

TEST REPORT

Applicant: Corporativo Lanix S.A. de C.V.

Address of Applicant: Carrtera internacional Hermosillo-Nogale Km 8.5 Hermosillo Mexico

Equipment Under Test (EUT)

Product Name: GSM GPRS Digital Mobile Phone

Model No.: LX14

Brand Name: LANIX

FCC ID: ZC4LX14

Applicable standards: FCC CFR Title 47 Part 15 Subpart B:2010

Date of sample receipt: July 27, 2012

Date of Test: July 27-August 08, 2012

Date of report issued: August 10, 2012

Test Result : PASS *

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

Authorized Signature:



Robinson Lo
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 GTS 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	August 10, 2012	Original

Prepared by:

hank. yan.

Date:

August 10, 2012

Project Engineer

Reviewed by:

Hans. Hu

Date:

August 10, 2012

Reviewer

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4 Test Summary

Test Item	Section in CFR 47	Result
Conducted Emission	Part15.107	PASS
Radiated Emissions	Part15.109	PASS

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

5 General Information

5.1 Client Information

Applicant:	Corporativo Lanix S.A. de C.V.
Address of Applicant:	Carrera internacional Hermosillo-Nogale Km 8.5 Hermosillo Mexico
Manufacturer:	Shenzhen Xiangyue Perfect Digital Science & Technology Co., Ltd
Address of Manufacturer/	Building A1, jiujiutongxin Industrial zone II, Xinbu, Tongle, Longgong, Shenzhen
Factory:	Shenzhen Xiangyue Perfect Digital Science & Technology Co., Ltd
Address of Factory:	Building A1, jiujiutongxin Industrial zone II, Xinbu, Tongle, Longgong, Shenzhen

5.2 General Description of E.U.T.

Product Name:	GSM GPRS Digital Mobile Phone
Model No.:	LX14
Power Supply:	Trade mark: LANIX Model No.: LX14-C Input: 100-240VAC, 50/60Hz, 0.15A Output: 5VDC, 500mA DC 3.7V Li-ion Battery

5.3 Test mode and voltage

Test mode:	
PC mode	Keep the EUT in transmitting mode
FM mode	Keep the EUT in FM mode
ATV mode	Keep the EUT in ATV mode
Test voltage:	
AC 120V/60Hz	

5.4 Description of Support Units

Manufacturer	Description	Model	Serial Number	FCC ID/DoC
HP	Printer	CB495A	05257893	DoC
DELL	PC	OPTIPLEX745	GTS312	DoC
DELL	MONITOR	E178FPC	N/A	DoC
DELL	KEYBOARD	SK-8115	N/A	DoC
DELL	MOUSE	MOC5UO	N/A	DoC

5.5 Deviation from Standards

Biconical, log.per. antenna and horn antenna were used instead of dipole antenna.
Semi-anechoic Chamber was used as alternation of open air test sites, and all test suites were performed with radiated method in it.

5.6 Abnormalities from Standard Conditions

None.

5.7 Other Information Requested by the Customer

None.

5.8 Test Facility

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

- **FCC —Registration No.: 600491**

Global United Technology Services Co., Ltd., Shenzhen 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 files. Registration 600491, July 20, 2010.

- **Industry Canada (IC) —Registration No.: 9079A-1**

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 9079A-1.

5.9 Test Location

Tests were performed at:

Global United Technology Services Co., Ltd.

Address: 2nd Floor, Block No.2, Laodong Industrial Zone, Xixiang Road Baoan District, Shenzhen, China

Tel: 0755-27798480

Fax: 0755-27798960

6 Test Instruments list

Radiated Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	Mar. 30 2011	Mar. 29 2013
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	Jul. 03 2012	Jul. 02 2013
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS214	Feb. 25 2012	Feb. 24 2013
5	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	Jul. 03 2012	Jul. 02 2013
6	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
7	Coaxial cable	GTS	N/A	GTS210	Mar. 31 2012	Mar. 30 2013
8	Coaxial Cable	GTS	N/A	GTS211	Mar. 31 2012	Mar. 30 2013
9	Thermo meter	KTJ	TA328	GTS256	Jul. 06 2012	Jul. 05 2013

