

# Shenzhen Zhongjian Nanfang Testing Co., Ltd.

Report No: CCISE180707503

# FCC REPORT

Applicant: JAINA MARKETING & ASSOCIATES

Address of Applicant: D- 170,Okhla Industrial Area, Phase - I New Delhi - 110020 India

**Equipment Under Test (EUT)** 

Product Name: Mobile Phone

Model No.: K9 Smart Plus 2GB, K9 Smart Plus

Trade mark: Karbonn

FCC ID: 2AFEWK9SMARTPLUS2GB

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

Date of sample receipt: 13 Jul., 2018

**Date of Test:** 16 Jul., to 25 Jul., 2018

Date of report issued: 26 Jul., 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.

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# 2 Version

Version No.	Date	Description
00	26 Jul., 2018	Original

Tested by: Owen hen Date: 26 Jul., 2018

Test Engineer

Reviewed by: Date: 26 Jul., 2018

Project Engineer



# 3 Contents

			Page
1	CO/	/ER PAGE	1
2	VER	SION	2
3		VTENTS	
		T SUMMARY	
4	_		
5	GEN	NERAL INFORMATION	5
	5.1	CLIENT INFORMATION	5
	5.2	GENERAL DESCRIPTION OF E.U.T	5
	5.3	TEST ENVIRONMENT AND TEST MODE	
	5.4	DESCRIPTION OF SUPPORT UNITS	6
	5.5	MEASUREMENT UNCERTAINTY	6
	5.6	LABORATORY FACILITY	6
	5.7	LABORATORY LOCATION	
	5.8	TEST INSTRUMENTS LIST	7
6	TES	T RESULTS AND MEASUREMENT DATA	8
	6.1	ANTENNA REQUIREMENT	8
	6.2	CONDUCTED EMISSION	9
	6.3	CONDUCTED OUTPUT POWER	
	6.4	OCCUPY BANDWIDTH	
	6.5	Power Spectral Density	19
	6.6	BAND EDGE	
	6.6.		
	6.6.2		
	6.7	Spurious Emission	
	6.7.		
	6.7.2	2 Radiated Emission Method	41
7	TES	T SETUP PHOTO	48
0	EUT	CONCEDUCTIONAL DETAILS	40





# **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 FUT complies with the essential requirements in the standard					

Pass: The EUT complies with the essential requirements in the standard.

N/A: N/A: Not Applicable.





# 5 General Information

# **5.1 Client Information**

Applicant:	JAINA MARKETING & ASSOCIATES
Address:	D- 170, Okhla Industrial Area, Phase - I New Delhi - 110020 India
Manufacturer:	VSUN MOBILE PVT LTD
Address:	PLOT NO. 2 , N. H. NO. 8, ICD BAWAL, SECTOR - 8, BAWAL, DISTRICT - REWARI, HARYANA, India

# 5.2 General Description of E.U.T.

Product Name:	Mobile Phone
Model No.:	K9 Smart Plus 2GB, K9 Smart Plus
Operation Frequency:	2412MHz~2462MHz (802.11b/802.11g/802.11n(H20))
Channel numbers:	11 for 802.11b/802.11g/802.11(H20)
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 72.2Mbps
Antenna Type:	Internal Antenna
Antenna gain:	1.0 dBi
Power supply:	Rechargeable Li-ion Battery DC3.85V-2800mAh
AC adapter:	Model: UT-051A-5100 Input: AC100-240V, 50/60Hz, 0.2A Output: DC 5.0V, 1000mA
Remark:	The No.: K9 Smart Plus 2GB, K9 Smart Plus were identical inside, the electrical circuit design, layout, components used and internal wiring, with difference being model name different only.

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;

Shenzhen Zhongjian Nanfang Testing Co., Ltd.
No. B-C, 1/F., Building 2, Laodong No.2 Industrial Park, Xixiang Road, Bao'an District, Shenzhen, Guangdong, China
Telephone: +86 (0) 755 23118282 Fax: +86 (0) 755 23116366



Report No: CCISE180707503

# 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 transmit	ing 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			

# 5.4 Description of Support Units

The EUT has been tested as an independent unit.

# 5.5 Measurement Uncertainty

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)	

# 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>

Shenzhen Zhongjian Nanfang Testing Co., Ltd. No. B-C, 1/F., Building 2, Laodong No.2 Industrial Park, Xixiang Road, Bao'an District, Shenzhen, Guangdong, China Telephone: +86 (0) 755 23118282 Fax: +86 (0) 755 23116366



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# 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	6.110919b	N/A	N/A		
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		

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	
LISN	Rohde & Schwarz	F0U2 75	0.420624/040	07-21-2017	07-20-2018	
LISIN	Ronde & 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	6.110919b	N/A	N/A	



# 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 1.0 dBi.







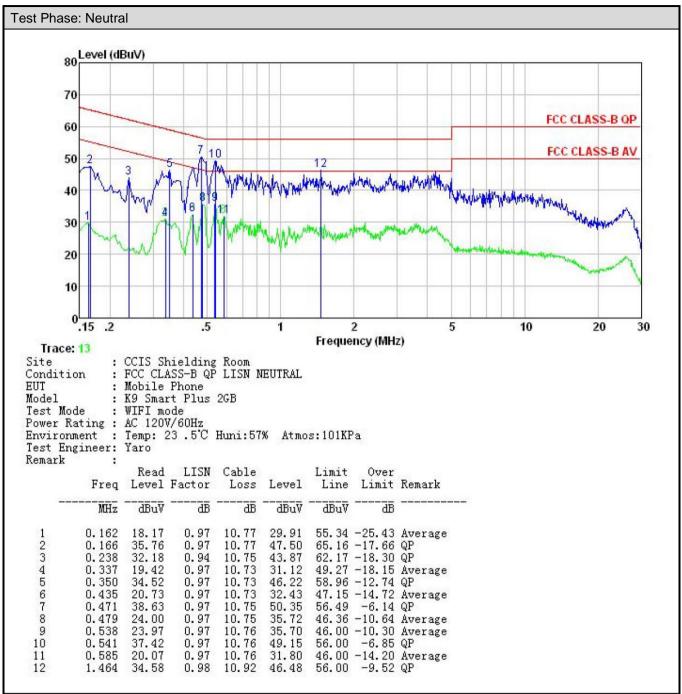
# 6.2 Conducted Emission

1								
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 kl	RBW=9 kHz, VBW=30 kHz						
Limit:	Frequency range							
	(MHz)							
	0.15-0.5 66 to 56* 56 to 46* 0.5-5 56 46							
	0.5-5	46						
	5-30	60	50					
	* Decreases with the loga							
Test procedure	line impedance stab 50ohm/50uH couplir 2. The peripheral device a LISN that provides termination. (Please photographs). 3. Both sides of A.C. ling interference. In order positions of equipments	a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs).						
Test setup:		Reference Plane						
	AUX Equipment  Test table/Insula  Remark E.U.T: Equipment Under LISN: Line Impedence Ste	E.U.T  EMI Receiver	Ilter — AC power					
	Test table height=0.8m							
Test Instruments:	Refer to section 5.8 for d							
Test mode:	Refer to section 5.3 for d	etails						
Test results:	Passed							





