

FCC Test Report

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

EQUIPMENT: Mobile Phone

BRAND NAME : LANIX

MODEL NAME : Ilium S106
MARKETING NAME : Ilium S106
FCC ID : ZC4S106

STANDARD : FCC 47 CFR FCC Part 15 Subpart B

CLASSIFICATION: Certification

The product was received on May 26, 2014 and testing was completed on Jun. 11, 2014. We, SPORTON INTERNATIONAL (SHENZHEN) INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI C63.4-2003 and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL (SHENZHEN) INC., the test report shall not be reproduced except in full.

Reviewed by: Louis Wu / Manager

Louis Win

Approved by: Jones Tsai / Manager

SPORTON INTERNATIONAL (SHENZHEN) INC.

No. 3 Building, the third floor of south, Shahe River west, Fengzeyuan warehouse, Nanshan District, Shenzhen, Guangdong, P.R.C.

SPORTON INTERNATIONAL (SHENZHEN) INC.

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Report Issued Date : Jun. 13, 2014

Testing Laboratory 2353

Report No.: FC452607

Report Version : Rev. 01

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FC452607	Rev. 01	Initial issue of report	Jun. 13, 2014

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SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
					Under limit
3.1	15.107	AC Conducted Emission	< 15.107 limits	PASS	6.56 dB at
					0.380 MHz
					Under limit
3.2	15.109	Dadiated Emission	< 15.109 limits	PASS	2.13 dB at
3.2		Radiated Emission	< 15.109 IIIIIIIS		285.150 MHz
					for Quasi-Peak

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1. General Description

1.1. Applicant

Corporativo Lanix S.A. de C.V.

Carretera Internacional Hermosillo-Nogales Km 8.5, Hermosillo Sonora, Mexico

1.2. Manufacturer

Tinno Mobile Technology Corp.

4/F, H-3 Building, OCT Eastern industrial Park, No.1 XiangShan East Road, Nan Shan District, Shenzhen, P. R. China

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1.3. Product Feature of Equipment Under Test

Product Feature					
Equipment	Mobile Phone				
Brand Name	LANIX				
Model Name	Ilium S106				
Marketing Name	Ilium S106				
FCC ID	ZC4S106				
EUT supports Radios application	GSM/GPRS/EGPRS/WCDMA/HSPA/HSPA+(Downlink Only)/ WLAN2.4GHz 802.b/g/n HT20/HT40/ Bluetooth v3.0+EDR/Bluetooth v4.0 LE				
HW Version	v1.0				
SW Version	ILIUMS106_PE_CLARO_SW_01_V05				
EUT Stage	Identical Prototype				

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

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1.4. Product Specification subjective to this standard

Product Specification subjective to this standard						
Tx Frequency Rx Frequency	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz 802.11b/g/n: 2412 MHz ~ 2462 MHz Bluetooth: 2402 MHz ~ 2480 MHz GSM850: 869.2 MHz ~ 893.8 MHz GSM1900: 1930.2 MHz ~ 1989.8 MHz WCDMA Band V: 871.4 MHz ~ 891.6 MHz WCDMA Band II: 1932.4 MHz ~ 1987.6 MHz 802.11b/g/n: 2412 MHz ~ 2462 MHz					
Antenna Type	Bluetooth: 2402 MHz ~ 2480 MHz WWAN: Monopole Antenna WLAN: PIFA Antenna Bluetooth: PIFA Antenna					
Type of Modulation	GSM: GMSK GPRS: GMSK EDGE(MCS 0-4): GMSK / (MCS 5-9): 8PSK WCDMA: QPSK (Uplink) HSDPA: QPSK (Uplink) HSUPA: QPSK (Uplink) HSPA+: 16QAM (Downlink Only) 802.11b: DSSS (DBPSK / DQPSK / CCK) 802.11g/n: OFDM (BPSK / QPSK / 16QAM / 64QAM) Bluetooth v4.0LE: GFSK Bluetooth (1Mbps): GFSK Bluetooth (2Mbps): \pi /4-DQPSK Bluetooth (3Mbps): 8-DPSK					

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1.5. Modification of EUT

No modifications are made to the EUT during all test items.

