

# RF TEST REPORT

**Report No.:** SET2022-04866

**Product Name:** 5G NR Multi model smart phone

**Model No.:** ZTE 7540N

**FCC ID:** SRQ-ZTE7540N

**Applicant:** ZTE CORPORATION.

**Address:** ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong, P.R.China.

**Dates of Testing:** 2022.04.08-2022.04.27

**Issued by:** CCIC Southern Testing Co., Ltd.

**Lab Location:** Electronic Testing Building, No. 43 Shahe Road, Xili Street, Nanshan District, Shenzhen, Guangdong, China.

**Tel:** 86 755 26627338    **Fax:** 86 755 26627238

This test report consists of 51 pages in total. It may be duplicated completely for legal use with the approval of the applicant. It should not be reproduced except in full, without the written approval of our laboratory. The client should not use it to claim product endorsement by CCIC-SET. The test results in the report only apply to the tested sample. The test report shall be invalid without all the signatures of testing engineers, reviewer and approver. Any objections must be raised to CCIC-SET within 15 days since the date when the report is received. It will not be taken into consideration beyond this limit.

## Test Report

**Product Name** .....: 5G NR Multi model smart phone

**Brand Name** .....: ZTE

**Trade Name** .....: ZTE

**Applicant** .....: ZTE CORPORATION.

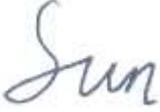
**Applicant Address** .....: ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong, P.R.China.

**Manufacturer** .....: ZTE CORPORATION.

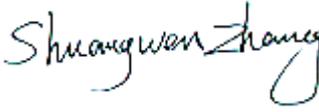
**Manufacturer Address** .....: ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong, P.R.China.

**Test Standards** .....: 47 CFR Part 15 Subpart C  
ANSI C63.10-2013

**Test Result** .....: PASS

**Tested by** .....:  2022.04.29  
\_\_\_\_\_  
Sun, Test Engineer

**Reviewed by** .....:  2022.04.29  
\_\_\_\_\_  
Chris You, Senior Engineer

**Approved by** .....:  2022.04.29  
\_\_\_\_\_  
ShuangwenZhang, Manager

## TABLE OF CONTENTS

<b>RF TEST REPORT .....</b>	<b>1</b>
<b>1. GENERAL INFORMATION .....</b>	<b>5</b>
1.1. EUT Description .....	5
1.2. Test Standards and Results .....	6
1.3. Table for Supporting Units .....	7
1.4. EUT Operation Test Setup .....	7
1.5. Facilities and Accreditations .....	7
<b>2. TEST REQUIREMENTS .....</b>	<b>8</b>
2.1. Antenna requirement .....	8
2.2. Maximum Conducted Output Power .....	9
2.3. 6dB Bandwidth .....	11
2.4. Power spectral density (PSD) .....	13
2.5. Conducted Band Edges and Spurious Emissions .....	15
2.6. Radiated Band Edge and Spurious Emission .....	17
2.7. AC Power Line Conducted Emission .....	31
<b>3. LIST OF MEASURING EQUIPMENT .....</b>	<b>35</b>
<b>4. UNCERTAINTY OF EVALUATION .....</b>	<b>36</b>
<b>APPENDIX A .....</b>	<b>37</b>

Change History		
Issue	Date	Reason for change
1.0	2022.04.29	First edition

## 1. General Information

### 1.1. EUT Description

EUT Type	5G NR Multi model smart phone
Hardware Version	zs9A
Software Version	MyOS11.0.1_7540N_VFPT
Channel Number	802.11b/g/n-20MHz: 11 802.11n-40MHz: 7
Bit Rate of Transmitter	802.11b: 11/5.5/2/1 Mbps 802.11g: 54/48/36/24/18/12/9/6 Mbps 802.11n : up to 150 Mbps
Modulation Type	DSSS (802.11b), OFDM (802.11g/n)
MIMO	Not support
Antenna Type	Internal Antenna
Antenna Gain	-2.5dBi
Power supply	Rechargeable Li-Polymer Battery DC3.85V/3900mAh

Note 1: For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.

Note 2: The EUT was programmed to be in continuously transmitting mode and the transmit duty cycle is not less than 98%.

Note 3: The antenna gain and RF adapter/cable insert loss provided by manufacture.

## 1.2. Test Standards and Results

The objective of the report is to perform testing according to below standards for the EUT FCC ID Certification:

No.	Identity	Document Title
1	47 CFR Part 15 Subpart C	Radio Frequency Devices
2	ANSI C63.10-2013	American National Standard for Testing Unlicensed Wireless Devices

Test detailed items/section required by FCC rules and results are as below:

No.	Section in CFR 47	Description	Result
1	15.203 15.247(c)	Antenna Requirement	PASS
2	15.247(b)(3)	Peak Conducted Output Power	PASS
3	15.247(a)(2)	6dB Bandwidth	PASS
4	15.247(d)	Conducted Band Edges and Spurious Emission	PASS
5	15.247(e)	Power spectral density (PSD)	PASS
6	15.207	AC Power Line Conducted Emission	PASS
7	15.209 15.205 15.247(d)	Radiated Band Edges and Spurious Emission	PASS

Note 1: The tests of Conducted Emission and Radiated Emission were performed according to the method of measurements prescribed in ANSI C63.10-2013.

Note 2: These RF tests were performed according to the method of measurements prescribed in KDB 558074 D01 15.247 Meas Guidance v05r02.

For 20MHz bandwidth systems, use Channel 1~ Channel 11.

For 40MHz bandwidth systems, use Channel 3~ Channel 9.

Channel No.	Frequency	Channel No.	Frequency	Channel No.	Frequency
1	2412MHz	5	2432MHz	9	2452MHz
2	2417MHz	6	2437MHz	10	2457MHz
3	2422MHz	7	2442MHz	11	2462MHz
4	2427MHz	8	2447MHz		

Note: Channel 1, 6 & 11 selected for 802.11b/g/n-HT20 as Lowest, Middle and Highest channel.

Channel 3, 6 & 9 selected for 802.11n-HT40 as Lowest, Middle and Highest channel.

Preliminary tests were performed in different data rate 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
Peak Conducted Output Power Power Spectral Density 6dB Bandwidth Conducted and Spurious Emission Radiated and Spurious Emission	11b/DSSS	1 Mbps	1/6/11
	11g/OFDM	6 Mbps	1/6/11
	11n(20MHz)/OFDM	MCS 0	1/6/11
	11n(40MHz)/OFDM	MCS 0	3/6/9
Band Edge	11b/DSSS	1 Mbps	1/11
	11g/OFDM	6 Mbps	1/11
	11n(20MHz)/OFDM	MCS 0	1/11
	11n(40MHz)/OFDM	MCS 0	3/9

### 1.3. Table for Supporting Units

No.	Equipment	Brand Name	Model Name	Manufacturer	Serial No.	Note
N/A						

### 1.4. EUT Operation Test Setup

For RF test items, an engineering test program was provided and enable to make EUT transmitting.

### 1.5. Facilities and Accreditations

#### 1.5.1. Facilities

##### **CNAS-Lab Code: L1659**

CCIC-SET is a third party testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L1659.

##### **FCC-Registration No.: 406086**

CCIC Southern Testing Co., Ltd EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. Designation Number: CN1283, valid time is until April 19th, 2023.

##### **ISED Registration: 11185A-1**

##### **CAB identifier: CN0064**

CCIC Southern Testing Co., Ltd. EMC Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 11185A-1 on Aug. 04, 2016, valid time is until Jun. 30th, 2023.

##### **A2LA Code: 5721.01**

CCIC-SET is a third party testing organization accredited by A2LA according to ISO/IEC 17025. The accreditation certificate number is 5721.01.

## 1.5.2. Test Environment Conditions

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

Temperature (°C):	15°C - 35°C
Relative Humidity (%):	30% -60%
Atmospheric Pressure (kPa):	86KPa-106KPa

## 2. Test Requirements

### 2.1. Antenna requirement

#### 2.1.1. Applicable Standard

According to 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.

And according to FCC 47 CFR Section 15.247(c), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

#### 2.1.2. Antenna Information

**Antenna Category:** Internal Antenna

A internal Antenna was soldered to the antenna port of EUT via an adaptor cable, can't be removed.

#### Antenna General Information:

No.	EUT	Operating frequency range	Ant. Type	Ant. Gain
1	5G NR Multi model smart phone	2412-2462MHz	Internal	-2.5dBi

#### 2.1.3. Result: comply

The EUT has a permanently and irreplaceable attached antenna. Please refer to the EUT internal photos.

## 2.2. Maximum Conducted Output Power

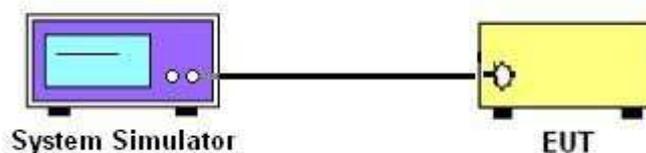
### 2.2.1. Limit of Peak Output Power

For systems using digital modulation in the 2400-2483.5MHz, the limit for peak output power is 30dBm. If transmitting antenna of directional gain greater than 6dBi is used, the peak output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi.

### 2.2.2. Measuring Instruments

The measuring equipment is listed in the section 3 of this test report.

### 2.2.3. Test Setup



### 2.2.4. Test Procedures

1. The testing follows the Measurement Procedure of ANSI C63.10-2013 Section 11.9.1.3.
2. The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall use a fast-responding diode detector.
4. Set to the maximum power setting and enable the EUT transmit continuously.
5. Record the measurement results in the test report.

### **2.2.5. Test Result of Peak Output Power**

Please refer to Appendix A for detail.

## 2.3. 6dB Bandwidth

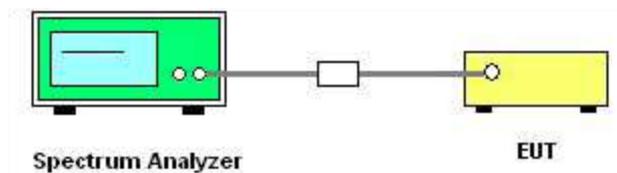
### 2.3.1. Limit of 6dB Bandwidth

The minimum 6 dB Occupied bandwidth shall be at least 500 kHz.

### 2.3.2. Measuring Instruments

The measuring equipment is listed in the section 3 of this test report.

### 2.3.3. Test Setup



### 2.3.4. Test Procedures

1. The testing follows the Measurement Procedure of ANSI C63.10-2013 Section 11.8.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Using the X dB bandwidth mode of the instrument's automatic bandwidth measurement function, X is set to 6 dB. the bandwidth measurement is not influenced by any intermediate power nulls in the fundamental emission that might be  $\geq 6$  dB.
5. Use the following spectrum analyzer settings:  
RBW: 100kHz / VBW: 300kHz / Detector: Peak / Trace mode: Max hold / Sweep time: Auto couple / Allow trace to fully stabilize.
6. Record the measurement results in the test report.

### **2.3.5. Test Results of 6dB Bandwidth**

Please refer to Appendix A for detail.

## 2.4. Power spectral density (PSD)

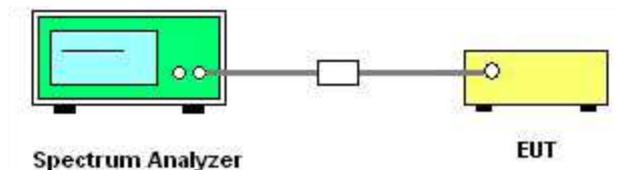
### 2.4.1. Limit of Power Spectral Density

The peak power spectral density shall not be greater than 8dBm in any 3kHz band at any time interval of continuous transmission.

### 2.4.2. Measuring Instruments

The measuring equipment is listed in the section 3 of this test report.

### 2.4.3. Test Setup



### 2.4.4. Test Procedures

1. The testing follows the Measurement Procedure of ANSI C63.10-2013 Section 11.10.2.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Use the following spectrum analyzer settings:  
Set instrument center frequency to DTS channel center frequency / Set the span to 1.5 times the DTS bandwidth / RBW:3kHz / VBW:10kHz / Detector: Peak / Sweep time: Auto couple / Trace mode: Max hold / Allow trace to fully stabilize / Use the peak marker function to determine the maximum power level.
5. Record the measurement results in the test report.

#### **2.4.5. Test Results of Power spectral density**

Please refer to Appendix A for detail.

## 2.5. Conducted Band Edges and Spurious Emissions

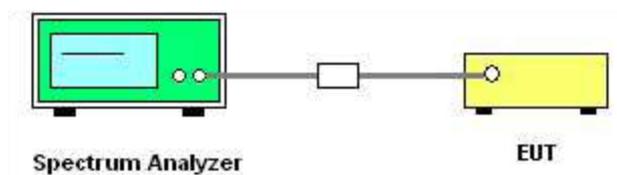
### 2.5.1. Limit of Conducted Band Edges and Spurious Emissions

In any 100 kHz bandwidth outside the frequency band in which the 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.

### 2.5.2. Measuring Instruments

The measuring equipment is listed in the section 3 of this test report.

### 2.5.3. Test Setup



### 2.5.4. Test Procedure

1. The testing follows the Measurement Procedure of ANSI C63.10-2013 Section 11.11 and 11.13.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Use the following spectrum analyzer settings:

Reference level measurement: Set spectrum analyzer center frequency to DTS channel center frequency / Set the span to  $\geq 1.5$  times the DTS bandwidth / RBW: 100kHz / VBW: 300kHz / 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 and attenuate it by 20dB.

Emission level measurement: Set the center frequency and span to encompass frequency range to be measured / RBW: 100kHz / VBW: 300kHz / 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.