#### **Measurement Data:**

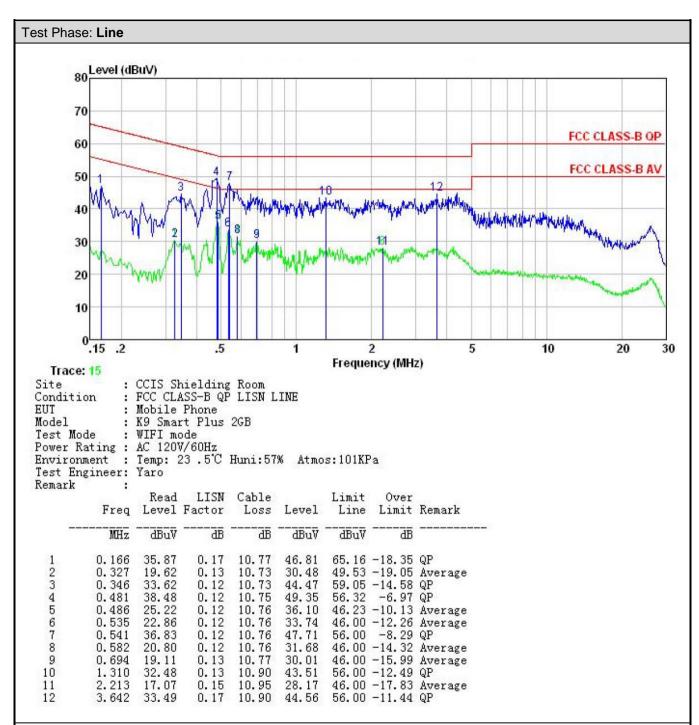


#### Notes:

- 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.





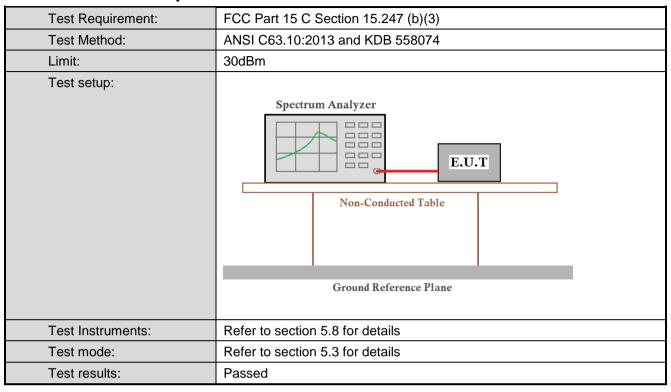


### Notes:

- 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**

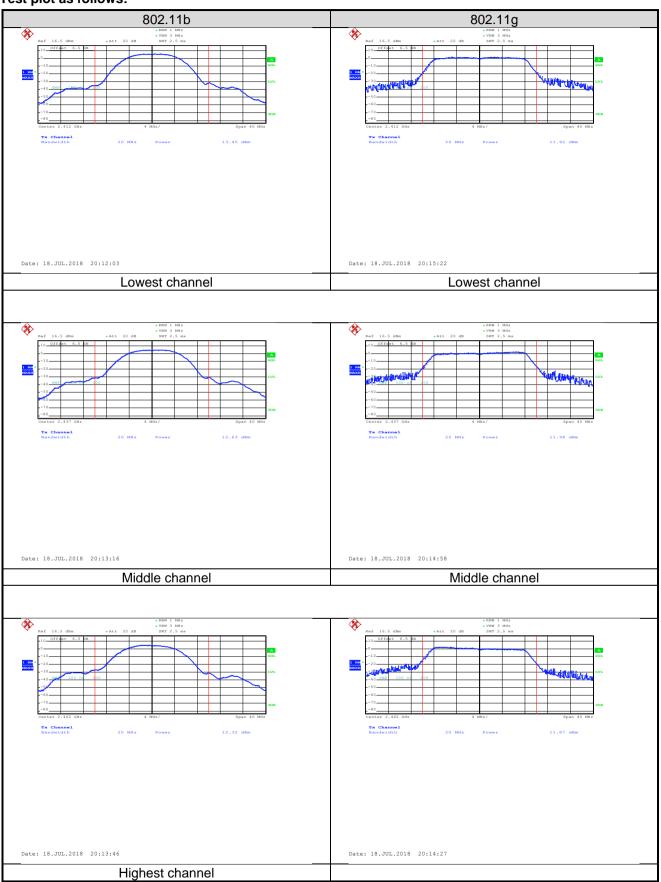


## **Measurement Data:**

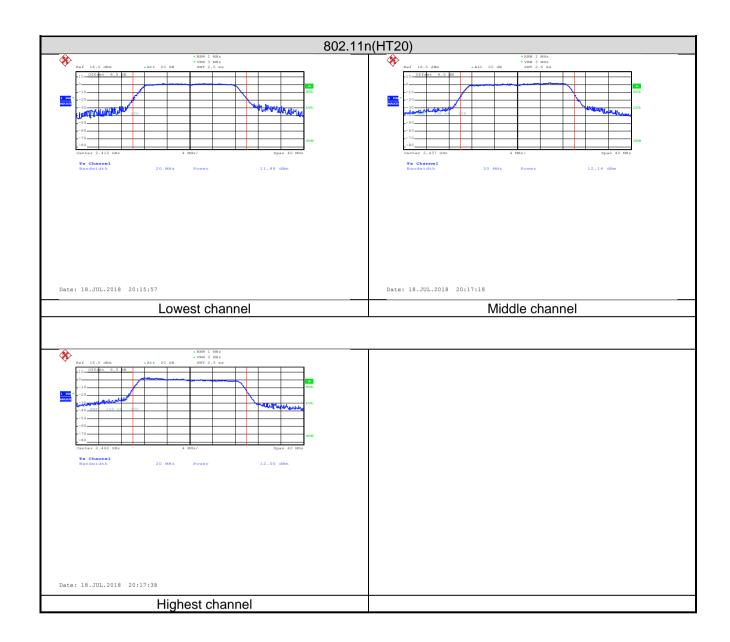
Toot CU	Maximum Conducted Output Power (dBm)					
Test CH	Test CH 802.11b 802.11g 802.11n(H2		802.11n(H20)	Limit(dBm)	Result	
Lowest	13.45	11.92	11.88			
Middle	12.63	2.63 11.98 12.1		30.00	Pass	
Highest	12.32	11.87	12.00			



