

FCC Part 15B

Measurement and Test Report

For

MONARCH MERCHANT LLC

14521 DICKENS STREET, STE.1, SHERMAN OAKS, CALIFORNIA

FCC ID: YNNTRAV777

Report Concerns: Original Report	Equipment Type: Mobile Phone
Model:	<u>TRAVELER</u>
Report No.:	<u>STR10078118I-4</u>
Test Date:	<u>2010-07-17 to 2010-07-29</u>
Issue Date:	<u>2010-08-10</u>
Test Engineer:	<u>John Zhi</u> 
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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.

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1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant: MONARCH MERCHANT LLC
Address of applicant: 14521 DICKENS STREET, STE.1, SHERMAN OAKS,
CALIFORNIA

Manufacturer: MONARCH MERCHANT LLC
Address of manufacturer: 14521 DICKENS STREET, STE.1, SHERMAN OAKS,
CALIFORNIA

General Description of E.U.T

Items	Description
EUT Description:	Mobile Phone
Trade Name:	MONARCH
Model No.:	TRAVELER
Add Model:	MU9700
Rated Voltage:	DC 3.7V
Frequency range:	2402MHz~2480MHz, GSM850,GSM1900
Size:	10.3X5.5X1.4cm

Note: The test data is gathered from a production sample, provided by the manufacture. The others models listed in the report have different appearance only of TRAVELER without circuit and electronic construction changed, declared by the manufacturer.

1.2 Test Standards

The following report is prepared on behalf of the MONARCH MERCHANT LLC 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 Related Submittal(s)/Grant(s)

No Related Submittal(s).

1.4 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.

1.5 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.

1.6 EUT Exercise Software

The EUT exercise program used during the testing was designed to exercise the system components.

1.7 Accessories Equipment List and Details

Description	Manufacturer	Model	Serial Number
ASUS	Notebook	XR52	15G10N365600
/	/	/	/

1.8 EUT Cable List and Details

Cable Description	Length (M)	Shielded/ Unshielded	With Core/Without Core
USB Cable	1.0	Unshielded	Without Core
Earphone	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. 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 ± 0.5 dB.

3.2 Test Equipment List and Details

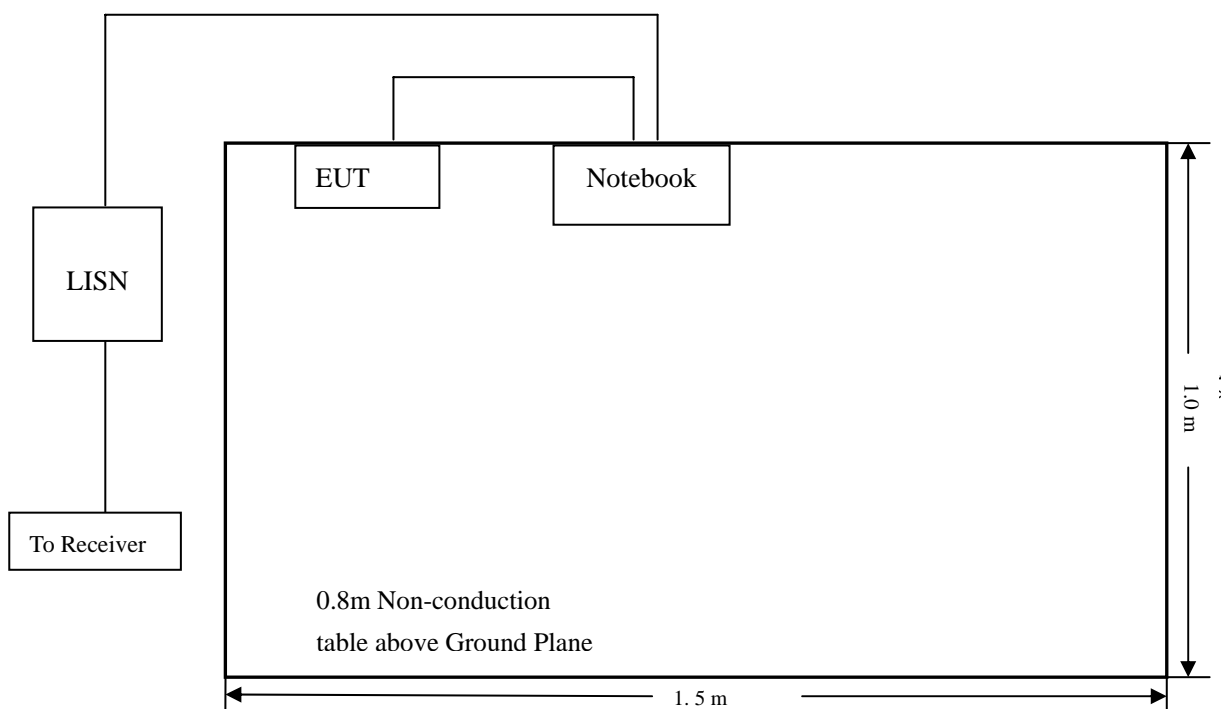
Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2009-08-12	2010-08-11
Puls Limiter	Rohde & Schwarz	ESH3-Z2	100911	2009-08-12	2010-08-11
L.I.S.N.	SCHWARZBECK	NSLK8126	8126-224	2009-08-12	2010-08-11
L.I.S.N.	EMCO	3825/2	11967C	2009-08-12	2010-08-11

Statement of Traceability: All calibrations have been performed per the NVLAP requirements traceable to the NIST.

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



3.5 Environmental Conditions

Temperature:	20° 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 15.207 Conducted margin for a Class B device, with the *worst* margin reading of:

-8.8dB μ V at **0.206 MHz** in the **Neutral QP** Detector, **Charging &Playing** Mode, 0.15-30MHz

-9.03dB μ V at **0.154 MHz** in the **Neutral QP** Detector, **Downloading** Mode, 0.15-30MHz

3.7 Conducted Emissions Test Data/Plots

Charging &Playing Mode

Frequency	Reading	Detector	Phase	FCC/CE	FCC/CE
MHz	dBuV	Qp/Ave	L/N	Limits	Margin
0.206	54.6	QP	Neutral	63.37	-8.8
0.206	52.6	QP	Line	63.21	-10.6
4.69	44.3	QP	Line	56	-11.7
0.82	33.6	AV	Line	46	-12.4
4.08	41.8	QP	Neutral	56	-14.2
0.61	30.6	AV	Neutral	46	-15.4
2.45	27.1	AV	Neutral	46	-18.9
0.41	37.5	QP	Neutral	57.65	-20.2
0.154	35.6	AV	Neutral	55.78	-20.2
29.98	29.7	AV	Line	50	-20.3
0.42	35.1	QP	Line	57.49	-22.4
0.23	29.4	AV	Line	52.6	-23.2

Downloading Mode

Frequency	Reading	Detector	Phase	FCC/CE	FCC/CE
MHz	dBuV	Qp/Ave	L/N	Limits	Margin
0.154	56.72	QP	Neutral	65.75	-9.03
0.61	34.7	AV	Line	46	-11.3
2.45	34.5	AV	Neutral	46	-11.5
0.206	51.2	QP	Line	63.21	-12.0
0.81	32.7	AV	Neutral	46	-13.3
2.45	40.7	QP	Neutral	56	-15.3
0.61	39.2	QP	Line	56	-16.8
1.04	32.5	QP	Neutral	56	-23.5
0.15	32.5	AV	Neutral	56	-23.5
0.15	28.7	AV	Line	56	-27.3
4.69	28.1	QP	Line	56	-27.9
5.71	18.6	AV	Line	50	-31.4

