

TEST REPORT

Applicant: TENG INTERNACIONAL TRADING LIMITED
Address: 4f 299 QRC NOS 287 299 QUEENS RD CENTRAL,
HONG KONG
Equipment Type: Pos Terminal
Model Name: S9
Brand Name: TENG INTERNACIONAL
FCC ID: 2BTGQ-S9
Test Standard: 47 CFR Part 15 Subpart C
(refer to section 3.1)
Sample Arrival Date: Apr. 10, 2026
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ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

Tested by: Julie Zhu

Julie Zhu



Checked by: Li Ganming

Li Ganming

Approved by: Tolan Tu
(Testing Director)

Tolan Tu

Revision History

Version	Issue Date	Revisions
<u>Rev. 01</u>	<u>Jun. 30, 2026</u>	<u>Initial Issue</u>

TABLE OF CONTENTS

1	GENERAL INFORMATION	4
1.1	Test Laboratory	4
1.2	Test Location	4
2	PRODUCT INFORMATION	5
2.1	Applicant Information	5
2.2	Manufacturer Information	5
2.3	General Description for Equipment under Test (EUT)	5
2.4	Technical Information	6
2.5	Channel List	7
3	SUMMARY OF TEST RESULTS	9
3.1	Test Standards	9
3.2	Test Verdict	9
4	GENERAL TEST CONFIGURATIONS	10
4.1	Test Environments	10
4.2	Test Equipment List	10
4.3	Test Software List	10
4.4	Measurement Uncertainty	11
4.5	Description of Test Setup	11
4.6	Measurement Results Explanation Example	14
5	TEST ITEMS	15
5.1	Antenna Requirements	15
5.2	Output Power	16
5.3	Occupied Bandwidth	18
5.4	Conducted Spurious Emission	19

5.5	Band Edge (Authorized-band band-edge).....	21
5.6	Conducted Emission.....	23
5.7	Radiated Spurious Emission.....	24
5.8	Band Edge (Restricted-band band-edge).....	29
5.9	Power Spectral density (PSD)	30
ANNEX A	TEST RESULT	31
A.1	Output Power	31
A.2	Occupied Bandwidth.....	33
A.3	Conducted Spurious Emissions	38
A.4	Band Edge (Authorized-band band-edge).....	47
A.5	Conducted Emissions	51
A.6	Radiated Emission.....	53
A.7	Band Edge (Restricted-band band-edge).....	68
A.8	Power Spectral Density (PSD).....	72
ANNEX B	TEST SETUP PHOTOS	75
ANNEX C	EUT EXTERNAL PHOTOS.....	75
ANNEX D	EUT INTERNAL PHOTOS.....	75

1 GENERAL INFORMATION

1.1 Test Laboratory

Name	Shenzhen BALUN Technology Co., Ltd.
Address	601, Building 2, Intelligent Connected Vehicle Industrial Park, No.55, Xiangshan Road, Luotian Community, Yanluo Sub-district, Bao'an District, Shenzhen
Phone Number	+86 755 6685 0100

1.2 Test Location

Name	Shenzhen BALUN Technology Co., Ltd.
Location	☐ Building 2, Intelligent Connected Vehicle Industrial Park, No.55, Xiangshan Road, Luotian Community, Yanluo Sub-district, Bao'an District, Shenzhen, Guangdong
	☒ 1/F., Building B, Ganghongji High-Tech Intelligent Industrial Park, No.1008, Songbai Road, Yangguang Community, Xili Subdistrict, Nanshan District, Shenzhen, Guangdong
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	TENG INTERNACIONAL TRADING LIMITED
Address	4f 299 QRC NOS 287 299 QUEENS RD CENTRAL, HONG KONG

2.2 Manufacturer Information

Manufacturer	TENG INTERNACIONAL TRADING LIMITED
Address	4f 299 QRC NOS 287 299 QUEENS RD CENTRAL, HONG KONG

2.3 General Description for Equipment under Test (EUT)

EUT Name	Pos Terminal
Model Name Under Test	S9
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	N/A
Software Version	N/A
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

2.4 Technical Information

Network and Wireless connectivity	2G Network GPRS/EDGE 850/1900 MHz 3G Network WCDMA/HSDPA/HSUPA Band 2/5 4G Network LTE FDD Band 5/7 Bluetooth (BR+EDR+BLE) WIFI 802.11a, 802.11b, 802.11g, 802.11n and 802.11ac NFC
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The requirement for the following technical information of the EUT was tested in this report:

Frequency Range	2.400 GHz - 2.4835 GHz
Modulation Technology	DSSS, OFDM
Product Type	☐ Mobile ☒ Portable ☐ Fix Location
Antenna System (eg., MIMO, Smart Antenna)	N/A
Categorization as Correlated or Completely Uncorrelated	N/A
Antenna Type	PIFA Antenna
Antenna Gain	-0.5 dBi
About the Product	Only the WIFI 802.11b, 802.11g and 802.11n (HT20/40) was tested in this report.

2.5 Channel List

20 MHz		40 MHz	
Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)
1	2412	3	2422
2	2417	4	2427
3	2422	5	2432
4	2427	6	2437
5	2432	7	2442
6	2437	8	2447
7	2442	9	2452
8	2447		
9	2452		
10	2457		
11	2462		

Modulation technology	Modulation Type	Transfer Rate (Mbps)(Single RF path)
DSSS (802.11b)	DBPSK	1
	DQPSK	2
	CCK	5.5/11
OFDM (802.11g)	BPSK	6/9
	QPSK	12/18
	16QAM	24/36
	64QAM	48/54
OFDM (802.11n-20 MHz)	BPSK	6.5/7.2
	QPSK	13/19.5/14.4/21.7
	16QAM	26/39/28.9/43.3
	64QAM	52/58.5/65/57.8/65/72.2
OFDM (802.11n-40 MHz)	BPSK	13.5/15
	QPSK	27/40.5/30/45
	16QAM	54/81/60/90
	64QAM	108/121.5/135/120/150

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

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

Note: The above EUT information in section 2.5 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	ANSI C63.10-2020	American National Standard for Procedures for Compliance Testing of Unlicensed Wireless Devices
3	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	46% to 64%	
Atmospheric Pressure	100 kPa to 102 kPa	
Temperature	NT (Normal Temperature)	+19.4℃ to +24.2℃
Working Voltage of the EUT	NV (Normal Voltage)	7.74 V

4.2 Test Equipment List

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer	KEYSIGHT	N9020A	MY54420186	2025.05.21	2026.05.20
Power meter	R&S	NRP8S	101498	2025.07.07	2026.07.06
Spectrum Analyzer	KEYSIGHT	N9020A	MY56060127	2025.12.25	2026.12.24
Test Antenna-Horn	A-INFO	LB-180400KF	J211060273	2024.06.15	2027.06.14
Test Antenna-Bi-Log	Schwarzbeck	VULB 9163	01414	2023.11.03	2026.11.02
Test Antenna-Horn	Schwarzbeck	BBHA 9120D	02459	2023.10.26	2026.10.25
Test Antenna-Loop	Schwarzbeck	FMZB 1513-60	00015	2024.05.07	2026.05.06
Anechoic Chamber	YIHENG	C8-966	107	2024.05.12	2027.05.11
EMI Receiver	Keysight	N9038A	MY55330121	2025.12.26	2026.12.25
Filtering unit	balun	SU319F	LW-SZ19D0001F01	N/A	N/A
Switching unit	BALUN	SU319	LW-SZ19D0001S01	N/A	N/A
EMI Receiver	keysight	N9038B	MY61380132	2025.12.26	2026.12.25
LISN	SCHWARZBECK MESS- ELEKTRONIK	NSLK8127	01009	2025.07.15	2026.07.14
Shielded Enclosure	YiHeng Electronic Co., Ltd	4.3m*2.9m*2.4 m	235	2024.11.05	2027.11.04

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%

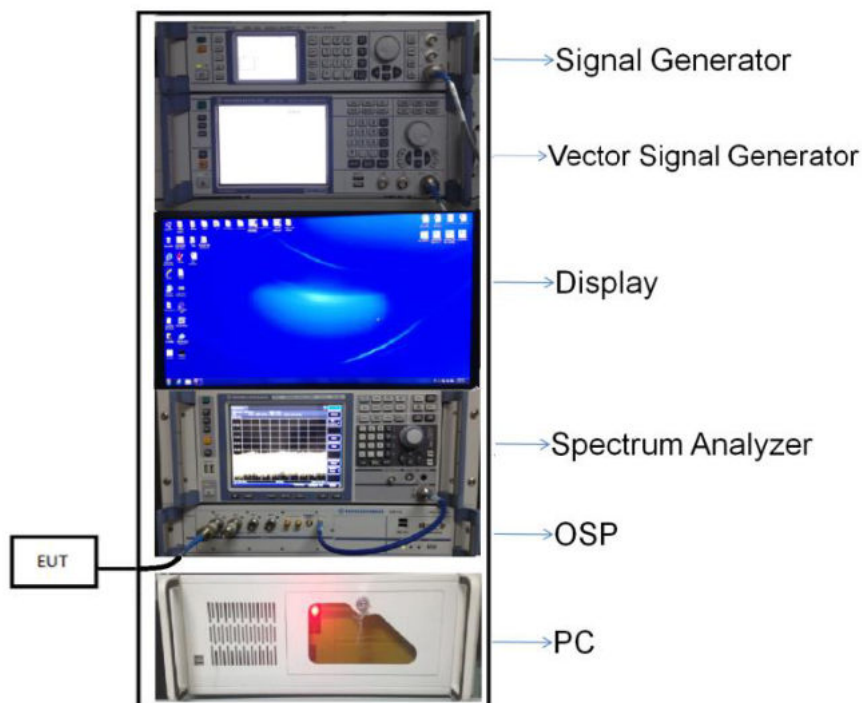
4.5 Description of Test Setup

4.5.1 For Antenna Port Test

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

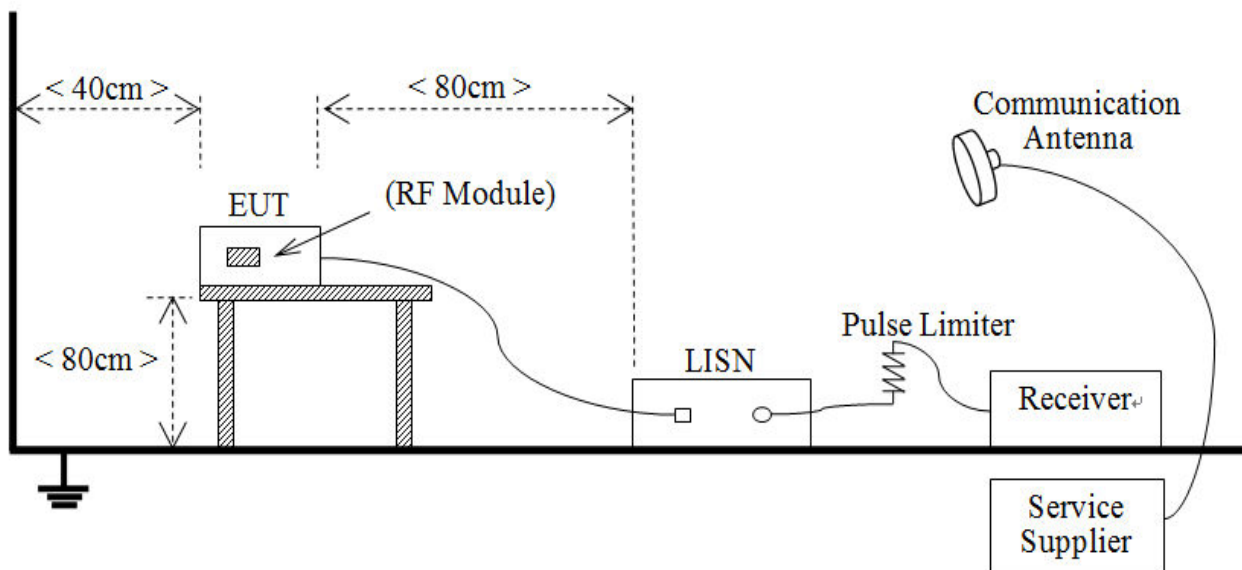
For example: the measurement value is 10 dBm and the cable 0.5dBm used, then the final result of EUT:

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



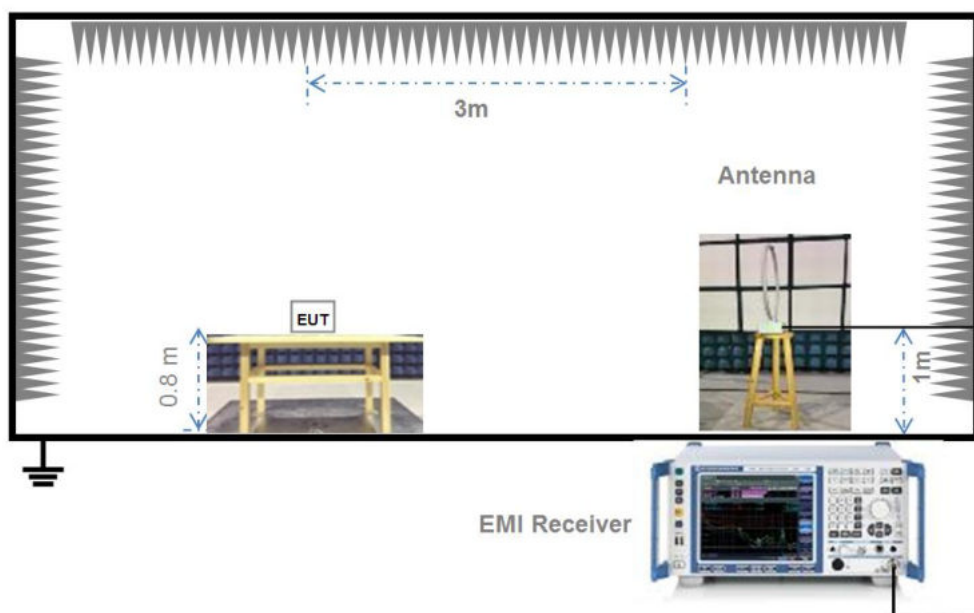
(Diagram 1)

4.5.2 For AC Power Supply Port Test



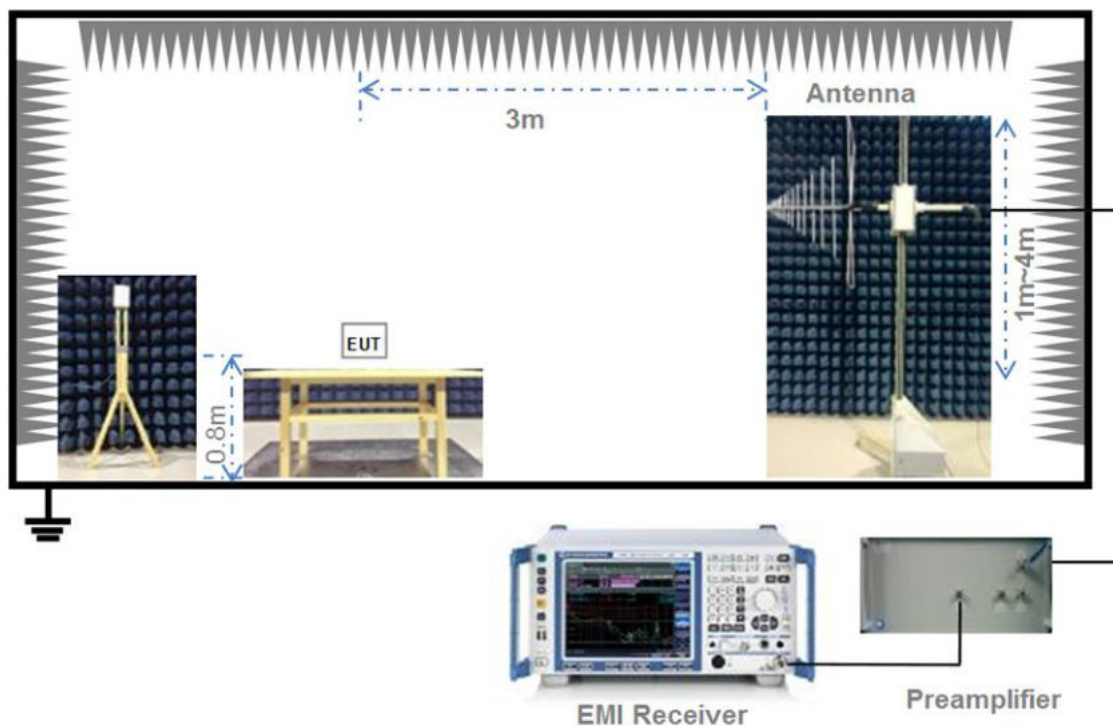
(Diagram 2)

4.5.3 For Radiated Test (Below 30 MHz)



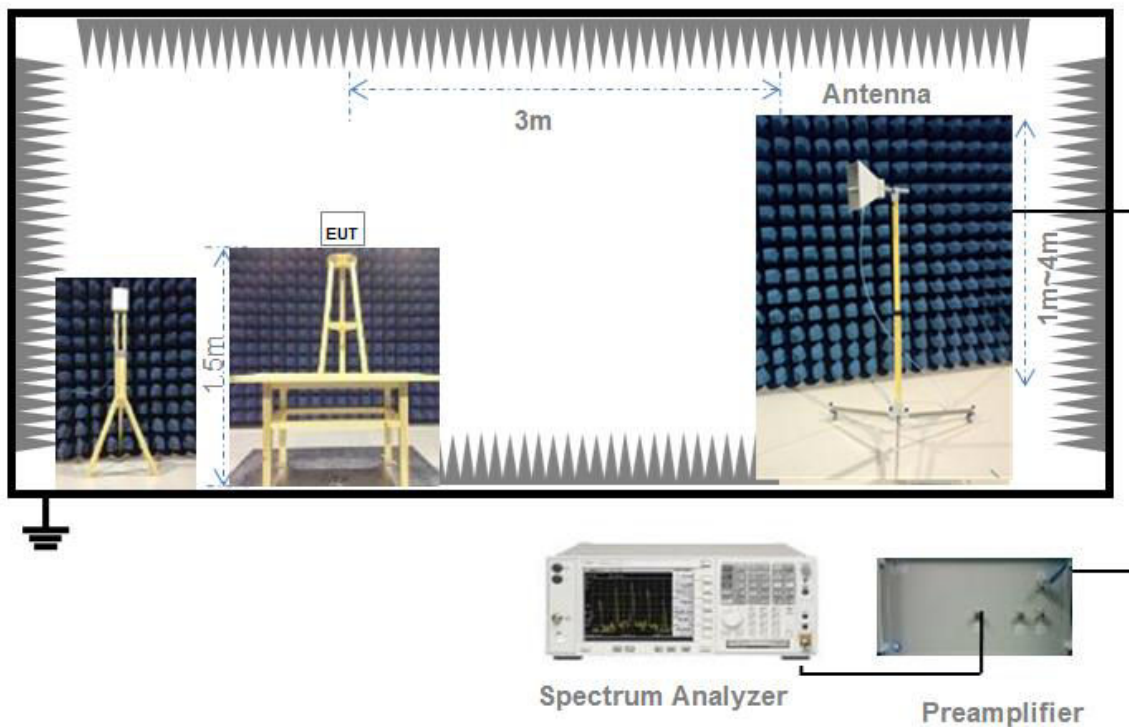
(Diagram 3)

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.

