

FCC PART 15B

MEASUREMENT AND TEST REPORT

FOR

Verykool USA Inc
4350 Executive Dr. #100, San Diego

FCC ID: WA6S757

Report Concerns: Original Report	Equipment Type: 3G Mobile Phone
Model:	<u>S757</u>
Report No.:	<u>STR12058081I-4</u>
Test Date:	<u>2012-05-09 to 2012-05-26</u>
Issue Date:	<u>2012-06-01</u>
Tested By:	<u>Seven Song / Engineer</u> <i>Seven Song</i>
Reviewed By:	<u>Lahm Peng / EMC Manager</u> <i>Lahm peng</i>
Approved & Authorized By:	<u>Jandy so / PSQ Manager</u> <i>Jandyso</i>
Prepared By:	
SEM.Test Compliance Service Co., Ltd 3/F, Jinbao Commerce Building, Xin'an Fanshen Road, Bao'an District, Shenzhen, P.R.C. (518101) Tel.: +86-755-33663308 Fax.: +86-755-33663309 Website: www.semtest.com.cn	

Note: This test report is limited to the above client company and the product model only. It may not be duplicated without prior permitted by SEM.Test Compliance Service Co., Ltd.

TABLE OF CONTENTS

1. GENERAL INFORMATION.....	3
1.1 PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT).....	3
1.2 TEST STANDARDS.....	3
1.3 TEST METHODOLOGY.....	3
1.4 TEST FACILITY.....	4
1.5 EUT EXERCISE SOFTWARE.....	4
1.6 ACCESSORIES EQUIPMENT LIST AND DETAILS.....	4
1.7 EUT CABLE LIST AND DETAILS.....	4
2. SUMMARY OF TEST RESULTS.....	5
3. CONDUCTED EMISSION.....	6
3.1 MEASUREMENT UNCERTAINTY.....	6
3.2 TEST EQUIPMENT LIST AND DETAILS.....	6
3.3 TEST PROCEDURE.....	6
3.4 BASIC TEST SETUP BLOCK DIAGRAM.....	6
3.5 ENVIRONMENTAL CONDITIONS.....	7
3.6 TEST RECEIVER SETUP.....	7
3.7 SUMMARY OF TEST RESULTS/PLOTS.....	7
3.8 CONDUCTED EMISSIONS TEST DATA.....	7
4. RADIATED EMISSION.....	13
4.1 MEASUREMENT UNCERTAINTY.....	13
4.2 TEST EQUIPMENT LIST AND DETAILS.....	13
4.3 TEST PROCEDURE.....	13
4.4 TEST RECEIVER SETUP.....	14
4.5 CORRECTED AMPLITUDE & MARGIN CALCULATION.....	14
4.6 ENVIRONMENTAL CONDITIONS.....	14
4.7 SUMMARY OF TEST RESULTS/PLOTS.....	14

1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant: Verykool USA Inc
Address of applicant: 4350 Executive Dr. #100, San Diego

Manufacturer: Verykool Wireless Technology Ltd.
Address of manufacturer: Room 1701, Reward Building C, No.203, 2nd Section of WangJing, Li Ze Zhong Yuan, ChaoYang District, Beijing, P.R. of China 100102

General Description of E.U.T

Items	Description
EUT Description:	3G Mobile Phone
Trade Name:	verykool
Model No.:	S757
Power Supply:	Input 100-240V/50/60Hz Output 5V DC Adapter DC 3.7V Battery Inside
Adaptor Model:	A361-0501000U
Rated Voltage:	DC 3.7V
For more information refer to the circuit diagram form and the user's manual.	

The test data is gathered from a production sample, provided by the manufacturer.

1.2 Test Standards

The following report is prepared on behalf of the Verykool USA Inc in accordance with Part 2, Subpart J, and Part 15, Subparts A and B of the Federal Communication Commissions rules.

The objective is to determine compliance with FCC Part 15.107, and 15.109 rules.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product, which results in lowering the emission/immunity, should be checked to ensure compliance has been maintained.

1.3 Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2003, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

The equipment under test (EUT) was configured to measure its highest possible susceptibility against the tested phenomena. The test modes were adapted accordingly in reference to the Operating Instructions.

1.4 Test Facility

- **FCC – Registration No.: 994117**

SEM.Test Compliance Services Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files and the Registration is 994117.

- **Industry Canada (IC) Registration No.: 7673A**

The 3m Semi-anechoic chamber of SEM.Test Compliance Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 7673A.

- **CNAS Registration No.: L4062**

Shenzhen SEM.Test Electronics Service Co., Ltd. is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L4062. All measurement facilities used to collect the measurement data are located at 3/F, Jinbao Commerce Building, Xin'an Fanshen Road, Bao'an District, Shenzhen, P.R.C (518101)

1.5 EUT Exercise Software

The EUT exercise program used during radiated and conducted testing was designed to exercise the system components. The test software, provided by the customer, is started while the EUT is on to simulate the normal work. under the Windows XP terminal.

1.6 Accessories Equipment List and Details

Description	Manufacturer	Model	Serial Number
Notebook	SAMSUNG	R20	N/A

1.7 EUT Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
USB Cable	1.0	Shielded	Without Core
Earphone Cable	1.1	Unshielded	Without Core

2. SUMMARY OF TEST RESULTS

Description of Test	Result
§15.107 (a) Conducted Emission	Compliant
§15.109(a) Radiated Emission	Compliant

3.1 Measurement Uncertainty

3.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2012-03-28	2013-03-27
L.I.S.N	Schwarz beck	NSLK8126	8126-224	2012-03-28	2013-03-27
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2012-03-28	2013-03-27

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle. The spacing between the peripherals was 10 cm.

