# **FCC Test Report**

APPLICANT : TCL Communication Ltd.

EQUIPMENT : Quad-Band GSM Mobile Phone MODEL NAME : 1052G, 1052D, 1052X, 1052E

FCC ID : 2ACCJH010

STANDARD : FCC 47 CFR FCC Part 15 Subpart B

CLASSIFICATION : Certification

The product was received on Nov. 06, 2014 and testing was completed on Jan. 23, 2015. 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 C63.4-2009 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

Lunis Win

Approved by: Jones Tsai / Manager

## SPORTON INTERNATIONAL (SHENZHEN) INC.

1F & 2F, Building A, Morning Business Center, No. 4003 ShiGu Rd., Xili Town, Nanshan District, Shenzhen, Guangdong, P. R. China

SPORTON INTERNATIONAL (SHENZHEN) INC.

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## **REVISION HISTORY**

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FC4N0601	Rev. 01	Initial issue of report	Feb. 11, 2015

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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	10.68 dB at
					0.160 MHz
					Under limit
3.2	15.109	Dadiated Emission	< 15 100 limita	PASS	3.28 dB at
3.2		15.109 Radiated Emission	< 15.109 limits		240.060 MHz
					for Quasi-Peak

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# 1. General Description

## 1.1. Applicant

#### TCL Communication Ltd.

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

Report No.: FC4N0601

### 1.2. Manufacturer

#### TCL Communication Ltd.

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

## 1.3. Product Feature of Equipment Under Test

	Product Feature
Equipment	Quad-Band GSM Mobile Phone
Model Name	1052G, 1052D, 1052X, 1052E
FCC ID	2ACCJH010
EUT supports Radios application	GSM/GPRS/
EOT Supports Radios application	Bluetooth v2.1 + EDR
HW Version	PIO
SW Version	V1.8
EUT Stage	Production Unit

#### Remark:

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

2. There are four types of EUT for this project. The differences between them are summary below:

Sample List	Model name	SIM Slots	FM Function
Sample 1	1052D	2	NO
Sample 2	1052E	2	YES
Sample 3	1052G	1	NO
Sample 4	1052X	1	YES

After pre-scan four types of EUT, we found test result of the sample that dual SIM was the worst, so we chose dual SIM card mobile sample 1 and sample 2 to perform all tests.

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## 1.4. Product Specification subjective to this standard

Product Specification subjective to this standard			
	GSM850 : 824.2 MHz ~ 848.8 MHz		
Tx Frequency	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		
Antonno Tymo	WWAN : PIFA Antenna		
Antenna Type	Bluetooth : PIFA Antenna		
	GSM: GMSK		
	GPRS: GMSK		
Type of Modulation	Bluetooth (1Mbps): GFSK		
	Bluetooth (2Mbps) : π /4-DQPSK		
	Bluetooth (3Mbps) : 8-DPSK		

## 1.5. Modification of EUT

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

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### 1.6. Test Location

Test Site	SPORTON INTERNATIONAL (SHENZHEN) INC.			
	1F & 2F,Building A, Morning Business Center, No. 4003 ShiGu Rd., Xili Town,			
	Nanshan District, Shenzhen, Guangdong, P. R. China			
Test Site Location	TEL: +86-755-8637-9589			
	FAX: +86-755-8637-9595			
Took Site No	Sporton Site No.			
Test Site No.	CO01-SZ			

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. China			
	TEL: +86-755- 3320-2398			
Took Cita No	Sporton Site No.	FCC Registration No.		
Test Site No.	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 C63.4-2009

**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 C63.4-2009 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).

