

TEST REPORT

Applicant: Libre Wireless Technologies, Inc.
Address: 17835 Newhope Street, Ste A, Fountain Valley, CA 92708, US
Equipment Type: High Performance Wireless Media Module
Model Name: LS11 (refer to section 2.3)
Brand Name: LIBRE
FCC ID: 2ADBM-LS11
Test Standard: 47 CFR Part 15 Subpart C (refer to section 3.1)
Sample Arrival Date: Aug. 22, 2023
Test Date: Sep. 08, 2023 - Sep. 20, 2023
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ISSUED BY:

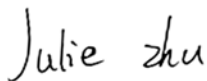
Shenzhen BALUN Technology Co., Ltd.

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(Technical Director)



Revision History		
Version	Issue Date	Revisions
<u>Rev. 01</u>	<u>Oct. 09, 2023</u>	<u>Initial Issue</u>

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1 GENERAL INFORMATION

1.1 Test Laboratory

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

1.2 Test Location

Name	Shenzhen BALUN Technology Co., Ltd.
Location	<input checked="" type="checkbox"/> Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
	<input type="checkbox"/> 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.

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	Libre Wireless Technologies, Inc.
Address	17835 Newhope Street, Ste A, Fountain Valley, CA 92708, US

2.2 Manufacturer Information

Manufacturer	Libre Wireless Technologies, Inc.
Address	17835 Newhope Street, Ste A, Fountain Valley, CA 92708, US

2.3 General Description for Equipment under Test (EUT)

EUT Name	High Performance Wireless Media Module
Model Name Under Test	LS11
Series Model Name	LS11-EA-44G-R, LS11-NA-44G-R, LS11-EA-88G-R, LS11-NA-88G-R, LS11-EA-22G-R, LS11-NA-22G-R, LS11-EN-22G-R, LS11-EN-88G-R, LS11-EN-44G-R
Description of Model name differentiation	All models are same with electrical parameters and internal circuit structure, but only differ in model name and mainly memory difference and with ethernet or without ethernet, with PN or not. (this information provided by the applicant)
Hardware Version	VC3.0
Software Version	18.35.387.23.104 (gf431dd32) FWID 01-c7e36b48
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

Antenna Information:

Antenna Manufacturer	Model	Antenna Type	Antenna Gain
Golden Smart International Co., Ltd	LSANT-1C-180	PCB	3.5 dBi
Suzhou Point Positive Electronic Technology Co., Ltd	RC1WFI0886A	Rod	2.6651 dBi
Golden Smart International Co., Ltd	LSANT-1B-180	FPC	2.3 dBi

Note: Antenna model LSANT-1B-180 and RC1WFI0886A are alternative antennas, the max gain antenna is chosen for all test.

2.4 Technical Information

Network and Wireless connectivity	Bluetooth (BR+EDR+BLE) 2.4G WIFI 802.11b, 802.11g, 802.11n(HT20) and 802.11ax(HE20) 5G WIFI 802.11a, 802.11n(HT20/40), 802.11ac(VHT20/40/80) and 802.11ax(HE20/40/80) U-NII-1/2A/2C/3
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The requirement for the following technical information of the EUT was tested in this report:

Frequency Range	802.11b/g/n/ax(20 MHz): 2.412 GHz - 2.462 GHz $f_c = 2412 \text{ MHz} + (N-1)*5 \text{ MHz}$, where - f_c = "Operating Frequency" in MHz, - N = "Channel Number" with the range from 1 to 11.	
Modulation Type	DSSS, OFDM, OFDMA	
Product Type	<input checked="" type="checkbox"/> Mobile <input type="checkbox"/> Portable <input type="checkbox"/> Fix Location	
Antenna System (eg., MIMO, Smart Antenna)	Multi Input Multi Output (MIMO) for 802.11n/ax	
Categorization as Correlated or Completely Uncorrelated	Categorization as Uncorrelated for 802.11n/ax	
Antenna Type	SISO-Main Antenna	PCB Antenna
	SISO-Aux. Antenna	
Antenna Gain	SISO-Main Antenna	3.5 dBi
	SISO-Aux. Antenna	
Total directional gain	For power spectral density(PSD) measurements	Uncorrelated: 3.5 dBi Formulas: Directional gain = $GANT$
	For power measurements	Uncorrelated: 3.5 dBi Formulas: Directional gain = $GANT$
	For Conducted Out-of-Band and Spurious Measurements	Uncorrelated: 3.5 dBi Formulas: Directional gain = $GANT$
About the Product	Only the WIFI 802.11b, 802.11g, 802.11n (HT20) and 802.11ax (HE20) was tested in this report.	

Mode	Antenna		
	SISO-Main Antenna	SISO-Aux. Antenna	MIMO
802.11b	√	√	--
802.11g	√	√	--
802.11n20	√	√	√
802.11ax20	√	√	√

Note: All the configurations were tested, but only the worst data was shown 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
OFDMA (802.11ax-20 MHz)	BPSK	4
	QPSK	16/24/17/26
	16QAM	33/49/34/52
	64QAM	65/73/81/69/77/86
	256QAM	98/108/103/115
	1024QAM	122/135/129/143

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

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

Note: The above EUT information in section 2.3 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	KDB Publication 662911 D01v02r01	Emissions Testing of Transmitters with Multiple Outputs in the Same Band (e.g., MIMO, Smart Antenna, etc)
3	ANSI C63.10-2013	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
4	KDB Publication 558074 D01v05r02	GUIDANCE FOR COMPLIANCE MEASUREMENTS ON DIGITAL TRANSMISSION SYSTEM, FREQUENCY HOPPING SPREAD SPECTRUM SYSTEM, AND HYBRID SYSTEM DEVICES OPERATING UNDER SECTION 15.247 OF THE FCC RULES

3.2 Test Verdict

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

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

4 GENERAL TEST CONFIGURATIONS

4.1 Test Environments

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

Relative Humidity	47% to 67%	
Atmospheric Pressure	100 kPa to 102 kPa	
Temperature	NT (Normal Temperature)	+22.6°C to +25.9°C
Working Voltage of the EUT	NV (Normal Voltage)	3.30 V

4.2 Test Equipment List

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer	KEYSIGHT	N9020A	MY50330200	2023.05.16	2024.05.15
Signaling Unit	ROHDE&SCHWARZ	CMW500	142028	2023.05.16	2024.05.15
Spectrum Analyzer	KEYSIGHT	N9020A	MY52510065	2023.09.05	2024.09.04
Signaling Unit	ROHDE&SCHWARZ	CMW500	171150	2023.06.19	2024.06.18
Test Antenna-Horn	SCHWARZBECK	BBHA 9120D	01631	2022.02.03	2025.02.02
Test Antenna-Horn	A-INFO	LB-180400KF	J211060273	2021.07.02	2024.07.01
Anechoic Chamber	RAINFORD	9m*6m*6m	144	2022.02.19	2024.09.03
EMI Receiver	KEYSIGHT	N9010B	MY57110309	2023.09.05	2024.09.04
LISN	SCHWARZBECK	NSLK 8127	8127-687	2023.05.16	2024.05.15
Shielded Enclosure	YiHeng Electronic Co., Ltd	3.5m*3.1m*2.8m	112	2022.02.19	2025.02.18
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
Anechoic Chamber	YiHeng	9m*6m*6m	142	2022.02.19	2024.08.18
Amplifier	COM-MV	ZT30-1000M	B2017119081	2023.09.05	2024.09.04
Amplifier	COM-MV	LSCX_LNA1-12G-01	180602	2023.09.05	2024.09.04
Amplifier	COM-MV	XKu_LNA7-18G-01	180601	2023.09.05	2024.09.04
Amplifier	COM-MV	KA_LNA18-40G-01	18050001	2023.09.05	2024.09.04
Amplifier	COM-MV	ZT30-1000M	B2017119082	2023.09.05	2024.09.04
EMI Receiver	ROHDE&SCHWARZ	ESRP	101036	2023.09.05	2024.09.04
Test Antenna-Loop (9 kHz-30 MHz)	SCHWARZBECK	FMZB 1519	1519-037	2021.04.16	2024.04.15
Anechoic Chamber	EMC Electronic Co., Ltd	20.10*11.60*7.35m	130	2021.08.15	2024.08.14

4.3 Test Software List

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

4.4 Measurement Uncertainty

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

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

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

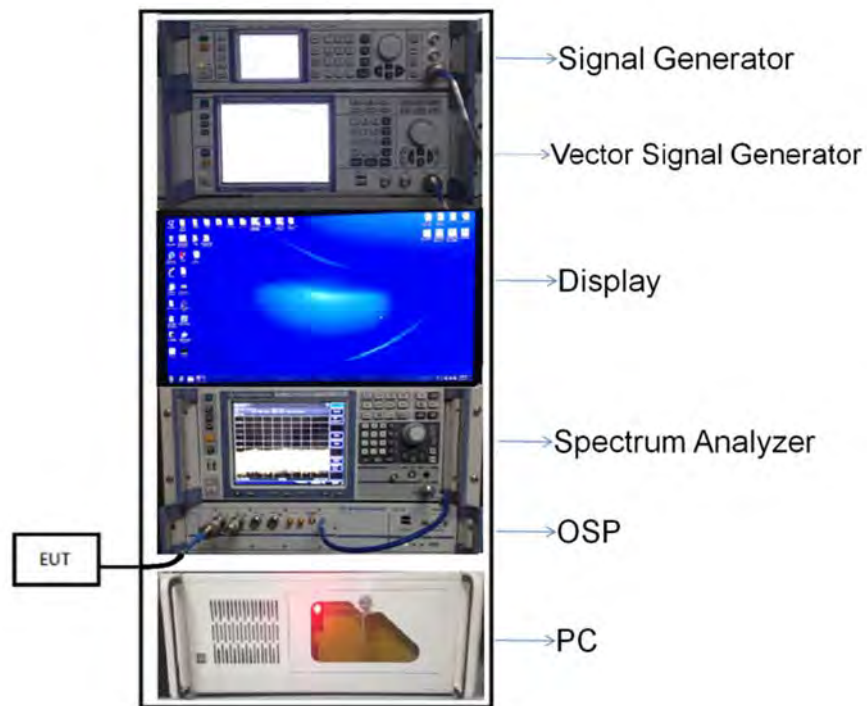
4.5 Description of Test Setup

4.5.1 For Antenna Port Test

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

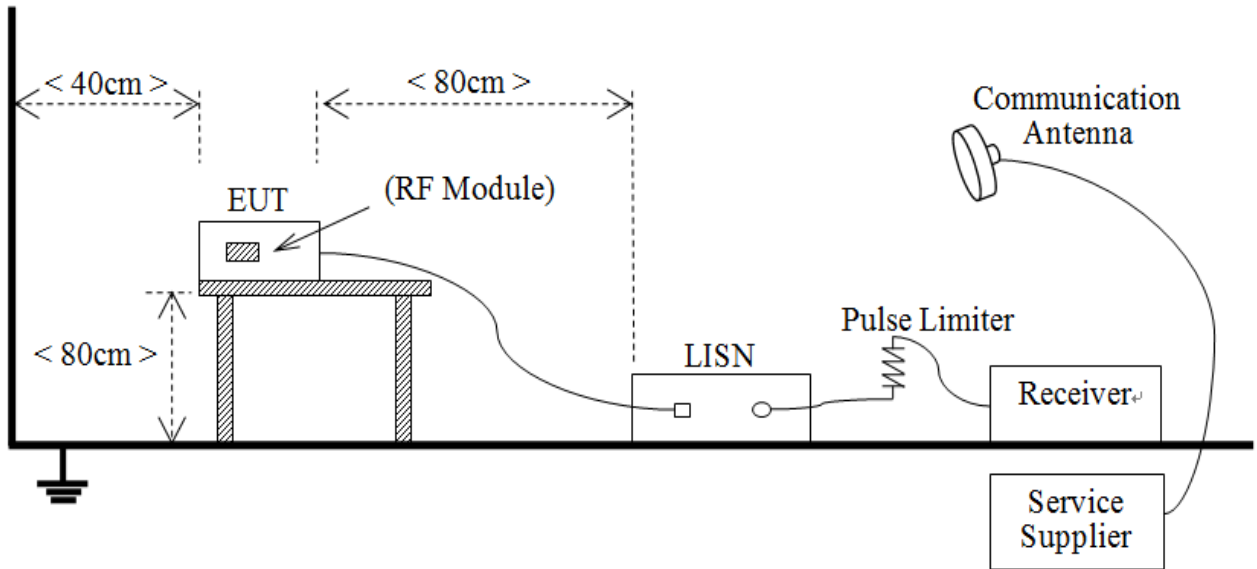
For example: the measurement value is 10 dBm and the cable 0.5dBm used, then the final result of EUT:

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



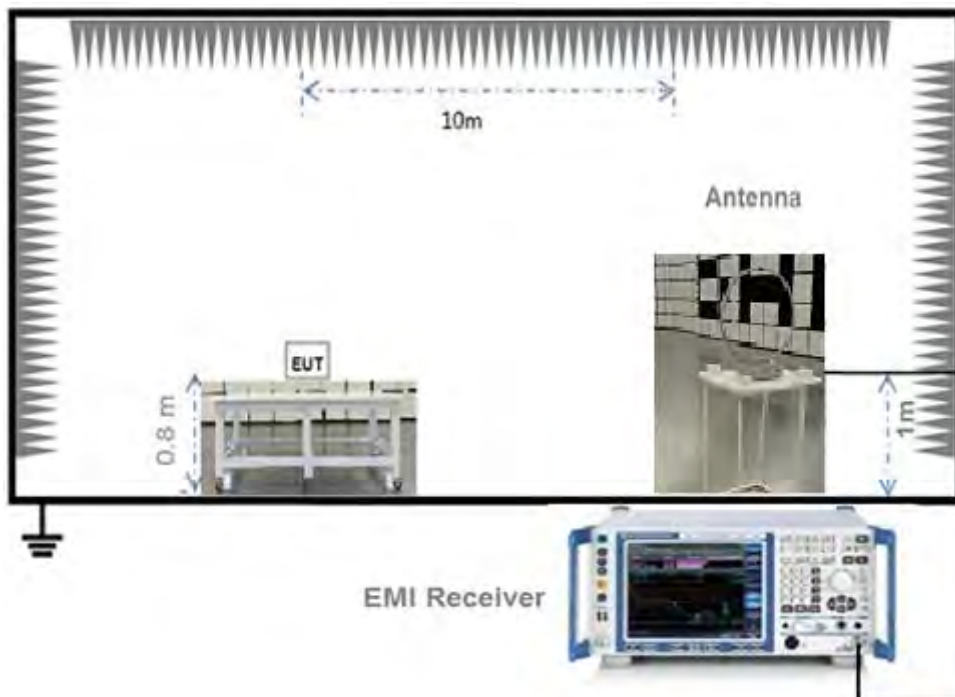
(Diagram 1)

4.5.2 For AC Power Supply Port Test



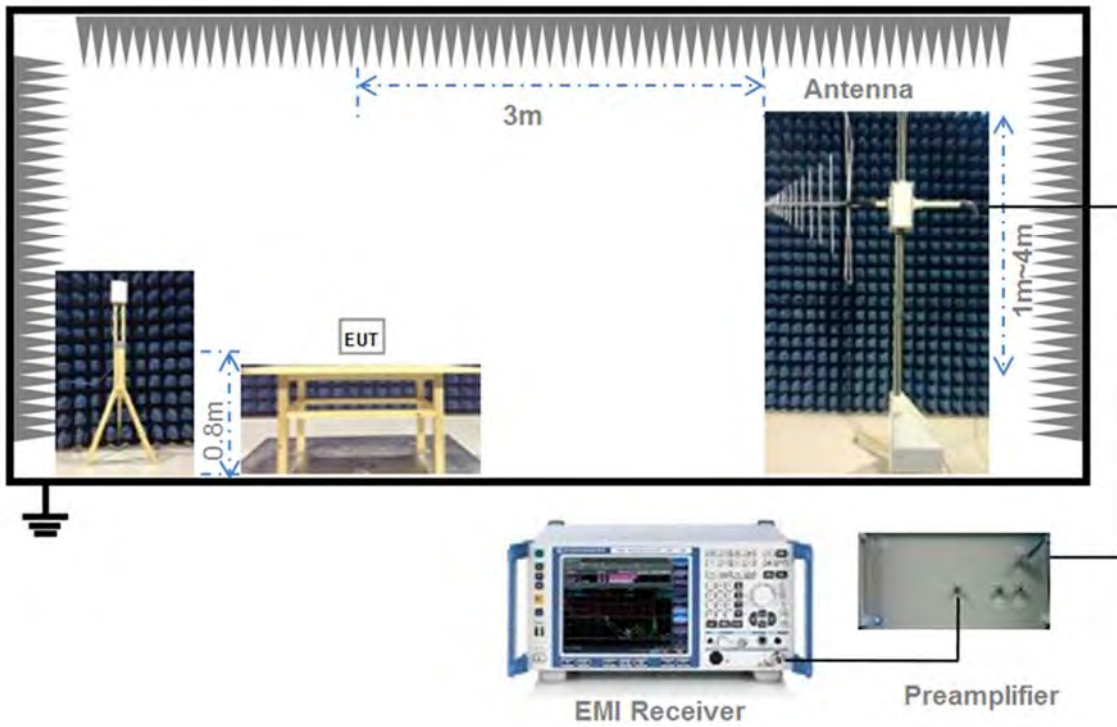
(Diagram 2)

4.5.3 For Radiated Test (Below 30 MHz)



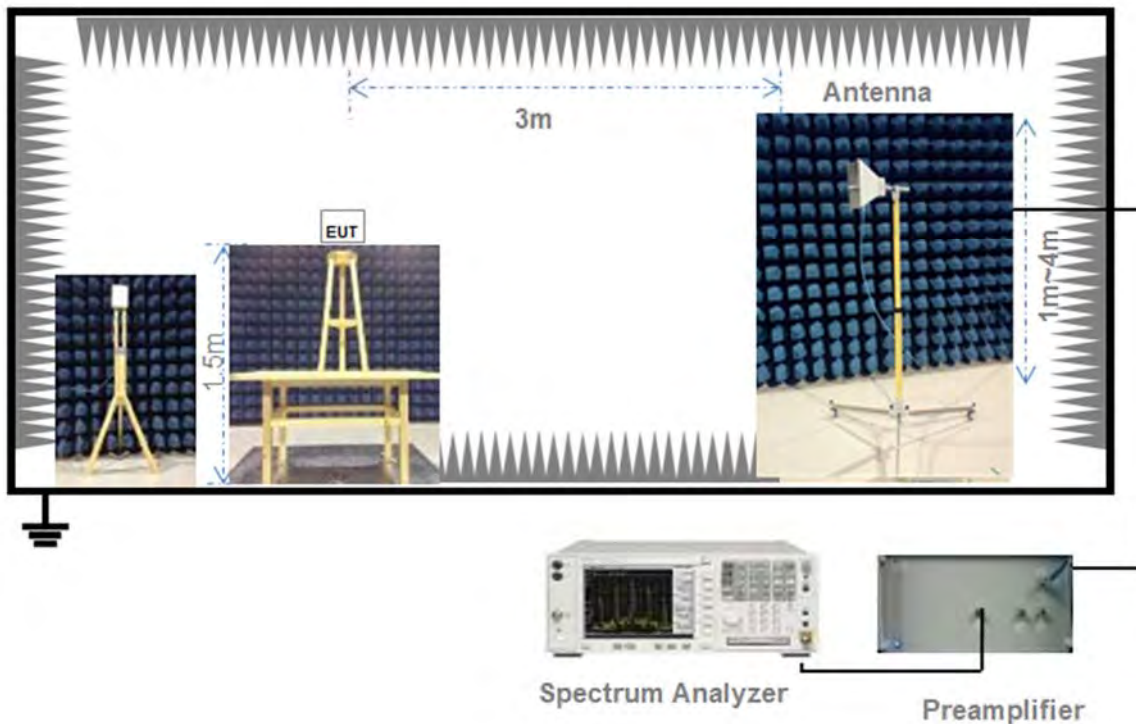
(Diagram 3)

4.5.4 For Radiated Test (30 MHz-1 GHz)



(Diagram 4)

4.5.5 For Radiated Test (Above 1 GHz)



(Diagram 5)

4.6 Measurement Results Explanation Example

4.6.1 For conducted test items:

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

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

Offset = RF cable loss + attenuator factor.

4.6.2 For radiated band edges and spurious emission test:

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

where:

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

EIRP = equivalent isotropic radiated power in dBm

D = specified measurement distance in meters.

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

5 TEST ITEMS

5.1 Antenna Requirements

5.1.1 Relevant Standards

FCC §15.203

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

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

5.1.2 Antenna Anti-Replacement Construction

The Antenna Anti-Replacement as following method:

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

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

5.1.3 Antenna Gain

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

5.2 Output Power

5.2.1 Test Limit

FCC § 15.247(b)

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

5.2.2 Test Setup

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

5.2.3 Test Procedure

Maximum peak conducted output power

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

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 as

described in Section 6.0.

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 to the measurement result.

Measurements of duty cycle

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

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

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

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

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

5.2.4 Test Result

Please refer to ANNEX A.1.

5.3 Occupied Bandwidth

5.3.1 Limit

FCC §15.247(a)

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

5.3.2 Test Setup

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

5.3.3 Test Procedure

Use the following spectrum analyzer settings:

Set RBW = 100 kHz.

Set the video bandwidth (VBW) \geq 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)

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

5.4.2 Test Setup

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

5.4.3 Test Procedure

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

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

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

Reference level measurement

Establish a reference level by using the following procedure:

Set instrument center frequency to DTS channel center frequency.

Set the span to ≥ 1.5 times the DTS bandwidth.

Set the RBW = 100 kHz.

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

Detector = peak.

Sweep time = auto couple.

Trace mode = max hold.

Allow trace to fully stabilize.

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

Emission level measurement

Use the following spectrum analyzer settings:

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

Set the RBW = 100 kHz.

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

Detector = peak.

Sweep time = auto couple.

Trace mode = max hold.

Allow trace to fully stabilize.

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

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

5.4.4 Test Result

Please refer to ANNEX A.3.

5.5 Band Edge (Authorized-band band-edge)

5.5.1 Limit

FCC §15.247(d)

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

5.5.2 Test Setup

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

5.5.3 Test Procedure

The 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 (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

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

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

5.6.2 Test Setup

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

5.6.3 Test Procedure

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

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

5.6.4 Test Result

Please refer to ANNEX A.5.

5.7 Radiated Spurious Emission

5.7.1 Limit

FCC §15.209&15.247(d)

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

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

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

Note:

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

5.7.2 Test Setup

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

5.7.3 Test Procedure

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

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

General Procedure for conducted measurements in restricted bands

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

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

where:

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

EIRP = equivalent isotropic radiated power in dBm

D = specified measurement distance in meters.

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

Quasi-Peak measurement procedure

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

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

Peak power measurement procedure

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

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

longer for low duty cycle applications).

Table 1—RBW as a function of frequency

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

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

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

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

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

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

Determining the applicable transmit antenna gain

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

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

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

Radiated spurious emission test

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

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

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

The power of the EUT transmitting frequency should be ignored.

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

Use the following spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured

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

VBW \geq RBW

Sweep = auto

Detector function = peak

Trace = max hold

5.7.4 Test Result

Please refer to ANNEX A.6.

5.8 Band Edge (Restricted-band band-edge)

5.8.1 Limit

FCC §15.209&15.247(d)

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

5.8.2 Test Setup

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

5.8.3 Test Procedure

The 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)

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.

Duty Cycle

Test Mode	On Time (ms)	On+Off time (ms)	Duty Cycle
802.11b	8.596	8.744	98.31%
802.11g	1.426	1.576	90.48%
802.11n-20 MHz	1.334	1.485	89.83%
802.11ax-20 MHz	1.041	1.193	87.26%

Peak Power Test Data

SISO-Main Antenna

802.11b Mode:

Channel	Measured Output Peak Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	19.84	96.38	30	1000	Pass
Middle	19.07	80.72			Pass
High	20.50	112.20			Pass

802.11g Mode:

Channel	Measured Output Peak Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	23.55	226.46	30	1000	Pass
Middle	24.04	253.51			Pass
High	21.97	157.40			Pass

802.11n-20 MHz Mode:

Channel	Measured Output Peak Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	24.11	257.63	30	1000	Pass
Middle	24.50	281.84			Pass
High	21.10	128.82			Pass

802.11ax-20 MHz(SU) Mode:

Channel	Measured Output Peak Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	23.48	222.84	30	1000	Pass
Middle	24.78	300.61			Pass
High	20.98	125.31			Pass

SISO-Aux. Antenna

802.11b Mode:

Channel	Measured Output Peak Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	19.69	93.11	30	1000	Pass
Middle	20.26	106.17			Pass
High	17.75	59.57			Pass

802.11g Mode:

Channel	Measured Output Peak Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	22.39	173.38	30	1000	Pass
Middle	24.10	257.04			Pass
High	23.04	201.37			Pass

802.11n-20 MHz Mode:

Channel	Measured Output Peak Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	21.94	156.31	30	1000	Pass
Middle	24.41	276.06			Pass
High	22.90	194.98			Pass

802.11ax-20 MHz(SU) Mode:

Channel	Measured Output Peak Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	20.12	102.80	30	1000	Pass
Middle	24.15	260.02			Pass
High	21.47	140.28			Pass

MIMO-Main Antenna

802.11n-20 MHz Mode:

Channel	Measured Output Peak Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	23.44	220.80	30	1000	Pass
Middle	24.95	312.61			Pass
High	22.45	175.79			Pass

802.11ax-20 MHz(SU) Mode:

Channel	Measured Output Peak Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	19.04	80.17	30	1000	Pass
Middle	24.17	261.22			Pass
High	18.96	78.70			Pass

MIMO-Aux. Antenna

802.11n-20 MHz Mode:

Channel	Measured Output Peak Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	22.36	172.19	30	1000	Pass
Middle	23.47	222.33			Pass
High	21.56	143.22			Pass

802.11ax-20 MHz(SU) Mode:

Channel	Measured Output Peak Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	19.52	89.54	30	1000	Pass
Middle	23.99	250.61			Pass
High	19.97	99.31			Pass

MIMO**802.11n-20 MHz Mode:**

Channel	Measured Output Peak Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	25.94	392.99	30	1000	Pass
Middle	27.28	534.94			Pass
High	25.04	319.01			Pass

802.11ax-20 MHz(SU) Mode:

Channel	Measured Output Peak Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	22.30	169.70	30	1000	Pass
Middle	27.09	511.83			Pass
High	22.50	178.02			Pass

Average Power Test Data

SISO-Main Antenna

802.11b Mode:

Channel	Measured Output Average Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	17.18	52.24	30	1000	Pass
Middle	15.87	38.64			Pass
High	17.22	52.72			Pass

802.11g Mode:

Channel	Measured Output Average Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	15.14	32.66	30	1000	Pass
Middle	16.61	45.81			Pass
High	13.59	22.86			Pass

802.11n-20 MHz Mode:

Channel	Measured Output Average Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	15.02	31.77	30	1000	Pass
Middle	16.50	44.67			Pass
High	12.77	18.92			Pass

802.11ax-20 MHz(SU) Mode:

Channel	Measured Output Average Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	15.37	34.43	30	1000	Pass
Middle	16.65	46.24			Pass
High	12.18	16.52			Pass

SISO-Aux. Antenna

802.11b Mode:

Channel	Measured Output Average Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	16.39	43.55	30	1000	Pass
Middle	16.77	47.53			Pass
High	14.41	27.61			Pass

802.11g Mode:

Channel	Measured Output Average Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	13.42	21.98	30	1000	Pass
Middle	16.70	46.77			Pass
High	14.50	28.18			Pass

802.11n-20 MHz Mode:

Channel	Measured Output Average Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	12.51	17.82	30	1000	Pass
Middle	16.84	48.31			Pass
High	13.61	22.96			Pass

802.11ax-20 MHz(SU) Mode:

Channel	Measured Output Average Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	9.93	9.84	30	1000	Pass
Middle	16.57	45.39			Pass
High	12.05	16.03			Pass

MIMO-Main Antenna

802.11n-20 MHz Mode:

Channel	Measured Output Average Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	14.24	26.55	30	1000	Pass
Middle	16.58	45.50			Pass
High	12.79	19.01			Pass

802.11ax-20 MHz(SU) Mode:

Channel	Measured Output Average Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	10.08	10.19	30	1000	Pass
Middle	16.62	45.92			Pass
High	10.23	10.54			Pass

MIMO-Aux. Antenna

802.11n-20 MHz Mode:

Channel	Measured Output Average Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	14.18	26.18	30	1000	Pass
Middle	16.74	47.21			Pass
High	12.71	18.66			Pass

802.11ax-20 MHz(SU) Mode:

Channel	Measured Output Average Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	9.97	9.93	30	1000	Pass
Middle	16.30	42.66			Pass
High	10.09	10.21			Pass

MIMO**802.11n-20 MHz Mode:**

Channel	Measured Output Average Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	17.22	52.73	30	1000	Pass
Middle	19.67	92.71			Pass
High	15.76	37.67			Pass

802.11ax-20 MHz(SU) Mode:

Channel	Measured Output Average Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	13.04	20.12	30	1000	Pass
Middle	19.47	88.58			Pass
High	13.17	20.75			Pass

A.2 Occupied Bandwidth

Note 1: All antenna were tested, but only the worst case has been reported in this report.

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

Test Data

SISO-Main Antenna

802.11b Mode:

Channel	6 dB Bandwidth (MHz)	99% Bandwidth (MHz)	6 dB Bandwidth Limits (kHz)
Low	8.150000	11.511000	≥500
Middle	7.650000	11.595000	≥500
High	7.600000	11.509000	≥500

802.11g Mode:

Channel	6 dB Bandwidth (MHz)	99% Bandwidth (MHz)	6 dB Bandwidth Limits (kHz)
Low	16.400000	17.585000	≥500
Middle	16.450000	17.615000	≥500
High	16.450000	17.643000	≥500

802.11n-20MHz Mode:

Channel	6 dB Bandwidth (MHz)	99% Bandwidth (MHz)	6 dB Bandwidth Limits (kHz)
Low	17.650000	18.513000	≥500
Middle	17.650000	18.514000	≥500
High	17.650000	18.435000	≥500

802.11ax-20 MHz(SU) Mode:

Channel	6 dB Bandwidth (MHz)	99% Bandwidth (MHz)	6 dB Bandwidth Limits (kHz)
Low	18.950000	19.118000	≥500
Middle	18.550000	19.154000	≥500
High	18.900000	19.134000	≥500

SISO-Aux. Antenna

802.11b Mode:

Channel	6 dB Bandwidth (MHz)	99% Bandwidth (MHz)	6 dB Bandwidth Limits (kHz)
Low	7.100000	10.440000	≥500
Middle	7.600000	11.513000	≥500
High	7.600000	11.578000	≥500

802.11g Mode:

Channel	6 dB Bandwidth (MHz)	99% Bandwidth (MHz)	6 dB Bandwidth Limits (kHz)
Low	16.450000	17.563000	≥500
Middle	16.450000	17.635000	≥500
High	16.450000	17.550000	≥500

802.11n-20MHz Mode:

Channel	6 dB Bandwidth (MHz)	99% Bandwidth (MHz)	6 dB Bandwidth Limits (kHz)
Low	17.650000	18.552000	≥500
Middle	17.650000	18.646000	≥500
High	17.650000	18.492000	≥500

802.11ax-20 MHz(SU) Mode:

Channel	6 dB Bandwidth (MHz)	99% Bandwidth (MHz)	6 dB Bandwidth Limits (kHz)
Low	18.550000	19.096000	≥500
Middle	18.800000	19.154000	≥500
High	18.700000	19.099000	≥500

Test Plots
 SISO-Main Antenna
 6 dB Bandwidth

802.11b LOW CHANNEL



802.11b MIDDLE CHANNEL



802.11b HIGH CHANNEL



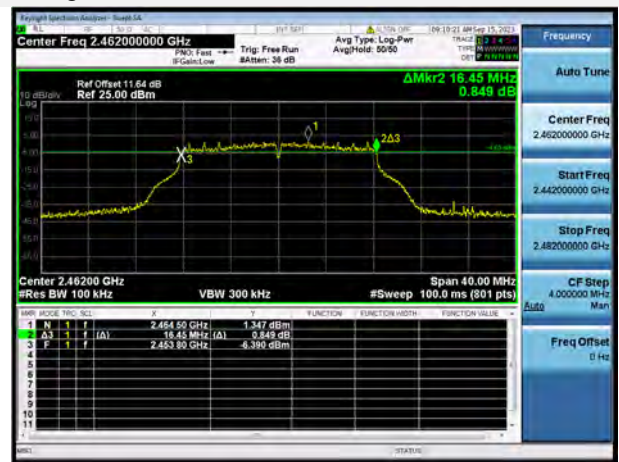
802.11g LOW CHANNEL



802.11g MIDDLE CHANNEL



802.11g HIGH CHANNEL



802.11n-20 MHz LOW CHANNEL



802.11n-20 MHz MIDDLE CHANNEL



802.11n-20 MHz HIGH CHANNEL



802.11ax-20 MHz(SU) LOW CHANNEL



802.11ax-20 MHz(SU) MIDDLE CHANNEL



802.11ax-20 MHz(SU) HIGH CHANNEL

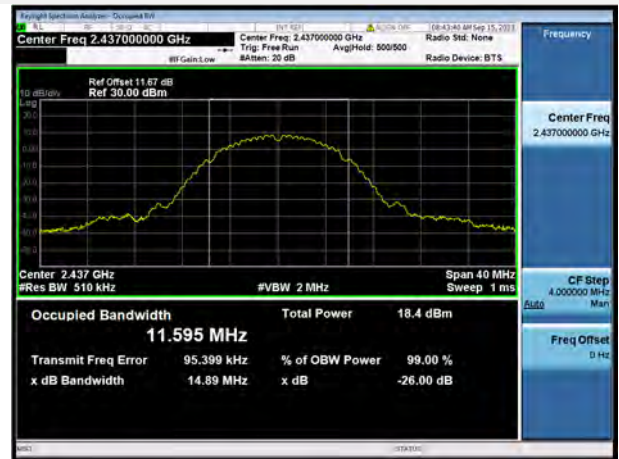


99% Bandwidth

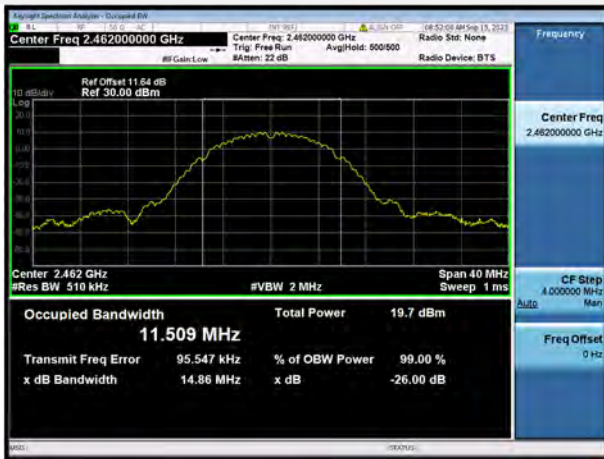
802.11b LOW CHANNEL



802.11b MIDDLE CHANNEL



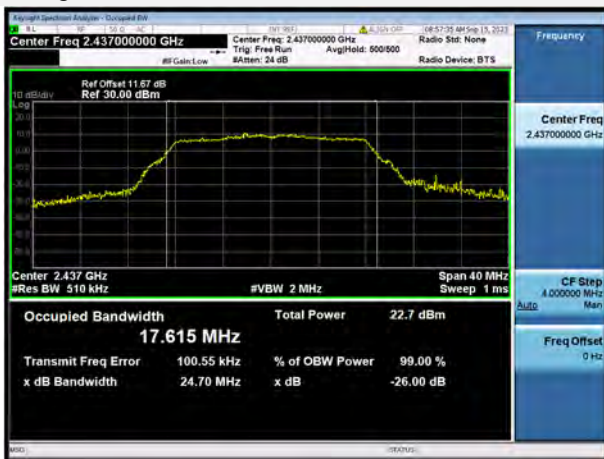
802.11b HIGH CHANNEL



802.11g LOW CHANNEL



802.11g MIDDLE CHANNEL



802.11g HIGH CHANNEL



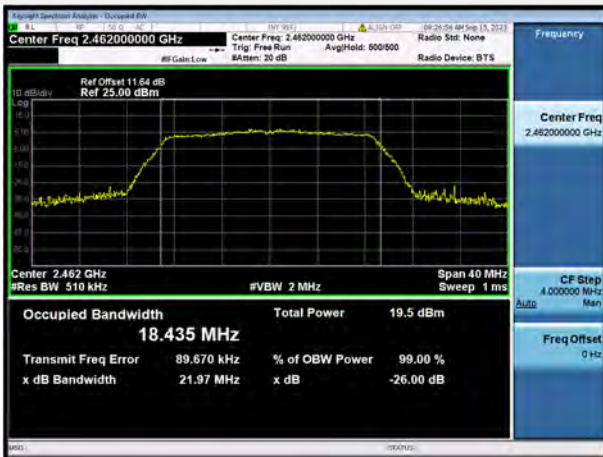
802.11n-20 MHz LOW CHANNEL



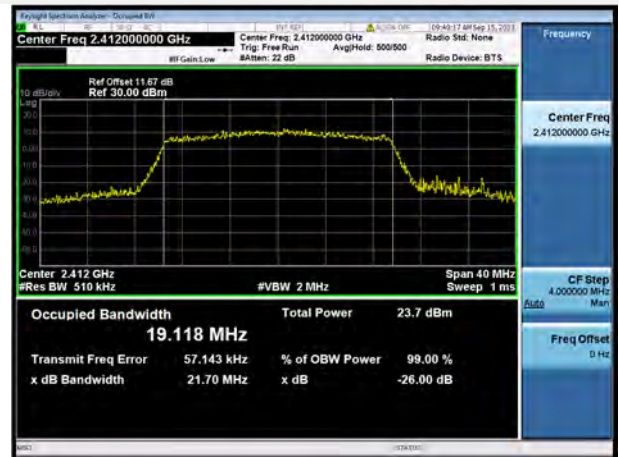
802.11n-20 MHz MIDDLE CHANNEL



802.11n-20 MHz HIGH CHANNEL



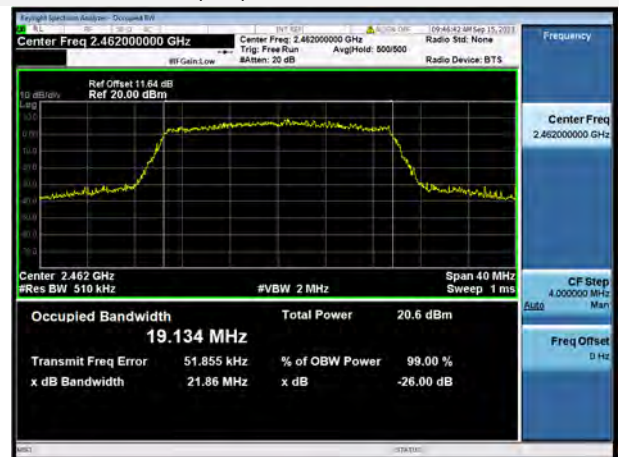
802.11ax-20 MHz(SU) LOW CHANNEL



802.11ax-20 MHz(SU) MIDDLE CHANNEL



802.11ax-20 MHz(SU) HIGH CHANNEL



SISO-Aux. Antenna

6 dB Bandwidth

802.11b LOW CHANNEL



802.11b MIDDLE CHANNEL



802.11b HIGH CHANNEL



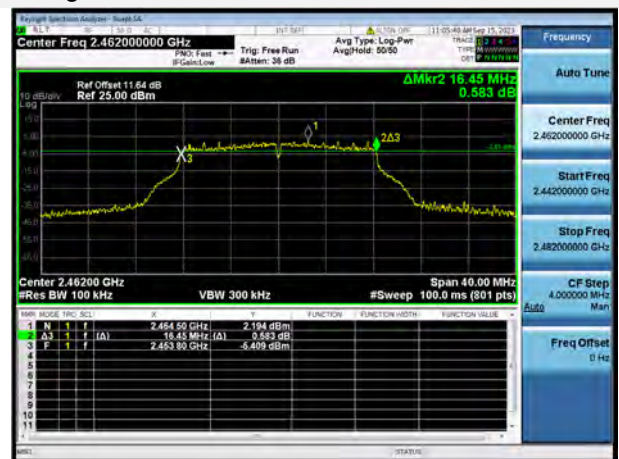
802.11g LOW CHANNEL



802.11g MIDDLE CHANNEL



802.11g HIGH CHANNEL



802.11n-20 MHz LOW CHANNEL



802.11n-20 MHz MIDDLE CHANNEL



802.11n-20 MHz HIGH CHANNEL



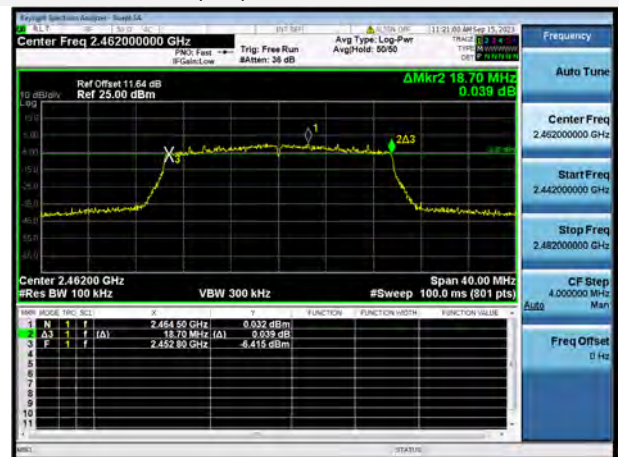
802.11ax-20 MHz(SU) LOW CHANNEL



802.11ax-20 MHz(SU) MIDDLE CHANNEL

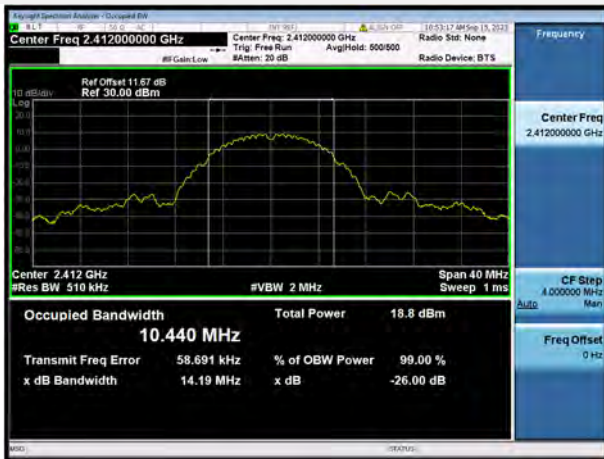


802.11ax-20 MHz(SU) HIGH CHANNEL



99% Bandwidth

802.11b LOW CHANNEL



802.11b MIDDLE CHANNEL



802.11b HIGH CHANNEL



802.11g LOW CHANNEL



802.11g MIDDLE CHANNEL



802.11g HIGH CHANNEL



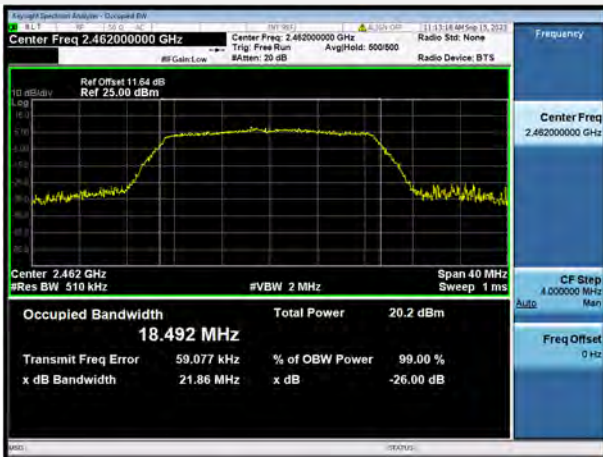
802.11n-20 MHz LOW CHANNEL



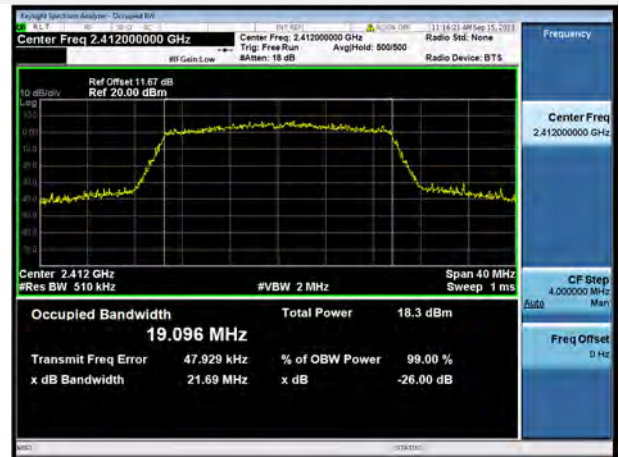
802.11n-20 MHz MIDDLE CHANNEL



802.11n-20 MHz HIGH CHANNEL



802.11ax-20 MHz(SU) LOW CHANNEL



802.11ax-20 MHz(SU) MIDDLE CHANNEL



802.11ax-20 MHz(SU) HIGH CHANNEL



A.3 Conducted Spurious Emissions

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

Test Data

SISO-Main Antenna

802.11b Mode:

Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-36.53	9.25	-10.75	Pass
Middle	-36.42	8.39	-11.61	Pass
High	-36.38	9.66	-10.35	Pass

802.11g Mode:

Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-35.72	3.54	-16.46	Pass
Middle	-36.15	4.09	-15.91	Pass
High	-36.29	1.84	-18.16	Pass

802.11n-20MHz Mode:

Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-34.17	3.43	-16.57	Pass
Middle	-34.62	4.51	-15.50	Pass
High	-36.28	1.24	-18.76	Pass

802.11ax-20 MHz(SU) Mode:

Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-34.47	3.68	-16.32	Pass
Middle	-36.90	5.79	-14.22	Pass
High	-36.33	1.05	-18.96	Pass

SISO-Aux. Antenna

802.11b Mode:

Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-35.77	8.62	-11.38	Pass
Middle	-36.03	9.29	-10.71	Pass
High	-35.14	8.81	-11.19	Pass

802.11g Mode:

Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-36.53	1.65	-18.35	Pass
Middle	-37.01	4.87	-15.13	Pass
High	-35.72	2.75	-17.25	Pass

802.11n-20MHz Mode:

Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-35.52	0.77	-19.23	Pass
Middle	-36.33	5.45	-14.55	Pass
High	-36.73	1.74	-18.26	Pass

802.11ax-20 MHz(SU) Mode:

Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-35.80	-1.22	-21.22	Pass
Middle	-36.30	5.83	-14.17	Pass
High	-43.30	0.12	-19.88	Pass

MIMO-Main Antenna

802.11n-20MHz Mode:

Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-36.34	3.41	-16.59	Pass
Middle	-37.38	6.41	-13.59	Pass
High	-37.03	1.17	-18.83	Pass

802.11ax-20 MHz(SU) Mode:

Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-33.60	-1.31	-21.31	Pass
Middle	-36.97	4.65	-15.35	Pass
High	-35.94	-1.46	-21.46	Pass

MIMO-Aux. Antenna

802.11n-20MHz Mode:

Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-36.10	2.08	-17.92	Pass
Middle	-35.97	6.17	-13.83	Pass
High	-35.94	0.98	-19.02	Pass

802.11ax-20 MHz(SU) Mode:

Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-36.14	-1.80	-21.80	Pass
Middle	-37.12	4.83	-15.17	Pass
High	-36.84	-0.98	-20.98	Pass

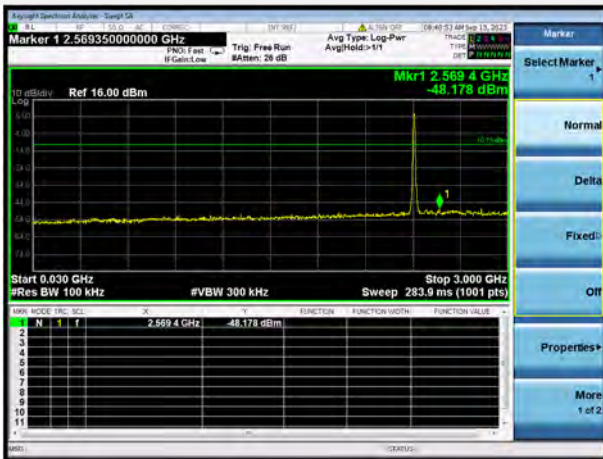
Test Plots

SISO-Main Antenna

802.11b LOW CHANNEL CARRIER LEVEL



802.11b LOW CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



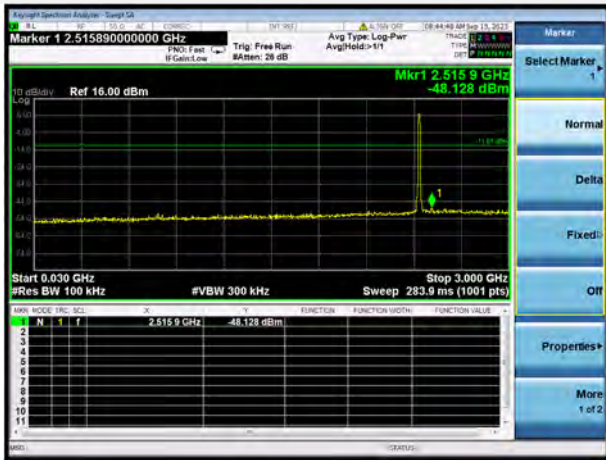
802.11b LOW CHANNEL, SPURIOUS 2 GHz ~ 25 GHz



802.11b MIDDLE CHANNEL CARRIER LEVEL



802.11b MIDDLE CHANNEL, SPURIOUS
30 MHz ~ 3 GHz



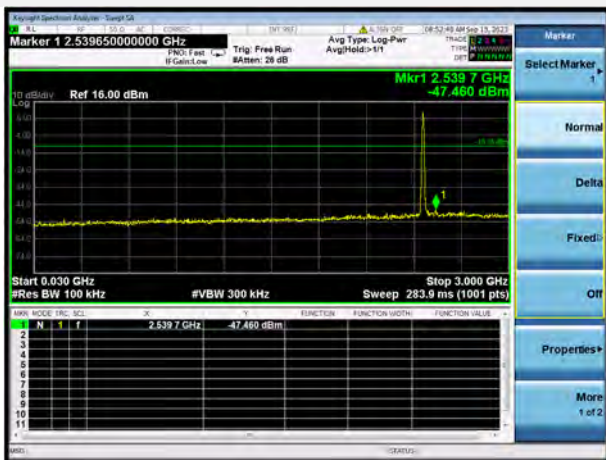
802.11b MIDDLE CHANNEL, SPURIOUS
2 GHz ~ 25 GHz



802.11b HIGH CHANNEL CARRIER LEVEL



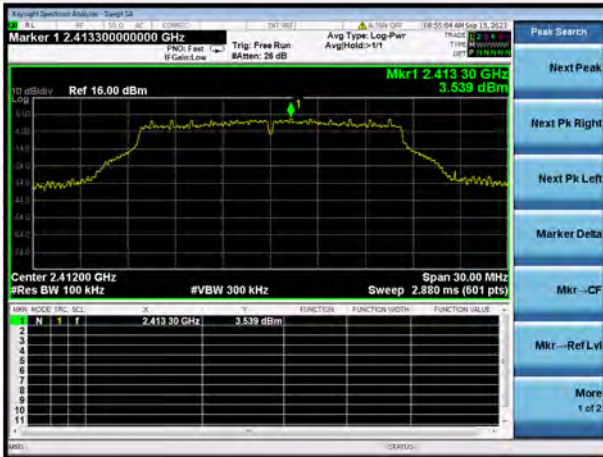
802.11b HIGH CHANNEL, SPURIOUS
30 MHz ~ 3 GHz



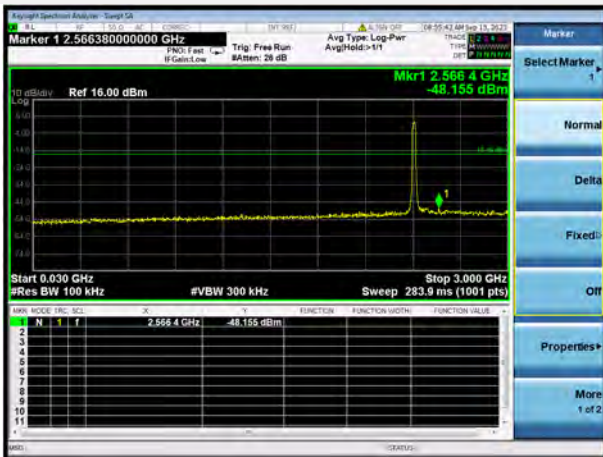
802.11b HIGH CHANNEL, SPURIOUS
2 GHz ~ 25 GHz



802.11g LOW CHANNEL CARRIER LEVEL



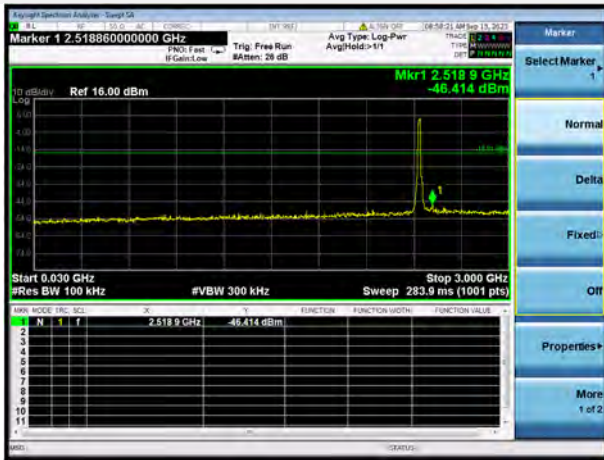
802.11g LOW CHANNEL, SPURIOUS 30 MHz ~ 3 GHz 802.11g LOW CHANNEL, SPURIOUS 2 GHz ~ 25 GHz



802.11g MIDDLE CHANNEL CARRIER LEVEL



802.11g MIDDLE CHANNEL, SPURIOUS
30 MHz ~ 3 GHz



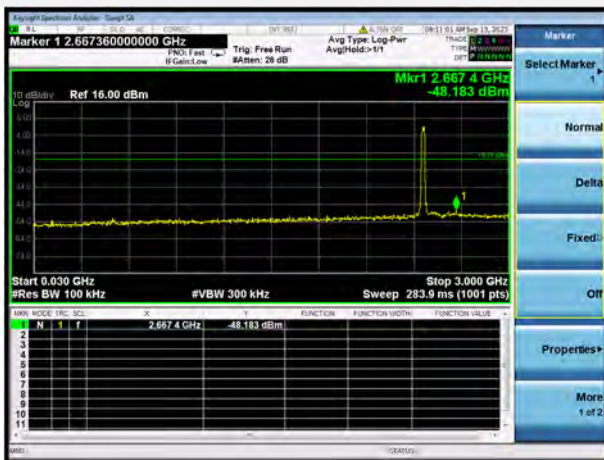
802.11g MIDDLE CHANNEL, SPURIOUS
2 GHz ~ 25 GHz



802.11g HIGH CHANNEL CARRIER LEVEL



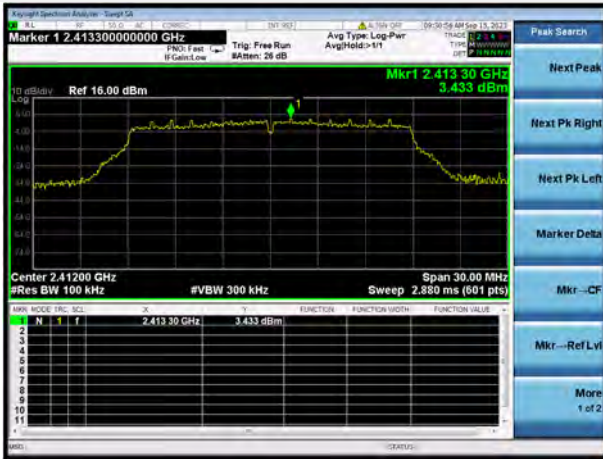
802.11g HIGH CHANNEL, SPURIOUS
30 MHz ~ 3 GHz



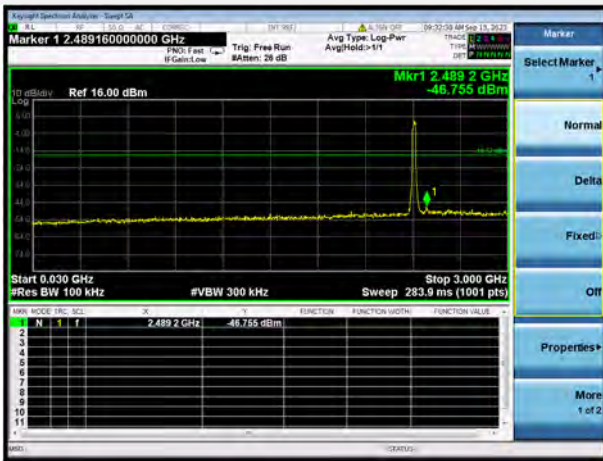
802.11g HIGH CHANNEL, SPURIOUS
2 GHz ~ 25 GHz



802.11n-20 MHz LOW CHANNEL CARRIER LEVEL



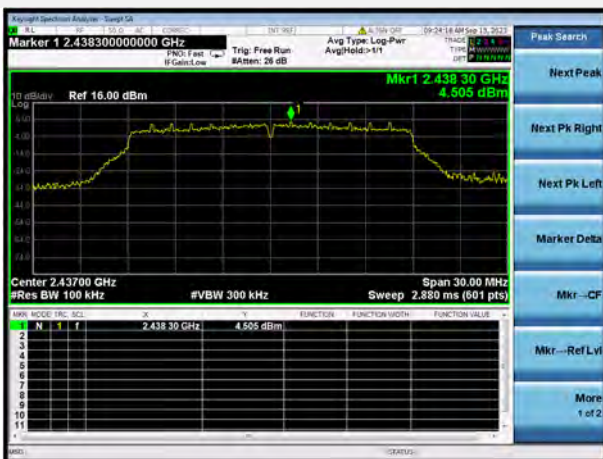
802.11n-20 MHz LOW CHANNEL, SPURIOUS
30 MHz ~ 3 GHz



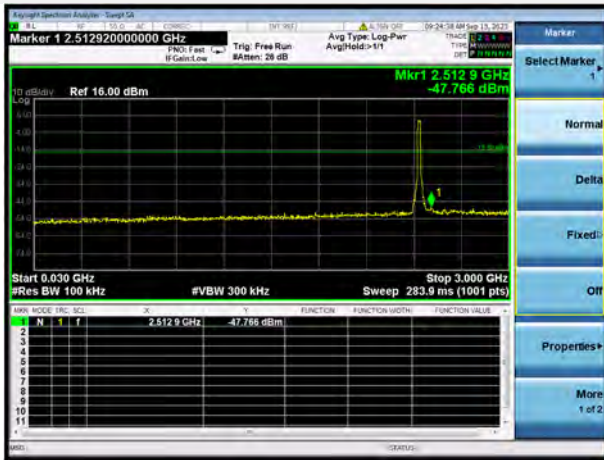
802.11n-20 MHz LOW CHANNEL, SPURIOUS
2 GHz ~ 25 GHz



802.11n-20 MHz MIDDLE CHANNEL CARRIER LEVEL



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



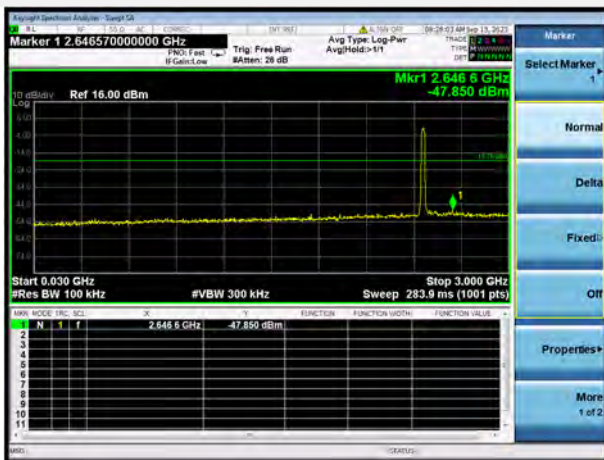
802.11n-20 MHz MIDDLE CHANNEL, SPURIOUS
2 GHz ~ 25 GHz



802.11n-20 MHz HIGH CHANNEL CARRIER LEVEL



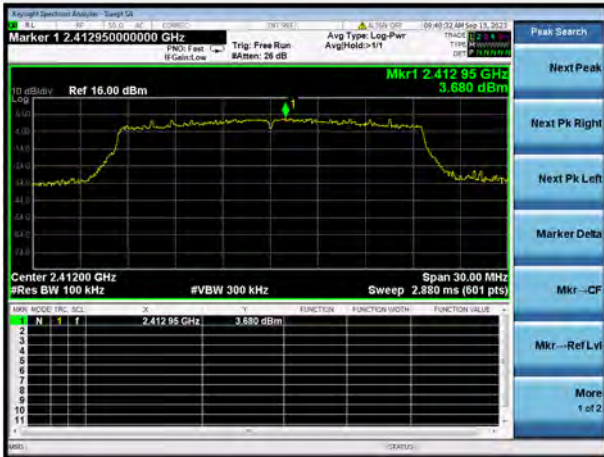
802.11n-20 MHz HIGH CHANNEL, SPURIOUS
30 MHz ~ 3 GHz



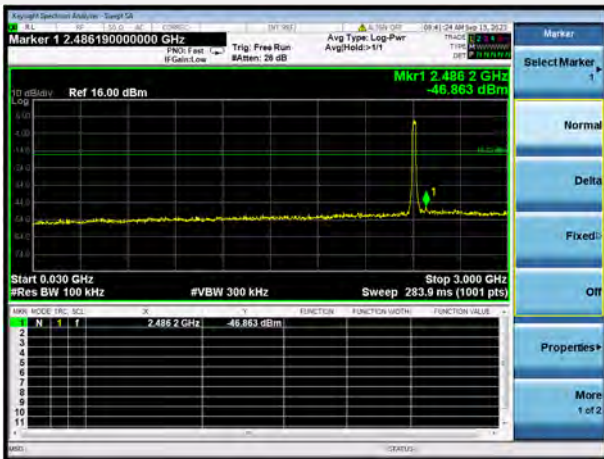
802.11n-20 MHz HIGH CHANNEL, SPURIOUS
2 GHz ~ 25 GHz



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



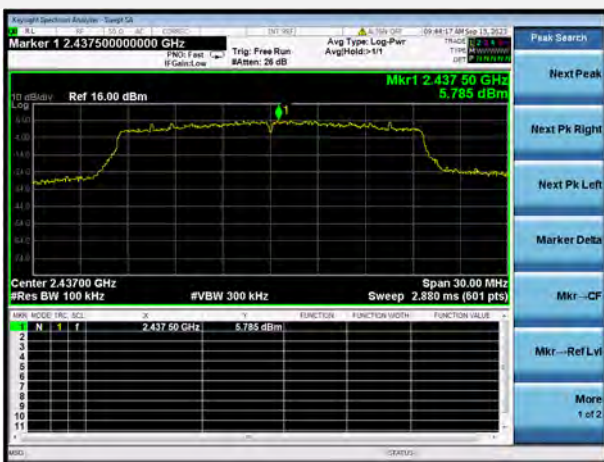
802.11ax-20 MHz(SU) LOW CHANNEL, SPURIOUS
30 MHz ~ 3 GHz



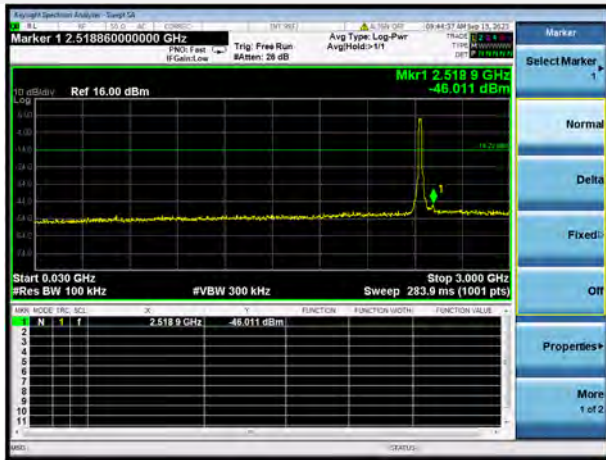
802.11ax-20 MHz(SU) LOW CHANNEL, SPURIOUS
2 GHz ~ 25 GHz



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



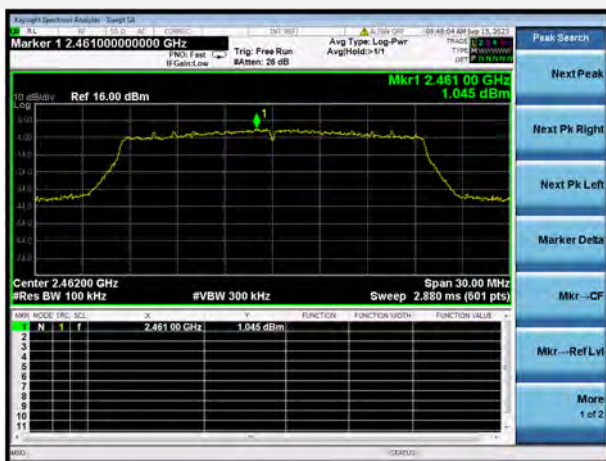
802.11ax-20 MHz(SU) MIDDLE CHANNEL, SPURIOUS
30 MHz ~ 3 GHz



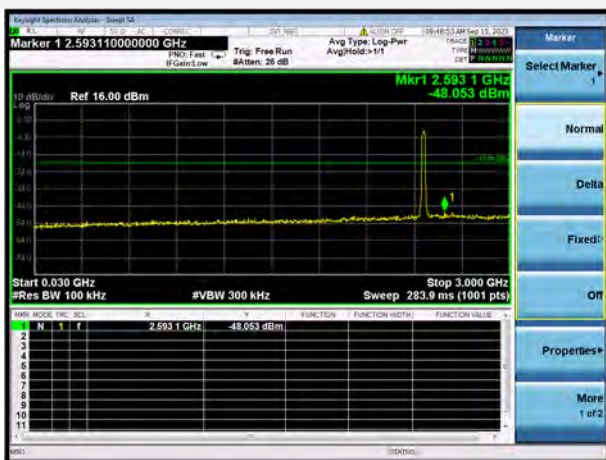
802.11ax-20 MHz(SU) MIDDLE CHANNEL, SPURIOUS
2 GHz ~ 25 GHz



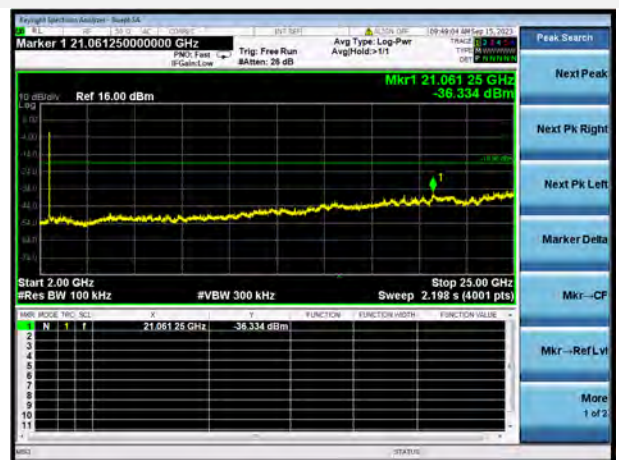
802.11ax-20 MHz(SU) HIGH CHANNEL CARRIER
LEVEL



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



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

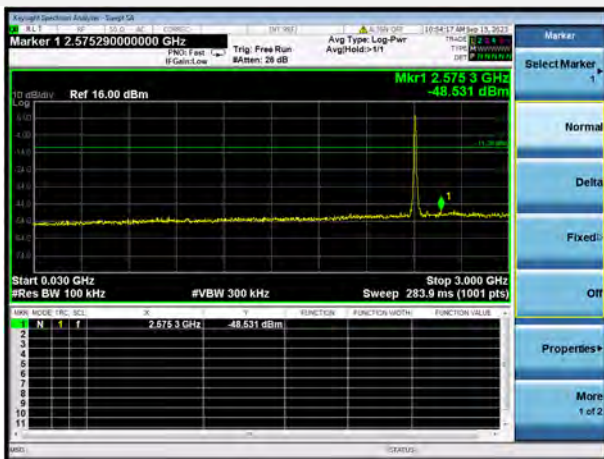


SISO-Aux. Antenna

802.11b LOW CHANNEL CARRIER LEVEL



802.11b LOW CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



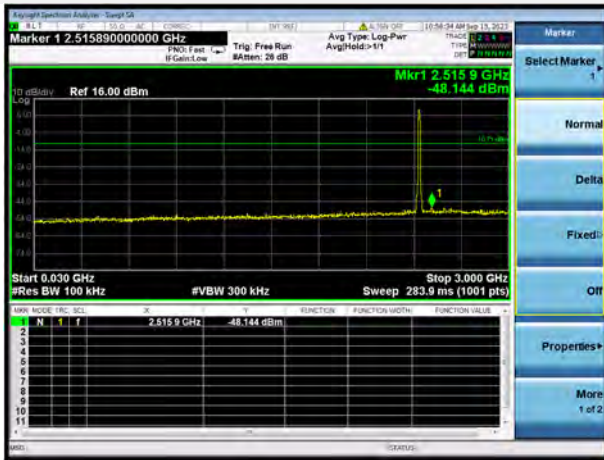
802.11b LOW CHANNEL, SPURIOUS 2 GHz ~ 25 GHz



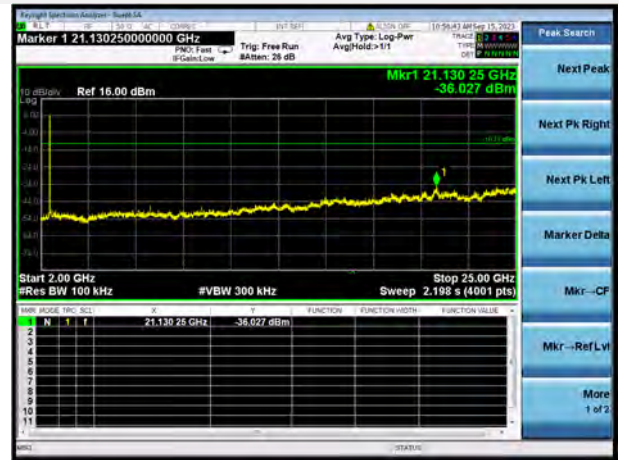
802.11b MIDDLE CHANNEL CARRIER LEVEL



802.11b MIDDLE CHANNEL, SPURIOUS
30 MHz ~ 3 GHz



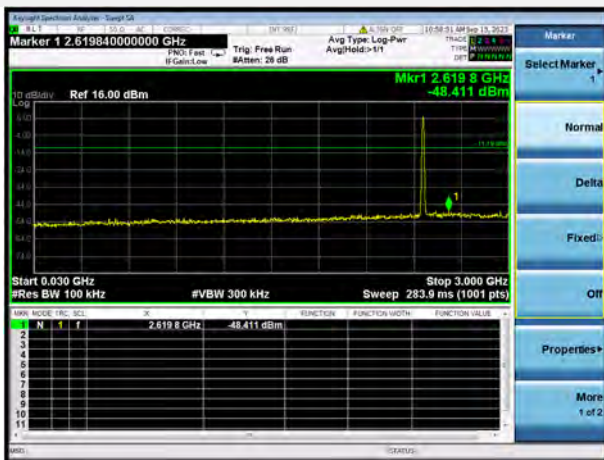
802.11b MIDDLE CHANNEL, SPURIOUS
2 GHz ~ 25 GHz



802.11b HIGH CHANNEL CARRIER LEVEL



802.11b HIGH CHANNEL, SPURIOUS
30 MHz ~ 3 GHz



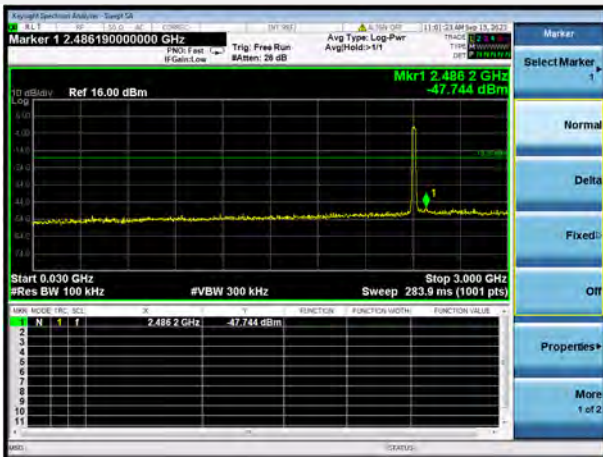
802.11b HIGH CHANNEL, SPURIOUS
2 GHz ~ 25 GHz



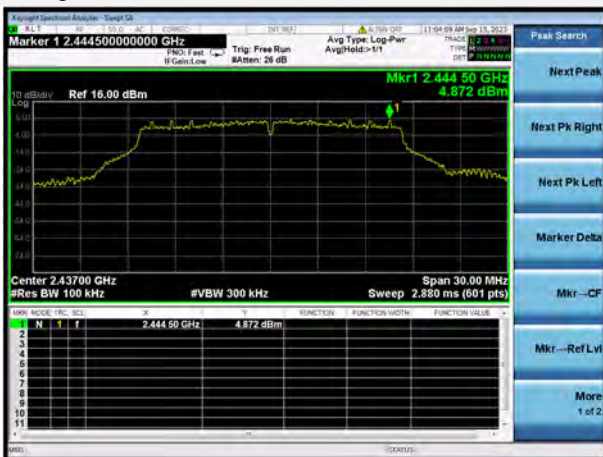
802.11g LOW CHANNEL CARRIER LEVEL



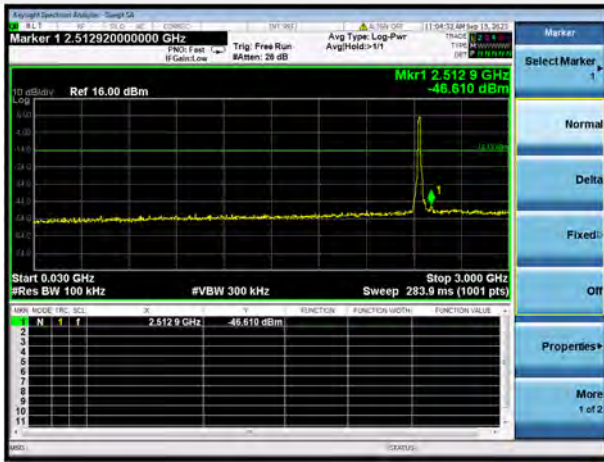
802.11g LOW CHANNEL, SPURIOUS 30 MHz ~ 3 GHz 802.11g LOW CHANNEL, SPURIOUS 2 GHz ~ 25 GHz



802.11g MIDDLE CHANNEL CARRIER LEVEL



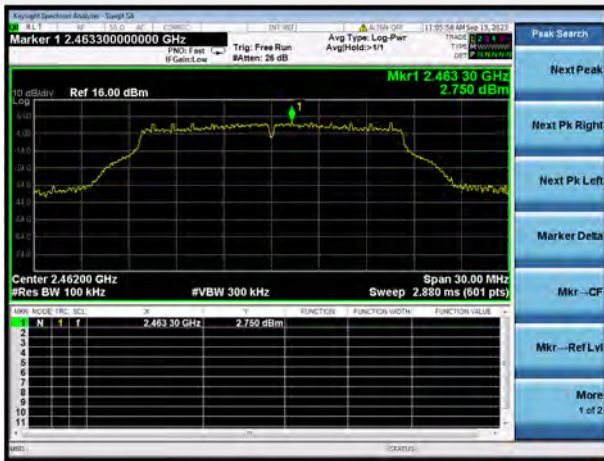
802.11g MIDDLE CHANNEL, SPURIOUS
30 MHz ~ 3 GHz



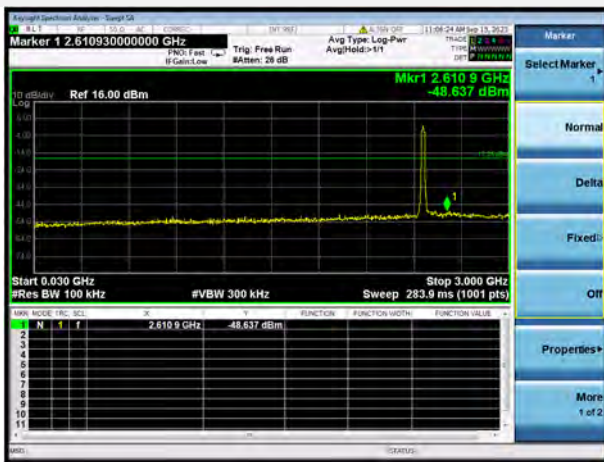
802.11g MIDDLE CHANNEL, SPURIOUS
2 GHz ~ 25 GHz



802.11g HIGH CHANNEL CARRIER LEVEL



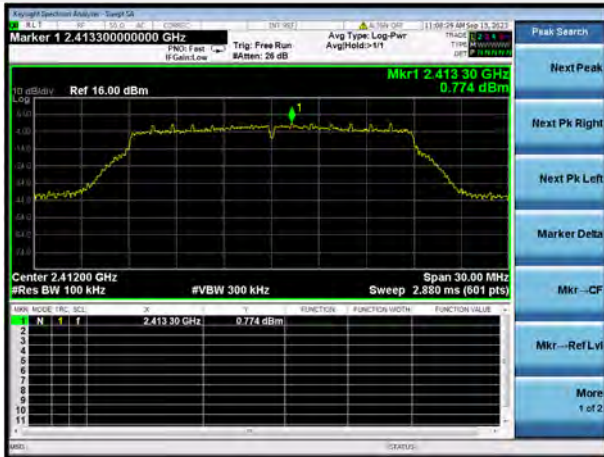
802.11g HIGH CHANNEL, SPURIOUS
30 MHz ~ 3 GHz



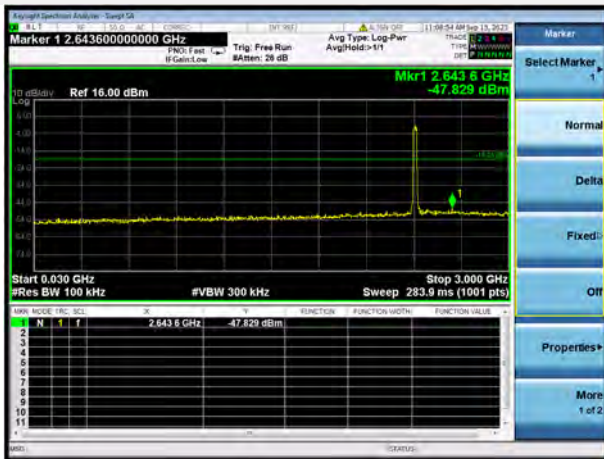
802.11g HIGH CHANNEL, SPURIOUS
2 GHz ~ 25 GHz



802.11n-20 MHz LOW CHANNEL CARRIER LEVEL



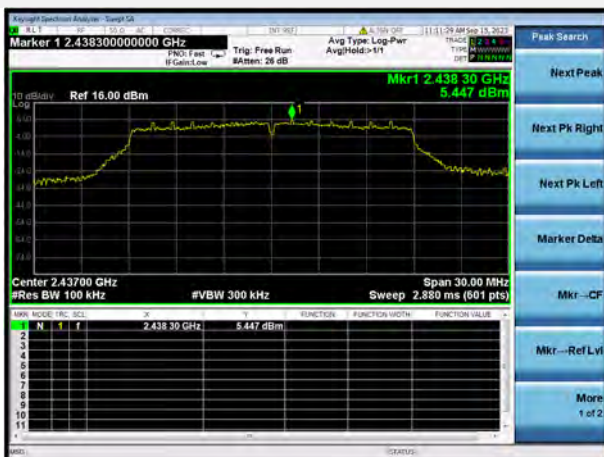
802.11n-20 MHz LOW CHANNEL, SPURIOUS
30 MHz ~ 3 GHz



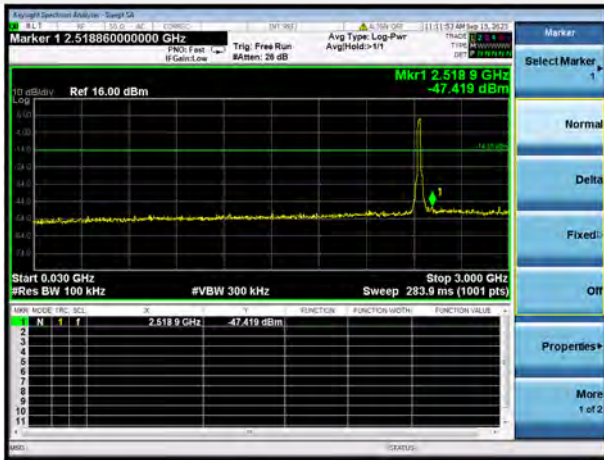
802.11n-20 MHz LOW CHANNEL, SPURIOUS
2 GHz ~ 25 GHz



802.11n-20 MHz MIDDLE CHANNEL CARRIER LEVEL



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



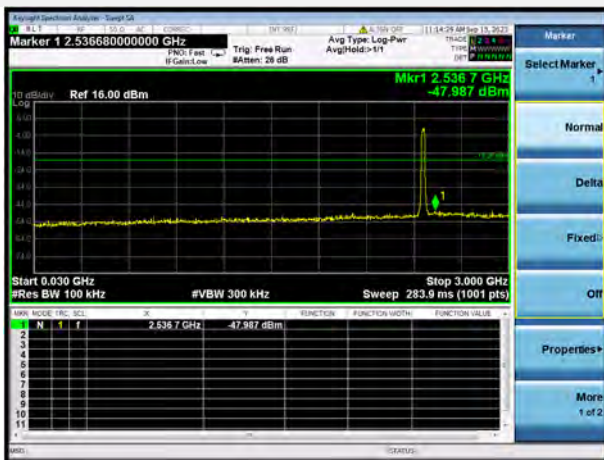
802.11n-20 MHz MIDDLE CHANNEL, SPURIOUS
2 GHz ~ 25 GHz



802.11n-20 MHz HIGH CHANNEL CARRIER LEVEL



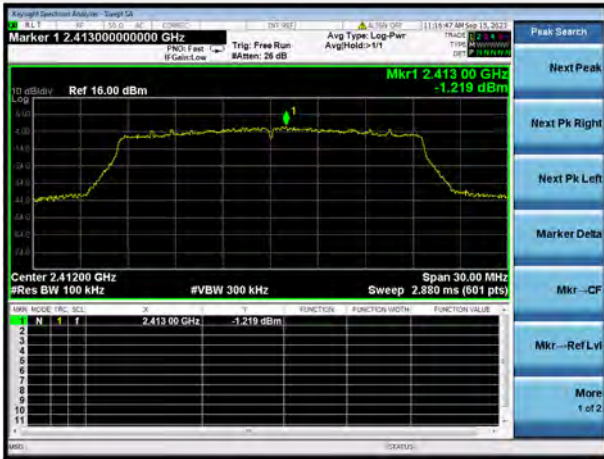
802.11n-20 MHz HIGH CHANNEL, SPURIOUS
30 MHz ~ 3 GHz



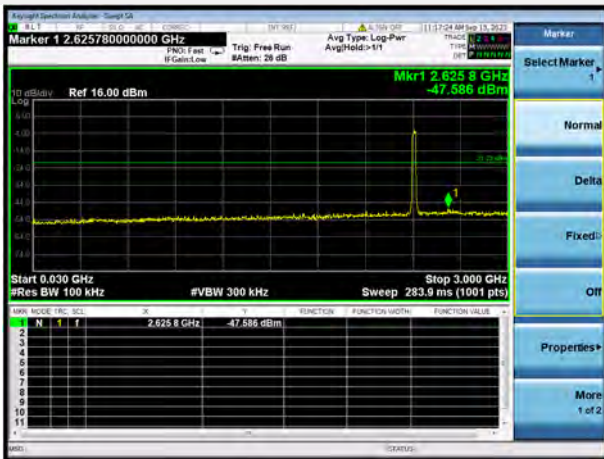
802.11n-20 MHz HIGH CHANNEL, SPURIOUS
2 GHz ~ 25 GHz



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



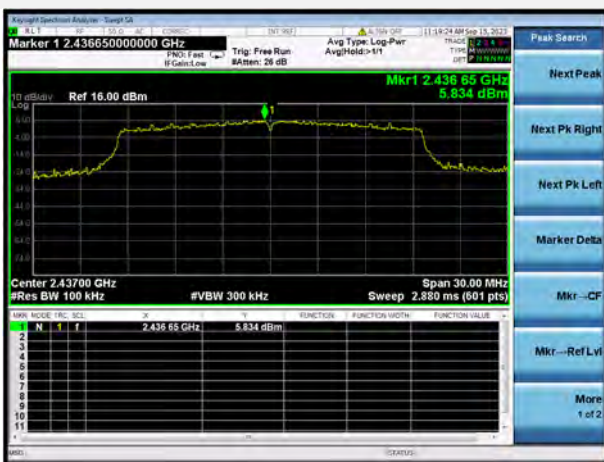
802.11ax-20 MHz(SU) LOW CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



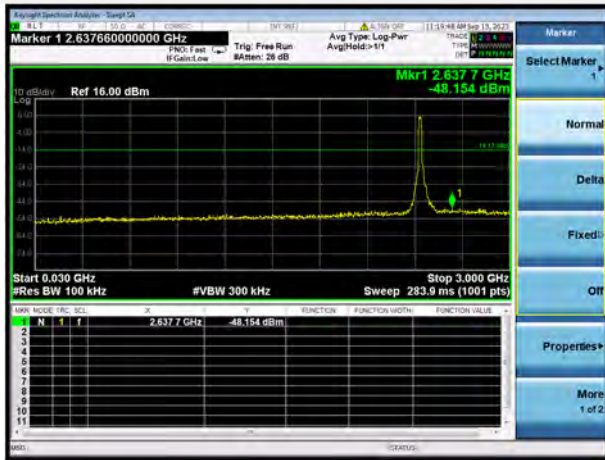
802.11ax-20 MHz(SU) LOW CHANNEL, SPURIOUS 2 GHz ~ 25 GHz



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



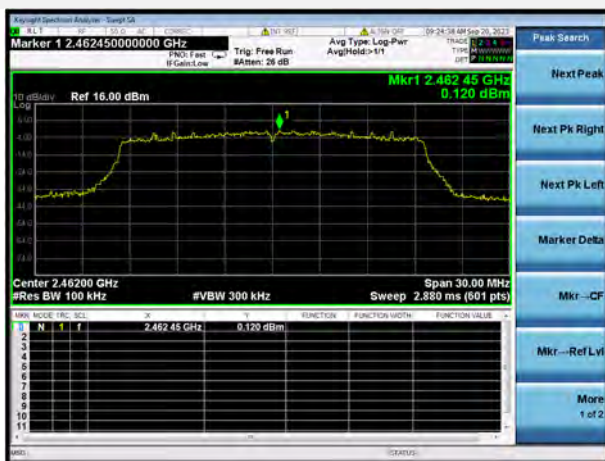
802.11ax-20 MHz(SU) MIDDLE CHANNEL, SPURIOUS
30 MHz ~ 3 GHz



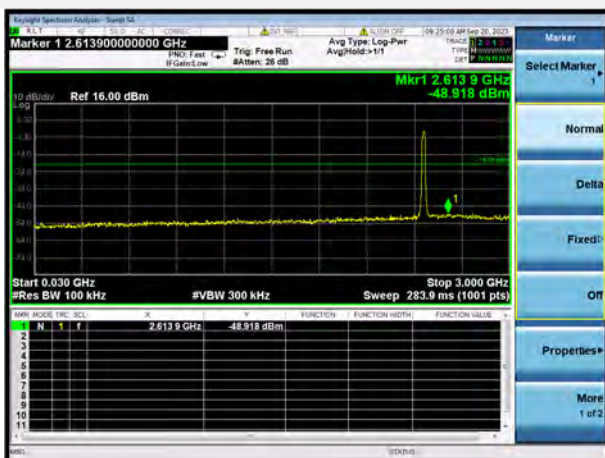
802.11ax-20 MHz(SU) MIDDLE CHANNEL, SPURIOUS
2 GHz ~ 25 GHz