## 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			

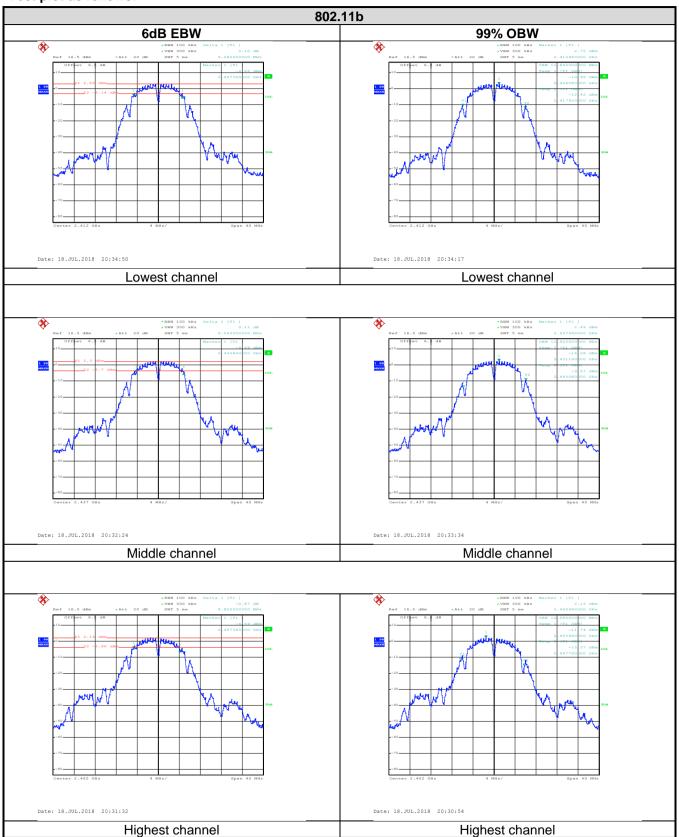
# **Measurement Data:**

Test CH	6dB	lHz)	Limit/k∐→)	Result	
Test CH	802.11b 802.11g 802.11n(H20)		Limit(kHz)	Result	
Lowest	9.28	17.76	17.76		
Middle	9.04	16.24	17.52	>500	Pass
Highest	8.80	16.32	17.52		
Test CH	99%	6 Occupy Bandwidth (M	Hz)	Limit/kU=)	Result
Test CH	802.11b	802.11g	802.11n(H20)	Limit(kHz)	
Lowest	11.84	16.56	17.60		
Middle	11.92	16.56	17.68	N/A	N/A
Highest	12.08	16.88	17.76		