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	EMI
		AC	RE<1G	RE≥1G
1.	Charging Mode (EUT with adapter)	$\boxtimes$	$\boxtimes$	Note 1
2.	Data application transferred mode		$\square$	
	(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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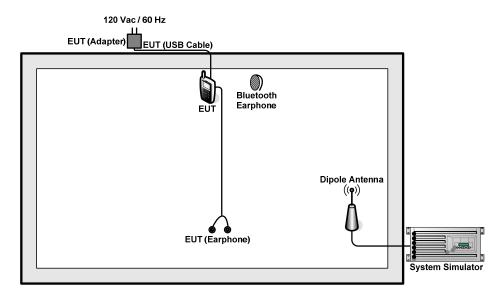
Test Items	EUT Configure Mode	Function Type
		Mode 1: GSM850 Idle + Bluetooth Idle + Adapter 1 + Camera + Battery 1 + Earphone + SIM 1 for Sample 1 <fig.1></fig.1>
		Mode 2: GSM850 Idle + Bluetooth Idle + Adapter 2 + MPEG4 + Battery 2 + Earphone + SIM 1 for Sample 1 <fig.1></fig.1>
AC Conducted Emission	1/2	Mode 3: GSM850 Idle + Bluetooth Idle + USB Cable 1 (Data Link with Notebook) + Earphone + Bttery 2 + SIM2 for Sample 1 <fig.2></fig.2>
		Mode 4: GSM1900 Idle + Bluetooth Idle + USB Cable 2 (Data Link with Notebook) + Earphone + Bttery 2 + SIM1 for Sample 1 <fig.2></fig.2>
		Mode 5: GSM850 Idle + Bluetooth Idle + Adapter 2 + MPEG4 + Battery 2 + Earphone + SIM 1 for Sample 2 <fig.1></fig.1>
		Mode 1: GSM850 Idle + Bluetooth Idle + Adapter 1 + Camera + Battery 1 + Earphone + SIM 1 for Sample 1 <fig.1></fig.1>
		Mode 2: GSM850 Idle + Bluetooth Idle + Adapter 2 + MPEG4 + Battery 2 + Earphone + SIM 1 for Sample 1 <fig.1></fig.1>
Radiated Emissions < 1GHz	1/2	Mode 3: GSM850 Idle + Bluetooth Idle + USB Cable 1 (Data Link with Notebook) + Earphone + Bttery 2 + SIM2 for Sample 1 <fig.2></fig.2>
255.61.6	71011Z	Mode 4: GSM1900 Idle + Bluetooth Idle + USB Cable 2 (Data Link with Notebook) + Earphone + Bttery 2 + SIM1 for Sample 1 <fig.2></fig.2>
		Mode 5: GSM850 Idle + Bluetooth Idle + USB Cable 1 (Data Link with Notebook) + Earphone + Bttery 2 + SIM2 for Sample 2 <fig.2></fig.2>
Radiated Emissions ≥ 1GHz	1	Mode 1: GSM850 Idle + Bluetooth Idle + USB Cable 1 (Data Link with Notebook) + Earphone + Bttery 2 + SIM2 for Sample 2 <fig.2></fig.2>

#### Remark:

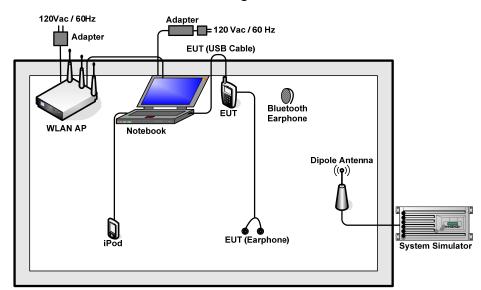
- 1. The worst case of AC is mode 2, and the USB Link mode of AC is mode 4, the test data of these modes are reported.
- 2. The worst case of RE < 1G is mode 5; only the test data of this mode was reported.
- 3. Link with notebook means data application transferred mode between EUT and notebook.

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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	CMU 200	N/A	N/A	Unshielded,1.8m
2.	System Simulator	Agilent	8960	N/A	N/A	Unshielded, 1.8 m
3.	GPS Station	ADIVIC	MP9000	N/A	N/A	Unshielded, 1.8 m
4.	Bluetooth Earphone	lenovo	LBH 301	FCC DoC	N/A	N/A
5.	Bluetooth Earphone	Nokia	BH-108	PYAHS-107W	N/A	N/A
6.	SD Card	SanDisk	4G class 4	FCC DoC	N/A	N/A
7.	Notebook	Lenovo	E540	FCC DoC	N/A	AC I/P: Unshielded, 1.2m DC O/P: Shielded, 1.8 m
8.	WLAN AP	ASUSTek	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded,2.7m
9.	iPod	Apple	MC525 ZP/A	FCC DoC	Shielded, 1.0 m	N/A
10.	iPod Earphone	Apple	MC690ZP/A	FCC DoC	Unshielded,1.6m	N/A

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## 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 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

#### **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	

<sup>\*</sup>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.
- Connect EUT to the power mains through a line impedance stabilization network (LISN). 2.
- 3. All the support units are connecting to the other LISN.
- 4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
- The FCC states that a 50 ohm, 50 microhenry LISN should be used. 5.
- 6. Both sides of AC line were checked for maximum conducted interference.
- 7. The frequency range from 150 kHz to 30 MHz was searched.
- Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 8. 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

