

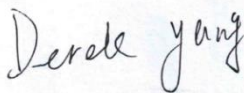
# FCC TEST REPORT

**Application No.:** ZR/2020/C0047  
**Applicant:** Sony Corporation  
**Address of Applicant:** 1-7-1 Konan Minato-ku Tokyo, 108-0075 Japan  
**Manufacturer:** Sony Corporation  
**Address of Manufacturer:** 1-7-1 Konan Minato-ku Tokyo, 108-0075 Japan  
**EUT Description:** GSM/WCDMA/LTE Phone with BT, DTS/UNII a/b/g/n/ac, GPS and NFC  
**Model No.:** Sony  
**FCC ID:** PY7-63649Q  
**Standards:** 47 CFR FCC Part 2, Subpart J  
 47 CFR Part 15, Subpart C  
**Date of Receipt:** 2021/1/10  
**Date of Test:** 2021/1/10 to 2021/3/31  
**Date of Issue:** 2021/4/22

<b>Test Result :</b>	<b>PASS *</b>
----------------------	---------------

\* In the configuration tested, the EUT detailed in this report complied with the standards specified above.

Authorized Signature:





Derek Yang  
 Wireless Laboratory Manager



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# 1 Version

Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2021-04-07		Original
02		2021-04-22		Comment Revised

Authorized for issue by:	
Prepared By	 _____ (Dee Zheng) / Engineer
Checked By	 _____ (Jim Huang) / Reviewer



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## 2 Test Summary

Test Item	Test Requirement	Test Method	Result	Remark	Test Lab*
AC Power Line Conducted Emission	15.207	ANSI C63.10 2013	-	See Note	-
Duty Cycle	--	--	PASS	-	A
Conducted Output Power	15.247 (b)(3)	ANSI C63.10 2013	PASS	-	A
DTS (6 dB) Bandwidth & 99% Occupied Bandwidth	15.247 (a)(2)	ANSI C63.10 2013	-	See Note	-
Power Spectral Density	15.247 (e)	ANSI C63.10 2013	-	See Note	-
Band-edge for RF Conducted Emissions	15.247(d)	ANSI C63.10 2013	-	See Note	-
RF Conducted Spurious Emissions	15.247(d)	ANSI C63.10 2013	-	See Note	-
Radiated Spurious Emissions	15.247(d);15.205/15.209	ANSI C63.10 2013	PASS	-	B
Restricted bands around fundamental frequency (Radiated Emission)	15.247(d);15.205/15.209	ANSI C63.10 2013	PASS	-	B

Note: The RF circuit, output power level and antenna performance is the same in WLAN function across all two FCC ID PY7-54955X and PY7-63649Q, since the change, only verify RF output power and radiated spurious emission test data the worst mode was reported in this report.

**Remark :**

All test were performed by Lab A and B.

Parts of test items above were subcontracted to Lab B.

Lab A: SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

Lab B: SGS-CSTC STANDARDS TECHNICAL SERVICES (XI 'AN) CO., LTD.



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## Contents

1	Version .....	2
2	Test Summary .....	3
3	General Information .....	5
3.1	Details of Client .....	5
3.2	Test Location .....	5
3.3	Test Facility .....	6
3.4	General Description of EUT .....	7
3.5	Test Environment and Mode .....	8
3.6	Description of Support Units .....	8
4	Test results and Measurement Data .....	9
4.1	Antenna Requirement .....	9
4.2	Duty Cycle .....	10
4.2.1	Test Result .....	10
4.2.2	Test Graphs .....	11
4.3	Conducted Output Power .....	13
4.4	Radiated Spurious Emissions .....	14
4.4.1	Radiated emission below 1GHz .....	17
4.4.2	Transmitter emission above 1GHz .....	19
4.5	Restricted bands around fundamental frequency .....	21
4.5.1	Test Plots .....	24
5	Measurement Uncertainty (95% confidence levels, k=2) .....	26
6	Equipment List .....	27
7	Photographs - EUT Constructional Details .....	27



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### 3 General Information

#### 3.1 Details of Client

Applicant:	Sony Corporation
Address of Applicant	1-7-1 Konan Minato-ku Tokyo, 108-0075 Japan
Manufacturer:	Sony Corporation
Address of Manufacturer	1-7-1 Konan Minato-ku Tokyo, 108-0075 Japan

#### 3.2 Test Location

##### Lab A:

Company:	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch
Address:	No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China
Post code:	518057
Test engineer	Dee Zheng, Swing Hu

##### Lab B:

Company:	SGS-CSTC STANDARDS TECHNICAL SERVICES (XI 'AN) CO., LTD.
Address:	1/F, Unit D, Building 1, Kanghong Orange Technology Park, No.137, Keyuan 3rd Road, Fengdong New City, Xi'an, Shaanxi China
Post code:	710086
Test engineer	Leah Chen, Ken Liu, Andy Yao



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### 3.3 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

#### Lab A:

##### • A2LA (Certificate No. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

##### • VCCI

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

##### • FCC –Designation Number: CN1178

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

##### • Innovation, Science and Economic Development Canada

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.

#### Lab B:

##### A2LA (Certificate No. 4854.01)

SGS-CSTC STANDARDS TECHNICAL SERVICES (XI 'AN) CO., LTD. is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 4854.01.