Plot of Conducted Emissions Test Data

Conducted Disturbance

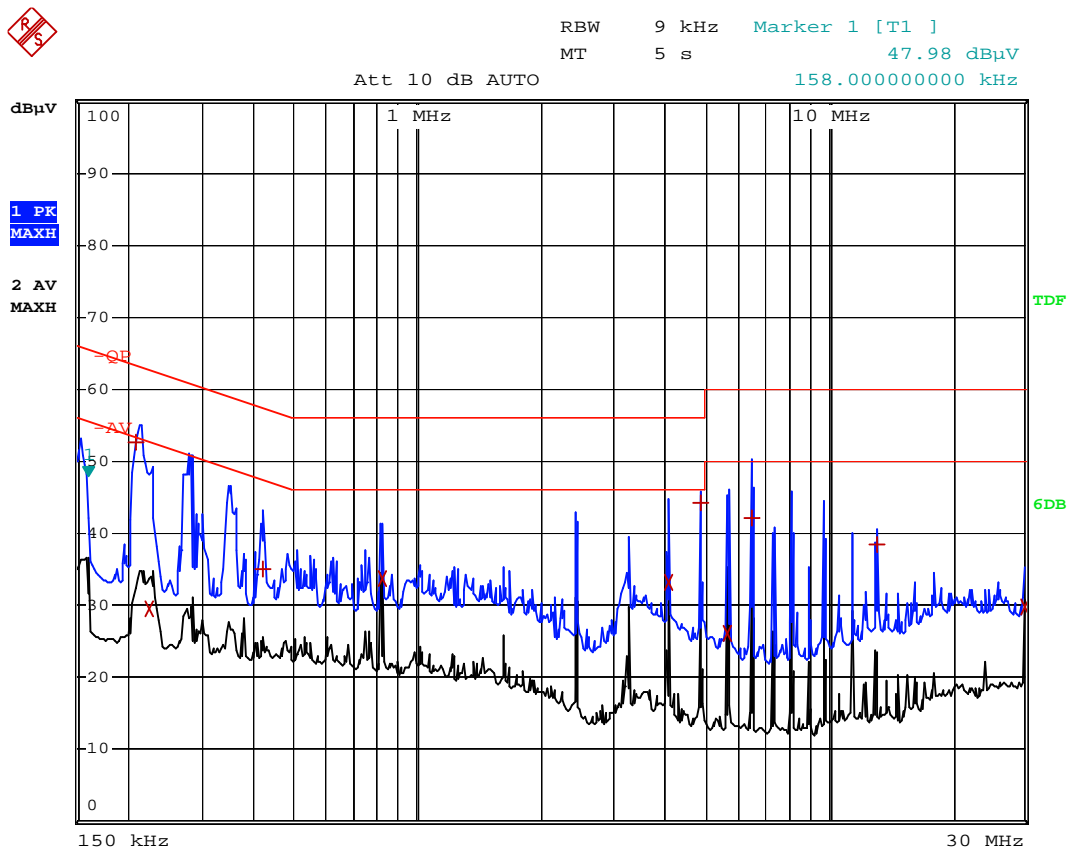
EUT: Mobile Phone

M/N: TRAVELER

Operating Condition: Charging & Playing

Test Specification: L

Comment: AC 120V/60Hz/Adapter 5V



EDIT PEAK LIST (Final Measurement Results)			
Trace1:	-QP		
Trace2:	-AV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV	DELTA LIMIT dB
1 Quasi Peak	210 kHz	52.63	-10.57
2 Average	226 kHz	29.41	-23.18
1 Quasi Peak	418 kHz	35.10	-22.37
2 Average	818 kHz	33.61	-12.38
2 Average	4.078 MHz	33.18	-12.81
1 Quasi Peak	4.89 MHz	44.30	-11.69
2 Average	5.706 MHz	26.04	-23.95
1 Quasi Peak	6.534 MHz	42.24	-17.76
1 Quasi Peak	13.062 MHz	38.34	-21.65
2 Average	29.982 MHz	29.66	-20.33

Plot of Conducted Emissions Test Data

Conducted Disturbance

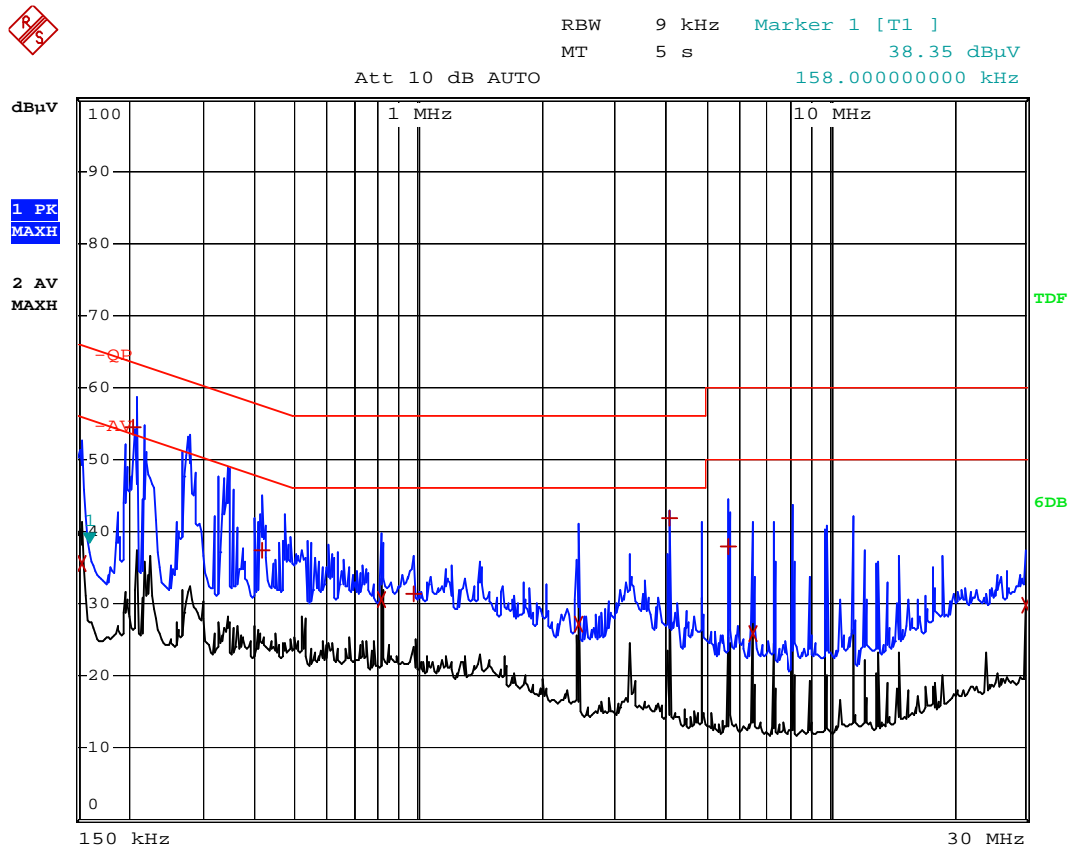
EUT: Mobile Phone

M/N: TRAVELER

Operating Condition: Charging & Playing

Test Specification: N

Comment: AC 120V/60Hz/Adapter 5V



EDIT PEAK LIST (Final Measurement Results)			
Trace1:	-QP		
Trace2:	-AV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
2 Average	154 kHz	35.58	-20.19
1 Quasi Peak	206 kHz	54.56	-8.80
1 Quasi Peak	414 kHz	37.45	-20.11
2 Average	814 kHz	30.64	-15.35
1 Quasi Peak	970 kHz	31.24	-24.75
2 Average	2.45 MHz	27.08	-18.91
1 Quasi Peak	4.082 MHz	41.82	-14.17
1 Quasi Peak	5.702 MHz	37.92	-22.07
2 Average	6.522 MHz	25.94	-24.05
2 Average	29.978 MHz	29.66	-20.33

