

TEST REPORT

Applicant: Glimpse LLC
Address: 101a Clay Street #144, San Francisco, CA 94111, USA
Equipment Type: 10 inch WiFi Digital Photo Frame, 10 inch WiFi Digital Photo Calendar
Model Name: 100-FRM (refer to section 2.3)
Brand Name: Skylight
FCC ID: 2BF8S-100-2
ISED Number: 26595-1002
HVIN: 100-2
Test Standard: 47 CFR Part 15 Subpart C
RSS-Gen Issue 5
RSS-247 Issue 3
(refer to section 3.1)
Sample Arrival Date: Jul. 11, 2024
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ISSUED BY:

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Revision History

Version	Issue Date	Revisions
<u>Rev. 01</u>	<u>Aug. 19, 2024</u>	<u>Initial Issue</u>

TABLE OF CONTENTS

1	GENERAL INFORMATION	4
1.1	Test Laboratory	4
1.2	Test Location	4
2	PRODUCT INFORMATION	5
2.1	Applicant Information	5
2.2	Manufacturer Information	5
2.3	General Description for Equipment under Test (EUT)	5
2.4	Technical Information	6
3	SUMMARY OF TEST RESULTS	9
3.1	Test Standards	9
3.2	Test Verdict	10
4	GENERAL TEST CONFIGURATIONS	11
4.1	Test Environments	11
4.2	Test Equipment List	11
4.3	Test Software List	11
4.4	Measurement Uncertainty	12
4.5	Description of Test Setup	12
4.6	Measurement Results Explanation Example	15
5	TEST ITEMS	16
5.1	Antenna Requirements	16
5.2	Output Power	17
5.3	Occupied Bandwidth	19
5.4	Conducted Spurious Emission	20
5.5	Band Edge (Authorized-band band-edge)	22

5.6	Conducted Emission	24
5.7	Radiated Spurious Emission	25
5.8	Band Edge (Restricted-band band-edge).....	30
5.9	Power Spectral density (PSD).....	31
ANNEX A	TEST RESULT	32
A.1	Output Power	32
A.2	Occupied Bandwidth	36
A.3	Conducted Spurious Emissions	36
A.4	Band Edge (Authorized-band band-edge).....	36
A.5	Conducted Emissions.....	37
A.6	Radiated Emission	39
A.7	Band Edge (Restricted-band band-edge).....	59
A.8	Power Spectral Density (PSD)	71
ANNEX B	TEST SETUP PHOTOS	76
ANNEX C	EUT EXTERNAL PHOTOS	76
ANNEX D	EUT INTERNAL PHOTOS	76

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	Glimpse LLC
Address	101a Clay Street #144, San Francisco, CA 94111, USA

2.2 Manufacturer Information

Manufacturer	Glimpse LLC
Address	101a Clay Street #144, San Francisco, CA 94111, USA

2.3 General Description for Equipment under Test (EUT)

EUT Name	10 inch WiFi Digital Photo Frame, 10 inch WiFi Digital Photo Calendar
Model Name Under Test	100-FRM
Series Model Name	100-CAL
Description of Model name differentiation	All models are same with electrical parameters and internal circuit structure, but only differ in colors. (this information provided by the applicant)
Serial Number	HVN46PHZG000013
Hardware Version	AY7230A_MB_V3_A
Software Version	AY7230A_rk3326s_10_classic_EVT002_20240620064000
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

2.4 Technical Information

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

Frequency Range	802.11b/g/n/ax(20 MHz): 2.412 GHz - 2.462 GHz $f_c = 2412 \text{ MHz} + (N-1)*5 \text{ MHz}$, where - f_c = "Operating Frequency" in MHz, - N = "Channel Number" with the range from 1 to 11. 802.11n/ax(40 MHz): 2.422 GHz - 2.452 GHz $f_c = 2412 \text{ MHz} + (N-1)*5 \text{ MHz}$, where - f_c = "Operating Frequency" in MHz, - N = "Channel Number" with the range from 3 to 9.
Modulation Type	DSSS, OFDM, OFDMA
Product Type	☒ Mobile ☐ Portable ☐ Fix Location
Antenna System (eg., MIMO, Smart Antenna)	N/A
Categorization as Correlated or Completely Uncorrelated	N/A
Antenna Type	FPC Antenna
Antenna Gain	4.4 dBi
About the Product	Only the WIFI 802.11b, 802.11g, 802.11n (HT20/40) and 802.11ax (HE20/40) was tested in this report.

Modulation technology	Modulation Type	Transfer Rate (Mbps)(Single RF path)
DSSS (802.11b)	DBPSK	1
	DQPSK	2
	CCK	5.5/11
OFDM (802.11g)	BPSK	6/9
	QPSK	12/18
	16QAM	24/36
	64QAM	48/54
OFDM (802.11n-20 MHz)	BPSK	6.5/7.2
	QPSK	13/19.5/14.4/21.7
	16QAM	26/39/28.9/43.3
	64QAM	52/58.5/65/57.8/65/72.2
OFDM (802.11n-40 MHz)	BPSK	13.5/15
	QPSK	27/40.5/30/45
	16QAM	54/81/60/90
	64QAM	108/121.5/135/120/150
OFDMA (802.11ax-20 MHz)	BPSK	4
	QPSK	16/24/17/26
	16QAM	33/49/34/52
	64QAM	65/73/81/69/77/86
	256QAM	98/108/103/115
	1024QAM	122/135/129/143
OFDMA (802.11ax-40 MHz)	BPSK	8/9
	QPSK	33/49/34/52
	16QAM	65/98/69/103
	64QAM	130/146/163/138/155/172
	256QAM	195/217/207/229
	1024QAM	244/271/258/287

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

Test Items	Mode	Data Rate	Channel	
Output Power	11b/11g/11n20/11n40/ 11ax20/11ax40	1/6/6.5/13.5/ 4/8 Mbps	1/6/11	3/6/9
Occupied Bandwidth	11b/11g/11n20/11n40/ 11ax20/11ax40	1/6/6.5/13.5/ 4/8 Mbps	1/6/11	3/6/9
Conducted Spurious Emission	11b/11g/11n20/11n40/ 11ax20/11ax40	1/6/6.5/13.5/ 4/8 Mbps	1/6/11	3/6/9
Conducted Emission	11b/11g/11n20/11n40/ 11ax20/11ax40	1/6/6.5/13.5/ 4/8 Mbps	1/6/11	3/6/9
Radiated Spurious Emission	11b/11g/11n20/11n40/ 11ax20/11ax40	1/6/6.5/13.5/ 4/8 Mbps	1/6/11	3/6/9
Band Edge	11b/11g/11n20/11n40/ 11ax20/11ax40	1/6/6.5/13.5/ 4/8 Mbps	1/6/11	3/6/9
Power spectral density (PSD)	11b/11g/11n20/11n40/ 11ax20/11ax40	1/6/6.5/13.5/ 4/8 Mbps	1/6/11	3/6/9

Note: The above EUT information in section 2.4 was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

3 SUMMARY OF TEST RESULTS

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 15, Subpart C	Intentional radiators of radio frequency equipment
2	RSS-Gen Issue 5	General Requirements for Compliance of Radio Apparatus
3	RSS-247 Issue 3	Digital Transmission Systems (DTSS), Frequency Hopping Systems(FHSS) and Licence-Exempt Local Area Network (LE-LAN) Devices
4	ANSI C63.10-2013	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
5	KDB Publication 558074 D01v05r02	GUIDANCE FOR COMPLIANCE MEASUREMENTS ON DIGITAL TRANSMISSION SYSTEM, FREQUENCY HOPPING SPREAD SPECTRUM SYSTEM, AND HYBRID SYSTEM DEVICES OPERATING UNDER SECTION 15.247 OF THE FCC RULES

3.2 Test Verdict

No.	Description	FCC PART No.	ISED Part No.	Test Result	Verdict
1	Antenna Requirement	15.203	RSS-247, 5.4 (f)	N/A	Pass ^{Note 1}
2	Output Power	15.247 (b)	RSS-247, 5.4 (d)	ANNEX A.1	Pass ^{Note3}
3	Occupied Bandwidth	15.247 (a)	RSS-GEN, 6.7; RSS-247, 5.2 (a)	ANNEX A.2	-- ^{Note3}
4	Conducted Spurious Emission	15.247 (d)	RSS-247, 5.5	ANNEX A.3	-- ^{Note3}
5	Band Edge(Authorized-band band-edge)	15.247 (d)	RSS-GEN, 8.9; RSS-247, 5.5	ANNEX A.4	-- ^{Note3}
6	Conducted Emission	15.207	RSS-GEN, 8.8	ANNEX A.5	Pass ^{Note3}
7	Radiated Spurious Emission	15.209; 15.247 (d)	RSS-247, 5.5	ANNEX A.6	Pass ^{Note3}
8	Band Edge(Restricted-band band-edge)	15.209; 15.247 (d)	RSS-247, 5.5	ANNEX A.7	Pass ^{Note3}
9	Power spectral density (PSD)	15.247 (e)	RSS-247, 5.2 (b)	ANNEX A.8	Pass ^{Note3}
10	Receiver Spurious Emissions	N/A	RSS-Gen, 7.3	N/A	N/A ^{Note 2}

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.

Note ³: The RF module (Model Name: MWH640S) installed in the EUT is electronically and mechanically identical to the original certified module in the test report No. SRTC2024-9004(F)-24051402(F) (FCC ID: 2AJVQ-MWH640S) & No. SRTC2024-9004(I)-24051402(F) (ISED Number: 22470-MWH640S), which issued by The State Radio_monitoring_center Testing Center (SRTC) on Jun. 11, 2024, so just Output Power & Conducted Emission & Radiated Spurious Emission & Band Edge(Restricted-band band-edge) & Power spectral density (PSD) were retested in this report. Other test items please refer to the report No. SRTC2024-9004(F)-24051402(F) (FCC ID: 2AJVQ-MWH640S) & No. SRTC2024-9004(I)-24051402(F) (ISED Number: 22470-MWH640S), which issued by The State Radio_monitoring_center Testing Center (SRTC) on Jun. 11, 2024.

4 GENERAL TEST CONFIGURATIONS

4.1 Test Environments

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

Relative Humidity	37% to 69%	
Atmospheric Pressure	100 kPa to 102 kPa	
Temperature	NT (Normal Temperature)	+19.5℃ to +25.9℃
Working Voltage of the EUT	NV (Normal Voltage)	12.0 V

Note: The extreme test conditions please refer to the Report No. SRTC2024-9004(F)-24051402(F) (FCC ID: 2AJVQ-MWH640S) & No. SRTC2024-9004(I)-24051402(F) (ISED Number: 22470-MWH640S), which issued by The State Radio_monitoring_center Testing Center (SRTC) on Jun. 11, 2024.

4.2 Test Equipment List

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Power Sensor	KEYSIGHT	U2063XA	MY58000247	2024.07.04	2025.07.03
Spectrum Analyzer	ROHDE&SCHWARZ	FSV-40	101544	2023.12.27	2024.12.26
Spectrum Analyzer	KEYSIGHT	N9020A	MY46471071	2024.07.04	2025.07.03
Test Antenna-Horn	SCHWARZBECK	BBHA 9120D	02460	2024.05.16	2027.05.15
Test Antenna-Horn	A-INFO	LB-180400KF	J211060273	2024.06.15	2025.06.14
Anechoic Chamber	RAINFORD	9m*6m*6m	140	2022.02.19	2024.08.15
Amplifier	COM-MV	LSCX_LNA1-12G-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	Agilent	N9038A	MY55330120	2023.09.05	2024.09.04
Test Antenna-Bi-Log	SCHWARZBECK	VULB 9168	9168-00867	2022.04.12	2025.04.11
Test Antenna-Loop	SCHWARZBECK	FMZB 1519	1519-037	2024.01.23	2027.01.22
Amplifier	COM-MV	ZT30-1000M	B2017119081	2023.12.05	2024.12.04
Anechoic Chamber	YiHeng	9m*6m*6m	142	2021.08.19	2024.08.18
EMI Receiver	KEYSIGHT	N9010B	MY57110309	2023.09.05	2024.09.04
LISN	SCHWARZBECK	NSLK 8127	8127-687	2024.05.09	2025.05.08
Shielded Enclosure	YiHeng Electronic Co., Ltd	3.5m*3.1m*2.8 m	112	2022.02.19	2025.02.18

4.3 Test Software List

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

4.4 Measurement Uncertainty

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

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

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

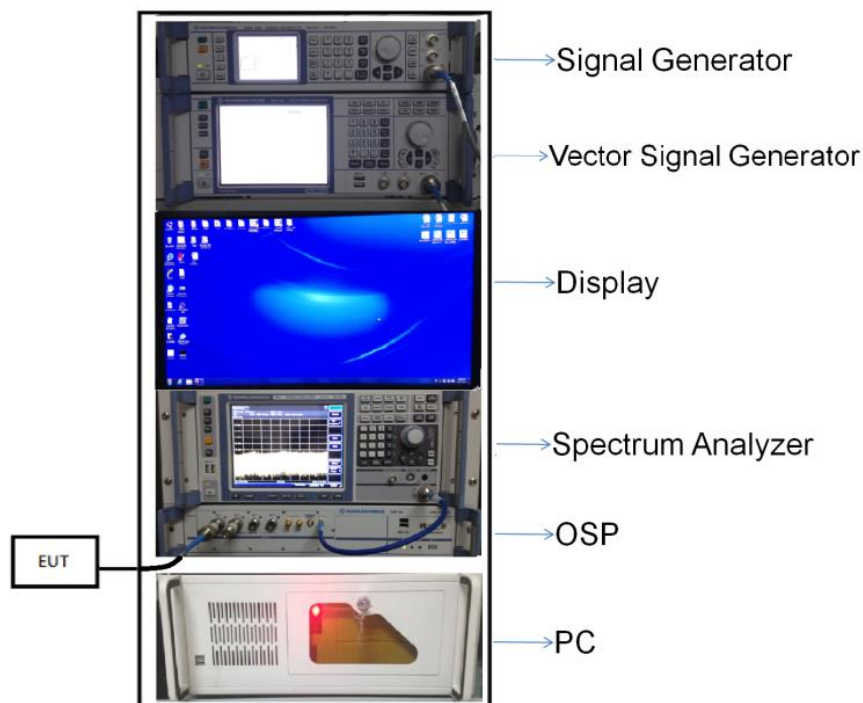
4.5 Description of Test Setup

4.5.1 For Antenna Port Test

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

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

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



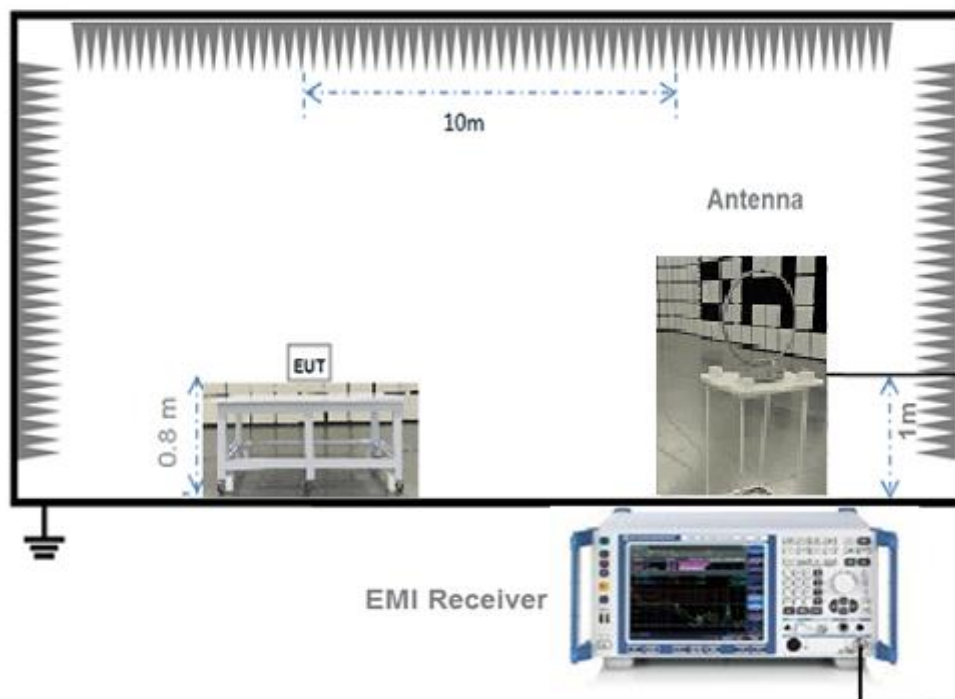
(Diagram 1)

4.5.2 For AC Power Supply Port Test



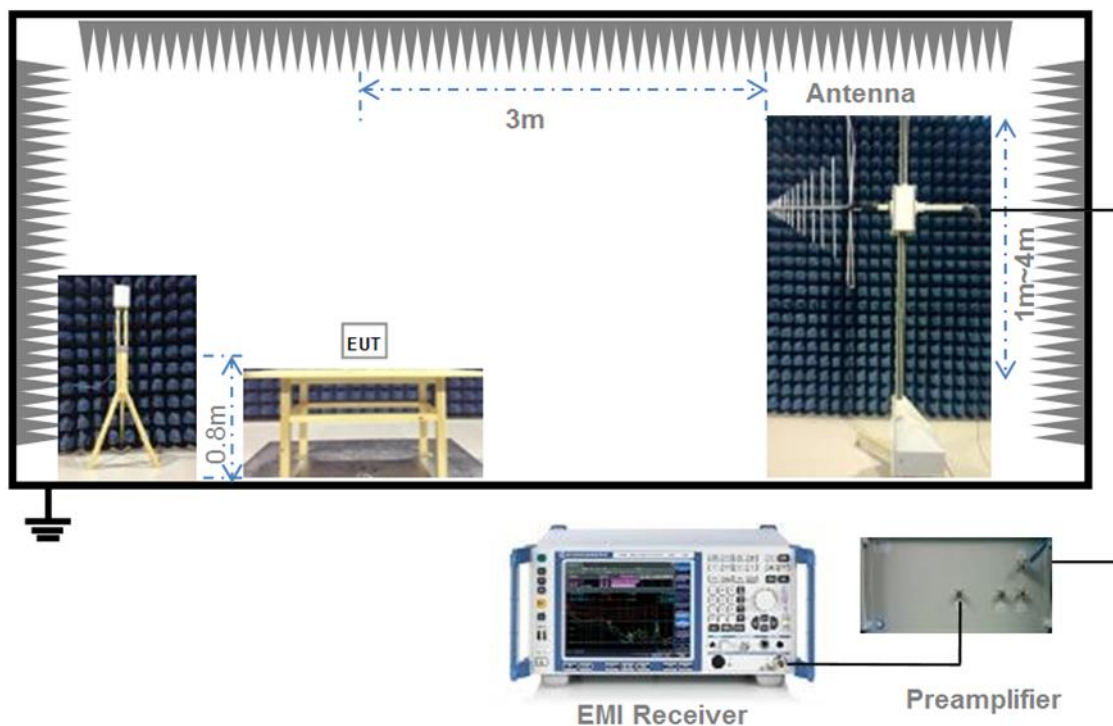
(Diagram 2)

