

TEST REPORT

Applicant: NAYAX Ltd.
Address: 3 Arik Einstein St., 1st Floor, Herzliya, 4659071, Israel
Equipment Type: POS Payment Device
Model Name: VPOSMS
Brand Name: Nayax
FCC ID: 2AK6L-VPOSMS
Test Standard: 47 CFR Part 15 Subpart E (refer to section 3.1)
Sample Arrival Date: May 16, 2024
Test Date: May 16, 2024 – Jun. 04, 2024
Date of Issue: Jul. 11, 2024

ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

Tested by: Yu Yingyuan**Checked by:** Ye Hongji**Approved by:** Liao Jianming
(Technical Director)

Revision History

Version	Issue Date	Revisions
<u>Rev. 01</u>	<u>Jul. 11, 2024</u>	<u>Initial Issue</u>

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1 GENERAL INFORMATION

1.1 Test Laboratory

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

1.2 Test Location

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

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	NAYAX Ltd.
Address	3 Arik Einstein St., 1st Floor, Herzliya, 4659071, Israel

2.2 Manufacturer Information

Manufacturer	NAYAX Ltd.
Address	3 Arik Einstein St., 1st Floor, Herzliya, 4659071, Israel

2.3 General Description for Equipment under Test (EUT)

EUT Name	POS Payment Device
Model Name Under Test	VPOSMS
Series Model Name	N/A
Description of Model name differentiation	N/A
Serial Number	N/A
Hardware Version	VPOSMSx415223xxxx
Software Version	6202.30.xxxx.xxx.xxx
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

2.4 Technical Information

Network and Wireless connectivity	2G Network GSM/GPRS/EDGE 850/1900 MHz 3G Network WCDMA/HSDPA/HSUPA Band 2/4/5 4G Network LTE FDD Band 2/4/5/7/12/17 LTE TDD Band 38/41 Bluetooth (BR+EDR+BLE +HS3.0) 2.4G WIFI 802.11b, 802.11g and 802.11n(HT20) 5G WIFI 802.11a, 802.11n(HT20/HT40) U-NII-1/2A/3, DFS ,GPS, GLONASS, BDS, NFC
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The requirement for the following technical information of the EUT was tested in this report:

Frequency Range	U-NII-1: 5150 MHz to 5250 MHz, U-NII-2A: 5250 MHz to 5350 MHz, U-NII-3: 5725 MHz to 5850 MHz
Product Type	☐ Mobile ☐ Portable ☒ Fix Location
Modulation technology	OFDM
Modulation Type	256QAM, 64QAM, 16QAM, BPSK, QPSK
Transfer Rate (Mbps) (Single RF path)	802.11a: 54/ 48/ 36/ 24/ 18/ 12/ 9/ 6 Mbps 802.11n: up to 150 Mbps
Channel Bandwidth	802.11a: 20 MHz 802.11n: 20 MHz, 40 MHz
Maximum Output Power	U-NII-1: 23.66 mW U-NII-2A: 21.53 mW U-NII-3: 24.15 mW
Antenna System (eg., MIMO, Smart Antenna)	N/A
Categorization as Correlated or Completely Uncorrelated	N/A
Antenna Type	PIFA Antenna
Antenna Gain	U-NII-1: 5150 MHz to 5250 MHz:0.35 dBi U-NII-2A: 5250 MHz to 5350 MHz: 0.74 dBi U-NII-3: 5725 MHz to 5850 MHz: 2.22 dBi
About the Product	The equipment is POS Payment Device, intended for used with information technology equipment.

2.5 Channel List

20 MHz		40 MHz	
Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)
36	5180	38	5190
40	5200	46	5230
44	5220	54	5270
48	5240	62	5310
52	5260	151	5755
56	5280	159	5795
60	5300		
64	5320		
149	5745		
153	5765		
157	5785		
161	5805		
165	5825		

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 802.11a/n(HT20)

U-NII-1 (5150 - 5250 MHz)			U-NII-2A (5250 - 5350 MHz)		
Channel Number	Channel	Frequency (MHz)	Channel Number	Channel	Frequency (MHz)
36	Low	5180	52	Low	5260
44	Mid	5220	60	Mid	5300
48	High	5240	64	High	5320

U-NII-3 (5725 - 5850 MHz)		
Channel Number	Channel	Frequency (MHz)
149	Low	5745
157	Mid	5785
165	High	5825

For 802.11n(HT40)

U-NII-1 (5150 - 5250 MHz)			U-NII-2A (5250 - 5350 MHz)		
Channel Number	Channel	Frequency (MHz)	Channel Number	Channel	Frequency (MHz)
38	Low	5190	54	Low	5270
46	High	5230	62	High	5310

U-NII-3 (5725 - 5850 MHz)		
Channel Number	Channel	Frequency (MHz)
151	Low	5755
159	High	5795

FNote: 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	U-NII-1	U-NII-2A	U-NII-3
				Channel	Channel	Channel
RF Output Power	11a	6	BPSK	48/44/36	64/60/52	165/157/149
	11n(20 MHz)	6.5		48/44/36	64/60/52	165/157/149
	11n(40 MHz)	13.5		46/38	62/54	159/151
Emission Bandwidth & 99% Occupied	11a	6	BPSK	48/44/36	64/60/52	165/157/149
	11n(20 MHz)	6.5		48/44/36	64/60/52	165/157/149
	11n(40 MHz)	13.5		46/38	62/54	159/151

Bandwidth						
6 dB bandwidth	11a	6	BPSK	N/A	N/A	165/157/149
	11n(20 MHz)	6.5		N/A	N/A	165/157/149
	11n(40 MHz)	13.5		N/A	N/A	159/151
Power Spectral Density	11a	6	BPSK	48/44/36	64/60/52	165/157/149
	11n(20 MHz)	6.5		48/44/36	64/60/52	165/157/149
	11n(40 MHz)	13.5		46/38	62/54	159/151
Radiated Spurious Emissions	11a	6	BPSK	44	60	57
	11n(20 MHz)	6.5		44	60	57
	11n(40 MHz)	13.5		38	54	151
Band Edge (Restricted- band)	11a	6	BPSK	48/36	64/52	165/149
	11n(20 MHz)	6.5		48/36	64/52	165/149
	11n(40 MHz)	13.5		46/38	62/54	159/151

3 SUMMARY OF TEST RESULTS

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 15 Subpart E	Unlicensed National Information Infrastructure Devices
2	KDB Publication 789033 D02v02r01	Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part 15, Subpart E
3	ANSI C63.10-2013	American National Standard for Testing Unlicensed Wireless Devices

3.2 Test Verdict

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

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

4 GENERAL TEST CONFIGURATIONS

4.1 Test Environments

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

Relative Humidity	53% to 61%	
Atmospheric Pressure	100 kPa to 102 kPa	
Temperature	NT (Normal Temperature)	+22.6°C to +23.8°C
	LT (Low Temperature)	-10.0°C
	HT (High Temperature)	+55.0°C
Working Voltage of the EUT	NV (Normal Voltage)	5.0 V

4.2 Test Equipment List

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer	KEYSIGHT	N9020A	MY50330200	2024.05.08	2025.05.07
Power Sensor	KEYSIGHT	U2063XA	MY58000251	2023.07.12	2024.07.11
Spectrum Analyzer	ROHDE&SCHWARZ	FSV-40	101544	2023.12.27	2024.12.26
Spectrum Analyzer	KEYSIGHT	N9020A	MY50531259	2023.09.05	2024.09.04
Signaling Unit	ROHDE&SCHWARZ	CMW500	171150	2024.05.22	2025.05.21
Test Antenna-Horn	SCHWARZBECK	BBHA 9120D	02460	2024.05.16	2027.05.15
Test Antenna-Horn	A-INFO	LB- 180400KF	J211060273	2021.07.02	2024.07.01
Anechoic Chamber	RAINFORD	9m*6m*6m	140	2022.02.19	2024.08.15
Amplifier	COM-MV	ZT30- 1000M	07210897	2023.09.05	2024.09.04
Amplifier	COM-MV	LSCX_LNA 1-12G-01	7210214	2023.09.05	2024.09.04
Amplifier	COM-MV	XKu_LNA7- 18G-01	7210209	2023.09.05	2024.09.04
Amplifier	COM-MV	KA LNA18 40G-01	18050001	2023.12.06	2024.12.05
EMI Receiver	ROHDE&SCHWARZ	ESRP	101036	2023.09.05	2024.09.04
Test Antenna-Loop	SCHWARZBECK	FMZB 1519	1519-037	2024.01.23	2025.01.22
Anechoic Chamber	EMC Electronic Co., Ltd	20.10*11.60 *7.35m	130	2021.08.15	2024.08.14
Test Antenna-Bi-Log	SCHWARZBECK	VULB 9163	9163-624	2021.08.20	2024.08.19
EMI Receiver	KEYSIGHT	N9038A	MY53220118	2023.09.05	2024.09.04
Anechoic Chamber	RAINFORD	9m*6m*6m	101	2023.03.26	2026.03.03
EMI Receiver	KEYSIGHT	N9010B	MY57110309	2023.09.05	2024.09.04
LISN	SCHWARZBECK	NSLK 8127	8127-687	2024.05.08	2025.05.07
Shielded Enclosure	YiHeng Electronic	3.5m*3.1m*	112	2022.02.19	2025.02.18

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
	Co., Ltd	2.8m			

4.3 Test Software List

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

4.4 Measurement Uncertainty

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

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

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

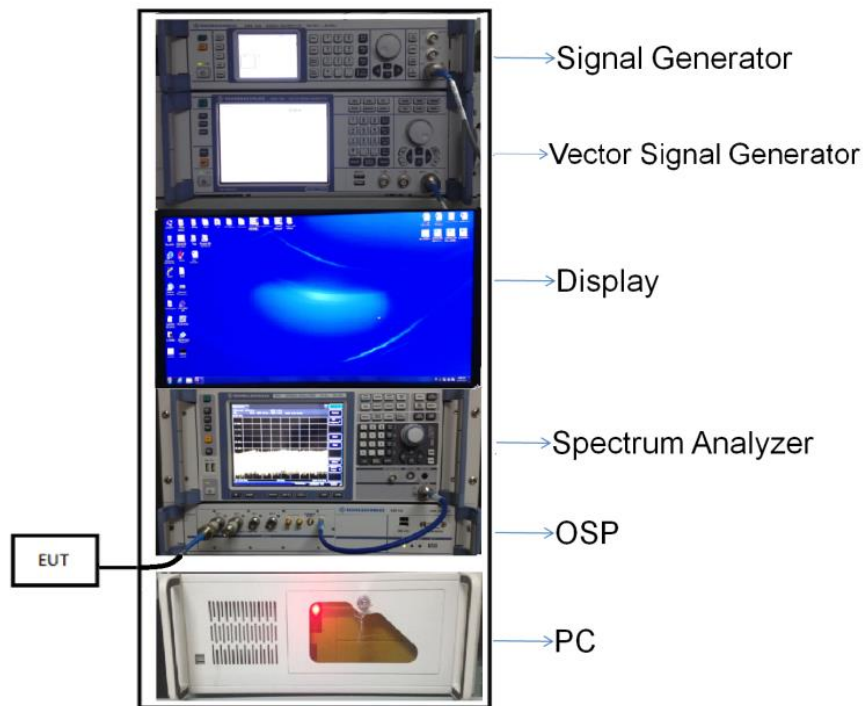
4.5 Description of Test Setup

4.5.1 For Antenna Port Test

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

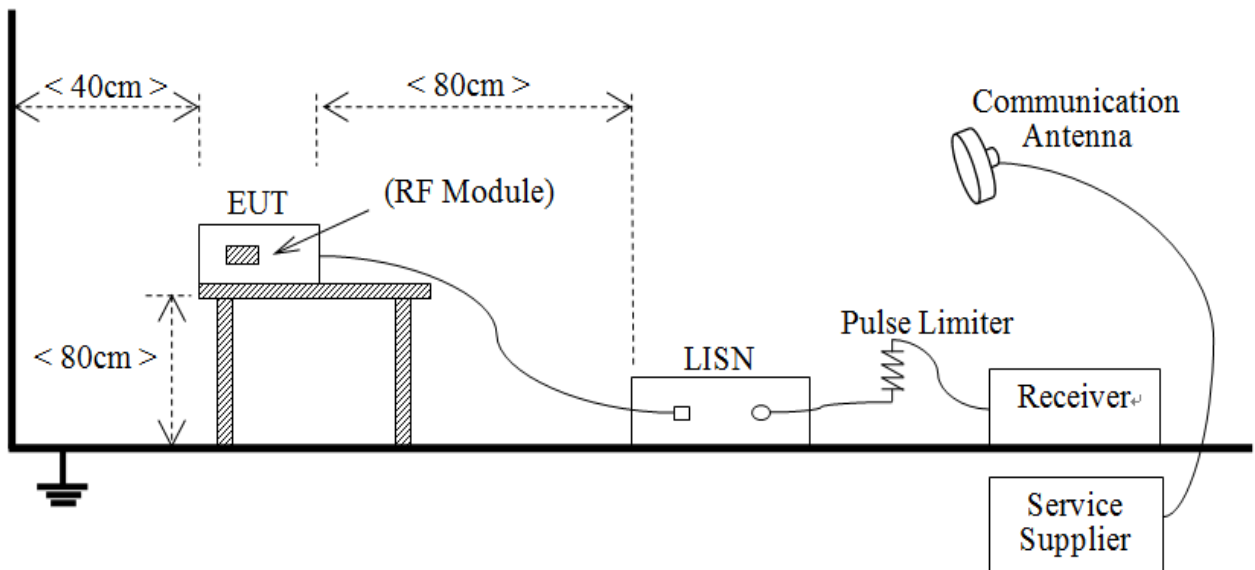
For example: the measurement value is 10 dBm and the cable 0.5dBm used, then the final result of EUT:

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



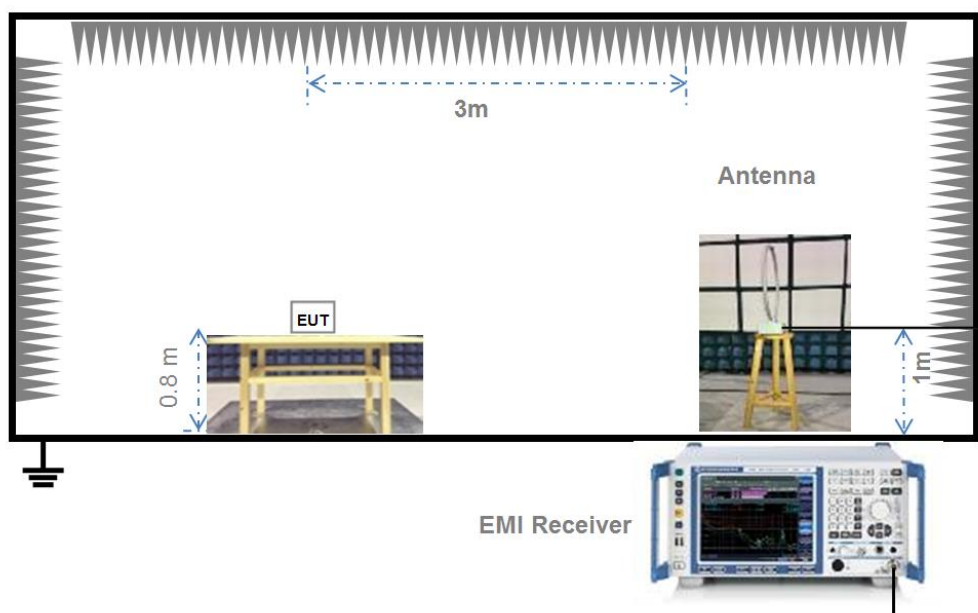
(Diagram 1)

