



**FCC 47 CFR PART 15 SUBPART C  
ISED RSS-247 ISSUE 2**

**CERTIFICATION TEST REPORT**

*For*

**Communication Module**

**MODEL NUMBER: LBEE6ZZ1FD**

**FCC ID: VPYLB1FD  
IC: 772C-LB1FD**

**REPORT NUMBER: 4788224831-3**

**ISSUE DATE: Feb. 10, 2018**

*Prepared for*

**Murata Manufacturing Co.,Ltd.**

*Prepared by*

**UL Verification Services (Guangzhou) Co., Ltd, Song Shan Lake Branch  
Room 101, Building 10, Innovation Technology Park,  
Song Shan Lake Hi tech Development Zone, Dongguan, 523808, China  
Tel: +86 769 33817100  
Fax: +86 769 33244054  
Website: [www.ul.com](http://www.ul.com)**

Revision History

Rev.	Issue Date	Revisions	Revised By
--	02/11/2018	Initial Issue	

## TABLE OF CONTENTS

<b>1. ATTESTATION OF TEST RESULTS .....</b>	<b>4</b>
<b>2. TEST METHODOLOGY .....</b>	<b>6</b>
<b>3. FACILITIES AND ACCREDITATION .....</b>	<b>6</b>
<b>4. CALIBRATION AND UNCERTAINTY .....</b>	<b>7</b>
4.1. MEASURING INSTRUMENT CALIBRATION .....	7
4.2. MEASUREMENT UNCERTAINTY.....	7
<b>5. EQUIPMENT UNDER TEST .....</b>	<b>8</b>
5.1. DESCRIPTION OF EUT .....	8
5.2. MAXIMUM OUTPUT POWER.....	8
5.3. CHANNEL LIST .....	8
5.4. TEST CHANNEL CONFIGURATION.....	9
5.5. THE WORSE CASE POWER SETTING PARAMETER.....	9
5.6. DESCRIPTION OF AVAILABLE ANTENNAS .....	10
5.7. TEST ENVIRONMENT .....	11
5.8. DESCRIPTION OF TEST SETUP.....	12
5.9. MEASURING INSTRUMENT AND SOFTWARE USED.....	13
<b>6. RADIATED TEST RESULTS.....</b>	<b>14</b>
6.1. LIMITS AND PROCEDURE .....	14
6.2. RESTRICTED BANDEDGE .....	19
6.3. SPURIOUS EMISSIONS .....	32
6.4. SPURIOUS EMISSIONS 18G ~ 26GHz.....	50
6.5. SPURIOUS EMISSIONS 30M ~ 1GHz .....	56
6.6. SPURIOUS EMISSIONS BELOW 30M.....	58
<b>7. ANTENNA REQUIREMENTS.....</b>	<b>62</b>

## 1. ATTESTATION OF TEST RESULTS

### Applicant Information

Company Name: Murata Manufacturing Co.,Ltd.  
Address: 10-1,Higashikotari 1-chome,Nagaokakyo-shi,Kyoto  
617-8555,Japan

### Manufacturer Information

Company Name: Murata Manufacturing Co.,Ltd.  
Address: 10-1,Higashikotari 1-chome,Nagaokakyo-shi,Kyoto  
617-8555,Japan

### Factory Information

Company Name: Murata Manufacturing Co.,Ltd.  
Address: 10-1,Higashikotari 1-chome,Nagaokakyo-shi,Kyoto  
617-8555,Japan

### EUT Description

Product Name Communication Module  
Model Name LBEE6ZZ1FD  
Sample ID 1308669-001  
Sample Status Good  
Sample Received date Dec .7, 2017  
Date Tested Dec .10, 2017 ~ Feb. 10, 2018

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	PASS
ISED RSS-247 Issue 2	PASS
ISED RSS-GEN Issue 4	PASS

Summary of Test Results			
Clause	Test Items	FCC/IC Rules	Test Results
1	6db DTS Bandwidth and 99% Bandwidth	FCC 15.247 (a) (2) RSS-247 Clause 5.2 (a) RSS-Gen Clause 6.6	Note1
2	Peak Conducted Power	FCC 15.247 (b) (3) RSS-247 Clause 5.4 (e)	Note1
3	Power Spectral Density	FCC 15.247 (e) RSS-247 Clause 5.2 (b)	Note1
4	Conducted Band edge And Spurious emission	FCC 15.247 (d) RSS-247 Clause 5.5	Note1
5	Radiated Band edges and Spurious emission	FCC 15.247 (d) FCC 15.209 FCC 15.205 RSS-247 Clause 5.5 RSS-GEN Clause 8.9 RSS-GEN Clause 8.10	PASS
6	Conducted Emission Test For AC Power Port	FCC 15.207 RSS-GEN Clause 8.8	NA
7	Antenna Requirement	FCC 15.203 RSS-GEN Clause 8.3	Complied
Note: 1.For the test data, please refer to the report of the <b>FCC ID: VPYLB1FD</b> 2. "N/A" denotes test is not applicable in this Test Report 3:Duty cycle factor refer to the original report			

Tested By:

*kebo.zhang*

Kebo Zhang  
Engineer

Checked By:

*Shawn Wen*

Shawn Wen  
Laboratory Leader

Approved By:

*Stephen Guo*

Stephen Guo  
Laboratory Manager

## 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC KDB 558074 D01 DTS Meas Guidance v04, KDB414788 D01 Radiated Test Site v01, ANSI C63.10-2013, FCC CFR 47 Part 2, FCC CFR 47 Part 15, RSS-GEN Issue 4, and RSS-247 Issue 2.

## 3. FACILITIES AND ACCREDITATION

Test Location	UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch.
Address	Building 10, Innovation Technology Park, Song Shan Lake Hi tech Development Zone, Dongguan, 523808, China
Accreditation Certificate	UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing. The Certificate Registration Number is 4102.01. UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The Designation Number is CN1187. UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. EMC Laboratory has been registered and fully described in a report filed with Industry Canada. The Company Number is 21320.

Note: The test anechoic chamber in UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch had been calibrated and compared to the open field sites.

## 4. CALIBRATION AND UNCERTAINTY

### 4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

### 4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Test Item	Uncertainty
Uncertainty for Conduction emission test	2.90dB
Uncertainty for Radiation Emission test(include Fundamental emission) (9KHz-30MHz)	2.00dB
Uncertainty for Radiation Emission test(include Fundamental emission) (30MHz-1GHz)	4.52dB
Uncertainty for Radiation Emission test (1GHz to 26GHz)( include Fundamental emission)	5.04dB(1-6GHz)
	5.30dB (6GHz-18Gz)
	5.23dB (18GHz-26Gz)
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

## 5. EQUIPMENT UNDER TEST

### 5.1. DESCRIPTION OF EUT

Equipment	Communication Module
Model Name	LBEE6ZZ1FD
Operating Frequency:	IEEE 802.11b/g/n(HT20): 2412MHz to 2462MHz
Type of Modulation:	IEEE for 802.11b: DSSS (CCK, DQPSK, DBPSK) IEEE for 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE for 802.11n (HT20 ): OFDM (64QAM, 16QAM, QPSK, BPSK)
Channel Number:	IEEE 802.11b/g, IEEE 802.11n(HT20): 11 Channels
Channels Step:	Channels with 5MHz step
Sample Type:	Engineering Sample
Test power grade:	Refer to below table of Remark 1
Hardware Version	V1.0
Software Version	9.35.48.73

