	173.00	100	Vertical	Pass
2459.068	51.89	--	--	-2.24	68.2	--	--	16.31	300.00	100	Vertical	Pass
3204.724	45.38	--	--	-4.86	68.2	--	--	22.82	98.00	100	Vertical	Pass
4448.819	48.44	--	--	-1.44	68.2	--	--	19.76	291.00	100	Vertical	Pass
5229.471	51.72	--	--	0.37	68.2	--	--	16.48	3.00	100	Vertical	Pass
5767.154	92.22	--	--	1.72	--	--	--	--	1.00	100	Vertical	Pass

1 GHz to 7 GHz, ANT H Band IV 11ac40 Low channel

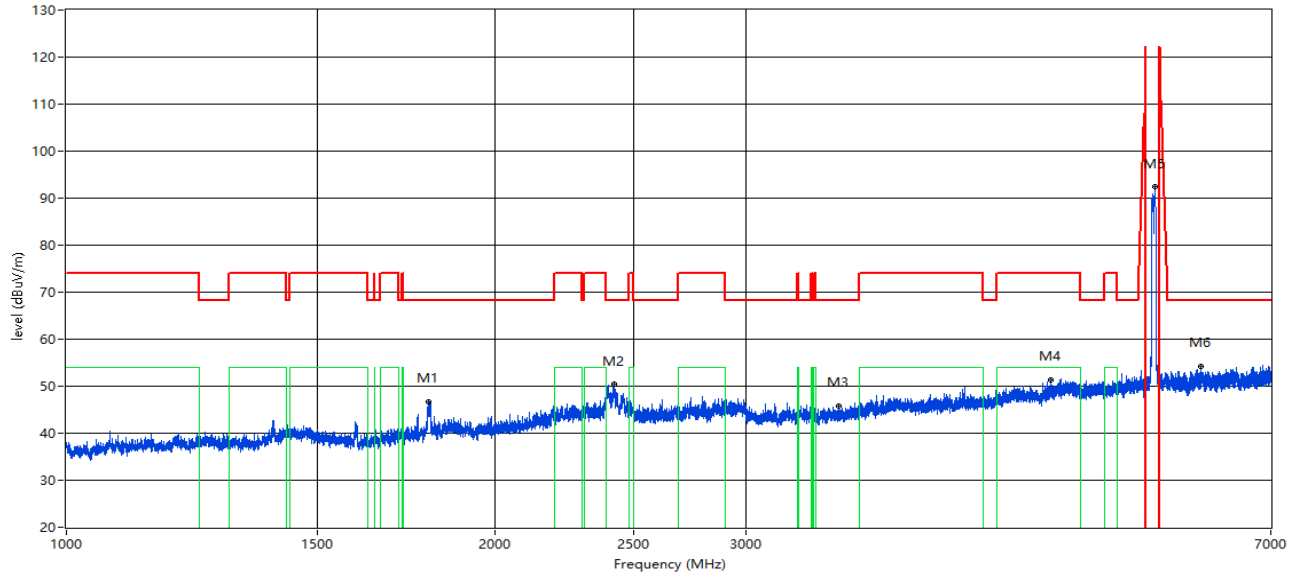
REmission Test case_FCC_Part 15E_FCC 15.407(5G BAND 4)_1GHz-7GHz



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1794.901	47.07	--	--	-10.97	68.2	--	--	21.13	227.00	100	Horizontal	Pass
2420.072	49.97	--	--	-0.77	68.2	--	--	18.23	346.00	100	Horizontal	Pass
3904.012	47.65	--	--	-2.61	74.0	--	54.0	6.35	245.00	100	Horizontal	Pass
4943.757	51.21	--	--	0.29	74.0	--	54.0	2.79	6.00	100	Horizontal	Pass
5767.154	91.69	--	--	1.72	--	--	--	--	82.00	100	Horizontal	Pass
6277.840	53.86	--	--	4.37	68.2	--	--	14.34	337.00	100	Horizontal	Pass

1 GHz to 7 GHz, ANT V Band IV 11ac40 High channel

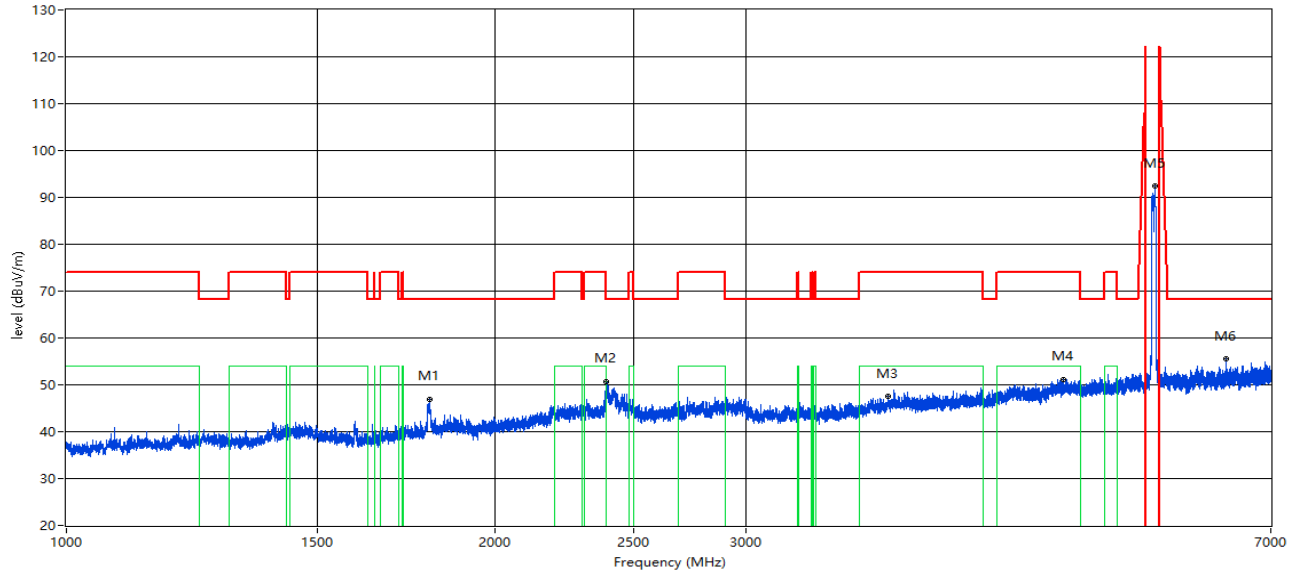
REmission Test case_FCC_Part 15E_FCC 15.407(5G BAND 4)_1GHz-7GHz



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1794.401	46.73	--	--	-11.01	68.2	--	--	21.47	259.00	100	Vertical	Pass
2421.072	50.35	--	--	-0.80	68.2	--	--	17.85	60.00	100	Vertical	Pass
3482.190	45.88	--	--	-5.40	68.2	--	--	22.32	179.00	100	Vertical	Pass
4908.886	51.42	--	--	0.45	74.0	--	54.0	2.58	355.00	100	Vertical	Pass
5807.274	92.36	--	--	2.51	--	--	--	--	118.00	100	Vertical	Pass
6257.218	54.19	--	--	4.40	68.2	--	--	14.01	225.00	100	Vertical	Pass

1 GHz to 7 GHz, ANT H Band IV 11ac40 High channel

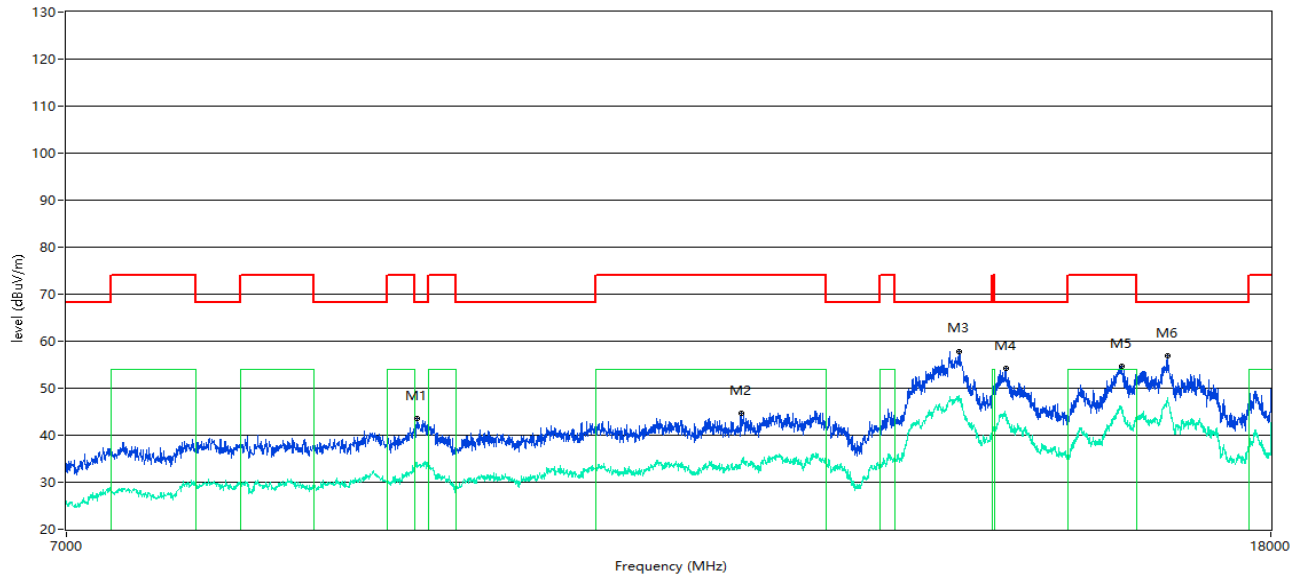
REmission Test case_FCC_Part 15E_FCC 15.407(5G BAND 4)_1GHz-7GHz



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1797.900	46.93	--	--	-10.75	68.2	--	--	21.27	100.00	100	Horizontal	Pass
2390.576	50.77	--	--	-1.02	68.2	--	--	17.43	27.00	100	Horizontal	Pass
3770.154	47.52	--	--	-2.58	74.0	--	54.0	6.48	201.00	100	Horizontal	Pass
5003.750	51.18	--	--	0.91	74.0	--	54.0	2.82	105.00	100	Horizontal	Pass
5806.899	92.44	--	--	2.49	--	--	--	--	200.00	100	Horizontal	Pass
6511.436	55.49	--	--	5.69	68.2	--	--	12.71	3.00	100	Horizontal	Pass

7 GHz to 18 GHz, ANT V Band IV 11ac40 Low channel

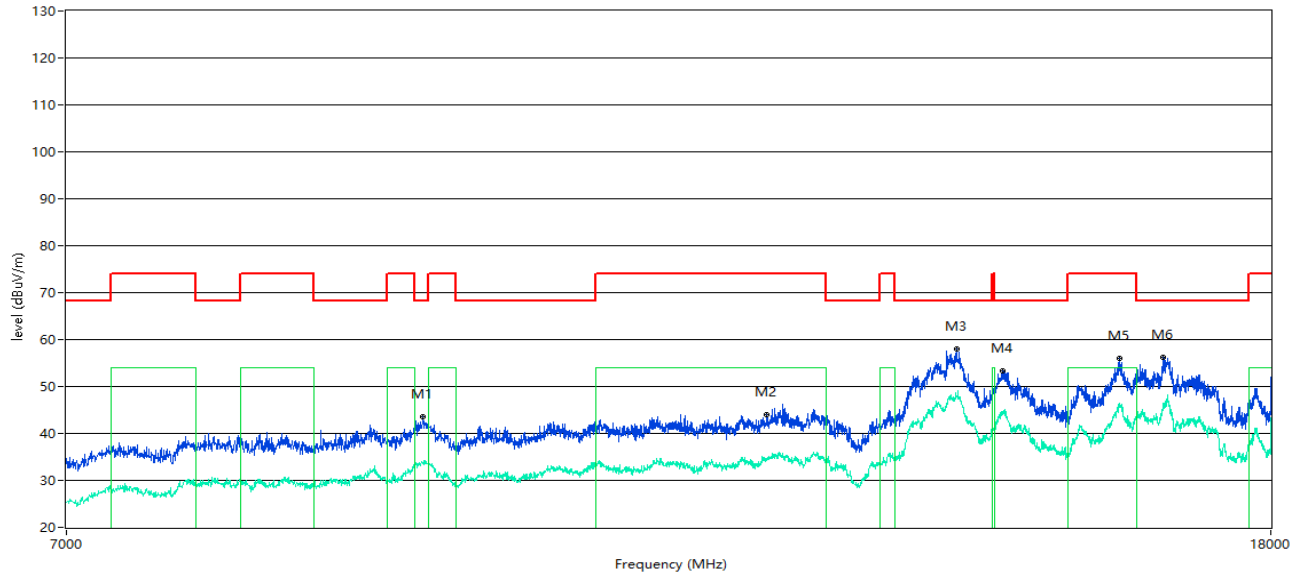
REmission Test case_FCC_Part 15E_FCC 15.407(5G)_7GHz-18GHz_B1