4.5.2 For AC Power Supply Port Test



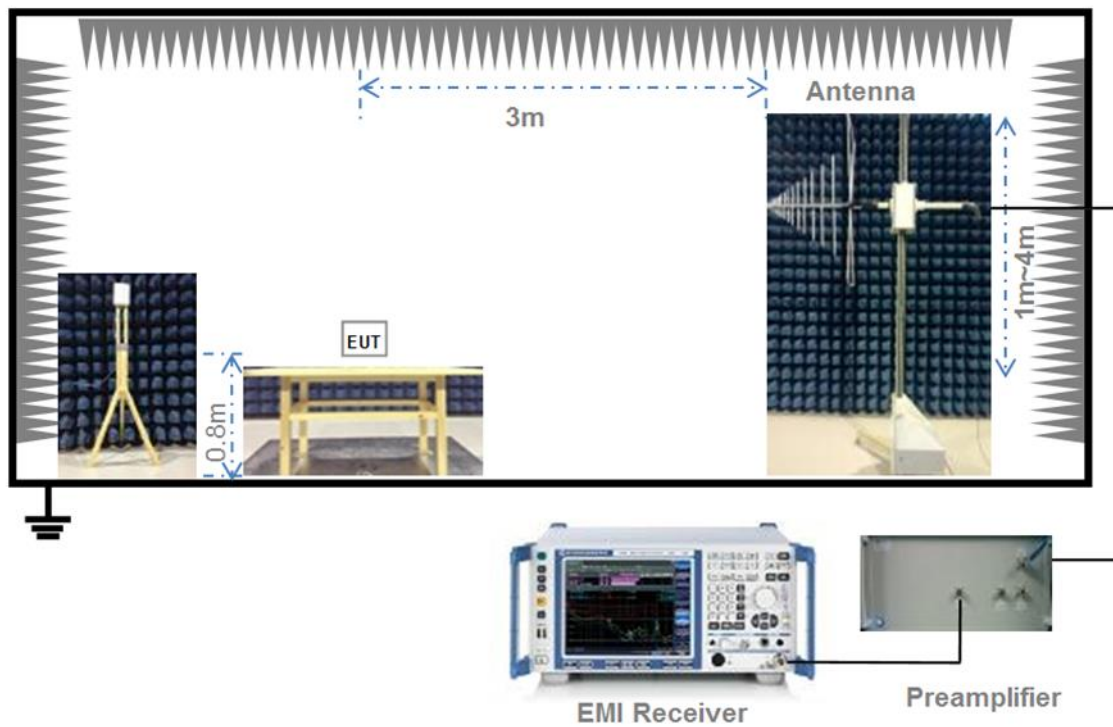
(Diagram 2)

4.5.3 For Radiated Test (Below 30 MHz)



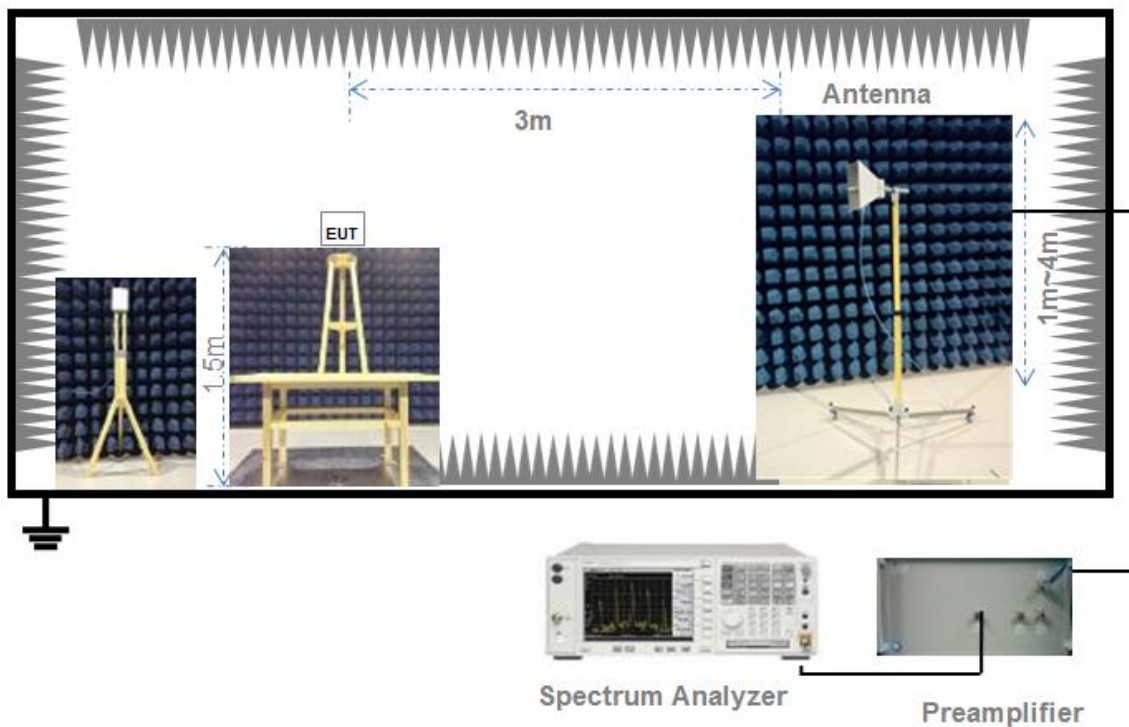
(Diagram 3)

4.5.4 For Radiated Test (30 MHz-1 GHz)



(Diagram 4)

4.5.5 For Radiated Test (Above 1 GHz)



(Diagram 5)

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
Note1: Where “B” is the 99% emissions bandwidth in MHz.	
Note2: EIRP= maximum conducted output power + Antenna Gain.	

5.1.2 Test Setup

The section 4.5.1 (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 4.5.1 (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
Note: EIRP spectral density= maximum power spectral density+ Antenna Gain.	

5.3.2 Test Setup

The section 4.5.1 (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 U-NII-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 4.5.2 (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 Radiated Spurious Emissions and Band Edge (Restricted-band)

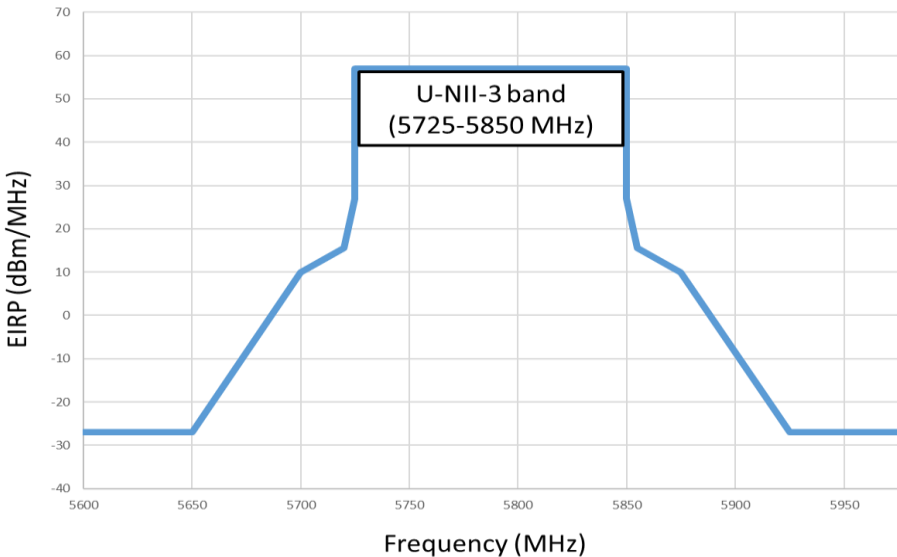
5.5.1 Limit

FCC §15.209 & 15.407(b), RSS-247, 6.2

Frequency (MHz)	Field Strength ($\mu\text{V/m}$)	Measurement Distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

Note ¹: The Limit for radiated test was performed according to FCC Part 15C

Note ²: 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.

5.5.2 Test Setup

The section 4.5.3-4.5.5 (Diagram 3 - Diagram 5) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

5.5.3 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 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).
- c) 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).
- d) 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.

- e) Compare the resultant electric field strength level to the applicable limit.
- f) 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

5.5.4 Test Result

Please refer to ANNEX A.6.

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 U-NII-3 (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.

Note ³: All the configurations were tested, but only the worst data was shown in this report.

Note ⁴: The Conducted Power has considered the Duty Factor.

Duty Cycle

Test Mode	On Time (ms)	On+Off time (ms)	Duty Cycle	Duty Factor
11a	1.39	1.43	97.06%	0.13
11n (HT20)	1.30	1.34	97.15%	0.13
11n (HT40)	0.64	0.69	92.75%	0.33

Test Data

Conducted Power

Mode	Channel	Conducted Power (dBm)	Conducted Power (mW)	FCC Limit (mW)	Verdict
11a	CH36	13.23	21.04	250	Pass
11a	CH44	13.60	22.91	250	Pass
11a	CH48	13.05	20.18	250	Pass
11n (HT20)	CH36	13.74	23.66	250	Pass
11n (HT20)	CH44	13.53	22.54	250	Pass
11n (HT20)	CH48	13.08	20.32	250	Pass
11n (HT40)	CH38	13.70	23.44	250	Pass
11n (HT40)	CH46	13.27	21.23	250	Pass

Mode	Channel	Conducted Power (dBm)	Conducted Power (mW)	FCC Limit (mW)	Verdict
11a	CH52	12.41	17.42	247	Pass
11a	CH60	13.13	20.56	248	Pass
11a	CH64	13.05	20.18	247	Pass
11n (HT20)	CH52	13.21	20.94	250	Pass
11n (HT20)	CH60	12.61	18.24	250	Pass
11n (HT20)	CH64	13.03	20.09	250	Pass
11n (HT40)	CH54	13.33	21.53	250	Pass
11n (HT40)	CH62	12.58	18.11	250	Pass

U-NII-3 (5725 - 5850 MHz)					
Mode	Channel	Conducted Power (dBm)	Conducted Power (mW)	FCC Limit (mW)	Verdict
11a	CH149	13.83	24.15	1000	Pass
11a	CH157	13.58	22.80	1000	Pass
11a	CH165	13.49	22.34	1000	Pass
11n (HT20)	CH149	13.78	23.88	1000	Pass
11n (HT20)	CH157	13.48	22.28	1000	Pass
11n (HT20)	CH165	13.40	21.88	1000	Pass
11n (HT40)	CH151	13.63	23.07	1000	Pass
11n (HT40)	CH159	13.39	21.83	1000	Pass

A.2 Emission Bandwidth & 99% Bandwidth

Note: Test plots please refer to the document "Annex No.: BL-SH2440053-604 Data Part 1.pdf".

Test Data

U-NII-1 (5150 - 5250 MHz)			
Mode	Channel	26 dB Bandwidth (MHz)	99% Bandwidth (MHz)
11a	CH36	19.62	16.57
11a	CH44	19.60	16.57
11a	CH48	20.96	16.59
11n (HT20)	CH36	19.89	17.61
11n (HT20)	CH44	20.22	17.63
11n (HT20)	CH48	19.84	17.60
11n (HT40)	CH38	40.72	36.06
11n (HT40)	CH46	41.95	36.08

U-NII-2A (5250 - 5350 MHz)			
Mode	Channel	26 dB Bandwidth (MHz)	99% Bandwidth (MHz)
11a	CH52	19.61	16.56
11a	CH60	19.69	16.58
11a	CH64	19.59	16.58
11n (HT20)	CH52	19.86	17.62
11n (HT20)	CH60	19.88	17.60
11n (HT20)	CH64	20.02	17.61
11n (HT40)	CH54	47.52	36.09
11n (HT40)	CH62	43.41	36.09

U-NII-3 (5725 - 5850 MHz)			
Mode	Channel	26 dB Bandwidth (MHz)	99% Bandwidth (MHz)
11a	CH149	19.51	16.53
11a	CH157	19.58	16.55
11a	CH165	19.66	16.56
11n (HT20)	CH149	19.86	17.59
11n (HT20)	CH157	19.91	17.59
11n (HT20)	CH165	19.90	17.62
11n (HT40)	CH151	40.84	36.03
11n (HT40)	CH159	40.95	36.06

A.3 6 dB Bandwidth

Note: Test plots please refer to the document "Annex No.: BL-SH2440053-604 Data Part 2.pdf".

Test Data

U-NII-3 (5725 - 5850 MHz)				
Mode	Channel	6 dB Bandwidth (MHz)	Limit (kHz)	Verdict
11a	CH149	16.00	500.00	Pass
11a	CH157	15.50	500.00	Pass
11a	CH165	15.30	500.00	Pass
11n (HT20)	CH149	15.20	500.00	Pass
11n (HT20)	CH157	15.20	500.00	Pass
11n (HT20)	CH165	15.30	500.00	Pass
11n (HT40)	CH151	35.40	500.00	Pass
11n (HT40)	CH159	35.40	500.00	Pass

A.4 Power Spectral Density

Note¹: Test plots please refer to the document “Annex No.: BL-SH2440053-604 Data Part 3.pdf”.

Note²: The PSD has considered the Duty Factor.

Test Data

U-NII-1 (5150 - 5250 MHz)				
Mode	Channel	PSD (dBm/MHz)	Limit (dBm/MHz)	Verdict
11a	CH36	2.46	11.00	Pass
11a	CH44	1.77	11.00	Pass
11a	CH48	2.34	11.00	Pass
11n (HT20)	CH36	2.38	11.00	Pass
11n (HT20)	CH44	2.05	11.00	Pass
11n (HT20)	CH48	1.68	11.00	Pass
11n (HT40)	CH38	-1.74	11.00	Pass
11n (HT40)	CH46	-1.81	11.00	Pass

U-NII-2A (5250 - 5350 MHz)				
Mode	Channel	PSD (dBm/MHz)	Limit (dBm/MHz)	Verdict
11a	CH52	1.73	11.00	Pass
11a	CH60	1.42	11.00	Pass
11a	CH64	1.25	11.00	Pass
11n (HT20)	CH52	1.30	11.00	Pass
11n (HT20)	CH60	1.15	11.00	Pass
11n (HT20)	CH64	1.01	11.00	Pass
11n (HT40)	CH54	-2.17	11.00	Pass
11n (HT40)	CH62	-2.53	11.00	Pass

U-NII-3 (5725 - 5850 MHz)				
Mode	Channel	PSD (dBm/500kHz)	Limit (dBm/500kHz)	Verdict
11a	CH149	-1.01	30.00	Pass
11a	CH157	-0.95	30.00	Pass
11a	CH165	-0.84	30.00	Pass
11n (HT20)	CH149	-1.20	30.00	Pass
11n (HT20)	CH157	-1.19	30.00	Pass
11n (HT20)	CH165	-1.29	30.00	Pass
11n (HT40)	CH151	-4.74	30.00	Pass
11n (HT40)	CH159	-4.58	30.00	Pass

E.I.R.P PSD

U-NII-1 (5150 - 5250 MHz)				
Mode	Channel	PSD (dBm/MHz)	E.I.R.P Limit (dBm/MHz)	Verdict
11a	CH36	2.81	10.00	Pass
11a	CH44	2.12	10.00	Pass
11a	CH48	2.69	10.00	Pass
11n (HT20)	CH36	2.73	10.00	Pass
11n (HT20)	CH44	2.40	10.00	Pass
11n (HT20)	CH48	2.03	10.00	Pass
11n (HT40)	CH38	-1.39	10.00	Pass
11n (HT40)	CH46	-1.46	10.00	Pass

U-NII-2A (5250 - 5350 MHz)			
Mode	Channel	PSD (dBm/MHz)	Verdict
11a	CH52	2.47	Pass
11a	CH60	2.16	Pass
11a	CH64	1.99	Pass
11n (HT20)	CH52	2.04	Pass
11n (HT20)	CH60	1.89	Pass
11n (HT20)	CH64	1.75	Pass
11n (HT40)	CH54	-1.43	Pass
11n (HT40)	CH62	-1.79	Pass

U-NII-3 (5725 - 5850 MHz)			
Mode	Channel	PSD (dBm/MHz)	Verdict
11a	CH149	1.21	Pass
11a	CH157	1.27	Pass
11a	CH165	1.38	Pass
11n (HT20)	CH149	1.02	Pass
11n (HT20)	CH157	1.03	Pass
11n (HT20)	CH165	0.93	Pass
11n (HT40)	CH151	-2.52	Pass
11n (HT40)	CH159	-2.36	Pass