### 5.2. MAXIMUM OUTPUT POWER

Number of Transmit Chains (NTX)	IEE Std. 802.11	Frequency (MHz)	Channel Number	Max PK Conducted Power (dBm)
1	IEEE 802.11b	2412-2462	1-11[11]	21.72
1	IEEE 802.11g	2412-2462	1-11[11]	22.65
1	IEEE 802.11nHT20	2412-2462	1-11[11]	22.64

### 5.3. CHANNEL LIST

Channel List for 802.11b/g/n (20 MHz)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2412	3	2422	5	2432	7	2442
2	2417	4	2427	6	2437	8	2447
9	2452	10	2457	11	2462		



#### 5.4. TEST CHANNEL CONFIGURATION

Test Mode	Test Channel (MHz)
IEEE 802.11b	LCH :CH01 2412
	MCH: CH06 2437
	HCH: CH11 2462
IEEE 802.11g	LCH :CH01 2412
	MCH: CH06 2437
	HCH: CH11 2462
IEEE 802.11n HT20	LCH :CH01 2412
	MCH: CH06 2437
	HCH: CH11 2462

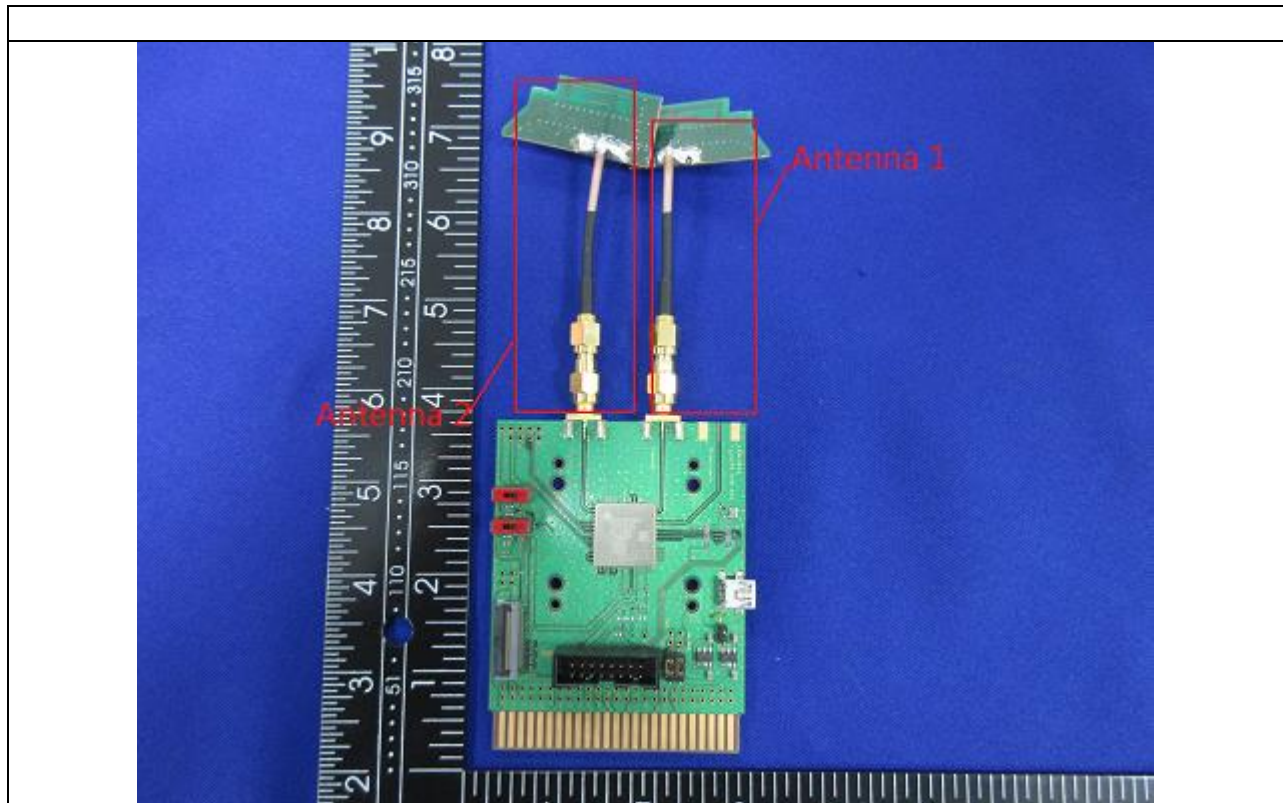
#### 5.5. THE WORSE CASE POWER SETTING PARAMETER

Test Software Version	Tera Term		
Test Mode	Test Channel	Setting TX Power	Setting data rate (Mbps)
IEEE 802.11b	LCH	60	CCK_1Mbps
	MCH	60	CCK_1Mbps
	HCH	60	CCK_1Mbps
IEEE 802.11g	LCH	48	NO HT_6Mbps
	MCH	48	NO HT_6Mbps
	HCH	48	NO HT_6Mbps
IEEE 802.11n HT20	LCH	44	HT20_MCS_0_20
	MCH	44	HT20_MCS_0_20
	HCH	44	HT20_MCS_0_20

## 5.6. DESCRIPTION OF AVAILABLE ANTENNAS

Ant.	Frequency (MHz)	Antenna Type	Antenna Gain (dBi)
1	2400-2483.5	PCB Antenna	1.0

Test Mode	Transmit and Receive Mode	Description
WIFI	<input checked="" type="checkbox"/> 1TX, 1RX	Antenna 1 can be used as transmitting/receiving antenna.



## 5.7. TEST ENVIRONMENT

Environment Parameter	Selected Values During Tests	
Relative Humidity	55 ~ 65%	
Atmospheric Pressure:	1025Pa	
Temperature	TN	23 ~ 28°C
Voltage :	VL	N/A
	VN	DC 3.60V
	VH	N/A

Note: VL= Lower Extreme Test Voltage  
VN= Nominal Voltage  
VH= Upper Extreme Test Voltage  
TN= Normal Temperature

## 5.8. DESCRIPTION OF TEST SETUP

### SUPPORT EQUIPMENT

Item	Equipment	Brand Name	Model Name	P/N
1	Laptop	ThinkPad	T410	N/A
2	Fixed Frequency Board	Supply by customer	N/A	N/A
3	Power Supply	Supply by UL EMC Lab	N/A	N/A

### I/O PORT

Cable No	Port	Connector Type	Cable Type	Cable Length(m)	Remarks
1	N/A	N/A	N/A	N/A	N/A

