

FCC Test Report

APPLICANT	:	TCT Mobile Limited
EQUIPMENT	:	Dual-Band GSM mobile phone
BRAND NAME	:	ALCATEL
MODEL NAME	:	ALCATEL 2050A
FCC ID	:	RAD437
STANDARD	:	FCC 47 CFR FCC Part 15 Subpart B
CLASSIFICATION	:	Certification

The product was received on Oct. 08, 2013 and testing was completed on Oct. 17, 2013. We, SPORTON INTERNATIONAL (SHENZHEN) INC., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.4-2003 and shown to be compliant 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.

Lunis Wu

Reviewed by: Louis Wu / Manager

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Approved by: Jones Tsai / Manager



SPORTON INTERNATIONAL (SHENZHEN) INC.

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FC3O0804	Rev. 01	Initial issue of report	Oct. 25, 2013



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	5.38 dB at
					0.150 MHz
					Under limit
3.2	15.109	Radiated Emission	< 15.109 limits	PASS	5.14 dB at
					580.960 MHz



1. General Description

1.1. Applicant

TCT Mobile Limited

5F, E building, No. 232, Liang Jing Road, ZhangJiang High-Tech Park, Pudong Area, Shanghai, 201203, P.R.China

1.2. Manufacturer

TCT Mobile Limited

5F, E building, No. 232, Liang Jing Road, ZhangJiang High-Tech Park, Pudong Area, Shanghai, 201203, P.R.China

1.3. Feature of Equipment Under Test

	Product Feature
Equipment	Dual-Band GSM mobile phone
Brand Name	ALCATEL
Model Name	ALCATEL 2050A
FCC ID	RAD437
EUT supports Radios application	GSM/GPRS/Bluetooth v2.1 + EDR
HW Version	HW04
SW Version	V1.5
EUT Stage	Production Unit

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



1.4. Product Specification of Equipment Under Test

Product Specif	ication subjective to this standard
Tx Frequency	GSM850 : 824.2 MHz ~ 848.8 MHz GSM1900 : 1850.2 MHz ~ 1909.8MHz
	Bluetooth: 2402 MHz ~ 2480 MHz
	GSM850 : 869.2 MHz ~ 893.8 MHz
Rx Frequency	GSM1900 : 1930.2 MHz ~ 1989.8 MHz
	Bluetooth: 2402 MHz ~ 2480 MHz
Antenna Type	WWAN : Fixed Internal Antenna
	Bluetooth : PIFA Antenna
	GSM: GMSK
	GPRS: GMSK
Type of Modulation	Bluetooth BR (1Mbps) : GFSK
	Bluetooth EDR (2Mbps) : π /4-DQPSK
	Bluetooth EDR (3Mbps) : 8-DPSK

1.5. Modification of EUT

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



1.6. Test Site

Test Site	SPORTON INTER	NATIONAL (SHENZI	HEN) INC.		
Test Site Location	-		uth, Shahe River west, Fengzeyuan n, Guangdong, P.R.C.		
	TEL: +86-755- 3320-2398				
Test Site No	Sporton Site No.		FCC Registration No.		
Test Site No.	CO01-SZ	03CH01-SZ	831040		

1.7. Applied 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.



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. 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).

		Те	est Conditio	on
ltem	EUT Configuration	EMI	EMI	EMI
		AC	RE<1G	RE≥1G
1.	Charging Mode (EUT with adapter)	\boxtimes	\boxtimes	\boxtimes
2.	Data application transferred mode (EUT with notebook)	\boxtimes	\boxtimes	\boxtimes

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

Abbreviations:

- EMI AC: AC conducted emissions
- EMI RE ≥ 1G: EUT radiated emissions ≥ 1GHz
- EMI RE < 1G: EUT radiated emissions < 1GHz



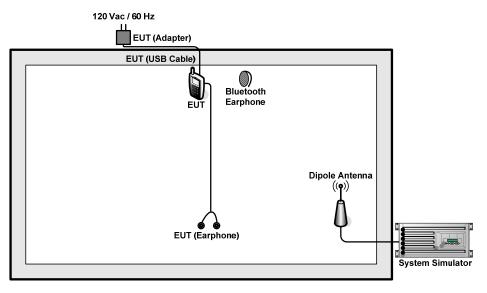
Test Items	EUT Configure Mode	Function Type
		Mode 1: GSM850 Idle + Bluetooth Idle + USB Cable (Charging from Adapter 1) + Earphone + Camera <fig. 1=""></fig.>
AC Conducted Emission	1/2	Mode 2: GSM850 Idle + Bluetooth Idle + USB Cable (Charging from Adapter 2) + Earphone + MPEG4 <fig. 1=""></fig.>
		Mode 3: GSM1900 Idle + Bluetooth Idle + USB Cable (Data Link with Notebook) + Earphone <fig. 2=""></fig.>
		Mode 1: GSM850 Idle + Bluetooth Idle + USB Cable (Charging from Adapter 1) + Earphone + Camera <fig. 1=""></fig.>
Radiated Emissions < 1GHz	1/2	Mode 2: GSM850 Idle + Bluetooth Idle + USB Cable (Charging from Adapter 2) + Earphone + MPEG4 <fig. 1=""></fig.>
		Mode 3: GSM1900 Idle + Bluetooth Idle + USB Cable (Data Link with Notebook) + Earphone <fig. 2=""></fig.>
Radiated		Mode 1: GSM850 Idle + Bluetooth Idle + USB Cable (Charging from Adapter 2) + Earphone + MPEG4 <fig. 1=""></fig.>
$Emissions \geq 1GHz$	1	Mode 2: GSM1900 Idle + Bluetooth Idle + USB Cable (Data Link with Notebook) + Earphone <fig. 2=""></fig.>
Remark:	1	

- 1. The worst case of AC is mode 2; the test data of this mode was reported.
- **2.** The USB Link mode of AC Conducted Emission is mode 3; the test data of this mode is also reported.
- 3. The worst case of RE < 1G is mode 2; only the test data of this mode was reported.
- 4. The USB Link mode of RE is mode 3; the test data of this mode is also reported.
- 5. Link with Notebook means data application transferred mode between EUT and Notebook.