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
9215.946	43.53	--	33.1	-4.68	68.2	--	--	24.67	0.00	100	Vertical	Pass
11885.529	44.57	--	34.3	-0.87	74.0	--	54.0	19.70	28.00	100	Vertical	Pass
14095.976	57.81	--	48.4	14.77	68.2	--	--	10.39	165.00	100	Vertical	Pass
14626.593	54.18	--	44.4	9.83	68.2	--	--	14.02	77.00	100	Vertical	Pass
16014.996	54.56	--	45.7	10.25	74.0	--	54.0	8.30	8.00	100	Vertical	Pass
16606.098	56.86	--	47.5	11.92	68.2	--	--	11.34	15.00	100	Vertical	Pass

7 GHz to 18 GHz, ANT H Band IV 11ac40 Low channel

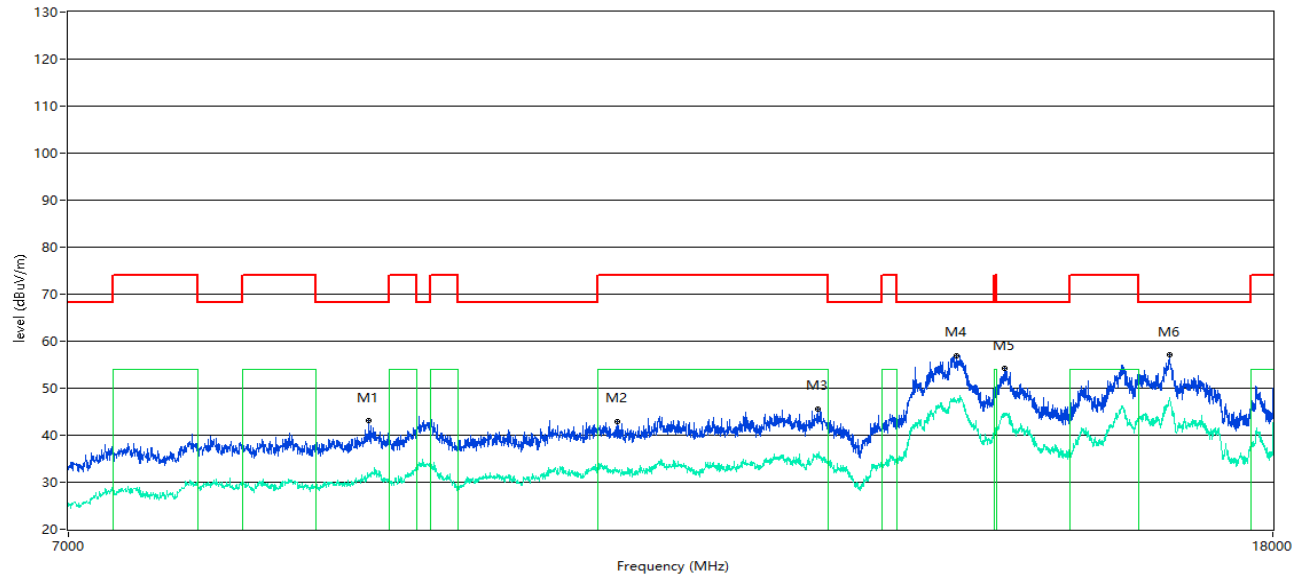
REmission Test case_FCC_Part 15E_FCC 15.407(5G)_7GHz-18GHz_B1



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
9259.935	43.55	--	33.6	-4.28	68.2	--	--	24.65	9.00	100	Horizontal	Pass
12124.719	43.92	--	34.5	-0.95	74.0	--	54.0	19.50	15.00	100	Horizontal	Pass
14065.734	57.91	--	47.7	14.54	68.2	--	--	10.29	3.00	100	Horizontal	Pass
14582.604	53.24	--	44.5	10.13	68.2	--	--	14.96	224.00	100	Horizontal	Pass
15982.004	55.96	--	45.6	10.09	74.0	--	54.0	8.40	35.00	100	Horizontal	Pass
16537.366	56.12	--	45.9	10.60	68.2	--	--	12.08	15.00	100	Horizontal	Pass

7 GHz to 18 GHz, ANT V Band IV 11ac40 High channel

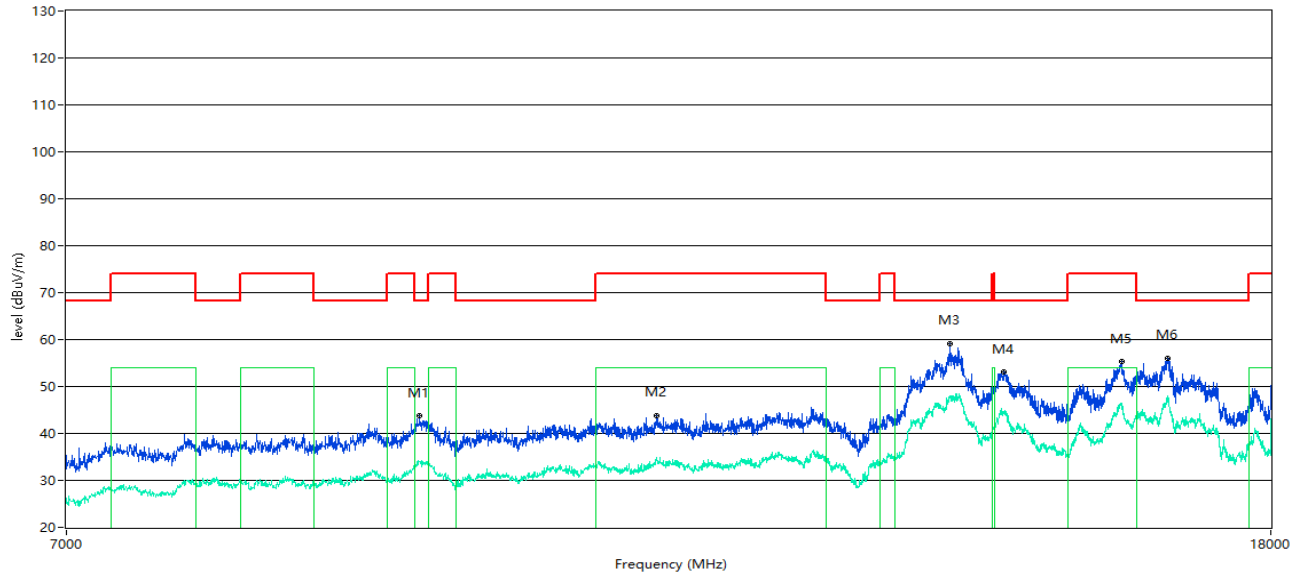
REmission Test case_FCC_Part 15E_FCC 15.407(5G)_7GHz-18GHz_B1



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
8861.285	43.10	--	31.6	-5.63	68.2	--	--	25.10	0.00	100	Vertical	Pass
10761.060	42.95	--	32.6	-1.82	74.0	--	54.0	21.40	134.00	100	Vertical	Pass
12597.601	45.58	--	35.9	0.29	74.0	--	54.0	18.10	1.00	100	Vertical	Pass
14040.990	56.95	--	47.4	14.29	68.2	--	--	11.25	11.00	100	Vertical	Pass
14588.103	54.21	--	44.4	10.22	68.2	--	--	13.99	67.00	100	Vertical	Pass
16600.600	57.08	--	48.0	12.12	68.2	--	--	11.12	12.00	100	Vertical	Pass

7 GHz to 18 GHz, ANT H Band IV 11ac40 High channel

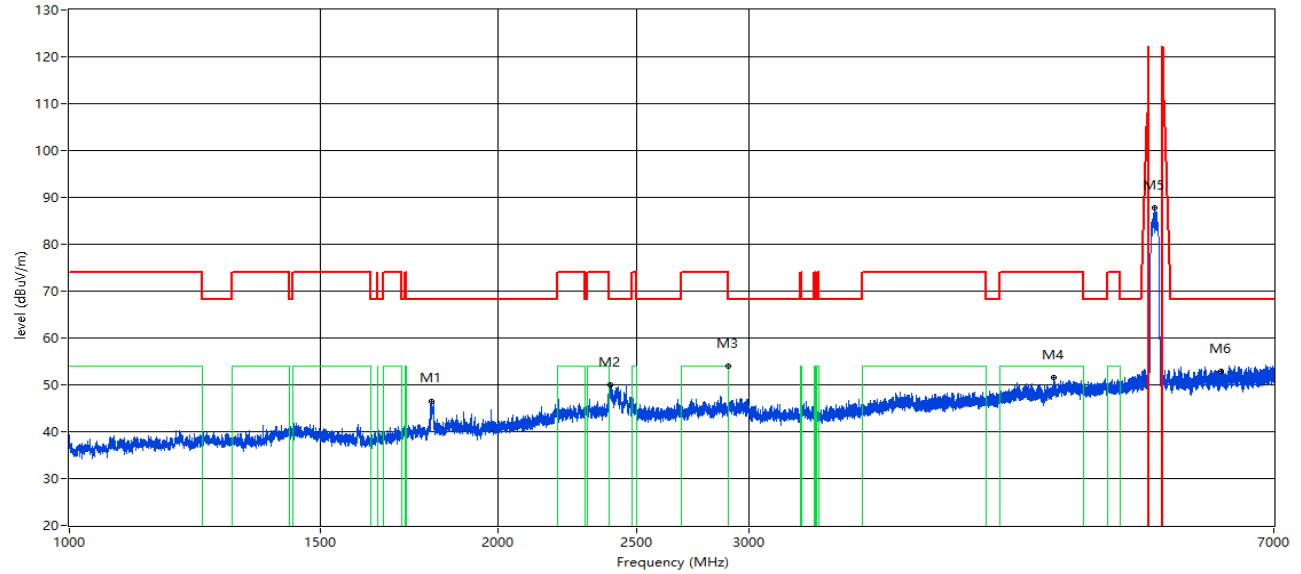
REmission Test case_FCC_Part 15E_FCC 15.407(5G)_7GHz-18GHz_B1



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
9232.442	43.75	--	34.0	-4.61	68.2	--	--	24.45	5.00	100	Horizontal	Pass
11115.721	43.83	--	34.2	-1.83	74.0	--	54.0	19.80	60.00	100	Horizontal	Pass
13997.001	59.18	--	47.8	14.10	68.2	--	--	9.02	3.00	100	Horizontal	Pass
14596.351	53.10	--	44.5	10.36	68.2	--	--	15.10	77.00	100	Horizontal	Pass
16012.247	55.24	--	45.7	10.34	74.0	--	54.0	8.30	255.00	100	Horizontal	Pass
16600.600	56.11	--	47.4	12.12	68.2	--	--	12.09	15.00	100	Horizontal	Pass

