FCC Test Report

APPLICANT	:	**Bullitt Group**
EQUIPMENT	:	**Rugged Smart Phone**
BRAND NAME	:	**CAT**
MODEL NAME	:	**S40**
MARKETING NAME	:	**S40**
FCC ID	:	**ZL5S40**
STANDARD	:	**FCC 47 CFR FCC Part 15 Subpart B**
CLASSIFICATION	:	**Certification**

The product was received on May 29, 2015 and testing was completed on Jul. 10, 2015. 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.

Louis Wu

Reviewed by: Louis Wu / Manager

Jones Tsai

Approved by: Jones Tsai / Manager

Testing Laboratory 1190

SPORTON INTERNATIONAL INC.
No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C.

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FC552956	Rev. 01	Initial issue of report	Jul. 16, 2015

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 0.558 MHz
3.2	15.109	ICES003 Section 6.2	Radiated Emission	< 15.109 limits < ICES003 6.2 limits	PASS	Under limit 6.00 dB at 335.700 MHz

1. General Description

1.1. Applicant

Bullitt Group
One Valpy, Valpy Street, Reading, Berkshire, RG1 1AR. 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	S40
Marketing Name	S40
FCC ID	ZL5S40
Sample 1	EUT with 16G eMMC and Dual SIM
Sample 2	EUT with 16G eMMC and Single SIM
EUT supports Radios application	GSM/EGPRS/WCDMA/HSPA/LTE/NFC WLAN 11b/g/n HT20 Bluetooth v4.1 EDR/LE
HW Version	1.0
SW Version	LTE_D0201121.0_S40_0.012.00
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.

<Sample Information>

S40 has 2 different Variant		
	eMMC	
Sample 1	16G	Dual SIM
Sample 2	16G	Single SIM
For Dual-SIM or Single-SIM control by SW, HW are the same		

1.4. Product Specification subjective to this standard

Product Specification subjective to this standard	
Tx 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 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 LTE Band 12 : 699.7 MHz ~ 715.3 MHz LTE Band 17 : 706.5 MHz ~ 713.5 MHz 802.11b/g/n: 2412 MHz ~ 2462 MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC : 13.56 MHz
Rx Frequency	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 LTE Band 12 : 729.7 MHz ~ 745.3 MHz LTE Band 17 : 736.5 MHz ~ 743.5 MHz 802.11b/g/n: 2412 MHz ~ 2462 MHz Bluetooth: 2402 MHz ~ 2480 MHz GPS : 1.57542 GHz NFC : 13.56 MHz
Antenna Type	WWAN : PIFA + Coupling type (LDS) Antenna WLAN : PIFA Antenna Bluetooth : PIFA Antenna GPS : PIFA Antenna NFC : Loop antenna
Type of Modulation	GSM: GMSK GPRS: GMSK EDGE(MCS 0-4): GMSK / (MCS 5-9): 8PSK WCDMA: QPSK (Uplink) HSDPA: 64QAM (Downlink) HSUPA: QPSK (Uplink) LTE: QPSK / 16QAM / 64QAM (Downlink Only) 802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) Bluetooth LE : GFSK Bluetooth (1Mbps) : GFSK Bluetooth (2Mbps) : π/4-DQPSK Bluetooth (3Mbps) : 8-DPSK GPS : BPSK NFC: ASK

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 No. TW1022 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

Test Site	SPORTON INTERNATIONAL INC.	
Test Site Location	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C. TEL: +886-3-327-3456 FAX: +886-3-328-4978	
Test Site No.	**Sporton 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.

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.

Item	EUT Configuration	Test Condition		
		EMI AC	EMI RE<1G	EMI RE≥1G
1.	Charging Mode (EUT with adapter)	☒	☒	Note 1
2.	Data application transferred mode (EUT 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.