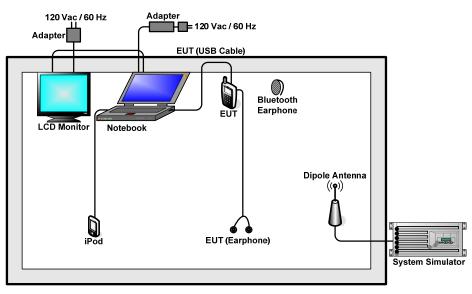


2.2. Connection Diagram of Test System

<EUT with Adapter Mode>



<Fig. 1>



<Fig. 2>



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	Agilent	E5515C	N/A	N/A	Unshielded, 1.8 m
2.	Bluetooth Earphone	Nokia	BH-108	FCC DoC	N/A	N/A
3.	Notebook	DELL	P08S	FCC DoC	N/A	AC I/P: Unshielded, 1.8 m DC O/P: Shielded, 1.8 m
4.	Monitor	Dell	1707FPt	FCC DoC	shielded, 1.2 m	Unshielded, 1.8 m
5.	Monitor	Dell	IN1940MWB	FCC DoC	shielded, 1.2 m	Unshielded, 1.8 m
6.	iPod	Apple	MC525 ZP/A	FCC DoC	Shielded, 1.0 m	N/A



2.4. EUT Operation Test Setup

The EUT was in GSM 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, and the following programs installed in the EUT were programmed during the test.

- 1. Execute the program, "Winthrax" under WIN7 installed in notebook for files transfer with EUT via USB cable.
- 2. Execute "Video Player" to play MPEG4 files.
- 3. Turn on camera to capture images.
- 4. Execute "H Pattern" to show H Pattern via VGA Cable on the Monitor.



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.

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

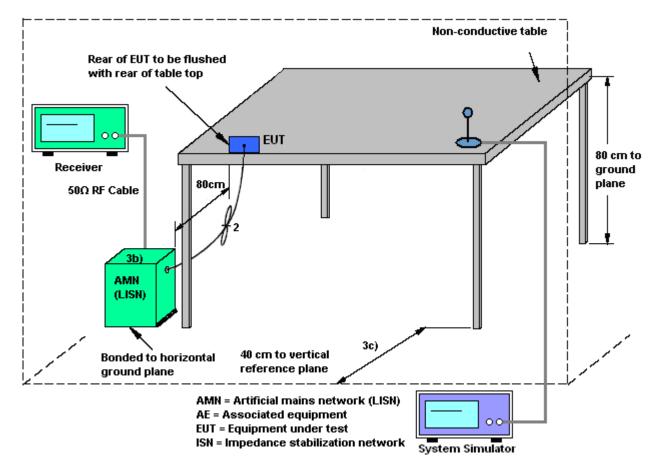
The measuring equipment is listed in the section 4 of this test report.

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.



