FCC PART 15B

MEASUREMENT AND TEST REPORT

FOR

DOPPIO MOBILE INTERNATIONAL LIMITED

ROOM 1708, 17/F HART AVENUE PLAZA, 5-9 HART AVENUE TSIM SHA TSUI, KOWLOON HONG KONG

FCC ID: N2GONE2200

Report Concerns: Original Report	**Equipment Type:** Mobile Phone

Model:	Cylinder 2200
Report No.:	STR12048142I-3
Test Date:	2012-04-17 to 2012-05-14
Issue Date:	2012-05-17
Tested By:	Silin Chen / 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: DOPPIO MOBILE INTERNATIONAL LIMITED

Address of applicant: ROOM 1708, 17/F HART AVENUE PLAZA, 5-9 HART AVENUE TSIM SHA TSUI, KOWLOON HONG KONG

Manufacturer 1: DOPPIO MOBILE (SHENZHEN) LIMITED

Address of manufacturer: Room313, 3rd Floor, Building 10 Jiale Building, No.11 Yannan Road, Futian District, Shenzhen, China

General Description of E.U.T

Items	Description
EUT Description:	Mobile Phone
Trade Name:	one
Model No.:	Cylinder 2200
Power Supply:	Input 100-240V/50/60Hz Output 5V DC Adaptor DC 3.7V Battery Inside
Adaptor Model:	N70
Rated Voltage:	Internal Battery 3.7V
Battery Capacity:	800mAh
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 DOPPIO MOBILE INTERNATIONAL LIMITED 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.

1.6 Accessories Equipment List and Details

Description	Manufacturer	Model	Serial Number
N/A	N/A	N/A	N/A

1.7 EUT Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
DC Cable	0.9	Unshielded	Without Core
USB Cable	1.0	Unshielded	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. §15.107 (a) - CONDUCTED EMISSION

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.

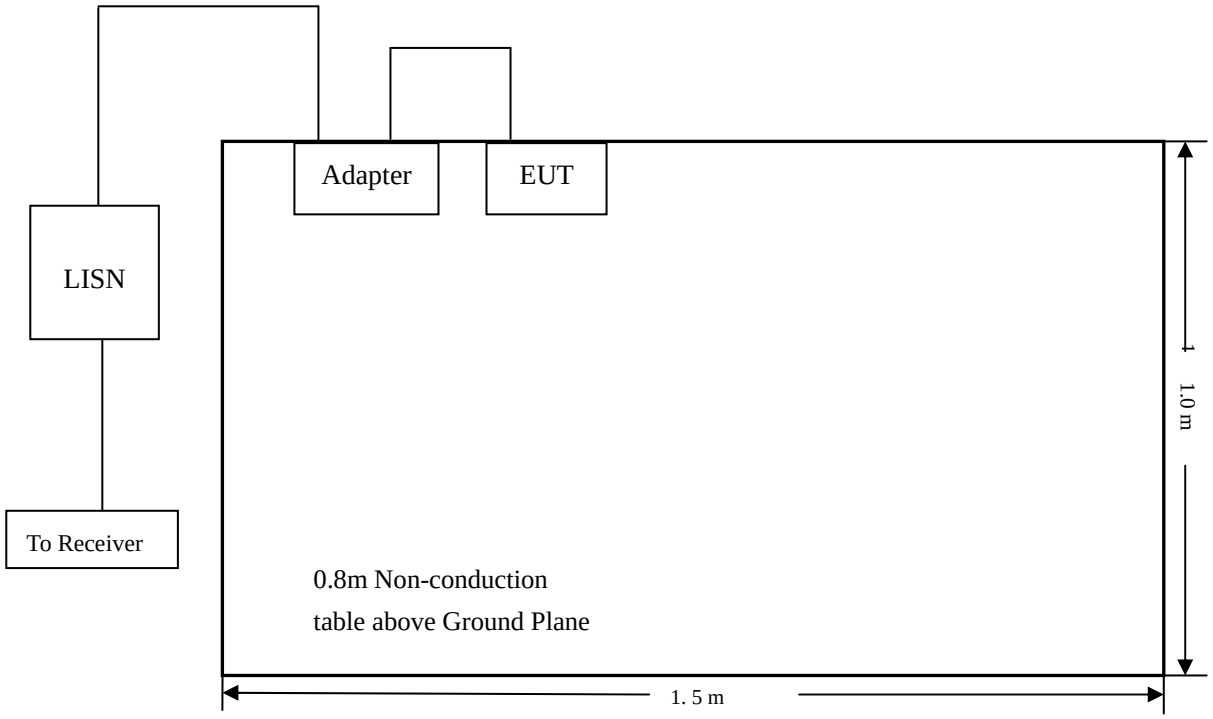
3.2 Test Equipment List and Details

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

The setup of EUT is according with per ANSI C63.4-2003 measurement procedure. The specification used was with the FCC Part 15.107 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.

