

Shenzhen Zhongjian Nanfang Testing Co., Ltd.

Report No: CCIS15050032102

FCC REPORT (BLE)

Applicant: Shenzhen siswoo mobile technology co., ltd

Address of Applicant: room 1701, haisong building, tairang road 9, futian district

shenzhen city, China

Equipment Under Test (EUT)

Product Name: Mobile Phone

C50, C50A, C55A, C5, C45, A4, A4+, A5, A5+, A6, i7, C55, Model No.:

C60, M3, MG12

Trade mark: APRIX, SISWOO

FCC ID: 2AEW7SISWOOC50A

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

Date of sample receipt: 13 May, 2015

Date of Test: 14 May, to 10 Jun., 2015

Date of report issued: 11 Jun., 2015

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	11 Jun., 2015	Original

Prepared by: Date: 11 Jun., 2015

Report Clerk

Reviewed by: 11 Jun., 2015

Project Engineer



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4 Test Summary

Test Item	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	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 requirements in the standard.



5 General Information

5.1 Client Information

Applicant:	Shenzhen siswoo mobile technology co., ltd
Address of Applicant:	room 1701, haisong building, tairang road 9, futian district shenzhen city, China
Manufacturer/ Factory:	Shenzhen siswoo mobile technology co., ltd
Address of Manufacturer/ Factory:	room 1701, aisong building, tairang road 9, futian district shenzhen city, China

5.2 General Description of E.U.T.

Product Name:	Mobile Phone
Model No.:	C50, C50A, C55A, C5, C45, A4, A4+, A5, A5+, A6, i7, C55, C60, M3, MG12
Operation Frequency:	2402-2480 MHz
Channel numbers:	40
Channel separation:	2 MHz
Modulation technology:	GFSK
Data speed :	1Mbps
Antenna Type:	Internal Antenna
Antenna gain:	0 dBi
Power supply:	Rechargeable Li-ion Battery DC3.8V-3000mAh
AC adapter:	Model:KA25-0501000US Input:100-240V AC,50/60Hz 0.25A Output:5V DC MAX 1A
Remark:	Model No.: C50, C50A, C55A, C5, C45, A4, A4+, A5, A5+, A6, i7, C55, C60, M3, MG12 were identical inside, the electrical circuit design, layout, components used and internal wiring, with only difference being model name and Color in plastic.



Operation Frequency each of channel								
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency	
0	2402MHz	10	2422MHz	20	2442MHz	30	2462MHz	
1	2404MHz	11	2424MHz	21	2444MHz	31	2464MHz	
2	2406MHz	12	2426MHz	22	2446MHz	32	2466MHz	
3	2408MHz	13	2428MHz	23	2448MHz	33	2468MHz	
4	2410MHz	14	2430MHz	24	2450MHz	34	2470MHz	
5	2412MHz	15	2432MHz	25	2452MHz	35	2472MHz	
6	2414MHz	16	2434MHz	26	2454MHz	36	2474MHz	
7	2416MHz	17	2436MHz	27	2456MHz	37	2476MHz	
8	2418MHz	18	2438MHz	28	2458MHz	38	2478MHz	
9	2420MHz	19	2440MHz	29	2460MHz	39	2480MHz	

Note:

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

Channel	Frequency			
The lowest channel	2402MHz			
The middle channel	2442MHz			
The Highest channel	2480MHz			



5.3 Test environment and mode

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

Report No: CCIS15050032102

The sample was placed 0.8m 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. Duty cycle setting during the transmission is 100% with maximum power setting for all modulations.

5.4 Description of Support Units

N/A

5.5 Laboratory Facility

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

• FCC - Registration No.: 817957

Shenzhen Zhongjian Nanfang Testing Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in out files. Registration 817957, February 27, 2012.

• 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.

5.6 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

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





5.7 Test Instruments list

Rad	Radiated Emission:							
Item	m Test Equipment Manufacturer		Model No.	Inventory No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)		
1	3m Semi- Anechoic Chamber	SAEMC	9(L)*6(W)* 6(H)	CCIS0001	08-23-2014	08-22-2017		
2	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	CCIS0005	03-28-2015	03-28-2016		
3	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	CCIS0006	03-28-2015	03-28-2016		
4	EMI Test Software	AUDIX	E3	N/A	N/A	N/A		
5	Amplifier HP (10kHz-1.3GHz)		8447D	CCIS0003	04-01-2015	03-31-2016		
6	Amplifier (1GHz-18GHz)	Compliance Direction Systems Inc.	PAP-1G18	CCIS0011	04-01-2015	03-31-2016		
7	Pre-amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	04-01-2015	03-31-2016		
8	Horn Antenna	ETS-LINDGREN	3160	GTS217	04-01-2015	03-31-2016		
9	Printer	HP	HP LaserJet P1007	N/A	N/A	N/A		
10	Positioning Controller	UC	UC3000	CCIS0015	N/A	N/A		
11	Spectrum analyzer 9k-30GHz	Rohde & Schwarz	FSP	CCIS0023	03-28-2015	03-28-2016		
12	EMI Test Receiver	Rohde & Schwarz	ESPI	CCIS0022	03-28-2015	03-28-2016		
13	Loop antenna	Laplace instrument	RF300	EMC0701	04-01-2015	03-31-2016		
14	Universal radio communication tester	Rhode & Schwarz	CMU200	CCIS0069	03-28-2015	03-28-2016		
15	Signal Analyzer	Rohde & Schwarz	FSIQ3	CCIS0088	04-08-2015	04-08-2016		