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

Maximum conducted (average) output power (Reporting Only)

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

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

Measurements of duty cycle

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

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

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

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

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

5.2.4 Test Result

Please refer to ANNEX A.1.

5.3 Occupied Bandwidth

5.3.1 Limit

FCC §15.247(a)

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

Option 1:

Use the following spectrum analyzer settings:

Set RBW = shall be in the range of 1% to 5% of the OBW but not less than 100 kHz.

Set the video bandwidth (VBW) ≥ 3 RBW.

Detector = Peak.

Trace mode = max hold.

Sweep = No faster than coupled (auto) time..

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.

Option 2:

The automatic bandwidth measurement capability of an instrument may be employed using the X dB bandwidth mode with X set to 6 dB, if the functionality described in 11.8.1 (i.e., RBW = 100 kHz,

VBW $\geq 3 \times$ RBW, and peak detector with maximum hold) is implemented by the instrumentation function. When using this capability, care shall be taken so that the bandwidth measurement is not influenced by any intermediate power nulls in the fundamental emission that might be ≥ 6 dB..

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 $[10 \log (\text{OBW/RBW})]$ below the reference level. Specific guidance is given in 4.1.5.2.

Attenuation: Auto (at least 10 dB preferred).

Sweep time: Coupled.

Resolution bandwidth: 100 kHz.

Video bandwidth: 300 kHz.

Detector: Peak.

Trace: Max hold.

5.5.4 Test Result

Please refer to ANNEX A.4.

5.6 Conducted Emission

5.6.1 Limit

FCC §15.207

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

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

Duty Cycle

Test Mode	On Time (ms)	On+Off time (ms)	Duty Cycle	Duty Factor
802.11b	8.374	8.415	99.51%	0.02
802.11g	1.389	1.435	96.79%	0.14
802.11n-20 MHz	1.297	1.345	96.43%	0.16
802.11n-40 MHz	0.646	0.692	93.39%	0.30

Peak Power Test Data

802.11b Mode:

Channel	Measured Output Peak Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	16.59	45.60	30	1000	Pass
Middle	16.85	48.42			Pass
High	16.37	43.35			Pass

802.11g Mode:

Channel	Measured Output Peak Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	19.69	93.11	30	1000	Pass
Middle	20.06	101.39			Pass
High	19.94	98.63			Pass

802.11n-20 MHz Mode:

Channel	Measured Output Peak Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	19.53	89.74	30	1000	Pass
Middle	19.86	96.83			Pass
High	19.47	88.51			Pass

802.11n-40 MHz Mode:

Channel	Measured Output Peak Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	19.48	88.72	30	1000	Pass
Middle	19.48	88.72			Pass
High	19.48	88.72			Pass

Average Power Test Data

802.11b Mode:

Channel	Measured Output Average Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	13.60	22.91	30	1000	Pass
Middle	13.88	24.43			Pass
High	13.40	21.88			Pass

802.11g Mode:

Channel	Measured Output Average Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	13.41	21.93	30	1000	Pass
Middle	13.54	22.59			Pass
High	13.56	22.70			Pass

802.11n-20 MHz Mode:

Channel	Measured Output Average Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	13.19	20.84	30	1000	Pass
Middle	13.57	22.75			Pass
High	13.19	20.84			Pass

802.11n-40 MHz Mode:

Channel	Measured Output Average Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	13.11	20.46	30	1000	Pass
Middle	13.05	20.18			Pass
High	13.32	21.48			Pass

A.2 Occupied Bandwidth

Test Data

802.11b Mode:

Channel	6 dB Bandwidth (MHz)	99% Bandwidth (MHz)	6 dB Bandwidth Limits (kHz)
Low	8.700000	12.912000	≥ 500
Middle	8.200000	13.151000	≥ 500
High	8.200000	13.053000	≥ 500

802.11g Mode:

Channel	6 dB Bandwidth (MHz)	99% Bandwidth (MHz)	6 dB Bandwidth Limits (kHz)
Low	15.500000	17.104000	≥ 500
Middle	15.700000	17.294000	≥ 500
High	15.200000	16.948000	≥ 500

802.11n-20MHz Mode:

Channel	6 dB Bandwidth (MHz)	99% Bandwidth (MHz)	6 dB Bandwidth Limits (kHz)
Low	15.600000	17.970000	≥ 500
Middle	15.700000	18.187000	≥ 500
High	15.300000	17.872000	≥ 500

802.11n-40MHz Mode:

Channel	6 dB Bandwidth (MHz)	99% Bandwidth (MHz)	6 dB Bandwidth Limits (kHz)
Low	34.000000	35.847000	≥ 500
Middle	35.700000	36.418000	≥ 500
High	34.000000	35.931000	≥ 500

Test Plots

6 dB Bandwidth

802.11b LOW CHANNEL



802.11b MIDDLE CHANNEL



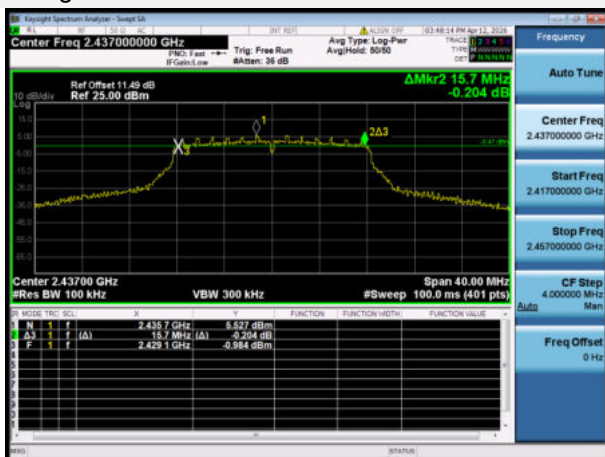
802.11b HIGH CHANNEL



802.11g LOW CHANNEL



802.11g MIDDLE CHANNEL



802.11g HIGH CHANNEL



802.11n-20 MHz LOW CHANNEL



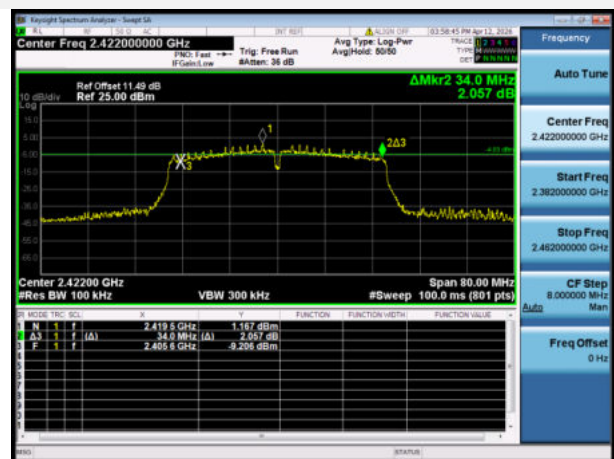
802.11n-20 MHz MIDDLE CHANNEL



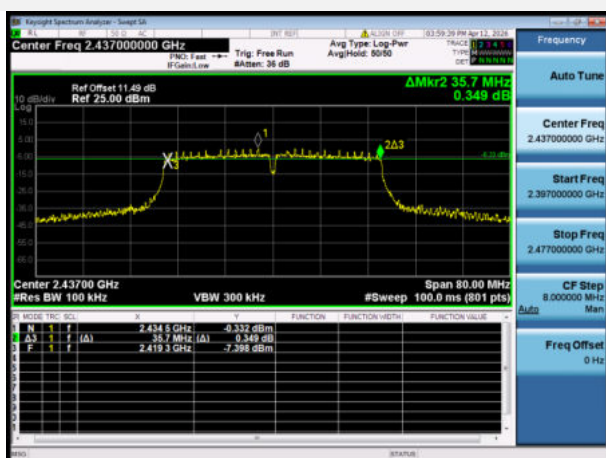
802.11n-20 MHz HIGH CHANNEL



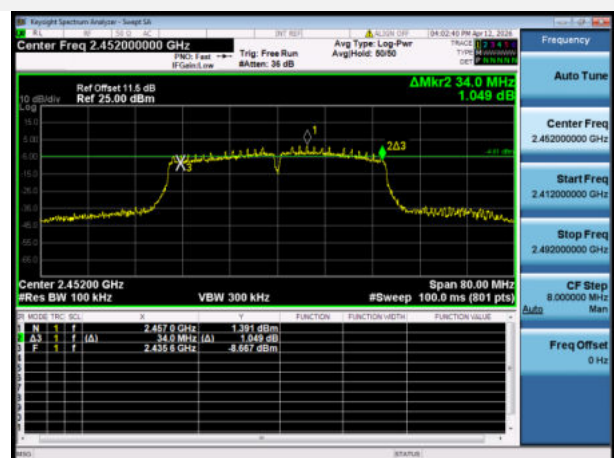
802.11n-40 MHz LOW CHANNEL



802.11n-40 MHz MIDDLE CHANNEL

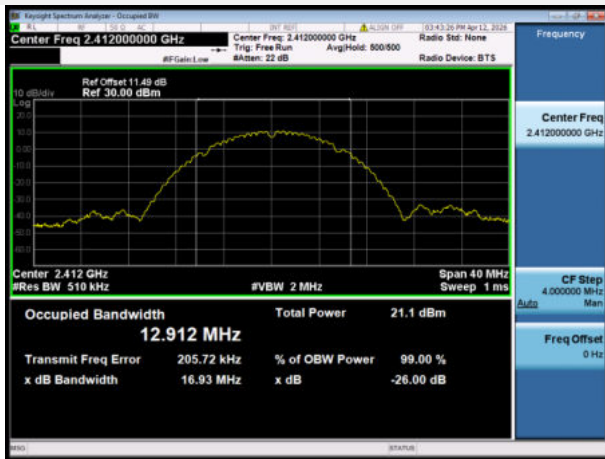


802.11n-40 MHz HIGH CHANNEL

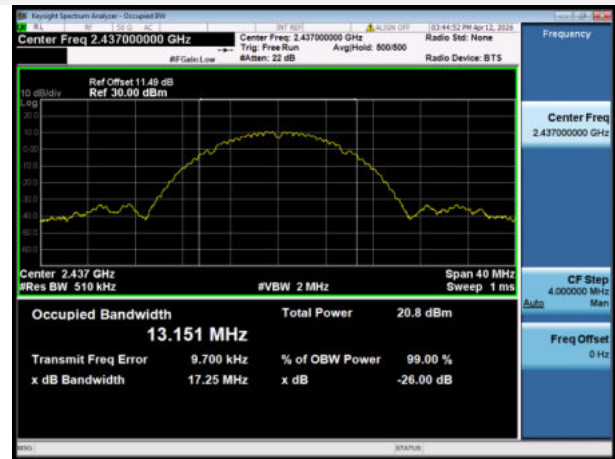


99% Bandwidth

802.11b LOW CHANNEL



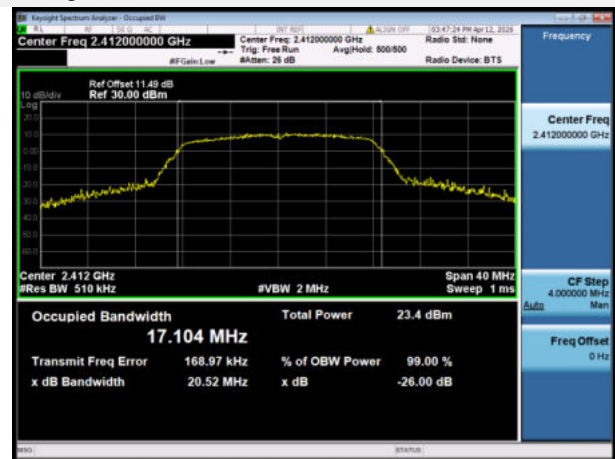
802.11b MIDDLE CHANNEL



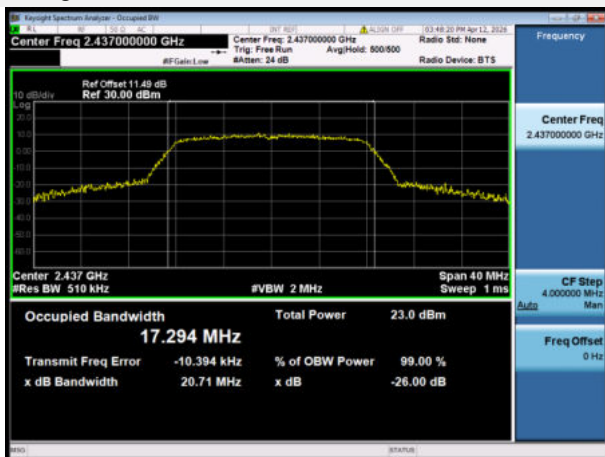
802.11b HIGH CHANNEL



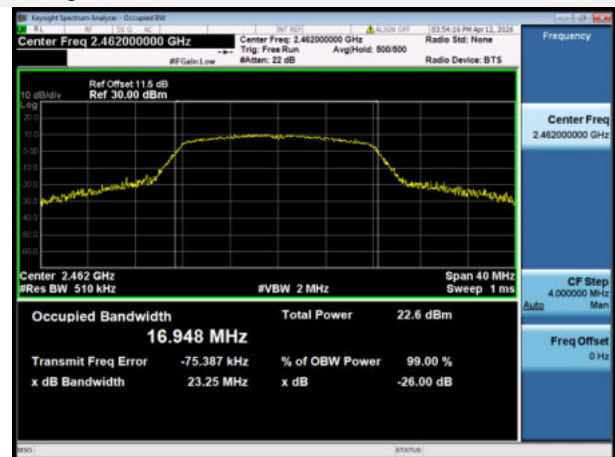
802.11g LOW CHANNEL



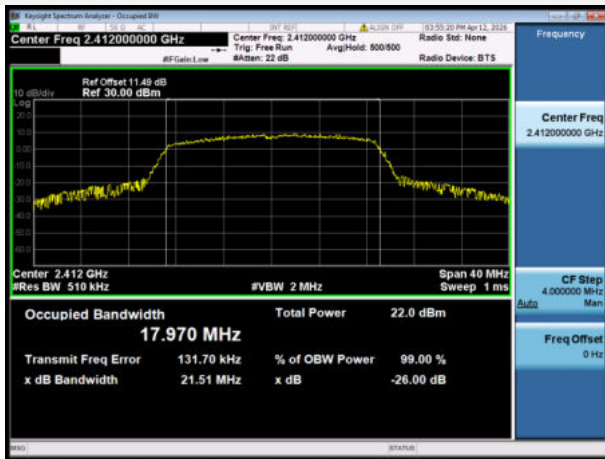
802.11g MIDDLE CHANNEL



802.11g HIGH CHANNEL



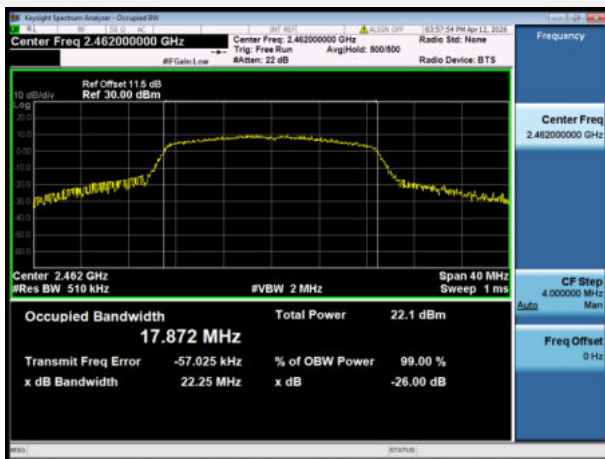
802.11n-20 MHz LOW CHANNEL



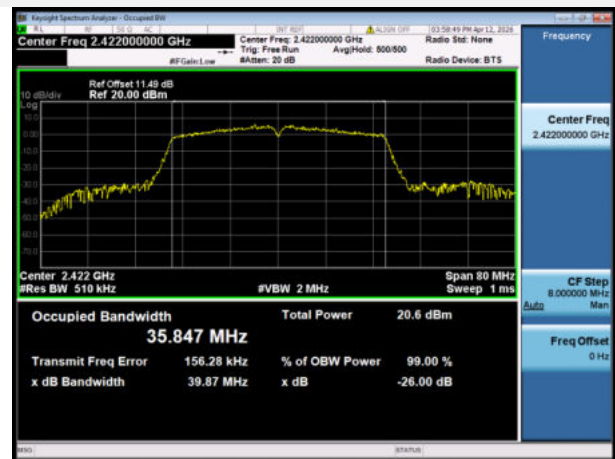
802.11n-20 MHz MIDDLE CHANNEL



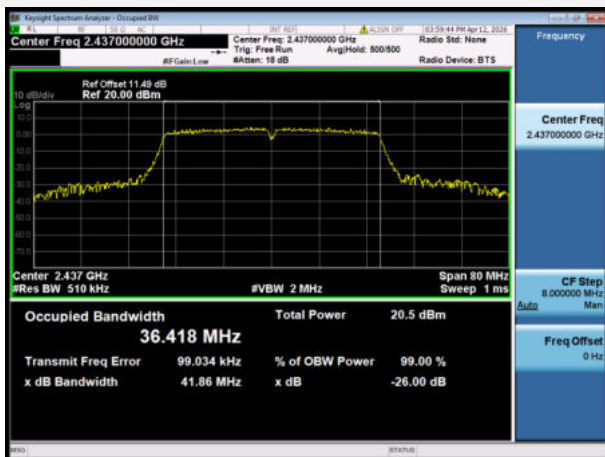
802.11n-20 MHz HIGH CHANNEL



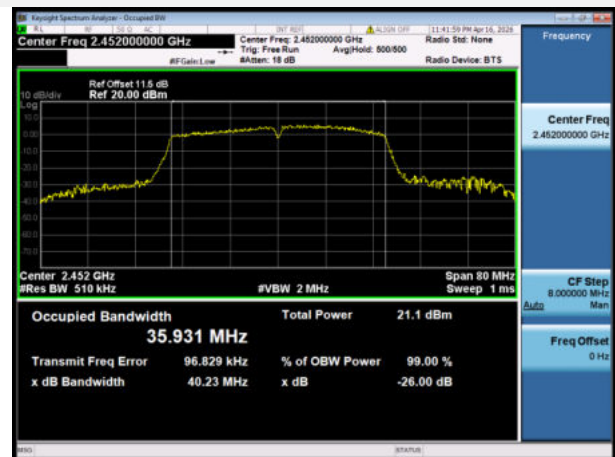
802.11n-40 MHz LOW CHANNEL



802.11n-40 MHz MIDDLE CHANNEL



802.11n-40 MHz HIGH CHANNEL



A.3 Conducted Spurious Emissions

Test Data

802.11b Mode:

Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-32.39	5.80	-14.20	Pass
Middle	-33.88	5.81	-14.19	Pass
High	-33.21	5.50	-14.50	Pass

802.11g Mode:

Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-33.39	3.84	-16.16	Pass
Middle	-31.76	3.81	-16.19	Pass
High	-33.34	4.17	-15.83	Pass

802.11n-20MHz Mode:

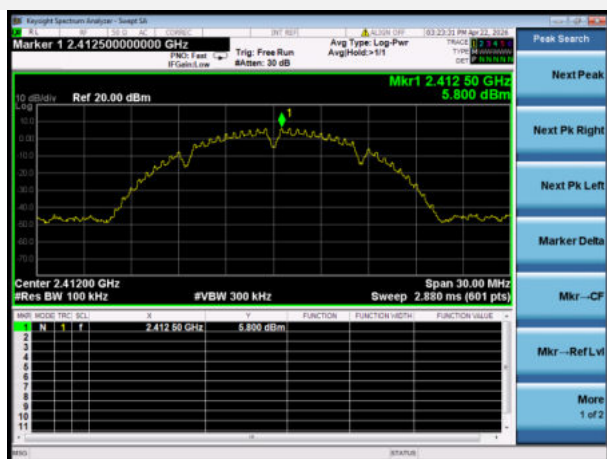
Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-32.00	4.00	-16.00	Pass
Middle	-32.62	3.73	-16.27	Pass
High	-32.33	3.71	-16.29	Pass

802.11n-40MHz Mode:

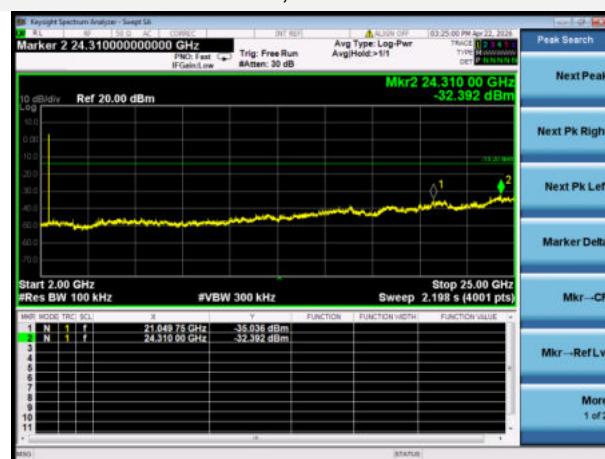
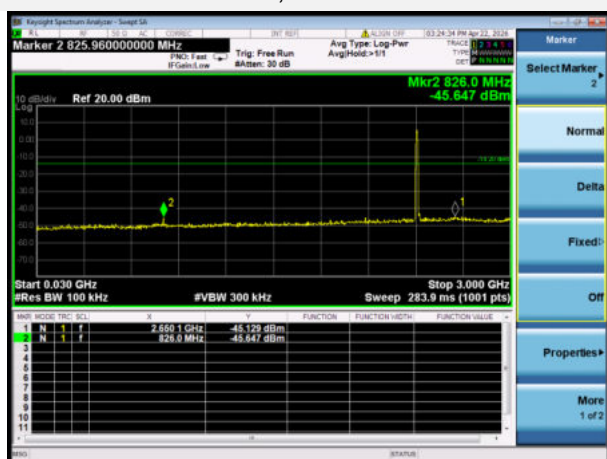
Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-35.92	1.24	-18.76	Pass
Middle	-33.09	-0.13	-20.13	Pass
High	-35.42	1.57	-18.43	Pass

Test Plots

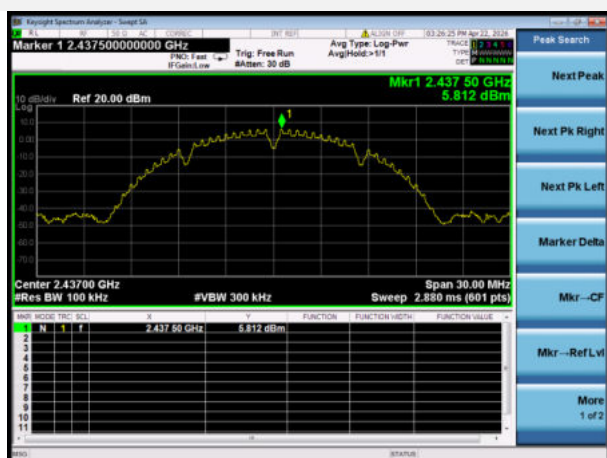
802.11b LOW CHANNEL CARRIER LEVEL



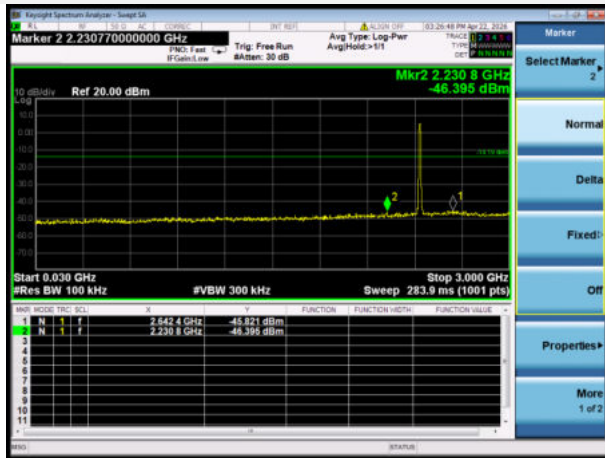
802.11b LOW CHANNEL, SPURIOUS 30 MHz ~ 3 GHz 802.11b LOW CHANNEL, SPURIOUS 2 GHz ~ 25 GHz



802.11b MIDDLE CHANNEL CARRIER LEVEL



802.11b MIDDLE CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



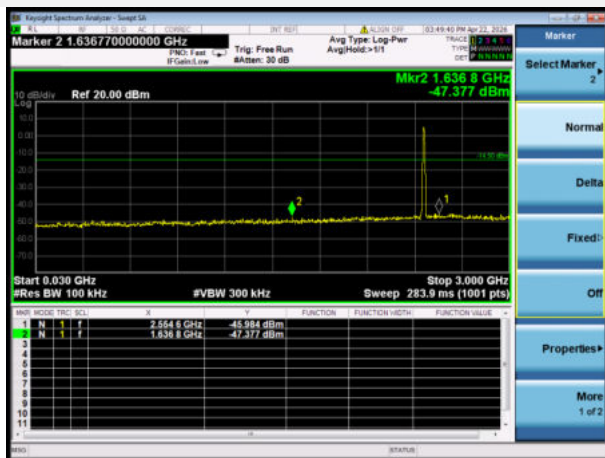
802.11b MIDDLE CHANNEL, SPURIOUS 2 GHz ~ 25 GHz



802.11b HIGH CHANNEL CARRIER LEVEL



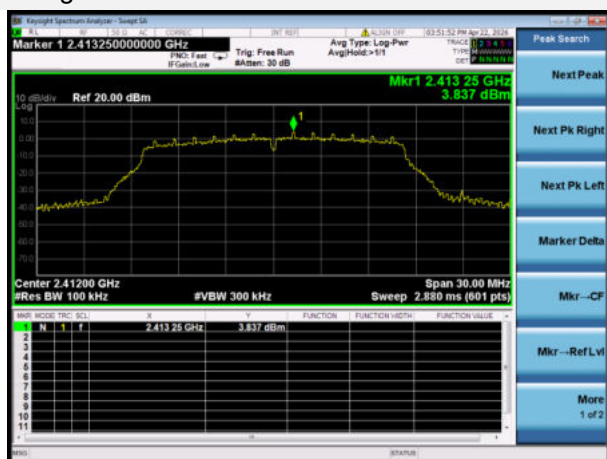
802.11b HIGH CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



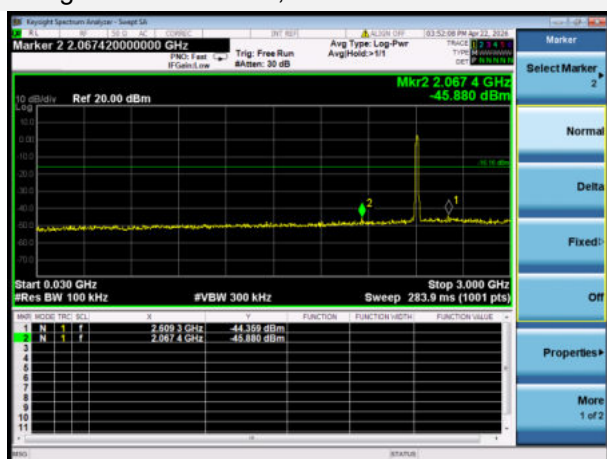
802.11b HIGH CHANNEL, SPURIOUS 2 GHz ~ 25 GHz



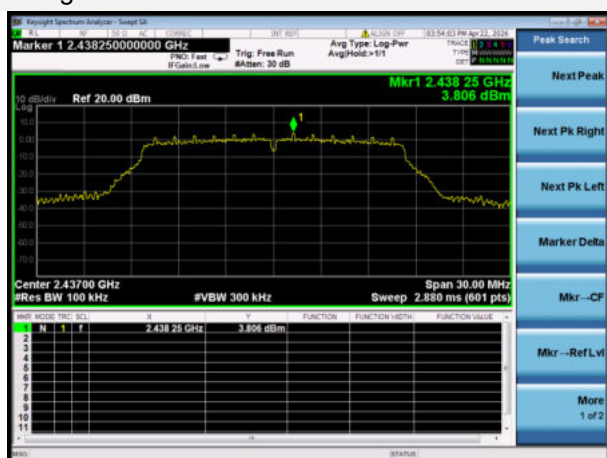
802.11g LOW CHANNEL CARRIER LEVEL



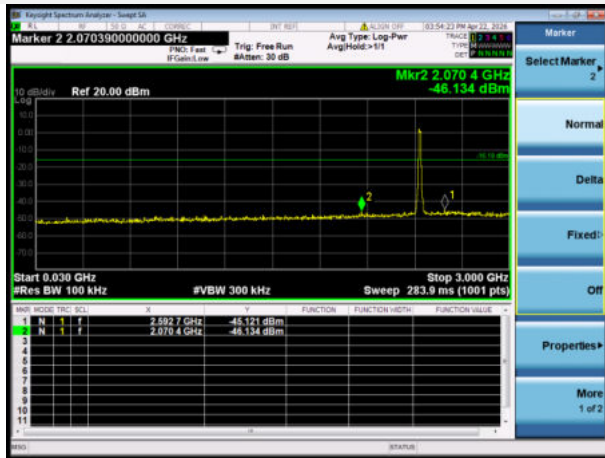
802.11g LOW CHANNEL, SPURIOUS 30 MHz ~ 3 GHz 802.11g LOW CHANNEL, SPURIOUS 2 GHz ~ 25 GHz



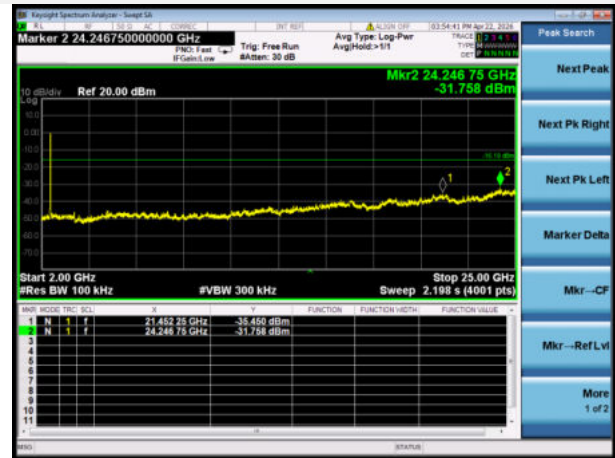
802.11g MIDDLE CHANNEL CARRIER LEVEL



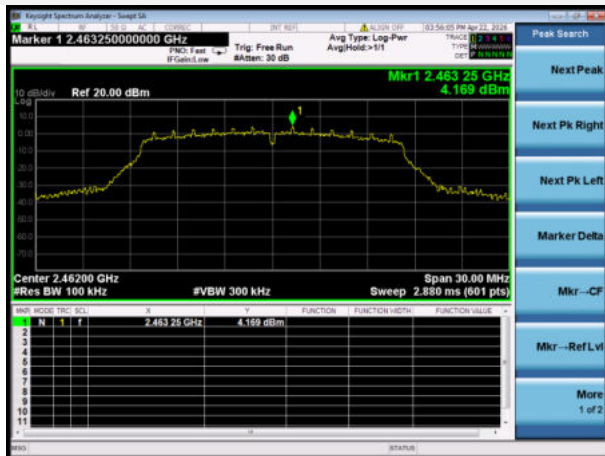
802.11g MIDDLE CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



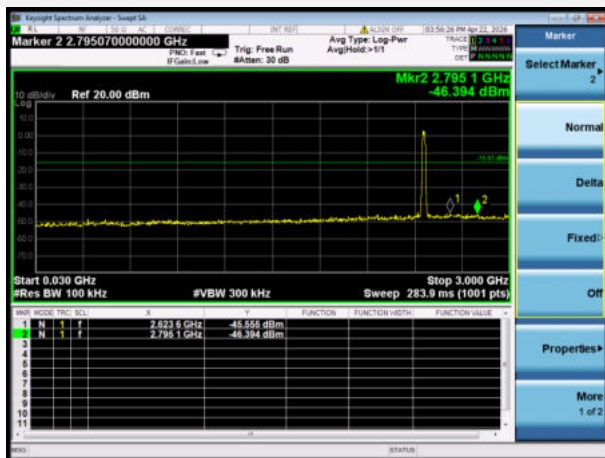
802.11g MIDDLE CHANNEL, SPURIOUS 2 GHz ~ 25 GHz



802.11g HIGH CHANNEL CARRIER LEVEL



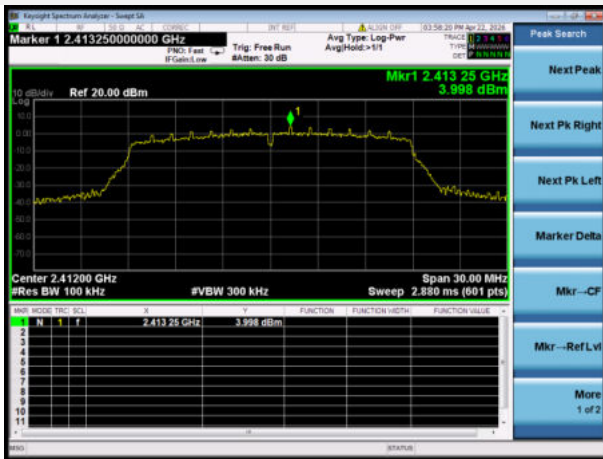
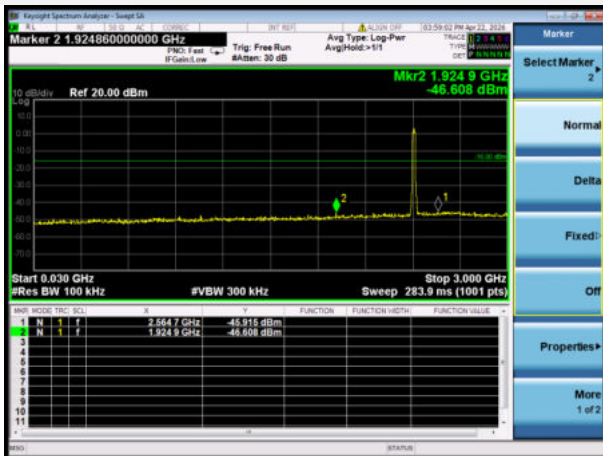
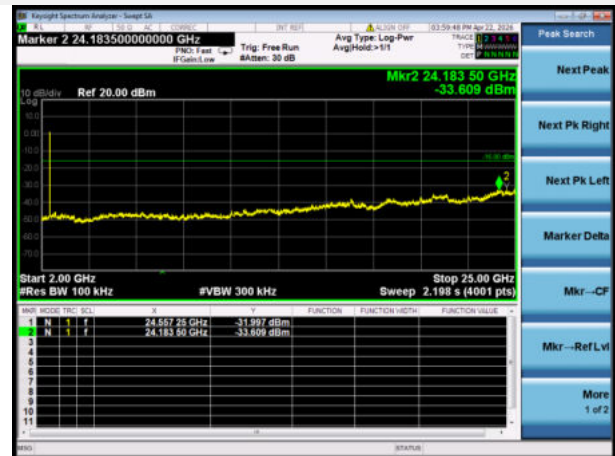
802.11g HIGH CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