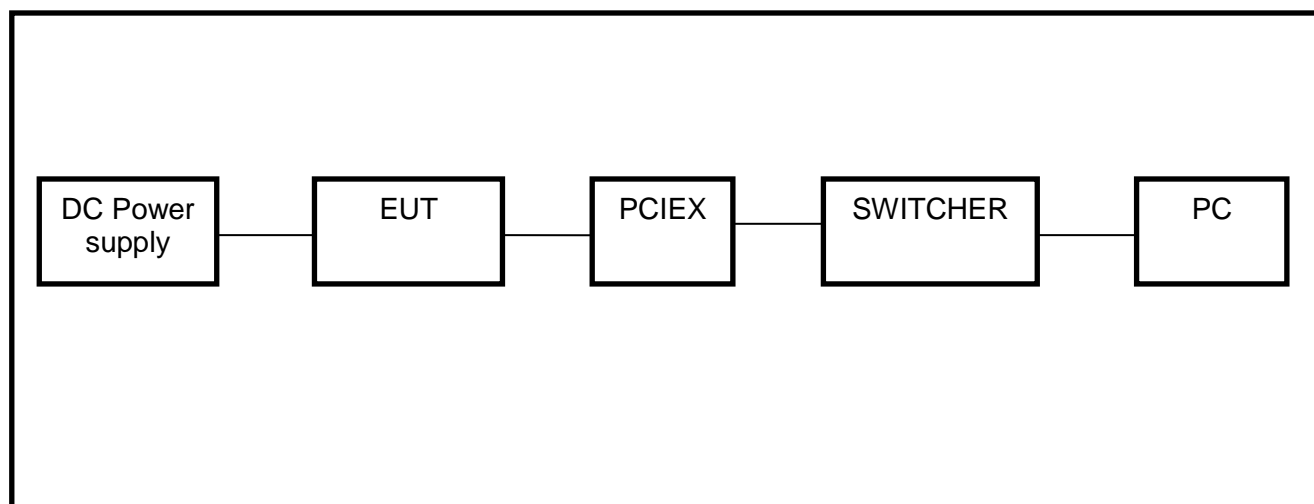
### ACCESSORY

Item	Accessory	Brand Name	Model Name	Description
1	N/A	N/A	N/A	N/A

### TEST SETUP

The EUT can work in an engineer mode with a software through a table PC.

### SETUP DIAGRAM FOR TESTS



## 5.9. MEASURING INSTRUMENT AND SOFTWARE USED

		Conducted Emissions					
Used	Equipment	Manufacturer	Model No.	Serial No.	Upper Last Cal.	Last Cal.	Next Cal.
<input checked="" type="checkbox"/>	EMI Test Receiver	R&S	ESR3	101961	Dec.20, 2016	Dec.12, 2017	Dec.11, 2018
<input checked="" type="checkbox"/>	Two-Line V-Network	R&S	ENV216	101983	Dec.20, 2016	Dec.12, 2017	Dec.11, 2018
<input checked="" type="checkbox"/>	Artificial Mains Networks	Schwarzbeck	NSLK 8126	8126465	Feb.10, 2017	Dec.12, 2017	Dec.11, 2018
		Software					
Used	Description		Manufacturer	Name		Version	
<input checked="" type="checkbox"/>	Test Software for Conducted disturbance		UL	Antenna port		Ver. 7.2	
		Radiated Emissions					
Used	Equipment	Manufacturer	Model No.	Serial No.	Upper Last Cal.	Last Cal.	Next Cal.
<input checked="" type="checkbox"/>	MXE EMI Receiver	KESIGHT	N9038A	MY56400036	Feb.24, 2017	Dec.12, 2017	Dec.11, 2018
<input checked="" type="checkbox"/>	Hybrid Log Periodic Antenna	TDK	HLP-3003C	130960	N/A	Jan.09, 2016	Jan.08, 2016
<input checked="" type="checkbox"/>	Preamplifier	HP	8447D	2944A09099	Feb.13, 2017	Dec.12, 2017	Dec.11, 2018
<input checked="" type="checkbox"/>	EMI Measurement Receiver	R&S	ESR26	101377	Dec.20, 2016	Dec.12, 2017	Dec.11, 2018
<input checked="" type="checkbox"/>	Horn Antenna	TDK	HRN-0118	130939	N/A	Jan. 09, 2016	Jan. 08, 2019
<input checked="" type="checkbox"/>	High Gain Horn Antenna	Schwarzbeck	BBHA-9170	691	N/A	Jan.06, 2016	Jan.05, 2019
<input checked="" type="checkbox"/>	Preamplifier	TDK	PA-02-0118	TRS-305-00066	Jan.14, 2017	Dec.12, 2017	Dec.11, 2018
<input checked="" type="checkbox"/>	Preamplifier	TDK	PA-02-2	TRS-307-00003	Dec.20, 2016	Dec.12, 2017	Dec.11, 2018
<input checked="" type="checkbox"/>	Loop antenna	Schwarzbeck	1519B	00008	N/A	Mar. 26, 2016	Mar. 25, 2019
		Software					
Used	Description		Manufacturer	Name		Version	
<input checked="" type="checkbox"/>	Test Software for Radiated disturbance		Farad	EZ-EMC		Ver. UL-3A1	
		Other instruments					
Used	Equipment	Manufacturer	Model No.	Serial No.	Upper Last Cal.	Last Cal.	Next Cal.
<input checked="" type="checkbox"/>	Spectrum Analyzer	Keysight	N9030A	MY55410512	Dec.20, 2016	Dec.12, 2017	Dec.11, 2018
<input checked="" type="checkbox"/>	Power Meter	Keysight	N9031A	MY55416024	Feb.13, 2017	Dec.12, 2017	Dec.11, 2018
<input checked="" type="checkbox"/>	Power Sensor	Keysight	N9323A	MY55440013	Feb.13, 2017	Dec.12, 2017	Dec.11, 2018

## 6. RADIATED TEST RESULTS

### 6.1. LIMITS AND PROCEDURE

#### LIMITS

Please refer to FCC §15.205 and §15.209  
Please refer to FCC KDB 558074

Please refer to RSS-GEN Clause 8.9 and Clause 8.10

Radiation Disturbance Test Limit for FCC (Class B)(9KHz-1GHz)

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
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
960~1000	500	3

Note: 1) At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated that the signal levels needed to be measured at the distance employed can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 meters unless it can be further demonstrated that measurements at a distance of 30 meters or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse linear-distance for field strength measurements; inverse-linear-distance-squared for power density measurements).

(2) At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). This paragraph (f) shall not apply to Access BPL devices operating below 30 MHz.

Radiation Disturbance Test Limit for FCC (Above 1G)

Frequency (MHz)	dB(uV/m) (at 3 meters)	
	Peak	Average
Above 1000	74	54

Restricted bands of operation

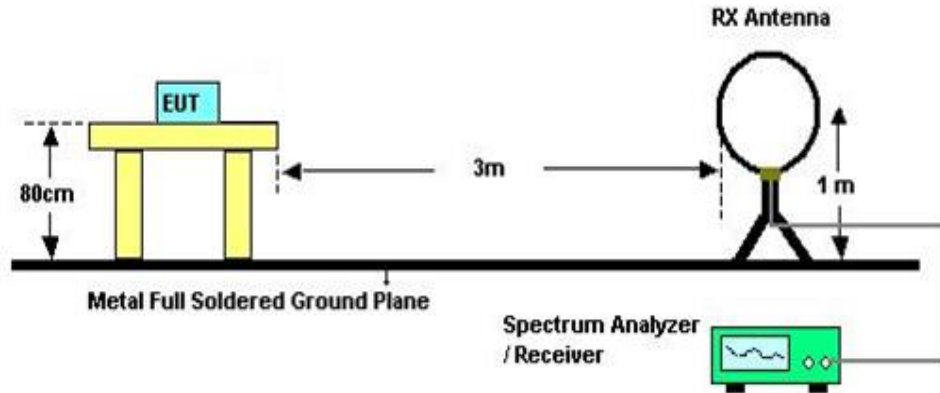
MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
<sup>1</sup> 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
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 38.6c