The diagram illustrates the test setup for the LISN and EUT. A large rectangular area represents the "0.8m Non-conduction table above Ground Plane". On the left side of this table, a box labeled "LISN" is connected to a box labeled "To Receiver". A cable runs from the "LISN" box, over the top edge of the table, and connects to a box labeled "Adapter". The "Adapter" box is connected to a box labeled "EUT". The distance between the "Adapter" and "EUT" boxes is marked as "1.5 m". A vertical dimension line on the right side of the table indicates the height of the table above the ground plane.

3.5 Environmental Conditions

Temperature:	25 °C
Relative Humidity:	52%
ATM Pressure:	1012 mbar

3.6 Test Receiver Setup

During the conducted emission test, the test receiver was set with the following configurations:

Start Frequency 150 kHz
Stop Frequency..... 30 MHz
Sweep Speed Auto
IF Bandwidth..... 10 kHz
Quasi-Peak Adapter Bandwidth 9 kHz
Quasi-Peak Adapter Mode Normal

3.7 Summary of Test Results/Plots

According to the data in section 3.8, the EUT complied with the FCC Part 15B Conducted margin for a Class B device, with the *worst* margin reading of:

-4.28 dB μ V at 0.382 MHz in the Line mode, Average detector, Charging &Playing Mode, 0.15-30MHz

-7.81 dB μ V at 0.15 MHz in the Neutral mode, Peak detector, Downloading Mode, 0.15-30MHz