**FCC Designation Number: CN1271.**



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### 3.4 General Description of EUT

EUT Description:	GSM/WCDMA/LTE Phone with BT, DTS/UNII a/b/g/n/ac, GPS and NFC
Trade Mark:	Sony
S/N:	005129ADNVM2
IEEE 802.11 WLAN Mode Supported	<input checked="" type="checkbox"/> 802.11B (20 MHz channel bandwidth), <input checked="" type="checkbox"/> 802.11G (20 MHz channel bandwidth) <input checked="" type="checkbox"/> 802.11N (20 MHz channel bandwidth), <input type="checkbox"/> 802.11N (40 MHz channel bandwidth)
Operation Frequency:	2400 MHz -2483.5MHz $f_c = 2407 \text{ MHz} + N * 5 \text{ MHz}$ , where: -fc = "Operating Frequency" in MHz, -N = "Channel Number" with the range from 1 to 11 for the 20 MHz channel bandwidth, or 3 to 9 for the 40 MHz channel bandwidth.
Type of Modulation:	IEEE for 802.11B: DSSS IEEE for 802.11G : OFDM IEEE for 802.11N(HT20) : OFDM
Sample Type:	<input checked="" type="checkbox"/> Portable Device, <input type="checkbox"/> Module
Antenna Type:	<input type="checkbox"/> External, <input checked="" type="checkbox"/> Integrated
Antenna Ports	<input checked="" type="checkbox"/> Ant 1, <input checked="" type="checkbox"/> Ant 2, <input type="checkbox"/> Ant 3
Smart System	<input checked="" type="checkbox"/> SISO (for 802.11B/G/N), <input checked="" type="checkbox"/> MIMO (for 802.11B/G/N): 2 Tx & 2 Rx, <input type="checkbox"/> Diversity (for 802.11B/G) : Tx & Rx
Antenna Gain:	2.0dBi(ANT1); -3.0dBi(ANT2);

#### Operation Frequency of each channel (802.11B/G/N HT20)

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



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**Remark:**

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Channel	Frequency for 802.11B/G/N (HT20)
The Lowest channel	2412MHz
The Middle channel	2437MHz
The Highest channel	2462MHz

### 3.5 Test Environment and Mode

Operating Environment:	
Temperature:	25.0 °C
Humidity:	50 % RH
Atmospheric Pressure:	101.30 KPa
Test mode:	
Modulation	Data Rate
802.11B	1Mbps
802.11G	6Mbps
802.11N HT20	MCS0

### 3.6 Description of Support Units

The EUT has been tested independent unit.



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## 4 Test results and Measurement Data

### 4.1 Antenna Requirement

<b>Standard requirement:</b>	47 CFR Part 15C Section 15.203 /247(c)
<p>15.203 requirement:          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, 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.</p> <p>15.247(b) (4) requirement:          The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.</p>	
<p>The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 2.0dBi.</p>	



## 4.2 Duty Cycle

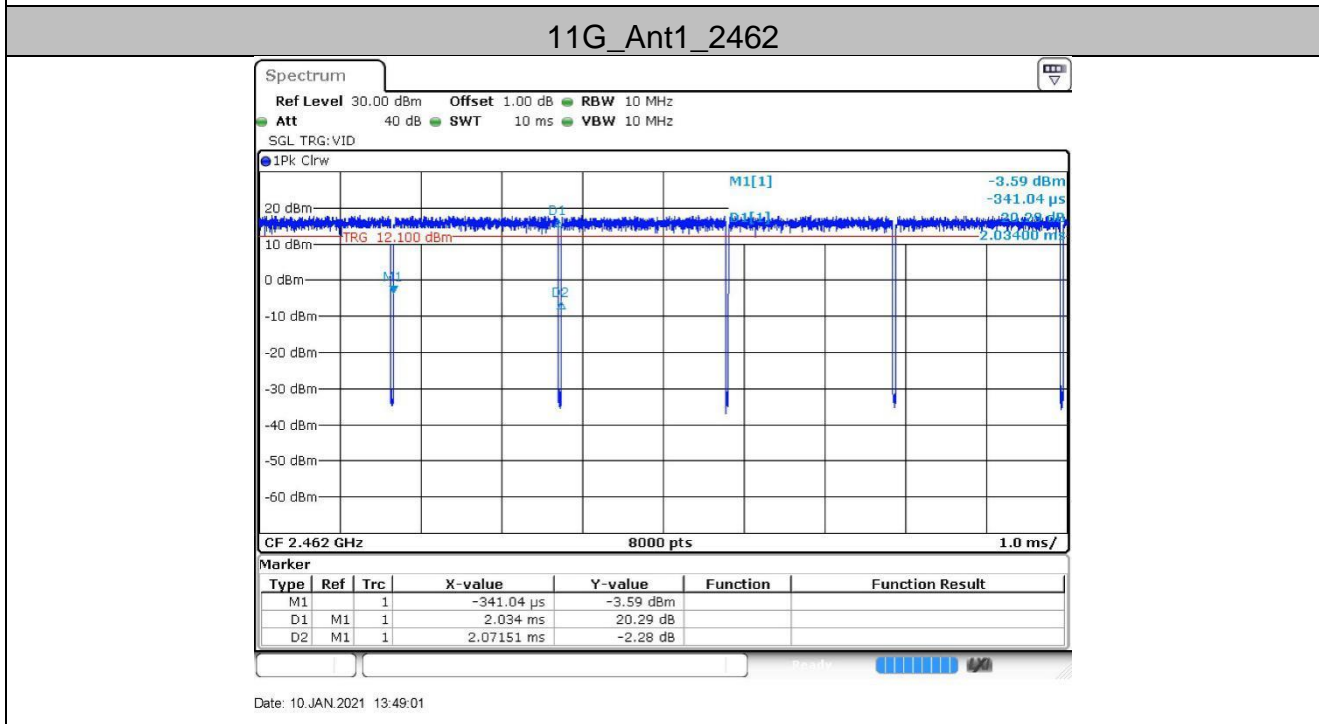
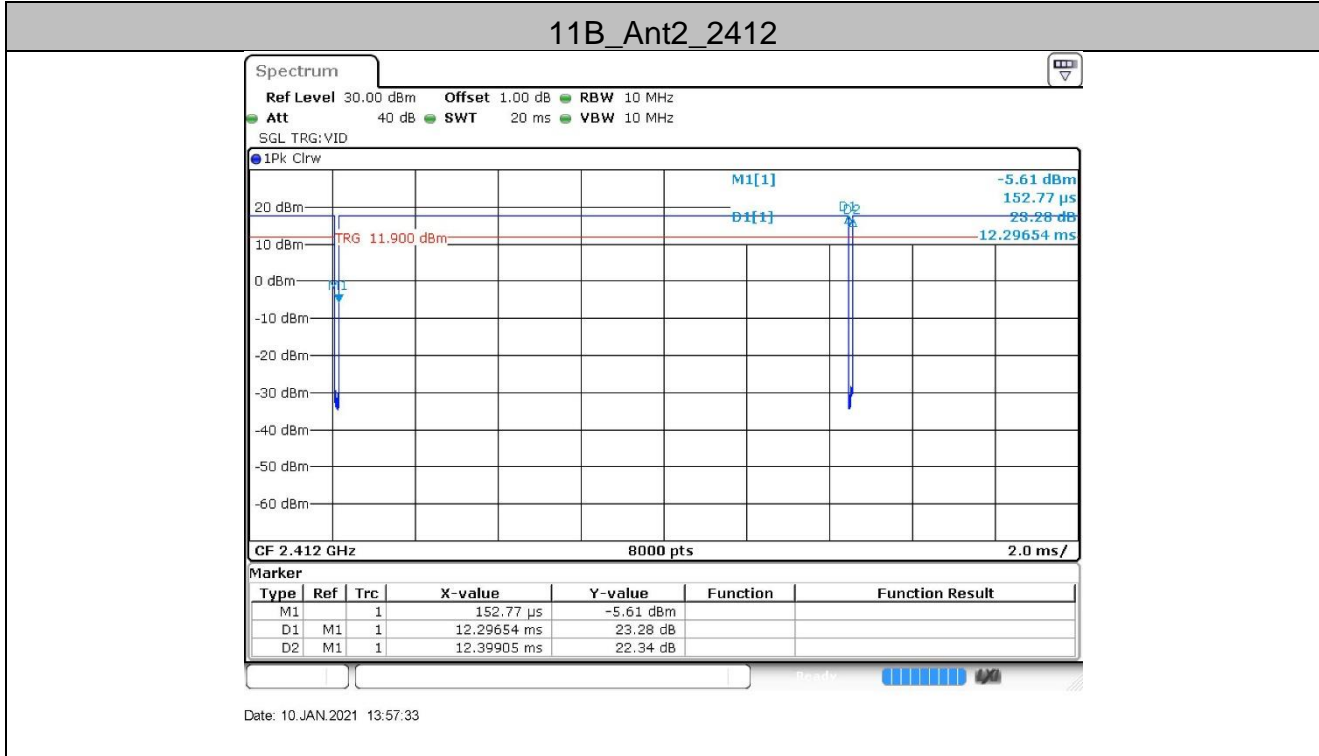
### 4.2.1 Test Result

TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Limit	Verdict
11B	Ant2	2412	12.30	12.40	99.19	---	PASS
11G	Ant1	2462	2.03	2.07	98.07	---	PASS
11N20SISO	Ant1	2412	1.90	1.93	98.45	---	PASS



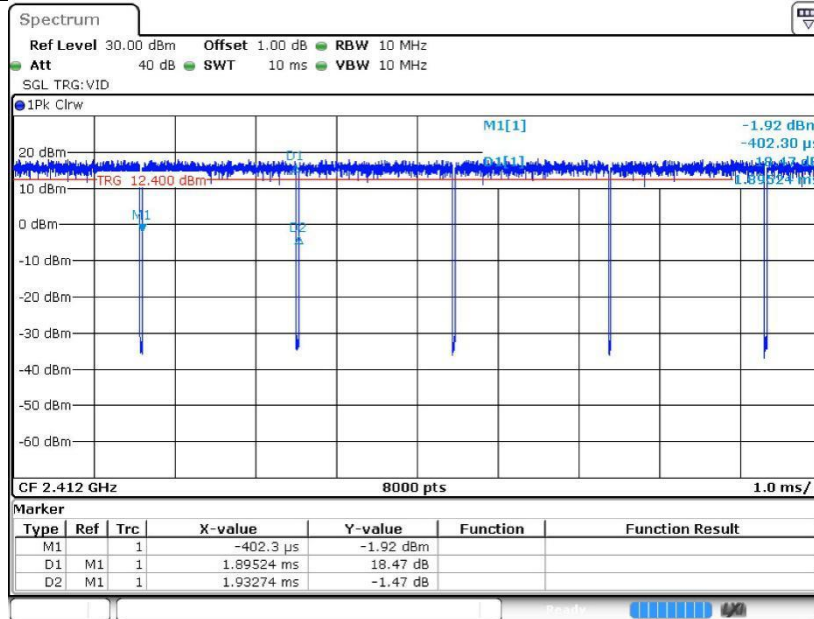
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### 4.2.2 Test Graphs



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### 11N20SISO\_Ant1\_2412

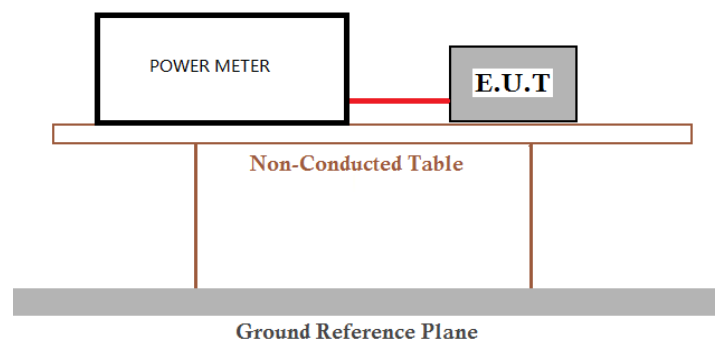


Date: 10.JAN.2021 13:50:44



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### 4.3 Conducted Output Power

Test Requirement:	47 CFR Part 15C Section 15.247 (b)(3)
Test Method:	ANSI C63.10 :2013 Section 11.9.1.3
Test Setup:	
Test Instruments:	Refer to section 5.10 for details
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates
Final Test Mode:	Through Pre-scan, find the 1Mbps of rate is the worst case of 802.11B; 6Mbps of rate is the worst case of 802.11G ; MCS0 of rate is the worst case of 802.11N(HT20);
Limit:	30dBm
Test Results:	Pass