## TEST SETUP AND PROCEDURE

Below 30MHz



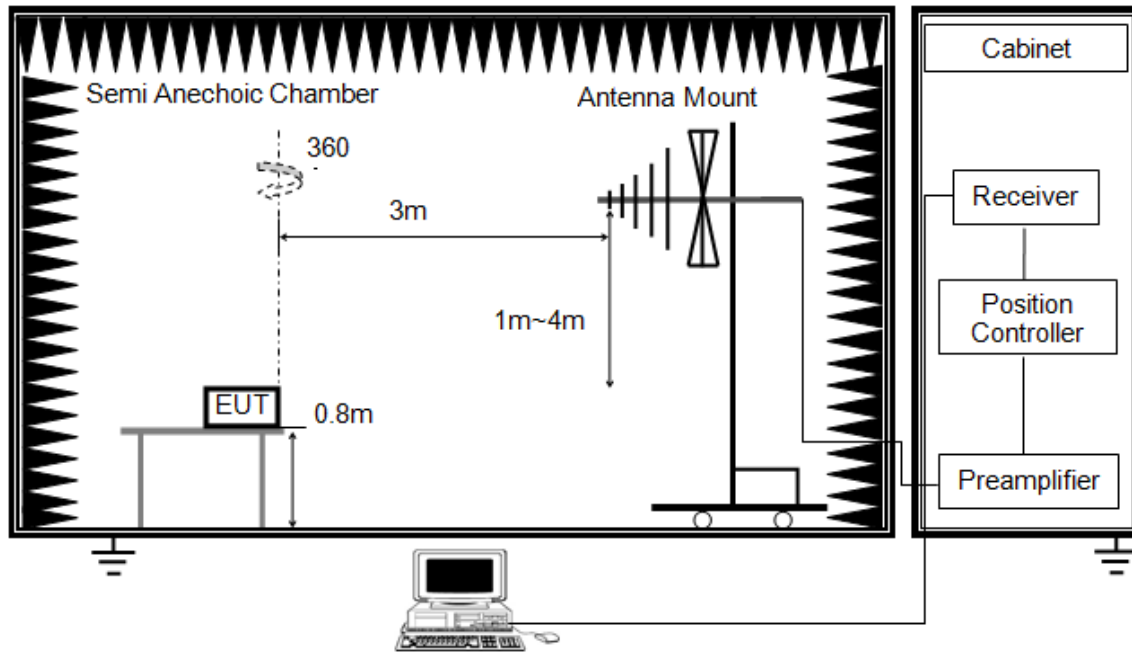
The setting of the spectrum analyser

RBW	200Hz (From 9kHz to 0.15MHz)/ 9KHz (From 0.15MHz to 30MHz)
VBW	200Hz (From 9kHz to 0.15MHz)/ 9KHz (From 0.15MHz to 30MHz)
Sweep	Auto
Detector	Peak/QP/ Average
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013
2. The EUT was arranged to its worst case and then turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
3. The EUT was placed on a turntable with 0.8 meter above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. The radiated emission limits are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector
6. For measurement below 1GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. 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.
7. For the actual test configuration, please refer to the related item in this test report (Photographs of the Test Configuration)

Below 1G



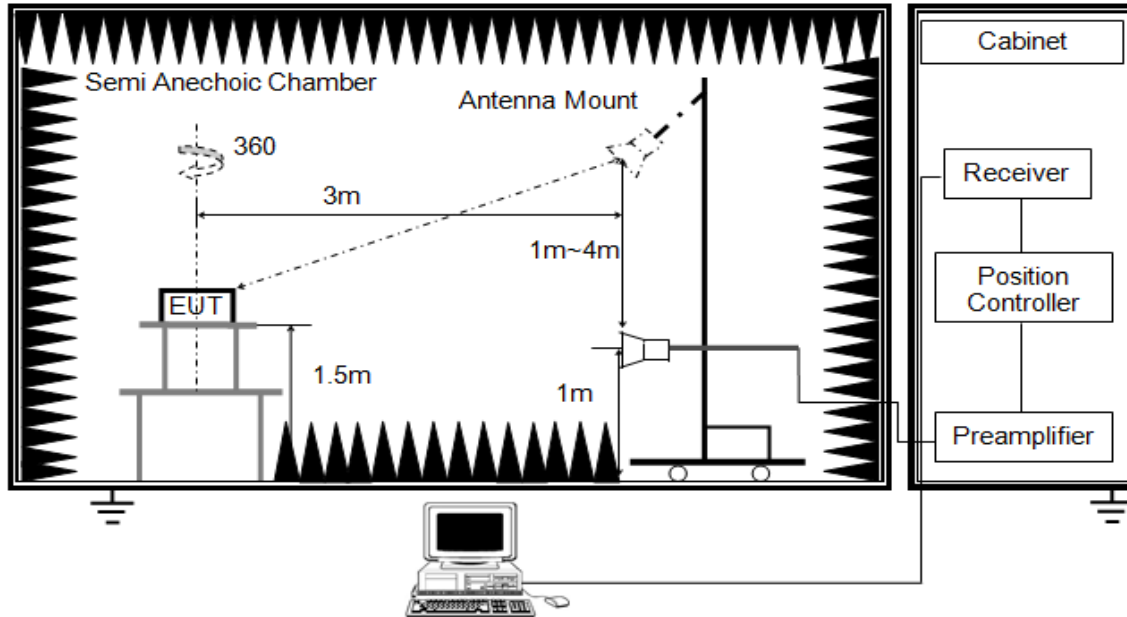


The setting of the spectrum analyser

RBW	120K
VBW	300K
Sweep	Auto
Detector	Peak/QP
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
3. The EUT was placed on a turntable with 0.8 meter above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. For measurement below 1GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. 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.
6. For the actual test configuration, please refer to the related Item in this test report (Photographs of the Test Configuration)

# ABOVE 1G

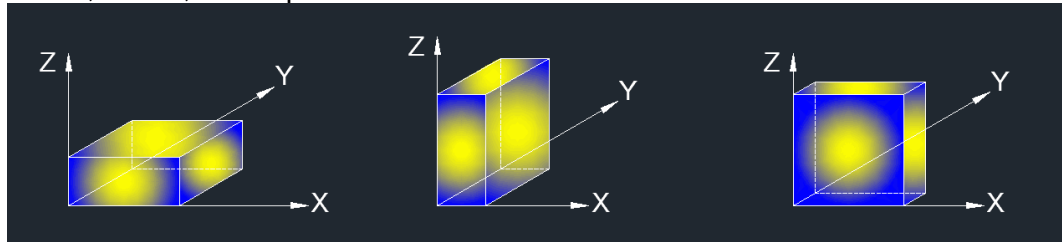


## The setting of the spectrum analyser

RBW	1M
VBW	PEAK:3M AVG: See note6
Sweep	Auto
Detector	Peak
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
3. The EUT was placed on a turntable with 1.5m above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. For measurement above 1GHz, the emission measurement will be measured by the peak detector. This peak level, once corrected, must comply with the limit specified in Section 15.209.
6. For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and 1 MHz resolution bandwidth with 1/T video bandwidth with peak detector. For the Duty Cycle please refer to the report of the FCC ID: VPYLB1FD.
7. For the actual test configuration, please refer to the related item in this test report (Photographs of the Test Configuration)

X axis, Y axis, Z axis positions:



Note: For all radiated test, EUT in each of three orthogonal axis emissions had been tested, but only the worst case (X axis) data recorded in the report.

