



MOBILE DEVICES BUSINESS

**PRODUCT SAFETY AND COMPLIANCE
EMC LABORATORY**

EMC TEST REPORT

Test Report Number – 18878-1 Supplement

Report Date – September 13, 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: Albert J. Patapack

Title: EMC Engineer

Date: September 13, 2006

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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, GSM 1900, EDGE, Bluetooth

FCC ID : IHDT56GZ1

Serial Numbers: AHA2130023, AHA2130047,
 AHA2130001, AHA2130005

Testing Complete Date: September 13, 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 Condcuted 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 Condcuted 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
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

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 MHz	Level dBµV/m	Measured dBµV	Transd dB	Cables dB	Limit dBµV/m	Margin dB	Height cm	Angle deg	Pol.
34.08	35.96	14.74	13.4	7.8	40	4	112	265	HORI
34.64	36.87	15.81	13.2	7.8	40	3.1	100	0	HORI
34.88	37.29	16.3	13.2	7.8	40	2.7	100	84	HORI
35.08	37.76	16.82	13.1	7.8	40	2.2	118	67	HORI
35.24	38.21	17.31	13.1	7.8	40	1.8	130	198	HORI
147.28	40.79	18.19	12.5	10.1	43.5	2.7	100	345	HORI
191.4	39.68	13.67	15.5	10.5	43.5	3.8	112	220	VERT
319	37.85	10.93	15	11.9	46	8.2	131	93	HORI
365.04	39.95	12.31	15.4	12.2	46	6.1	150	191	VERT
833.64	37.51	-0.51	22.4	15.6	46	8.5	100	22	HORI
911.88	39.42	-0.32	23.8	15.9	46	6.6	364	335	HORI
941.6	39.19	-0.36	23.5	16	46	6.8	287	114	HORI

Above 1 GHz

Frequency MHz	Level dBµV/m	Measured dBµV	Transd dB	Gain dB	Limit dBµV/m	Margin dB	Height cm	Angle deg	Pol.
1126.9	38.22	23.06	23.9	8.7	53.9	15.7	291	85	VERT
1512.5	35.7	17.85	25.4	7.6	53.9	18.2	384	333	VERT
1953.9	39.92	17.85	28.2	6.1	53.9	14	337	25	HORI
1966.6	39.78	17.74	28.1	6	53.9	14.1	150	32	VERT
1986.2	40.27	17.53	28.7	6	53.9	13.6	150	323	HORI
1999.6	40.63	17.8	28.9	6.1	53.9	13.3	240	72	HORI

