FCC Part 15B
Measurement and Test Report

For

Verykool USA Inc

3636 Nobel Drive, Suite 325, San Diego, CA 92122 USA

FCC ID: WA6S350

Test Standards:	FCC Part 15 Subpart B
Product Description:	GSM/GPRS Dual-band Mobile Phone
Tested Model:	S350
Report No.:	STR12128073I-4
Tested Date:	2012-12-09 to 2012-12-15
Issued Date:	2012-12-20
Tested By:	Seven Song / Engineer
Reviewed By:	Lahm Peng / EMC Manager
Approved & Authorized By:	Jandy so / PSQ Manager

Prepared By:

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1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant:	VeryKool USA Inc
Address of applicant:	3636 Nobel Drive, Suite 325, San Diego, CA 92122 USA
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 EUT	
Product Name:	GSM/GPRS Dual-band Mobile Phone
Trade Name:	verykool
Model No.:	S350
IMEI	355922020082372, 355922020082380
Hardware Version:	1.1.0
Software Version:	ES50_VK_V0.05-eng.W12.20.02
Note: The test data is gathered from a production sample, provided by the manufacturer.	

Technical Characteristics of EUT	
Rated Voltage:	DC 3.7V/1100mAh Li-ion Battery
Power Adapter Model:	CYSK05-050050 (Input: AC 100-240V, Output: DC 5V)
Highest Internal Frequency:	1 GHz
Classification of ITE:	Class B
Support Interface:	USB 2.0

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, Subpart B, and section 15.205, 15.107, and 15.109 rules.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product, which result in lowering the emission, 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.

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 Setup and Operation Mode

The equipment under test (EUT) was configured to measure its highest possible emission level. The test modes were adapted according to the operation manual for use, more detailed description as follows:

Test Mode List:

Test Mode	Description	Remark
TM1	Charging & Playing	1kHz Audio
TM2	Downloading	Test Software: CT3

EUT Cable List and Details

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

Auxiliary Equipment List and Details

Description	Manufacturer	Model	Serial Number
Notebook	SAMSUNG	R20	N/A

Special Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
/	/	/	/

2. SUMMARY OF TEST RESULTS

FCC Rules	Description of Test Item	Result
§ 15.107 (a)	Conducted Emissions	Compliant
§ 15.109 (a)	Radiated Emissions	Compliant

N/A: not applicable

3. Conducted Emissions

3.1 Measurement Uncertainty

Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement is ± 2.88 dB.

3.2 Test Equipment List and Details

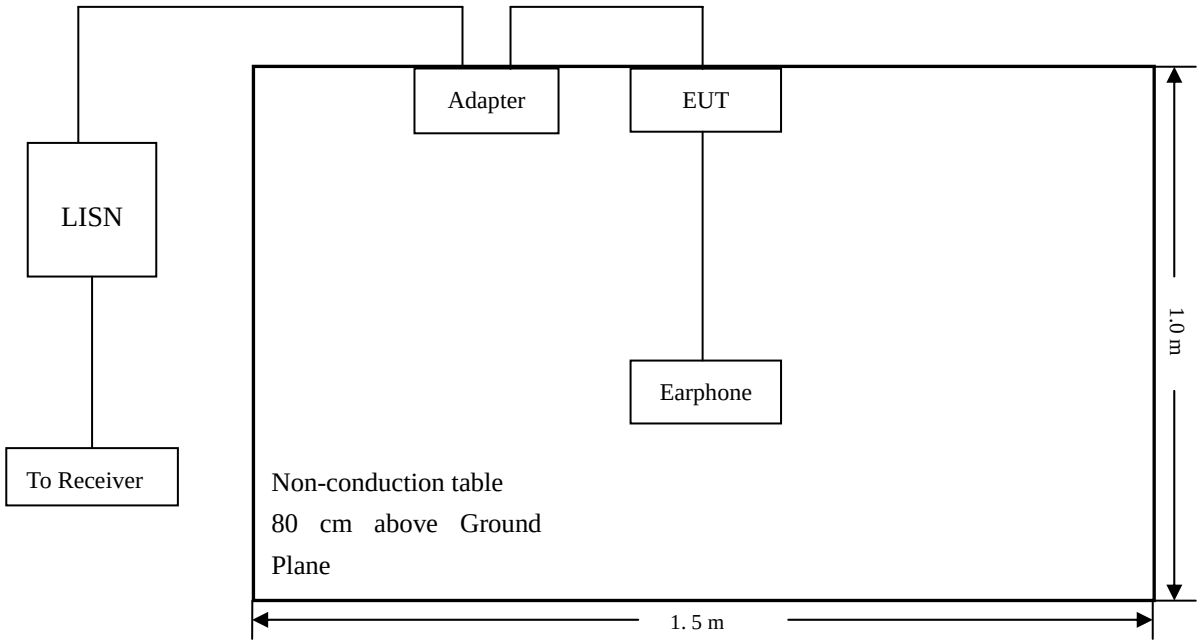
Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2012-03-28	2013-03-27
L.I.S.N	Schwarz beck	NSLK8126	8126-224	2012-03-28	2013-03-27
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2012-03-28	2013-03-27

3.3 Test Procedure

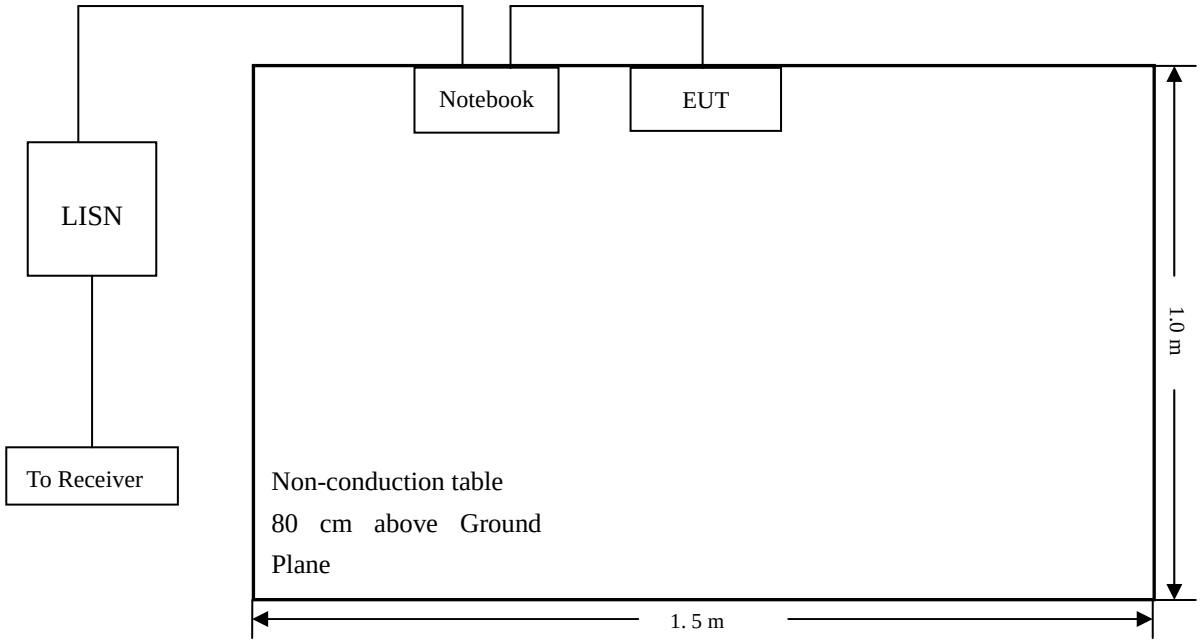
Test is conducting under the description of ANSI C63.4-2003, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

