# **FCC Test Report**

APPLICANT : Bullitt Group

**EQUIPMENT**: Rugged Smart Phone

BRAND NAME : CAT MODEL NAME : S50

FCC ID : ZL5S50

STANDARD : FCC 47 CFR FCC Part 15 Subpart B

**CLASSIFICATION**: Certification

The product was received on Jun. 30, 2014 and testing was completed on Jul. 30, 2014. We, SPORTON INTERNATIONAL 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 INC., the test report shall not be reproduced except in full.

Reviewed by: Louis Wu / Manager

Lunis Wu

Approved by: Jones Tsai / Manager

IAC-MRA



**Report No. : FC463004** 

#### SPORTON INTERNATIONAL INC.

No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.

Page Number : 1 of 21
Report Issued Date : Aug. 19, 2014
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.0

## **TABLE OF CONTENTS**

RE	EVISION HISTORY3				
SII	ммар	RY OF TEST RESULT	,		
		ERAL DESCRIPTION			
	1.1. 1.2. 1.3. 1.4. 1.5. 1.6. 1.7.	Applicant	5 5 6		
2.	2.1. 2.2. 2.3. 2.4.	CONFIGURATION OF EQUIPMENT UNDER TEST  Test Mode  Connection Diagram of Test System  Support Unit used in test configuration and system  EUT Operation Test Setup	9		
3.	3.1. 3.2.	Test of AC Conducted Emission Measurement  Test of Radiated Emission Measurement	11		
		OF MEASURING EQUIPMENT			
ΑP	PEND	IX A. SETUP PHOTOGRAPHS			

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: ZL5S50 Page Number : 2 of 21
Report Issued Date : Aug. 19, 2014
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.0

## **Revision History**

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FC463004	Rev. 01	Initial issue of report	Aug. 19, 2014

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: ZL5S50 Page Number : 3 of 21
Report Issued Date : Aug. 19, 2014
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.0

## **SUMMARY OF TEST RESULT**

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	15.107	ICES003 Section 6.1	AC Conducted Emission	< 15.107 limits < ICES003 6.1 limits	PASS	Under limit 7.90 dB at 0.190 MHz
3.2	15.109	ICES003 Section 6.2	Radiated Emission	< 15.109 limits < ICES003 6.2 limits	PASS	Under limit 3.32 dB at 240.060 MHz

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TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: ZL5S50 Page Number : 4 of 21
Report Issued Date : Aug. 19, 2014
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.0

## 1. General Description

## 1.1. Applicant

#### **Bullitt Group**

No. 4, The Aquarium, King Street, Reading, RG1 2AN United Kingdom

### 1.2. Manufacturer

#### Compal Electronics, INC.

No. 385, Yangguang St. Neihu District, Taipei City 11491, Taiwan, R.O.C.

## 1.3. Product Feature of Equipment Under Test

	Product Feature
Equipment	Rugged Smart Phone
Brand Name	CAT
Model Name	S50
FCC ID	ZL5S50
EUT supports Radios application	GSM/EGPRS/WCDMA/HSPA/LTE/NFC WLAN 11b/g/n HT20 WLAN 11a/n HT20/HT40 Bluetooth v4.0 EDR/LE
HW Version	DVT1
SW Version	LTE_S0201121.0_S50_0.006.00
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.

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: ZL5S50 Page Number : 5 of 21
Report Issued Date : Aug. 19, 2014
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.0