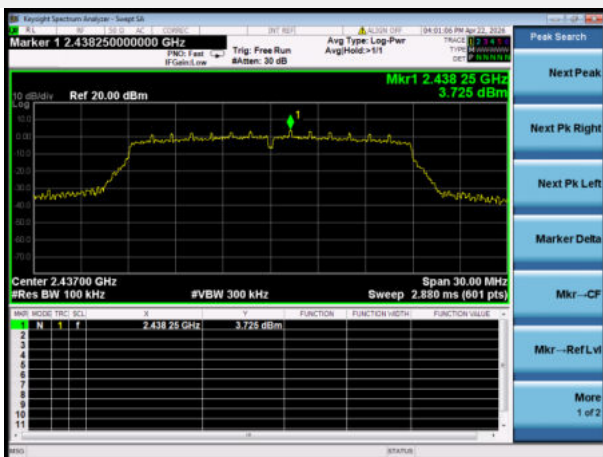
802.11g HIGH CHANNEL, SPURIOUS 2 GHz ~ 25 GHz



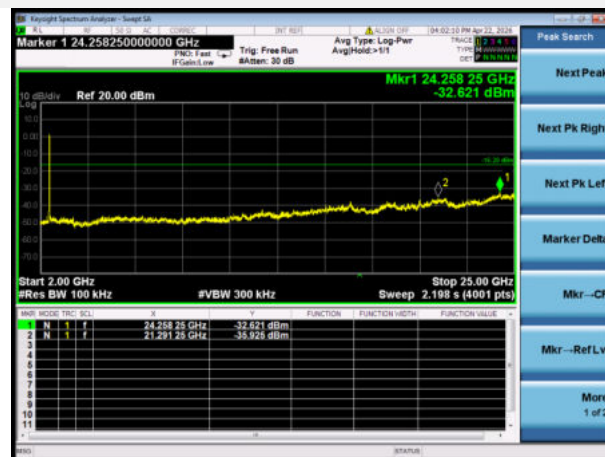
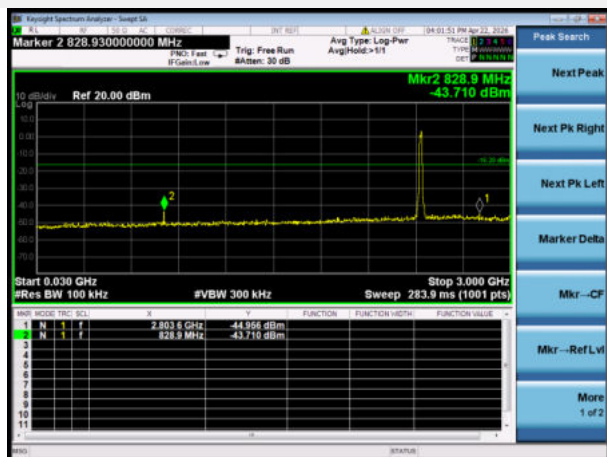
802.11n-20 MHz LOW CHANNEL CARRIER LEVEL

802.11n-20 MHz LOW CHANNEL, SPURIOUS
30 MHz ~ 3 GHz802.11n-20 MHz LOW CHANNEL, SPURIOUS
2 GHz ~ 25 GHz

802.11n-20 MHz MIDDLE CHANNEL CARRIER LEVEL



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



KeySight Spectrum Analyzer - Sweep 56

Marker 1 2.463250000000 GHz

Ref 20.00 dBm

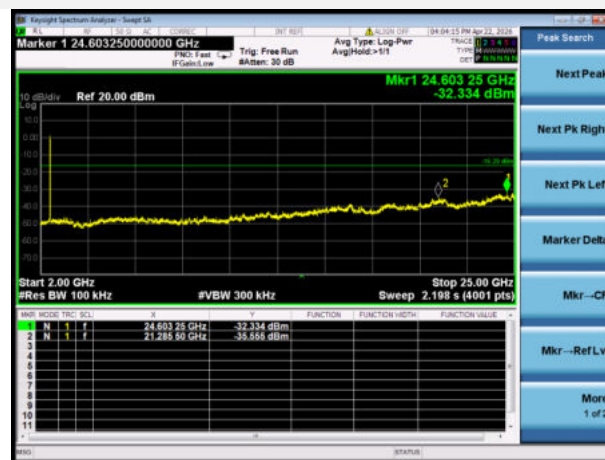
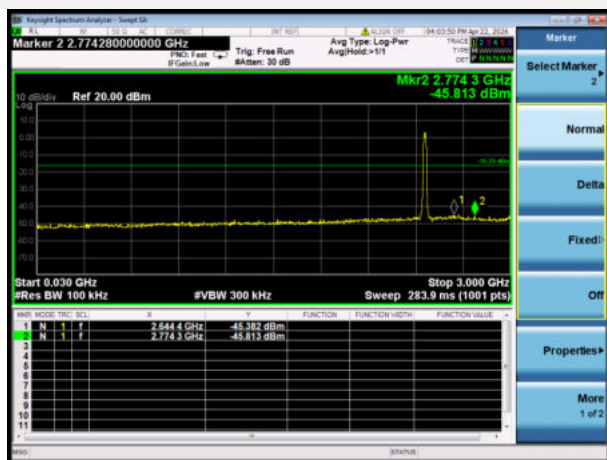
2.463 25 GHz 3.713 dBm

Center 2.46200 GHz Span 30.00 MHz

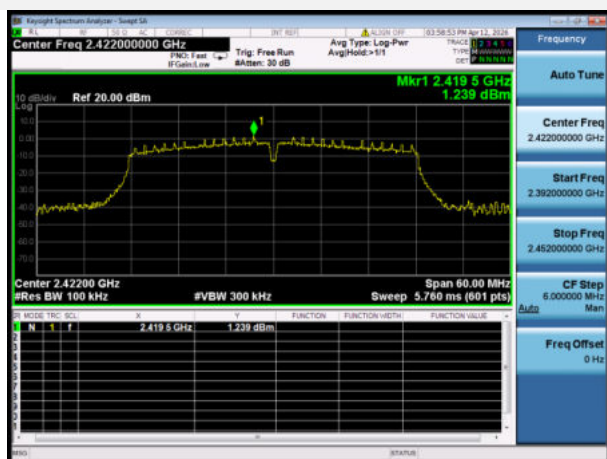
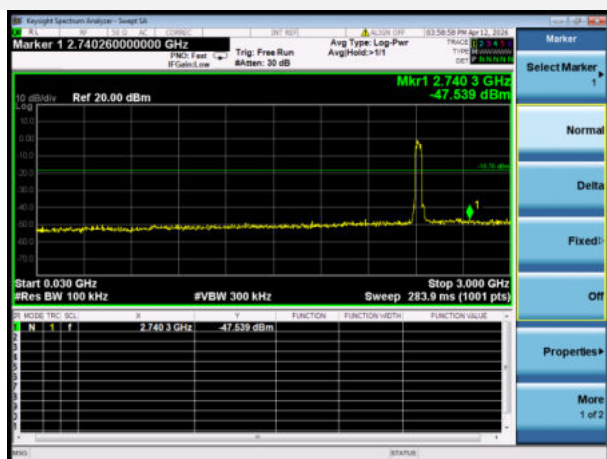
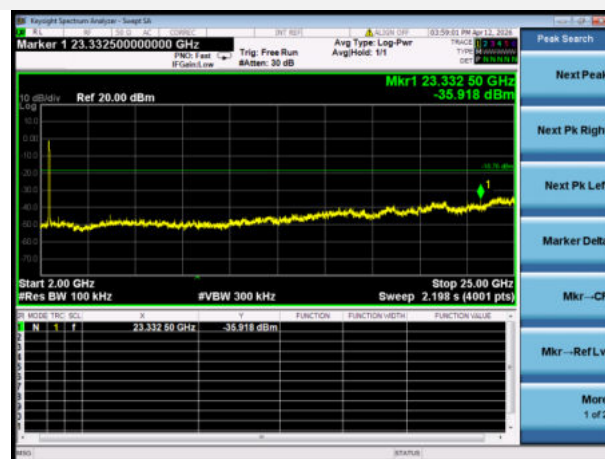
Res BW 100 kHz #VBW 300 kHz Sweep 2.880 ms (601 pts)

MARKER	FREQ (GHz)	AMPL (dBm)	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	2.46325	3.713			

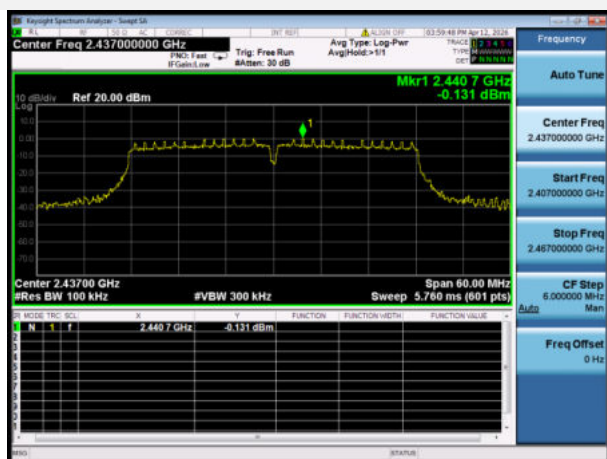
802.11n-20 MHz HIGH CHANNEL, SPURIOUS
2 GHz ~ 25 GHz



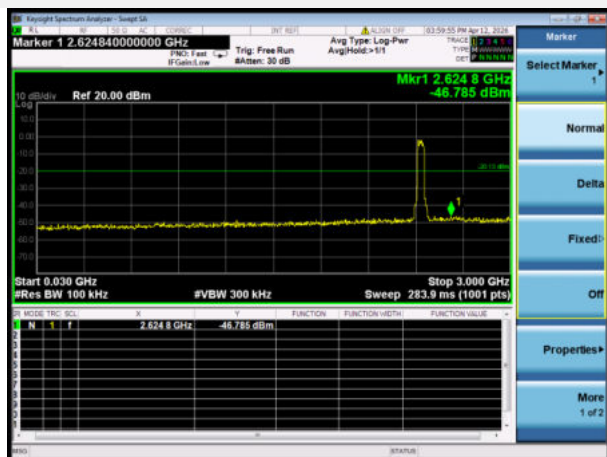
802.11n-40 MHz LOW CHANNEL CARRIER LEVEL

802.11n-40 MHz LOW CHANNEL, SPURIOUS
30 MHz ~ 3 GHz802.11n-40 MHz LOW CHANNEL, SPURIOUS
2 GHz ~ 25 GHz

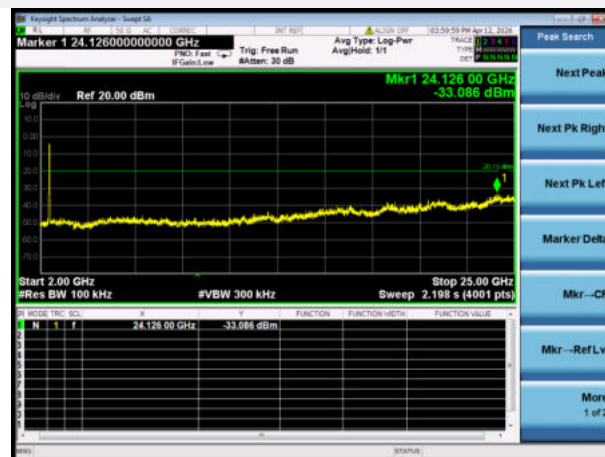
802.11n-40 MHz MIDDLE CHANNEL CARRIER LEVEL



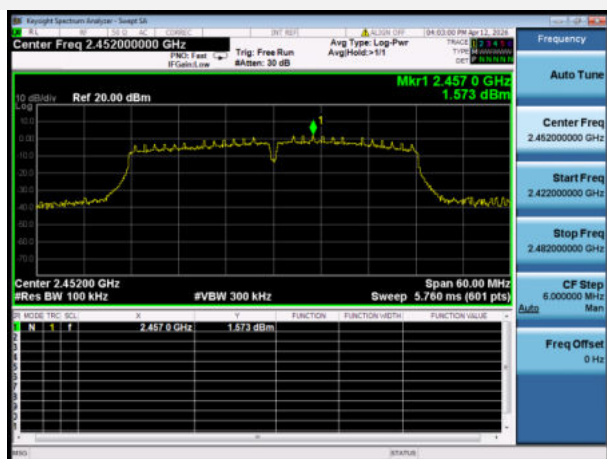
802.11n-40 MHz MIDDLE CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



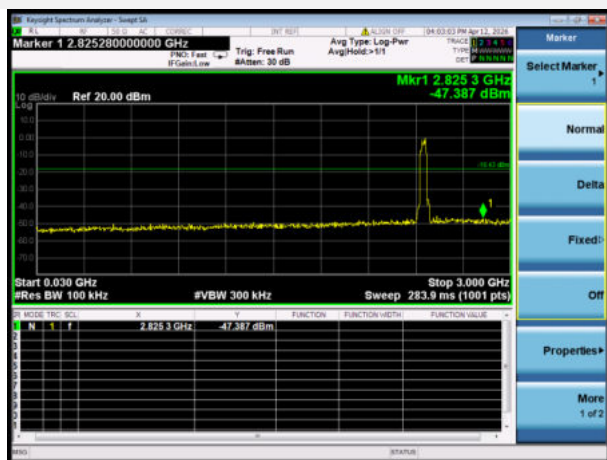
802.11n-40 MHz MIDDLE CHANNEL, SPURIOUS 2 GHz ~ 25 GHz



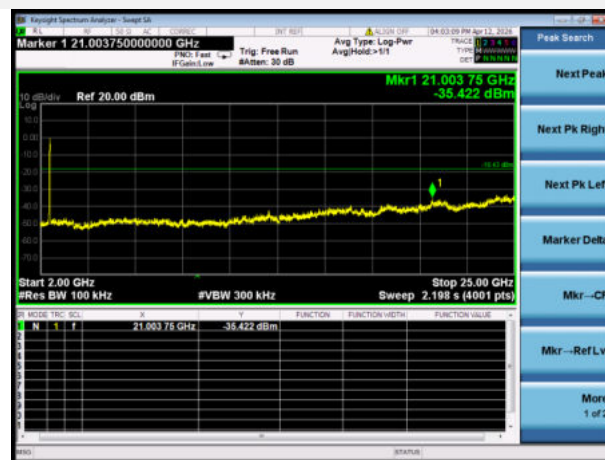
802.11n-40 MHz HIGH CHANNEL CARRIER LEVEL



802.11n-40 MHz HIGH CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



802.11n-40 MHz HIGH CHANNEL, SPURIOUS 2 GHz ~ 25 GHz



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

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

Test Data

802.11b Mode:

Channel	Measured Max. Band Edge Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low Channel	-45.54	5.80	-14.20	Pass
High Channel	-46.77	5.50	-14.50	Pass

802.11g Mode:

Channel	Measured Max. Band Edge Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low Channel	-35.76	3.84	-16.16	Pass
High Channel	-45.37	4.17	-15.83	Pass

802.11n-20 MHz Mode:

Channel	Measured Max. Band Edge Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low Channel	-35.17	4.00	-16.00	Pass
High Channel	-44.21	3.71	-16.29	Pass

802.11n-40 MHz Mode:

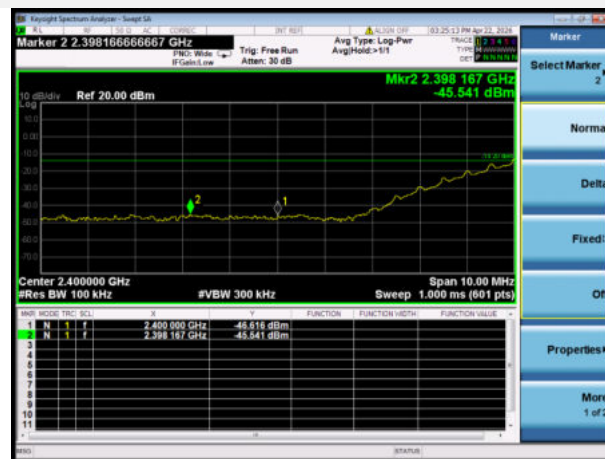
Channel	Measured Max. Band Edge Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low Channel	-37.67	1.24	-18.76	Pass
High Channel	-36.53	1.57	-18.43	Pass

