



MOBILE DEVICES BUSINESS

**PRODUCT SAFETY AND COMPLIANCE
EMC LABORATORY**

EMC TEST REPORT

Test Report Number – 23695-1 Supplement

Report Date – May 17, 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: May 17, 2010

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A2LA Certificate Number: 2518-02

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

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, CDMA 1X/EV-DO Release 0,
Bluetooth Class 1, Version 2.1+EDR
802.11b, 802.11g

FCC ID: IHDT56LH2

Serial Numbers: TA2310004S

Testing Complete Date: April 1, 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	3115	6222	10/02/2010
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.
39.60	25.78	7.9	10.8	7.1	40	14.2	100	56	VERT
75.00	30.82	14.58	8.7	7.5	40	9.2	150	180	VERT
147.28	35.87	14.86	12.9	8.1	43.5	7.6	99	41	VERT
320.64	44.67	20.51	15.0	9.1	46	1.3	100	272	HORI
352.72	38.89	14.24	15.3	9.3	46	7.1	100	249	HORI
366.44	38.92	13.91	15.6	9.4	46	7.1	169	180	VERT
384.76	41.11	15.72	15.9	9.5	46	4.9	100	190	HORI
793.52	32.81	0.5	21.2	11.1	46	13.2	100	36	VERT
829.80	33.61	0.8	21.6	11.2	46	12.4	100	27	VERT
956.36	34.55	-0.56	23.5	11.6	46	11.4	250	230	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.
1484.9	29.81	28.25	25.3	23.7	54	24.2	103	277	VERT
1502.2	30.73	28.97	25.3	23.6	54	23.3	100	270	VERT
1593.9	30.74	27.92	25.7	22.8	54	23.3	98	267	HORI
1916.3	34.05	26.96	27.4	20.3	54	20	196	275	HORI

Peak Radiated Data for Emissions Above 1GHz

Frequency MHz	Level dBµV/m	Angle deg	Height cm	Pol.
1462.93	39.4	0	100	HOR
1464.93	39.98	19	100	VER
1466.93	40.19	128	100	HOR
1501.00	48.78	271	100	VER
1503.01	47.85	271	100	VER
1591.18	42.67	345	200	VER
1593.19	48.32	275	100	HOR
1595.19	47.89	335	200	VER
1915.83	46.57	260	200	HOR
1917.84	45.46	31	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 .

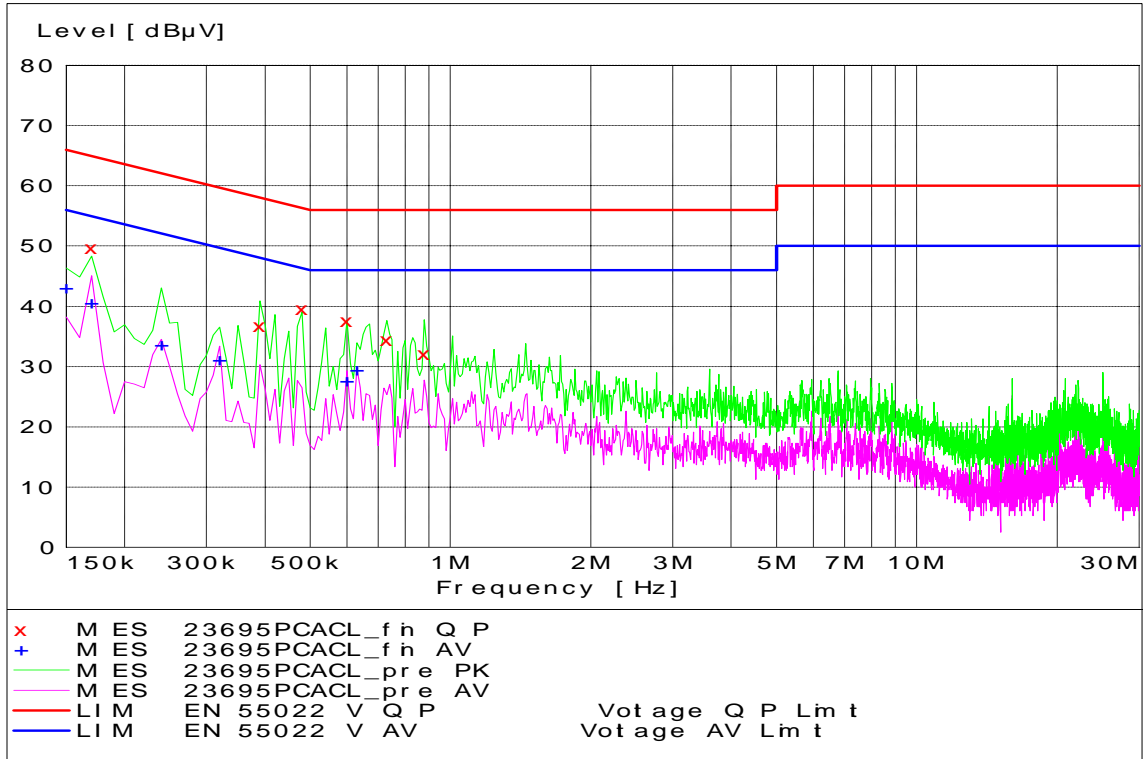
Detectors - Quasi Peak and Average Detector