1.6. Test Location

Test Site	SPORTON INTERNATIONAL (SHENZHEN) INC.				
Test Site Location	No. 3 Building, the third floor of south, Shahe River west, Fengzeyuan warehouse, Nanshan District, Shenzhen, Guangdong, P.R.C.				
	TEL: +86-755- 3320-2398				
Toot Site No	Sporton	FCC Registration No.			
Test Site No.	CO01-SZ	03CH01-SZ	831040		

1.7. Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC 47 CFR FCC Part 15 Subpart B
- ANSI C63.4-2003

Remark: All test items were verified and recorded according to the standards and without any deviation during the test.

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2. Test Configuration of Equipment Under Test

2.1. Test Mode

The EUT has been associated with peripherals pursuant to ANSI C63.4-2003 and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

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Frequency range investigated: conduction (150 kHz to 30 MHz), radiation (30MHz to the 5th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

The following tables are showing the test modes as the worst cases and recorded in this report.

		Те	st Condition	on
Item	EUT Configuration	EMI AC	EMI RE<1G	EMI RE≥1G
1.	Charging Mode (EUT with adapter)			Note 1
2.	Data application transferred mode	\boxtimes	\boxtimes	\boxtimes
	(EUT connected with notebook)			

Abbreviations:

EMI AC: AC conducted emissions

EMI RE ≥ 1G: EUT radiated emissions ≥ 1GHz

EMI RE < 1G: EUT radiated emissions < 1GHz

Note 1: Testing for this mode is not required or not the worst case.

Remark: For signal above 1GHz, the worst case was test item 2.

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Test Items	EUT Configure Mode	Function Type
		Mode 1: GSM850 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + Earphone + Camera <fig.1></fig.1>
		Mode 2: GSM1900 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + Earphone + MPEG4 <fig.1></fig.1>
AC Conducted Emission	1/2	Mode 3: WCDMA Band V Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + Earphone + Camera
		<fig.1></fig.1>
		Mode 4: WCDMA Band II Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + Earphone <fig.2></fig.2>
		Mode 1: GSM850 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + Earphone + Camera <fig.1></fig.1>
		Mode 2: GSM1900 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + Earphone + MPEG4 <fig.1></fig.1>
Radiated Emissions < 1GHz	1/2	Mode 3: WCDMA Band V Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + Earphone + Camera
		<fig.1></fig.1>
		Mode 4: WCDMA Band II Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + Earphone <fig.2></fig.2>
Radiated Emissions ≥ 1GHz	2	Mode 1: WCDMA Band II Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + Earphone <fig.2></fig.2>

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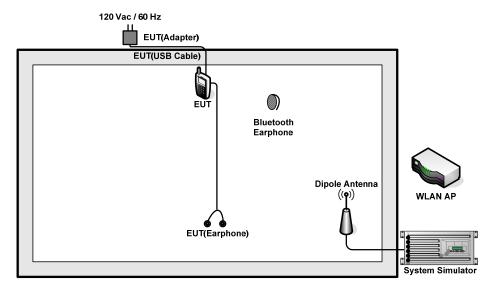
Remark:

- 1. The worst case of AC is mode 3, and the USB Link mode of AC is mode 4, the test data of these modes are reported.
- The worst case of RE < 1G is mode 4; only the test data of this mode is reported. 2.
- 3. Link with Notebook means data application transferred mode between EUT and Notebook.

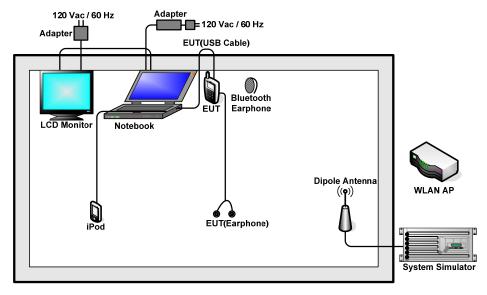
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2.2. Connection Diagram of Test System



<Fig.1>



<Fig.2>

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2.3. Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	R&S	CMW 500	N/A	N/A	Unshielded, 1.8 m
2.	System Simulator	Agilent	E5515C	N/A	N/A	Unshielded, 1.8 m
3.	WLAN AP	D-Link	DIR-628	KA2DIR628A2	N/A	Unshielded, 1.8 m
4.	WLAN AP	D-Link	DIR-615	N/A	N/A	Unshielded, 1.8 m
5.	Bluetooth Earphone	Hawk	B690	03-HKB690	N/A	N/A
6.	Bluetooth Earphone	Lenovo	LBH301	N/A	N/A	N/A
7.	Notebook	Lenovo	G480	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
8.	Monitor	DELL	IN1940MWb	FCC DoC	Shielded, 1.2m	Unshielded, 1.8 m
9.	SD Card	SanDisk	4G class 4	FCC DoC	N/A	N/A
10.	iPod nano 8GB	Apple	MC690ZP/A	FCC DoC	Shielded, 1.2 m	N/A
11.	iPod	Apple	MC525 ZP/A	FCC DoC	Shielded, 1.0m	N/A