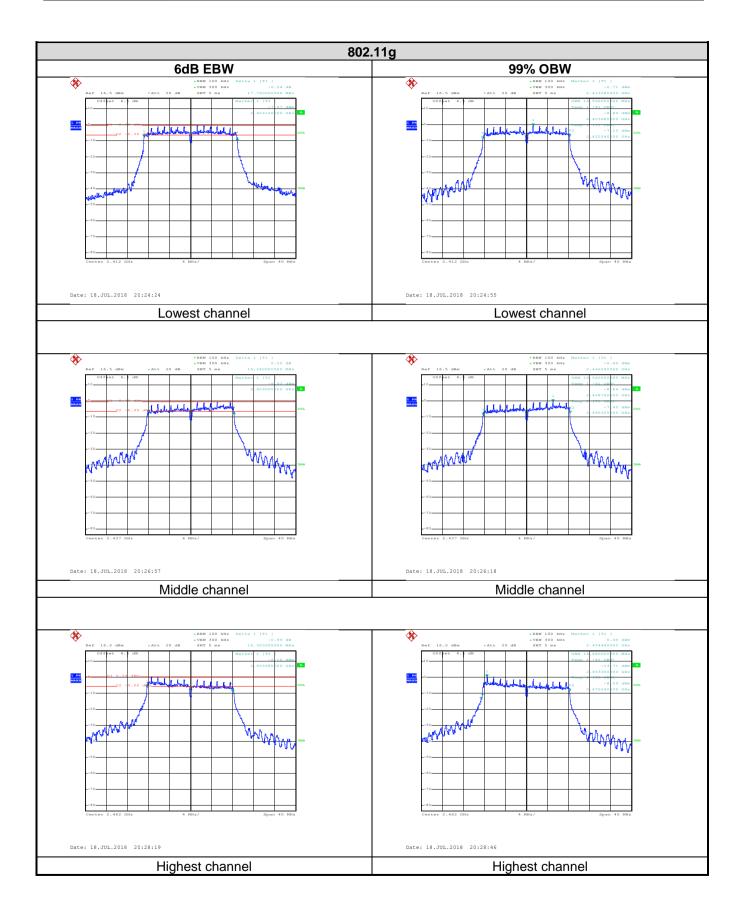


## Test plot as follows:

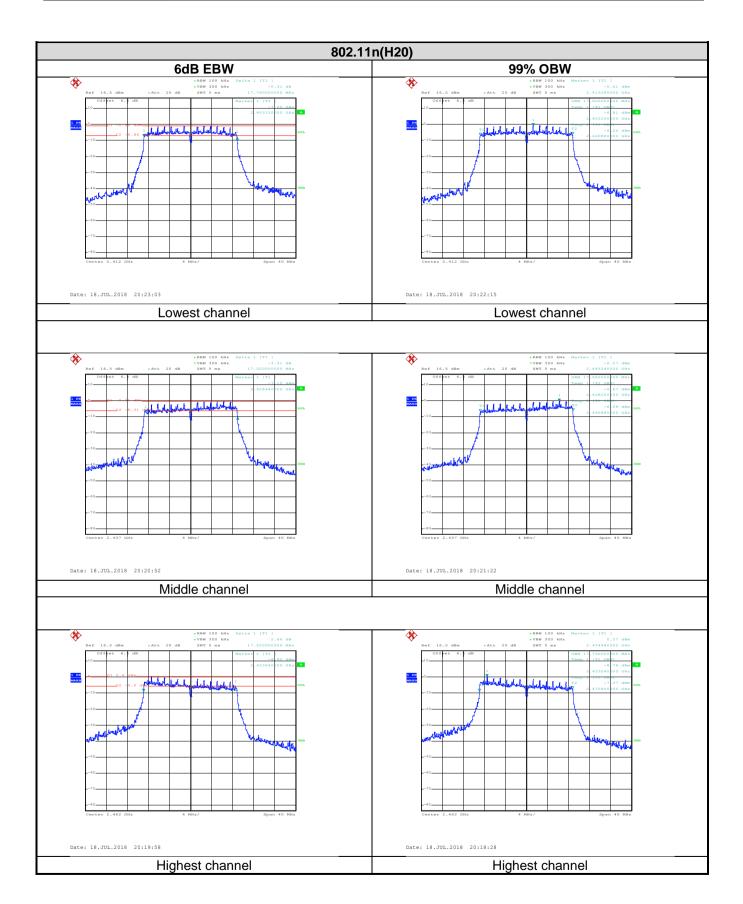














# 6.5 Power Spectral Density

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			

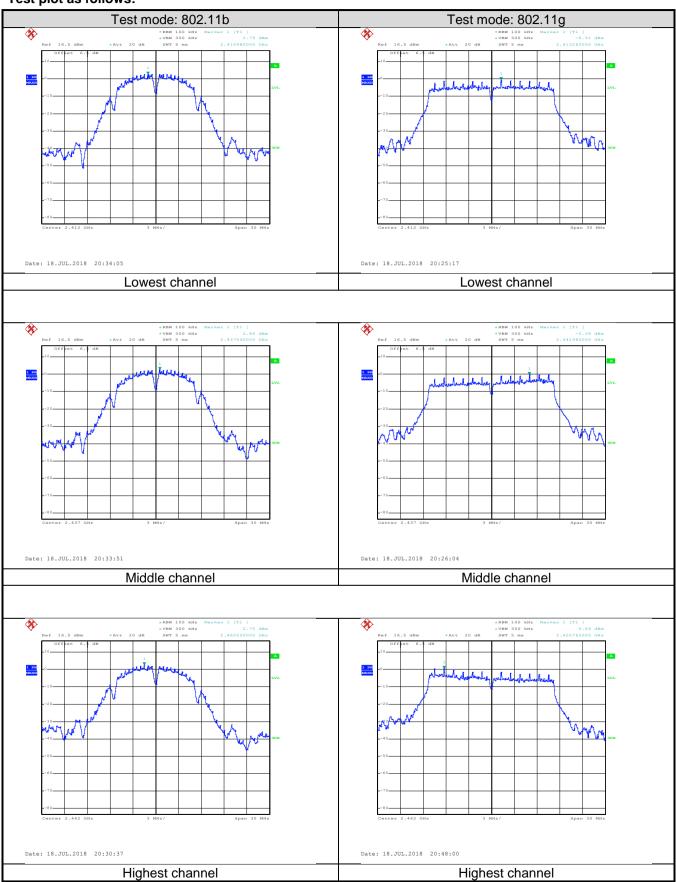
# **Measurement Data:**

Toot CU	Po	Bm)	Limit(dDm)	Result	
Test Cn	Test CH 802.11b		802.11n(H20)		
Lowest	2.79	-0.51	-0.59		
Middle	2.84	-0.28	-0.19	8.00	Pass
Highest	2.75	0.56	0.51		

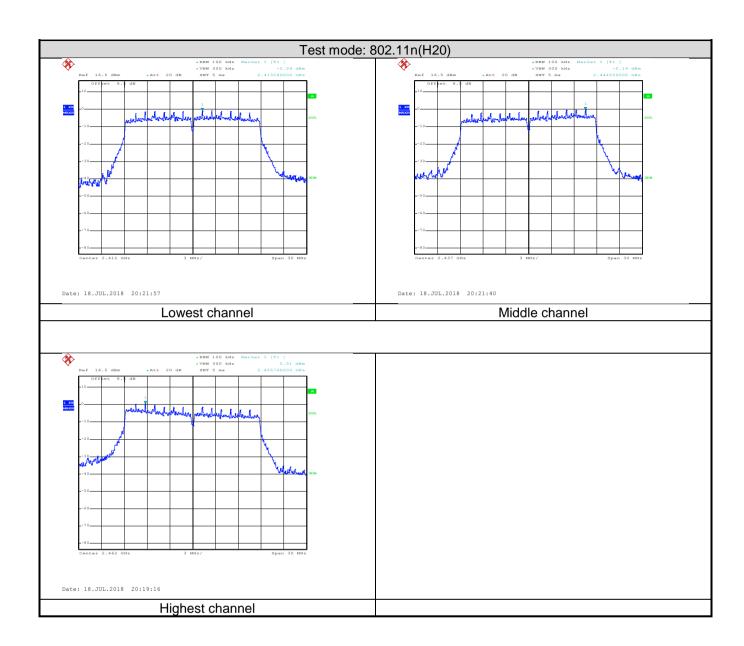




## Test plot as follows:









# 6.6 Band Edge

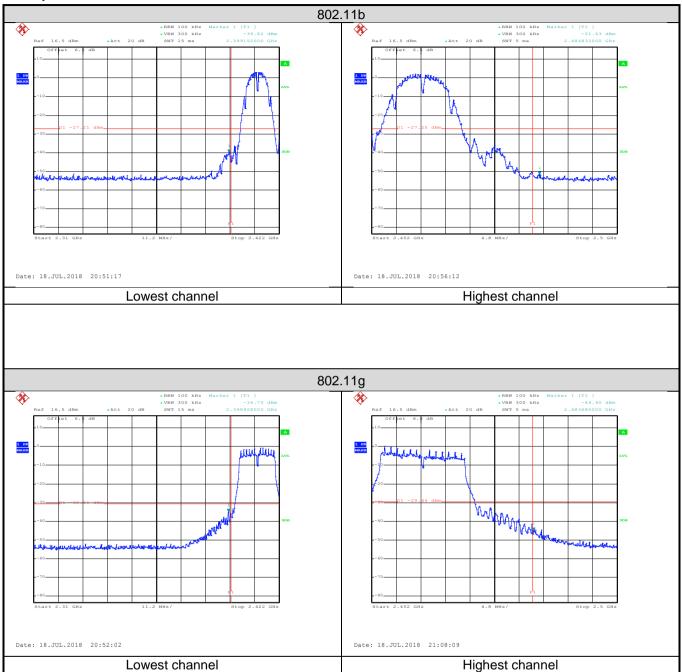
# 6.6.1 Conducted Emission Method

20.1 Conducted Limission 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					



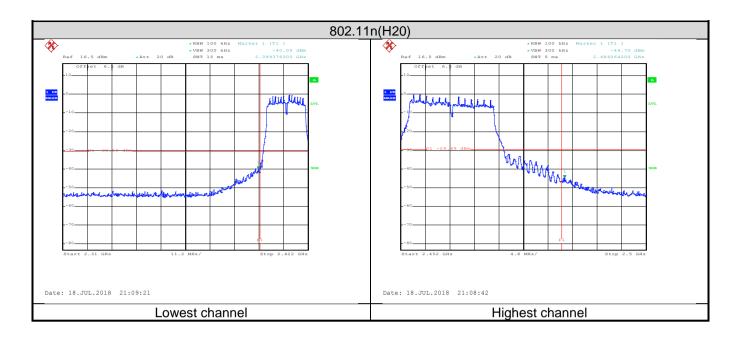


## Test plot as follows:











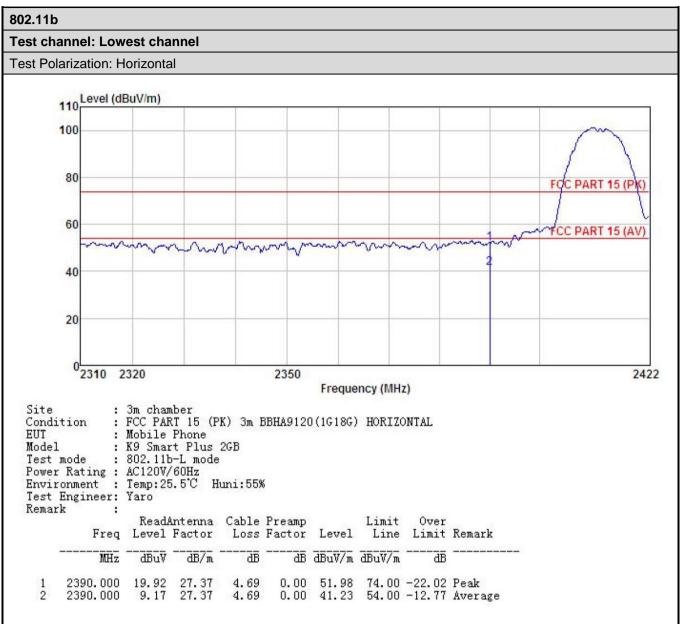


# 6.6.2 Radiated Emission Method

6.6.2	Radiated Emission Me	ethod							
	Test Requirement:	FCC Part 15 C	Section 15	5.20	9 and 15.205				
	Test Method:	ANSI C63.10: 2	2013 and	KDE	3 558074				
	Test Frequency Range:	2.3GHz to 2.50	SHz						
	Test Distance:	3m							
	Receiver setup:	Frequency	Detecto		RBW		BW	Remark	
		Above 1GHz	Peak		1MHz		MHz	Peak Value	
	Limit:	Frequenc	RMS	l in	1MHz nit (dBuV/m @		ИHz Г	Average Valu Remark	ue
	LIIIII.				54.00	0111)	Av	rerage Value	
		Above 1G			74.00		F	Peak Value	
	Test Procedure:	<ol> <li>The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter camber. 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>							es na es t
	Test setup:	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	AE EU (Turntable)		3m  Ground Reference Plane	n Antenna	Antenna Tow	Ner Williams	
	Test Instruments:	Refer to section	n 5.8 for de	etails	S				
	Test mode:	Refer to section	n 5.3 for de	etails	S				
	Test results:	Passed							