## 1.4. Product Specification subjective to this standard

Product Specification subjective to this standard				
	GSM850 : 824.2 MHz ~ 848.8 MHz			
	GSM1900 : 1850.2 MHz ~ 1909.8MHz			
	WCDMA Band V : 826.4 MHz ~ 846.6 MHz			
	WCDMA Band IV : 1712.4 MHz ~ 1752.6 MHz			
	WCDMA Band II : 1852.4 MHz ~ 1907.6 MHz			
	LTE Band 5 : 824.7 MHz ~ 848.3 MHz			
	LTE Band 2 : 1850.7 MHz ~ 1909.3 MHz			
	LTE Band 4: 1710.7 MHz ~ 1754.3 MHz			
Tx Frequency	LTE Band 7 : 2502.5 MHz ~ 2567.5 MHz			
	LTE Band 17 : 706.5 MHz ~ 713.5 MHz			
	802.11b/g/n: 2412 MHz ~ 2462 MHz			
	802.11a/n: 5180 MHz ~ 5240 MHz; 5260 MHz ~ 5320 MHz;			
	5500 MHz ~ 5580 MHz and 5660 MHz ~ 5700			
	MHz ; 5745 MHz ~ 5825 MHz			
	Bluetooth: 2402 MHz ~ 2480 MHz			
	NFC: 13.56 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 IV : 2112.4 MHz ~ 2152.6 MHz			
	WCDMA Band II: 1932.4 MHz ~ 1987.6 MHz			
	LTE Band 5 : 869.7 MHz ~ 893.3 MHz			
	LTE Band 2 : 1930.7 MHz ~ 1989.3 MHz			
	LTE Band 4 : 2110.7 MHz ~ 2154.3 MHz			
Rx Frequency	LTE Band 7 :2622.5MHz ~ 2687.5 MHz			
TX 1 requestoy	LTE Band 17 : 736.5 MHz ~ 743.5 MHz			
	802.11b/g/n: 2412 MHz ~ 2462 MHz			
	802.11a/n: 5180 MHz ~ 5240 MHz; 5260 MHz ~ 5320 MHz;			
	5500 MHz ~ 5580 MHz and 5660 MHz ~ 5700			
	MHz ; 5745 MHz ~ 5825 MHz			
	Bluetooth: 2402 MHz ~ 2480 MHz			
	GPS : 1.57542 GHz			
	NFC : 13.56 MHz			
	WPC: 110 kHz ~ 205 kHz			
	WWAN : PIFA Antenna			
	LTE: PIFA Antenna			
Antenna Type	WLAN: PIFA Antenna			
	Bluetooth : PIFA Antenna			
	NFC : Loop Antenna			

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TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: ZL5S50 Page Number : 6 of 21
Report Issued Date : Aug. 19, 2014
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.0

Product Specific	Product Specification subjective to this standard			
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) LTE: QPSK / 16QAM 802.11b: DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n: OFDM (BPSK / QPSK / 16QAM / 64QAM) Bluetooth LE: GFSK Bluetooth (1Mbps): GFSK Bluetooth (2Mbps): \pi /4-DQPSK Bluetooth (3Mbps): 8-DPSK GPS: BPSK NFC: ASK WPC: Qi			

### 1.5. Modification of EUT

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

#### 1.6. Test Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190) and the FCC designation TW1022 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

Test Site	SPORTON INTERNATIONAL INC.		
	No. 52, Hwa Ya 1 <sup>st</sup> Rd., Hwa Ya Technology Park,		
Took Cita Lagation	Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.		
Test Site Location	TEL: +886-3-327-3456		
	FAX: +886-3-328-4978		
Test Site No.	Sporton	Site No.	
rest site No.	CO05-HY	03CH06-HY	

## 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.

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: ZL5S50 Page Number : 7 of 21
Report Issued Date : Aug. 19, 2014
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.0

## 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.

		Test Condition		
Item	EUT Configuration	EMI	EMI	
		AC	RE	
1.	Data application transferred mode (EUT with notebook)			

#### Abbreviations:

EMI AC: AC conducted emissions
 EMI RE: EUT radiated emissions

Test Items	EUT Configure Mode	Function Type
AC Conducted Emission	1	Mode 1: GSM1900 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + GPS Rx + Earphone + Battery
Radiated Emissions	1	Mode 1: GSM1900 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + GPS Rx + Earphone + Battery

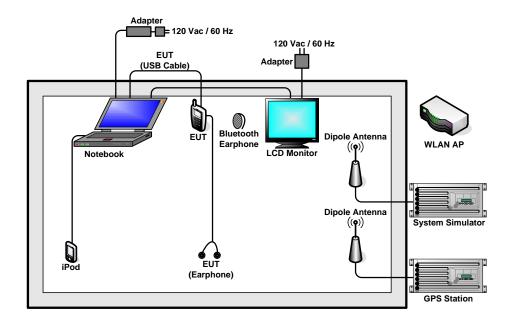
Remark: Link with Notebook means data application transferred mode between EUT and Notebook.