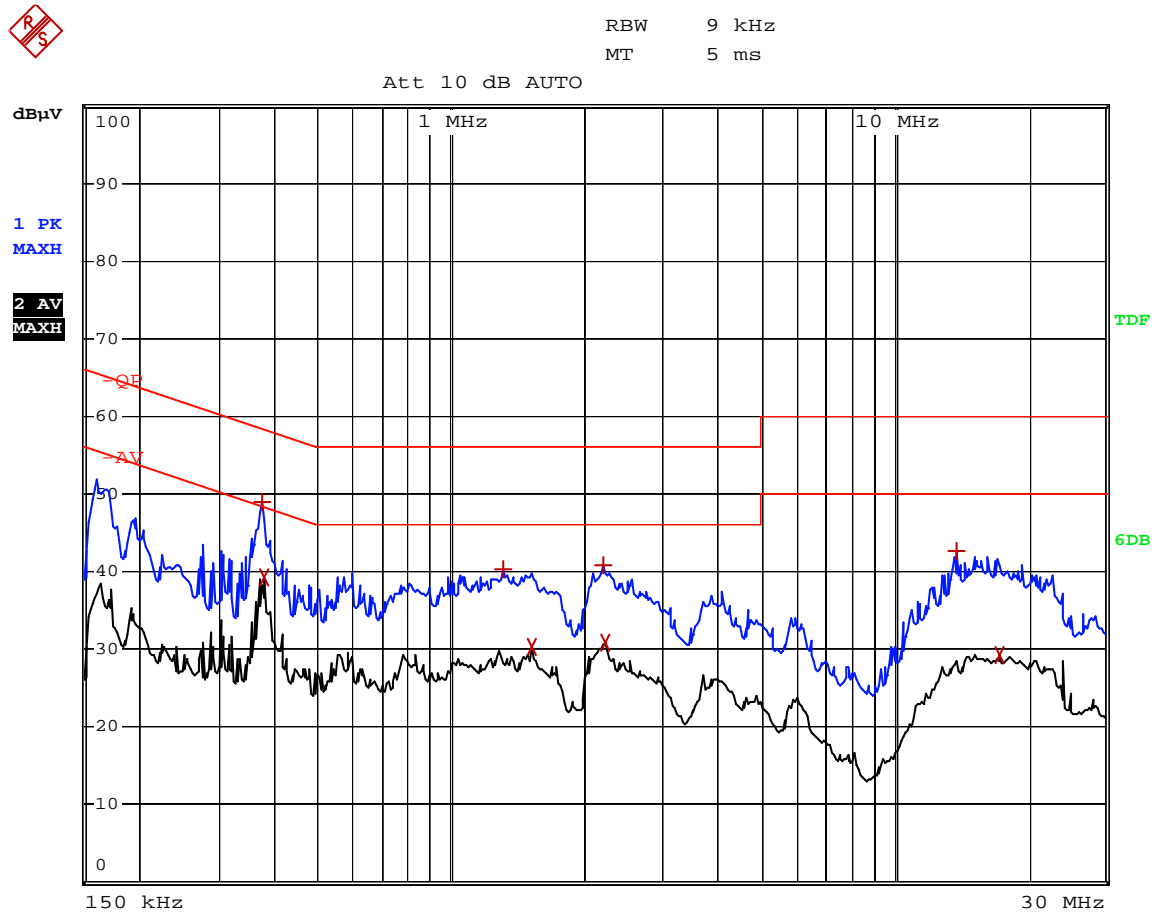
3.8 Conducted Emissions Test Data

Test Mode: Charging & Playing

LINE CONDUCTED EMISSIONS				FCC 15 CLASS B	
Frequency	Amplitude	Detector	Phase	Limit	Margin
MHz	dBμV	QP/Ave/Pk	Line/Neutral	dBμV	dB
0.382	43.96	Ave	Line	48.24	-4.28
0.382	51.78	Pk	Line	58.24	-6.46
0.378	39.33	Ave	Neutral	48.32	-8.99
0.374	48.83	Pk	Neutral	58.41	-9.58
2.114	35.79	Ave	Line	46.00	-10.21
2.142	35.70	Ave	Line	46.00	-10.30
2.102	44.15	Pk	Line	56.00	-11.85
2.142	44.02	Pk	Line	56.00	-11.98
2.234	30.92	Ave	Neutral	46.00	-15.08
2.218	40.75	Pk	Neutral	56.00	-15.25
1.522	30.34	Ave	Neutral	46.00	-15.66
18.338	34.25	Ave	Line	50.00	-15.75
1.134	40.23	Pk	Neutral	56.00	-15.77
17.094	43.31	Pk	Line	60.00	-16.69
13.782	42.52	Pk	Neutral	60.00	-17.48
17.206	29.38	Ave	Neutral	50.00	-20.62

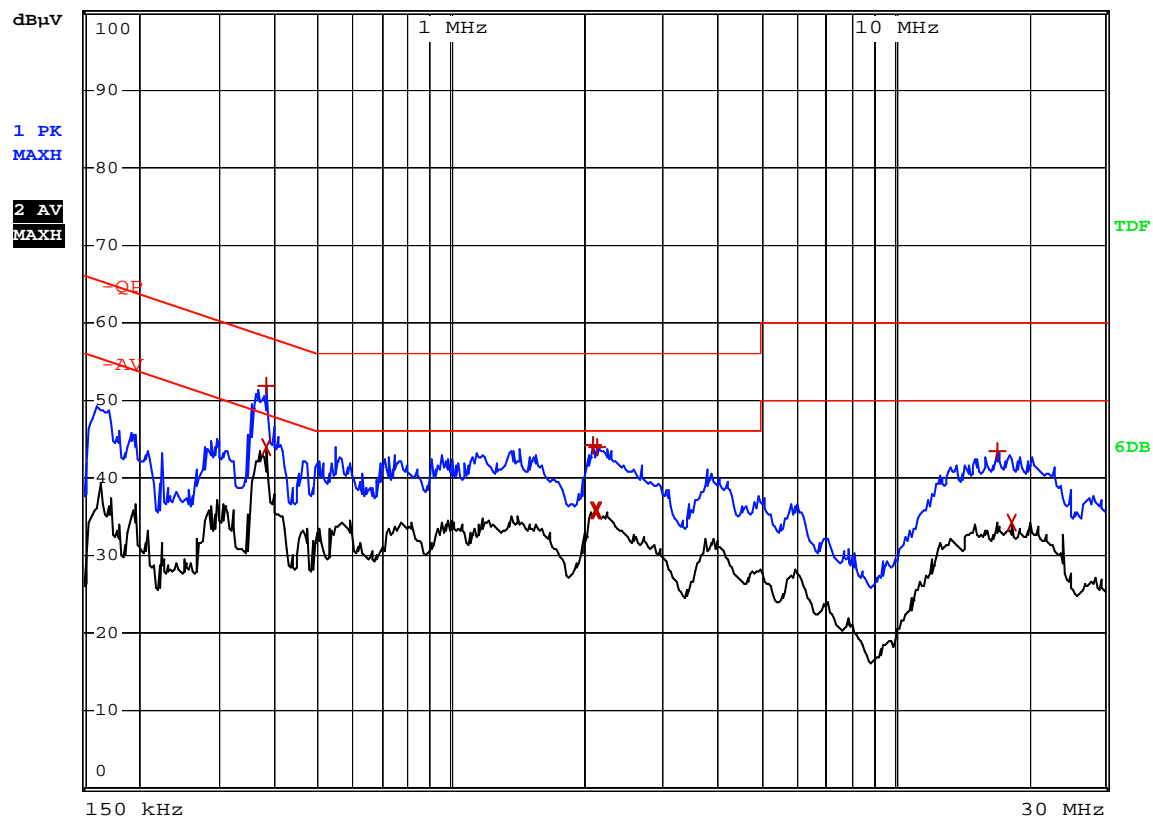
Test Mode: Downloading

LINE CONDUCTED EMISSIONS				FCC 15 CLASS B	
Frequency	Amplitude	Detector	Phase	Limit	Margin
MHz	dBμV	QP/Ave/Pk	Line/Neutral	dBμV	dB
0.150	58.18	Pk	Neutral	66.00	-7.81
0.154	56.14	Pk	Line	66.00	-9.63
0.210	43.26	Ave	Neutral	53.20	-9.94
4.378	34.27	Ave	Neutral	46.00	-11.72
4.722	33.03	Ave	Line	46.00	-12.96
0.634	32.36	Ave	Line	46.00	-13.64
0.210	38.43	Ave	Line	53.20	-14.76
0.634	30.87	Ave	Neutral	46.00	-15.12
2.118	29.74	Ave	Neutral	46.00	-16.26
0.986	29.23	Ave	Line	46.00	-16.76
3.950	38.41	Pk	Neutral	56.00	-17.58
8.390	32.40	Ave	Line	50.00	-17.59
4.722	38.05	Pk	Line	56.00	-17.94
6.070	31.45	Ave	Neutral	50.00	-18.54
0.430	38.66	Pk	Neutral	57.24	-18.58
0.494	37.33	Pk	Line	56.00	-18.76