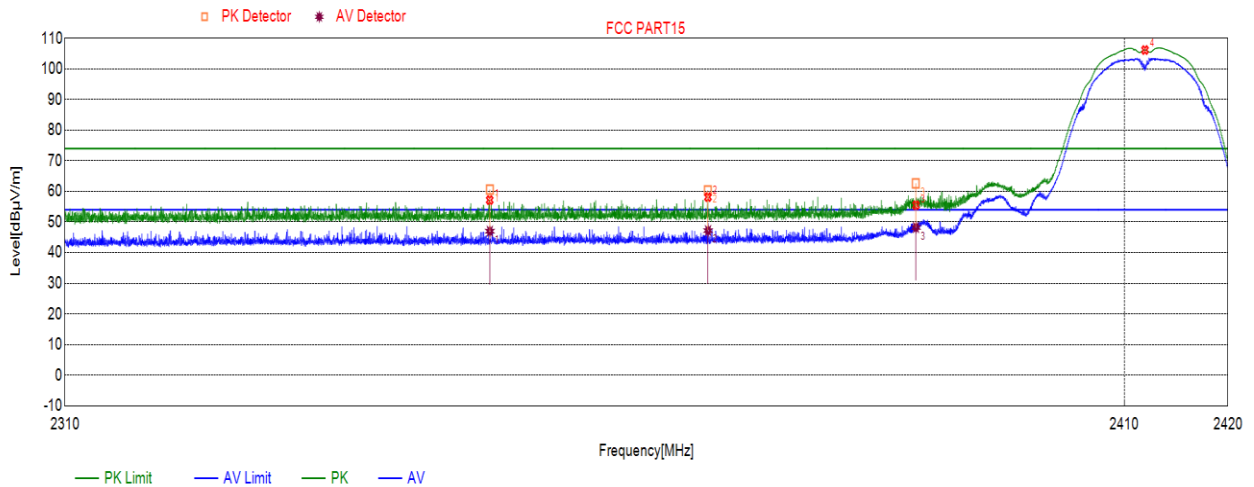
## 6.2. RESTRICTED BANDEDGE

Test Result Table

Test Mode	Channel	Puw(dBm)	Verdict
11B	LCH	<Limit	PASS
	MCH	<Limit	PASS
	HCH	<Limit	PASS
11G	LCH	<Limit	PASS
	MCH	<Limit	PASS
	HCH	<Limit	PASS
11NSISO20	LCH	<Limit	PASS
	MCH	<Limit	PASS
	HCH	<Limit	PASS

**Test Graphs:**

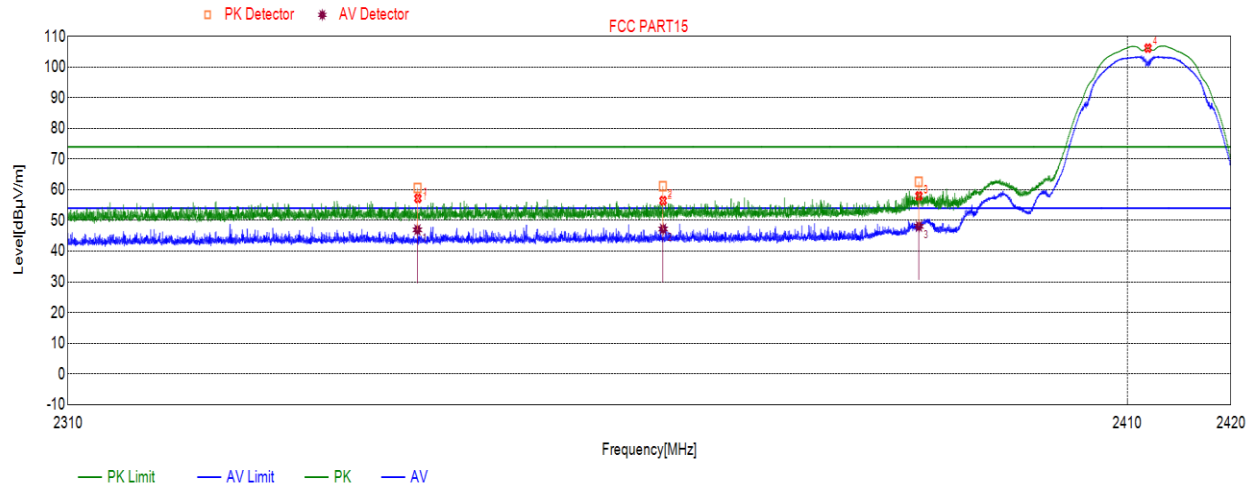
Test Mode	Channel	Polarization	Verdict
11B	LCH	Vertical	PASS



No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2349.6063	60.54	74.00	-13.46	peak
	2349.6063	47.02	54.00	-6.98	average
2	2370.2080	60.34	74.00	-13.66	peak
	2370.2080	47.22	54.00	-6.78	average
3	2390.0000	62.53	74.00	-11.47	peak
	2390.0000	48.23	54.00	-5.77	average

- Note: 1. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.  
3. AVG: VBW=1/Ton where: ton is transmit duration.

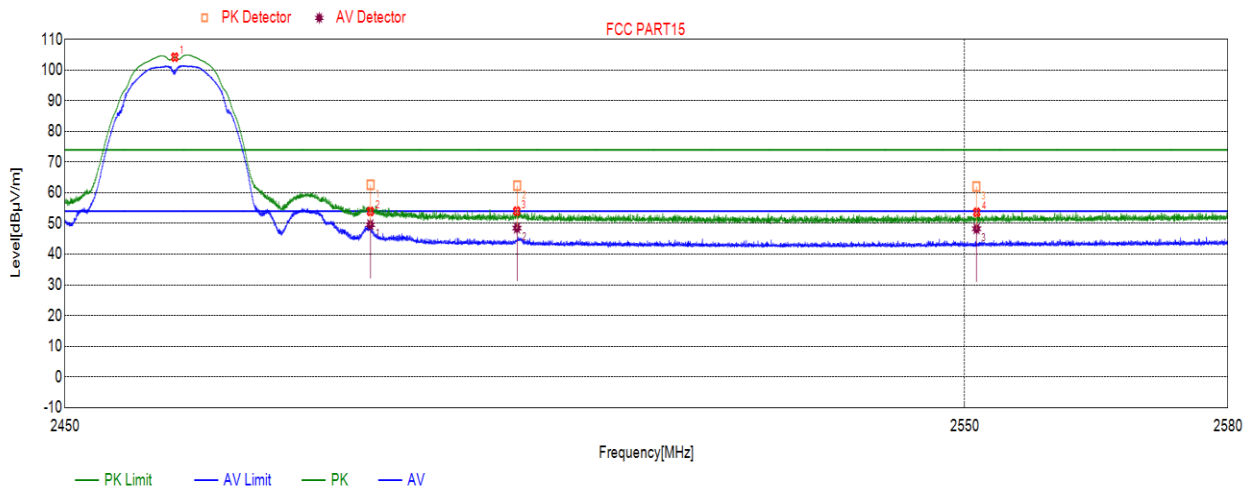
Test Mode	Channel	Polarization	Verdict
11B	LCH	Horizontal	PASS



No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2342.5281	60.71	74.00	-13.29	peak
	2342.5281	46.97	54.00	-7.03	average
2	2365.6626	61.02	74.00	-12.98	peak
	2365.6626	47.24	54.00	-6.76	average
3	2390.0000	62.53	74.00	-11.47	peak
	2390.0000	48.11	54.00	-5.89	average

Note: 1. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.  
3. AVG: VBW=1/Ton where: ton is transmit duration.