Conducted Emission						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	Shielding Room	ZhongYu Electron	7.0(L)x3.0(W)x3.0(H)	GTS252	Jul. 03 2012	Jul. 02 2013
2	EMI Test Receiver	Rohde & Schwarz	ESCS30	GTS223	Jul. 03 2012	Jul. 02 2013
3	10dB Pulse Limita	Rohde & Schwarz	N/A	GTS224	Jul. 03 2012	Jul. 02 2013
4	LISN	SCHWARZBECK MESS-ELEKTRONIK	NSLK 8127	GTS226	Jul. 03 2012	Jul. 02 2013
5	Coaxial Cable	GTS	N/A	GTS227	Mar. 31 2012	Mar. 30 2013
6	EMI Test Software	AUDIX	E3	N/A	N/A	N/A

7 Test results and Measurement Data

7.1 Radiated Emission

Test Requirement:	FCC Part15 B Section 15.109				
Test Method:	ANSI C63.4:2003				
Test Frequency Range:	30MHz to 2000MHz				
Test site:	Measurement Distance: 3m (Semi-Anechoic Chamber)				
Receiver setup:	Frequency	Detector	RBW	VBW	Remark
	30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
		AV	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-960MHz	46.0		Quasi-peak Value	
	960MHz-1GHz	54.0		Quasi-peak Value	
	Above 1GHz	54.0		Average Value	
		74.0		Peak Value	
Test Procedure:	<ol style="list-style-type: none"> The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber. 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 rotating 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 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, quasi-peak or average method as specified and then reported in a data sheet. 				
Test setup:	Below 1GHz				

	<p>Above 1GHz</p>
Test environment:	Temp.: 25 °C Humid.: 52% Press.: 1 012mbar
Measurement Record:	Uncertainty: ± 4.5dB
Test Instruments:	Refer to section 6 for details
Test mode:	Refer to section 5.3 for details, only show the worse case mode on the test report.
Test results:	Pass

Note:

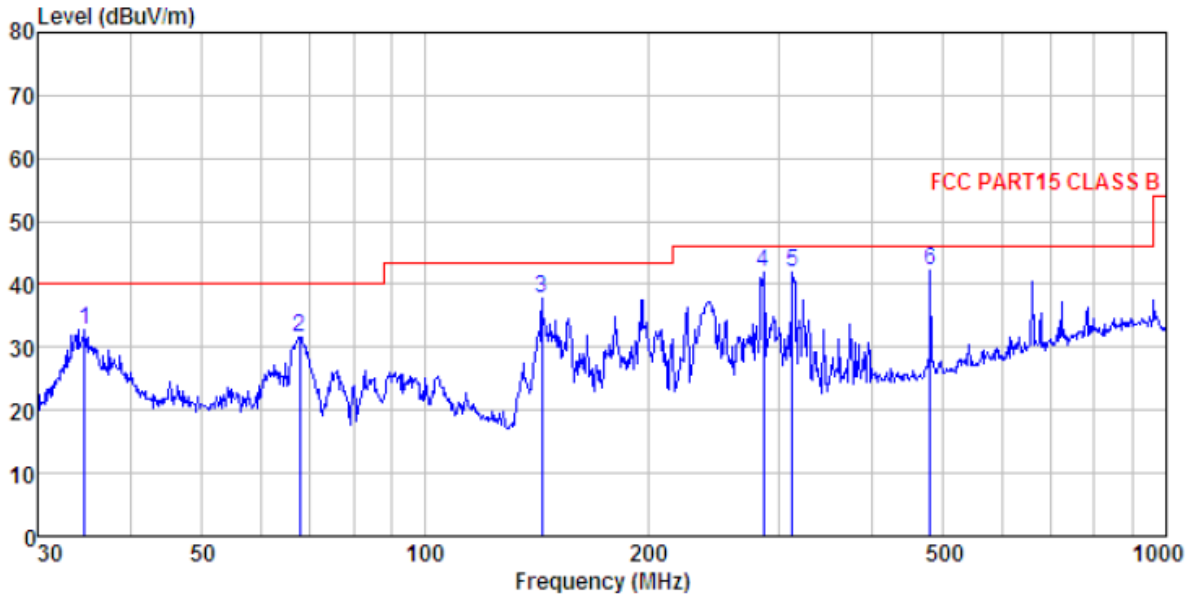
The field strength is calculated by adding the Antenna Factor, Cable Factor & Pre-amplifier. The basic equation with a sample calculation is as follows:

$$\text{Final Test Level} = \text{Receiver Reading} + \text{Antenna Factor} + \text{Cable Factor} - \text{Pre-amplifier Factor}$$