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2.4. EUT Operation Test Setup

The EUT was in GSM or WCDMA idle mode during the testing. The EUT was synchronized to the BCCH, and was in continuous receiving mode by setting system simulator's paging reorganization.

At the same time, the EUT was attached to the Bluetooth earphone or WLAN AP, and the following programs installed in the EUT were programmed during the test.

- 1. Data application is transferred between notebook and EUT via USB cable.
- 2. Execute "Video player" to play MPEG4 files.
- 3. Turn on camera to capture images.

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3. Test Result

3.1. Test of AC Conducted Emission Measurement

3.1.1 Limits of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

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Frequency of emission	Conducted limit (dBuV)				
(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.

3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.1.3 Test Procedure

- 1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
- 2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
- 3. All the support units are connecting to the other LISN.
- 4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
- 5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
- 6. Both sides of AC line were checked for maximum conducted interference.
- 7. The frequency range from 150 kHz to 30 MHz was searched.
- 8. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

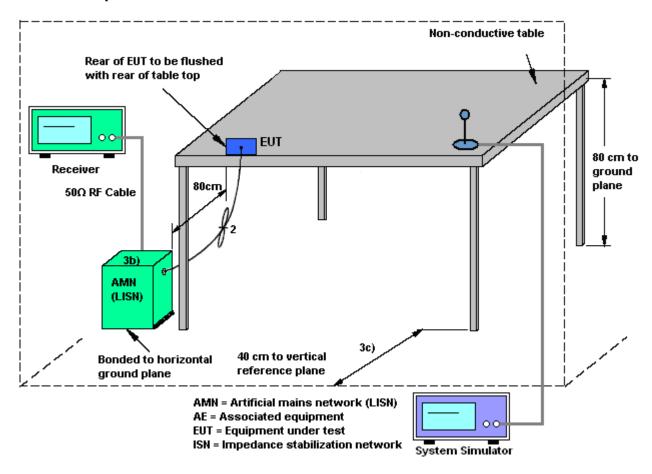
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3.1.4 Test Setup

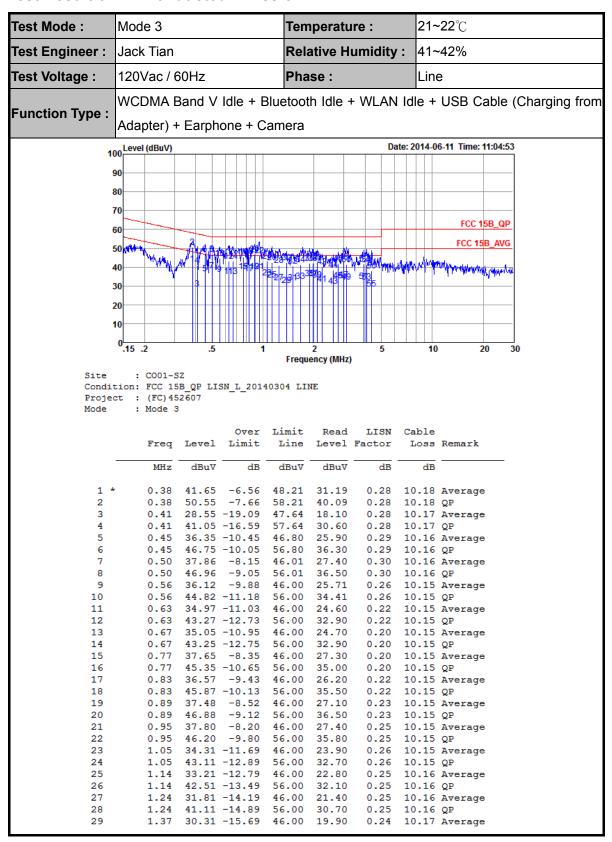


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3.1.5 Test Result of AC Conducted Emission



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 Test Mode :
 Mode 3
 Temperature :
 21~22°C