3.4 Basic Test Setup Block Diagram



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:

-4.31 dBμV at **0.702 MHz** in the **Line, Average** Detector, 0.15-30MHz

3.8 Conducted Emissions Test Data

Plot of Conducted Emissions Test Data

Conducted Disturbance

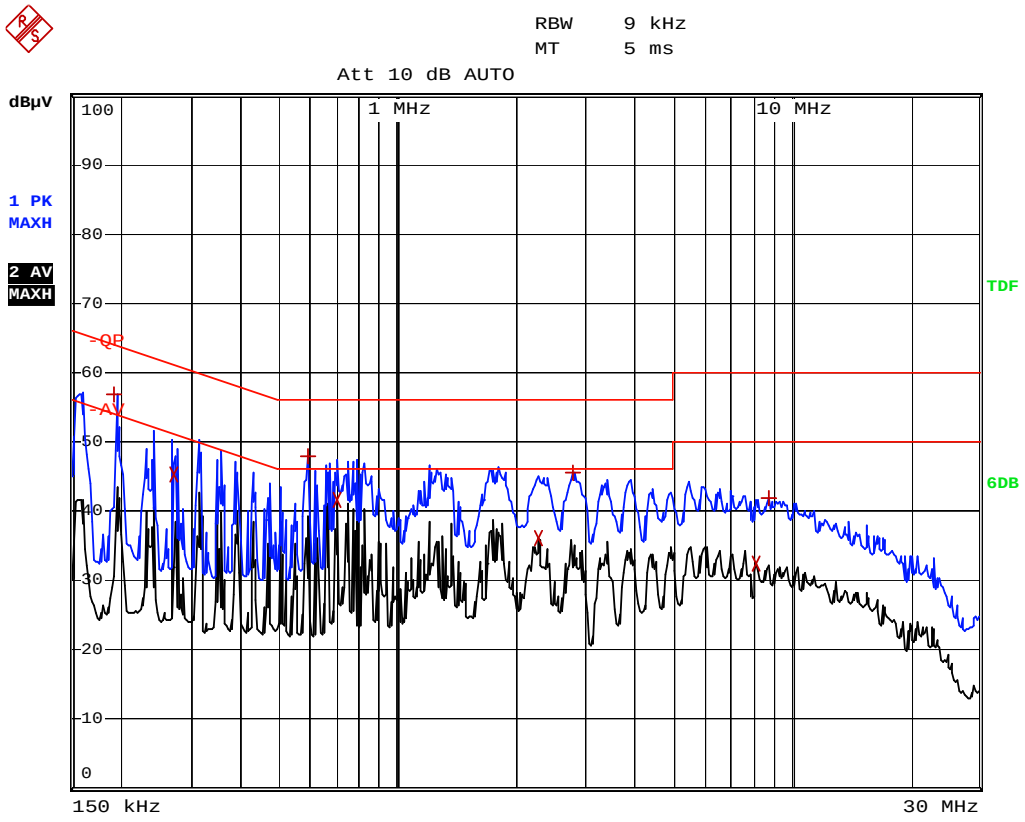
EUT: Mobile Phone

M/N: Cylinder 2200

Operating Condition: Charging & Playing

Test Specification: Line

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



EDIT PEAK LIST (Prescan Results)			
Trace1:	-QP		
Trace2:	-AV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
1 Max Peak	194 kHz	56.74	-7.11
2 Average	274 kHz	45.28	-5.70
1 Max Peak	590 kHz	47.95	-8.04
2 Average	702 kHz	41.68	-4.31
2 Average	2.286 MHz	36.13	-9.86
1 Max Peak	2.782 MHz	45.60	-10.39
2 Average	8.158 MHz	32.41	-17.58
1 Max Peak	8.802 MHz	41.73	-18.26