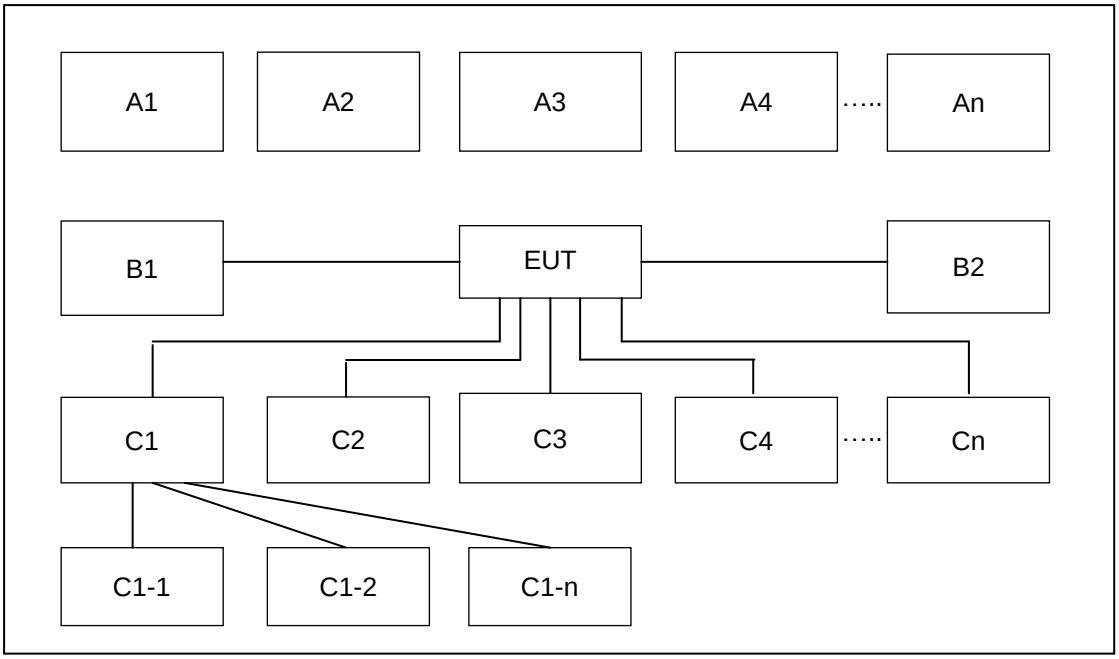
Remark: For signal above 1GHz, the worst case was test item 2.

Test Items	EUT Configure Mode	Function Type
AC Conducted Emission	1/2	Mode 1: GSM850 Idle + Bluetooth Idle + WLAN Idle + MP3 + Earphone + Battery + USB Cable (Charging from Adapter 1) + SIM 1 Mode 2: WCDMA Band II Idle + Bluetooth Idle + WLAN Idle + Camera + Earphone + Battery + USB Cable (Charging from Adapter 1) + SIM 1 Mode 3: LTE Band 4 Idle + Bluetooth Idle + WLAN Idle + NFC On + Earphone + Battery + USB Cable (Data Link with Notebook) + SIM 1 Mode 4: GSM850 Idle + Bluetooth Idle + WLAN Idle + MP3 + Earphone + Battery + USB Cable (Charging from Adapter 1) + SIM 2 Mode 5: GSM850 Idle + Bluetooth Idle + WLAN Idle + MP3 + Earphone + Battery + USB Cable (Charging from Adapter 2) + SIM 1
Radiated Emissions < 1GHz	1/2	Mode 1: GSM850 Idle + Bluetooth Idle + WLAN Idle + MP3 + Earphone + Battery + USB Cable (Charging from Adapter 1) + SIM 1 Mode 2: WCDMA Band II Idle + Bluetooth Idle + WLAN Idle + Camera + Earphone + Battery + USB Cable (Charging from Adapter 1) + SIM 1 Mode 3: LTE Band 4 Idle + Bluetooth Idle + WLAN Idle + NFC On + Earphone + Battery + USB Cable (Data Link with Notebook) + SIM 1 Mode 4: LTE Band 4 Idle + Bluetooth Idle + WLAN Idle + NFC On + Earphone + Battery + USB Cable (Data Link with Notebook) + SIM 2 Mode 5: GSM850 Idle + Bluetooth Idle + WLAN Idle + MP3 + Earphone + Battery + USB Cable (Charging from Adapter 2) + SIM 1
Radiated Emissions ≥ 1GHz	2	Mode 1: LTE Band 4 Idle + Bluetooth Idle + WLAN Idle + NFC On + Earphone + Battery + USB Cable (Data Link with Notebook) + SIM 1

Remark:

1. The worst case of AC is mode 1; only the test data of this mode was reported.
2. The worst case of RE < 1G is mode 3; only the test data of this mode was reported.
3. Data Link with Notebook means data application transferred mode between EUT and Notebook.
4. All tests were performed with sample 1.

2.2. Connection Diagram of Test System



Conduction Test Setup									
No.	Wireless Station	Connection Type	Test Mode						
			1	2	3	4	5	-	-
A1	Bluetooth Earphone	Bluetooth	X	X	X	X	X		
A2	System Simulator	GSM/UMTS/LTE	X	X	X	X	X		
A3	WLAN AP	WiFi	X	X	X	X	X		
No.	**Power Source**	**Connection Type**	**1**	**2**	**3**	**4**	**5**	**-**	**-**
B1	AC : 120V/60Hz	AC Power Cable	X	X		X	X		
No.	**Setup Peripherals**	**Connection Type**	**1**	**2**	**3**	**4**	**5**	**-**	**-**
C1	Notebook	USB Cable			X				
C1-1	iPod	USB Cable to C1			X				
C1-2	WLAN AP	RJ-45 Cable to C1			X				
C2	Earphone	Earphone jack	X	X	X	X	X		
C3	SD Card	SD I/O interface without Cable	X	X	X	X	X		

