



**MOTOROLA**

**MOBILE DEVICES BUSINESS**

**PRODUCT SAFETY AND COMPLIANCE  
EMC LABORATORY**

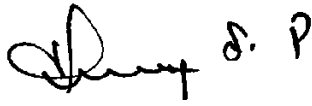
**EMC TEST REPORT**

**Test Report Number** – 18058-1 Supplement

**Report Date** – May 31, 2006

The test results contained herein relate only to the model(s) identified. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical characteristics.

As the responsible EMC Engineer, I hereby declare that the equipment tested as specified in this report conforms to the requirements indicated.

Signature: 

Name: Thanigaiselvan Palaniswami

Title: EMC Engineer

Date: May 31, 2006

This report must not be reproduced, except in full, without written approval from this laboratory.

**THIS REPORT MUST NOT BE USED TO CLAIM PRODUCT ENDORSEMENT BY A2LA OR ANY AGENCY OF THE U.S. GOVERNMENT.**

A2LA Certificate Number: 1651-01

**Table of Contents**

<u>Description</u>	<u>Page</u>
Test Report Details	3
Applicable Standards	3
Summary of Testing	4
General and Special Conditions	4
Equipment and Cable Configuration	5
Measurement Procedures and Data	6
Appendix A - Radiated Emissions Test Setup Photos	8

**Test Report Details**

Tests Performed By: Motorola Mobile Devices business (MDb)  
Product Safety and Compliance Group  
600 North US Hwy 45  
Libertyville, IL 60048  
PH (847) 523-6167 Fax (847) 523-4538  
Motorola MDb FRN: 0004321311  
FCC Registration Number: 316588  
Industry Canada Number: IC3908-1

Tests Requested By: Motorola Inc.  
Mobile Devices business  
600 North US Hwy 45  
Libertyville, IL 60048

Product Type: Cellular Phone

Signaling Capability: GSM 1900, Bluetooth

Model Number: CFUG0095AA

Serial Numbers: FB1SZ2227L

Testing Complete Date: May 31, 2006

**Applicable Standards**

All tests and measurements indicated in this document were performed in accordance with the Code of Federal Regulations Title 47 :

  X   Part 15 Subpart B – Unintentional Radiators

Applicable Standards: ANSI 63.4 2003

**Summary of Testing**

Test #	Test Name	Pass/Fail
1	Field Strength of Spurious Emissions from Unintentional Radiators	Pass
Test #	Test Name	Margin with respect to the Limit
1	Field Strength of Spurious Emissions from Unintentional Radiators	see results

The margin with respect to the limit is the minimum margin for all modes and bands.

**General and Special Conditions**

The EUT was tested using a fully charged battery.  
 All testing was done in an indoor controlled environment with an average temperature of 22° C and relative humidity of 50%.

**Equipment List**

Manufacturer	Equipment Type	Model No.	Serial Number	Calibration Due Date
Rohde Schwarz	Receiver	ESI26	838786/010	6/17/06
A.H. Systems Inc.	DRG Horn Antenna	SAS 200/571	365	5/12/07
ETS	Log-Periodic Antenna	3148	1189	8/22/06
ETS	Biconical Antenna	3110B	3369	8/15/06
Attenuator	Weinschel	AS-6	6675	1/10/07
Attenuator	Weinschel	AS-6	6677	11/14/06
Miteq	Preamp	NSP2650-NFG	1084144	7/11/06
Dell	Laptop Computer	M20	NA	NA
Iomega	Zip Drive	Z250S	P9HM1992CK	NA
Olympus	Camera	D-600L	4020727	NA

All equipment is on a one-year calibration cycle.