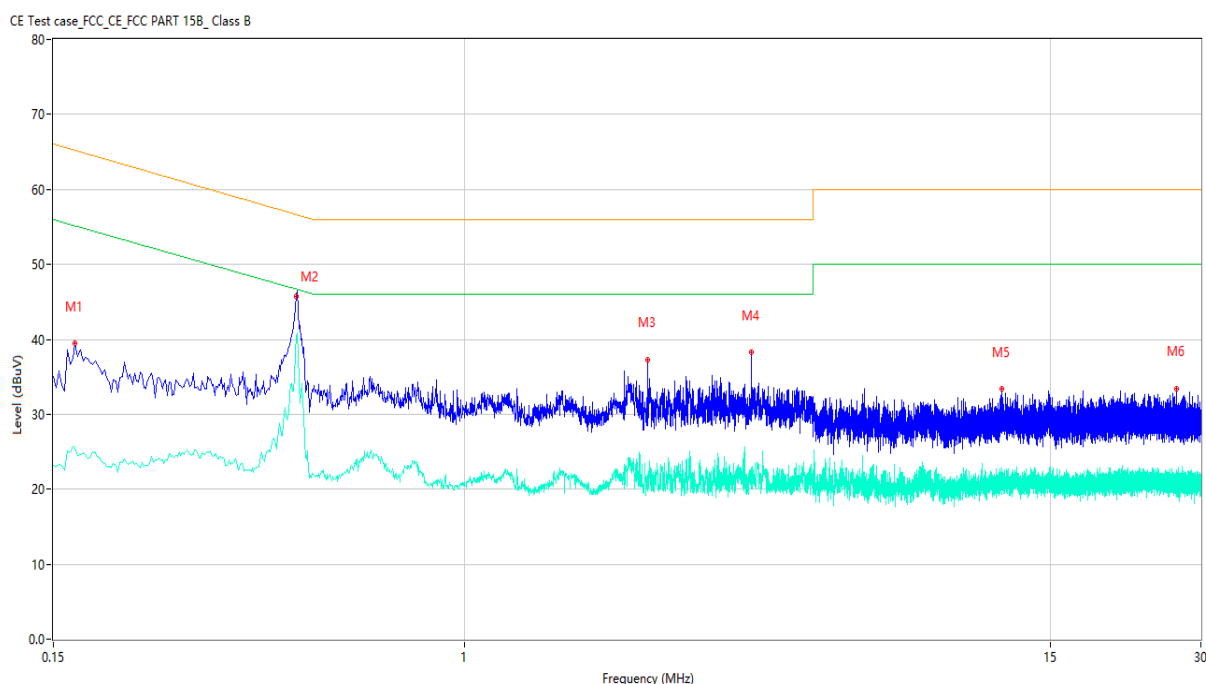
A.5 Conducted Emissions

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

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

Test Data and Plots

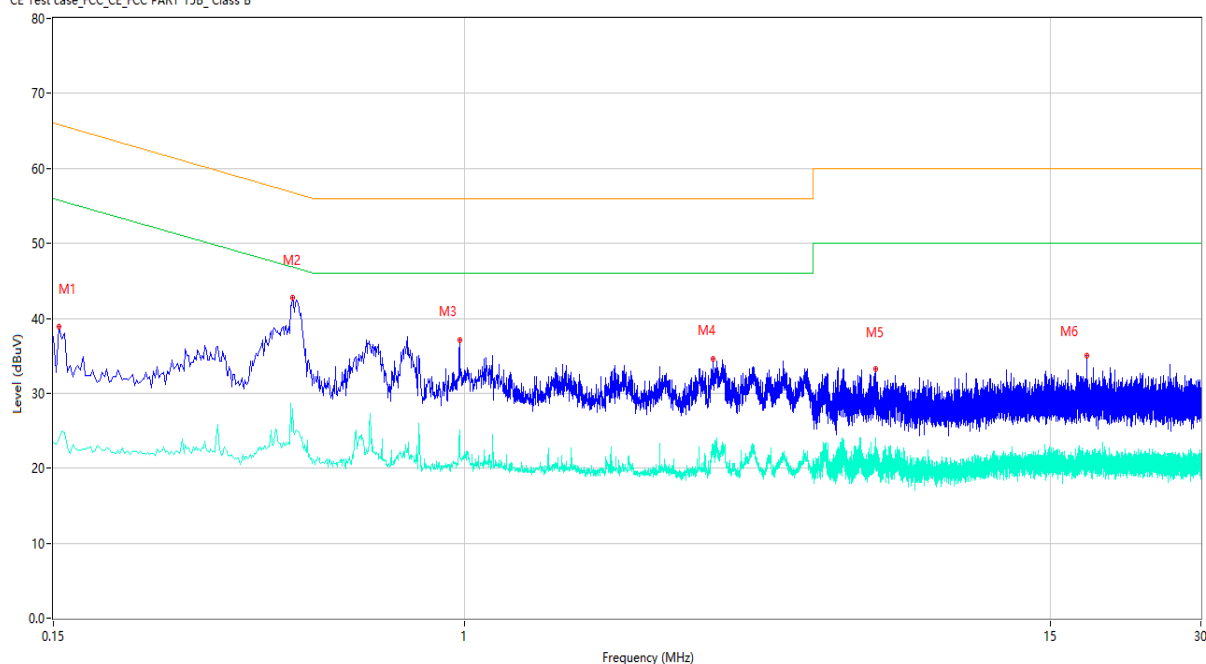
PHASE L



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.166	39.42	10.06	65.16	25.74	Peak	L	Pass
1**	0.166	25.50	10.06	55.16	29.66	AV	L	Pass
2	0.460	45.78	10.09	56.69	10.91	Peak	L	Pass
2**	0.460	40.34	10.09	46.69	6.35	AV	L	Pass
3	2.336	37.32	10.26	56.00	18.68	Peak	L	Pass
3**	2.336	21.93	10.26	46.00	24.07	AV	L	Pass
4	3.766	38.26	10.33	56.00	17.74	Peak	L	Pass
4**	3.766	20.85	10.33	46.00	25.15	AV	L	Pass
5	11.942	33.35	10.70	60.00	26.65	Peak	L	Pass
5**	11.942	21.72	10.70	50.00	28.28	AV	L	Pass
6	26.790	33.44	11.19	60.00	26.56	Peak	L	Pass
6**	26.790	21.55	11.19	50.00	28.45	AV	L	Pass

PHASE N

CE Test case_FCC_CE_FCC PART 15B_Class B



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.154	38.88	10.09	65.78	26.90	Peak	N	Pass
1**	0.154	23.87	10.09	55.78	31.91	AV	N	Pass
2	0.452	42.74	10.06	56.84	14.10	Peak	N	Pass
2**	0.452	27.86	10.06	46.84	18.98	AV	N	Pass
3	0.978	37.04	10.09	56.00	18.96	Peak	N	Pass
3**	0.978	25.05	10.09	46.00	20.95	AV	N	Pass
4	3.150	34.58	10.16	56.00	21.42	Peak	N	Pass
4**	3.150	23.34	10.16	46.00	22.66	AV	N	Pass
5	6.688	33.22	10.28	60.00	26.78	Peak	N	Pass
5**	6.688	21.76	10.28	50.00	28.24	AV	N	Pass
6	17.708	35.02	10.85	60.00	24.98	Peak	N	Pass
6**	17.708	21.02	10.85	50.00	28.98	AV	N	Pass

A.6 Radiated Spurious Emissions and Band Edge (Restricted-band)

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

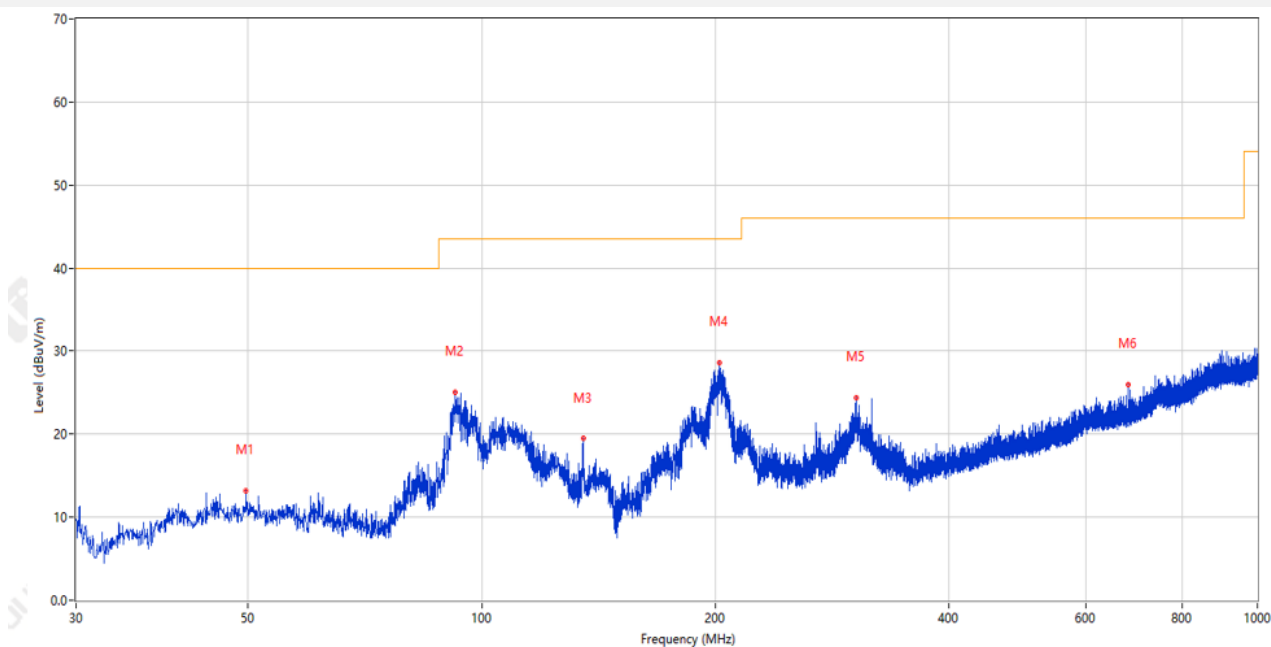
Note²: For the test data above 1 GHz, According the ANSI C63.4, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

Note³: The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line per 15.31(o) was not reported.

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

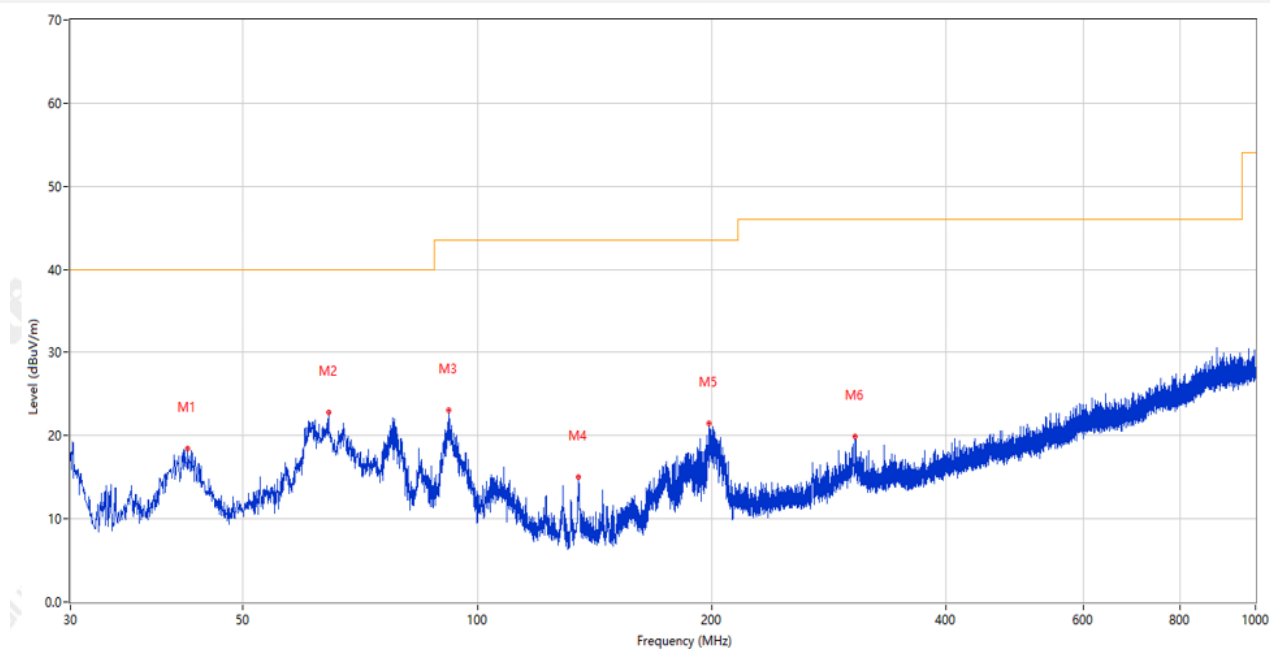
Test Data and Plots

30 MHz to 1 GHz, ANT H



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	49.642	13.17	-24.53	40.0	26.83	Peak	0.00	200	Horizontal	Pass
2	92.517	25.11	-27.32	43.5	18.39	Peak	173.00	200	Horizontal	Pass
3	135.051	19.45	-29.30	43.5	24.05	Peak	133.00	200	Horizontal	Pass
4	202.514	28.59	-26.16	43.5	14.91	Peak	121.00	100	Horizontal	Pass
5	303.589	24.45	-23.25	46.0	21.55	Peak	290.00	100	Horizontal	Pass
6	681.064	25.95	-14.09	46.0	20.05	Peak	153.00	200	Horizontal	Pass

30 MHz to 1 GHz, ANT V



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	42.465	18.45	-25.20	40.0	21.55	Peak	23.00	100	Vertical	Pass
2	64.338	22.79	-27.15	40.0	17.21	Peak	283.00	100	Vertical	Pass
3	91.935	23.10	-27.50	43.5	20.40	Peak	29.00	100	Vertical	Pass
4	134.954	15.00	-29.29	43.5	28.50	Peak	217.00	100	Vertical	Pass
5	198.538	21.48	-25.68	43.5	22.02	Peak	295.00	100	Vertical	Pass
6	306.062	19.89	-23.28	46.0	26.11	Peak	151.00	100	Vertical	Pass

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

Note 2: All the configurations were pre tested, only the worst configuration has been reported in this report.