Plot of Conducted Emissions Test Data*Conducted Disturbance**Conducted Disturbance**EUT: 3G Mobile Phone**M/N: S757**Operating Condition: Charging&Playing**Test Specification: L**Comment: AC 120V/60Hz Adapter USB 5V*

Plot of Conducted Emissions Test Data*Conducted Disturbance**EUT: 3G Mobile Phone**M/N: S757**Operating Condition: Charging &Playing**Test Specification: L**Comment: AC 120V/60Hz Adapter USB 5V*RBW 9 kHz
MT 5 ms

Att 10 dB AUTO

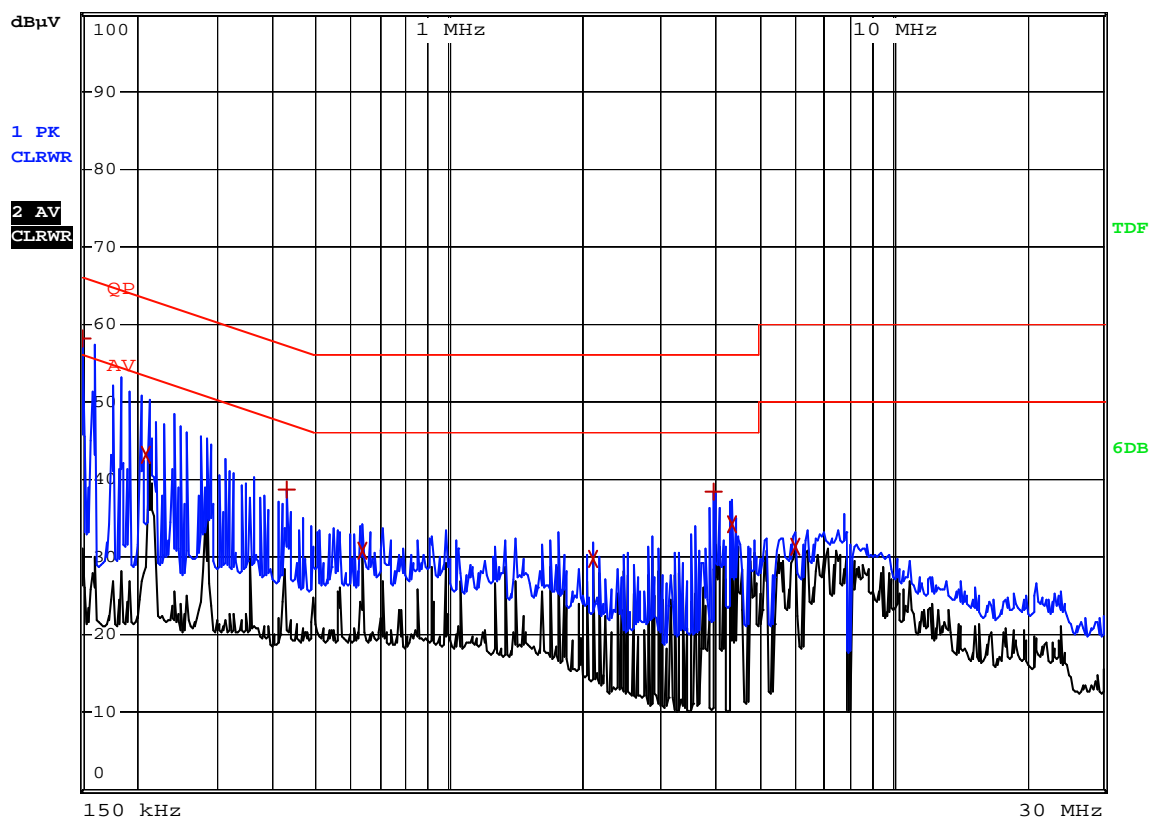


Plot of Conducted Emissions Test Data*Conducted Disturbance**Conducted Disturbance**EUT: 3G Mobile Phone**M/N: S757**Operating Condition: Charging &Playing**Test Specification: L**Comment: AC 120V/60Hz Adapter USB 5V*

