



**MOBILE DEVICES BUSINESS**

**PRODUCT SAFETY AND COMPLIANCE  
EMC LABORATORY**

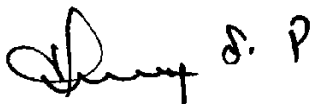
**EMC TEST REPORT**

**Test Report Number** – 21114-1 Supplement

**Report Date** – September 19, 2007

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: September 19, 2007

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

A2LA Certificate Number: 2518-02

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**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: CDMA 800

FCC ID: IHDT5HB1

Serial Numbers: A00000024A369C8, A00000024A3673D,  
A00000024A3674B

Testing Complete Date: September 19, 2007

**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**

<u>Test #</u>	<u>Test Name</u>	<u>Pass/Fail</u>
1	Field Strength of Spurious Emissions from Unintentional Radiators	Pass
2	AC Line Conducted Emissions	Pass
<u>Test #</u>	<u>Test Name</u>	<u>Margin with respect to the Limit</u>
1	Field Strength of Spurious Emissions from Unintentional Radiators	see results
2	AC Line Conducted Emissions	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	100001	5/02/08
Rohde Schwarz	Receiver	ESI40	838786/010	3/19/08
A.H. Systems Inc.	DRG Horn Antenna	3115	6222	3/21/08
ETS	Log-Periodic Antenna	3148	1188	6/18/08
ETS	Biconical Antenna	3110B	3370	3/15/08
Attenuator	Weinschel	AS-6	6675	1/31/08
Attenuator	Weinschel	AS-6	6677	6/21/08
ETS	LISN	3810/2NM	00062907	5/02/08
ETS	LISN	3810/2NM	00062912	5/02/08
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.

The Dell M20 Laptop Computer, the Iomega Z250S Zip Drive and the Olympus D-600L Camera are labeled as DoC.

## **Measurement Procedures and Data**

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

#### **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	Transd	Cables	Limit	Margin	Height	Angle	Pol.
MHz	dBuV/m	dBuV	dB	dB	dBuV/m	dB	cm	deg	
31.04	30.66	10.25	12.6	7.8	40	9.3	100	138	VERT
34.8	31.76	12.54	11.4	7.8	40	8.2	100	123	VERT
76.84	35.75	17.99	9	8.8	40	4.2	100	265	VERT
396	43.52	14.35	16.5	12.7	46	2.5	350	124	HORI
951.96	39.59	-0.51	24	16.1	46	6.4	182	191	HORI

Above 1 GHz

Frequency	Level	Measured	Transd	Gain	Limit	Margin	Height	Angle	Pol.
MHz	dBuV/m	dBuV	dB	dB	dBuV/m	dB	cm	deg	
1751.8	39.55	19.57	26.3	6.3	53.9	14.3	384	106	HORI
1754.7	39.74	19.73	26.3	6.3	53.9	14.2	384	101	HORI
1757.4	39.79	19.77	26.3	6.3	53.9	14.1	385	66	HORI
1762.1	39.82	19.78	26.3	6.3	53.9	14.1	150	52	HORI
1903.7	40.97	19.51	27	5.6	53.9	12.9	250	67	HORI
1962	41.57	19.52	27.5	5.5	53.9	12.3	150	240	HORI
1971.8	41.69	19.55	27.6	5.4	53.9	12.2	322	74	HORI
1977.4	41.86	19.66	27.6	5.4	53.9	12	150	338	HORI
1984	41.88	19.62	27.7	5.4	53.9	12	384	149	HORI
1988.1	42	19.69	27.7	5.4	53.9	11.9	150	263	HORI

Notes: Worst Case emissions reported.

Peak Radiated Data for Emissions above 1GHz

Frequency	Level	Angle	Height	Pol.
MHz	dBuV/m	deg	cm	
1751.503	54.19	84	400	HOR
1753.507	55.09	84	400	HOR
1757.515	56.37	85	400	HOR
1763.5271	56.72	54	200	HOR
1903.8076	51.86	21	400	VER
1961.9238	52.26	334	100	HOR
1971.9439	53.79	69	300	HOR
1977.9559	53.8	320	300	HOR
1983.9679	54.16	132	400	HOR
1987.976	53.51	247	200	HOR

## **AC LINE CONDUCTED EMISSIONS**

### **Measurement Procedure**

Measured levels of ac power line conducted emission shall be the radio-noise voltage from the line probe or across the 50  $\Omega$  LISN port, where permitted, terminated into a 50  $\Omega$  noise meter, or where permitted or required, the radio-noise current on the power line sensed by a current probe.

All radio-noise voltage and current measurements shall be made on each current-carrying conductor at the plug end of the EUT power cord or calibrated extension cord by the use of mating plugs and receptacles on the EUT and LISN. Equipment shall be tested with power cords that are normally supplied using an LISN, the 50  $\Omega$  measuring port is terminated by a 50  $\Omega$  radio-noise meter or a 50  $\Omega$  resistive load. All other ports are terminated in 50  $\Omega$ .