Plot of Conducted Emissions Test Data

Conducted Disturbance

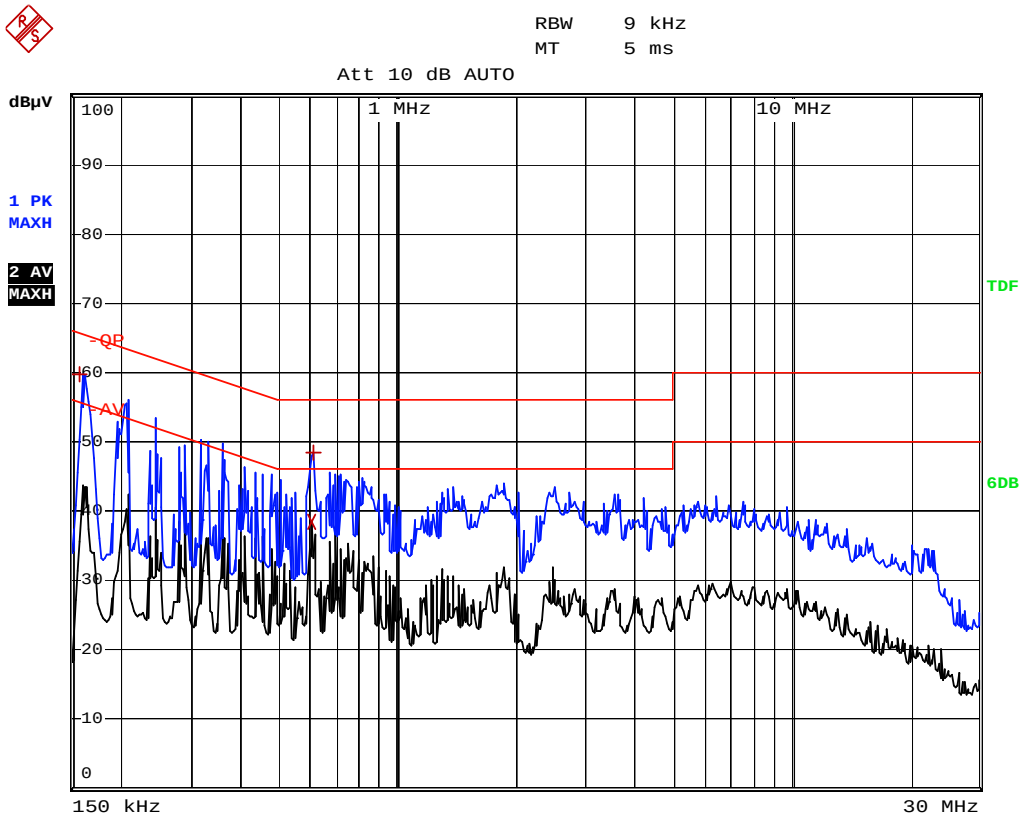
EUT: Mobile Phone

M/N: Cylinder 2200

Operating Condition: Charging & Playing

Test Specification: Neutral

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



EDIT PEAK LIST (Prescan Results)			
Trace1:	-QP		
Trace2:	-AV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
1 Max Peak	158 kHz	59.75	-5.81
2 Average	606 kHz	38.39	-7.60
1 Max Peak	610 kHz	48.38	-7.61

4. §15.109(a) - RADIATED EMISSION

4.1 Measurement Uncertainty

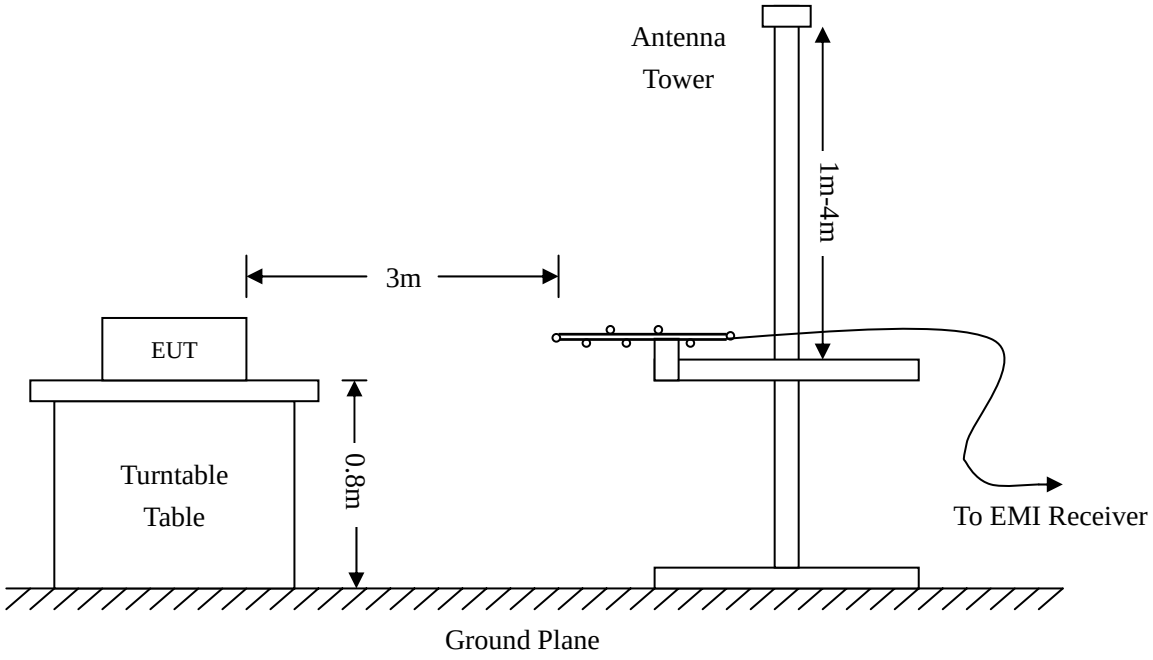
Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any radiation emissions measurement is ± 5.10 dB.