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### 3.1.4 Test Setup



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### 3.1.5 Test Result of AC Conducted Emission

Test Mode :	Mode 2	Temperature :	<b>21~22</b> ℃
Test Engineer :	Jack Tian	Relative Humidity :	41~42%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	GSM850 Idle + Bluetooth Idl	e + Adapter 2 + MPEG	4 + Battery 2 + Earphone + SIM

1 for Sample 1

100 Level (dBuV) Date: 2015-01-13 Time: 16:30:04 90 80 70 FCC 15B\_QP 60 FCC 15B\_AVG 50 30 20 0.15 .2 .5 2 5 10 20 Frequency (MHz)

Site : CO01-SZ Condition: FCC 15B\_QP LISN\_L\_20140304 LINE

Project : (FC) 4N0601 : Mode 2

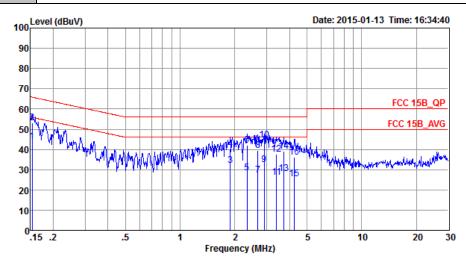
	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor		Remark
	MHz	dBu∀	dB	dBu∇	dBu∀	dB	dB	
1 *	0.16	44.97	-10.68	55.65	34.40	0.22	10.35	Average
2	0.16	54.87	-10.78	65.65	44.30	0.22	10.35	QP
3	0.18	37.54	-16.96	54.50	27.00	0.22	10.32	Average
4	0.18	52.24	-12.26	64.50	41.70	0.22	10.32	QP
5	0.21	36.51	-16.89	53.40	26.00	0.22	10.29	Average
6	0.21	48.71	-14.69	63.40	38.20	0.22	10.29	QP
7	0.23	32.59	-19.89	52.48	22.10	0.23	10.26	Average
8	0.23	46.79	-15.69	62.48	36.30	0.23	10.26	QP
9	1.62	27.91	-18.09	46.00	17.50	0.23	10.18	Average
10	1.62	40.41	-15.59	56.00	30.00	0.23	10.18	QP
11	1.96	28.31	-17.69	46.00	17.90	0.22	10.19	Average
12	1.96	42.51	-13.49	56.00	32.10	0.22	10.19	QP
13	2.25	32.14	-13.86	46.00	21.69	0.25	10.20	Average
14	2.25	44.84	-11.16	56.00	34.39	0.25	10.20	QP
15	2.59	31.78	-14.22	46.00	21.30	0.28	10.20	Average
16	2.59	44.58	-11.42	56.00	34.10	0.28	10.20	QP
17	2.82	32.00	-14.00	46.00	21.49	0.30	10.21	Average
18	2.82	42.70	-13.30	56.00	32.19	0.30	10.21	QP
19	3.26	30.64	-15.36	46.00	20.09	0.33	10.22	Average
20	3.26	42.34	-13.66	56.00	31.79	0.33	10.22	QP
21	3.88	28.89	-17.11	46.00	18.29	0.37	10.23	Average
22	3.88	41.09	-14.91	56.00	30.49	0.37	10.23	
23	4.45	27.13	-18.87	46.00	16.50	0.40	10.23	Average
24	4.45	37.63	-18.37	56.00	27.00	0.40	10.23	QP

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Test Mode :	Mode 2	Temperature :	21~22℃				
Test Engineer :	Jack Tian	Relative Humidity :	41~42%				
Test Voltage :	120Vac / 60Hz	Phase :	Neutral				
Function Time	GSM850 Idle + Bluetooth Idle + Adapter 2 + MPEG4 + Battery 2 + Earphone + SIM						
Function Type :	1 for Sample 1						



Site : CO01-SZ

Condition: FCC 15B\_QP LISN\_N\_20140304 NEUTRAL Project : (FC) 4N0601 Mode : Mode 2