6. Record the measurement results in the test report.

### **2.5.5. Test Results of Conducted Band Edges and Spurious Emissions**

Please refer to Appendix A for detail.

## 2.6. Radiated Band Edge and Spurious Emission

### 2.6.1. Limit of Radiated Band Edges and Spurious Emission

In any 100 kHz bandwidth outside the frequency band in which the 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. If the transmitter uses an RMS average conducted power limit, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a).

§15.209(a) Radiated emission limits:

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

Restricted bands of operation refer to §15.205 (a):

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
<sup>1</sup> 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	( <sup>2</sup> )
13.36-13.41	/	/	/

Note: <sup>1</sup>Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

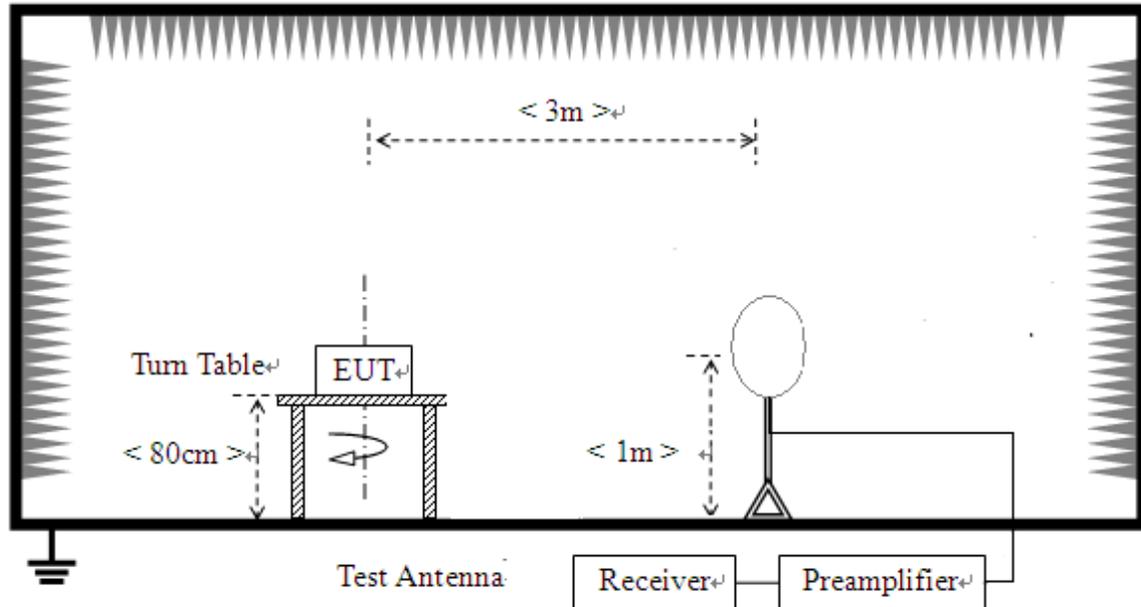
<sup>2</sup>Above 38.6.

## 2.6.2. Measuring Instruments

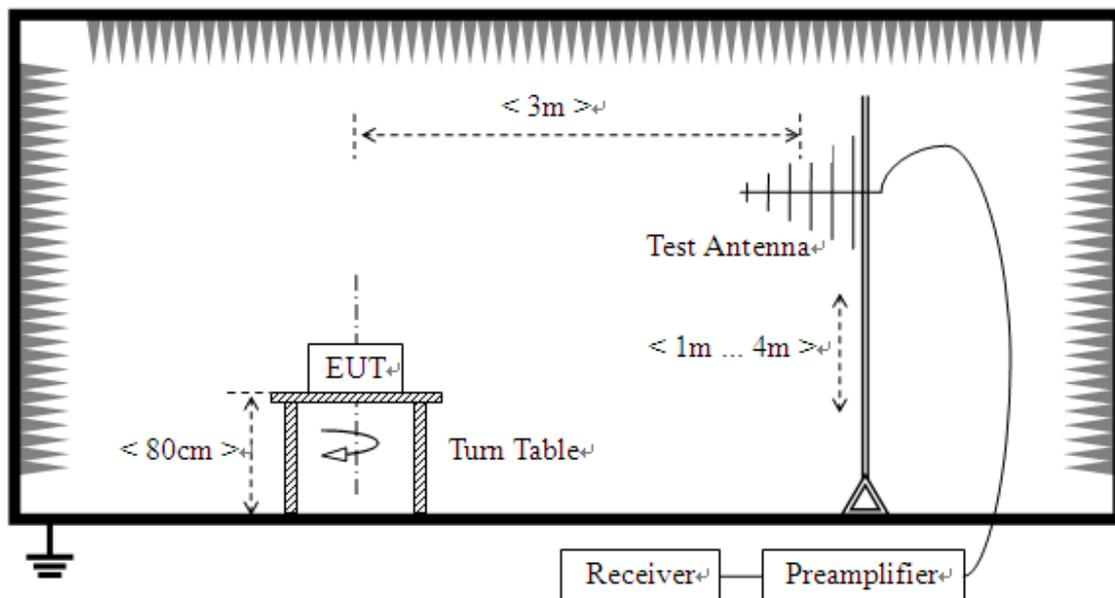
The measuring equipment is listed in the section 3 of this test report.

## 2.6.3. Test Setup

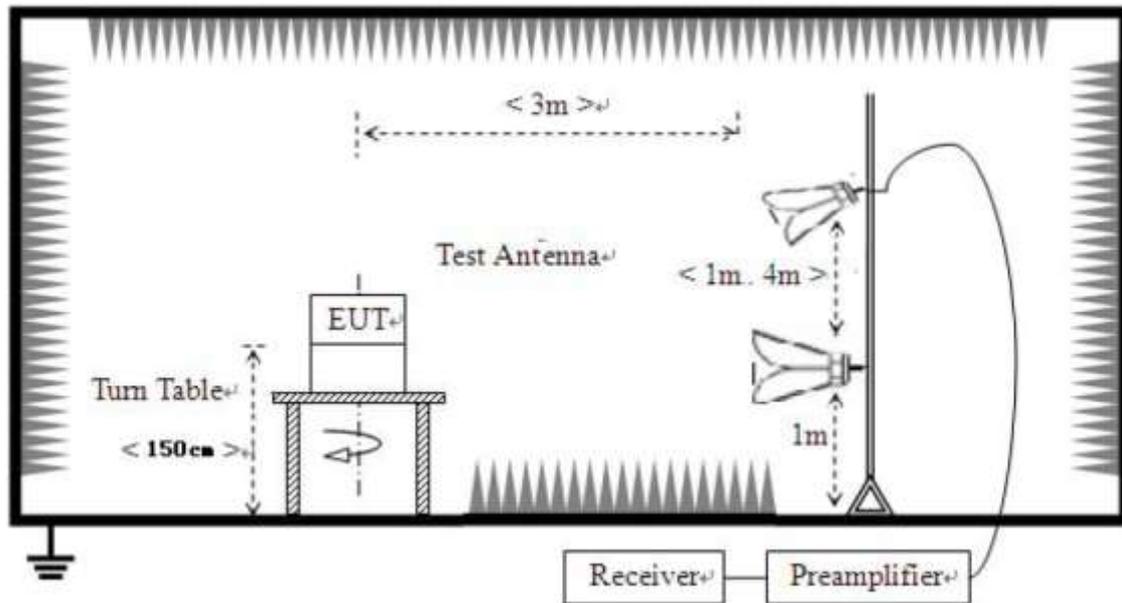
For radiated emissions from 9 kHz to 30 MHz



For radiated emissions from 30MHz to 1GHz



### For radiated emissions above 1GHz



#### 2.6.4. Test Procedures

1. The EUT was placed on the top of a rotating table 0.8m for below 1GHz and 1.5m for above 1GHz above the ground at a 3 meters semi-anechoic chamber.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. Height of receiving antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. If the emission level of the EUT in peak mode was lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions would be re-tested one by one using peak, quasi-peak or average method as specified and then

reported in a data sheet.

7. For the radiated emission test above 1GHz:

Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.

NOTE:

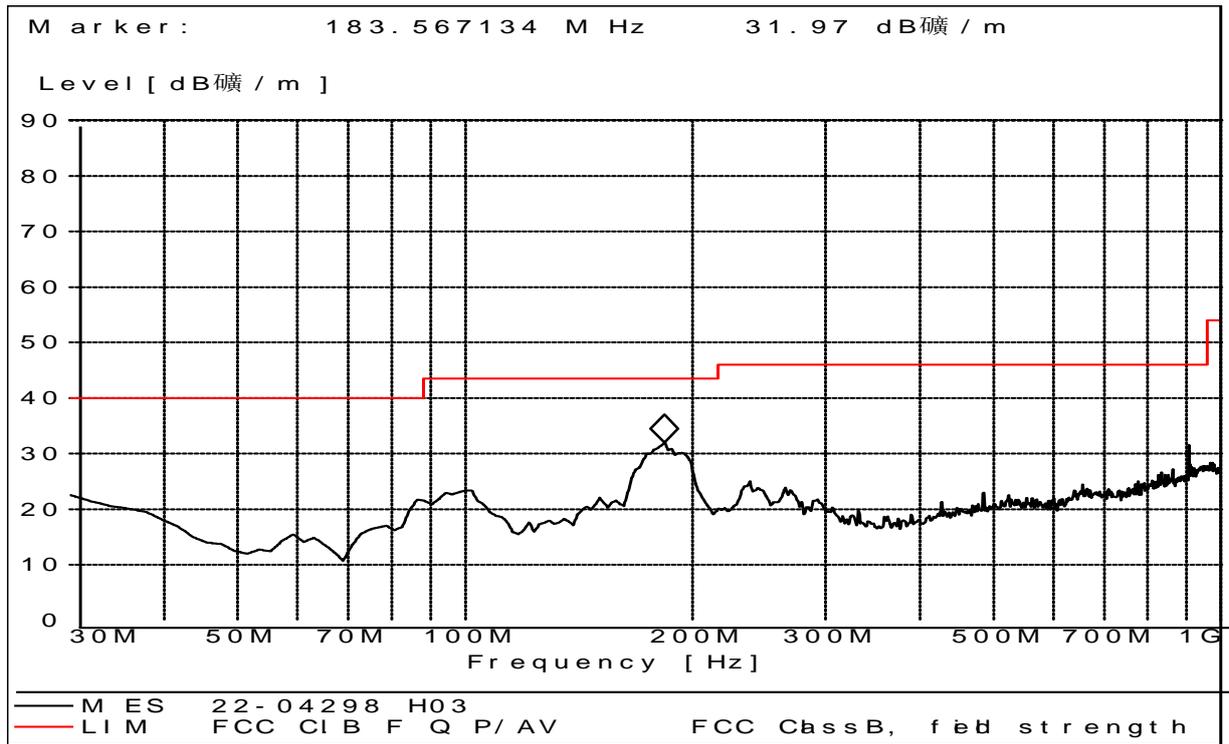
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is  $\geq 1/T$ (Duty cycle < 98%) or 10Hz(Duty cycle > 98%) for Average detection (AV) at frequency above 1GHz.
4. All radiated emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

### **2.6.5. Test Results of Radiated Band Edge and Spurious Emission**

#### **For 9 kHz to 30MHz**

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

**For 30MHz to 1000MHz**

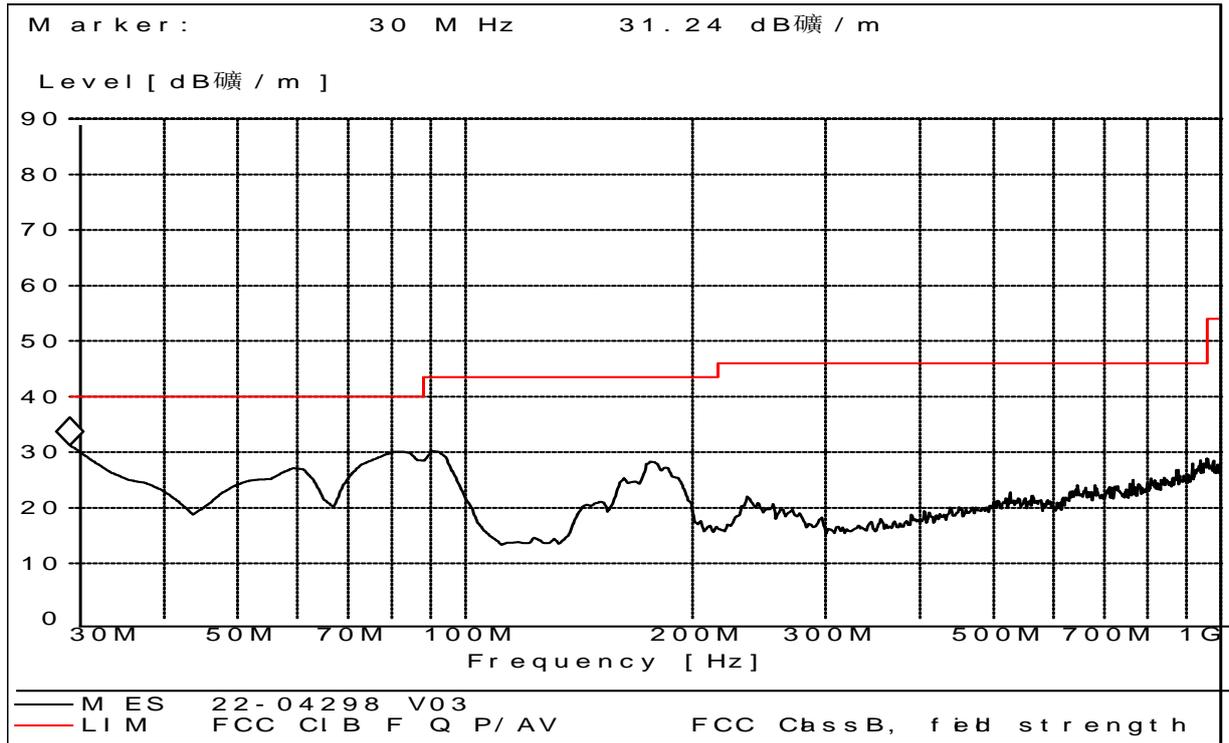


Frequency (MHz)	QuasiPeak (dB µ V/m)	Bandwidth (kHz)	Corr.Factor (dB/m)	Antenna height (cm)	Limit (dB µ V/m)	Margin (dB)	Polarity
31.920000	21.46	120.000	19.3	100.0	40.0	18.54	Horizontal
101.920000	21.39	120.000	10.9	100.0	43.5	22.11	Horizontal
173.880000	30.00	120.000	11.9	100.0	43.5	13.50	Horizontal
182.910000	30.62	120.000	11.0	100.0	43.5	12.88	Horizontal
237.990000	22.97	120.000	11.7	100.0	46.0	23.03	Horizontal
265.200000	21.89	120.000	15.1	100.0	46.0	24.11	Horizontal

**Test Result : Pass**

Remark:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB).
3. Margin value = Limit value - Emission Level.
4. The other emission levels were very low against the limit.