3.1.4 Test Setup



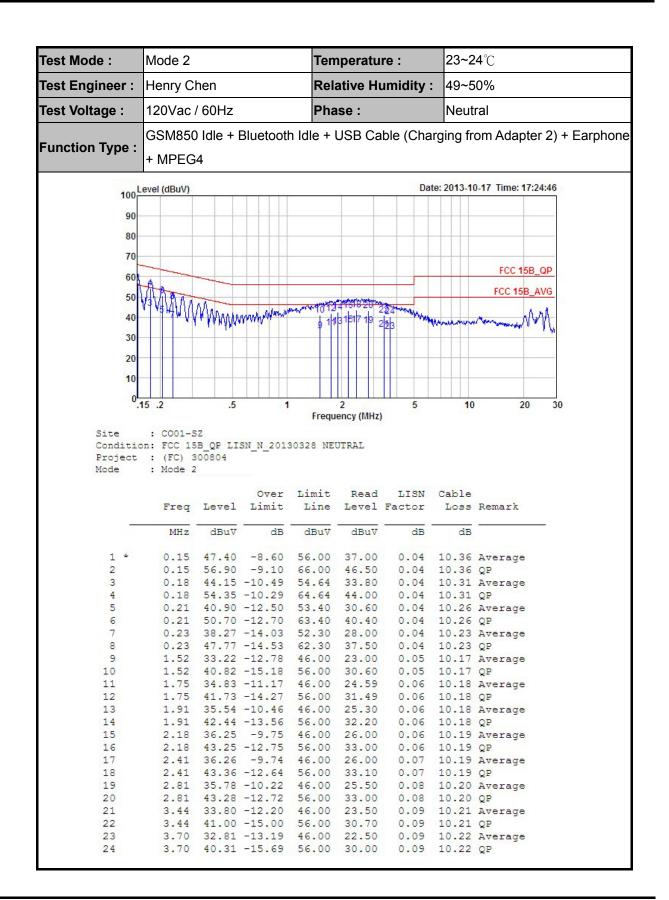


3.1.5 Test Result of AC Conducted Emission

Test Mode :	Mode 2			Ten	peratu	re :	23~2	2 4 ℃	
Test Engineer :	Henry C	hen		Rela	ative Hu	umidity	49~5	50%	
Test Voltage :	120Vac	/ 60Hz		Pha	se :		Line		
	GSM850) Idle +	Bluetootl	h Idle +	JSB Ca	ble (Cha	rging fr	om Adapter 2	2) + Earphor
Function Type :	+ MPEG	4							
100	_evel (dBuV)					Da	te: 2013-10	0-17 Time: 17:16:	49
90									
80									
5									
70								FCC 15B_Q	P
60	AAAA							and the second	
50	VAVIANA	Att the state						FCC 15B_AV	G
40	194		NV my hundral	Ward Hilly In an	MALAN WARM	www.linetration	h.h.a.t.	man alway	<u>-</u>
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20									
10									
ol	15.2	.5	1		2	5	10	20	30
	: CO01-5 on: FCC 15 : (FC) 3 : Mode 2	5B_QP LI 800804	SN_L_2013		ency (MHz) NE				
Conditi Project	: CO01-5 on: FCC 15 : (FC) 3 : Mode 2	68_QP LI 300804 2	Over	30328 LII Limit	NE Read	LISN	Cable	Provensi	
Conditi Project	: C001-5 on: FCC 15 : (FC) 3 : Mode 2 Freq	B_QP LI 300804 2 Level	Over Limit	30328 LI Limit Line	NE Read Level	LISN Factor	Loss	Remark	
Conditi Project	: C001-5 on: FCC 15 : (FC) 3 : Mode 2 Freq MHz	B_QP LI 300804 Level dBuV	Over Limit dB	30328 LI Limit Line dBuV	NE Read Level dBuV	LISN Factor dB		Remark	
Conditi Project Mode 	: C001-S on: FCC 15 : (FC) 3 : Mode 2 Freq MHz 0.15	58_QP LI 300804 Level dBuV 50.62	Over Limit dB -5.38	Limit Line dBuV 56.00	Read Level dBuV 40.20	LISN Factor dB 0.06	Loss dB 10.36	Average	
Conditi Project Mode 1 * 2	: C001-S on: FCC 15 : (FC) 3 : Mode 2 Freq MHz 0.15 0.15	BB_QP LI 300804 Level dBuV 50.62 60.42	Over Limit dB -5.38 -5.58	30328 LI Limit Line dBuV 56.00 66.00	Read Level dBuV 40.20 50.00	LISN Factor dB 0.06 0.06	Loss dB 10.36 10.36	Average QP	
Conditi, Project Mode 	: C001-5 on: FCC 15 : (FC) 3 : Mode 2 Freq MHz 0.15 0.15 0.18	BB_QP LI 300804 Level dBuV 50.62 60.42 49.07	Over Limit dB -5.38	Limit Line dBuV 56.00 54.64	Read Level dBuV 40.20 50.00	LISN Factor dB 0.06 0.06	Loss dB 10.36 10.36	Average QP Average	
Condition Project Mode 1 * 2 3 4 5	: C001-5 cn: FCC 15 : (FC) 3 : Mode 2 Freq MHz 0.15 0.15 0.15 0.18 0.18 0.20	Level dBuV 50.62 60.42 49.07 59.07 44.34	Over Limit dB -5.38 -5.58 -5.57 -5.57 -9.11	Limit Line dBuV 56.00 66.00 54.64 64.64 53.45	Read Level dBuV 40.20 50.00 38.69 48.69 34.00	LISN Factor dB 0.06 0.07 0.07 0.07	Loss dB 10.36 10.36 10.31 10.31 10.27	Average QP Average QP Average	
Conditi Project Mode 1 * 2 3 4	: C001-5 cn: FCC 15 : (FC) 3 : Mode 2 Freq MHz 0.15 0.15 0.18 0.18 0.20 0.20	Level dBuV 50.62 60.42 49.07 59.07 44.34 55.34	Over Limit dB -5.38 -5.58 -5.57 -5.57 -9.11 -8.11	Limit Line dBuV 56.00 66.00 54.64 64.64 53.45 63.45	Read Level dBuV 40.20 50.00 38.69 48.69 34.00 45.00	LISN Factor dB 0.06 0.07 0.07 0.07 0.07 0.07	Loss dB 10.36 10.31 10.31 10.27 10.27	Average QP Average QP Average QP	
Conditi Project Mode 1 * 2 3 4 5 6 7	: C001-5 cn: FCC 15 : (FC) 3 : Mode 2 Freq MHz 0.15 0.15 0.15 0.18 0.20 0.20 0.23	Level dBuV 50.62 60.42 49.07 59.07 44.34 55.34 42.02	Over Limit dB -5.38 -5.58 -5.57 -5.57 -9.11 -8.11 -10.28	Limit Line dBuV 56.00 64.64 64.64 53.45 63.45 52.30	Read Level dBuV 40.20 50.00 38.69 48.69 34.00 45.00 31.71	LISN Factor dB 0.06 0.07 0.07 0.07 0.07 0.07 0.08	Loss dB 10.36 10.31 10.31 10.27 10.27 10.23	Average QP Average QP Average QP Average	
Conditi Project Mode 1 * 2 3 4 5 6 7 8	: C001-5 on: FCC 15 : (FC) 3 : Mode 2 Freq MHz 0.15 0.15 0.15 0.18 0.20 0.20 0.23 0.23	Level dBuV 50.62 60.42 49.07 59.07 44.34 55.34 42.02 52.02	Over Limit dB -5.38 -5.58 -5.57 -5.57 -9.11 -8.11 -10.28 -10.28	Limit Line dBuV 56.00 64.64 64.64 53.45 63.45 52.30 62.30	Read Level dBuV 40.20 50.00 38.69 48.69 34.00 45.00 31.71 41.71	LISN Factor dB 0.06 0.07 0.07 0.07 0.07 0.07 0.08 0.08	Loss dB 10.36 10.31 10.31 10.27 10.27 10.23 10.23	Average QP Average QP Average QP Average QP	
Condition Project Mode 1 * 2 3 4 5 6 7 8 9	: C001-5 cn: FCC 15 : (FC) 3 : Mode 2 Freq MHz 0.15 0.15 0.15 0.18 0.20 0.20 0.23 0.23 0.26	Level dBuV 50.62 60.42 49.07 59.07 44.34 55.34 42.02 52.02 39.31	Over Limit dB -5.38 -5.58 -5.57 -5.57 -9.11 -8.11 -10.28 -10.28 -12.03	Limit Line dBuV 56.00 64.64 64.64 53.45 63.45 52.30 62.30 51.34	Read Level dBuV 40.20 50.00 38.69 48.69 34.00 45.00 31.71 41.71 29.01	LISN Factor dB 0.06 0.07 0.07 0.07 0.07 0.07 0.07 0.08 0.08	Loss dB 10.36 10.31 10.31 10.27 10.27 10.23 10.23 10.23	Average QP Average QP Average QP Average QP Average	
Conditi Project Mode 1 * 2 3 4 5 6 7 8	: C001-5 cn: FCC 15 : (FC) 3 : Mode 2 Freq MHz 0.15 0.15 0.18 0.18 0.18 0.20 0.23 0.23 0.26 0.26	Level dBuV 50.62 60.42 49.07 59.07 44.34 55.34 42.02 52.02 39.31 49.11	Over Limit dB -5.38 -5.58 -5.57 -5.57 -9.11 -8.11 -10.28 -10.28 -12.03 -12.23	Limit Line dBuV 56.00 66.00 54.64 64.64 53.45 63.45 52.30 62.30 51.34 61.34	Read Level dBuV 40.20 50.00 38.69 48.69 34.00 45.00 31.71 41.71 29.01 38.81	LISN Factor dB 0.06 0.07 0.07 0.07 0.07 0.07 0.07 0.08 0.08	Loss dB 10.36 10.31 10.31 10.27 10.27 10.23 10.23 10.23 10.21	Average QP Average QP Average QP Average QP Average	
Conditi Project Mode 1 * 2 3 4 5 6 7 8 9 10 11 12	: C001-5 on: FCC 15 : (FC) 3 : Mode 2 Freq MHz 0.15 0.15 0.15 0.18 0.20 0.20 0.23 0.23 0.26 0.29 0.29	Level dBuV 50.62 60.42 49.07 59.07 44.34 55.34 42.02 52.02 39.31 49.11 36.80 46.10	Over Limit dB -5.38 -5.58 -5.57 -5.57 -9.11 -8.11 -10.28 -10.28 -12.03 -12.23 -13.61 -14.31	Limit Line dBuV 56.00 66.00 54.64 64.64 53.45 63.45 52.30 62.30 51.34 61.34 50.41	Read Level dBuV 40.20 50.00 38.69 48.69 34.00 31.71 41.71 29.01 38.81 26.50 35.80	LISN Factor dB 0.06 0.07 0.07 0.07 0.07 0.07 0.07 0.07	Loss dB 10.36 10.31 10.31 10.27 10.23 10.23 10.21 10.21 10.20 10.20	Average QP Average QP Average QP Average QP Average QP Average QP	
Condition Project Mode 1 * 2 3 4 5 6 7 8 9 10 11 12 13	: C001-5 on: FCC 15 : (FC) 3 : Mode 2 Freq MHz 0.15 0.15 0.15 0.18 0.20 0.20 0.23 0.23 0.26 0.29 0.29 0.32	Level dBuV 50.62 60.42 49.07 59.07 44.34 55.34 42.02 59.31 49.11 36.80 46.10 35.70	Over Limit dB -5.38 -5.58 -5.57 -5.57 -9.11 -8.11 -10.28 -12.03 -12.23 -13.61 -14.31 -13.96	Limit Line dBuV 56.00 66.00 54.64 64.64 53.45 63.45 52.30 62.30 51.34 61.34 50.41 60.41 49.66	Read Level dBuV 40.20 50.00 38.69 48.69 34.00 31.71 41.71 29.01 38.81 26.50 35.80 25.40	LISN Factor dB 0.06 0.07 0.07 0.07 0.07 0.07 0.07 0.07	Loss dB 10.36 10.31 10.31 10.27 10.27 10.23 10.23 10.21 10.21 10.20 10.20 10.20	Average QP Average QP Average QP Average QP Average QP Average QP Average	
Conditi Project Mode 1 * 2 3 4 5 6 7 8 9 10 11 12 13 14	: C001-5 cn: FCC 15 : (FC) 3 : Mode 2 Freq MHz 0.15 0.15 0.18 0.20 0.20 0.23 0.23 0.26 0.29 0.29 0.32 0.32	Level dBuV 50.62 60.42 49.07 59.07 44.34 55.34 42.02 52.02 39.31 36.80 46.10 35.70 45.30	Over Limit dB -5.38 -5.58 -5.57 -5.57 -9.11 -8.11 -10.28 -12.03 -12.23 -13.61 -14.31 -13.96 -14.36	Limit Line dBuV 56.00 66.00 54.64 64.64 53.45 63.45 52.30 62.30 51.34 61.34 50.41 60.41 49.66 59.66	Read Level dBuV 40.20 50.00 38.69 48.69 34.00 31.71 41.71 29.01 38.81 26.50 35.80 25.40 35.00	LISN Factor dB 0.06 0.07 0.07 0.07 0.07 0.07 0.07 0.07	Loss dB 10.36 10.31 10.31 10.27 10.23 10.23 10.21 10.21 10.20 10.20 10.20 10.19	Average QP Average QP Average QP Average QP Average QP Average QP Average QP	