11a, U-NII-1, 1 GHz to 18 GHz, Middle Channel, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1151.250	38.42	-15.35	74.0	35.58	Peak	185.00	150	Horizontal	Pass
1**	1151.250	27.56	-15.35	54.0	26.44	AV	185.00	150	Horizontal	Pass
2	1523.000	39.99	-15.40	74.0	34.01	Peak	308.00	150	Horizontal	Pass
2**	1523.000	27.86	-15.40	54.0	26.14	AV	308.00	150	Horizontal	Pass
3	4177.500	48.80	-3.17	74.0	25.20	Peak	160.00	150	Horizontal	Pass
3**	4177.500	38.11	-3.17	54.0	15.89	AV	160.00	150	Horizontal	Pass
4	5219.000	97.01	-0.89	--	20.99	Peak	118.00	150	Horizontal	N/A
4**	5219.000	89.65	-0.89	--	-89.65	AV	118.00	150	Horizontal	N/A
5	11449.450	50.25	-1.03	74.0	23.75	Peak	360.00	150	Horizontal	Pass
5**	11449.450	39.08	-1.03	54.0	14.92	AV	360.00	150	Horizontal	Pass
6	15736.463	51.62	0.93	74.0	22.38	Peak	84.00	150	Horizontal	Pass
6**	15736.463	41.01	0.93	54.0	12.99	AV	84.00	150	Horizontal	Pass

11a, U-NII-1, 1 GHz to 18 GHz, Middle Channel, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1068.750	38.99	-15.57	74.0	35.01	Peak	2.00	150	Vertical	Pass
1**	1068.750	27.19	-15.57	54.0	26.81	AV	2.00	150	Vertical	Pass
2	1594.250	39.19	-15.38	74.0	34.81	Peak	360.00	150	Vertical	Pass
2**	1594.250	28.03	-15.38	54.0	25.97	AV	360.00	150	Vertical	Pass
3	3968.000	48.77	-3.24	74.0	25.23	Peak	223.00	150	Vertical	Pass
3**	3968.000	36.41	-3.24	54.0	17.59	AV	223.00	150	Vertical	Pass
4	5218.500	96.38	-0.91	--	95.62	Peak	192.00	150	Vertical	N/A
4**	5218.500	88.55	-0.91	--	-88.55	AV	192.00	150	Vertical	N/A
5	10940.013	49.25	-1.39	74.0	24.75	Peak	180.00	150	Vertical	Pass
5**	10940.013	37.20	-1.39	54.0	16.80	AV	180.00	150	Vertical	Pass
6	15964.575	48.73	1.33	74.0	25.27	Peak	87.00	150	Vertical	Pass
6**	15964.575	37.40	1.33	54.0	16.60	AV	87.00	150	Vertical	Pass

11n20, U-NII-1, 1 GHz to 18 GHz, Middle Channel, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1165.250	38.91	-15.48	74.0	35.09	Peak	98.00	150	Horizontal	Pass
1**	1165.250	27.52	-15.48	54.0	26.48	AV	98.00	150	Horizontal	Pass
2	1534.250	39.05	-15.44	74.0	34.95	Peak	42.00	150	Horizontal	Pass
2**	1534.250	28.09	-15.44	54.0	25.91	AV	42.00	150	Horizontal	Pass
3	4333.000	49.15	-2.48	74.0	24.85	Peak	150.00	150	Horizontal	Pass
3**	4333.000	38.64	-2.48	54.0	15.36	AV	150.00	150	Horizontal	Pass
4	5219.000	99.97	-0.89	--	-13.97	Peak	86.00	150	Horizontal	N/A
4**	5219.000	92.33	-0.89	--	-92.33	AV	86.00	150	Horizontal	N/A
5	12342.925	50.01	-0.78	74.0	23.99	Peak	360.00	150	Horizontal	Pass
5**	12342.925	39.24	-0.78	54.0	14.76	AV	360.00	150	Horizontal	Pass
6	15665.063	51.71	1.58	74.0	22.29	Peak	90.00	150	Horizontal	Pass
6**	15665.063	41.36	1.58	54.0	12.64	AV	90.00	150	Horizontal	Pass

11n20, U-NII-1, 1 GHz to 18 GHz, Middle Channel, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1134.500	38.47	-15.52	74.0	35.53	Peak	238.00	150	Vertical	Pass
1**	1134.500	27.40	-15.52	54.0	26.60	AV	238.00	150	Vertical	Pass
2	1492.250	39.27	-15.50	74.0	34.73	Peak	164.00	150	Vertical	Pass
2**	1492.250	28.32	-15.50	54.0	25.68	AV	164.00	150	Vertical	Pass
3	3930.000	49.23	-2.57	74.0	24.77	Peak	0.00	150	Vertical	Pass
3**	3930.000	37.89	-2.57	54.0	16.11	AV	0.00	150	Vertical	Pass
4	5221.000	98.24	-0.85	--	-54.24	Peak	44.00	150	Vertical	N/A
4**	5221.000	90.35	-0.85	--	-90.35	AV	44.00	150	Vertical	N/A
5	11870.300	49.53	-0.70	74.0	24.47	Peak	307.00	150	Vertical	Pass
5**	11870.300	39.47	-0.70	54.0	14.53	AV	307.00	150	Vertical	Pass
6	15639.599	51.54	0.74	74.0	22.46	Peak	296.00	150	Vertical	Pass
6**	15639.599	40.76	0.74	54.0	13.24	AV	296.00	150	Vertical	Pass

11n40, U-NII-1, 1 GHz to 18 GHz, Middle Channel, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1196.750	40.24	-15.26	74.0	33.76	Peak	194.00	150	Horizontal	Pass
1**	1196.750	27.36	-15.26	54.0	26.64	AV	194.00	150	Horizontal	Pass
2	1559.750	39.26	-15.23	74.0	34.74	Peak	349.00	150	Horizontal	Pass
2**	1559.750	27.57	-15.23	54.0	26.43	AV	349.00	150	Horizontal	Pass
3	3876.500	47.93	-3.85	74.0	26.07	Peak	360.00	150	Horizontal	Pass
3**	3876.500	36.23	-3.85	54.0	17.77	AV	360.00	150	Horizontal	Pass
4	5195.000	96.44	-1.09	--	52.56	Peak	149.00	150	Horizontal	N/A
4**	5195.000	88.63	-1.09	--	-88.63	AV	149.00	150	Horizontal	N/A
5	12488.988	51.13	0.06	74.0	22.87	Peak	176.00	150	Horizontal	Pass
5**	12488.988	39.19	0.06	54.0	14.81	AV	176.00	150	Horizontal	Pass
6	15657.975	51.81	1.53	74.0	22.19	Peak	204.00	150	Horizontal	Pass
6**	15657.975	40.85	1.53	54.0	13.15	AV	204.00	150	Horizontal	Pass

11n40, U-NII-1, 1 GHz to 18 GHz, Middle Channel, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1141.750	38.60	-15.36	74.0	35.40	Peak	357.00	150	Vertical	Pass
1**	1141.750	27.51	-15.36	54.0	26.49	AV	357.00	150	Vertical	Pass
2	1463.250	39.48	-15.45	74.0	34.52	Peak	131.00	150	Vertical	Pass
2**	1463.250	27.70	-15.45	54.0	26.30	AV	131.00	150	Vertical	Pass
3	4114.000	48.37	-2.98	74.0	25.63	Peak	7.00	150	Vertical	Pass
3**	4114.000	36.22	-2.98	54.0	17.78	AV	7.00	150	Vertical	Pass
4	5187.000	92.45	-1.01	--	26.55	Peak	119.00	150	Vertical	N/A
4**	5187.000	84.39	-1.01	--	-84.39	AV	119.00	150	Vertical	N/A
5	12324.875	51.41	-0.56	74.0	22.59	Peak	354.00	150	Vertical	Pass
5**	12324.875	40.02	-0.56	54.0	13.98	AV	354.00	150	Vertical	Pass
6	15910.237	51.15	1.07	74.0	22.85	Peak	276.00	150	Vertical	Pass
6**	15910.237	40.15	1.07	54.0	13.85	AV	276.00	150	Vertical	Pass

11a, U-NII-2A, 1 GHz to 18 GHz, Middle Channel, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1106.000	39.65	-15.64	74.0	34.35	Peak	13.00	150	Horizontal	Pass
1**	1106.000	27.53	-15.64	54.0	26.47	AV	13.00	150	Horizontal	Pass
2	1371.250	39.78	-15.57	74.0	34.22	Peak	41.00	150	Horizontal	Pass
2**	1371.250	27.61	-15.57	54.0	26.39	AV	41.00	150	Horizontal	Pass
3	4147.000	48.14	-3.55	74.0	25.86	Peak	0.00	150	Horizontal	Pass
3**	4147.000	36.32	-3.55	54.0	17.68	AV	0.00	150	Horizontal	Pass
4	5299.000	101.32	-0.52	--	-51.32	Peak	50.00	150	Horizontal	N/A
4**	5299.000	93.84	-0.52	--	-93.84	AV	50.00	150	Horizontal	N/A
5	11039.287	49.56	-1.22	74.0	24.44	Peak	22.00	150	Horizontal	Pass
5**	11039.287	38.47	-1.22	54.0	15.53	AV	22.00	150	Horizontal	Pass
6	15900.787	51.74	1.41	74.0	22.26	Peak	82.00	150	Horizontal	Pass
6**	15900.787	42.73	1.41	54.0	11.27	AV	82.00	150	Horizontal	Pass

11a, U-NII-2A, 1 GHz to 18 GHz, Middle Channel, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1504.000	39.47	-15.26	74.0	34.53	Peak	360.00	150	Vertical	Pass
1**	1504.000	27.96	-15.26	54.0	26.04	AV	360.00	150	Vertical	Pass
2	2733.750	44.87	-9.15	74.0	29.13	Peak	94.00	150	Vertical	Pass
2**	2733.750	32.76	-9.15	54.0	21.24	AV	94.00	150	Vertical	Pass
3	4195.000	48.08	-2.62	74.0	25.92	Peak	0.00	150	Vertical	Pass
3**	4195.000	36.18	-2.62	54.0	17.82	AV	0.00	150	Vertical	Pass
4	5302.500	99.35	-0.58	--	-70.35	Peak	29.00	150	Vertical	N/A
4**	5302.500	91.88	-0.58	--	-91.88	AV	29.00	150	Vertical	N/A
5	12255.526	49.93	-1.28	74.0	24.07	Peak	308.00	150	Vertical	Pass
5**	12255.526	40.40	-1.28	54.0	13.60	AV	308.00	150	Vertical	Pass
6	15399.412	51.74	1.51	74.0	22.26	Peak	155.00	150	Vertical	Pass
6**	15399.412	40.06	1.51	54.0	13.94	AV	155.00	150	Vertical	Pass

11n20, U-NII-2A, 1 GHz to 18 GHz, Middle Channel, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1096.750	38.15	-15.68	74.0	35.85	Peak	249.00	150	Vertical	Pass
1**	1096.750	26.93	-15.68	54.0	27.07	AV	249.00	150	Vertical	Pass
2	1519.000	39.03	-15.34	74.0	34.97	Peak	114.00	150	Vertical	Pass
2**	1519.000	27.58	-15.34	54.0	26.42	AV	114.00	150	Vertical	Pass
3	4125.500	47.95	-3.44	74.0	26.05	Peak	277.00	150	Vertical	Pass
3**	4125.500	36.26	-3.44	54.0	17.74	AV	277.00	150	Vertical	Pass
4	5301.500	98.91	-0.62	--	6.09	Peak	105.00	150	Vertical	N/A
4**	5301.500	91.49	-0.62	--	-91.49	AV	105.00	150	Vertical	N/A
5	11830.875	50.00	-1.35	74.0	24.00	Peak	268.00	150	Vertical	Pass
5**	11830.875	38.42	-1.35	54.0	15.58	AV	268.00	150	Vertical	Pass
6	15886.088	51.55	1.52	74.0	22.45	Peak	1.00	150	Vertical	Pass
6**	15886.088	41.46	1.52	54.0	12.54	AV	1.00	150	Vertical	Pass

11n20, U-NII-2A, 1 GHz to 18 GHz, Middle Channel, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1148.750	38.74	-15.36	74.0	35.26	Peak	15.00	150	Horizontal	Pass
1**	1148.750	27.31	-15.36	54.0	26.69	AV	15.00	150	Horizontal	Pass
2	1537.250	38.94	-15.42	74.0	35.06	Peak	314.00	150	Horizontal	Pass
2**	1537.250	27.88	-15.42	54.0	26.12	AV	314.00	150	Horizontal	Pass
3	4230.500	48.27	-2.87	74.0	25.73	Peak	87.00	150	Horizontal	Pass
3**	4230.500	36.52	-2.87	54.0	17.48	AV	87.00	150	Horizontal	Pass
4	5298.000	101.27	-0.54	--	35.73	Peak	137.00	150	Horizontal	N/A
4**	5298.000	93.60	-0.54	--	-93.60	AV	137.00	150	Horizontal	N/A
5	11575.088	49.41	-1.28	74.0	24.59	Peak	340.00	150	Horizontal	Pass
5**	11575.088	38.75	-1.28	54.0	15.25	AV	340.00	150	Horizontal	Pass
6	15893.963	52.60	1.63	74.0	21.40	Peak	276.00	150	Horizontal	Pass
6**	15893.963	42.44	1.63	54.0	11.56	AV	276.00	150	Horizontal	Pass

11n40, U-NII-2A, 1 GHz to 18 GHz, Middle Channel, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1182.000	38.87	-15.49	74.0	35.13	Peak	27.00	150	Horizontal	Pass
1**	1182.000	27.15	-15.49	54.0	26.85	AV	27.00	150	Horizontal	Pass
2	1535.500	39.16	-15.42	74.0	34.84	Peak	117.00	150	Horizontal	Pass
2**	1535.500	27.90	-15.42	54.0	26.10	AV	117.00	150	Horizontal	Pass
3	3842.500	47.95	-4.54	74.0	26.05	Peak	162.00	150	Horizontal	Pass
3**	3842.500	35.40	-4.54	54.0	18.60	AV	162.00	150	Horizontal	Pass
4	5277.500	98.57	-0.82	--	41.43	Peak	140.00	150	Horizontal	N/A
4**	5277.500	90.63	-0.82	--	-90.63	AV	140.00	150	Horizontal	N/A
5	12332.474	50.39	-0.70	74.0	23.61	Peak	0.00	150	Horizontal	Pass
5**	12332.474	39.60	-0.70	54.0	14.40	AV	0.00	150	Horizontal	Pass
6	15717.562	51.76	1.31	74.0	22.24	Peak	5.00	150	Horizontal	Pass
6**	15717.562	41.01	1.31	54.0	12.99	AV	5.00	150	Horizontal	Pass

11n40, U-NII-2A, 1 GHz to 18 GHz, Middle Channel, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1102.250	38.37	-15.60	74.0	35.63	Peak	307.00	150	Vertical	Pass
1**	1102.250	26.74	-15.60	54.0	27.26	AV	307.00	150	Vertical	Pass
2	1597.250	40.15	-15.28	74.0	33.85	Peak	248.00	150	Vertical	Pass
2**	1597.250	27.93	-15.28	54.0	26.07	AV	248.00	150	Vertical	Pass
3	3937.000	47.97	-3.10	74.0	26.03	Peak	360.00	150	Vertical	Pass
3**	3937.000	36.27	-3.10	54.0	17.73	AV	360.00	150	Vertical	Pass
4	5267.000	94.81	-0.89	--	3.19	Peak	98.00	150	Vertical	N/A
4**	5267.000	86.44	-0.89	--	-86.44	AV	98.00	150	Vertical	N/A
5	11861.037	49.99	-1.05	74.0	24.01	Peak	7.00	150	Vertical	Pass
5**	11861.037	38.84	-1.05	54.0	15.16	AV	7.00	150	Vertical	Pass
6	15715.463	51.34	1.20	74.0	22.66	Peak	102.00	150	Vertical	Pass
6**	15715.463	40.62	1.20	54.0	13.38	AV	102.00	150	Vertical	Pass

11a, U-NII-3, 1 GHz to 18 GHz, Middle Channel, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1184.000	39.21	-15.46	74.0	34.79	Peak	41.00	150	Horizontal	Pass
1**	1184.000	27.21	-15.46	54.0	26.79	AV	41.00	150	Horizontal	Pass
2	1465.000	39.92	-15.45	74.0	34.08	Peak	99.00	150	Horizontal	Pass
2**	1465.000	27.79	-15.45	54.0	26.21	AV	99.00	150	Horizontal	Pass
3	4203.500	47.90	-2.34	74.0	26.10	Peak	271.00	150	Horizontal	Pass
3**	4203.500	36.57	-2.34	54.0	17.43	AV	271.00	150	Horizontal	Pass
4	5786.000	105.93	0.38	--	35.07	Peak	141.00	150	Horizontal	N/A
4**	5786.000	98.79	0.38	--	-98.79	AV	141.00	150	Horizontal	N/A
5	11733.975	50.15	-1.14	74.0	23.85	Peak	301.00	150	Horizontal	Pass
5**	11733.975	39.12	-1.14	54.0	14.88	AV	301.00	150	Horizontal	Pass
6	15645.901	51.93	1.24	74.0	22.07	Peak	0.00	150	Horizontal	Pass
6**	15645.901	40.69	1.24	54.0	13.31	AV	0.00	150	Horizontal	Pass