Frequency (MHz)	QuasiPeak (dB µ V/m)	Bandwidth (kHz)	Corr.Factor (dB/m)	Antenna height (cm)	Limit (dB µ V/m)	Margin (dB)	Polarity
30.990000	31.07	120.000	19.3	100.0	40.0	8.93	Vertical
58.950000	27.01	120.000	8.6	100.0	40.0	12.99	Vertical
82.480000	30.62	120.000	8.5	100.0	40.0	9.38	Vertical
90.260000	30.27	120.000	9.9	100.0	43.5	13.23	Vertical
177.370000	28.97	120.000	11.9	100.0	43.5	14.53	Vertical
236.050000	22.04	120.000	11.7	100.0	46.0	23.96	Vertical

**Test Result : Pass**

**Remark:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB).
3. Margin value = Limit value - Emission Level.
4. The other emission levels were very low against the limit.

**For 1GHz to 25GHz**

<b>2.4G Wi-Fi 802.11b_2412MHz</b>									
Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
2390.00	44.29	74.00	-29.71	1.50	160	42.99	1.30	Horizontal	Peak
2390.00	37.72	54.00	-16.28	1.50	160	36.42	1.30	Horizontal	Average
4824.00	49.03	74.00	-24.97	1.50	160	42.63	6.40	Horizontal	Peak
4824.00	43.15	54.00	-10.85	1.50	160	36.75	6.40	Horizontal	Average
7236.00	50.61	74.00	-23.39	1.50	160	40.11	10.50	Horizontal	Peak
7236.00	42.27	54.00	-11.73	1.50	160	31.77	10.50	Horizontal	Average
2390.00	44.55	74.00	-29.45	1.70	170	43.25	1.30	Vertical	Peak
2390.00	37.69	54.00	-16.31	1.70	170	36.39	1.30	Vertical	Average
4824.00	48.89	74.00	-25.11	1.70	170	42.49	6.40	Vertical	Peak
4824.00	43.31	54.00	-10.69	1.70	170	36.91	6.40	Vertical	Average
7236.00	51.22	74.00	-22.78	1.70	170	40.72	10.50	Vertical	Peak
7236.00	42.01	54.00	-11.99	1.70	170	31.51	10.50	Vertical	Average
<b>2.4G Wi-Fi 802.11b_2437MHz</b>									
Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
4874.00	49.19	74.00	-24.81	1.50	160	43.39	5.80	Horizontal	Peak
4874.00	43.01	54.00	-10.99	1.50	160	37.21	5.80	Horizontal	Average
7311.00	51.08	74.00	-22.92	1.50	160	40.28	10.80	Horizontal	Peak
7311.00	41.88	54.00	-12.12	1.50	160	31.08	10.80	Horizontal	Average
4874.00	49.09	74.00	-24.91	1.70	170	43.29	5.80	Vertical	Peak
4874.00	43.48	54.00	-10.52	1.70	170	37.68	5.80	Vertical	Average
7311.00	51.46	74.00	-22.54	1.70	170	40.66	10.80	Vertical	Peak
7311.00	41.80	54.00	-12.20	1.70	170	31.00	10.80	Vertical	Average
<p><i>Remark:</i></p> <ol style="list-style-type: none"> <li><i>Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)</i></li> <li><i>Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) - Pre-Amplifier Factor(dB)</i></li> <li><i>Margin value = Emission Level – Limit value</i></li> <li><i>The emission levels of other frequencies are very lower than the limit and not show in test report.</i></li> </ol>									

2.4G Wi-Fi 802.11b_2462MHz									
Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
2483.50	46.38	74.00	-27.62	1.50	160	44.78	1.60	Horizontal	Peak
2483.50	36.95	54.00	-17.05	1.50	160	35.35	1.60	Horizontal	Average
4924.00	46.82	74.00	-27.18	1.50	160	41.12	5.70	Horizontal	Peak
4924.00	38.82	54.00	-15.18	1.50	160	33.12	5.70	Horizontal	Average
7386.00	50.55	74.00	-23.45	1.50	160	39.75	10.80	Horizontal	Peak
7386.00	41.73	54.00	-12.27	1.50	160	30.93	10.80	Horizontal	Average
2483.50	46.02	74.00	-27.98	1.70	170	44.42	1.60	Vertical	Peak
2483.50	36.05	54.00	-17.95	1.70	170	34.45	1.60	Vertical	Average
4924.00	46.91	74.00	-27.09	1.70	170	41.21	5.70	Vertical	Peak
4924.00	39.06	54.00	-14.94	1.70	170	33.36	5.70	Vertical	Average
7386.00	50.49	74.00	-23.51	1.70	170	39.69	10.80	Vertical	Peak
7386.00	41.75	54.00	-12.25	1.70	170	30.95	10.80	Vertical	Average

**Remark:**

1.  $Emission\ Level(dBuV/m) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2.  $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB)$
3.  $Margin\ value = Emission\ Level - Limit\ value$
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

2.4G Wi-Fi 802.11g_2412MHz									
Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
2390.00	44.39	74.00	-29.61	1.50	160	43.09	1.30	Horizontal	Peak
2390.00	37.80	54.00	-16.20	1.50	160	36.50	1.30	Horizontal	Average
4824.00	49.20	74.00	-24.80	1.50	160	42.80	6.40	Horizontal	Peak
4824.00	42.77	54.00	-11.23	1.50	160	36.37	6.40	Horizontal	Average
7236.00	50.86	74.00	-23.14	1.50	160	40.36	10.50	Horizontal	Peak
7236.00	42.66	54.00	-11.34	1.50	160	32.16	10.50	Horizontal	Average
2390.00	44.27	74.00	-29.73	1.70	170	42.97	1.30	Vertical	Peak
2390.00	37.65	54.00	-16.35	1.70	170	36.35	1.30	Vertical	Average
4824.00	48.84	74.00	-25.16	1.70	170	42.44	6.40	Vertical	Peak
4824.00	43.59	54.00	-10.41	1.70	170	37.19	6.40	Vertical	Average
7236.00	51.31	74.00	-22.69	1.70	170	40.81	10.50	Vertical	Peak
7236.00	41.89	54.00	-12.11	1.70	170	31.39	10.50	Vertical	Average
2.4G Wi-Fi 802.11g_2437MHz									
Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
4874.00	49.31	74.00	-24.69	1.50	160	43.51	5.80	Horizontal	Peak
4874.00	43.35	54.00	-10.65	1.50	160	37.55	5.80	Horizontal	Average
7311.00	51.27	74.00	-22.73	1.50	160	40.47	10.80	Horizontal	Peak
7311.00	41.77	54.00	-12.23	1.50	160	30.97	10.80	Horizontal	Average
4874.00	48.80	74.00	-25.20	1.70	170	43.00	5.80	Vertical	Peak
4874.00	43.07	54.00	-10.93	1.70	170	37.27	5.80	Vertical	Average
7311.00	51.63	74.00	-22.37	1.70	170	40.83	10.80	Vertical	Peak
7311.00	42.23	54.00	-11.77	1.70	170	31.43	10.80	Vertical	Average
<p>Remark:</p> <ol style="list-style-type: none"> <li>Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)</li> <li>Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) - Pre-Amplifier Factor(dB)</li> <li>Margin value = Emission Level – Limit value</li> <li>The emission levels of other frequencies are very lower than the limit and not show in test report.</li> </ol>									

2.4G Wi-Fi 802.11g_2462MHz									
Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
2483.50	46.51	74.00	-27.49	1.50	160	44.91	1.60	Horizontal	Peak
2483.50	36.58	54.00	-17.42	1.50	160	34.98	1.60	Horizontal	Average
4924.00	46.43	74.00	-27.57	1.50	160	40.73	5.70	Horizontal	Peak
4924.00	39.31	54.00	-14.69	1.50	160	33.61	5.70	Horizontal	Average
7386.00	50.40	74.00	-23.60	1.50	160	39.60	10.80	Horizontal	Peak
7386.00	41.99	54.00	-12.01	1.50	160	31.19	10.80	Horizontal	Average
2483.50	45.65	74.00	-28.35	1.70	170	44.05	1.60	Vertical	Peak
2483.50	35.94	54.00	-18.06	1.70	170	34.34	1.60	Vertical	Average
4924.00	47.00	74.00	-27.00	1.70	170	41.30	5.70	Vertical	Peak
4924.00	39.34	54.00	-14.66	1.70	170	33.64	5.70	Vertical	Average
7386.00	50.36	74.00	-23.64	1.70	170	39.56	10.80	Vertical	Peak
7386.00	41.88	54.00	-12.12	1.70	170	31.08	10.80	Vertical	Average

**Remark:**

1.  $Emission\ Level(dBuV/m) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2.  $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB)$
3.  $Margin\ value = Emission\ Level - Limit\ value$
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

2.4G Wi-Fi 802.11n-HT20_2412MHz									
Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
2390.00	44.64	74.00	-29.36	1.50	160	43.34	1.30	Horizontal	Peak
2390.00	37.82	54.00	-16.18	1.50	160	36.52	1.30	Horizontal	Average
4824.00	49.52	74.00	-24.48	1.50	160	43.12	6.40	Horizontal	Peak
4824.00	42.67	54.00	-11.33	1.50	160	36.27	6.40	Horizontal	Average
7236.00	50.73	74.00	-23.27	1.50	160	40.23	10.50	Horizontal	Peak
7236.00	42.91	54.00	-11.09	1.50	160	32.41	10.50	Horizontal	Average
2390.00	44.33	74.00	-29.67	1.70	170	43.03	1.30	Vertical	Peak
2390.00	38.10	54.00	-15.90	1.70	170	36.80	1.30	Vertical	Average
4824.00	48.85	74.00	-25.15	1.70	170	42.45	6.40	Vertical	Peak
4824.00	43.48	54.00	-10.52	1.70	170	37.08	6.40	Vertical	Average
7236.00	51.05	74.00	-22.95	1.70	170	40.55	10.50	Vertical	Peak
7236.00	41.82	54.00	-12.18	1.70	170	31.32	10.50	Vertical	Average
2.4G Wi-Fi 802.11n-HT20_2437MHz									
Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
4874.00	49.57	74.00	-24.43	1.50	160	43.77	5.80	Horizontal	Peak
4874.00	42.91	54.00	-11.09	1.50	160	37.11	5.80	Horizontal	Average
7311.00	51.65	74.00	-22.35	1.50	160	40.85	10.80	Horizontal	Peak
7311.00	42.19	54.00	-11.81	1.50	160	31.39	10.80	Horizontal	Average
4874.00	48.81	74.00	-25.19	1.70	170	43.01	5.80	Vertical	Peak
4874.00	42.84	54.00	-11.16	1.70	170	37.04	5.80	Vertical	Average
7311.00	51.44	74.00	-22.56	1.70	170	40.64	10.80	Vertical	Peak
7311.00	42.62	54.00	-11.38	1.70	170	31.82	10.80	Vertical	Average
<p>Remark:</p> <ol style="list-style-type: none"> <li>Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)</li> <li>Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) - Pre-Amplifier Factor(dB)</li> <li>Margin value = Emission Level – Limit value</li> <li>The emission levels of other frequencies are very lower than the limit and not show in test report.</li> </ol>									

2.4G Wi-Fi 802.11n-HT20_2462MHz									
Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
2483.50	46.71	74.00	-27.29	1.50	160	45.11	1.60	Horizontal	Peak
2483.50	36.72	54.00	-17.28	1.50	160	35.12	1.60	Horizontal	Average
4924.00	45.98	74.00	-28.02	1.50	160	40.28	5.70	Horizontal	Peak
4924.00	39.37	54.00	-14.63	1.50	160	33.67	5.70	Horizontal	Average
7386.00	50.66	74.00	-23.34	1.50	160	39.86	10.80	Horizontal	Peak
7386.00	42.24	54.00	-11.76	1.50	160	31.44	10.80	Horizontal	Average
2483.50	45.26	74.00	-28.74	1.70	170	43.66	1.60	Vertical	Peak
2483.50	35.87	54.00	-18.13	1.70	170	34.27	1.60	Vertical	Average
4924.00	47.22	74.00	-26.78	1.70	170	41.52	5.70	Vertical	Peak
4924.00	39.69	54.00	-14.31	1.70	170	33.99	5.70	Vertical	Average
7386.00	50.09	74.00	-23.91	1.70	170	39.29	10.80	Vertical	Peak
7386.00	41.52	54.00	-12.48	1.70	170	30.72	10.80	Vertical	Average