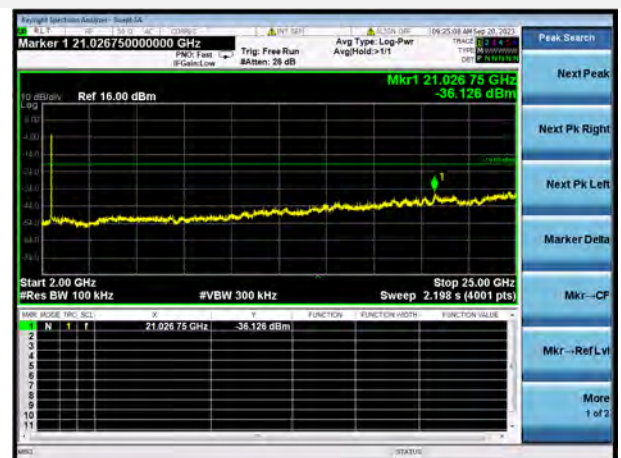
802.11ax-20 MHz(SU) HIGH CHANNEL CARRIER
LEVEL



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

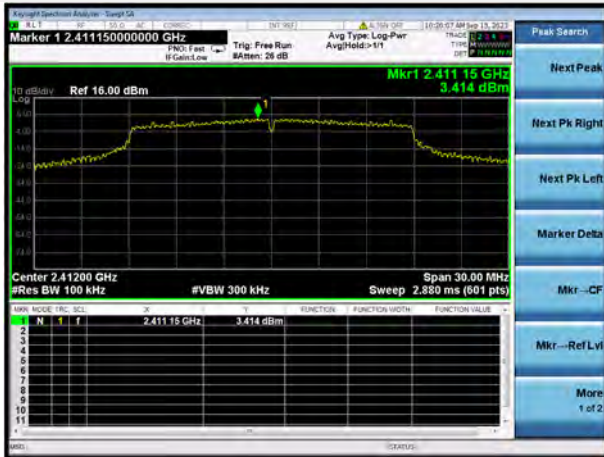


802.11ax-20 MHz(SU) HIGH CHANNEL, SPURIOUS
2 GHz ~ 25 GHz

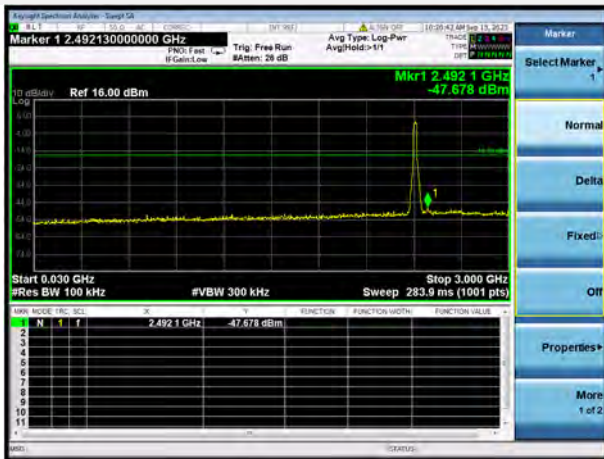


MIMO-Main Antenna

802.11n-20 MHz LOW CHANNEL CARRIER LEVEL



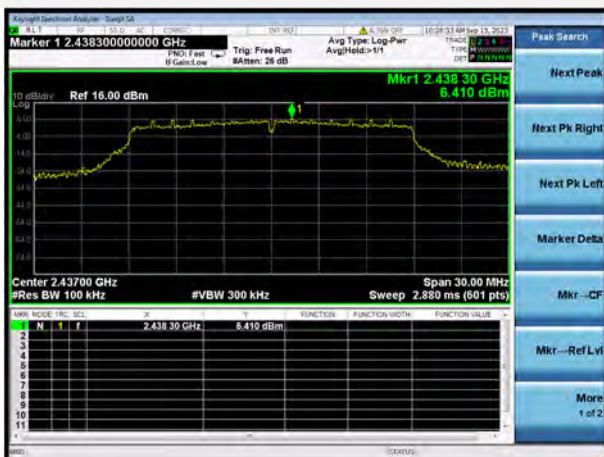
802.11n-20 MHz LOW CHANNEL, SPURIOUS
30 MHz ~ 3 GHz



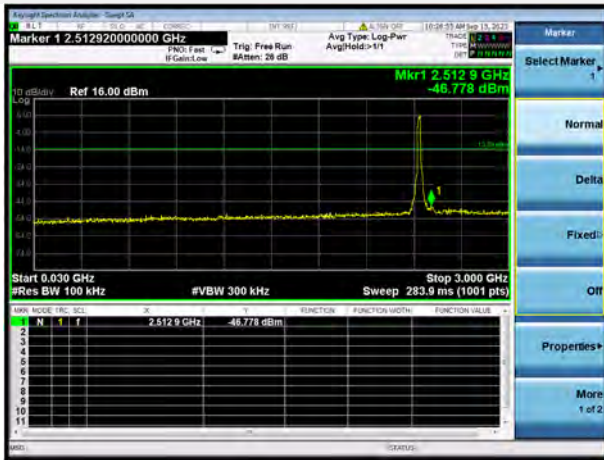
802.11n-20 MHz LOW CHANNEL, SPURIOUS
2 GHz ~ 25 GHz



802.11n-20 MHz MIDDLE CHANNEL CARRIER LEVEL



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



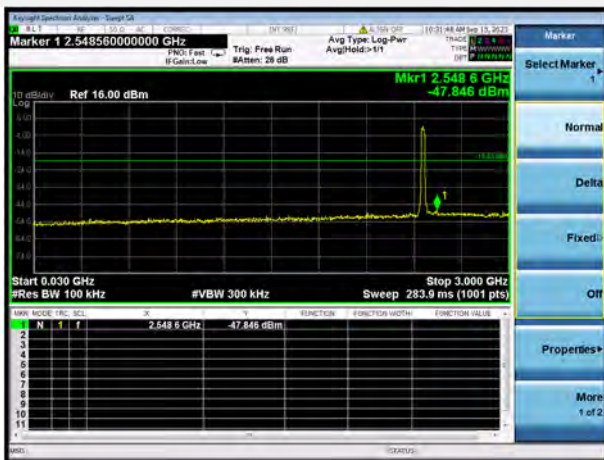
802.11n-20 MHz MIDDLE CHANNEL, SPURIOUS
2 GHz ~ 25 GHz



802.11n-20 MHz HIGH CHANNEL CARRIER LEVEL



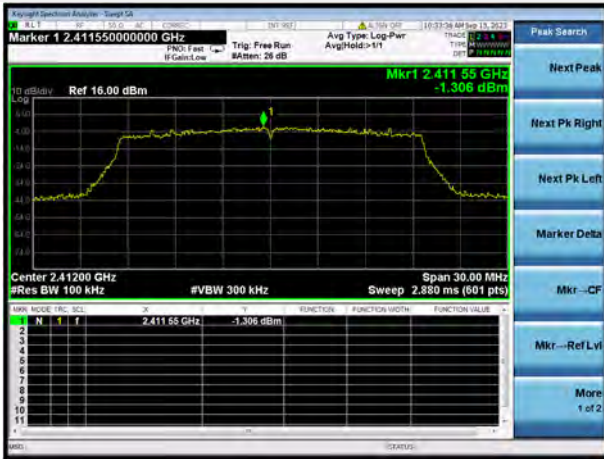
802.11n-20 MHz HIGH CHANNEL, SPURIOUS
30 MHz ~ 3 GHz



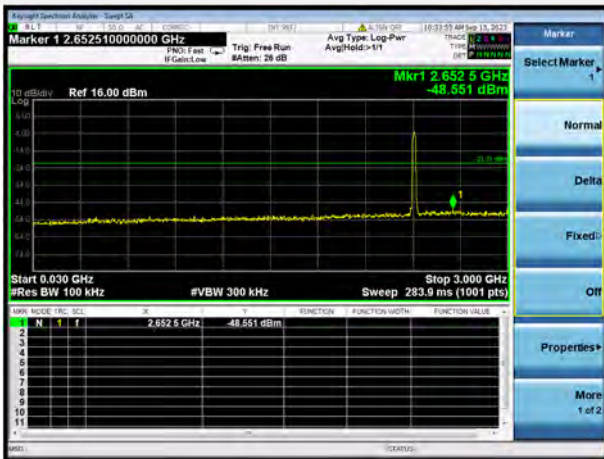
802.11n-20 MHz HIGH CHANNEL, SPURIOUS
2 GHz ~ 25 GHz



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



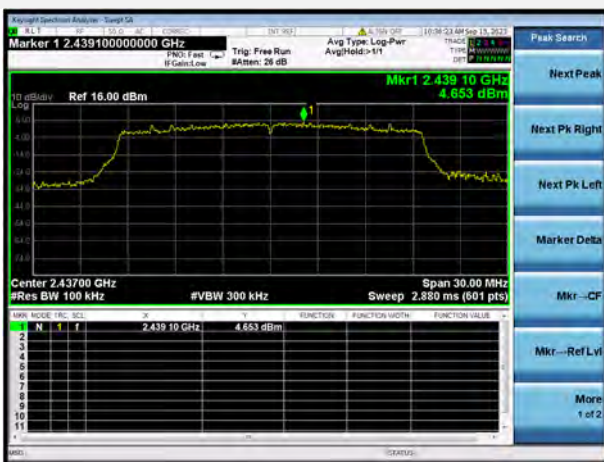
802.11ax-20 MHz(SU) LOW CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



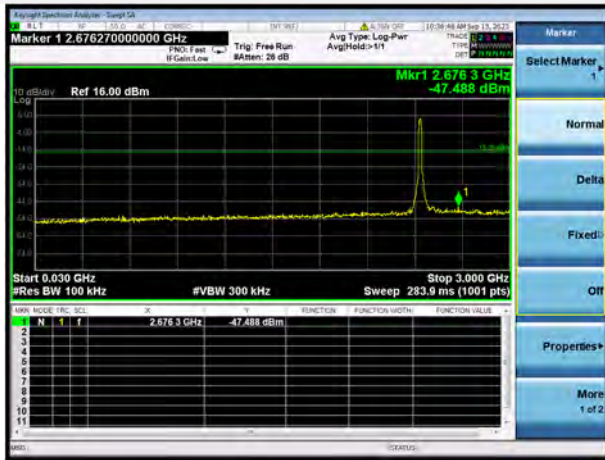
802.11ax-20 MHz(SU) LOW CHANNEL, SPURIOUS 2 GHz ~ 25 GHz



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



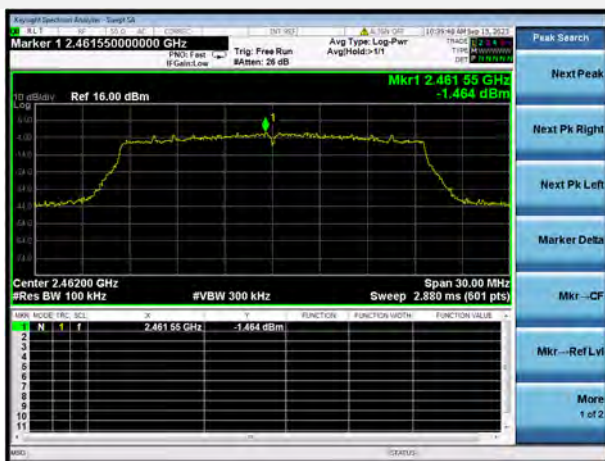
802.11ax-20 MHz(SU) MIDDLE CHANNEL, SPURIOUS
30 MHz ~ 3 GHz



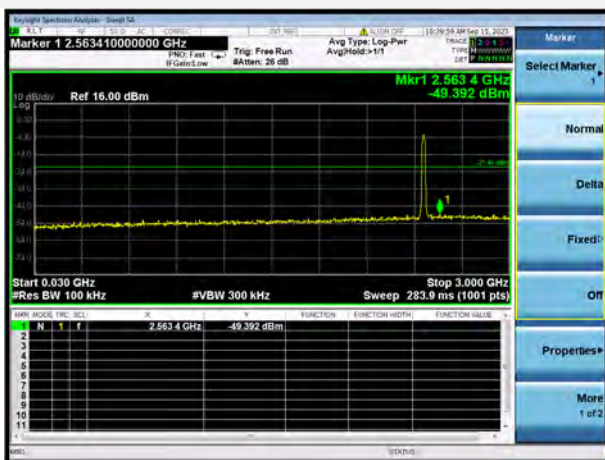
802.11ax-20 MHz(SU) MIDDLE CHANNEL, SPURIOUS
2 GHz ~ 25 GHz



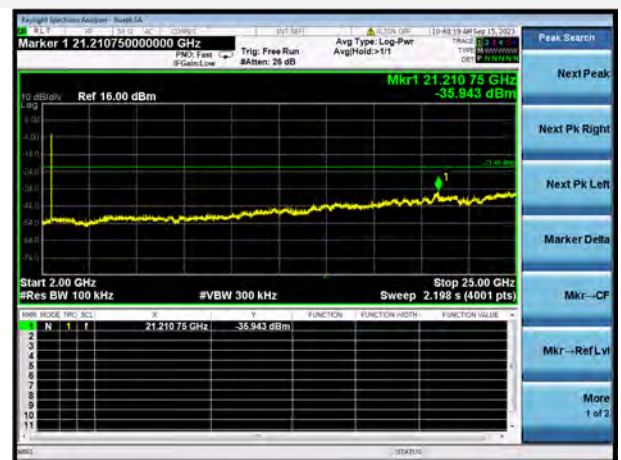
802.11ax-20 MHz(SU) HIGH CHANNEL CARRIER
LEVEL



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

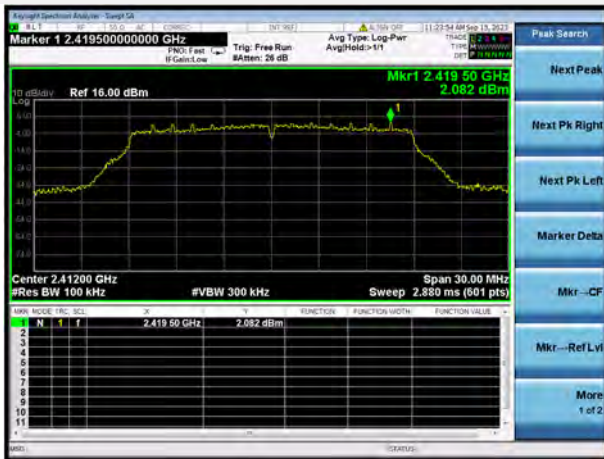


802.11ax-20 MHz(SU) HIGH CHANNEL, SPURIOUS
2 GHz ~ 25 GHz

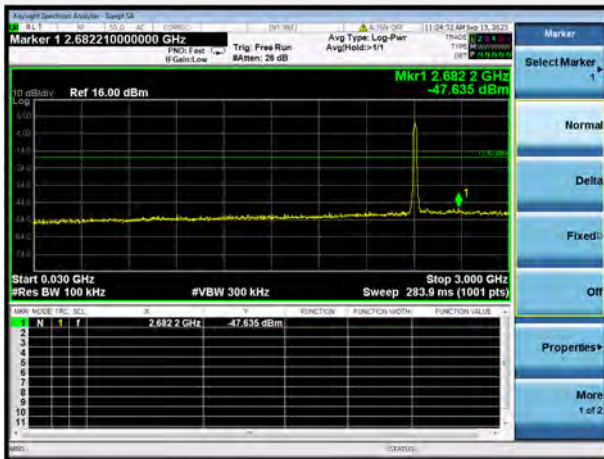


MIMO-Aux. Antenna

802.11n-20 MHz LOW CHANNEL CARRIER LEVEL



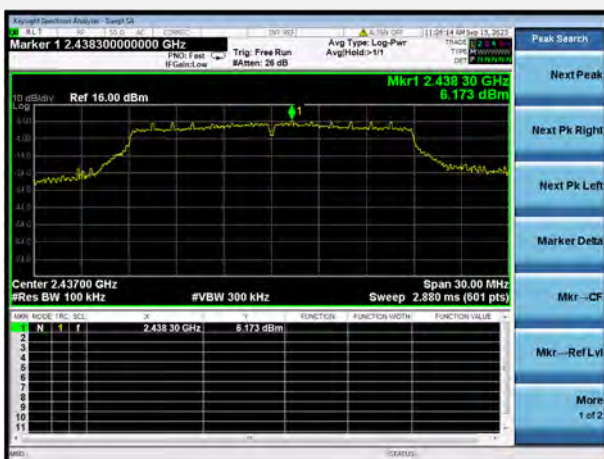
802.11n-20 MHz LOW CHANNEL, SPURIOUS
30 MHz ~ 3 GHz



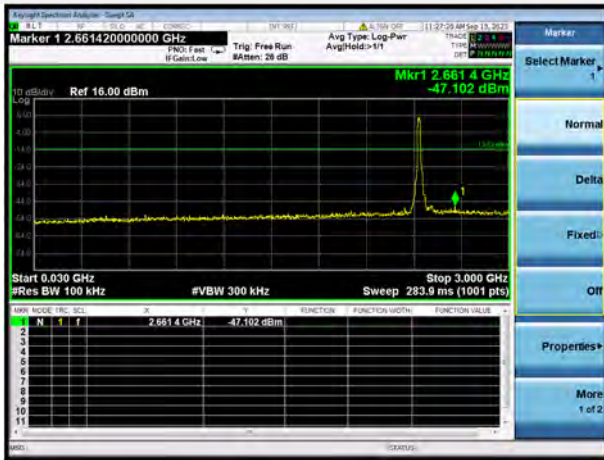
802.11n-20 MHz LOW CHANNEL, SPURIOUS
2 GHz ~ 25 GHz



802.11n-20 MHz MIDDLE CHANNEL CARRIER LEVEL



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



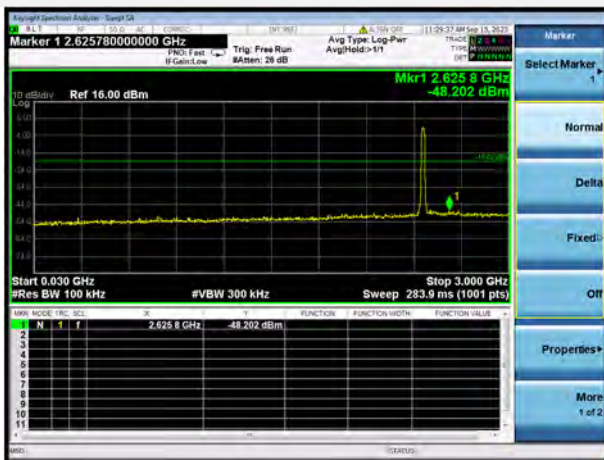
802.11n-20 MHz MIDDLE CHANNEL, SPURIOUS
2 GHz ~ 25 GHz



802.11n-20 MHz HIGH CHANNEL CARRIER LEVEL



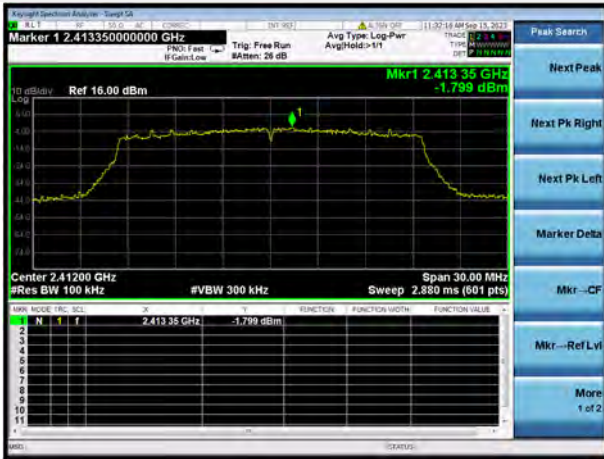
802.11n-20 MHz HIGH CHANNEL, SPURIOUS
30 MHz ~ 3 GHz



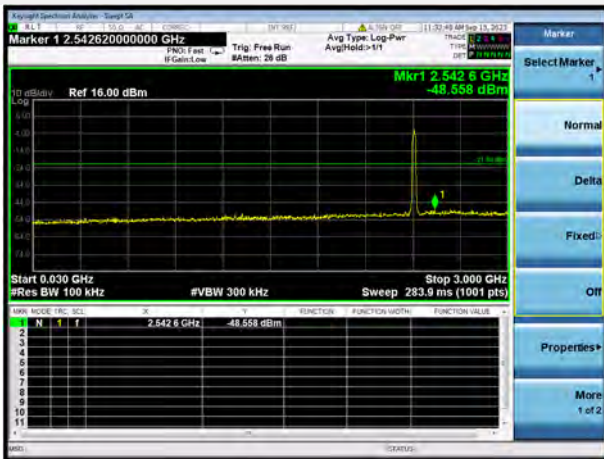
802.11n-20 MHz HIGH CHANNEL, SPURIOUS
2 GHz ~ 25 GHz



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



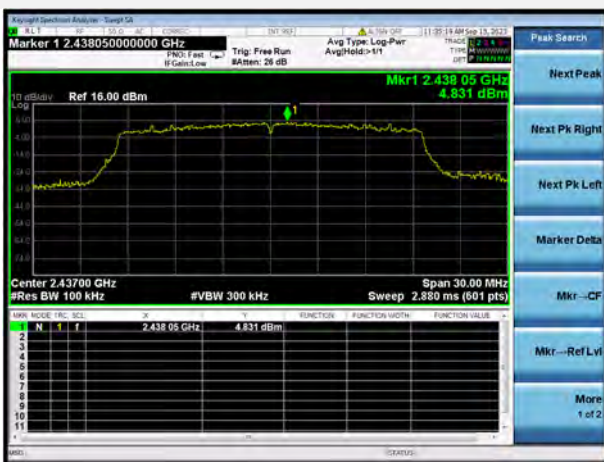
802.11ax-20 MHz(SU) LOW CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



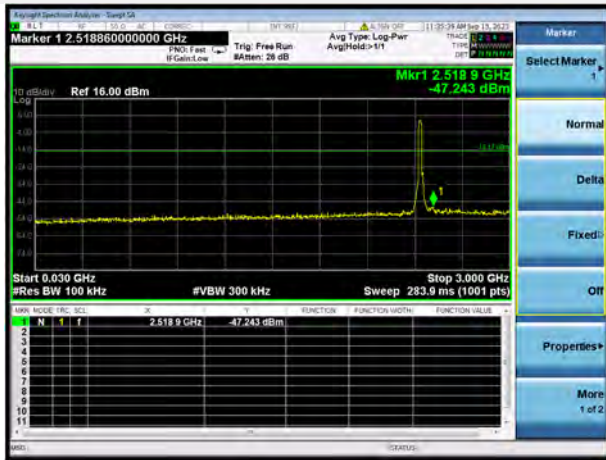
802.11ax-20 MHz(SU) LOW CHANNEL, SPURIOUS 2 GHz ~ 25 GHz



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



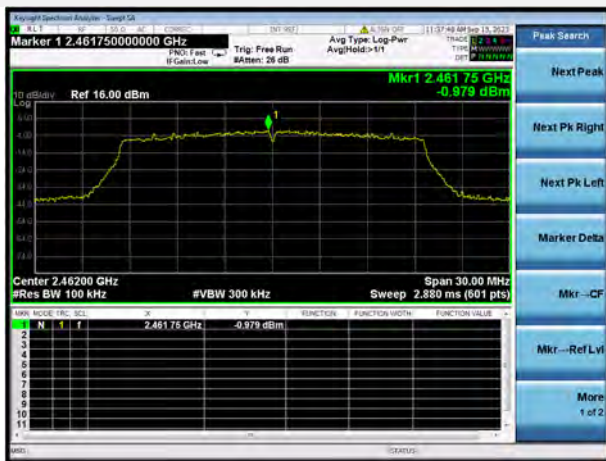
802.11ax-20 MHz(SU) MIDDLE CHANNEL, SPURIOUS
30 MHz ~ 3 GHz



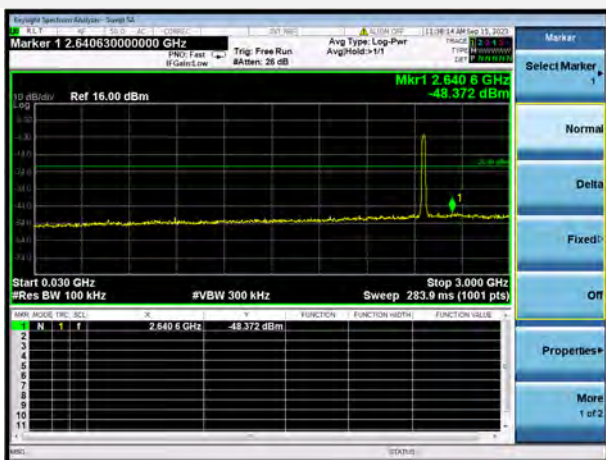
802.11ax-20 MHz(SU) MIDDLE CHANNEL, SPURIOUS
2 GHz ~ 25 GHz



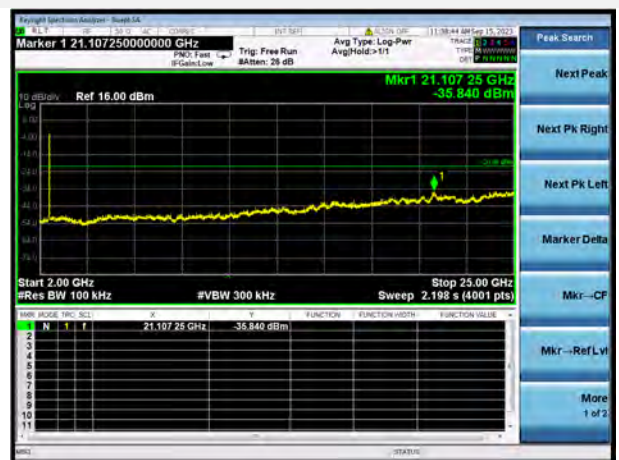
802.11ax-20 MHz(SU) HIGH CHANNEL CARRIER
LEVEL



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



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



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

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

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

Test Data

SISO-Main Antenna

802.11b Mode:

Channel	Measured Max. Band Edge Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low Channel	-34.99	9.25	-10.75	Pass
High Channel	-45.42	9.66	-10.35	Pass

802.11g Mode:

Channel	Measured Max. Band Edge Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low Channel	-31.01	3.54	-16.46	Pass
High Channel	-41.29	1.84	-18.16	Pass

802.11n-20 MHz Mode:

Channel	Measured Max. Band Edge Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low Channel	-30.64	3.43	-16.57	Pass
High Channel	-44.09	1.24	-18.76	Pass

802.11ax-20 MHz(SU) Mode:

Channel	Measured Max. Band Edge Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low Channel	-32.01	3.68	-16.32	Pass
High Channel	-44.57	1.05	-18.96	Pass

SISO-Aux. Antenna

802.11b Mode:

Channel	Measured Max. Band Edge Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low Channel	-31.37	8.62	-11.38	Pass
High Channel	-45.37	8.81	-11.19	Pass

802.11g Mode:

Channel	Measured Max. Band Edge Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low Channel	-36.47	1.65	-18.35	Pass
High Channel	-40.16	2.75	-17.25	Pass

802.11n-20 MHz Mode:

Channel	Measured Max. Band Edge Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low Channel	-36.66	0.77	-19.23	Pass
High Channel	-40.88	1.74	-18.26	Pass

802.11ax-20 MHz(SU) Mode:

Channel	Measured Max. Band Edge Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low Channel	-39.29	-1.22	-21.22	Pass
High Channel	-43.30	0.12	-19.88	Pass

MIMO-Main Antenna

802.11n-20 MHz Mode:

Channel	Measured Max. Band Edge Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low Channel	-23.54	3.41	-16.59	Pass
High Channel	-43.26	1.17	-18.83	Pass

802.11ax-20 MHz(SU) Mode:

Channel	Measured Max. Band Edge Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low Channel	-40.15	-1.31	-21.31	Pass
High Channel	-45.50	-1.46	-21.46	Pass

MIMO-Aux. Antenna

802.11n-20 MHz Mode:

Channel	Measured Max. Band Edge Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low Channel	-33.63	2.08	-17.92	Pass
High Channel	-42.96	0.98	-19.02	Pass

802.11ax-20 MHz(SU) Mode:

Channel	Measured Max. Band Edge Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low Channel	-39.97	-1.80	-21.80	Pass
High Channel	-44.39	-0.98	-20.98	Pass

Test Plots
SISO-Main Antenna

802.11b LOW CHANNEL, CARRIER LEVEL



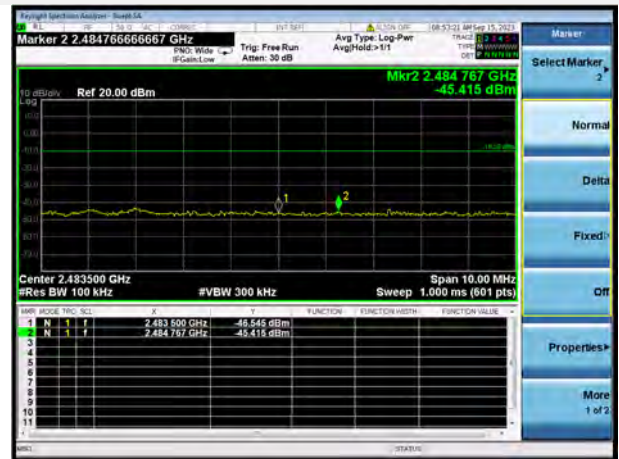
802.11b LOW CHANNEL, REFERENCE LEVEL



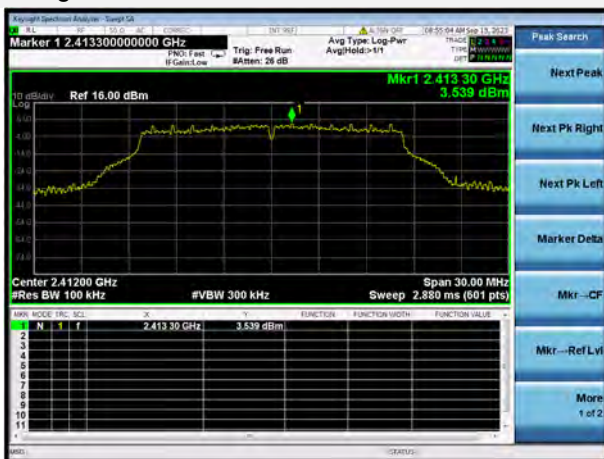
802.11b HIGH CHANNEL, CARRIER LEVEL



802.11b HIGH CHANNEL, REFERENCE LEVEL



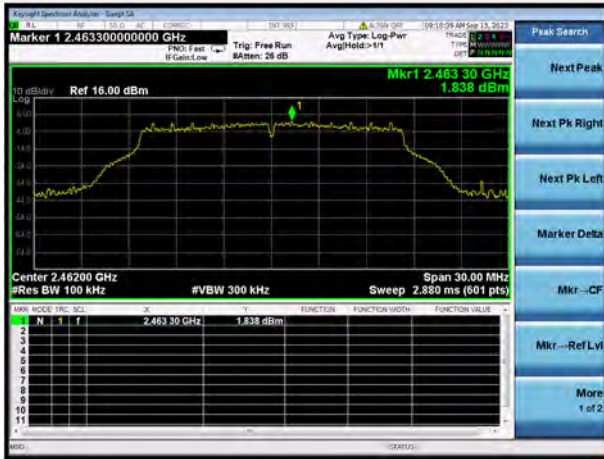
802.11g LOW CHANNEL, CARRIER LEVEL



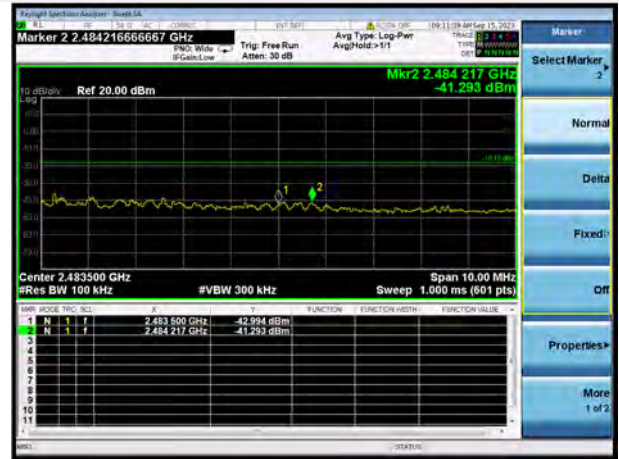
802.11g LOW CHANNEL, REFERENCE LEVEL



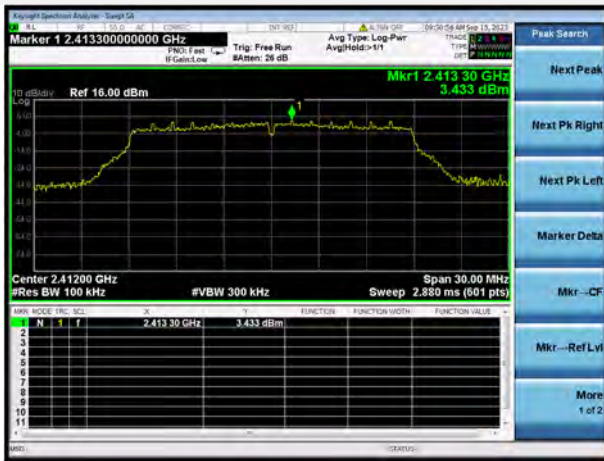
802.11g HIGH CHANNEL, CARRIER LEVEL



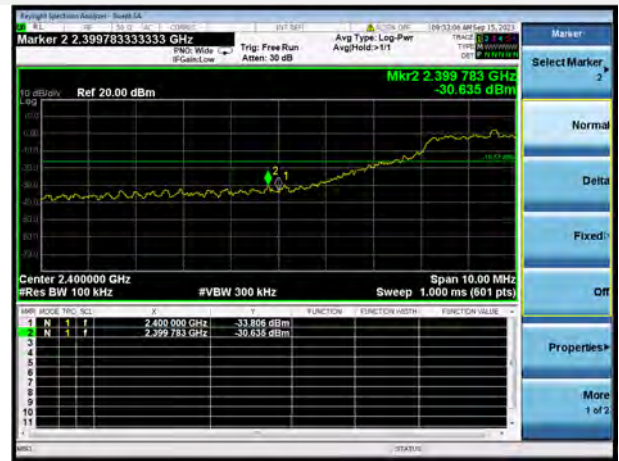
802.11g HIGH CHANNEL, REFERENCE LEVEL



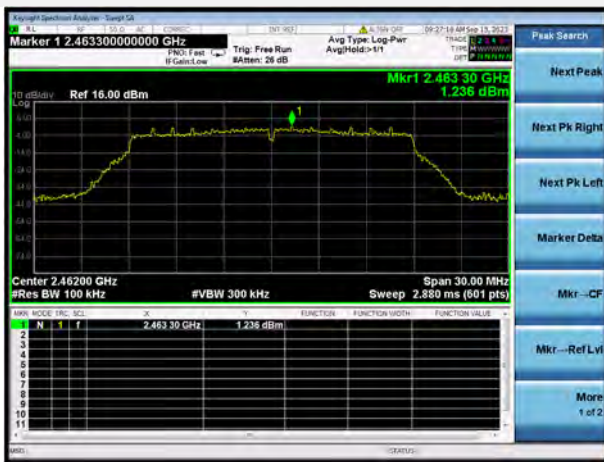
802.11n-20 MHz LOW CHANNEL, CARRIER LEVEL



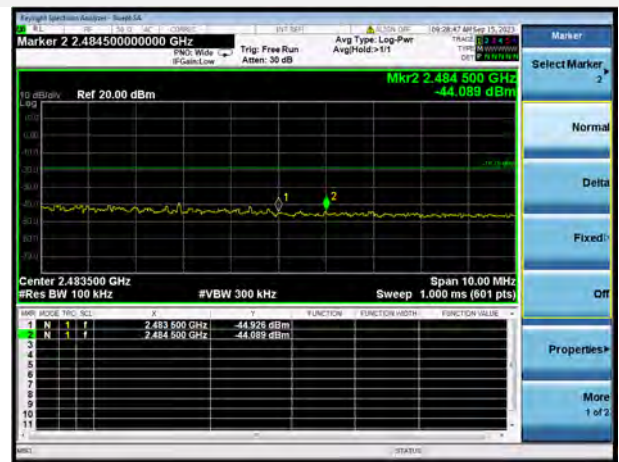
802.11n-20 MHz LOW CHANNEL, REFERENCE LEVEL



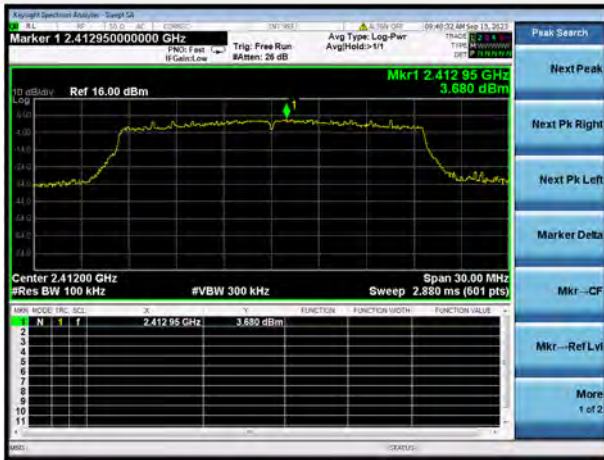
802.11n-20 MHz HIGH CHANNEL, CARRIER LEVEL



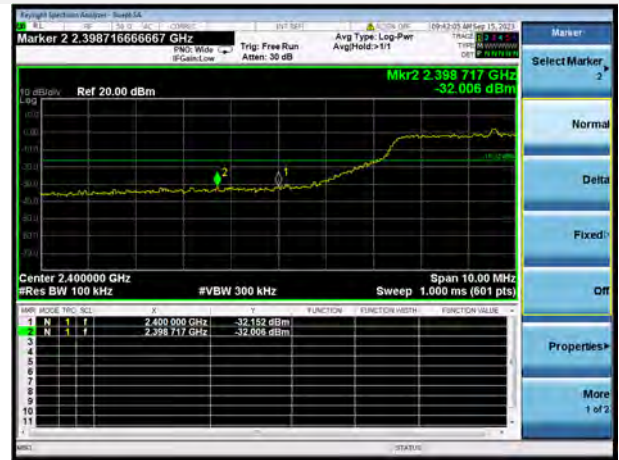
802.11n-20 MHz HIGH CHANNEL, REFERENCE LEVEL



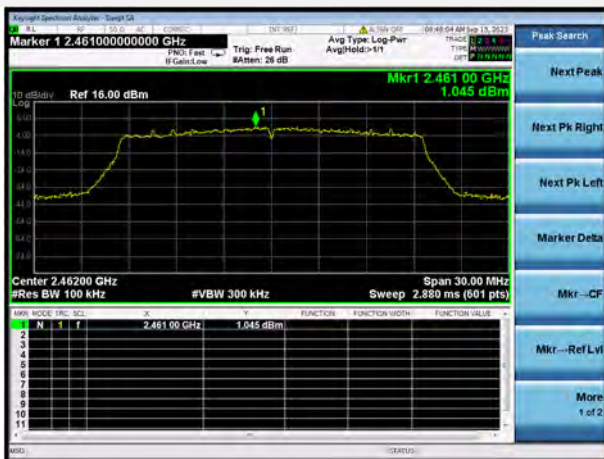
802.11ax-20 MHz(SU) LOW CHANNEL, CARRIER LEVEL



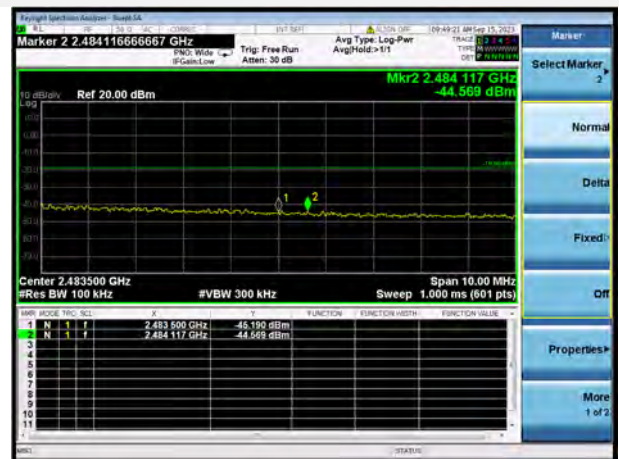
802.11ax-20 MHz(SU) LOW CHANNEL, REFERENCE LEVEL



