



MOBILE DEVICES BUSINESS

**PRODUCT SAFETY AND COMPLIANCE
EMC LABORATORY**

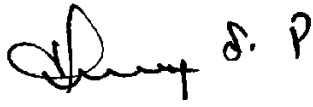
EMC TEST REPORT

Test Report Number – 19265-1 Supplement

Report Date – October 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: October 31, 2006

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

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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

Signaling Capability: GSM 850 & 1900, Bluetooth

FCC ID : IHDT56FP2

Serial Numbers: 004401022601963, 004401022601963, 004401022601963

Testing Complete Date: October 30, 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

<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	3/08/07
Rohde Schwarz	Receiver	ESI40	100226	6/05/07
A.H. Systems Inc.	DRG Horn Antenna	SAS 200/571	365	5/12/07
ETS	Log-Periodic Antenna	3148	1188	5/12/07
ETS	Biconical Antenna	3110B	3370	3/03/07
Attenuator	Weinschel	AS-6	6675	1/10/07
Attenuator	Weinschel	AS-6	6677	11/14/06
ETS	LISN	3810/2NM	00062907	5/10/07
ETS	LISN	3810/2NM	00062912	5/10/07

All equipment is on a one-year calibration cycle.

List of Peripheral Equipments

Dell	Laptop Computer	M20	NA	NA
Iomega	Zip Drive	Z250S	P9HM1992CK	NA
Olympus	Camera	D-600L	4020727	NA

All Peripheral equipments 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 Peak Detector	Level QP Detector	Measured	Antenna Factor	Cable Loss	Limit	Margin	Height	Angle	Pol.
MHz	dBuV/m	dBuV/m	dBuV	dB	dB	dBuV/m	dB	cm	deg	
30	36.54	32.25	10.93	13.5	7.8	40	7.8	100	119	VERT
39.56	36.14	34.2	14.84	11.5	7.9	40	5.8	100	174	VERT
135.96	38.88	33.42	11.02	12.5	9.9	43.5	10.1	100	143	VERT
138.64	39.31	36.42	13.89	12.6	9.9	43.5	7.1	100	244	VERT
143	36.36	34.47	11.58	12.9	10	43.5	9	100	233	VERT
191.4	37.06	38.74	13.53	14.7	10.5	43.5	4.8	188	217	HORI
261.8	37.29	36.47	12.24	12.9	11.3	46	9.5	100	213	HORI
319	35.92	39.15	12.31	14.9	11.9	46	6.9	100	253	HORI
510.4	35.05	39.93	8.34	18.1	13.5	46	6.1	100	196	VERT

Above 1 GHz

Frequency	Level Peak Detector	Level Average Detector	Measured	Antenna Factor	Gain	Limit	Margin	Height	Angle	Pol.
MHz	dBμV/m	dBμV/m	dBμV	dB	dB	dBμV/m	dB	cm	deg	
1130.3	52	37.04	21.82	23.9	8.7	53.9	16.9	350	332	VERT
1491.4	51.02	35.84	18.09	25.4	7.6	53.9	18.1	372	330	VERT
1971.1	52.37	40.07	17.91	28.1	6	53.9	13.8	360	171	VERT

Notes: Worst Case emissions reported.

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 Ω LISN port, where permitted, terminated into a 50 Ω 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 Ω measuring port is terminated by a 50 Ω radio-noise meter or a 50 Ω resistive load. All other ports are terminated in 50 Ω .

