

# 🥇 Shenzhen Zhongjian Nanfang Testing Co., Ltd.

Report No: CCISE180709802

# FCC REPORT

**Applicant:** SSB Trading Inc.

Address of Applicant: 1750 Regal Row Dallas, TX 75235

**Equipment Under Test (EUT)** 

Product Name: mobile phone

Model No.: SSB-508E, SSB-508D

Trade mark: True Slim Phone

FCC ID: 2AL4OSSB-508

Applicable standards: FCC CFR Title 47 Part 15 Subpart C Section 15.247

Date of sample receipt: 07 Jul., 2018

**Date of Test:** 18 Jul., to 06 Aug., 2018

Date of report issued: 07 Aug., 2018

Test Result: PASS\*

\* In the configuration tested, the EUT complied with the standards specified above.

#### Authorized Signature:



Bruce Zhang Laboratory Manager

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the CCIS product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

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# 2 Version

Version No.	Date	Description
00	07 Aug., 2018	Original

**Tested by:** 07 Aug., 2018

Test Engineer

Reviewed by: 07 Aug., 2018

**Project Engineer** 



# 3 Contents

			Page
1	CO	VER PAGE	1
2	VEF	RSION	2
3		NTENTS	
			_
4	TES	ST SUMMARY	4
5	GEN	NERAL INFORMATION	5
	5.1	CLIENT INFORMATION	5
	5.2	GENERAL DESCRIPTION OF E.U.T.	
	5.3	TEST ENVIRONMENT AND TEST MODE	
	5.4	DESCRIPTION OF SUPPORT UNITS	7
	5.5	MEASUREMENT UNCERTAINTY	7
	5.6	LABORATORY FACILITY	8
	5.7	LABORATORY LOCATION	
	5.8	TEST INSTRUMENTS LIST	8
6	TES	ST RESULTS AND MEASUREMENT DATA	9
	6.1	ANTENNA REQUIREMENT	9
	6.2	CONDUCTED EMISSION	10
	6.3	CONDUCTED OUTPUT POWER	13
	6.4	OCCUPY BANDWIDTH	
	6.5	POWER SPECTRAL DENSITY	21
	6.6	BAND EDGE	
	6.6.	•	
	6.6.		
	6.7	Spurious Emission	
	6.7.		
	6.7.		
7	TES	ST SETUP PHOTO	55
Ω	FUZ	CONSTRUCTIONAL DETAILS	56





# **Test Summary**

Test Items	Section in CFR 47	Result
Antenna requirement	15.203 & 15.247 (c)	Pass
AC Power Line Conducted Emission	15.207	Pass
Conducted Peak Output Power	15.247 (b)(3)	Pass
6dB Emission Bandwidth 99% Occupied Bandwidth	15.247 (a)(2)	Pass
Power Spectral Density	15.247 (e)	Pass
Band Edge	15.247 (d)	Pass
Spurious Emission	15.205 & 15.209	Pass
Pass: The EUT complies with the essential re-	quirements in the standard	1

N/A: N/A: Not Applicable.





# 5 General Information

# **5.1 Client Information**

Applicant:	SSB Trading Inc.
Address:	1750 Regal Row Dallas,TX 75235
Manufacturer:	Shenzhen HKUNION Technology Co., Ltd.
Address:	Room 1912-1915, Block A, Weidonglong Business Building, Mellon Avenue, Longhua new district, Shenzhen City, Guangdong Province
Factory:	Xinxiang Super Grand Intelligent Technology Co., Ltd.
Address:	NEW AREA INDUSTRIAL AGGLOMERATION HONGQI DISTRICT OF XINXIANG CITY PIONEER PARK NO.9, XINXIANG CITY, HENAN PROVINCE, CHINA

# 5.2 General Description of E.U.T.

	,
Product Name:	mobile phone
Model No.:	SSB-508E, SSB-508D
Operation Frequency:	2412MHz~2462MHz (802.11b/802.11g/802.11n(H20)) 2422MHz~2452MHz (802.11n(H40))
Channel numbers:	11 for 802.11b/802.11g/802.11(H20) 7 for 802.11n(H40)
Channel separation:	5MHz
Modulation technology: (IEEE 802.11b)	Direct Sequence Spread Spectrum (DSSS)
Modulation technology: (IEEE 802.11g/802.11n)	Orthogonal Frequency Division Multiplexing(OFDM)
Data speed (IEEE 802.11b):	1Mbps, 2Mbps, 5.5Mbps, 11Mbps
Data speed (IEEE 802.11g):	6Mbps, 9Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps, 54Mbps
Data speed (IEEE 802.11n):	Up to 150Mbps
Antenna Type:	Internal Antenna
Antenna gain:	1.72dBi
Power supply:	Rechargeable Li-ion Battery DC3.8V-1800mAh.
AC adapter:	Input: AC100-240V, 50/60Hz, Output: DC 5.0V, 700mA
Remark:	Model No.: SSB-508E,SSB-508D were identical inside, the electrical circuit design, layout, components used and internal wiring, with only difference being model name





Operation Frequency each of channel for 802.11b/g/n(H20)							
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		

#### Note:

- 1. For 802.11n-HT40 mode, the channel number is from 3 to 9;
- 2. 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, Channel.





## 5.3 Test environment and test mode

Operating Environment:			
Temperature:	24.0 °C		
Humidity:	54 % RH		
Atmospheric Pressure:	1010 mbar		
Test mode:			
Transmitting mode	Keep the EUT in continuous transmitting with modulation		

The sample was placed 0.8m (below 1GHz)/1.5m (above 1GHz) above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages.

We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

Per-scan all kind of data rate, the follow list were the worst case.			
Mode Data rate			
802.11b	1Mbps		
802.11g	6Mbps		
802.11n(H20)	6.5Mbps		
802.11n(H40)	13.5Mbps		

# 5.4 Description of Support Units

The EUT has been tested as an independent unit.

# 5.5 Measurement Uncertainty

j				
Parameters	Expanded Uncertainty			
Conducted Emission (9kHz ~ 30MHz)	±2.22 dB (k=2)			
Radiated Emission (9kHz ~ 30MHz)	±2.76 dB (k=2)			
Radiated Emission (30MHz ~ 1000MHz)	±4.28 dB (k=2)			
Radiated Emission (1GHz ~ 18GHz)	±5.72 dB (k=2)			
Radiated Emission (18GHz ~ 40GHz)	±2.88 dB (k=2)			

Report No: CCISE180709802

## 5.6 Laboratory Facility

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

## FCC - Registration No.: 727551

Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been accredited as a testing laboratory by FCC (Federal Communications Commission). The Registration No. is 727551.

#### IC - Registration No.: 10106A-1

The 3m Semi-anechoic chamber of Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

## CNAS - Registration No.: CNAS L6048

Shenzhen Zhongjian Nanfang Testing Co., Ltd. is accredited to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L6048.

## A2LA - Registration No.: 4346.01

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: <a href="https://portal.a2la.org/scopepdf/4346-01.pdf">https://portal.a2la.org/scopepdf/4346-01.pdf</a>

# 5.7 Laboratory Location

Shenzhen Zhongjian Nanfang Testing Co., Ltd.

Address: No. B-C, 1/F., Building 2, Laodong No.2 Industrial Park, Xixiang Road,

Bao'an District, Shenzhen, Guangdong, China Tel: +86-755-23118282. Fax: +86-755-23116366

Email: info@ccis-cb.com, Website: http://www.ccis-cb.com

## 5.8 Test Instruments list

Radiated Emission:					
Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
3m SAC	SAEMC	9m*6m*6m	966	07-22-2017	07-21-2020
Loop Antenna	SCHWARZBECK	FMZB1519B	00044	03-16-2018	03-15-2019
BiConiLog Antenna	SCHWARZBECK	VULB9163	497	03-16-2018	03-15-2019
Horn Antenna	SCHWARZBECK	BBHA9120D	916	03-16-2018	03-15-2019
EMI Test Software	AUDIX	E3	\	Version: 6.110919b	
Pre-amplifier	HP	8447D	2944A09358	03-07-2018	03-06-2019
Pre-amplifier	CD	PAP-1G18	11804	03-07-2018	03-06-2019
Spectrum analyzer	Rohde & Schwarz	FSP30	101454	03-07-2018	03-06-2019
EMI Test Receiver	Rohde & Schwarz	ESRP7	101070	03-07-2018	03-06-2019
Cable	ZDECL	Z108-NJ-NJ-81	1608458	03-07-2018	03-06-2019
Cable	MICRO-COAX	MFR64639	K10742-5	03-07-2018	03-06-2019
Cable	SUHNER	SUCOFLEX100	58193/4PE	03-07-2018	03-06-2019
RF Switch Unit	MWRFTEST	MW200	N/A	N/A	N/A
Test Software	MWRFTEST	MTS8200		Version: 2.0.0.0	·

Conducted Emission:					
Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
EMI Test Receiver	Rohde & Schwarz	ESCI	101189	03-07-2018	03-06-2019
Pulse Limiter	SCHWARZBECK	OSRAM 2306	9731	03-07-2018	03-06-2019
LISN	CHASE	MN2050D	1447	03-19-2018	03-18-2019
LICN	Dahda 9 Cabusan	E0110 75	0.4200204/040	07-21-2017	07-20-2018
LISN	Rohde & Schwarz	Schwarz ESH3-Z5 8438621/010		07-21-2018	07-20-2019
Cable	HP	10503A	N/A	03-07-2018	03-06-2019
EMI Test Software	AUDIX	E3	Version: 6.110919b		

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Telephone: +86 (0) 755 23118282 Fax: +86 (0) 755 23116366



## 6 Test results and Measurement Data

# 6.1 Antenna requirement

# Standard requirement: FCC Part 15 C Section 15.203 /247(c)

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.

15.247(c) (1)(i) requirement:

(i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

#### E.U.T Antenna:

The WiFi antenna is an Internal antenna which cannot replace by end-user, the best case gain of the antenna is 1.72 dBi.