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



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



SISO-Aux. Antenna

802.11b LOW CHANNEL, CARRIER LEVEL



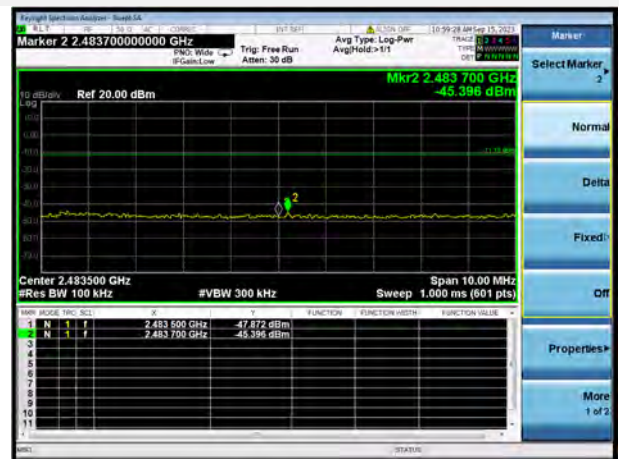
802.11b LOW CHANNEL, REFERENCE LEVEL



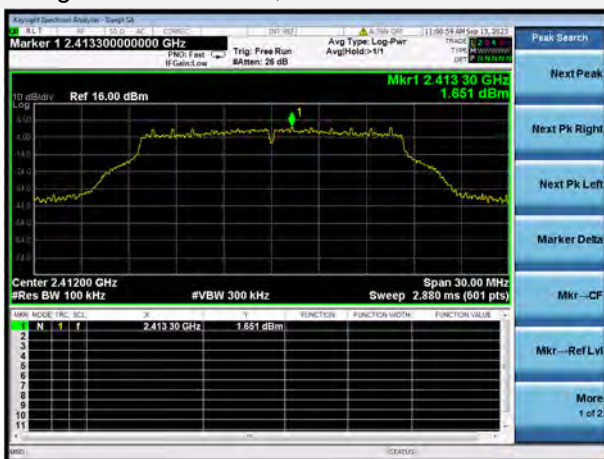
802.11b HIGH CHANNEL, CARRIER LEVEL



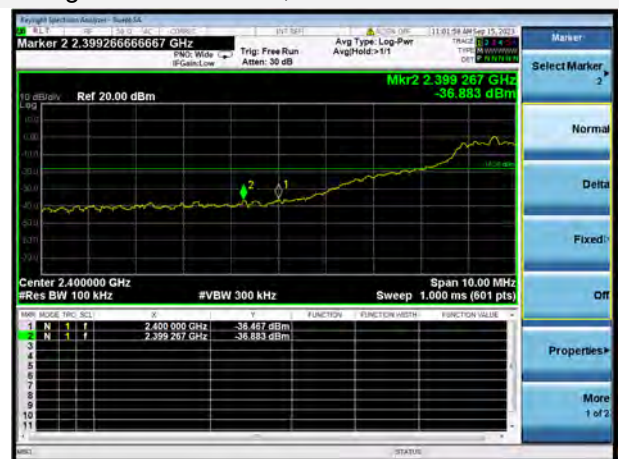
802.11b HIGH CHANNEL, REFERENCE LEVEL



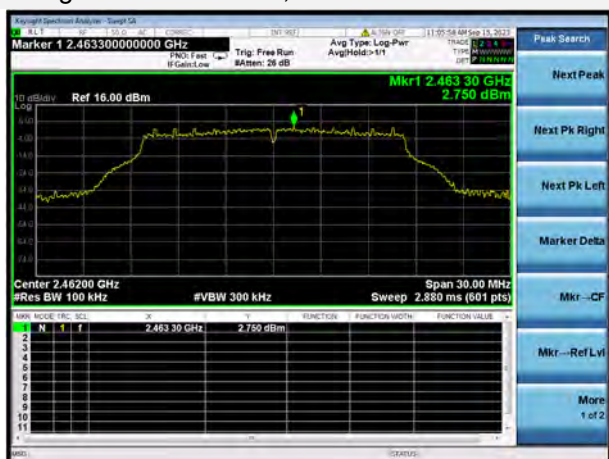
802.11g LOW CHANNEL, CARRIER LEVEL



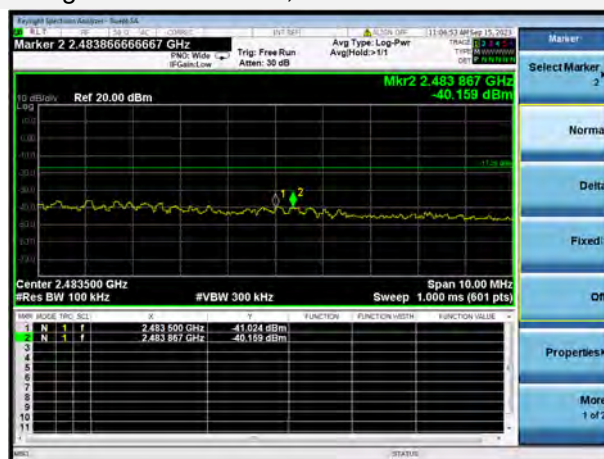
802.11g LOW CHANNEL, REFERENCE LEVEL



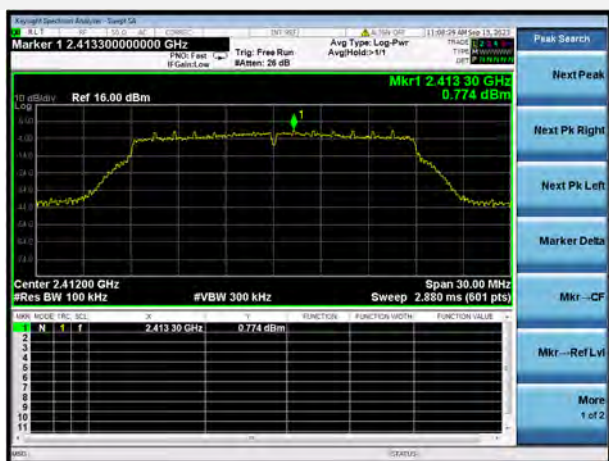
802.11g HIGH CHANNEL, CARRIER LEVEL



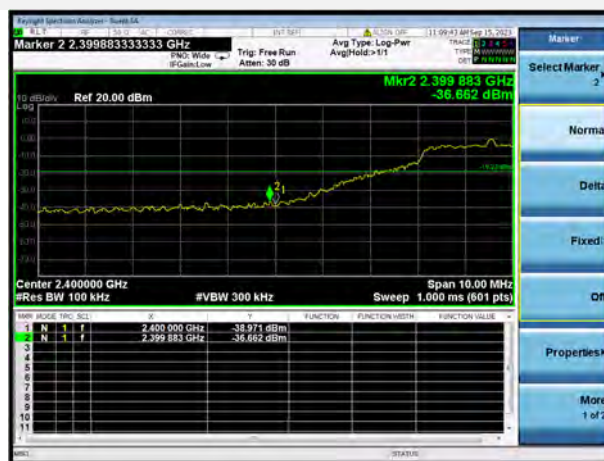
802.11g HIGH CHANNEL, REFERENCE LEVEL



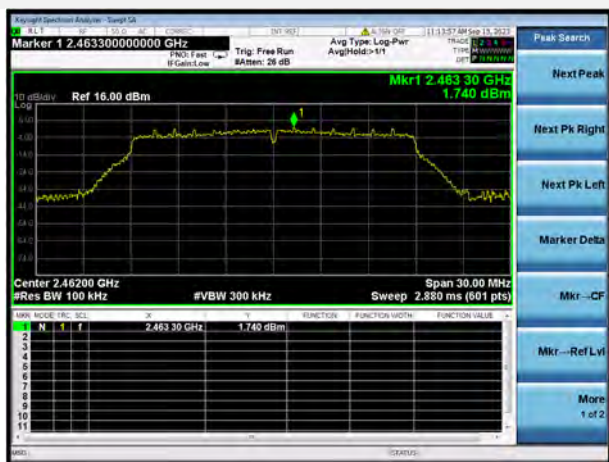
802.11n-20 MHz LOW CHANNEL, CARRIER LEVEL



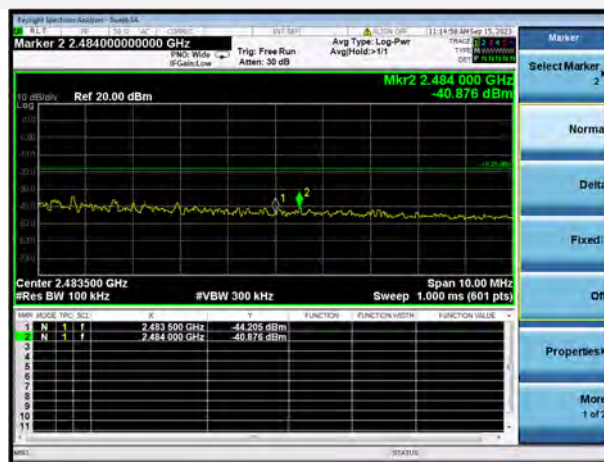
802.11n-20 MHz LOW CHANNEL, REFERENCE LEVEL



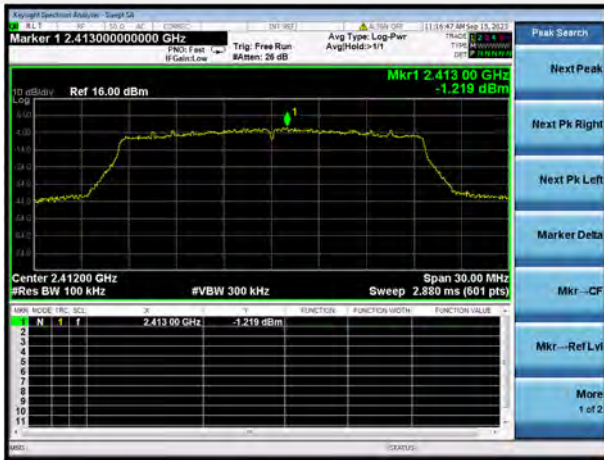
802.11n-20 MHz HIGH CHANNEL, CARRIER LEVEL



802.11n-20 MHz HIGH CHANNEL, REFERENCE LEVEL



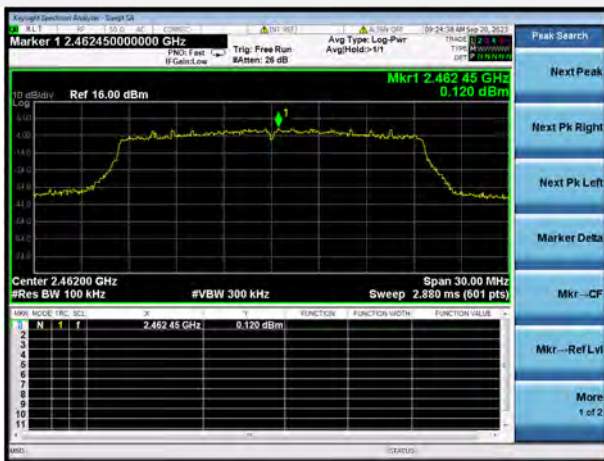
802.11ax-20 MHz(SU) LOW CHANNEL, CARRIER LEVEL



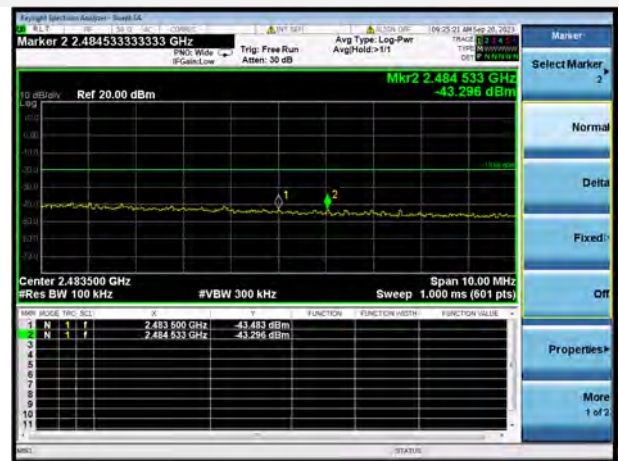
802.11ax-20 MHz(SU) LOW CHANNEL, REFERENCE LEVEL



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

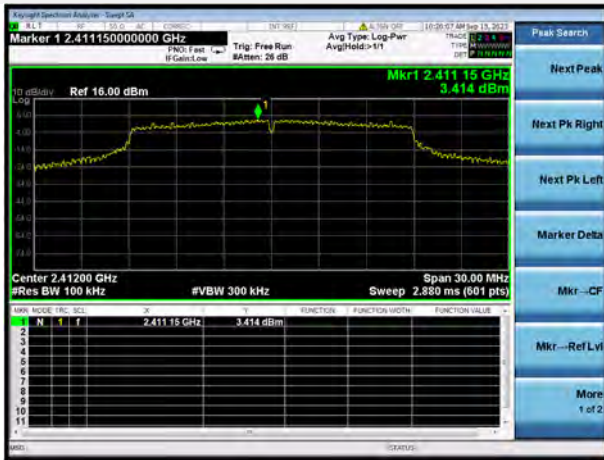


802.11ax-20 MHz(SU) HIGH CHANNEL, REFERENCE LEVEL



MIMO-Main Antenna

802.11n-20 MHz LOW CHANNEL, CARRIER LEVEL



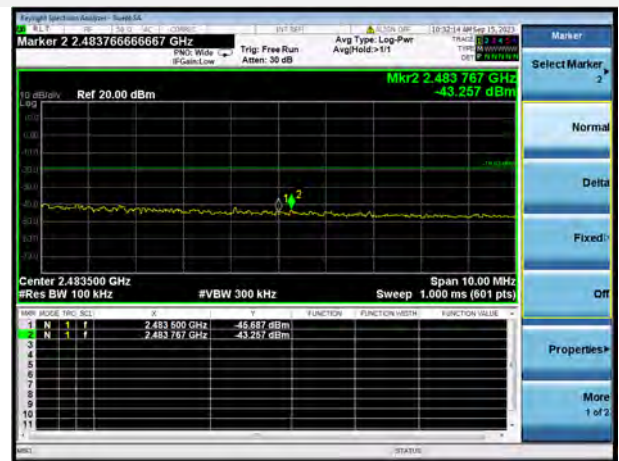
802.11n-20 MHz LOW CHANNEL, REFERENCE LEVEL



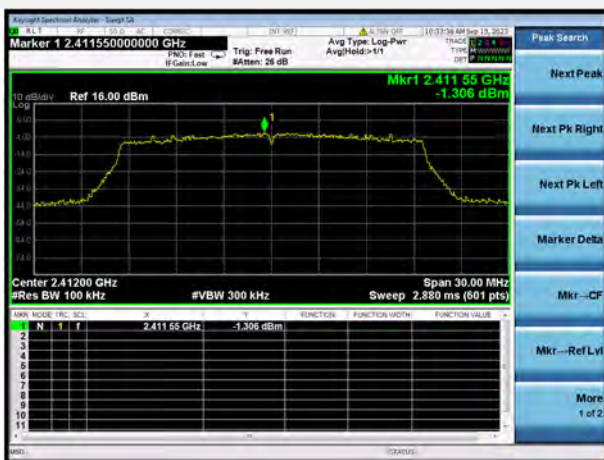
802.11n-20 MHz HIGH CHANNEL, CARRIER LEVEL



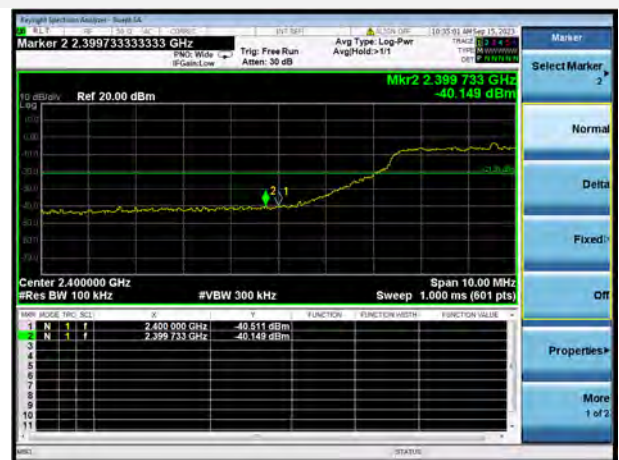
802.11n-20 MHz HIGH CHANNEL, REFERENCE LEVEL



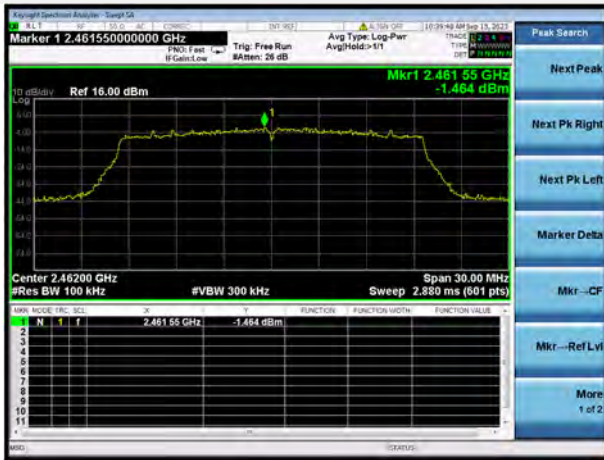
802.11ax-20 MHz(SU) LOW CHANNEL, CARRIER LEVEL



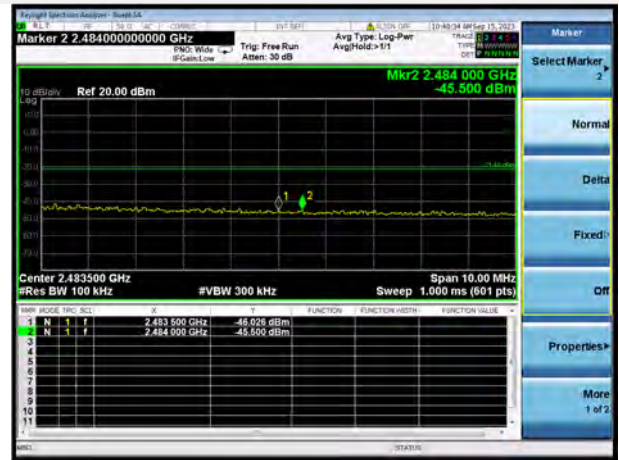
802.11ax-20 MHz(SU) LOW CHANNEL, REFERENCE LEVEL



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

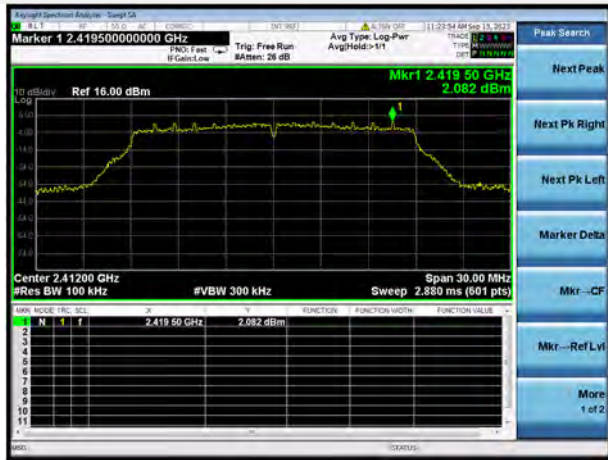


802.11ax-20 MHz(SU) HIGH CHANNEL, REFERENCE LEVEL



MIMO-Aux. Antenna

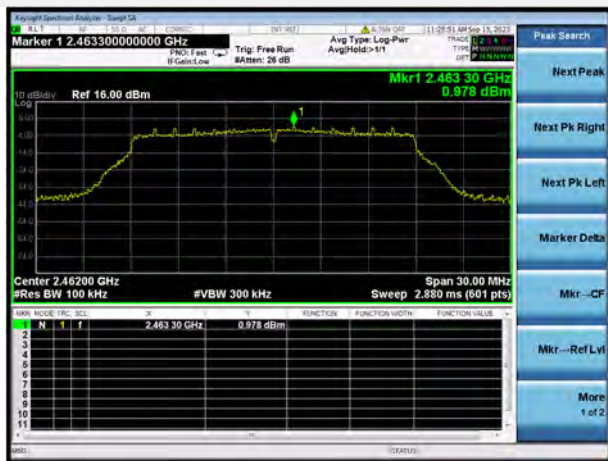
802.11n-20 MHz LOW CHANNEL, CARRIER LEVEL



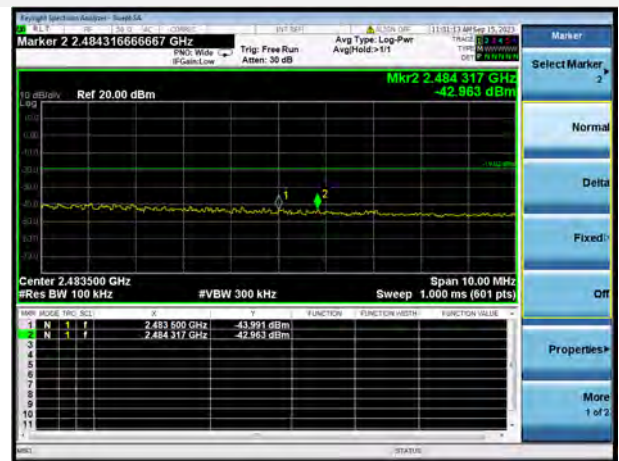
802.11n-20 MHz LOW CHANNEL, REFERENCE LEVEL



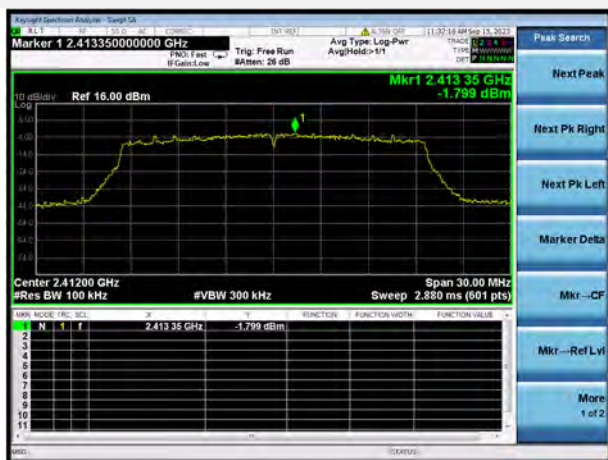
802.11n-20 MHz HIGH CHANNEL, CARRIER LEVEL



802.11n-20 MHz HIGH CHANNEL, REFERENCE LEVEL



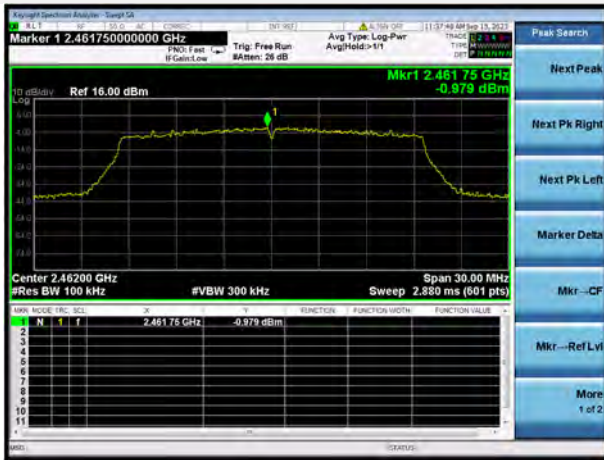
802.11ax-20 MHz(SU) LOW CHANNEL, CARRIER LEVEL



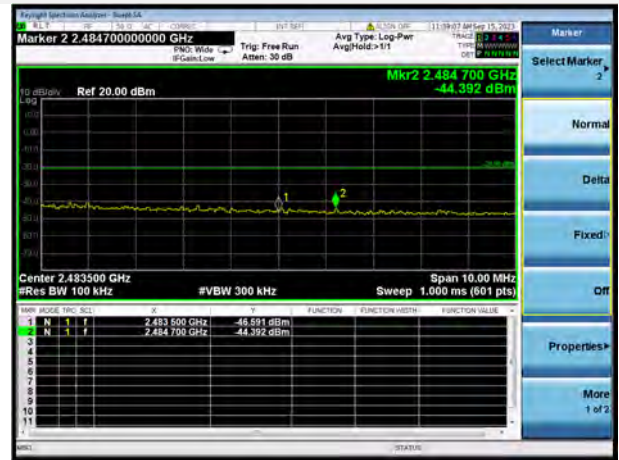
802.11ax-20 MHz(SU) LOW CHANNEL, REFERENCE LEVEL



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



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



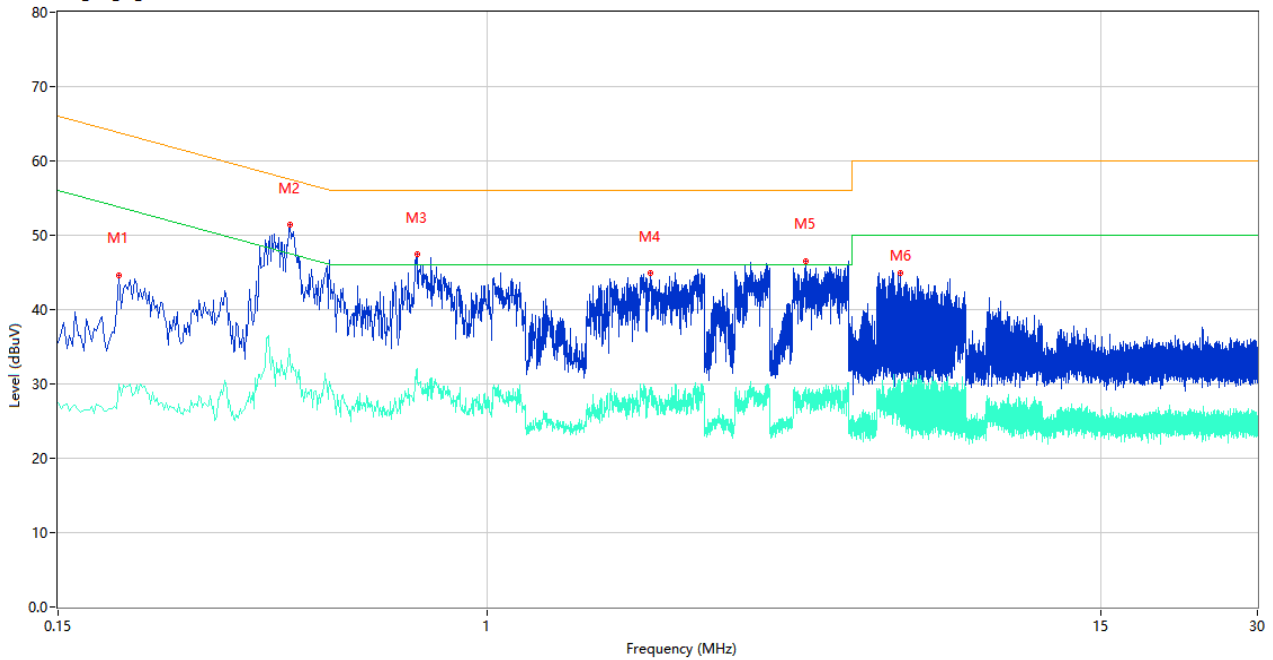
A.5 Conducted Emissions

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

Test Data and Plots

PHASE L

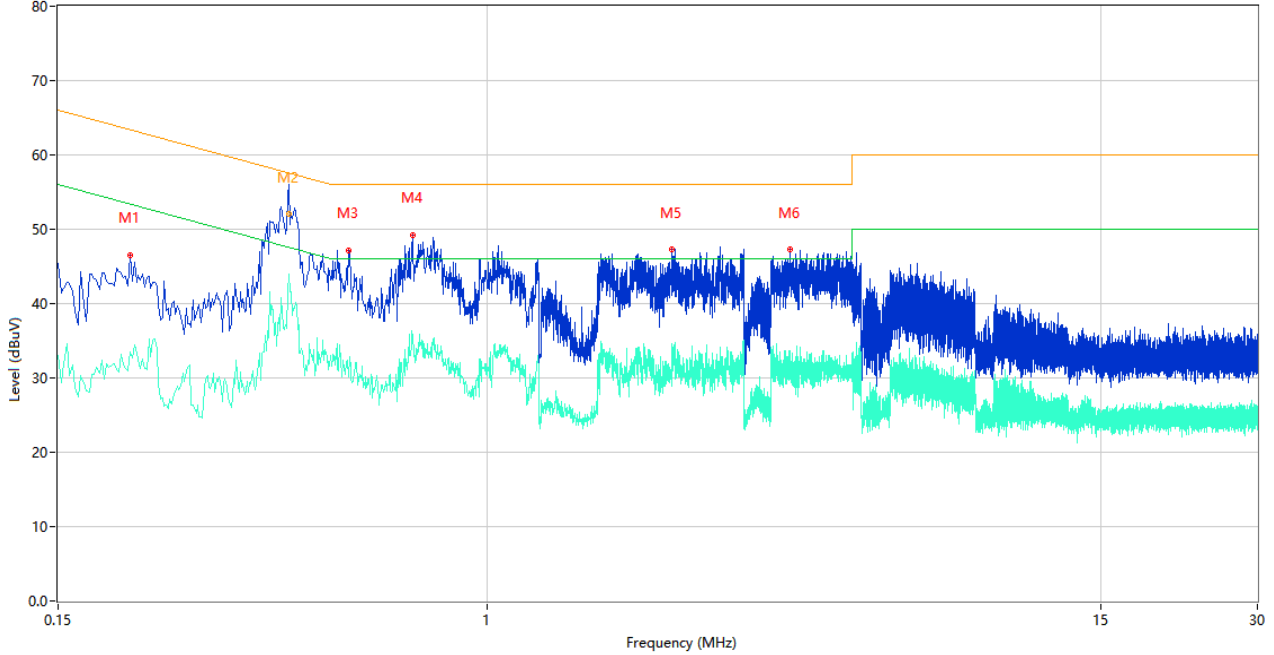
CE Test case_FCC_CE_FCC PART 15C



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.196	44.62	9.77	63.78	19.16	Peak	L	Pass
1**	0.196	30.03	9.77	53.78	23.75	AV	L	Pass
2	0.418	51.35	10.36	57.49	6.14	Peak	L	Pass
2**	0.418	33.46	10.36	47.49	14.03	AV	L	Pass
3	0.732	47.44	10.34	56.00	8.56	Peak	L	Pass
3**	0.732	31.98	10.34	46.00	14.02	AV	L	Pass
4	2.050	44.92	10.46	56.00	11.08	Peak	L	Pass
4**	2.050	29.29	10.46	46.00	16.71	AV	L	Pass
5	4.076	46.53	10.41	56.00	9.47	Peak	L	Pass
5**	4.076	29.48	10.41	46.00	16.52	AV	L	Pass
6	6.186	44.92	10.27	60.00	15.08	Peak	L	Pass
6**	6.186	29.08	10.27	50.00	20.92	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	0.206	46.53	9.77	63.37	16.84	Peak	N	Pass
1**	0.206	33.42	9.77	53.37	19.95	AV	N	Pass
2	0.416	55.98	10.39	57.53	1.55	Peak	N	N/A
2*	0.416	52.03	10.39	57.53	5.50	QP	N	Pass
2**	0.416	43.91	10.39	47.53	3.62	AV	N	Pass
3	0.542	47.19	10.02	56.00	8.81	Peak	N	Pass
3**	0.542	30.21	10.02	46.00	15.79	AV	N	Pass
4	0.718	49.23	10.48	56.00	6.77	Peak	N	Pass
4**	0.718	35.50	10.48	46.00	10.50	AV	N	Pass
5	2.258	47.28	10.14	56.00	8.72	Peak	N	Pass
5**	2.258	34.61	10.14	46.00	11.39	AV	N	Pass
6	3.810	47.23	10.32	56.00	8.77	Peak	N	Pass
6**	3.810	32.56	10.32	46.00	13.44	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.

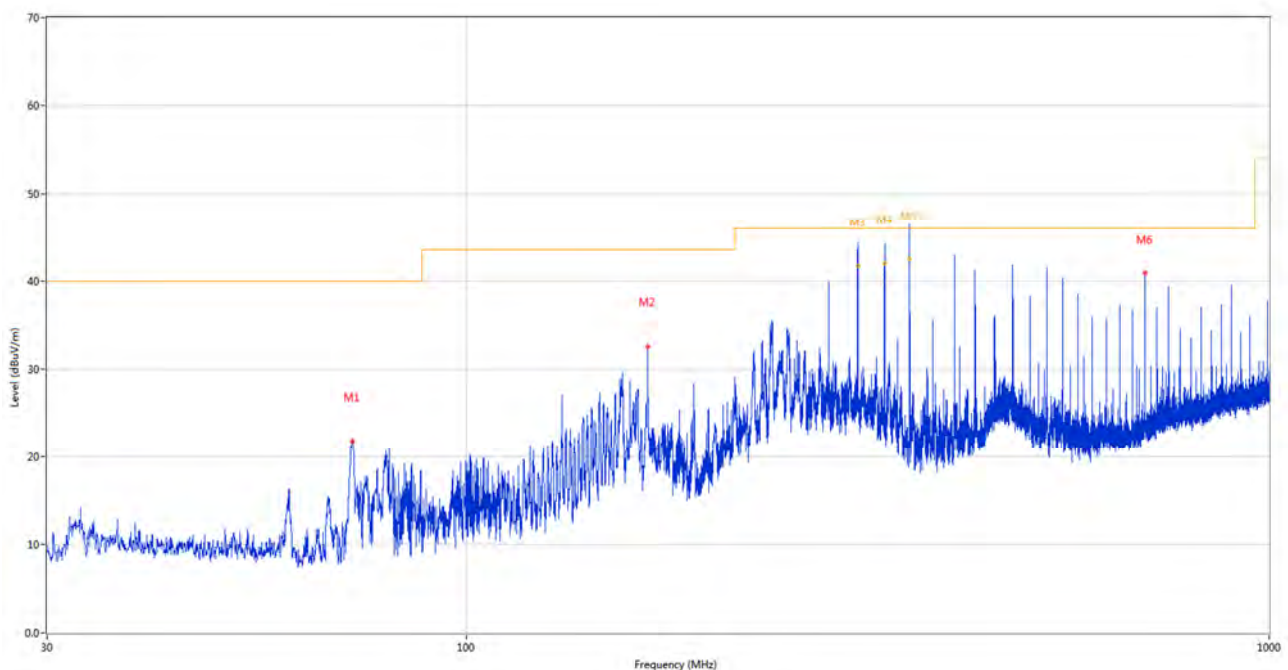
Note³: The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line per 15.31(o) was not reported.

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

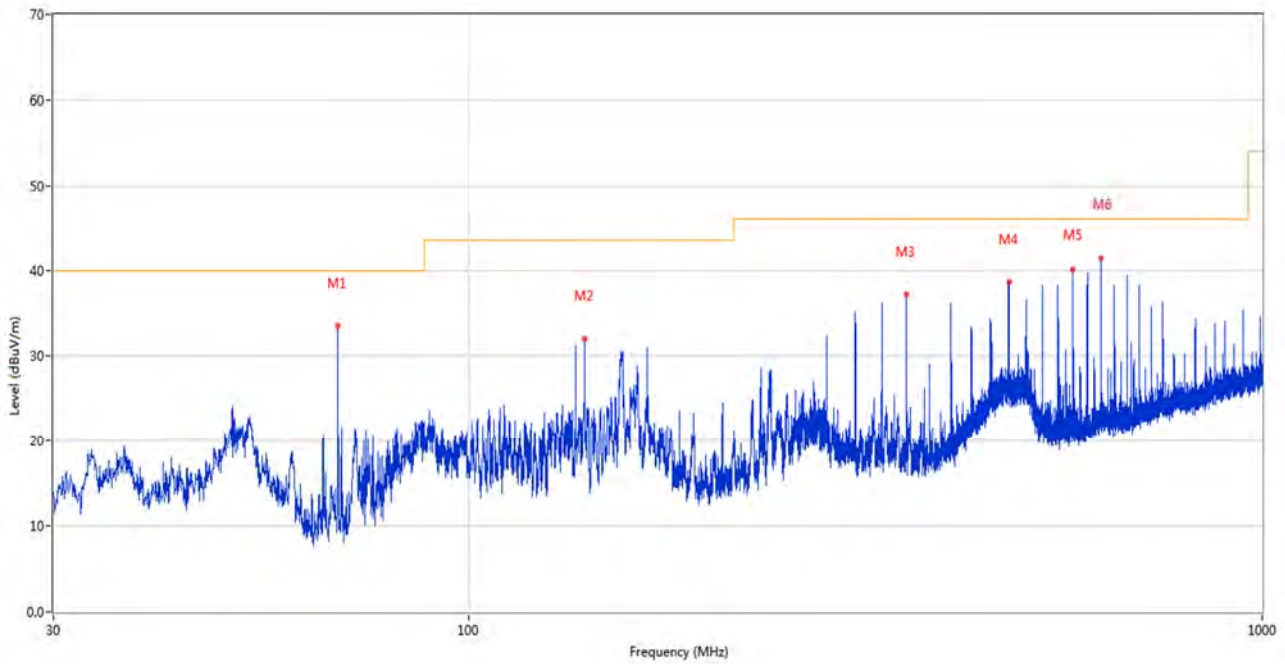
PCB Antenna

30 MHz to 1 GHz, ANT H



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	72.098	21.85	-29.47	40.0	18.15	Peak	202.00	200	Horizontal	Pass
2	167.982	32.60	-25.40	43.5	10.90	Peak	266.00	100	Horizontal	Pass
3	307.178	44.34	-24.17	46.0	1.66	Peak	102.00	100	Horizontal	N/A
3*	307.178	41.70	-24.17	46.0	4.30	QP	102.00	100	Horizontal	Pass
4	331.767	44.28	-23.36	46.0	1.72	Peak	95.00	120	Horizontal	N/A
4*	331.767	41.96	-23.36	46.0	4.04	QP	95.00	120	Horizontal	Pass
5	356.357	46.45	-22.72	46.0	-0.45	Peak	97.00	106	Horizontal	N/A
5*	356.357	42.48	-22.72	46.0	3.52	QP	97.00	106	Horizontal	Pass
6	700.416	40.89	-14.42	46.0	5.11	Peak	143.00	200	Horizontal	Pass

30 MHz to 1 GHz, ANT V

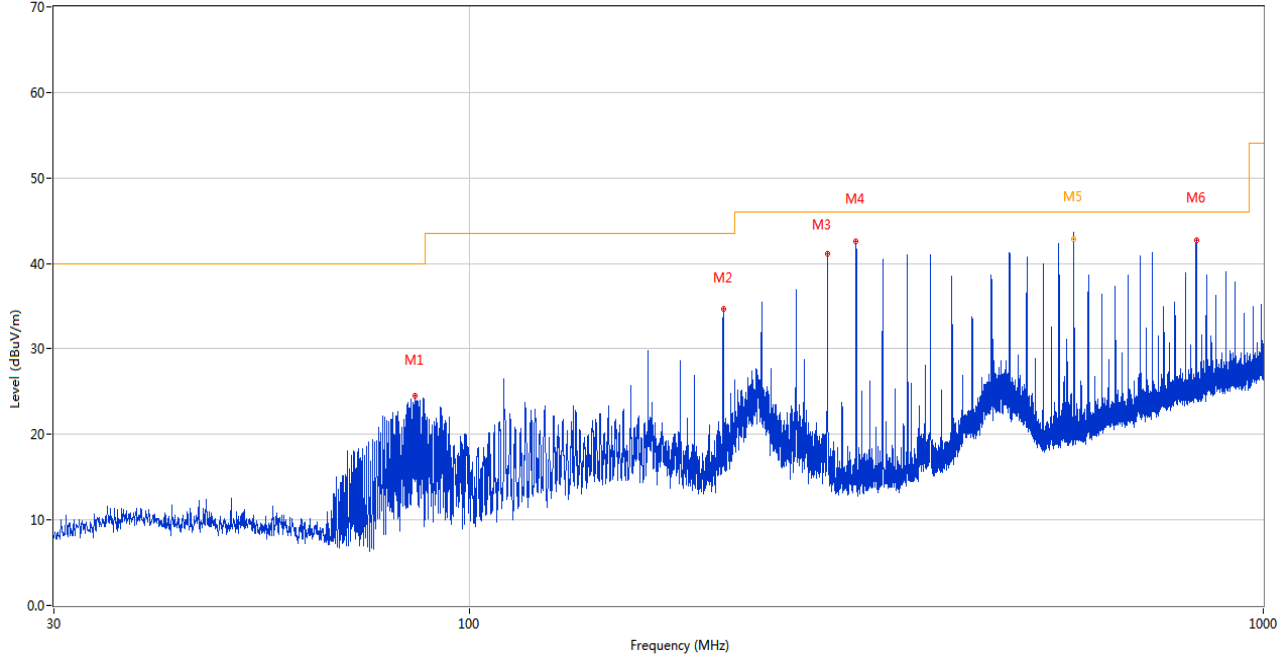


No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	68.461	33.46	-28.83	40.0	6.54	Peak	37.00	100	Vertical	Pass
2	140.046	32.07	-25.60	43.5	11.43	Peak	42.00	100	Vertical	Pass
3	356.357	37.17	-22.72	46.0	8.83	Peak	190.00	200	Vertical	Pass
4	479.255	38.68	-19.13	46.0	7.32	Peak	136.00	100	Vertical	Pass
5	577.516	40.03	-17.07	46.0	5.97	Peak	139.00	200	Vertical	Pass
6	626.695	41.46	-15.67	46.0	4.54	Peak	108.00	100	Vertical	Pass

Rod Antenna

30 MHz to 1 GHz, ANT H

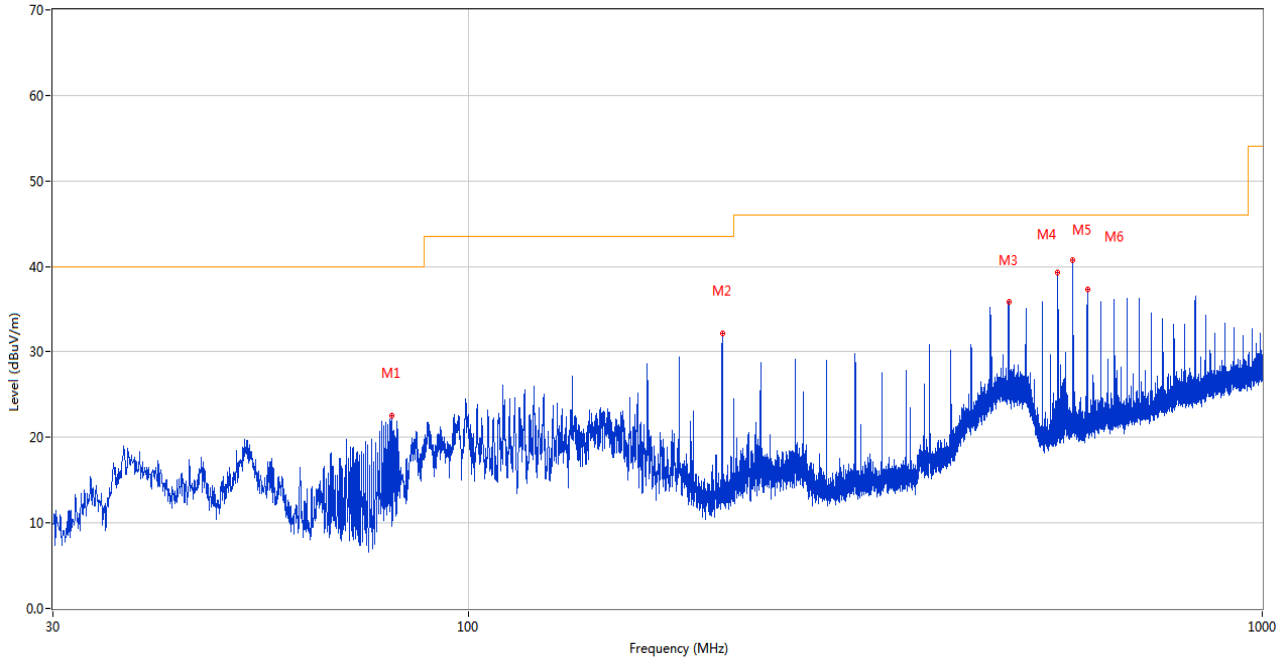
RE Test case_FCC Part 15B_FCC Part 15B Class B 30MHz-1GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	85.387	24.53	-30.28	40.0	15.47	Peak	262.00	200	Horizontal	Pass
2	208.916	34.61	-28.30	43.5	8.89	Peak	236.00	100	Horizontal	Pass
3	282.637	41.10	-24.92	46.0	4.90	Peak	255.00	100	Horizontal	Pass
4	307.178	42.57	-24.17	46.0	3.43	Peak	81.00	100	Horizontal	Pass
5	577.516	43.65	-17.07	46.0	2.35	Peak	124.00	200	Horizontal	N/A
5*	577.516	42.80	-17.07	46.0	3.20	QP	124.00	200	Horizontal	Pass
6	823.266	42.75	-12.63	46.0	3.25	Peak	120.00	100	Horizontal	Pass

30 MHz to 1 GHz, ANT V

RE Test case_FCC Part 15B_FCC Part 15B Class B 30MHz-1GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	80.052	22.55	-30.52	40.0	17.45	Peak	203.00	100	Vertical	Pass
2	208.868	32.21	-28.30	43.5	11.29	Peak	172.00	100	Vertical	Pass
3	479.255	35.80	-19.13	46.0	10.20	Peak	117.00	100	Vertical	Pass
4	552.927	39.33	-17.64	46.0	6.67	Peak	165.00	100	Vertical	Pass
5	577.565	40.73	-17.07	46.0	5.27	Peak	338.00	100	Vertical	Pass
6	602.106	37.26	-16.27	46.0	8.74	Peak	329.00	100	Vertical	Pass