11a, U-NII-3, 1 GHz to 18 GHz, Middle Channel, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1145.500	38.96	-15.38	74.0	35.04	Peak	129.00	150	Vertical	Pass
1**	1145.500	27.56	-15.38	54.0	26.44	AV	129.00	150	Vertical	Pass
2	1511.750	39.49	-15.23	74.0	34.51	Peak	30.00	150	Vertical	Pass
2**	1511.750	27.75	-15.23	54.0	26.25	AV	30.00	150	Vertical	Pass
3	4193.500	48.10	-2.67	74.0	25.90	Peak	166.00	150	Vertical	Pass
3**	4193.500	36.82	-2.67	54.0	17.18	AV	166.00	150	Vertical	Pass
4	5786.500	104.03	0.39	--	0.97	Peak	105.00	150	Vertical	N/A
4**	5786.500	96.71	0.39	--	-96.71	AV	105.00	150	Vertical	N/A
5	11739.437	49.87	-1.23	74.0	24.13	Peak	355.00	150	Vertical	Pass
5**	11739.437	39.47	-1.23	54.0	14.53	AV	355.00	150	Vertical	Pass
6	15881.362	51.31	1.71	74.0	22.69	Peak	0.00	150	Vertical	Pass
6**	15881.362	41.36	1.71	54.0	12.64	AV	0.00	150	Vertical	Pass

11n20, U-NII-3, 1 GHz to 18 GHz, Middle Channel, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1181.750	38.96	-15.50	74.0	35.04	Peak	347.00	150	Horizontal	Pass
1**	1181.750	27.10	-15.50	54.0	26.90	AV	347.00	150	Horizontal	Pass
2	1533.000	39.12	-15.44	74.0	34.88	Peak	353.00	150	Horizontal	Pass
2**	1533.000	27.95	-15.44	54.0	26.05	AV	353.00	150	Horizontal	Pass
3	2797.750	45.43	-8.37	74.0	28.57	Peak	41.00	150	Horizontal	Pass
3**	2797.750	33.12	-8.37	54.0	20.88	AV	41.00	150	Horizontal	Pass
4	5786.000	106.35	0.38	--	33.65	Peak	140.00	150	Horizontal	N/A
4**	5786.000	97.56	0.38	--	-97.56	AV	140.00	150	Horizontal	N/A
5	11575.088	49.91	-1.28	74.0	24.09	Peak	147.00	150	Horizontal	Pass
5**	11575.088	39.22	-1.28	54.0	14.78	AV	147.00	150	Horizontal	Pass
6	15649.313	51.52	1.41	74.0	22.48	Peak	68.00	150	Horizontal	Pass
6**	15649.313	40.88	1.41	54.0	13.12	AV	68.00	150	Horizontal	Pass

11n20, U-NII-3, 1 GHz to 18 GHz, Middle Channel, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1182.000	38.86	-15.49	74.0	35.14	Peak	255.00	150	Vertical	Pass
1**	1182.000	27.30	-15.49	54.0	26.70	AV	255.00	150	Vertical	Pass
2	1533.000	39.44	-15.44	74.0	34.56	Peak	68.00	150	Vertical	Pass
2**	1533.000	27.77	-15.44	54.0	26.23	AV	68.00	150	Vertical	Pass
3	4265.500	48.56	-2.72	74.0	25.44	Peak	329.00	150	Vertical	Pass
3**	4265.500	36.66	-2.72	54.0	17.34	AV	329.00	150	Vertical	Pass
4	5786.500	103.77	0.39	--	-4.77	Peak	99.00	150	Vertical	N/A
4**	5786.500	96.41	0.39	--	-96.41	AV	99.00	150	Vertical	N/A
5	12230.112	50.12	-1.36	74.0	23.88	Peak	200.00	150	Vertical	Pass
5**	12230.112	39.29	-1.36	54.0	14.71	AV	200.00	150	Vertical	Pass
6	15563.213	51.71	0.49	74.0	22.29	Peak	347.00	150	Vertical	Pass
6**	15563.213	40.66	0.49	54.0	13.34	AV	347.00	150	Vertical	Pass

11n40, U-NII-3, 1 GHz to 18 GHz, Middle Channel, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1062.250	38.83	-15.58	74.0	35.17	Peak	206.00	150	Horizontal	Pass
1**	1062.250	27.32	-15.58	54.0	26.68	AV	206.00	150	Horizontal	Pass
2	1488.000	39.57	-15.55	74.0	34.43	Peak	8.00	150	Horizontal	Pass
2**	1488.000	27.70	-15.55	54.0	26.30	AV	8.00	150	Horizontal	Pass
3	4205.500	48.50	-2.27	74.0	25.50	Peak	360.00	150	Horizontal	Pass
3**	4205.500	36.44	-2.27	54.0	17.56	AV	360.00	150	Horizontal	Pass
4	5756.500	104.03	0.05	--	36.97	Peak	141.00	150	Horizontal	N/A
4**	5756.500	95.83	0.05	--	-95.83	AV	141.00	150	Horizontal	N/A
5	12216.813	50.75	-1.10	74.0	23.25	Peak	7.00	150	Horizontal	Pass
5**	12216.813	39.30	-1.10	54.0	14.70	AV	7.00	150	Horizontal	Pass
6	15838.312	52.06	1.63	74.0	21.94	Peak	243.00	150	Horizontal	Pass
6**	15838.312	40.19	1.63	54.0	13.81	AV	243.00	150	Horizontal	Pass

11n40, U-NII-3, 1 GHz to 18 GHz, Middle Channel, ANT V

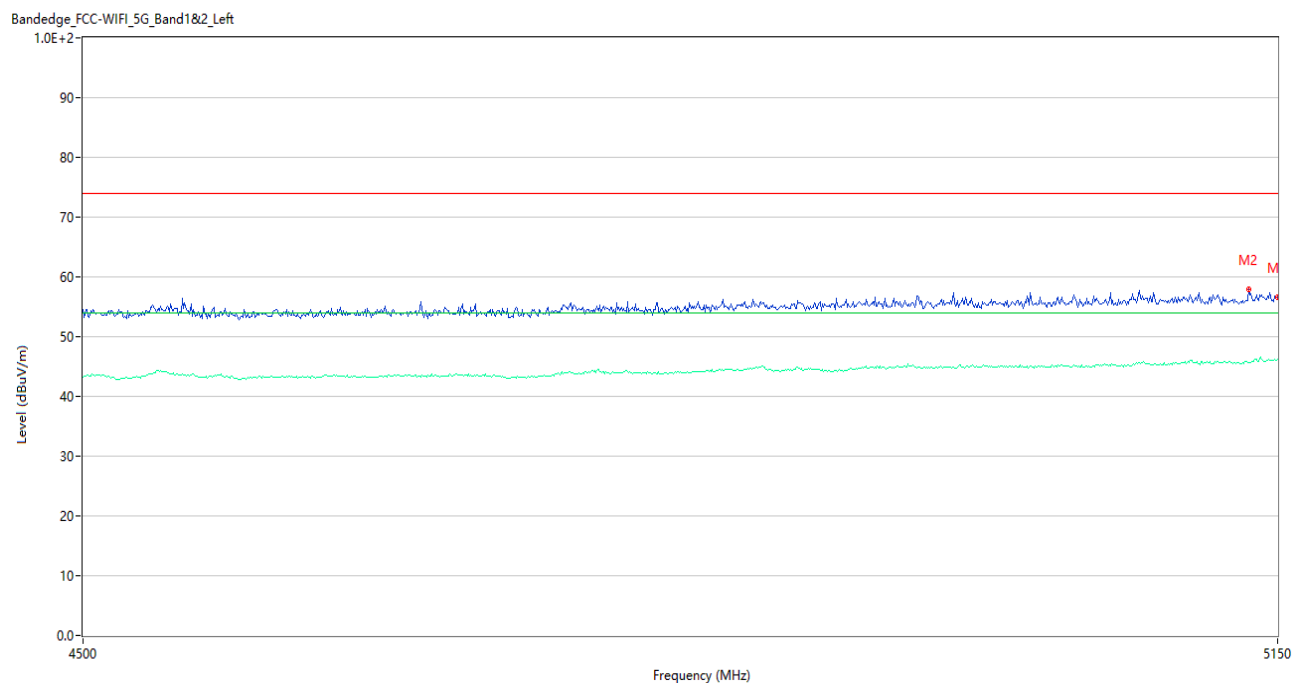
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1142.750	38.43	-15.34	74.0	35.57	Peak	265.00	150	Vertical	Pass
1**	1142.750	27.64	-15.34	54.0	26.36	AV	265.00	150	Vertical	Pass
2	1534.250	38.83	-15.44	74.0	35.17	Peak	71.00	150	Vertical	Pass
2**	1534.250	28.12	-15.44	54.0	25.88	AV	71.00	150	Vertical	Pass
3	4055.500	48.06	-2.95	74.0	25.94	Peak	360.00	150	Vertical	Pass
3**	4055.500	36.05	-2.95	54.0	17.95	AV	360.00	150	Vertical	Pass
4	5750.000	101.79	-0.02	--	-1.79	Peak	100.00	150	Vertical	N/A
4**	5750.000	93.77	-0.02	--	-93.77	AV	100.00	150	Vertical	N/A
5	11895.950	50.05	-0.91	74.0	23.95	Peak	360.00	150	Vertical	Pass
5**	11895.950	39.01	-0.91	54.0	14.99	AV	360.00	150	Vertical	Pass
6	16052.513	52.41	1.67	74.0	21.59	Peak	8.00	150	Vertical	Pass
6**	16052.513	41.27	1.67	54.0	12.73	AV	8.00	150	Vertical	Pass

A.6.2 Band Edge (Restricted-band)

Test Band	Mode	Channel	Verdict
U-NII-1	802.11a	Low	Pass
		High	Pass
	802.11n(HT20)	Low	Pass
		High	Pass
	802.11n(HT40)	Low	Pass
		High	Pass
U-NII-2A	802.11a	Low	Pass
		High	Pass
	802.11n(HT20)	Low	Pass
		High	Pass
	802.11n(HT40)	Low	Pass
		High	Pass
		High	Pass
U-NII-3	802.11a	Low	Pass
		High	Pass
	802.11n(HT20)	Low	Pass
		High	Pass
	802.11n(HT40)	Low	Pass
		High	Pass

Test Data and Plots

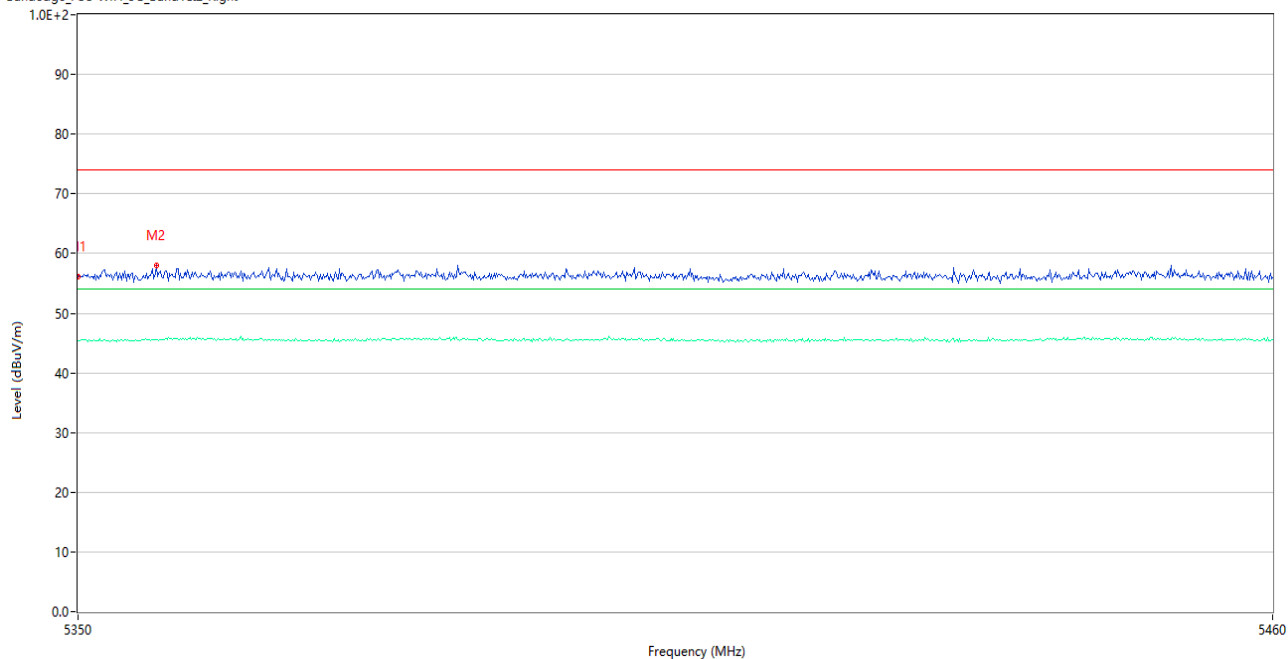
U-NII-1 11a Low Channel



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	5150.000	56.51	5.21	74.0	17.49	Peak	10.06	150	Horizontal	Pass
1**	5150.000	46.28	5.21	54.0	7.72	AV	10.06	150	Horizontal	Pass
2	5133.100	57.89	5.34	74.0	16.11	Peak	357.00	150	Horizontal	Pass
2**	5133.100	45.75	5.34	54.0	8.25	AV	357.00	150	Horizontal	Pass

U-NII-1 11a High Channel

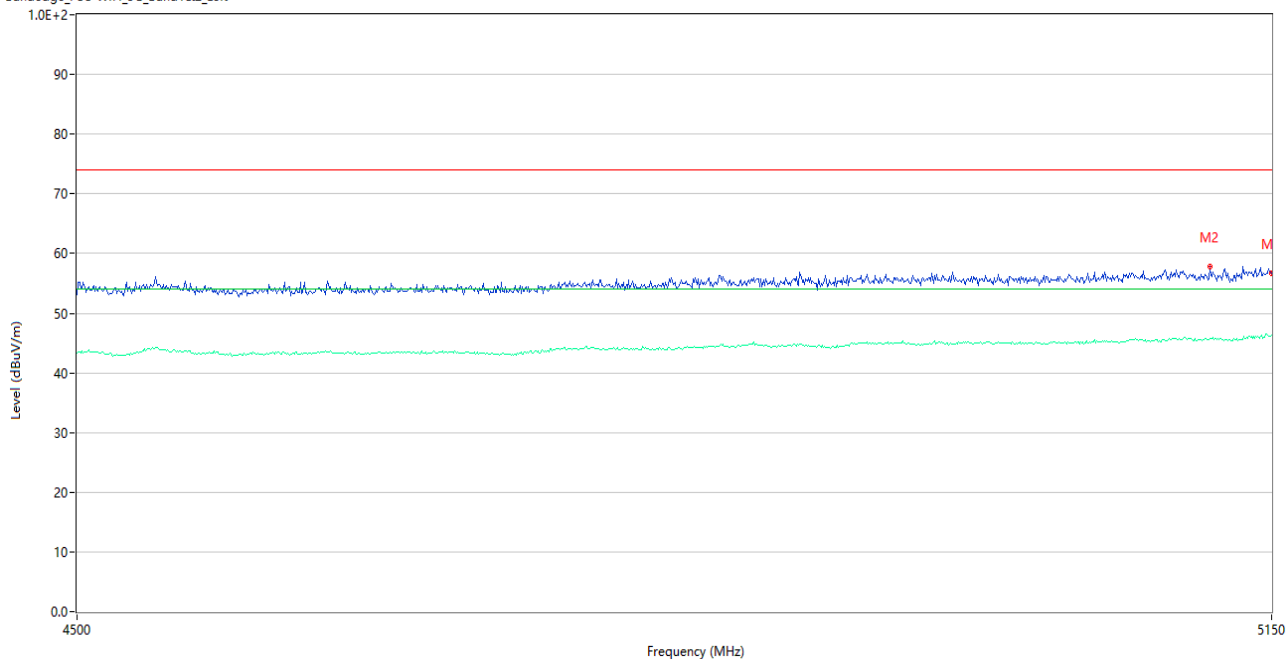
Bandedge_FCC-WIFI_5G_Band1&2_Right



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	5350.000	56.19	5.40	74.0	17.81	Peak	100.00	150	Horizontal	Pass
1**	5350.000	45.44	5.40	54.0	8.56	AV	100.00	150	Horizontal	Pass
2	5357.150	58.04	5.62	74.0	15.96	Peak	360.00	150	Horizontal	Pass
2**	5357.150	45.52	5.62	54.0	8.48	AV	360.00	150	Horizontal	Pass