The detailed test data see: **Appendix**



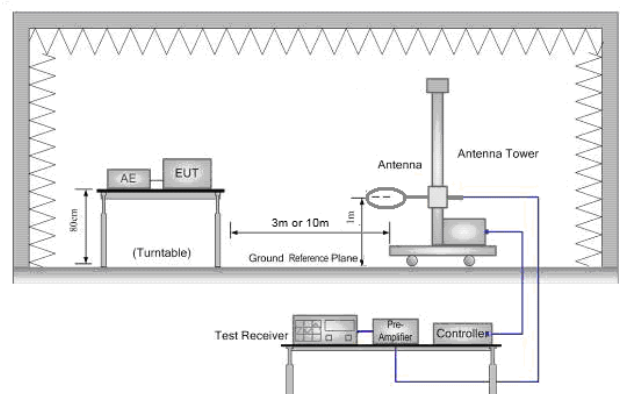
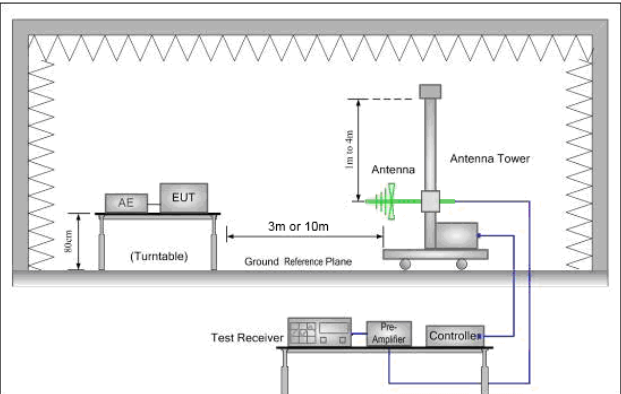
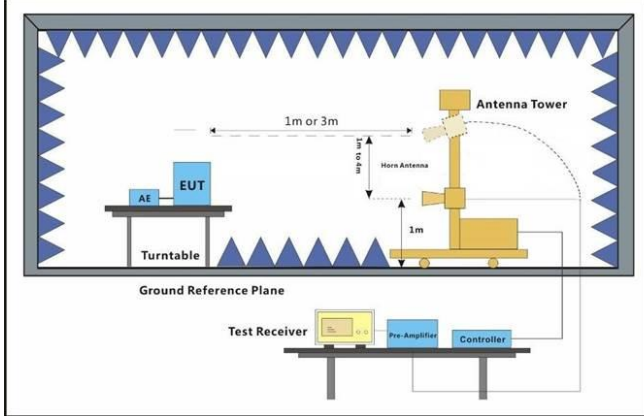
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#### 4.4 Radiated Spurious Emissions

Test Requirement:	47 CFR Part 15C Section 15.209 and 15.205				
Test Method:	ANSI C63.10 :2013 Section 11.12				
Test Site:	Measurement Distance: 3m or 10m (Semi-Anechoic Chamber)				
Limit:	Frequency	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
	0.009MHz-0.490MHz	2400/F(kHz)	-	-	300
	0.490MHz-1.705MHz	24000/F(kHz)	-	-	30
	1.705MHz-30MHz	30	-	-	30
	30MHz-88MHz	100	40.0	Quasi-peak	3
	88MHz-216MHz	150	43.5	Quasi-peak	3
	216MHz-960MHz	200	46.0	Quasi-peak	3
	960MHz-1GHz	500	54.0	Quasi-peak	3
	Above 1GHz	500	54.0	Average	3
	Remark: 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.				



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<p><b>Test Setup:</b></p>	
	
<p>Figure 1. Below 30MHz</p>	<p>Figure 2. 30MHz to 1GHz</p>
	
<p>Figure 3. Above 1 GHz</p>	
<p><b>Test Procedure:</b></p>	<ol style="list-style-type: none"> <li>For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.</li> <li>For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation</li> <li>The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</li> <li>The antenna height 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.</li> <li>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 (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.</li> <li>The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</li> <li>If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT</li> </ol>



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	<p>would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.</p> <p>h. Test the EUT in the lowest channel, the middle channel ,the Highest channel.</p> <p>i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, And found the X axis positioning which it is worse case.</p> <p>j. Repeat above procedures until all frequencies measured was complete.</p>
Test Configuration:	<p>Measurements Below 1000MHz</p> <ul style="list-style-type: none"> <li>• RBW = 120 kHz</li> <li>• VBW = 300 kHz</li> <li>• Detector = Peak</li> <li>• Trace mode = max hold</li> </ul> <p>Peak Measurements Above 1000 MHz</p> <ul style="list-style-type: none"> <li>• RBW = 1 MHz</li> <li>• VBW <math>\geq</math> 3 MHz</li> <li>• Detector = Peak</li> <li>• Sweep time = auto</li> <li>• Trace mode = max hold</li> </ul> <p>Average Measurements Above 1000MHz</p> <ul style="list-style-type: none"> <li>• RBW = 1 MHz</li> <li>• VBW = 10 Hz, when duty cycle is no less than 98 percent.</li> <li>• VBW <math>\geq</math> 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.</li> </ul> <p>k.</p>
Exploratory Test Mode:	<p>Transmitting with all kind of modulations, data rates.</p> <p>Charge + Transmitting mode.</p>
Final Test Mode:	<p>Pretest the EUT at Charge + Transmitting mode.</p> <p>Through Pre-scan, find the</p> <p>1Mbps of rate is the worst case of 802.11B;</p> <p>6Mbps of rate is the worst case of 802.11G;</p> <p>MCS0 of rate is the worst case of 802.11N(HT20);</p> <p>For below 1GHz, through Pre-scan, find the 1Mbps of rate of 802.11B at lowest channel is the worst case. Only the worst case is recorded in the report.</p>
Instruments Used:	Refer to section 5.10 for details
Test Results:	Pass
Remark:	The Emission Test is performed by the Lab B