 Test Engineer :
 Jack Tian
 Relative Humidity :
 41~42%

 Test Voltage :
 120Vac / 60Hz
 Phase :
 Line

 Function Type :
 WCDMA Band V Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + Earphone + Camera

100 Level (dBuV) Date: 2014-06-11 Time: 11:04:53 90 80 70 FCC 15B_QP 60 FCC 15B AVG 19 1113 197191 205729113 3879 1 4580 555 50 40 30 20 10 0<mark>.15 .2</mark> 30

Frequency (MHz)

Site : CO01-SZ

Condition: FCC 15B QP LISN L 20140304 LINE

Project : (FC) 452607 Mode : Mode 3

Over Limit Read LISN Cable Freq Level Limit Line Level Factor Loss Remark dBuV dB dBu∀ dBu∀ dB MHz dB 30 1.37 42.41 -13.59 56.00 32.00 0.24 10.17 QP 1.50 31.81 -14.19 31 46.00 21.40 0.24 10.17 Average 1.50 40.61 -15.39 0.24 10.17 QP 32 56.00 30.20 33 1.67 32.41 -13.59 46.00 22.00 0.23 10.18 Average 1.67 41.41 -14.59 56.00 31.00 0.23 10.18 QP 35 0.22 1.88 34.01 -11.99 46.00 23.60 10.19 Average 41.91 -14.09 36 1.88 56.00 31.50 0.22 10.19 QP 37 1.97 33.91 -12.09 46.00 23.50 0.22 10.19 Average 38 1.97 41.91 -14.09 56.00 31.50 0.22 10.19 QP 2.10 33.22 -12.78 0.23 10.19 Average 46.00 22.80 39 40 2.10 42.32 -13.68 56.00 31.90 0.23 10.19 QP 2.24 31.04 -14.96 41 46.00 20.61 0.24 10.19 Average 0.24 10.19 QP 2.24 40.04 -15.96 56.00 29.61 42 43 2.59 29.98 -16.02 46.00 19.50 0.28 10.20 Average 44 2.59 38.38 -17.62 56.00 27.90 0.28 10.20 QP 2.78 32.70 -13.30 46.00 22.20 0.29 10.21 Average 45 0.29 10.21 QP 0.31 10.21 Ave 2.78 41.70 -14.30 46 56.00 31.20 47 2.99 33.12 -12.88 46.00 22.60 10.21 Average 48 2.99 42.92 -13.08 56.00 32.40 0.31 10.21 QP 3.11 31.93 -14.07 21.40 49 46.00 0.32 10.21 Average 50 3.11 41.33 -14.67 56.00 30.80 0.32 10.21 QP 3.94 32.30 -13.70 46.00 21.70 0.37 10.23 Average 52 3.94 41.60 -14.40 56.00 31.00 0.37 10.23 QP 4.09 32.10 -13.90 0.38 10.23 Average 53 46.00 21.49 4.09 41.50 -14.50 56.00 30.89 0.38 10.23 QP 55 4.38 28.52 -17.48 46.00 17.90 0.39 10.23 Average 4.38 38.02 -17.98 56.00 27.40 0.39 56 10.23 OP

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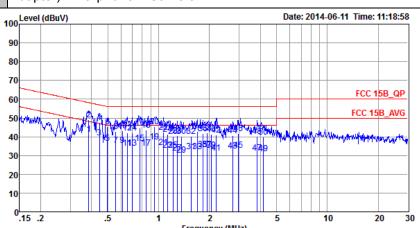


Test Mode : Mode 3 Temperature : 21~22°C

Test Engineer : Jack Tian Relative Humidity : 41~42%

Test Voltage : 120Vac / 60Hz Phase : Neutral

Function Type : WCDMA Band V Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + Earphone + Camera