1 GHz to 7 GHz, ANT V Band IV 11ac80 Low channel

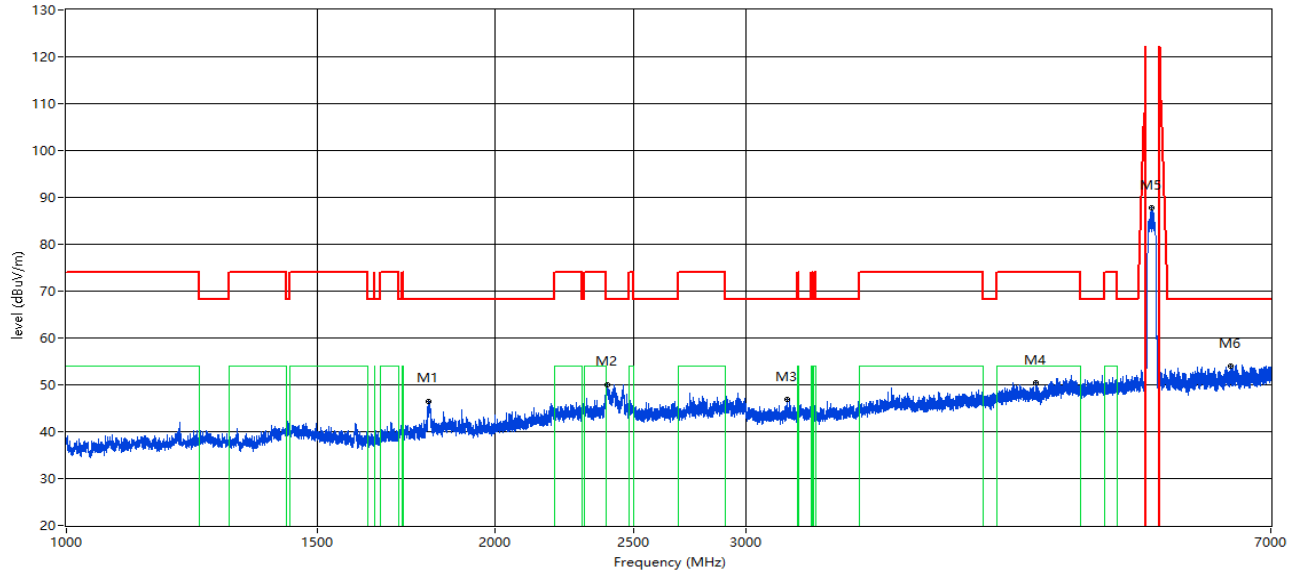
REmission Test case_FCC_Part 15E_FCC 15.407(5G BAND 4)_1GHz-7GHz



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1796.400	46.49	--	--	-10.86	68.2	--	--	21.71	226.00	100	Vertical	Pass
2395.826	49.90	--	--	0.07	68.2	--	--	18.30	12.00	100	Vertical	Pass
0.000	0.00	--	--	0.00	--	--	--	--	109.00	0	Vertical	Pass
4903.637	51.60	--	--	0.18	74.0	--	54.0	2.40	4.00	100	Vertical	Pass
5770.154	87.71	--	--	1.83	--	--	--	--	116.00	100	Vertical	Pass
6425.072	52.83	--	--	3.87	68.2	--	--	15.37	345.00	100	Vertical	Pass

1 GHz to 7 GHz, ANT H Band IV 11ac80 Low channel

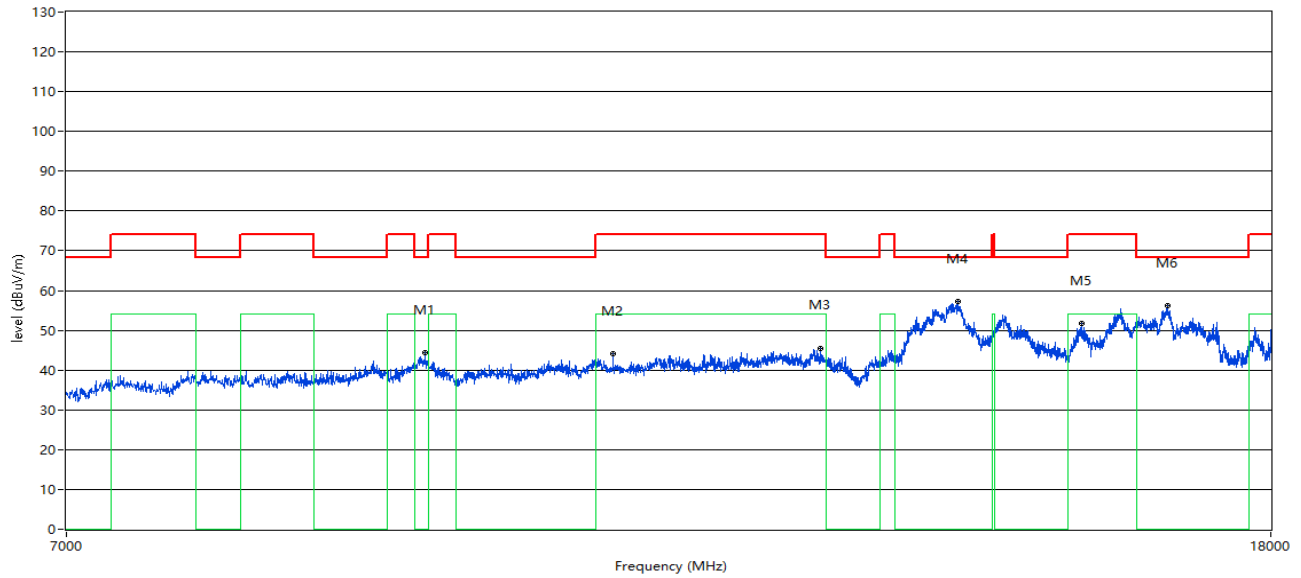
REmission Test case_FCC_Part 15E_FCC 15.407(5G BAND 4)_1GHz-7GHz



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1793.651	46.45	--	--	-11.07	68.2	--	--	21.75	297.00	100	Horizontal	Pass
2395.076	50.09	--	--	0.11	68.2	--	--	18.11	4.00	100	Horizontal	Pass
3204.349	46.88	--	--	-4.87	68.2	--	--	21.32	342.00	100	Horizontal	Pass
4785.527	50.39	--	--	-0.51	74.0	--	54.0	3.61	272.00	100	Horizontal	Pass
5770.529	87.68	--	--	1.84	--	--	--	--	231.00	100	Horizontal	Pass
6562.930	54.08	--	--	5.94	68.2	--	--	14.12	2.00	100	Horizontal	Pass

7 GHz to 18 GHz, ANT V Band IV 11ac80 Low channel

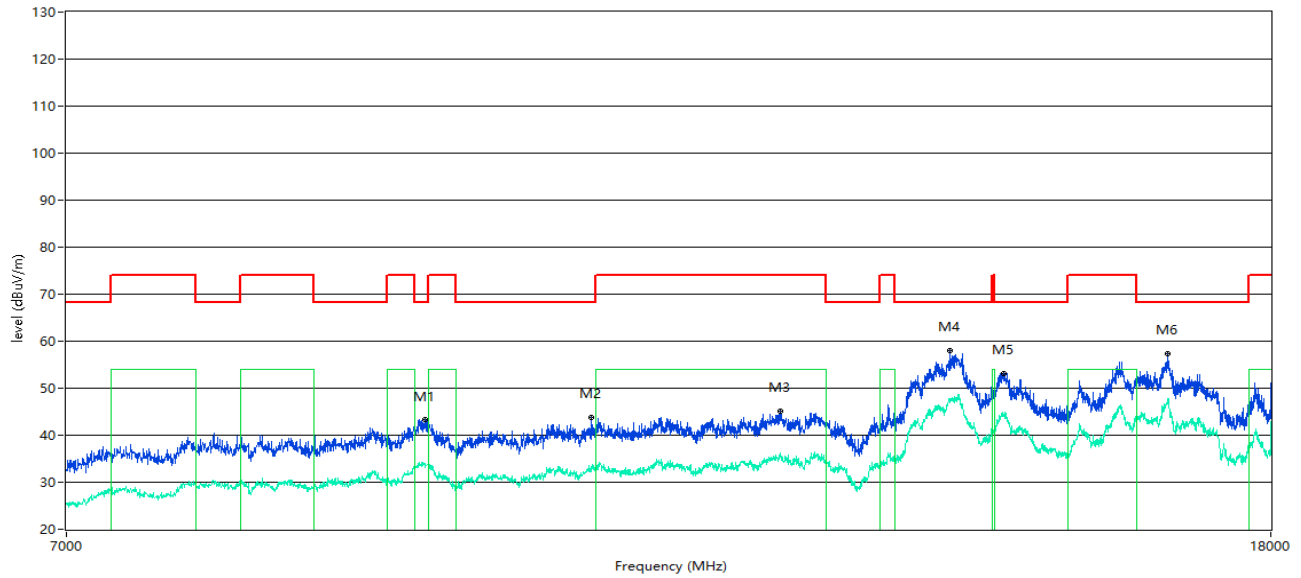
REmission Test case_FCC_Part 15E_FCC 15.407(5G)_7GHz-18GHz_B1



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
9273.682	44.37	--	34.0	-4.11	68.2	--	--	23.83	54.00	100	Vertical	Pass
10744.564	44.06	--	32.7	-1.95	74.0	--	54.0	21.30	130.00	100	Vertical	Pass
12649.838	45.37	--	34.5	0.20	74.0	--	54.0	19.50	70.00	100	Vertical	Pass
14079.480	57.29	--	48.5	14.72	68.2	--	--	10.91	3.00	100	Vertical	Pass
15520.120	51.63	--	41.2	4.05	74.0	--	54.0	12.80	258.00	100	Vertical	Pass
16595.101	56.23	--	47.5	12.00	68.2	--	--	11.97	12.00	100	Vertical	Pass

7 GHz to 18 GHz, ANT H Band IV 11ac80 Low channel

REmission Test case_FCC_Part 15E_FCC 15.407(5G)_7GHz-18GHz_B1



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
9273.682	43.32	--	33.7	-4.11	68.2	--	--	24.88	14.00	100	Horizontal	Pass
10563.109	43.84	--	33.4	-2.07	68.2	--	--	24.36	2.00	100	Horizontal	Pass
12256.686	45.11	--	35.4	-0.42	74.0	--	54.0	18.60	11.00	100	Horizontal	Pass
13997.001	58.03	--	47.7	14.10	68.2	--	--	10.17	185.00	100	Horizontal	Pass
14593.602	53.19	--	44.5	10.33	68.2	--	--	15.01	26.00	100	Horizontal	Pass
16606.098	57.33	--	47.7	11.92	68.2	--	--	10.87	12.00	100	Horizontal	Pass

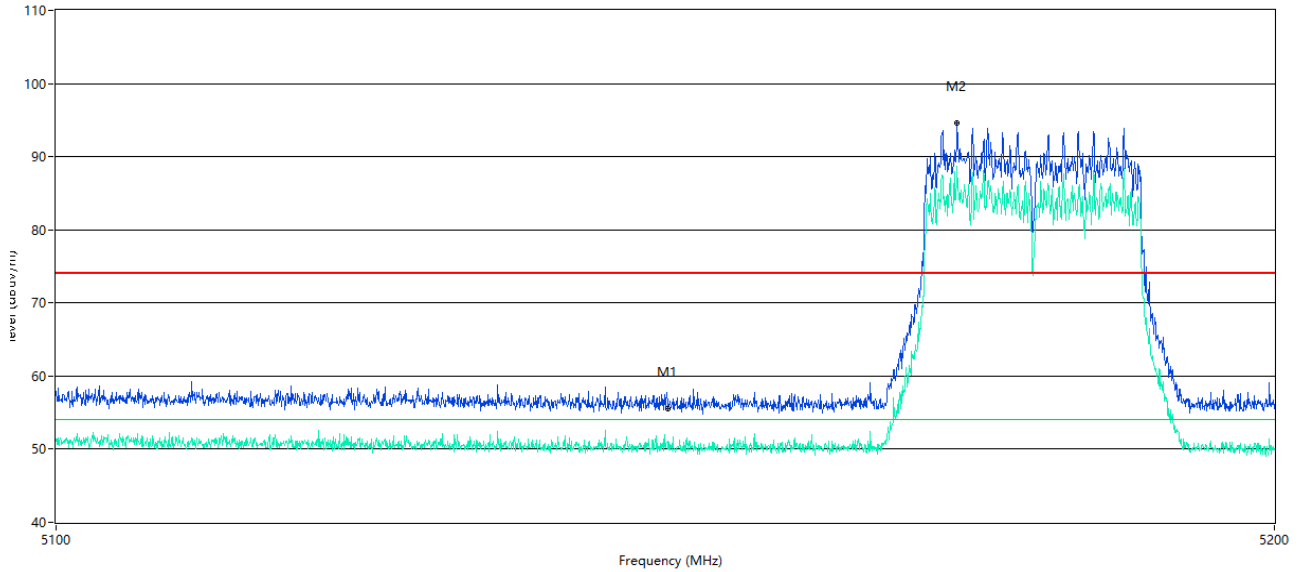
A.7.2 Band Edge (Restricted-band)