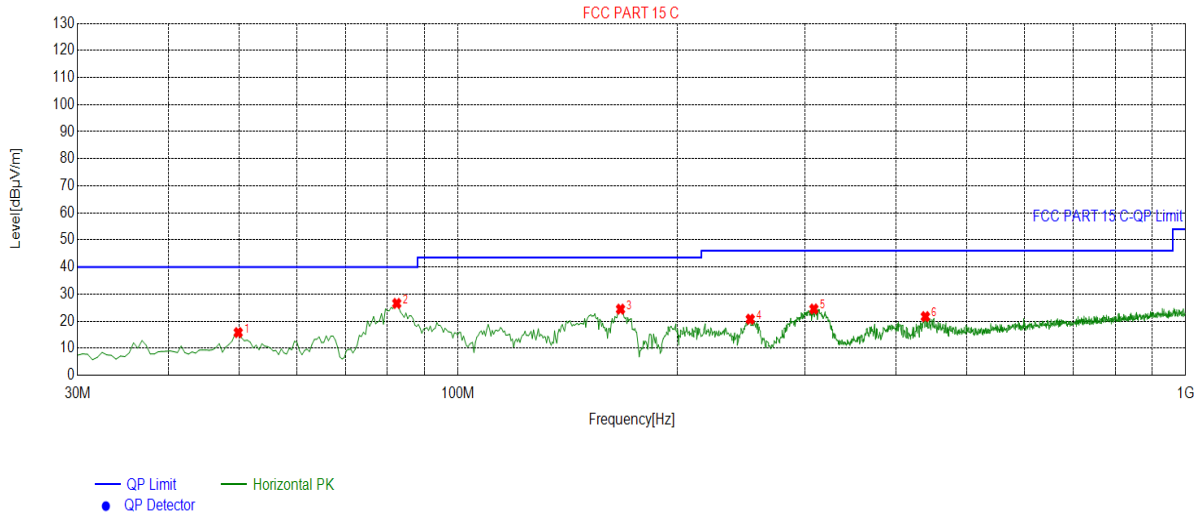
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**4.4.1 Radiated emission below 1GHz**

**4.4.1.1 Charge + Transmitting**  
**Test Graph**



**Suspected List**

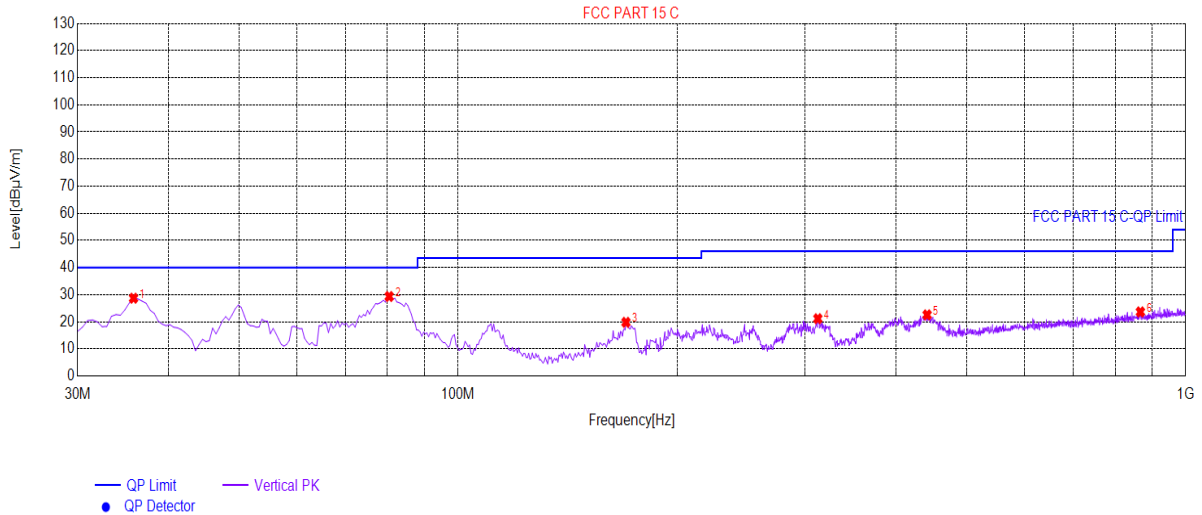
Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	49.8850	15.79	-28.32	40.00	24.21	241	274	Horizontal
2	82.3800	26.55	-33.73	40.00	13.45	236	300	Horizontal
3	167.255	24.43	-32.12	43.50	19.07	271	274	Horizontal
4	252.130	20.72	-27.06	46.00	25.28	274	96	Horizontal
5	308.390	24.49	-25.83	46.00	21.51	279	248	Horizontal
6	438.855	21.67	-22.68	46.00	24.33	336	134	Horizontal

**Final Data List**



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### Test Graph



### Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	35.8200	28.69	-30.34	40.00	11.31	247	315	Vertical
2	80.4400	29.32	-34.23	40.00	10.68	236	33	Vertical
3	170.165	19.81	-32.17	43.50	23.69	241	148	Vertical
4	312.270	21.15	-25.79	46.00	24.85	289	283	Vertical
5	441.280	22.56	-22.60	46.00	23.44	214	193	Vertical
6	866.625	23.65	-14.93	46.00	22.35	247	66	Vertical