3.4 Basic Test Setup Block Diagram

Test Configuration for Power Adaptor:



Test Configuration for Computer Peripheral:



3.5 Environmental Conditions

Temperature:	23 °C
Relative Humidity:	52%
ATM Pressure:	1011 mbar

3.6 Summary of Test Results/Plots

According to the data in section 3.7, the EUT complied with the FCC Part 15.107(a) Conducted margin for a Class B device, with the *worst* margin reading of:

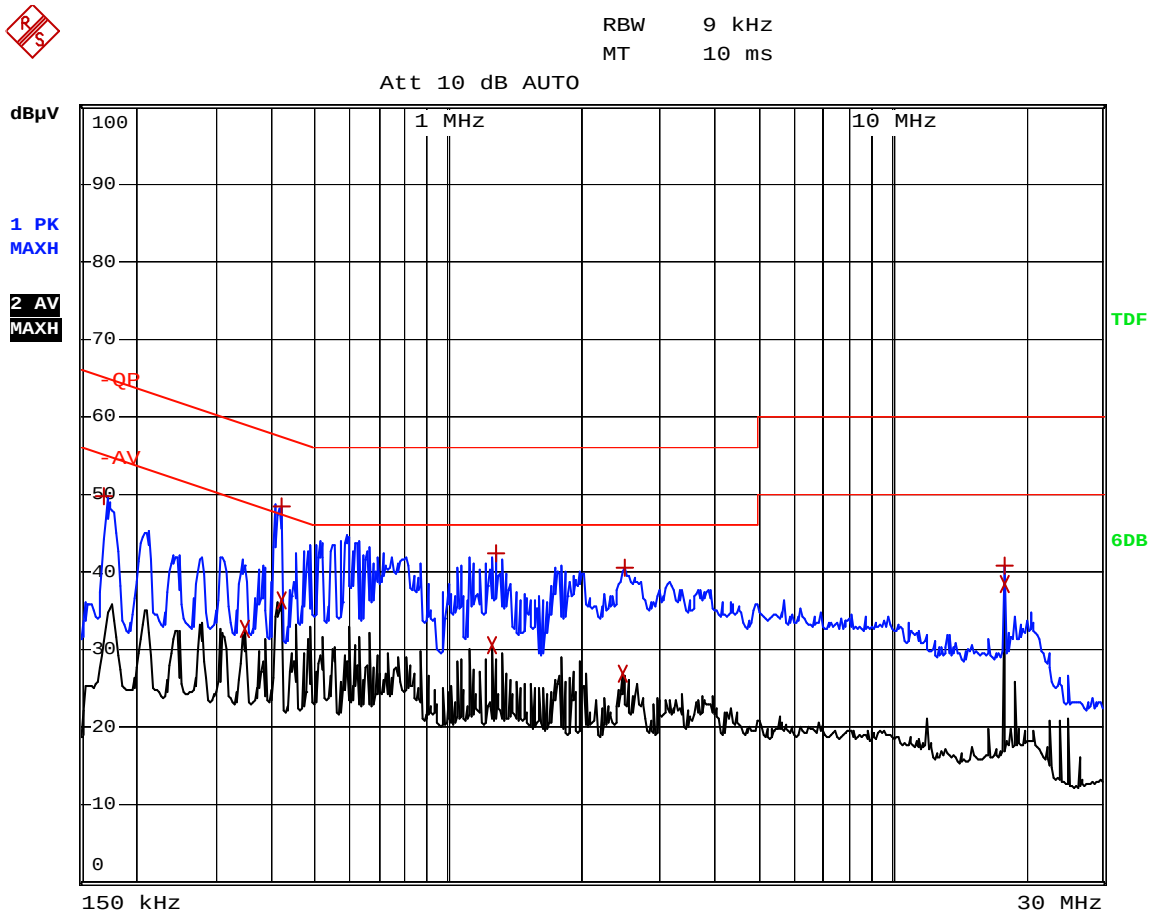
-4.25 dB at 0.398 MHz in the **Line** mode**, Charing mode, Average** detector, **0.15-30MHz**

3.7 Conducted Emissions Test Data

Plot of Conducted Emissions Test Data

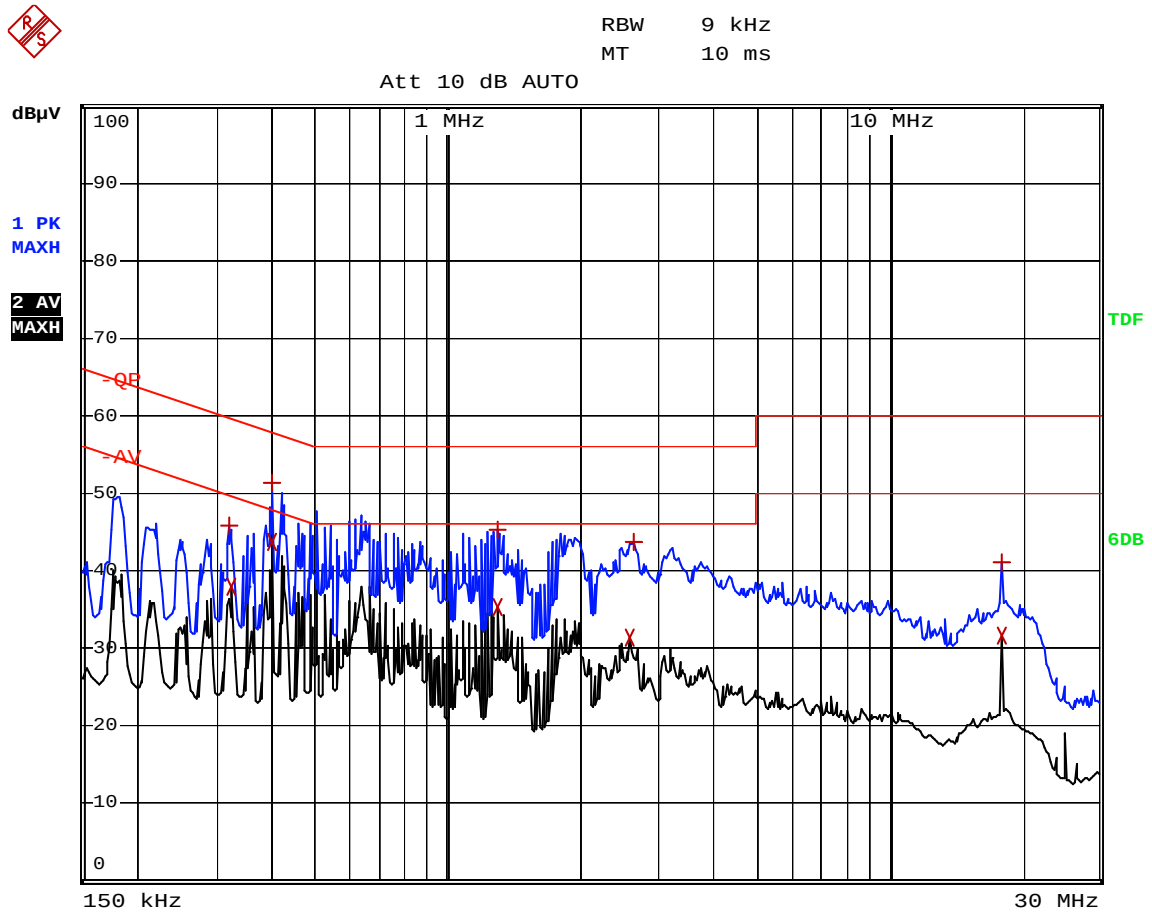
EUT: *GSM/GPRS Dual-band Mobile Phone*
Tested Model: *S350*
Operating Condition: *Charging*
Comment: *AC 120V/60Hz adapter*

