



MOBILE DEVICES BUSINESS

**PRODUCT SAFETY AND COMPLIANCE
EMC LABORATORY**

EMC TEST REPORT

Test Report Number – 23584-1 Supplement

Report Date – February 10, 2010

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: February 10, 2010

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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: 1090-1

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

Product Type: Cellular Phone

Signaling Capability: CDMA 800/1900, CDMA 1X/EV-DO
Release 0, Bluetooth Class 2, Version 2.0+EDR

FCC ID: IHDT56LN1

Serial Numbers: A00000015E6339A

Testing Complete Date: February 2, 2010

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, RSS-Gen Issue 2, RSS-210 Issue 7

Summary of Testing

Test #	Test Name	Pass/Fail
1	Field Strength of Spurious Emissions from Unintentional Radiators	Pass
2	AC Line Conducted Emissions	Pass

Test #	Test Name	Margin with respect to the Limit
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 Cellular Phone hereinafter referred to as the Equipment under Test or EUT was tested using a fully charged battery.

The temperature and the relative humidity were maintained within the ANSI C63.4 2003 Standard requirements during the entire duration of testing.

Equipment List

Manufacturer	Equipment Type	Model No.	Serial Number	Calibration Due Date
Rohde & Schwarz	Receiver	ESI26	100001	12/02/2010
Rohde & Schwarz	Receiver	ESI26	838786/010	5/01/2010
ETS	DRG Horn Antenna	SAS 200/571	265	4/29/2010
ETS	Log-Periodic Antenna	3148	1189	6/12/2010
ETS	Biconical Antenna	3110B	3370	10/02/2010
Attenuator	Weinschel	AS-6	6675	NCR
Attenuator	Weinschel	AS-6	6677	NCR
ETS	LISN	3810/2NM	00023630	10/05/2010
ETS	LISN	3810/2NM	2179	10/06/2010
Dell	Laptop Computer	M20	NA	NA
Iomega	Zip Drive	Z250S	P9HM1992CK	NA
Olympus	Camera	D-600L	4020727	NA

All testing was performed using equipment that was within calibration at the time that the test was performed. No equipment listed in the table above was used after the specified calibration due date. If, during the course of product testing, a piece of equipment went out of calibration and that piece of equipment was needed to complete product testing, a similar piece of calibrated equipment was substituted. If a substitution was made, that new piece of equipment would be listed in the above table along with the piece that was removed from service. 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.

Note: Worst Case emissions reported.

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.
39.04	28.39	10.39	10.9	7.1	40	11.6	100	144	VERT
71.04	31.47	15.48	8.5	7.5	40	8.5	100	151	VERT
147.28	36.45	15.43	12.9	8.1	43.5	7.1	100	190	VERT
163.64	33.84	11.57	14.1	8.2	43.5	9.7	100	64	VERT
192.40	35.95	12.54	15.0	8.4	43.5	7.6	100	244	HORI
320.64	44.99	20.83	15.0	9.1	46	1.0	100	265	HORI
366.44	40.15	15.14	15.6	9.4	46	5.9	170	196	VERT
384.76	39.90	14.51	15.9	9.5	46	6.1	100	180	HORI
916.20	34.74	-0.56	23.8	11.5	46	11.3	234	1	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.
1061.9	31.08	34.30	24.0	27.2	54	22.9	101	341	VERT
1125.8	37.03	39.51	24.5	27.0	54	17.0	190	335	VERT
1303.7	31.24	32.22	25.3	26.3	54	22.8	100	31	VERT
1512.7	32.19	32.32	25.3	25.5	54	21.8	194	43	VERT
1601.1	32.00	31.53	25.6	25.1	54	22.0	100	320	VERT
1967.8	34.56	30.79	27.4	23.7	54	19.4	243	9	VERT
1996.9	34.24	30.56	27.2	23.6	54	19.8	100	159	VERT

Peak Radiated Data for Emissions Above 1GHz

Frequency MHz	Level dB μ V/m	Angle deg	Height cm	Pol.
1060.12	43.48	272	100	VER
1062.12	46.99	356	100	VER
1124.29	48.27	338	200	VER
1126.25	49.37	335	200	VER
1302.60	47.08	53	100	VER
1304.61	43.08	153	200	HOR
1511.02	44.86	283	100	VER
1513.03	47.26	38	200	VER
1599.19	44.24	196	200	VER
1601.20	42.81	283	200	VER
1603.21	47.74	322	100	VER
1965.93	45.12	274	100	HOR
1967.94	46.10	169	200	VER
1969.94	46.87	31	200	VER
1995.994	47.00	137	100	VER
1997.994	46.38	178	200	VER

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 .