Radiation Test Setup									
No.	Wireless Station	Connection Type	Test Mode						
			1	2	3	4	5	-	-
A1	Bluetooth Earphone	Bluetooth	X	X	X	X	X		
A2	System Simulator	GSM/UMTS/LTE	X	X	X	X	X		
A3	WLAN AP	WiFi	X	X	X	X	X		
No.	**Power Source**	**Connection Type**	**1**	**2**	**3**	**4**	**5**	**-**	**-**
B1	AC : 120V/60Hz	AC Power Cable	X	X			X		
No.	**Setup Peripherals**	**Connection Type**	**1**	**2**	**3**	**4**	**5**	**-**	**-**
C1	Notebook	USB Cable			X	X			
C1-1	iPod	USB Cable to C1			X	X			
C1-2	WLAN AP	RJ-45 Cable to C1			X	X			
C2	Earphone	Earphone jack	X	X	X	X	X		
C3	SD Card	SD I/O interface without Cable	X	X	X	X	X		

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.	System Simulator	R&S	CMW 500	N/A	N/A	Unshielded, 1.8 m
3.	System Simulator	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
4.	WLAN AP	D-Link	DIR-865L	KA2IR865LA1	N/A	Unshielded, 1.8 m
5.	WLAN AP	D-Link	DIR-628	KA2DIR628A2	N/A	Unshielded, 1.8 m
6.	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
7.	iPod	Apple	A1199	FCC DoC	Shielded, 1.0 m	N/A
8.	iPod	Apple	A1285	FCC DoC	Shielded, 1.0 m	N/A
9.	Bluetooth Earphone	Sony Ericsson	MW600	PY7DDA-2029	N/A	N/A
10.	SD Card	SanDisk	MicroSD HC	FCC DoC	N/A	N/A

2.4. EUT Operation Test Setup

The EUT was in GSM, WCDMA, and LTE idle mode during the testing. The EUT was synchronized to the BCCH, and is 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 "Music Player" to play MP3 file.
3. Turn on camera to capture images.
4. Turn on NFC function.

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 (MHz)	Conducted limit (dBuV)	
	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.