Test Specification: *Neutral*



EDIT PEAK LIST (Prescan Results)			
Trace1:	-QP		
Trace2:	-AV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
1 Max Peak	170 kHz	49.62	-15.33
2 Average	346 kHz	32.56	-16.49
1 Max Peak	418 kHz	48.40	-9.08
2 Average	418 kHz	36.42	-11.06
2 Average	1.254 MHz	30.47	-15.52
1 Max Peak	1.29 MHz	42.50	-13.50
2 Average	2.474 MHz	26.80	-19.19
1 Max Peak	2.506 MHz	40.46	-15.53
1 Max Peak	17.99 MHz	40.86	-19.13
2 Average	17.99 MHz	38.51	-11.48

Test Specification: *Line*



EDIT PEAK LIST (Prescan Results)

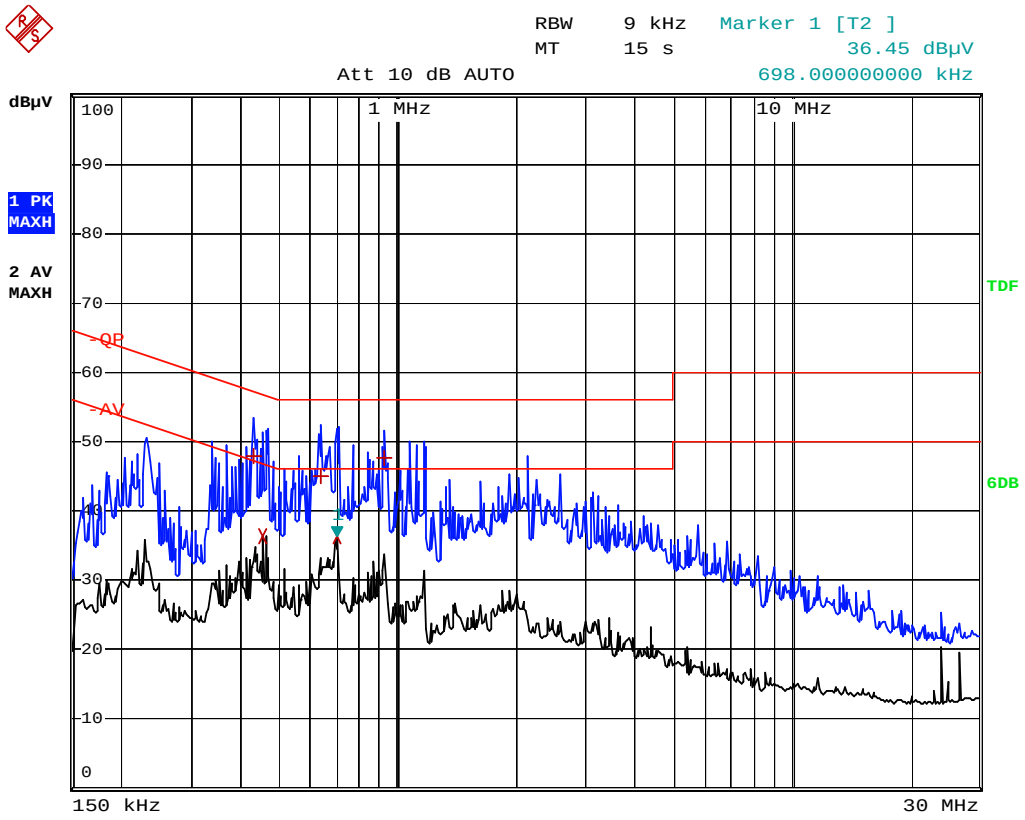
Trace1:	-QP
Trace2:	-AV
Trace3:	---

	TRACE	FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
1	Max Peak	318 kHz	45.88	-13.87
2	Average	322 kHz	37.83	-11.81
1	Max Peak	398 kHz	51.28	-6.61
2	Average	398 kHz	43.63	-4.25
1	Max Peak	1.298 MHz	45.27	-10.72
2	Average	1.298 MHz	35.32	-10.67
2	Average	2.594 MHz	31.31	-14.68
1	Max Peak	2.634 MHz	43.68	-12.31
1	Max Peak	17.99 MHz	41.09	-18.90
2	Average	17.994 MHz	31.58	-18.41

Plot of Conducted Emissions Test Data

EUT: *GSM/GPRS Dual-band Mobile Phone*
Tested Model: *S350*
Operating Condition: *Downloading*
Comment: *Connect to PC (AC 120V/60Hz)*

Test Specification: *Neutral*

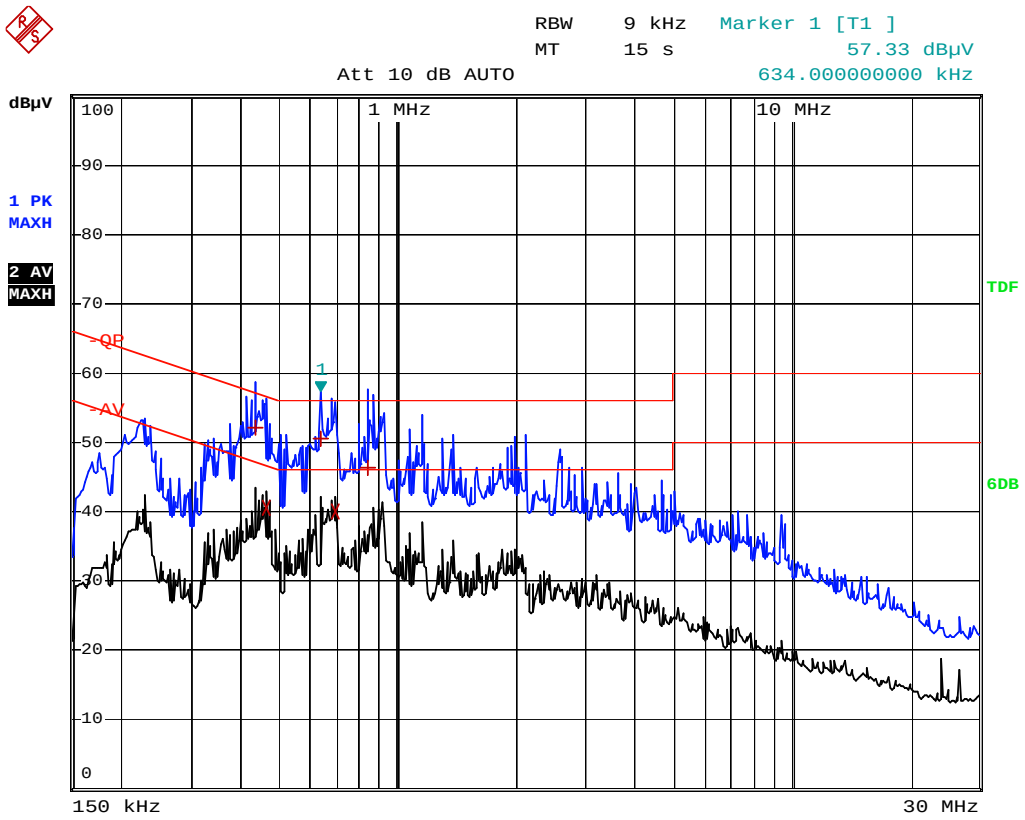


EDIT PEAK LIST (Prescan Results)