			Over	Limit	Read	LISN	Cable	
	Freq	Level	Limit	Line	Level	Factor	Loss	Remark
	MHz	dBu∀	dB	dBuV	dBu∀	dB	dB	
1	0.15	43.88	-11.94	55.82	33.19	0.33	10.36	Average
2	0.15	53.28	-12.54	65.82	42.59	0.33	10.36	QP
3	1.89	31.95	-14.05	46.00	21.39	0.37	10.19	Average
4	1.89	40.35	-15.65	56.00	29.79	0.37	10.19	QP
5	2.33	28.29	-17.71	46.00	17.70	0.39	10.20	Average
6	2.33	42.09	-13.91	56.00	31.50	0.39	10.20	QP
7	2.68	27.21	-18.79	46.00	16.59	0.41	10.21	Average
8	2.68	39.51	-16.49	56.00	28.89	0.41	10.21	QP
9	2.90	32.33	-13.67	46.00	21.70	0.42	10.21	Average
10 *	2.90	44.83	-11.17	56.00	34.20	0.42	10.21	QP
11	3.40	26.16	-19.84	46.00	15.50	0.44	10.22	Average
12	3.40	37.46	-18.54	56.00	26.80	0.44	10.22	QP
13	3.74	27.98	-18.02	46.00	17.31	0.45	10.22	Average
14	3.74	39.08	-16.92	56.00	28.41	0.45	10.22	QP
15	4.27	25.40	-20.60	46.00	14.70	0.47	10.23	Average
16	4.27	36.30	-19.70	56.00	25.60	0.47	10.23	QP

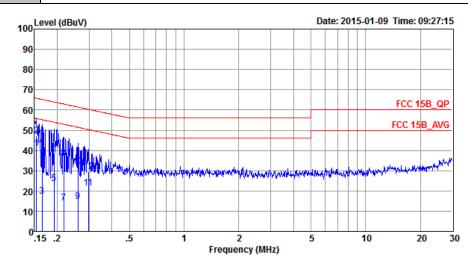
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Test Mode :	Mode 4	Temperature :	<b>21~22</b> ℃
Test Engineer :	Jack Tian	Relative Humidity :	41~42%
Test Voltage :	120Vac / 60Hz	Phase :	Line

GSM1900 Idle + Bluetooth Idle + USB Cable 2 (Data Link with Notebook) + Function Type: Earphone + Bttery 2 + SIM1 for Sample 1



: CO01-SZ

Condition: FCC 15B\_QP LISN\_L\_20140304 LINE

Project : (FC)4N0601 Mode : Mode 4

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBu∇	dB	dBu∇	dBu₹	dB	dB	
1 *	0.15	40.97	-14.81	55.78	30.40	0.22	10.35	Average
2	0.15	47.27	-18.51	65.78	36.70	0.22	10.35	QP
3	0.17	17.46	-37.75	55.21	6.90	0.22	10.34	Average
4	0.17	41.96	-23.25	65.21	31.40	0.22	10.34	QP
5	0.19	23.52	-30.41	53.93	13.00	0.22	10.30	Average
6	0.19	38.72	-25.21	63.93	28.20	0.22	10.30	QP
7	0.22	14.00	-38.92	52.92	3.50	0.23	10.27	Average
8	0.22	36.00	-26.92	62.92	25.50	0.23	10.27	QP
9	0.26	14.78	-36.64	51.42	4.31	0.24	10.23	Average
10	0.26	31.98	-29.44	61.42	21.51	0.24	10.23	QP
11	0.30	21.46	-28.86	50.32	11.01	0.25	10.20	Average
12	0.30	29.46	-30.86	60.32	19.01	0.25	10.20	QP

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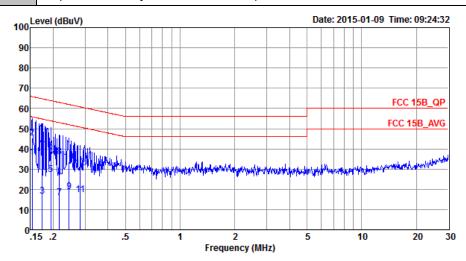


 Test Mode :
 Mode 4
 Temperature :
 21~22°C

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

 Test Voltage :
 120Vac / 60Hz
 Phase :
 Neutral

 Function Type :
 GSM1900 Idle + Bluetooth Idle + USB Cable 2 (Data Link with Notebook) + Earphone + Bttery 2 + SIM1 for Sample 1