4.5.3 For Radiated Test (Below 30 MHz)



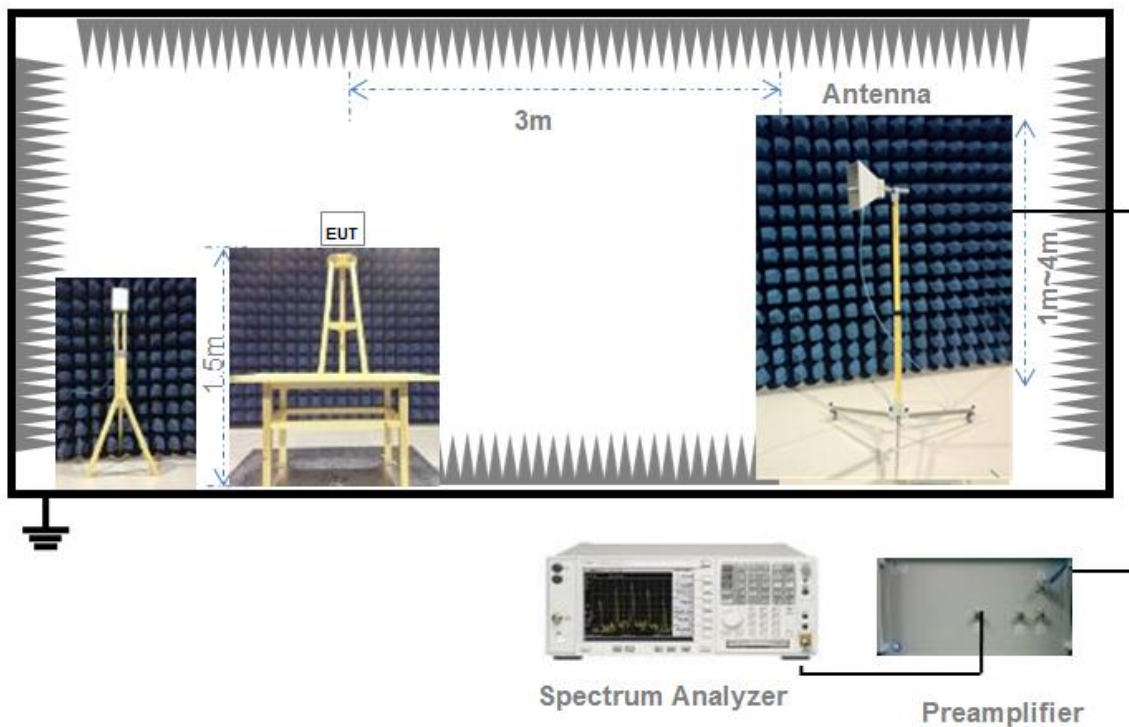
(Diagram 3)

4.5.4 For Radiated Test (30 MHz-1 GHz)



(Diagram 4)

4.5.5 For Radiated Test (Above 1 GHz)



(Diagram 5)

4.6 Measurement Results Explanation Example

4.6.1 For conducted test items:

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

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

Offset = RF cable loss + attenuator factor.

4.6.2 For radiated band edges and spurious emission test:

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

where:

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

EIRP = equivalent isotropic radiated power in dBm

D = specified measurement distance in meters.

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

5 TEST ITEMS

5.1 Antenna Requirements

5.1.1 Relevant Standards

FCC §15.203; RSS-247, 5.4 (f)

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

If directional gain of transmitting antennas is greater than 6 dBi, the power shall be reduced by the same level in dB comparing to gain minus 6 dBi. For the fixed point-to-point operation, the power shall be reduced by one dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the FCC rule.

5.1.2 Antenna Anti-Replacement Construction

The Antenna Anti-Replacement as following method:

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

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

5.1.3 Antenna Gain

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

5.2 Output Power

5.2.1 Test Limit

FCC § 15.247(b); RSS-247, 5.4 (d)

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

5.2.2 Test Setup

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

5.2.3 Test Procedure

Maximum peak conducted output power

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

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

$EIRP = \text{Maximum peak conducted output power} + \text{Antenna Gain}$.

Maximum conducted (average) output power (Reporting Only)

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

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

Measurements of duty cycle

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

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

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

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

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

5.2.4 Test Result

Please refer to ANNEX A.1.

5.3 Occupied Bandwidth

5.3.1 Limit

FCC §15.247(a); RSS-GEN, 6.7; RSS-247, 5.2 (a)

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

5.3.2 Test Setup

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

5.3.3 Test Procedure

Use the following spectrum analyzer settings:

Set RBW = 100 kHz.

Set the video bandwidth (VBW) ≥ 3 RBW.

Detector = Peak.

Trace mode = max hold.

Sweep = auto couple.

Allow the trace to stabilize.

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

5.3.4 Test Result

Please refer to ANNEX A.2.

5.4 Conducted Spurious Emission

5.4.1 Limit

FCC §15.247(d); RSS-247, 5.5

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

5.4.2 Test Setup

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

5.4.3 Test Procedure

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

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

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

Reference level measurement

Establish a reference level by using the following procedure:

Set instrument center frequency to DTS channel center frequency.

Set the span to ≥ 1.5 times the DTS bandwidth.

Set the RBW = 100 kHz.

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

Detector = peak.

Sweep time = auto couple.

Trace mode = max hold.

Allow trace to fully stabilize.

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

Emission level measurement

Use the following spectrum analyzer settings:

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

Set the RBW = 100 kHz.

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

Detector = peak.

Sweep time = auto couple.

Trace mode = max hold.

Allow trace to fully stabilize.

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

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

5.4.4 Test Result

Please refer to ANNEX A.3.

5.5 Band Edge (Authorized-band band-edge)

5.5.1 Limit

FCC §15.247(d); RSS-GEN, 8.9, RSS-247, 5.5

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

5.5.2 Test Setup

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

5.5.3 Test Procedure

The following procedures may be used to determine the peak or average field strength or power of an unwanted emission that is within 2 MHz of the authorized band edge. If a peak detector is utilized, use the procedure described in 13.2.1. Use the procedure described in 13.2.2 when using an average detector and the EUT can be configured to transmit continuously (i.e., duty cycle $\geq 98\%$). Use the procedure described in 13.2.3 when using an average detector and the EUT cannot be configured to transmit continuously but the duty cycle is constant (i.e., duty cycle variations are less than ± 2 percent). Use the procedure described in 13.2.4 when using an average detector for those cases where the EUT cannot be configured to transmit continuously and the duty cycle is not constant (duty cycle variations equal or exceed 2 percent).

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

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

Set span to 2 MHz

RBW = 100 kHz.

VBW $\geq 3 \times$ RBW.

Detector = peak.

Sweep time = auto.

Trace mode = max hold.

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

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

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

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

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

Attenuation: Auto (at least 10 dB preferred).

Sweep time: Coupled.

Resolution bandwidth: 100 kHz.

Video bandwidth: 300 kHz.

Detector: Peak.

Trace: Max hold.

5.5.4 Test Result

Please refer to ANNEX A.4.

5.6 Conducted Emission

5.6.1 Limit

FCC §15.207; RSS-GEN, 8.8

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

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

5.6.2 Test Setup

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

5.6.3 Test Procedure

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

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

5.6.4 Test Result

Please refer to ANNEX A.5.

5.7 Radiated Spurious Emission

5.7.1 Limit

FCC §15.209&15.247(d); RSS-247, 5.5

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

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

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

Note:

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

5.7.2 Test Setup

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

5.7.3 Test Procedure

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

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

General Procedure for conducted measurements in restricted bands

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

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

where:

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

EIRP = equivalent isotropic radiated power in dBm

D = specified measurement distance in meters.

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

Quasi-Peak measurement procedure

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

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

Peak power measurement procedure

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

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

longer for low duty cycle applications).

Table 1—RBW as a function of frequency

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

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

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

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

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

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

Determining the applicable transmit antenna gain

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

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

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

Radiated spurious emission test

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

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

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

The power of the EUT transmitting frequency should be ignored.

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

Use the following spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured

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

VBW $\geq$ RBW

Sweep = auto

Detector function = peak

Trace = max hold

5.7.4 Test Result

Please refer to ANNEX A.6.

5.8 Band Edge (Restricted-band band-edge)

5.8.1 Limit

FCC §15.209&15.247(d); RSS-247, 5.5

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

5.8.2 Test Setup

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

5.8.3 Test Procedure

The measurement frequency range is from 9 kHz to the 10th harmonic of the fundamental frequency. The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. Mid channels on all channel bandwidth verified. Only the worst RB size/offset presented.

The power of the EUT transmitting frequency should be ignored.

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

Use the following spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured

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

VBW $\geq$ RBW

Sweep = auto

Detector function = peak

Trace = max hold

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

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

5.8.4 Test Result

Please refer to ANNEX A.7.

5.9 Power Spectral density (PSD)

5.9.1 Limit

FCC §15.247(e); RSS-247, 5.2 (b)

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

5.9.2 Test Setup

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

5.9.3 Test Procedure

Set analyzer center frequency to DTS channel center frequency.

Set the span to 1.5 times the DTS bandwidth.

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

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

Detector = peak.

Sweep time = auto couple.

Trace mode = max hold.

Allow trace to fully stabilize.

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

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

5.9.4 Test Result

Please refer to ANNEX A.8.

ANNEX A TEST RESULT

A.1 Output Power

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

Peak Power Test Data

802.11b Mode:

Channel	Measured Output Peak Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	13.86	24.32	30	1000	Pass
Middle	13.63	23.07			Pass
High	13.71	23.50			Pass

802.11g Mode:

Channel	Measured Output Peak Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	14.09	25.64	30	1000	Pass
Middle	14.18	26.18			Pass
High	14.44	27.80			Pass

802.11n-20 MHz Mode:

Channel	Measured Output Peak Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	14.70	29.51	30	1000	Pass
Middle	15.02	31.77			Pass
High	14.64	29.11			Pass

802.11n-40 MHz Mode:

Channel	Measured Output Peak Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	14.56	28.58	30	1000	Pass
Middle	15.12	32.51			Pass
High	14.98	31.48			Pass

802.11ax-20 MHz(SU) Mode:

Channel	Measured Output Peak Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	14.80	30.20	30	1000	Pass
Middle	14.87	30.69			Pass
High	15.07	32.14			Pass

802.11ax-40 MHz(SU) Mode:

Channel	Measured Output Peak Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	14.70	29.51	30	1000	Pass
Middle	14.87	30.69			Pass
High	14.88	30.76			Pass

Average Power Test Data

802.11b Mode:

Channel	Measured Output Average Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	10.77	11.94	30	1000	Pass
Middle	10.67	11.67			Pass
High	10.70	11.75			Pass

802.11g Mode:

Channel	Measured Output Average Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	8.12	6.49	30	1000	Pass
Middle	8.24	6.67			Pass
High	8.51	7.10			Pass

802.11n-20 MHz Mode:

Channel	Measured Output Average Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	8.71	7.43	30	1000	Pass
Middle	8.95	7.85			Pass
High	8.58	7.21			Pass

802.11n-40 MHz Mode:

Channel	Measured Output Average Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	8.54	7.14	30	1000	Pass
Middle	9.02	7.98			Pass
High	9.00	7.94			Pass

802.11ax-20 MHz(SU) Mode:

Channel	Measured Output Average Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	8.87	7.71	30	1000	Pass
Middle	8.84	7.66			Pass
High	8.99	7.93			Pass

802.11ax-40 MHz(SU) Mode:

Channel	Measured Output Average Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	8.80	7.59	30	1000	Pass
Middle	8.90	7.76			Pass
High	8.95	7.85			Pass

E.I.R.P Test Data (For ISSED)

802.11b Mode:

Channel	E.I.R.P		Limit		Verdict
	dBm	mW	dBm	W	
Low	18.26	66.99	36	4	Pass
Middle	18.03	63.53			Pass
High	18.11	64.71			Pass

802.11g Mode:

Channel	E.I.R.P		Limit		Verdict
	dBm	mW	dBm	W	
Low	18.49	70.63	36	4	Pass
Middle	18.58	72.11			Pass
High	18.84	76.56			Pass

802.11n-20 MHz Mode:

Channel	E.I.R.P		Limit		Verdict
	dBm	mW	dBm	W	
Low	19.10	81.28	36	4	Pass
Middle	19.42	87.50			Pass
High	19.04	80.17			Pass

802.11n-40 MHz Mode:

Channel	E.I.R.P		Limit		Verdict
	dBm	mW	dBm	W	
Low	18.96	78.70	36	4	Pass
Middle	19.52	89.54			Pass
High	19.38	86.70			Pass

802.11ax-20 MHz(SU) Mode:

Channel	E.I.R.P		Limit		Verdict
	dBm	mW	dBm	W	
Low	19.20	83.18	36	4	Pass
Middle	19.27	84.53			Pass
High	19.47	88.51			Pass

802.11ax-40 MHz(SU) Mode:

Channel	E.I.R.P		Limit		Verdict
	dBm	mW	dBm	W	
Low	19.10	81.28	36	4	Pass
Middle	19.27	84.53			Pass
High	18.68	73.79			Pass

A.2 Occupied Bandwidth

Note: Not applicable.

A.3 Conducted Spurious Emissions

Note: Not applicable.

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

Note: Not applicable.

A.5 Conducted Emissions

Note¹: The EUT is working in the Normal link mode. All modes have been tested and normal link mode is worst.

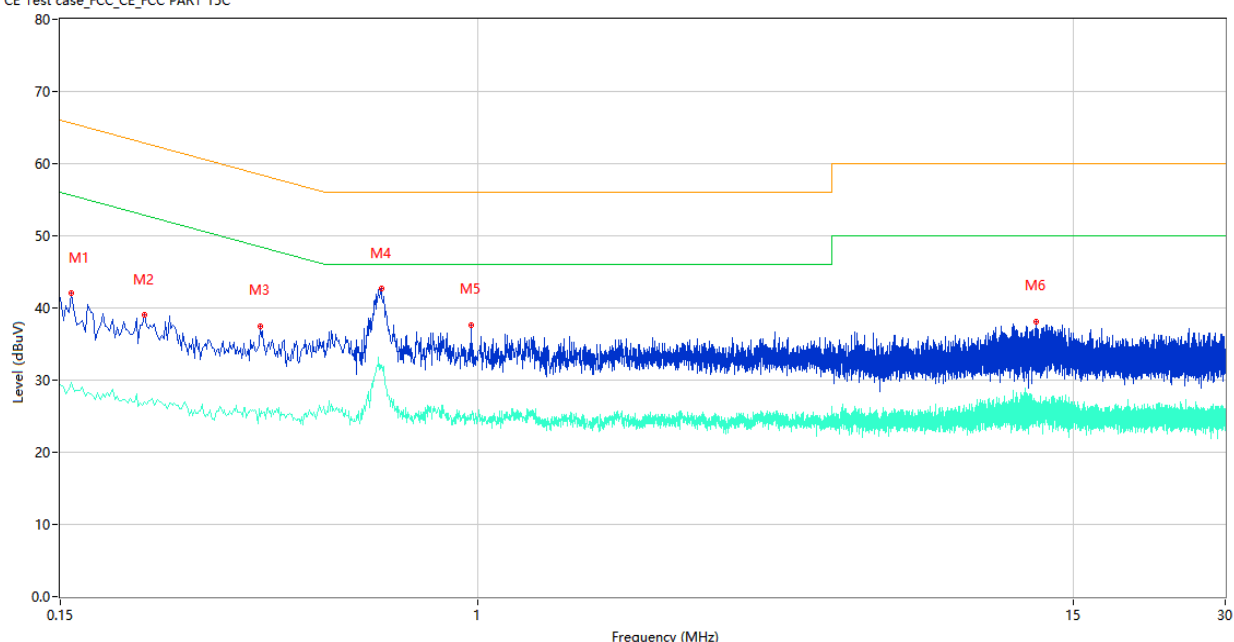
Note²: Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 60 Hz and 240 VAC, 50 Hz) for which the device is capable of operation. So, The configuration 120 VAC, 60 Hz and 240 VAC, 50 Hz were tested respectively, but only the worst configuration (120 VAC, 60 Hz) shown here.