4.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	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 15.205 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.



4.5 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 Class B. The equation for margin calculation is as follows:

Margin = Corr. Ampl. – 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:

-4.89 dBμV at **72.0843 MHz** in the **Vertical** polarization, **Downloading** Mode,**9 kHz to 5 GHz, 3Meters**

Plot of Radiation Emissions Test Data

Radiated Disturbance

EUT: Mobile Phone

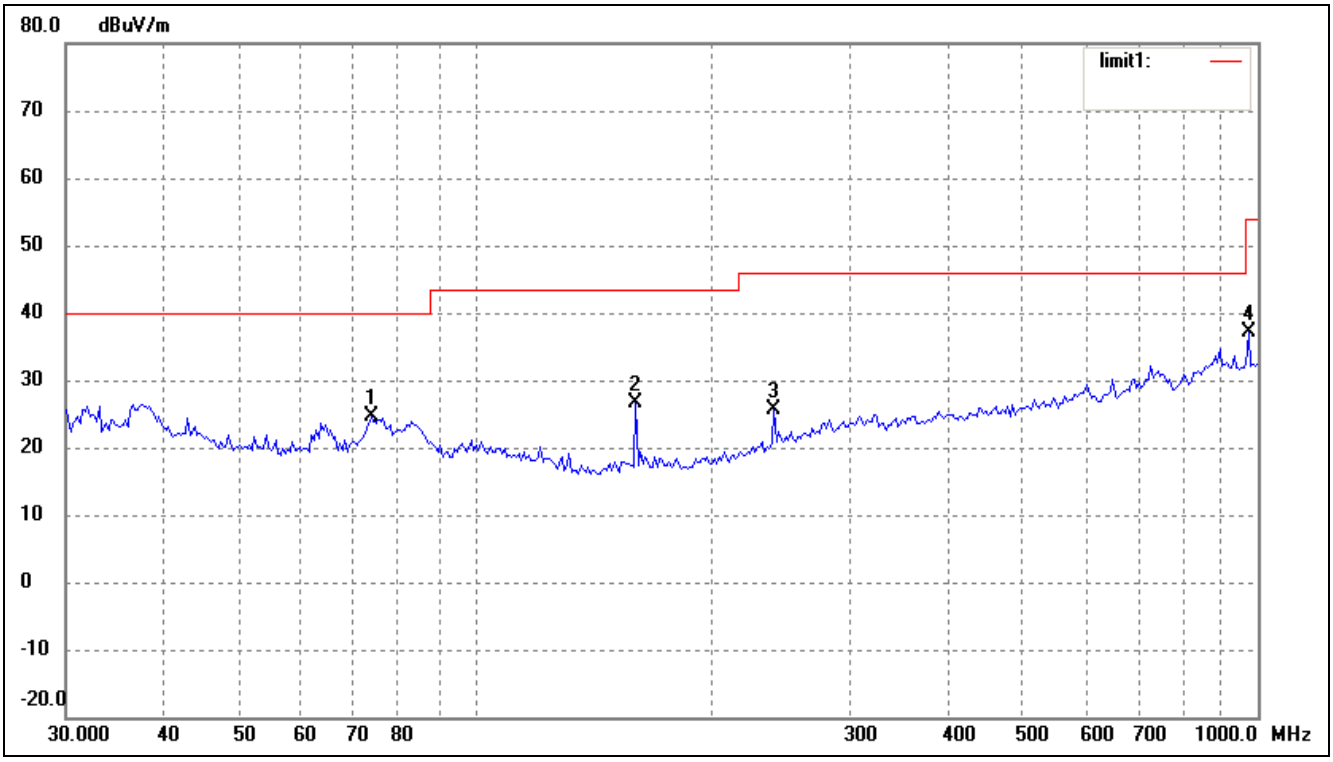
M/N: Cylinder 2200

Operating Condition: Charging and Playing