Test Plots

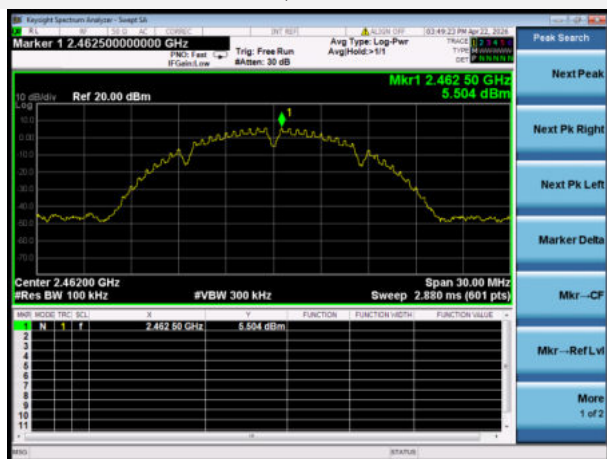
802.11b LOW CHANNEL, CARRIER LEVEL



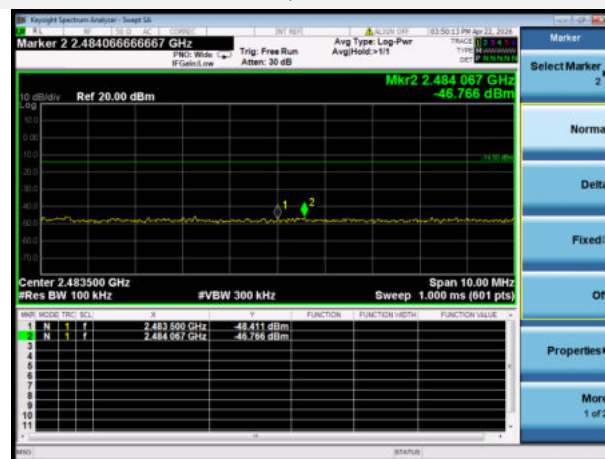
802.11b LOW CHANNEL, BAND EDGE



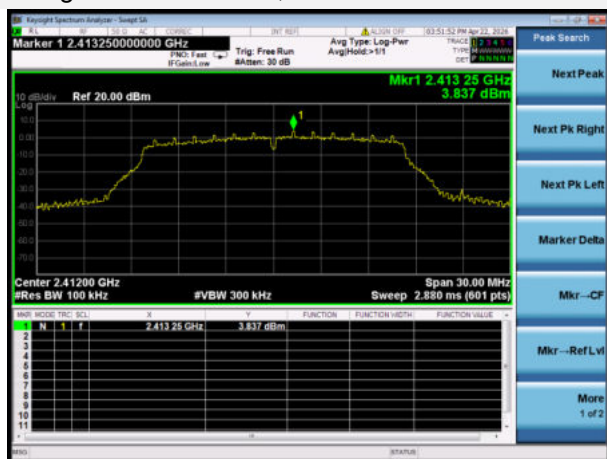
802.11b HIGH CHANNEL, CARRIER LEVEL



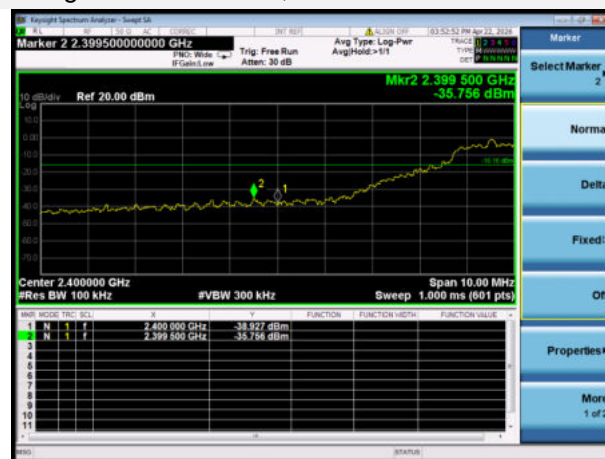
802.11b HIGH CHANNEL, BAND EDGE



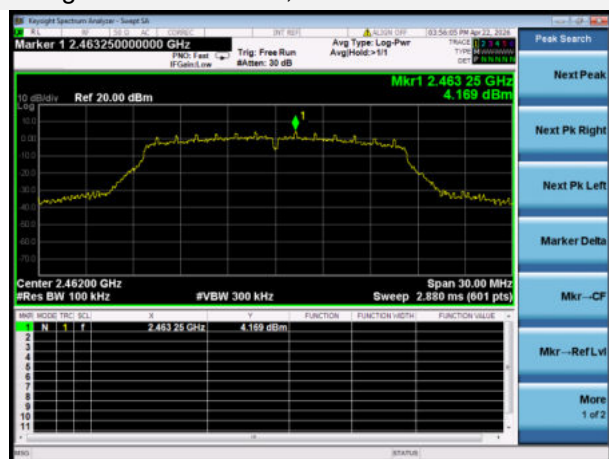
802.11g LOW CHANNEL, CARRIER LEVEL



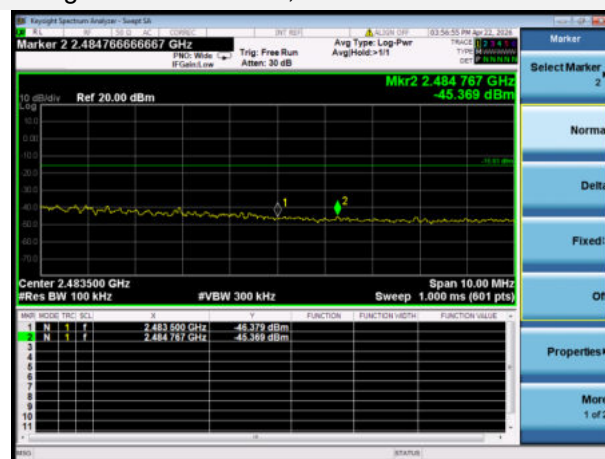
802.11g LOW CHANNEL, BAND EDGE



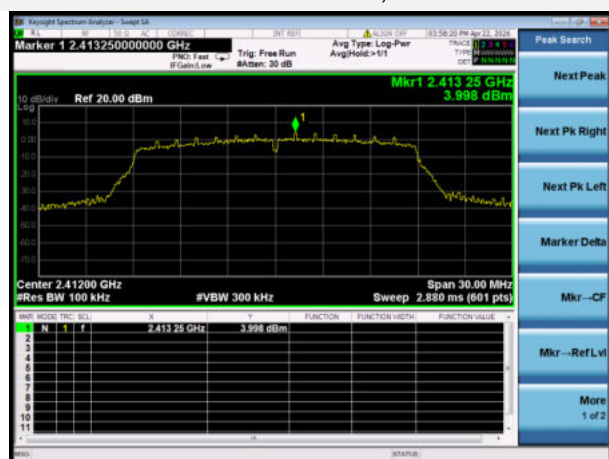
802.11g HIGH CHANNEL, CARRIER LEVEL



802.11g HIGH CHANNEL, BAND EDGE



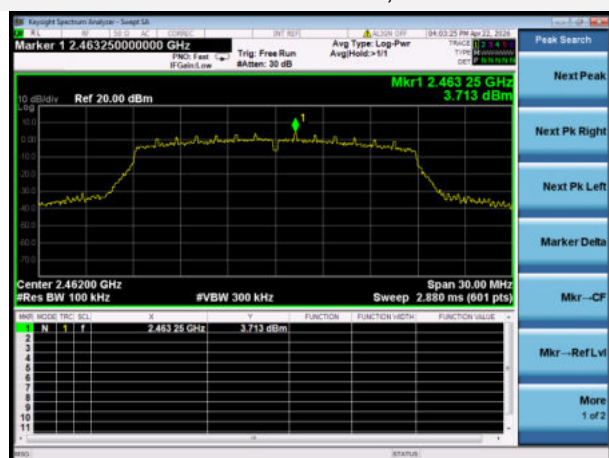
802.11n-20 MHz LOW CHANNEL, CARRIER LEVEL



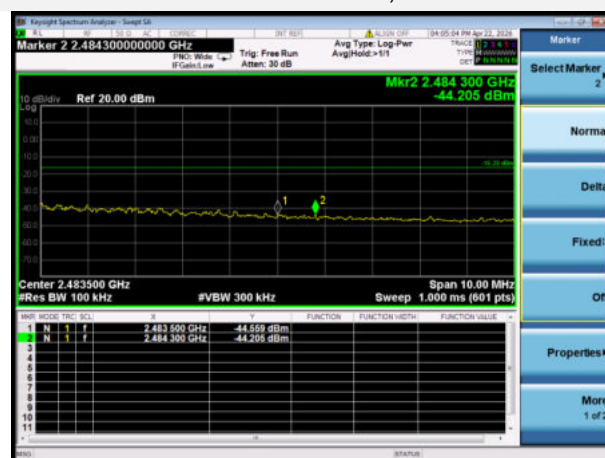
802.11n-20 MHz LOW CHANNEL, BAND EDGE



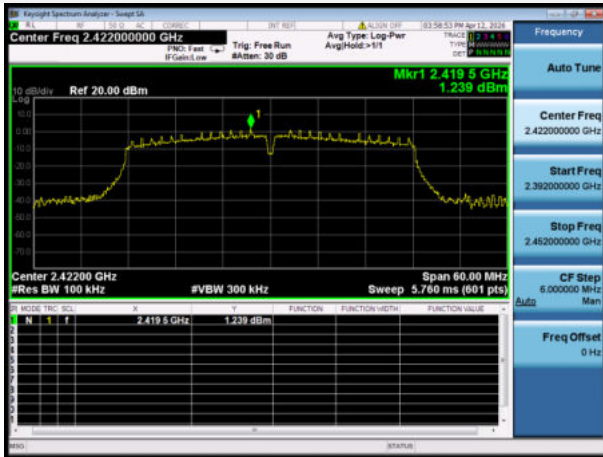
802.11n-20 MHz HIGH CHANNEL, CARRIER LEVEL



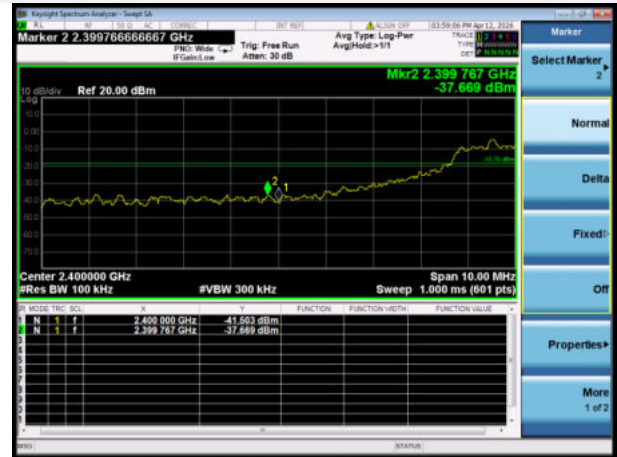
802.11n-20 MHz HIGH CHANNEL, BAND EDGE



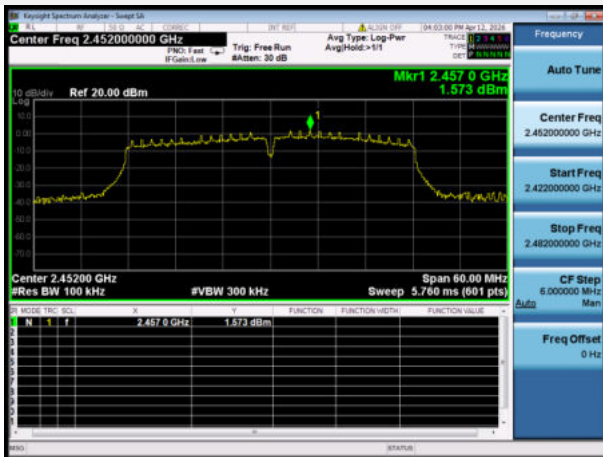
802.11n-40 MHz LOW CHANNEL, CARRIER LEVEL



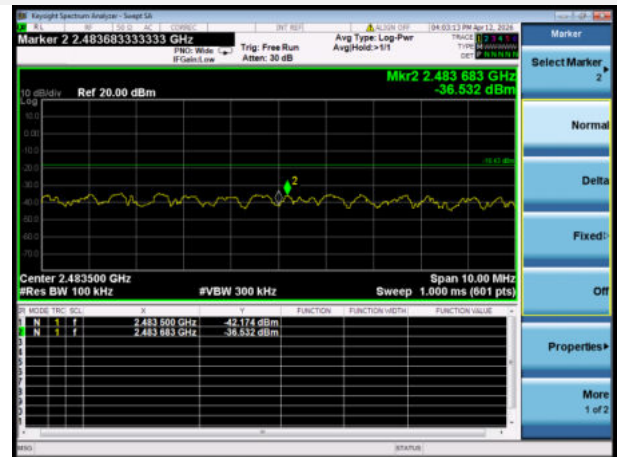
802.11n-40 MHz LOW CHANNEL, BAND EDGE



802.11n-40 MHz HIGH CHANNEL, CARRIER LEVEL



802.11n-40 MHz HIGH CHANNEL, BAND EDGE



A.5 Conducted Emissions

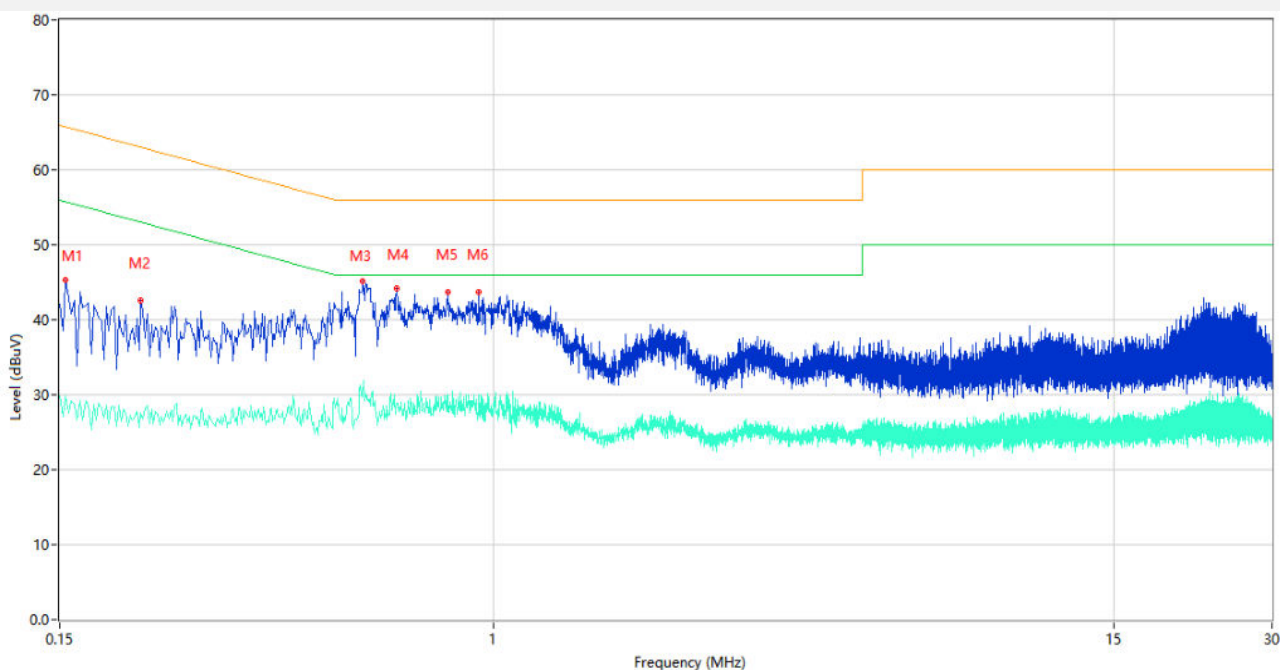
Note¹: The EUT is working in the Normal link mode. All modes have been tested and normal link mode is worst.

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

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

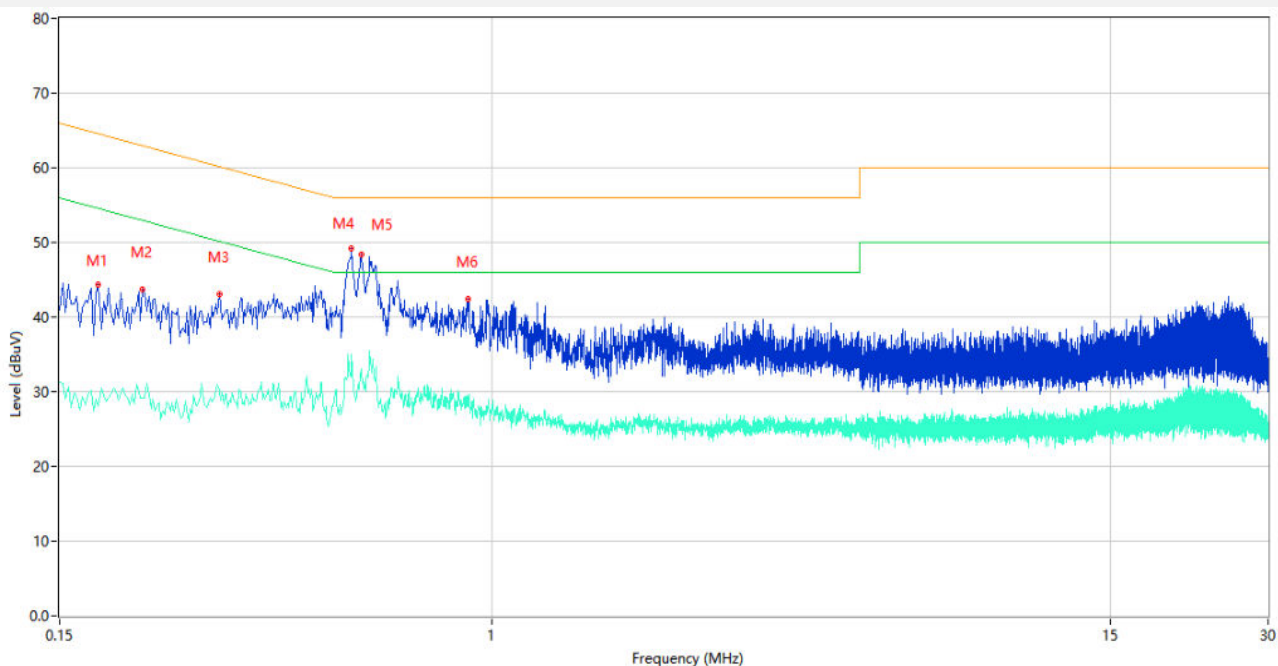
Test Data and Plots

PHASE L



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.154	45.39	9.86	65.78	20.39	Peak	L	Pass
1**	0.154	29.82	9.86	55.78	25.96	AV	L	Pass
2	0.214	42.59	9.83	63.05	20.46	Peak	L	Pass
2**	0.214	27.51	9.83	53.05	25.54	AV	L	Pass
3	0.564	45.17	10.13	56.00	10.83	Peak	L	Pass
3**	0.564	30.12	10.13	46.00	15.88	AV	L	Pass
4	0.654	44.14	10.30	56.00	11.86	Peak	L	Pass
4**	0.654	28.89	10.30	46.00	17.11	AV	L	Pass
5	0.820	43.78	10.62	56.00	12.22	Peak	L	Pass
5**	0.820	27.80	10.62	46.00	18.20	AV	L	Pass
6	0.938	43.78	10.15	56.00	12.22	Peak	L	Pass
6**	0.938	29.95	10.15	46.00	16.05	AV	L	Pass

PHASE N



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.178	44.30	9.85	64.58	20.28	Peak	N	Pass
1**	0.178	28.13	9.85	54.58	26.45	AV	N	Pass
2	0.216	43.69	9.83	62.97	19.28	Peak	N	Pass
2**	0.216	29.19	9.83	52.97	23.78	AV	N	Pass
3	0.302	43.12	9.86	60.19	17.07	Peak	N	Pass
3**	0.302	30.11	9.86	50.19	20.08	AV	N	Pass
4	0.540	49.13	10.08	56.00	6.87	Peak	N	Pass
4**	0.540	34.96	10.08	46.00	11.04	AV	N	Pass
5	0.562	48.36	10.12	56.00	7.64	Peak	N	Pass
5**	0.562	33.09	10.12	46.00	12.91	AV	N	Pass
6	0.900	42.44	10.25	56.00	13.56	Peak	N	Pass
6**	0.900	29.07	10.25	46.00	16.93	AV	N	Pass

A.6 Radiated Emission

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

Note ²: For the test data above 1 GHz, According the ANSI C63.10-2020, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

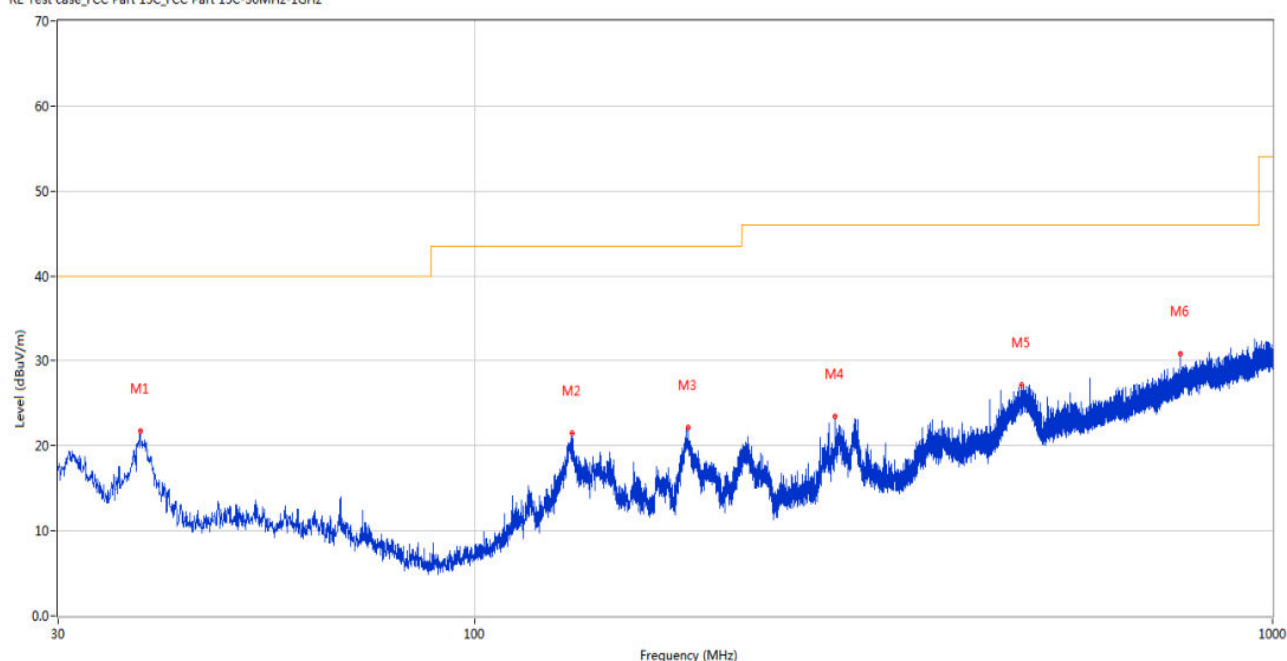
Note ³: The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line per 15.31(o) was not reported.