Plot of Conducted Emissions Test Data

Conducted Disturbance

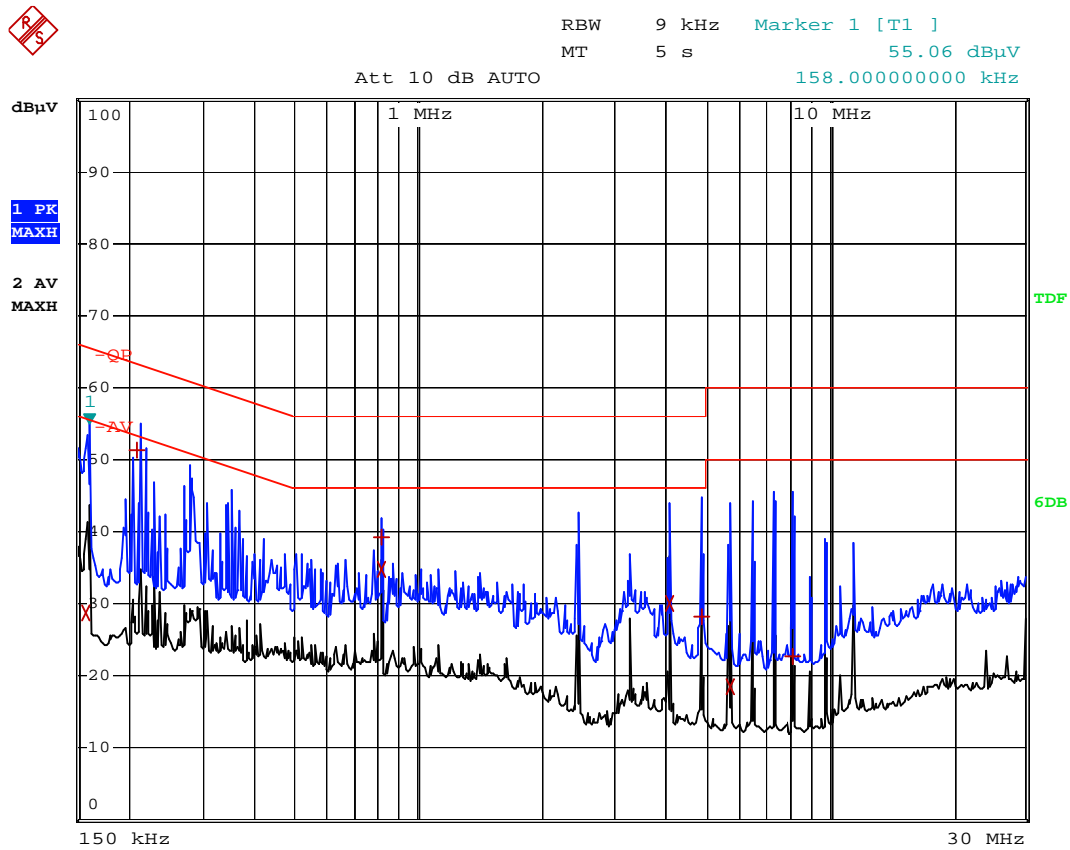
EUT: Mobile Phone

M/N: TRAVELER

Operating Condition: Downloading

Test Specification: L

Comment: AC 120V/60Hz/Connect to PC



EDIT PEAK LIST (Final Measurement Results)			
Trace1:	-QP		
Trace2:	-AV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV	DELTA LIMIT dB
2 Average	158 kHz	28.69	-26.87
1 Quasi Peak	210 kHz	51.19	-12.01
1 Quasi Peak	814 kHz	39.17	-16.83
2 Average	814 kHz	34.66	-11.33
2 Average	4.082 MHz	30.08	-15.91
1 Quasi Peak	4.894 MHz	28.14	-27.85
2 Average	5.71 MHz	18.61	-31.38
1 Quasi Peak	8.186 MHz	22.71	-37.28

Plot of Conducted Emissions Test Data

Conducted Disturbance

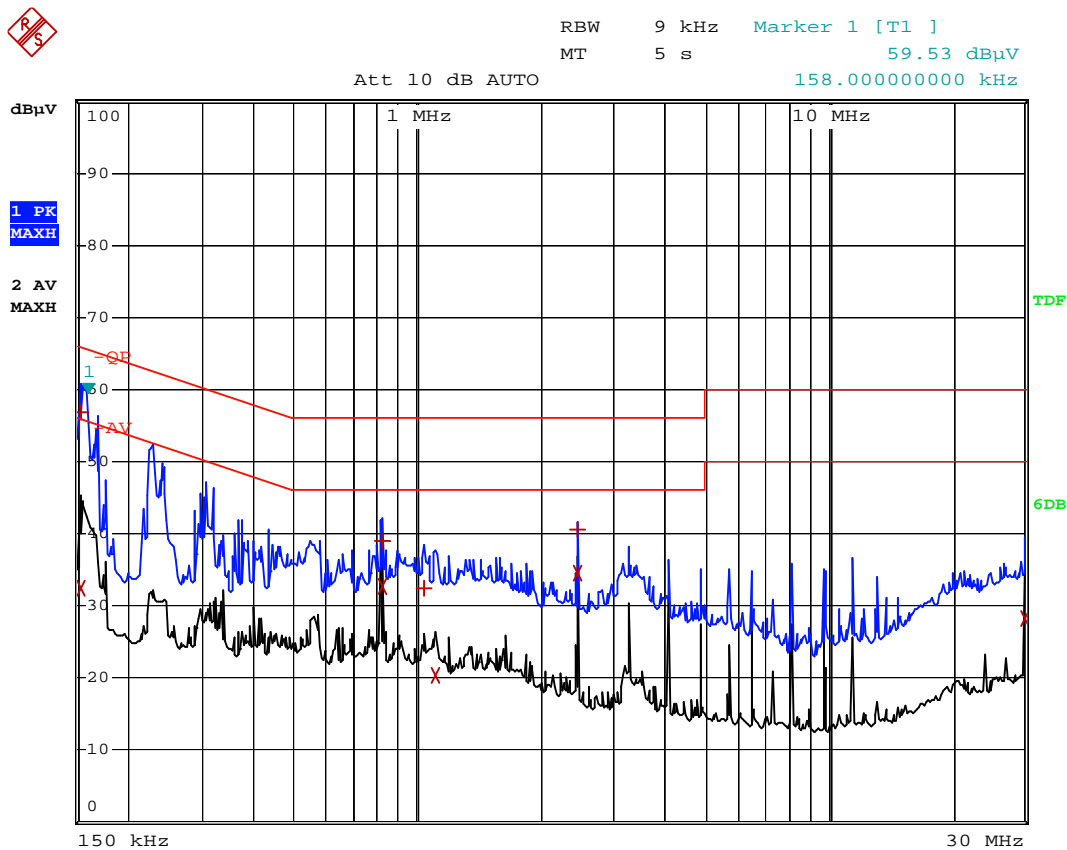
EUT: Mobile Phone

M/N: TRAVELER

Operating Condition: Downloading

Test Specification: N

Comment: AC 120V/60Hz/Connect to PC



EDIT PEAK LIST (Final Measurement Results)			
Trace1:	-QP		
Trace2:	-AV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV	DELTA LIMIT dB
1 Quasi Peak	154 kHz	56.72	-9.05
2 Average	154 kHz	32.47	-23.30
1 Quasi Peak	818 kHz	38.93	-17.06
2 Average	818 kHz	32.74	-13.26
1 Quasi Peak	1.042 MHz	32.47	-23.52
2 Average	1.106 MHz	20.33	-25.66
1 Quasi Peak	2.45 MHz	40.66	-15.33
2 Average	2.45 MHz	34.52	-11.47
2 Average	29.982 MHz	28.08	-21.91