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: ZL5S50 Page Number : 8 of 21
Report Issued Date : Aug. 19, 2014
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.0

## 2.2. Connection Diagram of Test System



### 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, 1.8 m
2.	GPS Station	Pendulum	GSG-54	N/A	N/A	Unshielded, 1.8 m
3.	WLAN AP	D-Link	DIR-628	KA2DIR628A2	N/A	Unshielded, 1.8 m
4.	Bluetooth Earphone	Sony Ericsson	MW600	PY7DDA-2029	N/A	N/A
5.	Notebook	DELL	Latitude E6320	FCC DoC/ Contains FCC ID: QDS-BRCM1054	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
6.	LCD Monitor	DELL	U2410	FCC DoC	Shielded, 1.6 m	Unshielded, 1.8 m
7.	iPod	Apple	A1285	FCC DoC	Shielded, 1.0 m	N/A
8.	SD Card	SanDisk	MicroSD HC	FCC DoC	N/A	N/A

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: ZL5S50 Page Number : 9 of 21
Report Issued Date : Aug. 19, 2014
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.0

## 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 Laptop and EUT via USB cable.
- 2. Execute "GPS Test" to make the EUT receive continuous signals from GPS station.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: ZL5S50 Page Number : 10 of 21
Report Issued Date : Aug. 19, 2014
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.0

### 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	

<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.

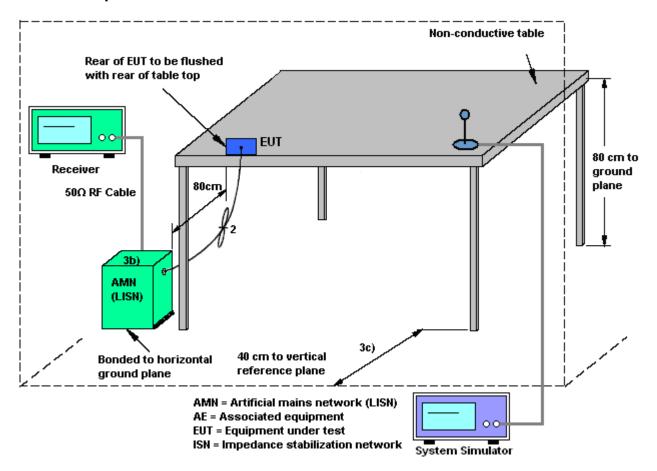
#### 3.1.3 Test Procedure

- 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.
- 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 (IF Bandwidth = 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: ZL5S50 Page Number : 11 of 21
Report Issued Date : Aug. 19, 2014
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.0

### 3.1.4 Test Setup



TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: ZL5S50 Page Number : 12 of 21
Report Issued Date : Aug. 19, 2014
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.0

### 3.1.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	20~22℃	
Test Engineer :	Cosmo Xu	Relative Humidity: 45~47%		
Test Voltage :	120Vac / 60Hz	Phase :	Line	
Function Type:	GSM1900 Idle + Bluetooth	n Idle + WLAN Idle -	+ USB Cable (Data Link with	

Notebook) + GPS Rx + Earphone + Battery

100
90
80
70
CISPR22-QP Limit at Main Ports
CISPR22-Ave Limit at Main Ports
40
30
40
10

2M

Frequency in Hz

3M 4M 5M 6

Final Result : Quasi-Peak

300 400 500

150k

Frequency (MHz)	Quasi-Peak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	56.8	Off	L1	19.3	9.2	66.0
0.190000	56.1	Off	L1	19.3	7.9	64.0
0.214000	48.8	Off	L1	19.4	14.2	63.0
0.246000	45.4	Off	L1	19.4	16.5	61.9
0.262000	41.2	Off	L1	19.4	20.2	61.4
0.278000	41.6	Off	L1	19.4	19.3	60.9
0.310000	34.3	Off	L1	19.4	25.7	60.0
0.342000	36.1	Off	L1	19.4	23.1	59.2
0.390000	36.5	Off	L1	19.4	21.6	58.1
0.518000	33.5	Off	L1	19.4	22.5	56.0

800 1M

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: ZL5S50 Page Number : 13 of 21
Report Issued Date : Aug. 19, 2014
Report Version : Rev. 01