RBW 9 kHz

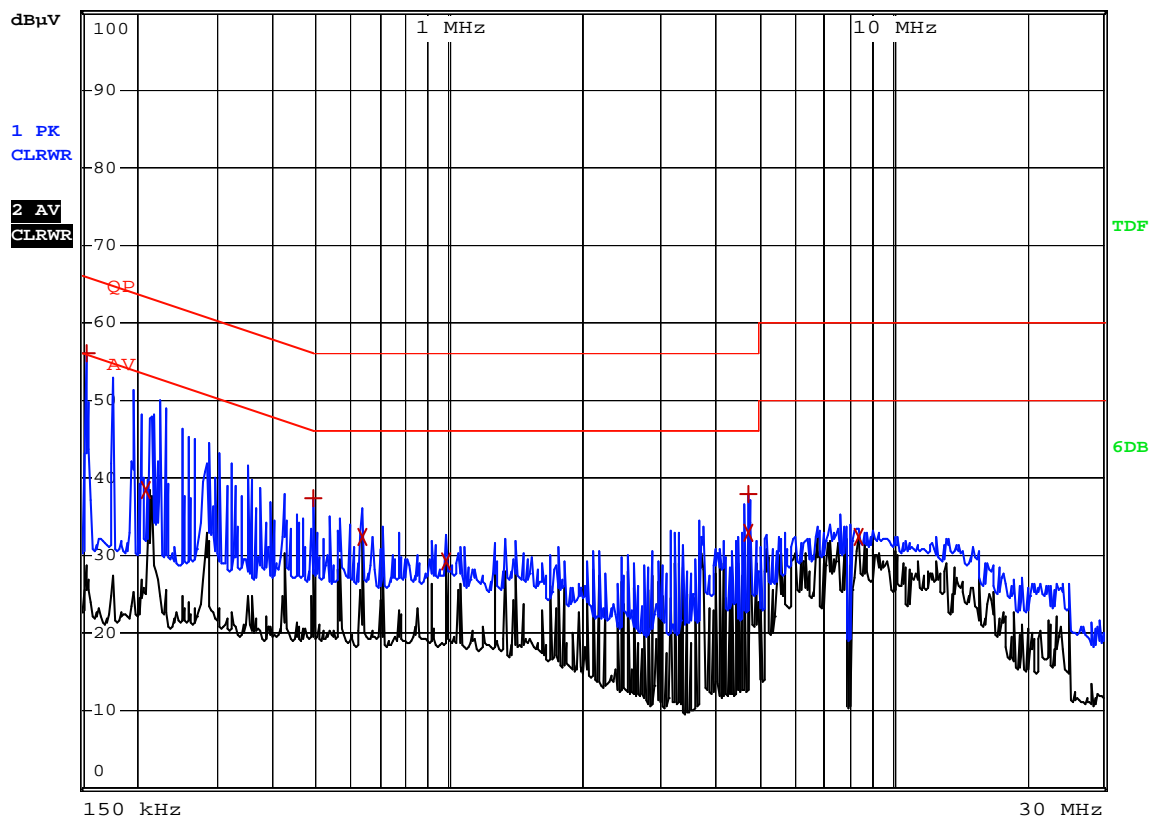
MT 4 ms

Att 10 dB AUTO



Plot of Conducted Emissions Test Data*Conducted Disturbance**EUT: 3G Mobile Phone**M/N: S757**Operating Condition: Connect to PC Downloading**Test Specification: L**Comment: AC 120V/60Hz Connect to PC USB 5V*RBW 9 kHz
MT 4 ms

Att 10 dB AUTO



4. RADIATED EMISSION

4.1 Measurement Uncertainty

Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any radiation emissions measurement is ± 5.10 dB.

4.2 Test Equipment List and Details

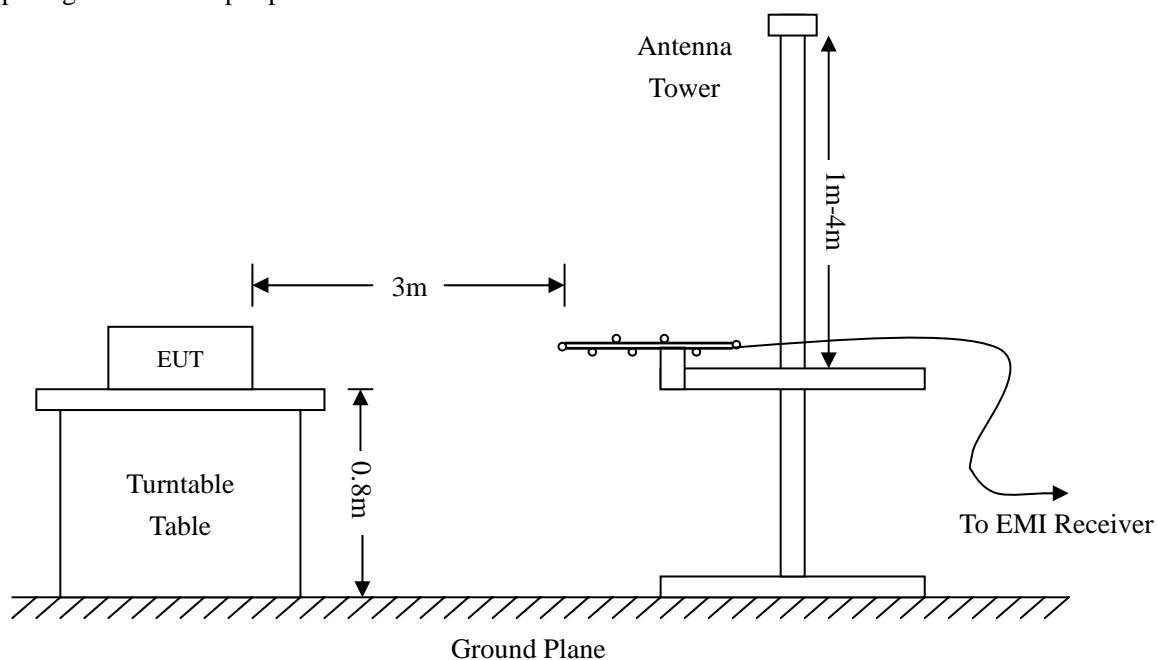
Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	R&S	FSP	836079/035	2012-03-28	2013-03-27
EMI Test Receiver	R&S	ESVB	825471/005	2012-03-28	2013-03-27
Positioning Controller	C&C	CC-C-1F	N/A	2012-03-28	2013-03-27
RF Switch	EM	EMSW18	SW060023	2012-03-28	2013-03-27
Pre-amplifier	Agilent	8447F	3113A06717	2012-03-28	2013-03-27
Pre-amplifier	Compliance Direction	PAP-0118	24002	2012-03-28	2013-03-27
Trilog Broadband Antenna	SCHWARZBECK	VULB9163	9163-333	2012-02-25	2013-02-24
Horn Antenna	ETS	3117	00086197	2012-02-25	2013-02-24

4.3 Test Procedure

The setup of EUT is according with per ANSI C63.4-2003 measurement procedure. The specification used was with the FCC Part 15.205 and FCC Part 15.109 Limit.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.