Note³: Results (dBuV) = Original reading level of Spectrum Analyzer (dBuV) + Factor (dB)

Test Data and Plots

PHASE L

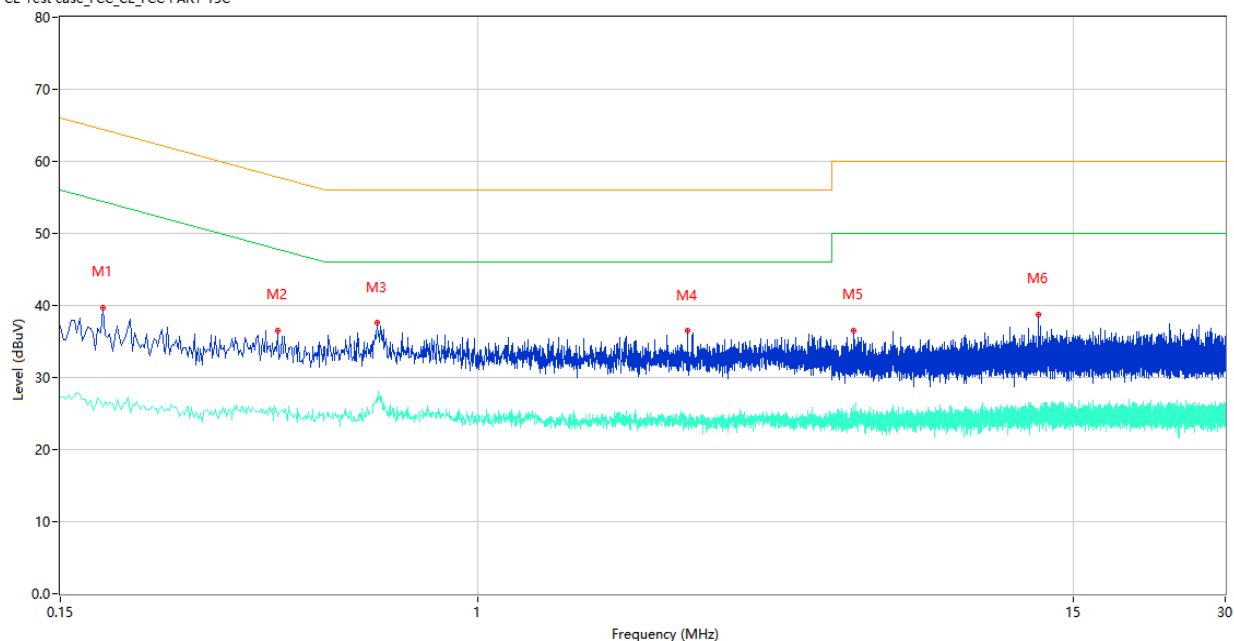
CE Test case_FCC_CE_FCC PART 15C



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.158	42.05	9.78	65.57	23.52	Peak	L	Pass
1**	0.158	29.72	9.78	55.57	25.85	AV	L	Pass
2	0.220	39.03	9.77	62.82	23.79	Peak	L	Pass
2**	0.220	27.01	9.77	52.82	25.81	AV	L	Pass
3	0.372	37.46	10.67	58.46	21.00	Peak	L	Pass
3**	0.372	24.98	10.67	48.46	23.48	AV	L	Pass
4	0.646	42.74	10.20	56.00	13.26	Peak	L	Pass
4**	0.646	32.08	10.20	46.00	13.92	AV	L	Pass
5	0.970	37.66	10.02	56.00	18.34	Peak	L	Pass
5**	0.970	24.82	10.02	46.00	21.18	AV	L	Pass
6	12.722	38.07	10.61	60.00	21.93	Peak	L	Pass
6**	12.722	26.28	10.61	50.00	23.72	AV	L	Pass

PHASE N

CE Test case_FCC_CE_FCC PART 15C



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.182	39.69	9.78	64.39	24.70	Peak	N	Pass
1**	0.182	25.86	9.78	54.39	28.53	AV	N	Pass
2	0.404	36.57	10.51	57.77	21.20	Peak	N	Pass
2**	0.404	24.61	10.51	47.77	23.16	AV	N	Pass
3	0.634	37.61	10.19	56.00	18.39	Peak	N	Pass
3**	0.634	26.51	10.19	46.00	19.49	AV	N	Pass
4	2.604	36.51	9.75	56.00	19.49	Peak	N	Pass
4**	2.604	23.91	9.75	46.00	22.09	AV	N	Pass
5	5.532	36.51	10.48	60.00	23.49	Peak	N	Pass
5**	5.532	24.26	10.48	50.00	25.74	AV	N	Pass
6	12.828	38.81	10.52	60.00	21.19	Peak	N	Pass
6**	12.828	25.29	10.52	50.00	24.71	AV	N	Pass

A.6 Radiated Emission

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

Note²: For the test data above 1 GHz, According the ANSI C63.10-2013, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

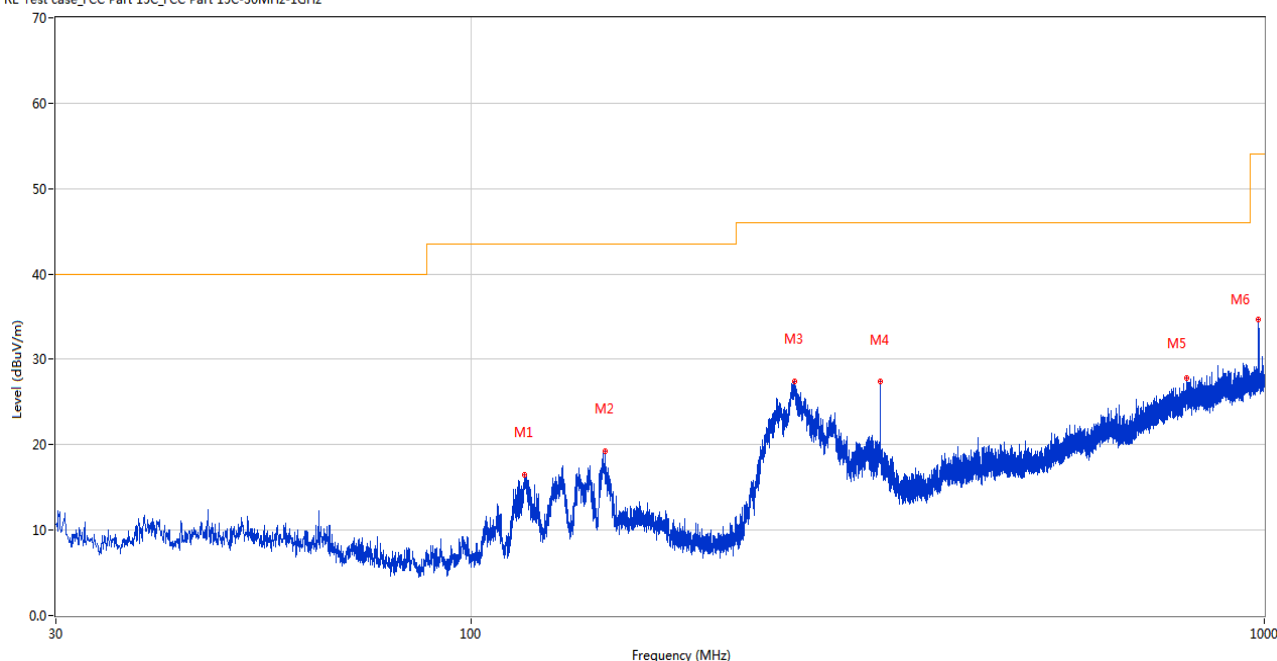
Note³: The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line per 15.31(o) was not reported.

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

Test Data and Plots

30 MHz to 1 GHz, ANT H

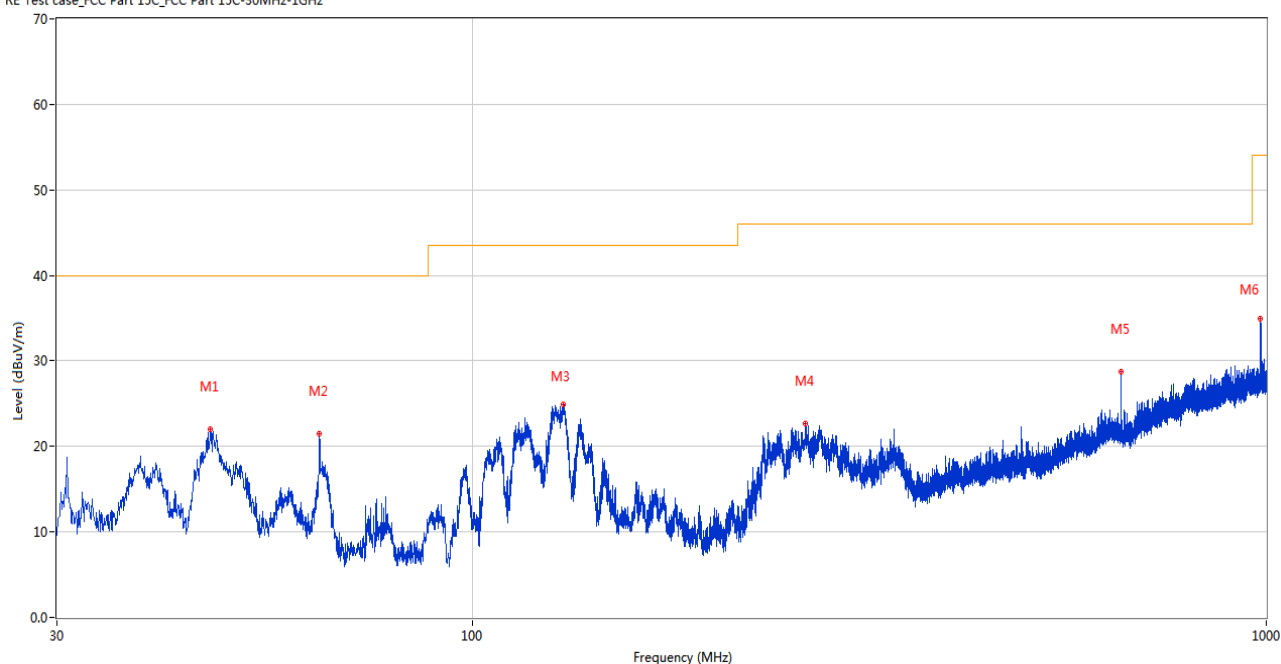
RE Test case_FCC Part 15C_FCC Part 15C-30MHz-1GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	117.009	16.53	-28.49	43.5	26.97	Peak	252.00	200	Horizontal	Pass
2	147.806	19.23	-25.80	43.5	24.27	Peak	50.00	200	Horizontal	Pass
3	256.155	27.44	-26.49	46.0	18.56	Peak	114.00	100	Horizontal	Pass
4	328.033	27.36	-23.50	46.0	18.64	Peak	172.00	100	Horizontal	Pass
5	797.658	27.78	-11.79	46.0	18.22	Peak	0.00	100	Horizontal	Pass
6	983.946	34.72	-9.98	54.0	19.28	Peak	325.00	100	Horizontal	Pass

30 MHz to 1 GHz, ANT V

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



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	46.830	22.03	-26.60	40.0	17.97	Peak	162.00	100	Vertical	Pass
2	64.192	21.46	-28.12	40.0	18.54	Peak	44.00	200	Vertical	Pass
3	130.055	24.91	-27.46	43.5	18.59	Peak	0.00	100	Vertical	Pass
4	262.751	22.65	-26.41	46.0	23.35	Peak	194.00	100	Vertical	Pass
5	655.990	28.73	-15.65	46.0	17.27	Peak	48.00	100	Vertical	Pass
6	984.044	34.89	-9.99	54.0	19.11	Peak	15.00	200	Vertical	Pass

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

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

Note 3: All mode has been pre tested, only show worst data on this report.