Site : CO01-SZ

Condition: FCC 15B_QP LISN_N_20140304 NEUTRAL

Project : (FC) 452607 Mode : Mode 3

			Over	Limit				
	Freq	Level	Limit	Line	Level	Factor	Loss	Remark
_	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1 *	0.39	41.36	-6.81	48.17	30.80	0.38	10.18	Average
2	0.39	48.96	-9.21	58.17	38.40	0.38	10.18	QP
3	0.45	39.66	-7.27	46.93	29.10	0.40	10.16	Average
4	0.45	47.56	-9.37	56.93	37.00	0.40	10.16	QP
5	0.50	36.57	-9.48	46.05	26.00	0.41	10.16	Average
6	0.50	45.37	-10.68	56.05	34.80	0.41	10.16	QP
7	0.56	35.51	-10.49	46.00	25.00	0.36	10.15	Average
8	0.56	42.91	-13.09	56.00	32.40	0.36	10.15	QP
9	0.61	35.26	-10.74	46.00	24.80	0.31	10.15	Average
10	0.61	43.16	-12.84	56.00	32.70	0.31	10.15	QP
11	0.65	33.93	-12.07	46.00	23.50	0.28	10.15	Average
12	0.65	42.03	-13.97	56.00	31.60	0.28	10.15	QP
13	0.70	34.10	-11.90	46.00	23.70	0.25	10.15	Average
14	0.70	41.90	-14.10	56.00	31.50	0.25	10.15	QP
15	0.78	36.62	-9.38	46.00	26.20	0.27	10.15	Average
16	0.78	44.72	-11.28	56.00	34.30	0.27	10.15	QP
17	0.84	34.04	-11.96	46.00	23.60	0.29	10.15	Average
18	0.84	43.64	-12.36	56.00	33.20	0.29	10.15	QP
19	0.95	37.37	-8.63	46.00	26.90	0.32	10.15	Average
20	0.95	45.57	-10.43	56.00	35.10	0.32	10.15	QP
21	1.07	34.39	-11.61	46.00	23.91	0.33	10.15	Average
22	1.07	42.39	-13.61	56.00	31.91	0.33	10.15	QP
23	1.13	32.79	-13.21	46.00	22.29	0.34	10.16	Average
24	1.13	41.19	-14.81	56.00			10.16	QP
25	1.22	33.00	-13.00	46.00	22.50	0.34	10.16	Average
26	1.22	40.30	-15.70	56.00	29.80	0.34	10.16	QP
27	1.30	31.21	-14.79	46.00	20.70	0.35	10.16	Average
28	1.30	40.41	-15.59	56.00	29.90	0.35	10.16	QP
29	1.37	30.12	-15.88	46.00	19.60	0.35	10.17	Average

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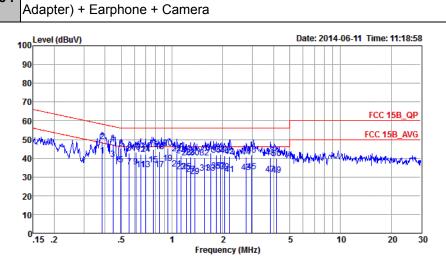


 Test Mode :
 Mode 3
 Temperature :
 21~22°C

 Test Engineer :
 Jack Tian
 Relative Humidity :
 41~42%

 Test Voltage :
 120 Vac / 60 Hz
 Phase :
 Neutral

 Function Type :



Site : CO01-SZ

Condition: FCC 15B_QP LISN_N_20140304 NEUTRAL

Project : (FC)452607 Mode : Mode 3

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBu₹	dB	dBu∀	dBu₹	dB	dB	
30	1.37	40.12	-15.88	56.00	29.60	0.35	10.17	QP
31	1.56	32.13	-13.87	46.00	21.60	0.36	10.17	Average
32	1.56	40.33	-15.67	56.00	29.80	0.36	10.17	QP
33	1.70	32.24	-13.76	46.00	21.70	0.36	10.18	Average
34	1.70	42.84	-13.16	56.00	32.30	0.36	10.18	QP
35	1.83	33.15	-12.85	46.00	22.61	0.36	10.18	Average
36	1.83	41.65	-14.35	56.00	31.11	0.36	10.18	QP
37	1.94	33.26	-12.74	46.00	22.70	0.37	10.19	Average
38	1.94	41.96	-14.04	56.00	31.40	0.37	10.19	QP
39	2.05	32.96	-13.04	46.00	22.40	0.37	10.19	Average
40	2.05	41.46	-14.54	56.00	30.90	0.37	10.19	QP
41	2.20	31.28	-14.72	46.00	20.71	0.38	10.19	Average
42	2.20	40.88	-15.12	56.00	30.31	0.38	10.19	QP
43	2.76	32.52	-13.48	46.00	21.90	0.41	10.21	Average
44	2.76	40.72	-15.28	56.00	30.10	0.41	10.21	QP
45	2.96	32.93	-13.07	46.00	22.30	0.42	10.21	Average
46	2.96	41.83	-14.17	56.00	31.20	0.42	10.21	QP
47	3.84	31.38	-14.62	46.00	20.69	0.46	10.23	Average
48	3.84	40.18	-15.82	56.00	29.49	0.46	10.23	QP
49	4.18	31.00	-15.00	46.00	20.30	0.47	10.23	Average
50	4.18	39.70	-16.30	56.00	29.00	0.47	10.23	QP