Conducted Emission:									
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)			
1	Shielding Room	ZhongShuo Electron	11.0(L)x4.0(W)x3.0(H)	CCIS0061	11-10-2012	11-09-2015			
2	EMI Test Receiver	Rohde & Schwarz	ESCI	CCIS0002	03-28-2015	03-28-2016			
3	LISN	CHASE	MN2050D	CCIS0074	03-28-2015	03-28-2016			
4	Coaxial Cable	CCIS	N/A	CCIS0086	04-01-2015	03-31-2016			
5	EMI Test Software	AUDIX	E3	N/A	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 BLE antenna is an internal antenna which cannot replace by end-user, the best case gain of the antenna is 0 dBi.





6.2 Conducted Emission

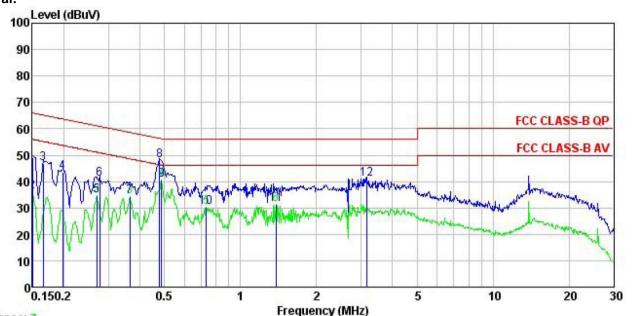
Test Method: ANSI C63.4: 2009 Test Frequency Range: Class J Severity: Class B Receiver setup: Rew=9kHz, VBW=30kHz Limit: Frequency range (MHz) Quasi-peak Average 0.15-0.5 66 to 56* 56 to 46* 0.5-5 56 46 1-5-30 60 50 * Decreases with the logarithm of the frequency. Test procedure 1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.), which provides a 500hm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 500hm/50uH coupling impedance with 500hm termination. (Please refer to the block diagram of the test setup and photographs). 3. 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		T	_	1						
Test Frequency Range: Class / Severity: Class B Receiver setup: RBW=9kHz, VBW=30kHz Limit: Frequency range (MHz) Quasi-peak Average 0.15-0.5 66 to 56* 56 to 46* 0.5-5 56 46 5-3-0 60 50 * Decreases with the logarithm of the frequency. Test procedure 1. 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 500hm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 500hm/50uH coupling impedance with 500hm termination. (Please refer to the block diagram of the test setup and photographs). 3. 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: 2003 on conducted measurement. Test setup: Reference Plane LISN AUX Reference Plane LISN AUX Reference Plane LISN Reference Plane LISN Test table/Insulation plane Receiver Test Instruments: Refer to section 5.7 for details Test mode: Refer to section 5.3 for details	Test Requirement:	FCC Part 15 C Section 15.207								
Class / Severity: Receiver setup: RBW=9kHz, VBW=30kHz Limit: Frequency range (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 logarithm of the frequency. 1. 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. 2. 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). 3. 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: 2003 on conducted measurement. Test setup: Reference Plane LISN Aux EUT: Equipment Under Test LISN Line Impedence Stabilization Network Test table/Insulation plane Reference Plane Test Instruments: Refer to section 5.7 for details Test mode: Refer to section 5.3 for details	Test Method:	ANSI C63.4: 2009								
Receiver setup: RBW=9kHz, VBW=30kHz Limit: Frequency range (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 logarithm of the frequency. 1. 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. 2. 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). 3. 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: 2003 on conducted measurement. Test setup: Reference Plane LISN 40cm 80cm LISN 40cm 80cm LISN 40cm 80cm LISN Line Impedence Stabilization Network 71st stable height=0.20m Test table/Insulation plane Reference Plane Test Instruments: Refer to section 5.7 for details Test mode: Refer to section 5.3 for details	Test Frequency Range:	150 kHz to 30 MHz								
Limit: Frequency range (MHz)	Class / Severity:	Class B								
Test procedure Prequency large (MPLZ)	Receiver setup:	RBW=9kHz, VBW=30kHz								
Test procedure 1. 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. 2. 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). 3. 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: 2003 on conducted measurement. Test setup: Reference Plane LISN LISN 1. Reference Plane LISN 2. LIS	Limit:	Erequency range (MHz) Limit (dBuV)								
Test procedure 1. 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. 2. 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). 3. 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: 2003 on conducted measurement. Test setup: Reference Plane Regulpment Under Test LISN Line Impedance Stabilization Network Test table height=0.8m Test Instruments: Refer to section 5.7 for details Refer to section 5.3 for details			Quasi-peak Average							
Test procedure Test procedure 1. 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 500hm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 500hm/50uH coupling impedance with 500hm termination. (Please refer to the block diagram of the test setup and photographs). 3. 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: 2003 on conducted measurement. Test setup: Reference Plane Reference Plane Reference Plane LISN AC power Reference Plane Regulation Nelwork Test lable/Insulation plane Reference Stabilization Nelwork Test lable height=0.8m Refer to section 5.7 for details Test mode: Refer to section 5.3 for details										
* Decreases with the logarithm of the frequency. 1. 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 500hm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 500hm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). 3. 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: 2003 on conducted measurement. Test setup: Reference Plane Ref										
1. 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. 2. 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). 3. 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: 2003 on conducted measurement. Test setup: Reference Plane Regulare LISN AUX Equipment Under Test LISN Line impedence Stabilization Network Test table height=0.8m Test Instruments: Refer to section 5.7 for details Refer to section 5.3 for details				50						
Test Instruments: Refer to section 5.3 for details Results Refer to section 5.3 for details Results Results Results Results Filter AC power Refer to section 5.1 for details		a line impedance stabiliz 50ohm/50uH coupling im 2. The peripheral devices through a LISN that prowith 50ohm termination. test setup and photograp 3. Both sides of A.C. lin interference. In order to positions of equipment changed according to	zation network (L.I.S.I pedance for the measure also connected ovides a 50ohm/50uH (Please refer to the hs). e are checked for a find the maximum of and all of the interfere	N.), which provides a uring equipment. to the main power coupling impedance block diagram of the maximum conducted emission, the relative face cables must be						
Test mode: Refer to section 5.3 for details	rest setup.	AUX Equipment E.I Test table/Insulation pla Remark: E.U.T. Equipment Under Test LISN: Line Impedence Stabilization	U.T EMI Receiver	er — AC power						
Test mode: Refer to section 5.3 for details	Test Instruments:	Refer to section 5.7 for details	,							
Test results: Passed										
	Test results:	Passed								