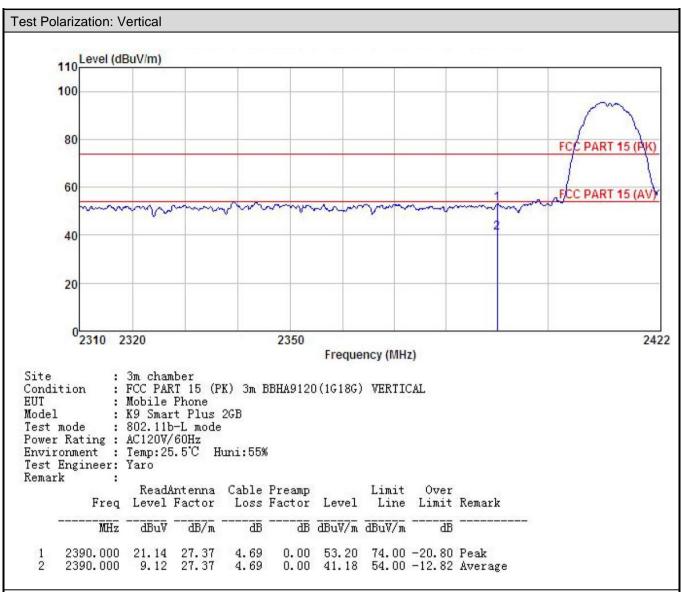


1. Final Level = Receiver Read level + Antenna Factor + Cable Loss - Preamplifier Factor.

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





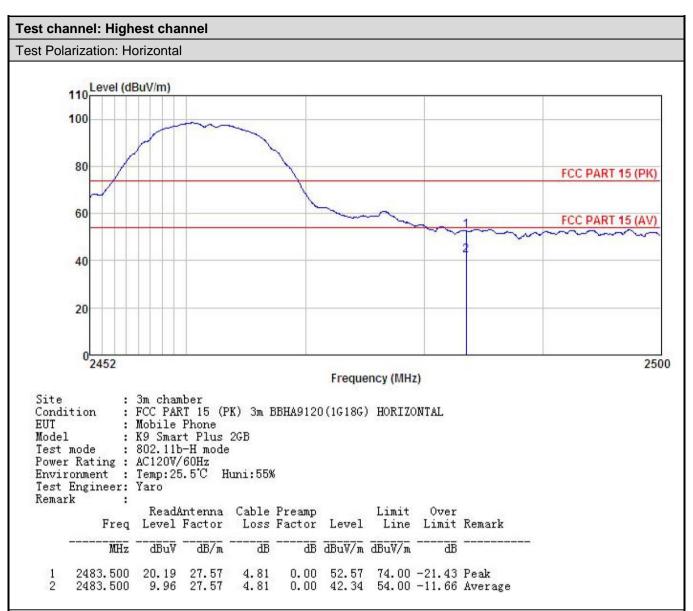


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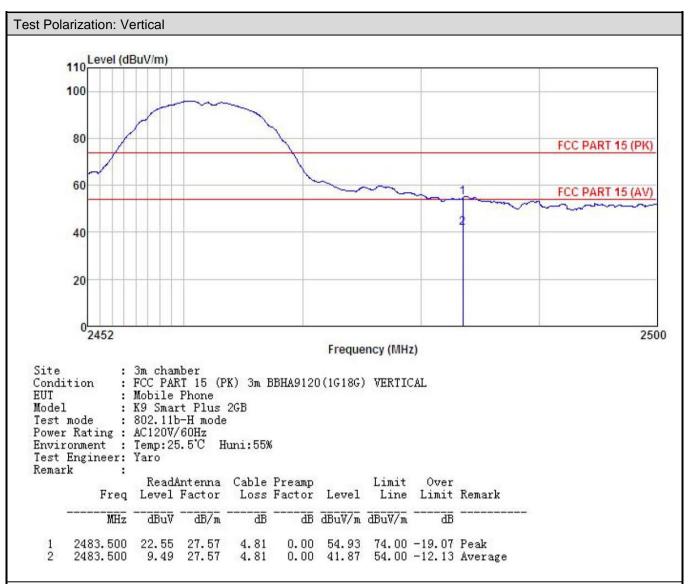


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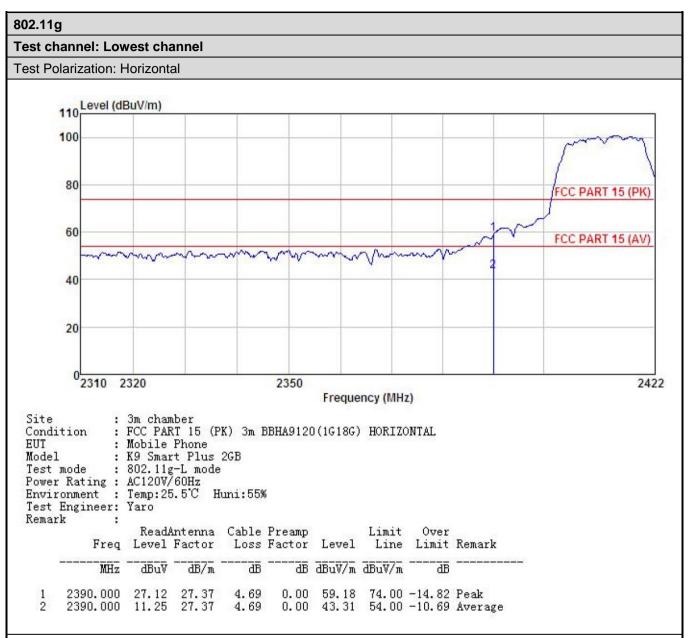