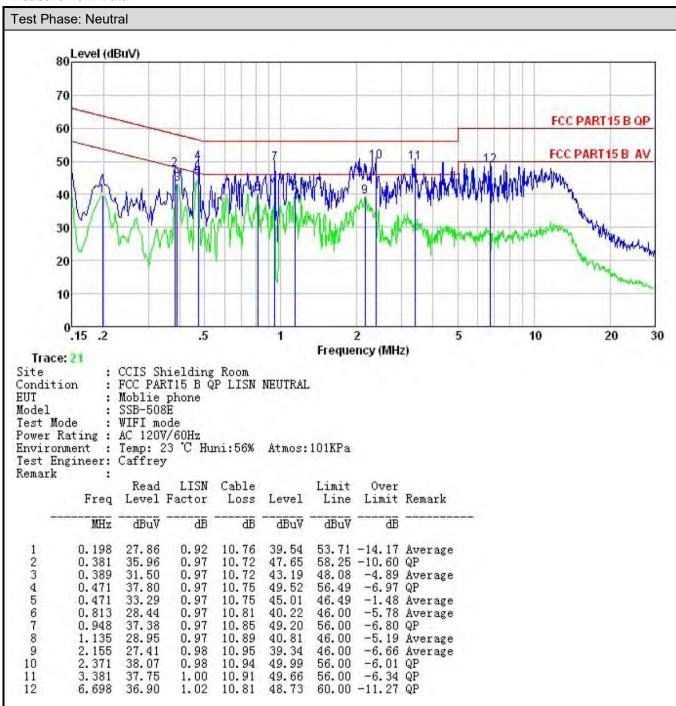
# 6.2 Conducted Emission

Test Requirement:	FCC Part 15 C Section 1	5.207		
Test Method:	ANSI C63.10: 2013			
Test Frequency Range:	150 kHz to 30 MHz			
Class / Severity:	Class B			
Receiver setup:	RBW=9 kHz, VBW=30 k	H7		
Limit:	Frequency range	Limit (	HRuV)	
Cittic.	(MHz)	Quasi-peak	Average	
	0.15-0.5	66 to 56*	56 to 46*	
	0.5-5	56	46	
	5-30	60	50	
	* Decreases with the log	arithm of the frequency.		
Test procedure	<ol> <li>The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.), which provides a 50ohm/50uH coupling impedance for the measuring equipment.</li> <li>The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs).</li> <li>Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2014 on conducted measurement.</li> </ol>			
Test setup:	Reference Plane  LISN 40cm 80cm Filter AC power  Equipment Test table/Insulation plane  Remark: E.U.T. Equipment Under Test LISN: Line Impedence Stabilization Network Test table height=0.8m			
Test Instruments:	Refer to section 5.8 for details			
Test mode:	Refer to section 5.3 for details			
Test results:	Passed			





#### **Measurement Data:**

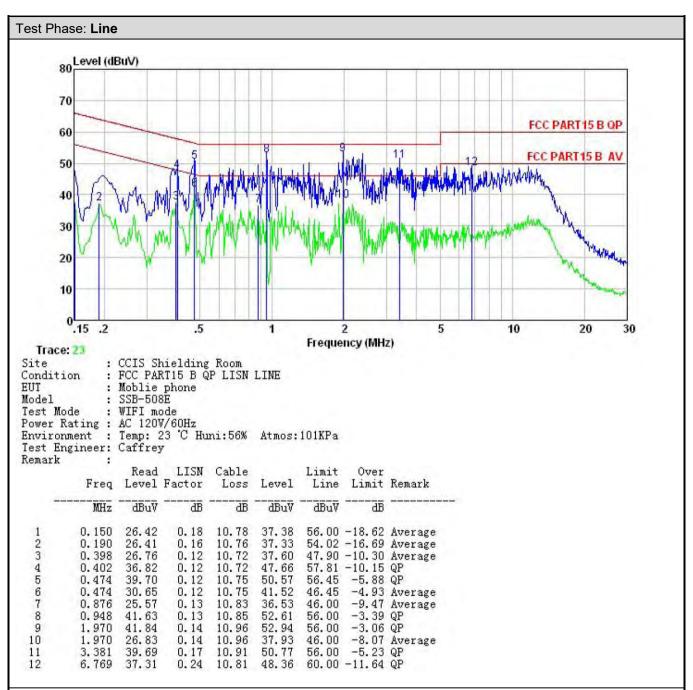


#### Notes:

- 1. An initial pre-scan was performed on the live and neutral lines with peak detector.
- 2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
- 3. Final Level =Receiver Read level + LISN Factor + Cable Loss.





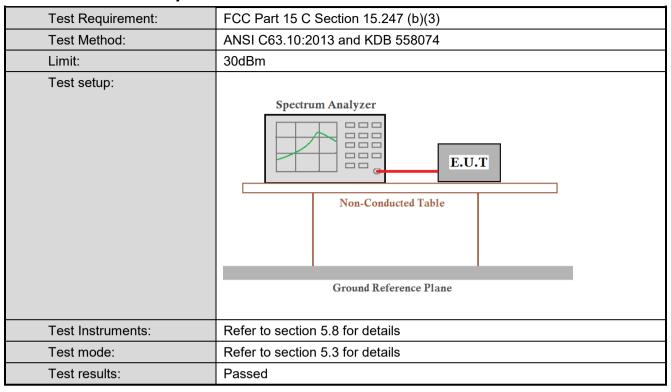


#### Notes:

- 1. An initial pre-scan was performed on the live and neutral lines with peak detector.
- 2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
- 3. Final Level =Receiver Read level + LISN Factor + Cable Loss.



# **6.3 Conducted Output Power**

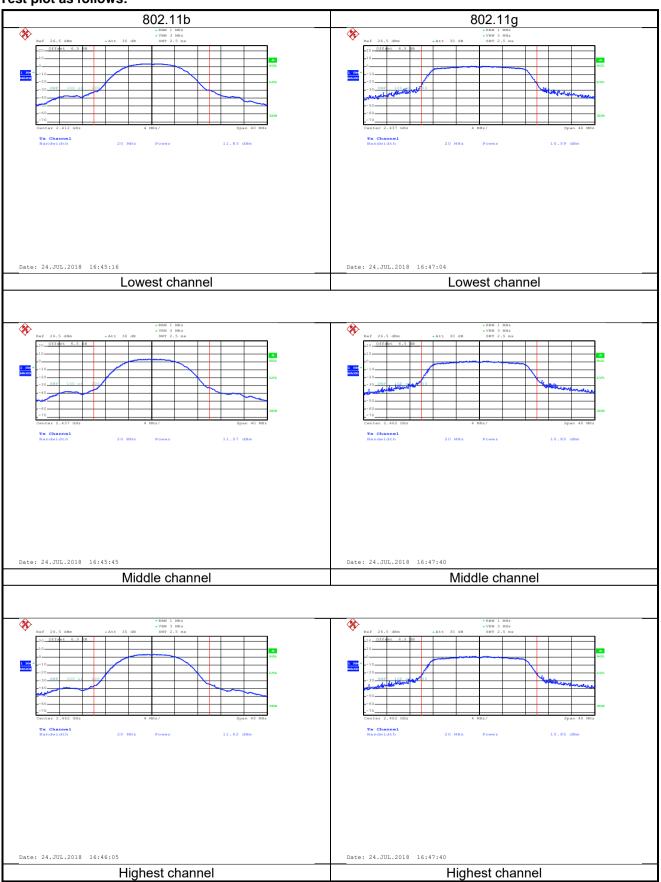


## **Measurement Data:**

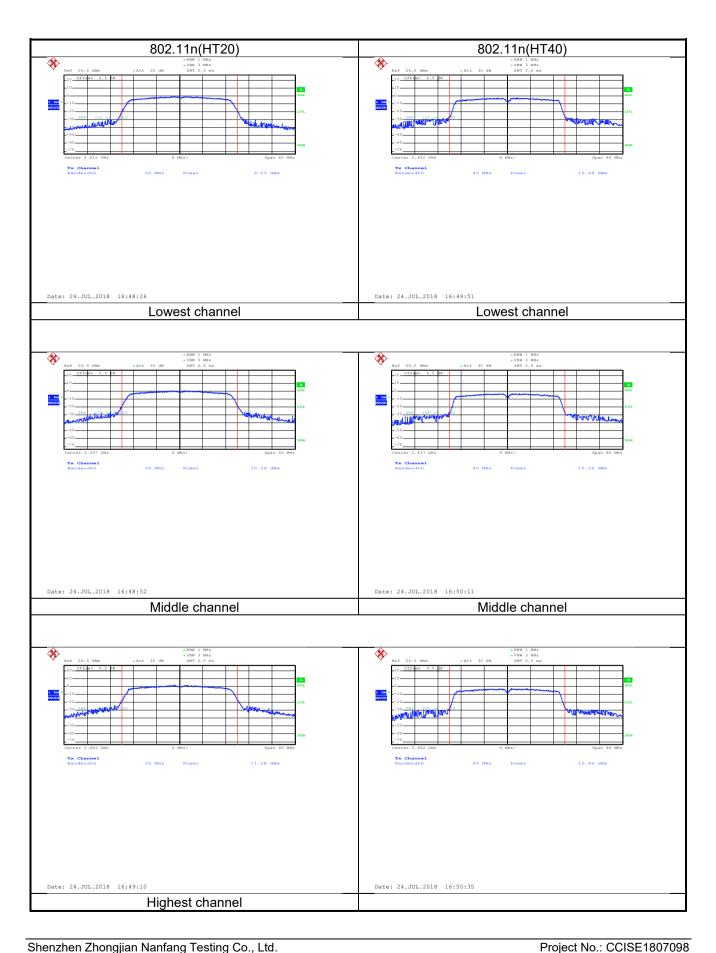
Test CH	Max	Limit(dDm)	Dogult			
	802.11b	802.11g	802.11n(H20)	802.11n(H40)	Limit(dBm)	Result
Lowest	11.83	8.69	9.23	10.69		Pass
Middle	11.57	10.59	10.59	10.24	30.00	
Highest	11.62	10.85	11.28	10.44		