Test Specification: Horizontal & Vertical

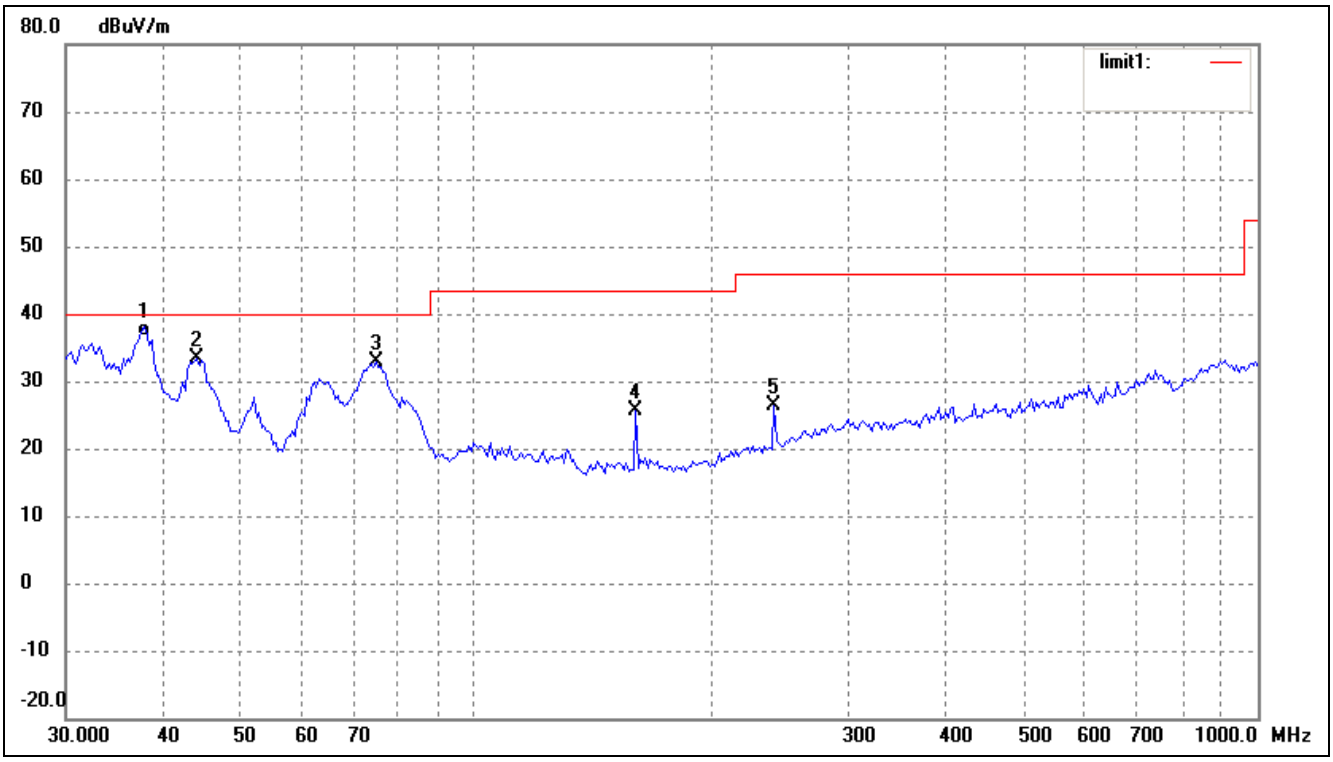
Comment: AC 120V/60Hz DC 5V Adapter

Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	73.6170	23.04	1.60	24.64	40.00	-15.36	360	100	peak
2	160.3457	23.93	2.68	26.61	43.50	-16.89	360	100	peak
3	240.8304	19.37	6.29	25.66	46.00	-20.34	360	100	peak
4	972.3374	20.68	16.41	37.09	54.00	-16.91	360	100	peak

Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	37.8121	28.24	8.51	36.75	40.00	-3.25	0	100	QP
2	44.1202	25.64	7.65	33.29	40.00	-6.71	360	100	peak
3	74.6569	31.44	1.49	32.93	40.00	-7.07	360	100	peak
4	160.3457	23.04	2.68	25.72	43.50	-17.78	360	100	peak
5	240.8304	20.02	6.29	26.31	46.00	-19.69	360	100	peak