Conditi Project Mode 1 * 2 3 4 5 6 7 8 9 10 11 12 13 14 15	: C001-5 cn: FCC 15 : (FC) 3 : Mode 2 Freq MHz 0.15 0.15 0.15 0.18 0.18 0.20 0.20 0.23 0.26 0.29 0.29 0.32 0.35	Level dBuV 50.62 60.42 49.07 59.07 44.34 55.34 42.02 52.02 39.31 36.80 46.10 35.70 45.30 35.79	Over Limit dB -5.38 -5.58 -5.57 -5.57 -9.11 -8.11 -10.28 -12.03 -12.03 -12.23 -13.61 -14.31 -13.96 -14.36 -13.12	Limit Line dBuV 56.00 66.00 54.64 64.64 53.45 52.30 62.30 62.30 62.30 51.34 60.41 49.66 59.66 48.91	Read Level dBuV 40.20 50.00 38.69 48.69 34.00 45.00 31.71 41.71 29.01 38.81 26.50 35.80 25.40 35.00 25.50	LISN Factor dB 0.06 0.07 0.07 0.07 0.07 0.07 0.07 0.07	Loss dB 10.36 10.31 10.31 10.27 10.27 10.23 10.21 10.21 10.20 10.20 10.20 10.19 10.19	Average QP Average QP Average QP Average QP Average QP Average QP Average QP Average	
Condition Project Mode 1 * 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	: C001-5 cn: FCC 15 : (FC) 3 : Mode 2 Freq MHz 0.15 0.15 0.18 0.18 0.20 0.20 0.23 0.26 0.29 0.29 0.32 0.35 0.35	Level dBuV 50.62 60.42 49.07 59.07 44.34 55.34 42.02 52.02 39.31 49.11 36.80 46.10 35.70 45.30 35.79 42.89	Over Limit dB -5.38 -5.58 -5.57 -5.57 -9.11 -8.11 -10.28 -10.28 -12.03 -12.03 -13.61 -14.31 -13.96 -14.36 -13.12 -16.02	Limit Line dBuV 56.00 54.64 64.64 53.45 52.30 62.30 62.30 51.34 50.41 60.41 49.66 59.66 48.91 58.91	Read Level dBuV 40.20 50.00 38.69 48.69 34.00 45.00 31.71 41.71 29.01 38.81 26.50 35.80 25.40 35.00 25.50 32.60	LISN Factor dB 0.06 0.07 0.07 0.07 0.07 0.07 0.07 0.07	Loss dB 10.36 10.31 10.31 10.27 10.23 10.21 10.21 10.20 10.20 10.20 10.19 10.19 10.18 10.18	Average QP Average QP Average QP Average QP Average QP Average QP Average QP Average QP	
Condition Project Mode 1 * 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	: C001-5 cn: FCC 15 : (FC) 3 : Mode 2 Freq MHz 0.15 0.15 0.15 0.18 0.20 0.20 0.23 0.26 0.29 0.29 0.29 0.32 0.35 0.35 0.38	Level Level dBuV 50.62 60.42 49.07 59.07 44.34 55.34 42.02 52.02 39.31 49.11 36.80 46.10 35.70 45.30 35.79 42.89 32.09	Over Limit dB -5.38 -5.58 -5.57 -5.57 -9.11 -8.11 -10.28 -12.03 -12.03 -12.23 -13.61 -14.31 -13.96 -14.36 -13.12 -16.02 -16.21	Limit Line dBuV 56.00 66.00 54.64 64.64 53.45 52.30 62.30 51.34 61.34 61.34 50.41 49.66 59.66 48.91 58.91 48.30	Read Level dBuV 40.20 50.00 38.69 48.69 34.00 45.00 31.71 41.71 29.01 38.81 26.50 35.80 25.40 35.00 25.50 32.60 21.80	LISN Factor dB 0.06 0.07 0.07 0.07 0.07 0.07 0.07 0.07	Loss dB 10.36 10.31 10.31 10.27 10.27 10.23 10.23 10.21 10.20 10.20 10.20 10.19 10.19 10.18 10.18 10.17	Average QP Average QP Average QP Average QP Average QP Average QP Average QP Average QP Average QP	
Condition Project Mode 1 * 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	: C001-5 cn: FCC 15 : (FC) 3 : Mode 2 Freq MHz 0.15 0.15 0.15 0.18 0.20 0.20 0.23 0.26 0.29 0.29 0.32 0.32 0.35 0.38 0.38	Level dBuV 50.62 60.42 49.07 59.07 44.34 55.34 42.02 52.02 39.31 49.11 36.80 46.10 35.70 45.30 35.79 42.89 32.09 41.79	Over Limit dB -5.38 -5.58 -5.57 -5.57 -9.11 -8.11 -10.28 -12.03 -12.23 -13.61 -14.31 -13.96 -14.36 -13.12 -16.02 -16.21 -16.51	Limit Line dBuV 56.00 64.64 64.64 53.45 52.30 62.30 51.34 61.34 61.34 50.41 49.66 59.66 48.91 58.91 48.30 58.30	Read Level dBuV 40.20 50.00 38.69 48.69 34.00 45.00 31.71 41.71 29.01 38.81 26.50 35.80 25.40 35.00 25.50 32.60 21.80 31.50	LISN Factor dB 0.06 0.07 0.07 0.07 0.07 0.07 0.07 0.08 0.09 0.09 0.09 0.10 0.11 0.11 0.11 0.11	Loss dB 10.36 10.31 10.31 10.27 10.27 10.23 10.23 10.21 10.20 10.20 10.20 10.19 10.19 10.18 10.18 10.17 10.17	Average QP Average QP Average QP Average QP Average QP Average QP Average QP Average QP Average QP Average QP	
Condition Project Mode 1 * 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	: C001-5 cn: FCC 15 : (FC) 3 : Mode 2 Freq MHz 0.15 0.15 0.18 0.18 0.20 0.20 0.23 0.23 0.26 0.29 0.29 0.32 0.35 0.35 0.38 0.38 0.41 0.41	Level Level dBuV 50.62 60.42 49.07 59.07 44.34 55.34 42.02 52.02 39.31 49.11 36.80 46.10 35.70 42.89 32.09 41.79 31.69 40.89	Over Limit dB -5.38 -5.58 -5.57 -5.57 -9.11 -8.11 -10.28 -10.28 -12.03 -12.23 -13.61 -14.31 -13.96 -14.36 -13.12 -16.02 -16.21 -15.99 -16.79	Limit Line dBuV 56.00 64.00 54.64 64.64 53.45 52.30 62.30 51.34 61.34 50.41 49.66 59.66 48.91 58.91 48.30 58.30 47.68 57.68	Read Level dBuV 40.20 50.00 38.69 48.69 34.00 45.00 31.71 41.71 29.01 38.81 26.50 35.80 25.40 35.80 25.40 35.50 32.60 21.80 31.50 21.40 30.60	LISN Factor dB 0.06 0.07 0.07 0.07 0.07 0.07 0.07 0.08 0.08	Loss dB 10.36 10.36 10.31 10.31 10.27 10.23 10.23 10.23 10.21 10.20 10.20 10.19 10.19 10.18 10.17 10.17 10.17	Average QP Average QP Average QP Average QP Average QP Average QP Average QP Average QP Average QP Average QP	
Condition Project Mode 1 * 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	: C001-5 cn: FCC 15 : (FC) 3 : Mode 2 Freq MHz 0.15 0.15 0.18 0.18 0.20 0.20 0.23 0.23 0.26 0.29 0.29 0.32 0.35 0.35 0.38 0.38 0.41 0.41	Level Level dBuV 50.62 60.42 49.07 59.07 44.34 55.34 42.02 52.02 39.31 49.11 36.80 46.10 35.70 42.89 32.09 41.79 31.69 40.89	Over Limit dB -5.38 -5.58 -5.57 -5.57 -9.11 -8.11 -10.28 -10.28 -12.03 -12.23 -13.61 -14.31 -13.96 -14.36 -13.12 -16.02 -16.21 -15.99 -16.79	Limit Line dBuV 56.00 64.00 54.64 64.64 53.45 52.30 62.30 51.34 61.34 50.41 49.66 59.66 48.91 58.91 48.30 58.30 47.68 57.68	Read Level dBuV 40.20 50.00 38.69 48.69 34.00 45.00 31.71 41.71 29.01 38.81 26.50 35.80 25.40 35.80 25.40 35.50 32.60 21.80 31.50 21.40 30.60	LISN Factor dB 0.06 0.07 0.07 0.07 0.07 0.07 0.07 0.08 0.08	Loss dB 10.36 10.36 10.31 10.31 10.27 10.23 10.23 10.23 10.21 10.20 10.20 10.19 10.19 10.18 10.17 10.17 10.17	Average QP Average QP Average QP Average QP Average QP Average QP Average QP Average QP Average QP Average QP Average	
Condition Project Mode 1 * 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	: C001-5 cn: FCC 15 : (FC) 3 : Mode 2 Freq MHz 0.15 0.15 0.15 0.18 0.20 0.20 0.23 0.26 0.26 0.29 0.29 0.32 0.35 0.35 0.38 0.38 0.41 0.41 0.44 0.44	Level Level dBuV 50.62 60.42 49.07 59.07 44.34 55.34 42.02 52.02 39.31 49.11 36.80 46.10 35.70 45.30 35.79 42.89 32.09 41.79 31.69 40.89 29.49 38.39	Over Limit dB -5.38 -5.58 -5.57 -5.57 -9.11 -8.11 -10.28 -10.28 -12.03 -12.23 -13.61 -14.31 -14.36 -14.36 -14.36 -14.36 -14.36 -13.12 -16.02 -16.02 -16.51 -15.99 -16.79 -17.62 -18.72	Limit Line dBuV 56.00 64.00 54.64 64.64 53.45 52.30 62.30 51.34 61.34 50.41 49.66 59.66 48.91 58.91 48.30 58.91 48.30 57.68 47.11 57.11	Read Level dBuV 40.20 50.00 38.69 48.69 34.00 45.00 31.71 41.71 29.01 38.81 26.50 35.80 25.40 35.80 25.40 35.50 32.60 21.80 31.50 21.40 30.60 19.20 28.10	LISN Factor dB 0.06 0.07 0.07 0.07 0.07 0.07 0.08 0.08 0.09 0.09 0.10 0.10 0.11 0.11 0.11 0.11	Loss dB 10.36 10.31 10.31 10.27 10.23 10.23 10.23 10.21 10.20 10.20 10.19 10.19 10.18 10.17 10.17 10.17 10.17 10.16 10.16	Average QP Average QP	
Condition Project Mode 1 * 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	: C001-5 cn: FCC 15 : (FC) 3 : Mode 2 Freq MHz 0.15 0.15 0.15 0.15 0.18 0.20 0.20 0.23 0.26 0.26 0.29 0.29 0.22 0.32 0.35 0.35 0.38 0.38 0.41 0.44 0.44 0.44 2.45	Level Level dBuV 50.62 60.42 49.07 59.07 44.34 55.34 42.02 59.07 44.34 55.34 42.02 59.07 44.34 55.34 42.02 52.02 39.31 49.11 36.80 46.10 35.70 45.30 45.30 35.79 42.89 32.09 31.69 40.89 29.49 31.69 30.04	Over Limit dB -5.38 -5.58 -5.57 -5.57 -9.11 -8.11 -10.28 -10.28 -12.03 -12.23 -13.61 -14.31 -14.36 -14.36 -14.36 -14.36 -14.36 -13.12 -16.02 -16.02 -16.51 -15.99 -16.79 -17.62 -18.72	Limit Line dBuV 56.00 66.00 54.64 64.64 53.45 52.30 62.30 51.34 61.34 50.41 49.66 59.66 48.91 48.30 58.91 48.30 58.30 47.68 57.68 47.11 57.11 46.00	Read Level dBuV 40.20 50.00 38.69 48.69 34.00 45.00 31.71 41.71 29.01 38.81 26.50 35.80 25.40 35.80 25.40 35.60 25.40 35.00 21.40 30.60 19.20 28.10 19.59	LISN Factor dB 0.06 0.07 0.07 0.07 0.07 0.07 0.08 0.08 0.09 0.09 0.09 0.10 0.10 0.11 0.11 0.11	Loss dB 10.36 10.31 10.31 10.27 10.23 10.23 10.23 10.21 10.20 10.20 10.19 10.19 10.18 10.17 10.17 10.17 10.17 10.16 10.16	Average QP Average QP	