Test Band	Mode	Channel	Verdict
Band I	802.11n(HT20)	Low	Pass
		High	Pass
	802.11n(HT40)	Low	Pass
		High	Pass
	802.11ac(HT80)	Low	Pass
Band IV	802.11n(HT20)	Low	Pass
		High	Pass
	802.11n(HT40)	Low	Pass
		High	Pass
	802.11ac(HT80)	Low	Pass

Test Plots

Band I 11ac20 CH36 ANT V

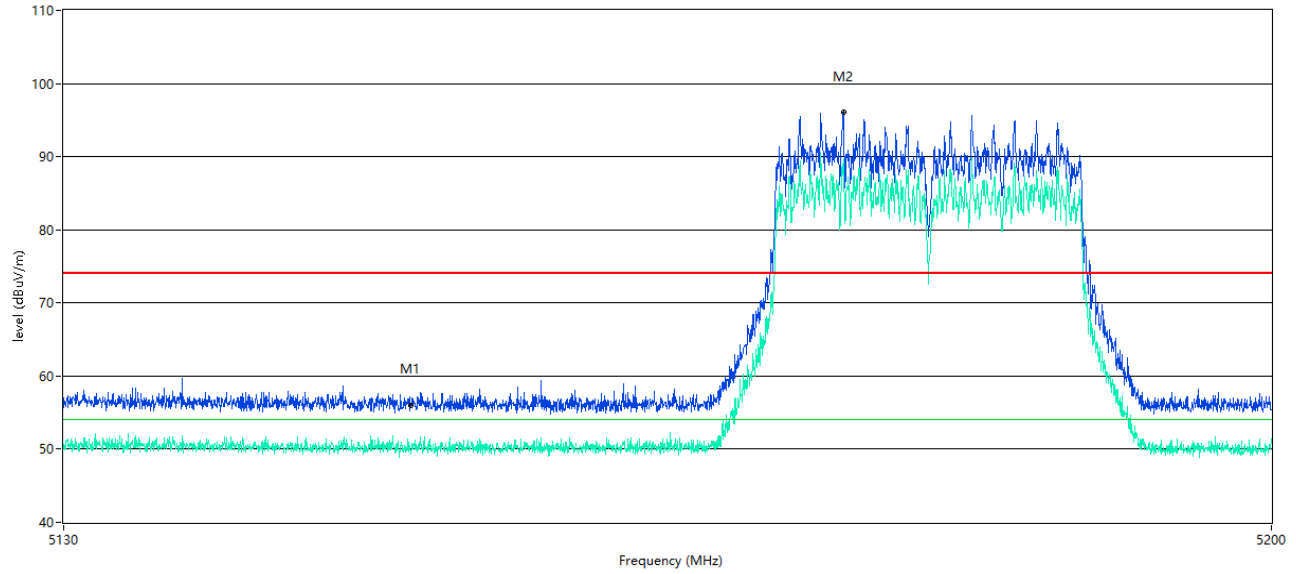
REmission Test case_FCC_Part 15C_FCC 15.247(2.4G)_bandedge 5180



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
5150.000	55.72	--	50.1	44.02	74.0	--	54.0	3.90	61.45	100	Vertical	Pass
5173.782	94.61	--	88.8	43.88	74.0	--	54.0	-34.80	267.30	100	Vertical	N.A

Band I 11ac20 CH36 ANT H

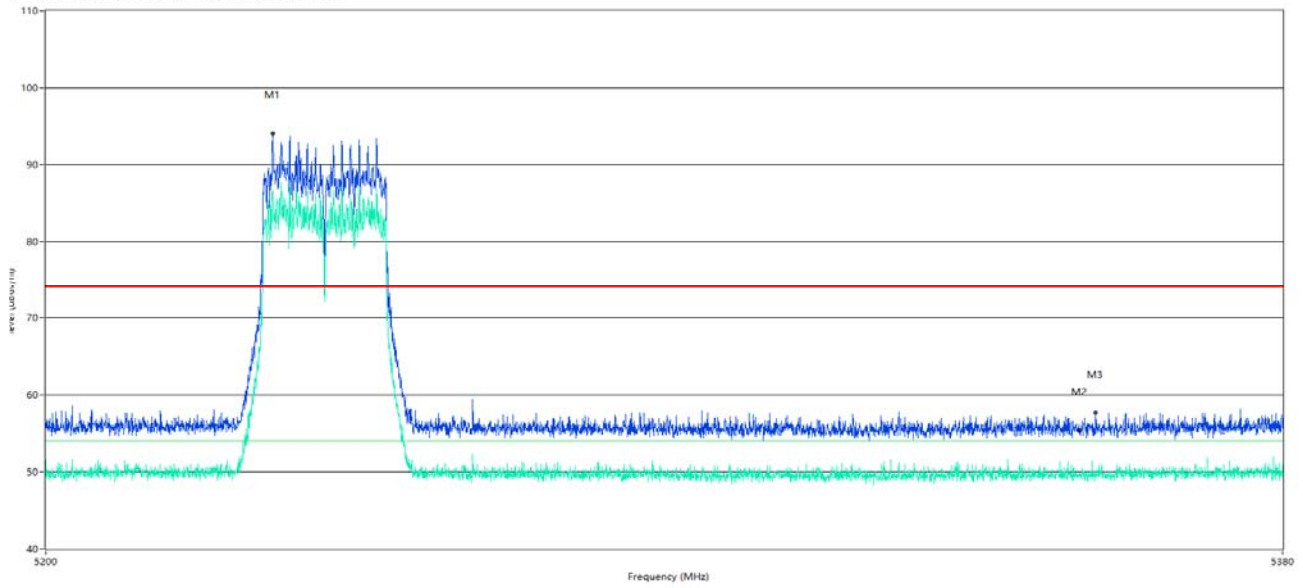
REmission Test case_FCC_Part 15C_FCC 15.247(2.4G)_bandedge 5180



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
5150.000	55.96	--	49.9	44.02	74.0	--	54.0	4.10	18.85	100	Horizontal	Pass
5175.081	96.05	--	89.7	43.86	74.0	--	54.0	-35.70	82.10	100	Horizontal	N.A

Band I 11ac20 CH48 ANT V

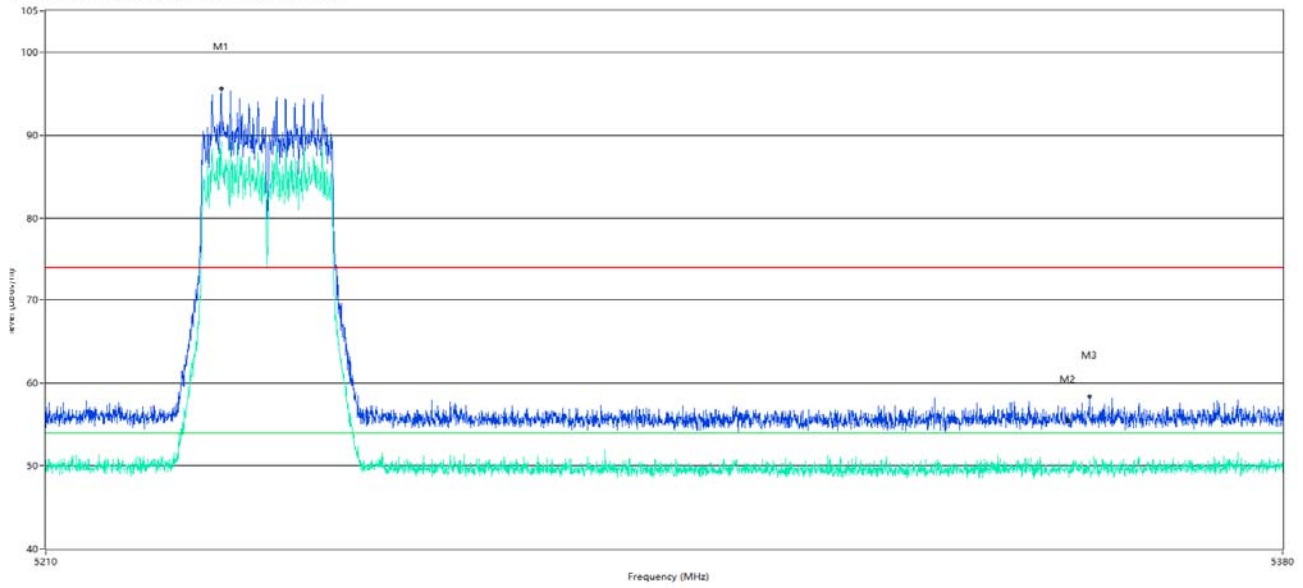
REmission Test case_FCC_Part 15C_FCC 15.247(2.4G)_bandedge 5340



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
5232.542	94.06	--	86.3	43.88	74.0	--	54.0	-32.30	274.00	100	Vertical	N.A
5350.000	55.57	--	49.4	43.88	74.0	--	54.0	4.60	14.07	100	Vertical	Pass
5352.362	57.66	--	49.5	43.92	74.0	--	54.0	4.50	0.30	100	Vertical	Pass

Band I 11ac20 CH48 ANT H

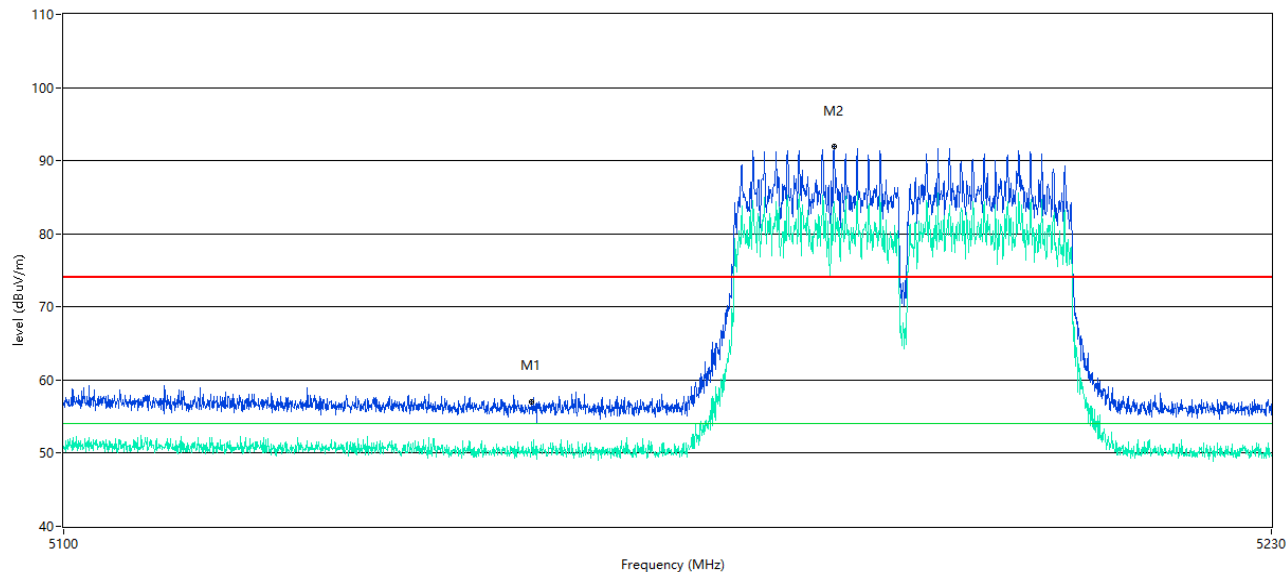
REmission Test case_FCC_Part 15C_FCC 15.247(2.4G)_bandedge 5240



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
5233.792	95.58	--	89.3	43.87	74.0	--	54.0	-35.30	245.50	100	Horizontal	N.A
5350.000	55.37	--	49.7	43.88	74.0	--	54.0	4.30	240.47	100	Horizontal	Pass
5353.062	58.38	--	50.6	43.93	74.0	--	54.0	3.40	198.60	100	Horizontal	Pass