Measurement Data

Below 1GHz

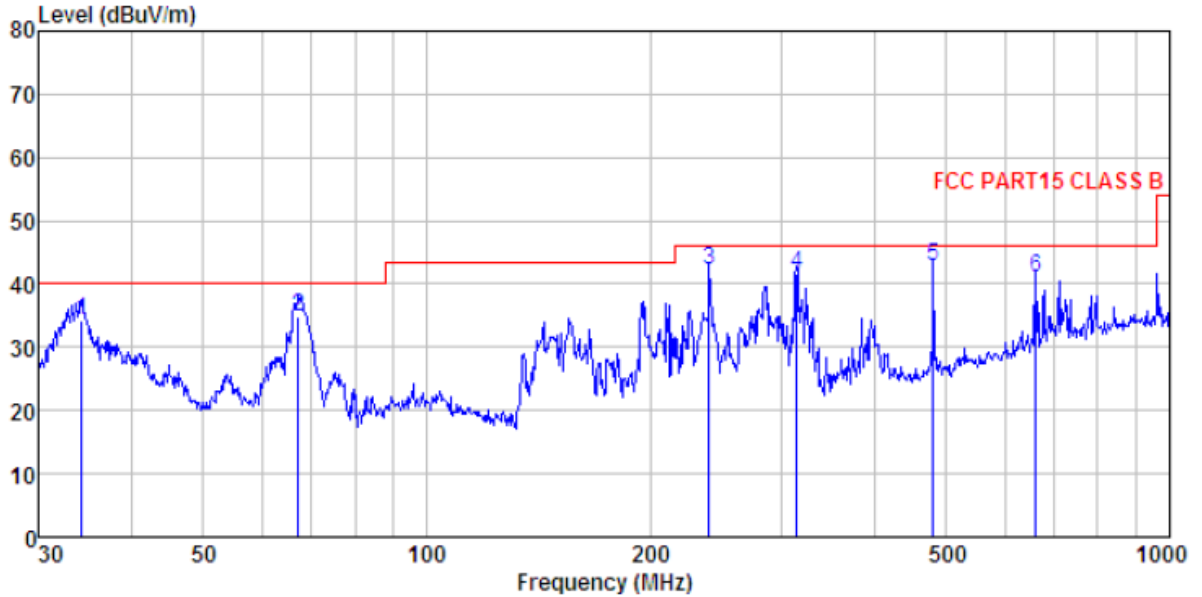
Horizontal:



Site : 3m chamber
 Condition : FCC PART15 CLASS B 3m VULB9163 -2012-05 HORIZONTAL
 Job No. : 846RF
 Test Mode : Data Transfer
 Test Engineer: Chennankuan

	Read	Antenna	Cable	Preamp	Limit	Over	
Freq	Level	Factor	Loss	Factor	Level	Line	Limit Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	34.760	48.48	15.82	0.61	32.06	32.85	40.00 -7.15 QP
2	67.675	49.18	13.50	0.92	31.89	31.71	40.00 -8.29 QP
3	143.830	57.01	11.23	1.53	31.96	37.81	43.50 -5.69 QP
4	285.978	55.89	15.81	2.29	32.18	41.81	46.00 -4.19 QP
5	313.276	55.37	16.25	2.43	32.13	41.92	46.00 -4.08 QP
6	480.528	52.40	18.07	3.22	31.62	42.07	46.00 -3.93 QP

Vertical:

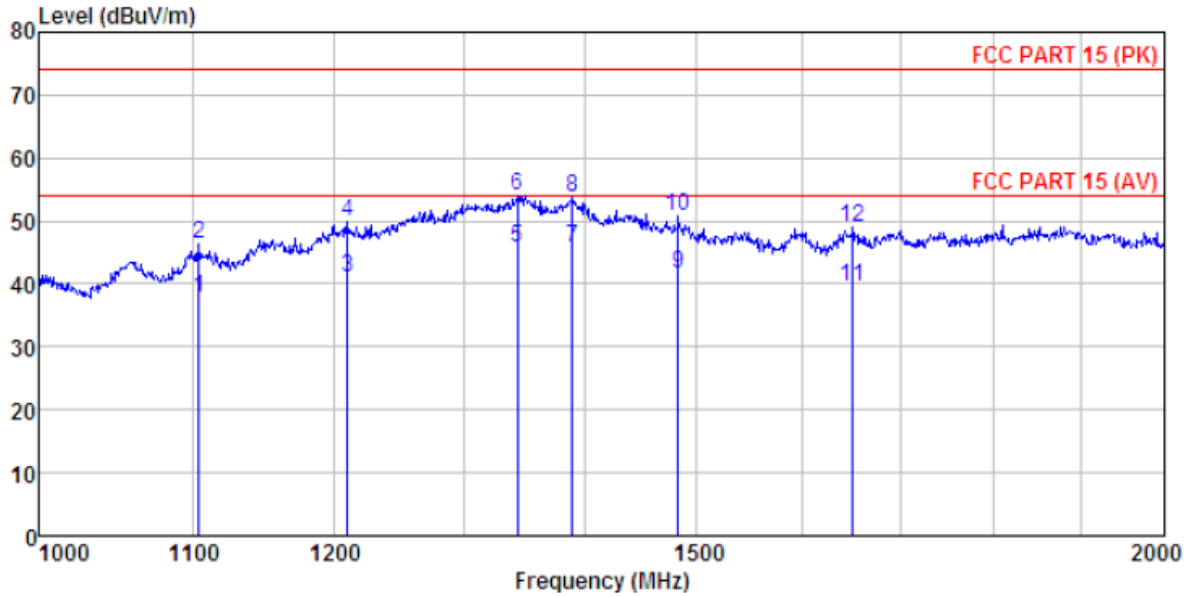


Site : 3m chamber
 Condition : FCC PART15 CLASS B 3m VULB9163 -2012-05 VERTICAL
 Job No. : 846RF
 Test Mode : Data Transfer
 Test Engineer: Chennankuan

	Read	Antenna	Cable	Preamp	Limit	Over	
Freq	Level	Factor	Loss	Factor	Level	Line	Limit Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	34.276	49.96	15.80	0.60	32.06	34.30	40.00 -5.70 QP
2	67.202	52.36	13.57	0.92	31.90	34.95	40.00 -5.05 QP
3	239.987	57.25	15.07	2.07	32.16	42.23	46.00 -3.77 QP
4	314.377	55.14	16.26	2.44	32.13	41.71	46.00 -4.29 QP
5	480.528	53.27	18.07	3.22	31.62	42.94	46.00 -3.06 QP
6	661.151	46.85	21.28	3.95	31.13	40.95	46.00 -5.05 QP

Above 1GHz

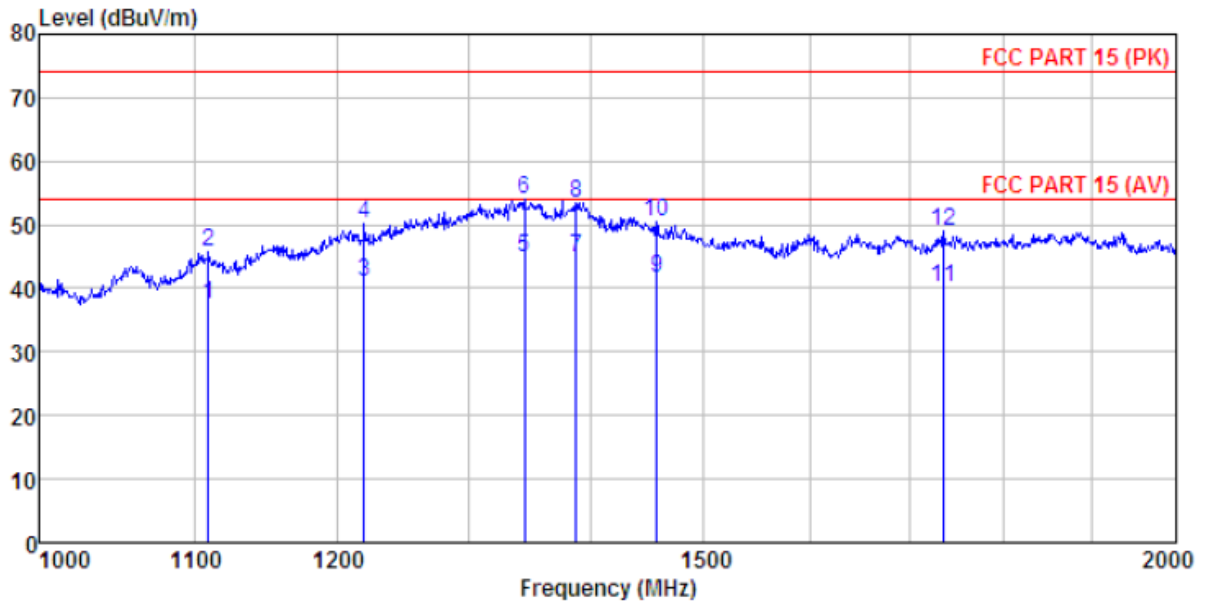
Horizontal:



Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120D ANT(>1GHZ) HORIZONTAL
 Job No. : 846RF
 Test Mode : Data Transfer
 Test Engineer: Chennankuan

	Read	Antenna	Cable	Preamp	Limit	Over		
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	1103.434	26.47	24.78	4.38	17.96	37.67	54.00	-16.33 Average
2	1103.434	35.07	24.78	4.38	17.96	46.27	74.00	-27.73 Peak
3	1209.156	30.40	25.39	4.47	19.37	40.89	54.00	-13.11 Average
4	1209.156	39.54	25.39	4.47	19.37	50.03	74.00	-23.97 Peak
5	1342.573	36.21	25.70	4.57	20.79	45.69	54.00	-8.31 Average
6	1342.573	44.61	25.70	4.57	20.79	54.09	74.00	-19.91 Peak
7	1388.955	36.80	25.60	4.61	21.35	45.66	54.00	-8.34 Average
8	1388.955	44.91	25.60	4.61	21.35	53.77	74.00	-20.23 Peak
9	1482.467	35.09	25.26	4.67	23.48	41.54	54.00	-12.46 Average
10	1482.467	44.30	25.26	4.67	23.48	50.75	74.00	-23.25 Peak
11	1650.611	36.74	24.86	4.77	26.73	39.64	54.00	-14.36 Average
12	1650.611	46.01	24.86	4.77	26.73	48.91	74.00	-25.09 Peak

Vertical:



Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120D ANT(>1GHZ) VERTICAL
 Job No. : 846RF
 Test Mode : Data Transfer
 Test Engineer: Chennankuan

	Read	Antenna	Cable	Preamp		Limit	Over	
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Remark
-----	-----	-----	-----	-----	-----	-----	-----	-----
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	1108.801	26.41	24.79	4.39	18.24	37.35	54.00	-16.65 Average
2	1108.801	34.93	24.79	4.39	18.24	45.87	74.00	-28.13 Peak
3	1219.255	30.50	25.43	4.48	19.37	41.04	54.00	-12.96 Average
4	1219.255	39.54	25.43	4.48	19.37	50.08	74.00	-23.92 Peak
5	1344.435	35.27	25.70	4.57	20.79	44.75	54.00	-9.25 Average
6	1344.435	44.53	25.70	4.57	20.79	54.01	74.00	-19.99 Peak
7	1387.031	36.09	25.62	4.61	21.35	44.97	54.00	-9.03 Average
8	1387.031	44.62	25.62	4.61	21.35	53.50	74.00	-20.50 Peak
9	1456.999	34.60	25.33	4.65	22.95	41.63	54.00	-12.37 Average
10	1456.999	43.48	25.33	4.65	22.95	50.51	74.00	-23.49 Peak
11	1736.280	38.24	25.05	4.82	27.89	40.22	54.00	-13.78 Average
12	1736.280	46.90	25.05	4.82	27.89	48.88	74.00	-25.12 Peak