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

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

PCB Antenna

SISO-Main Antenna

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	1452.000	42.96	-16.94	74.0	31.04	Peak	337.00	200	Horizontal	Pass
1**	1452.000	32.47	-16.94	54.0	21.53	AV	337.00	200	Horizontal	Pass
2	2411.900	106.88	-10.20	74.0	-32.88	Peak	69.00	150	Horizontal	N/A
2**	2411.900	103.20	-10.20	54.0	-49.20	AV	69.00	150	Horizontal	N/A
3	4916.750	48.92	-3.35	74.0	25.08	Peak	159.00	150	Horizontal	Pass
3**	4916.750	39.89	-3.35	54.0	14.11	AV	159.00	150	Horizontal	Pass
4	7237.750	52.80	-0.64	74.0	21.20	Peak	324.00	100	Horizontal	Pass
4**	7237.750	48.78	-0.64	54.0	5.22	AV	324.00	100	Horizontal	Pass
5	11692.888	51.95	-0.64	74.0	22.05	Peak	195.00	100	Horizontal	Pass
5**	11692.888	42.31	-0.64	54.0	11.69	AV	195.00	100	Horizontal	Pass
6	16179.562	54.72	1.95	74.0	19.28	Peak	319.00	400	Horizontal	Pass
6**	16179.562	45.94	1.95	54.0	8.06	AV	319.00	400	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	1330.300	45.35	-17.08	74.0	28.65	Peak	244.00	400	Vertical	Pass
1**	1330.300	38.45	-17.08	54.0	15.55	AV	244.00	400	Vertical	Pass
2	2411.900	99.30	-10.20	74.0	-25.30	Peak	326.00	150	Vertical	N/A
2**	2411.900	94.62	-10.20	54.0	-40.62	AV	326.00	150	Vertical	N/A
3	4874.000	49.26	-3.49	74.0	24.74	Peak	200.00	150	Vertical	Pass
3**	4874.000	39.95	-3.49	54.0	14.05	AV	200.00	150	Vertical	Pass
4	7857.750	53.33	0.95	74.0	20.67	Peak	0.00	400	Vertical	Pass
4**	7857.750	43.15	0.95	54.0	10.85	AV	0.00	400	Vertical	Pass
5	11794.537	51.92	-0.15	74.0	22.08	Peak	177.00	400	Vertical	Pass
5**	11794.537	43.54	-0.15	54.0	10.46	AV	177.00	400	Vertical	Pass
6	16410.825	54.09	3.02	74.0	19.91	Peak	188.00	100	Vertical	Pass
6**	16410.825	44.98	3.02	54.0	9.02	AV	188.00	100	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	1329.500	42.44	-16.83	74.0	31.56	Peak	245.00	300	Horizontal	Pass
1**	1329.500	32.25	-16.83	54.0	21.75	AV	245.00	300	Horizontal	Pass
2	2438.400	107.28	-9.92	74.0	-33.28	Peak	14.00	150	Horizontal	N/A
2**	2438.400	104.49	-9.92	54.0	-50.49	AV	14.00	150	Horizontal	N/A
3	4979.250	49.05	-3.51	74.0	24.95	Peak	76.00	100	Horizontal	Pass
3**	4979.250	39.62	-3.51	54.0	14.38	AV	76.00	100	Horizontal	Pass
4	7312.000	52.85	0.54	74.0	21.15	Peak	52.00	150	Horizontal	Pass
4**	7312.000	49.62	0.54	54.0	4.38	AV	52.00	150	Horizontal	Pass
5	11783.375	52.44	-0.16	74.0	21.56	Peak	342.00	100	Horizontal	Pass
5**	11783.375	43.29	-0.16	54.0	10.71	AV	342.00	100	Horizontal	Pass
6	17489.437	54.44	4.84	74.0	19.56	Peak	342.00	300	Horizontal	Pass
6**	17489.437	45.53	4.84	54.0	8.47	AV	342.00	300	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	1328.900	46.09	-16.94	74.0	27.91	Peak	237.00	300	Vertical	Pass
1**	1328.900	37.71	-16.94	54.0	16.29	AV	237.00	300	Vertical	Pass
2	2438.400	100.51	-9.92	74.0	-26.51	Peak	209.00	150	Vertical	N/A
2**	2438.400	97.70	-9.92	54.0	-43.70	AV	209.00	150	Vertical	N/A
3	4785.750	49.61	-3.74	74.0	24.39	Peak	174.00	150	Vertical	Pass
3**	4785.750	39.58	-3.74	54.0	14.42	AV	174.00	150	Vertical	Pass
4	7804.750	53.60	0.90	74.0	20.40	Peak	237.00	100	Vertical	Pass
4**	7804.750	43.96	0.90	54.0	10.04	AV	237.00	100	Vertical	Pass
5	11800.001	52.42	-0.15	74.0	21.58	Peak	351.00	300	Vertical	Pass
5**	11800.001	43.00	-0.15	54.0	11.00	AV	351.00	300	Vertical	Pass
6	16409.512	54.36	3.04	74.0	19.64	Peak	360.00	300	Vertical	Pass
6**	16409.512	45.41	3.04	54.0	8.59	AV	360.00	300	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	1585.300	42.53	-17.23	74.0	31.47	Peak	239.00	200	Horizontal	Pass
1**	1585.300	34.73	-17.23	54.0	19.27	AV	239.00	200	Horizontal	Pass
2	2460.900	106.74	-11.30	74.0	-32.74	Peak	15.00	200	Horizontal	N/A
2**	2460.900	103.99	-11.30	54.0	-49.99	AV	15.00	200	Horizontal	N/A
3	4921.000	49.53	-3.34	74.0	24.47	Peak	109.00	200	Horizontal	Pass
3**	4921.000	39.97	-3.34	54.0	14.03	AV	109.00	200	Horizontal	Pass
4	7385.250	52.36	-0.21	74.0	21.64	Peak	44.00	150	Horizontal	Pass
4**	7385.250	48.93	-0.21	54.0	5.07	AV	44.00	150	Horizontal	Pass
5	11773.638	52.55	-0.17	74.0	21.45	Peak	116.00	100	Horizontal	Pass
5**	11773.638	43.62	-0.17	54.0	10.38	AV	116.00	100	Horizontal	Pass
6	17466.599	54.61	5.26	74.0	19.39	Peak	117.00	100	Horizontal	Pass
6**	17466.599	45.17	5.26	54.0	8.83	AV	117.00	100	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	1163.900	47.48	-17.56	74.0	26.52	Peak	259.00	100	Vertical	Pass
1**	1163.900	39.21	-17.56	54.0	14.79	AV	259.00	100	Vertical	Pass
2	2460.900	99.53	-11.30	74.0	-25.53	Peak	230.00	150	Vertical	N/A
2**	2460.900	96.70	-11.30	54.0	-42.70	AV	230.00	150	Vertical	N/A
3	4953.500	49.52	-3.43	74.0	24.48	Peak	238.00	200	Vertical	Pass
3**	4953.500	40.30	-3.43	54.0	13.70	AV	238.00	200	Vertical	Pass
4	7819.250	53.29	1.30	74.0	20.71	Peak	132.00	300	Vertical	Pass
4**	7819.250	43.96	1.30	54.0	10.04	AV	132.00	300	Vertical	Pass
5	11776.963	52.98	-0.17	74.0	21.02	Peak	181.00	400	Vertical	Pass
5**	11776.963	43.96	-0.17	54.0	10.04	AV	181.00	400	Vertical	Pass
6	17458.725	55.09	5.41	74.0	18.91	Peak	280.00	400	Vertical	Pass
6**	17458.725	45.72	5.41	54.0	8.28	AV	280.00	400	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	1327.300	42.39	-17.03	74.0	31.61	Peak	32.00	100	Horizontal	Pass
1**	1327.300	35.89	-17.03	54.0	18.11	AV	32.00	100	Horizontal	Pass
2	2413.000	108.30	-10.23	74.0	-34.30	Peak	69.00	150	Horizontal	N/A
2**	2413.000	100.84	-10.23	54.0	-46.84	AV	69.00	150	Horizontal	N/A
3	4934.000	49.04	-3.45	74.0	24.96	Peak	322.00	150	Horizontal	Pass
3**	4934.000	39.13	-3.45	54.0	14.87	AV	322.00	150	Horizontal	Pass
4	7244.750	55.46	-0.37	74.0	18.54	Peak	66.00	100	Horizontal	Pass
4**	7244.750	43.22	-0.37	54.0	10.78	AV	66.00	100	Horizontal	Pass
5	11790.026	52.39	-0.16	74.0	21.61	Peak	55.00	400	Horizontal	Pass
5**	11790.026	43.44	-0.16	54.0	10.56	AV	55.00	400	Horizontal	Pass
6	16404.787	54.71	3.10	74.0	19.29	Peak	98.00	300	Horizontal	Pass
6**	16404.787	45.29	3.10	54.0	8.71	AV	98.00	300	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	1331.300	45.45	-16.96	74.0	28.55	Peak	264.00	100	Vertical	Pass
1**	1331.300	36.33	-16.96	54.0	17.67	AV	264.00	100	Vertical	Pass
2	2410.900	100.21	-10.34	74.0	-26.21	Peak	327.00	200	Vertical	N/A
2**	2410.900	93.31	-10.34	54.0	-39.31	AV	327.00	200	Vertical	N/A
3	4999.500	48.85	-3.20	74.0	25.15	Peak	290.00	100	Vertical	Pass
3**	4999.500	40.09	-3.20	54.0	13.91	AV	290.00	100	Vertical	Pass
4	7793.000	53.58	0.65	74.0	20.42	Peak	360.00	100	Vertical	Pass
4**	7793.000	44.52	0.65	54.0	9.48	AV	360.00	100	Vertical	Pass
5	11773.875	52.30	-0.17	74.0	21.70	Peak	288.00	100	Vertical	Pass
5**	11773.875	43.23	-0.17	54.0	10.77	AV	288.00	100	Vertical	Pass
6	17486.025	54.45	4.90	74.0	19.55	Peak	181.00	400	Vertical	Pass
6**	17486.025	45.30	4.90	54.0	8.70	AV	181.00	400	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	1327.300	42.11	-17.03	74.0	31.89	Peak	242.00	300	Horizontal	Pass
1**	1327.300	31.82	-17.03	54.0	22.18	AV	242.00	300	Horizontal	Pass
2	2438.700	110.22	-10.11	74.0	-36.22	Peak	13.00	150	Horizontal	N/A
2**	2438.700	102.25	-10.11	54.0	-48.25	AV	13.00	150	Horizontal	N/A
3	4961.250	49.40	-3.66	74.0	24.60	Peak	90.00	200	Horizontal	Pass
3**	4961.250	40.58	-3.66	54.0	13.42	AV	90.00	200	Horizontal	Pass
4	7307.000	56.01	0.45	74.0	17.99	Peak	68.00	0	Horizontal	Pass
4**	7307.000	49.16	0.45	54.0	4.84	AV	68.00	0	Horizontal	Pass
5	11789.550	52.14	-0.16	74.0	21.86	Peak	188.00	200	Horizontal	Pass
5**	11789.550	43.30	-0.16	54.0	10.70	AV	188.00	200	Horizontal	Pass
6	17263.426	54.61	2.50	74.0	19.39	Peak	68.00	100	Horizontal	Pass
6**	17263.426	44.81	2.50	54.0	9.19	AV	68.00	100	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	1329.800	44.43	-16.84	74.0	29.57	Peak	268.00	200	Vertical	Pass
1**	1329.800	33.11	-16.84	54.0	20.89	AV	268.00	200	Vertical	Pass
2	2438.600	102.96	-10.02	74.0	-28.96	Peak	202.00	200	Vertical	N/A
2**	2438.600	95.43	-10.02	54.0	-41.43	AV	202.00	200	Vertical	N/A
3	4920.750	49.20	-3.53	74.0	24.80	Peak	13.00	200	Vertical	Pass
3**	4920.750	39.97	-3.53	54.0	14.03	AV	13.00	200	Vertical	Pass
4	7760.750	53.18	1.53	74.0	20.82	Peak	146.00	400	Vertical	Pass
4**	7760.750	44.11	1.53	54.0	9.89	AV	146.00	400	Vertical	Pass
5	12814.576	52.52	0.85	74.0	21.48	Peak	193.00	400	Vertical	Pass
5**	12814.576	42.02	0.85	54.0	11.98	AV	193.00	400	Vertical	Pass
6	17492.849	54.54	4.77	74.0	19.46	Peak	256.00	200	Vertical	Pass
6**	17492.849	44.83	4.77	54.0	9.17	AV	256.00	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	1412.700	41.95	-17.19	74.0	32.05	Peak	127.00	300	Horizontal	Pass
1**	1412.700	31.74	-17.19	54.0	22.26	AV	127.00	300	Horizontal	Pass
2	2464.000	109.23	-11.21	74.0	-35.23	Peak	0.00	100	Horizontal	N/A
2**	2464.000	101.95	-11.21	54.0	-47.95	AV	0.00	100	Horizontal	N/A
3	4963.250	49.12	-3.55	74.0	24.88	Peak	344.00	200	Horizontal	Pass
3**	4963.250	40.15	-3.55	54.0	13.85	AV	344.00	200	Horizontal	Pass
4	7382.000	52.69	-0.06	74.0	21.31	Peak	42.00	200	Horizontal	Pass
4**	7382.000	47.22	-0.06	54.0	6.78	AV	42.00	200	Horizontal	Pass
5	11800.001	52.30	-0.15	74.0	21.70	Peak	3.00	200	Horizontal	Pass
5**	11800.001	43.66	-0.15	54.0	10.34	AV	3.00	200	Horizontal	Pass
6	16417.651	54.52	2.93	74.0	19.48	Peak	15.00	300	Horizontal	Pass
6**	16417.651	45.12	2.93	54.0	8.88	AV	15.00	300	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	1327.800	45.56	-16.94	74.0	28.44	Peak	271.00	200	Vertical	Pass
1**	1327.800	32.43	-16.94	54.0	21.57	AV	271.00	200	Vertical	Pass
2	2460.500	101.89	-11.29	74.0	-27.89	Peak	225.00	100	Vertical	N/A
2**	2460.500	93.89	-11.29	54.0	-39.89	AV	225.00	100	Vertical	N/A
3	4950.500	49.88	-3.63	74.0	24.12	Peak	151.00	200	Vertical	Pass
3**	4950.500	40.38	-3.63	54.0	13.62	AV	151.00	200	Vertical	Pass
4	7812.000	53.44	1.14	74.0	20.56	Peak	103.00	400	Vertical	Pass
4**	7812.000	44.44	1.14	54.0	9.56	AV	103.00	400	Vertical	Pass
5	11801.900	52.69	-0.17	74.0	21.31	Peak	209.00	400	Vertical	Pass
5**	11801.900	43.71	-0.17	54.0	10.29	AV	209.00	400	Vertical	Pass
6	16413.449	54.33	2.99	74.0	19.67	Peak	56.00	400	Vertical	Pass
6**	16413.449	45.66	2.99	54.0	8.34	AV	56.00	400	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	1328.000	42.53	-16.96	74.0	31.47	Peak	43.00	200	Horizontal	Pass
1**	1328.000	35.63	-16.96	54.0	18.37	AV	43.00	200	Horizontal	Pass
2	2411.200	107.61	-10.33	74.0	-33.61	Peak	79.00	100	Horizontal	N/A
2**	2411.200	100.80	-10.33	54.0	-46.80	AV	79.00	100	Horizontal	N/A
3	4698.250	49.08	-3.41	74.0	24.92	Peak	261.00	100	Horizontal	Pass
3**	4698.250	39.60	-3.41	54.0	14.40	AV	261.00	100	Horizontal	Pass
4	7751.000	53.54	0.44	74.0	20.46	Peak	156.00	300	Horizontal	Pass
4**	7751.000	43.70	0.44	54.0	10.30	AV	156.00	300	Horizontal	Pass
5	11794.062	51.92	-0.15	74.0	22.08	Peak	143.00	300	Horizontal	Pass
5**	11794.062	43.69	-0.15	54.0	10.31	AV	143.00	300	Horizontal	Pass
6	16159.350	54.17	2.09	74.0	19.83	Peak	0.00	400	Horizontal	Pass
6**	16159.350	44.92	2.09	54.0	9.08	AV	0.00	400	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	1161.200	45.14	-17.50	74.0	28.86	Peak	290.00	100	Vertical	Pass
1**	1161.200	32.16	-17.50	54.0	21.84	AV	290.00	100	Vertical	Pass
2	2414.300	100.10	-10.20	74.0	-26.10	Peak	203.00	100	Vertical	N/A
2**	2414.300	92.28	-10.20	54.0	-38.28	AV	203.00	100	Vertical	N/A
3	4932.250	49.44	-3.20	74.0	24.56	Peak	59.00	150	Vertical	Pass
3**	4932.250	40.62	-3.20	54.0	13.38	AV	59.00	150	Vertical	Pass
4	7798.750	53.36	0.69	74.0	20.64	Peak	34.00	100	Vertical	Pass
4**	7798.750	44.60	0.69	54.0	9.40	AV	34.00	100	Vertical	Pass
5	12423.675	52.15	1.07	74.0	21.85	Peak	319.00	400	Vertical	Pass
5**	12423.675	43.33	1.07	54.0	10.67	AV	319.00	400	Vertical	Pass
6	17487.600	54.61	4.87	74.0	19.39	Peak	220.00	400	Vertical	Pass
6**	17487.600	45.71	4.87	54.0	8.29	AV	220.00	400	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	1584.700	42.72	-17.04	74.0	31.28	Peak	245.00	200	Horizontal	Pass
1**	1584.700	33.97	-17.04	54.0	20.03	AV	245.00	200	Horizontal	Pass
2	2435.800	107.13	-10.35	74.0	-33.13	Peak	256.00	200	Horizontal	N/A
2**	2435.800	100.03	-10.35	54.0	-46.03	AV	256.00	200	Horizontal	N/A
3	4984.250	49.64	-3.28	74.0	24.36	Peak	239.00	100	Horizontal	Pass
3**	4984.250	39.61	-3.28	54.0	14.39	AV	239.00	100	Horizontal	Pass
4	7240.000	54.65	-0.52	74.0	19.35	Peak	49.00	400	Horizontal	Pass
4**	7240.000	43.30	-0.52	54.0	10.70	AV	49.00	400	Horizontal	Pass
5	12275.474	52.55	0.82	74.0	21.45	Peak	268.00	200	Horizontal	Pass
5**	12275.474	42.67	0.82	54.0	11.33	AV	268.00	200	Horizontal	Pass
6	16404.000	54.10	3.11	74.0	19.90	Peak	360.00	100	Horizontal	Pass
6**	16404.000	45.19	3.11	54.0	8.81	AV	360.00	100	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	1166.000	44.55	-17.64	74.0	29.45	Peak	235.00	400	Vertical	Pass
1**	1166.000	36.70	-17.64	54.0	17.30	AV	235.00	400	Vertical	Pass
2	2435.800	99.92	-10.45	74.0	-25.92	Peak	205.00	150	Vertical	N/A
2**	2435.800	92.13	-10.45	54.0	-38.13	AV	205.00	150	Vertical	N/A
3	4970.500	49.38	-3.46	74.0	24.62	Peak	167.00	150	Vertical	Pass
3**	4970.500	39.95	-3.46	54.0	14.05	AV	167.00	150	Vertical	Pass
4	7764.000	53.44	1.74	74.0	20.56	Peak	235.00	100	Vertical	Pass
4**	7764.000	45.08	1.74	54.0	8.92	AV	235.00	100	Vertical	Pass
5	11780.050	52.21	-0.17	74.0	21.79	Peak	3.00	400	Vertical	Pass
5**	11780.050	43.89	-0.17	54.0	10.11	AV	3.00	400	Vertical	Pass
6	17230.088	54.67	3.09	74.0	19.33	Peak	207.00	100	Vertical	Pass
6**	17230.088	44.15	3.09	54.0	9.85	AV	207.00	100	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	1327.900	43.30	-16.95	74.0	30.70	Peak	249.00	100	Horizontal	Pass
1**	1327.900	31.72	-16.95	54.0	22.28	AV	249.00	100	Horizontal	Pass
2	2461.200	108.07	-11.38	74.0	-34.07	Peak	360.00	200	Horizontal	N/A
2**	2461.200	101.06	-11.38	54.0	-47.06	AV	360.00	200	Horizontal	N/A
3	4985.750	49.31	-3.10	74.0	24.69	Peak	360.00	150	Horizontal	Pass
3**	4985.750	40.31	-3.10	54.0	13.69	AV	360.00	150	Horizontal	Pass
4	7757.000	53.49	1.47	74.0	20.51	Peak	10.00	100	Horizontal	Pass
4**	7757.000	44.54	1.47	54.0	9.46	AV	10.00	100	Horizontal	Pass
5	12350.763	52.67	0.85	74.0	21.33	Peak	0.00	300	Horizontal	Pass
5**	12350.763	42.73	0.85	54.0	11.27	AV	0.00	300	Horizontal	Pass
6	16456.500	54.44	2.28	74.0	19.56	Peak	108.00	400	Horizontal	Pass
6**	16456.500	44.55	2.28	54.0	9.45	AV	108.00	400	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	1163.200	45.21	-17.66	74.0	28.79	Peak	297.00	100	Vertical	Pass
1**	1163.200	31.80	-17.66	54.0	22.20	AV	297.00	100	Vertical	Pass
2	2460.400	100.64	-11.28	74.0	-26.64	Peak	268.00	100	Vertical	N/A
2**	2460.400	92.96	-11.28	54.0	-38.96	AV	268.00	100	Vertical	N/A
3	4990.000	49.29	-3.24	74.0	24.71	Peak	360.00	150	Vertical	Pass
3**	4990.000	39.67	-3.24	54.0	14.33	AV	360.00	150	Vertical	Pass
4	7483.000	53.05	0.95	74.0	20.95	Peak	68.00	400	Vertical	Pass
4**	7483.000	44.00	0.95	54.0	10.00	AV	68.00	400	Vertical	Pass
5	12378.787	52.67	1.00	74.0	21.33	Peak	330.00	400	Vertical	Pass
5**	12378.787	42.71	1.00	54.0	11.29	AV	330.00	400	Vertical	Pass
6	16406.625	54.11	3.08	74.0	19.89	Peak	254.00	400	Vertical	Pass
6**	16406.625	44.85	3.08	54.0	9.15	AV	254.00	400	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	1518.600	43.13	-16.88	74.0	30.87	Peak	360.00	100	Horizontal	Pass
1**	1518.600	32.65	-16.88	54.0	21.35	AV	360.00	100	Horizontal	Pass
2	2419.600	108.54	-10.00	74.0	-34.54	Peak	0.00	200	Horizontal	N/A
2**	2419.600	101.45	-10.00	54.0	-47.45	AV	0.00	200	Horizontal	N/A
3	4996.500	49.14	-3.31	74.0	24.86	Peak	0.00	150	Horizontal	Pass
3**	4996.500	39.83	-3.31	54.0	14.17	AV	0.00	150	Horizontal	Pass
4	7807.750	53.53	1.25	74.0	20.47	Peak	95.00	200	Horizontal	Pass
4**	7807.750	44.91	1.25	54.0	9.09	AV	95.00	200	Horizontal	Pass
5	12329.388	51.85	0.73	74.0	22.15	Peak	177.00	100	Horizontal	Pass
5**	12329.388	42.10	0.73	54.0	11.90	AV	177.00	100	Horizontal	Pass
6	16400.588	54.35	3.16	74.0	19.65	Peak	0.00	300	Horizontal	Pass
6**	16400.588	45.20	3.16	54.0	8.80	AV	0.00	300	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	1161.300	45.68	-17.41	74.0	28.32	Peak	235.00	200	Vertical	Pass
1**	1161.300	31.40	-17.41	54.0	22.60	AV	235.00	200	Vertical	Pass
2	2415.200	99.51	-10.42	74.0	-25.51	Peak	211.00	100	Vertical	N/A
2**	2415.200	91.56	-10.42	54.0	-37.56	AV	211.00	100	Vertical	N/A
3	4979.500	49.95	-3.55	74.0	24.05	Peak	312.00	100	Vertical	Pass
3**	4979.500	40.15	-3.55	54.0	13.85	AV	312.00	100	Vertical	Pass
4	7480.750	53.25	0.89	74.0	20.75	Peak	0.00	200	Vertical	Pass
4**	7480.750	43.98	0.89	54.0	10.02	AV	0.00	200	Vertical	Pass
5	12527.225	52.64	1.28	74.0	21.36	Peak	262.00	200	Vertical	Pass
5**	12527.225	42.08	1.28	54.0	11.92	AV	262.00	200	Vertical	Pass
6	17477.364	54.79	5.06	74.0	19.21	Peak	163.00	400	Vertical	Pass
6**	17477.364	45.21	5.06	54.0	8.79	AV	163.00	400	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	1329.200	42.22	-16.94	74.0	31.78	Peak	42.00	200	Horizontal	Pass
1**	1329.200	32.21	-16.94	54.0	21.79	AV	42.00	200	Horizontal	Pass
2	2435.800	108.84	-10.14	74.0	-34.84	Peak	0.00	100	Horizontal	N/A
2**	2435.800	101.63	-10.14	54.0	-47.63	AV	0.00	100	Horizontal	N/A
3	4916.000	49.01	-3.39	74.0	24.99	Peak	102.00	200	Horizontal	Pass
3**	4916.000	39.16	-3.39	54.0	14.84	AV	102.00	200	Horizontal	Pass
4	7312.250	52.61	0.58	74.0	21.39	Peak	61.00	200	Horizontal	Pass
4**	7312.250	47.50	0.58	54.0	6.50	AV	61.00	200	Horizontal	Pass
5	12432.938	52.73	1.06	74.0	21.27	Peak	286.00	300	Horizontal	Pass
5**	12432.938	42.87	1.06	54.0	11.13	AV	286.00	300	Horizontal	Pass
6	16439.437	54.67	2.64	74.0	19.33	Peak	214.00	300	Horizontal	Pass
6**	16439.437	44.18	2.64	54.0	9.82	AV	214.00	300	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	1329.500	44.36	-16.83	74.0	29.64	Peak	114.00	200	Vertical	Pass
1**	1329.500	33.08	-16.83	54.0	20.92	AV	114.00	200	Vertical	Pass
2	2441.400	101.10	-9.78	74.0	-27.10	Peak	208.00	100	Vertical	N/A
2**	2441.400	93.54	-9.78	54.0	-39.54	AV	208.00	100	Vertical	N/A
3	4964.500	50.05	-3.49	74.0	23.95	Peak	71.00	200	Vertical	Pass
3**	4964.500	39.68	-3.49	54.0	14.32	AV	71.00	200	Vertical	Pass
4	7370.250	53.22	0.97	74.0	20.78	Peak	0.00	200	Vertical	Pass
4**	7370.250	44.71	0.97	54.0	9.29	AV	0.00	200	Vertical	Pass
5	11783.612	52.20	-0.16	74.0	21.80	Peak	215.00	100	Vertical	Pass
5**	11783.612	43.13	-0.16	54.0	10.87	AV	215.00	100	Vertical	Pass
6	16413.449	54.45	2.99	74.0	19.55	Peak	171.00	200	Vertical	Pass
6**	16413.449	46.10	2.99	54.0	7.90	AV	171.00	200	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1327.800	42.34	-16.94	74.0	31.66	Peak	306.00	300	Horizontal	Pass
1**	1327.800	32.42	-16.94	54.0	21.58	AV	306.00	300	Horizontal	Pass
2	2455.400	108.74	-11.14	74.0	-34.74	Peak	360.00	200	Horizontal	N/A
2**	2455.400	100.06	-11.14	54.0	-46.06	AV	360.00	200	Horizontal	N/A
3	4849.500	49.00	-3.75	74.0	25.00	Peak	199.00	150	Horizontal	Pass
3**	4849.500	39.03	-3.75	54.0	14.97	AV	199.00	150	Horizontal	Pass
4	7780.500	53.04	0.78	74.0	20.96	Peak	0.00	100	Horizontal	Pass
4**	7780.500	43.82	0.78	54.0	10.18	AV	0.00	100	Horizontal	Pass
5	12395.888	52.31	1.09	74.0	21.69	Peak	316.00	400	Horizontal	Pass
5**	12395.888	42.55	1.09	54.0	11.45	AV	316.00	400	Horizontal	Pass
6	16417.125	54.51	2.94	74.0	19.49	Peak	249.00	200	Horizontal	Pass
6**	16417.125	45.75	2.94	54.0	8.25	AV	249.00	200	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	1166.100	47.38	-17.66	74.0	26.62	Peak	298.00	400	Vertical	Pass
1**	1166.100	38.35	-17.66	54.0	15.65	AV	298.00	400	Vertical	Pass
2	2460.300	100.25	-11.28	74.0	-26.25	Peak	325.00	200	Vertical	N/A
2**	2460.300	92.21	-11.28	54.0	-38.21	AV	325.00	200	Vertical	N/A
3	4814.500	49.26	-3.17	74.0	24.74	Peak	302.00	200	Vertical	Pass
3**	4814.500	40.15	-3.17	54.0	13.85	AV	302.00	200	Vertical	Pass
4	7772.500	53.62	1.28	74.0	20.38	Peak	93.00	100	Vertical	Pass
4**	7772.500	43.86	1.28	54.0	10.14	AV	93.00	100	Vertical	Pass
5	12283.787	52.33	0.73	74.0	21.67	Peak	268.00	200	Vertical	Pass
5**	12283.787	41.84	0.73	54.0	12.16	AV	268.00	200	Vertical	Pass
6	16432.613	54.51	2.73	74.0	19.49	Peak	93.00	300	Vertical	Pass
6**	16432.613	44.82	2.73	54.0	9.18	AV	93.00	300	Vertical	Pass

SISO-Aux. Antenna

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	1536.300	42.28	-17.33	74.0	31.72	Peak	260.00	100	Horizontal	Pass
1**	1536.300	34.52	-17.33	54.0	19.48	AV	260.00	100	Horizontal	Pass
2	2410.900	104.88	-10.34	74.0	-30.88	Peak	169.00	150	Horizontal	N/A
2**	2410.900	102.18	-10.34	54.0	-48.18	AV	169.00	150	Horizontal	N/A
3	4824.250	48.97	-3.48	74.0	25.03	Peak	158.00	150	Horizontal	Pass
3**	4824.250	45.13	-3.48	54.0	8.87	AV	158.00	150	Horizontal	Pass
4	7235.000	52.86	-0.73	74.0	21.14	Peak	220.00	150	Horizontal	Pass
4**	7235.000	48.18	-0.73	54.0	5.82	AV	220.00	150	Horizontal	Pass
5	11800.475	52.19	-0.15	74.0	21.81	Peak	157.00	100	Horizontal	Pass
5**	11800.475	43.96	-0.15	54.0	10.04	AV	157.00	100	Horizontal	Pass
6	17466.337	54.65	5.26	74.0	19.35	Peak	203.00	400	Horizontal	Pass
6**	17466.337	45.43	5.26	54.0	8.57	AV	203.00	400	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	1333.500	43.94	-17.06	74.0	30.06	Peak	257.00	100	Vertical	Pass
1**	1333.500	32.52	-17.06	54.0	21.48	AV	257.00	100	Vertical	Pass
2	2410.900	95.13	-10.34	74.0	-21.13	Peak	159.00	200	Vertical	N/A
2**	2410.900	92.27	-10.34	54.0	-38.27	AV	159.00	200	Vertical	N/A
3	4824.500	49.68	-3.55	74.0	24.32	Peak	102.00	200	Vertical	Pass
3**	4824.500	40.98	-3.55	54.0	13.02	AV	102.00	200	Vertical	Pass
4	7771.750	53.49	1.36	74.0	20.51	Peak	242.00	200	Vertical	Pass
4**	7771.750	44.16	1.36	54.0	9.84	AV	242.00	200	Vertical	Pass
5	11790.026	52.88	-0.16	74.0	21.12	Peak	162.00	200	Vertical	Pass
5**	11790.026	44.42	-0.16	54.0	9.58	AV	162.00	200	Vertical	Pass
6	16416.074	54.62	2.95	74.0	19.38	Peak	0.00	400	Vertical	Pass
6**	16416.074	45.85	2.95	54.0	8.15	AV	0.00	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	1327.700	42.87	-16.94	74.0	31.13	Peak	252.00	100	Horizontal	Pass
1**	1327.700	32.45	-16.94	54.0	21.55	AV	252.00	100	Horizontal	Pass
2	2436.000	106.27	-10.16	74.0	-32.27	Peak	179.00	100	Horizontal	N/A
2**	2436.000	103.51	-10.16	54.0	-49.51	AV	179.00	100	Horizontal	N/A
3	4874.250	49.94	-3.45	74.0	24.06	Peak	203.00	400	Horizontal	Pass
3**	4874.250	44.91	-3.45	54.0	9.09	AV	203.00	400	Horizontal	Pass
4	7310.000	53.00	0.68	74.0	21.00	Peak	0.00	100	Horizontal	Pass
4**	7310.000	48.15	0.68	54.0	5.85	AV	0.00	100	Horizontal	Pass
5	11789.787	52.35	-0.16	74.0	21.65	Peak	274.00	300	Horizontal	Pass
5**	11789.787	44.98	-0.16	54.0	9.02	AV	274.00	300	Horizontal	Pass
6	17456.626	54.31	5.44	74.0	19.69	Peak	280.00	400	Horizontal	Pass
6**	17456.626	44.85	5.44	54.0	9.15	AV	280.00	400	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	1328.200	45.66	-17.03	74.0	28.34	Peak	104.00	400	Vertical	Pass
1**	1328.200	32.23	-17.03	54.0	21.77	AV	104.00	400	Vertical	Pass
2	2435.800	93.89	-10.14	74.0	-19.89	Peak	206.00	100	Vertical	N/A
2**	2435.800	90.96	-10.14	54.0	-36.96	AV	206.00	100	Vertical	N/A
3	4990.000	49.42	-3.24	74.0	24.58	Peak	0.00	200	Vertical	Pass
3**	4990.000	40.27	-3.24	54.0	13.73	AV	0.00	200	Vertical	Pass
4	7759.750	54.21	1.55	74.0	19.79	Peak	93.00	200	Vertical	Pass
4**	7759.750	44.97	1.55	54.0	9.03	AV	93.00	200	Vertical	Pass
5	12393.275	52.55	1.07	74.0	21.45	Peak	334.00	100	Vertical	Pass
5**	12393.275	43.05	1.07	54.0	10.95	AV	334.00	100	Vertical	Pass
6	16428.412	54.58	2.79	74.0	19.42	Peak	121.00	400	Vertical	Pass
6**	16428.412	45.43	2.79	54.0	8.57	AV	121.00	400	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	1331.500	42.87	-16.94	74.0	31.13	Peak	33.00	400	Horizontal	Pass
1**	1331.500	33.38	-16.94	54.0	20.62	AV	33.00	400	Horizontal	Pass
2	2460.900	105.42	-11.30	74.0	-31.42	Peak	178.00	100	Horizontal	N/A
2**	2460.900	102.56	-11.30	54.0	-48.56	AV	178.00	100	Horizontal	N/A
3	4924.250	48.90	-3.53	74.0	25.10	Peak	125.00	100	Horizontal	Pass
3**	4924.250	45.02	-3.53	54.0	8.98	AV	125.00	100	Horizontal	Pass
4	7385.250	54.35	-0.21	74.0	19.65	Peak	17.00	100	Horizontal	Pass
4**	7385.250	50.05	-0.21	54.0	3.95	AV	17.00	100	Horizontal	Pass
5	11784.325	52.40	-0.16	74.0	21.60	Peak	119.00	300	Horizontal	Pass
5**	11784.325	43.10	-0.16	54.0	10.90	AV	119.00	300	Horizontal	Pass
6	16873.349	54.96	3.17	74.0	19.04	Peak	158.00	400	Horizontal	Pass
6**	16873.349	45.63	3.17	54.0	8.37	AV	158.00	400	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	1330.300	45.92	-17.08	74.0	28.08	Peak	242.00	100	Vertical	Pass
1**	1330.300	32.16	-17.08	54.0	21.84	AV	242.00	100	Vertical	Pass
2	2460.800	96.31	-11.30	74.0	-22.31	Peak	223.00	150	Vertical	N/A
2**	2460.800	93.43	-11.30	54.0	-39.43	AV	223.00	150	Vertical	N/A
3	4962.250	49.84	-3.61	74.0	24.16	Peak	300.00	200	Vertical	Pass
3**	4962.250	40.68	-3.61	54.0	13.32	AV	300.00	200	Vertical	Pass
4	7928.000	53.89	2.10	74.0	20.11	Peak	107.00	100	Vertical	Pass
4**	7928.000	43.82	2.10	54.0	10.18	AV	107.00	100	Vertical	Pass
5	11783.375	52.83	-0.16	74.0	21.17	Peak	195.00	100	Vertical	Pass
5**	11783.375	43.48	-0.16	54.0	10.52	AV	195.00	100	Vertical	Pass
6	16893.824	54.44	2.82	74.0	19.56	Peak	180.00	100	Vertical	Pass
6**	16893.824	44.35	2.82	54.0	9.65	AV	180.00	100	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	1328.600	45.43	-17.01	74.0	28.57	Peak	35.00	400	Horizontal	Pass
1**	1328.600	34.31	-17.01	54.0	19.69	AV	35.00	400	Horizontal	Pass
2	2409.900	106.77	-10.41	74.0	-32.77	Peak	174.00	200	Horizontal	N/A
2**	2409.900	99.32	-10.41	54.0	-45.32	AV	174.00	200	Horizontal	N/A
3	4955.500	49.45	-3.54	74.0	24.55	Peak	205.00	100	Horizontal	Pass
3**	4955.500	40.42	-3.54	54.0	13.58	AV	205.00	100	Horizontal	Pass
4	7748.000	53.42	0.20	74.0	20.58	Peak	137.00	100	Horizontal	Pass
4**	7748.000	43.67	0.20	54.0	10.33	AV	137.00	100	Horizontal	Pass
5	11782.662	52.38	-0.16	74.0	21.62	Peak	136.00	400	Horizontal	Pass
5**	11782.662	43.39	-0.16	54.0	10.61	AV	136.00	400	Horizontal	Pass
6	16732.650	54.61	2.13	74.0	19.39	Peak	300.00	400	Horizontal	Pass
6**	16732.650	44.90	2.13	54.0	9.10	AV	300.00	400	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	1327.800	44.22	-16.94	74.0	29.78	Peak	320.00	400	Vertical	Pass
1**	1327.800	33.27	-16.94	54.0	20.73	AV	320.00	400	Vertical	Pass
2	2411.400	96.64	-10.20	74.0	-22.64	Peak	162.00	100	Vertical	N/A
2**	2411.400	88.84	-10.20	54.0	-34.84	AV	162.00	100	Vertical	N/A
3	4990.500	49.82	-3.18	74.0	24.18	Peak	143.00	100	Vertical	Pass
3**	4990.500	40.02	-3.18	54.0	13.98	AV	143.00	100	Vertical	Pass
4	7746.500	53.10	0.21	74.0	20.90	Peak	120.00	300	Vertical	Pass
4**	7746.500	44.23	0.21	54.0	9.77	AV	120.00	300	Vertical	Pass
5	12552.637	52.43	1.10	74.0	21.57	Peak	166.00	100	Vertical	Pass
5**	12552.637	42.78	1.10	54.0	11.22	AV	166.00	100	Vertical	Pass
6	16401.636	54.84	3.15	74.0	19.16	Peak	268.00	400	Vertical	Pass
6**	16401.636	45.46	3.15	54.0	8.54	AV	268.00	400	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	1332.200	43.84	-17.09	74.0	30.16	Peak	40.00	200	Horizontal	Pass
1**	1332.200	32.22	-17.09	54.0	21.78	AV	40.00	200	Horizontal	Pass
2	2435.400	107.84	-10.17	74.0	-33.84	Peak	176.00	100	Horizontal	N/A
2**	2435.400	100.48	-10.17	54.0	-46.48	AV	176.00	100	Horizontal	N/A
3	4962.750	49.56	-3.59	74.0	24.44	Peak	122.00	100	Horizontal	Pass
3**	4962.750	40.46	-3.59	54.0	13.54	AV	122.00	100	Horizontal	Pass
4	7760.500	53.63	1.43	74.0	20.37	Peak	12.00	300	Horizontal	Pass
4**	7760.500	44.62	1.43	54.0	9.38	AV	12.00	300	Horizontal	Pass
5	12538.863	52.34	1.21	74.0	21.66	Peak	104.00	400	Horizontal	Pass
5**	12538.863	42.53	1.21	54.0	11.47	AV	104.00	400	Horizontal	Pass
6	16406.100	54.31	3.09	74.0	19.69	Peak	169.00	400	Horizontal	Pass
6**	16406.100	45.87	3.09	54.0	8.13	AV	169.00	400	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	1165.400	44.55	-17.49	74.0	29.45	Peak	259.00	200	Vertical	Pass
1**	1165.400	34.37	-17.49	54.0	19.63	AV	259.00	200	Vertical	Pass
2	2435.800	96.67	-10.14	74.0	-22.67	Peak	213.00	150	Vertical	N/A
2**	2435.800	89.17	-10.14	54.0	-35.17	AV	213.00	150	Vertical	N/A
3	4818.000	48.88	-2.89	74.0	25.12	Peak	180.00	150	Vertical	Pass
3**	4818.000	41.43	-2.89	54.0	12.57	AV	180.00	150	Vertical	Pass
4	7928.000	53.45	2.10	74.0	20.55	Peak	17.00	200	Vertical	Pass
4**	7928.000	43.36	2.10	54.0	10.64	AV	17.00	200	Vertical	Pass
5	11791.213	52.68	-0.15	74.0	21.32	Peak	206.00	100	Vertical	Pass
5**	11791.213	43.94	-0.15	54.0	10.06	AV	206.00	100	Vertical	Pass
6	17315.662	54.07	2.78	74.0	19.93	Peak	207.00	400	Vertical	Pass
6**	17315.662	44.47	2.78	54.0	9.53	AV	207.00	400	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	1331.800	42.27	-16.90	74.0	31.73	Peak	33.00	200	Horizontal	Pass
1**	1331.800	34.66	-16.90	54.0	19.34	AV	33.00	200	Horizontal	Pass
2	2461.300	107.32	-11.41	74.0	-33.32	Peak	176.00	150	Horizontal	N/A
2**	2461.300	100.02	-11.41	54.0	-46.02	AV	176.00	150	Horizontal	N/A
3	4982.750	49.16	-3.44	74.0	24.84	Peak	320.00	200	Horizontal	Pass
3**	4982.750	41.15	-3.44	54.0	12.85	AV	320.00	200	Horizontal	Pass
4	7383.500	51.75	-0.39	74.0	22.25	Peak	76.00	100	Horizontal	Pass
4**	7383.500	48.17	-0.39	54.0	5.83	AV	76.00	100	Horizontal	Pass
5	11774.349	52.42	-0.17	74.0	21.58	Peak	0.00	400	Horizontal	Pass
5**	11774.349	44.20	-0.17	54.0	9.80	AV	0.00	400	Horizontal	Pass
6	16162.237	54.78	2.07	74.0	19.22	Peak	341.00	100	Horizontal	Pass
6**	16162.237	45.23	2.07	54.0	8.77	AV	341.00	100	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	1328.000	45.06	-16.96	74.0	28.94	Peak	259.00	200	Vertical	Pass
1**	1328.000	39.00	-16.96	54.0	15.00	AV	259.00	200	Vertical	Pass
2	2460.900	97.62	-11.30	74.0	-23.62	Peak	230.00	100	Vertical	N/A
2**	2460.900	90.45	-11.30	54.0	-36.45	AV	230.00	100	Vertical	N/A
3	4843.250	49.84	-3.68	74.0	24.16	Peak	300.00	100	Vertical	Pass
3**	4843.250	39.00	-3.68	54.0	15.00	AV	300.00	100	Vertical	Pass
4	7754.000	53.34	1.14	74.0	20.66	Peak	234.00	200	Vertical	Pass
4**	7754.000	45.07	1.14	54.0	8.93	AV	234.00	200	Vertical	Pass
5	11784.800	52.37	-0.16	74.0	21.63	Peak	96.00	200	Vertical	Pass
5**	11784.800	43.55	-0.16	54.0	10.45	AV	96.00	200	Vertical	Pass
6	17463.450	54.20	5.32	74.0	19.80	Peak	275.00	400	Vertical	Pass
6**	17463.450	44.85	5.32	54.0	9.15	AV	275.00	400	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	1330.000	42.42	-16.93	74.0	31.58	Peak	14.00	200	Horizontal	Pass
1**	1330.000	32.73	-16.93	54.0	21.27	AV	14.00	200	Horizontal	Pass
2	2405.400	106.54	-10.27	74.0	-32.54	Peak	176.00	150	Horizontal	N/A
2**	2405.400	98.76	-10.27	54.0	-44.76	AV	176.00	150	Horizontal	N/A
3	4812.750	48.80	-2.97	74.0	25.20	Peak	136.00	100	Horizontal	Pass
3**	4812.750	39.90	-2.97	54.0	14.10	AV	136.00	100	Horizontal	Pass
4	7373.500	53.49	0.77	74.0	20.51	Peak	0.00	400	Horizontal	Pass
4**	7373.500	43.34	0.77	54.0	10.66	AV	0.00	400	Horizontal	Pass
5	11788.363	52.61	-0.16	74.0	21.39	Peak	84.00	200	Horizontal	Pass
5**	11788.363	43.27	-0.16	54.0	10.73	AV	84.00	200	Horizontal	Pass
6	17289.677	55.05	2.60	74.0	18.95	Peak	137.00	200	Horizontal	Pass
6**	17289.677	45.87	2.60	54.0	8.13	AV	137.00	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	1161.900	45.08	-17.90	74.0	28.92	Peak	245.00	300	Vertical	Pass
1**	1161.900	33.08	-17.90	54.0	20.92	AV	245.00	300	Vertical	Pass
2	2406.500	96.82	-10.54	74.0	-22.82	Peak	235.00	150	Vertical	N/A
2**	2406.500	89.58	-10.54	54.0	-35.58	AV	235.00	150	Vertical	N/A
3	4986.000	49.63	-3.09	74.0	24.37	Peak	22.00	200	Vertical	Pass
3**	4986.000	40.14	-3.09	54.0	13.86	AV	22.00	200	Vertical	Pass
4	7758.750	54.18	1.59	74.0	19.82	Peak	360.00	100	Vertical	Pass
4**	7758.750	45.62	1.59	54.0	8.38	AV	360.00	100	Vertical	Pass
5	11784.325	52.72	-0.16	74.0	21.28	Peak	274.00	300	Vertical	Pass
5**	11784.325	43.21	-0.16	54.0	10.79	AV	274.00	300	Vertical	Pass
6	17463.714	55.08	5.31	74.0	18.92	Peak	49.00	100	Vertical	Pass
6**	17463.714	45.37	5.31	54.0	8.63	AV	49.00	100	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	1535.900	42.67	-17.08	74.0	31.33	Peak	259.00	300	Horizontal	Pass
1**	1535.900	33.99	-17.08	54.0	20.01	AV	259.00	300	Horizontal	Pass
2	2435.300	107.59	-10.19	74.0	-33.59	Peak	189.00	200	Horizontal	N/A
2**	2435.300	100.47	-10.19	54.0	-46.47	AV	189.00	200	Horizontal	N/A
3	4906.750	49.15	-3.34	74.0	24.85	Peak	66.00	100	Horizontal	Pass
3**	4906.750	39.70	-3.34	54.0	14.30	AV	66.00	100	Horizontal	Pass
4	7763.250	53.87	1.47	74.0	20.13	Peak	276.00	100	Horizontal	Pass
4**	7763.250	44.84	1.47	54.0	9.16	AV	276.00	100	Horizontal	Pass
5	12500.388	53.22	1.44	74.0	20.78	Peak	135.00	300	Horizontal	Pass
5**	12500.388	41.49	1.44	54.0	12.51	AV	135.00	300	Horizontal	Pass
6	16453.088	54.53	2.40	74.0	19.47	Peak	44.00	300	Horizontal	Pass
6**	16453.088	44.59	2.40	54.0	9.41	AV	44.00	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	1162.300	46.49	-17.59	74.0	27.51	Peak	247.00	300	Vertical	Pass
1**	1162.300	31.49	-17.59	54.0	22.51	AV	247.00	300	Vertical	Pass
2	2438.400	95.53	-9.92	74.0	-21.53	Peak	206.00	100	Vertical	N/A
2**	2438.400	88.25	-9.92	54.0	-34.25	AV	206.00	100	Vertical	N/A
3	4948.500	48.98	-3.69	74.0	25.02	Peak	0.00	150	Vertical	Pass
3**	4948.500	39.44	-3.69	54.0	14.56	AV	0.00	150	Vertical	Pass
4	7495.750	53.94	1.29	74.0	20.06	Peak	142.00	400	Vertical	Pass
4**	7495.750	44.05	1.29	54.0	9.95	AV	142.00	400	Vertical	Pass
5	11684.813	52.36	-0.77	74.0	21.64	Peak	36.00	100	Vertical	Pass
5**	11684.813	43.08	-0.77	54.0	10.92	AV	36.00	100	Vertical	Pass
6	17465.813	54.94	5.27	74.0	19.06	Peak	222.00	100	Vertical	Pass
6**	17465.813	45.16	5.27	54.0	8.84	AV	222.00	100	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	1333.500	43.88	-17.06	74.0	30.12	Peak	257.00	400	Horizontal	Pass
1**	1333.500	32.04	-17.06	54.0	21.96	AV	257.00	400	Horizontal	Pass
2	2463.500	106.73	-11.26	74.0	-32.73	Peak	178.00	200	Horizontal	N/A
2**	2463.500	99.38	-11.26	54.0	-45.38	AV	178.00	200	Horizontal	N/A
3	4810.000	49.05	-2.99	74.0	24.95	Peak	217.00	100	Horizontal	Pass
3**	4810.000	39.75	-2.99	54.0	14.25	AV	217.00	100	Horizontal	Pass
4	7379.750	52.77	-0.13	74.0	21.23	Peak	360.00	100	Horizontal	Pass
4**	7379.750	48.06	-0.13	54.0	5.94	AV	360.00	100	Horizontal	Pass
5	12424.625	52.07	1.07	74.0	21.93	Peak	162.00	400	Horizontal	Pass
5**	12424.625	42.90	1.07	54.0	11.10	AV	162.00	400	Horizontal	Pass
6	17474.738	54.99	5.11	74.0	19.01	Peak	22.00	400	Horizontal	Pass
6**	17474.738	45.43	5.11	54.0	8.57	AV	22.00	400	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	1327.200	44.73	-17.07	74.0	29.27	Peak	240.00	400	Vertical	Pass
1**	1327.200	33.68	-17.07	54.0	20.32	AV	240.00	400	Vertical	Pass
2	2460.700	98.00	-11.30	74.0	-24.00	Peak	220.00	150	Vertical	N/A
2**	2460.700	90.30	-11.30	54.0	-36.30	AV	220.00	150	Vertical	N/A
3	4803.500	49.88	-3.36	74.0	24.12	Peak	342.00	200	Vertical	Pass
3**	4803.500	39.47	-3.36	54.0	14.53	AV	342.00	200	Vertical	Pass
4	7876.250	53.18	1.93	74.0	20.82	Peak	297.00	100	Vertical	Pass
4**	7876.250	44.10	1.93	54.0	9.90	AV	297.00	100	Vertical	Pass
5	11788.125	52.63	-0.16	74.0	21.37	Peak	79.00	100	Vertical	Pass
5**	11788.125	43.05	-0.16	54.0	10.95	AV	79.00	100	Vertical	Pass
6	16444.162	54.80	2.58	74.0	19.20	Peak	253.00	400	Vertical	Pass
6**	16444.162	44.94	2.58	54.0	9.06	AV	253.00	400	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	1568.300	42.01	-17.17	74.0	31.99	Peak	267.00	200	Horizontal	Pass
1**	1568.300	32.78	-17.17	54.0	21.22	AV	267.00	200	Horizontal	Pass
2	2411.000	111.16	-10.34	74.0	-37.16	Peak	169.00	200	Horizontal	N/A
2**	2411.000	102.98	-10.34	54.0	-48.98	AV	169.00	200	Horizontal	N/A
3	4813.500	48.80	-2.98	74.0	25.20	Peak	98.00	200	Horizontal	Pass
3**	4813.500	40.01	-2.98	54.0	13.99	AV	98.00	200	Horizontal	Pass
4	7882.750	53.59	1.82	74.0	20.41	Peak	181.00	100	Horizontal	Pass
4**	7882.750	42.79	1.82	54.0	11.21	AV	181.00	100	Horizontal	Pass
5	12415.600	52.61	1.09	74.0	21.39	Peak	244.00	100	Horizontal	Pass
5**	12415.600	43.01	1.09	54.0	10.99	AV	244.00	100	Horizontal	Pass
6	16431.037	54.63	2.75	74.0	19.37	Peak	272.00	300	Horizontal	Pass
6**	16431.037	44.63	2.75	54.0	9.37	AV	272.00	300	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	46.10	-16.94	74.0	27.90	Peak	259.00	300	Vertical	Pass
1**	1327.600	33.31	-16.94	54.0	20.69	AV	259.00	300	Vertical	Pass
2	2407.900	102.49	-10.38	74.0	-28.49	Peak	186.00	100	Vertical	N/A
2**	2407.900	94.16	-10.38	54.0	-40.16	AV	186.00	100	Vertical	N/A
3	4868.750	48.70	-3.39	74.0	25.30	Peak	180.00	200	Vertical	Pass
3**	4868.750	39.80	-3.39	54.0	14.20	AV	180.00	200	Vertical	Pass
4	7764.000	53.64	1.74	74.0	20.36	Peak	158.00	400	Vertical	Pass
4**	7764.000	44.87	1.74	54.0	9.13	AV	158.00	400	Vertical	Pass
5	11797.151	52.01	-0.15	74.0	21.99	Peak	332.00	300	Vertical	Pass
5**	11797.151	42.39	-0.15	54.0	11.61	AV	332.00	300	Vertical	Pass
6	16420.537	54.42	2.89	74.0	19.58	Peak	176.00	300	Vertical	Pass
6**	16420.537	44.90	2.89	54.0	9.10	AV	176.00	300	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	1346.800	42.51	-16.57	74.0	31.49	Peak	302.00	400	Horizontal	Pass
1**	1346.800	32.49	-16.57	54.0	21.51	AV	302.00	400	Horizontal	Pass
2	2436.400	111.06	-10.28	74.0	-37.06	Peak	172.00	200	Horizontal	N/A
2**	2436.400	103.57	-10.28	54.0	-49.57	AV	172.00	200	Horizontal	N/A
3	4932.250	48.49	-3.20	74.0	25.51	Peak	322.00	150	Horizontal	Pass
3**	4932.250	40.35	-3.20	54.0	13.65	AV	322.00	150	Horizontal	Pass
4	7310.750	54.24	0.54	74.0	19.76	Peak	278.00	200	Horizontal	Pass
4**	7310.750	46.59	0.54	54.0	7.41	AV	278.00	200	Horizontal	Pass
5	12392.325	53.11	1.07	74.0	20.89	Peak	164.00	300	Horizontal	Pass
5**	12392.325	42.71	1.07	54.0	11.29	AV	164.00	300	Horizontal	Pass
6	16397.176	54.73	3.06	74.0	19.27	Peak	136.00	400	Horizontal	Pass
6**	16397.176	45.27	3.06	54.0	8.73	AV	136.00	400	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	1163.200	46.84	-17.66	74.0	27.16	Peak	266.00	100	Vertical	Pass
1**	1163.200	33.41	-17.66	54.0	20.59	AV	266.00	100	Vertical	Pass
2	2436.500	101.79	-10.33	74.0	-27.79	Peak	329.00	200	Vertical	N/A
2**	2436.500	92.55	-10.33	54.0	-38.55	AV	329.00	200	Vertical	N/A
3	4942.000	48.98	-3.69	74.0	25.02	Peak	263.00	200	Vertical	Pass
3**	4942.000	39.19	-3.69	54.0	14.81	AV	263.00	200	Vertical	Pass
4	7766.250	53.70	1.56	74.0	20.30	Peak	303.00	400	Vertical	Pass
4**	7766.250	44.42	1.56	54.0	9.58	AV	303.00	400	Vertical	Pass
5	12370.237	52.08	0.95	74.0	21.92	Peak	328.00	300	Vertical	Pass
5**	12370.237	42.59	0.95	54.0	11.41	AV	328.00	300	Vertical	Pass
6	16890.412	54.10	2.88	74.0	19.90	Peak	349.00	100	Vertical	Pass
6**	16890.412	44.52	2.88	54.0	9.48	AV	349.00	100	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1311.800	42.79	-16.93	74.0	31.21	Peak	240.00	400	Horizontal	Pass
1**	1311.800	32.23	-16.93	54.0	21.77	AV	240.00	400	Horizontal	Pass
2	2461.000	110.93	-11.31	74.0	-36.93	Peak	165.00	200	Horizontal	N/A
2**	2461.000	102.98	-11.31	54.0	-48.98	AV	165.00	200	Horizontal	N/A
3	4817.750	48.88	-2.86	74.0	25.12	Peak	41.00	100	Horizontal	Pass
3**	4817.750	39.84	-2.86	54.0	14.16	AV	41.00	100	Horizontal	Pass
4	7389.750	55.62	-0.59	74.0	18.38	Peak	15.00	300	Horizontal	Pass
4**	7389.750	43.75	-0.59	54.0	10.25	AV	15.00	300	Horizontal	Pass
5	11791.688	52.06	-0.15	74.0	21.94	Peak	338.00	200	Horizontal	Pass
5**	11791.688	43.21	-0.15	54.0	10.79	AV	338.00	200	Horizontal	Pass
6	16423.687	54.45	2.85	74.0	19.55	Peak	144.00	400	Horizontal	Pass
6**	16423.687	45.99	2.85	54.0	8.01	AV	144.00	400	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	1332.200	45.90	-17.09	74.0	28.10	Peak	274.00	100	Vertical	Pass
1**	1332.200	36.34	-17.09	54.0	17.66	AV	274.00	100	Vertical	Pass
2	2458.400	104.00	-11.22	74.0	-30.00	Peak	328.00	150	Vertical	N/A
2**	2458.400	93.41	-11.22	54.0	-39.41	AV	328.00	150	Vertical	N/A
3	4900.000	49.03	-3.41	74.0	24.97	Peak	322.00	100	Vertical	Pass
3**	4900.000	39.96	-3.41	54.0	14.04	AV	322.00	100	Vertical	Pass
4	7759.750	53.48	1.55	74.0	20.52	Peak	0.00	200	Vertical	Pass
4**	7759.750	44.38	1.55	54.0	9.62	AV	0.00	200	Vertical	Pass
5	12371.425	52.34	0.96	74.0	21.66	Peak	101.00	100	Vertical	Pass
5**	12371.425	42.65	0.96	54.0	11.35	AV	101.00	100	Vertical	Pass
6	16410.563	54.78	3.03	74.0	19.22	Peak	155.00	400	Vertical	Pass
6**	16410.563	45.25	3.03	54.0	8.75	AV	155.00	400	Vertical	Pass