Trace1: -QP
Trace2: -AV
Trace3: ---

TRACE		FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
1	Quasi Peak	430 kHz	48.01	-9.23
2	Average	454 kHz	36.44	-10.35
1	Quasi Peak	638 kHz	45.00	-10.99
2	Average	698 kHz	36.45	-9.54
1	Quasi Peak	926 kHz	47.64	-8.35

Test Specification: *Line*



EDIT PEAK LIST (Final Measurement Results)

Trace1:	-QP
Trace2:	-AV
Trace3:	---

TRACE		FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
1	Quasi Peak	434 kHz	52.15	-5.01
2	Average	462 kHz	40.64	-6.00
1	Quasi Peak	634 kHz	50.50	-5.49
2	Average	690 kHz	40.11	-5.89
1	Quasi Peak	838 kHz	46.39	-9.60

4. Radiated Emissions

4.1 Measurement Uncertainty

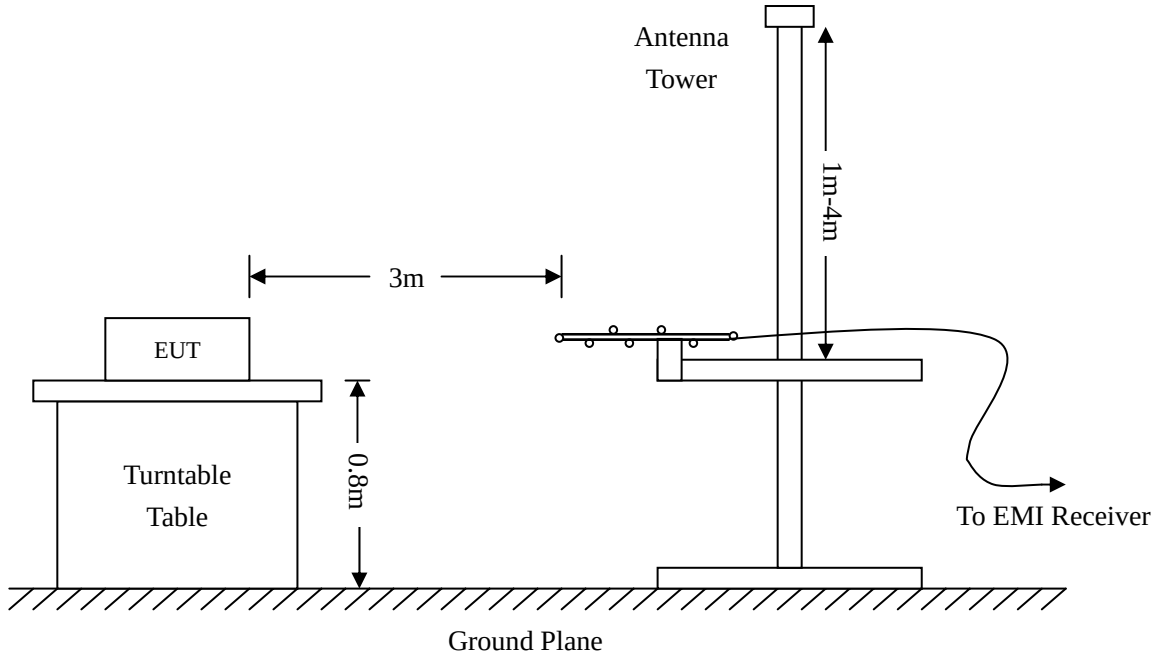
Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any radiation emissions measurement is ± 5.10 dB.

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
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 15.109 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 for above 1GHz, the test receiver was set with the following configurations:

For peak detector:
RBW = 1000kHz, VBW = 3000kHz, Sweep Time = Auto

For average detector:
RBW = 1000kHz, VBW = 10Hz, Sweep Time = Auto

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:

Corr. Ampl. = Indicated Reading – 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 a Class B device. The equation for margin calculation is as follows:

Margin = Corr. Ampl. – FCC Part 15.109(a) Limit

4.6 Environmental Conditions

Temperature:	23 °C
Relative Humidity:	55 %
ATM Pressure:	1011 mbar

4.7 Summary of Test Results/Plots

According to the data, the EUT complied with the FCC Part 15.109(a) rule, and had the worst margin of:

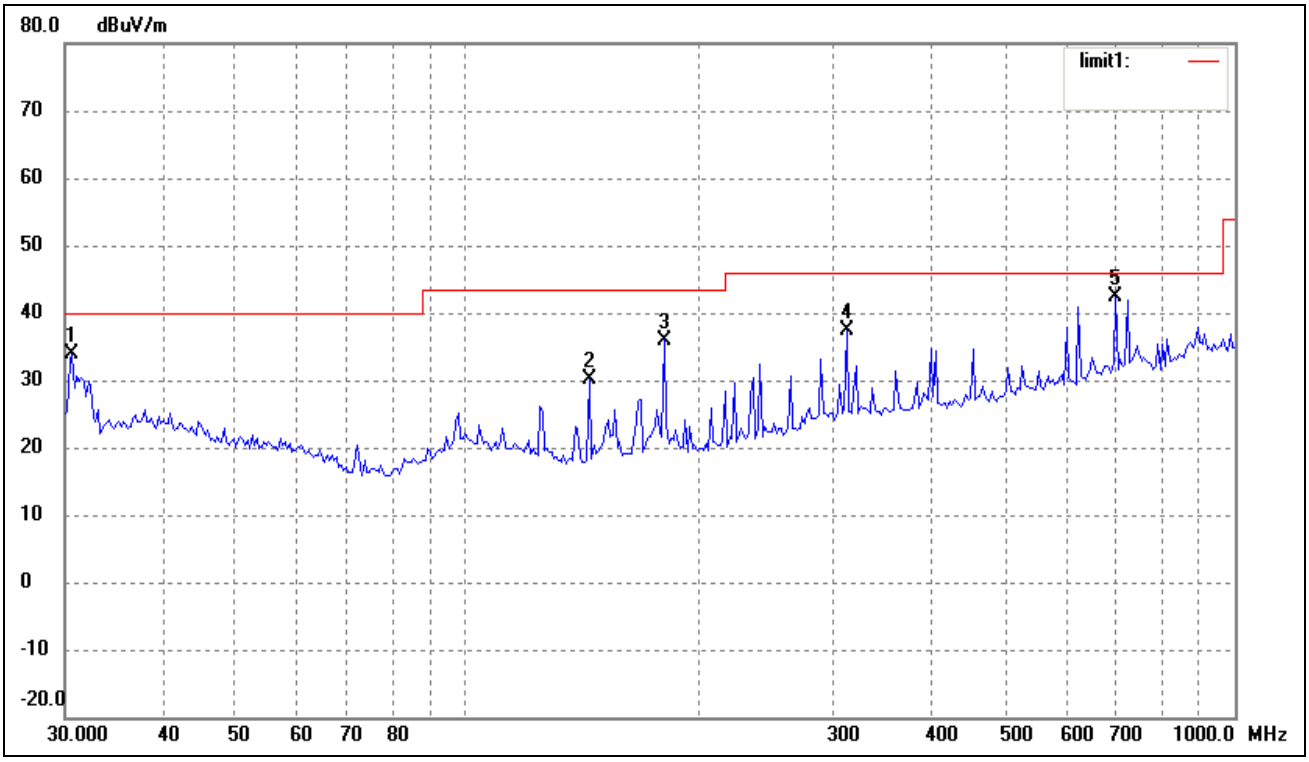
-3.69 dB at **699.3046 MHz** in the **Horizontal** polarization, **Charging & Playing** mode, **9 kHz** to **6 GHz**, **3Meters**