20M

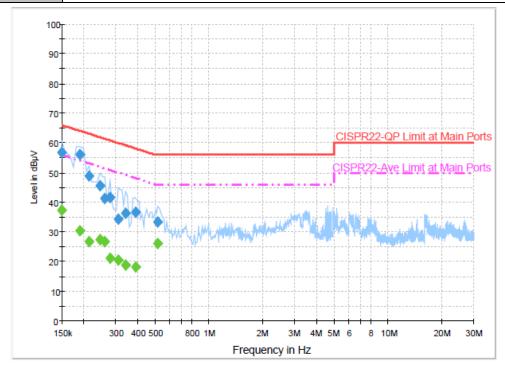
30M

Report Template No.: BU5-FD15B Version 1.0



Test Mode :	Mode 1	Temperature :	20~22℃
Test Engineer :	Cosmo Xu	Relative Humidity :	45~47%
Test Voltage :	120Vac / 60Hz	Phase :	Line
	GSM1900 Idle + Bluetooth	ldle + WLAN Idle :	+ USB Cable (Data Link with

Function Type: Notebook) + GPS Rx + Earphone + Battery



### Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	37.4	Off	L1	19.3	18.6	56.0
0.190000	30.4	Off	L1	19.3	23.6	54.0
0.214000	26.8	Off	L1	19.4	26.2	53.0
0.246000	27.3	Off	L1	19.4	24.6	51.9
0.262000	26.7	Off	L1	19.4	24.7	51.4
0.278000	21.0	Off	L1	19.4	29.9	50.9
0.310000	20.6	Off	L1	19.4	29.4	50.0
0.342000	18.7	Off	L1	19.4	30.5	49.2
0.390000	18.1	Off	L1	19.4	30.0	48.1
0.518000	25.9	Off	L1	19.4	20.1	46.0

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: ZL5S50

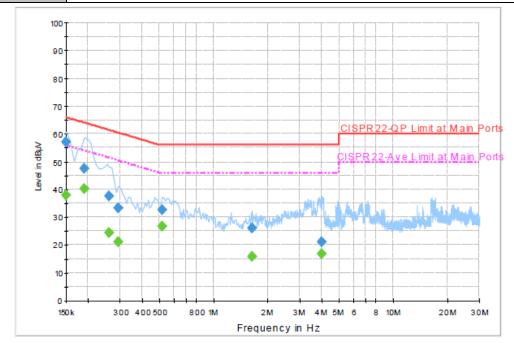
Page Number : 14 of 21 Report Issued Date: Aug. 19, 2014 Report Version : Rev. 01

Report No.: FC463004

Report Template No.: BU5-FD15B Version 1.0

FCC Test Report No.: FC463004

Test Mode :	Mode 1	Temperature :	20~22℃					
Test Engineer :	Cosmo Xu	Relative Humidity :	45~47%					
Test Voltage :	120Vac / 60Hz	Phase :	Neutral					
Function Type	GSM1900 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data L							
Function Type :								



#### Final Result : Quasi-Peak

Frequency (MHz)	Quasi-Peak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	57.2	Off	N	19.4	8.8	66.0
0.190000	47.4	Off	N	19.3	16.6	64.0
0.262000	37.6	Off	N	19.4	23.8	61.4
0.294000	33.3	Off	N	19.3	27.1	60.4
0.518000	32.6	Off	N	19.4	23.4	56.0
1.638000	26.2	Off	N	19.5	29.8	56.0
3.998000	21.2	Off	N	19.6	34.8	56.0

### Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	38.1	Off	N	19.4	17.9	56.0
0.190000	40.2	Off	N	19.3	13.8	54.0
0.262000	24.5	Off	N	19.4	26.9	51.4
0.294000	21.0	Off	N	19.3	29.4	50.4
0.518000	26.9	Off	N	19.4	19.1	46.0
1.638000	15.9	Off	N	19.5	30.1	46.0
3.998000	16.7	Off	N	19.6	29.3	46.0

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: ZL5S50 Page Number : 15 of 21
Report Issued Date : Aug. 19, 2014
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.0

#### 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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TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: ZL5S50 Page Number : 16 of 21
Report Issued Date : Aug. 19, 2014
Report Version : Rev. 01

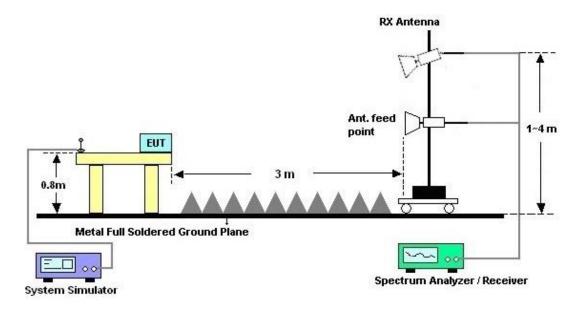
Report Template No.: BU5-FD15B Version 1.0