MIMO**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	1531.500	41.85	-16.78	74.0	32.15	Peak	33.00	400	Horizontal	Pass
1**	1531.500	32.35	-16.78	54.0	21.65	AV	33.00	400	Horizontal	Pass
2	2407.600	109.15	-10.48	74.0	-35.15	Peak	0.00	100	Horizontal	N/A
2**	2407.600	102.22	-10.48	54.0	-48.22	AV	0.00	100	Horizontal	N/A
3	4954.000	49.44	-3.46	74.0	24.56	Peak	297.00	150	Horizontal	Pass
3**	4954.000	39.80	-3.46	54.0	14.20	AV	297.00	150	Horizontal	Pass
4	7239.750	54.36	-0.47	74.0	19.64	Peak	54.00	150	Horizontal	Pass
4**	7239.750	48.94	-0.47	54.0	5.06	AV	54.00	150	Horizontal	Pass
5	11770.313	52.12	-0.18	74.0	21.88	Peak	81.00	200	Horizontal	Pass
5**	11770.313	42.92	-0.18	54.0	11.08	AV	81.00	200	Horizontal	Pass
6	16401.375	54.15	3.15	74.0	19.85	Peak	34.00	100	Horizontal	Pass
6**	16401.375	45.97	3.15	54.0	8.03	AV	34.00	100	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	1328.400	48.79	-17.09	74.0	25.21	Peak	252.00	200	Vertical	Pass
1**	1328.400	37.87	-17.09	54.0	16.13	AV	252.00	200	Vertical	Pass
2	2414.400	102.07	-10.30	74.0	-28.07	Peak	225.00	100	Vertical	N/A
2**	2414.400	93.97	-10.30	54.0	-39.97	AV	225.00	100	Vertical	N/A
3	4968.750	49.09	-3.56	74.0	24.91	Peak	17.00	150	Vertical	Pass
3**	4968.750	40.15	-3.56	54.0	13.85	AV	17.00	150	Vertical	Pass
4	7373.000	53.70	0.83	74.0	20.30	Peak	343.00	300	Vertical	Pass
4**	7373.000	43.80	0.83	54.0	10.20	AV	343.00	300	Vertical	Pass
5	11787.888	52.66	-0.16	74.0	21.34	Peak	271.00	400	Vertical	Pass
5**	11787.888	43.83	-0.16	54.0	10.17	AV	271.00	400	Vertical	Pass
6	17269.463	54.96	2.52	74.0	19.04	Peak	132.00	100	Vertical	Pass
6**	17269.463	45.23	2.52	54.0	8.77	AV	132.00	100	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	1400.300	42.14	-16.85	74.0	31.86	Peak	4.00	400	Horizontal	Pass
1**	1400.300	32.02	-16.85	54.0	21.98	AV	4.00	400	Horizontal	Pass
2	2435.300	110.10	-10.19	74.0	-36.10	Peak	14.00	100	Horizontal	N/A
2**	2435.300	103.75	-10.19	54.0	-49.75	AV	14.00	100	Horizontal	N/A
3	4981.000	48.79	-3.38	74.0	25.21	Peak	236.00	100	Horizontal	Pass
3**	4981.000	40.09	-3.38	54.0	13.91	AV	236.00	100	Horizontal	Pass
4	7308.000	55.34	0.45	74.0	18.66	Peak	37.00	300	Horizontal	Pass
4**	7308.000	48.11	0.45	54.0	5.89	AV	37.00	300	Horizontal	Pass
5	11788.125	52.65	-0.16	74.0	21.35	Peak	198.00	200	Horizontal	Pass
5**	11788.125	43.95	-0.16	54.0	10.05	AV	198.00	200	Horizontal	Pass
6	16411.875	54.27	3.01	74.0	19.73	Peak	190.00	400	Horizontal	Pass
6**	16411.875	45.62	3.01	54.0	8.38	AV	190.00	400	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	1163.600	45.34	-17.63	74.0	28.66	Peak	242.00	300	Vertical	Pass
1**	1163.600	34.56	-17.63	54.0	19.44	AV	242.00	300	Vertical	Pass
2	2438.300	103.46	-10.02	74.0	-29.46	Peak	213.00	200	Vertical	N/A
2**	2438.300	95.76	-10.02	54.0	-41.76	AV	213.00	200	Vertical	N/A
3	4996.250	49.45	-3.32	74.0	24.55	Peak	341.00	150	Vertical	Pass
3**	4996.250	39.54	-3.32	54.0	14.46	AV	341.00	150	Vertical	Pass
4	7312.750	54.29	0.81	74.0	19.71	Peak	180.00	300	Vertical	Pass
4**	7312.750	44.91	0.81	54.0	9.09	AV	180.00	300	Vertical	Pass
5	11784.088	52.85	-0.16	74.0	21.15	Peak	308.00	400	Vertical	Pass
5**	11784.088	43.78	-0.16	54.0	10.22	AV	308.00	400	Vertical	Pass
6	16417.651	55.26	2.93	74.0	18.74	Peak	263.00	300	Vertical	Pass
6**	16417.651	45.32	2.93	54.0	8.68	AV	263.00	300	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	1590.500	41.83	-17.04	74.0	32.17	Peak	67.00	100	Horizontal	Pass
1**	1590.500	32.31	-17.04	54.0	21.69	AV	67.00	100	Horizontal	Pass
2	2460.900	109.64	-11.30	74.0	-35.64	Peak	0.00	150	Horizontal	N/A
2**	2460.900	102.70	-11.30	54.0	-48.70	AV	0.00	150	Horizontal	N/A
3	4965.750	49.30	-3.52	74.0	24.70	Peak	239.00	200	Horizontal	Pass
3**	4965.750	40.12	-3.52	54.0	13.88	AV	239.00	200	Horizontal	Pass
4	7389.250	52.91	-0.34	74.0	21.09	Peak	71.00	200	Horizontal	Pass
4**	7389.250	49.70	-0.34	54.0	4.30	AV	71.00	200	Horizontal	Pass
5	11783.137	53.16	-0.16	74.0	20.84	Peak	121.00	200	Horizontal	Pass
5**	11783.137	43.12	-0.16	54.0	10.88	AV	121.00	200	Horizontal	Pass
6	17466.337	54.44	5.26	74.0	19.56	Peak	220.00	400	Horizontal	Pass
6**	17466.337	44.94	5.26	54.0	9.06	AV	220.00	400	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	1329.300	43.83	-16.91	74.0	30.17	Peak	103.00	300	Vertical	Pass
1**	1329.300	34.94	-16.91	54.0	19.06	AV	103.00	300	Vertical	Pass
2	2467.500	102.70	-11.16	74.0	-28.70	Peak	276.00	200	Vertical	N/A
2**	2467.500	96.63	-11.16	54.0	-42.63	AV	276.00	200	Vertical	N/A
3	4746.500	49.22	-3.11	74.0	24.78	Peak	259.00	200	Vertical	Pass
3**	4746.500	39.45	-3.11	54.0	14.55	AV	259.00	200	Vertical	Pass
4	7364.500	53.72	0.79	74.0	20.28	Peak	259.00	400	Vertical	Pass
4**	7364.500	44.53	0.79	54.0	9.47	AV	259.00	400	Vertical	Pass
5	11770.787	52.67	-0.17	74.0	21.33	Peak	177.00	100	Vertical	Pass
5**	11770.787	42.66	-0.17	54.0	11.34	AV	177.00	100	Vertical	Pass
6	17465.025	54.70	5.29	74.0	19.30	Peak	110.00	100	Vertical	Pass
6**	17465.025	45.09	5.29	54.0	8.91	AV	110.00	100	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	1585.800	42.01	-17.27	74.0	31.99	Peak	274.00	300	Horizontal	Pass
1**	1585.800	33.41	-17.27	54.0	20.59	AV	274.00	300	Horizontal	Pass
2	2408.200	111.64	-10.40	74.0	-37.64	Peak	17.00	150	Horizontal	N/A
2**	2408.200	102.49	-10.40	54.0	-48.49	AV	17.00	150	Horizontal	N/A
3	4861.500	49.53	-3.58	74.0	24.47	Peak	357.00	150	Horizontal	Pass
3**	4861.500	40.09	-3.58	54.0	13.91	AV	357.00	150	Horizontal	Pass
4	7758.750	53.68	1.59	74.0	20.32	Peak	16.00	400	Horizontal	Pass
4**	7758.750	45.63	1.59	54.0	8.37	AV	16.00	400	Horizontal	Pass
5	12415.126	52.23	1.09	74.0	21.77	Peak	127.00	300	Horizontal	Pass
5**	12415.126	43.30	1.09	54.0	10.70	AV	127.00	300	Horizontal	Pass
6	16404.787	55.05	3.10	74.0	18.95	Peak	350.00	100	Horizontal	Pass
6**	16404.787	46.66	3.10	54.0	7.34	AV	350.00	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	1162.900	44.49	-17.65	74.0	29.51	Peak	244.00	100	Vertical	Pass
1**	1162.900	31.58	-17.65	54.0	22.42	AV	244.00	100	Vertical	Pass
2	2411.500	106.50	-10.12	74.0	-32.50	Peak	183.00	100	Vertical	N/A
2**	2411.500	97.65	-10.12	54.0	-43.65	AV	183.00	100	Vertical	N/A
3	4818.000	48.82	-2.89	74.0	25.18	Peak	159.00	200	Vertical	Pass
3**	4818.000	40.50	-2.89	54.0	13.50	AV	159.00	200	Vertical	Pass
4	7769.750	54.14	1.44	74.0	19.86	Peak	320.00	200	Vertical	Pass
4**	7769.750	44.95	1.44	54.0	9.05	AV	320.00	200	Vertical	Pass
5	12185.463	53.12	0.28	74.0	20.88	Peak	360.00	100	Vertical	Pass
5**	12185.463	43.48	0.28	54.0	10.52	AV	360.00	100	Vertical	Pass
6	16407.937	54.28	3.06	74.0	19.72	Peak	215.00	400	Vertical	Pass
6**	16407.937	45.87	3.06	54.0	8.13	AV	215.00	400	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	1585.000	42.32	-17.06	74.0	31.68	Peak	0.00	100	Horizontal	Pass
1**	1585.000	34.73	-17.06	54.0	19.27	AV	0.00	100	Horizontal	Pass
2	2434.900	112.32	-10.28	74.0	-38.32	Peak	0.00	200	Horizontal	N/A
2**	2434.900	105.27	-10.28	54.0	-51.27	AV	0.00	200	Horizontal	N/A
3	4927.000	49.10	-3.74	74.0	24.90	Peak	22.00	100	Horizontal	Pass
3**	4927.000	40.30	-3.74	54.0	13.70	AV	22.00	100	Horizontal	Pass
4	7307.500	54.18	0.18	74.0	19.82	Peak	275.00	400	Horizontal	Pass
4**	7307.500	46.53	0.18	54.0	7.47	AV	275.00	400	Horizontal	Pass
5	11778.150	52.40	-0.17	74.0	21.60	Peak	284.00	400	Horizontal	Pass
5**	11778.150	44.57	-0.17	54.0	9.43	AV	284.00	400	Horizontal	Pass
6	17472.113	55.41	5.16	74.0	18.59	Peak	34.00	300	Horizontal	Pass
6**	17472.113	45.94	5.16	54.0	8.06	AV	34.00	300	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	1162.000	45.00	-17.80	74.0	29.00	Peak	288.00	400	Vertical	Pass
1**	1162.000	31.37	-17.80	54.0	22.63	AV	288.00	400	Vertical	Pass
2	2439.300	106.27	-10.34	74.0	-32.27	Peak	189.00	100	Vertical	N/A
2**	2439.300	99.15	-10.34	54.0	-45.15	AV	189.00	100	Vertical	N/A
3	4995.500	50.42	-3.18	74.0	23.58	Peak	320.00	200	Vertical	Pass
3**	4995.500	39.70	-3.18	54.0	14.30	AV	320.00	200	Vertical	Pass
4	7301.500	53.93	-0.20	74.0	20.07	Peak	298.00	100	Vertical	Pass
4**	7301.500	43.95	-0.20	54.0	10.05	AV	298.00	100	Vertical	Pass
5	11780.525	52.56	-0.16	74.0	21.44	Peak	165.00	200	Vertical	Pass
5**	11780.525	43.15	-0.16	54.0	10.85	AV	165.00	200	Vertical	Pass
6	17470.538	55.01	5.19	74.0	18.99	Peak	116.00	300	Vertical	Pass
6**	17470.538	46.18	5.19	54.0	7.82	AV	116.00	300	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1364.300	42.23	-17.15	74.0	31.77	Peak	130.00	400	Horizontal	Pass
1**	1364.300	32.61	-17.15	54.0	21.39	AV	130.00	400	Horizontal	Pass
2	2463.200	111.02	-11.38	74.0	-37.02	Peak	33.00	100	Horizontal	N/A
2**	2463.200	103.51	-11.38	54.0	-49.51	AV	33.00	100	Horizontal	N/A
3	4980.500	49.37	-3.34	74.0	24.63	Peak	254.00	150	Horizontal	Pass
3**	4980.500	40.31	-3.34	54.0	13.69	AV	254.00	150	Horizontal	Pass
4	7385.750	52.91	-0.21	74.0	21.09	Peak	27.00	150	Horizontal	Pass
4**	7385.750	49.35	-0.21	54.0	4.65	AV	27.00	150	Horizontal	Pass
5	12421.063	52.08	1.08	74.0	21.92	Peak	191.00	100	Horizontal	Pass
5**	12421.063	42.93	1.08	54.0	11.07	AV	191.00	100	Horizontal	Pass
6	16420.801	55.38	2.89	74.0	18.62	Peak	249.00	400	Horizontal	Pass
6**	16420.801	45.98	2.89	54.0	8.02	AV	249.00	400	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	1331.700	44.59	-16.90	74.0	29.41	Peak	244.00	400	Vertical	Pass
1**	1331.700	33.11	-16.90	54.0	20.89	AV	244.00	400	Vertical	Pass
2	2460.800	107.07	-11.30	74.0	-33.07	Peak	272.00	150	Vertical	N/A
2**	2460.800	98.60	-11.30	54.0	-44.60	AV	272.00	150	Vertical	N/A
3	4990.000	49.05	-3.24	74.0	24.95	Peak	165.00	100	Vertical	Pass
3**	4990.000	40.75	-3.24	54.0	13.25	AV	165.00	100	Vertical	Pass
4	7379.250	54.08	0.04	74.0	19.92	Peak	271.00	100	Vertical	Pass
4**	7379.250	47.31	0.04	54.0	6.69	AV	271.00	100	Vertical	Pass
5	11781.950	52.41	-0.16	74.0	21.59	Peak	225.00	200	Vertical	Pass
5**	11781.950	45.05	-0.16	54.0	8.95	AV	225.00	200	Vertical	Pass
6	17291.512	54.86	2.60	74.0	19.14	Peak	134.00	300	Vertical	Pass
6**	17291.512	45.34	2.60	54.0	8.66	AV	134.00	300	Vertical	Pass

Rod AntennaSISO-Main Antenna

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	1566.500	42.88	-17.24	74.0	31.12	Peak	64.00	200	Horizontal	Pass
1**	1566.500	32.79	-17.24	54.0	21.21	AV	64.00	200	Horizontal	Pass
2	2414.100	109.23	-10.20	74.0	-35.23	Peak	275.00	150	Horizontal	N/A
2**	2414.100	101.98	-10.20	54.0	-47.98	AV	275.00	150	Horizontal	N/A
3	4830.500	49.16	-3.80	74.0	24.84	Peak	100.00	150	Horizontal	Pass
3**	4830.500	39.15	-3.80	54.0	14.85	AV	100.00	150	Horizontal	Pass
4	7752.250	53.57	0.63	74.0	20.43	Peak	298.00	100	Horizontal	Pass
4**	7752.250	43.93	0.63	54.0	10.07	AV	298.00	100	Horizontal	Pass
5	11800.237	52.23	-0.15	74.0	21.77	Peak	251.00	300	Horizontal	Pass
5**	11800.237	43.66	-0.15	54.0	10.34	AV	251.00	300	Horizontal	Pass
6	17473.161	54.33	5.14	74.0	19.67	Peak	44.00	300	Horizontal	Pass
6**	17473.161	46.29	5.14	54.0	7.71	AV	44.00	300	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	1327.800	46.00	-16.94	74.0	28.00	Peak	303.00	300	Vertical	Pass
1**	1327.800	35.04	-16.94	54.0	18.96	AV	303.00	300	Vertical	Pass
2	2411.400	98.85	-10.20	74.0	-24.85	Peak	264.00	100	Vertical	N/A
2**	2411.400	91.63	-10.20	54.0	-37.63	AV	264.00	100	Vertical	N/A
3	4992.250	48.82	-3.32	74.0	25.18	Peak	78.00	200	Vertical	Pass
3**	4992.250	40.23	-3.32	54.0	13.77	AV	78.00	200	Vertical	Pass
4	7746.000	53.29	0.18	74.0	20.71	Peak	34.00	300	Vertical	Pass
4**	7746.000	43.69	0.18	54.0	10.31	AV	34.00	300	Vertical	Pass
5	11784.563	52.20	-0.16	74.0	21.80	Peak	183.00	100	Vertical	Pass
5**	11784.563	43.30	-0.16	54.0	10.70	AV	183.00	100	Vertical	Pass
6	16408.989	55.10	3.05	74.0	18.90	Peak	218.00	400	Vertical	Pass
6**	16408.989	45.34	3.05	54.0	8.66	AV	218.00	400	Vertical	Pass

SISO-Aux. Antenna

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	1377.700	42.43	-17.17	74.0	31.57	Peak	111.00	300	Horizontal	Pass
1**	1377.700	32.46	-17.17	54.0	21.54	AV	111.00	300	Horizontal	Pass
2	2410.700	108.78	-10.37	74.0	-34.78	Peak	101.00	150	Horizontal	N/A
2**	2410.700	100.87	-10.37	54.0	-46.87	AV	101.00	150	Horizontal	N/A
3	4817.000	49.44	-2.95	74.0	24.56	Peak	210.00	200	Horizontal	Pass
3**	4817.000	40.22	-2.95	54.0	13.78	AV	210.00	200	Horizontal	Pass
4	7494.000	53.76	1.04	74.0	20.24	Peak	298.00	400	Horizontal	Pass
4**	7494.000	43.71	1.04	54.0	10.29	AV	298.00	400	Horizontal	Pass
5	11792.400	52.10	-0.15	74.0	21.90	Peak	13.00	400	Horizontal	Pass
5**	11792.400	43.25	-0.15	54.0	10.75	AV	13.00	400	Horizontal	Pass
6	16671.225	54.28	2.69	74.0	19.72	Peak	18.00	200	Horizontal	Pass
6**	16671.225	44.17	2.69	54.0	9.83	AV	18.00	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	1166.300	46.47	-17.66	74.0	27.53	Peak	254.00	300	Vertical	Pass
1**	1166.300	31.57	-17.66	54.0	22.43	AV	254.00	300	Vertical	Pass
2	2410.200	101.15	-10.41	74.0	-27.15	Peak	254.00	150	Vertical	N/A
2**	2410.200	93.20	-10.41	54.0	-39.20	AV	254.00	150	Vertical	N/A
3	4953.500	49.25	-3.43	74.0	24.75	Peak	320.00	150	Vertical	Pass
3**	4953.500	41.05	-3.43	54.0	12.95	AV	320.00	150	Vertical	Pass
4	7747.500	53.86	0.22	74.0	20.14	Peak	190.00	300	Vertical	Pass
4**	7747.500	43.22	0.22	54.0	10.78	AV	190.00	300	Vertical	Pass
5	11789.075	52.11	-0.16	74.0	21.89	Peak	349.00	200	Vertical	Pass
5**	11789.075	43.34	-0.16	54.0	10.66	AV	349.00	200	Vertical	Pass
6	16415.813	54.88	2.96	74.0	19.12	Peak	297.00	300	Vertical	Pass
6**	16415.813	45.88	2.96	54.0	8.12	AV	297.00	300	Vertical	Pass

MIMO**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	1266.300	42.96	-17.14	74.0	31.04	Peak	332.00	200	Horizontal	Pass
1**	1266.300	34.16	-17.14	54.0	19.84	AV	332.00	200	Horizontal	Pass
2	2411.200	109.44	-10.33	74.0	-35.44	Peak	303.00	100	Horizontal	N/A
2**	2411.200	103.39	-10.33	54.0	-49.39	AV	303.00	100	Horizontal	N/A
3	4950.000	49.48	-3.31	74.0	24.52	Peak	360.00	150	Horizontal	Pass
3**	4950.000	39.94	-3.31	54.0	14.06	AV	360.00	150	Horizontal	Pass
4	7358.250	53.83	0.74	74.0	20.17	Peak	360.00	400	Horizontal	Pass
4**	7358.250	43.47	0.74	54.0	10.53	AV	360.00	400	Horizontal	Pass
5	12439.113	52.70	1.05	74.0	21.30	Peak	39.00	200	Horizontal	Pass
5**	12439.113	42.56	1.05	54.0	11.44	AV	39.00	200	Horizontal	Pass
6	16157.513	54.40	2.10	74.0	19.60	Peak	360.00	400	Horizontal	Pass
6**	16157.513	45.63	2.10	54.0	8.37	AV	360.00	400	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	1280.200	42.18	-17.25	74.0	31.82	Peak	61.00	400	Vertical	Pass
1**	1280.200	32.73	-17.25	54.0	21.27	AV	61.00	400	Vertical	Pass
2	2410.700	103.70	-10.37	74.0	-29.70	Peak	246.00	100	Vertical	N/A
2**	2410.700	95.21	-10.37	54.0	-41.21	AV	246.00	100	Vertical	N/A
3	4696.500	49.14	-3.43	74.0	24.86	Peak	315.00	150	Vertical	Pass
3**	4696.500	38.63	-3.43	54.0	15.37	AV	315.00	150	Vertical	Pass
4	7309.500	53.70	0.40	74.0	20.30	Peak	0.00	300	Vertical	Pass
4**	7309.500	43.61	0.40	54.0	10.39	AV	0.00	300	Vertical	Pass
5	11708.325	52.76	-0.46	74.0	21.24	Peak	347.00	300	Vertical	Pass
5**	11708.325	43.03	-0.46	54.0	10.97	AV	347.00	300	Vertical	Pass
6	16397.176	54.34	3.06	74.0	19.66	Peak	84.00	100	Vertical	Pass
6**	16397.176	45.21	3.06	54.0	8.79	AV	84.00	100	Vertical	Pass

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

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

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

Note ³: According the ANSI C63.10-2013, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

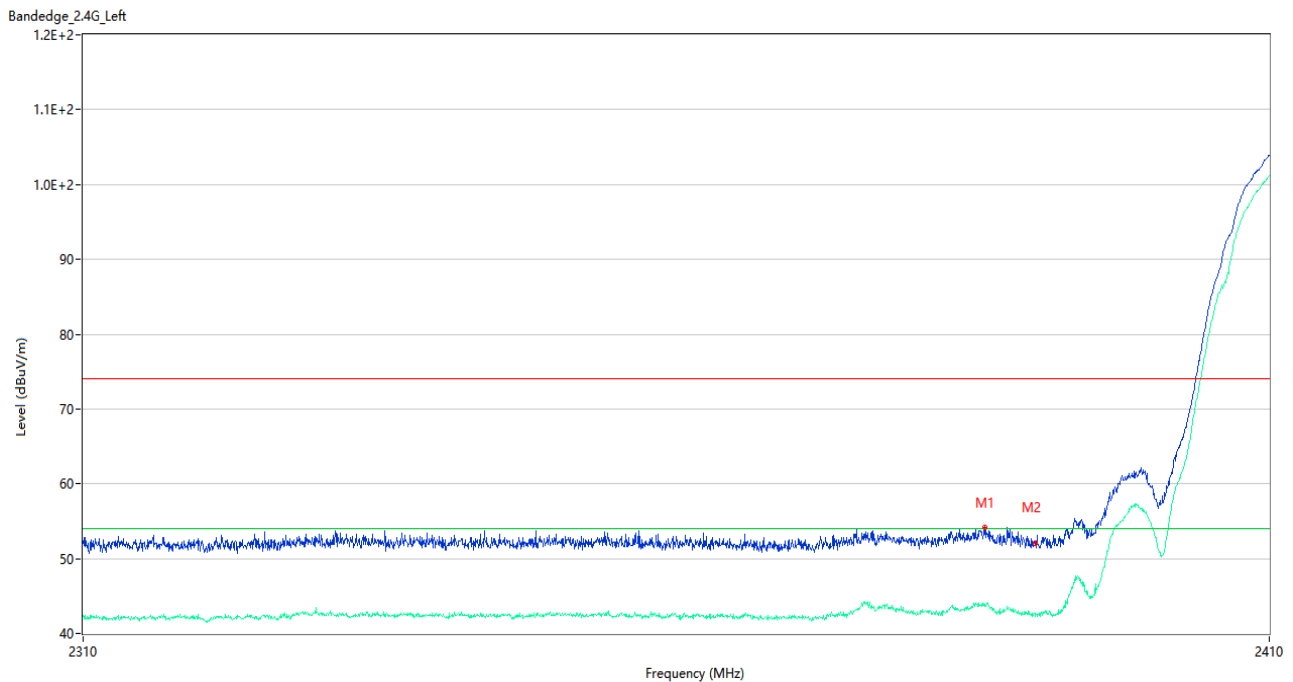
Note ⁴: All the configurations were pre tested, only the worst configuration has been reported in this report.