**Remark:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) - Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

2.4G Wi-Fi 802.11n-HT40_2422MHz									
Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
2390.00	44.85	74.00	-29.15	1.50	160	43.55	1.30	Horizontal	Peak
2390.00	38.28	54.00	-15.72	1.50	160	36.98	1.30	Horizontal	Average
4844.00	49.48	74.00	-24.52	1.50	160	43.08	6.40	Horizontal	Peak
4844.00	42.65	54.00	-11.35	1.50	160	36.25	6.40	Horizontal	Average
7266.00	50.24	74.00	-23.76	1.50	160	39.74	10.50	Horizontal	Peak
7266.00	42.58	54.00	-11.42	1.50	160	32.08	10.50	Horizontal	Average
2390.00	43.85	74.00	-30.15	1.70	170	42.55	1.30	Vertical	Peak
2390.00	37.90	54.00	-16.10	1.70	170	36.60	1.30	Vertical	Average
4844.00	49.05	74.00	-24.95	1.70	170	42.65	6.40	Vertical	Peak
4844.00	43.76	54.00	-10.24	1.70	170	37.36	6.40	Vertical	Average
7266.00	51.05	74.00	-22.95	1.70	170	40.55	10.50	Vertical	Peak
7266.00	41.91	54.00	-12.09	1.70	170	31.41	10.50	Vertical	Average
2.4G Wi-Fi 802.11n-HT40_2437MHz									
Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
4874.00	49.07	74.00	-24.93	1.50	160	43.27	5.80	Horizontal	Peak
4874.00	42.81	54.00	-11.19	1.50	160	37.01	5.80	Horizontal	Average
7311.00	51.38	74.00	-22.62	1.50	160	40.58	10.80	Horizontal	Peak
7311.00	42.08	54.00	-11.92	1.50	160	31.28	10.80	Horizontal	Average
4874.00	48.51	74.00	-25.49	1.70	170	42.71	5.80	Vertical	Peak
4874.00	42.37	54.00	-11.63	1.70	170	36.57	5.80	Vertical	Average
7311.00	50.97	74.00	-23.03	1.70	170	40.17	10.80	Vertical	Peak
7311.00	42.36	54.00	-11.64	1.70	170	31.56	10.80	Vertical	Average
<p>Remark:</p> <ol style="list-style-type: none"> <li>Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)</li> <li>Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) - Pre-Amplifier Factor(dB)</li> <li>Margin value = Emission Level – Limit value</li> <li>The emission levels of other frequencies are very lower than the limit and not show in test report.</li> </ol>									

2.4G Wi-Fi 802.11n-HT40_2452MHz									
Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
2483.50	46.69	74.00	-27.31	1.50	160	45.09	1.60	Horizontal	Peak
2483.50	37.16	54.00	-16.84	1.50	160	35.56	1.60	Horizontal	Average
4904.00	46.02	74.00	-27.98	1.50	160	40.32	5.70	Horizontal	Peak
4904.00	39.66	54.00	-14.34	1.50	160	33.96	5.70	Horizontal	Average
7356.00	50.70	74.00	-23.30	1.50	160	39.90	10.80	Horizontal	Peak
7356.00	42.27	54.00	-11.73	1.50	160	31.47	10.80	Horizontal	Average
2483.50	45.31	74.00	-28.69	1.70	170	43.71	1.60	Vertical	Peak
2483.50	35.38	54.00	-18.62	1.70	170	33.78	1.60	Vertical	Average
4904.00	47.59	74.00	-26.41	1.70	170	41.89	5.70	Vertical	Peak
4904.00	39.21	54.00	-14.79	1.70	170	33.51	5.70	Vertical	Average
7356.00	50.21	74.00	-23.79	1.70	170	39.41	10.80	Vertical	Peak
7356.00	41.63	54.00	-12.37	1.70	170	30.83	10.80	Vertical	Average

**Remark:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) - Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

## 2.7. AC Power Line Conducted Emission

### 2.7.1. Limit of AC Power Line Conducted Emission

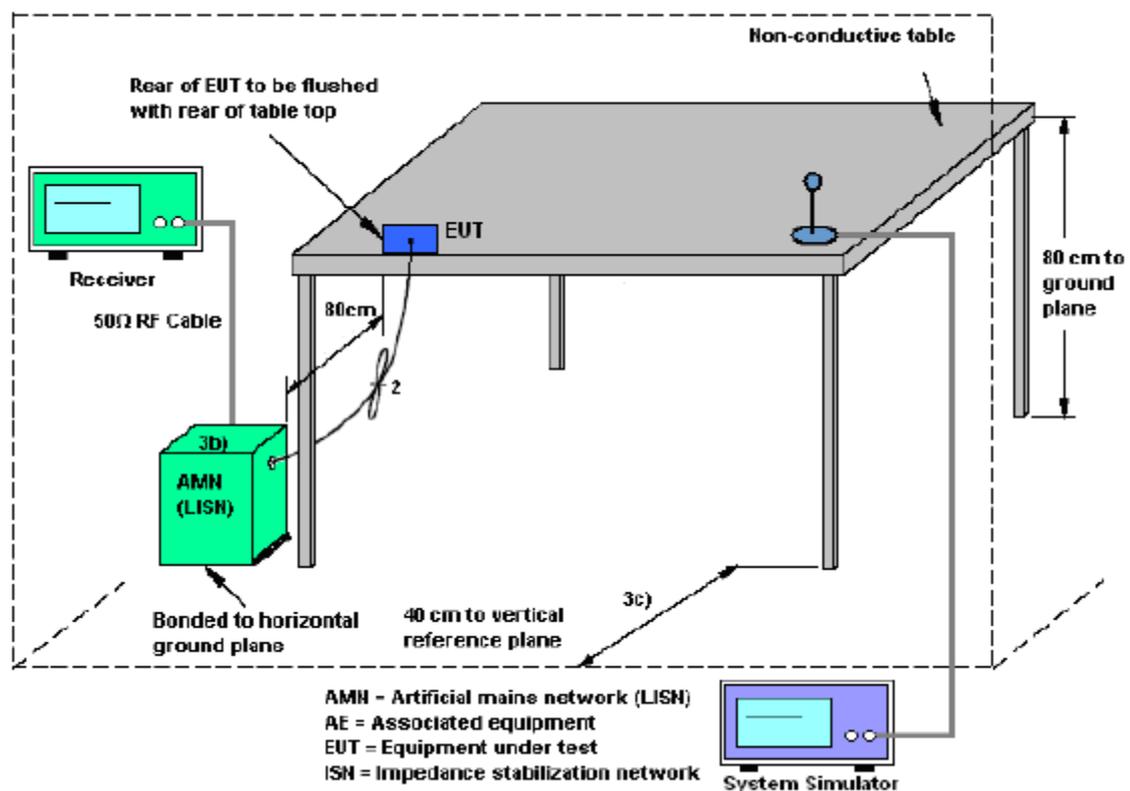
For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

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

### 2.7.2. Measuring Instruments

The measuring equipment is listed in the section 3 of this test report.

### 2.7.3. Test Setup



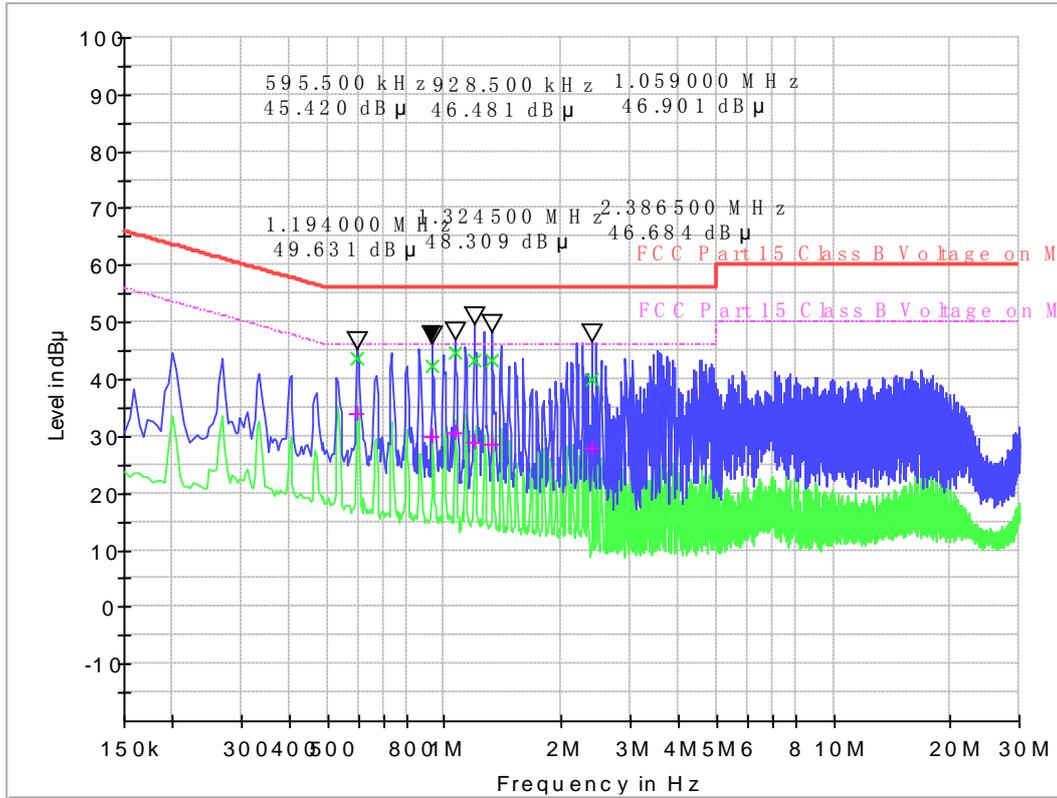
#### **2.7.4. Test Procedures**

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 micrometry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

#### **2.7.5. Test Results of Conducted Emission**

The EUT configuration of the emission tests is WLAN Link + USB Cable (Charging from Adapter).

Line Phase



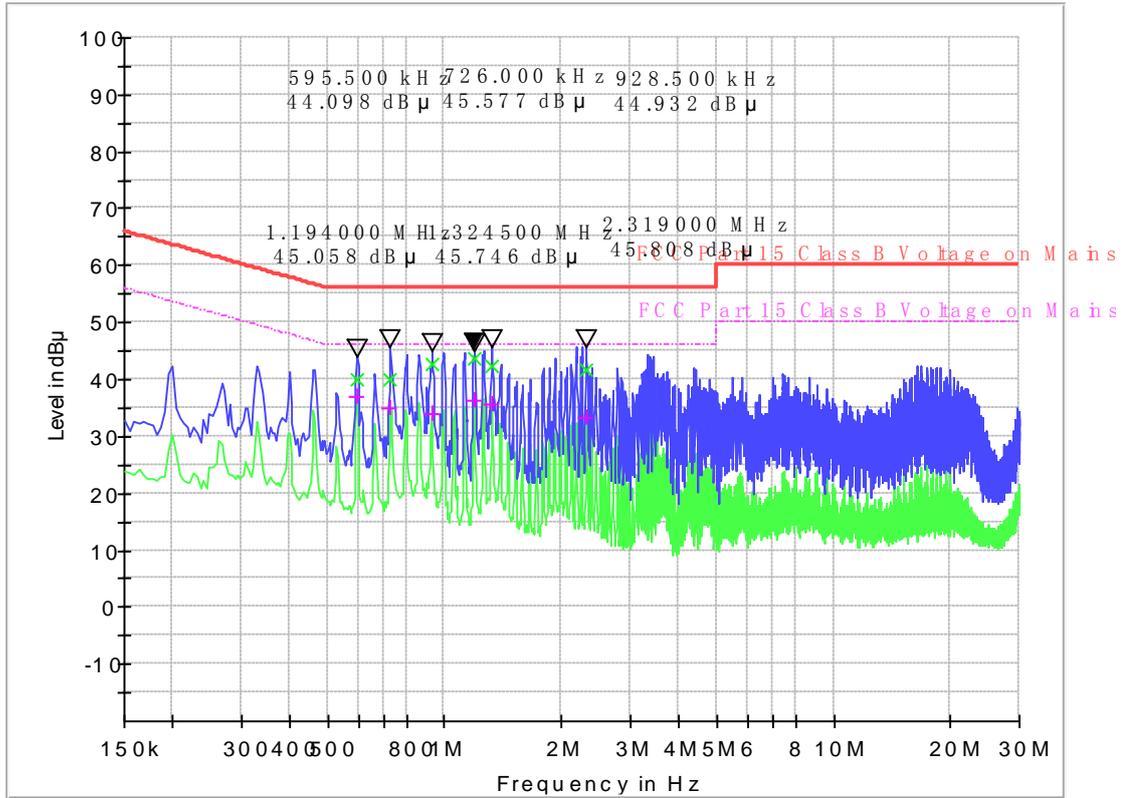
Frequency (MHz)	QuasiPeak (dB μ V)	Average (dB μ V)	Cabel Loss (dB)	Corr.Factor (dB)	M rgin - QPK	Limit - QPK (dB μ V)	Margin - AV (dB)	Limit - AV (dB μ V)
0.595500	43.56	34.03	0.2	10.2	12.44	56.0	11.97	46.0
0.928500	42.29	29.90	0.2	10.2	13.71	56.0	16.10	46.0
1.059000	44.74	30.56	0.2	10.2	11.26	56.0	15.44	46.0
1.194000	43.34	28.88	0.2	10.2	12.66	56.0	17.12	46.0
1.324500	43.44	28.71	0.2	10.2	12.56	56.0	17.29	46.0
2.386500	40.10	28.09	0.2	10.2	15.90	56.0	17.91	46.0