Plot of Radiation Emissions Test Data

Radiated Disturbance

EUT: Mobile Phone

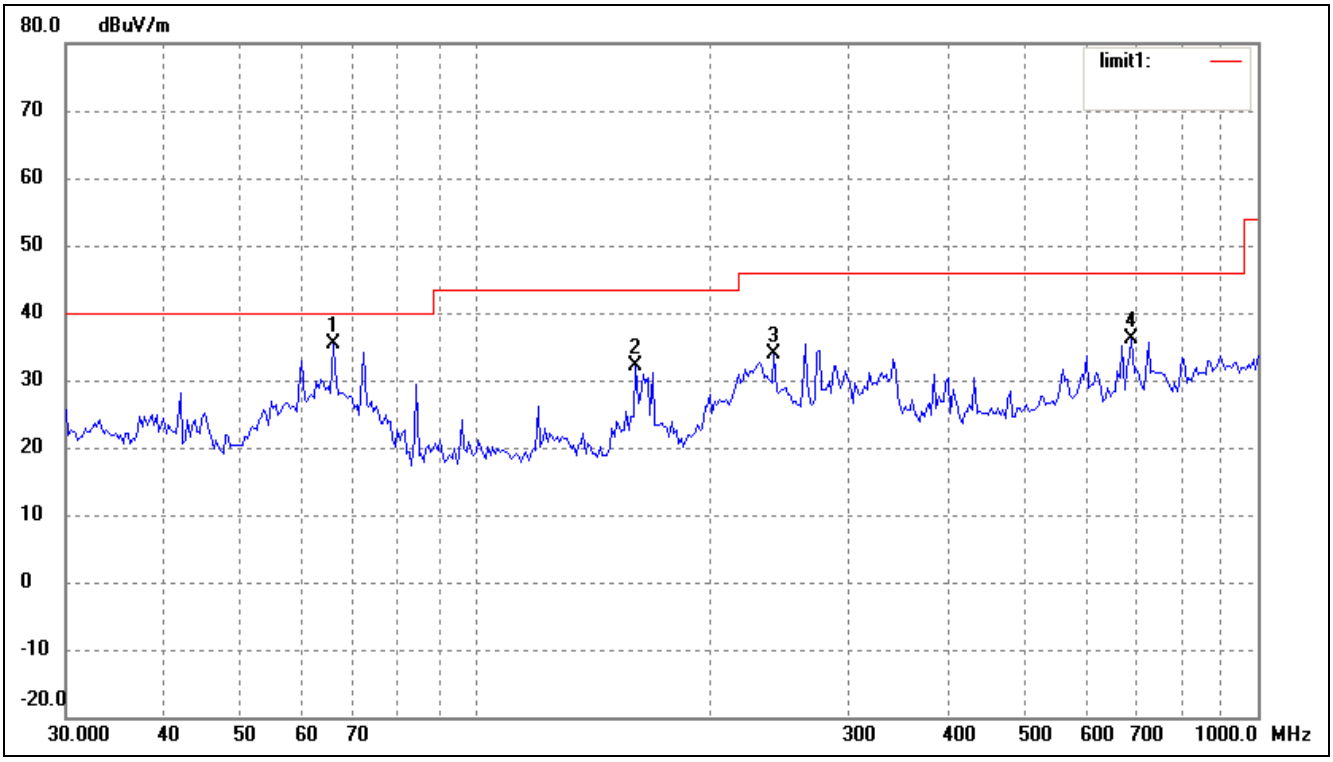
M/N: Cylinder 2200

Operating Condition: Downloading

Test Specification: Horizontal & Vertical

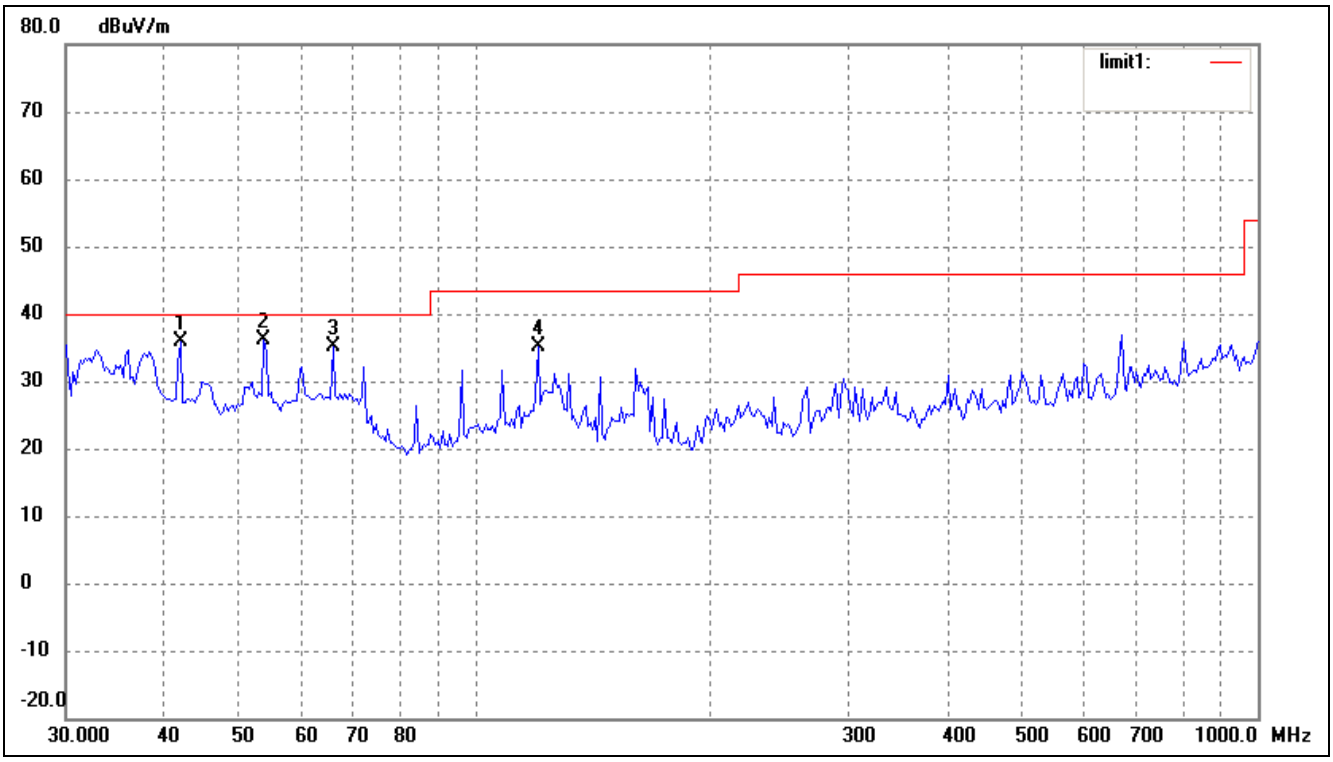
Comment: AC 120V/60Hz

Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	65.8031	32.07	3.30	35.37	40.00	-4.63	360	100	peak
2	160.3457	29.55	2.68	32.23	43.50	-11.27	360	100	peak
3	240.8304	27.60	6.29	33.89	46.00	-12.11	360	100	peak
4	689.5644	22.61	13.41	36.02	46.00	-9.98	360	100	peak

Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	42.0066	27.53	8.27	35.80	40.00	-4.20	360	100	peak
2	53.6932	30.44	5.64	36.08	40.00	-3.92	360	100	peak
3	65.8031	31.85	3.30	35.15	40.00	-4.85	360	100	peak
4	120.2766	31.18	4.04	35.22	43.50	-8.28	360	100	peak

Plot of Radiation Emissions Test Data (Above 1GHz)