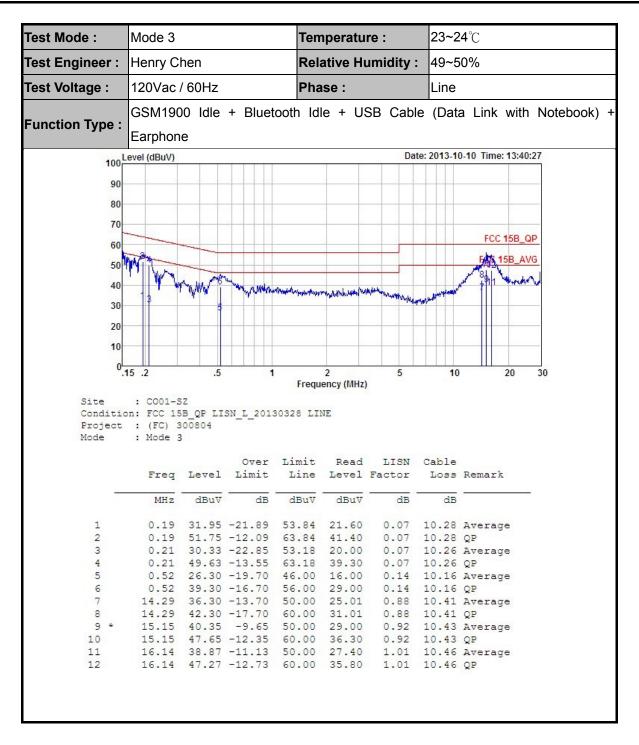
SPORTON INTERNATIONAL (SHENZHEN) INC. TEL : 86-755- 3320-2398 FCC ID : RAD437 Page Number: 15 of 27Report Issued Date: Oct. 25, 2013Report Version: Rev. 01