Site : CO01-SZ

Condition: FCC 15B\_QP LISN\_N\_20140304 NEUTRAL

Project : (FC)4N0601 Mode : Mode 4

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBu∀	dBu∇	dB	dB	
1	*	0.15	35.68	-20.14	55.82	24.99	0.33	10.36	Average
2		0.15	45.38	-20.44	65.82	34.69	0.33	10.36	QP
3		0.17	16.65	-38.12	54.77	6.00	0.32	10.33	Average
4		0.17	41.25	-23.52	64.77	30.60	0.32	10.33	QP
5		0.19	27.32	-26.52	53.84	16.70	0.32	10.30	Average
6		0.19	38.62	-25.22	63.84	28.00	0.32	10.30	QP
7		0.22	15.70	-37.26	52.96	5.09	0.33	10.28	Average
8		0.22	36.10	-26.86	62.96	25.49	0.33	10.28	QP
9		0.24	18.69	-33.26	51.95	8.10	0.34	10.25	Average
10		0.24	33.69	-28.26	61.95	23.10	0.34	10.25	QP
11		0.28	17.17	-33.59	50.76	6.61	0.35	10.21	Average
12		0.28	30.47	-30.29	60.76	19.91	0.35	10.21	OP

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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:

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 (RBW=120kHz/VBW=300kHz for frequency below 1GHz; RBW=1MHz VBW=3MHz (Peak), RBW=1MHz/VBW=10Hz (Average) for frequency above 1GHz).
- 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 $\mu$ V/m) = 20 log Emission level ( $\mu$ V/m)
- 9. Corrected Reading: Antenna Factor + Cable Loss + Read Level Preamp Factor = Level

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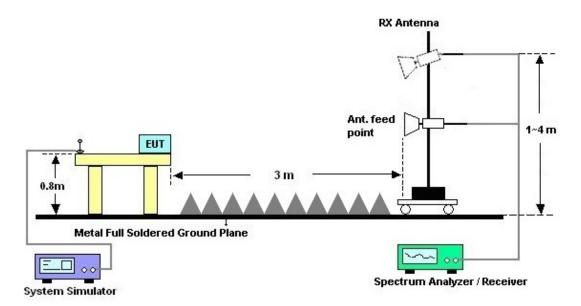
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## 3.2.4. Test Setup of Radiated Emission

### For radiated emissions from 30MHz to 1GHz

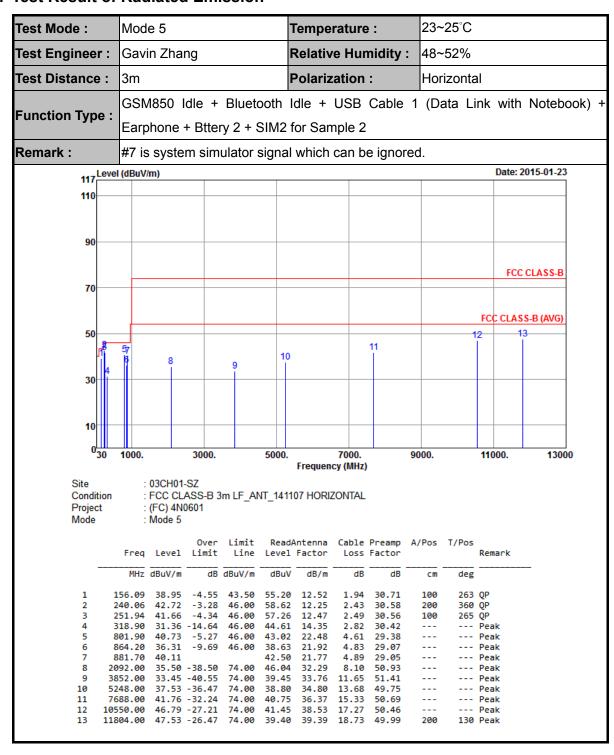


#### For radiated emissions above 1GHz



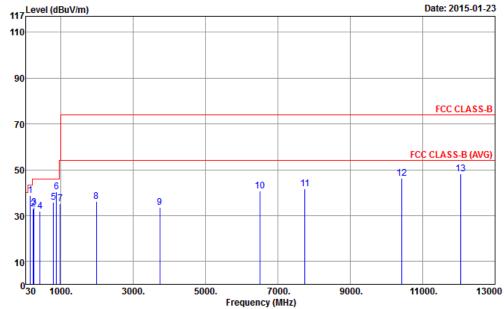
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#### 3.2.5. Test Result of Radiated Emission



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Test Mode :	Mode 5	Temperature :	23~25°C					
Test Engineer :	Gavin Zhang	Relative Humidity	<b>y</b> : 48~52%					
Test Distance :	3m	Polarization :	Vertical					
Franction Trans.	GSM850 Idle + Bluetooth Idle + USB Cable 1 (Data Link with Notebook) +							
Function Type :	Earphone + Bttery 2 + SIM2 for Sample 2							
Remark :	#7 is system simulator signal which can be ignored.							
117 Leve	l (dBuV/m)		Date: 2015-01-23					
110								