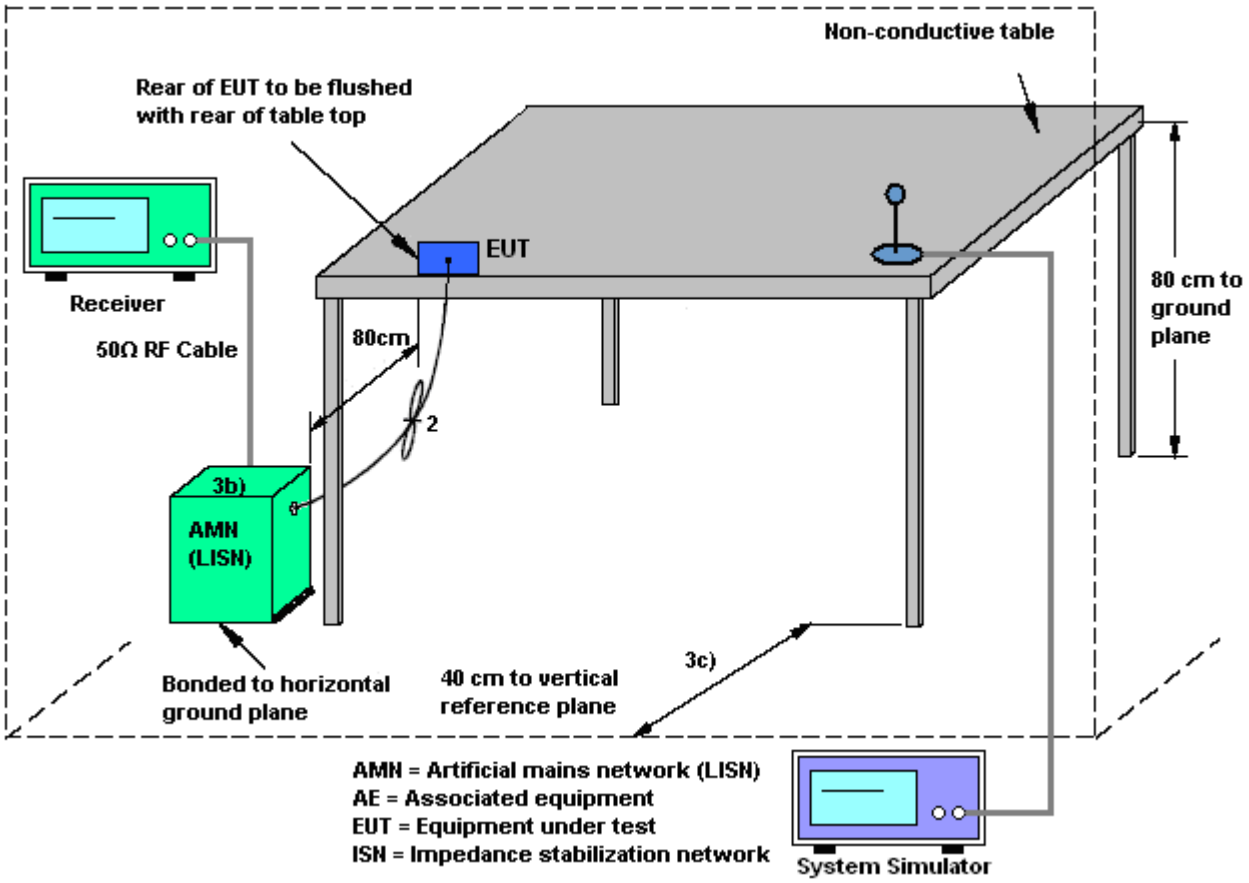
3.1.2 Measuring Instruments

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

3.1.3 Test Procedure

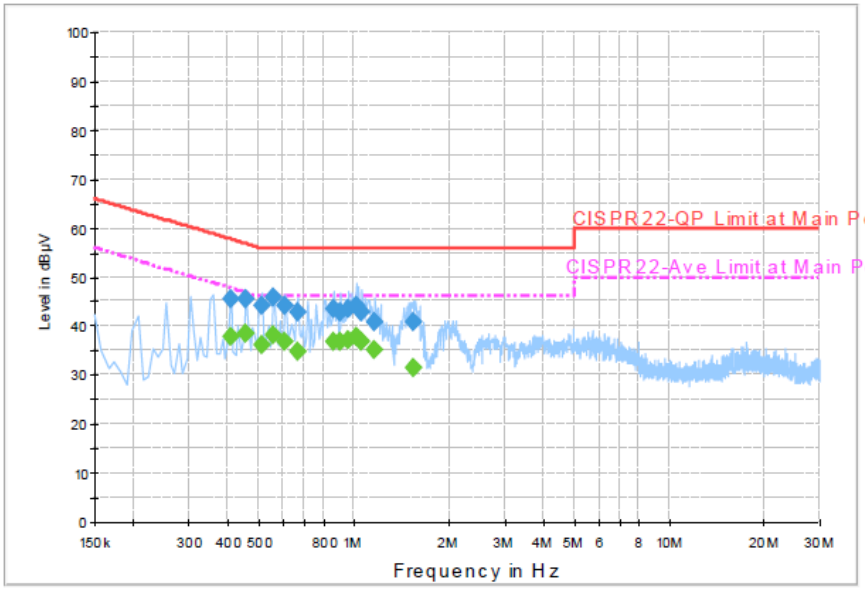
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
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 (IF Bandwidth = 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

3.1.4 Test Setup



3.1.5 Test Result of AC Conducted Emission

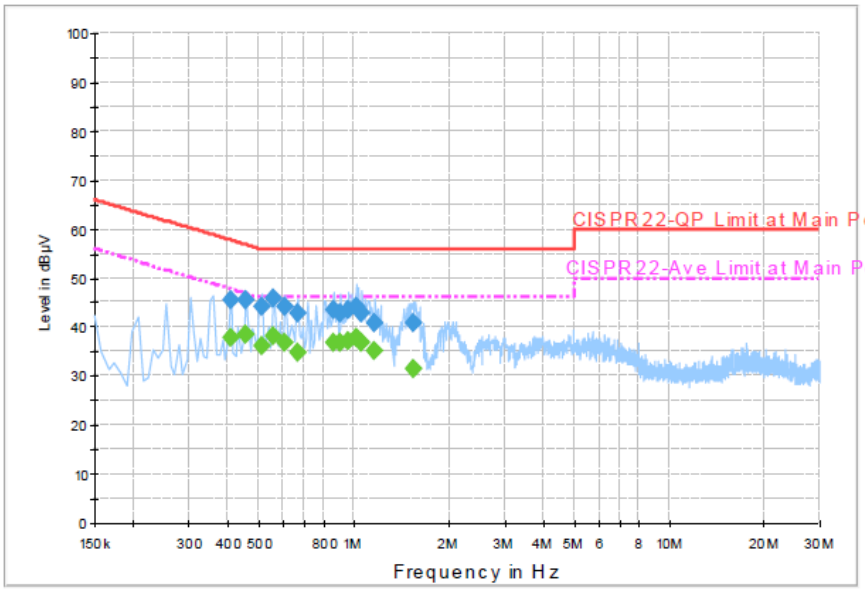
Test Mode :	Mode 1	**Temperature :**	24~26℃
Test Engineer :	Eric Jeng	**Relative Humidity :**	52~55%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Function Type :	GSM850 Idle + Bluetooth Idle + WLAN Idle + MP3 + Earphone + Battery + USB Cable (Charging from Adapter 1) + SIM 1		