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

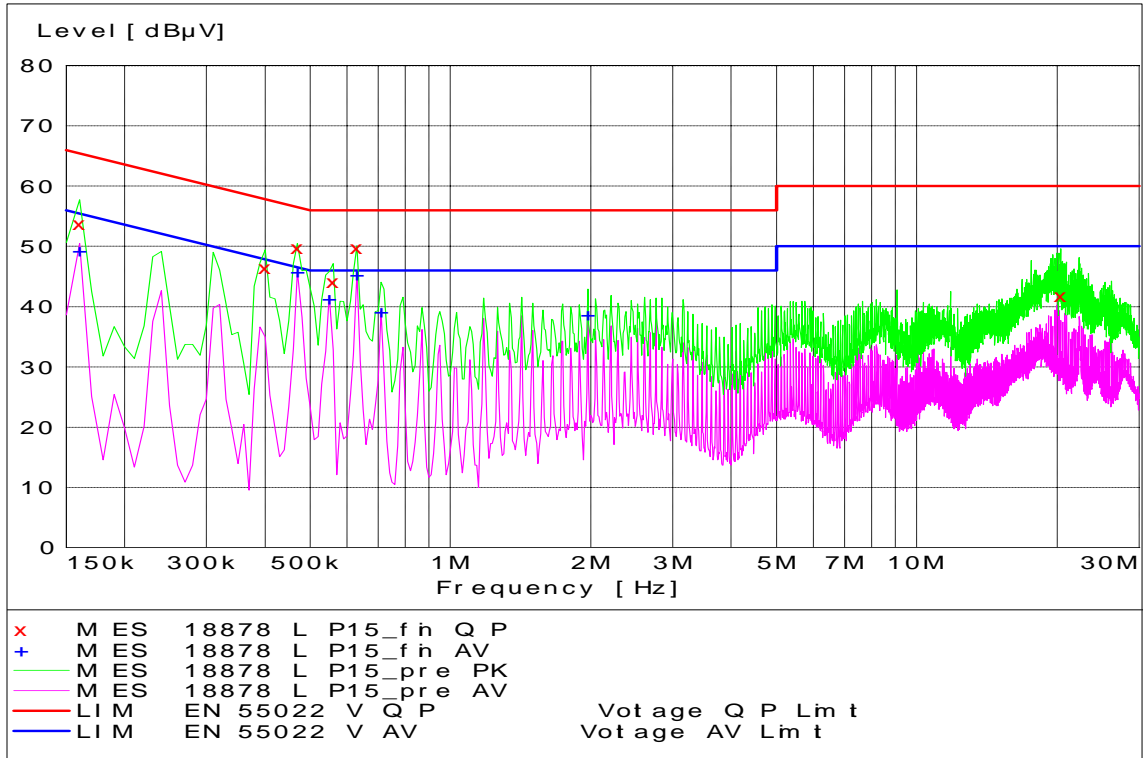
Test Setup

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.

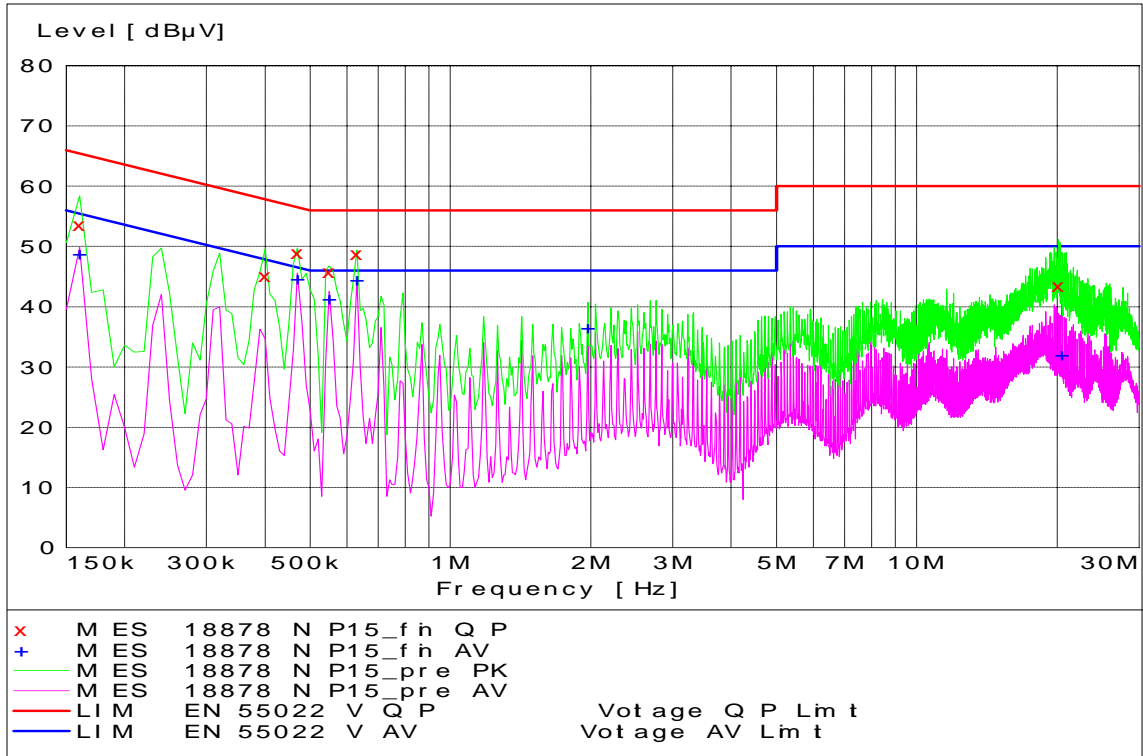
Measurement Results

See attached:

Part15 AC Line -Line



Part15 AC Line - Neutral



Appendix A – Radiated Emissions Test Setup Photos



Radiated Emissions Measurement Setup
(Representative Photo – Not Actual Phone Tested)

Appendix B - AC Line Conducted Emissions Test Setup Photos



AC Line Conducted Emissions Measurement Setup.
(Representative Photo- Not Actual Phone Tested)

End of Test Report