Test Result : Pass

Remark:

1. Correction factor = Cabel loss+ attenuation factor.
2. attenuation factor = 10dB.

Neutral Phase



Frequency (MHz)	QuasiPeak (dB μV)	Average (dB μV)	Cabel Loss (dB)	Corr.Factor (dB)	Margin - QPK (dB)	Limit - QPK (dB μV)	Margin - AV (dB)	Limit - AV (dB μV)
0.595500	40.14	37.04	0.2	10.2	15.86	56.0	8.96	46.0
0.726000	40.04	35.04	0.2	10.2	15.96	56.0	10.96	46.0
0.928500	42.54	33.89	0.2	10.2	13.46	56.0	12.11	46.0
1.194000	43.66	36.40	0.2	10.2	12.34	56.0	9.60	46.0
1.324500	42.50	35.54	0.2	10.2	13.50	56.0	10.46	46.0
2.319000	41.61	33.40	0.2	10.2	14.39	56.0	12.60	46.0

Test Result : Pass

Remark:

1. Correction factor = Cabel loss+ attenuation factor.
2. attenuation factor = 10dB.

### 3. List of measuring equipment

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
1	EMI TEST RECEIVER	KEYSIGHT	N9038A	A141202036	2021.08.03	2022.08.02
2	Power Meter	R&S	NRP-Z31	102872	2021.05.08	2022.05.07
3	TURNTABLE	ETS	2088	2149	N/A	N/A
4	ANTENNA MAST	ETS	2075	2346	N/A	N/A
5	EMI TEST Software	R&S	ESK1	N/A	N/A	N/A
6	Horn antenna (18GHz~26.5GHz)	AR	AT4003A	325306	2020.09.16	2022.09.15
7	Amplifier 30M~1GHz	MILMEGA	80RF1000-1000	A140101634	2021.12.23	2022.12.22
8	Amplifier 1G~18GHz	MILMEGA	AS0104R-800/400	A160302517	2021.12.23	2022.12.22
9	High pass filter	Compliance Direction systems	BSU-6	34202	2021.11.09	2022.11.08
10	Horn Antenna	R&S	ESIB7	A0501375	2020.06.24	2022.06.22
11	ULTRA-BROADBAND ANTENNA	SCHWARZBECK	VULB9160	A0805560	2019.05.24	2022.05.23
12	Passive Loop Antenna	SCHWARZBECK	FMZB 1519B	A180903206	2020.07.22	2023.07.21
13	Temperature chamber	TABAI	PS-232	A8708054	2021.09.24	2022.09.23
14	Spectrum Analyzer	KEYSIGHT	N9030A	A160702554	2022.03.25	2023.03.24
15	Power Supply	R&S	ESIB26	A0304218	2021.12.23	2022.12.22
16	LISN	ROHDE&SCHWARZ	ENV216	A140701847	2021.08.11	2022.08.10
17	Test software	ECIT	Eagle	V2.0	N/A	N/A

#### 4. Uncertainty of Evaluation

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.10-2013. All the measurement uncertainty value were shown with a coverage  $K=2$  to indicate 95% level of confidence . The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

Uncertainty of AC Power Line Conducted Emission Measurement (150KHz~30MHz)

Measuring Uncertainty for a level of confidence of 95%( $U=2Uc(y)$ )	2.8dB
--	-------

Uncertainty of Radiated Emission Measurement (9KHz~30MHz)

Measuring Uncertainty for a level of confidence of 95%( $U=2Uc(y)$ )	3.5dB
--	-------

Uncertainty of Radiated Emission Measurement (30MHz~1GHz)

Measuring Uncertainty for a level of confidence of 95%( $U=2Uc(y)$ )	3.91dB
--	--------

Uncertainty of Radiated Emission Measurement (1GHz~18GHz)

Measuring Uncertainty for a level of confidence of 95%( $U=2Uc(y)$ )	4.5dB
--	-------

Uncertainty of Radiated Emission Measurement (18GHz~40GHz)

Measuring Uncertainty for a level of confidence of 95%( $U=2Uc(y)$ )	4.9dB
--	-------

Uncertainty of RF Conducted Measurement (9KHz~40GHz)

Measuring Uncertainty for a level of confidence of 95%( $U=2Uc(y)$ )	1.3dB
--	-------

## Appendix A

### RF Output Power

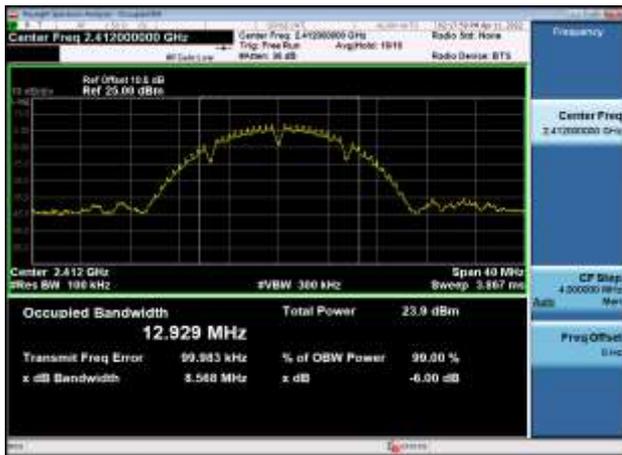
#### Test Result and Data

Conducted Output Power (Peak)				
Mode	Test Frequency (MHz)	Conducted Output Power (dBm)	Limit (dBm)	Result
802.11b	2412	16.55	30	Pass
802.11b	2437	16.82	30	Pass
802.11b	2462	16.67	30	Pass
802.11g	2412	15.49	30	Pass
802.11g	2437	15.68	30	Pass
802.11g	2462	15.52	30	Pass
802.11n (HT20)	2412	14.43	30	Pass
802.11n (HT20)	2437	14.64	30	Pass
802.11n (HT20)	2462	14.41	30	Pass
802.11n (HT40)	2422	14.23	30	Pass
802.11n (HT40)	2437	14.17	30	Pass
802.11n (HT40)	2452	14.54	30	Pass

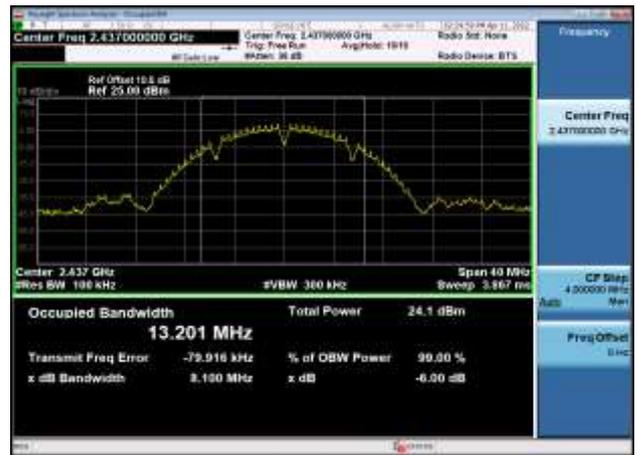
## 6dB Bandwidth Test Result and Data

WLAN 6dB Bandwidth				
Mode	Test Frequency (MHz)	Occupied Bandwidth (MHz)	Limit (KHz)	Result
802.11b	2412	8.57	500	Pass
802.11b	2437	8.10	500	Pass
802.11b	2462	8.56	500	Pass
802.11g	2412	15.34	500	Pass
802.11g	2437	15.17	500	Pass
802.11g	2462	15.17	500	Pass
802.11n (HT20)	2412	15.34	500	Pass
802.11n (HT20)	2437	15.17	500	Pass
802.11n (HT20)	2462	15.51	500	Pass
802.11n (HT40)	2422	33.88	500	Pass
802.11n (HT40)	2437	35.17	500	Pass
802.11n (HT40)	2452	35.57	500	Pass

6dB Bandwidth-802.11b,2412MHz,Ant0



6dB Bandwidth-802.11b,2437MHz,Ant0



6dB Bandwidth-802.11b,2462MHz,Ant0



6dB Bandwidth-802.11g,2412MHz,Ant0



6dB Bandwidth-802.11g,2437MHz,Ant0



6dB Bandwidth-802.11g,2462MHz,Ant0



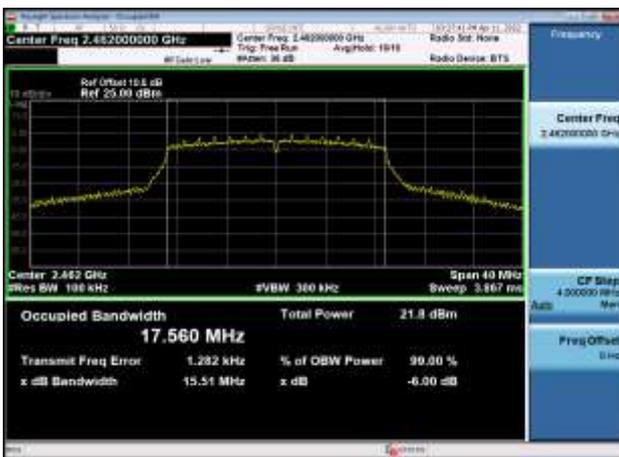
6dB Bandwidth-802.11n(HT20),2412MHz  
,Ant0



6dB Bandwidth-802.11n(HT20),2437MHz  
,Ant0



6dB Bandwidth-802.11n(HT20),2462MHz  
,Ant0



6dB Bandwidth-802.11n(HT40),2422MHz  
,Ant0



6dB Bandwidth-802.11n(HT40),2437MHz  
,Ant0



6dB Bandwidth-802.11n(HT40),2452MHz  
,Ant0



**Power Spectral Density****Test Result and Data**

Power Spectral Density				
Mode	Test Frequency (MHz)	PSD (dBm/3KHz)	Limit (dBm/3KHz)	Result
802.11b	2412	-5.377	8	Pass
802.11b	2437	-4.436	8	Pass
802.11b	2462	-4.670	8	Pass
802.11g	2412	-7.914	8	Pass
802.11g	2437	-7.818	8	Pass
802.11g	2462	-8.256	8	Pass
802.11n (HT20)	2412	-9.062	8	Pass
802.11n (HT20)	2437	-9.522	8	Pass
802.11n (HT20)	2462	-9.705	8	Pass
802.11n (HT40)	2422	-11.412	8	Pass
802.11n (HT40)	2437	-12.965	8	Pass
802.11n (HT40)	2452	-12.790	8	Pass

Power spectral density-802.11b  
,2412MHz,Ant0



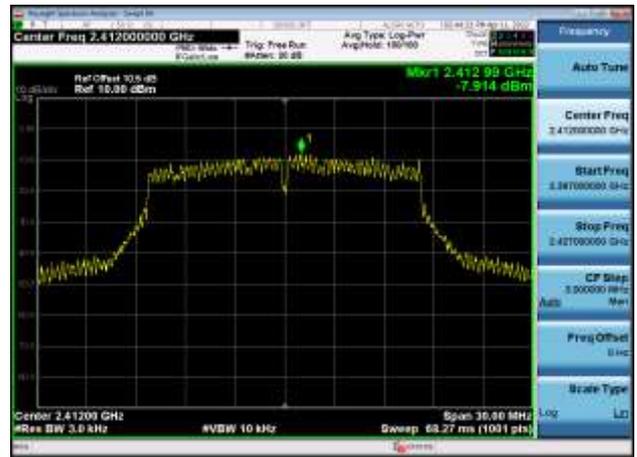
Power spectral density-802.11b  
,2437MHz,Ant0



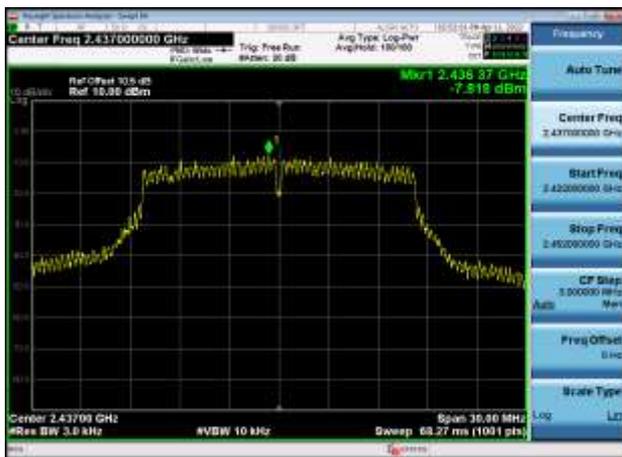
Power spectral density-802.11b  
,2462MHz,Ant0



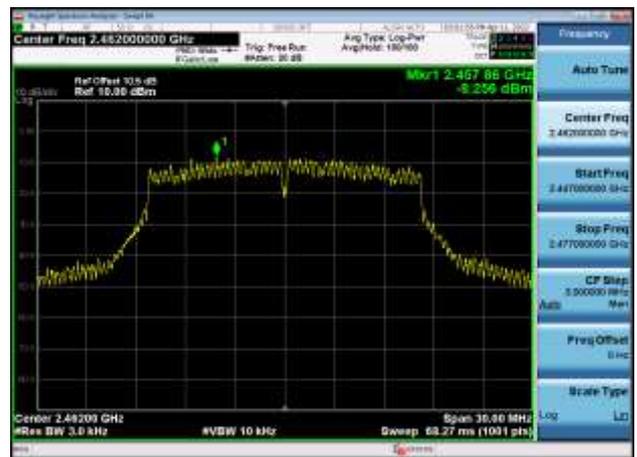
Power spectral density-802.11g  
,2412MHz,Ant0