-3.71 dB at **289.0021 MHz** in the **Horizontal** polarization, **Downloading** mode, **9 kHz** to **6 GHz**, **3Meters**

Plot of Radiated Emissions Test Data (30MHz to 1GHz)

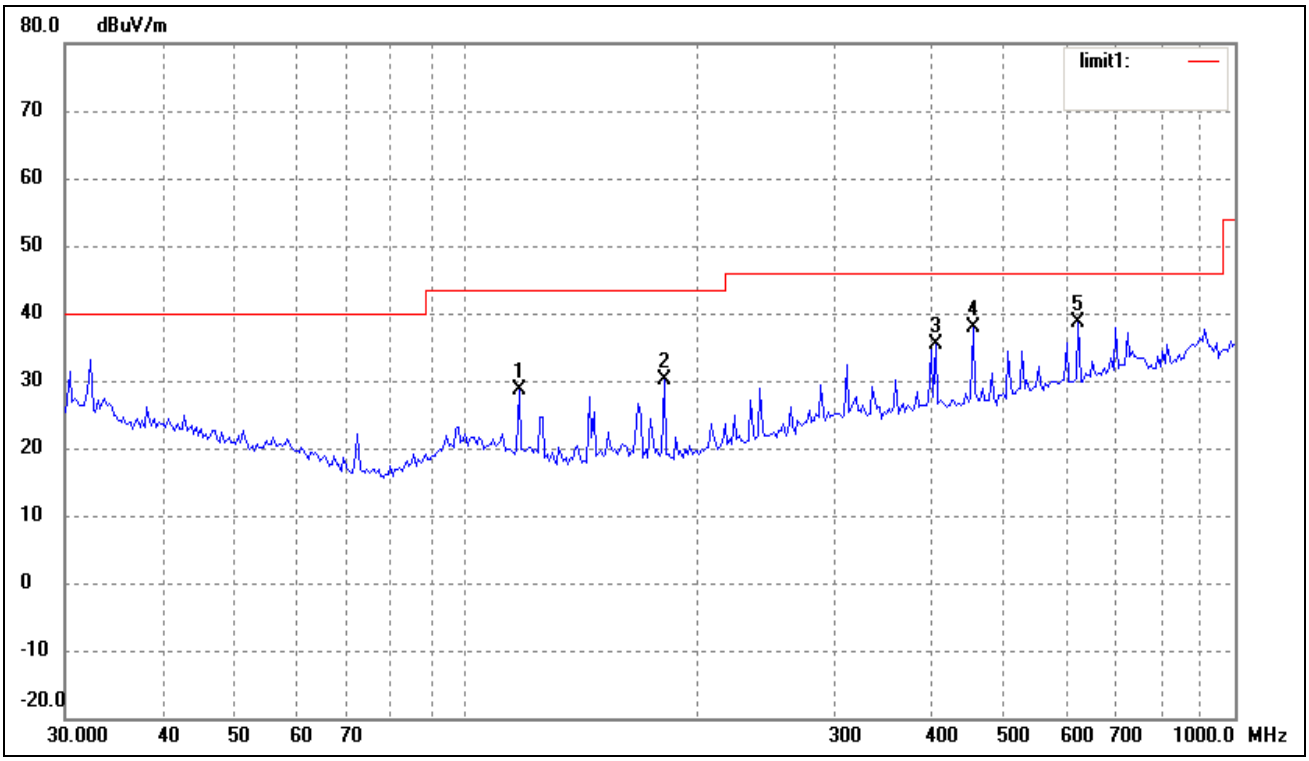
EUT: *GSM/GPRS Dual-band Mobile Phone*
Tested Model: *S350*
Operating Condition: *Charring & Playing*
Comment: *AC 120V/60Hz; Adapter DC 5V*

Test Specification: *Horizontal*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	30.6379	25.69	8.15	33.84	40.00	-6.16	245	100	peak
2	144.3348	26.73	3.46	30.19	43.50	-13.31	360	100	peak
3	180.6488	32.22	3.78	36.00	43.50	-7.50	116	200	peak
4	312.1794	26.99	10.36	37.35	46.00	-8.65	287	100	peak
5	699.3046	26.58	15.73	42.31	46.00	-3.69	180	100	QP