7.2 Conducted Emissions

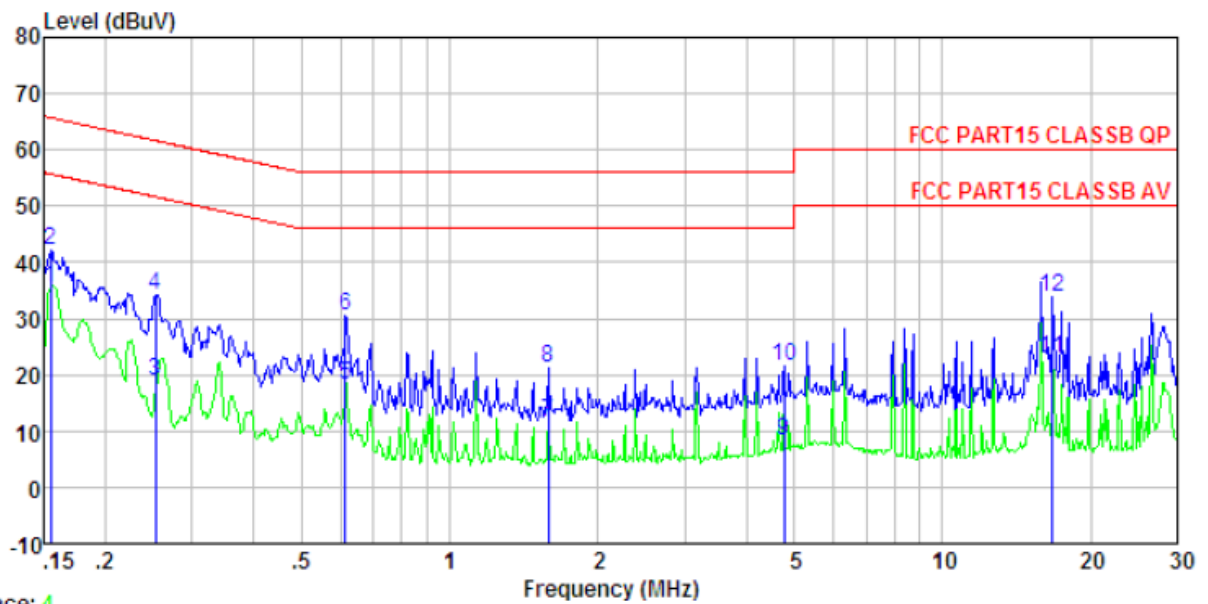
Test Requirement:	FCC Part15 B Section 15.107														
Test Method:	ANSI C63.4:2003														
Test Frequency Range:	150kHz to 30MHz														
Class / Severity:	Class B														
Receiver setup:	RBW=9kHz, VBW=30kHz														
Limit:	<table border="1"> <thead> <tr> <th rowspan="2">Frequency range (MHz)</th> <th colspan="2">Limit (dBμV)</th> </tr> <tr> <th>Quasi-peak</th> <th>Average</th> </tr> </thead> <tbody> <tr> <td>0.15-0.5</td> <td>66 to 56*</td> <td>56 to 46*</td> </tr> <tr> <td>0.5-5</td> <td>56</td> <td>46</td> </tr> <tr> <td>0.5-30</td> <td>60</td> <td>50</td> </tr> </tbody> </table>	Frequency range (MHz)	Limit (dB μ V)		Quasi-peak	Average	0.15-0.5	66 to 56*	56 to 46*	0.5-5	56	46	0.5-30	60	50
Frequency range (MHz)	Limit (dB μ V)														
	Quasi-peak	Average													
0.15-0.5	66 to 56*	56 to 46*													
0.5-5	56	46													
0.5-30	60	50													
Test procedure	<p>The E.U.T and simulators are connected to the main power through a line impedance stabilization network(L.I.S.N.). The provide a 50ohm/50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs). 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: 2009 on conducted measurement.</p>														
Test setup:	<p><i>Remark:</i> E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m</p>														
Test environment:	Temp.: 25 °C Humid.: 52% Press.: 1 012mbar														
Measurement Record:	Uncertainty: \pm 3.45dB														
Test Instruments:	Refer to section 6 for details														
Test mode:	Refer to section 5.3 for details, only show the worse case mode on the test report.														
Test results:	Pass														

Measurement Data

An initial pre-scan was performed on the live and neutral lines with peak detector.

Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

Line:

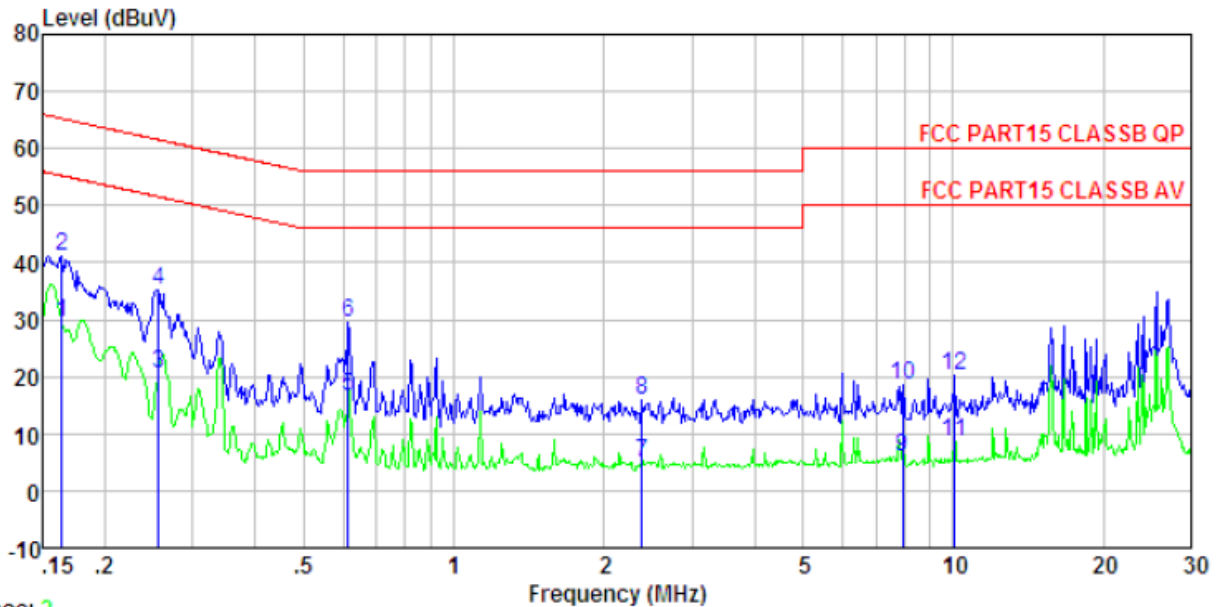


Trace: 4

Site : Shielded room
 Condition : FCC PART15 CLASSB QP LISN-2012 LINE
 Job No. : 846RF
 Test Mode : Data Transfer
 Test Engineer: HuXiaohe

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit	Over	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.155	35.53	-0.05	0.10	35.58	55.74	-20.16	Average
2	0.155	42.13	-0.05	0.10	42.18	65.74	-23.56	QP
3	0.253	18.81	-0.05	0.10	18.86	51.64	-32.78	Average
4	0.253	34.25	-0.05	0.10	34.30	61.64	-27.34	QP
5	0.614	18.05	-0.05	0.10	18.10	46.00	-27.90	Average
6	0.614	30.46	-0.05	0.10	30.51	56.00	-25.49	QP
7	1.585	11.46	-0.08	0.10	11.48	46.00	-34.52	Average
8	1.585	21.10	-0.08	0.10	21.12	56.00	-34.88	QP
9	4.772	8.44	-0.11	0.10	8.43	46.00	-37.57	Average
10	4.772	21.52	-0.11	0.10	21.51	56.00	-34.49	QP
11	16.750	22.89	-0.26	0.20	22.83	50.00	-27.17	Average
12	16.750	34.02	-0.26	0.20	33.96	60.00	-26.04	QP

Neutral:



Trace: 2

Site : Shielded room
 Condition : FCC PART15 CLASSB QP LISN-2012 NEUTRAL
 Job No. : 846RF
 Test Mode : Data Transfer
 Test Engineer: HuXiaohe

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.164	29.53	-0.05	0.10	29.58	55.25	-25.67	Average
2	0.164	41.25	-0.05	0.10	41.30	65.25	-23.95	QP
3	0.256	20.47	-0.05	0.10	20.52	51.56	-31.04	Average
4	0.256	35.20	-0.05	0.10	35.25	61.56	-26.31	QP
5	0.614	16.58	-0.05	0.10	16.63	46.00	-29.37	Average
6	0.614	29.49	-0.05	0.10	29.54	56.00	-26.46	QP
7	2.384	4.93	-0.08	0.10	4.95	46.00	-41.05	Average
8	2.384	15.98	-0.08	0.10	16.00	56.00	-40.00	QP
9	7.935	5.85	-0.14	0.18	5.89	50.00	-44.11	Average
10	7.935	18.36	-0.14	0.18	18.40	60.00	-41.60	QP
11	10.072	8.53	-0.18	0.20	8.55	50.00	-41.45	Average
12	10.072	20.26	-0.18	0.20	20.28	60.00	-39.72	QP

8 Test Setup Photo

Radiated Emission



Conducted Emission



9 EUT Constructional Details

Reference to the test report No. GTSE12070084601

-----end-----