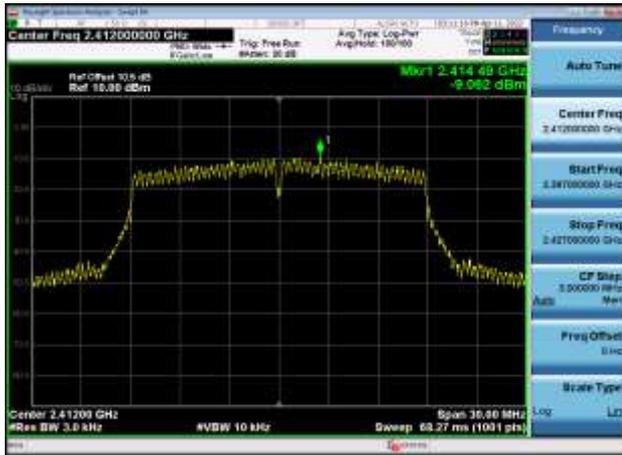
Power spectral density-802.11g  
,2437MHz,Ant0



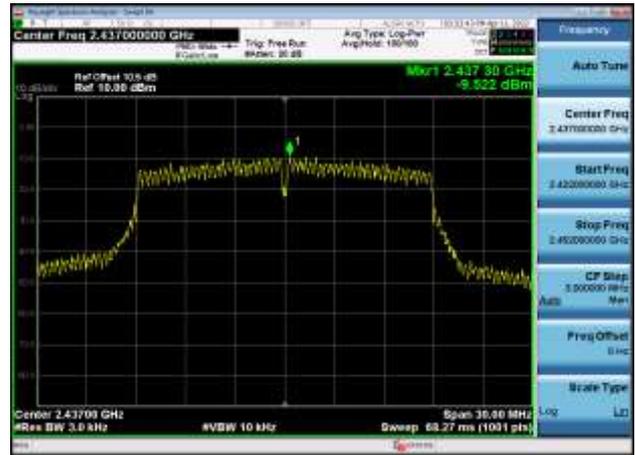
Power spectral density-802.11g  
,2462MHz,Ant0



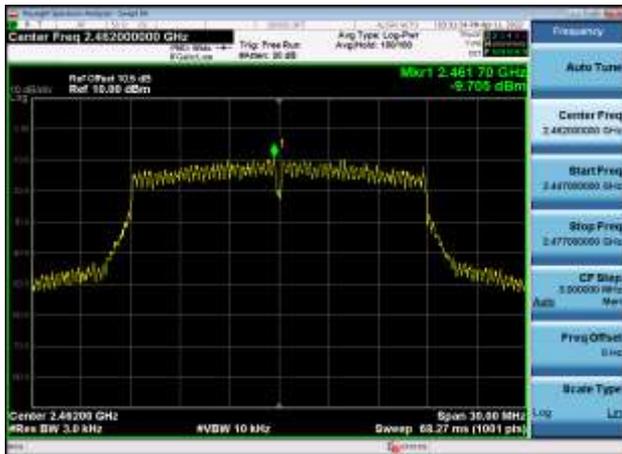
Power spectral density-802.11n(HT20)  
,2412MHz,Ant0



Power spectral density-802.11n(HT20)  
,2437MHz,Ant0



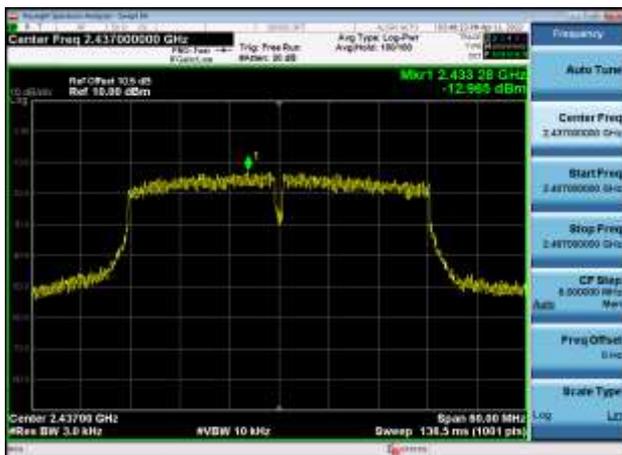
Power spectral density-802.11n(HT20)  
,2462MHz,Ant0



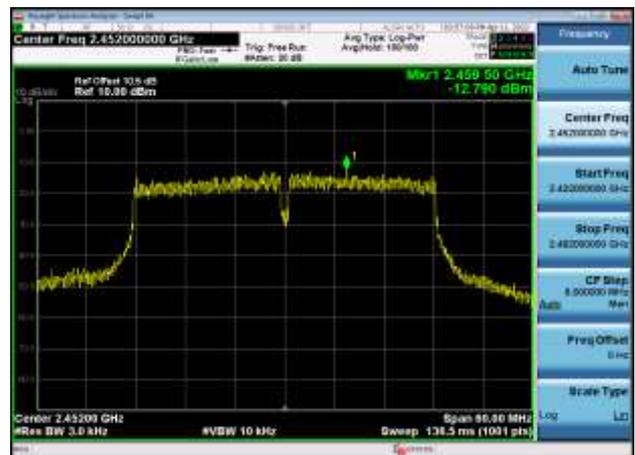
Power spectral density-802.11n(HT40)  
,2422MHz,Ant0



Power spectral density-802.11n(HT40)  
,2437MHz,Ant0



Power spectral density-802.11n(HT40)  
,2452MHz,Ant0



### Conducted Band Edges and Spurious Emissions Test Result and Data

,Plot 1,Reference Level-802.11b  
,2412MHz,Ant0



,Plot 1,Reference Level-802.11b  
,2437MHz,Ant0



,Plot 1,Reference Level-802.11b  
,2462MHz,Ant0



,Plot 2,Band Edge-802.11b,2412MHz  
,Ant0



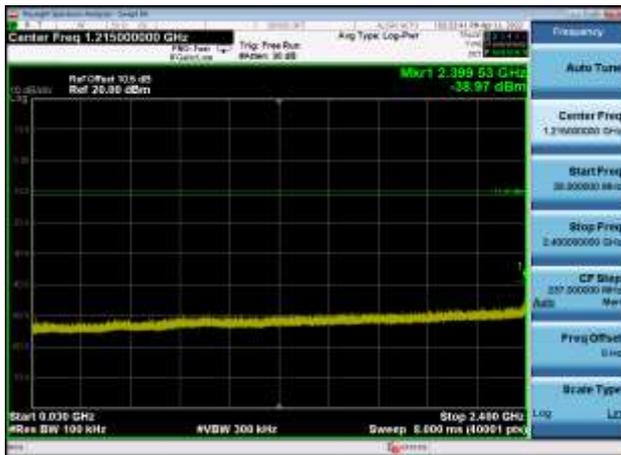
,Plot 2,Band Edge-802.11b,2437MHz  
,Ant0



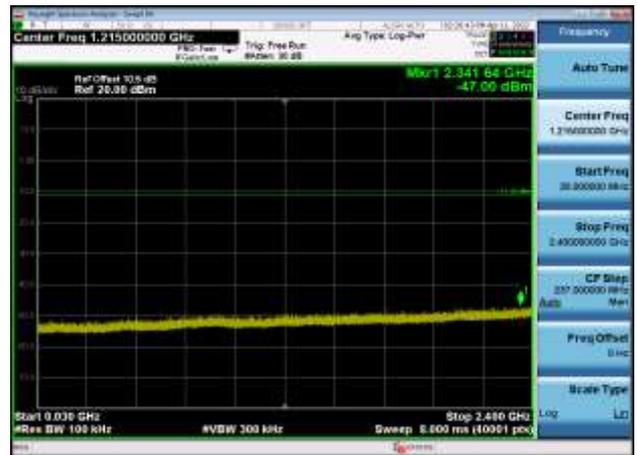
,Plot 2,Band Edge-802.11b,2462MHz  
,Ant0



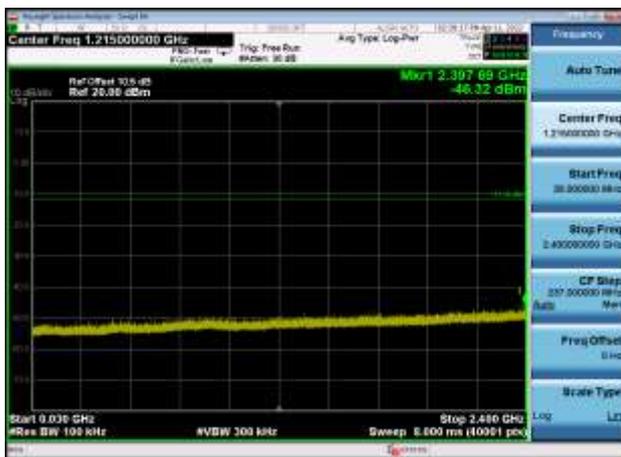
,Plot 3,30MHz~2400MHz-802.11b,2412MHz  
,Ant0



,Plot 3,30MHz~2400MHz-802.11b,2437MHz  
,Ant0



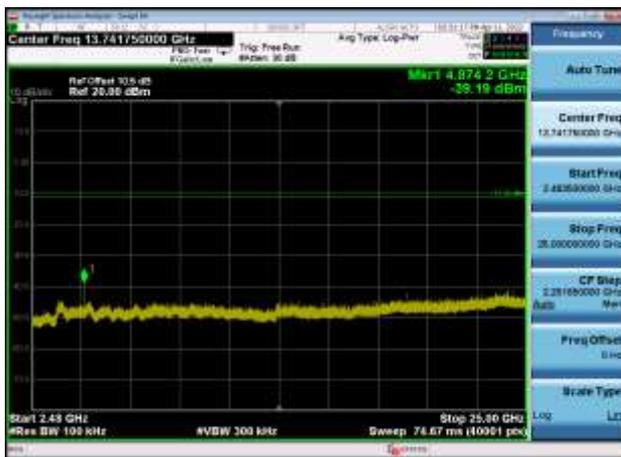
,Plot 3,30MHz~2400MHz-802.11b,2462MHz  
,Ant0



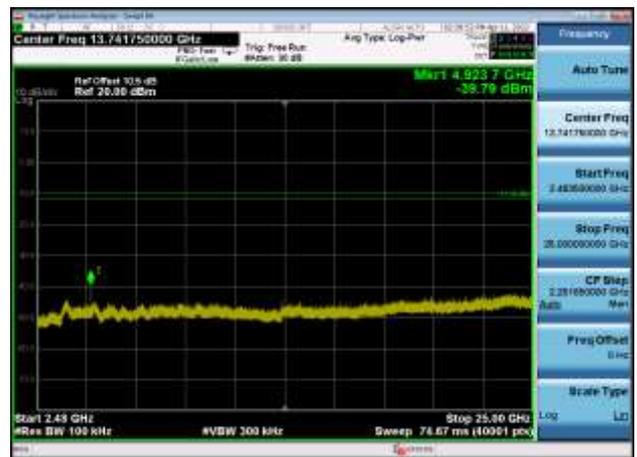
,Plot 4,2483.5MHz~25000MHz-802.11b  
,2412MHz,Ant0



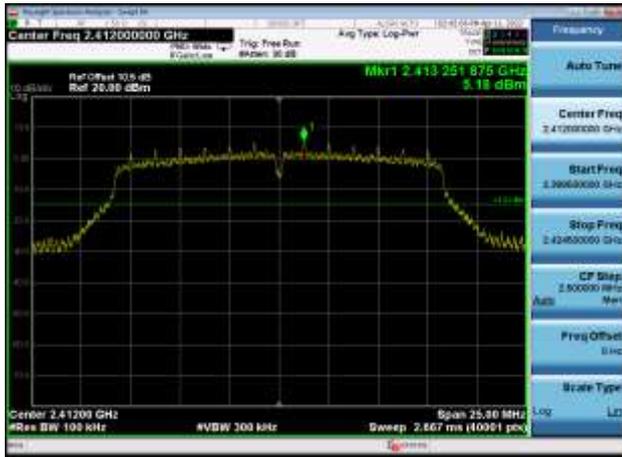
,Plot 4,2483.5MHz~25000MHz-802.11b  
,2437MHz,Ant0



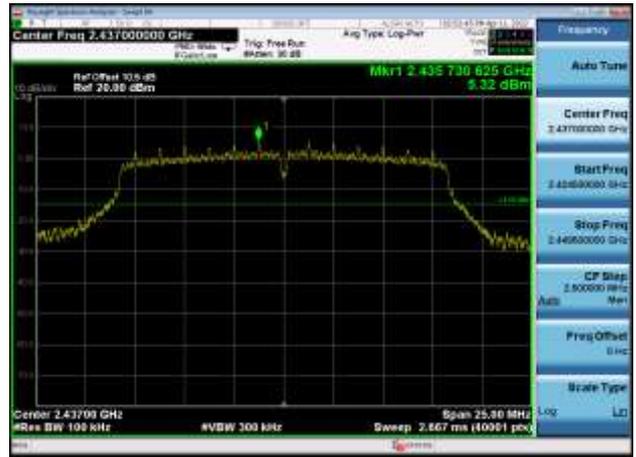
,Plot 4,2483.5MHz~25000MHz-802.11b  
,2462MHz,Ant0