Band I 11ac40 CH38 ANT V

REmission Test case_FCC_Part 15C_FCC 15.247(2.4G)_bandedge 5180

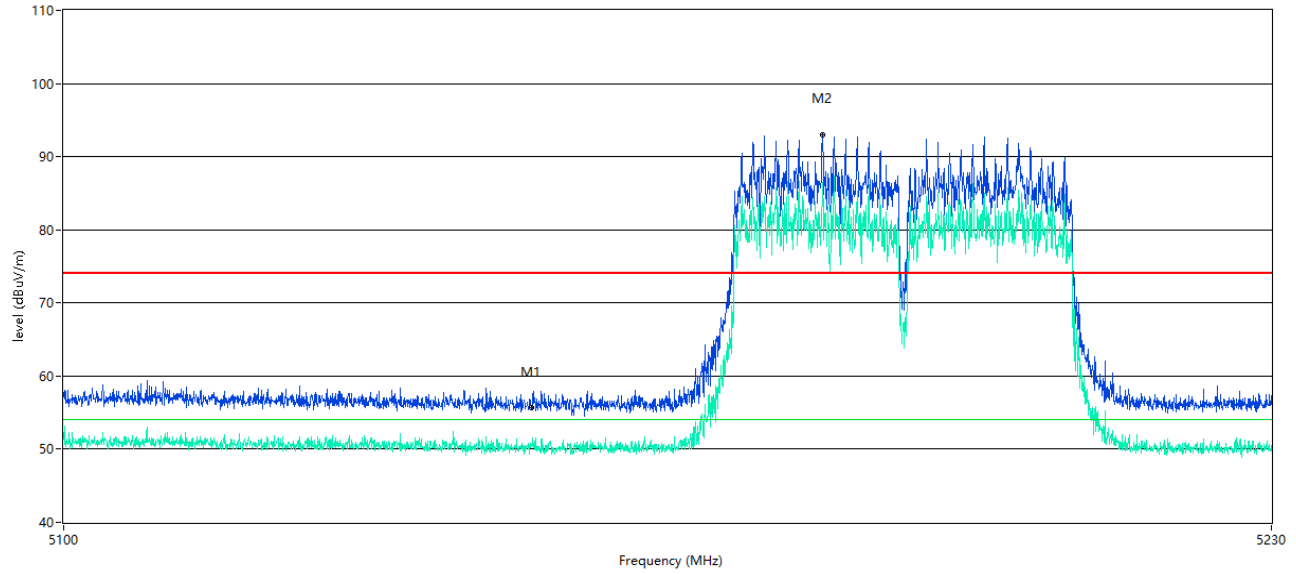


Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
5150.000	56.75	--	51.3	44.02	74.0	--	54.0	2.70	81.42	100	Vertical	Pass
5182.529	91.88	--	84.4	43.82	74.0	--	54.0	-30.40	287.50	100	Vertical	N.A

est Data and Plot

Band I 11ac40 CH38 ANT H

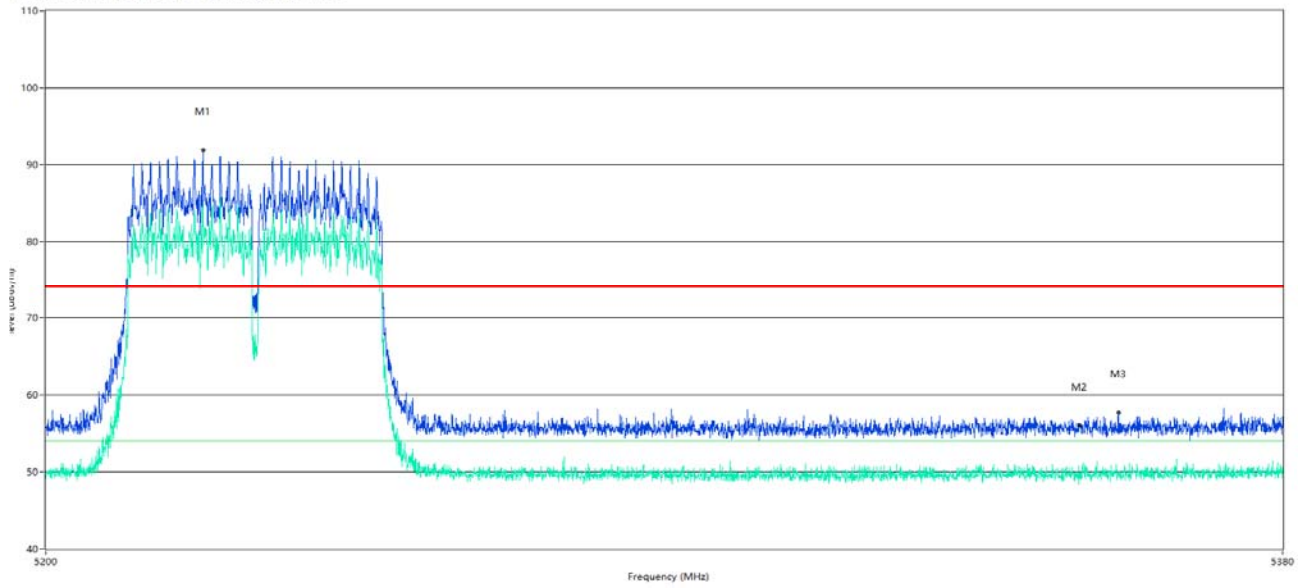
REmission Test case_FCC_Part 15C_FCC 15.247(2.4G)_bandedge 5180



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
5150.000	55.62	--	50.5	44.02	74.0	--	54.0	3.50	271.12	100	Horizontal	Pass
5181.330	92.95	--	86.4	43.83	74.0	--	54.0	-32.40	86.20	100	Horizontal	N.A

Band I 11ac40 CH46 ANT V

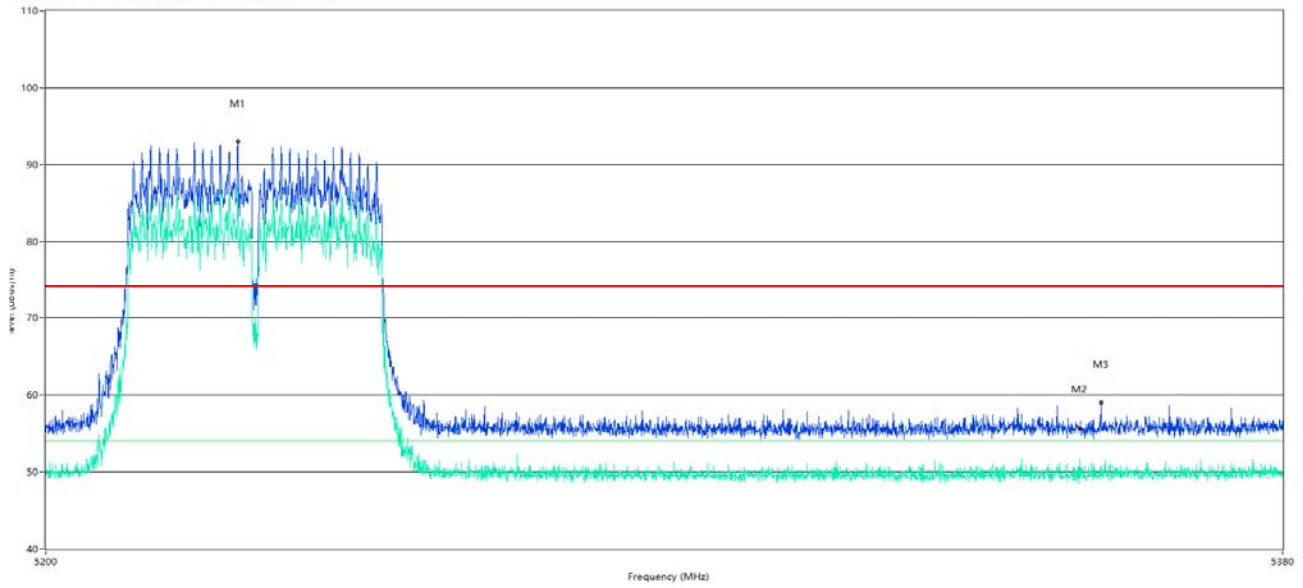
REmission Test case_FCC_Part 15C_FCC 15.247(2.4G)_bandedge 5340



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
5222.544	91.94	--	85.5	43.87	74.0	--	54.0	-31.50	276.60	100	Vertical	N/A
5350.000	56.01	--	49.6	43.88	74.0	--	54.0	4.40	25.40	100	Vertical	Pass
5355.761	57.72	--	50.0	43.97	74.0	--	54.0	4.00	38.70	100	Vertical	Pass

Band I 11ac40 CH46 ANT H

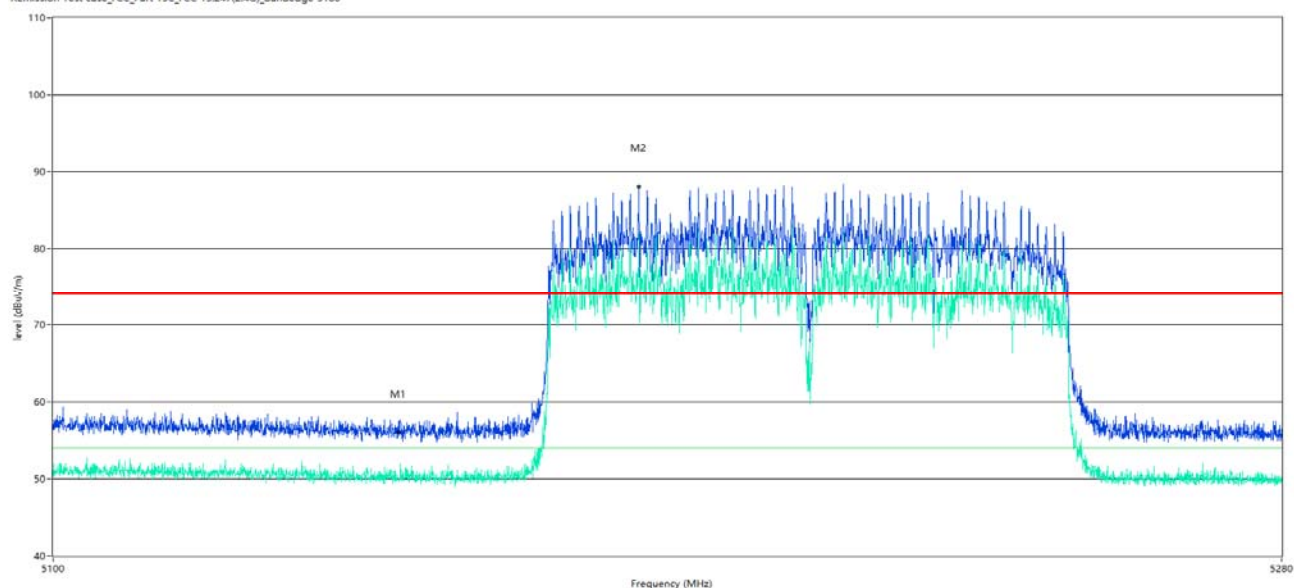
REmission Test case_FCC_Part 15C_FCC 15.247(2.4G)_bandedge 5340



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
5227.543	93.00	--	87.1	43.88	74.0	--	54.0	-33.10	241.40	100	Horizontal	N.A
5350.000	55.67	--	51.2	43.88	74.0	--	54.0	2.80	197.25	100	Horizontal	Pass
5353.162	58.96	--	50.7	43.93	74.0	--	54.0	3.30	0.00	100	Horizontal	Pass