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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1640.000	45.35	-17.40	74.0	28.65	Peak	28.00	150	Horizontal	Pass
1**	1640.000	37.42	-17.40	54.0	16.58	AV	28.00	150	Horizontal	Pass
2	2413.400	106.94	-10.75	74.0	-32.94	Peak	353.00	150	Horizontal	N/A
2**	2413.400	103.99	-10.75	54.0	-49.99	AV	353.00	150	Horizontal	N/A
3	4824.200	53.80	-2.04	74.0	20.20	Peak	279.00	150	Horizontal	Pass
3**	4824.200	50.90	-2.04	54.0	3.10	AV	279.00	150	Horizontal	Pass
4	6802.200	54.69	1.53	74.0	19.31	Peak	163.00	150	Horizontal	Pass
4**	6802.200	44.95	1.53	54.0	9.05	AV	163.00	150	Horizontal	Pass
5	10329.825	52.32	0.00	74.0	21.68	Peak	339.00	150	Horizontal	Pass
5**	10329.825	42.31	0.00	54.0	11.69	AV	339.00	150	Horizontal	Pass
6	15809.175	56.04	2.18	74.0	17.96	Peak	211.00	200	Horizontal	Pass
6**	15809.175	46.94	2.18	54.0	7.06	AV	211.00	200	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1331.000	42.77	-17.01	74.0	31.23	Peak	13.00	200	Vertical	Pass
1**	1331.000	33.24	-17.01	54.0	20.76	AV	13.00	200	Vertical	Pass
2	2413.100	94.80	-10.73	74.0	-20.80	Peak	263.00	100	Vertical	N/A
2**	2413.100	91.82	-10.73	54.0	-37.82	AV	263.00	100	Vertical	N/A
3	2662.700	56.14	-10.79	74.0	17.86	Peak	75.00	100	Vertical	Pass
3**	2662.700	45.91	-10.79	54.0	8.09	AV	75.00	100	Vertical	Pass
4	4824.200	51.30	-2.04	74.0	22.70	Peak	280.00	150	Vertical	Pass
4**	4824.200	45.80	-2.04	54.0	8.20	AV	280.00	150	Vertical	Pass
5	12328.237	54.90	1.42	74.0	19.10	Peak	129.00	300	Vertical	Pass
5**	12328.237	43.07	1.42	54.0	10.93	AV	129.00	300	Vertical	Pass
6	17360.288	56.55	2.22	74.0	17.45	Peak	285.00	400	Vertical	Pass
6**	17360.288	46.52	2.22	54.0	7.48	AV	285.00	400	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1470.700	42.25	-17.36	74.0	31.75	Peak	213.00	100	Horizontal	Pass
1**	1470.700	32.36	-17.36	54.0	21.64	AV	213.00	100	Horizontal	Pass
2	2435.800	104.76	-12.14	74.0	-30.76	Peak	352.00	200	Horizontal	N/A
2**	2435.800	101.85	-12.14	54.0	-47.85	AV	352.00	200	Horizontal	N/A
3	4874.200	54.12	-2.66	74.0	19.88	Peak	320.00	150	Horizontal	Pass
3**	4874.200	51.00	-2.66	54.0	3.00	AV	320.00	150	Horizontal	Pass
4	6993.600	54.38	1.90	74.0	19.62	Peak	134.00	200	Horizontal	Pass
4**	6993.600	45.37	1.90	54.0	8.63	AV	134.00	200	Horizontal	Pass
5	13443.787	55.55	0.54	74.0	18.45	Peak	208.00	150	Horizontal	Pass
5**	13443.787	46.76	0.54	54.0	7.24	AV	208.00	150	Horizontal	Pass
6	16109.213	56.51	0.80	74.0	17.49	Peak	0.00	150	Horizontal	Pass
6**	16109.213	46.73	0.80	54.0	7.27	AV	0.00	150	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1330.200	42.74	-16.99	74.0	31.26	Peak	3.00	400	Vertical	Pass
1**	1330.200	33.07	-16.99	54.0	20.93	AV	3.00	400	Vertical	Pass
2	2435.800	91.67	-12.14	74.0	-17.67	Peak	254.00	150	Vertical	N/A
2**	2435.800	88.71	-12.14	54.0	-34.71	AV	254.00	150	Vertical	N/A
3	2658.700	52.00	-11.07	74.0	22.00	Peak	82.00	200	Vertical	Pass
3**	2658.700	41.47	-11.07	54.0	12.53	AV	82.00	200	Vertical	Pass
4	4874.200	51.03	-2.66	74.0	22.97	Peak	244.00	150	Vertical	Pass
4**	4874.200	46.51	-2.66	54.0	7.49	AV	244.00	150	Vertical	Pass
5	13455.863	56.89	0.65	74.0	17.11	Peak	95.00	400	Vertical	Pass
5**	13455.863	46.62	0.65	54.0	7.38	AV	95.00	400	Vertical	Pass
6	15800.513	56.23	2.33	74.0	17.77	Peak	21.00	150	Vertical	Pass
6**	15800.513	46.94	2.33	54.0	7.06	AV	21.00	150	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1409.100	42.83	-17.06	74.0	31.17	Peak	28.00	300	Horizontal	Pass
1**	1409.100	32.47	-17.06	54.0	21.53	AV	28.00	300	Horizontal	Pass
2	2463.200	104.50	-11.79	74.0	-30.50	Peak	354.00	150	Horizontal	N/A
2**	2463.200	101.59	-11.79	54.0	-47.59	AV	354.00	150	Horizontal	N/A
3	4924.000	54.58	-2.42	74.0	19.42	Peak	277.00	150	Horizontal	Pass
3**	4924.000	50.85	-2.42	54.0	3.15	AV	277.00	150	Horizontal	Pass
4	4924.200	54.68	-2.42	74.0	19.32	Peak	277.00	150	Horizontal	Pass
4**	4924.200	50.99	-2.42	54.0	3.01	AV	277.00	150	Horizontal	Pass
5	13396.799	55.93	0.59	74.0	18.07	Peak	280.00	150	Horizontal	Pass
5**	13396.799	46.08	0.59	54.0	7.92	AV	280.00	150	Horizontal	Pass
6	17875.050	56.76	3.45	74.0	17.24	Peak	198.00	150	Horizontal	Pass
6**	17875.050	47.09	3.45	54.0	6.91	AV	198.00	150	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1331.100	43.26	-17.02	74.0	30.74	Peak	119.00	400	Vertical	Pass
1**	1331.100	32.92	-17.02	54.0	21.08	AV	119.00	400	Vertical	Pass
2	2463.100	90.17	-11.78	74.0	-16.17	Peak	240.00	100	Vertical	N/A
2**	2463.100	87.28	-11.78	54.0	-33.28	AV	240.00	100	Vertical	N/A
3	4924.000	51.71	-2.42	74.0	22.29	Peak	46.00	150	Vertical	Pass
3**	4924.000	47.24	-2.42	54.0	6.76	AV	46.00	150	Vertical	Pass
4	4924.200	52.42	-2.42	74.0	21.58	Peak	238.00	150	Vertical	Pass
4**	4924.200	45.36	-2.42	54.0	8.64	AV	238.00	150	Vertical	Pass
5	13444.838	56.66	0.56	74.0	17.34	Peak	258.00	200	Vertical	Pass
5**	13444.838	47.03	0.56	54.0	6.97	AV	258.00	200	Vertical	Pass
6	16199.513	56.45	1.58	74.0	17.55	Peak	0.00	150	Vertical	Pass
6**	16199.513	47.66	1.58	54.0	6.34	AV	0.00	150	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1530.700	42.81	-17.21	74.0	31.19	Peak	318.00	200	Horizontal	Pass
1**	1530.700	33.10	-17.21	54.0	20.90	AV	318.00	200	Horizontal	Pass
2	2409.500	108.25	-10.43	74.0	-34.25	Peak	350.00	150	Horizontal	N/A
2**	2409.500	100.26	-10.43	54.0	-46.26	AV	350.00	150	Horizontal	N/A
3	4819.200	57.46	-2.07	74.0	16.54	Peak	0.00	200	Horizontal	Pass
3**	4819.200	47.31	-2.07	54.0	6.69	AV	0.00	200	Horizontal	Pass
4	4823.800	55.87	-1.95	74.0	18.13	Peak	343.00	150	Horizontal	Pass
4**	4823.800	50.41	-1.95	54.0	3.59	AV	343.00	150	Horizontal	Pass
5	13392.338	55.31	0.66	74.0	18.69	Peak	343.00	150	Horizontal	Pass
5**	13392.338	46.40	0.66	54.0	7.60	AV	343.00	150	Horizontal	Pass
6	16075.350	56.94	1.55	74.0	17.06	Peak	266.00	200	Horizontal	Pass
6**	16075.350	47.64	1.55	54.0	6.36	AV	266.00	200	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1639.900	45.33	-17.39	74.0	28.67	Peak	360.00	150	Vertical	Pass
1**	1639.900	37.65	-17.39	54.0	16.35	AV	360.00	150	Vertical	Pass
2	2416.400	95.33	-11.52	74.0	-21.33	Peak	231.00	150	Vertical	N/A
2**	2416.400	87.07	-11.52	54.0	-33.07	AV	231.00	150	Vertical	N/A
3	4822.400	51.08	-2.10	74.0	22.92	Peak	0.00	150	Vertical	Pass
3**	4822.400	46.03	-2.10	54.0	7.97	AV	0.00	150	Vertical	Pass
4	6146.000	54.56	-0.62	74.0	19.44	Peak	360.00	400	Vertical	Pass
4**	6146.000	45.23	-0.62	54.0	8.77	AV	360.00	400	Vertical	Pass
5	13408.088	55.34	0.52	74.0	18.66	Peak	94.00	150	Vertical	Pass
5**	13408.088	46.87	0.52	54.0	7.13	AV	94.00	150	Vertical	Pass
6	17351.625	56.49	1.96	74.0	17.51	Peak	260.00	200	Vertical	Pass
6**	17351.625	46.59	1.96	54.0	7.41	AV	260.00	200	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1482.100	42.31	-17.06	74.0	31.69	Peak	269.00	200	Horizontal	Pass
1**	1482.100	32.80	-17.06	54.0	21.20	AV	269.00	200	Horizontal	Pass
2	2434.000	107.27	-12.23	74.0	-33.27	Peak	360.00	100	Horizontal	N/A
2**	2434.000	99.43	-12.23	54.0	-45.43	AV	360.00	100	Horizontal	N/A
3	4872.800	53.85	-2.65	74.0	20.15	Peak	300.00	150	Horizontal	Pass
3**	4872.800	50.96	-2.65	54.0	3.04	AV	300.00	150	Horizontal	Pass
4	4874.000	58.40	-2.66	74.0	15.60	Peak	288.00	100	Horizontal	Pass
4**	4874.000	49.70	-2.66	54.0	4.30	AV	288.00	100	Horizontal	Pass
5	13434.599	55.95	0.42	74.0	18.05	Peak	267.00	150	Horizontal	Pass
5**	13434.599	47.02	0.42	54.0	6.98	AV	267.00	150	Horizontal	Pass
6	17435.099	56.03	3.26	74.0	17.97	Peak	344.00	150	Horizontal	Pass
6**	17435.099	47.67	3.26	54.0	6.33	AV	344.00	150	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1337.500	42.55	-17.06	74.0	31.45	Peak	218.00	200	Vertical	Pass
1**	1337.500	32.72	-17.06	54.0	21.28	AV	218.00	200	Vertical	Pass
2	2435.400	94.88	-12.14	74.0	-20.88	Peak	263.00	200	Vertical	N/A
2**	2435.400	87.74	-12.14	54.0	-33.74	AV	263.00	200	Vertical	N/A
3	4879.200	51.61	-2.72	74.0	22.39	Peak	283.00	150	Vertical	Pass
3**	4879.200	46.29	-2.72	54.0	7.71	AV	283.00	150	Vertical	Pass
4	6610.000	54.52	0.56	74.0	19.48	Peak	35.00	300	Vertical	Pass
4**	6610.000	45.57	0.56	54.0	8.43	AV	35.00	300	Vertical	Pass
5	13433.813	55.58	0.41	74.0	18.42	Peak	321.00	150	Vertical	Pass
5**	13433.813	46.41	0.41	54.0	7.59	AV	321.00	150	Vertical	Pass
6	17471.850	56.24	2.88	74.0	17.76	Peak	343.00	200	Vertical	Pass
6**	17471.850	46.56	2.88	54.0	7.44	AV	343.00	200	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1430.900	42.87	-17.07	74.0	31.13	Peak	234.00	300	Horizontal	Pass
1**	1430.900	32.94	-17.07	54.0	21.06	AV	234.00	300	Horizontal	Pass
2	2460.700	107.02	-12.04	74.0	-33.02	Peak	359.00	150	Horizontal	N/A
2**	2460.700	100.14	-12.04	54.0	-46.14	AV	359.00	150	Horizontal	N/A
3	4925.400	55.78	-2.40	74.0	18.22	Peak	274.00	150	Horizontal	Pass
3**	4925.400	50.98	-2.40	54.0	3.02	AV	274.00	150	Horizontal	Pass
4	4925.200	58.95	-2.40	74.0	15.05	Peak	274.00	150	Horizontal	Pass
4**	4925.200	50.49	-2.40	54.0	3.51	AV	274.00	150	Horizontal	Pass
5	13313.849	55.40	0.88	74.0	18.60	Peak	342.00	150	Horizontal	Pass
5**	13313.849	46.27	0.88	54.0	7.73	AV	342.00	150	Horizontal	Pass
6	16491.676	56.36	0.93	74.0	17.64	Peak	11.00	200	Horizontal	Pass
6**	16491.676	46.28	0.93	54.0	7.72	AV	11.00	200	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1330.200	44.01	-16.99	74.0	29.99	Peak	17.00	300	Vertical	Pass
1**	1330.200	35.98	-16.99	54.0	18.02	AV	17.00	300	Vertical	Pass
2	2460.500	94.25	-12.02	74.0	-20.25	Peak	241.00	200	Vertical	N/A
2**	2460.500	85.61	-12.02	54.0	-31.61	AV	241.00	200	Vertical	N/A
3	4925.000	50.95	-2.41	74.0	23.05	Peak	155.00	150	Vertical	Pass
3**	4925.000	45.81	-2.41	54.0	8.19	AV	155.00	150	Vertical	Pass
4	6150.600	54.66	0.04	74.0	19.34	Peak	120.00	400	Vertical	Pass
4**	6150.600	44.73	0.04	54.0	9.27	AV	120.00	400	Vertical	Pass
5	13417.538	55.51	0.41	74.0	18.49	Peak	55.00	150	Vertical	Pass
5**	13417.538	47.11	0.41	54.0	6.89	AV	55.00	150	Vertical	Pass
6	17381.812	56.16	2.69	74.0	17.84	Peak	219.00	200	Vertical	Pass
6**	17381.812	46.24	2.69	54.0	7.76	AV	219.00	200	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1403.700	42.50	-16.99	74.0	31.50	Peak	72.00	200	Horizontal	Pass
1**	1403.700	32.84	-16.99	54.0	21.16	AV	72.00	200	Horizontal	Pass
2	2409.900	107.94	-10.48	74.0	-33.94	Peak	354.00	200	Horizontal	N/A
2**	2409.900	100.02	-10.48	54.0	-46.02	AV	354.00	200	Horizontal	N/A
3	4824.200	55.85	-2.04	74.0	18.15	Peak	292.00	150	Horizontal	Pass
3**	4824.200	48.20	-2.04	54.0	5.80	AV	292.00	150	Horizontal	Pass
4	4824.800	53.66	-2.22	74.0	20.34	Peak	360.00	150	Horizontal	Pass
4**	4824.800	49.91	-2.22	54.0	4.09	AV	360.00	150	Horizontal	Pass
5	13438.276	55.16	0.45	74.0	18.84	Peak	193.00	150	Horizontal	Pass
5**	13438.276	46.82	0.45	54.0	7.18	AV	193.00	150	Horizontal	Pass
6	15824.137	56.51	1.68	74.0	17.49	Peak	170.00	200	Horizontal	Pass
6**	15824.137	46.12	1.68	54.0	7.88	AV	170.00	200	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1429.800	42.52	-17.02	74.0	31.48	Peak	311.00	300	Vertical	Pass
1**	1429.800	32.88	-17.02	54.0	21.12	AV	311.00	300	Vertical	Pass
2	2409.700	94.94	-10.46	74.0	-20.94	Peak	257.00	100	Vertical	N/A
2**	2409.700	88.13	-10.46	54.0	-34.13	AV	257.00	100	Vertical	N/A
3	4820.000	51.17	-2.06	74.0	22.83	Peak	50.00	150	Vertical	Pass
3**	4820.000	44.97	-2.06	54.0	9.03	AV	50.00	150	Vertical	Pass
4	6153.000	54.64	0.34	74.0	19.36	Peak	307.00	300	Vertical	Pass
4**	6153.000	45.22	0.34	54.0	8.78	AV	307.00	300	Vertical	Pass
5	13315.951	56.30	0.89	74.0	17.70	Peak	29.00	150	Vertical	Pass
5**	13315.951	46.02	0.89	54.0	7.98	AV	29.00	150	Vertical	Pass
6	15850.651	56.41	1.31	74.0	17.59	Peak	112.00	150	Vertical	Pass
6**	15850.651	47.85	1.31	54.0	6.15	AV	112.00	150	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1527.400	42.74	-17.12	74.0	31.26	Peak	66.00	300	Horizontal	Pass
1**	1527.400	33.43	-17.12	54.0	20.57	AV	66.00	300	Horizontal	Pass
2	2435.500	108.04	-12.14	74.0	-34.04	Peak	353.00	100	Horizontal	N/A
2**	2435.500	99.73	-12.14	54.0	-45.73	AV	353.00	100	Horizontal	N/A
3	4873.400	54.11	-2.65	74.0	19.89	Peak	341.00	150	Horizontal	Pass
3**	4873.400	50.92	-2.65	54.0	3.08	AV	341.00	150	Horizontal	Pass
4	4877.000	58.64	-2.68	74.0	15.36	Peak	0.00	150	Horizontal	Pass
4**	4877.000	49.71	-2.68	54.0	4.29	AV	0.00	150	Horizontal	Pass
5	13416.487	56.55	0.41	74.0	17.45	Peak	105.00	150	Horizontal	Pass
5**	13416.487	47.34	0.41	54.0	6.66	AV	105.00	150	Horizontal	Pass
6	17428.537	56.73	3.50	74.0	17.27	Peak	0.00	300	Horizontal	Pass
6**	17428.537	47.49	3.50	54.0	6.51	AV	0.00	300	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1361.000	43.58	-17.08	74.0	30.42	Peak	319.00	300	Vertical	Pass
1**	1361.000	32.53	-17.08	54.0	21.47	AV	319.00	300	Vertical	Pass
2	2438.500	96.12	-12.24	74.0	-22.12	Peak	252.00	200	Vertical	N/A
2**	2438.500	88.34	-12.24	54.0	-34.34	AV	252.00	200	Vertical	N/A
3	4869.400	50.97	-2.57	74.0	23.03	Peak	13.00	150	Vertical	Pass
3**	4869.400	46.83	-2.57	54.0	7.17	AV	13.00	150	Vertical	Pass
4	6807.600	54.76	1.96	74.0	19.24	Peak	45.00	300	Vertical	Pass
4**	6807.600	46.48	1.96	54.0	7.52	AV	45.00	300	Vertical	Pass
5	13324.613	55.50	0.92	74.0	18.50	Peak	240.00	150	Vertical	Pass
5**	13324.613	46.57	0.92	54.0	7.43	AV	240.00	150	Vertical	Pass
6	15846.187	56.11	1.36	74.0	17.89	Peak	360.00	150	Vertical	Pass
6**	15846.187	46.60	1.36	54.0	7.40	AV	360.00	150	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1474.700	43.25	-17.39	74.0	30.75	Peak	277.00	100	Horizontal	Pass
1**	1474.700	32.28	-17.39	54.0	21.72	AV	277.00	100	Horizontal	Pass
2	2458.300	106.65	-11.95	74.0	-32.65	Peak	346.00	100	Horizontal	N/A
2**	2458.300	99.46	-11.95	54.0	-45.46	AV	346.00	100	Horizontal	N/A
3	4926.600	55.02	-2.39	74.0	18.98	Peak	272.00	150	Horizontal	Pass
3**	4926.600	50.05	-2.39	54.0	3.95	AV	272.00	150	Horizontal	Pass
4	4930.400	58.08	-2.48	74.0	15.92	Peak	272.00	150	Horizontal	Pass
4**	4930.400	46.80	-2.48	54.0	7.20	AV	272.00	150	Horizontal	Pass
5	13323.825	55.66	0.92	74.0	18.34	Peak	360.00	150	Horizontal	Pass
5**	13323.825	46.50	0.92	54.0	7.50	AV	360.00	150	Horizontal	Pass
6	17349.261	56.25	1.87	74.0	17.75	Peak	147.00	100	Horizontal	Pass
6**	17349.261	46.99	1.87	54.0	7.01	AV	147.00	100	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1483.200	42.93	-16.96	74.0	31.07	Peak	266.00	300	Vertical	Pass
1**	1483.200	33.24	-16.96	54.0	20.76	AV	266.00	300	Vertical	Pass
2	2456.700	92.78	-12.13	74.0	-18.78	Peak	240.00	100	Vertical	N/A
2**	2456.700	84.27	-12.13	54.0	-30.27	AV	240.00	100	Vertical	N/A
3	4920.000	50.56	-2.57	74.0	23.44	Peak	6.00	150	Vertical	Pass
3**	4920.000	45.69	-2.57	54.0	8.31	AV	6.00	150	Vertical	Pass
4	6544.400	54.78	-0.94	74.0	19.22	Peak	129.00	100	Vertical	Pass
4**	6544.400	44.85	-0.94	54.0	9.15	AV	129.00	100	Vertical	Pass
5	13438.276	55.90	0.45	74.0	18.10	Peak	184.00	150	Vertical	Pass
5**	13438.276	46.90	0.45	54.0	7.10	AV	184.00	150	Vertical	Pass
6	17471.588	56.62	2.88	74.0	17.38	Peak	325.00	200	Vertical	Pass
6**	17471.588	47.78	2.88	54.0	6.22	AV	325.00	200	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1501.000	42.50	-16.90	74.0	31.50	Peak	160.00	100	Horizontal	Pass
1**	1501.000	33.04	-16.90	54.0	20.96	AV	160.00	100	Horizontal	Pass
2	2424.600	105.79	-12.59	74.0	-31.79	Peak	353.00	150	Horizontal	N/A
2**	2424.600	97.04	-12.59	54.0	-43.04	AV	353.00	150	Horizontal	N/A
3	4841.000	54.22	-2.72	74.0	19.78	Peak	282.00	150	Horizontal	Pass
3**	4841.000	50.88	-2.72	54.0	3.12	AV	282.00	150	Horizontal	Pass
4	4842.200	58.15	-2.75	74.0	15.85	Peak	270.00	150	Horizontal	Pass
4**	4842.200	49.25	-2.75	54.0	4.75	AV	270.00	150	Horizontal	Pass
5	13394.175	55.40	0.64	74.0	18.60	Peak	360.00	150	Horizontal	Pass
5**	13394.175	47.35	0.64	54.0	6.65	AV	360.00	150	Horizontal	Pass
6	17426.962	57.38	3.55	74.0	16.62	Peak	61.00	100	Horizontal	Pass
6**	17426.962	47.18	3.55	54.0	6.82	AV	61.00	100	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1489.800	42.85	-16.72	74.0	31.15	Peak	68.00	200	Vertical	Pass
1**	1489.800	33.54	-16.72	54.0	20.46	AV	68.00	200	Vertical	Pass
2	2414.400	94.01	-10.85	74.0	-20.01	Peak	234.00	100	Vertical	N/A
2**	2414.400	86.60	-10.85	54.0	-32.60	AV	234.00	100	Vertical	N/A
3	4846.600	53.17	-2.65	74.0	20.83	Peak	270.00	150	Vertical	Pass
3**	4846.600	44.26	-2.65	54.0	9.74	AV	270.00	150	Vertical	Pass
4	6805.000	54.71	1.87	74.0	19.29	Peak	10.00	400	Vertical	Pass
4**	6805.000	46.53	1.87	54.0	7.47	AV	10.00	400	Vertical	Pass
5	13447.200	55.74	0.58	74.0	18.26	Peak	296.00	150	Vertical	Pass
5**	13447.200	46.79	0.58	54.0	7.21	AV	296.00	150	Vertical	Pass
6	17472.375	55.98	2.87	74.0	18.02	Peak	296.00	400	Vertical	Pass
6**	17472.375	47.11	2.87	54.0	6.89	AV	296.00	400	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1430.100	42.44	-17.01	74.0	31.56	Peak	298.00	400	Horizontal	Pass
1**	1430.100	32.88	-17.01	54.0	21.12	AV	298.00	400	Horizontal	Pass
2	2433.700	104.91	-12.25	74.0	-30.91	Peak	360.00	200	Horizontal	N/A
2**	2433.700	98.03	-12.25	54.0	-44.03	AV	360.00	200	Horizontal	N/A
3	4871.400	57.44	-2.70	74.0	16.56	Peak	276.00	150	Horizontal	Pass
3**	4871.400	48.94	-2.70	54.0	5.06	AV	276.00	150	Horizontal	Pass
4	4872.200	54.50	-2.67	74.0	19.50	Peak	288.00	150	Horizontal	Pass
4**	4872.200	50.08	-2.67	54.0	3.92	AV	288.00	150	Horizontal	Pass
5	13310.437	55.75	0.86	74.0	18.25	Peak	272.00	100	Horizontal	Pass
5**	13310.437	46.56	0.86	54.0	7.44	AV	272.00	100	Horizontal	Pass
6	15686.850	56.24	1.39	74.0	17.76	Peak	120.00	150	Horizontal	Pass
6**	15686.850	46.24	1.39	54.0	7.76	AV	120.00	150	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1330.700	43.98	-16.99	74.0	30.02	Peak	35.00	200	Vertical	Pass
1**	1330.700	36.39	-16.99	54.0	17.61	AV	35.00	200	Vertical	Pass
2	2434.700	93.39	-12.19	74.0	-19.39	Peak	273.00	200	Vertical	N/A
2**	2434.700	85.25	-12.19	54.0	-31.25	AV	273.00	200	Vertical	N/A
3	4872.800	50.51	-2.65	74.0	23.49	Peak	294.00	150	Vertical	Pass
3**	4872.800	45.54	-2.65	54.0	8.46	AV	294.00	150	Vertical	Pass
4	6543.200	55.08	-0.92	74.0	18.92	Peak	0.00	200	Vertical	Pass
4**	6543.200	45.00	-0.92	54.0	9.00	AV	0.00	200	Vertical	Pass
5	13403.099	56.08	0.54	74.0	17.92	Peak	63.00	150	Vertical	Pass
5**	13403.099	46.17	0.54	54.0	7.83	AV	63.00	150	Vertical	Pass
6	15841.724	56.55	1.42	74.0	17.45	Peak	208.00	150	Vertical	Pass
6**	15841.724	46.88	1.42	54.0	7.12	AV	208.00	150	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1483.800	42.46	-16.89	74.0	31.54	Peak	96.00	200	Horizontal	Pass
1**	1483.800	33.07	-16.89	54.0	20.93	AV	96.00	200	Horizontal	Pass
2	2455.700	105.28	-12.13	74.0	-31.28	Peak	347.00	150	Horizontal	N/A
2**	2455.700	97.59	-12.13	54.0	-43.59	AV	347.00	150	Horizontal	N/A
3	4902.000	53.83	-2.83	74.0	20.17	Peak	315.00	150	Horizontal	Pass
3**	4902.000	49.36	-2.83	54.0	4.64	AV	315.00	150	Horizontal	Pass
4	4889.000	55.99	-2.60	74.0	18.01	Peak	302.00	150	Horizontal	Pass
4**	4889.000	44.58	-2.60	54.0	9.42	AV	302.00	150	Horizontal	Pass
5	13320.412	55.69	0.91	74.0	18.31	Peak	120.00	150	Horizontal	Pass
5**	13320.412	46.69	0.91	54.0	7.31	AV	120.00	150	Horizontal	Pass
6	16113.150	55.70	0.71	74.0	18.30	Peak	25.00	100	Horizontal	Pass
6**	16113.150	46.95	0.71	54.0	7.05	AV	25.00	100	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1639.800	45.93	-17.39	74.0	28.07	Peak	0.00	150	Vertical	Pass
1**	1639.800	37.43	-17.39	54.0	16.57	AV	0.00	150	Vertical	Pass
2	2447.100	93.14	-12.47	74.0	-19.14	Peak	235.00	150	Vertical	N/A
2**	2447.100	85.34	-12.47	54.0	-31.34	AV	235.00	150	Vertical	N/A
3	4264.000	52.39	-4.56	74.0	21.61	Peak	260.00	150	Vertical	Pass
3**	4264.000	43.42	-4.56	54.0	10.58	AV	260.00	150	Vertical	Pass
4	6610.200	54.39	0.61	74.0	19.61	Peak	22.00	200	Vertical	Pass
4**	6610.200	45.47	0.61	54.0	8.53	AV	22.00	200	Vertical	Pass
5	13441.424	55.97	0.50	74.0	18.03	Peak	169.00	150	Vertical	Pass
5**	13441.424	46.70	0.50	54.0	7.30	AV	169.00	150	Vertical	Pass
6	17424.863	57.12	3.62	74.0	16.88	Peak	264.00	300	Vertical	Pass
6**	17424.863	46.99	3.62	54.0	7.01	AV	264.00	300	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1595.400	42.46	-17.19	74.0	31.54	Peak	178.00	200	Horizontal	Pass
1**	1595.400	32.52	-17.19	54.0	21.48	AV	178.00	200	Horizontal	Pass
2	2414.400	108.87	-10.85	74.0	-34.87	Peak	360.00	100	Horizontal	N/A
2**	2414.400	100.05	-10.85	54.0	-46.05	AV	360.00	100	Horizontal	N/A
3	4825.200	55.37	-2.35	74.0	18.63	Peak	329.00	150	Horizontal	Pass
3**	4825.200	50.15	-2.35	54.0	3.85	AV	329.00	150	Horizontal	Pass
4	4829.400	56.67	-2.54	74.0	17.33	Peak	343.00	100	Horizontal	Pass
4**	4829.400	47.30	-2.54	54.0	6.70	AV	343.00	100	Horizontal	Pass
5	13313.063	55.50	0.87	74.0	18.50	Peak	286.00	150	Horizontal	Pass
5**	13313.063	47.13	0.87	54.0	6.87	AV	286.00	150	Horizontal	Pass
6	16179.826	56.45	1.50	74.0	17.55	Peak	187.00	100	Horizontal	Pass
6**	16179.826	46.56	1.50	54.0	7.44	AV	187.00	100	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1327.600	42.68	-17.08	74.0	31.32	Peak	96.00	400	Vertical	Pass
1**	1327.600	33.30	-17.08	54.0	20.70	AV	96.00	400	Vertical	Pass
2	2410.100	96.55	-10.50	74.0	-22.55	Peak	55.00	150	Vertical	N/A
2**	2410.100	87.36	-10.50	54.0	-33.36	AV	55.00	150	Vertical	N/A
3	4830.400	52.66	-2.52	74.0	21.34	Peak	297.00	150	Vertical	Pass
3**	4830.400	42.68	-2.52	54.0	11.32	AV	297.00	150	Vertical	Pass
4	4830.600	49.06	-2.55	74.0	24.94	Peak	236.00	150	Vertical	Pass
4**	4830.600	45.59	-2.55	54.0	8.41	AV	236.00	150	Vertical	Pass
5	13323.037	55.32	0.92	74.0	18.68	Peak	173.00	150	Vertical	Pass
5**	13323.037	46.85	0.92	54.0	7.15	AV	173.00	150	Vertical	Pass
6	15800.513	56.67	2.33	74.0	17.33	Peak	302.00	200	Vertical	Pass
6**	15800.513	46.75	2.33	54.0	7.25	AV	302.00	200	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1411.300	42.42	-16.98	74.0	31.58	Peak	261.00	300	Horizontal	Pass
1**	1411.300	33.89	-16.98	54.0	20.11	AV	261.00	300	Horizontal	Pass
2	2439.700	107.98	-12.40	74.0	-33.98	Peak	353.00	150	Horizontal	N/A
2**	2439.700	98.16	-12.40	54.0	-44.16	AV	353.00	150	Horizontal	N/A
3	4875.600	56.87	-2.67	74.0	17.13	Peak	308.00	150	Horizontal	Pass
3**	4875.600	47.37	-2.67	54.0	6.63	AV	308.00	150	Horizontal	Pass
4	4875.000	52.91	-2.66	74.0	21.09	Peak	318.00	150	Horizontal	Pass
4**	4875.000	50.40	-2.66	54.0	3.60	AV	318.00	150	Horizontal	Pass
5	13444.312	55.69	0.55	74.0	18.31	Peak	137.00	150	Horizontal	Pass
5**	13444.312	46.63	0.55	54.0	7.37	AV	137.00	150	Horizontal	Pass
6	17439.037	56.90	3.07	74.0	17.10	Peak	280.00	100	Horizontal	Pass
6**	17439.037	48.32	3.07	54.0	5.68	AV	280.00	100	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1476.000	42.87	-17.29	74.0	31.13	Peak	343.00	300	Vertical	Pass
1**	1476.000	33.09	-17.29	54.0	20.91	AV	343.00	300	Vertical	Pass
2	2435.000	95.86	-12.17	74.0	-21.86	Peak	38.00	150	Vertical	N/A
2**	2435.000	86.64	-12.17	54.0	-32.64	AV	38.00	150	Vertical	N/A
3	4870.200	53.10	-2.67	74.0	20.90	Peak	257.00	100	Vertical	Pass
3**	4870.200	42.55	-2.67	54.0	11.45	AV	257.00	100	Vertical	Pass
4	4876.200	52.37	-2.68	74.0	21.63	Peak	280.00	150	Vertical	Pass
4**	4876.200	45.79	-2.68	54.0	8.21	AV	280.00	150	Vertical	Pass
5	13424.625	55.63	0.40	74.0	18.37	Peak	206.00	150	Vertical	Pass
5**	13424.625	47.16	0.40	54.0	6.84	AV	206.00	150	Vertical	Pass
6	17434.051	56.72	3.30	74.0	17.28	Peak	36.00	200	Vertical	Pass
6**	17434.051	47.57	3.30	54.0	6.43	AV	36.00	200	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1398.800	43.09	-17.23	74.0	30.91	Peak	181.00	400	Horizontal	Pass
1**	1398.800	33.79	-17.23	54.0	20.21	AV	181.00	400	Horizontal	Pass
2	2458.800	109.38	-11.89	74.0	-35.38	Peak	0.00	150	Horizontal	N/A
2**	2458.800	100.04	-11.89	54.0	-46.04	AV	0.00	150	Horizontal	N/A
3	4919.800	57.15	-2.59	74.0	16.85	Peak	296.00	150	Horizontal	Pass
3**	4919.800	50.98	-2.59	54.0	3.02	AV	296.00	150	Horizontal	Pass
4	4922.800	58.57	-2.45	74.0	15.43	Peak	296.00	150	Horizontal	Pass
4**	4922.800	50.16	-2.45	54.0	3.84	AV	296.00	150	Horizontal	Pass
5	13436.701	56.25	0.43	74.0	17.75	Peak	59.00	400	Horizontal	Pass
5**	13436.701	47.31	0.43	54.0	6.69	AV	59.00	400	Horizontal	Pass
6	15835.950	56.08	1.45	74.0	17.92	Peak	360.00	150	Horizontal	Pass
6**	15835.950	46.61	1.45	54.0	7.39	AV	360.00	150	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1328.600	43.60	-17.09	74.0	30.40	Peak	102.00	100	Vertical	Pass
1**	1328.600	33.43	-17.09	54.0	20.57	AV	102.00	100	Vertical	Pass
2	2458.700	93.84	-11.90	74.0	-19.84	Peak	270.00	150	Vertical	N/A
2**	2458.700	85.01	-11.90	54.0	-31.01	AV	270.00	150	Vertical	N/A
3	4926.600	53.31	-2.39	74.0	20.69	Peak	283.00	150	Vertical	Pass
3**	4926.600	46.00	-2.39	54.0	8.00	AV	283.00	150	Vertical	Pass
4	6754.800	54.69	-1.03	74.0	19.31	Peak	80.00	100	Vertical	Pass
4**	6754.800	45.18	-1.03	54.0	8.82	AV	80.00	100	Vertical	Pass
5	13257.938	55.57	0.73	74.0	18.43	Peak	320.00	150	Vertical	Pass
5**	13257.938	45.27	0.73	54.0	8.73	AV	320.00	150	Vertical	Pass
6	17470.276	56.77	2.90	74.0	17.23	Peak	360.00	200	Vertical	Pass
6**	17470.276	47.28	2.90	54.0	6.72	AV	360.00	200	Vertical	Pass