U-NII-1 11n20 Low Channel

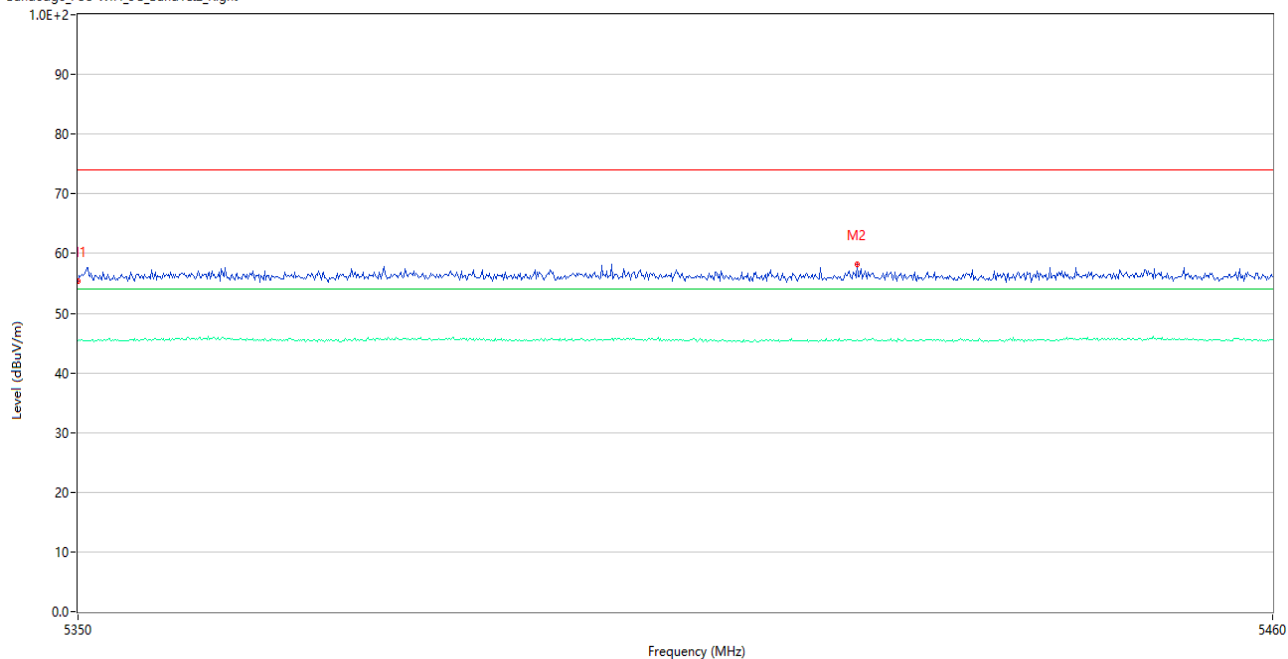
Bandedge_FCC-WIFI_5G_Band1&2_Left



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	5150.000	56.66	5.21	74.0	17.34	Peak	196.99	150	Horizontal	Pass
1**	5150.000	46.28	5.21	54.0	7.72	AV	196.99	150	Horizontal	Pass
2	5114.250	57.80	5.19	74.0	16.20	Peak	94.00	150	Horizontal	Pass
2**	5114.250	45.80	5.19	54.0	8.20	AV	94.00	150	Horizontal	Pass

U-NII-1 11n20 High Channel

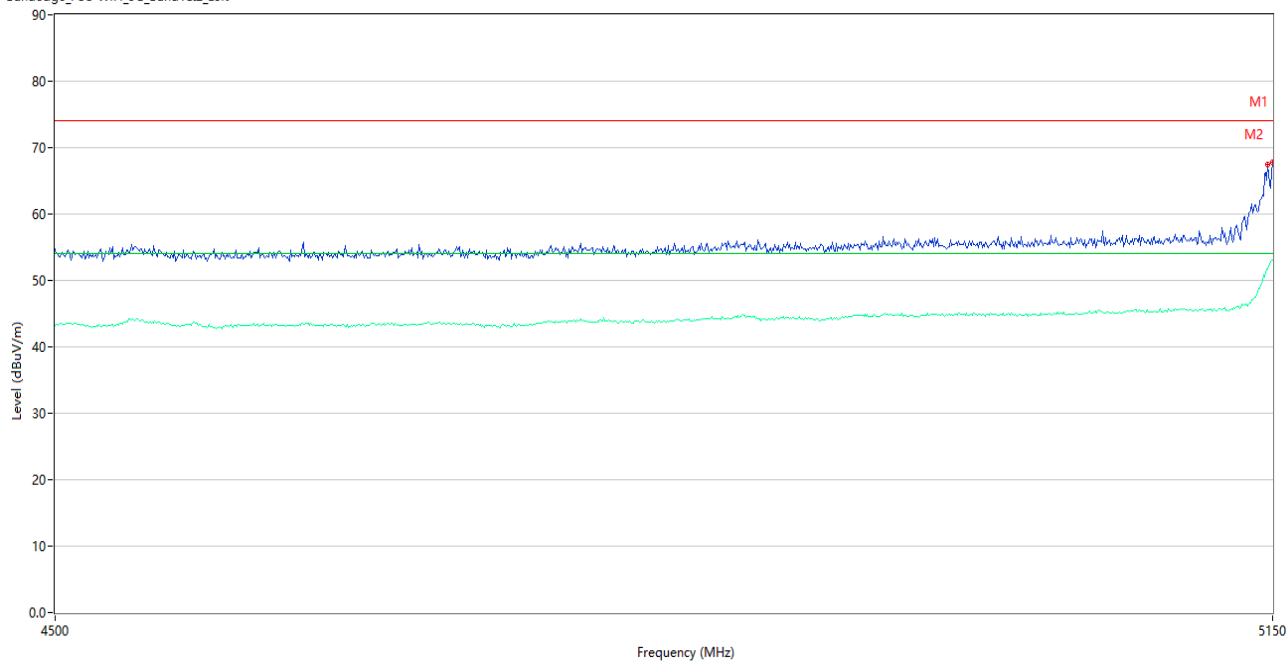
Bandedge_FCC-WIFI_5G_Band1&2_Right



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	5350.000	55.46	5.40	74.0	18.54	Peak	180.00	150	Horizontal	Pass
1**	5350.000	45.42	5.40	54.0	8.58	AV	180.00	150	Horizontal	Pass
2	5421.500	58.17	5.33	74.0	15.83	Peak	338.00	150	Horizontal	Pass
2**	5421.500	45.63	5.33	54.0	8.37	AV	338.00	150	Horizontal	Pass

U-NII-1 11n40 Low Channel

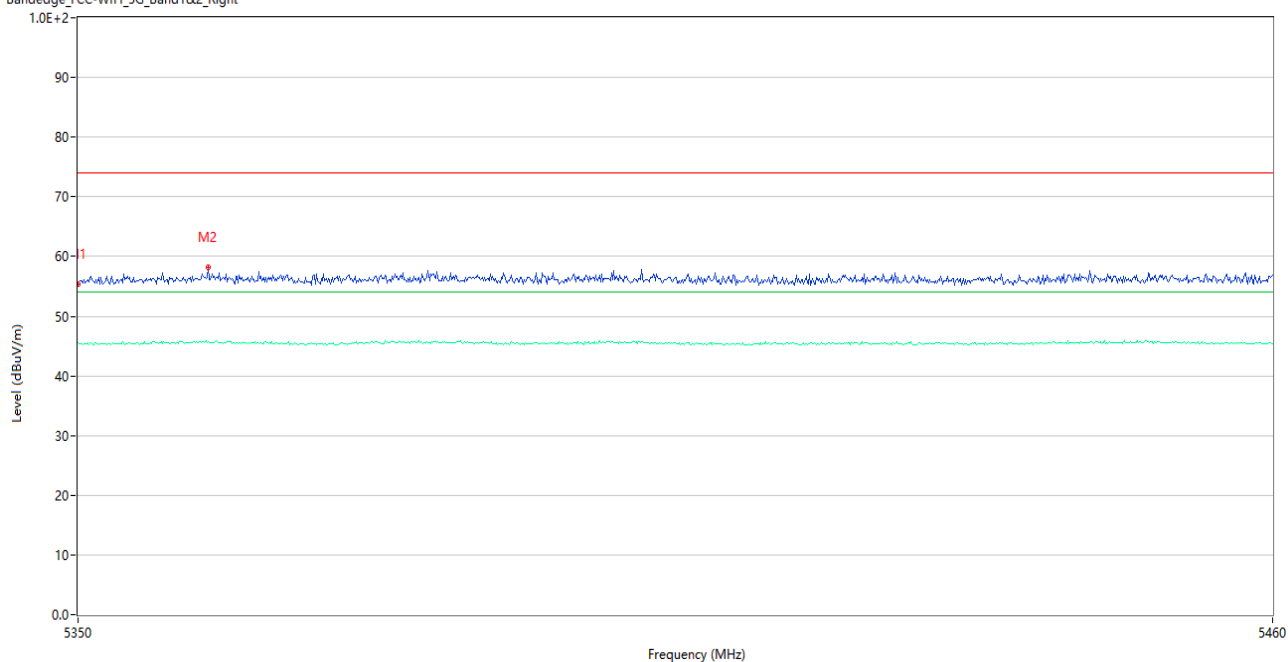
Bandedge_FCC-WIFI_5G_Band1&2_Left



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	5150.000	67.81	5.21	74.0	6.19	Peak	47.01	150	Horizontal	Pass
1**	5150.000	53.10	5.21	54.0	0.90	AV	47.01	150	Horizontal	Pass
2	5147.400	67.51	5.29	74.0	6.49	Peak	344.00	150	Horizontal	Pass
2**	5147.400	51.70	5.29	54.0	2.30	AV	344.00	150	Horizontal	Pass

U-NII-1 11n40 High Channel

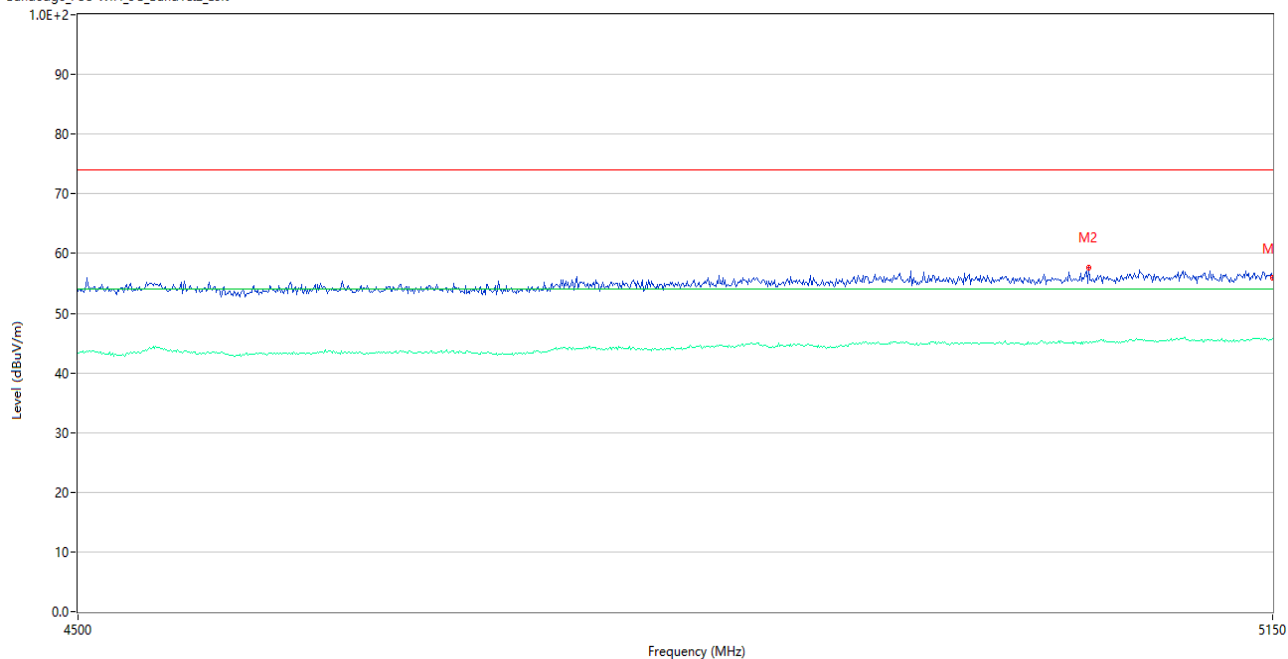
Bandedge_FCC-WIFI_5G_Band1&2_Right



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	5350.000	55.45	5.40	74.0	18.55	Peak	209.00	150	Vertical	Pass
1**	5350.000	45.54	5.40	54.0	8.46	AV	209.00	150	Vertical	Pass
2	5361.880	58.19	5.70	74.0	15.81	Peak	311.00	150	Vertical	Pass
2**	5361.880	45.80	5.70	54.0	8.20	AV	311.00	150	Vertical	Pass

U-NII-2A 11a Low Channel

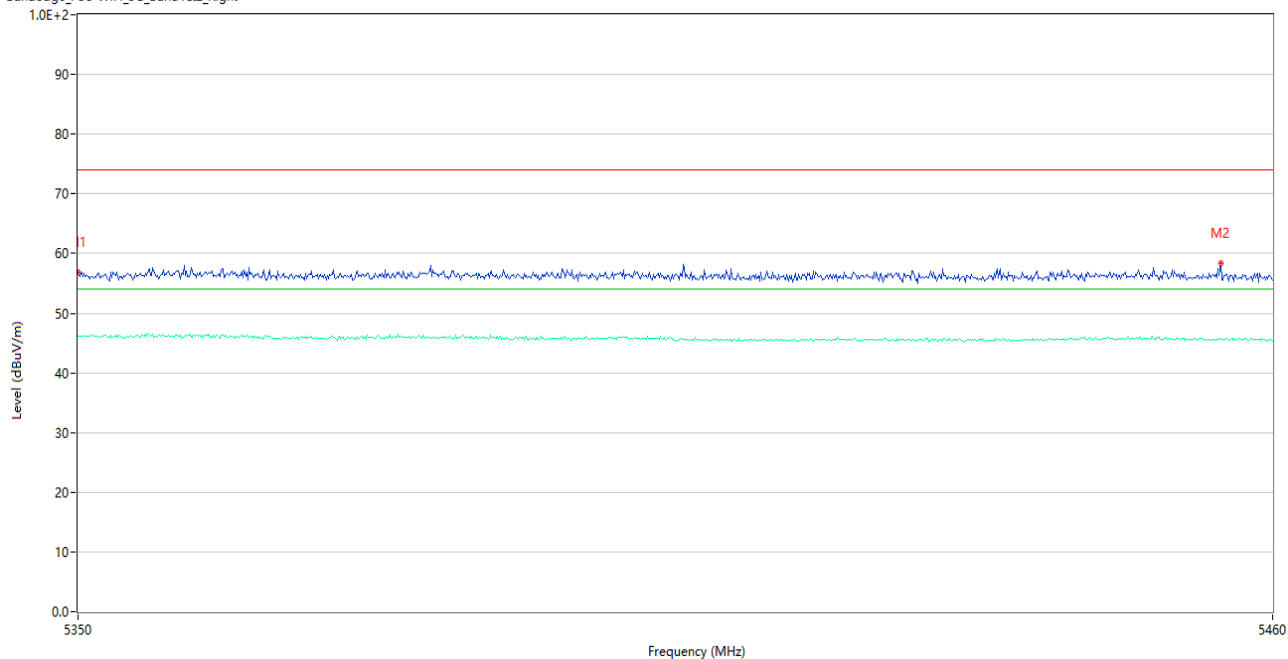
Bandedge_FCC-WIFI_5G_Band1&2_Left



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	5150.000	55.89	5.21	74.0	18.11	Peak	356.95	150	Horizontal	Pass
1**	5150.000	45.75	5.21	54.0	8.25	AV	356.95	150	Horizontal	Pass
2	5044.050	57.67	5.06	74.0	16.33	Peak	319.00	150	Horizontal	Pass
2**	5044.050	45.05	5.06	54.0	8.95	AV	319.00	150	Horizontal	Pass