Band I 11ac80 CH42 ANT V

REmission Test case_FCC_Part 15C_FCC 15.247(2.4G)_bandedge 5180

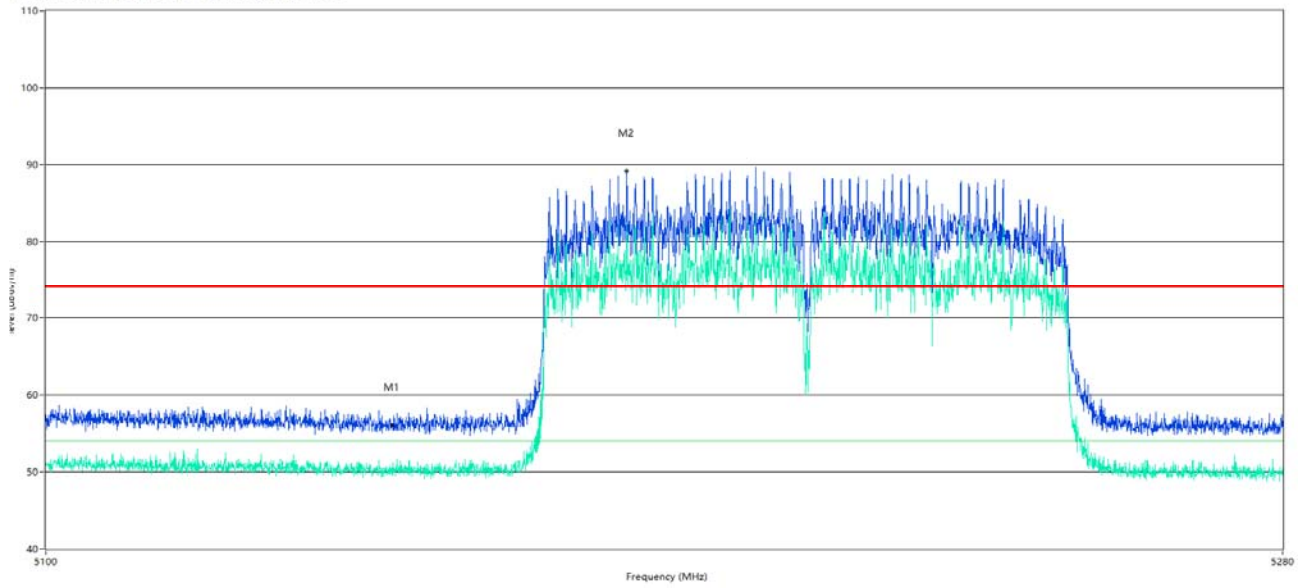


Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
5150.000	56.24	--	49.8	44.02	74.0	--	54.0	4.20	312.45	100	Vertical	Pass
5185.029	88.10	--	81.9	43.81	74.0	--	54.0	-27.90	267.10	100	Vertical	N.A

est Data and Plot

Band I 11ac80 CH42 ANT H

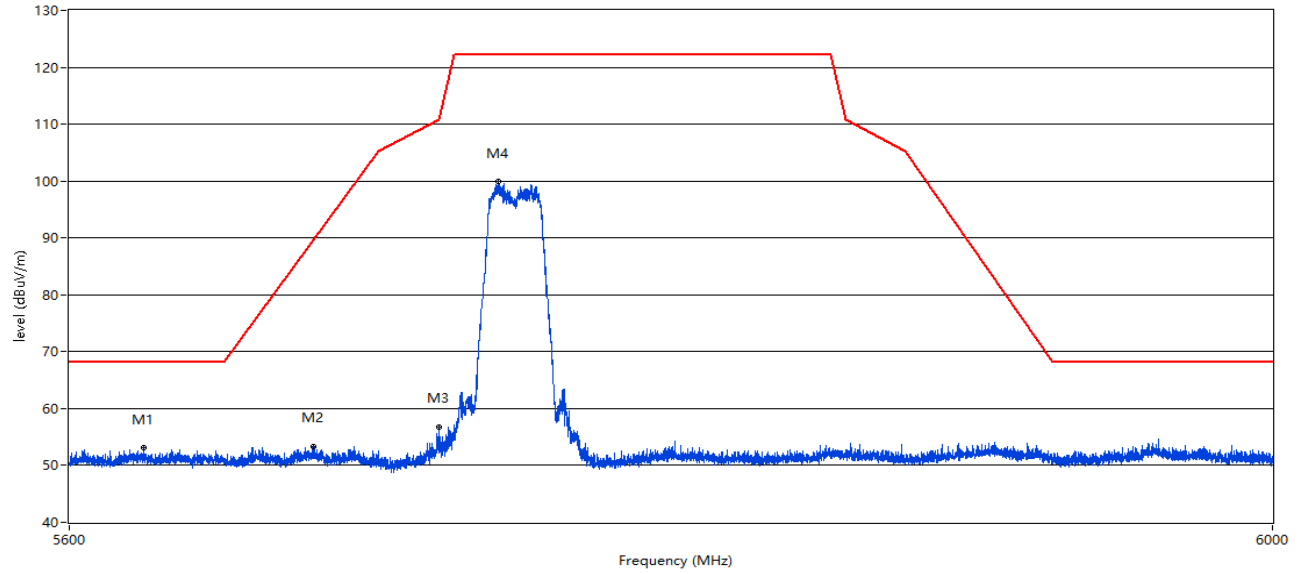
REmission Test case_FCC_Part 15C_FCC 15.247(2.4G)_bandedge 5180



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
5150.000	55.94	--	50.3	44.02	74.0	--	54.0	3.70	306.10	100	Horizontal	Pass
5183.779	89.18	--	82.4	43.81	74.0	--	54.0	-28.40	81.50	100	Horizontal	N.A

Band IV 11ac20 CH149 ANT V

R Emission Test case_FCC_Part 15C_FCC 15.247(2.4G)_1GHz-7GHz 5G_Band4_Bandedge

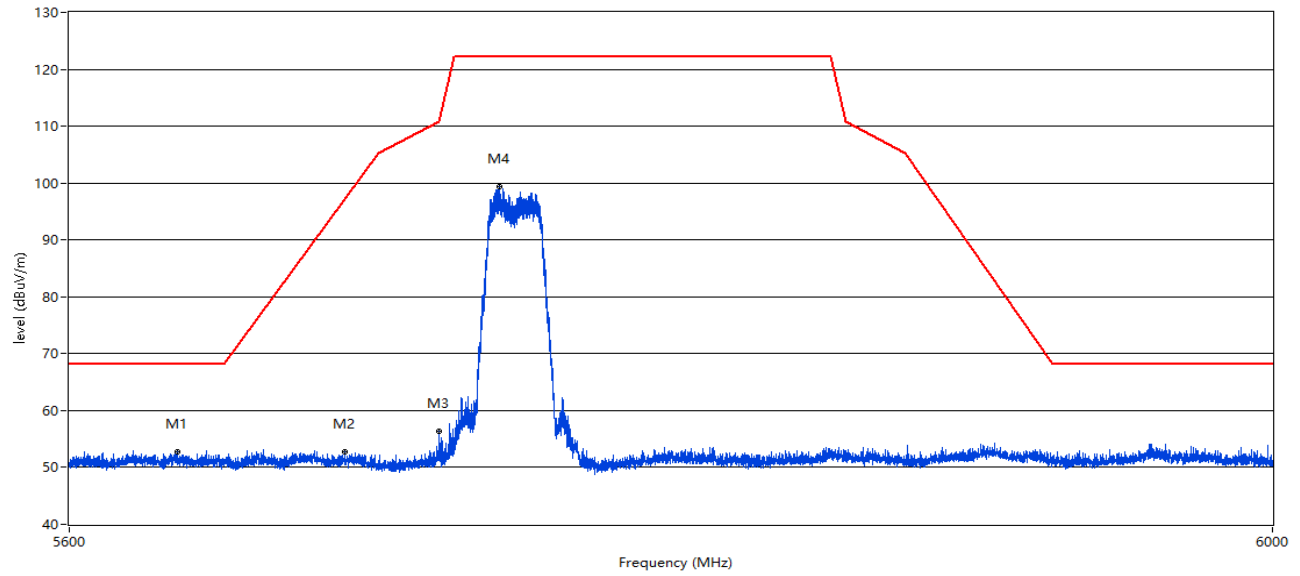


Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
5623.897	53.14	--	--	2.94	68.2	--	--	15.06	232.80	100	Vertical	Pass
5678.840	53.37	--	--	2.77	89.6	--	--	36.23	326.20	100	Vertical	Pass
5719.835	56.68	--	--	1.40	110.8	--	--	54.12	303.00	100	Vertical	Pass
5739.433	99.85	--	--	1.87	122.2	--	--	22.35	310.60	100	Vertical	Pass

est Data and Plot

Band IV 11ac20 CH149 ANT H

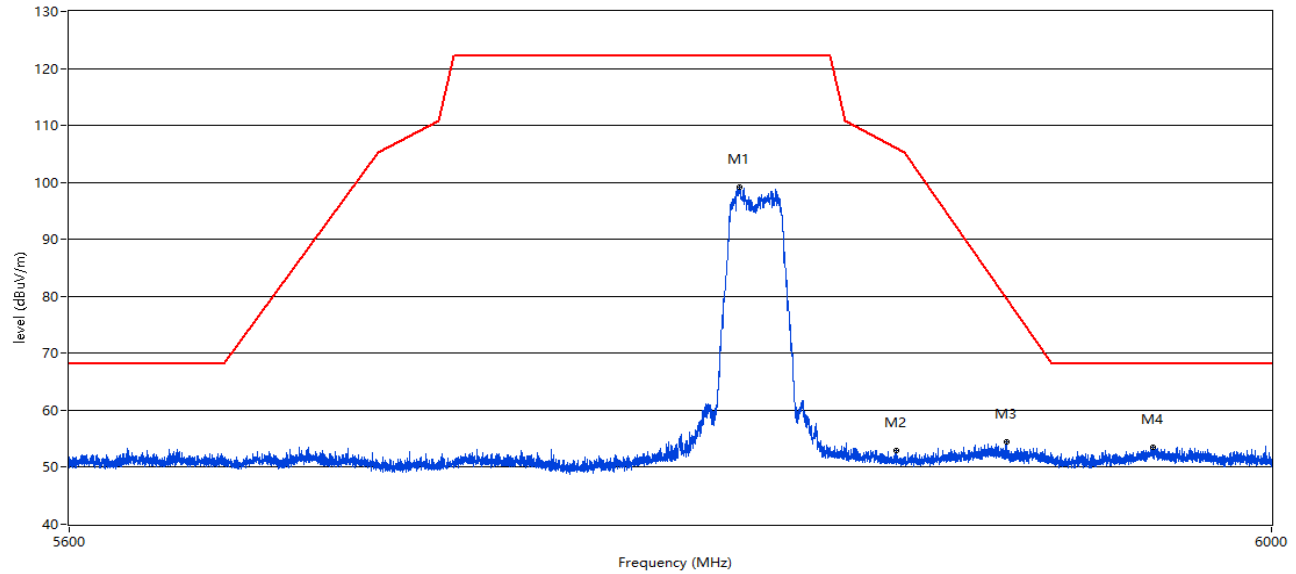
R Emission Test case_FCC_Part 15C_FCC 15.247(2.4G)_1GHz-7GHz 5G_Band4_Bandedge



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
5634.996	52.67	--	--	2.83	68.2	--	--	15.53	351.60	100	Horizontal	Pass
5689.189	52.73	--	--	2.39	97.2	--	--	44.47	146.10	100	Horizontal	Pass
5719.935	56.31	--	--	1.41	110.8	--	--	54.49	83.80	100	Horizontal	Pass
5739.683	99.33	--	--	1.88	122.2	--	--	22.87	83.80	100	Horizontal	Pass