Note ⁴: The EUT is working in the Normal link mode below 1 GHz. All modes have been tested and normal link mode is worst.

Test Data and Plots

30 MHz to 1 GHz, ANT H

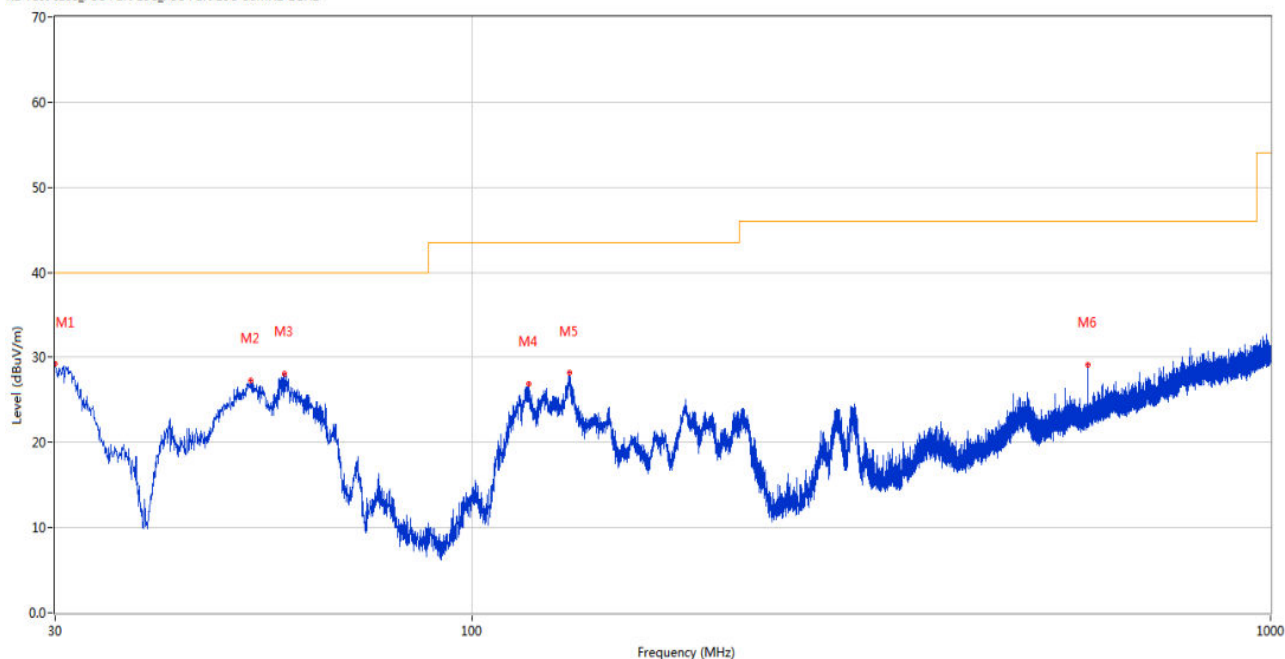
RE Test case_FCC Part 15C_FCC Part 15C-30MHz-1GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	38.002	21.74	-25.80	40.0	18.26	Peak	54.00	100	Horizontal	Pass
2	132.432	21.45	-25.25	43.5	22.05	Peak	247.00	200	Horizontal	Pass
3	184.958	22.20	-25.87	43.5	21.30	Peak	255.00	200	Horizontal	Pass
4	282.879	23.49	-22.69	46.0	22.51	Peak	226.00	100	Horizontal	Pass
5	484.639	27.12	-16.20	46.0	18.88	Peak	261.00	100	Horizontal	Pass
6	767.006	30.83	-9.90	46.0	15.17	Peak	146.00	100	Horizontal	Pass

30 MHz to 1 GHz, ANT V

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



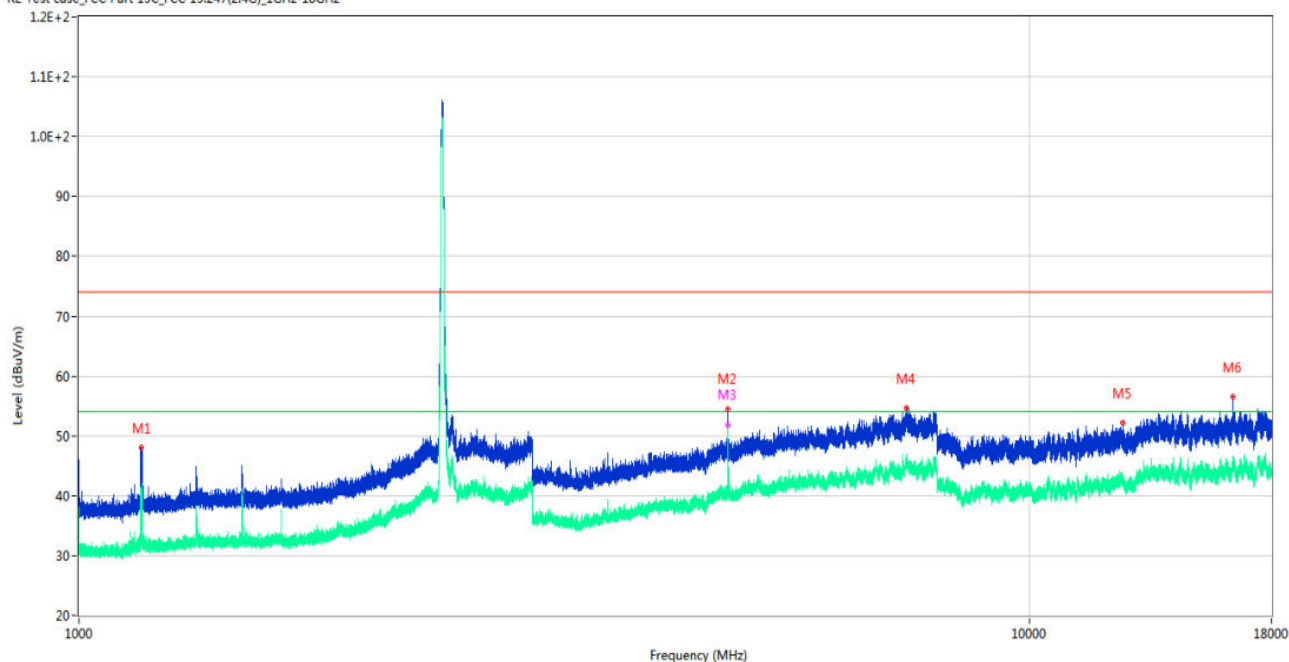
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	30.000	29.30	-26.89	40.0	10.70	Peak	32.00	100	Vertical	Pass
2	52.795	27.28	-24.89	40.0	12.72	Peak	73.00	100	Vertical	Pass
3	58.130	28.09	-25.25	40.0	11.91	Peak	99.00	100	Vertical	Pass
4	117.737	26.85	-26.84	43.5	16.65	Peak	186.00	100	Vertical	Pass
5	132.189	28.15	-25.29	43.5	15.35	Peak	222.00	100	Vertical	Pass
6	589.981	29.13	-13.64	46.0	16.87	Peak	222.00	100	Vertical	Pass

Note¹: The marked spikes near 2400 MHz with circle should be ignored because they are Fundamental signal.

Note²: The spurious above 18G is noise only, do not show on the report.