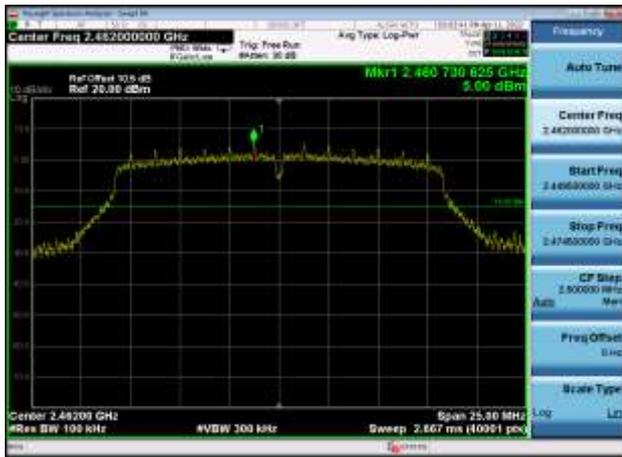
,Plot 1,Reference Level-802.11g  
,2412MHz,Ant0



,Plot 1,Reference Level-802.11g  
,2437MHz,Ant0



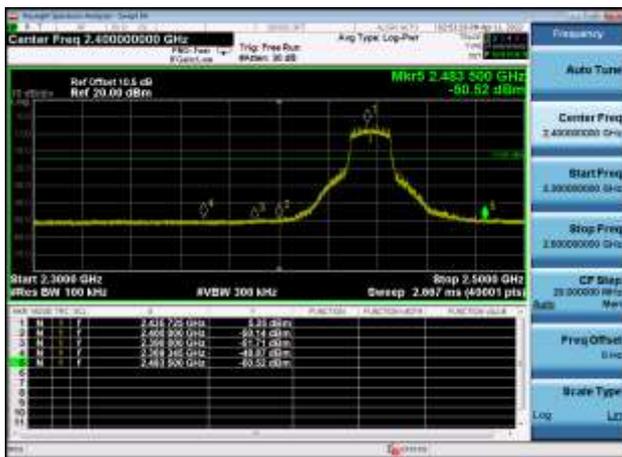
,Plot 1,Reference Level-802.11g  
,2462MHz,Ant0



,Plot 2,Band Edge-802.11g,2412MHz  
,Ant0



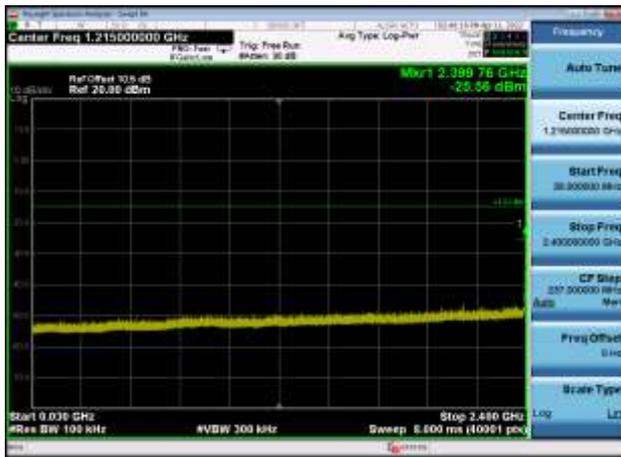
,Plot 2,Band Edge-802.11g,2437MHz  
,Ant0



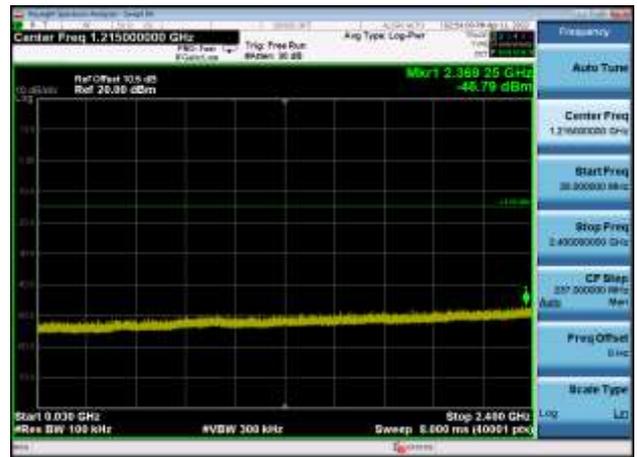
,Plot 2,Band Edge-802.11g,2462MHz  
,Ant0



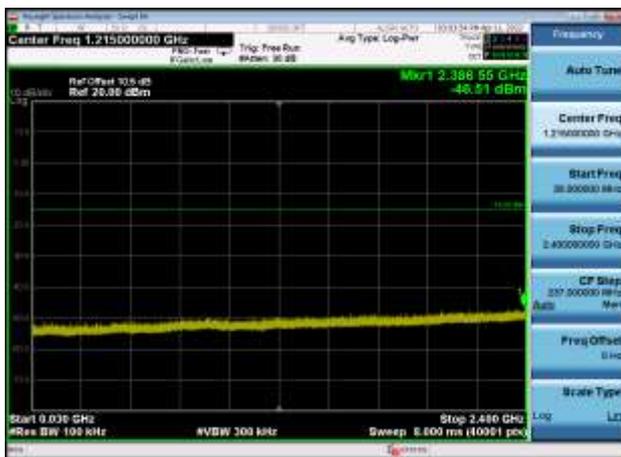
,Plot 3,30MHz~2400MHz-802.11g,2412MHz  
,Ant0



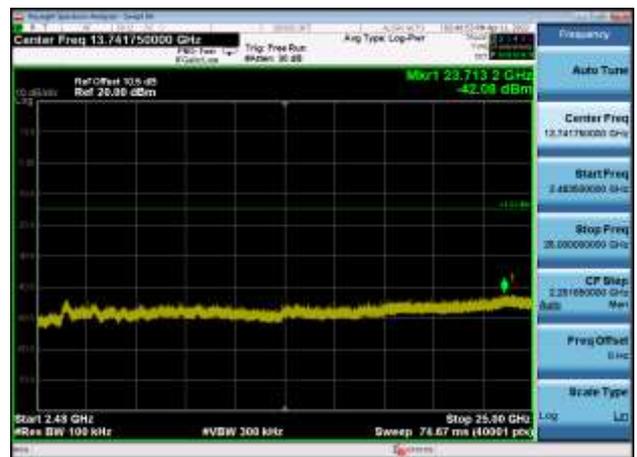
,Plot 3,30MHz~2400MHz-802.11g,2437MHz  
,Ant0



,Plot 3,30MHz~2400MHz-802.11g,2462MHz  
,Ant0



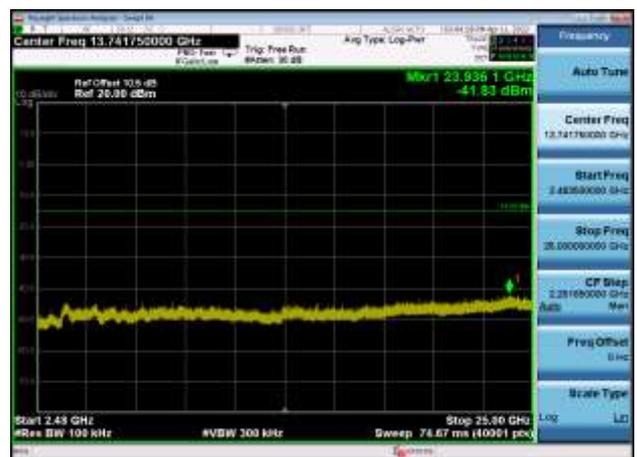
,Plot 4,2483.5MHz~25000MHz-802.11g  
,2412MHz,Ant0



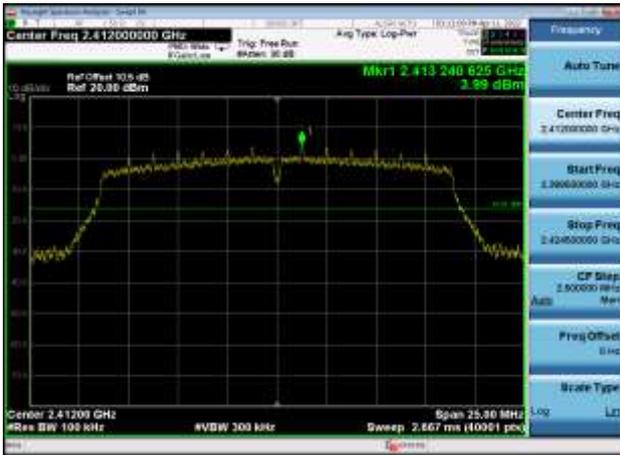
,Plot 4,2483.5MHz~25000MHz-802.11g  
,2437MHz,Ant0



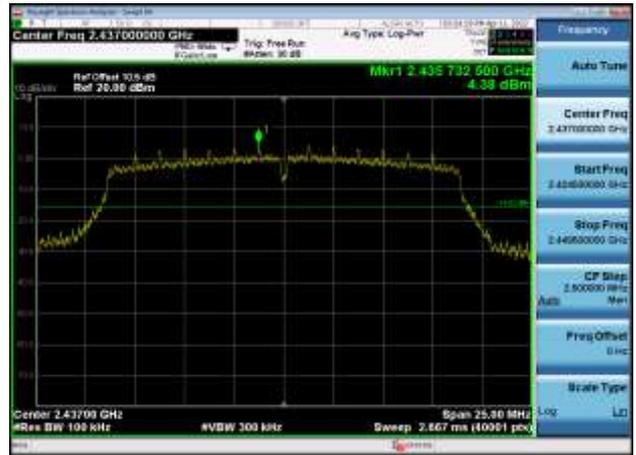
,Plot 4,2483.5MHz~25000MHz-802.11g  
,2462MHz,Ant0



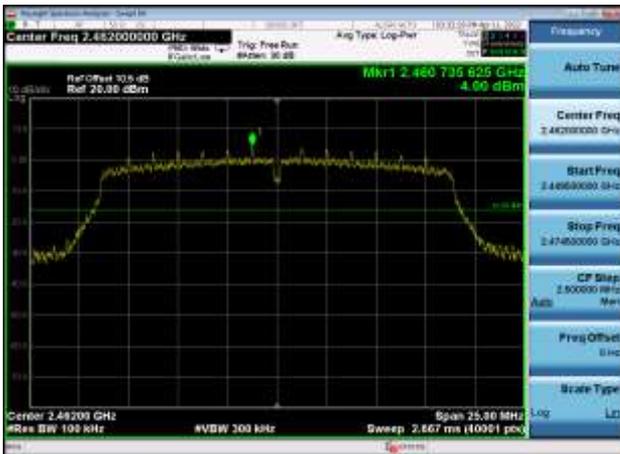
,Plot 1,Reference Level-802.11n(HT20)  
,2412MHz,Ant0



,Plot 1,Reference Level-802.11n(HT20)  
,2437MHz,Ant0



,Plot 1,Reference Level-802.11n(HT20)  
,2462MHz,Ant0



,Plot 2,Band Edge-802.11n(HT20)  
,2412MHz,Ant0



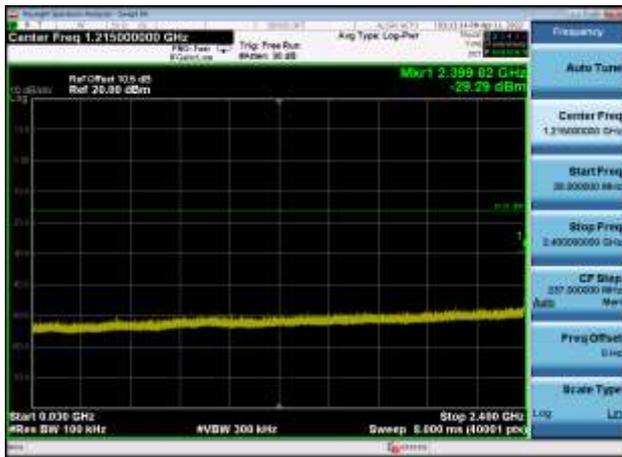
,Plot 2,Band Edge-802.11n(HT20)  
,2437MHz,Ant0



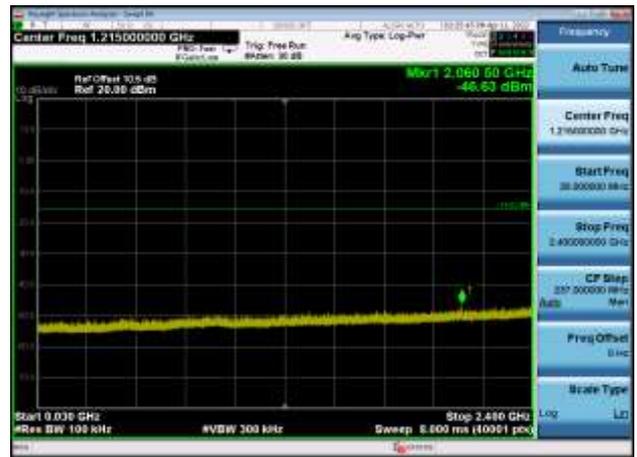
,Plot 2,Band Edge-802.11n(HT20)  
,2462MHz,Ant0



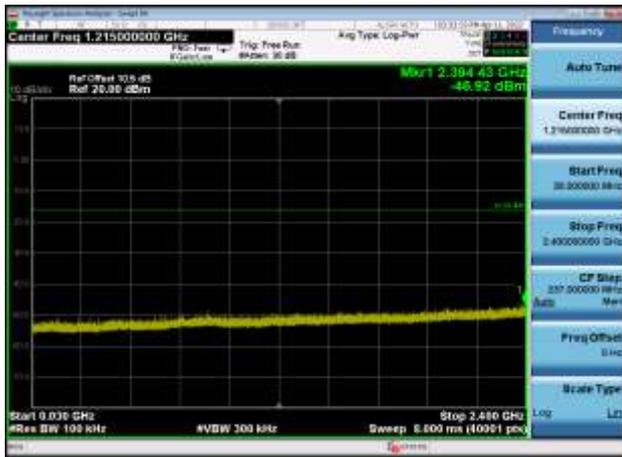
,Plot 3,30MHz~2400MHz-802.11n(HT20)  
,2412MHz,Ant0