Band IV 11ac20 CH165 ANT V

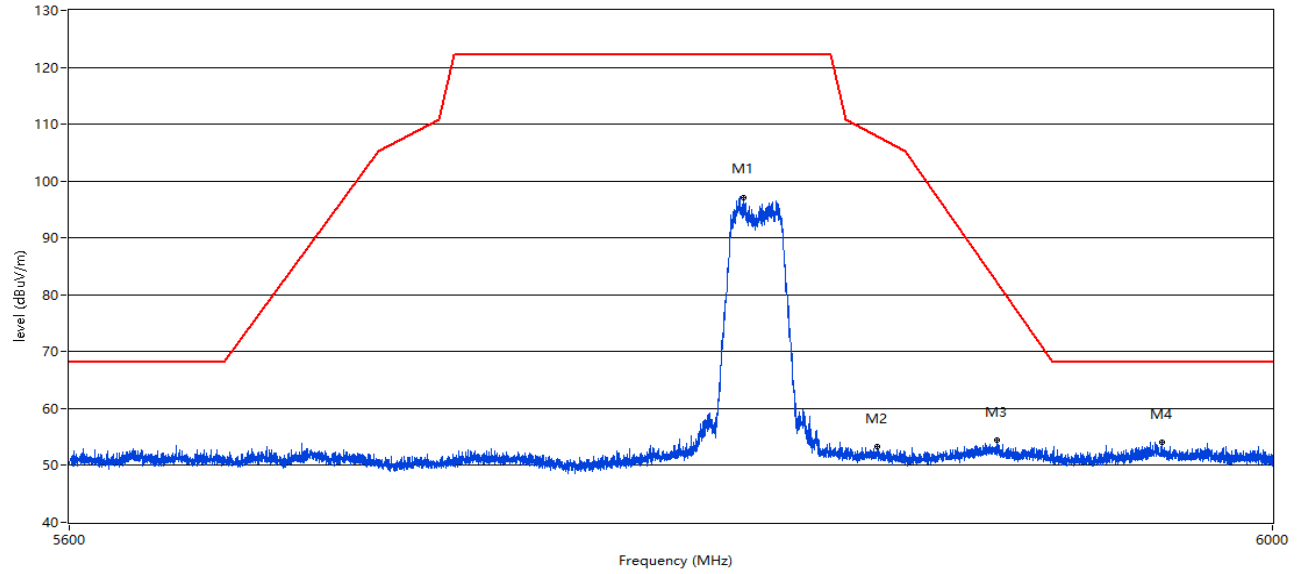
R Emission Test case_FCC_Part 15C_FCC 15.247(2.4G)_1GHz-7GHz 5G_Band4_Bandedge



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
5819.773	99.14	--	--	2.72	122.2	--	--	23.06	322.10	100	Vertical	Pass
5872.166	52.93	--	--	2.44	106.0	--	--	53.07	10.80	100	Vertical	Pass
5909.511	54.45	--	--	3.25	79.6	--	--	25.15	240.40	100	Vertical	Pass
5959.505	53.51	--	--	4.04	68.2	--	--	14.69	104.20	100	Vertical	Pass

Band IV 11ac20 CH165 ANT H

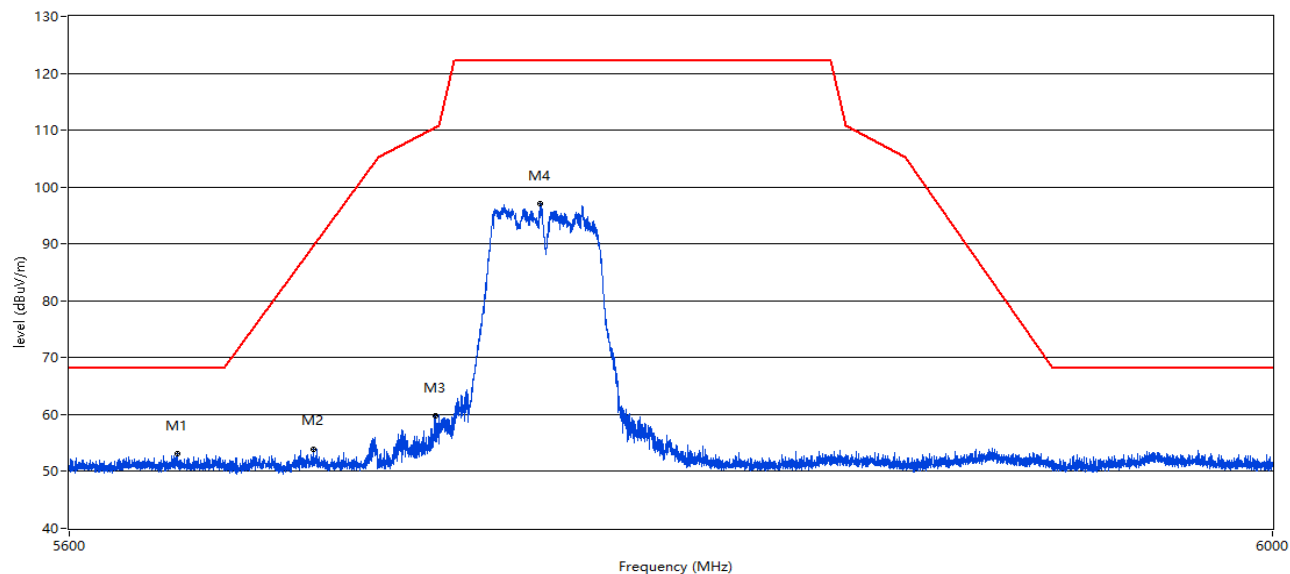
R Emission Test case_FCC_Part 15C_FCC 15.247(2.4G)_1GHz-7GHz 5G_Band4_Bandedge



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
5820.922	97.01	--	--	2.64	122.2	--	--	25.19	81.60	100	Horizontal	Pass
5865.517	53.27	--	--	2.95	107.9	--	--	54.63	46.50	100	Horizontal	Pass
5905.862	54.37	--	--	3.58	82.3	--	--	27.93	290.60	100	Horizontal	Pass
5962.305	54.04	--	--	3.81	68.2	--	--	14.16	0.40	100	Horizontal	Pass

Band IV 11ac40 CH151 ANT V

R Emission Test case_FCC_Part 15C_FCC 15.247(2.4G)_1GHz-7GHz 5G_Band4_Bandedge

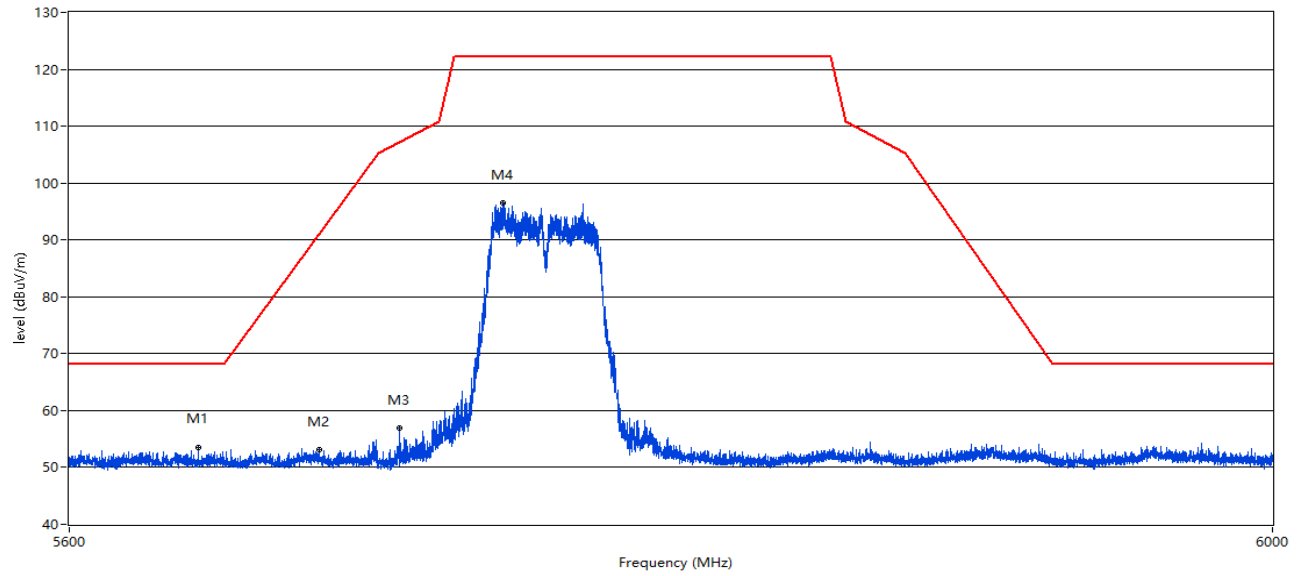


Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
5634.646	53.16	--	--	2.89	68.2	--	--	15.04	92.70	100	Vertical	Pass
5678.890	53.95	--	--	2.77	89.6	--	--	35.65	162.60	100	Vertical	Pass
5718.785	59.81	--	--	1.40	110.5	--	--	50.69	306.20	100	Vertical	Pass
5753.431	97.10	--	--	1.78	122.2	--	--	25.10	310.10	100	Vertical	Pass

est Data and Plot

Band IV 11ac40 CH151 ANT H

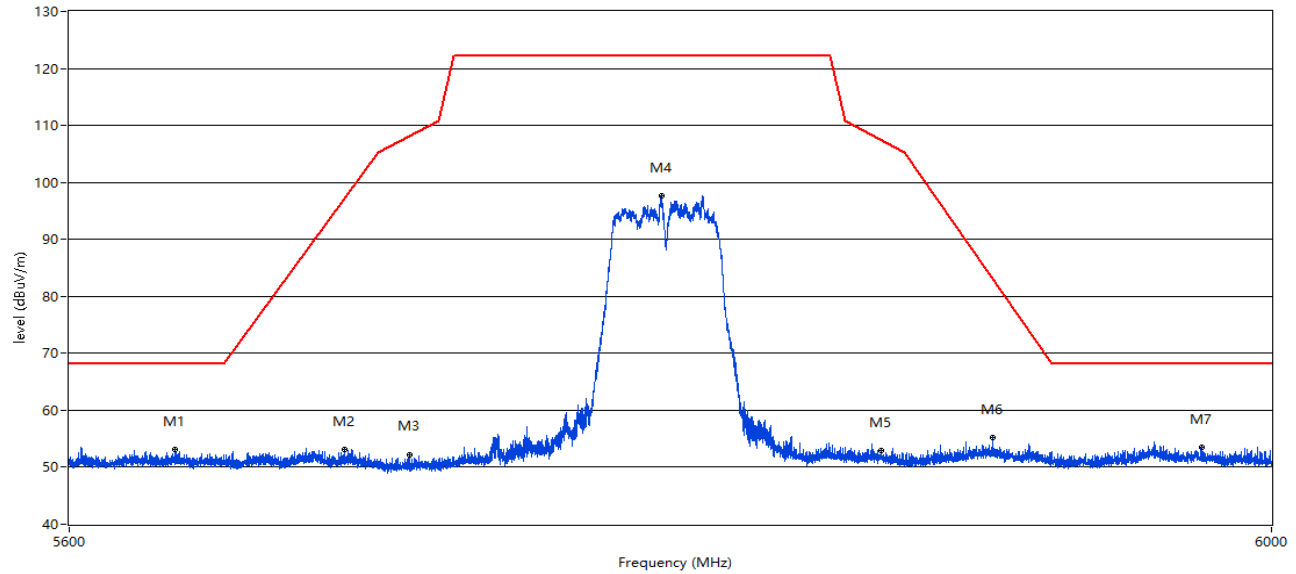
R Emission Test case_FCC_Part 15C_FCC 15.247(2.4G)_1GHz-7GHz 5G_Band4_Bandedge



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
5641.495	53.58	--	--	2.16	68.2	--	--	14.62	88.60	100	Horizontal	Pass
5680.690	53.11	--	--	2.57	90.9	--	--	37.79	283.10	100	Horizontal	Pass
5707.187	56.98	--	--	1.41	107.2	--	--	50.22	81.00	100	Horizontal	Pass
5740.882	96.42	--	--	1.90	122.2	--	--	25.78	81.00	100	Horizontal	Pass