### Final Data List

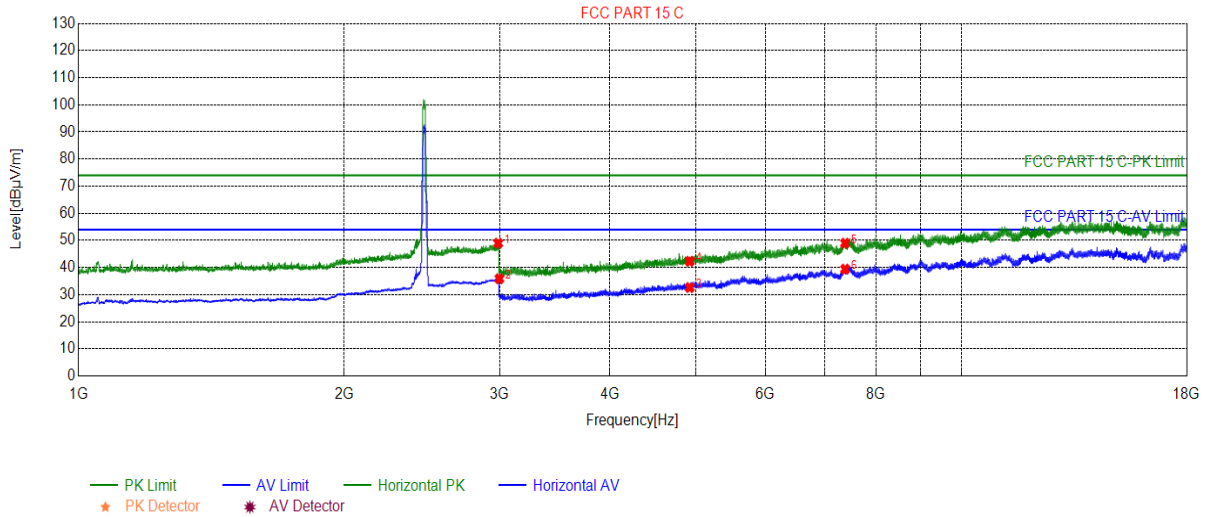


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### 4.4.2 Transmitter emission above 1GHz

#### 4.4.2.1 2.4G WIFI\_Channel 11

#### Test Graph



#### Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2987.99	48.97	10.50	74.00	25.03	157	39	Horizontal
2	2997.49	35.89	10.73	54.00	18.11	163	15	Horizontal
3	4924.00	32.63	-14.74	54.00	21.37	194	18	Horizontal
4	4924.00	42.29	-14.74	74.00	31.71	184	326	Horizontal
5	7386.00	48.98	-7.78	74.00	25.02	158	75	Horizontal
6	7386.00	39.42	-7.78	54.00	14.58	164	352	Horizontal

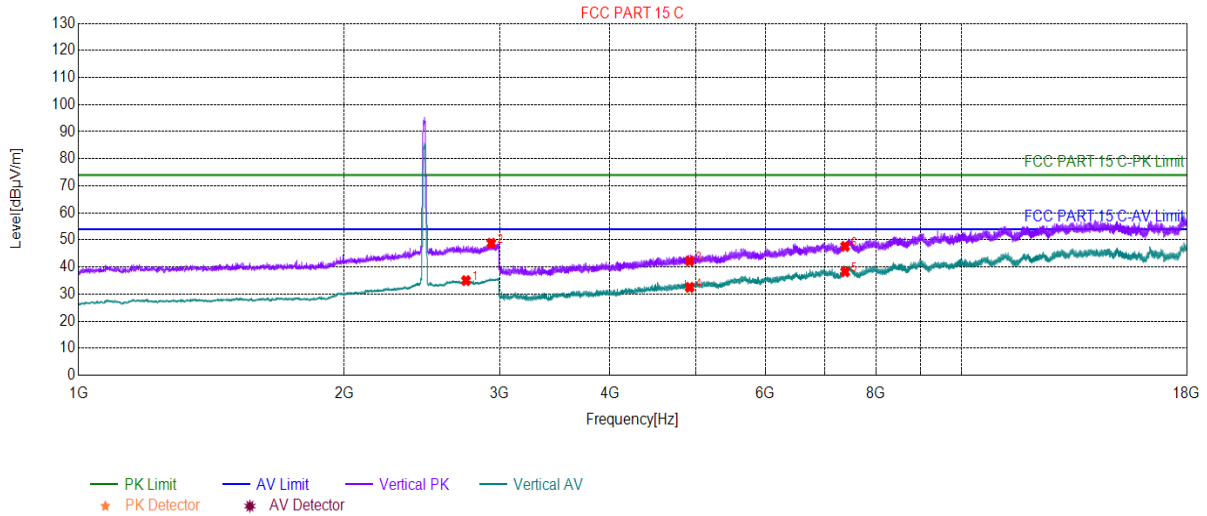
#### Final Data List



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**4.4.2.2 2.4G WIFI\_Channel 11**

**Test Graph**



**Suspected List**

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2747.43	34.99	9.52	54.00	19.01	224	73	Vertical
2	2934.98	48.78	10.53	74.00	25.22	224	140	Vertical
3	4924.00	42.26	-14.74	74.00	31.74	263	342	Vertical
4	4924.00	32.49	-14.74	54.00	21.51	241	236	Vertical
5	7386.00	38.25	-7.78	54.00	15.75	288	166	Vertical
6	7386.00	47.63	-7.78	74.00	26.37	247	105	Vertical

**Final Data List**

**Remark:**

- The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:  
 Final Test Level = Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor
- Scan from 9kHz to 25GHz, the disturbance between 9KHz to 30MHz and 18GHz to 25GHz was very low, and the above harmonics were the highest point could be found when testing, The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.
- As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. So, only the peak measurements were shown in the report.
- All Modes have been tested, but only the worst case data displayed in this report.



### 4.5 Restricted bands around fundamental frequency

Test Requirement:	47 CFR Part 15C Section 15.209 and 15.205		
Test Method:	ANSI C63.10: 2013 Section 11.12		
Test Site:	Measurement Distance: 3m or 10m (Semi-Anechoic Chamber)		
Limit:	Frequency	Limit (dBuV/m)	Remark
	30MHz-88MHz	40.0	Quasi-peak
	88MHz-216MHz	43.5	Quasi-peak
	216MHz-960MHz	46.0	Quasi-peak
	960MHz-1GHz	54.0	Quasi-peak
Above 1GHz		54.0	Average Value
		74.0	Peak Value
Test Setup:			