4.4 Test Receiver Setup

During the radiated emission test, the test receiver was set with the following configurations:

Start Frequency 30 MHz
 Stop Frequency..... 1000 MHz
 Sweep Speed Auto
 IF Bandwidth..... 100 kHz
 Quasi-Peak Adapter Bandwidth 120 kHz
 Quasi-Peak Adapter Mode Normal

4.5 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and the Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\text{Corr. Ampl.} = \text{Indicated Reading} - \text{Corr. Factor}$$

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -6dBμV means the emission is 6dBμV below the maximum limit for Class B. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{FCC Part 15B Limit}$$

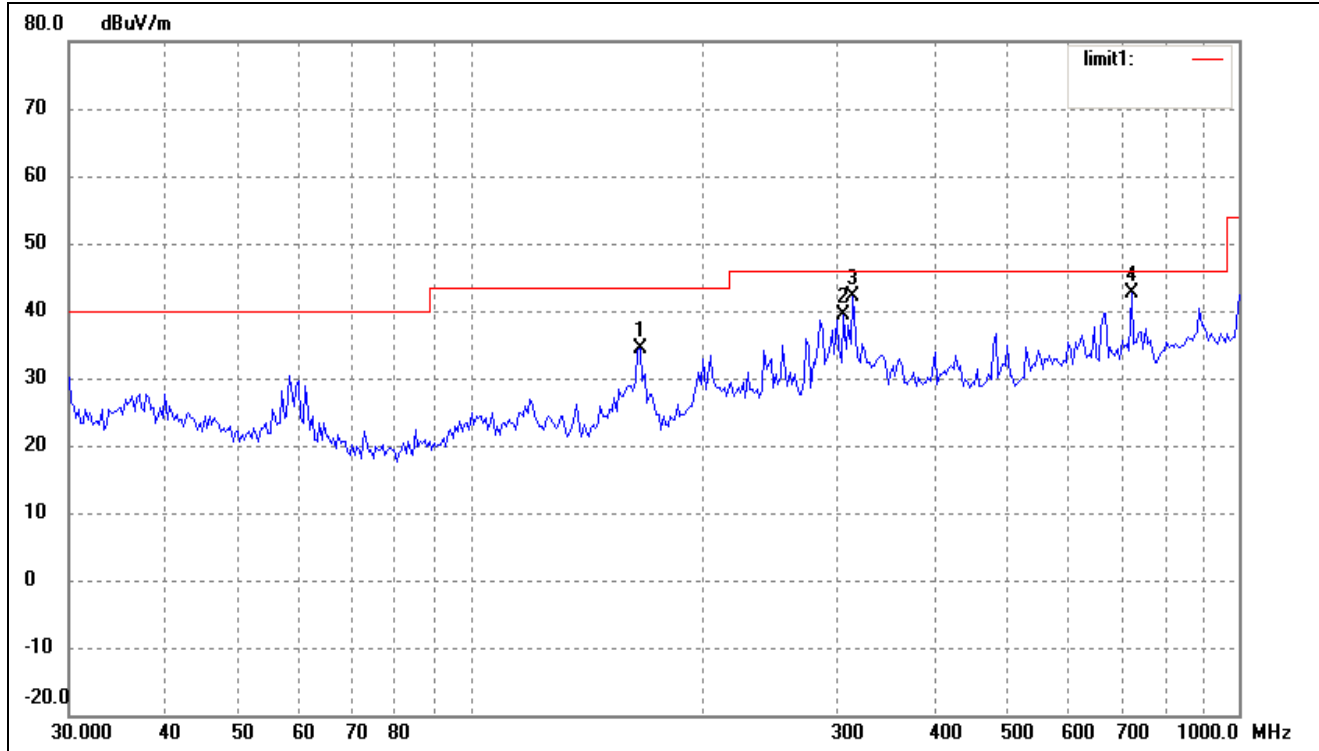
4.6 Environmental Conditions