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

RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1158.810	48.27	74.0	25.73	Peak	53.00	400	Horizontal	Pass
1**	1158.810	32.92	54.0	21.08	AV	53.00	400	Horizontal	Pass
2	4825.028	54.66	74.0	19.34	Peak	42.00	200	Horizontal	Pass
2**	4825.028	49.99	54.0	4.01	AV	42.00	200	Horizontal	Pass
3	4824.629	54.53	74.0	19.47	Peak	55.00	200	Horizontal	Pass
3**	4824.629	50.97	54.0	3.03	AV	55.00	200	Horizontal	Pass
4	7428.632	54.84	74.0	19.16	Peak	52.00	400	Horizontal	Pass
4**	7428.632	45.88	54.0	8.12	AV	52.00	400	Horizontal	Pass
5	12553.232	52.20	74.0	21.80	Peak	116.00	400	Horizontal	Pass
5**	12553.232	43.69	54.0	10.31	AV	116.00	400	Horizontal	Pass
6	16397.748	56.67	74.0	17.33	Peak	214.00	100	Horizontal	Pass
6**	16397.748	45.64	54.0	8.36	AV	214.00	100	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1530.068	44.64	74.0	29.37	Peak	277.00	400	Vertical	Pass
1**	1530.068	34.92	54.0	19.08	AV	277.00	400	Vertical	Pass
2	2975.118	54.57	74.0	19.43	Peak	205.00	200	Vertical	Pass
2**	2975.118	45.68	54.0	8.32	AV	205.00	200	Vertical	Pass
3	4244.201	48.42	74.0	25.58	Peak	329.00	200	Vertical	Pass
3**	4244.201	38.47	54.0	15.53	AV	329.00	200	Vertical	Pass
4	7259.924	55.13	74.0	18.87	Peak	260.00	100	Vertical	Pass
4**	7259.924	45.21	54.0	8.79	AV	260.00	100	Vertical	Pass
5	10855.618	49.63	74.0	24.37	Peak	240.00	100	Vertical	Pass
5**	10855.618	40.70	54.0	13.30	AV	240.00	100	Vertical	Pass
6	17540.783	54.68	74.0	19.32	Peak	48.00	200	Vertical	Pass
6**	17540.783	44.85	54.0	9.15	AV	48.00	200	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1165.421	47.82	74.0	26.18	Peak	76.00	300	Horizontal	Pass
1**	1165.421	32.58	54.0	21.42	AV	76.00	300	Horizontal	Pass
2	4826.410	54.62	74.0	19.38	Peak	135.00	400	Horizontal	Pass
2**	4826.410	49.85	54.0	4.15	AV	135.00	400	Horizontal	Pass
3	4874.753	54.42	74.0	19.58	Peak	258.00	200	Horizontal	Pass
3**	4874.753	50.62	54.0	3.38	AV	258.00	200	Horizontal	Pass
4	7429.744	54.74	74.0	19.26	Peak	87.00	400	Horizontal	Pass
4**	7429.744	45.30	54.0	8.70	AV	87.00	400	Horizontal	Pass
5	12555.173	51.52	74.0	22.48	Peak	276.00	300	Horizontal	Pass
5**	12555.173	43.11	54.0	10.89	AV	276.00	300	Horizontal	Pass
6	16402.749	56.20	74.0	17.80	Peak	68.00	100	Horizontal	Pass
6**	16402.749	44.75	54.0	9.25	AV	68.00	100	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1528.076	44.49	74.0	29.52	Peak	114.00	200	Vertical	Pass
1**	1528.076	34.09	54.0	19.91	AV	114.00	200	Vertical	Pass
2	2976.284	54.44	74.0	19.56	Peak	338.00	100	Vertical	Pass
2**	2976.284	45.38	54.0	8.62	AV	338.00	100	Vertical	Pass
3	4247.034	47.95	74.0	26.05	Peak	201.00	200	Vertical	Pass
3**	4247.034	37.83	54.0	16.17	AV	201.00	200	Vertical	Pass
4	7257.474	54.88	74.0	19.12	Peak	322.00	400	Vertical	Pass
4**	7257.474	44.95	54.0	9.05	AV	322.00	400	Vertical	Pass
5	10849.264	49.34	74.0	24.66	Peak	185.00	400	Vertical	Pass
5**	10849.264	40.27	54.0	13.73	AV	185.00	400	Vertical	Pass
6	17542.965	54.52	74.0	19.48	Peak	306.00	400	Vertical	Pass
6**	17542.965	44.28	54.0	9.72	AV	306.00	400	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1158.899	47.76	74.0	26.24	Peak	234.00	400	Horizontal	Pass
1**	1158.899	31.99	54.0	22.01	AV	234.00	400	Horizontal	Pass
2	4819.757	54.24	74.0	19.76	Peak	166.00	300	Horizontal	Pass
2**	4819.757	49.46	54.0	4.54	AV	166.00	300	Horizontal	Pass
3	4924.622	54.20	74.0	19.80	Peak	239.00	200	Horizontal	Pass
3**	4924.622	50.88	54.0	3.12	AV	239.00	200	Horizontal	Pass
4	7427.609	54.71	74.0	19.29	Peak	249.00	200	Horizontal	Pass
4**	7427.609	45.21	54.0	8.79	AV	249.00	200	Horizontal	Pass
5	12554.157	51.53	74.0	22.47	Peak	111.00	300	Horizontal	Pass
5**	12554.157	43.04	54.0	10.96	AV	111.00	300	Horizontal	Pass
6	16402.810	56.52	74.0	17.48	Peak	325.00	300	Horizontal	Pass
6**	16402.810	45.23	54.0	8.77	AV	325.00	300	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1527.454	44.06	74.0	29.95	Peak	234.00	300	Vertical	Pass
1**	1527.454	34.45	54.0	19.55	AV	234.00	300	Vertical	Pass
2	2978.442	53.86	74.0	20.14	Peak	325.00	200	Vertical	Pass
2**	2978.442	45.06	54.0	8.94	AV	325.00	200	Vertical	Pass
3	4242.909	48.10	74.0	25.90	Peak	192.00	200	Vertical	Pass
3**	4242.909	37.90	54.0	16.10	AV	192.00	200	Vertical	Pass
4	7257.105	54.60	74.0	19.40	Peak	144.00	200	Vertical	Pass
4**	7257.105	44.45	54.0	9.55	AV	144.00	200	Vertical	Pass
5	10856.524	49.20	74.0	24.80	Peak	255.00	300	Vertical	Pass
5**	10856.524	39.98	54.0	14.02	AV	255.00	300	Vertical	Pass
6	17539.895	53.69	74.0	20.31	Peak	132.00	400	Vertical	Pass
6**	17539.895	43.91	54.0	10.09	AV	132.00	400	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1165.847	47.50	74.0	26.50	Peak	230.00	400	Horizontal	Pass
1**	1165.847	32.53	54.0	21.47	AV	230.00	400	Horizontal	Pass
2	4614.688	53.71	74.0	20.29	Peak	141.00	200	Horizontal	Pass
2**	4614.688	49.79	54.0	4.21	AV	141.00	200	Horizontal	Pass
3	4928.244	54.36	74.0	19.64	Peak	191.00	200	Horizontal	Pass
3**	4928.244	50.17	54.0	3.83	AV	191.00	200	Horizontal	Pass
4	7429.096	54.44	74.0	19.56	Peak	359.00	400	Horizontal	Pass
4**	7429.096	45.45	54.0	8.55	AV	359.00	400	Horizontal	Pass
5	12550.861	51.67	74.0	22.33	Peak	139.00	300	Horizontal	Pass
5**	12550.861	42.97	54.0	11.03	AV	139.00	300	Horizontal	Pass
6	16399.050	55.88	74.0	18.12	Peak	164.00	200	Horizontal	Pass
6**	16399.050	44.84	54.0	9.16	AV	164.00	200	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1526.776	43.70	74.0	30.31	Peak	77.00	400	Vertical	Pass
1**	1526.776	33.19	54.0	20.81	AV	77.00	400	Vertical	Pass
2	2973.526	53.66	74.0	20.34	Peak	240.00	300	Vertical	Pass
2**	2973.526	44.90	54.0	9.10	AV	240.00	300	Vertical	Pass
3	4244.949	47.31	74.0	26.69	Peak	310.00	200	Vertical	Pass
3**	4244.949	36.99	54.0	17.01	AV	310.00	200	Vertical	Pass
4	7261.151	54.18	74.0	19.82	Peak	57.00	100	Vertical	Pass
4**	7261.151	44.00	54.0	10.00	AV	57.00	100	Vertical	Pass
5	10855.119	48.78	74.0	25.22	Peak	13.00	300	Vertical	Pass
5**	10855.119	39.53	54.0	14.47	AV	13.00	300	Vertical	Pass
6	17540.879	53.66	74.0	20.34	Peak	324.00	300	Vertical	Pass
6**	17540.879	44.22	54.0	9.78	AV	324.00	300	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1161.145	47.43	74.0	26.57	Peak	324.00	400	Horizontal	Pass
1**	1161.145	32.47	54.0	21.53	AV	324.00	400	Horizontal	Pass
2	4820.667	54.03	74.0	19.97	Peak	326.00	100	Horizontal	Pass
2**	4820.667	49.75	54.0	4.25	AV	326.00	100	Horizontal	Pass
3	4923.281	53.65	74.0	20.35	Peak	291.00	200	Horizontal	Pass
3**	4923.281	50.36	54.0	3.64	AV	291.00	200	Horizontal	Pass
4	7430.762	54.03	74.0	19.97	Peak	123.00	200	Horizontal	Pass
4**	7430.762	44.55	54.0	9.45	AV	123.00	200	Horizontal	Pass
5	12549.598	51.28	74.0	22.72	Peak	338.00	300	Horizontal	Pass
5**	12549.598	43.06	54.0	10.94	AV	338.00	300	Horizontal	Pass
6	16403.520	55.52	74.0	18.48	Peak	67.00	400	Horizontal	Pass
6**	16403.520	44.45	54.0	9.55	AV	67.00	400	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1530.688	43.33	74.0	30.68	Peak	280.00	300	Vertical	Pass
1**	1530.688	33.72	54.0	20.28	AV	280.00	300	Vertical	Pass
2	2972.942	53.10	74.0	20.90	Peak	270.00	300	Vertical	Pass
2**	2972.942	45.02	54.0	8.98	AV	270.00	300	Vertical	Pass
3	4246.736	47.53	74.0	26.47	Peak	128.00	200	Vertical	Pass
3**	4246.736	37.85	54.0	16.15	AV	128.00	200	Vertical	Pass
4	7261.546	53.68	74.0	20.32	Peak	237.00	100	Vertical	Pass
4**	7261.546	43.63	54.0	10.37	AV	237.00	100	Vertical	Pass
5	10856.506	49.11	74.0	24.89	Peak	297.00	200	Vertical	Pass
5**	10856.506	39.20	54.0	14.80	AV	297.00	200	Vertical	Pass
6	17547.032	53.37	74.0	20.63	Peak	130.00	200	Vertical	Pass
6**	17547.032	43.30	54.0	10.70	AV	130.00	200	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1159.897	47.33	74.0	26.67	Peak	173.00	100	Horizontal	Pass
1**	1159.897	31.65	54.0	22.35	AV	173.00	100	Horizontal	Pass
2	4822.268	54.22	74.0	19.78	Peak	55.00	100	Horizontal	Pass
2**	4822.268	49.05	54.0	4.95	AV	55.00	100	Horizontal	Pass
3	4826.510	53.38	74.0	20.62	Peak	286.00	200	Horizontal	Pass
3**	4826.510	50.79	54.0	3.21	AV	286.00	200	Horizontal	Pass
4	7427.971	54.45	74.0	19.55	Peak	186.00	400	Horizontal	Pass
4**	7427.971	45.04	54.0	8.96	AV	186.00	400	Horizontal	Pass
5	12550.640	51.41	74.0	22.59	Peak	328.00	100	Horizontal	Pass
5**	12550.640	42.08	54.0	11.92	AV	328.00	100	Horizontal	Pass
6	16400.663	55.57	74.0	18.43	Peak	198.00	400	Horizontal	Pass
6**	16400.663	44.77	54.0	9.23	AV	198.00	400	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1526.290	43.68	74.0	30.32	Peak	41.00	400	Vertical	Pass
1**	1526.290	33.12	54.0	20.88	AV	41.00	400	Vertical	Pass
2	2972.174	53.62	74.0	20.38	Peak	130.00	300	Vertical	Pass
2**	2972.174	44.80	54.0	9.20	AV	130.00	300	Vertical	Pass
3	4249.453	47.24	74.0	26.76	Peak	42.00	200	Vertical	Pass
3**	4249.453	36.94	54.0	17.06	AV	42.00	200	Vertical	Pass
4	7259.338	54.10	74.0	19.90	Peak	181.00	400	Vertical	Pass
4**	7259.338	43.93	54.0	10.07	AV	181.00	400	Vertical	Pass
5	10856.343	48.76	74.0	25.24	Peak	187.00	100	Vertical	Pass
5**	10856.343	39.50	54.0	14.50	AV	187.00	100	Vertical	Pass
6	17541.329	53.63	74.0	20.37	Peak	79.00	300	Vertical	Pass
6**	17541.329	44.13	54.0	9.87	AV	79.00	300	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1159.151	47.43	74.0	26.57	Peak	122.00	200	Horizontal	Pass
1**	1159.151	32.47	54.0	21.53	AV	122.00	200	Horizontal	Pass
2	4223.167	53.71	74.0	20.29	Peak	221.00	400	Horizontal	Pass
2**	4223.167	49.74	54.0	4.26	AV	221.00	400	Horizontal	Pass
3	4727.664	54.31	74.0	19.69	Peak	343.00	200	Horizontal	Pass
3**	4727.664	50.11	54.0	3.89	AV	343.00	200	Horizontal	Pass
4	7327.762	54.43	74.0	19.58	Peak	184.00	400	Horizontal	Pass
4**	7327.762	45.41	54.0	8.59	AV	184.00	400	Horizontal	Pass
5	12557.169	51.60	74.0	22.40	Peak	239.00	400	Horizontal	Pass
5**	12557.169	42.91	54.0	11.09	AV	239.00	400	Horizontal	Pass
6	16403.303	55.79	74.0	18.21	Peak	272.00	200	Horizontal	Pass
6**	16403.303	44.75	54.0	9.25	AV	272.00	200	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1528.217	43.27	74.0	30.73	Peak	316.00	200	Vertical	Pass
1**	1528.217	33.70	54.0	20.30	AV	316.00	200	Vertical	Pass
2	2973.253	53.03	74.0	20.97	Peak	284.00	300	Vertical	Pass
2**	2973.253	44.94	54.0	9.06	AV	284.00	300	Vertical	Pass
3	4245.456	47.45	74.0	26.55	Peak	228.00	200	Vertical	Pass
3**	4245.456	37.82	54.0	16.18	AV	228.00	200	Vertical	Pass
4	7262.237	53.67	74.0	20.33	Peak	27.00	300	Vertical	Pass
4**	7262.237	43.53	54.0	10.47	AV	27.00	300	Vertical	Pass
5	10853.427	49.09	74.0	24.91	Peak	279.00	100	Vertical	Pass
5**	10853.427	39.12	54.0	14.88	AV	279.00	100	Vertical	Pass
6	17541.003	53.28	74.0	20.72	Peak	246.00	200	Vertical	Pass
6**	17541.003	43.30	54.0	10.70	AV	246.00	200	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1165.365	48.23	74.0	25.77	Peak	277.00	100	Horizontal	Pass
1**	1165.365	32.91	54.0	21.09	AV	277.00	100	Horizontal	Pass
2	4820.812	54.63	74.0	19.37	Peak	357.00	400	Horizontal	Pass
2**	4820.812	49.91	54.0	4.09	AV	357.00	400	Horizontal	Pass
3	4825.236	54.52	74.0	19.48	Peak	96.00	200	Horizontal	Pass
3**	4825.236	50.88	54.0	3.12	AV	96.00	200	Horizontal	Pass
4	7426.604	54.75	74.0	19.25	Peak	237.00	200	Horizontal	Pass
4**	7426.604	45.85	54.0	8.15	AV	237.00	200	Horizontal	Pass
5	12552.030	52.19	74.0	21.81	Peak	322.00	100	Horizontal	Pass
5**	12552.030	43.68	54.0	10.32	AV	322.00	100	Horizontal	Pass
6	16402.421	56.65	74.0	17.36	Peak	325.00	300	Horizontal	Pass
6**	16402.421	45.54	54.0	8.46	AV	325.00	300	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1531.287	43.12	74.0	30.88	Peak	140.00	400	Vertical	Pass
1**	1531.287	32.46	54.0	21.54	AV	140.00	400	Vertical	Pass
2	2973.720	53.27	74.0	20.73	Peak	316.00	400	Vertical	Pass
2**	2973.720	44.24	54.0	9.76	AV	316.00	400	Vertical	Pass
3	4242.736	47.08	74.0	26.92	Peak	272.00	200	Vertical	Pass
3**	4242.736	36.29	54.0	17.71	AV	272.00	200	Vertical	Pass
4	7259.492	53.24	74.0	20.76	Peak	184.00	100	Vertical	Pass
4**	7259.492	43.64	54.0	10.36	AV	184.00	100	Vertical	Pass
5	10855.498	48.41	74.0	25.59	Peak	61.00	200	Vertical	Pass
5**	10855.498	38.55	54.0	15.45	AV	61.00	200	Vertical	Pass
6	17545.257	53.05	74.0	20.95	Peak	122.00	300	Vertical	Pass
6**	17545.257	44.03	54.0	9.97	AV	122.00	300	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1166.531	48.17	74.0	25.83	Peak	304.00	400	Horizontal	Pass
1**	1166.531	32.88	54.0	21.12	AV	304.00	400	Horizontal	Pass
2	4827.089	54.66	74.0	19.34	Peak	31.00	200	Horizontal	Pass
2**	4827.089	49.90	54.0	4.10	AV	31.00	200	Horizontal	Pass
3	4826.345	54.47	74.0	19.53	Peak	214.00	200	Horizontal	Pass
3**	4826.345	50.01	54.0	3.99	AV	214.00	200	Horizontal	Pass
4	7429.392	54.77	74.0	19.23	Peak	246.00	200	Horizontal	Pass
4**	7429.392	45.83	54.0	8.17	AV	246.00	200	Horizontal	Pass
5	12555.904	52.14	74.0	21.86	Peak	230.00	400	Horizontal	Pass
5**	12555.904	43.61	54.0	10.39	AV	230.00	400	Horizontal	Pass
6	16400.467	56.60	74.0	17.40	Peak	173.00	400	Horizontal	Pass
6**	16400.467	45.61	54.0	8.39	AV	173.00	400	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1528.489	43.20	74.0	30.81	Peak	304.00	200	Vertical	Pass
1**	1528.489	33.57	54.0	20.43	AV	304.00	200	Vertical	Pass
2	2977.934	52.97	74.0	21.03	Peak	153.00	400	Vertical	Pass
2**	2977.934	44.51	54.0	9.49	AV	153.00	400	Vertical	Pass
3	4244.820	47.32	74.0	26.68	Peak	193.00	200	Vertical	Pass
3**	4244.820	36.88	54.0	17.12	AV	193.00	200	Vertical	Pass
4	7261.539	52.75	74.0	21.25	Peak	172.00	300	Vertical	Pass
4**	7261.539	42.68	54.0	11.32	AV	172.00	300	Vertical	Pass
5	10852.782	48.57	74.0	25.43	Peak	10.00	100	Vertical	Pass
5**	10852.782	39.09	54.0	14.91	AV	10.00	100	Vertical	Pass
6	17539.368	53.04	74.0	20.96	Peak	25.00	300	Vertical	Pass
6**	17539.368	42.95	54.0	11.05	AV	25.00	300	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1159.943	48.24	74.0	25.76	Peak	252.00	400	Horizontal	Pass
1**	1159.943	32.83	54.0	21.17	AV	252.00	400	Horizontal	Pass
2	4121.240	54.60	74.0	19.41	Peak	233.00	300	Horizontal	Pass
2**	4121.240	49.98	54.0	4.02	AV	233.00	300	Horizontal	Pass
3	4623.933	54.45	74.0	19.55	Peak	324.00	200	Horizontal	Pass
3**	4623.933	50.06	54.0	3.94	AV	324.00	200	Horizontal	Pass
4	7427.245	54.74	74.0	19.26	Peak	309.00	100	Horizontal	Pass
4**	7427.245	45.87	54.0	8.13	AV	309.00	100	Horizontal	Pass
5	12550.466	52.18	74.0	21.82	Peak	158.00	100	Horizontal	Pass
5**	12550.466	43.59	54.0	10.41	AV	158.00	100	Horizontal	Pass
6	16402.477	56.65	74.0	17.35	Peak	91.00	400	Horizontal	Pass
6**	16402.477	45.57	54.0	8.43	AV	91.00	400	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1529.588	43.72	74.0	30.29	Peak	151.00	300	Vertical	Pass
1**	1529.588	34.11	54.0	19.89	AV	151.00	300	Vertical	Pass
2	2974.065	53.67	74.0	20.33	Peak	148.00	300	Vertical	Pass
2**	2974.065	44.97	54.0	9.03	AV	148.00	300	Vertical	Pass
3	4242.663	47.63	74.0	26.37	Peak	204.00	200	Vertical	Pass
3**	4242.663	37.69	54.0	16.31	AV	204.00	200	Vertical	Pass
4	7263.296	54.45	74.0	19.55	Peak	323.00	400	Vertical	Pass
4**	7263.296	44.36	54.0	9.64	AV	323.00	400	Vertical	Pass
5	10851.410	48.94	74.0	25.06	Peak	181.00	400	Vertical	Pass
5**	10851.410	39.99	54.0	14.01	AV	181.00	400	Vertical	Pass
6	17546.180	53.93	74.0	20.07	Peak	255.00	200	Vertical	Pass
6**	17546.180	43.96	54.0	10.04	AV	255.00	200	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1163.407	47.23	74.0	26.77	Peak	145.00	300	Horizontal	Pass
1**	1163.407	31.86	54.0	22.14	AV	145.00	300	Horizontal	Pass
2	4819.858	54.42	74.0	19.58	Peak	6.00	300	Horizontal	Pass
2**	4819.858	49.81	54.0	4.19	AV	6.00	300	Horizontal	Pass
3	4825.557	53.64	74.0	20.36	Peak	47.00	200	Horizontal	Pass
3**	4825.557	49.68	54.0	4.32	AV	47.00	200	Horizontal	Pass
4	7426.000	54.40	74.0	19.60	Peak	272.00	200	Horizontal	Pass
4**	7426.000	44.56	54.0	9.44	AV	272.00	200	Horizontal	Pass
5	12556.100	50.54	74.0	23.46	Peak	18.00	200	Horizontal	Pass
5**	12556.100	43.05	54.0	10.95	AV	18.00	200	Horizontal	Pass
6	16398.300	55.55	74.0	18.45	Peak	245.00	100	Horizontal	Pass
6**	16398.300	44.47	54.0	9.53	AV	245.00	100	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1527.743	44.44	74.0	29.57	Peak	142.00	100	Vertical	Pass
1**	1527.743	33.25	54.0	20.75	AV	142.00	100	Vertical	Pass
2	2973.676	54.34	74.0	19.66	Peak	118.00	300	Vertical	Pass
2**	2973.676	45.01	54.0	8.99	AV	118.00	300	Vertical	Pass
3	4247.601	47.36	74.0	26.64	Peak	57.00	200	Vertical	Pass
3**	4247.601	37.66	54.0	16.34	AV	57.00	200	Vertical	Pass
4	7263.799	54.36	74.0	19.64	Peak	97.00	300	Vertical	Pass
4**	7263.799	43.99	54.0	10.01	AV	97.00	300	Vertical	Pass
5	10849.476	49.03	74.0	24.97	Peak	18.00	300	Vertical	Pass
5**	10849.476	39.80	54.0	14.20	AV	18.00	300	Vertical	Pass
6	17544.438	54.09	74.0	19.91	Peak	98.00	100	Vertical	Pass
6**	17544.438	43.37	54.0	10.63	AV	98.00	100	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1162.723	47.38	74.0	26.62	Peak	198.00	300	Horizontal	Pass
1**	1162.723	32.58	54.0	21.42	AV	198.00	300	Horizontal	Pass
2	3826.939	54.36	74.0	19.64	Peak	24.00	100	Horizontal	Pass
2**	3826.939	49.96	54.0	4.04	AV	24.00	100	Horizontal	Pass
3	4226.256	54.18	74.0	19.82	Peak	346.00	200	Horizontal	Pass
3**	4226.256	50.09	54.0	3.91	AV	346.00	200	Horizontal	Pass
4	7431.495	54.61	74.0	19.39	Peak	167.00	200	Horizontal	Pass
4**	7431.495	45.52	54.0	8.48	AV	167.00	200	Horizontal	Pass
5	12552.235	51.38	74.0	22.62	Peak	20.00	200	Horizontal	Pass
5**	12552.235	43.21	54.0	10.79	AV	20.00	200	Horizontal	Pass
6	16403.083	56.30	74.0	17.70	Peak	38.00	400	Horizontal	Pass
6**	16403.083	45.33	54.0	8.67	AV	38.00	400	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1531.349	44.51	74.0	29.50	Peak	276.00	300	Vertical	Pass
1**	1531.349	34.26	54.0	19.74	AV	276.00	300	Vertical	Pass
2	2975.869	53.68	74.0	20.32	Peak	279.00	100	Vertical	Pass
2**	2975.869	45.27	54.0	8.73	AV	279.00	100	Vertical	Pass
3	4247.964	47.90	74.0	26.10	Peak	66.00	200	Vertical	Pass
3**	4247.964	38.06	54.0	15.94	AV	66.00	200	Vertical	Pass
4	7259.304	54.33	74.0	19.67	Peak	207.00	100	Vertical	Pass
4**	7259.304	45.14	54.0	8.86	AV	207.00	100	Vertical	Pass
5	10851.972	49.15	74.0	24.85	Peak	194.00	100	Vertical	Pass
5**	10851.972	40.09	54.0	13.91	AV	194.00	100	Vertical	Pass
6	17539.880	54.09	74.0	19.91	Peak	335.00	200	Vertical	Pass
6**	17539.880	44.32	54.0	9.68	AV	335.00	200	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 C63.10-2020, 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: Both horizontal and vertical directions were pre tested, only the worst configuration has been reported in this report.