Measurement Data





Neutral:



Trace: 7

Site

: CCIS Shielding Room : FCC CLASS-B QP LISN NEUTRAL Condition

: 321RF Pro EUT

: Moblie Phone : C50 Model Test Mode : BLE mode

Power Rating: AC 120/60Hz Environment: Temp: 23 °C Huni:56% Atmos:101KPa

Test Engineer: Carey

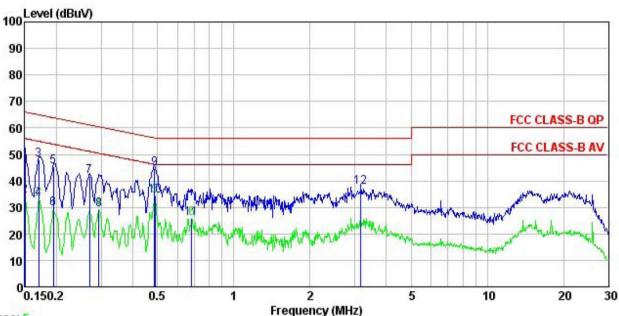
Remark

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
==	MHz	dBu∜	<u>dB</u>	₫B	dBu∜	dBu∜	<u>dB</u>	
1	0.150	37.90	0.25	10.78	48.93	66.00	-17.07	QP
2	0.150	25.16	0.25	10.78	36.19	56.00	-19.81	Average
3	0.166	35.78	0.25	10.77	46.80	65.16	-18.36	QP
4	0.198	32.68	0.25	10.76	43.69	63.71	-20.02	QP
1 2 3 4 5 6 7 8 9	0.270	23.64	0.26	10.75	34.65	51.12	-16.47	Average
6	0.277	30.03	0.26	10.74	41.03	60.90	-19.87	QP
7	0.365	23.41	0.25	10.73	34.39	48.61	-14.22	Average
8	0.479	36.83	0.28	10.75	47.86	56.36	-8.50	QP
9	0.486	29.44	0.29	10.76	40.49	46.23	-5.74	Average
10	0.731	19.30	0.18	10.78	30.26	46.00	-15.74	Average
11	1.381	20.11	0.25	10.91	31.27	46.00	-14.73	Average
12	3.156	29.66	0.29	10.91	40.86	56.00	-15.14	QP

Report No: CCIS15050032102



Line:



Trace: 5 Site

: CCIS Shielding Room : FCC CLASS-B QP LISN LINE : 321RF

Condition Pro

: Moblie Phone EUT

Model : C50

mode Test Mode : BLE

Power Rating: AC 120/60Hz Environment: Temp: 23°C Huni:56% Atmos:101KPa

Test Engineer: Carey

Remark

mark		ъ.,		011			^		
	Frea	Read	LISN Factor	Cable Loss	Level	Limit Line	Over	Remark	
	1104	LOVOI	1 40001	2000	HOVOL	Lino	DIMIT	ROMALK	
	MHz	dBu∀	₫B	₫B	dBu₹	dBu∀	₫B		_
1	0.150	40.46	0.27	10.78	51.51	66.00	-14.49	QP	
2	0.150	23.12	0.27	10.78	34.17	56.00	-21.83	Average	
3	0.170	37.10	0.27	10.77	48.14	64.94	-16.80	QP	
4 5	0.170	22.11	0.27	10.77	33.15	54.94	-21.79	Average	
5	0.194	34.36	0.28	10.76	45.40	63.84	-18.44	QP	
6	0.194	18.48	0.28	10.76	29.52	53.84	-24.32	Average	
7	0.270	30.71	0.27	10.75	41.73	61.12	-19.39	QP	
8 9	0.294	18.32	0.26	10.74	29.32	50.41	-21.09	Average	
9	0.486	33.61	0.29	10.76	44.66	56.23	-11.57	QP	
.0	0.489	23.09	0.29	10.76	34.14	46.19	-12.05	Average	
.1	0.683	14.93	0.22	10.77	25.92	46.00	-20.08	Average	
2	3.173	26.57	0.27	10.91	37.75	56.00	-18.25	QP	

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

Test Requirement:	FCC Part 15 C Section 15.247 (b)(3)
Test Method:	ANSI C63.4:2009 and KDB558074
Limit:	30dBm
Test setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed
Remark:	Test method refer to KDB558074 v03r01 (DTS Measure Guidance) section 9.2.2.2

Measurement Data

Test CH	Maximum Conducted Output Power (dBm)	Limit(dBm)	Result
Lowest	-0.83		
Middle	-1.61	30.00	Pass
Highest	-1.22		

Test plot as follows:







6.4 Occupy Bandwidth

Test Requirement:	FCC Part 15 C Section 15.247 (a)(2)			
Test Method:	ANSI C63.4:2009 and KDB558074			
Limit:	>500kHz			
Test setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane			
Test Instruments:	Refer to section 5.7 for details			
Test mode:	Refer to section 5.3 for details			
Test results:	Passed			

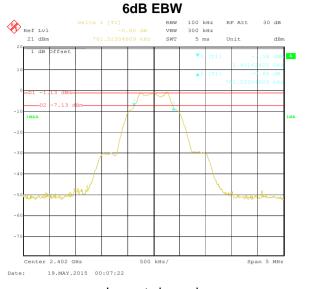
Measurement Data

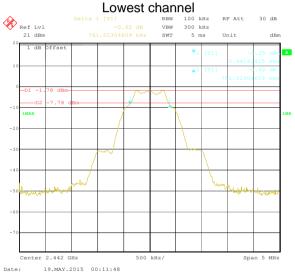
Test CH	6dB Emission Bandwidth (MHz)	Limit(kHz)	Result
Lowest	0.762		
Middle	0.762	>500	Pass
Highest	0.752		

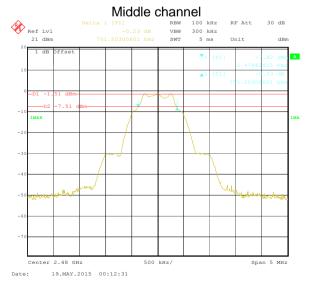
Test CH	99% Occupy Bandwidth (MHz)	Limit(kHz)	Result
Lowest	1.102		
Middle	1.102	N/A	N/A
Highest	1.102		

Test plot as follows:



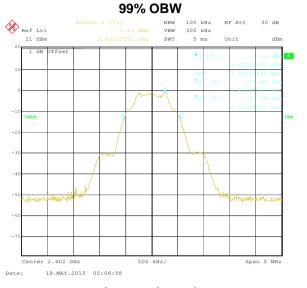


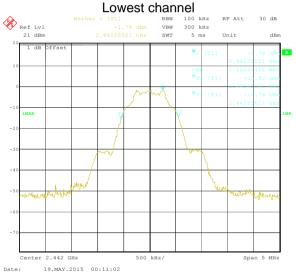


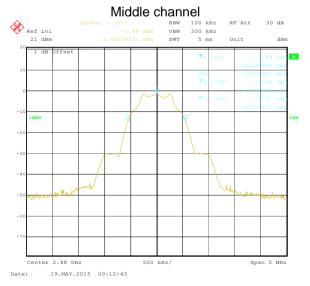


Highest channel









Highest channel



6.5 Power Spectral Density

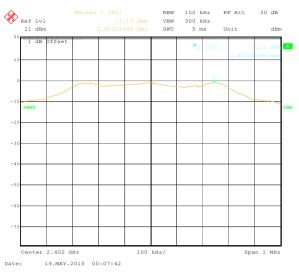
Test Requirement:	FCC Part 15 C Section 15.247 (e)
Test Method:	ANSI C63.4:2009 and KDB558074
Limit:	8 dBm
Test setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data