Final Result : Quasi-Peak

Frequency (MHz)	Quasi-Peak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.406000	45.6	Off	L1	19.6	12.1	57.7
0.454000	45.5	Off	L1	19.4	11.3	56.8
0.510000	44.1	Off	L1	19.5	11.9	56.0
0.558000	45.7	Off	L1	19.4	10.3	56.0
0.606000	44.2	Off	L1	19.5	11.8	56.0
0.662000	42.7	Off	L1	19.5	13.3	56.0
0.862000	43.5	Off	L1	19.5	12.5	56.0
0.910000	42.8	Off	L1	19.6	13.2	56.0
0.966000	43.4	Off	L1	19.6	12.6	56.0
1.014000	44.1	Off	L1	19.6	11.9	56.0
1.062000	42.8	Off	L1	19.5	13.2	56.0
1.166000	40.8	Off	L1	19.6	15.2	56.0
1.542000	40.7	Off	L1	19.5	15.3	56.0

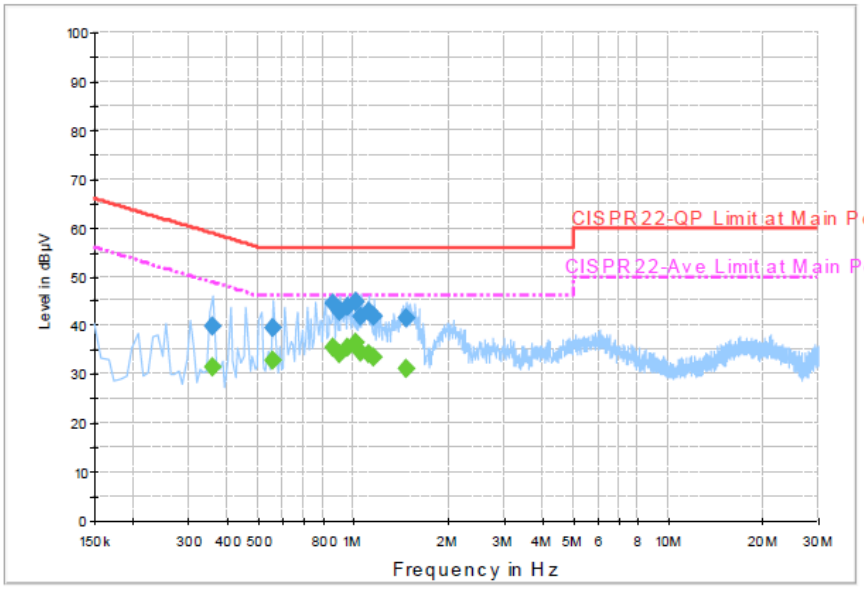
Test Mode :	Mode 1	Temperature :	24~26℃
Test Engineer :	Eric Jeng	Relative Humidity :	52~55%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	GSM850 Idle + Bluetooth Idle + WLAN Idle + MP3 + Earphone + Battery + USB Cable (Charging from Adapter 1) + SIM 1		



Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.406000	37.9	Off	L1	19.6	9.8	47.7
0.454000	38.4	Off	L1	19.4	8.4	46.8
0.510000	36.1	Off	L1	19.5	9.9	46.0
0.558000	38.1	Off	L1	19.4	7.9	46.0
0.606000	36.9	Off	L1	19.5	9.1	46.0
0.662000	34.9	Off	L1	19.5	11.1	46.0
0.862000	36.8	Off	L1	19.5	9.2	46.0
0.910000	36.9	Off	L1	19.6	9.1	46.0
0.966000	37.2	Off	L1	19.6	8.8	46.0
1.014000	37.9	Off	L1	19.6	8.1	46.0
1.062000	36.8	Off	L1	19.5	9.2	46.0
1.166000	35.2	Off	L1	19.6	10.8	46.0
1.542000	31.3	Off	L1	19.5	14.7	46.0

Test Mode :	Mode 1	Temperature :	24~26℃
Test Engineer :	Eric Jeng	Relative Humidity :	52~55%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	GSM850 Idle + Bluetooth Idle + WLAN Idle + MP3 + Earphone + Battery + USB Cable (Charging from Adapter 1) + SIM 1		



Final Result : Quasi-Peak

Frequency (MHz)	Quasi-Peak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.358000	40.0	Off	N	19.5	18.8	58.8
0.558000	39.4	Off	N	19.4	16.6	56.0
0.862000	44.5	Off	N	19.5	11.5	56.0
0.910000	42.8	Off	N	19.6	13.2	56.0
0.966000	44.0	Off	N	19.6	12.0	56.0
1.014000	44.7	Off	N	19.6	11.3	56.0
1.062000	41.9	Off	N	19.5	14.1	56.0
1.118000	42.8	Off	N	19.5	13.2	56.0
1.166000	41.8	Off	N	19.6	14.2	56.0
1.470000	41.5	Off	N	19.6	14.5	56.0

Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.358000	31.4	Off	N	19.5	17.4	48.8
0.558000	32.6	Off	N	19.4	13.4	46.0
0.862000	35.5	Off	N	19.5	10.5	46.0
0.910000	34.3	Off	N	19.6	11.7	46.0
0.966000	35.5	Off	N	19.6	10.5	46.0
1.014000	36.5	Off	N	19.6	9.5	46.0
1.062000	34.4	Off	N	19.5	11.6	46.0
1.118000	34.3	Off	N	19.5	11.7	46.0
1.166000	33.6	Off	N	19.6	12.4	46.0
1.470000	31.2	Off	N	19.6	14.8	46.0

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

3.2.2. Measuring Instruments

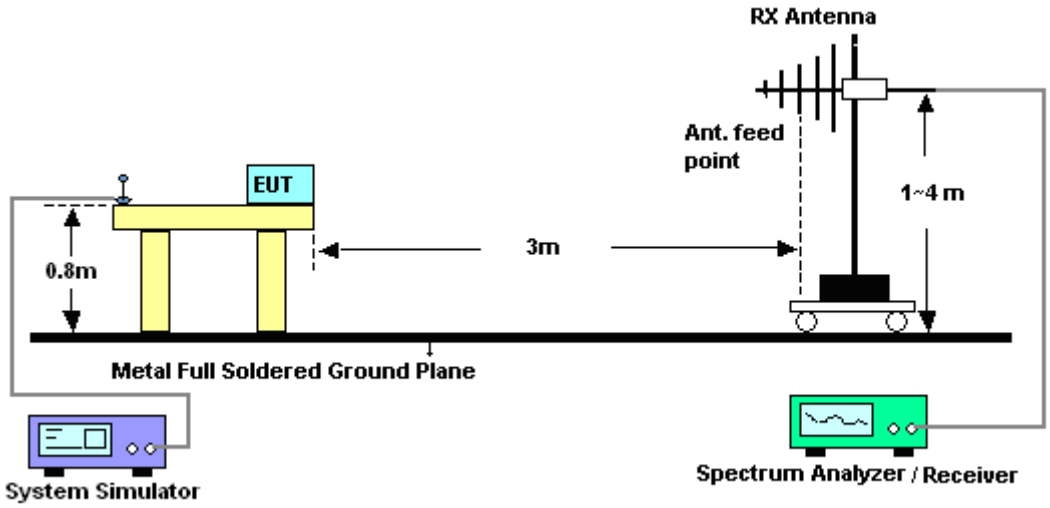
The measuring equipment is listed in the section 4 of this test report.

3.2.3. Test Procedures

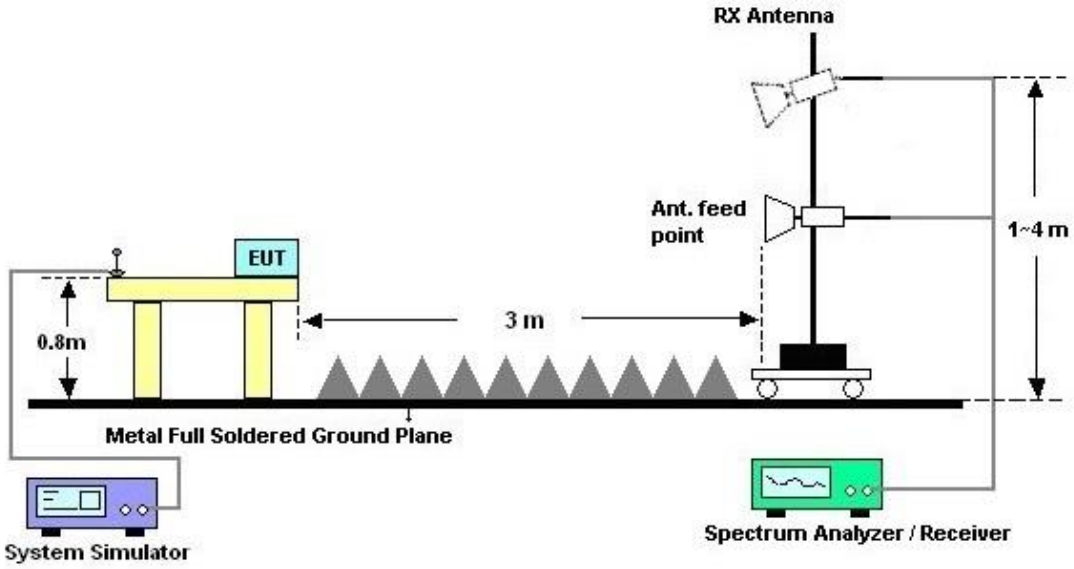
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna 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 (dBμV/m) = 20 log Emission level (μV/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