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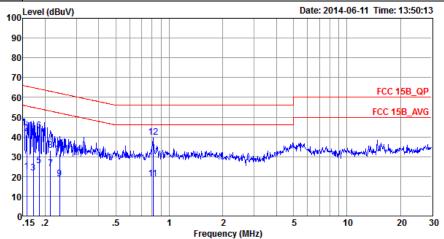


 Test Mode :
 Mode 4
 Temperature :
 21~22°C

 Test Engineer :
 Jack Tian
 Relative Humidity :
 41~42%

 Test Voltage :
 120Vac / 60Hz
 Phase :
 Line

 Function Type :
 WCDMA Band II Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + Earphone



Site : CO01-SZ

Condition: FCC 15B_QP LISN_L_20140304 LINE

Project : (FC)452607 Mode : Mode 4

			Over	Limit	Read	LISN	Cable	
	Freq	Level	Limit	Line	Level	Factor	Loss	Remark
	MHz	dBu∀	dB	dBu∀	dBuV	dB	dB	
1	0.16	22.37	-33.23	55.60	11.80	0.22	10.35	Average
2	0.16	41.77	-23.83	65.60	31.20	0.22	10.35	QP
3	0.17	21.75	-33.15	54.90	11.20	0.22	10.33	Average
4	0.17	42.95	-21.95	64.90	32.40	0.22	10.33	QP
5	0.19	25.33	-28.91	54.24	14.80	0.22	10.31	Average
6	0.19	43.03	-21.21	64.24	32.50	0.22	10.31	QP
7	0.21	24.10	-28.95	53.05	13.59	0.23	10.28	Average
8	0.21	33.10	-29.95	63.05	22.59	0.23	10.28	QP
9	0.24	18.79	-33.25	52.04	8.30	0.24	10.25	Average
10	0.24	31.39	-30.65	62.04	20.90	0.24	10.25	QP
11	0.81	18.66	-27.34	46.00	8.30	0.21	10.15	Average
12 *	0.81	39.76	-16.24	56.00	29.40	0.21	10.15	QP

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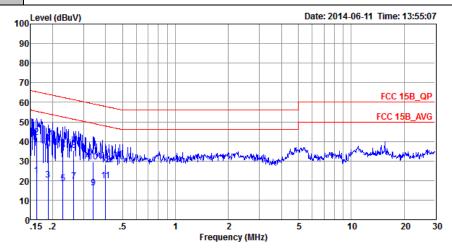
 Test Mode :
 Mode 4
 Temperature :
 21~22°C

 Test Engineer :
 Jack Tian
 Relative Humidity :
 41~42%

 Test Voltage :
 120Vac / 60Hz
 Phase :
 Neutral

 WCDMA Band II Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with

Function Type : WCDMA Band II Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + Earphone



Site : CO01-SZ

Condition: FCC 15B_QP LISN_N_20140304 NEUTRAL

Project : (FC)452607 Mode : Mode 4

	Freq	Level	Over Limit	Limit Line	Read Level	LISN	Cable	Remark
	MHz	dBu∀	dB	dBu∀	dBu∀	dB	dB	
1	0.16	22.37	-32.97	55.34	11.70	0.33	10.34	Average
2 *	0.16	41.97	-23.37	65.34	31.30	0.33	10.34	QP
3	0.19	20.43	-33.68	54.11	9.80	0.32	10.31	Average
4	0.19	39.03	-25.08	64.11	28.40	0.32	10.31	QP
5	0.23	18.50	-33.98	52.48	7.91	0.33	10.26	Average
6	0.23	35.50	-26.98	62.48	24.91	0.33	10.26	QP
7	0.26	19.48	-31.81	51.29	8.90	0.35	10.23	Average
8	0.26	35.28	-26.01	61.29	24.70	0.35	10.23	QP
9	0.34	16.16	-33.02	49.18	5.60	0.37	10.19	Average
10	0.34	29.66	-29.52	59.18	19.10	0.37	10.19	QP
11	0.40	19.76	-28.10	47.86	9.20	0.39	10.17	Average
12	0.40	27.86	-30.00	57.86	17.30	0.39	10.17	QP