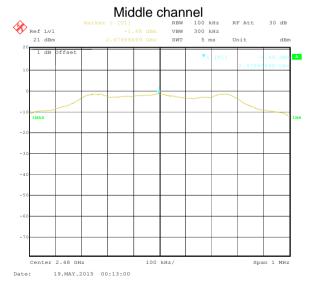
Test CH	Power Spectral Density (dBm)	Limit(dBm)	Result
Lowest	-1.13		
Middle	-1.75	8.00	Pass
Highest	-1.48		

Test plots as follow:









Highest channel



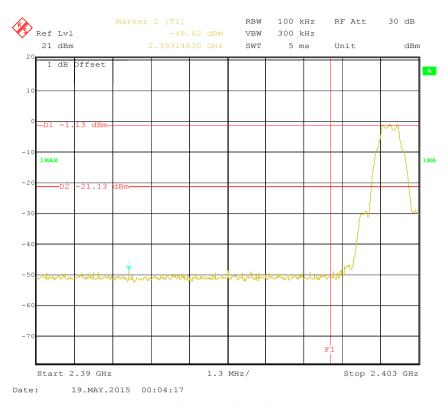
6.6 Band Edge

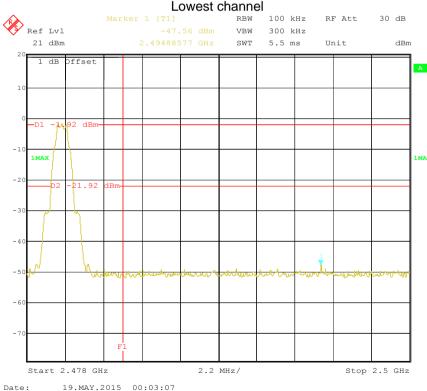
6.6.1 Conducted Emission Method

Test Requirement:	FCC Part 15 C Section 15.247 (d)				
Test Method:	ANSI C63.4:2009 and KDB558074				
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.				
Test setup:	Spectrum Analyzer				
	E.U.T				
	Non-Conducted Table				
	Ground Reference Plane				
Test Instruments:	Refer to section 5.7 for details				
Test mode:	Refer to section 5.3 for details				
Test results:	Passed				

Test plots as follow:







Highest channel



6.6.2 Radiated Emission Method

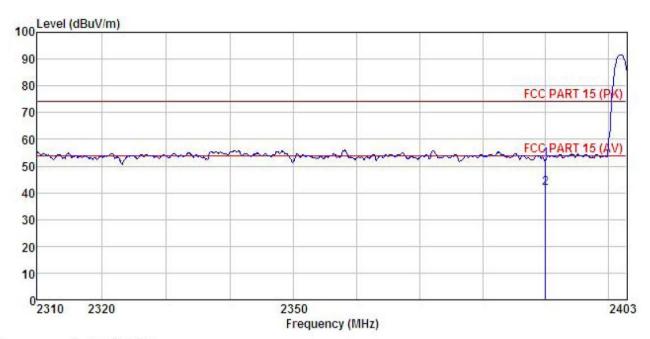
Test Requirement:	FCC Part 15 C	Section 15 209	and 15 205		
Test Method:	ANSI C63.4: 20		- una 10.200		
Test Frequency Range:	2.3GHz to 2.5G				
Test site:	Measurement D				
	ivieasurement L	istance. Sin			
Receiver setup:	Frequency Above 1GHz	Detector Peak Peak	RBW 1MHz 1MHz	VBW 3MHz 10Hz	Remark Peak Value Average Value
Limit:	Freque	ency	Limit (dBuV/	/m @3m)	Remark Average Value
	Above 1	GHz	74.0		Peak Value
Test Procedure:	 The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 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. 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. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. If the emission level of the EUT in peak mode was 10 dB 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 10 dB margin would be re-tested one by one using peak, quasipeak or average method as specified and then reported in a data 				
Test setup:	Sheet. Antenna Tower Horn Antenna Spectrum Analyzer Turn Table Amplifier				
Test Instruments:	Refer to section	5.7 for details			
Test mode:	Refer to section				
Test results:	Passed				





Test channel: Lowest

Horizontal:



Site

: 3m chamber : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL Condition

: Moblie Phone EUT

: C50 Model

Test mode : BLE-L Mode Power Rating : AC120V/60Hz

Environment : Temp: 25.5°C Huni:55%

Test Engineer: Carey

REMARK

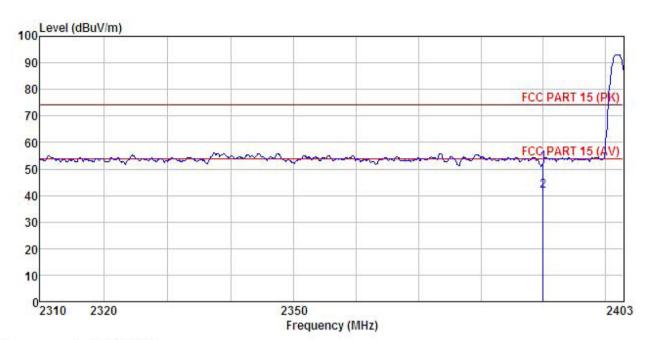
 Freq		Antenna Factor						
MHz	dBu₹	<u>dB</u> /m	dB	<u>ab</u>	dBuV/m	dBuV/m	<u>dB</u>	
2390.000 2390.000								





Test channel: Lowest

Vertical:



Site

: 3m chamber : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL Condition

EUT : Moblie Phone

: C50 Model

Test mode : BLE-L Mode Power Rating : AC120V/60Hz Environment : Temp:25.5°C

Huni:55%

Test Engineer: Carey

REMARK

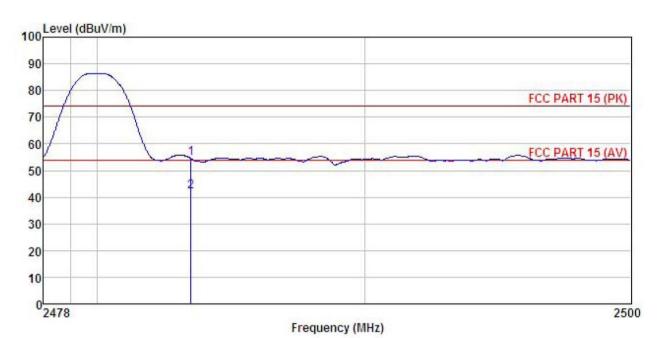
	2000		Antenna Factor						Remark	
2	MHz	dBu∀	<u>dB</u> /m	dB	<u>dB</u>	dBuV/m	dBuV/m	<u>dB</u>		-
	2390.000 2390.000									





Test channel: Highest

Horizontal:



Site

: 3m chamber : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL Condition

EUT : Moblie Phone

: C50 Model

: BLE-H Mode Test mode Power Rating : AC120V/60Hz Environment : Temp:25.5°C

Huni:55%

Test Engineer: Carey

REMARK

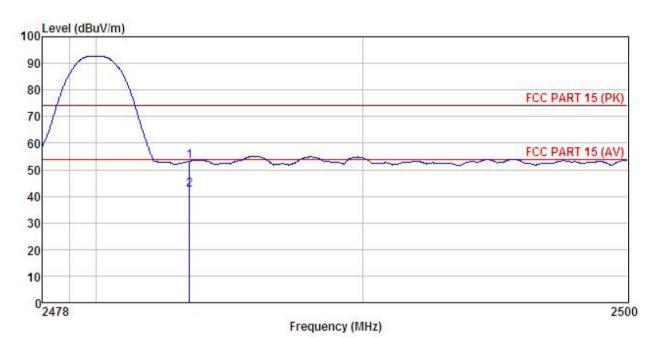
	•	Read.	Antenna	Cable	Preamo		Limit	Over	
	Freq		Factor						Remark
	MHz	dBu∜	<u>dB</u> /m	dB	<u>dB</u>	dBuV/m	dBuV/m	dB	
1	2483.500	20.16	27.52	6.85	0.00	54.53	74.00	-19.47	Peak
2	2483.500	7.85	27.52	6.85	0.00	42.22	54.00	-11.78	Average





Test channel: Highest

Vertical:



Site

: 3m chamber : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL Condition

EUT : Moblie Phone

: C50 Model

Test mode : BLE-H Mode Power Rating : AC120V/60Hz Environment : Temp:25.5°C

Huni:55%

Test Engineer: Carey

REMARK

			Antenna Factor						
,	MHz	—dBu∇	dB/m	ā	<u>d</u> B	dBuV/m	dBuV/m	ā	
1	2483.500 2483.500	7,07,00	TO 10		0.00 0.00				



6.7 Spurious Emission

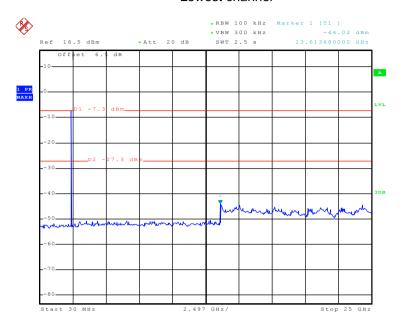
6.7.1 Conducted Emission Method

Test Requirement:	FCC Part 15 C Section 15.247 (d)						
Test Method:	ANSI C63.4:2009 and KDB558074						
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.						
Test setup:							
	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane						
Test Instruments:	Refer to section 5.7 for details						
Test mode:	Refer to section 5.3 for details						
Test results:	Passed						

Test plot as follows:



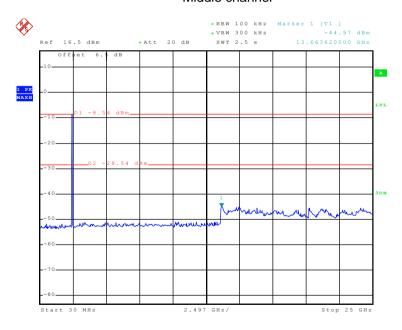
Lowest channel



Date: 18.MAY.2015 23:29:55

30MHz~25GHz

Middle channel

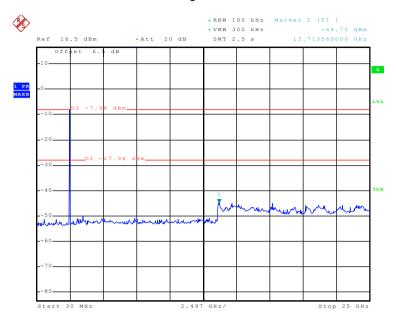


Date: 18.MAY.2015 23:26:26

30MHz~25GHz



Highest channel



Date: 18.MAY.2015 23:24:39

30MHz~25GHz



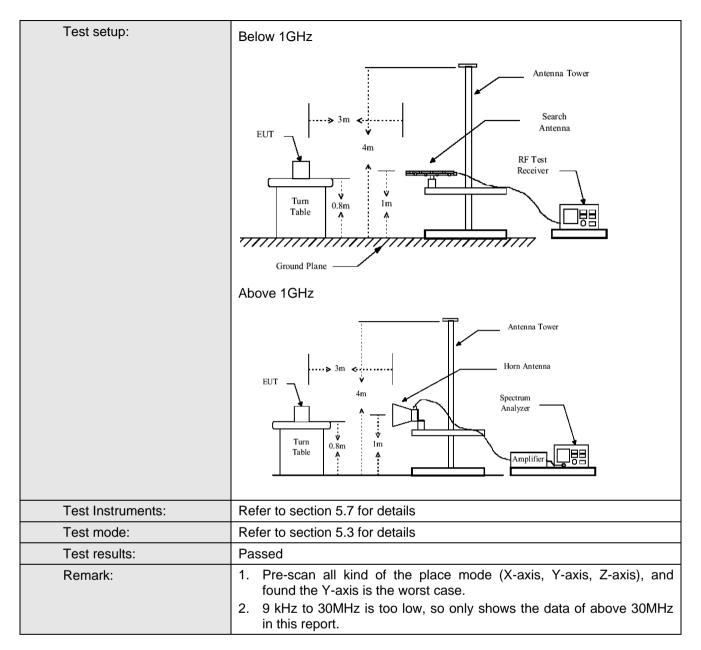


6.7.2 Radiated Emission Method

Test Requirement:	FCC Part 15 C Section 15.209 and 15.205							
Test Method:	ANSI C63.4:2009							
Test Frequency Range:	9KHz to 25GHz							
Test site:	Measurement D	istance: 3m						
Receiver setup:								
•	Frequency	Detector	RBW	VBW	Remark			
	30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak Value			
	Above 1GHz	Peak	1MHz	3MHz	Peak Value			
	Above IGHZ	Peak	1MHz	10Hz	Average Value			
Limit:								
	Frequency		Limit (dBuV/m	@3m)	Remark			
	30MHz-88MHz		40.0		Quasi-peak Value			
	88MHz-216MHz		43.5		Quasi-peak Value			
	216MHz-960MH		46.0		Quasi-peak Value			
	960MHz-1GHz		54.0		Quasi-peak Value			
	Above 1GHz		54.0		Average Value			
			74.0		Peak Value			
Test Procedure:	the ground to determin 2. The EUT vantenna, was tower. 3. The antenrathe ground Both horizon make the make the make the make the make sand to find the make specified Base of the EUT have 10 dB	at a 3 meter e the position was set 3 minion was set 3 minion was mountained and vertical and ve	camber. The of the highes eters away funted on the taried from or the maximulation in the maximulation of the maximulation was turned along. In Maximum Home EUT in peresting could be orted. Other of the taries are the could be re-tested.	table was at radiation. From the inop of a variance meter to the importance of the i	ele 0.8 meters above rotated 360 degrees atterference-receiving liable-height antenna of four meters above of the field strength, antenna are set to arranged to its worst as from 1 meter to 4 rees to 360 degrees retect Function and as 10 dB lower than and the peak values missions that did not e using peak, quasing reported in a data			





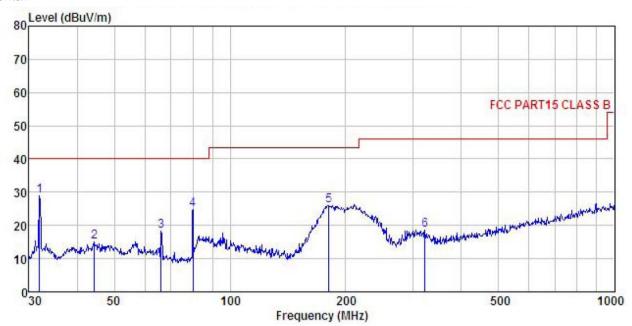






Below 1GHz

Horizontal:



Site

: 3m chamber : FCC PART15 CLASS B 3m VULB9163(30M1G) HORIZONTAL Condition

EUT : Moblie Phone

: C50 Model Test mode : BLE Mode
Power Rating : AC120V/60Hz
Environment : Temp:25.5°C Huni:55%

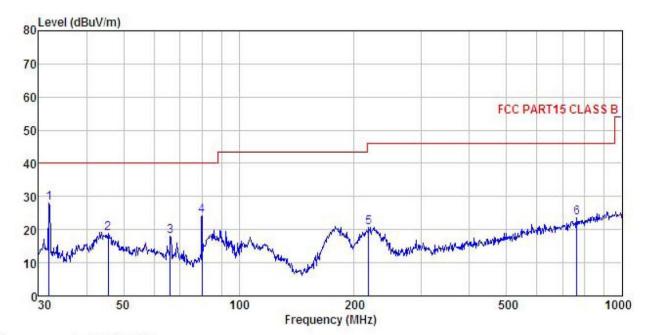
Test Engineer: REMARK :

	Freq		Antenna Factor						Remark
-	MHz	dBu∇	dB/m		<u>ab</u>	$\overline{dBuV/m}$	dBuV/m	<u>dB</u>	
1	31.955	46.14	12.32	0.45	29.97	28.94	40.00	-11.06	QP
2	44.431	30.89	13.55	0.56	29.86	15.14	40.00	-24.86	QP
1 2 3 4	66.266	37.02	10.16	0.76	29.75	18.19	40.00	-21.81	QP
4	80.081	45.10	8.54	0.85	29.64	24.85	40.00	-15.15	QP
5 6	180.649	43.96	9.76	1.36	28.97	26.11	43.50	-17.39	QP
6	321.061	31.99	13.40	1.84	28.50	18.73	46.00	-27.27	QP





Vertical:



Site

: 3m chamber : FCC PART15 CLASS B 3m VULB9163(30M1G) VERTICAL Condition

: Moblie Phone EUT

: C50 Model Test mode : BLE Mode Power Rating : AC120V/60Hz Environment : Temp:25.5°C

Huni:55%

Test Engineer: REMARK :

THEOTOR									
	Freq		Antenna Factor				Limit Line	Over Limit	Remark
_	MHz	dBu₹	<u>dB</u> /m	d <u>B</u>	<u>dB</u>	dBuV/m	dBuV/m	<u>dB</u>	
1	31.955	45.20	12.32	0.45	29.97	28.00	40.00	-12.00	QP
1 2 3 4	45.535	34.72	13.52	0.56	29.86	18.94	40.00	-21.06	QP
3	66.266	36.83	10.16	0.76	29.75	18.00	40.00	-22.00	QP
4	80.081	44.47	8.54	0.85	29.64	24.22	40.00	-15.78	QP
5 6	218.309	36.79	11.13	1.47	28.72	20.67	46.00	-25.33	QP
6	763.376	29.40	19.63	3.08	28.40	23.71	46.00	-22.29	QP



Above 1GHz

Test channel:			Lo	west	Level:		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
4804.00	45.15	31.53	8.90	40.24	45.34	74.00	-28.66	Vertical
4804.00	44.99	31.53	8.90	40.24	45.18	74.00	-28.82	Horizontal
Т	est channel	•	Lowest		Le	vel:	A۱	verage
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
4804.00	35.66	31.53	8.90	40.24	35.85	54.00	-18.15	Vertical
4804.00	34.94	31.53	8.90	40.24	35.13	54.00	-18.87	Horizontal

Т		Mi	iddle	Le	vel:		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
4884.00	45.38	31.58	8.98	40.15	45.79	74.00	-28.21	Vertical
4884.00	46.22	31.58	8.98	40.15	46.63	74.00	-27.37	Horizontal
Т	est channel	•	M	iddle	Le	vel:	A۱	verage
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
4884.00	35.07	31.58	8.98	40.15	35.48	54.00	-18.52	Vertical
4884.00	36.67	31.58	8.98	40.15	37.08	54.00	-16.92	Horizontal

Т	:	Hiç	ghest	Le	vel:	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
4960.00	45.30	31.69	9.08	40.03	46.04	74.00	-27.96	Vertical
4960.00	44.63	31.69	9.08	40.03	45.37	74.00	-28.63	Horizontal
Т	est channel	•	Highest		Le	vel:	A۱	verage
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
4960.00	35.86	31.69	9.08	40.03	36.60	54.00	-17.40	Vertical
4960.00	34.49	31.69	9.08	40.03	35.23	54.00	-18.77	Horizontal

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.