U-NII-2A 11a High Channel

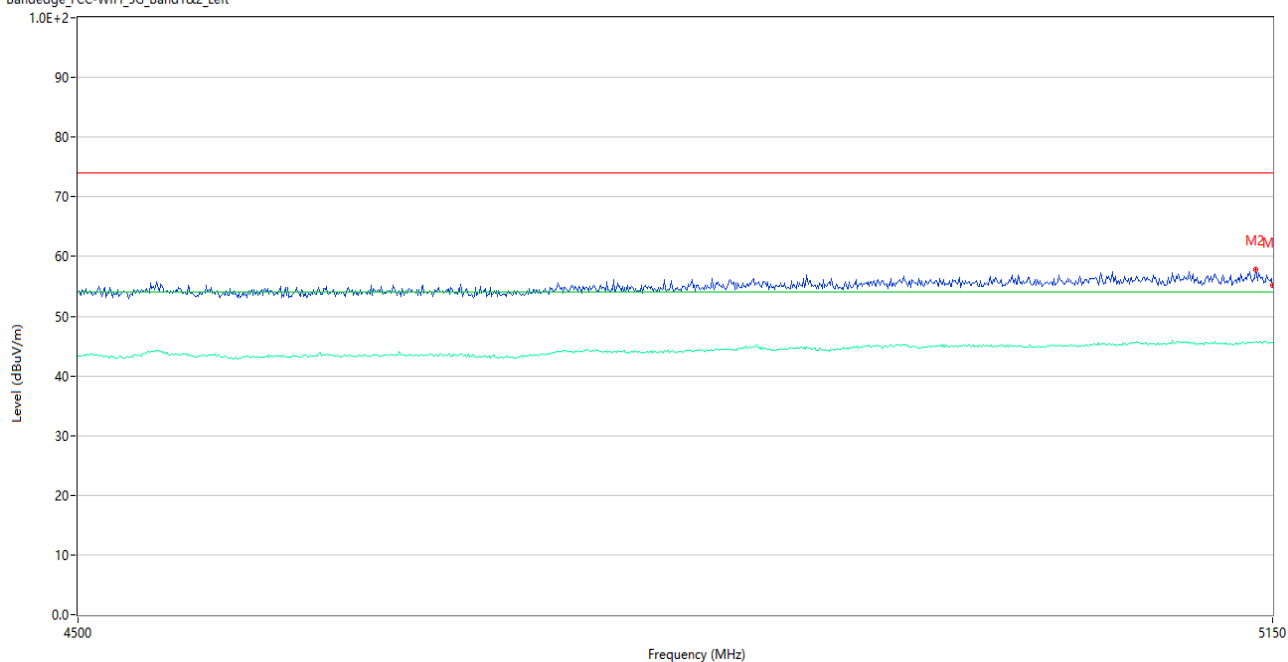
Bandedge_FCC-WIFI_5G_Band1&2_Right



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	5350.000	56.95	5.40	74.0	17.05	Peak	148.00	150	Horizontal	Pass
1**	5350.000	46.23	5.40	54.0	7.77	AV	148.00	150	Horizontal	Pass
2	5455.160	58.39	5.46	74.0	15.61	Peak	233.00	150	Horizontal	Pass
2**	5455.160	45.72	5.46	54.0	8.28	AV	233.00	150	Horizontal	Pass

U-NII-2A 11n20 Low Channel

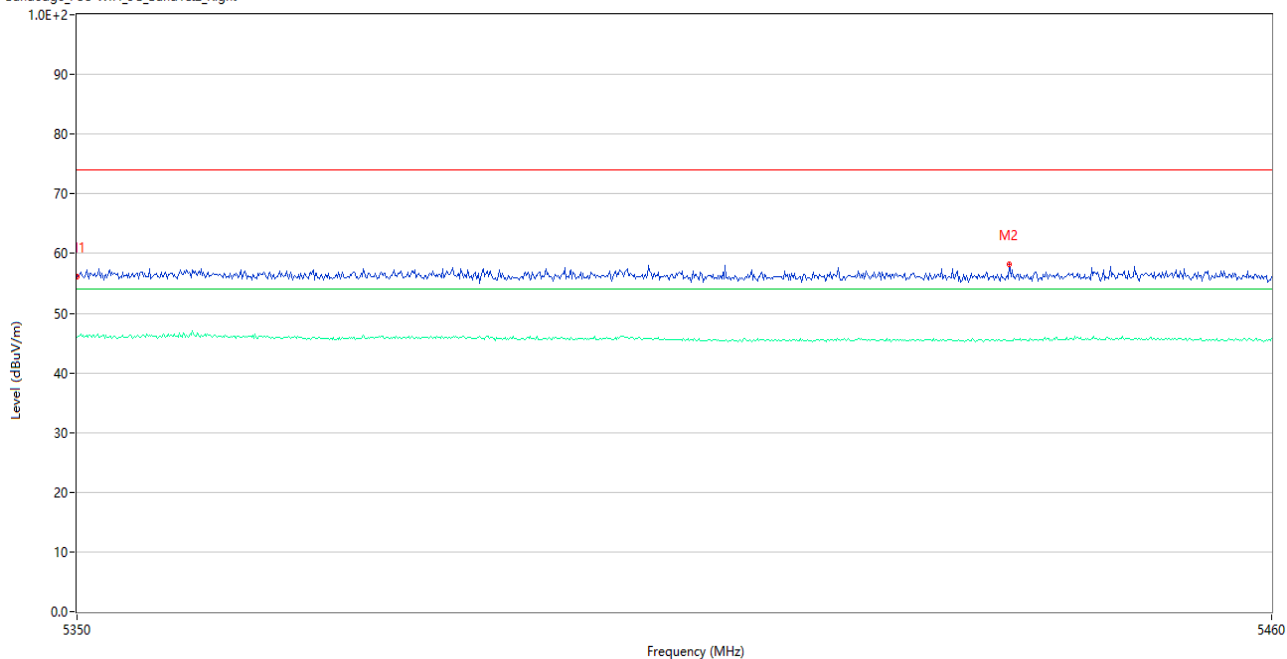
Bandedge_FCC-WIFI_5G_Band1&2_Left



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	5150.000	55.24	5.21	74.0	18.76	Peak	356.96	150	Vertical	Pass
1**	5150.000	45.54	5.21	54.0	8.46	AV	356.96	150	Vertical	Pass
2	5140.250	57.75	5.60	74.0	16.25	Peak	357.00	150	Vertical	Pass
2**	5140.250	45.65	5.60	54.0	8.35	AV	357.00	150	Vertical	Pass

U-NII-2A 11n20 High Channel

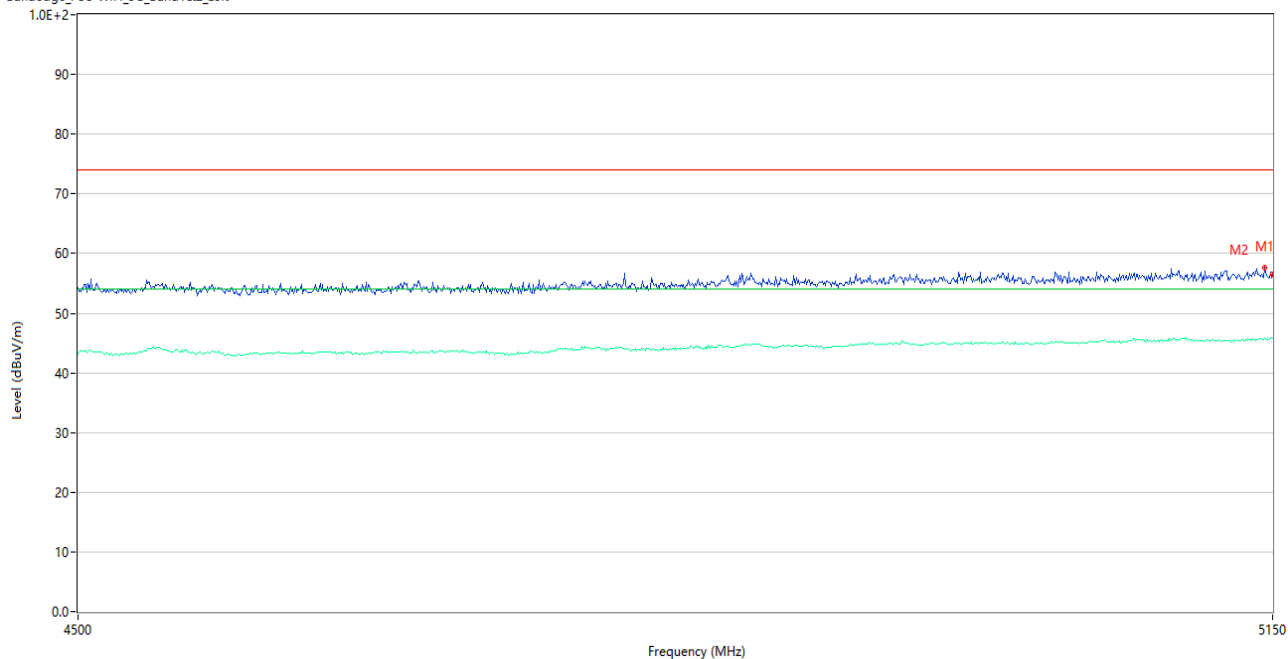
Bandedge_FCC-WIFI_5G_Band1&2_Right



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	5350.000	56.21	5.40	74.0	17.79	Peak	357.00	150	Horizontal	Pass
1**	5350.000	46.00	5.40	54.0	8.00	AV	357.00	150	Horizontal	Pass
2	5435.690	58.15	5.28	74.0	15.85	Peak	70.00	150	Horizontal	Pass
2**	5435.690	45.47	5.28	54.0	8.53	AV	70.00	150	Horizontal	Pass

U-NII-2A 11n40 Low Channel

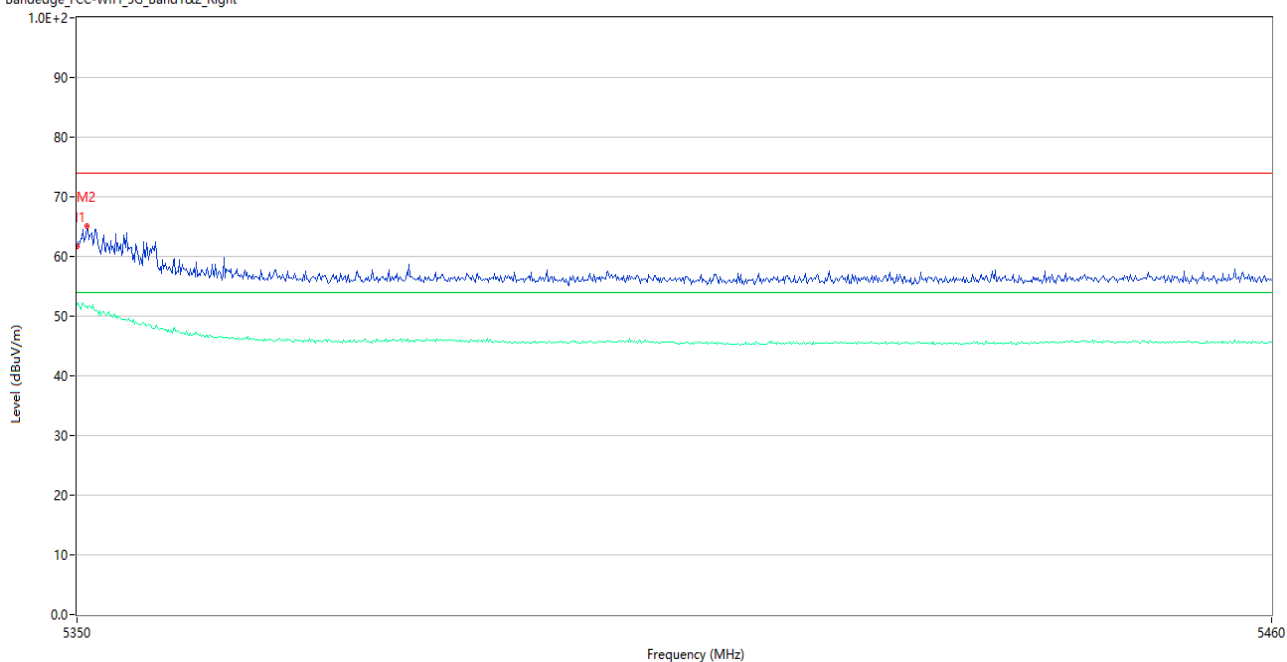
Bandedge_FCC-WIFI_5G_Band1&2_Left



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	5150.000	56.49	5.21	74.0	17.51	Peak	264.02	150	Horizontal	Pass
1**	5150.000	45.77	5.21	54.0	8.23	AV	264.02	150	Horizontal	Pass
2	5145.450	57.61	5.41	74.0	16.39	Peak	348.00	150	Horizontal	Pass
2**	5145.450	45.85	5.41	54.0	8.15	AV	348.00	150	Horizontal	Pass