## Test plot as follows:









# 6.4 Occupy Bandwidth

Test Requirement:	FCC Part 15 C Section 15.247 (a)(2)			
Test Method: ANSI C63.10:2013 and KDB 558074				
Limit:	>500kHz			
Test setup:	Spectrum Analyzer  E.U.T  Non-Conducted Table  Ground Reference Plane			
Test Instruments:	Refer to section 5.8 for details			
Test mode:	Refer to section 5.3 for details			
Test results:	Passed			

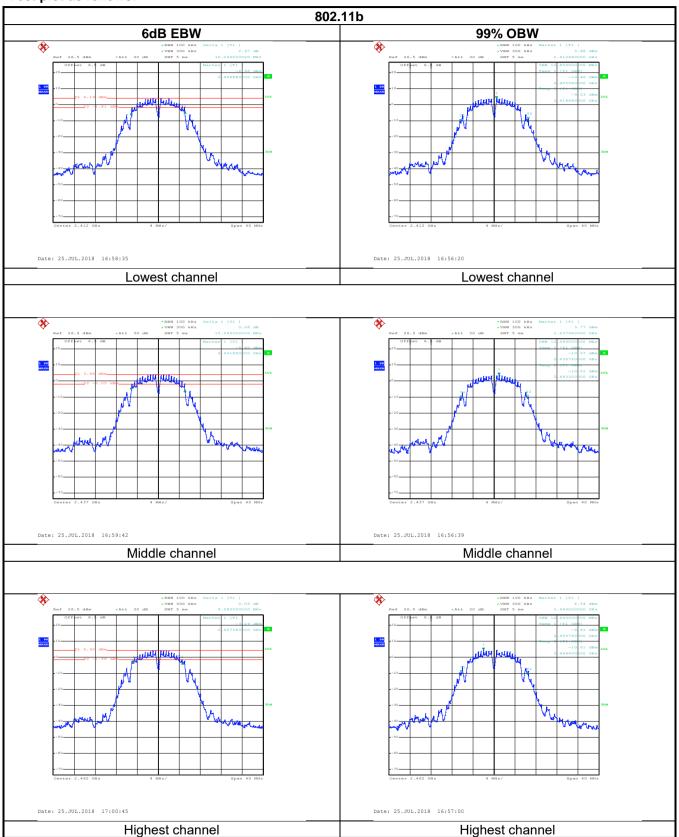
## **Measurement Data:**

Test CH		6dB Emission B	andwidth (MHz)	Lipoit/IdH=\	Result	
	802.11b	802.11g	802.11n(H20)	802.11n(H40)	Limit(kHz)	Result
Lowest	10.24	15.44	16.16	35.68		Pass
Middle	10.24	15.28	16.00	35.68	>500	
Highest	9.28	15.28	16.40	35.68		
Test CH		99% Occupy Ba	Limit(kHz)	Result		
Test CH	802.11b	802.11g	802.11n(H20)	802.11n(H40)	LIIIII(KHZ)	Nesull
Lowest	12.80	16.48	17.60	36.00		
Middle	12.56	16.48	17.60	36.00	N/A	N/A
Highest	12.64	16.48	17.60	35.84		



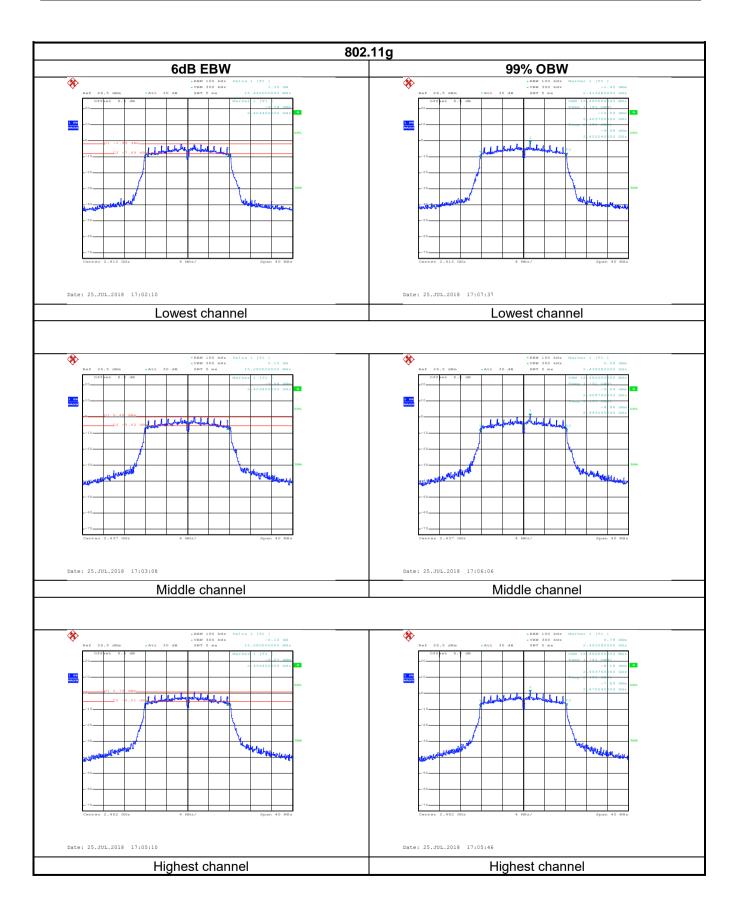


## Test plot as follows:



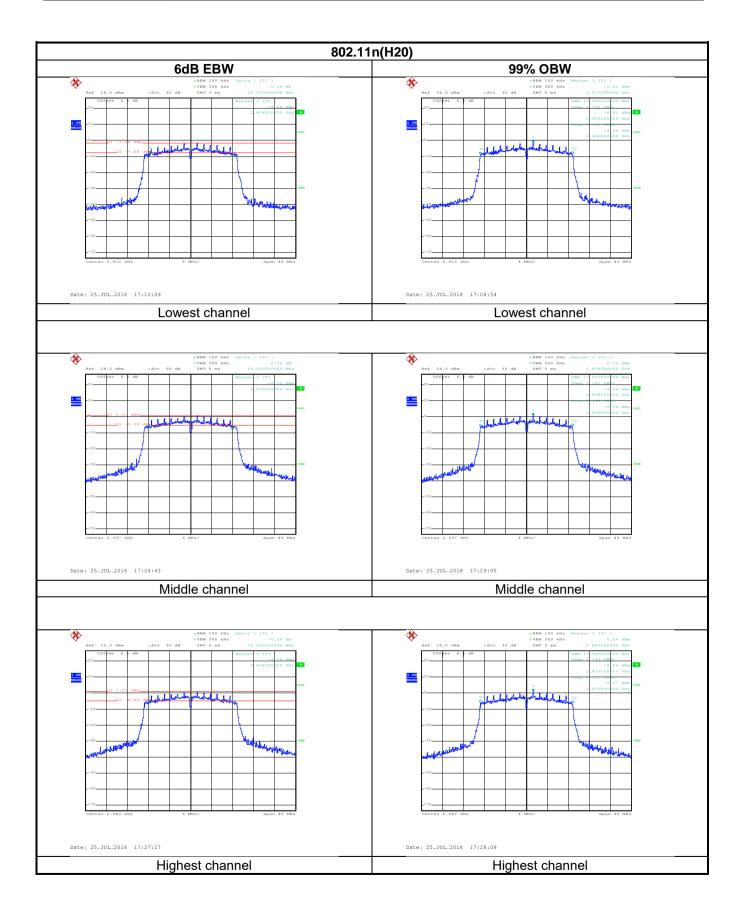






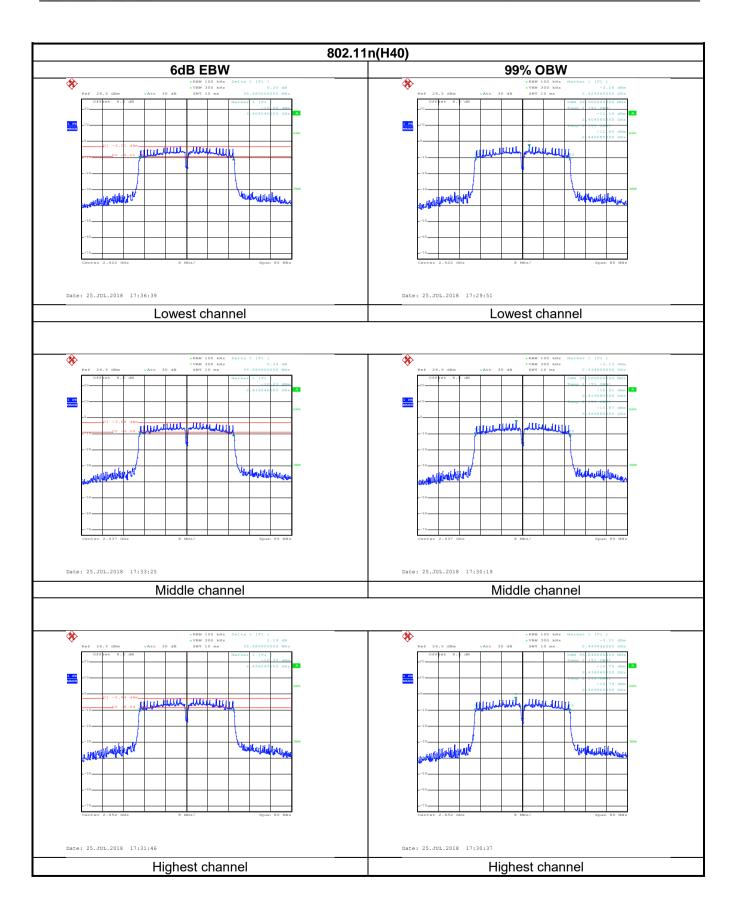














# 6.5 Power Spectral Density

Test Requirement:	FCC Part 15 C Section 15.247 (e)			
Test Method:	ANSI C63.10:2013 and KDB 558074			
Limit:	8dBm			
Test setup:	Spectrum Analyzer  E.U.T  Non-Conducted Table  Ground Reference Plane			
Test Instruments:	Refer to section 5.8 for details			
Test mode:	Refer to section 5.3 for details			
Test results:	Passed			