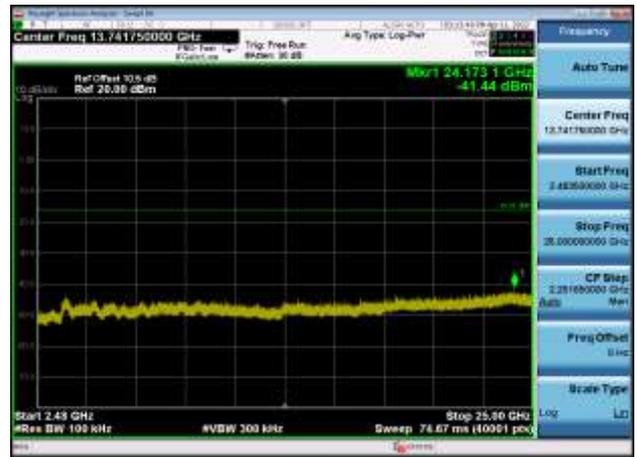
,Plot 3,30MHz~2400MHz-802.11n(HT20)  
,2437MHz,Ant0



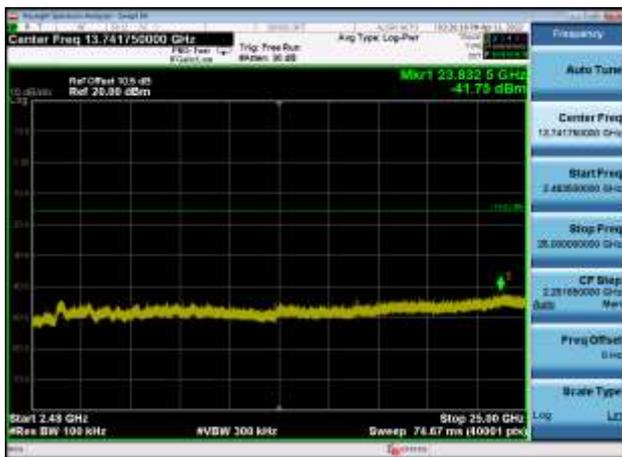
,Plot 3,30MHz~2400MHz-802.11n(HT20)  
,2462MHz,Ant0



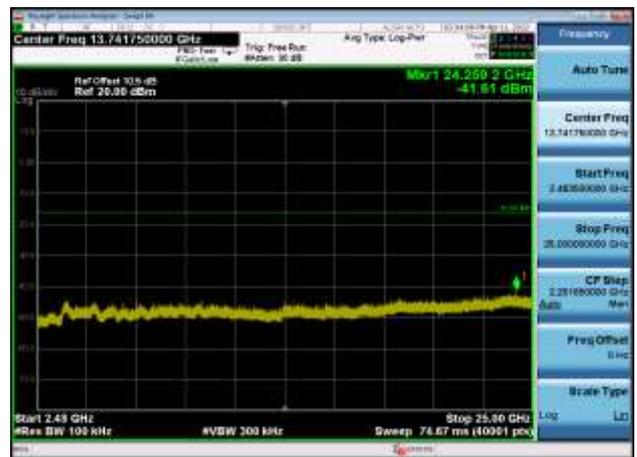
,Plot 4,2483.5MHz~25000MHz-802.11n(HT20),2412MHz,Ant0



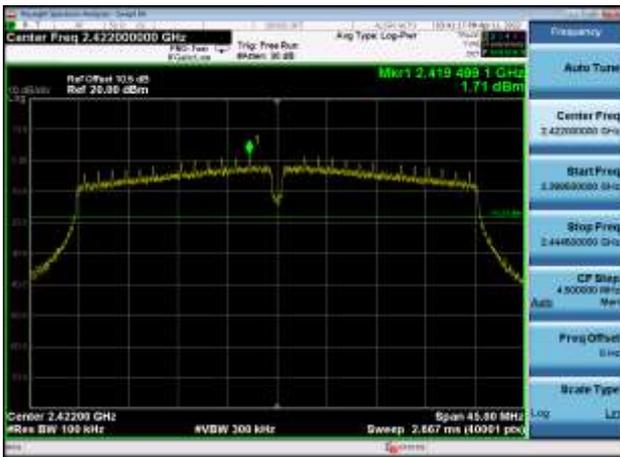
,Plot 4,2483.5MHz~25000MHz-802.11n(HT20),2437MHz,Ant0



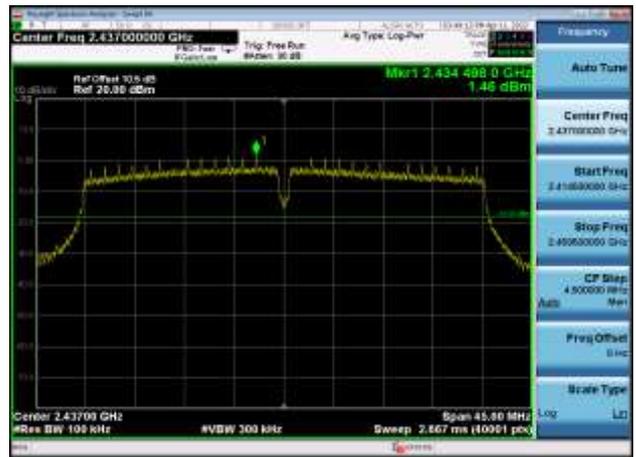
,Plot 4,2483.5MHz~25000MHz-802.11n(HT20),2462MHz,Ant0



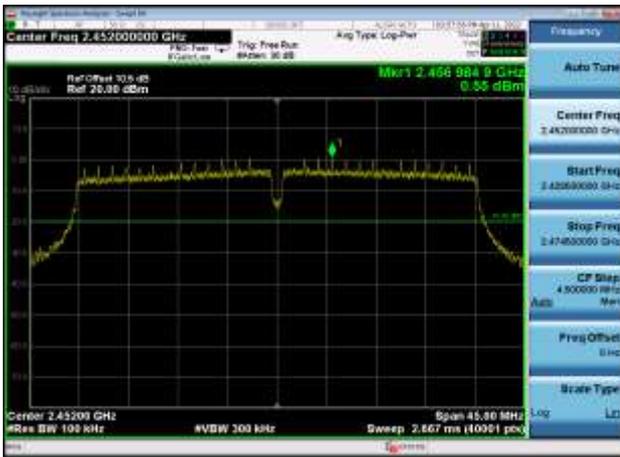
,Plot 1,Reference Level-802.11n(HT40)  
,2422MHz,Ant0



,Plot 1,Reference Level-802.11n(HT40)  
,2437MHz,Ant0



,Plot 1,Reference Level-802.11n(HT40)  
,2452MHz,Ant0



,Plot 2,Band Edge-802.11n(HT40)  
,2422MHz,Ant0



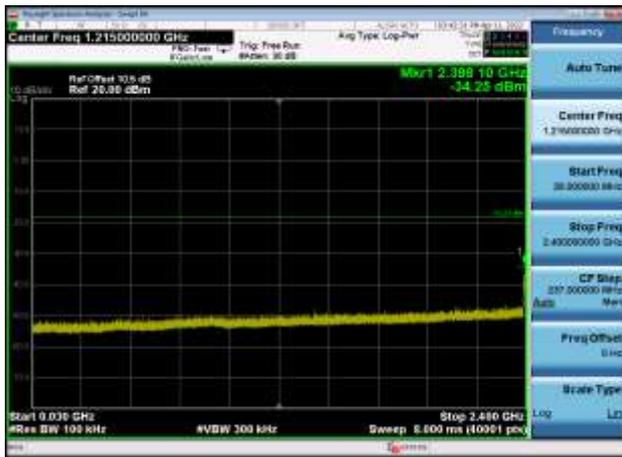
,Plot 2,Band Edge-802.11n(HT40)  
,2437MHz,Ant0



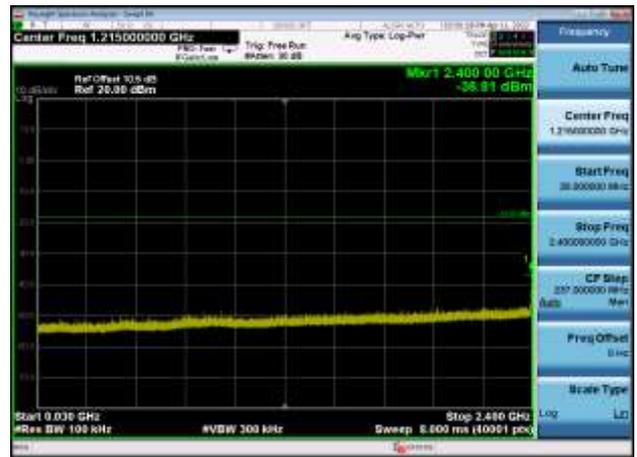
,Plot 2,Band Edge-802.11n(HT40)  
,2452MHz,Ant0



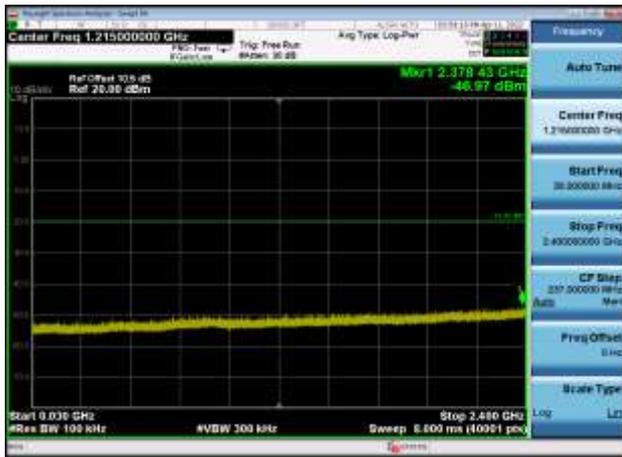
,Plot 3,30MHz~2400MHz-802.11n(HT40)  
,2422MHz,Ant0



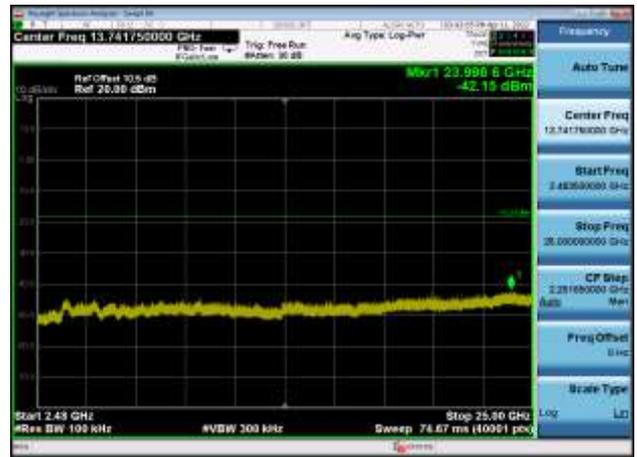
,Plot 3,30MHz~2400MHz-802.11n(HT40)  
,2437MHz,Ant0



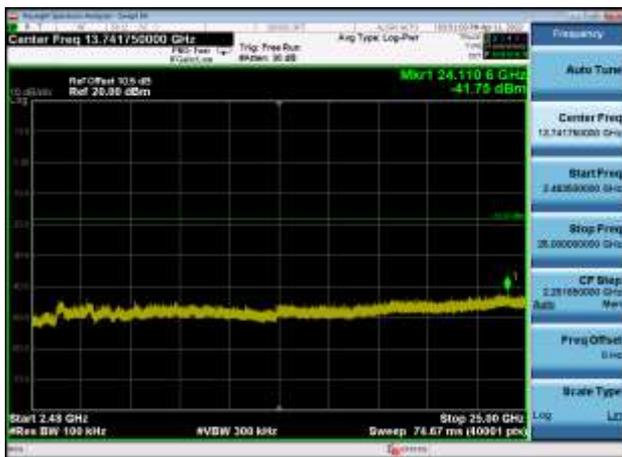
,Plot 3,30MHz~2400MHz-802.11n(HT40)  
,2452MHz,Ant0



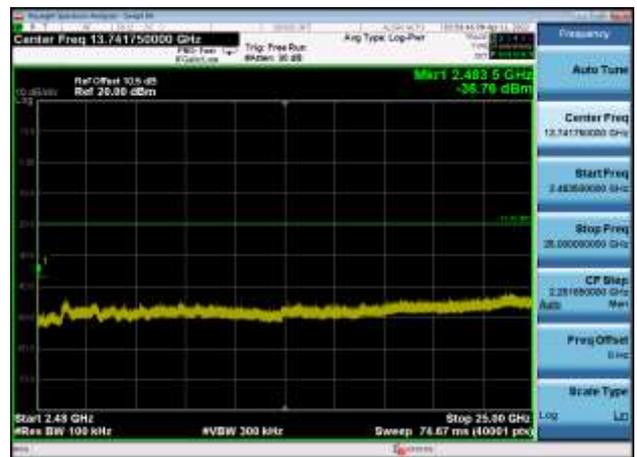
,Plot 4,2483.5MHz~25000MHz-802.11n(HT40),2422MHz,Ant0



,Plot 4,2483.5MHz~25000MHz-802.11n(HT40),2437MHz,Ant0



,Plot 4,2483.5MHz~25000MHz-802.11n(HT40),2452MHz,Ant0



\*\*END OF REPORT\*\*