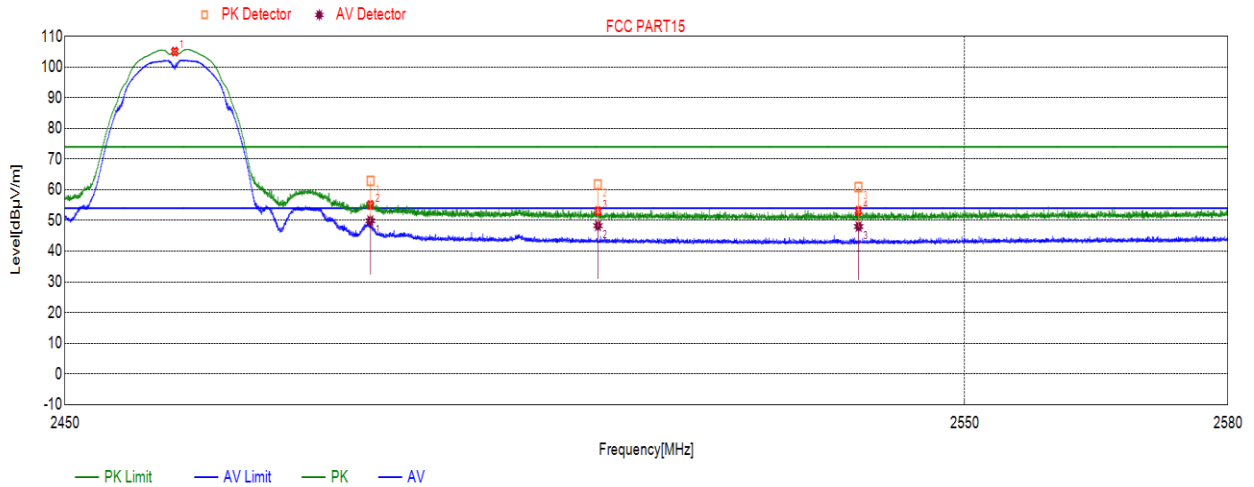
Test Mode	Channel	Polarization	Verdict
11B	HCH	Horizontal	PASS



No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.5000	62.49	74.00	-11.51	peak
	2483.5000	49.61	54.00	-4.39	average
2	2499.7416	62.22	74.00	-11.78	peak
	2499.7416	48.52	54.00	-5.48	average
3	2551.3462	61.88	74.00	-12.12	peak
	2551.3462	48.30	54.00	-5.70	average

Note: 1. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.  
3. AVG: VBW=1/Ton where: ton is transmit duration.

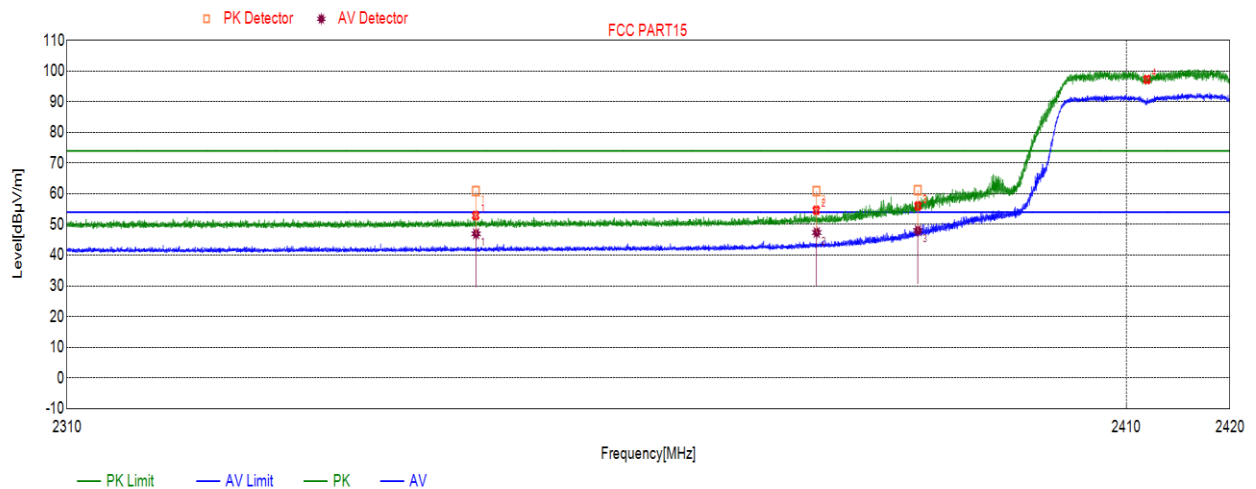
Test Mode	Channel	Polarization	Verdict
11B	HCH	Vertical	PASS



No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.5000	62.85	74.00	-11.15	peak
	2483.5000	49.94	54.00	-4.06	average
2	2508.7632	61.67	74.00	-12.33	peak
	2508.7632	48.32	54.00	-5.68	average
3	2538.0060	60.96	74.00	-13.04	peak
	2538.0060	48.04	54.00	-5.96	average

- Note: 1. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.  
3. AVG: VBW=1/Ton where: ton is transmit duration.