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3.2. Test of Radiated Emission Measurement

3.2.1. Limit of Radiated Emission

The emissions from an unintentional radiator shall not exceed the field strength levels specified in the following table:

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Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)		
(IVITIZ)	(inicrovoits/ineter)	(illeters)		
30 – 88	100	3		
88 – 216	150	3		
216 - 960	200	3		
Above 960	500	3		

3.2.2. Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.2.3. Test Procedures

- 1. The EUT was placed on a turntable with 0.8 meter above ground.
- 2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
- 3. The table was rotated 360 degrees to determine the position of the highest radiation.
- 4. The antenna height is adjusted between one to four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
- 5. For each suspected emission, the EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
- 6. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.
- 7. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, peak values of EUT will be reported. Otherwise, the emission will be repeated by using the quasi-peak method and reported.
- 8. Emission level (dB μ V/m) = 20 log Emission level (μ V/m)
- 9. Corrected Reading: Antenna Factor + Cable Loss + Read Level Preamp Factor = Level

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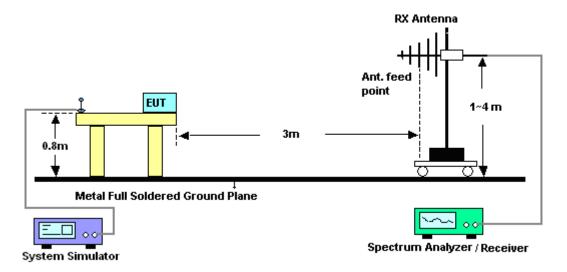
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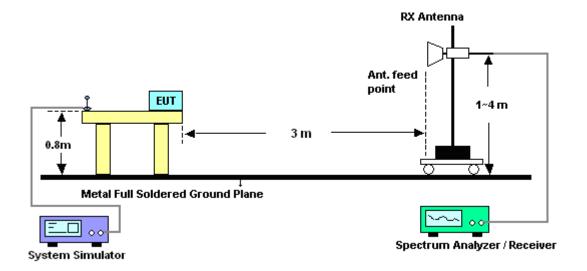
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3.2.4. Test Setup of Radiated Emission

For radiated emissions from 30MHz to 1GHz



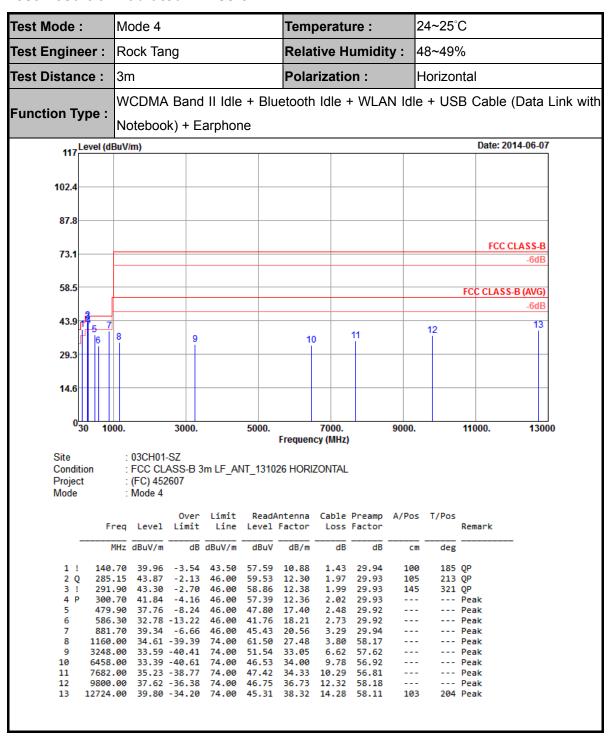
For radiated emissions above 1GHz



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3.2.5. Test Result of Radiated Emission