Temperature:	25 °C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

4.7 Summary of Test Results/Plots

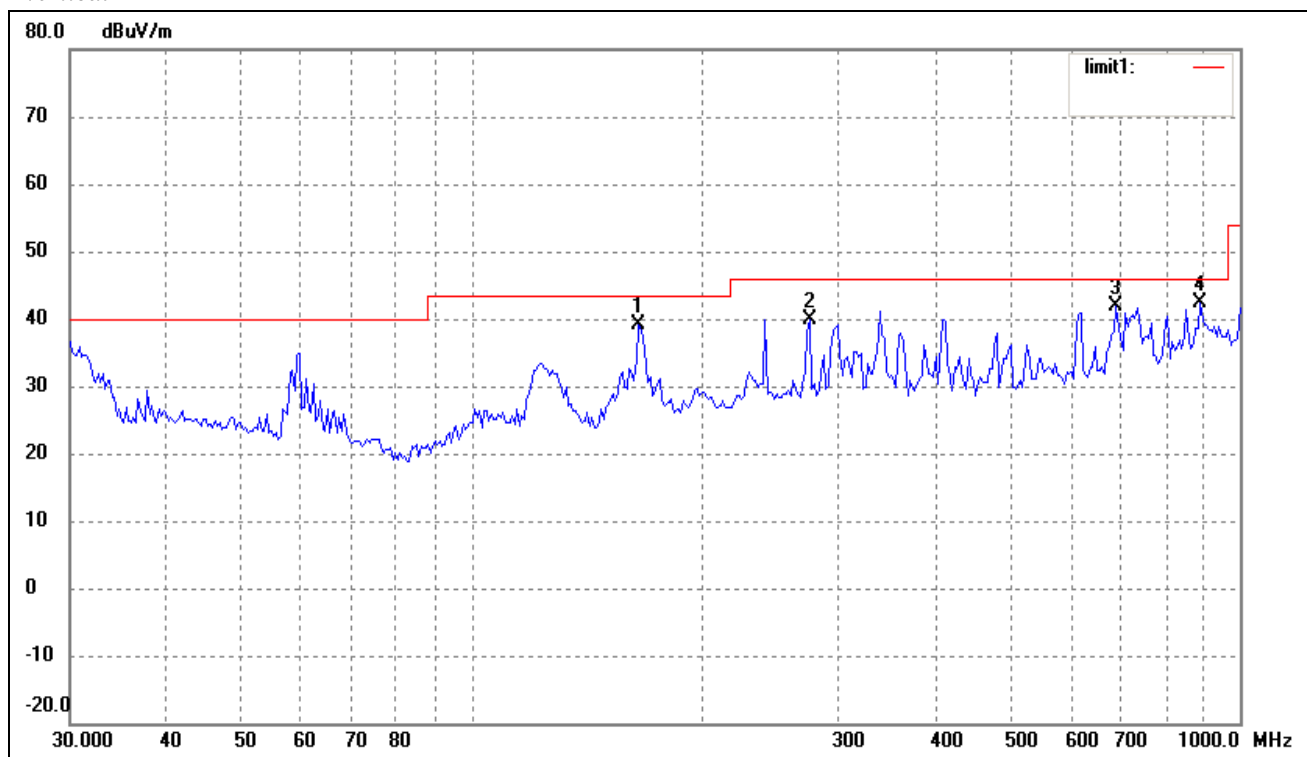
According to the data, the EUT complied with the FCC Part 15B Class B standards, and had the worst margin of:

- 3.39 dBμV at 724.2611MHz in the **Horizontal** polarization, **Downloading** mode, **9 kHz to 1 GHz, 3Meters**
- 2.14 dBμV at 31.5095MHz in the **Vertical** polarization, **Charging & Playing** mode, **9 kHz to 1 GHz, 3Meters**

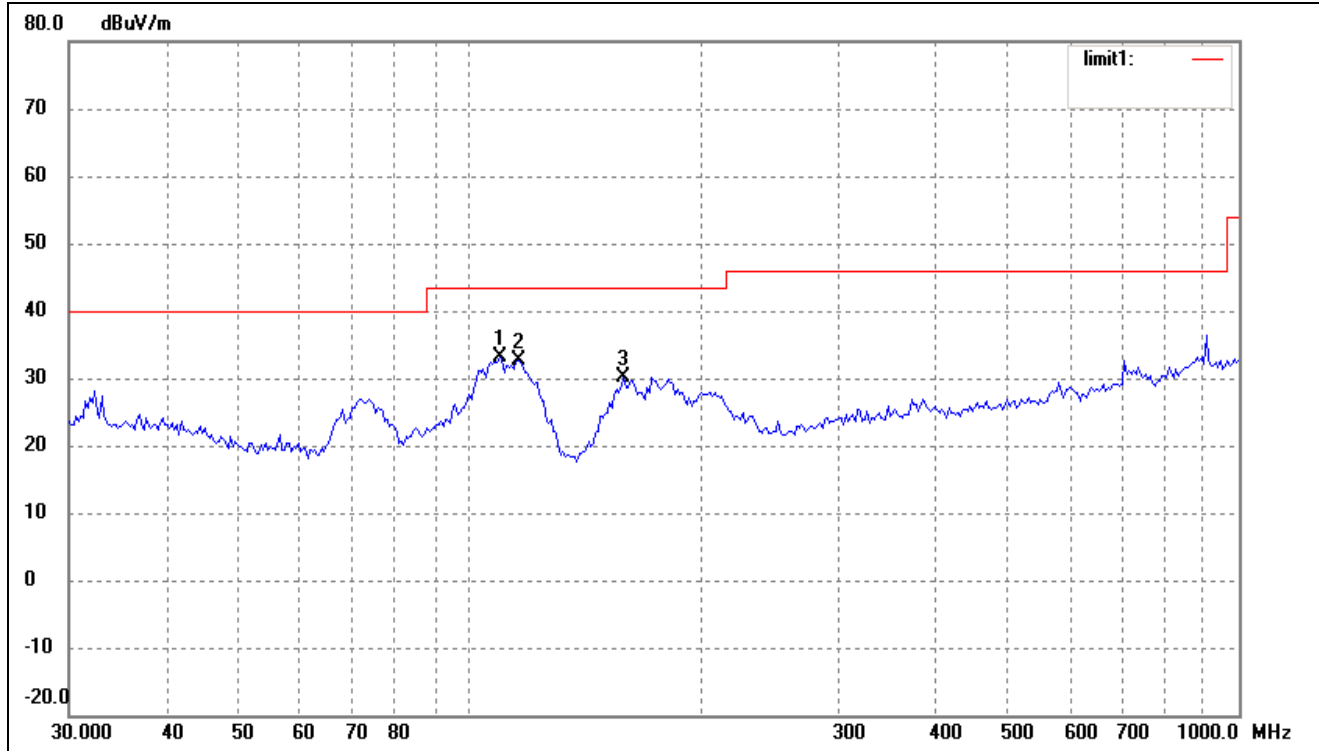
Plot of Radiation Emissions Test Data*Radiated Disturbance**EUT: 3G Mobile Phone**M/N: S757**Operating Condition: Connect to PC Downloading**Test Specification: Horizontal & Vertical**Comment: AC 120V/60Hz connect to PC, USB 5V**Horizontal*