Test Setup

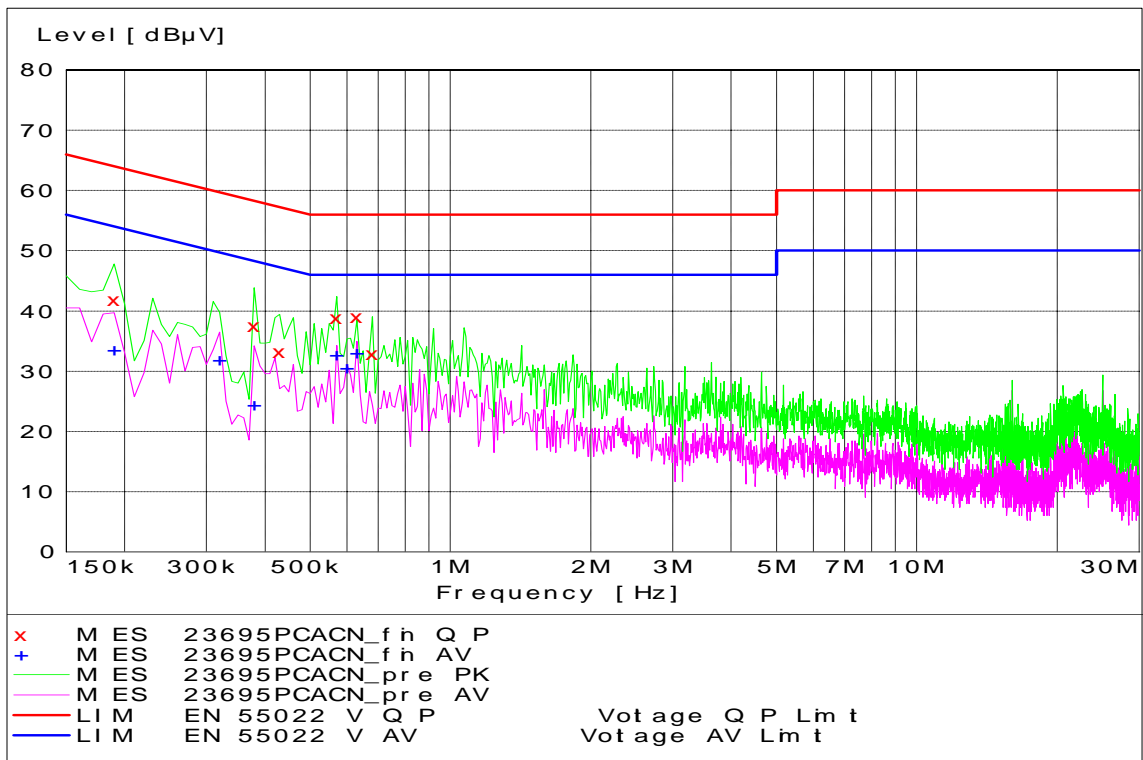
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Measurement Results

See attached:



Pt 15 - Tx Mode - Line Coupling



Pt 15 - Tx Mode - Neutral Coupling

End of Test Report