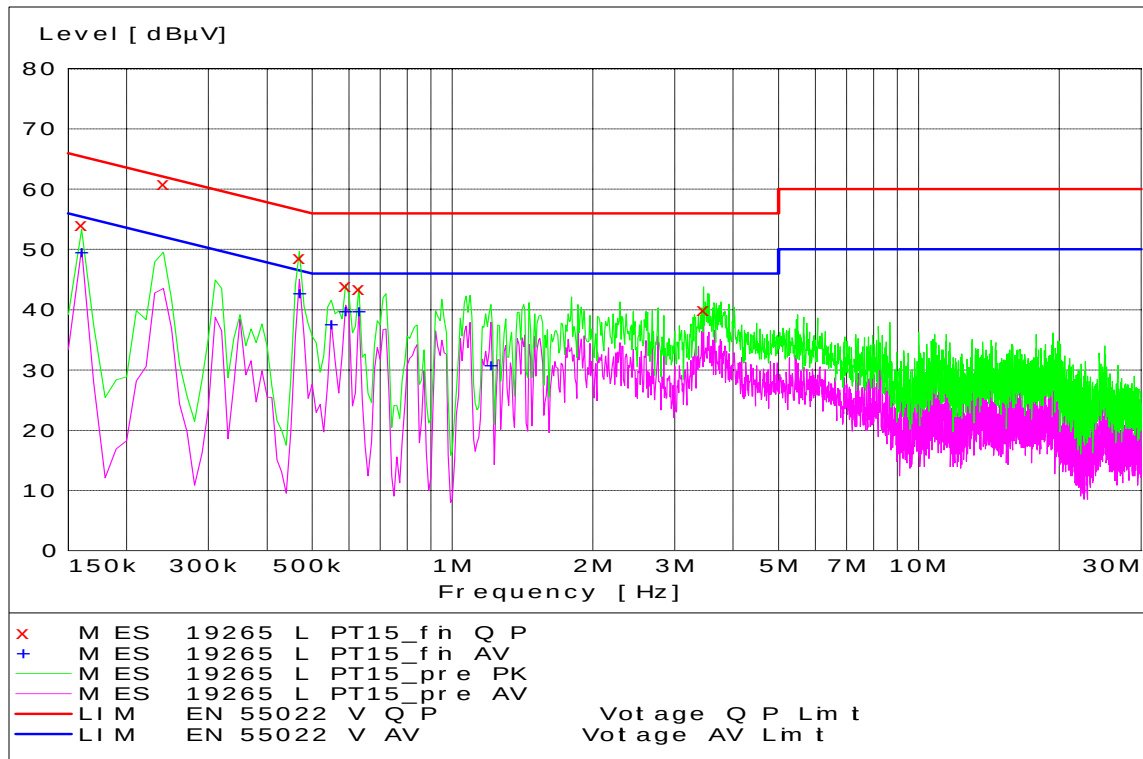
Detectors - Quasi Peak and Average Detector

Test Setup

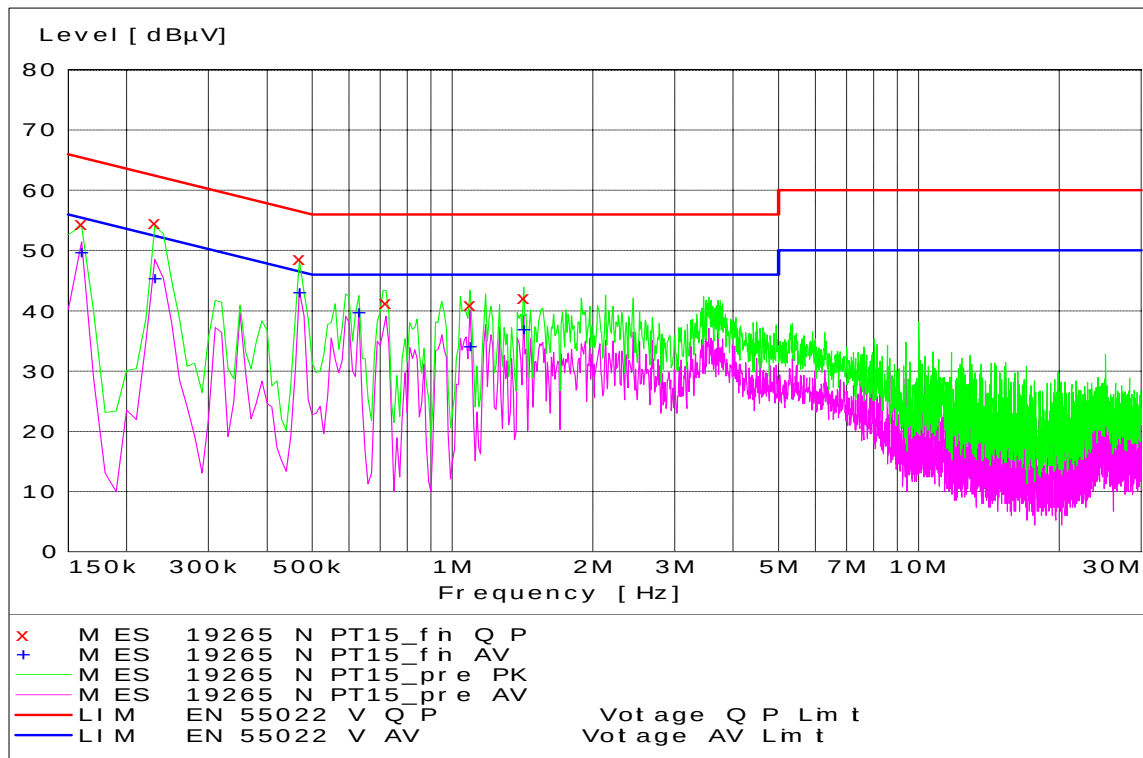
The EUT and the host equipment were setup according to the procedures in ANSI C63.4-2003. The EUT was connected to a laptop computer using a USB data cable. The USB data cable is 1 m in length. The parallel and the serial ports of the computer were populated. The EUT was communicating with the laptop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

Measurement Results

See attached:



Part15 AC Line –Line



Part15 AC Line - Neutral

End of Test Report