Test Specification: *Vertical*

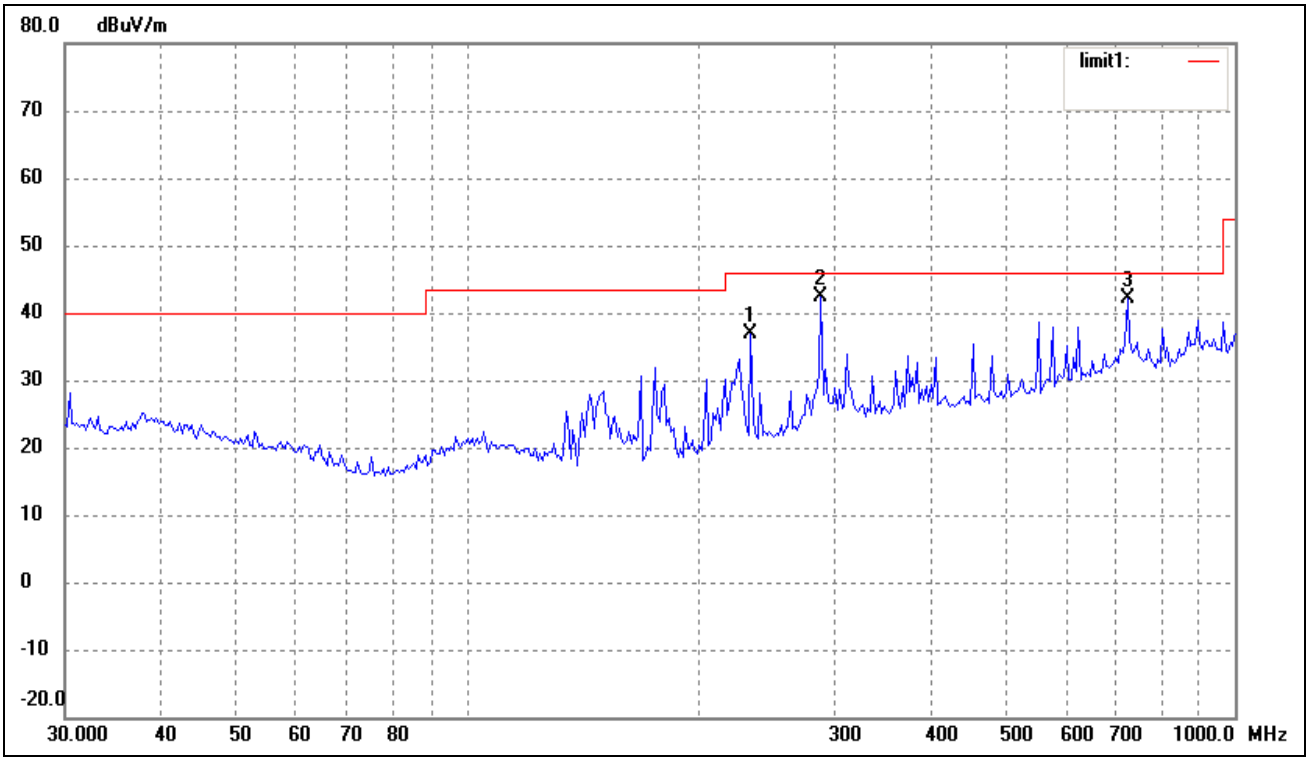


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	116.9495	23.51	5.17	28.68	43.50	-14.82	272	100	peak
2	180.6488	26.44	3.78	30.22	43.50	-13.28	190	100	peak
3	407.5145	24.14	11.22	35.36	46.00	-10.64	82	100	peak
4	455.9058	26.24	11.67	37.91	46.00	-8.09	136	100	peak
5	625.0780	24.46	14.23	38.69	46.00	-7.31	332	100	peak

Plot of Radiated Emissions Test Data (30MHz to 1GHz)

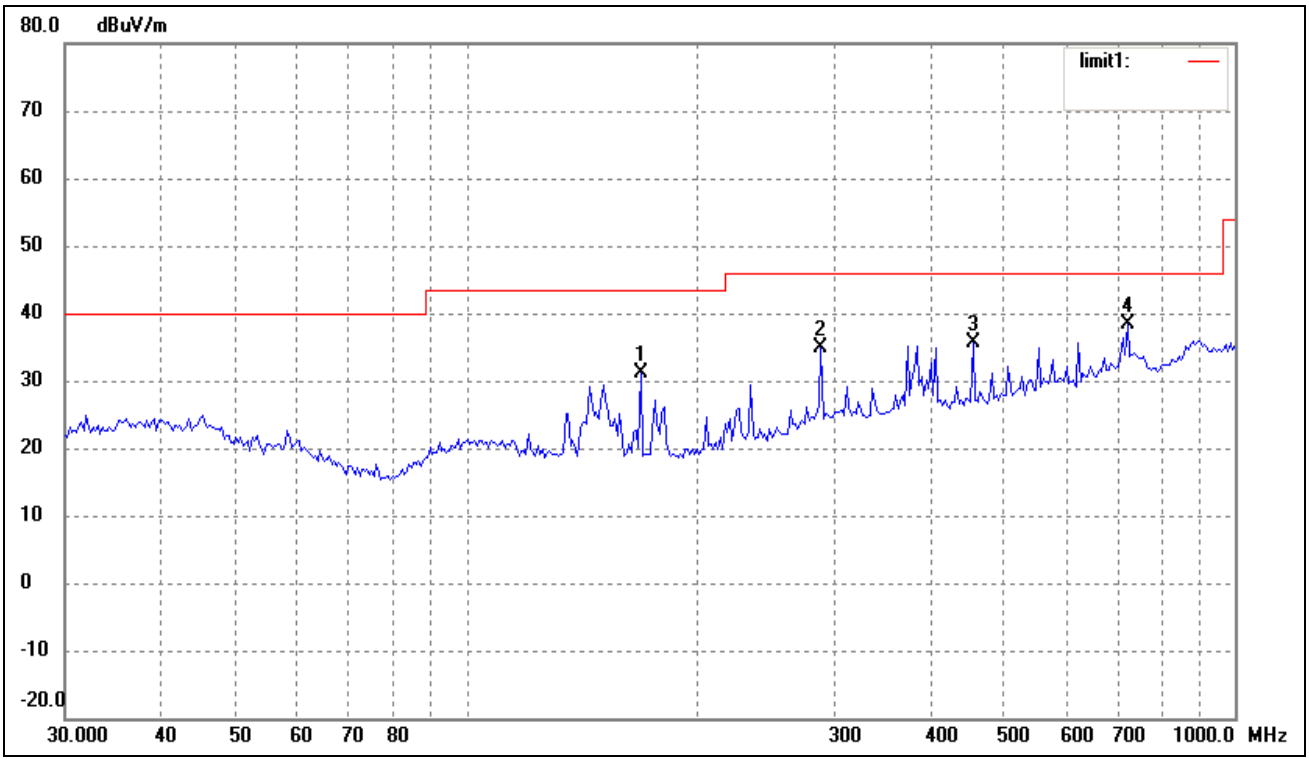
EUT: *GSM/GPRS Dual-band Mobile Phone*
Tested Model: *S350*
Operating Condition: *Downloading*
Comment: *AC 120V/60Hz; Connected to PC*

Test Specification: *Horizontal*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	234.1684	30.14	6.69	36.83	46.00	-9.17	221	100	peak
2	289.0021	32.62	9.67	42.29	46.00	-3.71	270	100	QP
3	724.2611	25.27	16.93	42.20	46.00	-3.80	183	100	peak