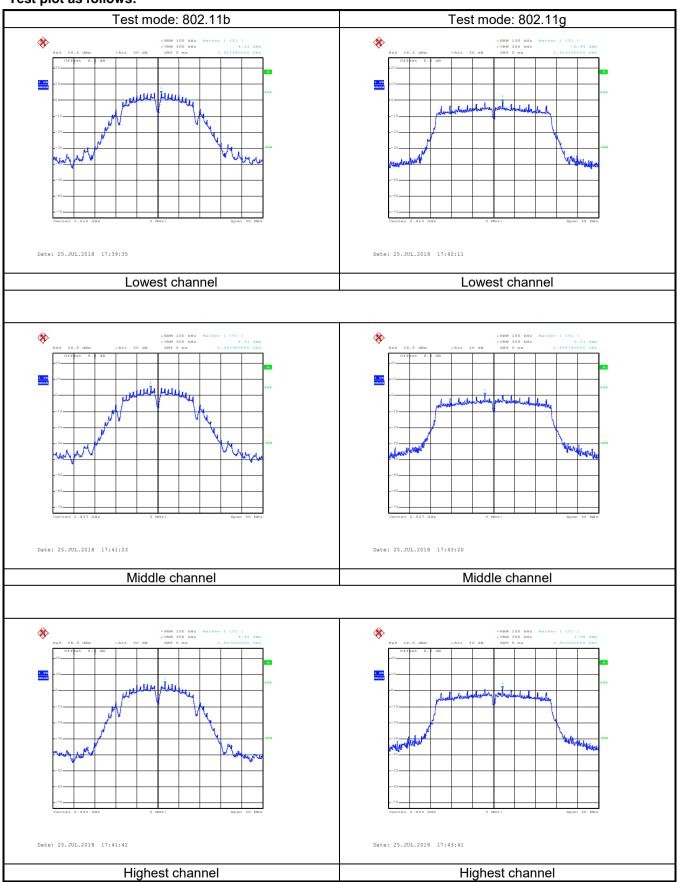
## **Measurement Data:**

Test CH		Limit/dDm)	Dogult			
	802.11b	802.11g	802.11n(H20)	802.11n(H40)	Limit(dBm)	Result
Lowest	4.33	-0.99	-2.17	-2.90		Pass
Middle	4.61	0.23	0.55	-3.28	8.00	
Highest	4.45	1.38	1.31	-2.57		



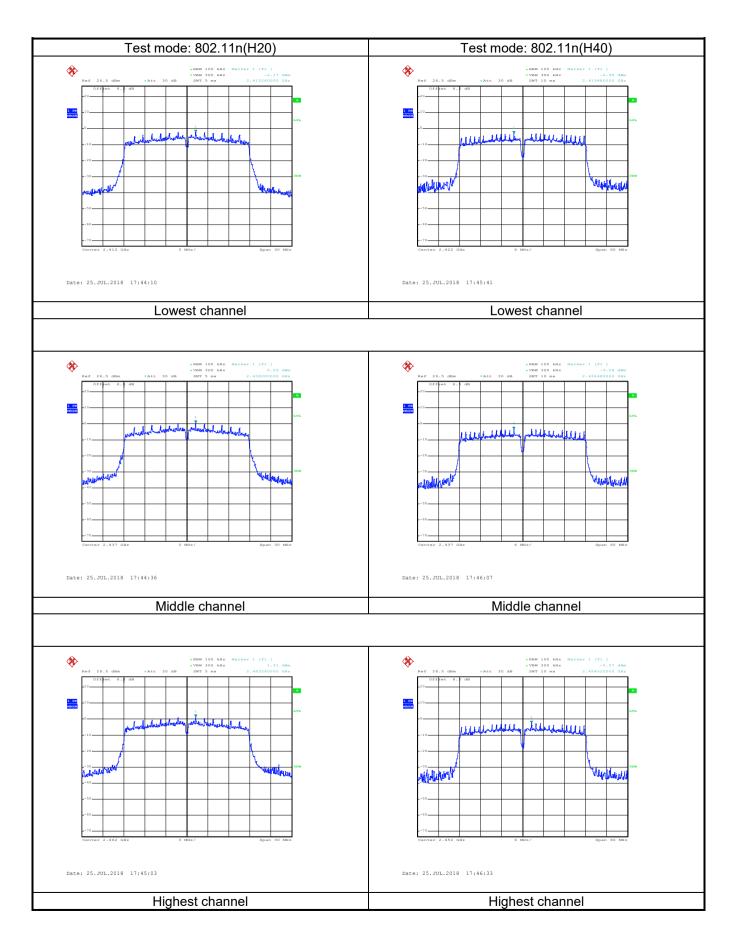


## Test plot as follows:













# 6.6 Band Edge

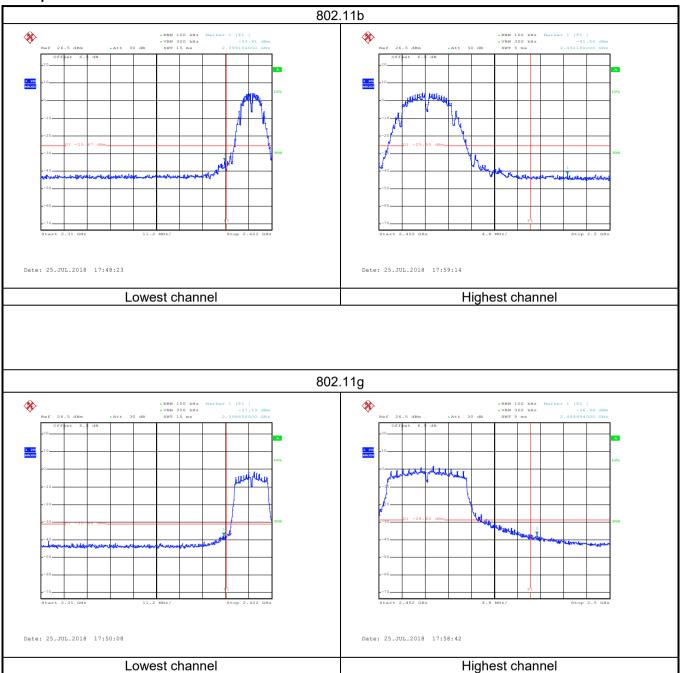
## 6.6.1 Conducted Emission Method

0.0.1 Conducted Linission	1 Conducted Linission Method					
Test Requirement:	FCC Part 15 C Section 15.247 (d)					
Test Method:	ANSI C63.10:2013 and KDB 558074					
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 30 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.					
Test setup:	Spectrum Analyzer  E.U.T  Non-Conducted Table  Ground Reference Plane					
Test Instruments:	Refer to section 5.8 for details					
Test mode:	Refer to section 5.3 for details					
Test results:	Passed					