## 3.2.4. Test Setup of Radiated Emission

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



#### For radiated emissions above 1GHz



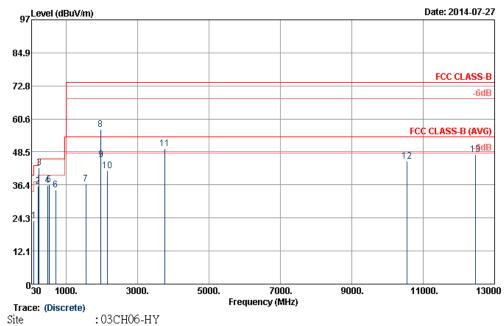
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TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: ZL5S50 Page Number : 17 of 21
Report Issued Date : Aug. 19, 2014
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.0

### 3.2.5. Test Result of Radiated Emission

Test Mode :	Mode 1	Temperature :	21~22°C				
Test Engineer :	Luke Chang	Relative Humidity :	42~43%				
Test Distance :	3m	Polarization :	Horizontal				
Eupotion Type I	GSM1900 Idle + Bluetooth I	dle + WLAN Idle + USI	3 Cable (Data Link with				
Function Type :	Notebook) + GPS Rx + Earphone + Battery						
Remark :	#8 is system simulator signa	#8 is system simulator signal which can be ignored.					



Condition : FCC CLASS-B 3m HF-ANT\_583\_130802 HORIZONTAL Project : 463004

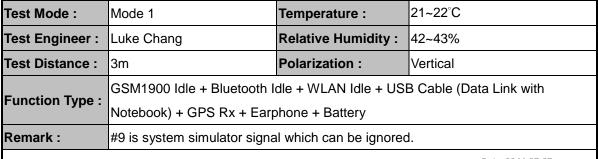
Project : 463004
Power : From System
Mode : Mode 1

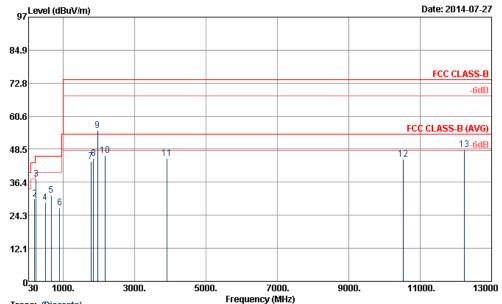
			Over	Limit				Preamp	A/Pos	T/Pos	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor			Remark
	MHz	$\overline{dBuV/m}$	——dB	$\overline{d B u V / m}$	dBuV	dB/m	dB	dB	Cm	deg	
1	94.26	23.14	-20.36	43.50	44.01	9.80	1.08	31.75			Peak
2	207.66	35.84	-7.66	43.50	56.90	9.13	1.56	31.75			Peak
3 !	240.06	42.68	-3.32	46.00	61.24	11.49	1.69	31.74	138	327	Peak
4	480.60	36.31	-9.69	46.00	48.30	17.61	2.31	31.91			Peak
4 5	515.60	36.60	-9.40	46.00	48.08	17.96	2.51	31.95			Peak
6	700.40	34.60	-11.40	46.00	44.33	19.40	2.89	32.02			Peak
7	1554.00	36.64	-37.36	74.00	63.90	28.31	4.84	60.41			Peak
8 9	1960.00	56.85			80.33	31.22	5.79	60.49			Peak
9	1974.00	45.56	-28.44	74.00	68.86	31.35	5.84	60.49			Peak
10	2160.00	41.69	-32.31	74.00	64.36	31.72	6.11	60.50			Peak
11	3754.00	49.59	-24.41	74.00	69.54	33.11	8.50	61.56	100	0	Peak
12	10556.00	45.05	-28.95	74.00	57.41	37.33	10.67	60.36			Peak
13	12462.00	47.65	-26.35	74.00	56.84	39.17	11.37	59.73			Peak

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: ZL5S50 Page Number : 18 of 21
Report Issued Date : Aug. 19, 2014
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.0