Test Data and Plots

PCB Antenna

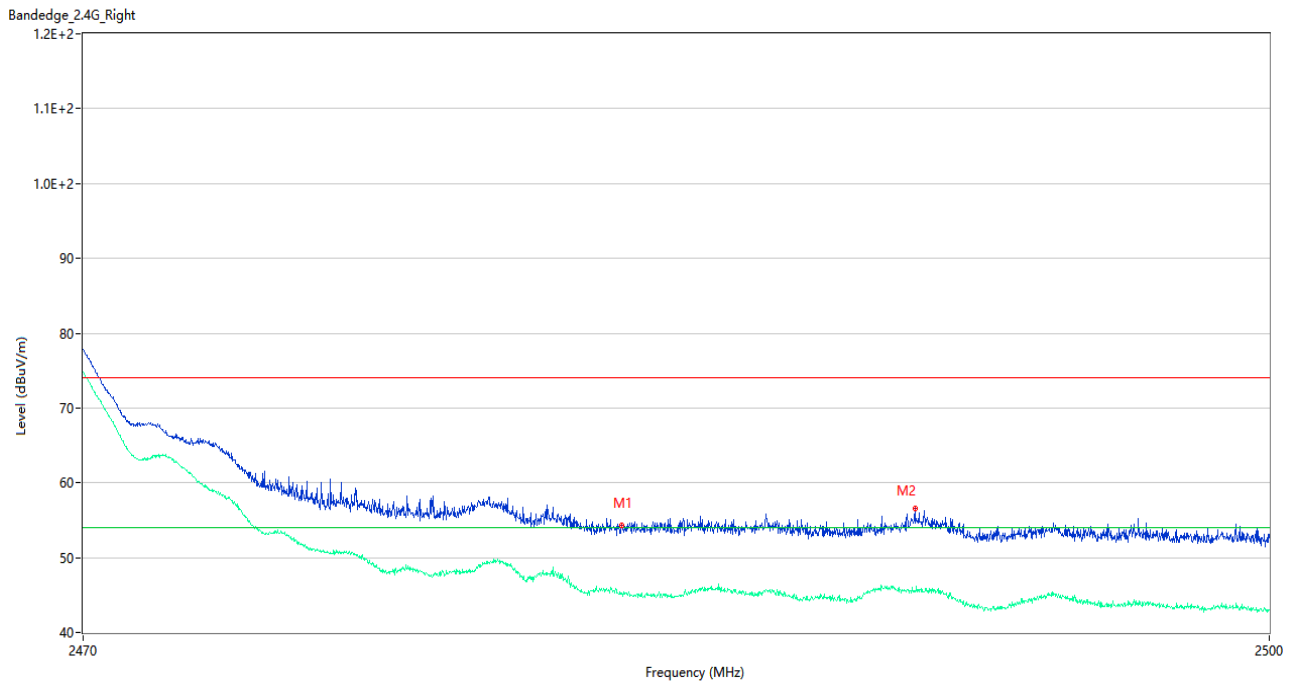
SISO-Main Antenna

802.11b LOW CHANNEL



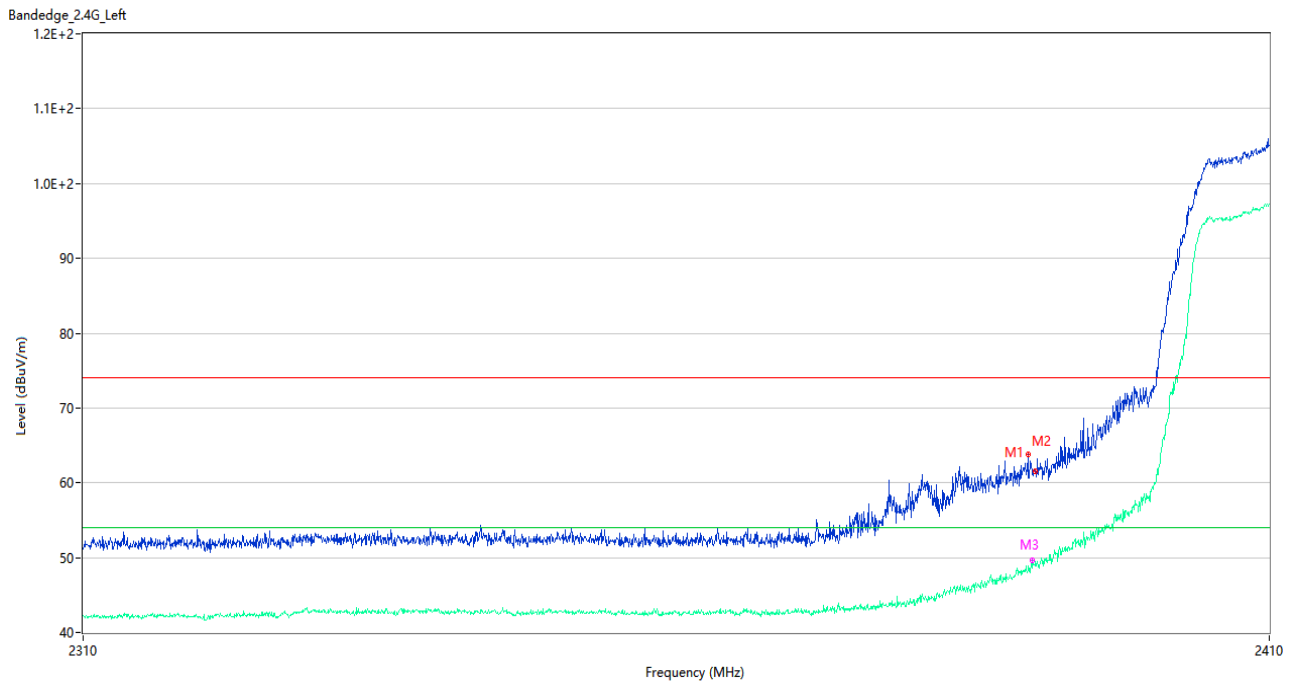
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2385.600	54.17	-1.57	74.0	19.83	Peak	360.00	200	Horizontal	Pass
1**	2385.600	43.66	-1.57	54.0	10.34	AV	360.00	200	Horizontal	Pass
2	2389.950	52.02	-1.82	74.0	21.98	Peak	114.00	200	Horizontal	Pass
2**	2389.950	42.27	-1.82	54.0	11.73	AV	114.00	200	Horizontal	Pass

802.11b HIGH CHANNEL



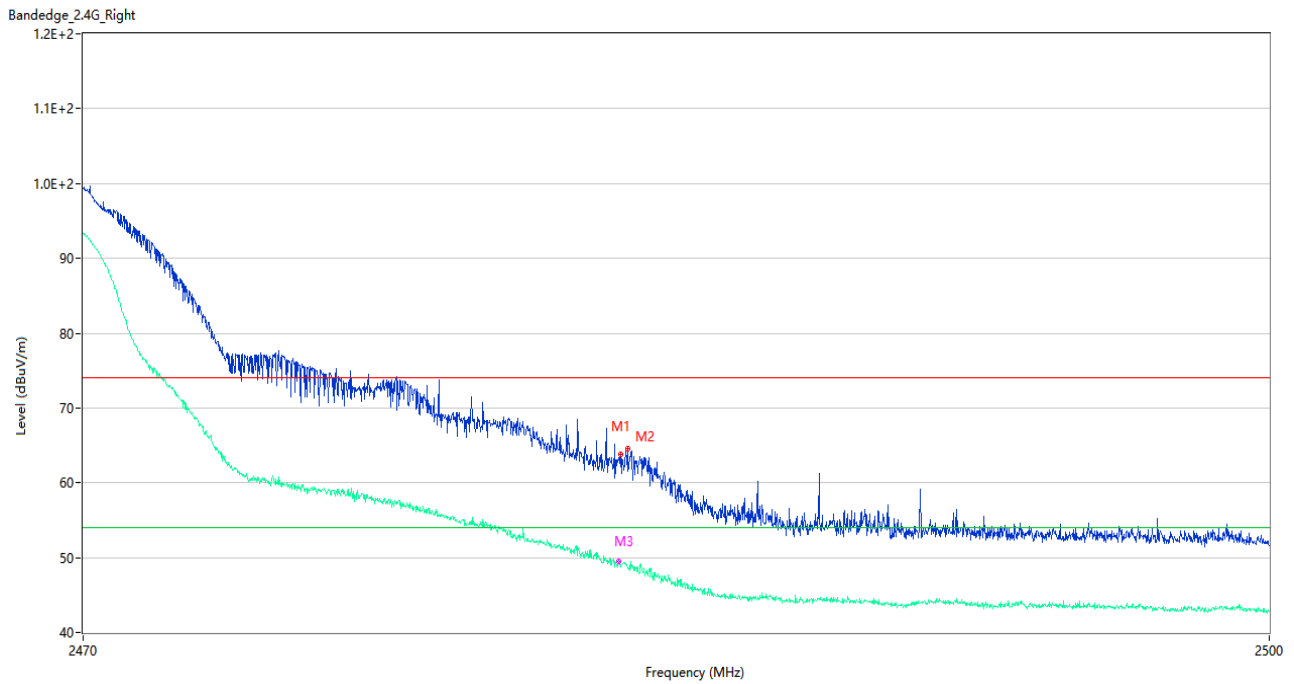
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.590	54.34	-1.09	74.0	19.66	Peak	6.00	150	Horizontal	Pass
1**	2483.590	45.34	-1.09	54.0	8.66	AV	6.00	150	Horizontal	Pass
2	2491.000	56.60	-0.99	74.0	17.40	Peak	3.00	200	Horizontal	Pass
2**	2491.000	45.43	-0.99	54.0	8.57	AV	3.00	200	Horizontal	Pass

802.11g LOW CHANNEL



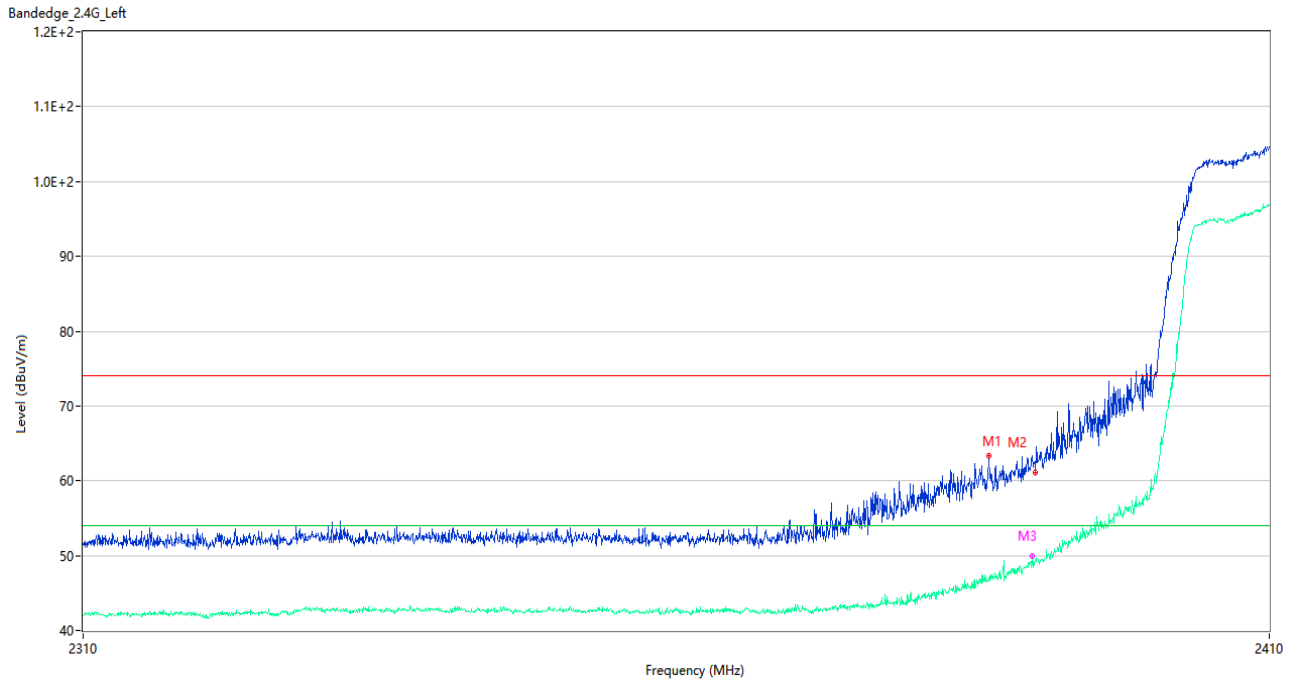
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2389.300	63.85	-1.83	74.0	10.15	Peak	27.00	100	Horizontal	Pass
1**	2389.300	48.46	-1.83	54.0	5.54	AV	27.00	100	Horizontal	Pass
2	2389.950	61.59	-1.82	74.0	12.41	Peak	32.00	200	Horizontal	Pass
2**	2389.950	49.46	-1.82	54.0	4.54	AV	32.00	200	Horizontal	Pass
3	2389.650	61.29	-1.75	74.0	12.71	Peak	6.00	200	Horizontal	Pass
3**	2389.650	49.65	-1.75	54.0	4.35	AV	6.00	200	Horizontal	Pass

802.11g HIGH CHANNEL



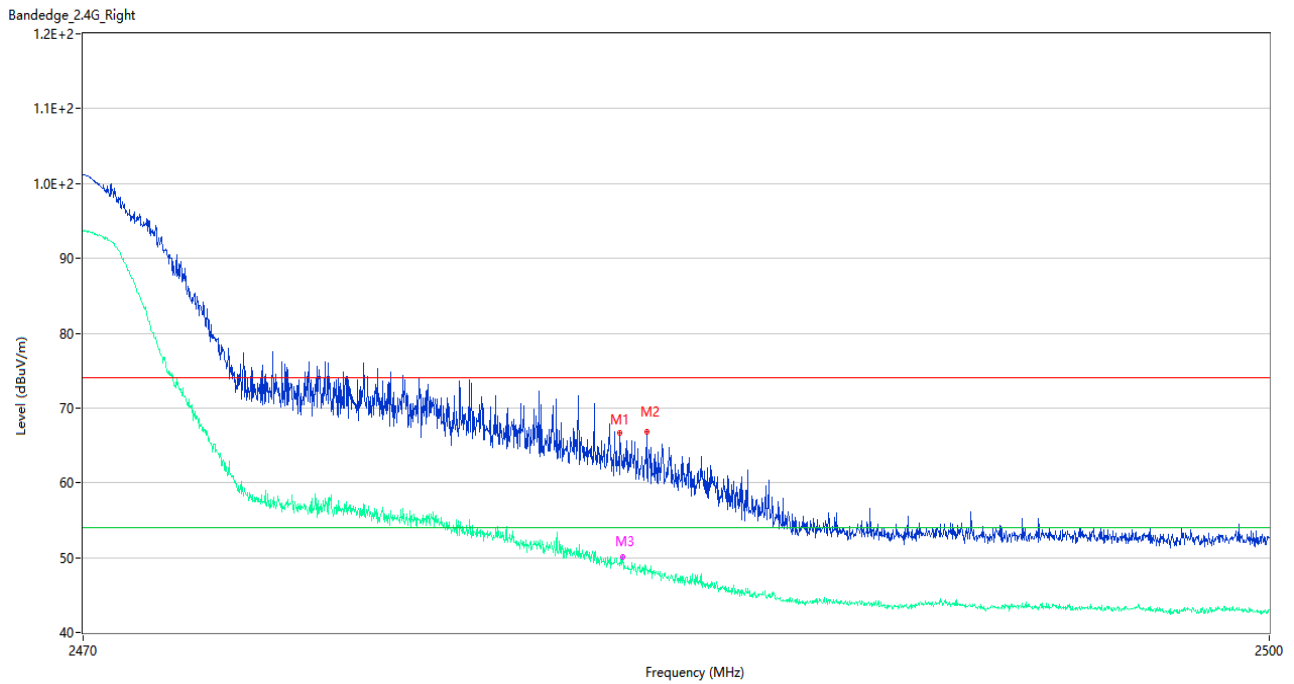
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.545	63.80	-1.09	74.0	10.20	Peak	0.00	100	Horizontal	Pass
1**	2483.545	48.78	-1.09	54.0	5.22	AV	0.00	100	Horizontal	Pass
2	2483.725	64.51	-1.06	74.0	9.49	Peak	0.00	150	Horizontal	Pass
2**	2483.725	48.76	-1.06	54.0	5.24	AV	0.00	150	Horizontal	Pass
3	2483.500	63.37	-1.10	74.0	10.63	Peak	0.00	150	Horizontal	Pass
3**	2483.500	49.45	-1.10	54.0	4.55	AV	0.00	150	Horizontal	Pass

802.11n20 LOW CHANNEL



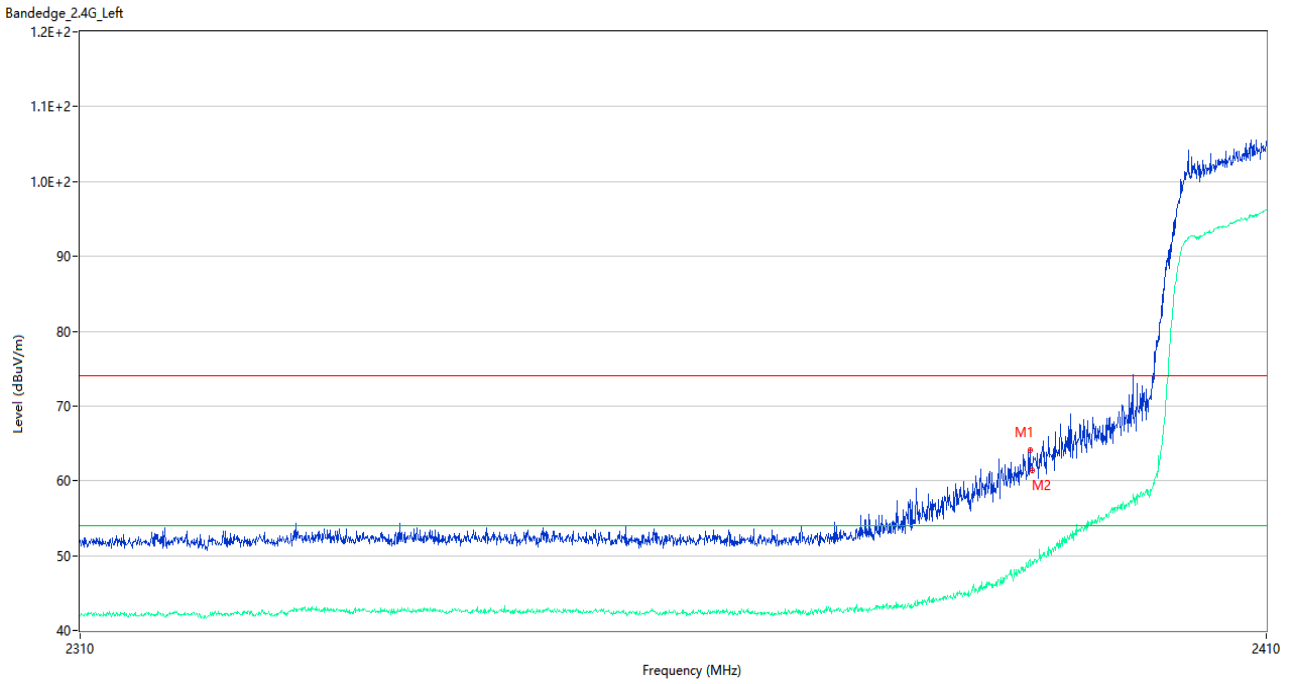
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2385.950	63.40	-1.47	74.0	10.60	Peak	17.00	100	Horizontal	Pass
1**	2385.950	46.83	-1.47	54.0	7.17	AV	17.00	100	Horizontal	Pass
2	2389.950	61.04	-1.82	74.0	12.96	Peak	360.00	150	Horizontal	Pass
2**	2389.950	49.28	-1.82	54.0	4.72	AV	360.00	150	Horizontal	Pass
3	2389.650	63.37	-1.75	74.0	10.63	Peak	360.00	100	Horizontal	Pass
3**	2389.650	49.89	-1.75	54.0	4.11	AV	360.00	100	Horizontal	Pass

802.11n20 HIGH CHANNEL



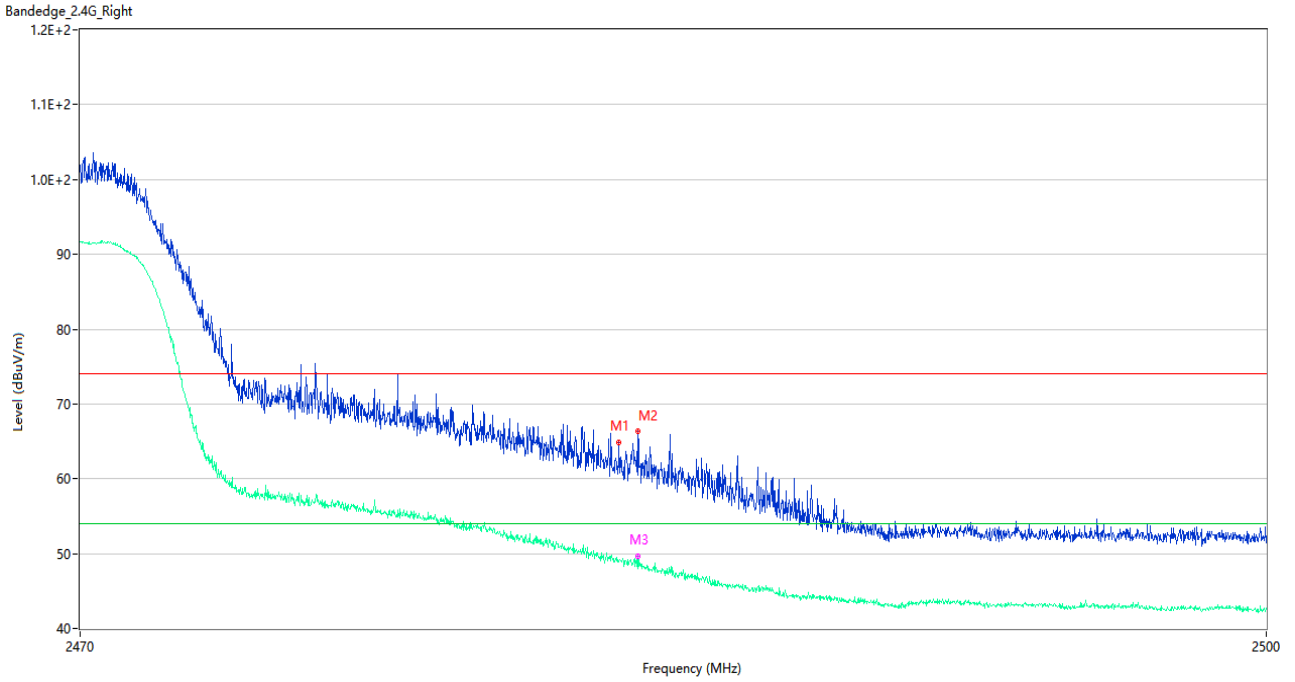
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.530	66.71	-1.10	74.0	7.29	Peak	360.00	150	Horizontal	Pass
1**	2483.530	48.82	-1.10	54.0	5.18	AV	360.00	150	Horizontal	Pass
2	2484.205	66.75	-1.13	74.0	7.25	Peak	1.00	200	Horizontal	Pass
2**	2484.205	48.22	-1.13	54.0	5.78	AV	1.00	200	Horizontal	Pass
3	2483.605	62.05	-1.08	74.0	11.95	Peak	208.00	200	Horizontal	Pass
3**	2483.605	50.04	-1.08	54.0	3.96	AV	208.00	200	Horizontal	Pass

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	2389.750	64.11	-1.77	74.0	9.89	Peak	25.00	100	Horizontal	Pass
1**	2389.750	49.44	-1.77	54.0	4.56	AV	25.00	100	Horizontal	Pass
2	2389.950	61.32	-1.82	74.0	12.68	Peak	241.00	150	Horizontal	Pass
2**	2389.950	49.23	-1.82	54.0	4.77	AV	241.00	150	Horizontal	Pass

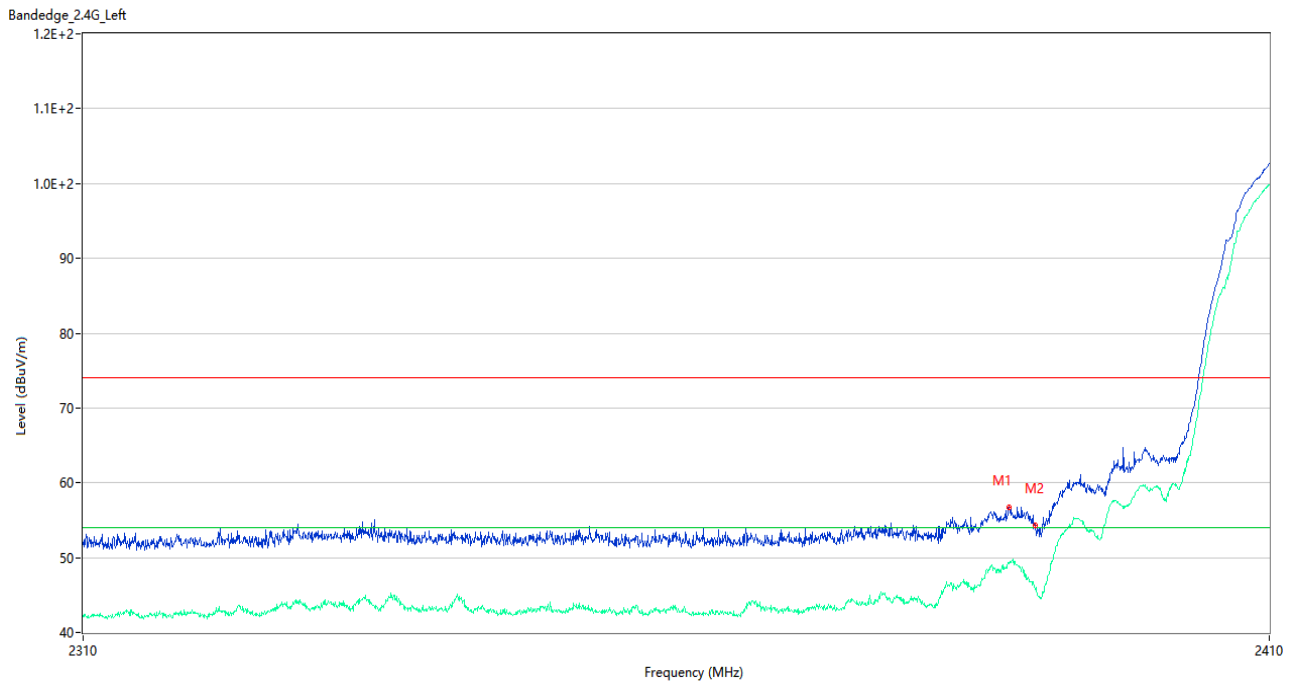
802.11ax20(SU) HIGH CHANNEL



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.590	64.81	-1.09	74.0	9.19	Peak	0.00	150	Horizontal	Pass
1**	2483.590	48.92	-1.09	54.0	5.08	AV	0.00	150	Horizontal	Pass
2	2484.055	66.43	-1.08	74.0	7.57	Peak	360.00	100	Horizontal	Pass
2**	2484.055	47.94	-1.08	54.0	6.06	AV	360.00	100	Horizontal	Pass
3	2484.070	60.55	-1.08	74.0	13.45	Peak	360.00	150	Horizontal	Pass
3**	2484.070	49.60	-1.08	54.0	4.40	AV	360.00	150	Horizontal	Pass

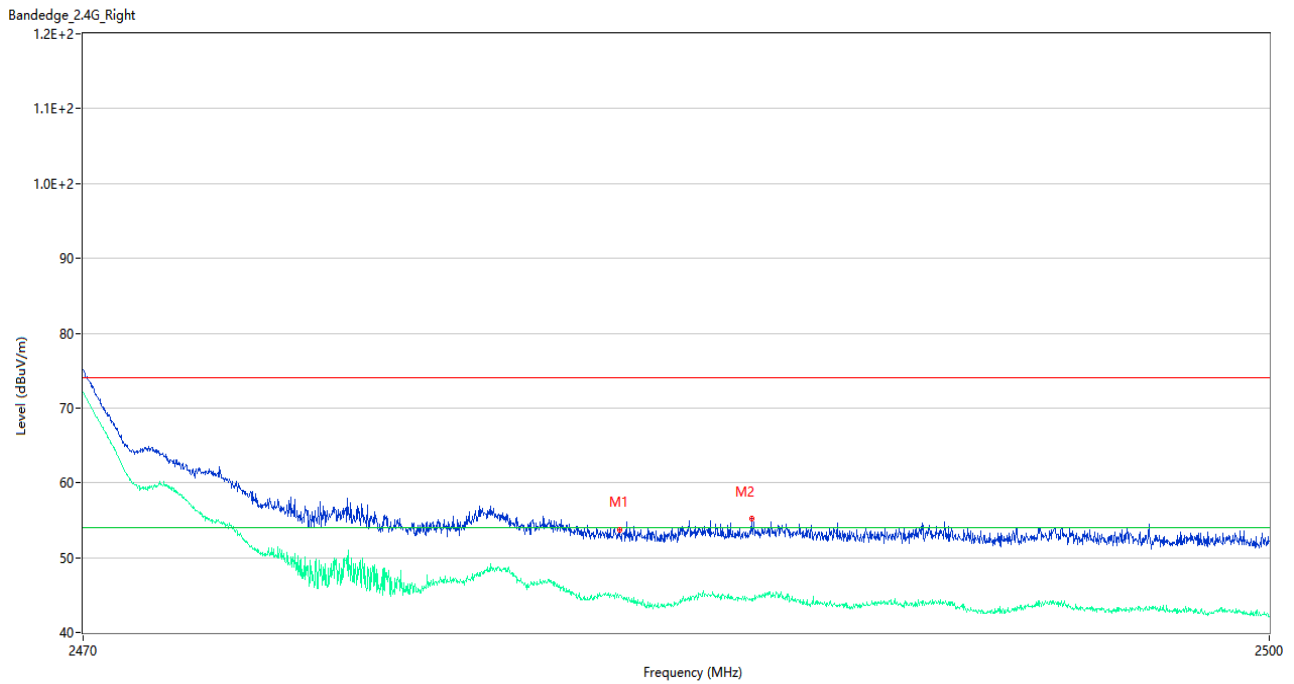
SISO-Aux. Antenna

802.11b LOW CHANNEL



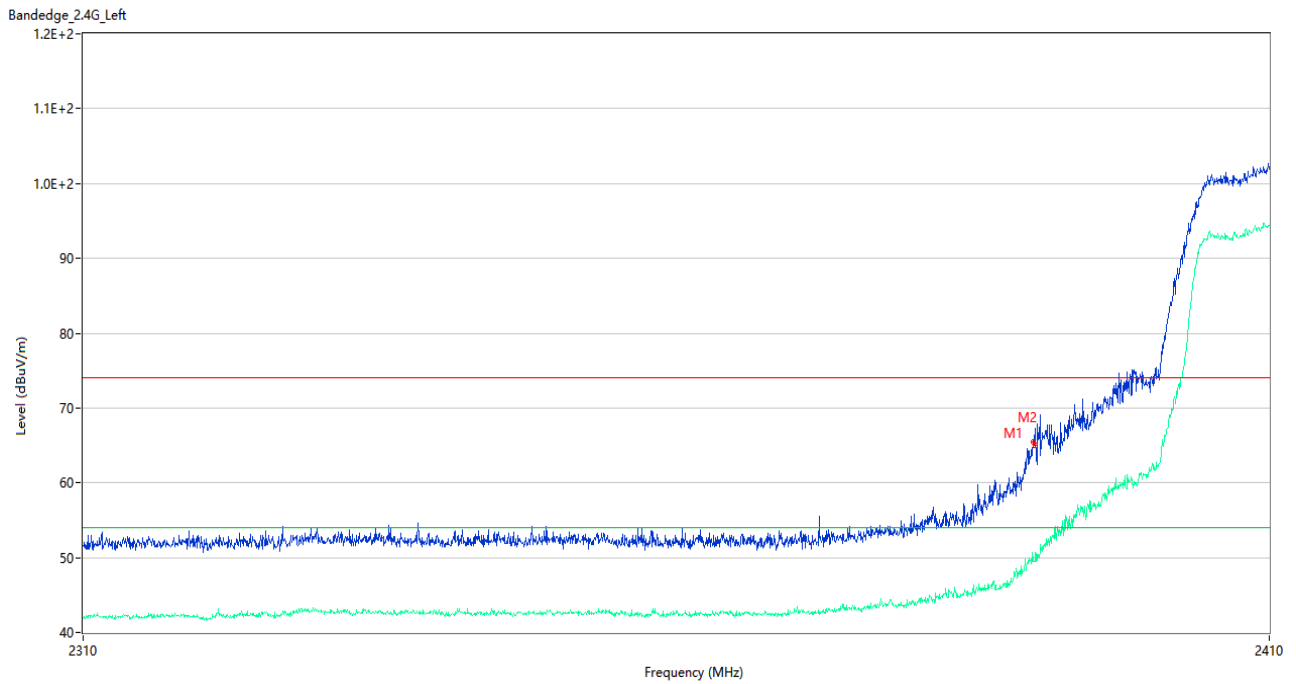
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2387.700	56.72	-1.68	74.0	17.28	Peak	178.00	200	Horizontal	Pass
1**	2387.700	49.26	-1.68	54.0	4.74	AV	178.00	200	Horizontal	Pass
2	2389.950	54.25	-1.82	74.0	19.75	Peak	166.00	200	Horizontal	Pass
2**	2389.950	45.72	-1.82	54.0	8.28	AV	166.00	200	Horizontal	Pass

802.11b HIGH CHANNEL



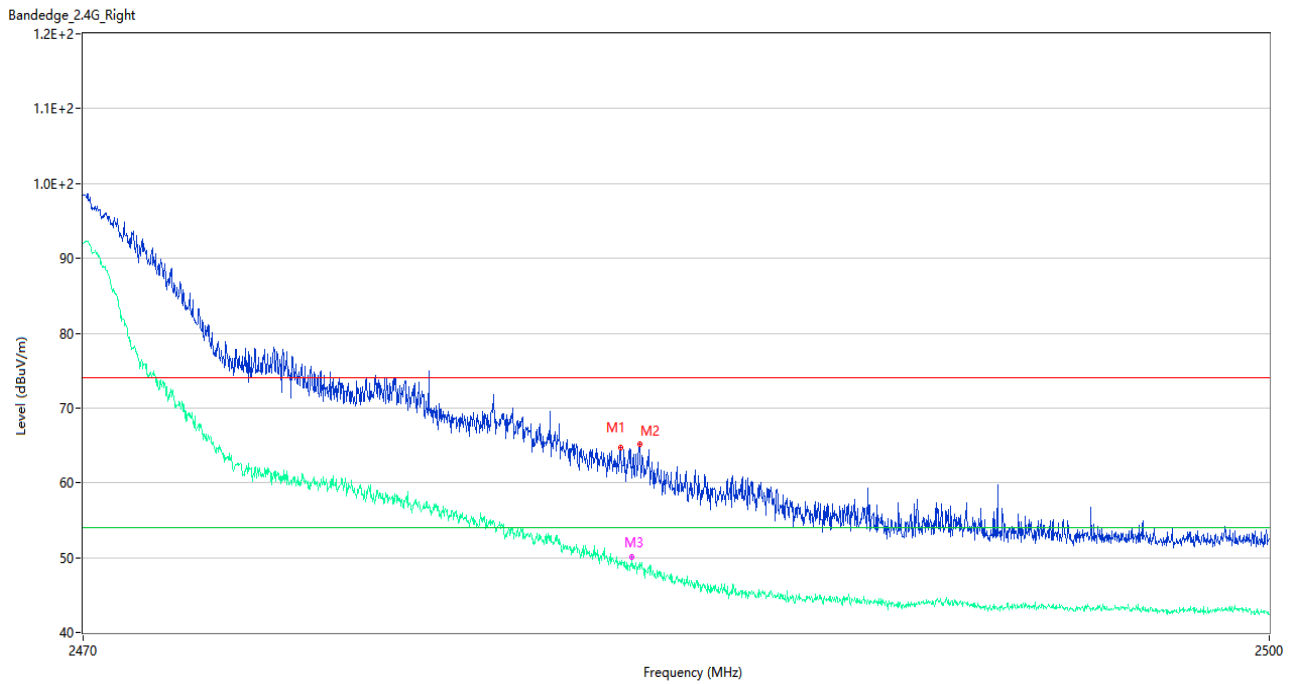
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.515	53.76	-1.10	74.0	20.24	Peak	188.00	200	Horizontal	Pass
1**	2483.515	44.95	-1.10	54.0	9.05	AV	188.00	200	Horizontal	Pass
2	2486.860	55.23	-1.14	74.0	18.77	Peak	162.00	100	Horizontal	Pass
2**	2486.860	44.45	-1.14	54.0	9.55	AV	162.00	100	Horizontal	Pass

802.11g LOW CHANNEL



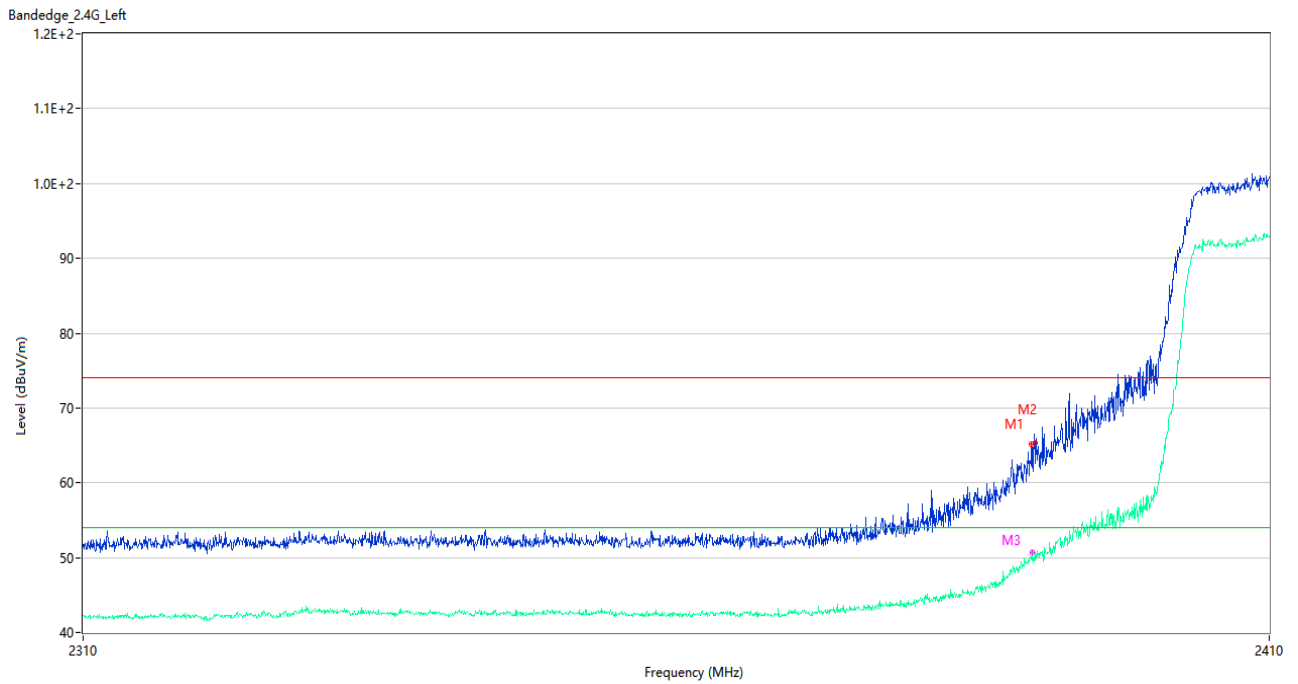
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2389.750	65.53	-1.77	74.0	8.47	Peak	172.00	100	Horizontal	Pass
1**	2389.750	49.72	-1.77	54.0	4.28	AV	172.00	100	Horizontal	Pass
2	2389.950	65.06	-1.82	74.0	8.94	Peak	184.00	200	Horizontal	Pass
2**	2389.950	50.63	-1.82	54.0	3.37	AV	184.00	200	Horizontal	Pass

802.11g HIGH CHANNEL



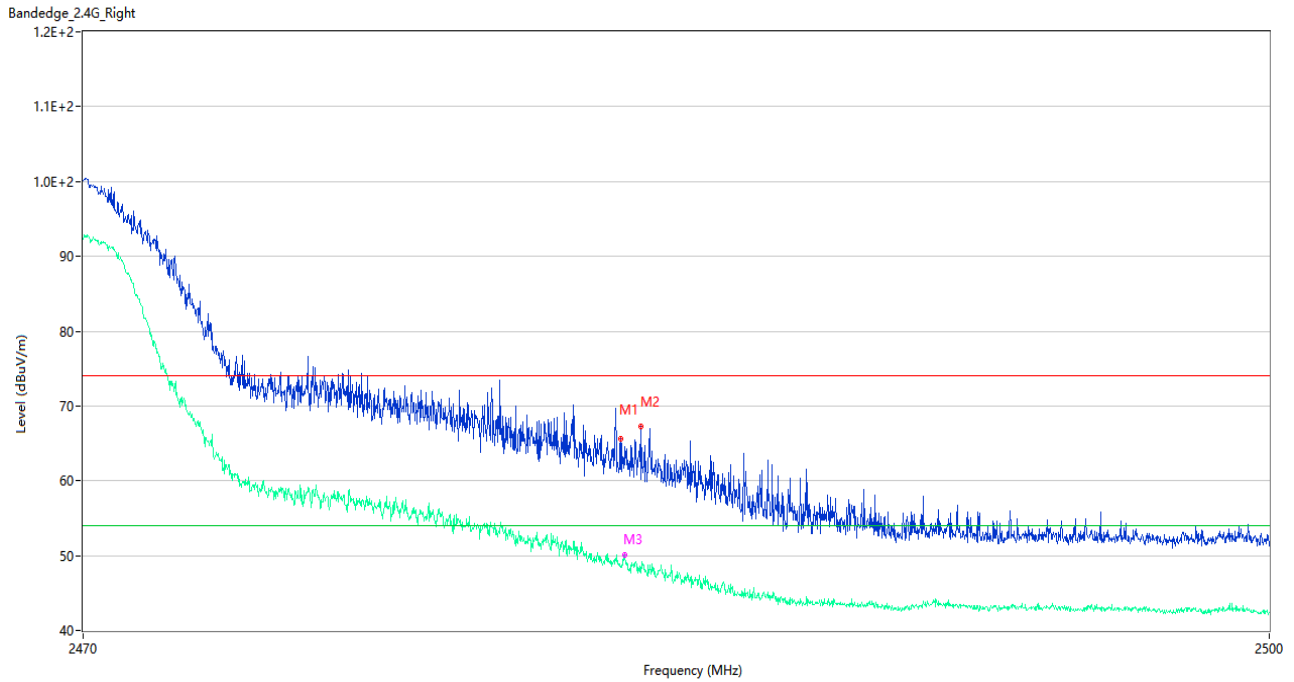
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.545	64.67	-1.09	74.0	9.33	Peak	184.00	100	Horizontal	Pass
1**	2483.545	49.18	-1.09	54.0	4.82	AV	184.00	100	Horizontal	Pass
2	2484.025	65.21	-1.07	74.0	8.79	Peak	183.00	100	Horizontal	Pass
2**	2484.025	48.48	-1.07	54.0	5.52	AV	183.00	100	Horizontal	Pass
3	2483.845	60.68	-1.04	74.0	13.32	Peak	166.00	100	Horizontal	Pass
3**	2483.845	50.12	-1.04	54.0	3.88	AV	166.00	100	Horizontal	Pass

802.11n20 LOW CHANNEL



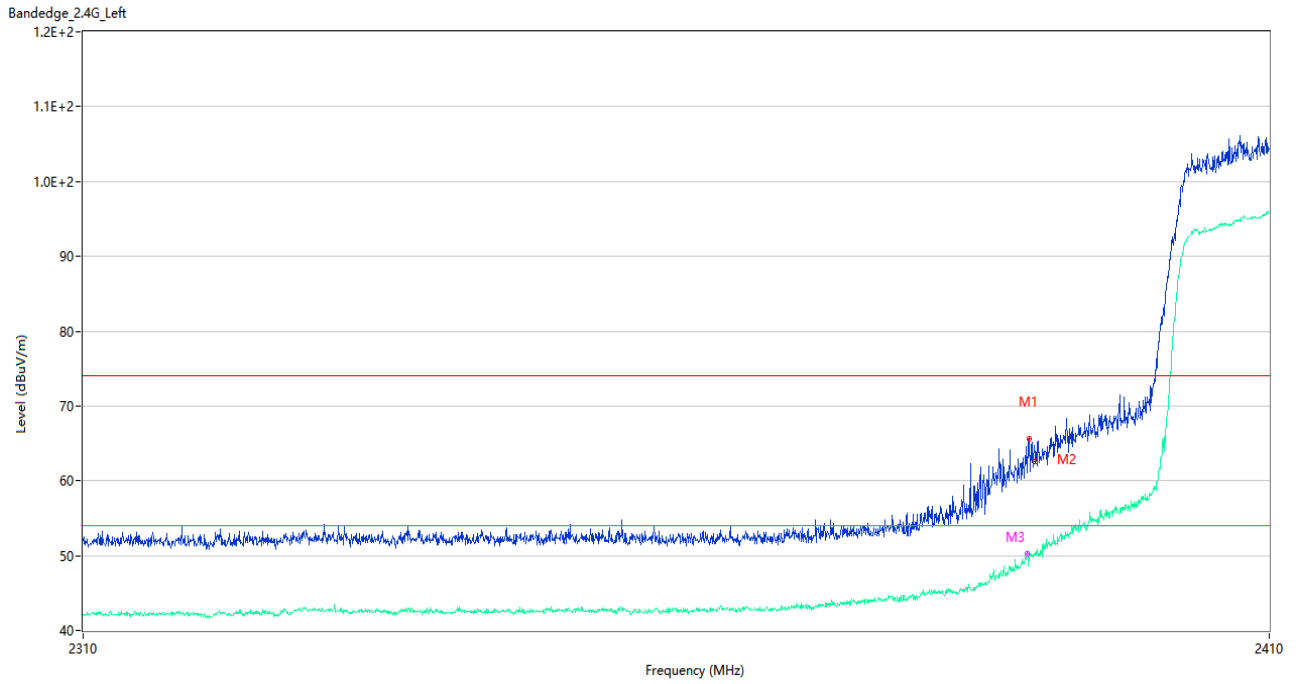
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2389.600	65.14	-1.73	74.0	8.86	Peak	360.00	100	Horizontal	Pass
1**	2389.600	49.82	-1.73	54.0	4.18	AV	360.00	100	Horizontal	Pass
2	2389.950	65.36	-1.82	74.0	8.64	Peak	183.00	100	Horizontal	Pass
2**	2389.950	49.62	-1.82	54.0	4.38	AV	183.00	100	Horizontal	Pass
3	2389.700	62.42	-1.76	74.0	11.58	Peak	0.00	150	Horizontal	Pass
3**	2389.700	50.77	-1.76	54.0	3.23	AV	0.00	150	Horizontal	Pass

802.11n20 HIGH CHANNEL



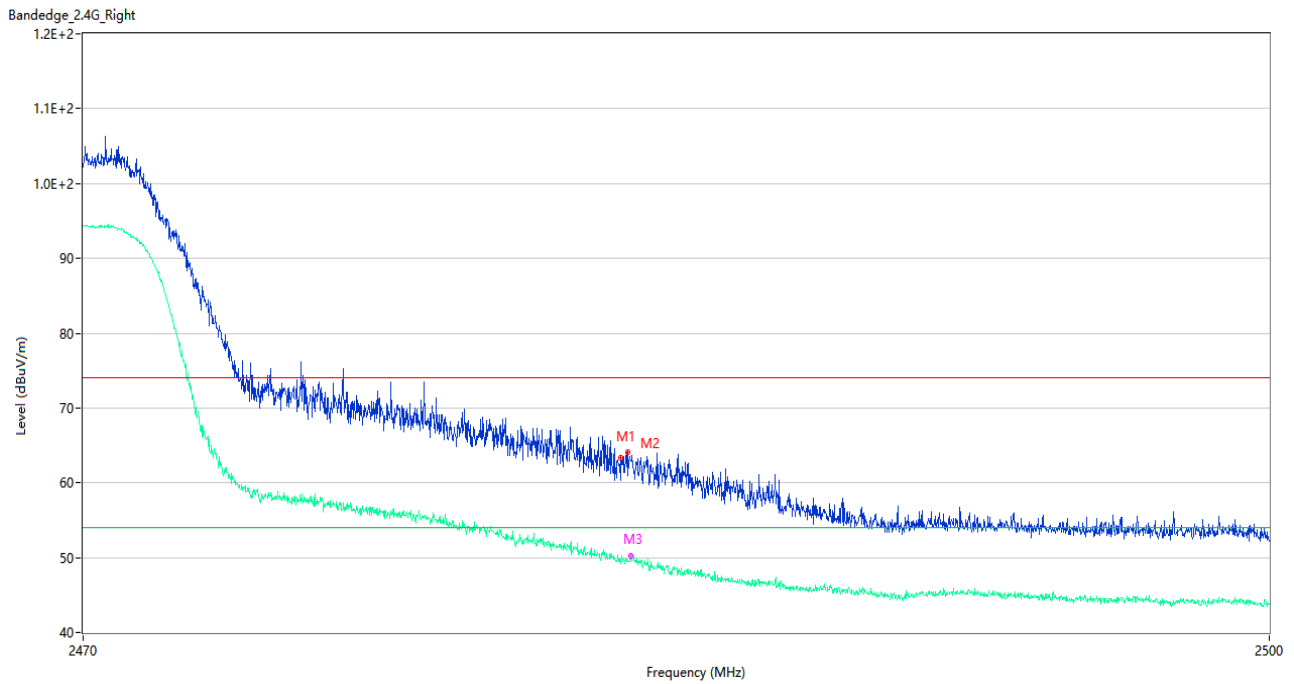
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.545	65.57	-1.09	74.0	8.43	Peak	171.00	100	Horizontal	Pass
1**	2483.545	48.52	-1.09	54.0	5.48	AV	171.00	100	Horizontal	Pass
2	2484.070	67.25	-1.08	74.0	6.75	Peak	183.00	200	Horizontal	Pass
2**	2484.070	47.90	-1.08	54.0	6.10	AV	183.00	200	Horizontal	Pass
3	2483.665	62.10	-1.07	74.0	11.90	Peak	360.00	150	Horizontal	Pass
3**	2483.665	50.06	-1.07	54.0	3.94	AV	360.00	150	Horizontal	Pass