Band IV 11ac40 CH159 ANT V

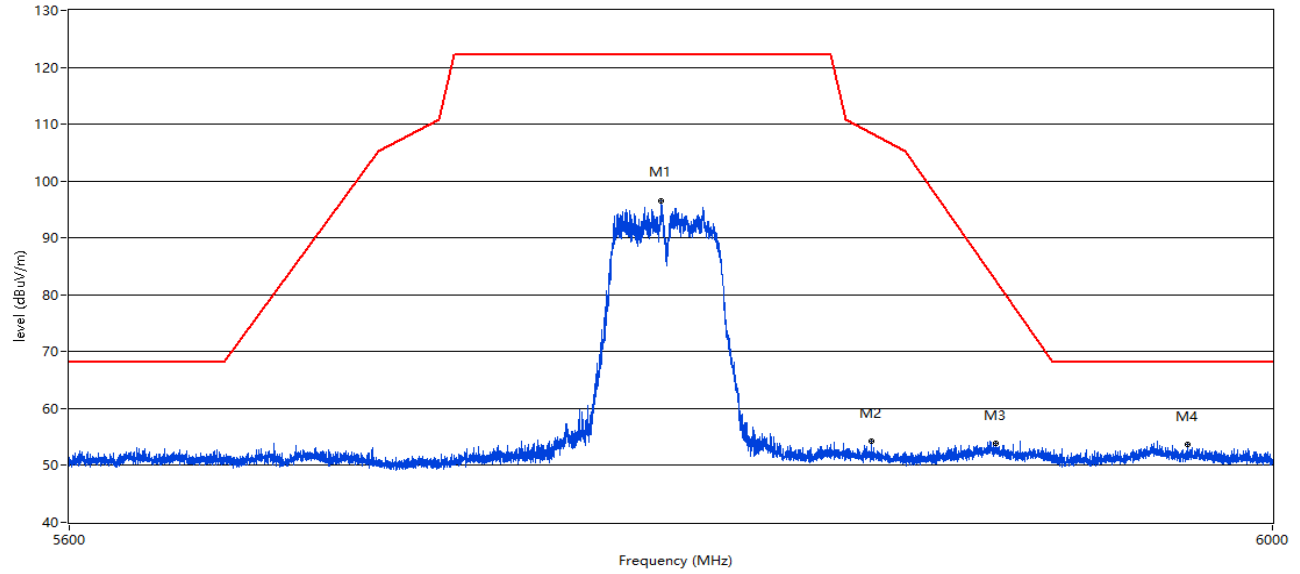
REmission Test case_FCC_Part 15C_FCC 15.247(2.4G)_1GHz-7GHz 5G_Band4_Bandedge



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
5633.946	53.07	--	--	2.88	68.2	--	--	15.13	221.30	100	Vertical	Pass
5689.339	53.11	--	--	2.40	97.3	--	--	44.19	318.40	100	Vertical	Pass
5710.386	52.25	--	--	1.52	108.1	--	--	55.85	7.10	100	Vertical	Pass
5793.576	97.73	--	--	2.55	122.2	--	--	24.47	314.40	100	Vertical	Pass
5867.117	52.95	--	--	2.80	107.4	--	--	54.45	15.00	100	Vertical	Pass
5904.912	55.19	--	--	3.68	83.0	--	--	27.81	124.00	100	Vertical	Pass
5975.903	53.50	--	--	3.84	68.2	--	--	14.70	240.60	100	Vertical	Pass

Band IV 11ac40 CH159 ANT H

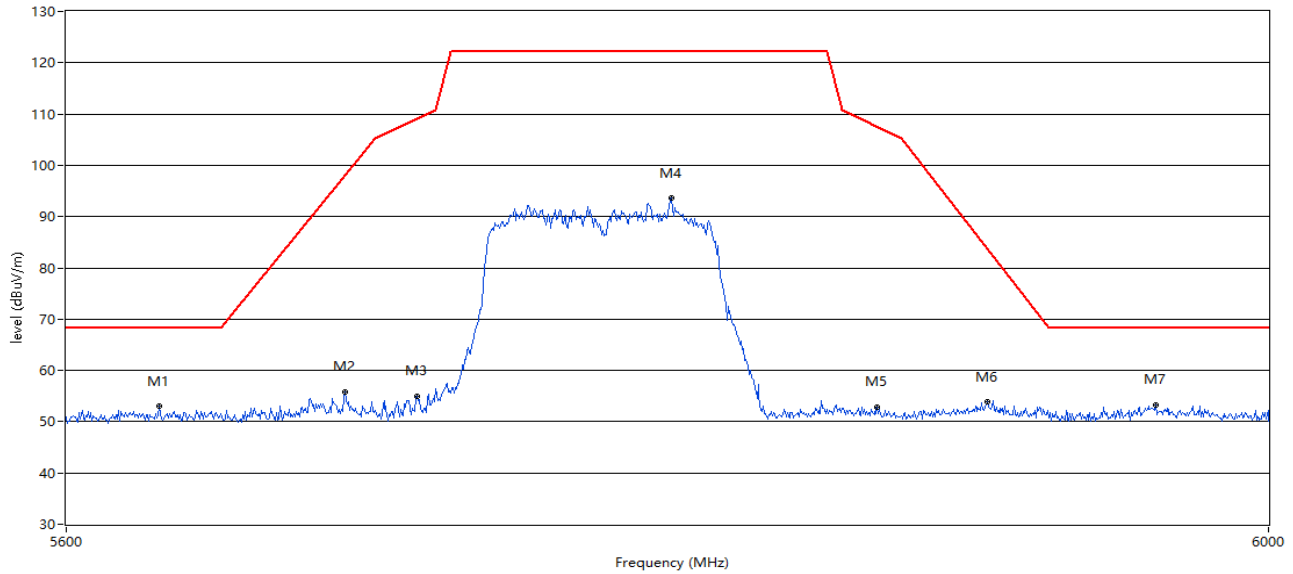
R Emission Test case_FCC_Part 15C_FCC 15.247(2.4G)_1GHz-7GHz 5G_Band4_Bandedge



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
5793.276	96.55	--	--	2.54	122.2	--	--	25.65	76.40	100	Horizontal	Pass
5863.667	54.32	--	--	3.03	108.4	--	--	54.08	72.40	100	Horizontal	Pass
5905.562	53.94	--	--	3.61	82.5	--	--	28.56	201.90	100	Horizontal	Pass
5970.754	53.70	--	--	3.66	68.2	--	--	14.50	162.10	100	Horizontal	Pass

Band IV 11ac80 CH155 ANT V

R Emission Test case_FCC_Part 15C_FCC 15.247(2.4G)_1GHz-7GHz 5G_Band4

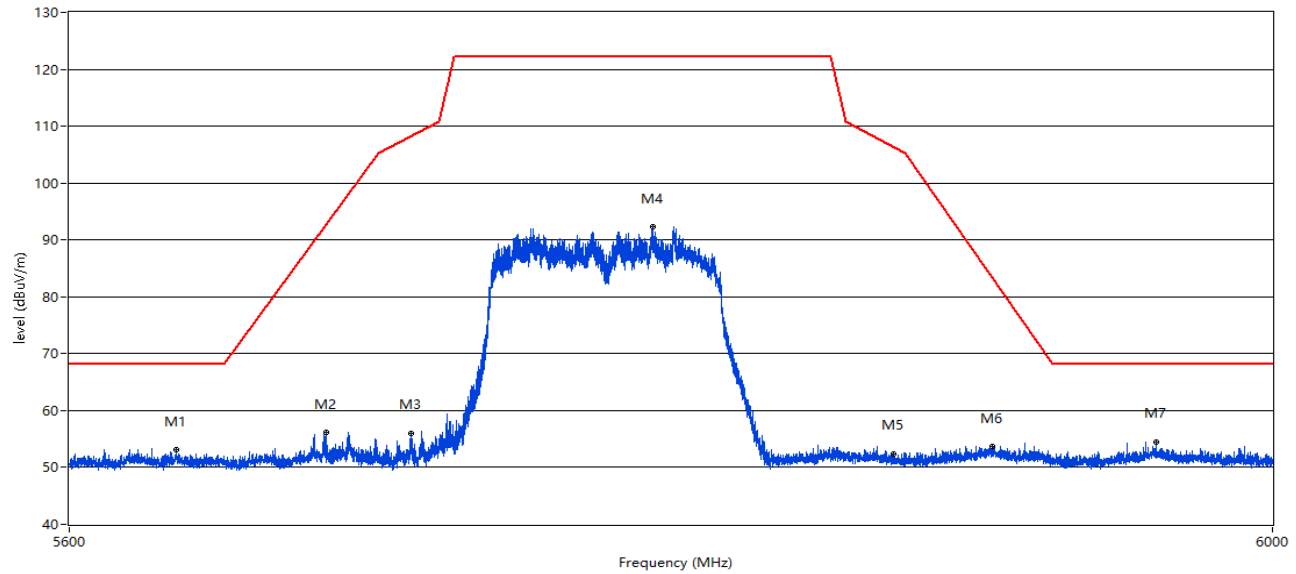


Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
5629.921	52.94	--	--	2.46	68.2	--	--	15.26	2.00	100	Vertical	Pass
5690.289	55.82	--	--	2.35	98.0	--	--	42.18	159.00	100	Vertical	Pass
5713.911	55.04	--	--	1.66	109.1	--	--	54.06	194.00	100	Vertical	Pass
5797.900	93.53	--	--	2.40	122.2	--	--	28.67	2.00	100	Vertical	Pass
5866.892	52.74	--	--	2.82	107.5	--	--	54.76	325.00	100	Vertical	Pass
5904.012	54.00	--	--	3.75	83.7	--	--	29.70	128.00	100	Vertical	Pass
5961.380	53.29	--	--	3.88	68.2	--	--	14.91	137.00	100	Vertical	Pass

est Data and Plot

Band IV 11ac80 CH155 ANT H

R Emission Test case_FCC_Part 15C_FCC 15.247(2.4G)_1GHz-7GHz 5G_Band4_Bandedge



Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
5634.546	53.16	--	--	2.90	68.2	--	--	15.04	212.90	100	Horizontal	Pass
5682.940	56.18	--	--	2.23	92.6	--	--	36.42	80.80	100	Horizontal	Pass
5710.836	55.93	--	--	1.54	108.2	--	--	52.27	84.70	100	Horizontal	Pass
5790.676	92.29	--	--	2.47	122.2	--	--	29.91	80.80	100	Horizontal	Pass
5870.866	52.35	--	--	2.51	106.4	--	--	54.05	329.00	100	Horizontal	Pass
5904.512	53.64	--	--	3.72	83.3	--	--	29.66	73.10	100	Horizontal	Pass
5960.205	54.44	--	--	3.98	68.2	--	--	13.76	166.20	100	Horizontal	Pass

A.8 Frequency Stability

Measurement Data (the worst channel)

Voltage vs. Frequency Stability (5180 MHz)

Test Conditions		Test Frequency (MHz)	0 Minute		2 Minute		5 Minute		10Minute	
TEMP. (°C)	Voltage (VDC)		Measurement Frequency (MHz)	Max. Deviation (ppm)	Measurement Frequency (MHz)	Max. Deviation (ppm)	Measurement Frequency (MHz)	Max. Deviation (ppm)	Measurement Frequency (MHz)	Max. Deviation (ppm)
20	3.7	5180	5179.957808	-8.15	5179.952872	-9.10	5179.990015	-1.93	5179.989238	-2.08
	3.8	5180	5180.011463	2.21	5180.012777	2.47	5180.020628	3.98	5180.015833	3.06
	4.35	5180	5180.040247	7.77	5180.04939	9.53	5180.00755	1.46	5180.007166	1.38

Temperature vs. Frequency Stability (5180 MHz)

Test Conditions		Test Frequency (MHz)	0 Minute		2 Minute		5 Minute		10Minute	
Voltage (VDC)	TEMP. (°C)		Measurement Frequency (MHz)	Max. Deviation (ppm)	Measurement Frequency (MHz)	Max. Deviation (ppm)	Measurement Frequency (MHz)	Max. Deviation (ppm)	Measurement Frequency (MHz)	Max. Deviation (ppm)
3.8	-20	5180	5179.991766	-1.59	5179.96352	-7.04	5179.980563	-3.75	5179.983608	-3.16
	-10	5180	5180.017164	3.31	5180.017908	3.46	5180.001481	0.29	5180.047586	9.19
	0	5180	5180.025804	4.98	5180.006023	1.16	5180.00018	0.03	5180.04164	8.04
	10	5180	5180.04985	9.62	5180.006183	1.19	5180.033984	6.56	5180.045398	8.76
	20	5180	5179.98705	-2.50	5179.995139	-0.94	5179.967322	-6.31	5179.963127	-7.12
	30	5180	5180.048196	9.30	5180.003076	0.59	5180.00825	1.59	5180.022295	4.30
	40	5180	5180.043241	8.35	5180.039181	7.56	5180.031977	6.17	5180.021995	4.25
	45	5180	5179.981179	-3.63	5180.002977	0.57	5180.03128	6.04	5180.030484	5.88

ANNEX B TEST SETUP PHOTOS

Please refer the document "BL-EC17C0360-AR.PDF".

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document "BL-EC17C0360-AW.PDF".

ANNEX D EUT INTERNAL PHOTOS

Please refer the document "BL-EC17C0360-AI.PDF".

--END OF REPORT--