No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	166.0680	30.69	3.68	34.37	43.50	-9.13	226	100	peak
2	305.6800	29.07	10.27	39.34	46.00	-6.66	113	100	peak
3	314.3765	31.69	10.40	42.09	46.00	-3.91	270	100	QP
4	724.2611	25.68	16.93	42.61	46.00	-3.39	89	100	QP

Vertical

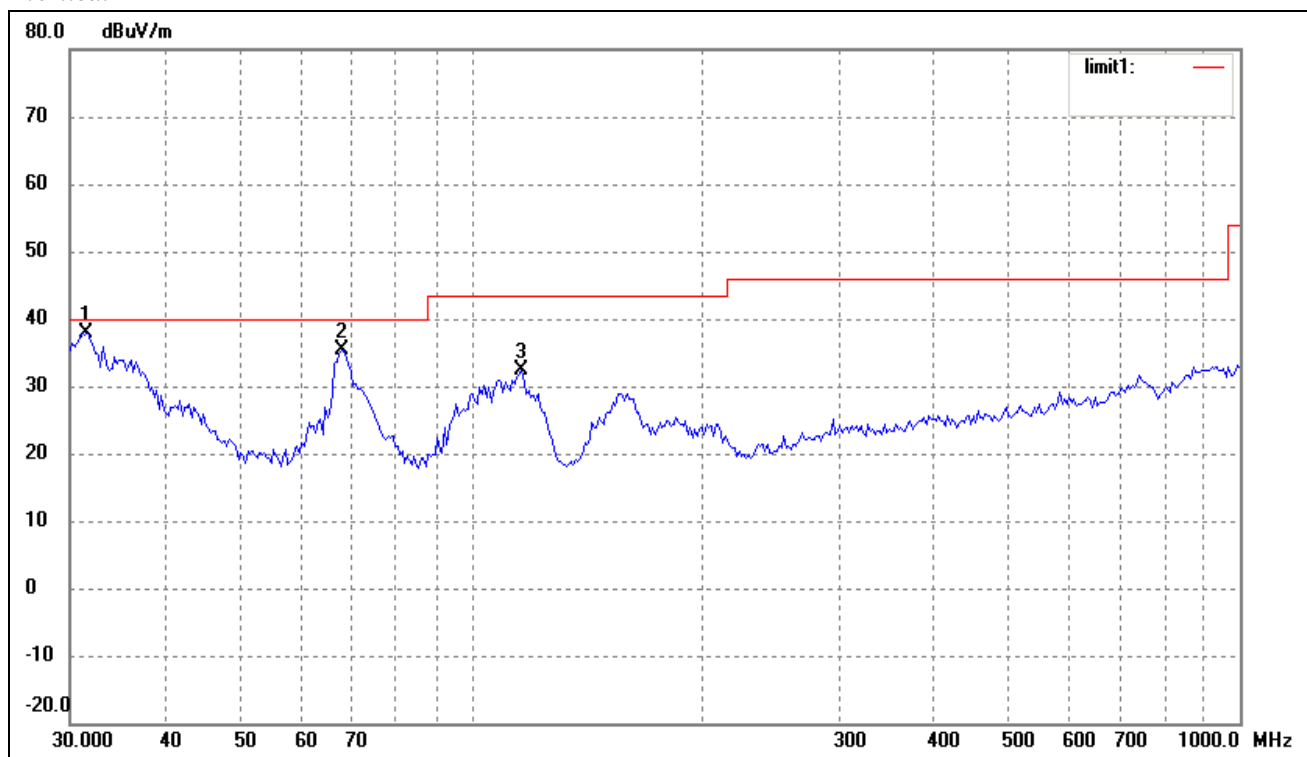


No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	164.9075	35.48	3.68	39.16	43.50	-4.34	313	100	QP
2	275.1570	31.06	8.88	39.94	46.00	-6.06	267	100	peak
3	689.5644	26.20	15.64	41.84	46.00	-4.16	61	100	QP
4	887.6099	23.26	19.15	42.41	46.00	-3.59	87	100	QP

Plot of Radiation Emissions Test Data*Radiated Disturbance**EUT: 3G Mobile Phone**M/N: S757**Operating Condition: Charging &Playing**Test Specification: Horizontal & Vertical**Comment: AC 120V/60Hz adapter, USB 5V**Horizontal*

No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	109.0286	27.95	5.21	33.16	43.50	-10.34	334	200	peak
2	115.3205	28.02	4.55	32.57	43.50	-10.93	270	100	peak
3	158.1123	27.53	2.65	30.18	43.50	-13.32	78	100	peak

Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	31.5095	30.34	7.52	37.86	40.00	-2.14	134	100	QP
2	67.6751	32.61	2.73	35.34	40.00	-4.66	226	100	QP
3	116.1321	27.91	4.47	32.38	43.50	-11.12	110	100	QP

Note: Testing is carried out with frequency rang 9kHz to the tenth harmonics, which above 5th Harmonics are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
The measurements greater than 20dB below the limit from 9kHz to 30MHz..

***** END OF REPORT *****