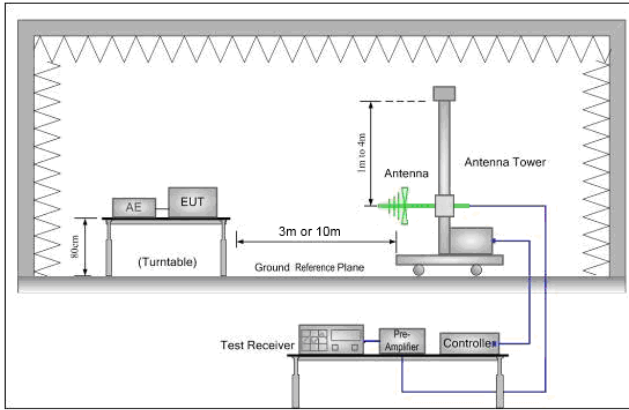


Figure 1. 30MHz to 1GHz

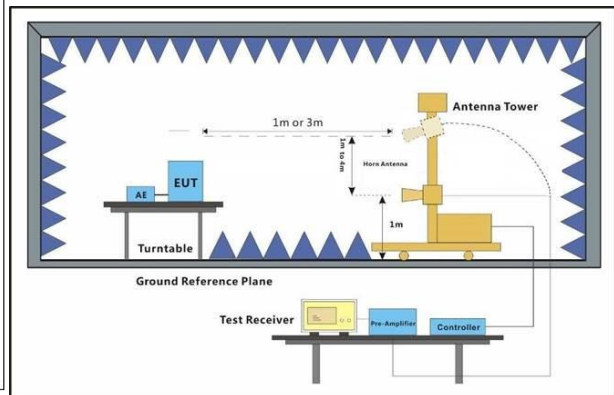


Figure 2. Above 1 GHz



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<p>Test Procedure:</p>	<ol style="list-style-type: none"> <li>a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.</li> <li>b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.</li> <li>c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</li> <li>d. The antenna height 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.</li> <li>e. 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.</li> <li>f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</li> <li>g. Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands. Save the spectrum analyzer plot. Repeat for each power and modulation for lowest and highest channel</li> <li>h. Test the EUT in the lowest channel , the Highest channel</li> <li>i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, And found the X axis positioning which it is worse case.</li> <li>j. Repeat above procedures until all frequencies measured was complete.</li> </ol>
<p>Test Configuration:</p>	<p>Measurements Below 1000MHz</p> <ul style="list-style-type: none"> <li>• RBW = 120 kHz</li> <li>• VBW = 300 kHz</li> <li>• Detector = Peak</li> <li>• Trace mode = max hold</li> </ul> <p>Peak Measurements Above 1000 MHz</p> <ul style="list-style-type: none"> <li>• RBW = 1 MHz</li> <li>• VBW ≥ 3 MHz</li> <li>• Detector = Peak</li> <li>• Sweep time = auto</li> <li>• Trace mode = max hold</li> </ul> <p>Average Measurements Above 1000MHz</p> <ul style="list-style-type: none"> <li>• RBW = 1 MHz</li> <li>• VBW = 10 Hz, when duty cycle is no less than 98 percent.</li> <li>• VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.</li> </ul>
<p>Exploratory Test Mode:</p>	<p>Transmitting with all kind of modulations, data rates.          Charge + Transmitting mode.</p>



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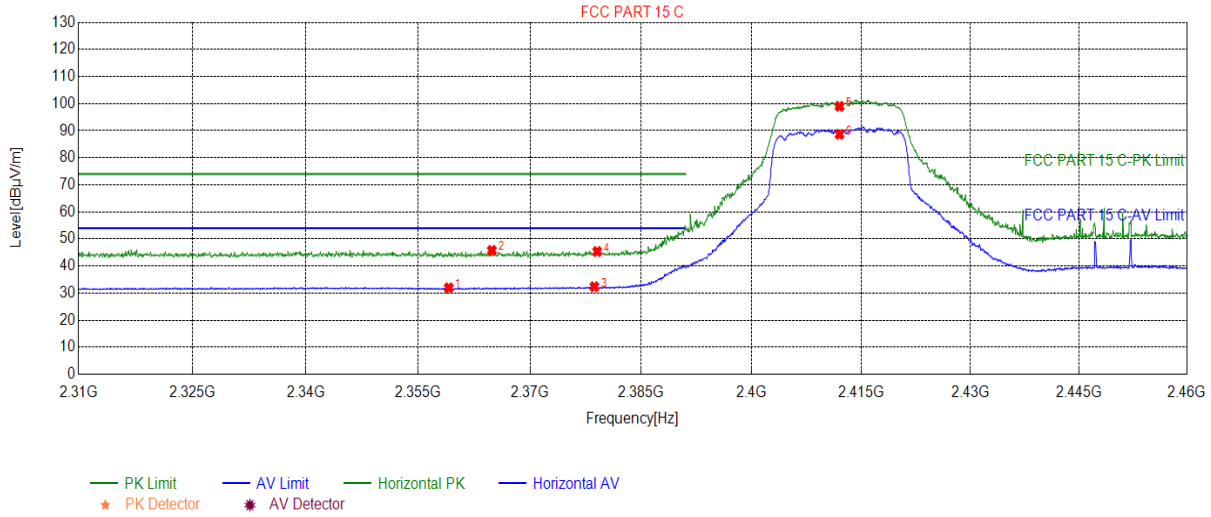
Final Test Mode:	Pretest the EUT at Charge + Transmitting mode. Through Pre-scan, find the 1Mbps of rate is the worst case of 802.11B; 6Mbps of rate is the worst case of 802.11G; MCS0 of rate is the worst case of 802.11N(HT20); Only the worst case is recorded in the report.
Instruments Used:	Refer to section 5.10 for details
Test Results:	Pass
Remark:	The Emission Test is performed by the Lab B



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**4.5.1 Test Plots**  
**4.5.1.1 11N20\_Channel 1**

**Test Graph**



**Suspected List**

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2359.07	31.93	7.57	54.00	22.07	152	246	Horizontal
2	2364.85	45.77	7.62	74.00	28.23	163	321	Horizontal
3	2378.65	32.37	7.83	54.00	21.63	174	137	Horizontal
4	2379.03	45.36	7.84	74.00	28.64	189	3	Horizontal
5	2412.00	99.00	8.29	0.00	-99.00	159	167	Horizontal
6	2412.00	88.65	8.29	0.00	-88.65	162	171	Horizontal