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	2389.450	65.61	-1.77	74.0	8.39	Peak	188.00	150	Horizontal	Pass
1**	2389.450	49.37	-1.77	54.0	4.63	AV	188.00	150	Horizontal	Pass
2	2389.950	62.66	-1.82	74.0	11.34	Peak	0.00	200	Horizontal	Pass
2**	2389.950	50.05	-1.82	54.0	3.95	AV	0.00	200	Horizontal	Pass
3	2389.250	61.11	-1.85	74.0	12.89	Peak	261.00	150	Horizontal	Pass
3**	2389.250	50.19	-1.85	54.0	3.81	AV	261.00	150	Horizontal	Pass

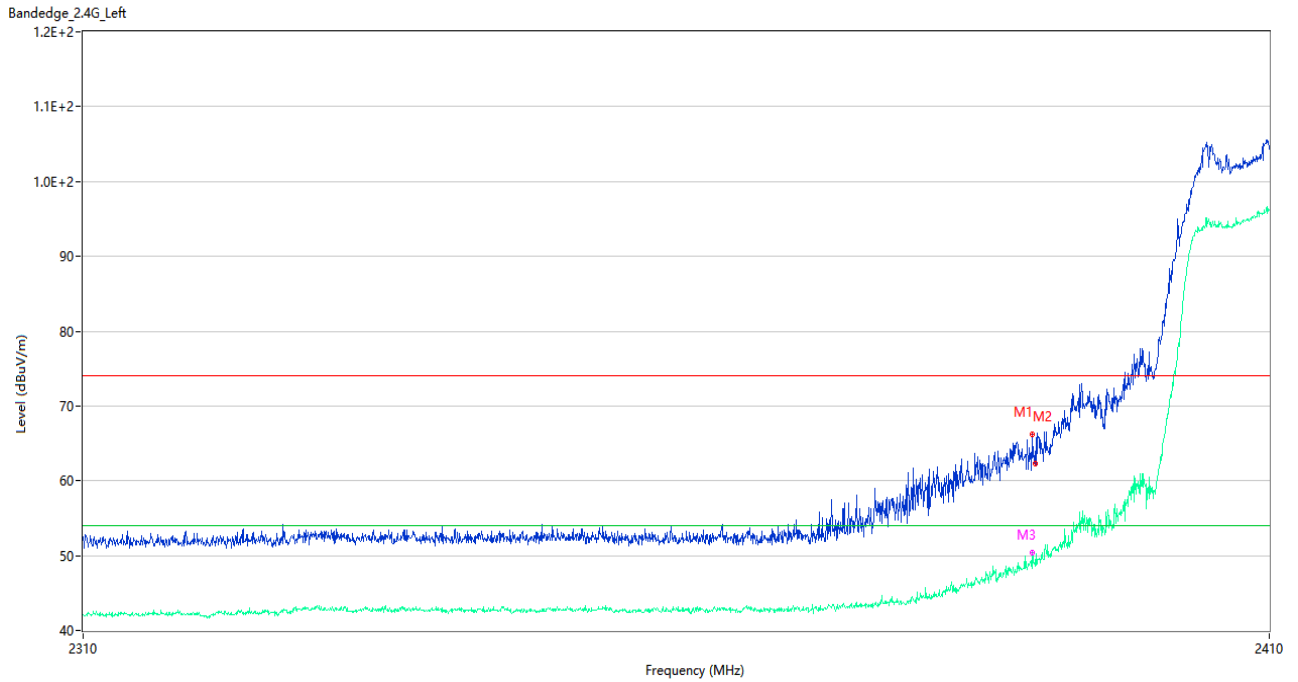
802.11ax20(SU) HIGH CHANNEL



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.560	63.31	-1.09	74.0	10.69	Peak	24.00	150	Horizontal	Pass
1**	2483.560	49.48	-1.09	54.0	4.52	AV	24.00	150	Horizontal	Pass
2	2483.725	64.14	-1.06	74.0	9.86	Peak	185.00	150	Horizontal	Pass
2**	2483.725	49.49	-1.06	54.0	4.51	AV	185.00	150	Horizontal	Pass
3	2483.800	62.88	-1.05	74.0	11.12	Peak	176.00	150	Horizontal	Pass
3**	2483.800	50.26	-1.05	54.0	3.74	AV	176.00	150	Horizontal	Pass

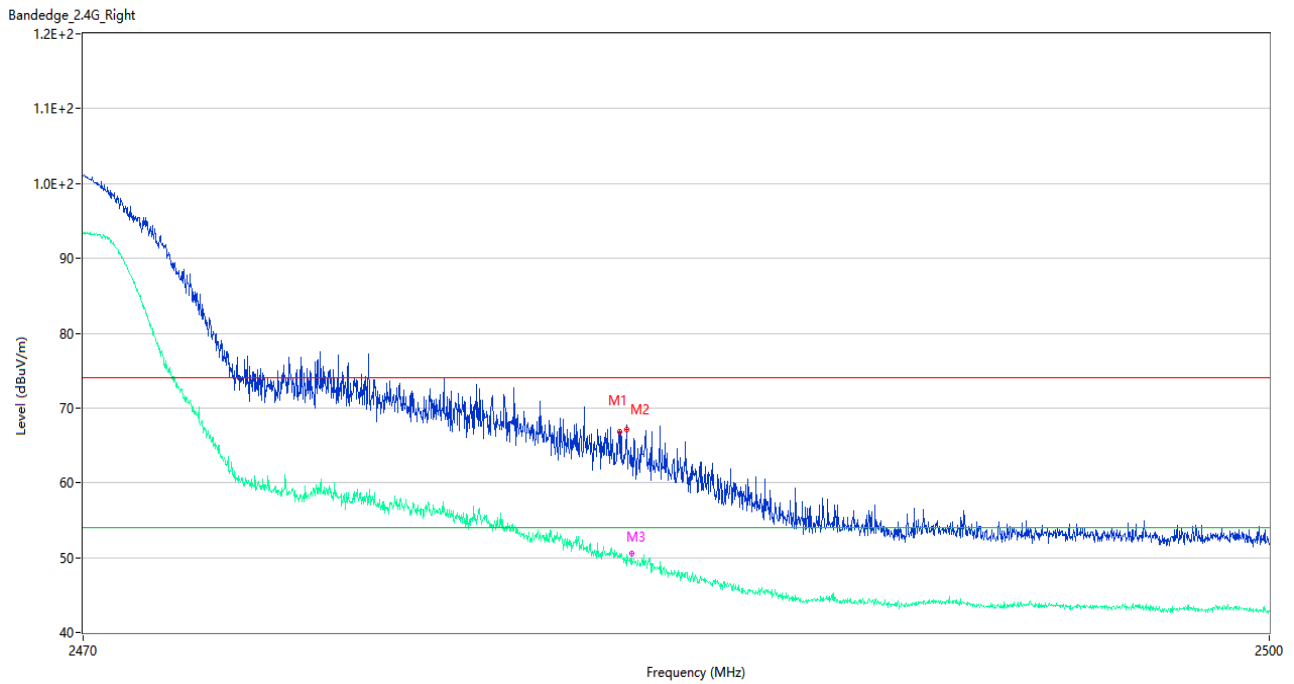
MIMO

802.11n20 LOW CHANNEL



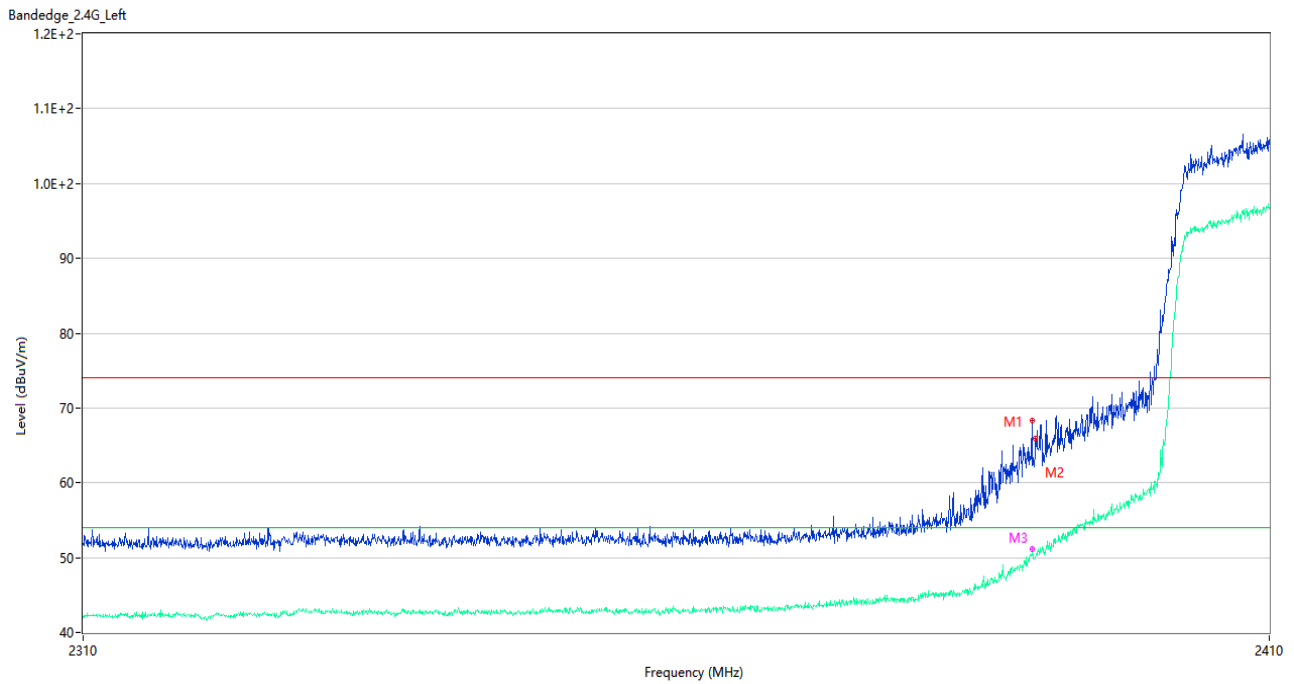
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2389.650	66.24	-1.75	74.0	7.76	Peak	9.00	200	Horizontal	Pass
1**	2389.650	48.35	-1.75	54.0	5.65	AV	9.00	200	Horizontal	Pass
2	2389.950	62.28	-1.82	74.0	11.72	Peak	198.00	150	Horizontal	Pass
2**	2389.950	49.44	-1.82	54.0	4.56	AV	198.00	150	Horizontal	Pass
3	2389.700	63.11	-1.76	74.0	10.89	Peak	74.00	150	Horizontal	Pass
3**	2389.700	50.44	-1.76	54.0	3.56	AV	74.00	150	Horizontal	Pass

802.11n20 HIGH CHANNEL



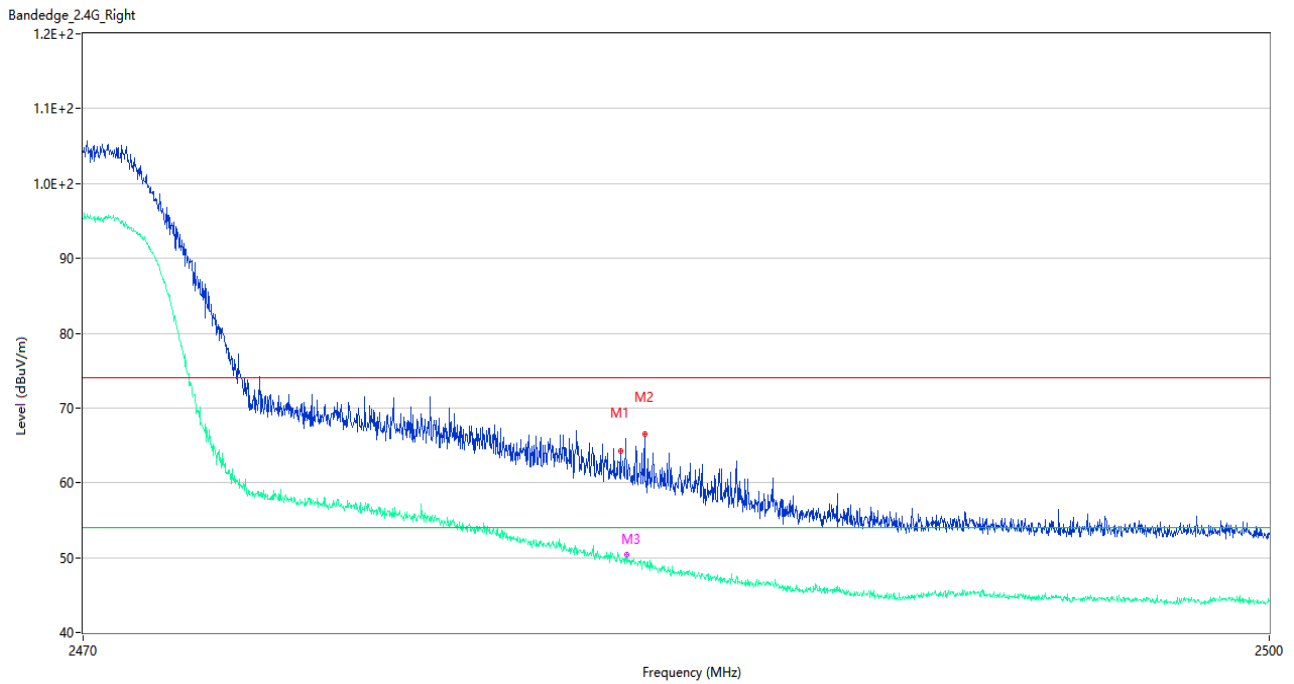
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.515	66.81	-1.10	74.0	7.19	Peak	0.00	150	Horizontal	Pass
1**	2483.515	49.87	-1.10	54.0	4.13	AV	0.00	150	Horizontal	Pass
2	2483.710	67.11	-1.06	74.0	6.89	Peak	13.00	100	Horizontal	Pass
2**	2483.710	50.42	-1.06	54.0	3.58	AV	13.00	100	Horizontal	Pass
3	2483.830	62.09	-1.04	74.0	11.91	Peak	357.00	150	Horizontal	Pass
3**	2483.830	50.48	-1.04	54.0	3.52	AV	357.00	150	Horizontal	Pass

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	2389.650	68.36	-1.75	74.0	5.64	Peak	213.00	200	Horizontal	Pass
1**	2389.650	50.40	-1.75	54.0	3.60	AV	213.00	200	Horizontal	Pass
2	2389.950	65.92	-1.82	74.0	8.08	Peak	139.00	100	Horizontal	Pass
2**	2389.950	49.98	-1.82	54.0	4.02	AV	139.00	100	Horizontal	Pass
3	2389.700	62.35	-1.76	74.0	11.65	Peak	267.00	100	Horizontal	Pass
3**	2389.700	51.00	-1.76	54.0	3.00	AV	267.00	100	Horizontal	Pass

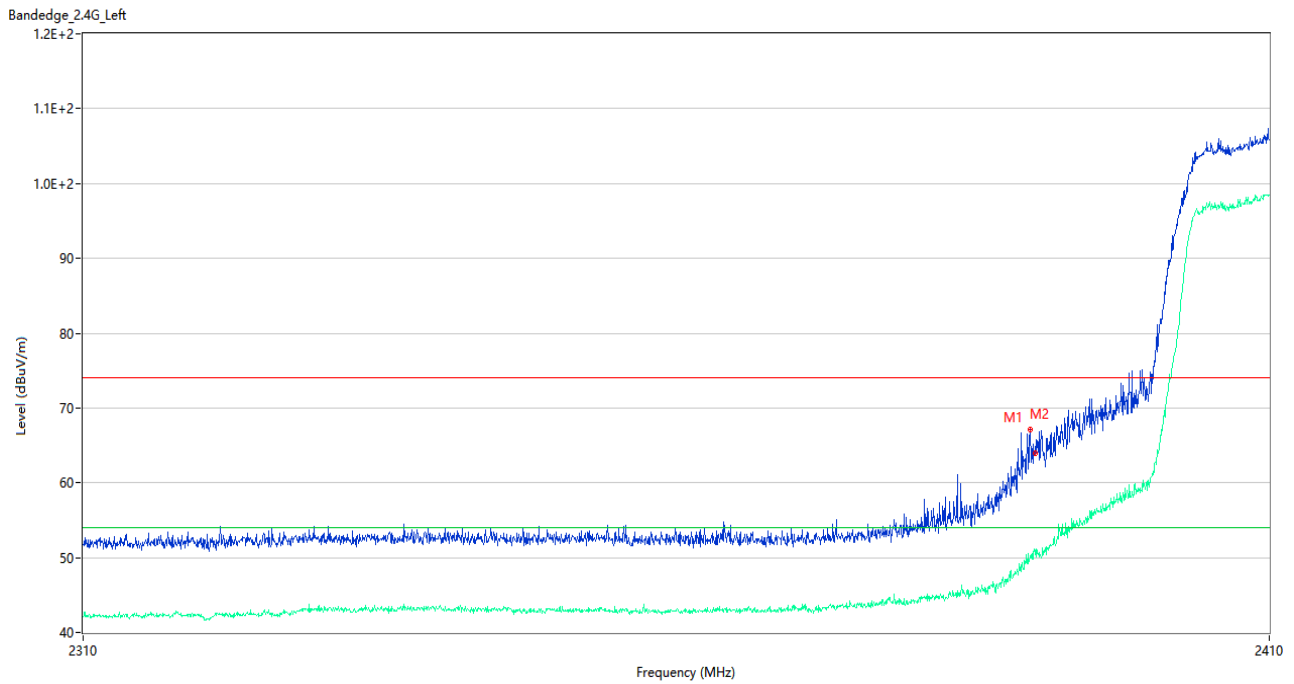
802.11ax20(SU) HIGH CHANNEL



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.545	64.30	-1.09	74.0	9.70	Peak	23.00	200	Horizontal	Pass
1**	2483.545	49.32	-1.09	54.0	4.68	AV	23.00	200	Horizontal	Pass
2	2484.160	66.55	-1.12	74.0	7.45	Peak	27.00	150	Horizontal	Pass
2**	2484.160	49.51	-1.12	54.0	4.49	AV	27.00	150	Horizontal	Pass
3	2483.695	60.53	-1.07	74.0	13.47	Peak	149.00	150	Horizontal	Pass
3**	2483.695	50.37	-1.07	54.0	3.63	AV	149.00	150	Horizontal	Pass

Rod Antenna
SISO-Main Antenna

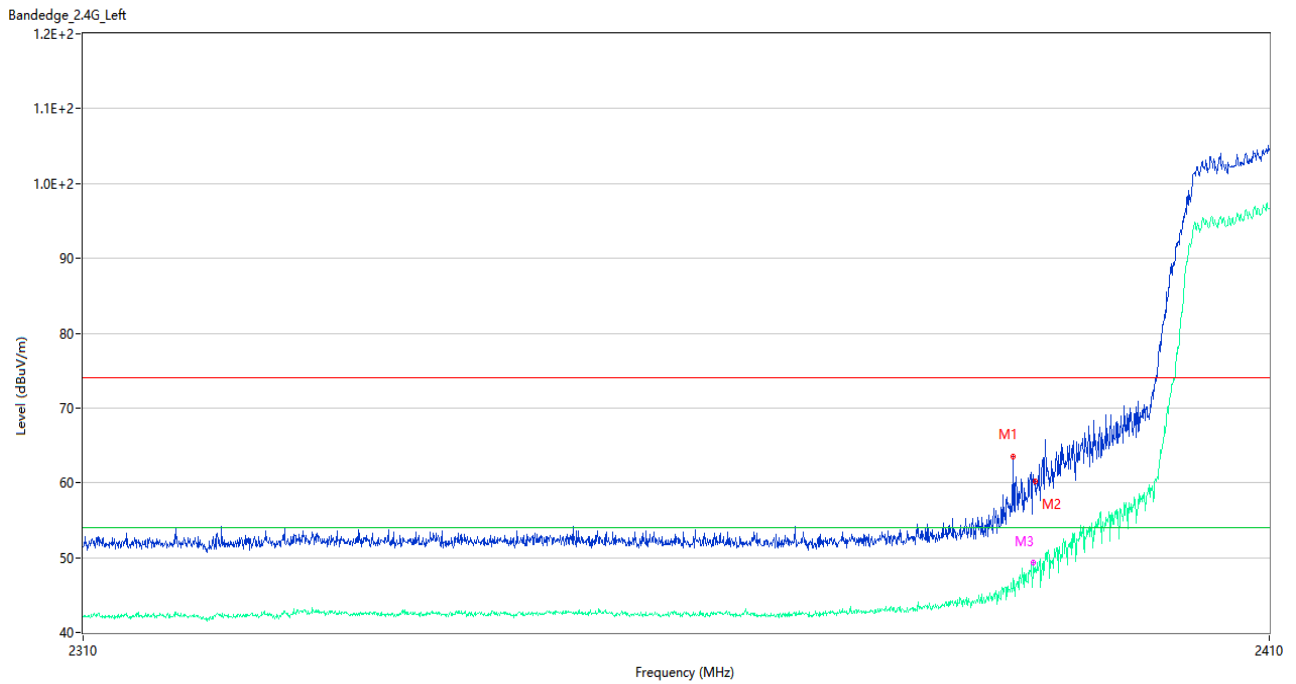
802.11n20 LOW CHANNEL



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2389.500	67.13	-1.75	74.0	6.87	Peak	266.00	150	Horizontal	Pass
1**	2389.500	50.21	-1.75	54.0	3.79	AV	266.00	150	Horizontal	Pass
2	2389.950	63.90	-1.82	74.0	10.10	Peak	280.00	200	Horizontal	Pass
2**	2389.950	50.93	-1.82	54.0	3.07	AV	280.00	200	Horizontal	Pass

SISO-Aux. Antenna

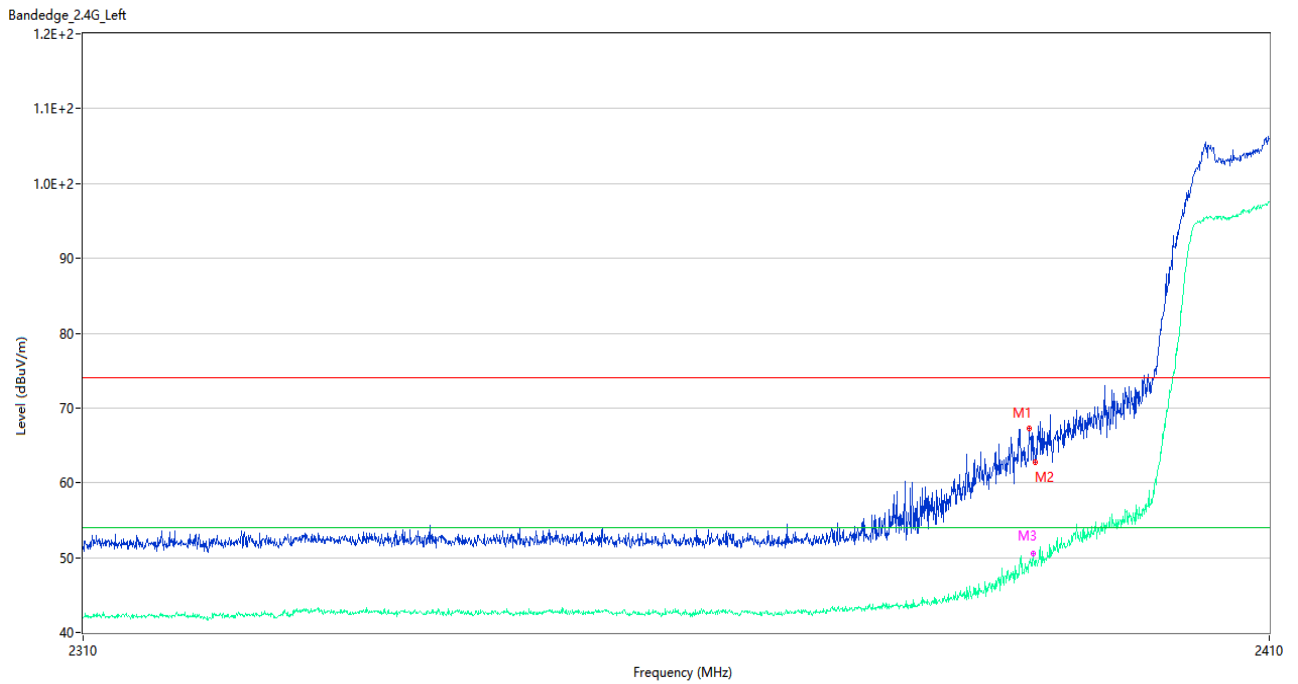
802.11n20 LOW CHANNEL



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2388.000	63.56	-1.67	74.0	10.44	Peak	272.00	150	Horizontal	Pass
1**	2388.000	45.96	-1.67	54.0	8.04	AV	272.00	150	Horizontal	Pass
2	2389.950	60.15	-1.82	74.0	13.85	Peak	96.00	150	Horizontal	Pass
2**	2389.950	48.07	-1.82	54.0	5.93	AV	96.00	150	Horizontal	Pass
3	2389.800	60.51	-1.78	74.0	13.49	Peak	101.00	150	Horizontal	Pass
3**	2389.800	49.27	-1.78	54.0	4.73	AV	101.00	150	Horizontal	Pass

MIMO

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	2389.400	67.22	-1.79	74.0	6.78	Peak	269.00	150	Horizontal	Pass
1**	2389.400	49.34	-1.79	54.0	4.66	AV	269.00	150	Horizontal	Pass
2	2389.950	62.74	-1.82	74.0	11.26	Peak	313.00	100	Horizontal	Pass
2**	2389.950	48.95	-1.82	54.0	5.05	AV	313.00	100	Horizontal	Pass
3	2389.750	65.91	-1.77	74.0	8.09	Peak	293.00	100	Horizontal	Pass
3**	2389.750	50.53	-1.77	54.0	3.47	AV	293.00	100	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

SISO-Main Antenna

802.11b Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-4.66	8
Middle	-6.94	8
High	-4.75	8

802.11g Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-9.21	8
Middle	-8.45	8
High	-11.23	8

802.11n-20 MHz Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-10.24	8
Middle	-8.84	8
High	-12.28	8

802.11ax-20 MHz(SU) Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-10.19	8
Middle	-8.59	8
High	-13.56	8

SISO-Aux. Antenna

802.11b Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-6.55	8
Middle	-5.25	8
High	-5.69	8

802.11g Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-11.96	8
Middle	-7.30	8
High	-8.98	8

802.11n-20 MHz Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-11.89	8
Middle	-8.78	8
High	-11.85	8

802.11ax-20 MHz(SU) Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-14.60	8
Middle	-9.19	8
High	-13.94	8

MIMO-Main Antenna

802.11n-20 MHz Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-8.73	8
Middle	-7.32	8
High	-11.94	8

802.11ax-20 MHz(SU) Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-15.35	8
Middle	-10.28	8
High	-14.83	8

MIMO-Aux. Antenna

802.11n-20 MHz Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-9.76	8
Middle	-6.88	8
High	-12.76	8

802.11ax-20 MHz(SU) Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-14.62	8
Middle	-8.83	8
High	-16.34	8

MIMO

802.11n-20 MHz Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-6.20	8
Middle	-4.08	8
High	-9.32	8

802.11ax-20 MHz(SU) Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-11.96	8
Middle	-6.48	8
High	-12.51	8

Test Plots

SISO-Main Antenna

802.11b LOW CHANNEL



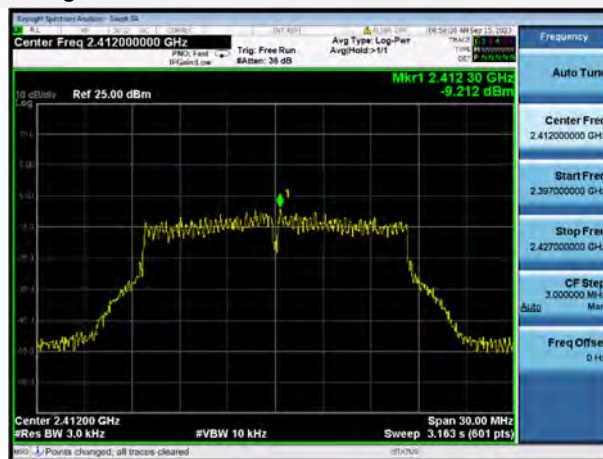
802.11b MIDDLE CHANNEL



802.11b HIGH CHANNEL



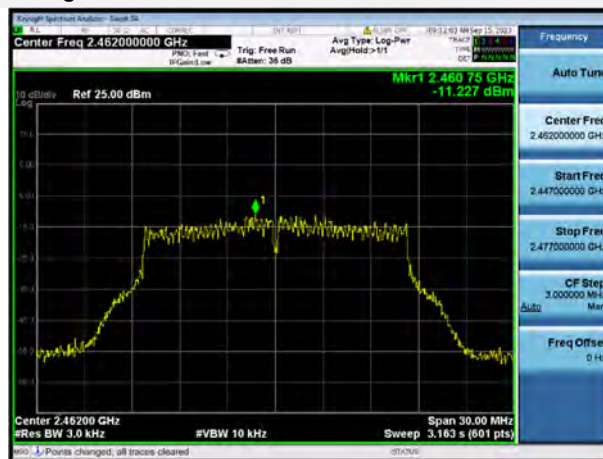
802.11g LOW CHANNEL



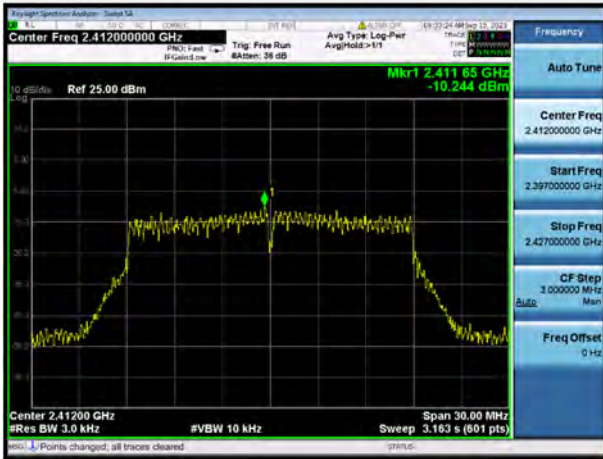
802.11g MIDDLE CHANNEL



802.11g HIGH CHANNEL



802.11n-20 MHz LOW CHANNEL



802.11n-20 MHz MIDDLE CHANNEL



802.11n-20 MHz HIGH CHANNEL



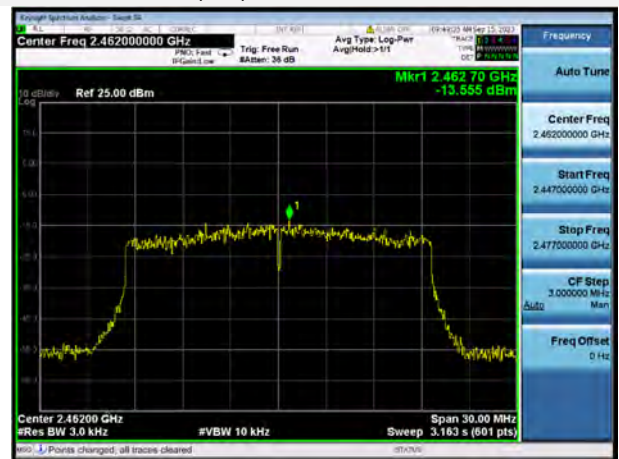
802.11ax-20 MHz(SU) LOW CHANNEL



802.11ax-20 MHz(SU) MIDDLE CHANNEL



802.11ax-20 MHz(SU) HIGH CHANNEL



SISO-Aux. Antenna

802.11b LOW CHANNEL



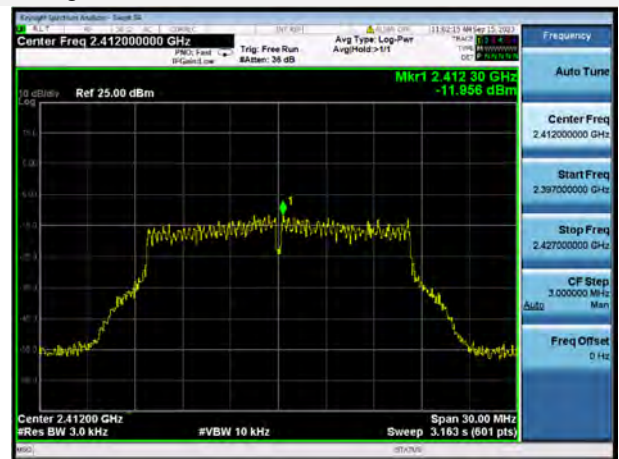
802.11b MIDDLE CHANNEL



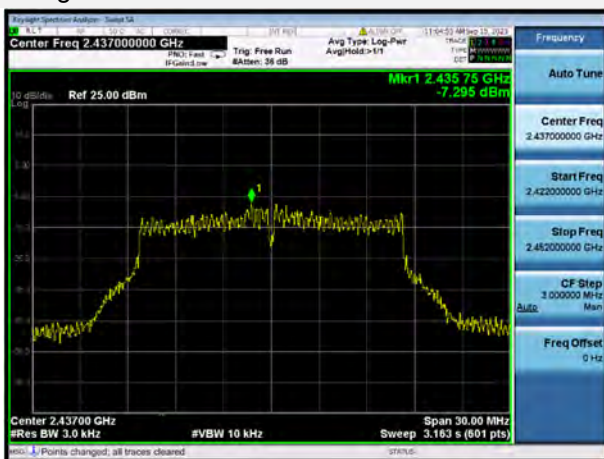
802.11b HIGH CHANNEL



802.11g LOW CHANNEL



802.11g MIDDLE CHANNEL



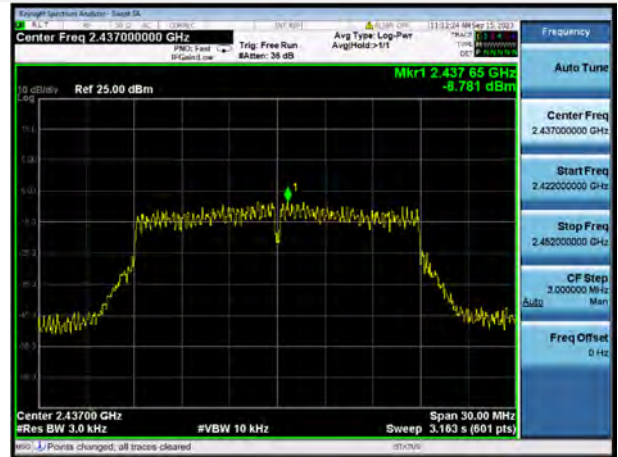
802.11g HIGH CHANNEL



802.11n-20 MHz LOW CHANNEL



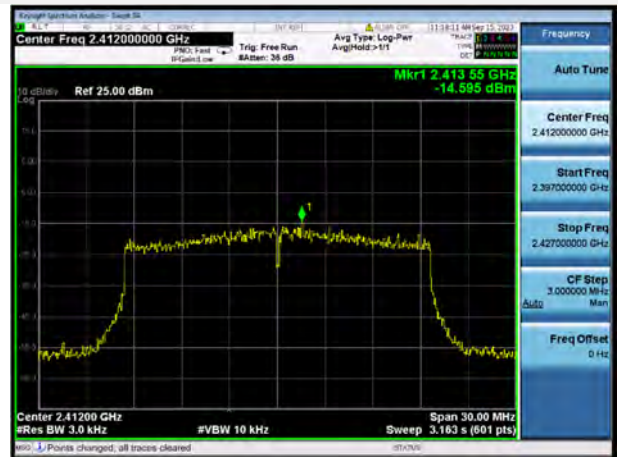
802.11n-20 MHz MIDDLE CHANNEL



802.11n-20 MHz HIGH CHANNEL



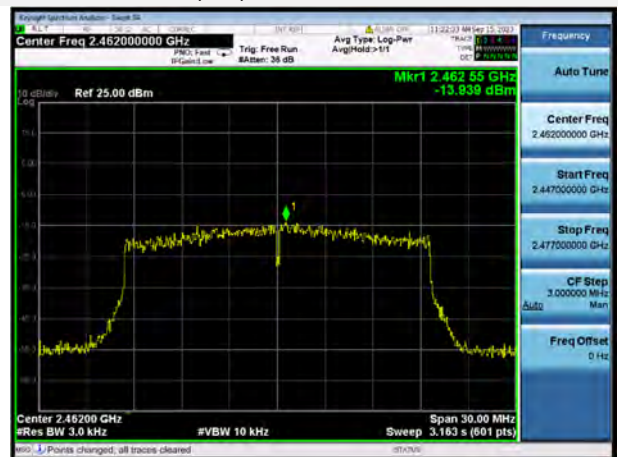
802.11ax-20 MHz(SU) LOW CHANNEL



802.11ax-20 MHz(SU) MIDDLE CHANNEL

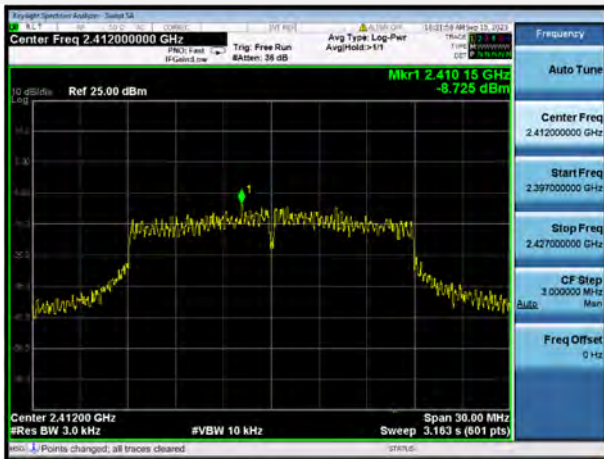


802.11ax-20 MHz(SU) HIGH CHANNEL

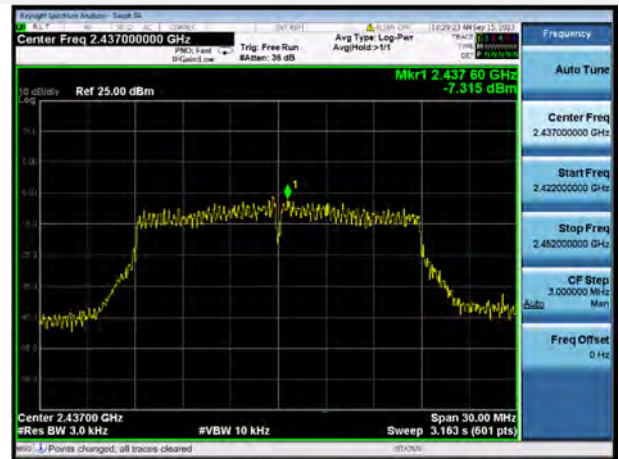


MIMO-Main Antenna

802.11n-20 MHz LOW CHANNEL



802.11n-20 MHz MIDDLE CHANNEL



802.11n-20 MHz HIGH CHANNEL



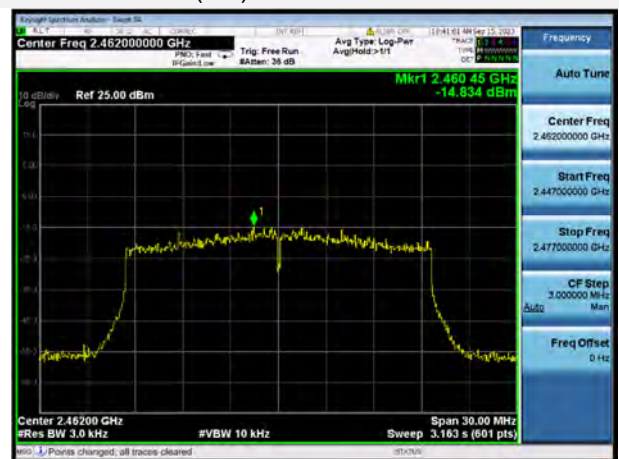
802.11ax-20 MHz(SU) LOW CHANNEL



802.11ax-20 MHz(SU) MIDDLE CHANNEL

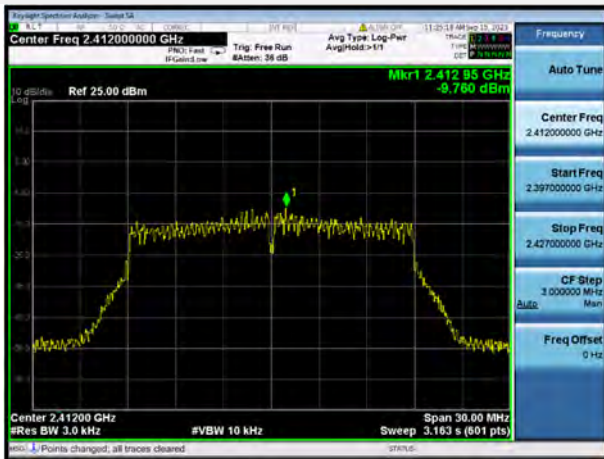


802.11ax-20 MHz(SU) HIGH CHANNEL

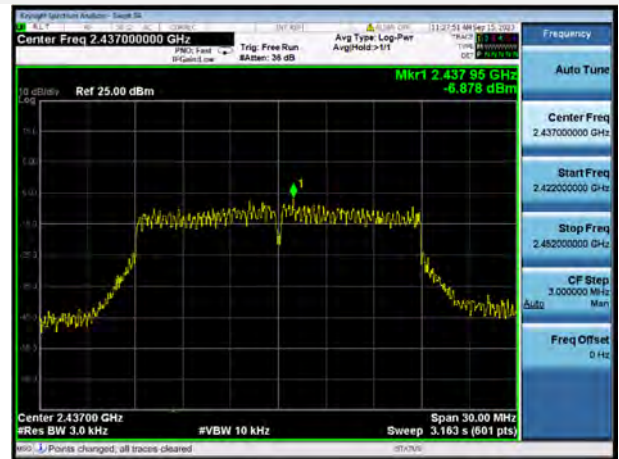


MIMO-Aux. Antenna

802.11n-20 MHz LOW CHANNEL



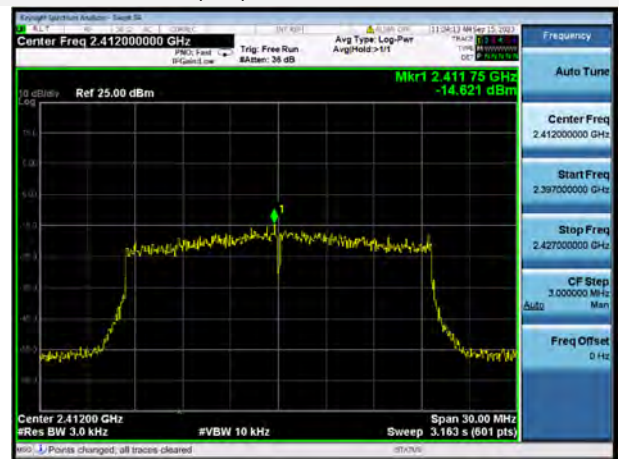
802.11n-20 MHz MIDDLE CHANNEL



802.11n-20 MHz HIGH CHANNEL



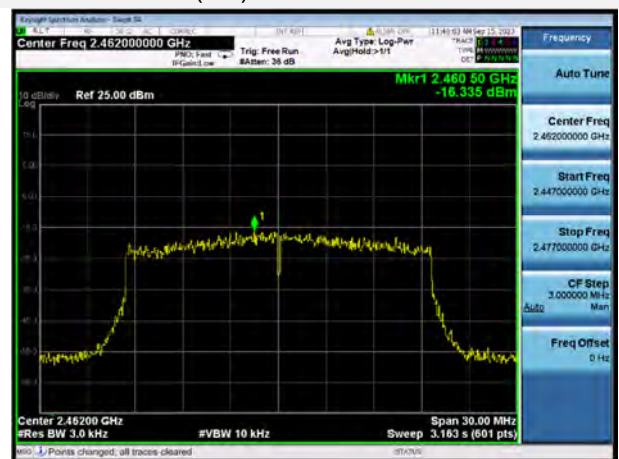
802.11ax-20 MHz(SU) LOW CHANNEL



802.11ax-20 MHz(SU) MIDDLE CHANNEL



802.11ax-20 MHz(SU) HIGH CHANNEL



ANNEX B TEST SETUP PHOTOS

Please refer the document “BL-SZ2381398-AR.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “BL-SZ2381398-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “BL-SZ2381398-AI.PDF”.

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--END OF REPORT--