## **Measurement Procedures and Data**

### **FIELD STRENGTH OF EMISSIONS FROM UNINTENTIONAL RADIATORS**

CFR Part 15.109

#### **Measurement Procedure**

The equipment under test is placed inside the semi-anechoic chamber on a wooden table on the turntable center. For each radiated emission, the antenna mast is raised and lowered from 1 to 4 meters and the turntable is rotated 360 degrees to obtain a maximum peak reading on the spectrum analyzer. The final radiated emissions are then measured using an EMI receiver employing a CISPR quasi-peak detector function below 1000 MHz and an average detector function above 1000 MHz. This is repeated for both horizontal and vertical polarizations of the receive antenna.

The field strength of each radiated emission is calculated by correcting the EMI receiver level for cable loss, amplifier gain, and antenna correction factors.

$$\text{Field Strength (dBuV/m)} = \text{EMI Receiver Level (dBuV)} + \text{Cable Loss (dB)} - \text{Amplifier Gain (dB)} + \text{Antenna Correction Factor (1/m)}$$

#### **Test Setup**

The EUT and the host equipment were setup according to the procedures in ANSI C63.4-2003. The EUT was connected to a laptop computer using a USB data cable. The USB data cable is 1 m in length. The parallel and the serial ports of the computer were populated. The EUT was communicating with the laptop computer continuously.

**Measurement Results**

Operating Mode – Rx Mode, Data Transfer Mode.

30 MHz – 1000 MHz

Frequency	Level	Measured	Antenna Factor	Cable Loss	Limit	Margin	Height	Angle	Pol.
MHz	dBuV/m	dBuV	dB	dB	dBuV/m	dB	cm	deg	
34.08	33.41	13.63	11.9	7.8	40	6.6	100	121	VERT
34.52	33.19	13.58	11.8	7.8	40	6.8	100	176	VERT
35.2	32.31	12.86	11.6	7.8	40	7.7	100	186	VERT
35.88	30.78	11.46	11.5	7.8	40	9.2	100	161	VERT
96.12	34.65	14.88	10.6	9.2	43.5	8.8	100	267	VERT
147.28	37.36	14.5	12.8	10.1	43.5	6.1	100	253	VERT
163.64	34.16	10.27	13.7	10.2	43.5	9.3	100	208	VERT
196.36	34.04	8.26	15.2	10.6	43.5	9.5	175	233	HORI
893.52	38.21	-0.91	23.2	15.9	46	7.8	250	336	HORI
905.76	38.66	-0.91	23.6	15.9	46	7.3	350	14	HORI
925.6	38.89	-0.8	23.7	16	46	7.1	346	263	HORI
932.2	38.73	-0.85	23.6	16	46	7.3	204	128	HORI
940.32	38.81	-0.8	23.6	16	46	7.2	150	261	HORI
946.92	38.56	-0.85	23.4	16	46	7.4	150	212	HORI
950.24	38.63	-0.8	23.4	16	46	7.4	150	203	HORI
980.4	39.12	-0.7	23.5	16.3	54	14.9	319	165	HORI

Above 1 GHz

Frequency	Level	Measured	Antenna Factor	Gain	Limit	Margin	Height	Angle	Pol.
MHz	dBuV/m	dBuV	dB	dB	dBuV/m	dB	cm	deg	
1118.5	37.36	22.33	23.8	8.8	53.9	16.5	400	0	VERT
1130.5	38.54	23.31	23.9	8.7	53.9	15.4	400	359	VERT
1898.5	38.66	17.52	27.4	6.3	53.9	15.2	350	125	HORI
1943	39.14	17.65	27.8	6.3	53.9	14.8	349	195	VERT
1964	39.85	17.56	28.4	6.1	53.9	14.1	400	203	HORI
1975.5	40.08	17.87	28.2	6	53.9	13.8	400	52	VERT
1990	41.08	18.27	28.8	5.9	53.9	12.8	250	50	HORI
1995	40.97	18.54	28.4	6	53.9	12.9	188	51	VERT

Notes: Worst Case emissions reported.

**Appendix A – Radiated Emissions Test Setup Photos**



Radiated Emissions Measurement Setup

**End of Test Report**