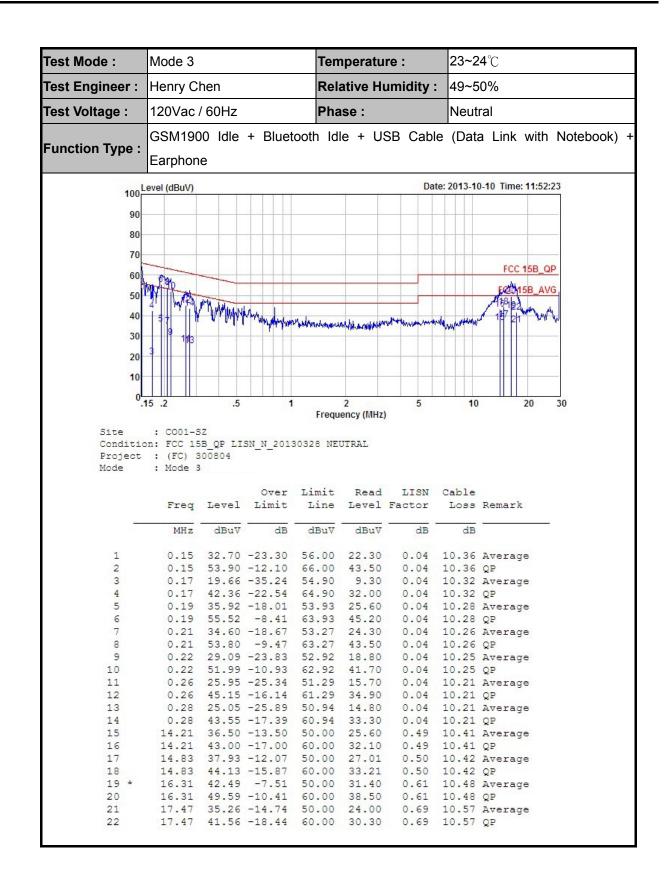
SPORTON INTERNATIONAL (SHENZHEN) INC. TEL : 86-755- 3320-2398 FCC ID : RAD437 Page Number: 16 of 27Report Issued Date: Oct. 25, 2013Report Version: Rev. 01