1 GHz to 18 GHz, ANT H 802.11ax40(SU) Low Channel

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1540.500	42.13	-16.99	74.0	31.87	Peak	145.00	300	Horizontal	Pass
1**	1540.500	33.64	-16.99	54.0	20.36	AV	145.00	300	Horizontal	Pass
2	2418.600	107.31	-11.92	74.0	-33.31	Peak	0.00	200	Horizontal	N/A
2**	2418.600	97.47	-11.92	54.0	-43.47	AV	0.00	200	Horizontal	N/A
3	4840.800	54.46	-2.72	74.0	19.54	Peak	324.00	150	Horizontal	Pass
3**	4840.800	48.37	-2.72	54.0	5.63	AV	324.00	150	Horizontal	Pass
4	4841.000	54.85	-2.72	74.0	19.15	Peak	324.00	150	Horizontal	Pass
4**	4841.000	47.88	-2.72	54.0	6.12	AV	324.00	150	Horizontal	Pass
5	13295.475	55.57	0.84	74.0	18.43	Peak	73.00	150	Horizontal	Pass
5**	13295.475	45.93	0.84	54.0	8.07	AV	73.00	150	Horizontal	Pass
6	17425.650	56.50	3.60	74.0	17.50	Peak	0.00	400	Horizontal	Pass
6**	17425.650	47.75	3.60	54.0	6.25	AV	0.00	400	Horizontal	Pass

1 GHz to 18 GHz, ANT V 802.11ax40(SU) Low Channel

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1639.900	45.84	-17.39	74.0	28.16	Peak	360.00	150	Vertical	Pass
1**	1639.900	37.52	-17.39	54.0	16.48	AV	360.00	150	Vertical	Pass
2	2433.000	94.06	-12.31	74.0	-20.06	Peak	241.00	150	Vertical	N/A
2**	2433.000	84.57	-12.31	54.0	-30.57	AV	241.00	150	Vertical	N/A
3	2657.400	53.51	-11.08	74.0	20.49	Peak	83.00	200	Vertical	Pass
3**	2657.400	40.49	-11.08	54.0	13.51	AV	83.00	200	Vertical	Pass
4	6806.600	56.10	2.28	74.0	17.90	Peak	0.00	400	Vertical	Pass
4**	6806.600	46.44	2.28	54.0	7.56	AV	0.00	400	Vertical	Pass
5	13410.975	56.44	0.49	74.0	17.56	Peak	61.00	150	Vertical	Pass
5**	13410.975	46.98	0.49	54.0	7.02	AV	61.00	150	Vertical	Pass
6	17907.337	57.75	3.57	74.0	16.25	Peak	164.00	150	Vertical	Pass
6**	17907.337	47.24	3.57	54.0	6.76	AV	164.00	150	Vertical	Pass

1 GHz to 18 GHz, ANT H 802.11ax40(SU) Middle Channel

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1486.200	42.84	-16.70	74.0	31.16	Peak	217.00	400	Horizontal	Pass
1**	1486.200	32.94	-16.70	54.0	21.06	AV	217.00	400	Horizontal	Pass
2	2436.400	106.54	-12.13	74.0	-32.54	Peak	345.00	200	Horizontal	N/A
2**	2436.400	97.84	-12.13	54.0	-43.84	AV	345.00	200	Horizontal	N/A
3	4868.000	56.70	-2.48	74.0	17.30	Peak	293.00	150	Horizontal	Pass
3**	4868.000	50.96	-2.48	54.0	3.04	AV	293.00	150	Horizontal	Pass
4	4874.000	57.77	-2.66	74.0	16.23	Peak	282.00	150	Horizontal	Pass
4**	4874.000	50.34	-2.66	54.0	3.66	AV	282.00	150	Horizontal	Pass
5	13310.963	55.42	0.86	74.0	18.58	Peak	16.00	150	Horizontal	Pass
5**	13310.963	46.66	0.86	54.0	7.34	AV	16.00	150	Horizontal	Pass
6	17466.337	56.16	2.89	74.0	17.84	Peak	55.00	400	Horizontal	Pass
6**	17466.337	46.80	2.89	54.0	7.20	AV	55.00	400	Horizontal	Pass

1 GHz to 18 GHz, ANT V 802.11ax40(SU) Middle Channel

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1491.300	42.61	-16.83	74.0	31.39	Peak	321.00	300	Vertical	Pass
1**	1491.300	32.97	-16.83	54.0	21.03	AV	321.00	300	Vertical	Pass
2	2438.700	94.59	-12.27	74.0	-20.59	Peak	265.00	200	Vertical	N/A
2**	2438.700	85.83	-12.27	54.0	-31.83	AV	265.00	200	Vertical	N/A
3	4871.800	50.49	-2.68	74.0	23.51	Peak	29.00	150	Vertical	Pass
3**	4871.800	45.75	-2.68	54.0	8.25	AV	29.00	150	Vertical	Pass
4	6807.400	54.51	2.02	74.0	19.49	Peak	61.00	200	Vertical	Pass
4**	6807.400	46.75	2.02	54.0	7.25	AV	61.00	200	Vertical	Pass
5	13420.687	55.90	0.40	74.0	18.10	Peak	174.00	150	Vertical	Pass
5**	13420.687	46.87	0.40	54.0	7.13	AV	174.00	150	Vertical	Pass
6	17424.599	57.07	3.63	74.0	16.93	Peak	252.00	100	Vertical	Pass
6**	17424.599	47.15	3.63	54.0	6.85	AV	252.00	100	Vertical	Pass

1 GHz to 18 GHz, ANT H 802.11ax40(SU) High Channel

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1405.400	42.63	-16.98	74.0	31.37	Peak	259.00	100	Horizontal	Pass
1**	1405.400	32.97	-16.98	54.0	21.03	AV	259.00	100	Horizontal	Pass
2	2454.100	106.22	-12.15	74.0	-32.22	Peak	0.00	100	Horizontal	N/A
2**	2454.100	97.33	-12.15	54.0	-43.33	AV	0.00	100	Horizontal	N/A
3	4891.600	58.33	-2.87	74.0	15.67	Peak	298.00	150	Horizontal	Pass
3**	4891.600	49.20	-2.87	54.0	4.80	AV	298.00	150	Horizontal	Pass
4	4906.200	54.99	-3.04	74.0	19.01	Peak	298.00	150	Horizontal	Pass
4**	4906.200	50.48	-3.04	54.0	3.52	AV	298.00	150	Horizontal	Pass
5	13399.687	55.79	0.53	74.0	18.21	Peak	47.00	150	Horizontal	Pass
5**	13399.687	46.06	0.53	54.0	7.94	AV	47.00	150	Horizontal	Pass
6	16102.388	56.57	1.09	74.0	17.43	Peak	273.00	300	Horizontal	Pass
6**	16102.388	46.94	1.09	54.0	7.06	AV	273.00	300	Horizontal	Pass

1 GHz to 18 GHz, ANT V 802.11ax40(SU) High Channel

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1332.400	44.23	-17.12	74.0	29.77	Peak	105.00	300	Vertical	Pass
1**	1332.400	32.97	-17.12	54.0	21.03	AV	105.00	300	Vertical	Pass
2	2442.100	93.87	-12.38	74.0	-19.87	Peak	271.00	100	Vertical	N/A
2**	2442.100	84.67	-12.38	54.0	-30.67	AV	271.00	100	Vertical	N/A
3	4907.000	51.95	-2.99	74.0	22.05	Peak	10.00	150	Vertical	Pass
3**	4907.000	45.99	-2.99	54.0	8.01	AV	10.00	150	Vertical	Pass
4	6805.800	54.53	2.13	74.0	19.47	Peak	24.00	200	Vertical	Pass
4**	6805.800	46.39	2.13	54.0	7.61	AV	24.00	200	Vertical	Pass
5	13324.613	56.03	0.92	74.0	17.97	Peak	360.00	150	Vertical	Pass
5**	13324.613	47.25	0.92	54.0	6.75	AV	360.00	150	Vertical	Pass
6	17408.850	56.42	3.42	74.0	17.58	Peak	360.00	300	Vertical	Pass
6**	17408.850	46.62	3.42	54.0	7.38	AV	360.00	300	Vertical	Pass

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

Note¹: The lowest and highest channels are tested to verify the band edge emissions. Please refer to the following the plots for emissions values.

Note²: The test data all are tested in the vertical and horizontal antenna which the trace is max hold. So these plots have shown the worst case.