Site

: 03CH01-SZ : FCC CLASS-B 3m LF\_ANT\_141107 VERTICAL : (FC) 4N0601 : Mode 5 Condition

Project Mode

	Freq	Level	Over Limit			Antenna Factor		Preamp Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	156.09	38.87	-4.63	43.50	55.12	12.52	1.94	30.71	100	360	Peak
2	240.06	32.90	-13.10	46.00	48.80	12.25	2.43	30.58			Peak
3	263.82	33.72	-12.28	46.00	48.84	12.87	2.56	30.55			Peak
4	424.60	31.91	-14.09	46.00	42.44	16.40	3.31	30.24			Peak
5	801.90	35.81	-10.19	46.00	38.10	22.48	4.61	29.38			Peak
6	881.70	40.28			42.67	21.77	4.89	29.05			Peak
7	984.60	35.06	-18.94	54.00	37.35	21.26	5.13	28.68			Peak
8	1988.00	36.22	-37.78	74.00	47.30	32.05	7.90	51.03			Peak
9	3732.00	33.48	-40.52	74.00	39.27	33.64	11.64	51.07			Peak
10	6506.00	40.77	-33.23	74.00	40.38	36.30	14.41	50.32			Peak
11	7742.00	41.74	-32.26	74.00	40.37	36.40	15.59	50.62			Peak
12	10416.00	46.44	-27.56	74.00	40.96	38.43	17.39	50.34			Peak
13	12054.00	48.38	-25.62	74.00	40.70	39.48	18.13	49.93	100	263	Peak

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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	Jan. 09, 2015~ Jan. 13, 2015	Feb. 20, 2015	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2SH	00103912	9kHz~30MHz	Mar. 04, 2014	Jan. 09, 2015~ Jan. 13, 2015	Mar. 03, 2015	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	EMCO	3816/2SH	00103892	9kHz~30MHz	Mar. 04, 2014	Jan. 09, 2015~ Jan. 13, 2015	Mar. 03, 2015	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	616020000 891	100Vac~250Vac	Sep. 29, 2014	Jan. 09, 2015~ Jan. 13, 2015	Sep. 28, 2015	Conduction (CO01-SZ)
ESCIO TEST Receiver	R&S	ESCI	100724	9kHz~3GHz	Feb. 21, 2014	Jan. 23, 2015	Feb. 20, 2015	Radiation (03CH01-SZ)
Spectrum Analyzer	Agilent Technologies	N9038A	MY522601 85	20Hz~26.5GHz	May 26, 2014	Jan. 23, 2015	May 25, 2015	Radiation (03CH01-SZ)
Bilog Antenna	TESEQ	CBL 6112D	37877	30MHz~2GHz	Oct. 15, 2014	Jan. 23, 2015	Oct. 14, 2015	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	ETS Lindgren	3117	00119436	1GHz~18GHz	Oct. 15, 2014	Jan. 23, 2015	Oct. 14, 2015	Radiation (03CH01-SZ)
Double Ridged Horn Antenna	COM-POWER	AH-840	101073	18GHz~40GHz	Jun. 09, 2014	Jan. 23, 2015	Jun. 08, 2015	Radiation (03CH01-SZ)
Amplifier	ADVANTEST	BB525C	E9007003	9kHz~3000MHz	Feb. 21, 2014	Jan. 23, 2015	Feb. 20, 2015	Radiation (03CH01-SZ)
Amplifier	Yiai	AV3860B	04030	2GHz~26.5GHz	May 08, 2014	Jan. 23, 2015	May 07, 2015	Radiation (03CH01-SZ)
AC Source(AVR)	Chroma	61601	616010001 985	100Vac~250Vac	Mar. 25, 2014	Jan. 23, 2015	Mar. 24, 2015	Radiation (03CH01-SZ)
Turn Table	EM Electronics	EM 1000	N/A	0~360 degree	NCR	Jan. 23, 2015	NCR	Radiation (03CH01-SZ)
Antenna Mast	EM Electronics	EM 1000	N/A	1 m~4 m	NCR	Jan. 23, 2015	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))	2.3 dB
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### <u>Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)</u>

Measuring Uncertainty for a Level of	3.9 dB
Confidence of 95% (U = 2Uc(y))	3.9 UD

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