Detectors - Quasi Peak and Average Detector

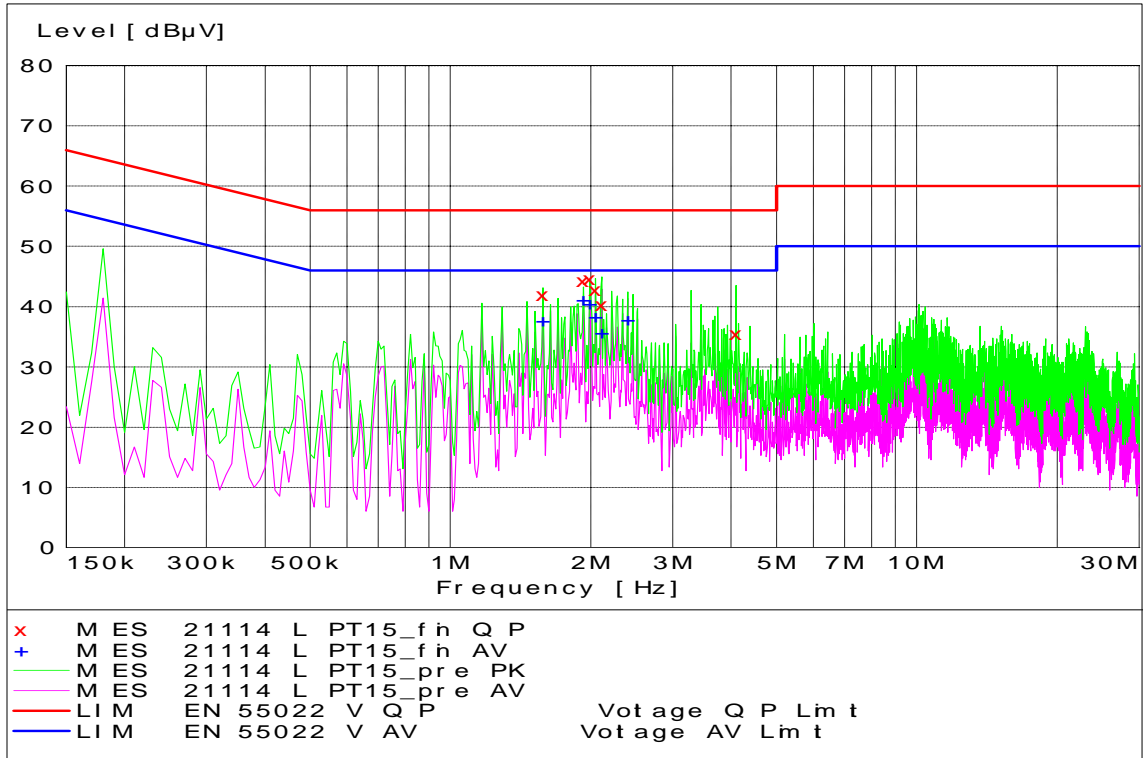
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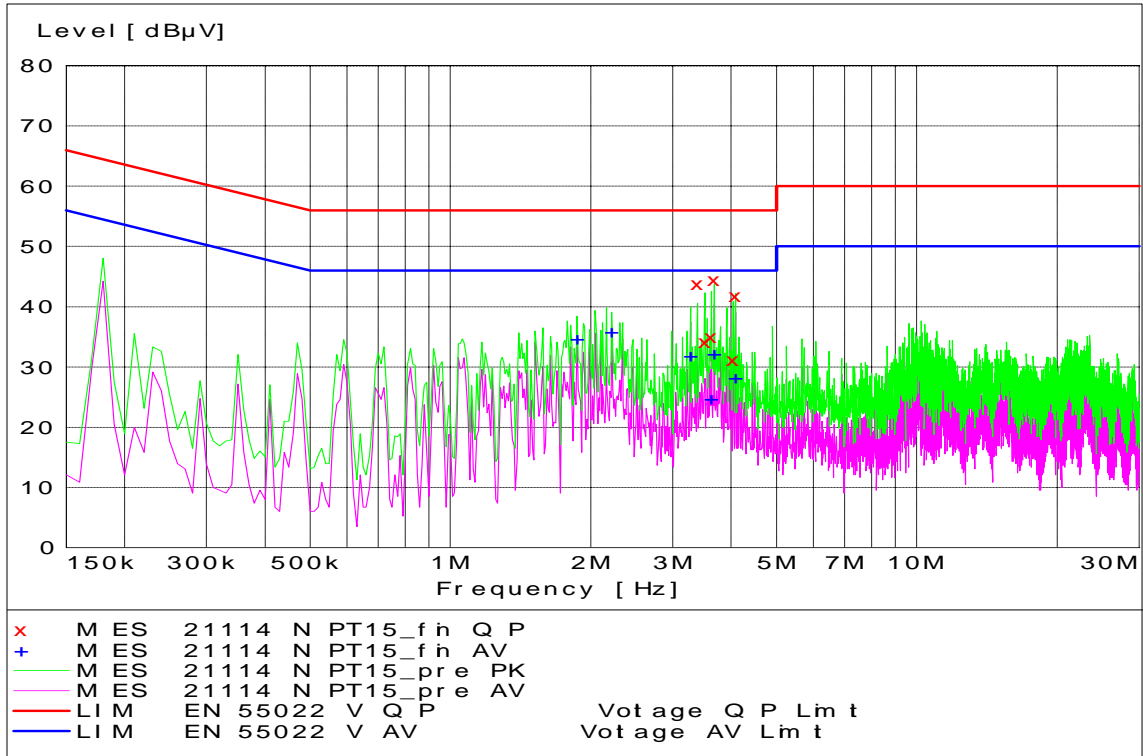
### **Measurement Results**

See attached:

### Part15 AC Line -Line



### Part15 AC Line - Neutral



**End of Test Report**