4. §15.109(a)- 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

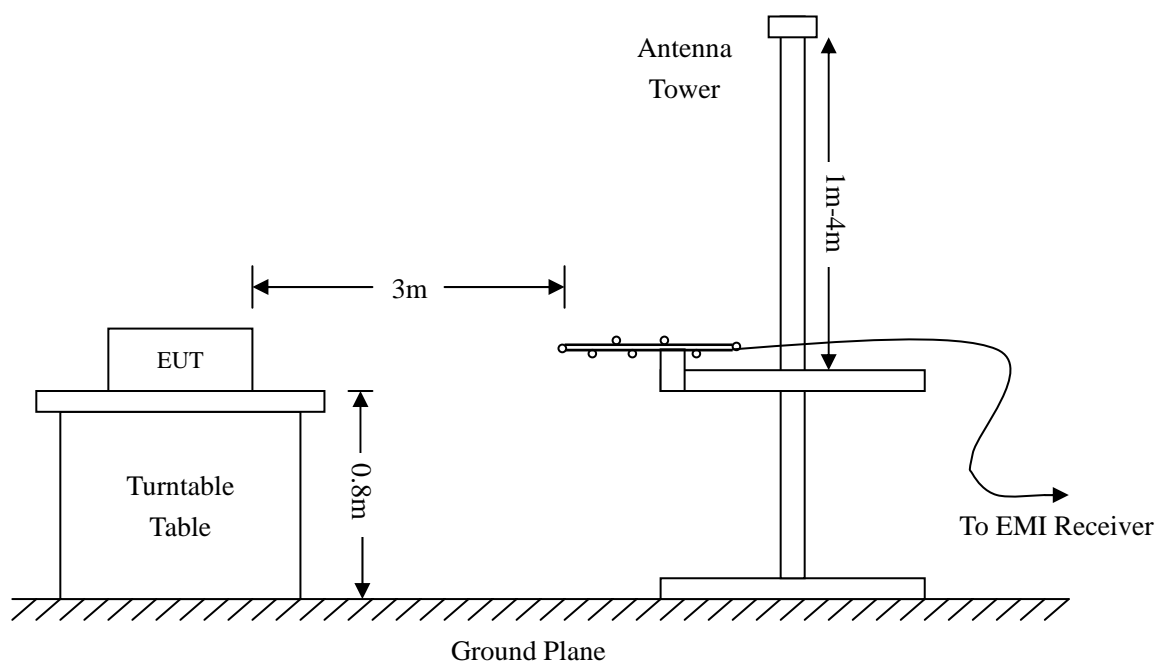
Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	ROHDE&SCHWARZ	FSEA20	DE25181	2009-08-12	2010-08-11
Positioning Controller	C&C	CC-C-1F	N/A	2009-08-12	2010-08-11
Trilog Broadband Antenna	SCHWARZBECK	VULB9163	9163-333	2010-07-21	2011-07-20
Horn Antenna	SCHWARZBECK	BBHX 9120	9120-426	2010-07-21	2011-07-20
RF Switch	EM	EMSW18	SW060023	2009-08-12	2010-08-11
Amplifier	Agilent	8447F	3113A06717	2009-08-12	2010-08-11
Coaxial Cable	SCHWARZBECK	AK9513	9513-10	2009-08-12	2010-08-11
EMI Test Receiver	ROHDE&SCHWARZ	FSP	N/A	2010-04-16	2011-04-15

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

Start Frequency 30 MHz
 Stop Frequency..... 1000 MHz
 Sweep Speed Auto
 IF Bandwidth..... 10 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 -6dB μ V means the emission is 6dB μ V below the maximum limit for Class B. The equation for margin calculation is as follows:

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

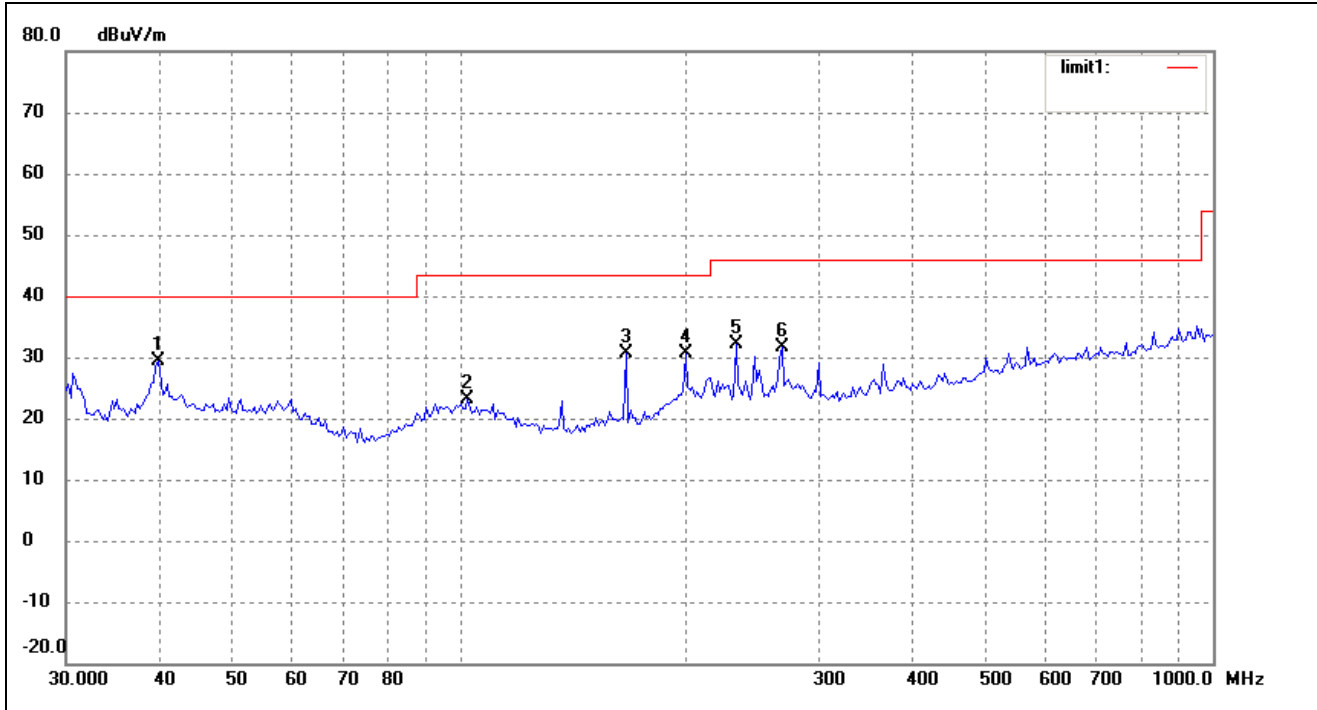
4.6 Environmental Conditions

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

4.7 Summary of Test Results/Plots

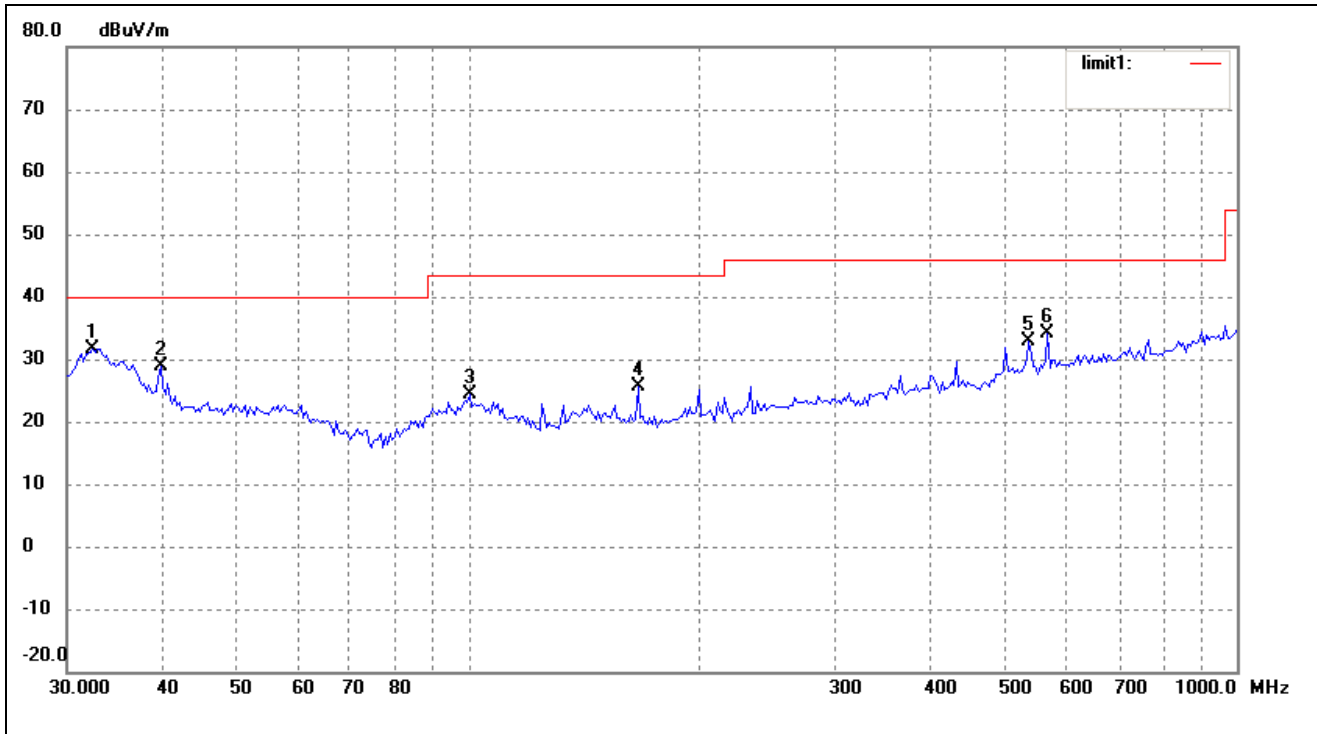
According to the data, the EUT complied with the FCC 15B Class B standards, and had the worst margin of:

-8.38 dB μ V at 32.4059MHz in the Vertical polarization, Charging&Playing mode, 30 MHz to 1 GHz
-1.05 dB μ V at 301.4224MHz in the Horizontal polarization, FM107.9MHz mode, 30 MHz to 1 GHz
-10.00 dB μ V at 39.7147MHz in the Horizontal polarization, Downloading mode, 30 MHz to 1 GHz

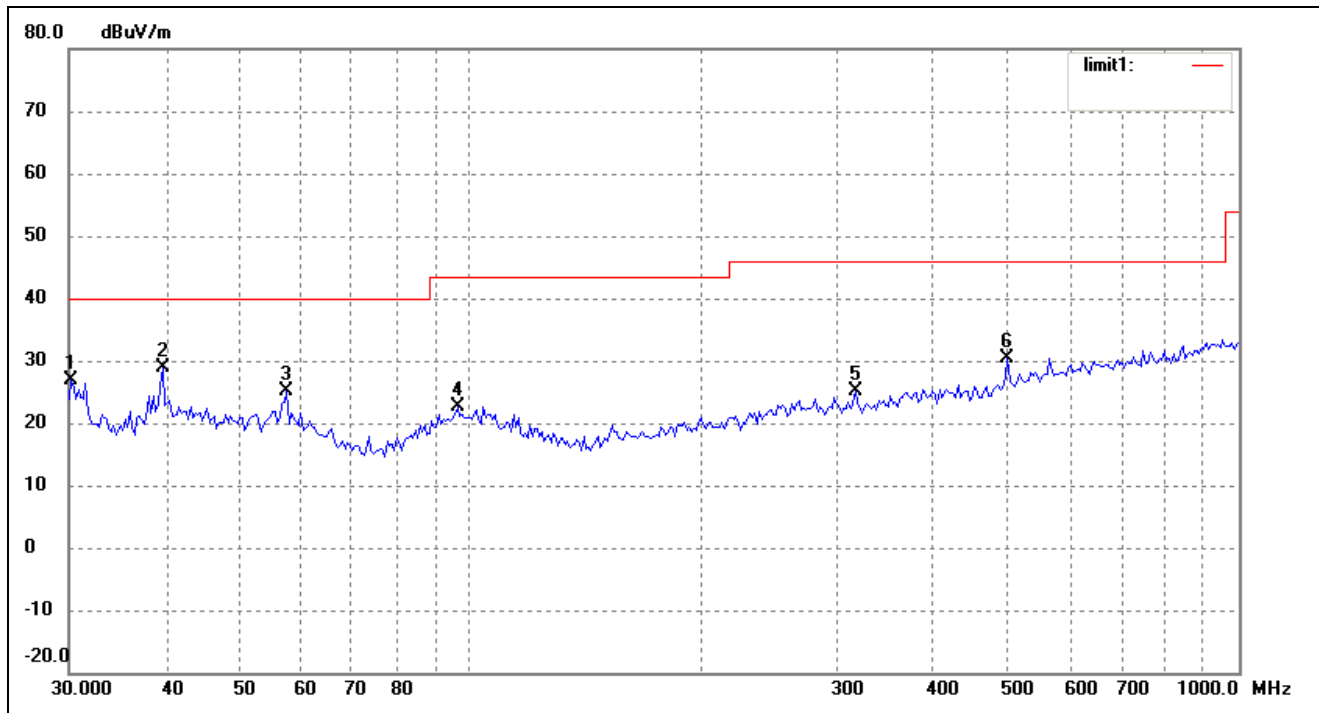
Plot of Radiation Emissions Test*Radiated Disturbance**EUT: Mobile Phone**M/N: TRAVELER**Operating Condition: Charging & Playing**Test Specification: Horizontal & Vertical**Comment: AC 120V/60Hz/Adapter 5V***Horizontal**

No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	39.7147	21.50	7.86	29.36	40.00	-10.64	58	300	Peak
2	102.3597	15.55	7.60	23.15	43.50	-20.35	326	300	Peak
3	166.0680	26.81	3.93	30.74	43.50	-12.76	29	300	Peak
4	199.2855	25.01	5.68	30.69	43.50	-12.81	209	200	Peak
5	232.5318	25.06	7.03	32.09	46.00	-13.91	22	200	Peak
6	267.5455	23.50	8.12	31.62	46.00	-14.38	18	100	Peak

Vertical

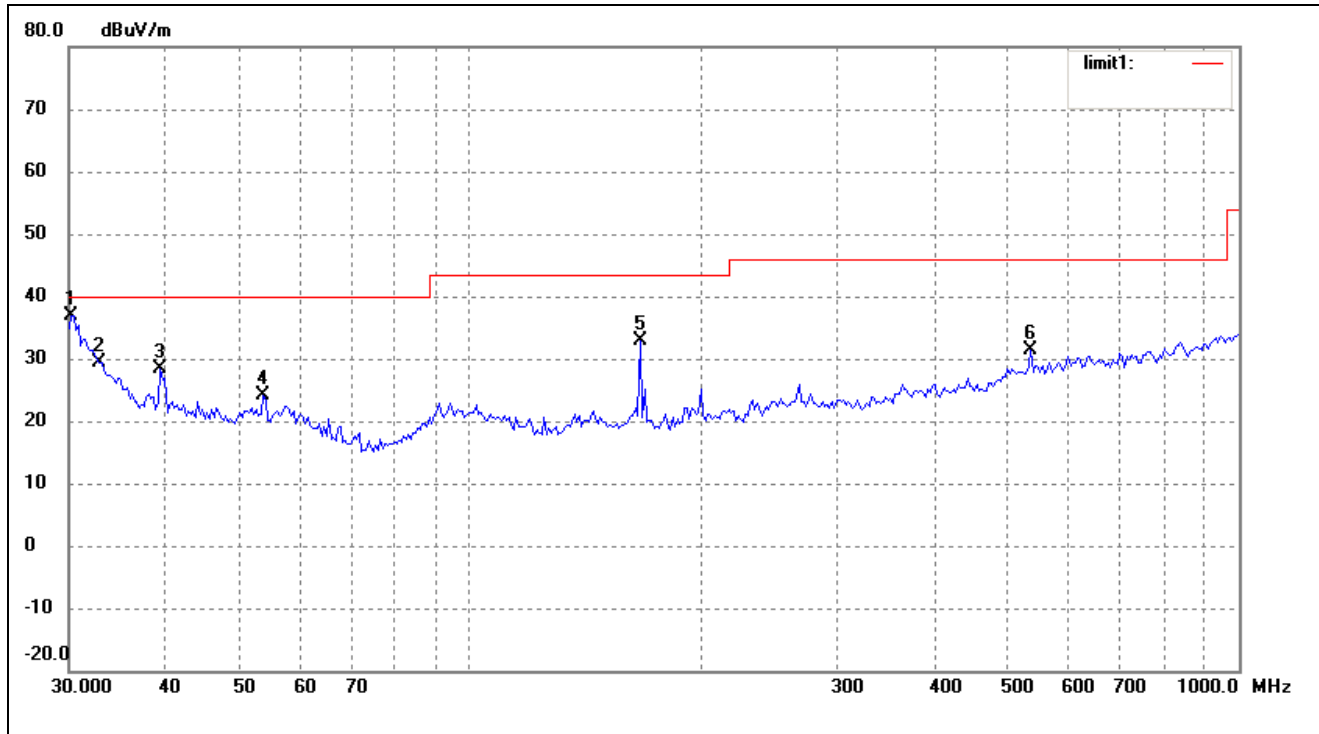


No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	32.4059	25.00	6.62	31.62	40.00	-8.38	51	100	QP
2	39.7147	21.08	7.86	28.94	40.00	-11.06	308	100	Peak
3	100.2286	16.57	7.79	24.36	43.50	-19.14	120	100	Peak
4	166.0680	21.60	3.93	25.53	43.50	-17.97	21	100	Peak
5	535.7073	19.41	13.37	32.78	46.00	-13.22	11	100	Peak
6	566.6223	20.47	13.76	34.23	46.00	-11.77	10	100	Peak