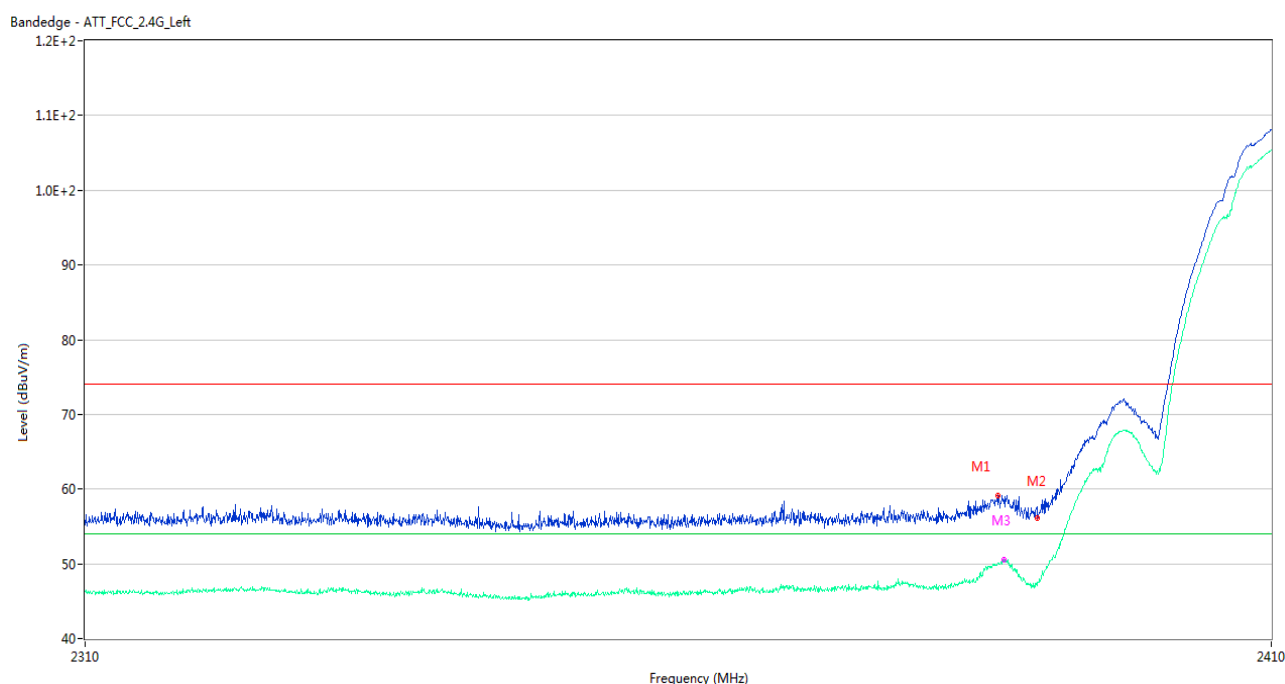
Note³: According the ANSI C63.10-2013, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

Note⁴: All the configurations were pre tested, only the worst configuration has been reported in this report.

Note⁵: All mode has been pre tested, only show worst data on this report.

Test Data and Plots

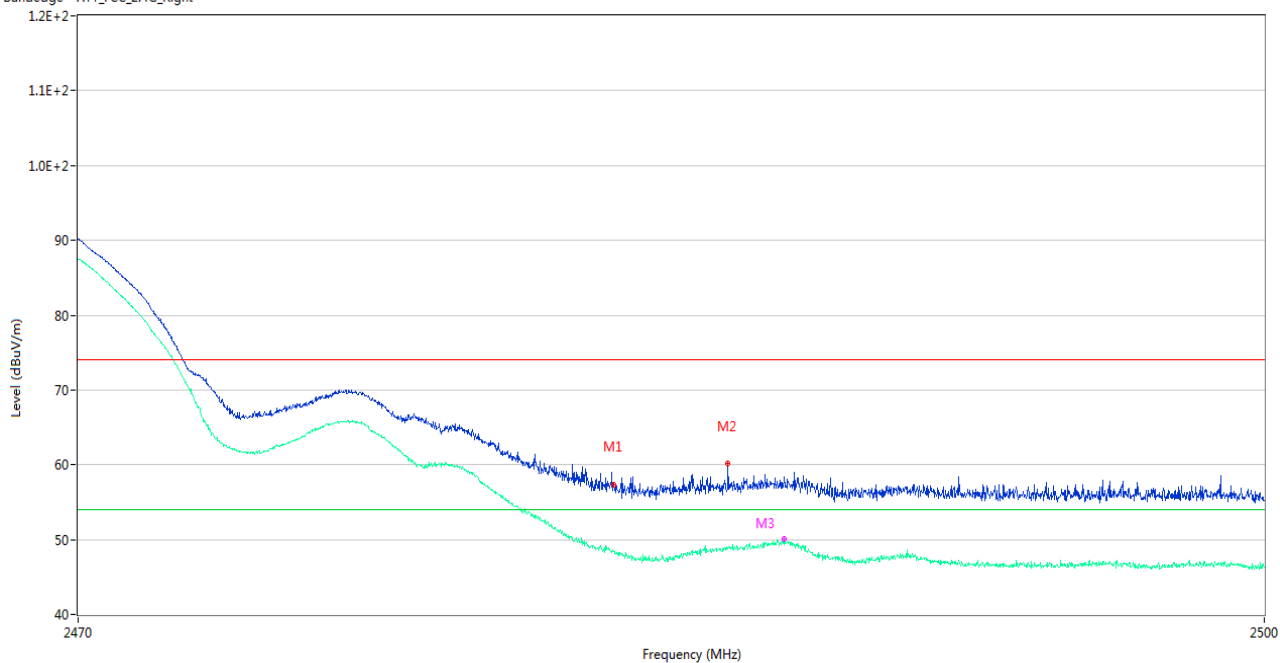
802.11b LOW CHANNEL



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2386.600	59.16	2.41	74.0	14.84	Peak	357.00	150	Horizontal	Pass
1**	2386.600	50.10	2.41	54.0	3.90	AV	357.00	150	Horizontal	Pass
2	2389.950	56.11	1.92	74.0	17.89	Peak	141.00	200	Horizontal	Pass
2**	2389.950	47.61	1.92	54.0	6.39	AV	141.00	200	Horizontal	Pass
3	2387.100	58.52	2.29	74.0	15.48	Peak	348.00	150	Horizontal	Pass
3**	2387.100	50.50	2.29	54.0	3.50	AV	348.00	150	Horizontal	Pass

802.11b HIGH CHANNEL

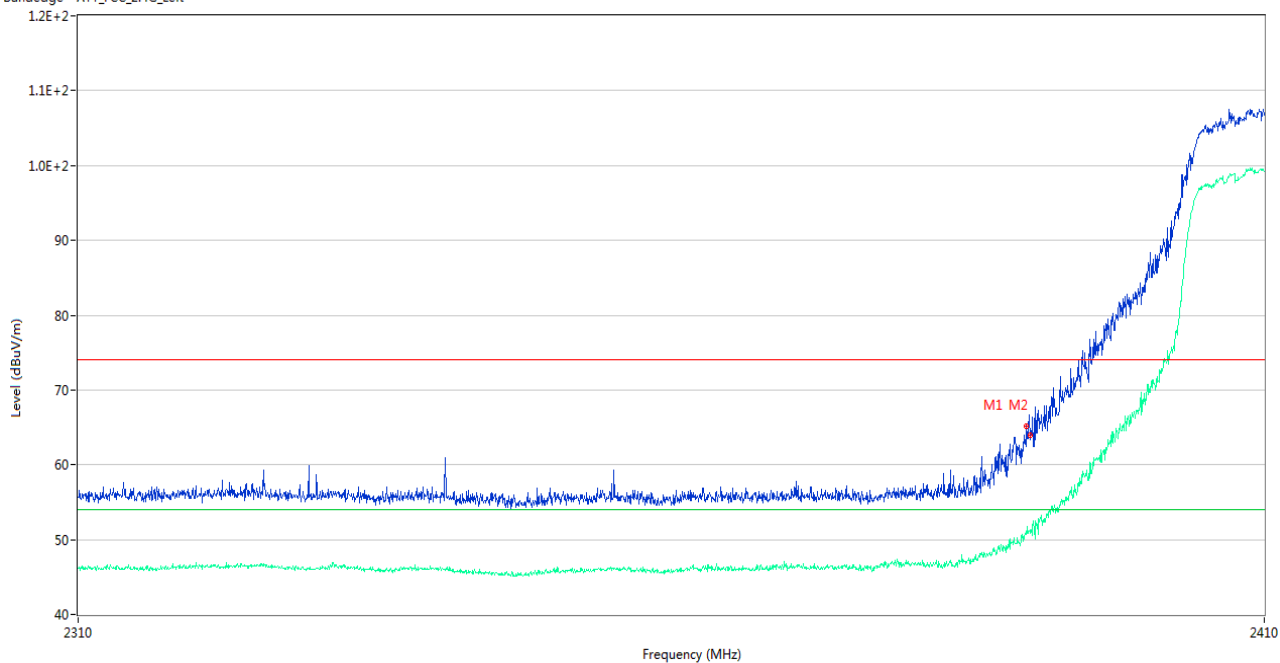
Bandedge - ATT_FCC_2.4G_Right



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.500	57.39	2.11	74.0	16.61	Peak	337.00	200	Horizontal	Pass
1**	2483.500	48.43	2.11	54.0	5.57	AV	337.00	200	Horizontal	Pass
2	2486.395	60.15	1.89	74.0	13.85	Peak	360.00	100	Horizontal	Pass
2**	2486.395	48.77	1.89	54.0	5.23	AV	360.00	100	Horizontal	Pass
3	2487.805	57.86	1.62	74.0	16.14	Peak	354.00	150	Horizontal	Pass
3**	2487.805	50.04	1.62	54.0	3.96	AV	354.00	150	Horizontal	Pass

802.11g LOW CHANNEL

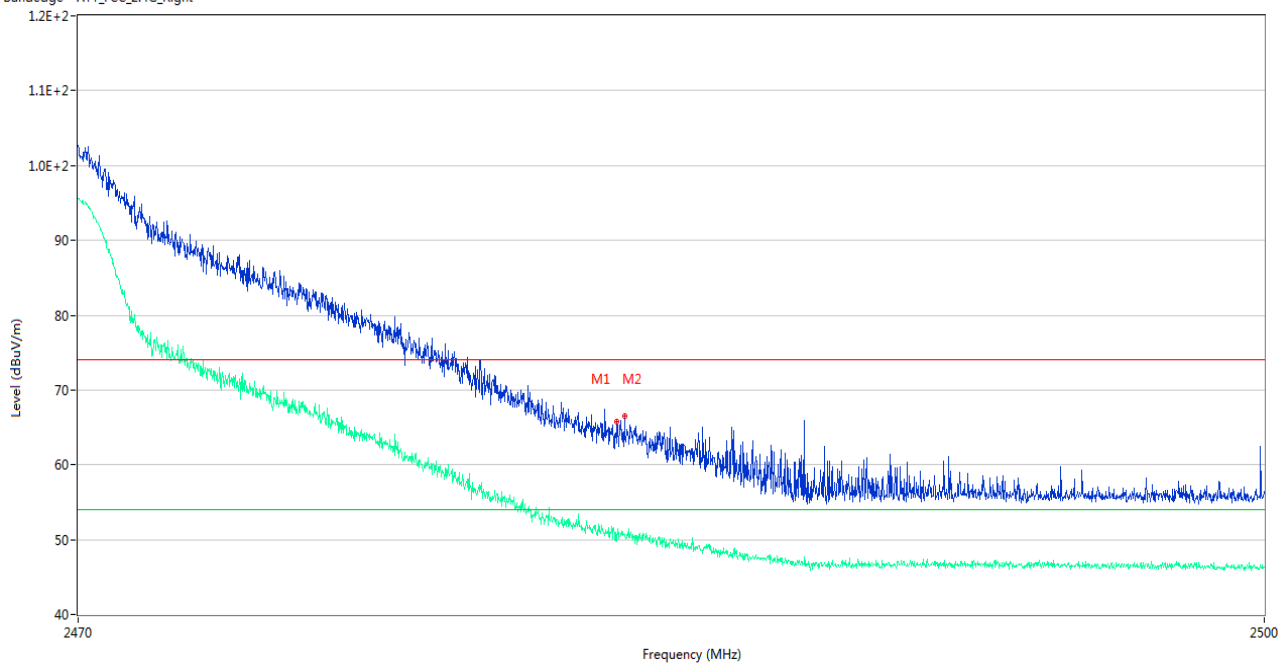
Bandedge - ATT_FCC_2.4G_Left



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2389.600	65.19	1.91	74.0	8.81	Peak	308.00	200	Horizontal	Pass
1**	2389.600	50.62	1.91	54.0	3.38	AV	308.00	200	Horizontal	Pass
2	2389.950	63.93	1.92	74.0	10.07	Peak	3.00	150	Horizontal	Pass
2**	2389.950	50.84	1.92	54.0	3.16	AV	3.00	150	Horizontal	Pass

802.11g HIGH CHANNEL

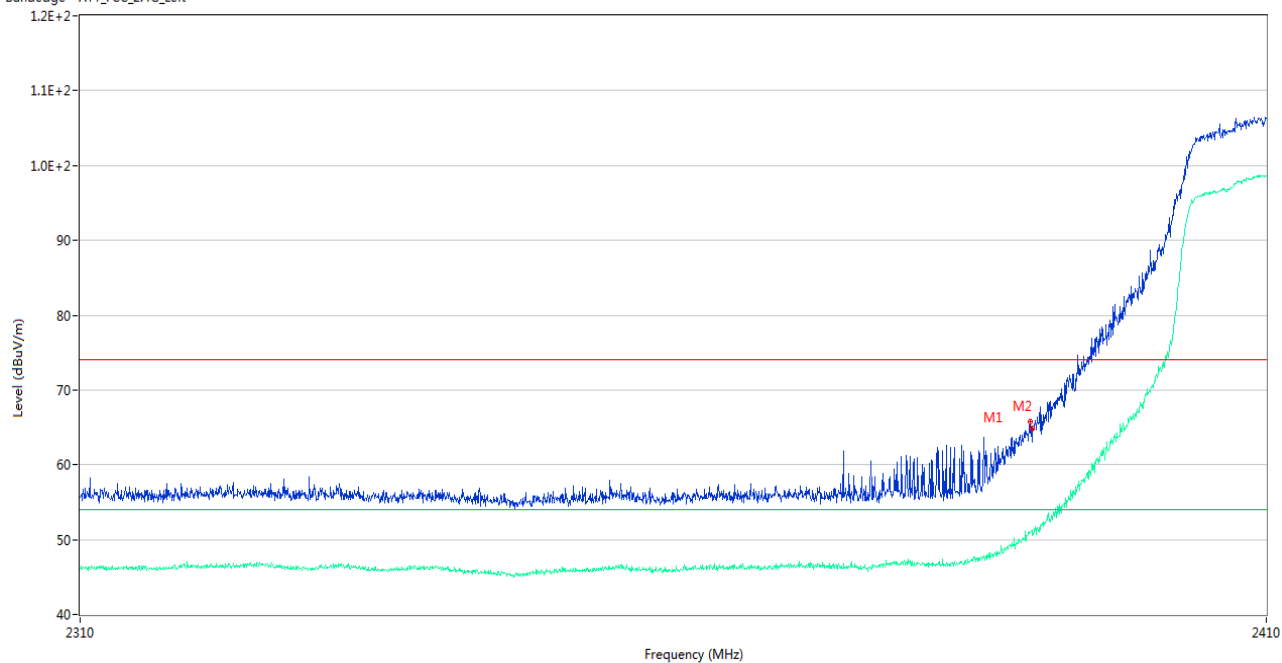
Bandedge - ATT_FCC_2.4G_Right



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.590	65.71	2.11	74.0	8.29	Peak	343.00	150	Horizontal	Pass
1**	2483.590	49.79	2.11	54.0	4.21	AV	343.00	150	Horizontal	Pass
2	2483.770	66.46	2.12	74.0	7.54	Peak	0.00	200	Horizontal	Pass
2**	2483.770	50.73	2.12	54.0	3.27	AV	0.00	200	Horizontal	Pass

802.11n20 LOW CHANNEL

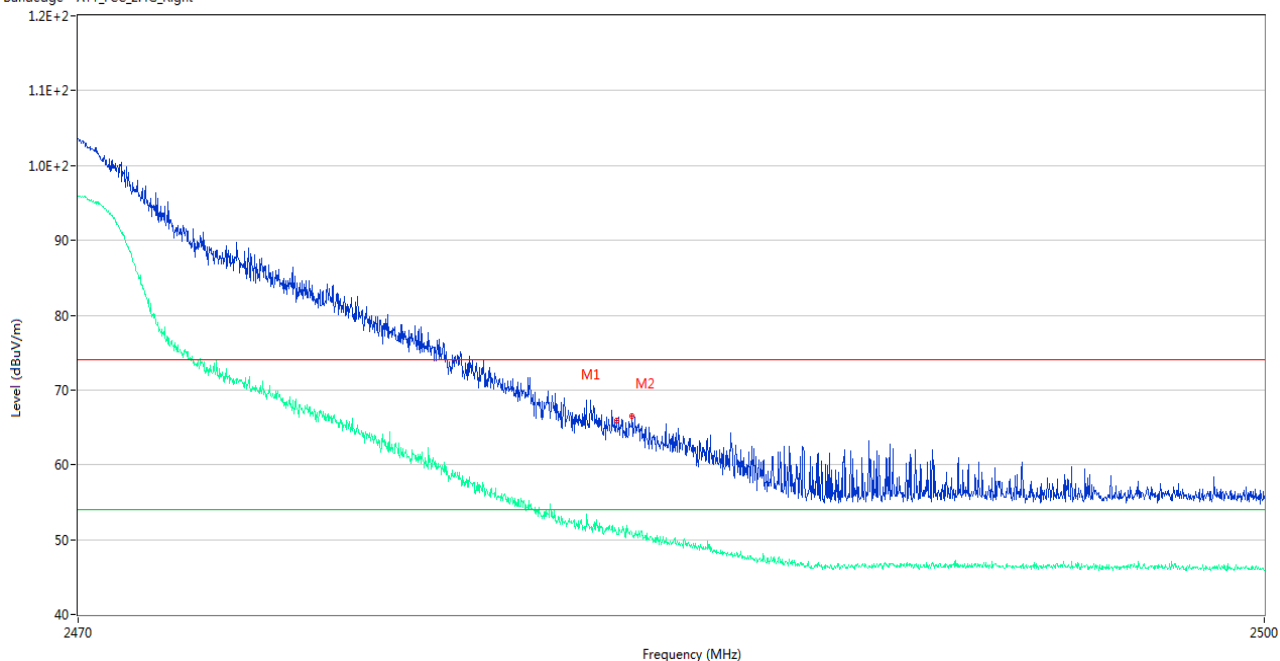
Bandedge - ATT_FCC_2.4G_Left



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2389.800	65.75	1.92	74.0	8.25	Peak	320.00	150	Horizontal	Pass
1**	2389.800	50.93	1.92	54.0	3.07	AV	320.00	150	Horizontal	Pass
2	2389.950	64.82	1.92	74.0	9.18	Peak	325.00	150	Horizontal	Pass
2**	2389.950	50.56	1.92	54.0	3.44	AV	325.00	150	Horizontal	Pass