**Report No. : FC463004** 





Trace: (Discrete) :03CH06-HY Site

Condition : FCC CLASS-B 3m HF-ANT\_583\_130802 VERTICAL

Project :463004 Power : From System Mode : Mode 1

		Level		Limit Line dBuV/m		ntenna Factor dB/m		Preamp Factor dB	A/Pos	T/Pos deg	Remark
3 4 5 6 7 1 8 1 9 1 10 2 11 3 12 10	30.54 202.80 240.06 497.40 665.40 903.40 780.00 846.00 960.00 176.00 1906.00 232.00	30.29 37.50 28.85 31.62 26.91 43.92 45.22 55.31 46.13 45.03 44.80	-13.91 -8.50 -17.15 -14.38 -19.09 -30.08 -28.78 -27.87 -28.97 -29.20 -25.74		39.34 51.32 56.06 40.55 41.37 69.09 69.72 78.79 68.75 64.62 57.21	17.90 9.17 11.49 17.77 19.45 21.07 29.95 30.46 31.22 31.74 33.30 37.32 38.94	0.65 1.55 1.69 2.46 2.83 3.37 5.34 5.79 6.14 8.76 10.67	31.80 31.75 31.74 31.93 32.03 31.50 60.46 60.47 60.49 60.50 61.65 60.40 59.28	107	71	Peak Peak Peak Peak Peak Peak Peak Peak

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: ZL5S50

Page Number : 19 of 21 Report Issued Date: Aug. 19, 2014 Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.0

## 4. List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EMI Test Receiver	Rohde & Schwarz	ESCS 30	100356	9kHz ~ 2.75GHz	Nov. 15, 2013	Jul. 30, 2014	Nov. 14, 2014	Conduction (CO05-HY)
LISN (for auxiliary equipment)	Rohde & Schwarz	ENV216	100081	9kHz ~ 30MHz	Dec. 12, 2013	Jul. 30, 2014	Dec. 11, 2014	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz ~ 30MHz	Dec. 04, 2013	Jul. 30, 2014	Dec. 03, 2014	Conduction (CO05-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Jul. 30, 2014	N/A	Conduction (CO05-HY)
Spectrum Analyzer	R&S	FSP30	101067	9kHz ~ 30GHz	Nov. 20, 2013	Jul. 27, 2014	Nov. 19, 2014	Radiation (03CH06-HY)
Spectrum Analyzer	Agilent	E4408B	MY44211030	9kHz ~ 26.5GHz	Dec. 02, 2013	Jul. 27, 2014	Dec. 01, 2014	Radiation (03CH06-HY)
EMI Test Receiver	R&S	ESVS10	834468/0003	20MHz ~ 1000MHz	May 06, 2014	Jul. 27, 2014	May 05, 2015	Radiation (03CH06-HY)
Bilog Antenna	Schaffner	CBL6112B	2885	30MHz ~ 2GHz	Oct. 10, 2013	Jul. 27, 2014	Oct. 09, 2014	Radiation (03CH06-HY)
Double Ridge Horn Antenna	EMCO	3117	00066583	1GHz ~ 18GHz	Jul. 24, 2014	Jul. 27, 2014	Jul. 23, 2015	Radiation (03CH06-HY)
Amplifier	SONOMA	310N	186713	9kHz ~ 1GHz	Apr. 16, 2014	Jul. 27, 2014	Apr. 15, 2015	Radiation (03CH06-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	159075	1GHz ~ 18GHz	Apr. 21, 2014	Jul. 27, 2014	Apr. 20, 2015	Radiation (03CH06-HY)
Turn Table	INN-CO	DS2000	420/650/00	0 ~ 360 degree	N/A	Jul. 27, 2014	N/A	Radiation (03CH06-HY)
Antenna Mast	MF	MF-7802	MF78020821 2	1 m ~ 4 m	N/A	Jul. 27, 2014	N/A	Radiation (03CH06-HY)

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: ZL5S50 Page Number : 20 of 21
Report Issued Date : Aug. 19, 2014
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.0



## 5. Uncertainty of Evaluation

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

	4
Measuring Uncertainty for a Level of	2.26
Confidence of 95% (U = 2Uc(y))	2.20

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

Management III and the formal and of	
Measuring Uncertainty for a Level of	4.50
Confidence of 95% (U = 2Uc(y))	7.50

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: ZL5S50 Page Number : 21 of 21
Report Issued Date : Aug. 19, 2014
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.0