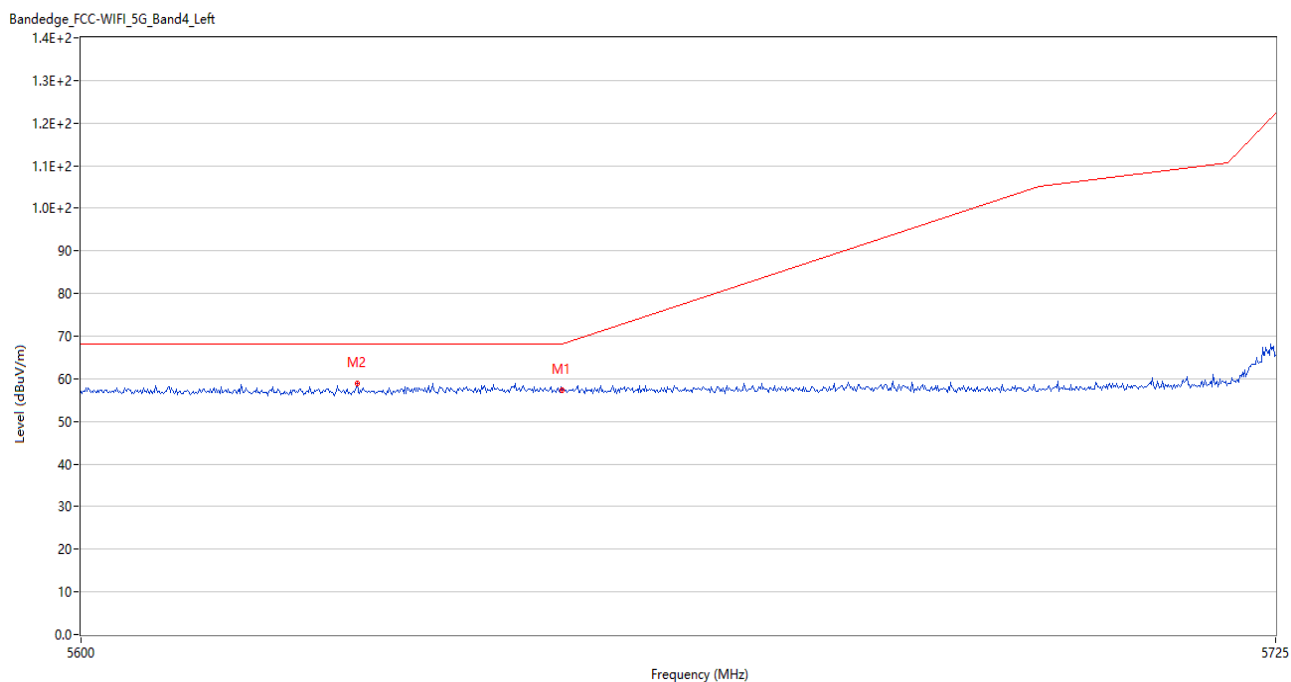
U-NII-2A 11n40 High Channel

Bandedge_FCC-WIFI_5G_Band1&2_Right



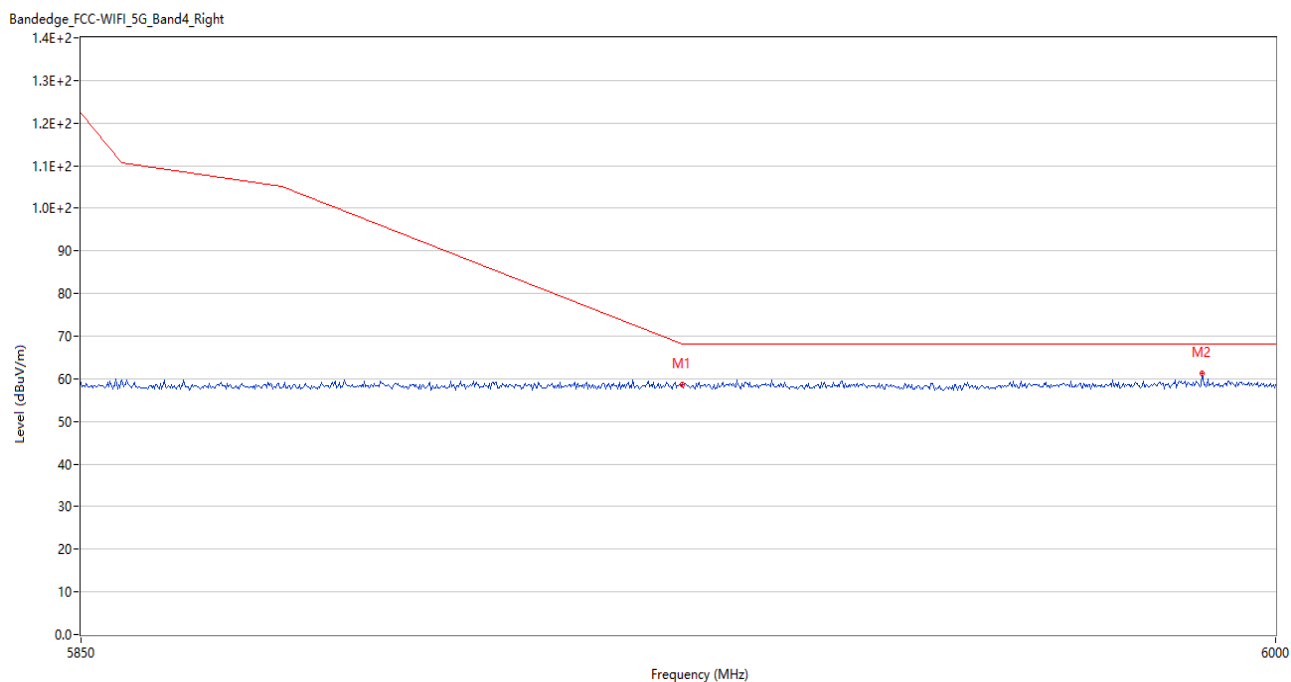
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	5350.000	61.71	5.40	74.0	12.29	Peak	136.00	150	Horizontal	Pass
1**	5350.000	51.97	5.40	54.0	2.03	AV	136.00	150	Horizontal	Pass
2	5350.880	65.06	5.42	74.0	8.94	Peak	149.00	150	Horizontal	Pass
2**	5350.880	51.75	5.42	54.0	2.25	AV	149.00	150	Horizontal	Pass

U-NII-3 11a Low Channel



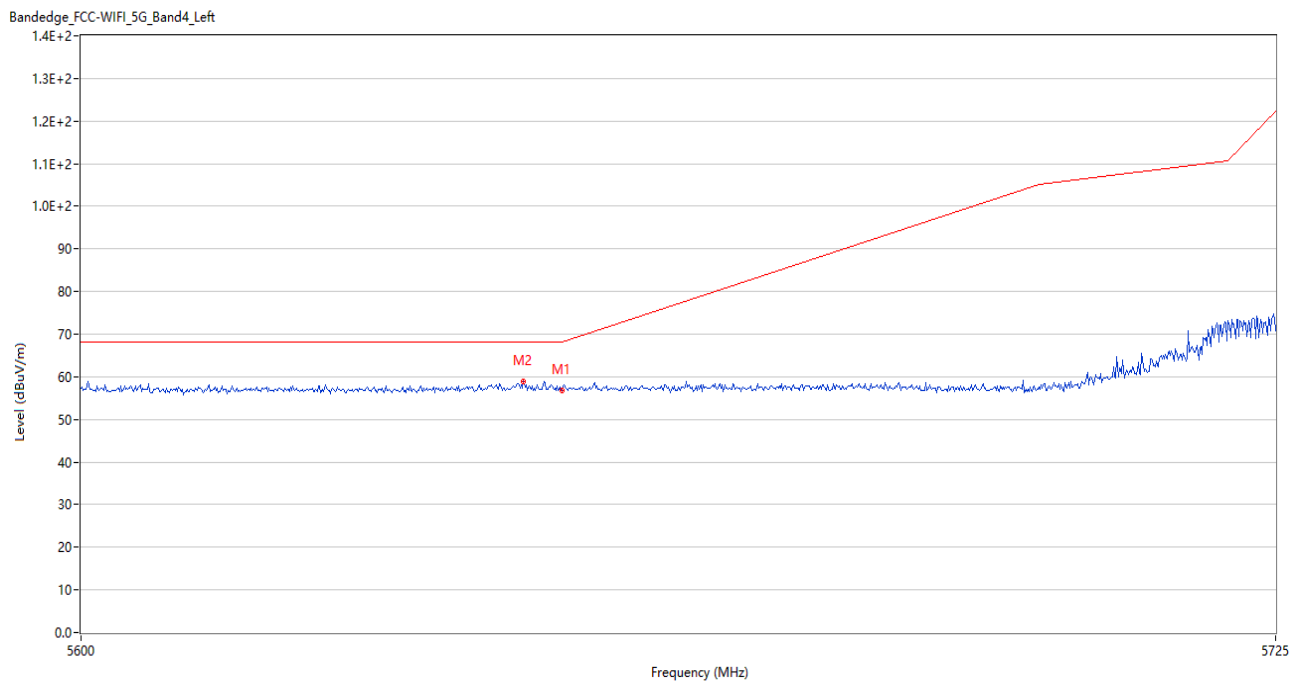
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	5650.000	57.28	5.94	68.2	10.92	Peak	12.99	150	Horizontal	Pass
2	5628.625	59.02	5.84	68.2	9.18	Peak	212.00	150	Horizontal	Pass

U-NII-3 11a High Channel



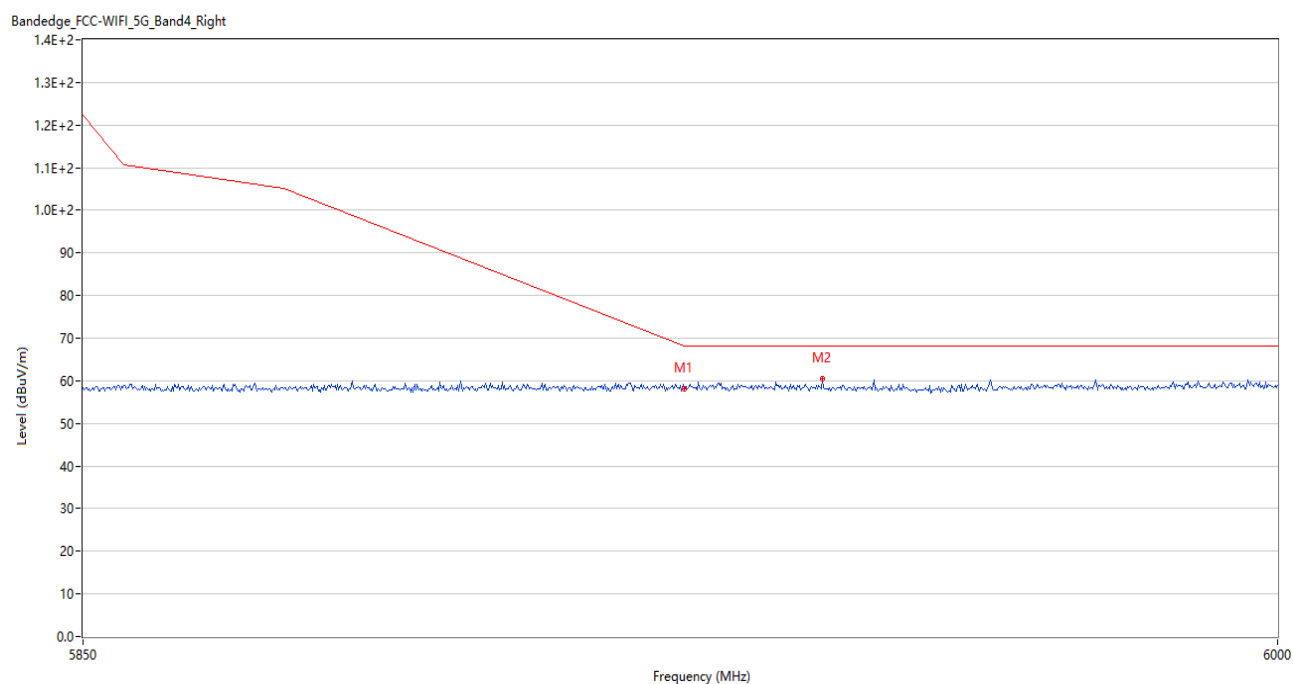
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	5925.000	58.63	7.83	68.2	9.57	Peak	158.12	150	Vertical	Pass
2	5990.700	61.19	7.96	68.2	7.01	Peak	66.00	150	Vertical	Pass

U-NII-3 11n20 Low Channel



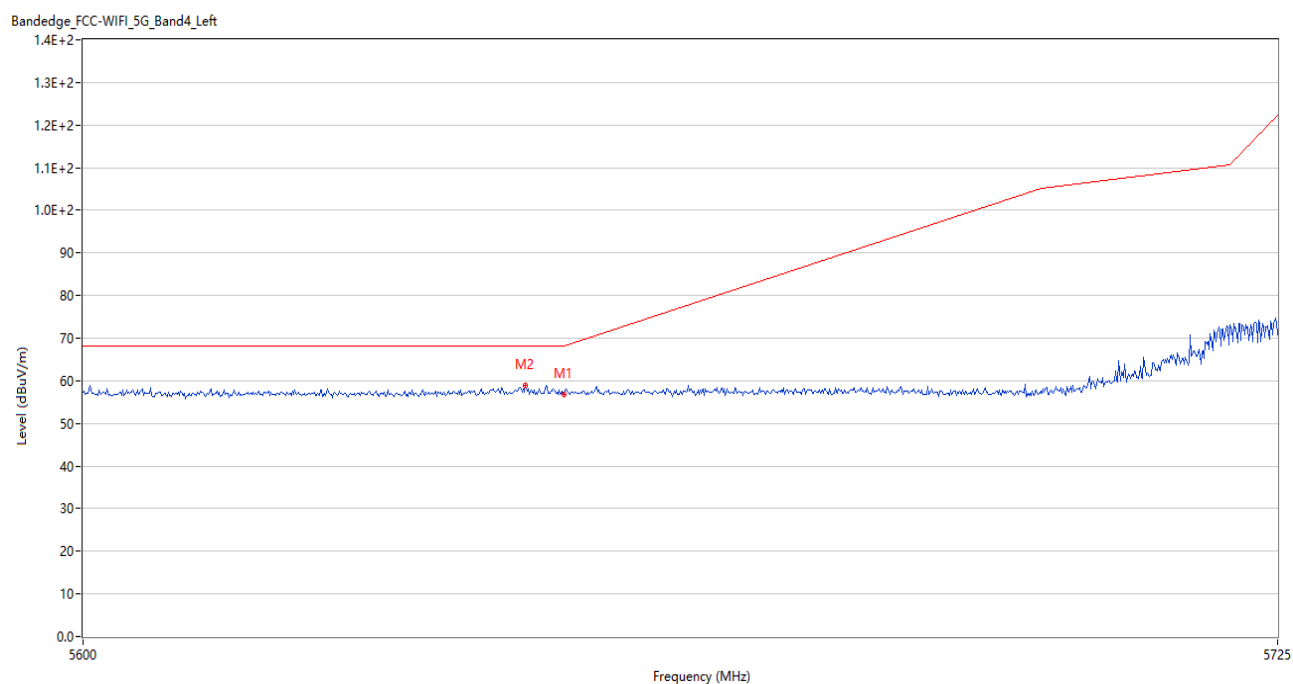
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	5650.000	56.79	5.94	68.2	11.41	Peak	355.96	150	Vertical	Pass
2	5646.000	58.96	5.99	68.2	9.24	Peak	356.00	150	Vertical	Pass

U-NII-3 11n20 High Channel



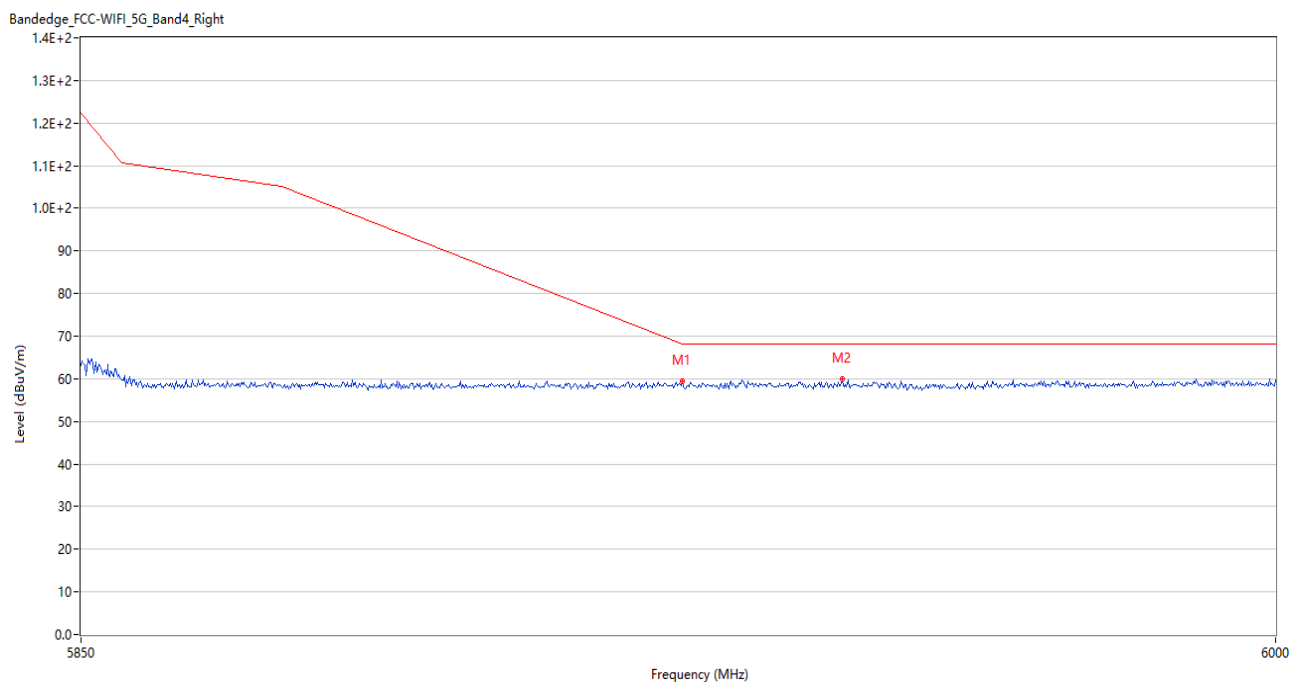
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	5925.000	58.13	7.83	68.2	10.07	Peak	355.88	150	Vertical	Pass
2	5942.400	60.47	7.40	68.2	7.73	Peak	145.00	150	Vertical	Pass

U-NII-3 11n40 Low Channel



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	5650.000	56.79	5.94	68.2	11.41	Peak	355.96	150	Vertical	Pass
2	5646.000	58.96	5.99	68.2	9.24	Peak	356.00	150	Vertical	Pass

U-NII-3 11n40 High Channel



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	5925.000	59.46	7.83	68.2	8.74	Peak	91.98	150	Horizontal	Pass
2	5945.100	60.05	7.41	68.2	8.15	Peak	112.00	150	Horizontal	Pass

ANNEX B TEST SETUP PHOTOS

Please refer the document “BL-SH2440053-AR.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “BL-SH2440053-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “BL-SH2440053-AI.PDF”.

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--END OF REPORT--