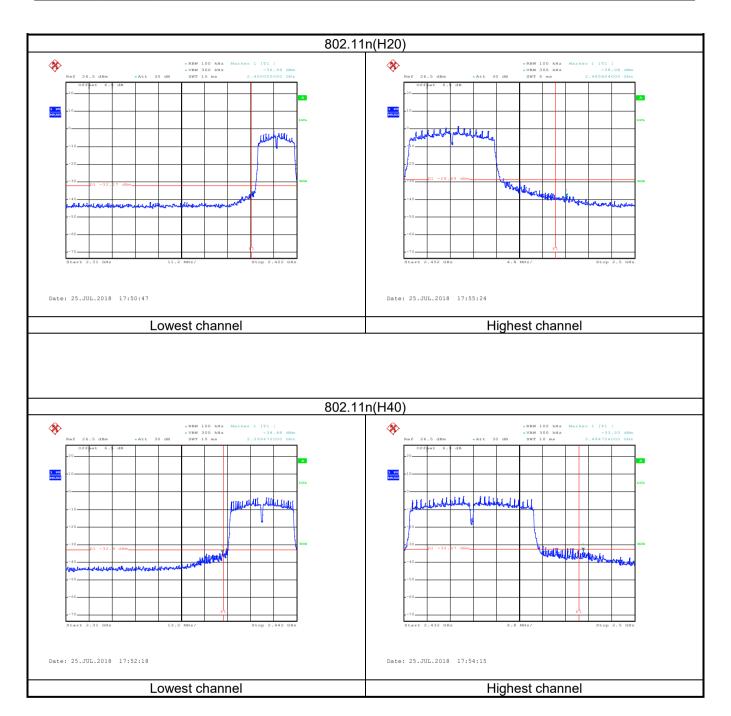


## Test plot as follows:











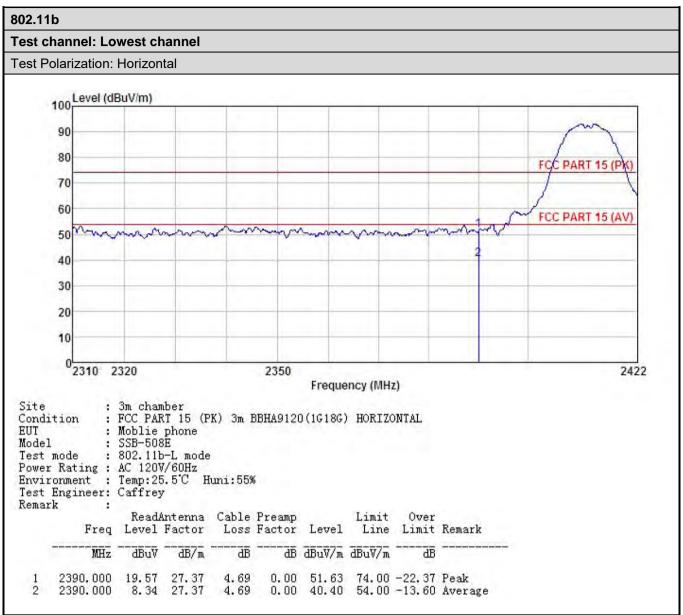


## 6.6.2 Radiated Emission Method

0.0.2	2 Radiated Emission Method								
	Test Requirement:	FCC Part 15 C Section 15.209 and 15.205							
	Test Method:	ANSI C63.10: 2013 and KDB 558074							
	Test Frequency Range:	2.3GHz to 2.5GHz							
	Test Distance:	3m							
	Receiver setup:	Frequency	Detect				VBW Remar		
		Above 1GHz	Peak RMS		1MHz 1MHz	3MHz 3MHz		Peak Value Average Value	
	Limit:	Frequenc	ļ		nit (dBuV/m @		1112	Remark	
		Above 1GI	-l <sub>7</sub>		54.00			verage Value	
	To the December of the Control of th	74.00 Peak  1. The EUT was placed on the top of a rotating table 1.5 me						Peak Value	
	Test Procedure:	the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.  2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.  3. 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.  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 rota 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 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasipeak or average method as specified and then reported in a data							
	Test setup:	150cm	AE LEU (Turntable)		3m Ground Reference Plane	n Anienna	Antenna To	wer	
	Test Instruments:	Refer to section 5.8 for details							
	Test mode:	Refer to section 5.3 for details							
	Test results:	Passed							
			·			· <u></u>		·	



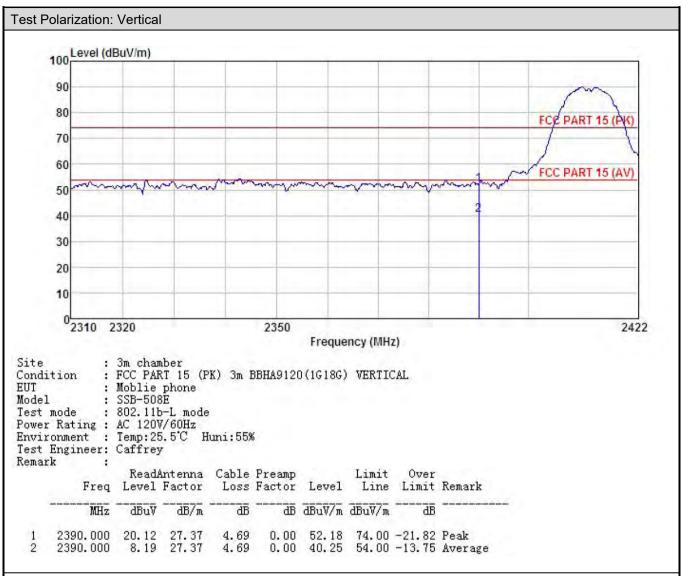




- 1. Final Level = Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor.
- 2. The emission levels of other frequencies are very lower than the limit and not show in test report.





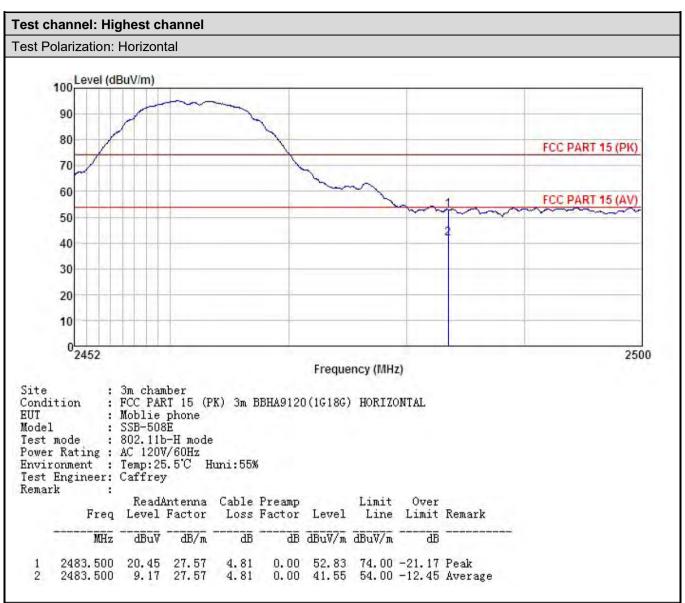


1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.

The emission levels of other frequencies are very lower than the limit and not show in test report.





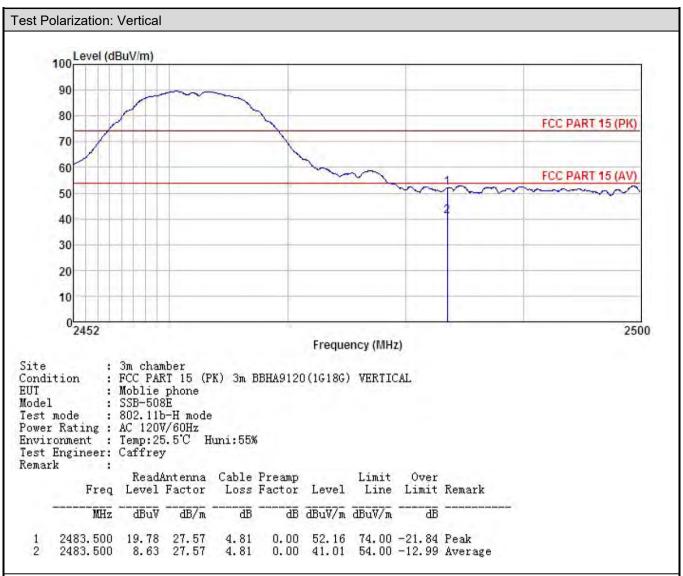


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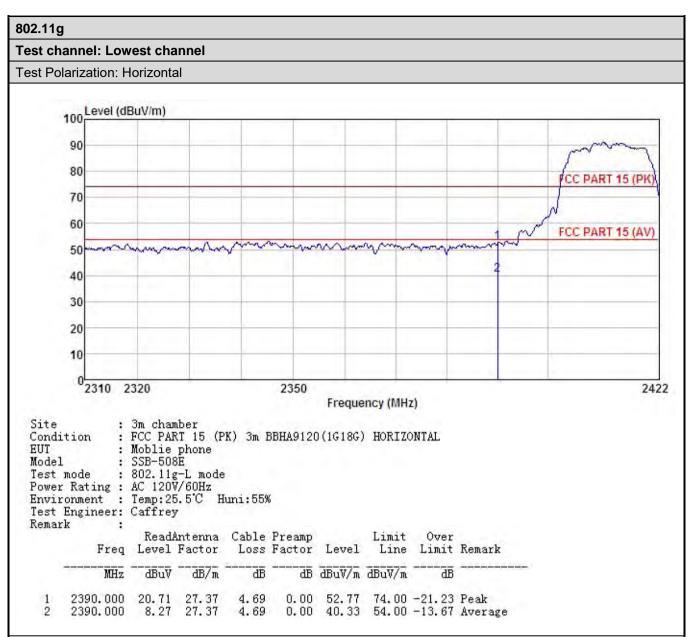




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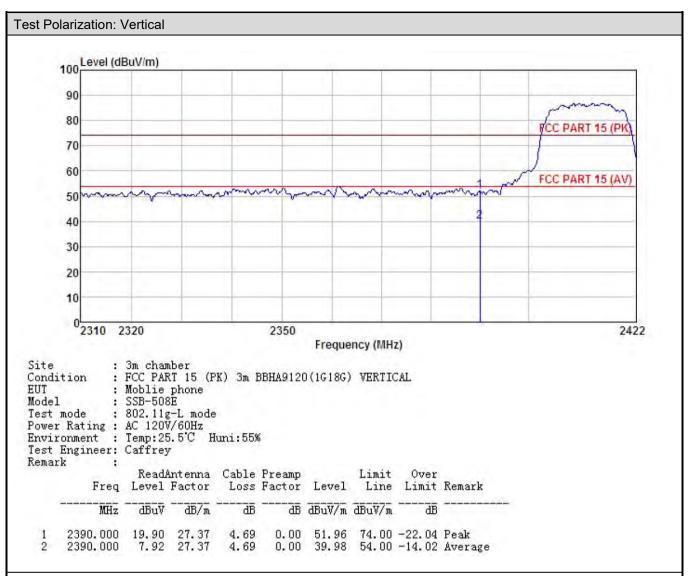


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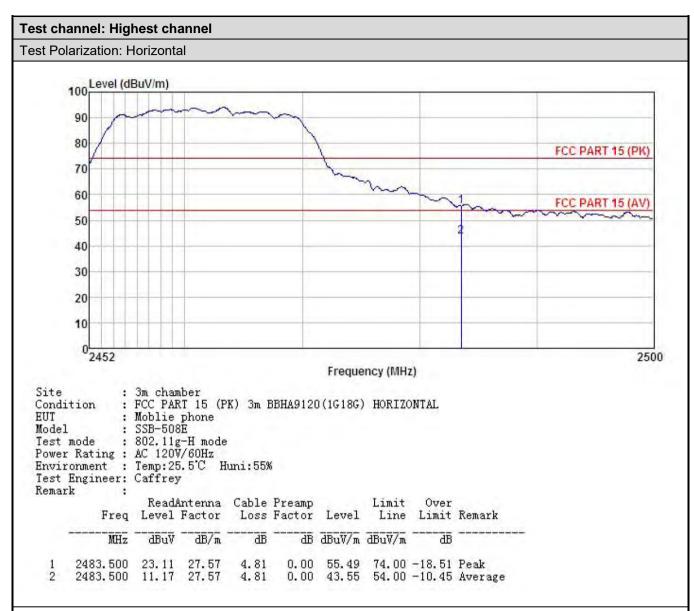