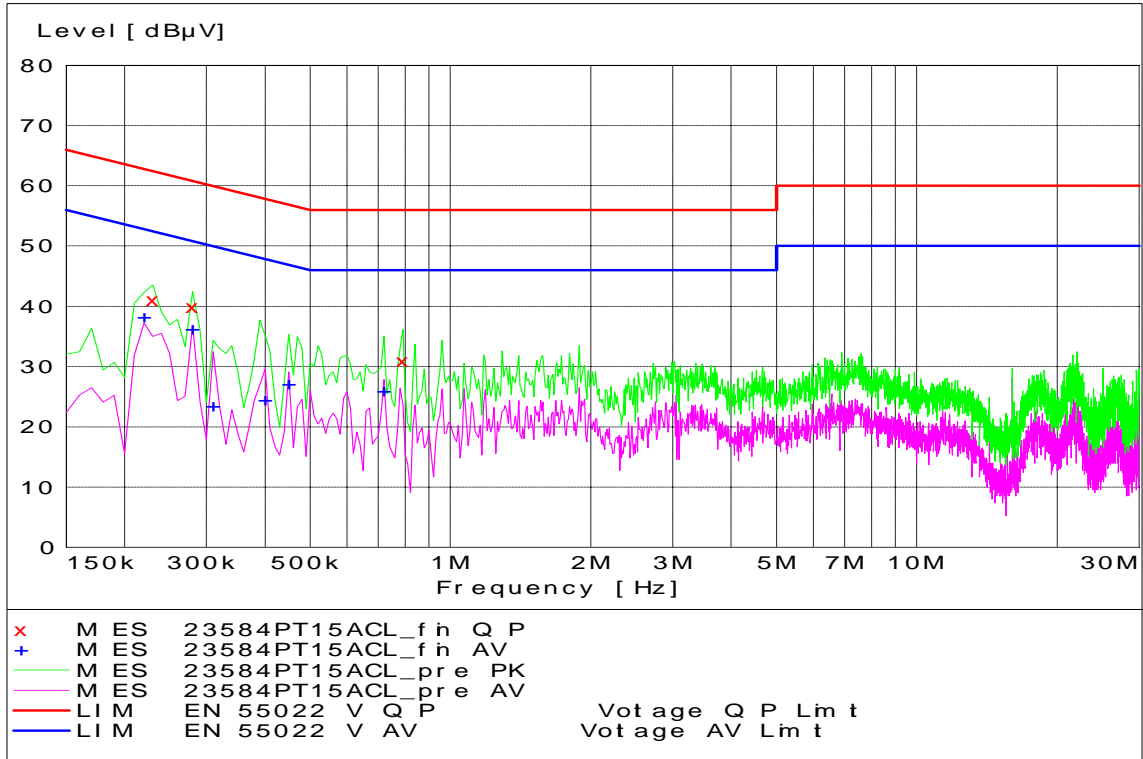
Detectors - Quasi Peak and Average Detector

Test Setup

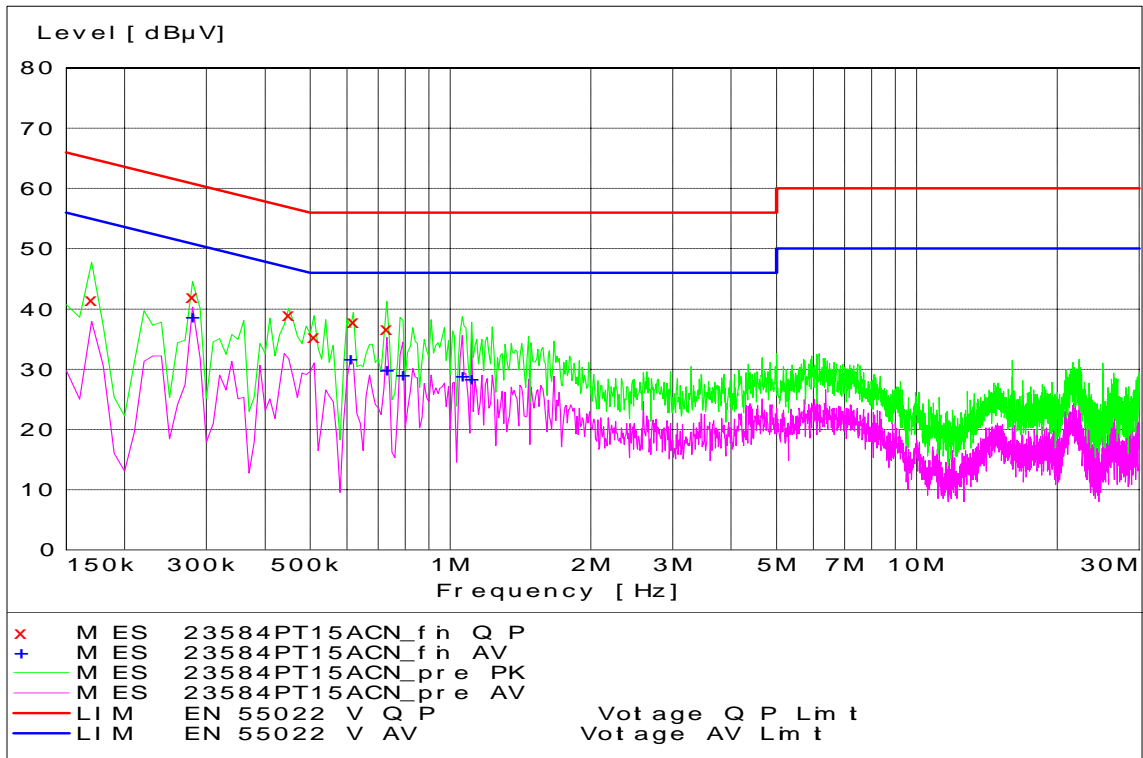
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Measurement Results

See attached:



Pt 15 - Tx Mode - Line Coupling



Pt 15 - Tx Mode - Neutral Coupling

End of Test Report