Radiated Disturbance

EUT: Mobile Phone

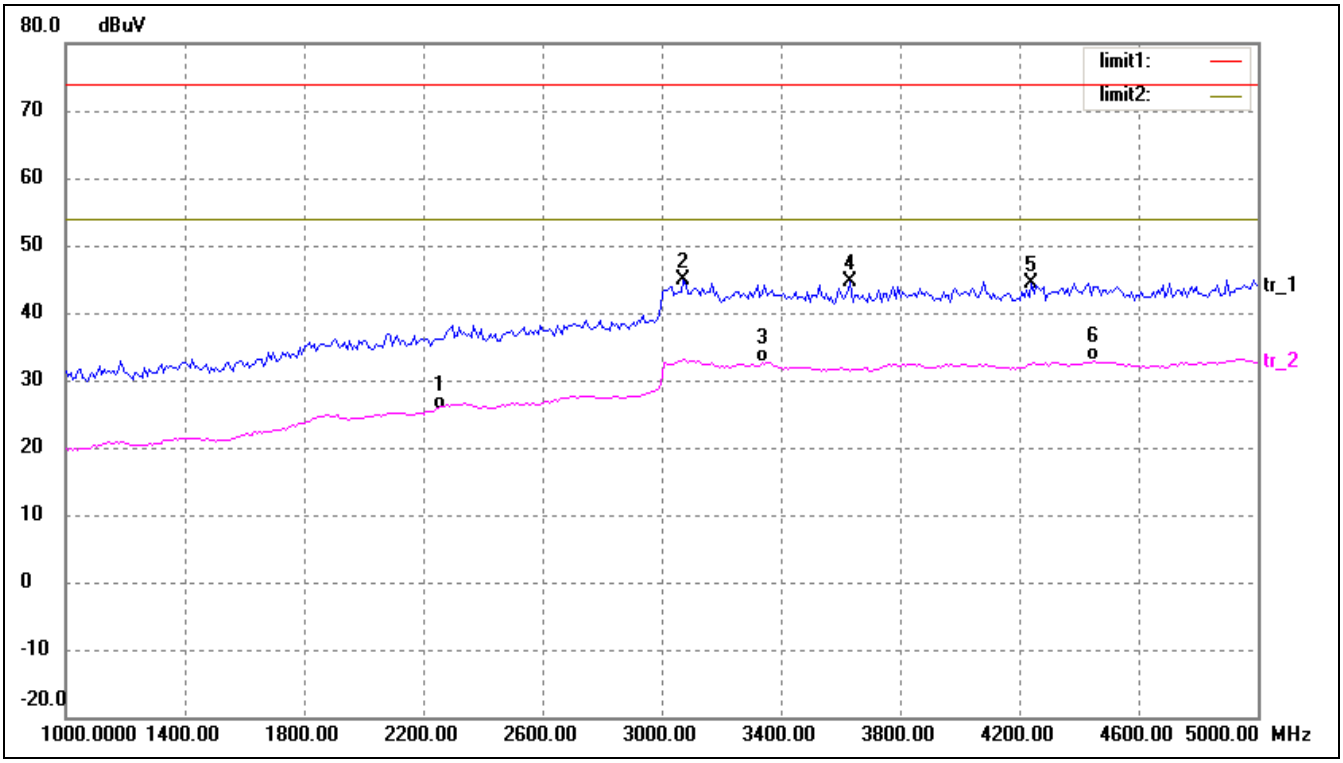
M/N: Cylinder 2200

Operating Condition: Charging and Playing

Test Specification: Horizontal & Vertical

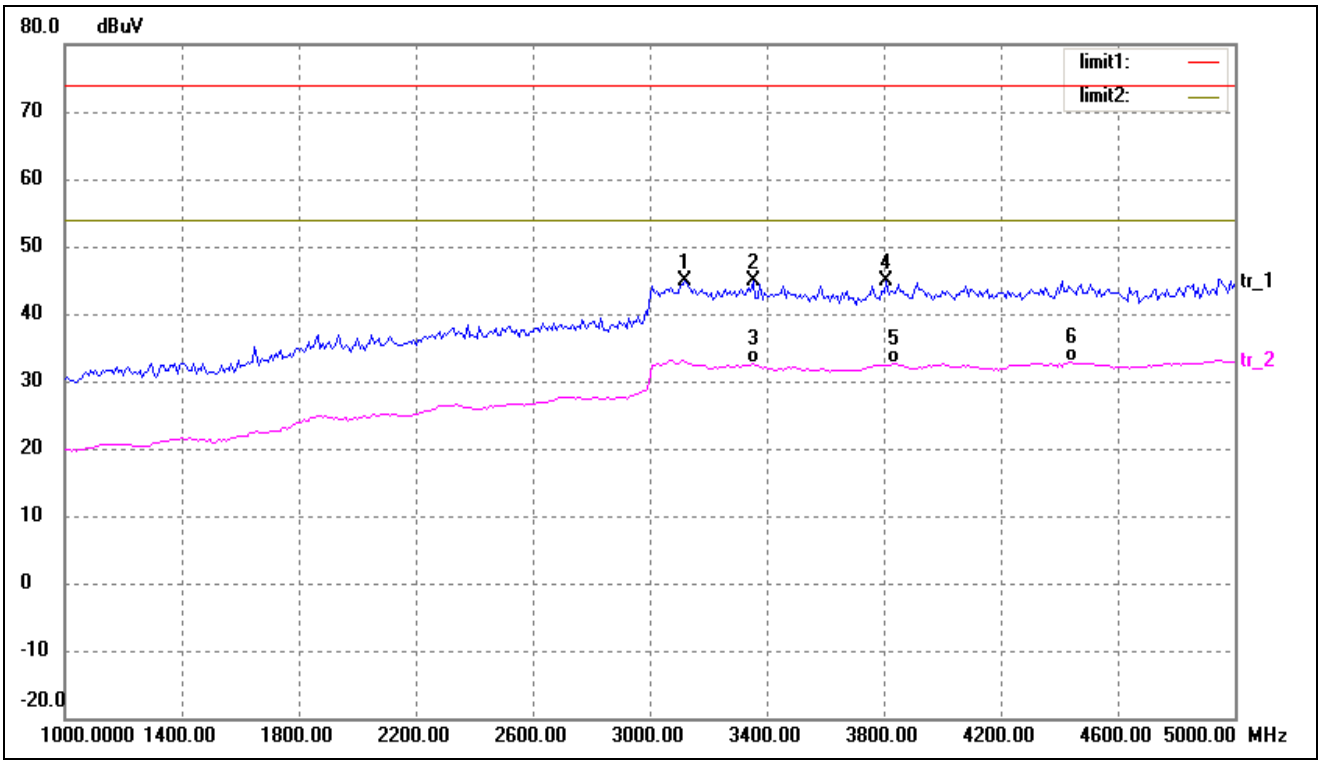
Comment: AC 120V/60Hz DC 5V Adapter

Horizontal:



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV)	dB	(dBuV)	(dBuV)	(dB)	(°)	(cm)	
1	2240.000	33.22	-7.68	25.54	54.00	-28.46	360	100	AVG
2	3072.000	51.10	-6.20	44.90	74.00	-29.10	360	100	peak
3	3336.000	38.63	-6.01	32.62	54.00	-21.38	360	100	peak
4	3632.000	50.48	-5.76	44.72	74.00	-29.28	360	100	AVG
5	4240.000	49.56	-5.14	44.42	74.00	-29.58	360	100	peak
6	4448.000	37.72	-4.96	32.76	54.00	-21.24	360	100	AVG

Vertical:



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV)	dB	(dBuV)	(dBuV)	(dB)	(°)	(cm)	
1	3120.000	51.07	-6.17	44.90	74.00	-29.10	360	100	peak
2	3352.000	50.79	-6.00	44.79	74.00	-29.21	360	100	peak
3	3352.000	38.58	-6.00	32.58	54.00	-21.42	360	100	AVG
4	3808.000	50.42	-5.57	44.85	74.00	-29.15	360	100	peak
5	3832.000	38.26	-5.54	32.72	54.00	-21.28	360	100	AVG
6	4440.000	37.75	-4.97	32.78	54.00	-21.22	360	100	AVG

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 *******