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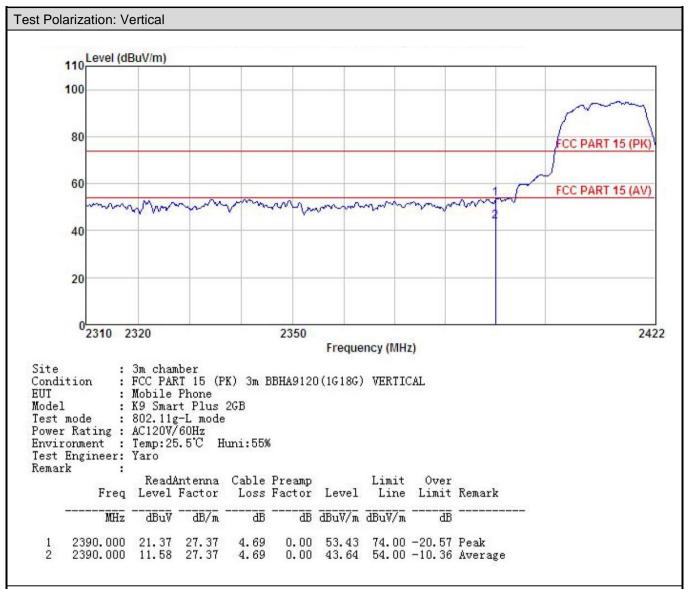


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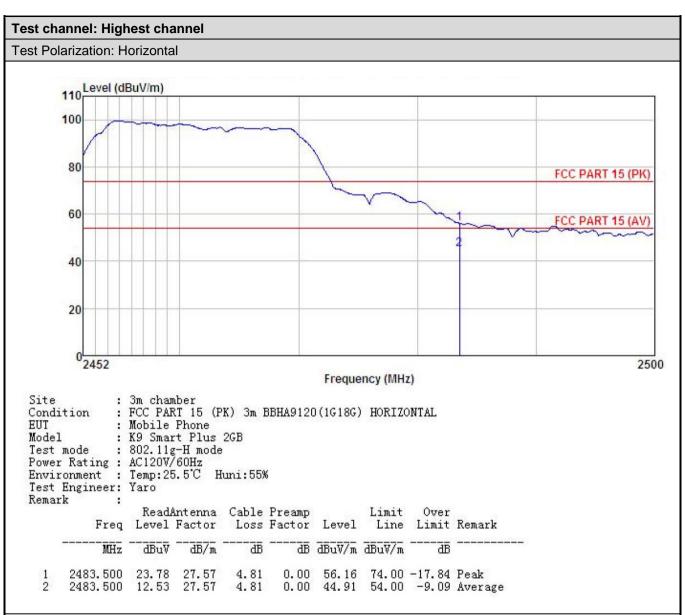




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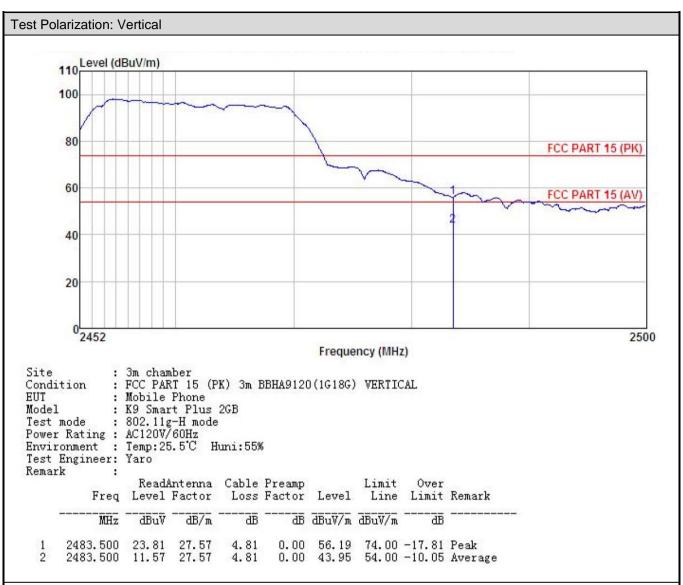


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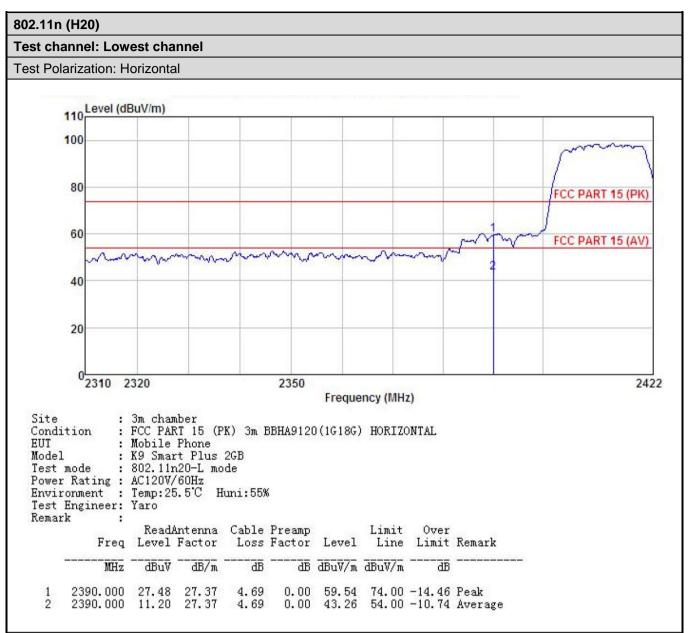


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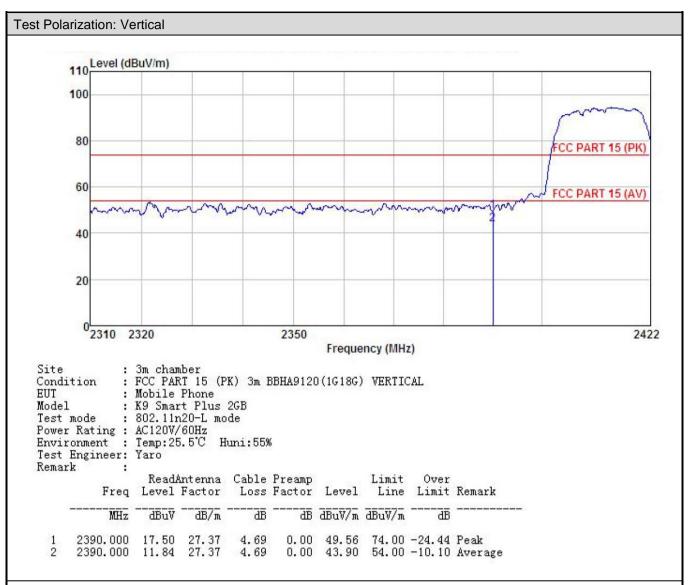