**Final Data List**

Final Data List								
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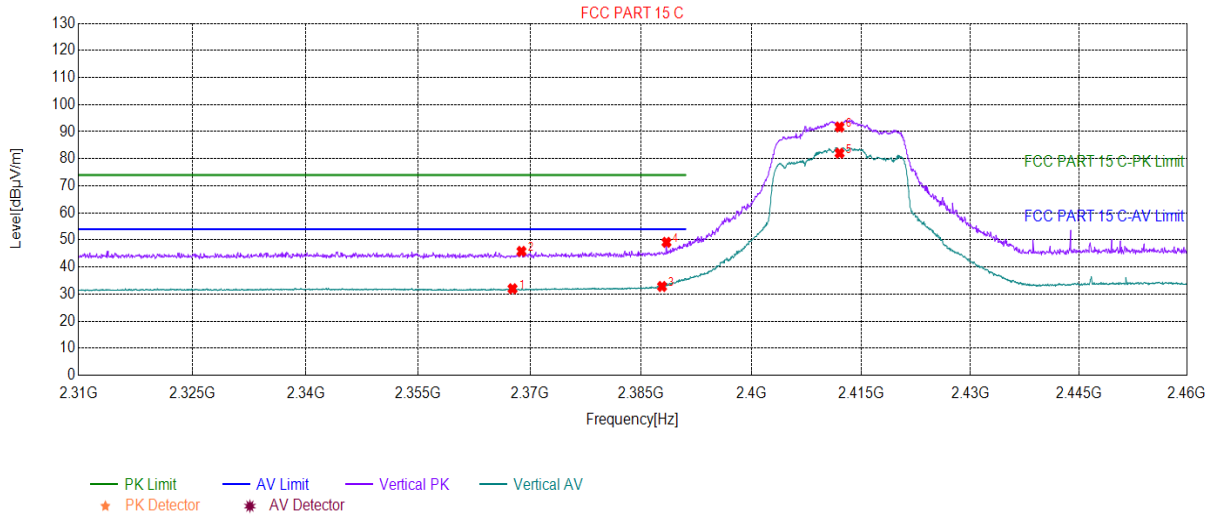


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**4.5.1.2 11N20\_Channel 1**

**Test Graph**



**Suspected List**

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2367.62	31.97	7.66	54.00	22.03	212	358	Vertical
2	2368.82	45.78	7.67	74.00	28.22	223	86	Vertical
3	2387.81	32.82	8.10	54.00	21.18	263	27	Vertical
4	2388.41	49.13	8.12	74.00	24.87	241	296	Vertical
5	2412.00	82.06	8.29	0.00	-82.06	257	198	Vertical
6	2412.00	91.74	8.29	0.00	-91.74	246	194	Vertical

**Remark:**

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

$Final\ Test\ Level = Receiver\ Reading + Antenna\ Factor + Cable\ Factor - Preamplifier\ Factor$

All Modes have been tested, but only the worst case data displayed in this report.



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## 5 Measurement Uncertainty (95% confidence levels, k=2)

Lab A:

No.	Item	Measurement Uncertainty
1	Total RF power, conducted	±0.41dB
2	Duty Cycle	±0.49%

Lab B:

No.	Item	Measurement Uncertainty
1	Conduction Emission	± 3.0dB (150kHz to 30MHz)
2	Radiated Emission	± 4.8dB (Below 1GHz)
		± 4.8dB (1GHz to 6GHz)
		± 4.5dB (6GHz to 18GHz)
		± 5.02dB (Above 18GHz)



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## 6 Equipment List

RF conducted					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Date (yyyy-mm-dd)	Cal. Due date (yyyy-mm-dd)
Signal Analyzer	Rohde & Schwarz	FSV	W025-05	2020/4/16	2021/4/15
DC Power Supply	Rohde & Schwarz	HMP2020	W009-08	2020/7/15	2021/7/15
Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2020/7/14	2021/7/13
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	HTC-1	W006-17	2020/4/21	2021/4/20

RSE Test System					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Semi-Anechoic Chamber	Brilliant-emc	N/A	XAW03-35-01	2019-09-11	2022-09-10
MXA signal analyzer	Keysight	N9020A	XAW01-06-01	2020-04-02	2021-04-01
Test receiver	ROHDE&SCHWARZ	ESR	XAW01-08-01	2020-09-11	2021-09-10
Receiving antenna (30MHz-3GHz)	Schwarzbeck	VULB 9163	XAW01-09-01	2019-10-13	2021-10-12
Receiving antenna (1GHz~18GHz)	Schwarzbeck	BBHA 9120D	XAW01-09-02	2019-10-13	2021-10-12
Receiving antenna (15GHz~40GHz)	Schwarzbeck	BBHA 9170	XAW01-09-03	2019-10-13	2021-10-12
Directional antenna rack controller	Max-Full	MF-7802BS	XAW03-03-01	NCR	NCR
High-speed antenna rack controller	Max-Full	MF-7802	XAW03-04-01	NCR	NCR
Filter bank	Tonscend	JS0806-F	XAW03-05-01	NCR	NCR
Filter bank	Tonscend	JS0806s	XAW03-05-02	NCR	NCR
Amplifier	Tonscend	TAP00903040	XAW01-41-01	2020-10-26	2021-10-25
Amplifier	Tonscend	TAP01018048	XAW01-41-02	2020-10-26	2021-10-25
Amplifier	Tonscend	TAP18040048	XAW01-41-03	2020-10-27	2021-10-26
Amplifier	Shanghai Steed	YX28980930	XAW01-41-06	2020-10-26	2021-10-25
Temperature and humidity meter	MingGao	TH101B	XAW01-01-01	2020-11-06	2021-11-05
Measurement Software	Tonscend	TS+ RSE V3.0.0.2	XAW02-05-01	NCR	NCR



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## 7 Photographs - EUT Constructional Details

Refer to Appendix A PCE&NII&DTS&DSS Setup Photos.



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# Appendix



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**Maximum conducted output power**  
**Test Result**

TestMode	Antenna	Channel	Result[dBm]	Verdict
11B	Ant2	2412	15.55	PASS

The End



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