802.11n20 HIGH CHANNEL

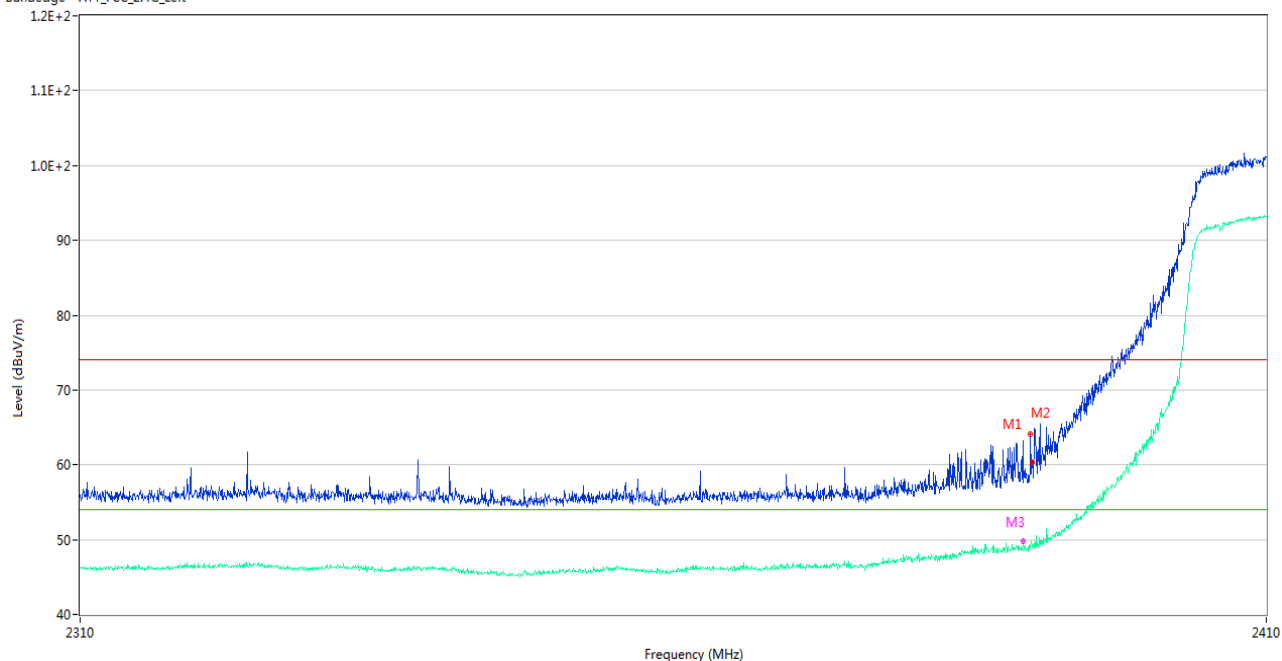
Bandedge - ATT_FCC_2.4G_Right



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.575	65.88	2.11	74.0	8.12	Peak	346.00	200	Horizontal	Pass
1**	2483.575	50.82	2.11	54.0	3.18	AV	346.00	200	Horizontal	Pass
2	2483.965	66.51	2.12	74.0	7.49	Peak	0.00	150	Horizontal	Pass
2**	2483.965	50.90	2.12	54.0	3.10	AV	0.00	150	Horizontal	Pass

802.11n40 LOW CHANNEL

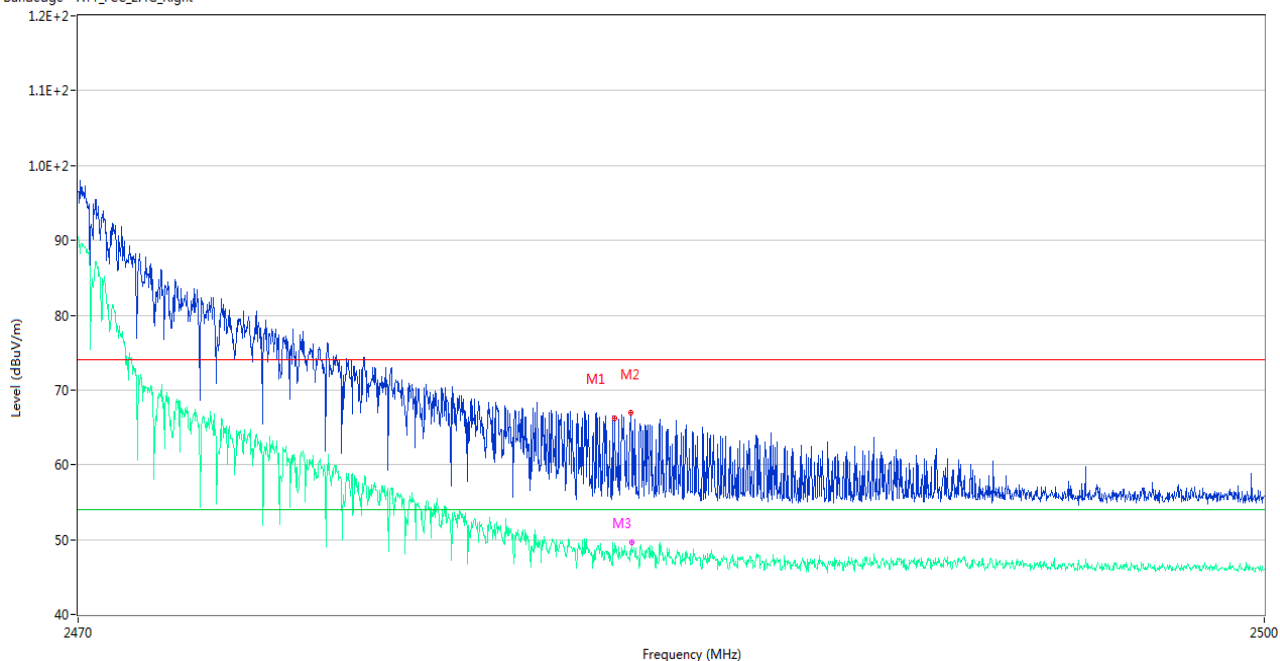
Bandedge - ATT_FCC_2.4G_Left



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2389.800	64.06	1.92	74.0	9.94	Peak	318.00	200	Horizontal	Pass
1**	2389.800	48.88	1.92	54.0	5.12	AV	318.00	200	Horizontal	Pass
2	2389.950	60.30	1.92	74.0	13.70	Peak	19.00	100	Horizontal	Pass
2**	2389.950	49.09	1.92	54.0	4.91	AV	19.00	100	Horizontal	Pass
3	2389.200	57.68	1.91	74.0	16.32	Peak	360.00	150	Horizontal	Pass
3**	2389.200	49.73	1.91	54.0	4.27	AV	360.00	150	Horizontal	Pass

802.11n40 HIGH CHANNEL

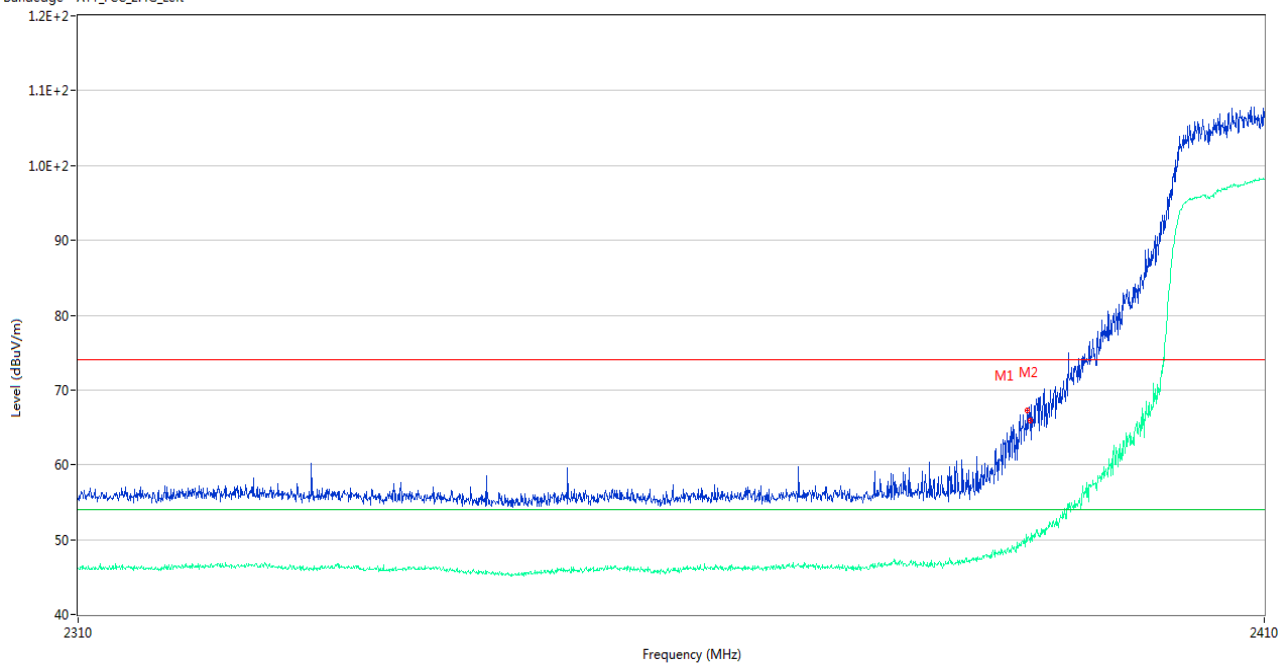
Bandedge - ATT_FCC_2.4G_Right



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.515	66.23	2.11	74.0	7.77	Peak	0.00	100	Horizontal	Pass
1**	2483.515	48.40	2.11	54.0	5.60	AV	0.00	100	Horizontal	Pass
2	2483.935	67.04	2.12	74.0	6.96	Peak	359.00	150	Horizontal	Pass
2**	2483.935	48.02	2.12	54.0	5.98	AV	359.00	150	Horizontal	Pass
3	2483.950	61.96	2.12	74.0	12.04	Peak	27.00	150	Horizontal	Pass
3**	2483.950	49.63	2.12	54.0	4.37	AV	27.00	150	Horizontal	Pass

802.11ax20(SU) LOW CHANNEL

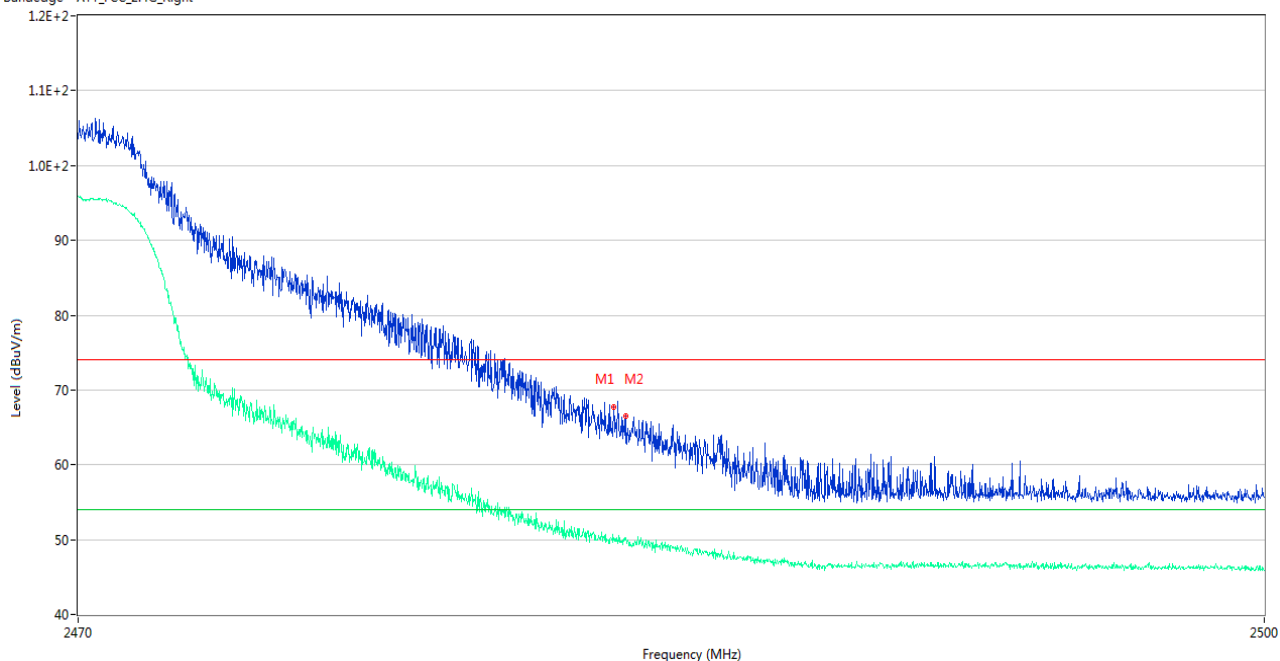
Bandedge - ATT_FCC_2.4G_Left



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2389.700	67.21	1.92	74.0	6.79	Peak	6.00	200	Horizontal	Pass
1**	2389.700	50.28	1.92	54.0	3.72	AV	6.00	200	Horizontal	Pass
2	2389.950	65.91	1.92	74.0	8.09	Peak	327.00	150	Horizontal	Pass
2**	2389.950	49.75	1.92	54.0	4.25	AV	327.00	150	Horizontal	Pass

802.11ax20(SU) HIGH CHANNEL

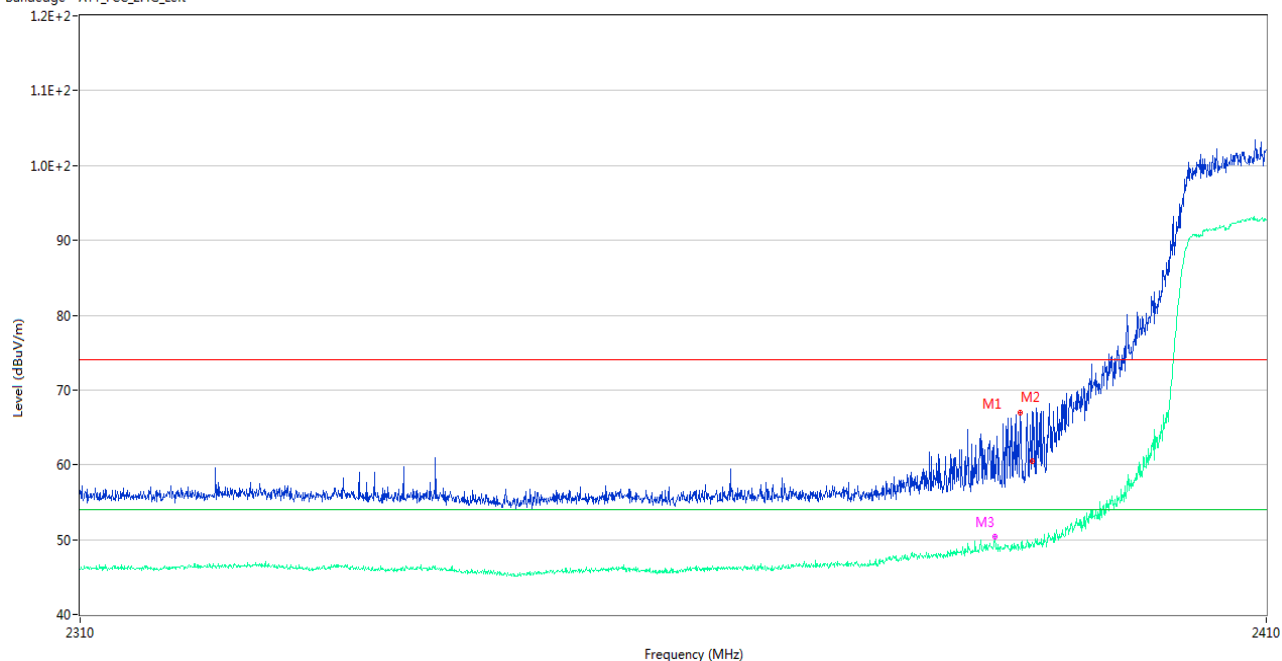
Bandedge - ATT_FCC_2.4G_Right



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.500	67.71	2.11	74.0	6.29	Peak	15.00	100	Horizontal	Pass
1**	2483.500	50.06	2.11	54.0	3.94	AV	15.00	100	Horizontal	Pass
2	2483.800	66.56	2.12	74.0	7.44	Peak	316.00	150	Horizontal	Pass
2**	2483.800	50.19	2.12	54.0	3.81	AV	316.00	150	Horizontal	Pass