Test Mode	Channel	Polarization	Verdict
11G	LCH	Horizontal	PASS

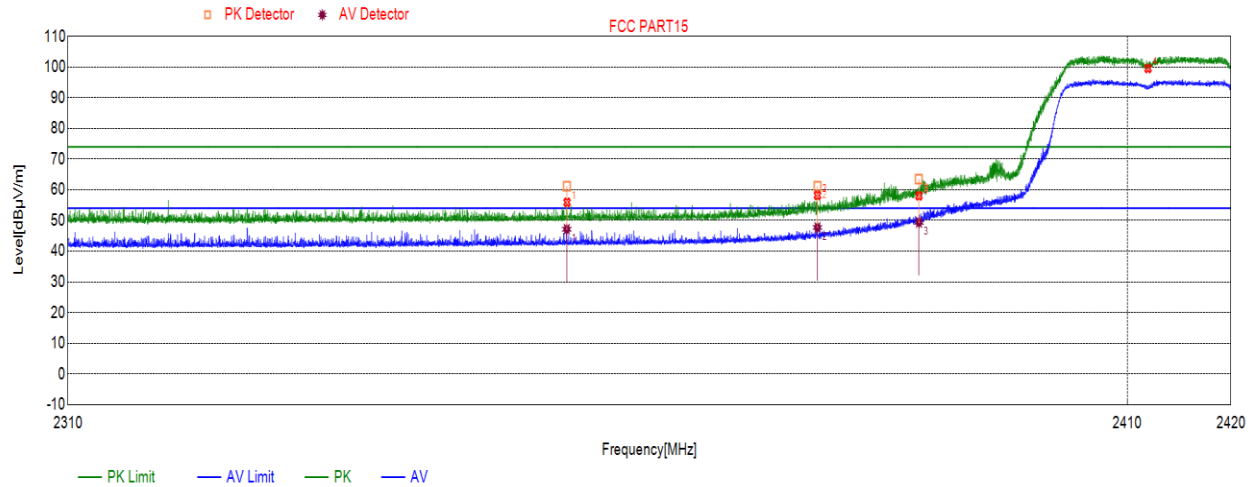


No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2348.1291	60.96	74.00	-13.04	peak
	2348.1291	46.99	54.00	-7.01	average
2	2380.3410	60.90	74.00	-13.10	peak
	2380.3410	47.40	54.00	-6.60	average
3	2390.0000	61.26	74.00	-12.74	peak
	2390.0000	48.05	54.00	-5.95	average

- Note: 1. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.  
3. AVG: VBW=1/Ton where: ton is transmit duration.



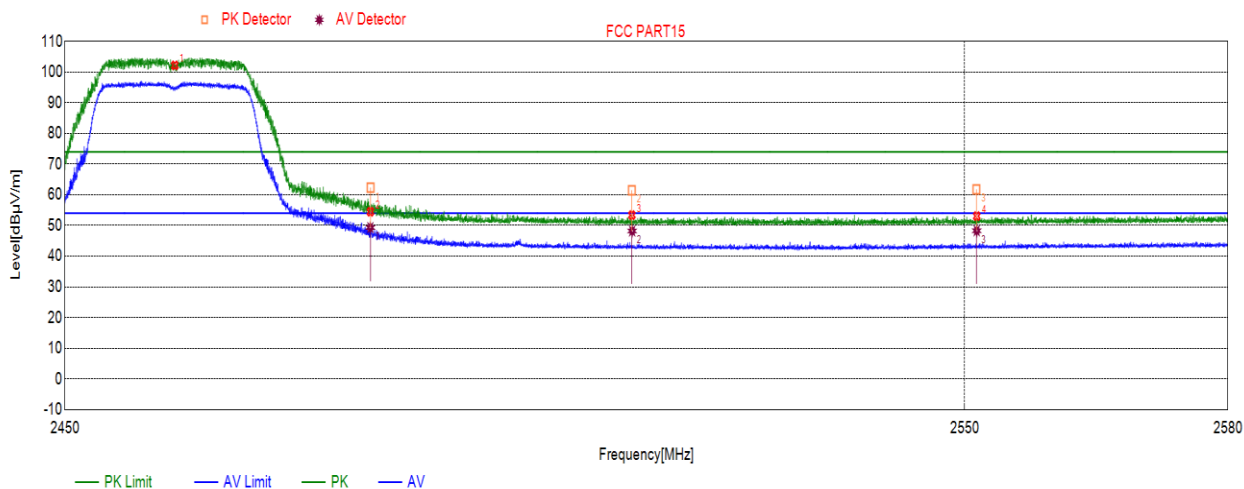
Test Mode	Channel	Polarization	Verdict
11G	LCH	Vertical	PASS



No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2356.5622	61.02	74.00	-12.98	peak
	2356.5622	47.15	54.00	-6.85	average
2	2380.3145	61.23	74.00	-12.77	peak
	2380.3145	47.72	54.00	-6.28	average
3	2390.0000	63.52	74.00	-10.48	peak
	2390.0000	49.39	54.00	-4.61	average

Note: 1. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.  
3. AVG: VBW=1/Ton where: ton is transmit duration.

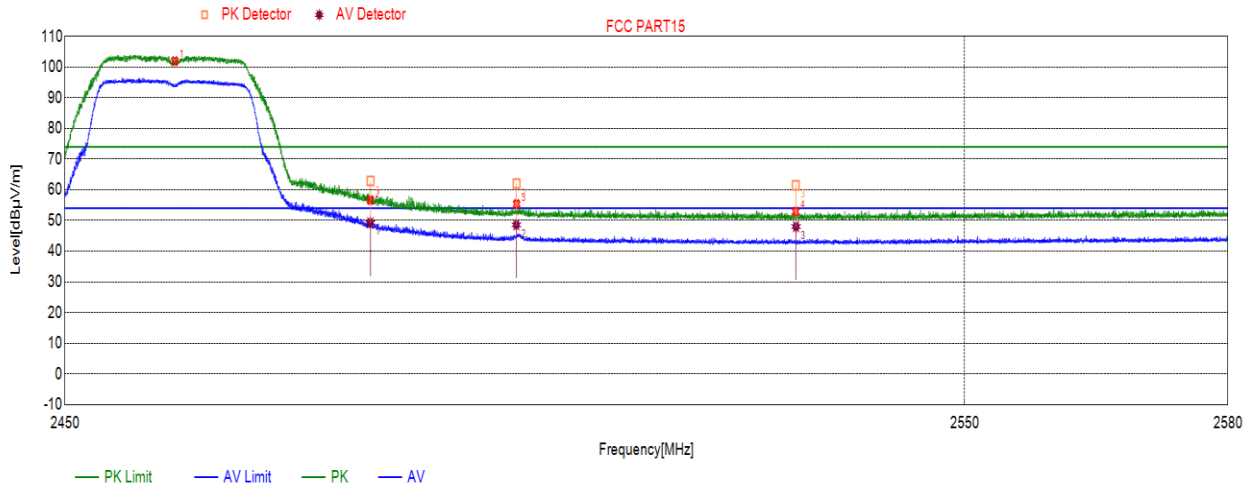
Test Mode	Channel	Polarization	Verdict
11G	HCH	Horizontal	PASS



No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	62.22	74.00	-11.78	peak
	2483.500	49.33	54.00	-4.67	average
2	2512.5781	61.51	74.00	-12.49	peak
	2512.5781	48.23	54.00	-5.77	average
3	2551.3629	61.75	74.00	-12.25	peak
	2551.3629	48.30	54.00	-5.70	average

Note: 1. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.  
3. AVG: VBW=1/Ton where: ton is transmit duration.