Test Data and Plots

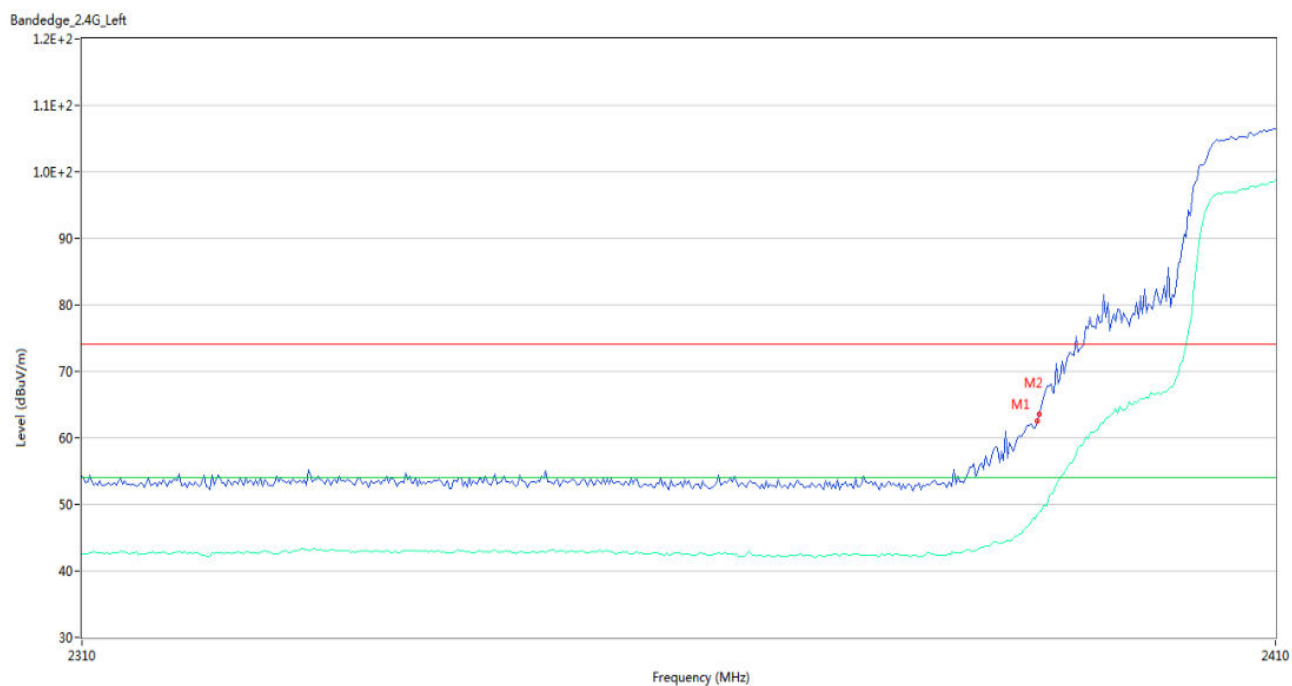
802.11b LOW CHANNEL

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2331.333	54.92	74.0	19.08	Peak	2.00	200	Vertical	Pass
1**	2331.333	43.01	54.0	10.99	AV	2.00	200	Vertical	Pass
2	2389.833	52.74	74.0	21.26	Peak	88.00	150	Vertical	Pass
2**	2389.833	43.12	54.0	10.88	AV	88.00	150	Vertical	Pass

802.11b HIGH CHANNEL

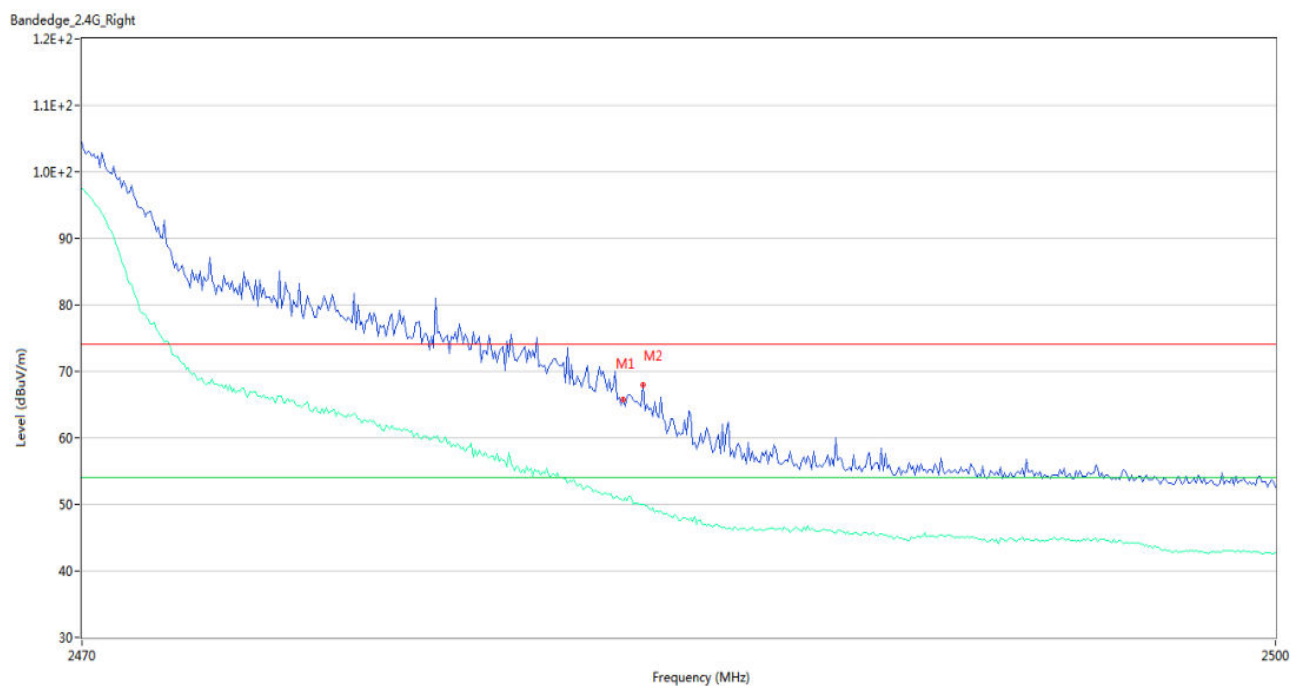
No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.500	55.54	74.0	18.46	Peak	154.00	200	Vertical	Pass
1**	2483.500	47.06	54.0	6.94	AV	154.00	200	Vertical	Pass
2	2487.700	56.80	74.0	17.20	Peak	154.00	100	Vertical	Pass
2**	2487.700	47.22	54.0	6.78	AV	154.00	100	Vertical	Pass

802.11g LOW CHANNEL



No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2389.667	62.50	74.0	11.50	Peak	140.00	100	Vertical	Pass
1**	2389.667	48.46	54.0	5.54	AV	140.00	100	Vertical	Pass
2	2389.833	63.53	74.0	10.47	Peak	108.00	150	Vertical	Pass
2**	2389.833	48.89	54.0	5.11	AV	108.00	150	Vertical	Pass

802.11g HIGH CHANNEL



No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.550	65.78	74.0	8.22	Peak	134.00	100	Vertical	Pass
1**	2483.550	50.47	54.0	3.53	AV	134.00	100	Vertical	Pass
2	2484.050	68.00	74.0	6.00	Peak	81.00	150	Vertical	Pass
2**	2484.050	50.05	54.0	3.95	AV	81.00	150	Vertical	Pass

802.11n20 LOW CHANNEL

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2389.500	62.33	74.0	11.67	Peak	113.00	200	Vertical	Pass
1**	2389.500	47.18	54.0	6.82	AV	113.00	200	Vertical	Pass
2	2389.833	64.74	74.0	9.26	Peak	360.00	150	Vertical	Pass
2**	2389.833	47.56	54.0	6.44	AV	360.00	150	Vertical	Pass

802.11n20 HIGH CHANNEL

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.500	69.48	74.0	4.52	Peak	156.00	150	Vertical	Pass
1**	2483.500	50.40	54.0	3.60	AV	156.00	150	Vertical	Pass
2	2484.150	68.72	74.0	5.28	Peak	158.00	150	Vertical	Pass
2**	2484.150	49.14	54.0	4.86	AV	158.00	150	Vertical	Pass

802.11n40 LOW CHANNEL

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2389.333	58.42	74.0	15.58	Peak	111.00	150	Vertical	Pass
1**	2389.333	43.15	54.0	10.85	AV	111.00	150	Vertical	Pass
2	2389.833	57.17	74.0	16.83	Peak	0.00	200	Vertical	Pass
2**	2389.833	43.52	54.0	10.48	AV	0.00	200	Vertical	Pass

802.11n40 HIGH CHANNEL

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.500	69.37	74.0	4.63	Peak	159.00	150	Vertical	Pass
1**	2483.500	48.32	54.0	5.68	AV	159.00	150	Vertical	Pass
2	2483.800	70.14	74.0	3.86	Peak	156.00	150	Vertical	Pass
2**	2483.800	48.31	54.0	5.69	AV	156.00	150	Vertical	Pass

A.8 Power Spectral Density (PSD)

Test Data

802.11b Mode:

Channel	Spectral Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
Low	-8.96	8	Pass
Middle	-8.47	8	Pass
High	-9.83	8	Pass

802.11g Mode:

Channel	Spectral Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
Low	-11.69	8	Pass
Middle	-12.47	8	Pass
High	-10.97	8	Pass

802.11n-20 MHz Mode:

Channel	Spectral Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
Low	-12.04	8	Pass
Middle	-11.97	8	Pass
High	-11.46	8	Pass

802.11n-40 MHz Mode:

Channel	Spectral Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
Low	-13.68	8	Pass
Middle	-15.31	8	Pass
High	-14.14	8	Pass

Test Plots

802.11b LOW CHANNEL



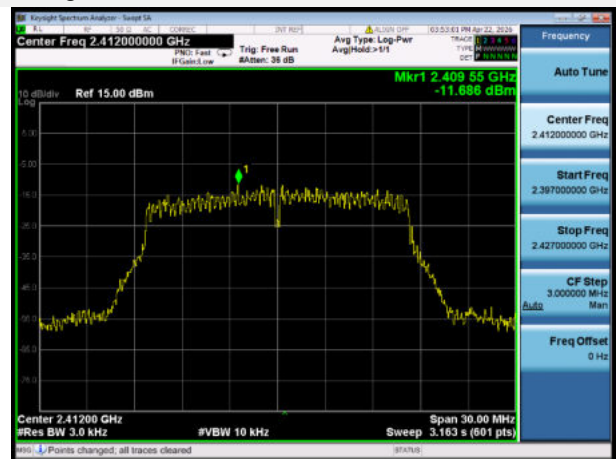
802.11b MIDDLE CHANNEL



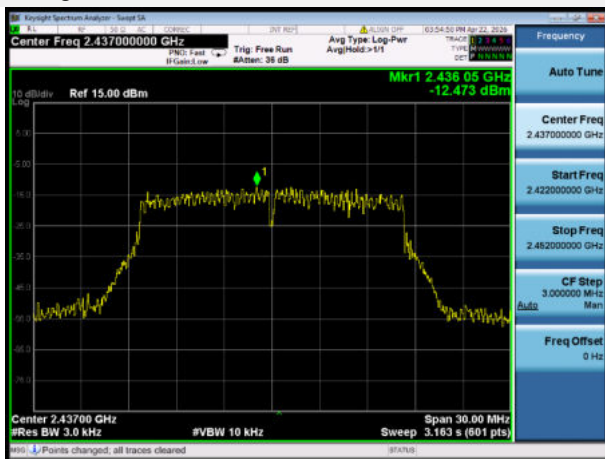
802.11b HIGH CHANNEL



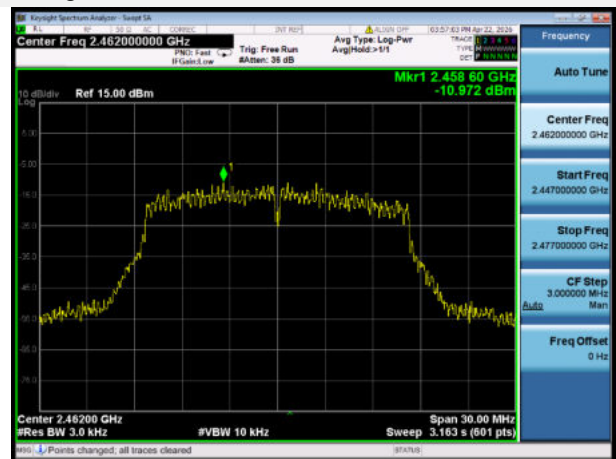
802.11g LOW CHANNEL



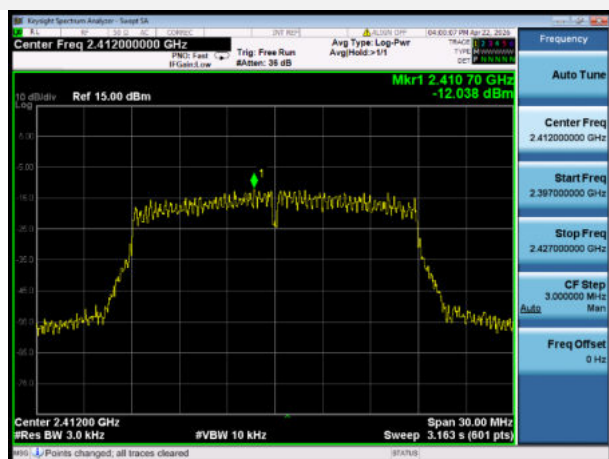
802.11g MIDDLE CHANNEL



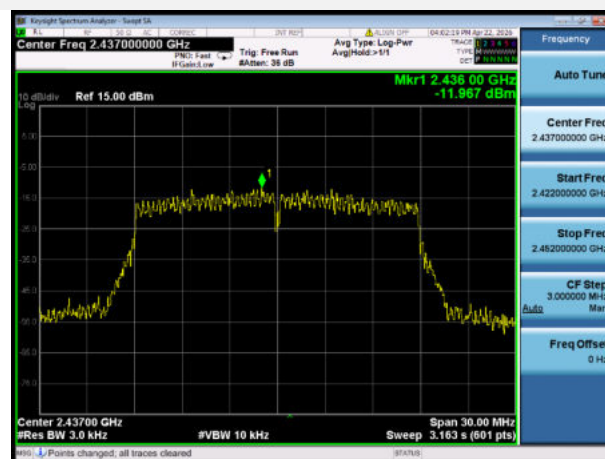
802.11g HIGH CHANNEL



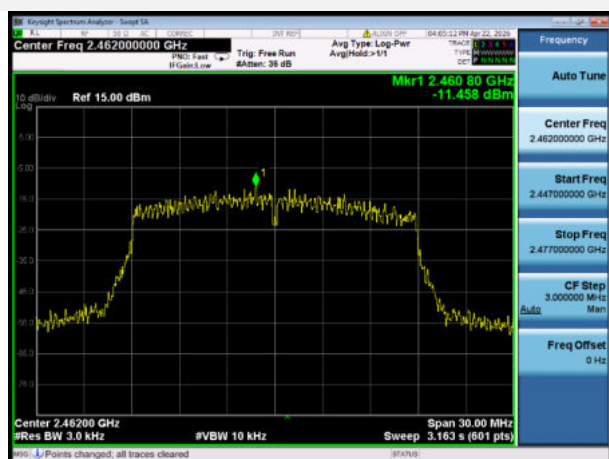
802.11n-20 MHz LOW CHANNEL



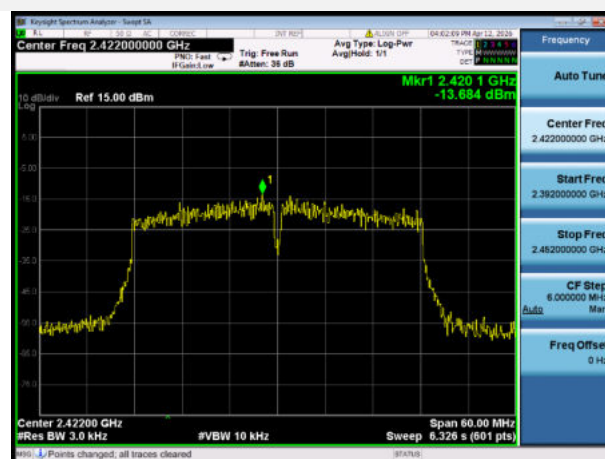
802.11n-20 MHz MIDDLE CHANNEL



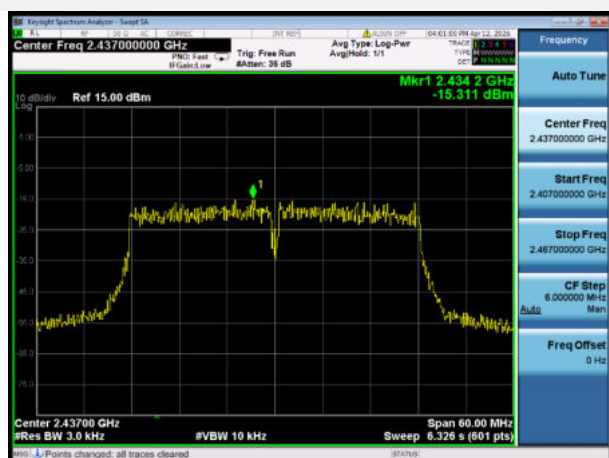
802.11n-20 MHz HIGH CHANNEL



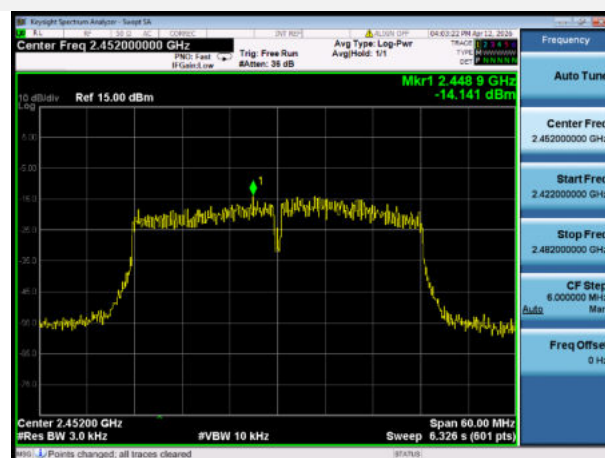
802.11n-40 MHz LOW CHANNEL



802.11n-40 MHz MIDDLE CHANNEL



802.11n-40 MHz HIGH CHANNEL



ANNEX B TEST SETUP PHOTOS

Please refer the document “Ti-EE26040134-AR.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “Ti-EE26040134-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “Ti-EE26040134-AI.PDF”.

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--END OF REPORT--