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24~25°C Test Mode: Mode 4 Temperature: **Relative Humidity:** 48~49% Test Engineer: Rock Tang Polarization: Test Distance: 3m Vertical WCDMA Band II Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Function Type: Notebook) + Earphone 117 Level (dBuV/m) Date: 2014-06-07 102.4 87.8 FCC CLASS-B 73.1 58.5 FCC CLASS-B (AVG) 6dE 43.9 13 10 29.3 1000. 5000. 7000. 9000. 11000. 13000 Frequency (MHz) Site : 03CH01-SZ Condition : FCC CLASS-B 3m LF_ANT_131026 VERTICAL Project (FC) 452607 Mode · Mode 4 Over Limit ReadAntenna Cable Preamp A/Pos T/Pos Remark Frea Level Limit Line Level Factor Loss Factor MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 P 46.20 -6.89 40.00 8.73 0.91 29.93 152 325 Peak 33.11 53.40 180.39 -8.12 43.50 35.38 55.90 7.80 1.62 29.94 --- Peak 36.53 -9.47 46.00 52.31 12.25 1.90 Peak 479.90 37.99 -8.01 46.00 48.03 17.40 29.92 --- Peak 586.30 38.53 -7.47 46.00 47.51 18.21 2.73 29.92 ------ Peak 33.82 -12.18 ---6 749.40 46.00 40.09 29.93 --- Peak 20.60 3.06 881.00 34.98 -11.02 46.00 41.06 20.58 3.28 29.94 --- Peak 2352.00 35.44 -38.56 74.00 5.56 56.97 --- Peak 55.04 3194.00 36.07 -37.93 74.00 53.98 33.04 6.57 57.52 --- Peak 10 6576.00 33.59 -40.41 74.00 46.82 33.96 9.85 57.04 ------ Peak 35.08 -38.92 7328.00 74.00 48.34 33.90 10.00 57.16 ------ Peak 11 10054.00 38.41 -35.59 74.00 46.94 36.96 12.70 12 58.19 Peak 39.31 -34.69 204 Peak 74.00

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4. List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
ESCIO TEST Receiver	R&S	ESCI	100724	9kHz~3GHz	Feb. 21, 2014	Jun. 11, 2014	Feb. 20, 2015	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2SH	00103912	9kHz~30MHz	Mar. 04, 2014	Jun. 11, 2014	Mar. 03, 2015	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	EMCO	3816/2SH	00103892	9kHz~30MHz	Mar. 04, 2014	Jun. 11, 2014	Mar. 03, 2015	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	616020000891	100Vac~250Vac	Dec. 17, 2013	Jun. 11, 2014	Dec. 16, 2014	Conduction (CO01-SZ)
ESCIO TEST Receiver	R&S	ESCI	100724	9kHz~3GHz	Feb. 21, 2014	Jun. 07, 2014	Feb. 20, 2015	Radiation (03CH01-SZ)
Spectrum Analyzer	Agilent Technologies	N9038A	MY52260185	20Hz~26.5GHz	May 26, 2014	Jun. 07, 2014	May 25, 2015	Radiation (03CH01-SZ)
Bilog Antenna	TESEQ	CBL 6112D	23188	30MHz~2GHz	Oct. 26, 2013	Jun. 07, 2014	Oct. 25, 2014	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	ETS Lindgren	3117	00119436	1GHz~18GHz	Oct. 26, 2013	Jun. 07, 2014	Oct. 25, 2014	Radiation (03CH01-SZ)
Amplifier	ADVANTEST	BB525C	E9007003	9kHz~3000MHz	Feb. 21, 2014	Jun. 07, 2014	Feb. 20, 2015	Radiation (03CH01-SZ)
Amplifier	Agilent	83017A	MY39501302	3Hz~26.5GHz	May 08, 2014	Jun. 07, 2014	May 07, 2015	Radiation (03CH01-SZ)
AC Source(AVR)	Chroma	61601	616010001985	100Vac~250Vac	Mar. 25, 2014	Jun. 07, 2014	Mar. 24, 2015	Radiation (03CH01-SZ)
Turn Table	EM Electronics	EM 1000	N/A	0~360 degree	NCR	Jun. 07, 2014	NCR	Radiation (03CH01-SZ)
Antenna Mast	EM Electronics	EM 1000	N/A	1 m~4 m	NCR	Jun. 07, 2014	NCR	Radiation (03CH01-SZ)

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5. Uncertainty of Evaluation

<u>Uncertainty of Conducted Emission Measurement (150 kHz ~ 30 MHz)</u>

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.31
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<u>Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)</u>

Measuring Uncertainty for a Level of	3.90
Confidence of 95% (U = 2Uc(y))	3.90

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