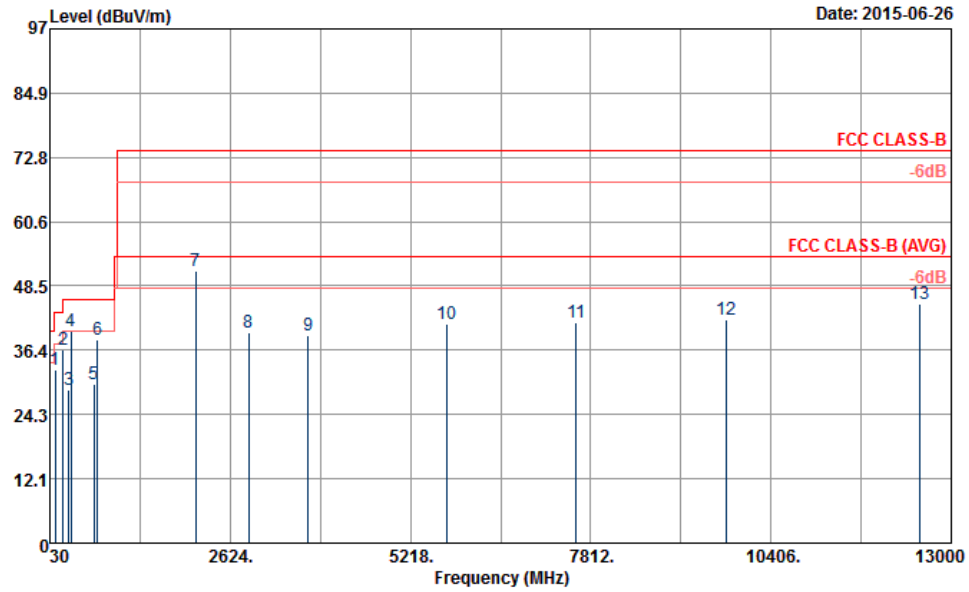


For radiated emissions above 1GHz



3.2.5. Test Result of Radiated Emission

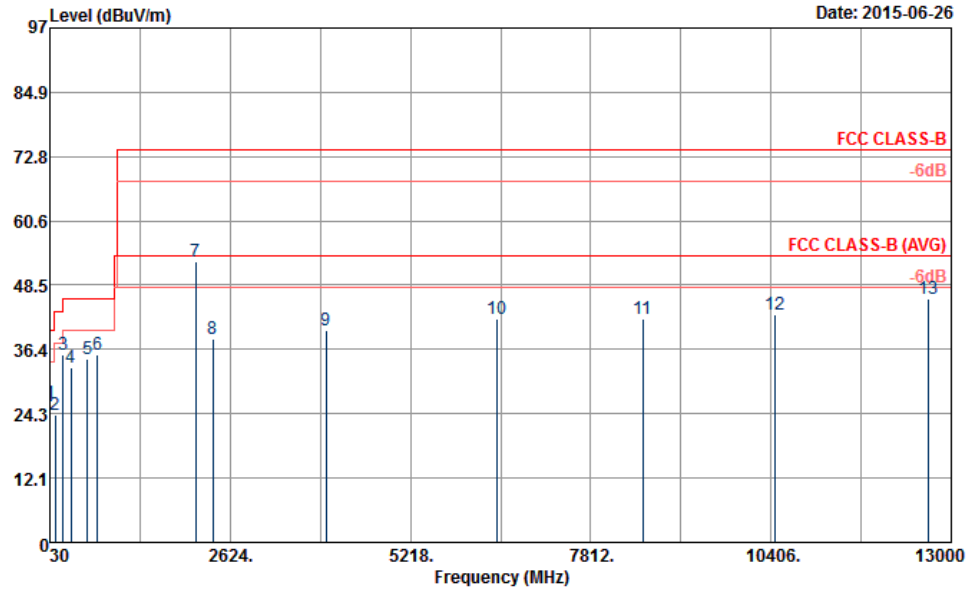
Test Mode :	Mode 3	**Temperature :**	20~23°C
Test Engineer :	Daniel Lee and Hayden Wu	**Relative Humidity :**	50~53%
Test Distance :	3m	**Polarization :**	Horizontal
Function Type :	LTE Band 4 Idle + Bluetooth Idle + WLAN Idle + NFC On + Earphone + Battery + USB Cable (Data Link with Notebook) + SIM 1		
Remark :	#7 is system simulator signal which can be ignored.		



Site : 03CH06-HY
Condition : FCC CLASS-B 3m HF-ANT_583_140731 HORIZONTAL
Project : 552956
Power : From System
Memo : Mode 3