1. Final Level = Receiver Read level + Antenna Factor + Cable Loss - Preamplifier Factor.

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





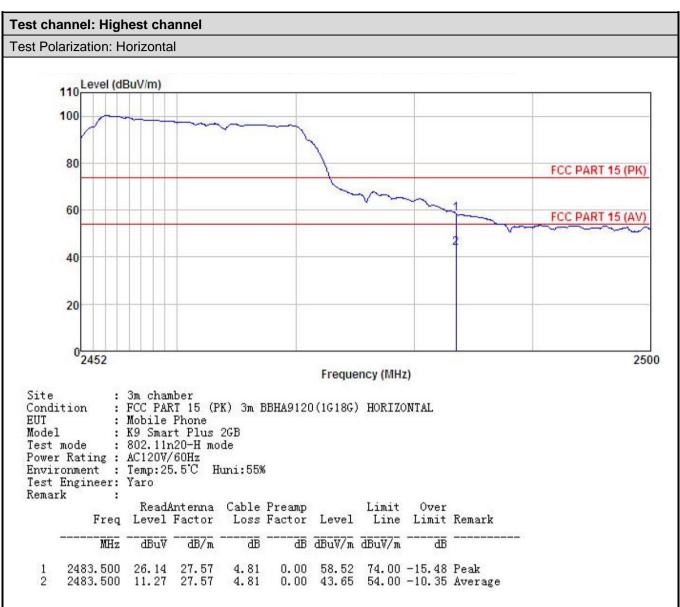


1. Final Level = Receiver Read level + Antenna Factor + Cable Loss - Preamplifier Factor.

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





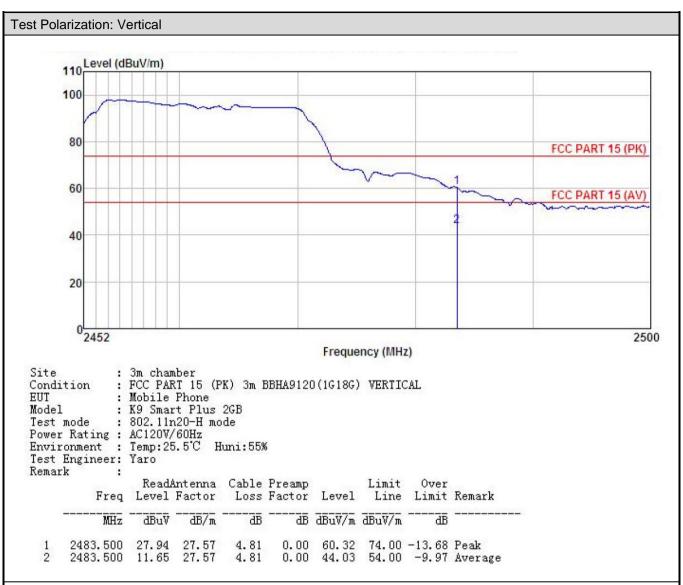


1. Final Level = Receiver Read level + Antenna Factor + Cable Loss - Preamplifier Factor.

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.



# 6.7 Spurious Emission

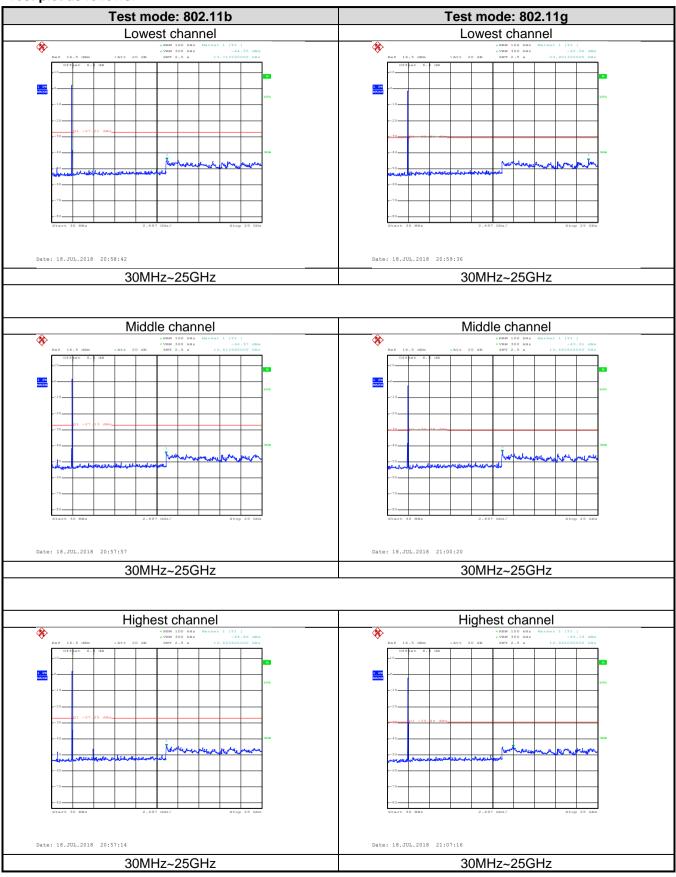
# 6.7.1 Conducted Emission Method

Test F	Requirement:	FCC Part 15 C Section 15.247 (d)				
Test N	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 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.				
Test s	etup:	Spectrum Analyzer  E.U.T  Non-Conducted Table  Ground Reference Plane				
Test In	nstruments:	Refer to section 5.8 for details				
Test n	node:	Refer to section 5.3 for details				
Test re	esults:	Passed				



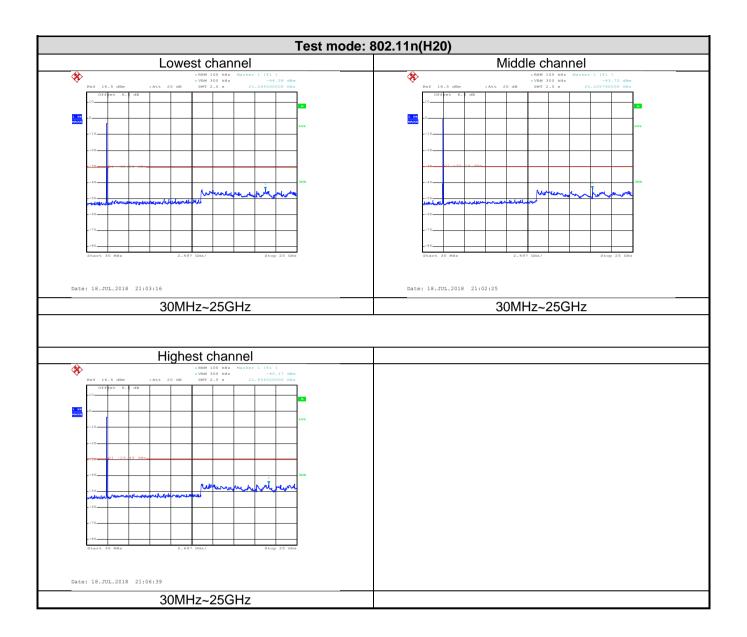


## Test plot as follows:













# 6.7.2 Radiated Emission Method

6.7.2	Radiated Emission Me	ethod						
	Test Requirement:	FCC Part 15 C S	ection 15.	.209 a	and 15.205			
	Test Method:	ANSI C63.10:201	3					
	Test Frequency Range:	9kHz to 25GHz						
	Test Distance:	3m						
	Receiver setup:	Frequency	Detecto	ector RBW		VBW		Remark
	•	30MHz-1GHz	Quasi-pe	eak	120KHz 30		KHz	Quasi-peak Value
		Above 1GHz	Peak		1MHz		/IHz	Peak Value
	1 toute.		RMS		1MHz : (dBuV/m @3r		/lHz	Average Value Remark
	Limit:	Frequency 30MHz-88MH	7	LIIIIII	40.0	11)	Oı	uasi-peak Value
		88MHz-216MH			43.5			uasi-peak Value
		216MHz-960MI			46.0			uasi-peak Value
		960MHz-1GH			54.0			uasi-peak Value
		Above 1GHz			54.0		/	Average Value
	Test Procedure:				74.0			Peak Value
		<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>						e position of the ace-receiving de-height antenna meters above field strength. Enna are set to ed to its worst m 1 meter to 4 s to 360 degrees unction and 10dB lower than d the peak values ions that did not sing peak, quasi-
	Test setup:	Below 1GHz  EUT  Turn Table  Ground P	0.8m	4m			_	