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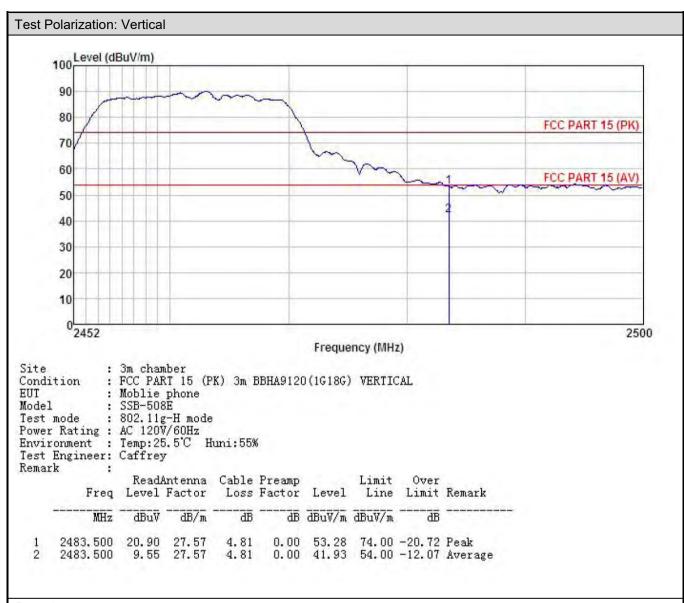


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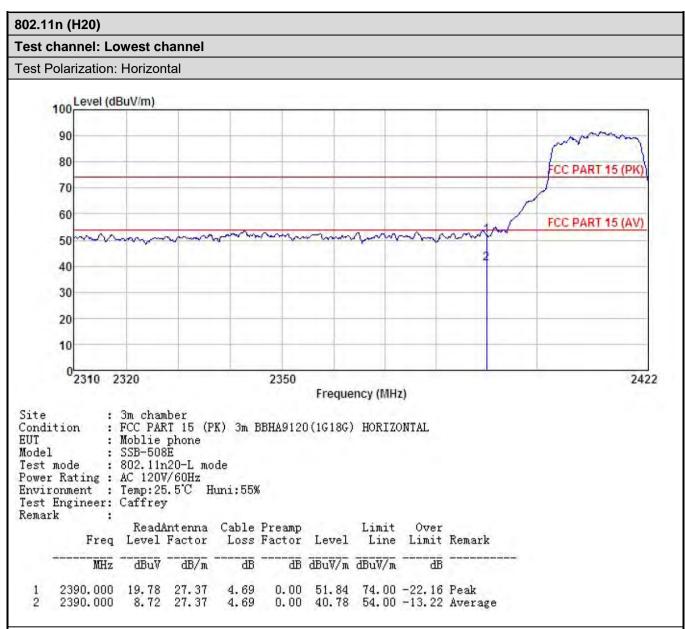




- 1. Final Level = Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor.
- 2. The emission levels of other frequencies are very lower than the limit and not show in test report.





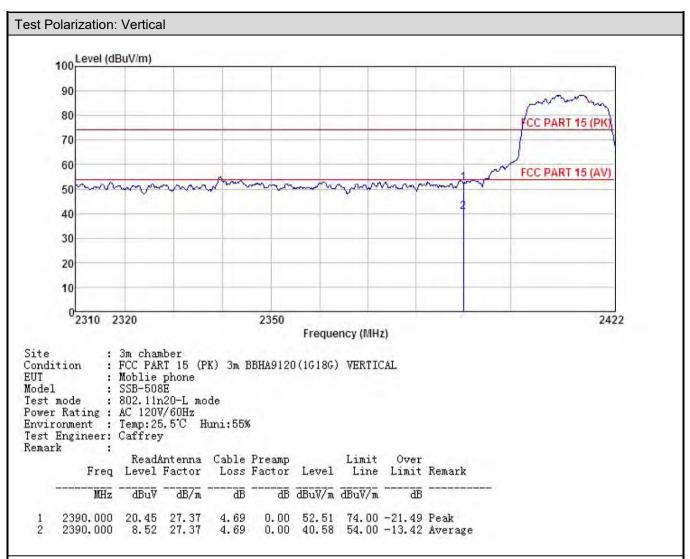


1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.

2. The emission levels of other frequencies are very lower than the limit and not show in test report.





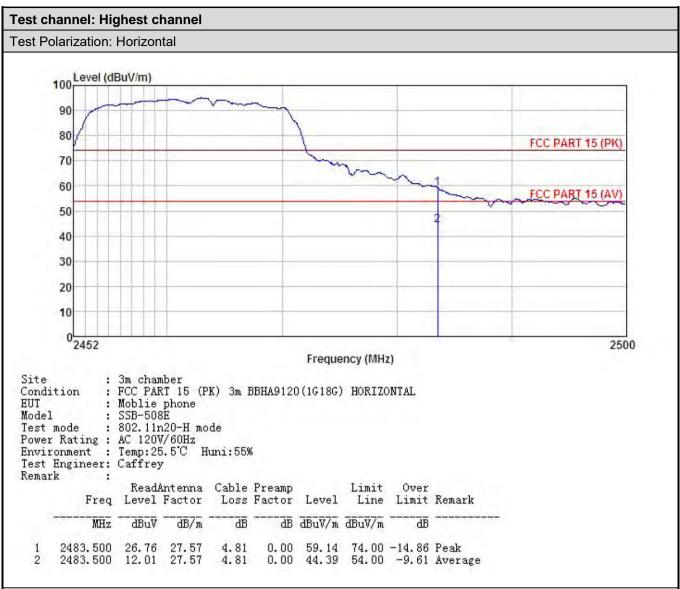


1. Final Level = Receiver Read level + Antenna Factor + Cable Loss - Preamplifier Factor.

2. The emission levels of other frequencies are very lower than the limit and not show in test report.



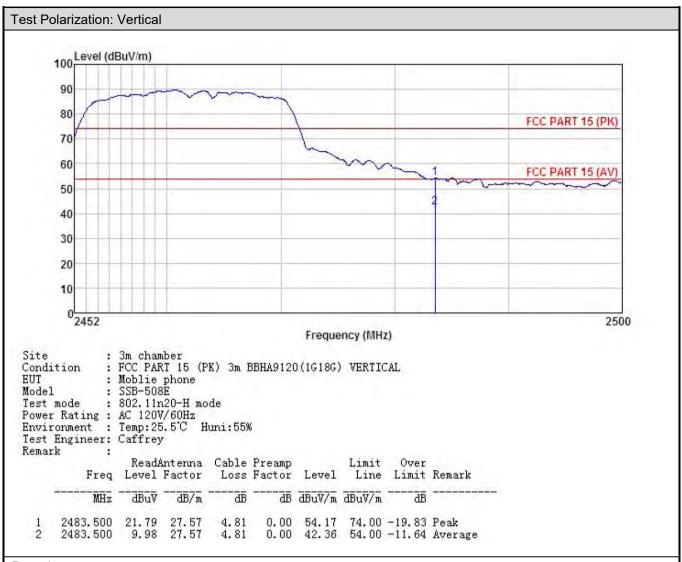




- 1. Final Level = Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor.
- 2. The emission levels of other frequencies are very lower than the limit and not show in test report.



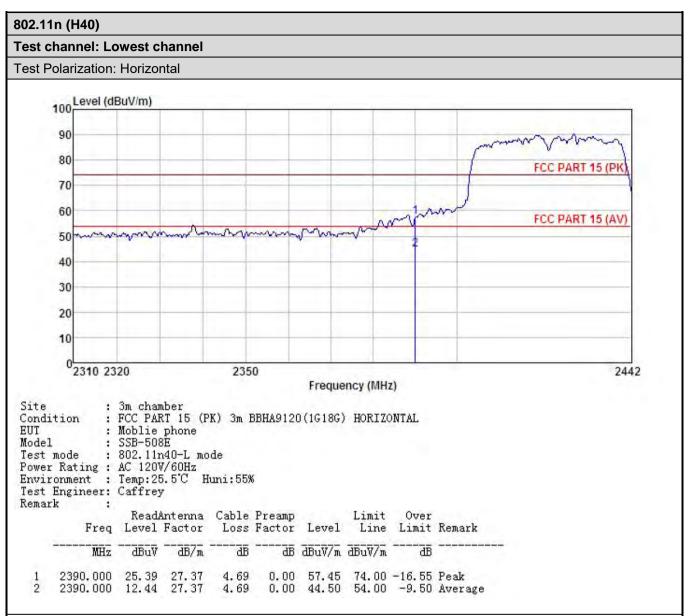




- 1. Final Level = Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor.
- 2. The emission levels of other frequencies are very lower than the limit and not show in test report.



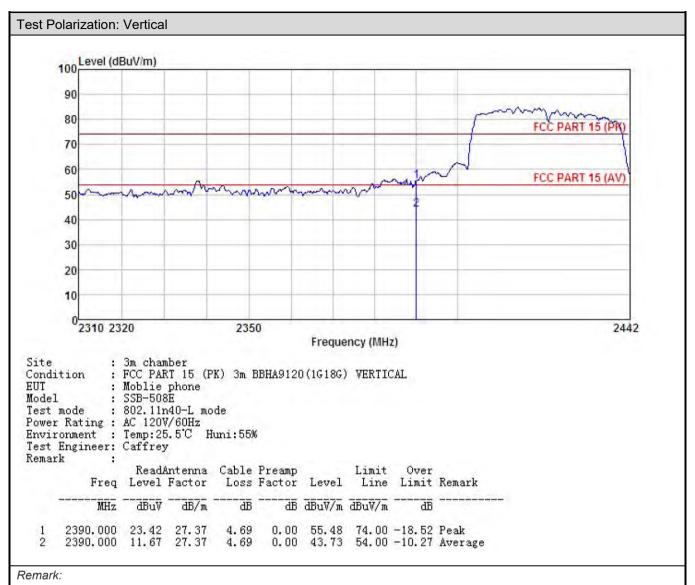




- 1. Final Level = Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor.
- 2. The emission levels of other frequencies are very lower than the limit and not show in test report.