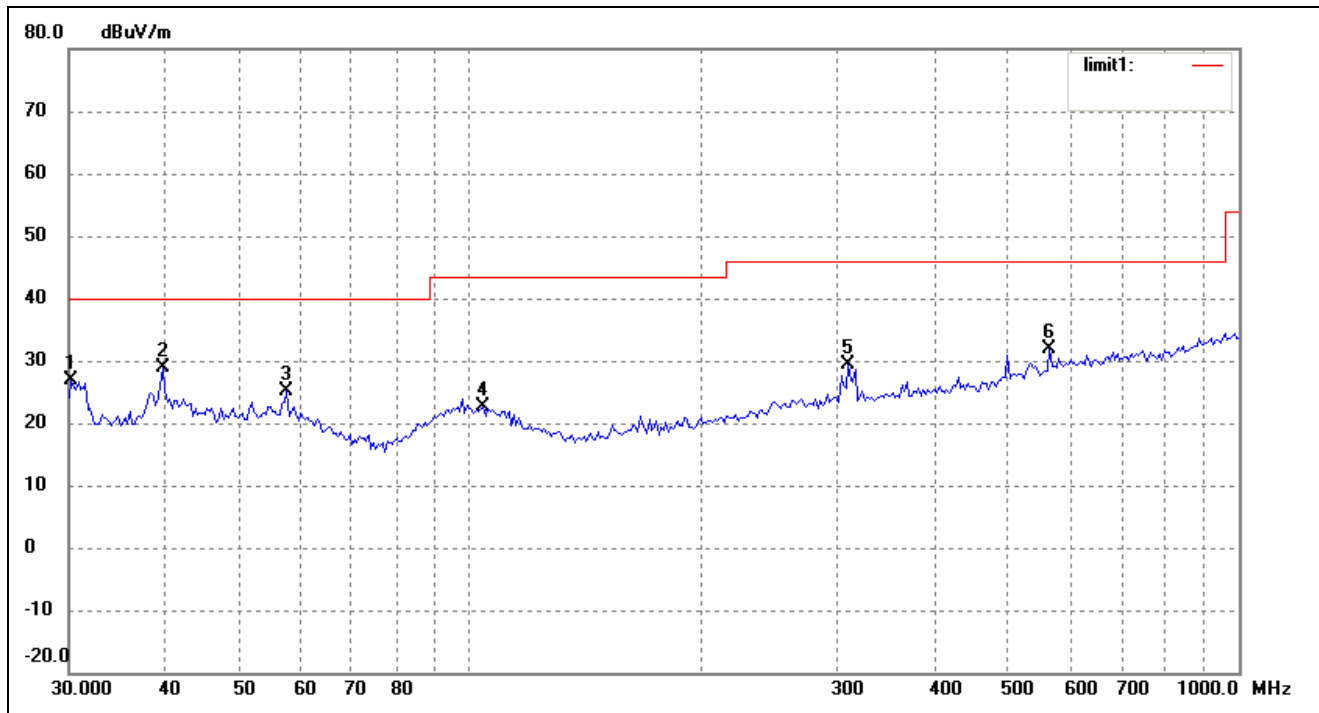
*Radiated Disturbance**EUT: Mobile Phone**M/N: TRAVELER**Operating Condition: FM 88.1MHz**Test Specification: Horizontal & Vertical**Comment: AC 120V/60Hz/Adapter 5V**Horizontal*

No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	30.2111	20.31	6.63	26.94	40.00	-13.06	46	300	Peak
2	39.7147	21.08	7.86	28.94	40.00	-11.06	315	200	Peak
3	57.5939	17.77	7.32	25.09	40.00	-14.91	149	300	Peak
4	96.0986	15.12	7.54	22.66	43.50	-20.84	58	200	Peak
5	316.5890	16.23	8.80	25.03	46.00	-20.97	31	300	Peak
6	499.4247	18.03	12.37	30.40	46.00	-15.60	11	100	Peak

Vertical

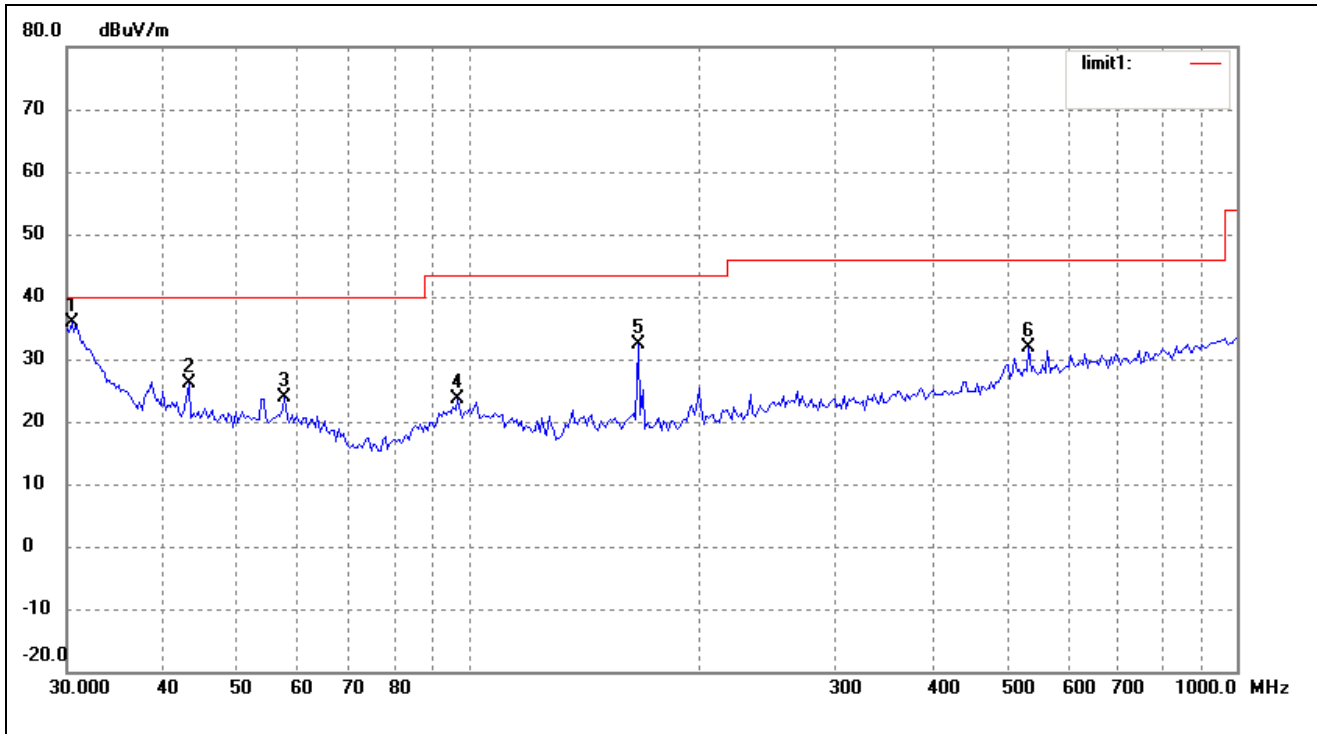


No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	30.2111	30.34	6.63	36.97	40.00	-3.03	70	130	QP
2	32.8637	22.89	6.61	29.50	40.00	-10.50	26	100	Peak
3	39.4372	20.49	7.78	28.27	40.00	-11.73	31	100	Peak
4	53.6932	16.56	7.52	24.08	40.00	-15.92	97	160	Peak
5	166.0680	28.91	3.93	32.84	43.50	-10.66	11	100	Peak
6	535.7073	18.01	13.37	31.38	46.00	-14.62	200	100	Peak