Test Specification: *Vertical*

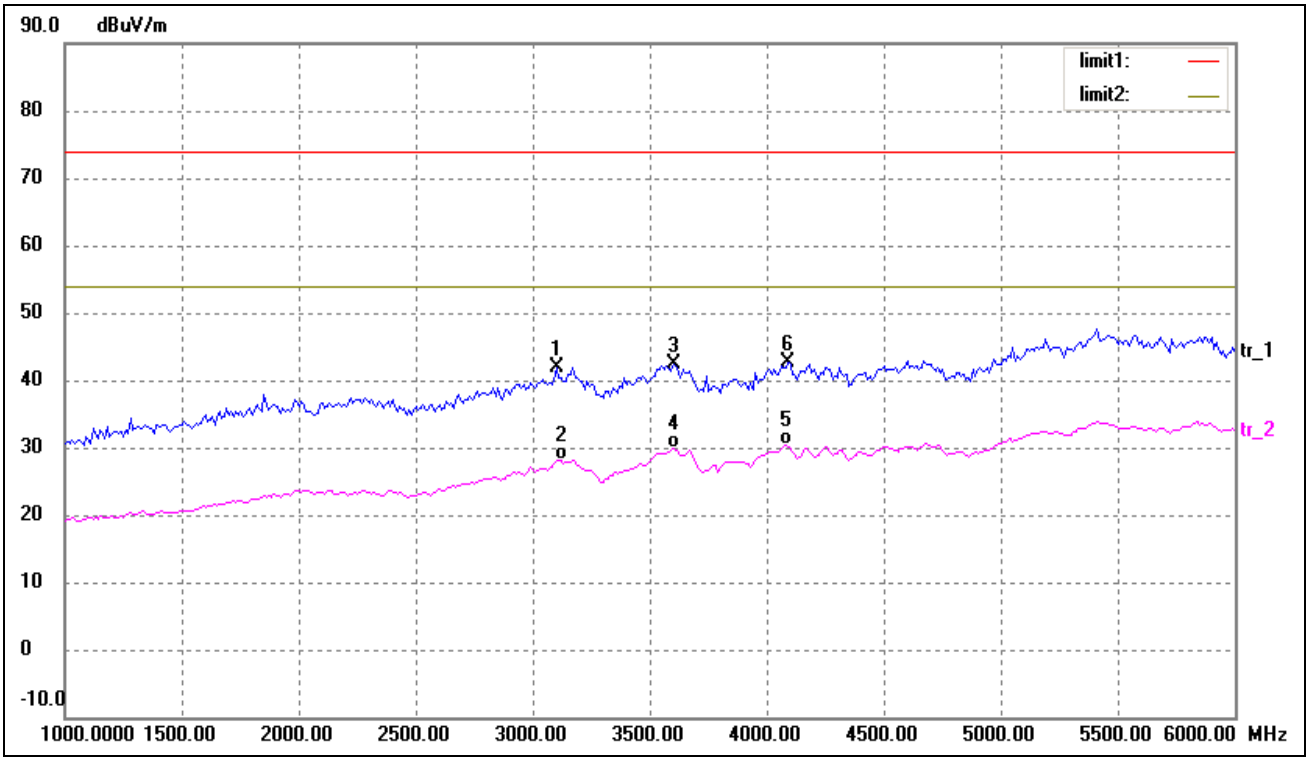


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	168.4138	27.42	3.69	31.11	43.50	-12.39	227	100	peak
2	289.0021	25.30	9.67	34.97	46.00	-11.03	360	100	peak
3	455.9058	23.92	11.67	35.59	46.00	-10.41	116	100	peak
4	724.2611	21.43	16.93	38.36	46.00	-7.64	82	100	peak

Plot of Radiated Emissions Test Data (Above 1GHz)

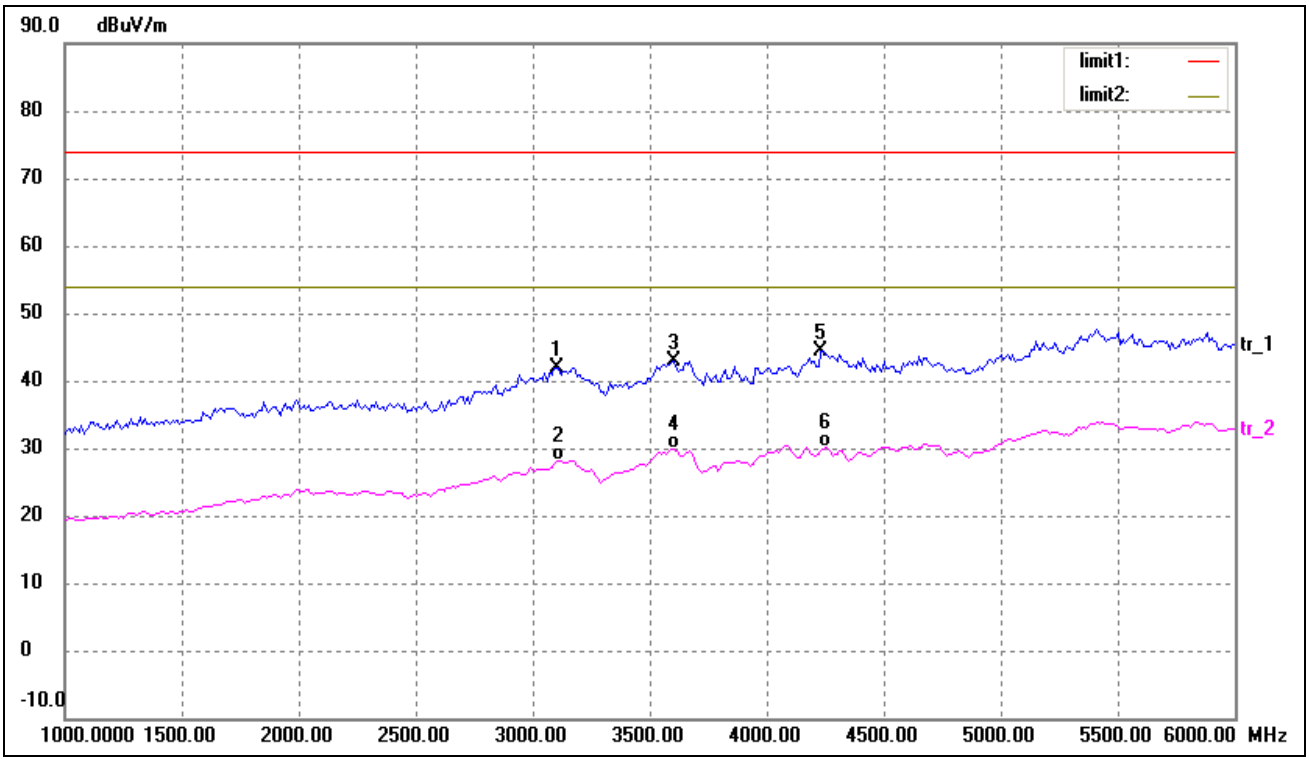
EUT: *GSM/GPRS Dual-band Mobile Phone*
Tested Model: *S350*
Operating Condition: *Charring & Playing*
Comment: *AC 120V/60Hz; Adapter DC 5V*

Test Specification: *Horizontal*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	3100.000	49.55	-7.57	41.98	74.00	-32.02	0	100	peak
2	3110.000	35.59	-7.54	28.05	54.00	-25.95	0	100	AVG
3	3600.000	48.58	-6.19	42.39	74.00	-31.61	0	100	peak
4	3600.000	36.09	-6.19	29.90	54.00	-24.10	0	100	AVG
5	4080.000	35.21	-4.94	30.27	54.00	-23.73	0	100	AVG
6	4090.000	47.66	-4.94	42.72	74.00	-31.28	0	100	peak