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	102.36	32.71	-10.79	43.50	52.24	11.08	1.12	31.73	---	---	Peak
2	218.73	36.45	-9.55	46.00	57.34	9.21	1.62	31.72	---	---	Peak
3	298.92	28.85	-17.15	46.00	45.56	13.09	1.90	31.70	---	---	Peak
4	335.70	40.00	-6.00	46.00	55.93	13.81	2.00	31.74	100	22	Peak
5	665.40	29.98	-16.02	46.00	40.29	18.95	2.83	32.09	---	---	Peak
6	718.60	38.37	-7.63	46.00	48.41	19.08	2.95	32.07	---	---	Peak
7	2132.00	51.25			71.57	31.78	6.32	58.42	---	---	Peak
8	2896.00	39.75	-34.25	74.00	57.79	32.64	7.52	58.20	---	---	Peak
9	3744.00	39.12	-34.88	74.00	56.17	32.99	8.66	58.70	---	---	Peak
10	5748.00	41.37	-32.63	74.00	52.97	35.14	11.12	57.86	---	---	Peak
11	7602.00	41.72	-32.28	74.00	52.52	35.72	12.82	59.34	---	---	Peak
12	9768.00	42.11	-31.89	74.00	49.79	36.78	14.46	58.92	---	---	Peak
13	12538.00	45.07	-28.93	74.00	47.65	39.32	16.59	58.49	100	0	Peak

Test Mode :	Mode 3	**Temperature :**	20~23°C
Test Engineer :	Daniel Lee and Hayden Wu	**Relative Humidity :**	50~53%
Test Distance :	3m	**Polarization :**	Vertical
Function Type :	LTE Band 4 Idle + Bluetooth Idle + WLAN Idle + NFC On + Earphone + Battery + USB Cable (Data Link with Notebook) + SIM 1		
Remark :	#7 is system simulator signal which can be ignored.		



Site : 03CH06-HY
Condition : FCC CLASS-B 3m HF-ANT_583_140731 VERTICAL
Project : 552956
Power : From System
Memo : Mode 3

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	31.35	26.31	-13.69	40.00	39.42	18.02	0.65	31.78	---	---	Peak
2	102.63	24.10	-19.40	43.50	43.63	11.08	1.12	31.73	---	---	Peak
3	221.43	35.50	-10.50	46.00	56.30	9.29	1.63	31.72	100	303	Peak
4	335.70	33.07	-12.93	46.00	49.00	13.81	2.00	31.74	---	---	Peak
5	573.70	34.52	-11.48	46.00	45.32	18.60	2.65	32.05	---	---	Peak
6	717.90	35.49	-10.51	46.00	45.55	19.06	2.95	32.07	---	---	Peak
7	2132.00	53.07			73.39	31.78	6.32	58.42	---	---	Peak
8	2378.00	38.41	-35.59	74.00	58.08	31.93	6.67	58.27	---	---	Peak
9	4006.00	39.95	-34.05	74.00	56.22	33.42	9.08	58.77	---	---	Peak
10	6456.00	42.14	-31.86	74.00	53.04	35.75	11.68	58.33	---	---	Peak
11	8566.00	42.03	-31.97	74.00	51.84	35.65	13.54	59.00	---	---	Peak
12	10456.00	43.02	-30.98	74.00	48.41	37.36	15.14	57.89	---	---	Peak
13	12662.00	45.82	-28.18	74.00	48.33	39.37	16.59	58.47	100	0	Peak

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	Dec. 01, 2014	Jun. 26, 2015~ Jul. 07, 2015	Nov. 30, 2015	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Dec. 02, 2014	Jun. 26, 2015~ Jul. 07, 2015	Dec. 01, 2015	Conduction (CO05-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Jun. 26, 2015~ Jul. 07, 2015	N/A	Conduction (CO05-HY)
LISN (for auxiliary equipment)	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Dec. 08, 2014	Jun. 26, 2015~ Jul. 07, 2015	Dec. 07, 2015	Conduction (CO05-HY)
Bilog Antenna	Teseq GmbH	CBL6112D	35379	30MHz~2GHz	Sep. 27, 2014	Jun. 26, 2015~ Jul. 10, 2015	Sep. 26, 2015	Radiation (03CH06-HY)
Double Ridge Horn Antenna	EMCO	3117	00066583	1GHz~18GHz	Jul. 24, 2014	Jun. 26, 2015~ Jul. 10, 2015	Jul. 23, 2015	Radiation (03CH06-HY)
Preamplifier	SONOMA	310N	186713	9kHz~1GHz	Apr. 20, 2015	Jun. 26, 2015~ Jul. 10, 2015	Apr. 19, 2016	Radiation (03CH06-HY)
Antenna Mast	MF	MF-7802	MF780208212	1m~4m	N/A	Jun. 26, 2015~ Jul. 10, 2015	N/A	Radiation (03CH06-HY)
Turn Table	INN-CO	DS2000	420/650/00	0-360 degree	N/A	Jun. 26, 2015~ Jul. 10, 2015	N/A	Radiation (03CH06-HY)
Preamplifier	MITEQ	AMF-7D-00101800-30-10P	1815698	1GHz~18GHz	Dec. 12, 2014	Jun. 26, 2015~ Jul. 10, 2015	Dec. 11, 2015	Radiation (03CH06-HY)
EMI Test Receiver	Rohde & Schwarz	ESU26	100472	20Hz~26.5GHz	Jan. 19, 2015	Jun. 26, 2015~ Jul. 10, 2015	Jan. 18, 2016	Radiation (03CH06-HY)

5. Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of 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))	**4.0**