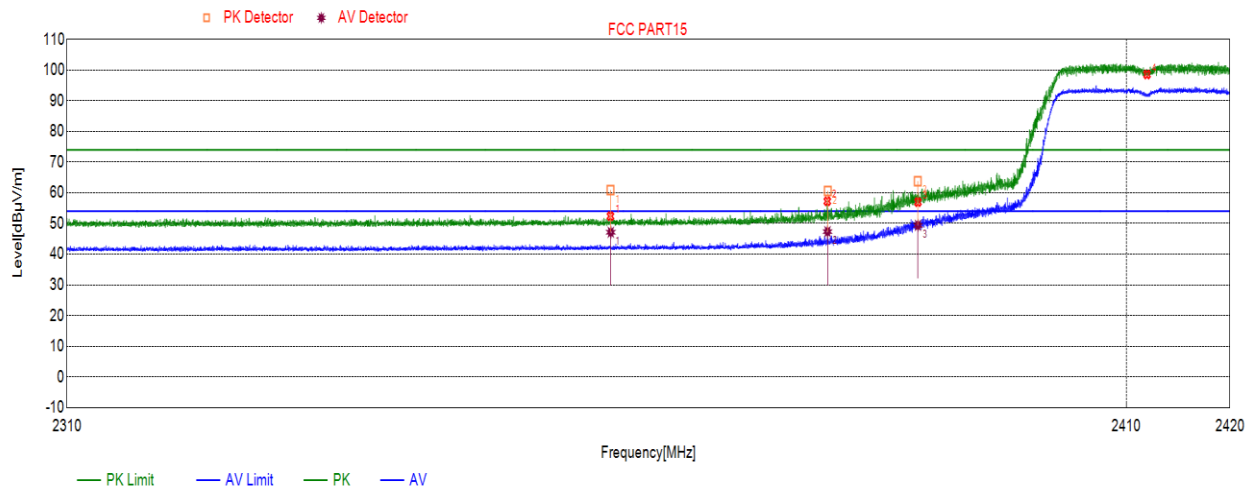
Test Mode	Channel	Polarization	Verdict
11G	HCH	Vertical	PASS



No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.5000	62.74	74.00	-11.26	peak
	2483.5000	49.31	54.00	-4.69	average
2	2499.6714	61.92	74.00	-12.08	peak
	2499.6714	48.59	54.00	-5.41	average
3	2530.9521	61.45	74.00	-12.55	peak
	2530.9521	48.01	54.00	-5.99	average

Note: 1. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.  
3. AVG: VBW=1/Ton where: ton is transmit duration.

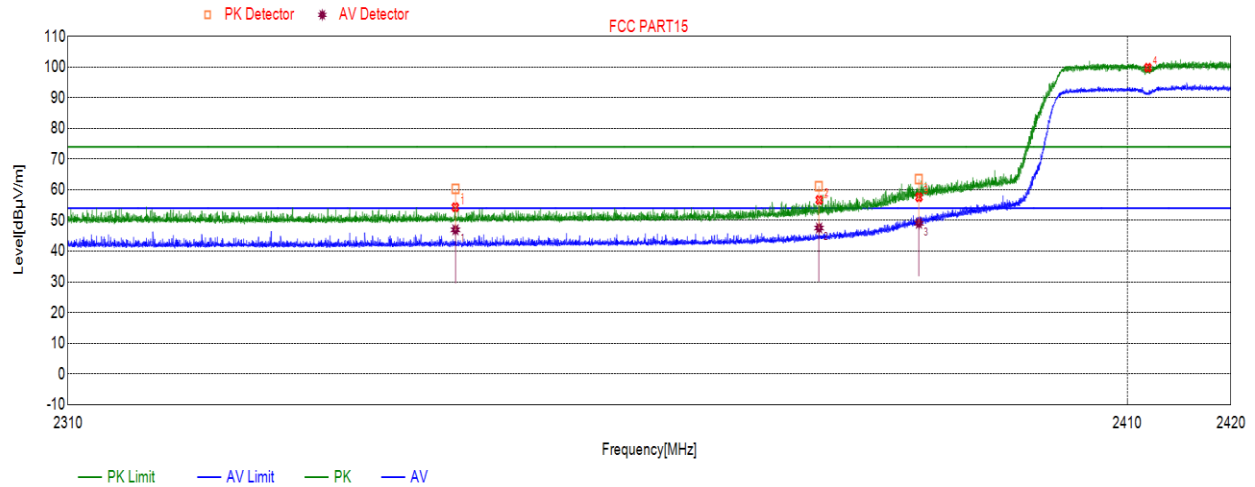
Test Mode	Channel	Polarization	Verdict
11NSISO20	LCH	Horizontal	PASS



No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2360.8131	60.75	74.00	-13.25	peak
	2360.8131	47.15	54.00	-6.85	average
2	2381.3712	60.47	74.00	-13.53	peak
	2381.3712	47.36	54.00	-6.64	average
3	2390.0000	63.76	74.00	-10.24	peak
	2390.0000	49.39	54.00	-4.61	average

Note: 1. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.  
3. AVG: VBW=1/Ton where: ton is transmit duration.

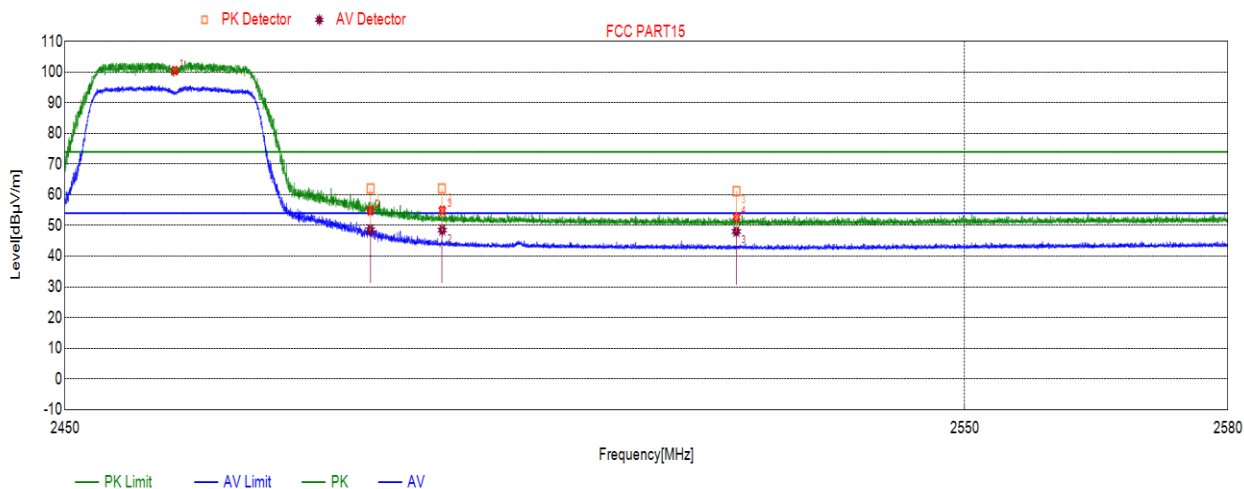
Test Mode	Channel	Polarization	Verdict
11NSISO20	LCH	Vertical	PASS



No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2346.0952	60.35	74.00	-13.65	peak
	2346.0952	46.98	54.00	-7.02	average
2	2380.4711	61.14	74.00	-12.86	peak
	2380.4711	47.57	54.00	-6.43	average
3	2390.0000	63.45	74.00	-10.55	peak
	2390.0000	49.10	54.00	-4.90	average

Note: 1. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.  
3. AVG: VBW=1/Ton where: ton is transmit duration.

Test Mode	Channel	Polarization	Verdict
11NSISO20	HCH	Horizontal	PASS



No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.5000	61.93	74.00	-12.07	peak
	2483.5000	48.61	54.00	-5.39	average
2	2491.4517	61.88	74.00	-12.12	peak
	2491.4517	48.52	54.00	-5.48	average
3	2524.2388	61.19	74.00	-12.81	peak
	2524.2388	48.05	54.00	-5.95	average

Note: 1. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.  
3. AVG: VBW=1/Ton where: ton is transmit duration.