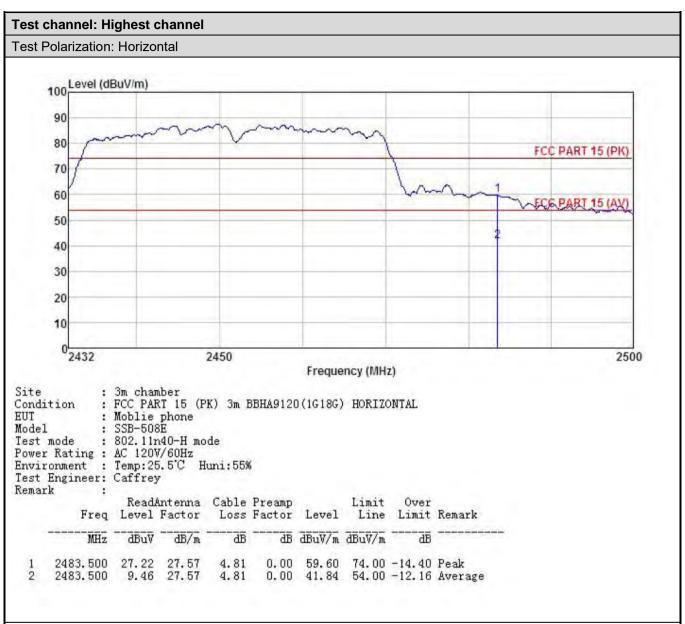


1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.

2. The emission levels of other frequencies are very lower than the limit and not show in test report.



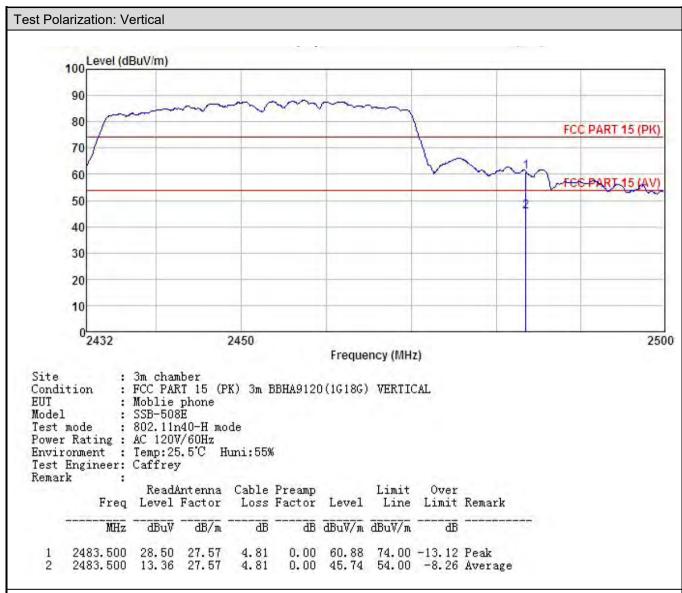




- 1. Final Level = Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor.
- 2. The emission levels of other frequencies are very lower than the limit and not show in test report.







- 1. Final Level = Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor.
- 2. The emission levels of other frequencies are very lower than the limit and not show in test report.



# 6.7 Spurious Emission

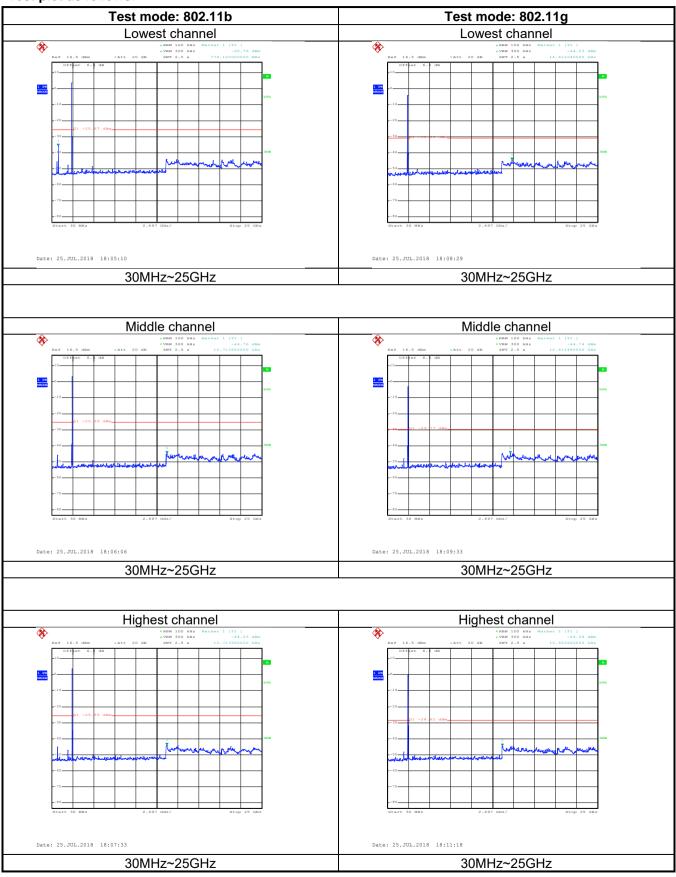
# 6.7.1 Conducted Emission Method

<u> </u>	Conducted Emission Method								
Te	st Requirement:	FCC Part 15 C Section 15.247 (d)							
Te	st Method:	ANSI C63.10:2013 and KDB 558074							
Lin	nit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph(b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.							
Te	st setup:	Spectrum Analyzer  E.U.T  Non-Conducted Table  Ground Reference Plane							
Te	st Instruments:	Refer to section 5.8 for details							
	st mode:	Refer to section 5.3 for details							
	st results:	Passed							
10.	ot roodito.	1 40004							



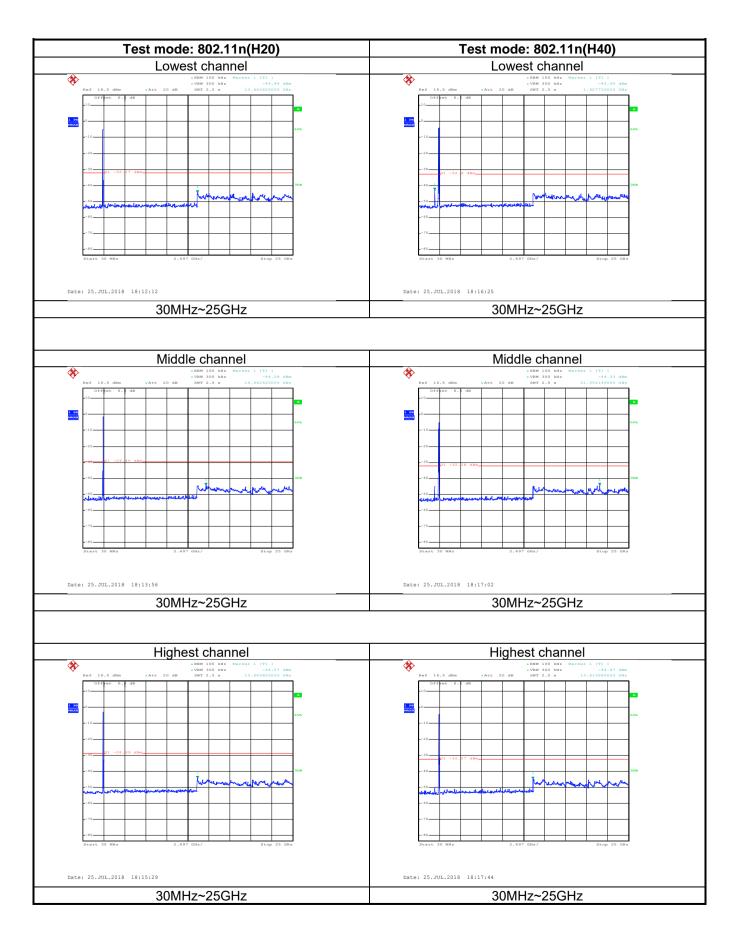


### Test plot as follows:













# 6.7.2 Radiated Emission Method

6.7.2	2 Radiated Emission Method									
٦	Test Requirement:	FCC Part 15 C Section 15.209 and 15.205								
	Test Method:	ANSI C63.10:2013								
	Test Frequency Range:	9kHz to 25GHz								
	Test Distance:	3m								
F	Receiver setup:	Frequency	Dete	tector RBW		VBW		Remark		
	·	30MHz-1GHz	Quasi-	-peak	120KHz	300KHz		Quasi-peak Value		
		Above 1GHz	Pea		1MHz	3MHz		Peak Value		
	_imit:	Frequency	RM		1MHz t (dBuV/m @3i		ИHz	Average Value Remark		
L	_IITIIL.	30MHz-88MH	Z	LIIIII	40.0	111)	Qı	Quasi-peak Value		
		88MHz-216MH			43.5			uasi-peak Value		
		216MHz-960M			46.0			uasi-peak Value		
		960MHz-1GH	Z		54.0		Qı	uasi-peak Value		
		Above 1GHz			54.0		1	Average Value		
				-l 4l-	74.0	_4!	4-1-1-0	Peak Value		
	Test Procedure:	<ol> <li>The EUT was placed on the top of a rotating table 0.8m(below 1GHz)/1.5m(above 1GHz) above the ground at a 3 meter chamber. The table was rotated 360 degrees to determine the position of the highest radiation.</li> <li>The EUT was set 3 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 and the rota 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 would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasipeak or average method as specified and then reported in a data</li> </ol>								
	Test setup:	Below 1GHz  EUT  Tum Table  Ground P		4m			_			