Test Specification: *Vertical*

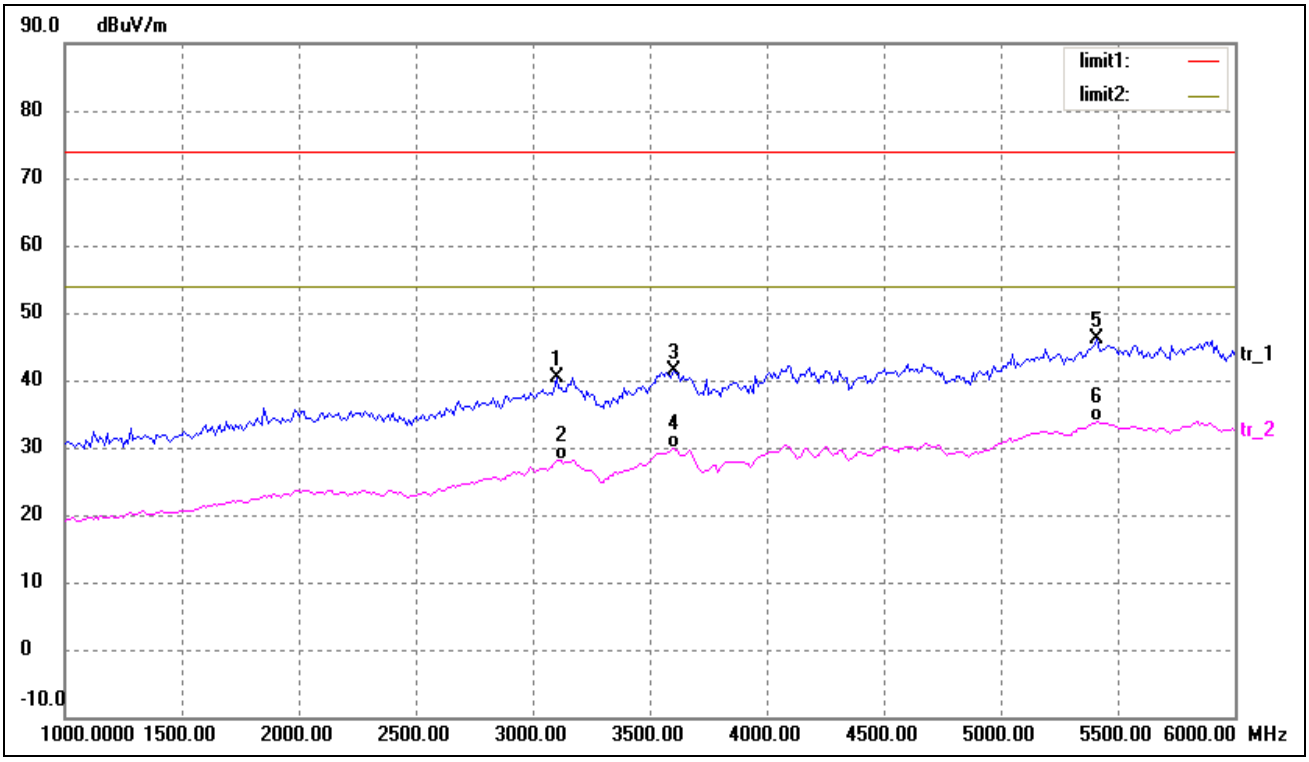


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	3100.000	49.55	-7.57	41.98	74.00	-32.02	0	100	peak
2	3110.000	35.77	-7.54	28.23	54.00	-25.77	0	100	AVG
3	3600.000	49.09	-6.19	42.90	74.00	-31.10	0	100	peak
4	3600.000	36.10	-6.19	29.91	54.00	-24.09	0	100	AVG
5	4230.000	49.31	-4.90	44.41	74.00	-29.59	0	100	peak
6	4250.000	34.94	-4.89	30.05	54.00	-23.95	0	100	AVG

Plot of Radiated Emissions Test Data (30MHz to 1GHz)

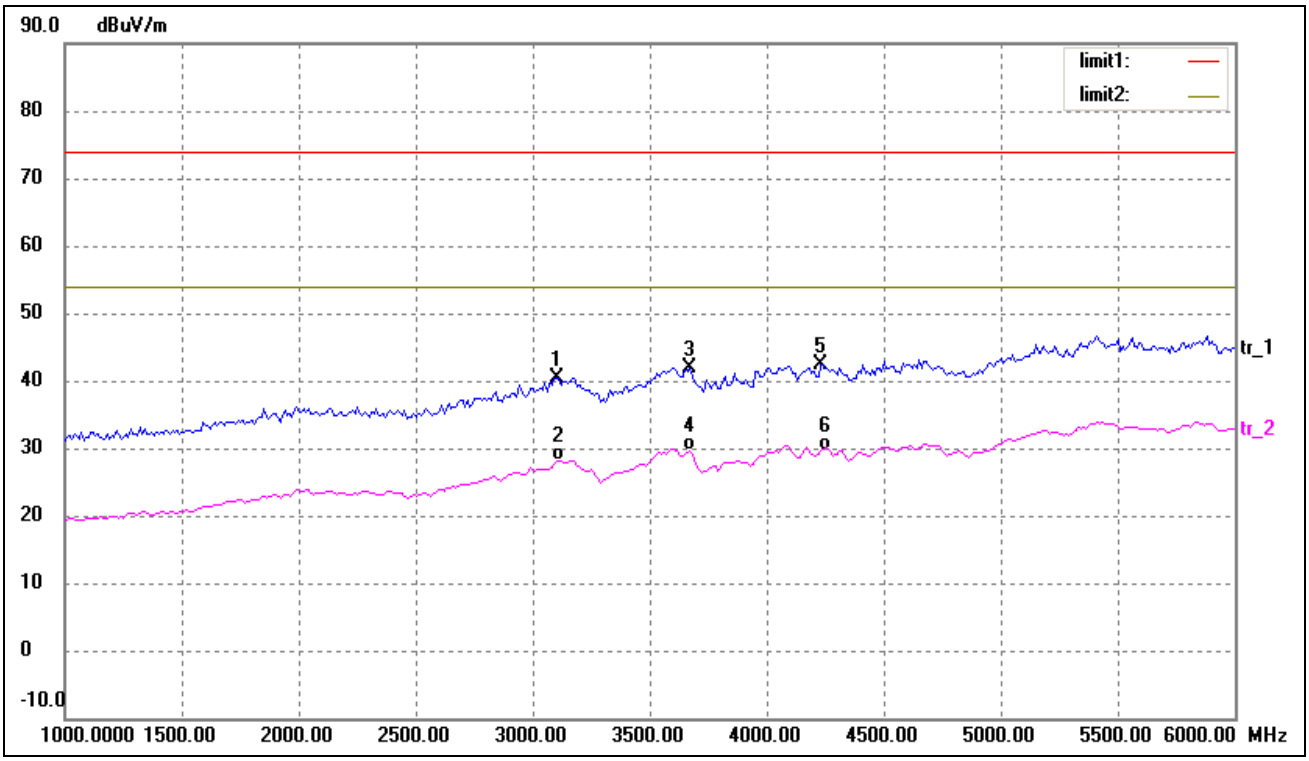
EUT: *GSM/GPRS Dual-band Mobile Phone*
Tested Model: *S350*
Operating Condition: *Downloading*
Comment: *AC 120V/60Hz; Connected to PC*

Test Specification: *Horizontal*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	3100.000	48.05	-7.57	40.48	74.00	-33.52	0	100	peak
2	3100.000	35.58	-7.57	28.01	54.00	-25.99	0	100	AVG
3	3600.000	47.58	-6.19	41.39	74.00	-32.61	0	100	peak
4	3600.000	36.09	-6.19	29.90	54.00	-24.10	0	100	AVG
5	5410.000	48.09	-1.86	46.23	74.00	-27.77	0	100	peak
6	5410.000	35.64	-1.86	33.78	54.00	-20.22	0	100	AVG

Test Specification: *Vertical*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	3100.000	48.05	-7.57	40.48	74.00	-33.52	0	100	peak
2	3110.000	35.77	-7.54	28.23	54.00	-25.77	0	100	AVG
3	3670.000	47.93	-5.97	41.96	74.00	-32.04	0	100	peak
4	3670.000	35.55	-5.97	29.58	54.00	-24.42	0	100	AVG
5	4230.000	47.31	-4.90	42.41	74.00	-31.59	0	100	peak
6	4230.000	34.45	-4.90	29.55	54.00	-24.45	0	100	AVG

Note: Testing is carried out with frequency rang 9kHz to 6GHz, The measurements greater than 20dB below the limit from 9kHz to 30MHz..