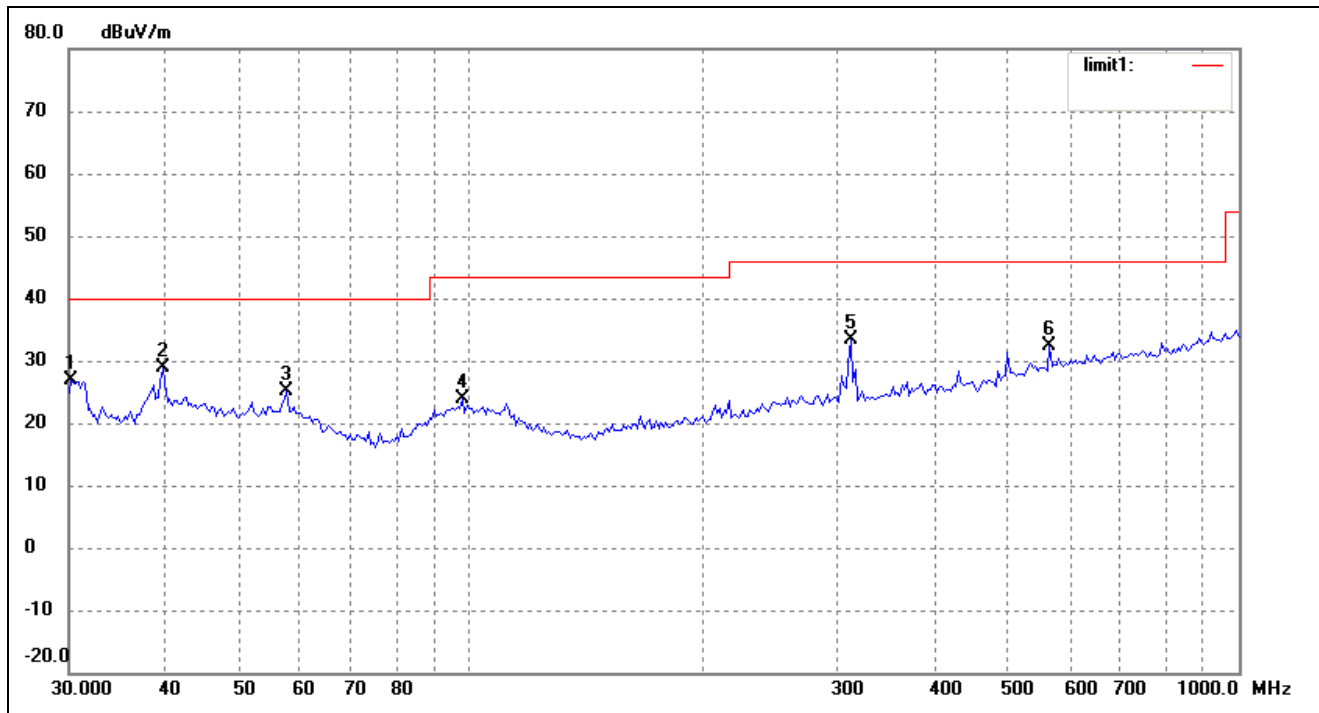
*Radiated Disturbance**EUT: Mobile Phone**M/N: TRAVELER**Operating Condition: FM 98MHz**Test Specification: Horizontal & Vertical**Comment: AC 120V/60Hz/Adapter 5V**Horizontal*

No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	30.2111	20.31	6.63	26.94	40.00	-13.06	41	200	Peak
2	39.7147	21.08	7.86	28.94	40.00	-11.06	15	100	Peak
3	57.5939	17.77	7.32	25.09	40.00	-14.91	19	300	Peak
4	103.8055	15.09	7.48	22.57	43.50	-20.93	5	400	Peak
5	309.9977	20.53	8.74	29.27	46.00	-16.73	31	300	Peak
6	566.6223	18.20	13.58	31.78	46.00	-14.22	110	100	Peak

Vertical

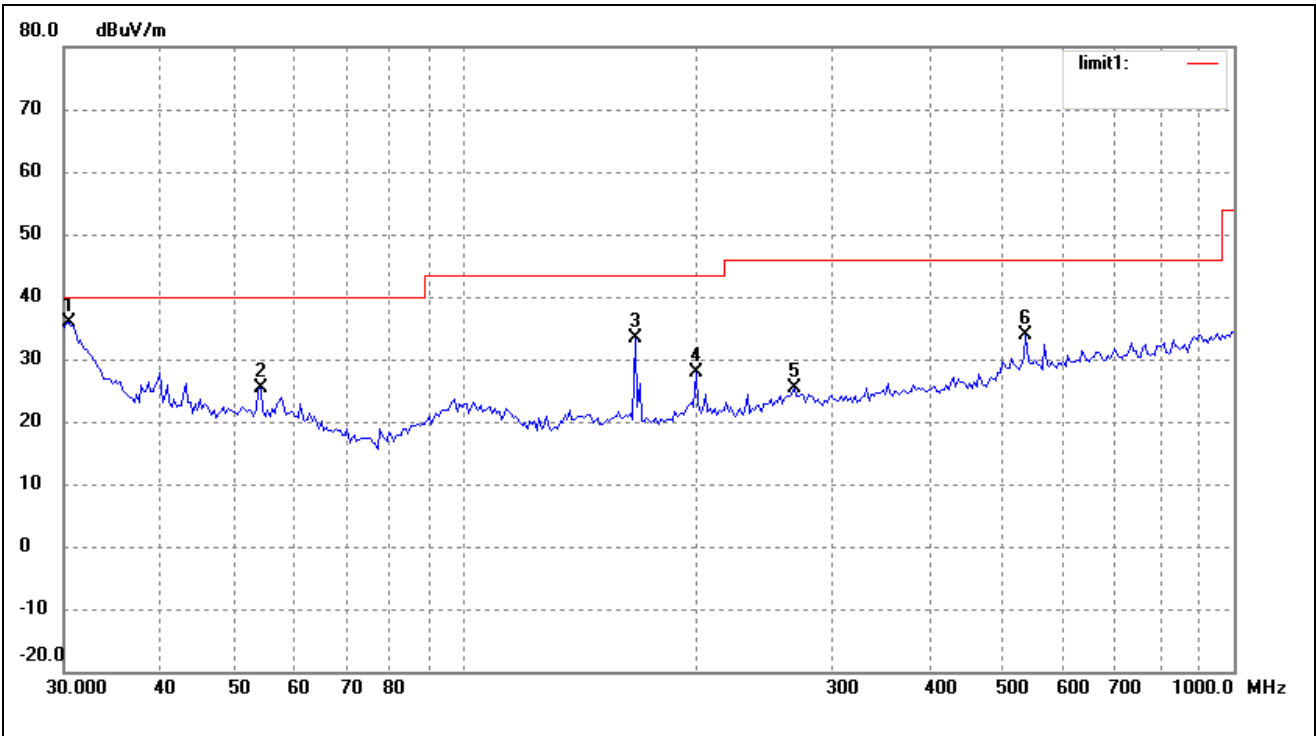


No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	30.4238	29.37	6.63	36.00	40.00	-4.00	170	110	QP
2	43.2017	18.11	7.96	26.07	40.00	-13.93	226	120	Peak
3	57.5939	16.52	7.32	23.84	40.00	-16.16	331	110	Peak
4	96.7749	16.03	7.59	23.62	43.50	-19.88	297	110	Peak
5	166.0680	28.57	3.93	32.50	43.50	-11.00	121	100	Peak
6	535.7073	18.44	13.37	31.81	46.00	-14.19	20	100	Peak