802.11ax40(SU) LOW CHANNEL

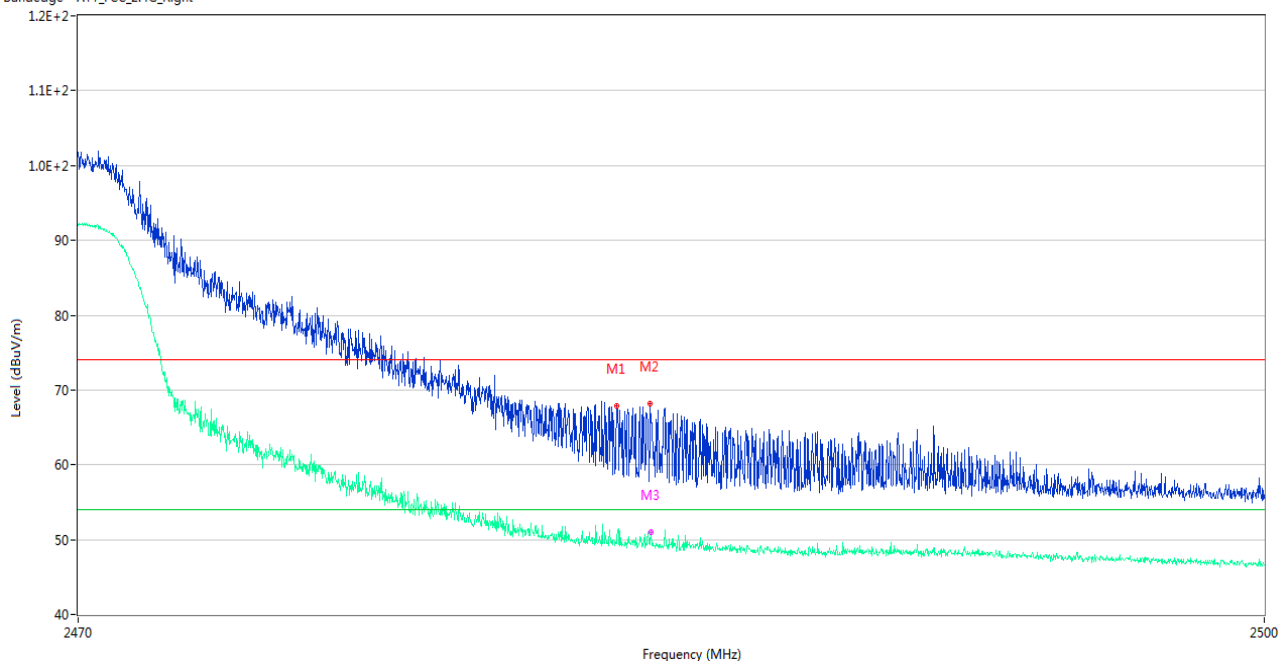
Bandedge - ATT_FCC_2.4G_Left



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2388.900	67.00	1.90	74.0	7.00	Peak	327.00	150	Horizontal	Pass
1**	2388.900	48.78	1.90	54.0	5.22	AV	327.00	150	Horizontal	Pass
2	2389.950	60.51	1.92	74.0	13.49	Peak	23.00	200	Horizontal	Pass
2**	2389.950	49.66	1.92	54.0	4.34	AV	23.00	200	Horizontal	Pass
3	2386.750	57.83	2.37	74.0	16.17	Peak	323.00	150	Horizontal	Pass
3**	2386.750	50.46	2.37	54.0	3.54	AV	323.00	150	Horizontal	Pass

802.11ax40(SU) HIGH CHANNEL

Bandedge - ATT_FCC_2.4G_Right



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.590	67.90	2.11	74.0	6.10	Peak	341.00	100	Horizontal	Pass
1**	2483.590	50.43	2.11	54.0	3.57	AV	341.00	100	Horizontal	Pass
2	2484.430	68.17	2.13	74.0	5.83	Peak	360.00	100	Horizontal	Pass
2**	2484.430	49.43	2.13	54.0	4.57	AV	360.00	100	Horizontal	Pass
3	2484.445	65.54	2.13	74.0	8.46	Peak	360.00	150	Horizontal	Pass
3**	2484.445	50.97	2.13	54.0	3.03	AV	360.00	150	Horizontal	Pass

A.8 Power Spectral Density (PSD)

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

Test Data

802.11b Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-11.57	8
Middle	-12.78	8
High	-12.27	8

802.11g Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-17.56	8
Middle	-16.99	8
High	-16.30	8

802.11n-20 MHz Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-16.51	8
Middle	-16.91	8
High	-17.11	8

802.11n-40 MHz Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-19.92	8
Middle	-18.53	8
High	-19.85	8

802.11ax-20 MHz(SU) Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-17.80	8
Middle	-17.80	8
High	-16.29	8

802.11ax-40 MHz(SU) Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-19.09	8
Middle	-20.49	8
High	-21.37	8

Test Plots

802.11b LOW CHANNEL



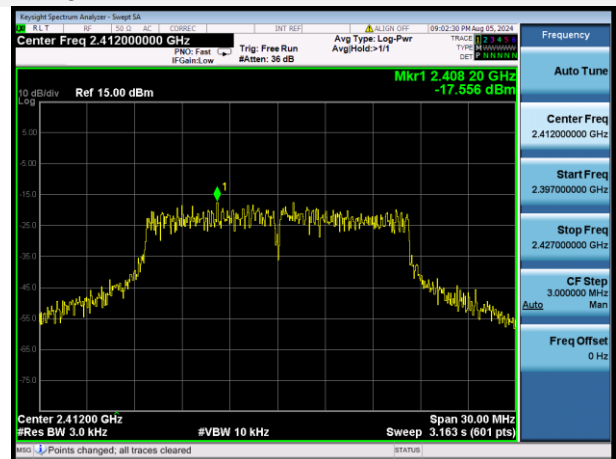
802.11b MIDDLE CHANNEL



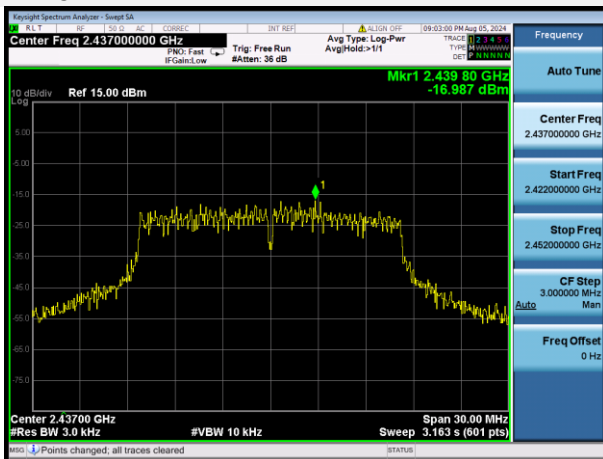
802.11b HIGH CHANNEL



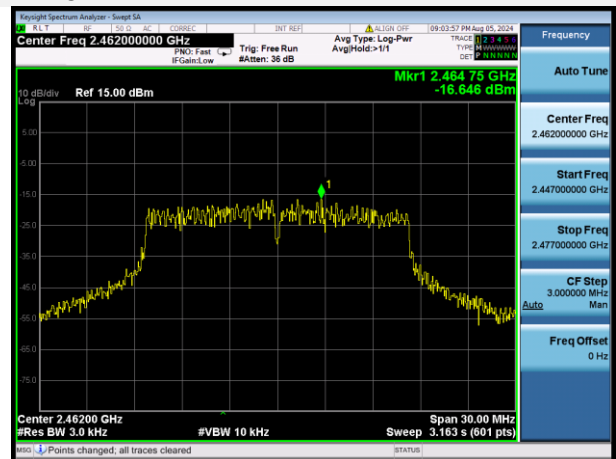
802.11g LOW CHANNEL



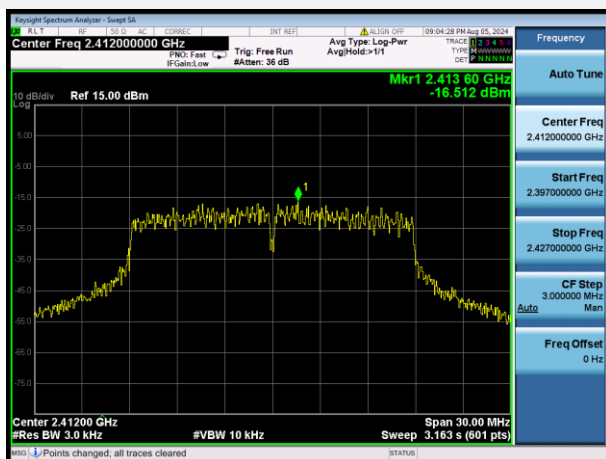
802.11g MIDDLE CHANNEL



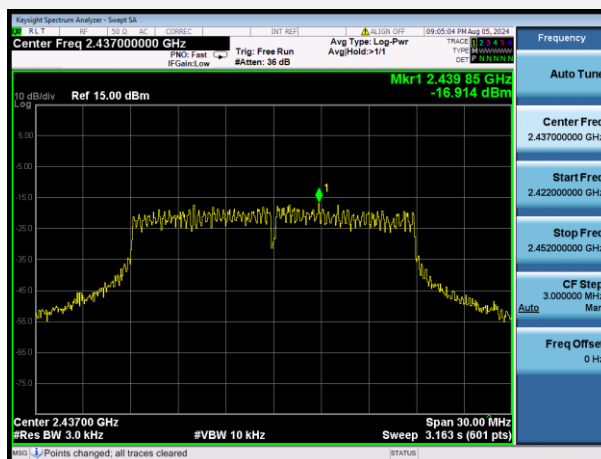
802.11g HIGH CHANNEL



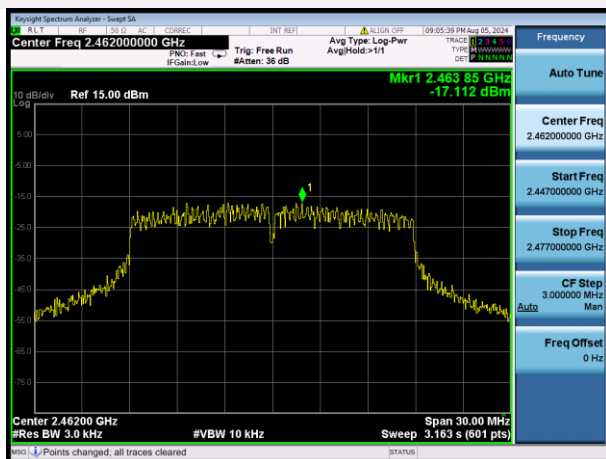
802.11n-20 MHz LOW CHANNEL



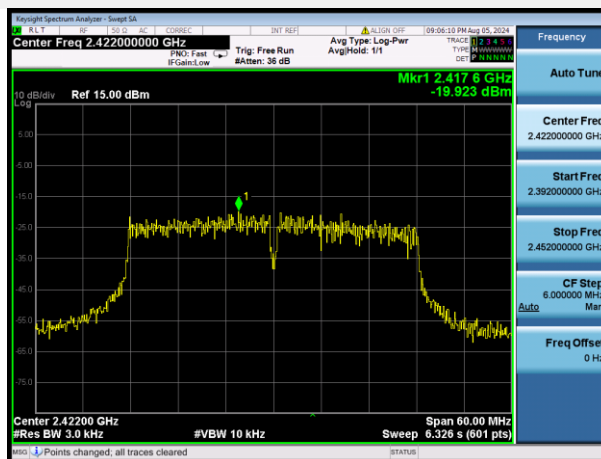
802.11n-20 MHz MIDDLE CHANNEL



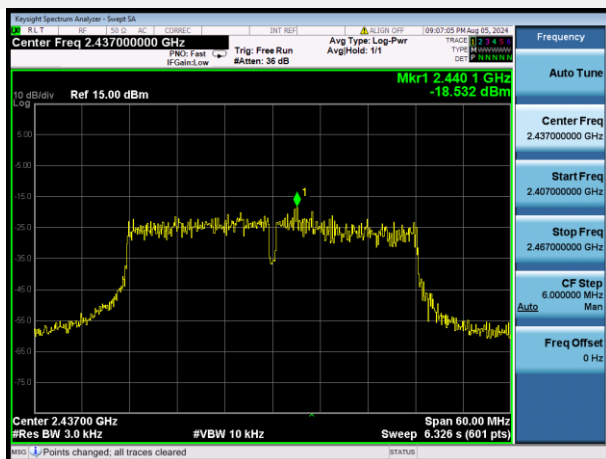
802.11n-20 MHz HIGH CHANNEL



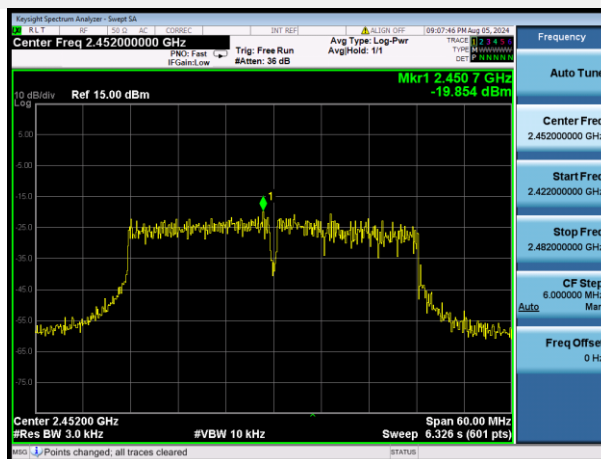
802.11n-40 MHz LOW CHANNEL



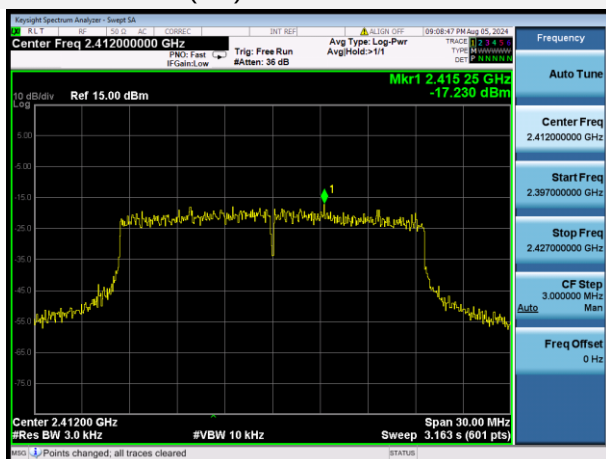
802.11n-40 MHz MIDDLE CHANNEL



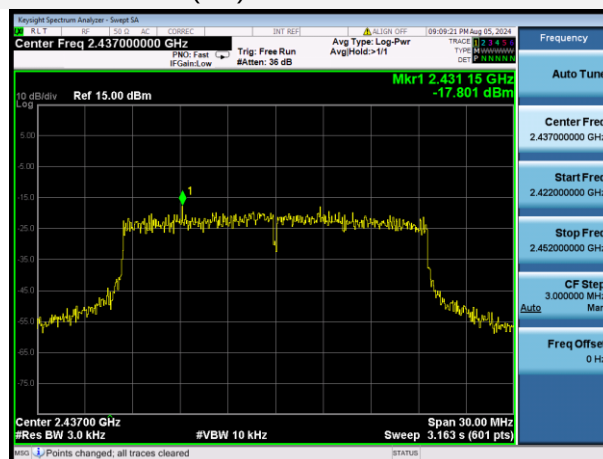
802.11n-40 MHz HIGH CHANNEL



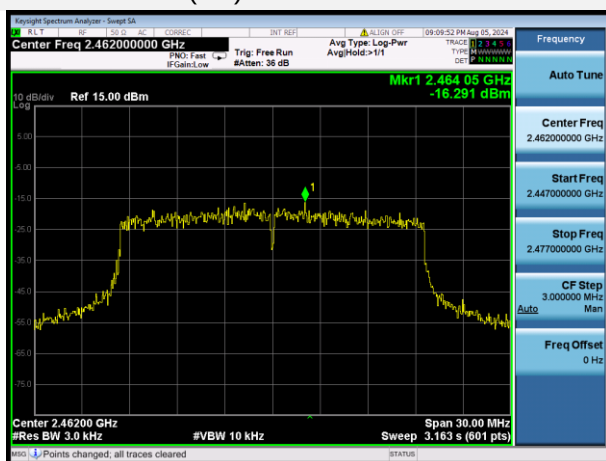
802.11ax-20 MHz(SU) LOW CHANNEL



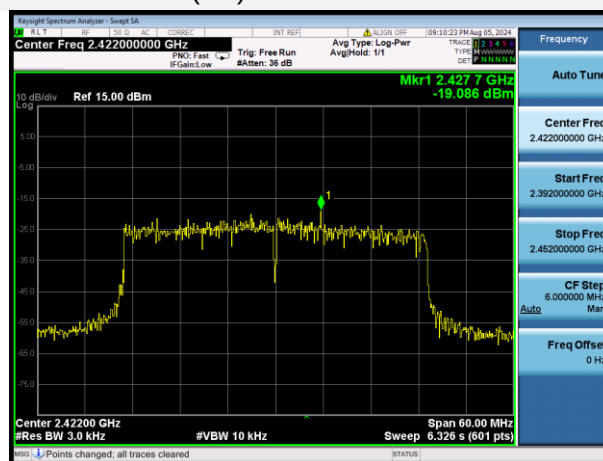
802.11ax-20 MHz(SU) MIDDLE CHANNEL



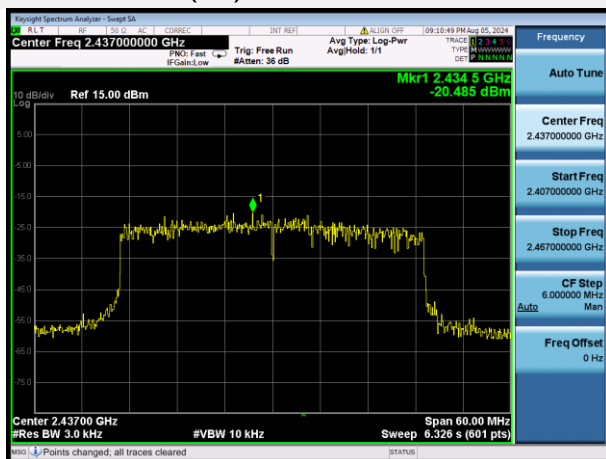
802.11ax-20 MHz(SU) HIGH CHANNEL



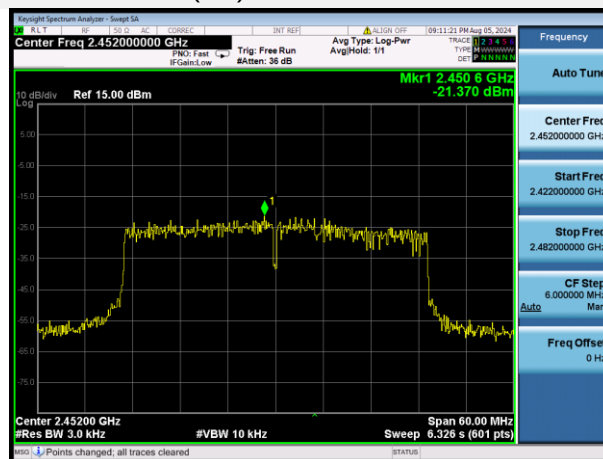
802.11ax-40 MHz(SU) LOW CHANNEL



802.11ax-40 MHz(SU) MIDDLE CHANNEL



802.11ax-40 MHz(SU) HIGH CHANNEL



ANNEX B TEST SETUP PHOTOS

Please refer the document “BL-SZ2470547-AR-2.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “BL-SZ2470547-AW-2.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “BL-SZ2470547-AI-2.PDF”.

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--END OF REPORT--