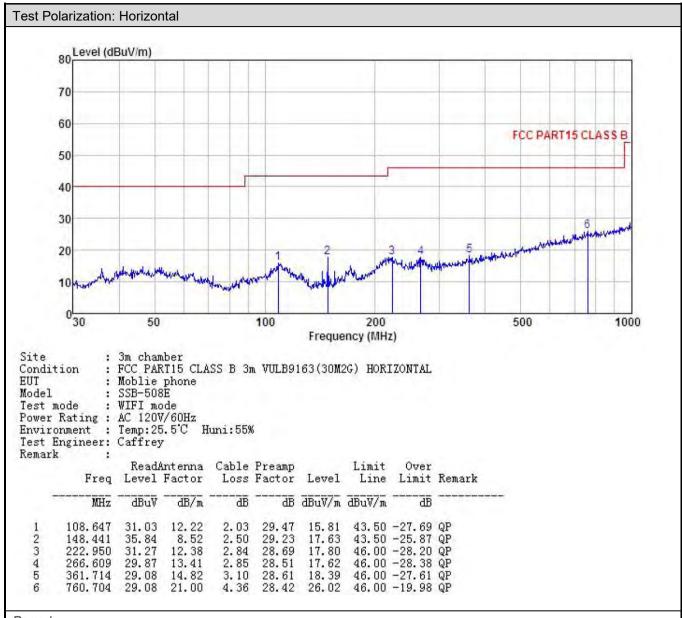
	Above 1GHz
	Harri Anienna Tower  Test Receiver Anythet Controller
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed
Remark:	<ol> <li>Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis is the worst case.</li> <li>9 kHz to 30MHz is too low, so only shows the data of above 30MHz in this report.</li> </ol>





#### Measurement Data (worst case):

#### **Below 1GHz:**

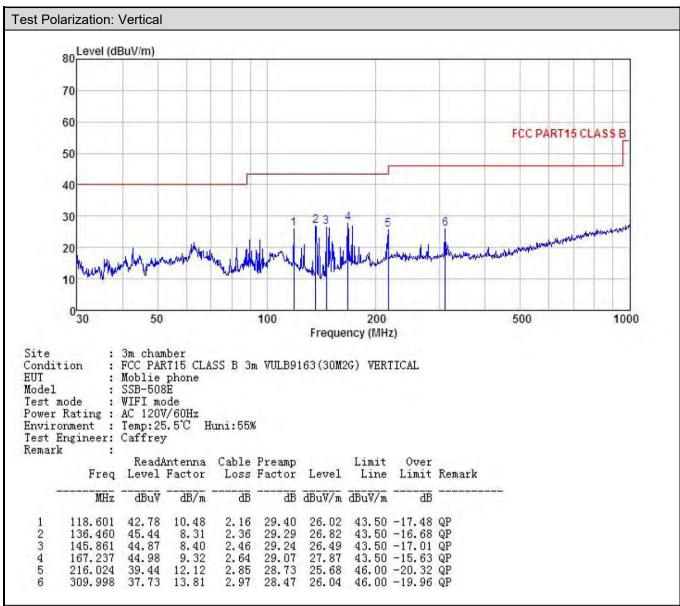


#### Remark

- 1. Final Level = Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor.
- 2. The emission levels of other frequencies are very lower than the limit and not show in test report.







- 1. Final Level = Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor.
- 2. The emission levels of other frequencies are very lower than the limit and not show in test report.





#### **Above 1GHz**

Above 1GHz				000 116						
802.11b										
Test channel: Lowest channel  Detector: Peak Value										
T		1		l	Value					
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization		
4824.00	47.85	30.94	6.81	41.82	43.78	74.00	-30.22	Vertical		
4824.00	47.26	30.94	6.81	41.82	43.19	74.00	-30.81	Horizontal		
	Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization		
4824.00	37.17	30.94	6.81	41.82	33.10	54.00	-20.90	Vertical		
4824.00	37.48	30.94	6.81	41.82	33.41	54.00	-20.59	Horizontal		
				annel: Midd						
		T	Def	tector: Peak	Value					
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization		
4874.00	47.91	31.20	6.85	41.84	44.12	74.00	-29.88	Vertical		
4874.00	46.69	31.20	6.85	41.84	42.90	74.00	-31.10	Horizontal		
			Dete	ctor: Averaç	je Value					
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization		
4874.00	37.24	31.20	6.85	41.84	33.45	54.00	-20.55	Vertical		
4874.00	36.57	31.20	6.85	41.84	32.78	54.00	-21.22	Horizontal		
			Tost sh	annel: High	oct channol					
				tector: Peak						
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization		
4924.00	49.25	31.46	6.89	41.86	45.74	74.00	-28.26	Vertical		
4924.00	47.38	31.46	6.89	41.86	43.87	74.00	-30.13	Horizontal		
				ctor: Averaç	ge Value					
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization		
4924.00	38.80	31.46	6.89	41.86	35.29	54.00	-18.71	Vertical		
4924.00	37.57	31.46	6.89	41.86	34.06	54.00	-19.94	Horizontal		
Remark:										

# Remark:

- 1. Final Level = Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor.
- 2. The emission levels of other frequencies are very lower than the limit and not show in test report.





				802.11g						
			Test ch	annel: Lowe						
				tector: Peak						
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization		
4824.00	47.56	30.94	6.81	41.82	43.49	74.00	-30.51	Vertical		
4824.00	47.51	30.94	6.81	41.82	43.44	74.00	-30.56	Horizontal		
	Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization		
4824.00	37.39	30.94	6.81	41.82	33.32	54.00	-20.68	Vertical		
4824.00	37.46	30.94	6.81	41.82	33.39	54.00	-20.61	Horizontal		
			Test ch	annel: Midd	lle channel					
			De	tector: Peak	Value					
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization		
4874.00	46.84	31.20	6.85	41.84	43.05	74.00	-30.95	Vertical		
4874.00	45.32	31.20	6.85	41.84	41.53	74.00	-32.47	Horizontal		
			Dete	ctor: Averaç	ge Value					
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization		
4874.00	36.89	31.20	6.85	41.84	33.10	54.00	-20.90	Vertical		
4874.00	35.17	31.20	6.85	41.84	31.38	54.00	-22.62	Horizontal		
			Test ch	annel: Highe	est channel					
			De	tector: Peak	Value					
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization		
4924.00	48.73	31.46	6.89	41.86	45.22	74.00	-28.78	Vertical		
4924.00	47.09	31.46	6.89	41.86	43.58	74.00	-30.42	Horizontal		
			Dete	ctor: Averaç	ge Value					
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization		
4924.00	38.11	31.46	6.89	41.86	34.60	54.00	-19.40	Vertical		
4924.00	37.34	31.46	6.89	41.86	33.83	54.00	-20.17	Horizontal		
Remark:										

<sup>1.</sup> Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.

<sup>2.</sup> The emission levels of other frequencies are very lower than the limit and not show in test report.





				802.11n(HT	20)					
				annel: Lowe						
				tector: Peak						
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization		
4824.00	47.82	36.06	6.81	41.82	48.87	74.00	-25.13	Vertical		
4824.00	47.48	36.06	6.81	41.82	48.53	74.00	-25.47	Horizontal		
	Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization		
4824.00	37.64	36.06	6.81	41.82	38.69	54.00	-15.31	Vertical		
4824.00	37.38	36.06	6.81	41.82	38.43	54.00	-15.57	Horizontal		
				annel: Midd						
		T		tector: Peak	Value		T			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization		
4874.00	46.92	36.32	6.85	41.84	48.25	74.00	-25.75	Vertical		
4874.00	45.39	36.32	6.85	41.84	46.72	74.00	-27.28	Horizontal		
			Dete	ctor: Averaç	ge Value					
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization		
4874.00	37.06	36.32	6.85	41.84	38.39	54.00	-15.61	Vertical		
4874.00	35.40	36.32	6.85	41.84	36.73	54.00	-17.27	Horizontal		
				annel: High						
				tector: Peak	Value		T .			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization		
4924.00	48.07	36.58	6.89	41.86	49.68	74.00	-24.32	Vertical		
4924.00	47.11	36.58	6.89	41.86	48.72	74.00	-25.28	Horizontal		
			Dete	ctor: Averaç	ge Value					
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization		
4924.00	37.22	36.58	6.89	41.86	38.83	54.00	-15.17	Vertical		
4924.00	37.56	36.58	6.89	41.86	39.17	54.00	-14.83	Horizontal		
Remark:										

<sup>1.</sup> Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.

<sup>2.</sup> The emission levels of other frequencies are very lower than the limit and not show in test report.





				802.11n(HT	40)					
				annel: Lowe						
				tector: Peak						
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization		
4844.00	47.89	36.06	6.81	41.82	48.94	74.00	-25.06	Vertical		
4844.00	47.52	36.06	6.81	41.82	48.57	74.00	-25.43	Horizontal		
	Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization		
4844.00	37.58	36.06	6.81	41.82	38.63	54.00	-15.37	Vertical		
4844.00	37.89	36.06	6.81	41.82	38.94	54.00	-15.06	Horizontal		
				annel: Midd						
		T		tector: Peak	Value		T			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization		
4874.00	46.98	36.32	6.85	41.84	48.31	74.00	-25.69	Vertical		
4874.00	44.82	36.32	6.85	41.84	46.15	74.00	-27.85	Horizontal		
			Dete	ctor: Averaç	ge Value					
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization		
4874.00	37.12	36.32	6.85	41.84	38.45	54.00	-15.55	Vertical		
4874.00	34.61	36.32	6.85	41.84	35.94	54.00	-18.06	Horizontal		
				annel: High						
				tector: Peak	Value		T .			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization		
4904.00	48.09	36.45	6.87	41.85	49.56	74.00	-24.44	Vertical		
4904.00	47.13	36.45	6.87	41.85	48.60	74.00	-25.40	Horizontal		
			Dete	ctor: Averaç	ge Value					
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization		
4904.00	38.31	36.45	6.87	41.85	39.78	54.00	-14.22	Vertical		
4904.00	37.54	36.45	6.87	41.85	39.01	54.00	-14.99	Horizontal		
Remark:	·									

<sup>1.</sup> Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.

<sup>2.</sup> The emission levels of other frequencies are very lower than the limit and not show in test report.