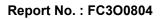














3.2. Test of Radiated Emission Measurement

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:

Frequency	Field Strength	Measurement Distance
(MHz)	(microvolts/meter)	(meters)
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.

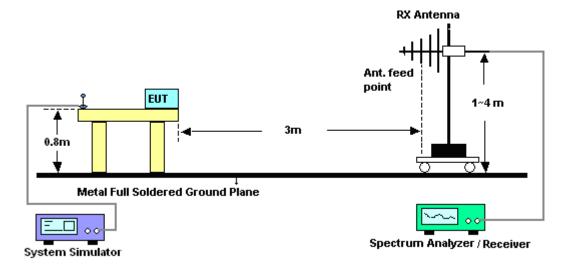
3.2.3. Test Procedures

- 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 is a Bi-Log antenna and its 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

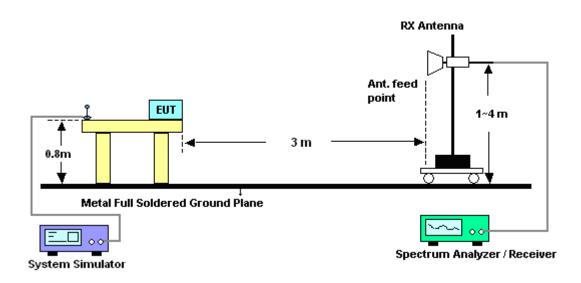


3.2.4. Test Setup of Radiated Emission

For radiated emissions from 30MHz to 1GHz



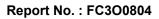
For radiated emissions above 1GHz





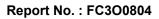
3.2.5. Test Result of Radiated Emission

Test Mode :	Mode 2			٦	Гетре	rature) :	24~	∙25°C			
Fest Engineer : Leo Liao I			Relative Humidity :			48~	48~49%					
Test Distance :	t ance : 3m			F	Polarization :			Hor	Horizontal			
Function Type :	GSM850 Id + MPEG4	lle + Bl	uetoot	h Idle	e + USE	3 Cab	le (Cha	rging	from A	Adapter	2) + Earph	one
117	l (dBuV/m)									Date: 2	2013-10-17	
110												
90												
										FCC	CLASS-B	
70											<u>6dB</u>	
50										FCC CLAS	S-B (AVG) 6dB	
4												
30	6											
10												
030	1000.	3000.		5000.	Frequen	7000. cy (MHz)		9000.		11000.	13000	
Site Condition Project Mode	: 03CH01 : FCC CL : (FC)3O0 : Mode 2	ASS-B 3m	n LF_AN	T_1211	03 HORIZ	ONTAL						
	Freq Level	Over Limit			Antenna Factor		Preamp Factor	A/Pos	T/Pos	Remark		
	MHz dBuV/m		lBuV/m	dBuV	dB/m	dB	dB	cm	deg			
2 2 3 3 4 P 3 5 5	12.45 26.43 07.51 30.26 21.00 36.44 54.95 39.35 28.58 33.78 39.07 25.76	-13.24 -9.56 -6.65 -12.22	43.50 46.00 46.00 46.00	49.51 50.00 52.16 42.44	9.35 14.30 14.85 18.00	1.71 2.07 2.16 2.63		 123 	 258 	Peak Peak Peak Peak Peak Peak		