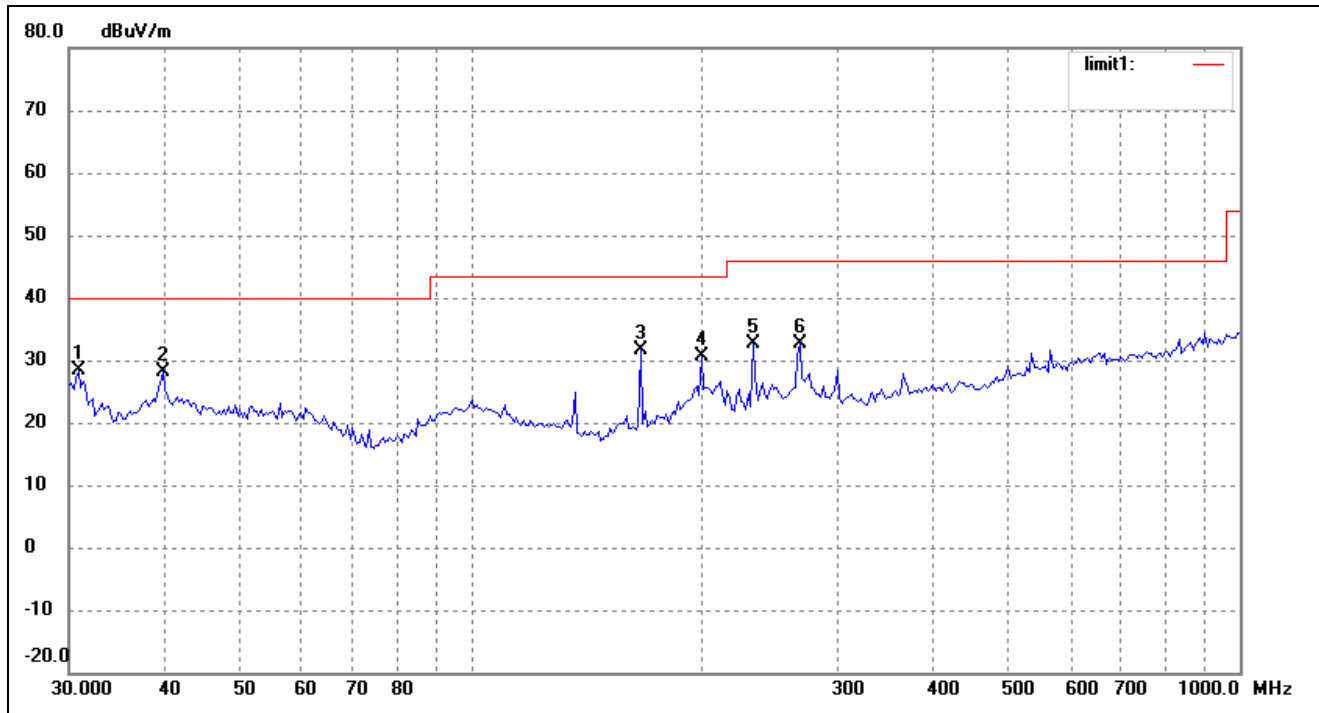
*Radiated Disturbance**EUT: Mobile Phone**M/N: TRAVELER**Operating Condition: FM 107.9 MHz**Test Specification: Horizontal & Vertical**Comment: AC 120V/60Hz/Adapter 5V**Horizontal*

No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	119.4361	34.31	5.36	39.67	43.50	-3.83	36	100	QP
2	134.5592	38.28	3.57	41.85	43.50	-1.65	10	100	QP
3	193.7728	33.84	5.67	39.51	43.50	-3.99	250	100	QP
4	239.1473	35.55	7.39	42.94	46.00	-3.06	360	100	QP
5	301.4224	36.29	8.66	44.95	46.00	-1.05	0	100	QP
6	485.6093	31.13	11.41	42.54	46.00	-3.46	21	100	QP

Vertical

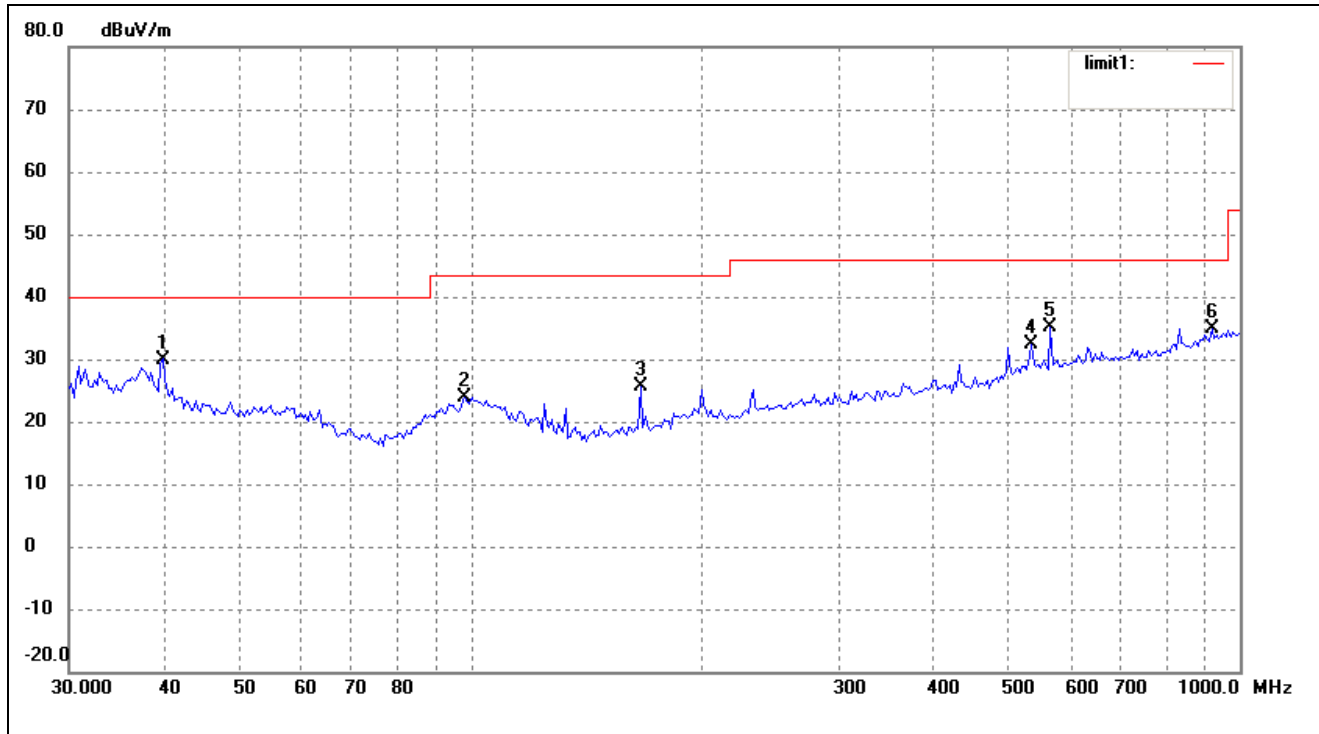


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	30.4238	29.37	6.63	36.00	40.00	-4.00	23	100	QP
2	54.0711	17.80	7.50	25.30	40.00	-14.70	210	100	Peak
3	166.0680	29.33	3.93	33.26	43.50	-10.24	100	110	Peak
4	199.2855	22.14	5.68	27.82	43.50	-15.68	125	110	Peak
5	267.5455	17.16	8.12	25.28	46.00	-20.72	65	100	Peak
6	535.7073	20.51	13.37	33.88	46.00	-12.12	21	100	Peak

*Radiated Disturbance**EUT: Mobile Phone**M/N: TRAVELER**Operating Condition: Downloading**Test Specification: Horizontal & Vertical**Comment: AC 120V/60Hz/ Connect to PC**Horizontal*

No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	30.8535	21.77	6.62	28.39	40.00	-11.61	36	100	QP
2	39.7147	20.26	7.86	28.12	40.00	-11.88	20	100	QP
3	166.0680	27.76	3.93	31.69	43.50	-11.81	41	100	QP
4	199.2855	25.02	5.68	30.70	43.50	-12.80	110	100	Peak
5	232.5318	25.57	7.03	32.60	46.00	-13.40	0	100	Peak
6	267.5455	24.56	8.12	32.68	46.00	-13.32	0	100	Peak

Vertical



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