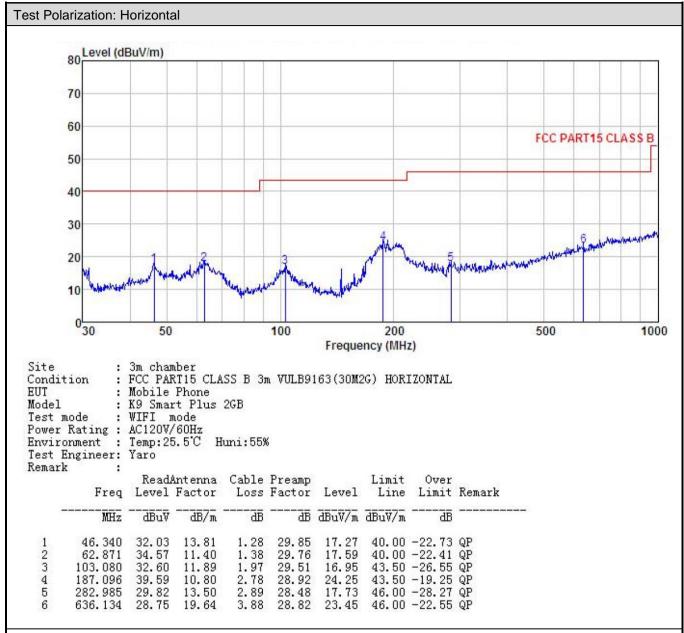
	Above 1GHz
	Horn Anlenna Tower  Ground Reference Plane  Test Receiver Receiver Controller
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed
Remark:	<ol> <li>Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis 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:**

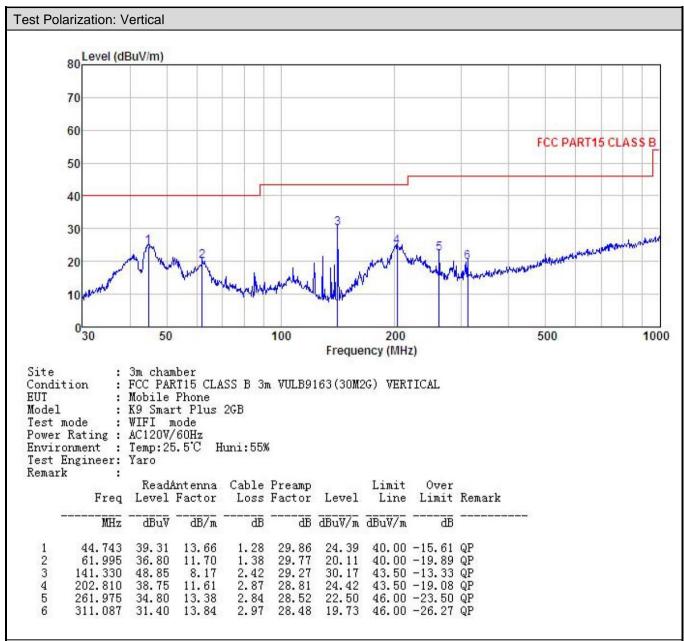


## Remark:

- 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

ADOVE IGITZ	bove 1GHz								
				802.11b					
			Test ch	annel: Lowe	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	
4824.00	47.17	36.06	6.81	41.82	48.22	74.00	-25.78	Vertical	
4824.00	46.81	36.06	6.81	41.82	47.86	74.00	-26.14	Horizontal	
			Dete	ctor: Averag	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	
4824.00	37.52	36.06	6.81	41.82	38.57	54.00	-15.43	Vertical	
4824.00	37.56	36.06	6.81	41.82	38.61	54.00	-15.39	Horizontal	
			Test ch	annel: Midd	le 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	47.76	36.32	6.85	41.84	49.09	74.00	-24.91	Vertical	
4874.00	46.21	36.32	6.85	41.84	47.54	74.00	-26.46	Horizontal	
			Dete	ctor: Averag	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	36.95	36.32	6.85	41.84	38.28	54.00	-15.72	Vertical	
4874.00	36.21	36.32	6.85	41.84	37.54	54.00	-16.46	Horizontal	
				annel: Highe					
		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	
4924.00	46.85	36.58	6.89	41.86	48.46	74.00	-25.54	Vertical	
4924.00	47.40	36.58	6.89	41.86	49.01	74.00	-24.99	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	36.58	36.58	6.89	41.86	38.19	54.00	-15.81	Vertical	
4924.00 Remark:	37.41	36.58	6.89	41.86	39.02	54.00	-14.98	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.





				802.11g						
			Test ch	annel: Lowe	est channel					
				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	47.86	36.06	6.81	41.82	48.91	74.00	-25.09	Vertical		
4824.00	46.29	36.06	6.81	41.82	47.34	74.00	-26.66	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	37.21	36.06	6.81	41.82	38.26	54.00	-15.74	Vertical		
4824.00	36.14	36.06	6.81	41.82	37.19	54.00	-16.81	Horizontal		
Test channel: Middle channel										
Detector: 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	47.29	36.32	6.85	41.84	48.62	74.00	-25.38	Vertical		
4874.00	46.93	36.32	6.85	41.84	48.26	74.00	-25.74	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	36.41	36.32	6.85	41.84	37.74	54.00	-16.26	Vertical		
4874.00	36.29	36.32	6.85	41.84	37.62	54.00	-16.38	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	46.59	36.58	6.89	41.86	48.20	74.00	-25.80	Vertical		
4924.00	47.15	36.58	6.89	41.86	48.76	74.00	-25.24	Horizontal		
			Dete	ctor: Averaç	e 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	36.12	36.58	6.89	41.86	37.73	54.00	-16.27	Vertical		
4924.00	37.52	36.58	6.89	41.86	39.13	54.00	-14.87	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	47.52	36.06	6.81	41.82	48.57	74.00	-25.43	Vertical		
4824.00	46.71	36.06	6.81	41.82	47.76	74.00	-26.24	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	37.52	36.06	6.81	41.82	38.57	54.00	-15.43	Vertical		
4824.00	36.69	36.06	6.81	41.82	37.74	54.00	-16.26	Horizontal		
Test channel: Middle channel										
Detector: 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	47.21	36.32	6.85	41.84	48.54	74.00	-25.46	Vertical		
4874.00	46.39	36.32	6.85	41.84	47.72	74.00	-26.28	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	37.25	36.32	6.85	41.84	38.58	54.00	-15.42	Vertical		
4874.00	36.41	36.32	6.85	41.84	37.74	54.00	-16.26	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	46.29	36.58	6.89	41.86	47.90	74.00	-26.10	Vertical		
4924.00	47.13	36.58	6.89	41.86	48.74	74.00	-25.26	Horizontal		
			Dete	ctor: Averaç	e 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	36.92	36.58	6.89	41.86	38.53	54.00	-15.47	Vertical		
4924.00	37.11	36.58	6.89	41.86	38.72	54.00	-15.28	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.