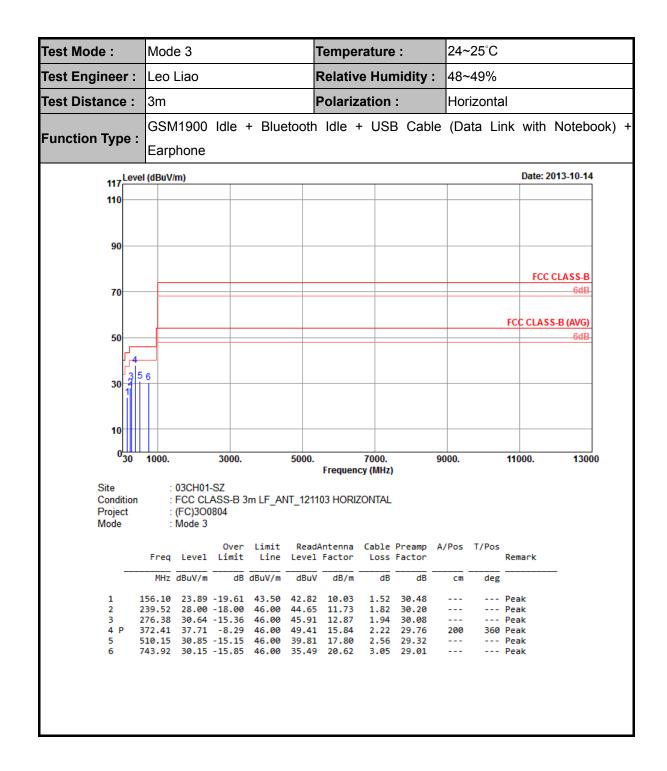




Fest Mode :	Mode 2			Tempe	Temperature :			24~25°C			
Fest Engineer :	Leo Liao			Relativ	Relative Humidity :			48~49%			
Fest Distance :	3m I			Polarization :			Ver	Vertical			
	GSM850 lo	dle + Blu	etooth Id	le + US	B Cab	le (Cha	arging	from A	dapter	2) + Ear	
Function Type :	+ MPEG4										
117	(dBuV/m)								Date: 2	2013-10-17	
110											
90											
70									FCC	CLASS-B 6dB	
70											
									FCC CLAS		
50 										<u>-6dB</u> -	
23 ⁴]										
30	6										
10											
0 <mark>30</mark>	1000.	3000.	5000		7000.		9000.		11000.	1300	
	0001104			Frequen	cy (MHz)						
Site Condition		ASS-B 3m l	_F_ANT_12	1103 VERT	ICAL						
Project Mode	: (FC)3O0 : Mode 2	804									
		Over L:	imit Rea	dAntenna	Cable	Preamp	A/Pos	T/Pos			
	Freq Level	Limit	Line Leve			Factor			Remark		
	MHz dBuV/m	dB dB	uV/m dBu	V dB/m	dB	dB	cm	deg			
	94.02 29.24 07.51 36.34					30.65 30.31			Peak Peak		
	46.22 36.80 92.69 38.24	-9.20 4	5.00 49.9	1 14.60	2.14	29.85 29.36			Peak Peak		
	20102 20121			4 18.62			158	215			









Test Mode :	Mode 3			Tempe	rature	e :	24~	·25°C			
Test Engineer : Leo Liao F			Relative Humidity :			: 48~	48~49%				
Test Distance :	Test Distance : 3m			Polarization :			Ver	Vertical			
Function Type :	GSM1900	Idle + Blue	etooth	ı Idle ·	+ USI	B Cabl	le (Da	ata Li	nk with	Notebo	ok) +
Function Type :	Earphone										
Level	(dBuV/m)								Date:	2013-10-14	
117											
90											
70									FC	CLASS-B 6dB-	
50									FCC CLA	SS-B (AVG) _6dB-	
30 3 4	56										
12											
10											
		2000	5000		7000				44000		
30	1000.	3000.	5000.	Frequen	7000. cy (MHz))	9000.		11000.	13000	
Site Condition Project Mode	: 03CH01 : FCC CL : (FC)3O0 : Mode 3	ASS-B 3m LF_AN	NT_121	103 VERT	ICAL						
	Freq Level	Over Limit Limit Line		Antenna Factor		Preamp Factor	A/Pos	T/Pos	Remark		
	MHz dBuV/m	dB dBuV/m	dBu\	/ dB/m	dB	dB	cm	deg			
		-19.95 43.50 -22.22 46.00				30.44 30.08			Peak Peak		
		-15.37 46.00 -12.76 46.00					100		Peak Peak		
5 7	43.92 28.20	-17.80 46.00 -18.58 46.00	33.54	20.62	3.05	29.01			Peak Peak		



4. List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristic s	Calibration Date	Test Date	Due Date	Remark
ESCIO TEST Receiver	R&S	1142.8007.03	100724	9kHz~3GHz	Mar. 28, 2013	Oct. 10, 2013~ Oct. 17, 2013	Mar. 27, 2014	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2SH	00103912	9kHz~30MHz	Mar. 28, 2013	Oct. 10, 2013~ Oct. 17, 2013	Mar. 27, 2014	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	EMCO	3816/2SH	00103892	9kHz~30MHz	Mar. 28, 2013	Oct. 10, 2013~ Oct. 17, 2013	Mar. 27, 2014	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	6160200008 91	N/A	Nov. 20, 2012	Oct. 10, 2013~ Oct. 17, 2013	Nov. 19, 2013	Conduction (CO01-SZ)
AC Filter	ETS-LINDGR EN	LRE-2030/PEN 256260	00093783	N/A	N/A	Oct. 10, 2013~ Oct. 17, 2013	N/A	Conduction (CO01-SZ)
AC Filter	ETS-LINDGR EN	LRE-2030/PEN 256260	00097973	N/A	N/A	Oct. 10, 2013~ Oct. 17, 2013	N/A	Conduction (CO01-SZ)
ESCI TEST Receiver	R&S	ESCI	100724	9K-3GHz	Mar. 28, 2013	Oct. 14, 2013~ Oct. 17, 2013	Mar. 27, 2014	Radiation (03CH01-SZ)
Spectrum Analyzer	R&S	FSP30	101362	9kHz~30GHz	Nov. 11, 2012	Oct. 14, 2013~ Oct. 17, 2013	Nov. 10, 2013	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	ETS Lindgren	3117	00119436	1GHz~18GHz	Nov. 12, 2012	Oct. 14, 2013~ Oct. 17, 2013	Nov. 11, 2013	Radiation (03CH01-SZ)
Bilog Antenna	SCHAFFNER	CBL6112B	2614	30Mhz~2Ghz	Nov. 03, 2012	Oct. 14, 2013~ Oct. 17, 2013	Nov. 02, 2013	Radiation (03CH01-SZ)
Amplifier	ADVANTEST	BB525C	E9007003	9K-3000MHz GAIN 30db	Mar. 28, 2013	Oct. 14, 2013~ Oct. 17, 2013	Mar. 27, 2014	Radiation (03CH01-SZ)
Amplifier	Yiai	AV3860B	04030	2GHz~26.5GH z	Mar. 28, 2013	Oct. 14, 2013~ Oct. 17, 2013	Mar. 27, 2014	Radiation (03CH01-SZ)
Turn Table	EM Electronice	EM 1000	N/A	0 ~ 360 degree	N/A	Oct. 14, 2013~ Oct. 17, 2013	N/A	Radiation (03CH01-SZ)
Antenna Mast	EM Electronice	EM 1000	N/A	1 m - 4 m	N/A	Oct. 14, 2013~ Oct. 17, 2013	N/A	Radiation (03CH01-SZ)



5. Uncertainty of Evaluation

Uncertainty of Conducted Emission Measurement (150 kHz ~ 30 MHz)

Measuring Uncertainty for a Level of	2.26
Confidence of 95% (U = 2Uc(y))	2.26

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.54
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of	4.72
Confidence of 95% (U = 2Uc(y))	4.72