



MOBILE DEVICES BUSINESS

**PRODUCT SAFETY AND COMPLIANCE
EMC LABORATORY**

EMC TEST REPORT

Test Report Number – 24607-1 Supplement

Report Date – September 12, 2011

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:

A handwritten signature in black ink that reads 'Albert J. Patapack'.

Name: Albert J. Patapack

Title: EMC Engineer

Date: September 12, 2011

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

UKAS Certificate Number: 2404

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Test Report Details

Tests Performed By: ADR Testing Service
Location Code: ADR LV
Motorola Mobility Inc
Product Safety and Compliance Group
600 North US Hwy 45
Libertyville, IL 60048
PH (847) 523-6167 Fax (847) 523-4538
FCC Registration Number: 316588
Industry Canada Number: 1090-1

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

Product Type: Cellular Phone

Signaling Capability: CDMA 800/1900, CDMA 1X/EV-DO Release A,
LTE Band 13, WCDMA 850/1900, GSM 850/1900,
HSDPA, HSUPA, EDGE, GPRS,
Bluetooth LE + EDR, 802.11b/802.11g/802.11n

Note: The GSM/EDGE/WCDMA network functions have been disabled by firmware and are SIM locked for all US operators.

FCC ID: IHDP56ME1

Serial Numbers: 99000052564217

Testing Complete Date: August 2, 2011

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-210 Issue 8

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

This product utilizes an internal battery that is not removable. When applicable, EMC testing was performed with the internal battery fully charged.

All testing was done in an indoor controlled environment. The temperature and the relative humidity were maintained within the ANSI C63.4 2003 Standard requirements during the entire duration of testing.

Equipment and Cable Configurations

The EUT was tested in a stand-alone configuration that is representative of typical use.

Equipment List

Manufacturer	Equipment Type	Model No.	Serial Number	Calibration Due Date
Rohde & Schwarz	Receiver	ESIB26	100001	9/23/2011
ETS	DRG Horn Antenna	SAS 200/571	265	9/09/2011
ETS	Log-Periodic Antenna	3148	1189	1/19/2012
ETS	Biconical Antenna	3110B	3370	1/19/2012
Agilent	Microwave Preamplifier	8449B	3008A00535	10/05/2011
ETS	Loop Antenna	6507	00049471	2/17/2012
Rohde & Schwarz	Receiver	ESU 40	100286	7/13/2012
Attenuator	Weinschel	AS-6	6675	NCR
Attenuator	Weinschel	AS-6	6677	NCR
ETS	LISN	3810/2	00062907	9/08/2011
ETS	LISN	3810/2	00062912	9/08/2011
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.

All test equipment was within their calibration date during the time of testing. When equipment went out of calibration during testing it was replaced using a similar piece of calibrated equipment. All these equipments are listed in the equipment list.

The Dell M20 Laptop Computer, 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.

Field Strength (dBuV/m) = EMI Receiver Level (dBuV) + Cable Loss (dB) - Amplifier Gain (dB) + 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.

Additional EUT information:

Processor Speed – Up to 1.2GHz

Xtal – 32KHz, 19.2MHz

TCXO – 26MHz

Memory Size – 1GB LPDDR2 SDRAM, 16GB eMMC

Video Resolution – qHD 960x540

Video Clock - 24MHz

Refresh rate – 60Hz

Testing was conducted up to and including 5GHz.

Measurement Results

Operating Mode – Rx Mode, Data Transfer Mode.

Notes: 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.
39.36	36.26	17.63	11.5	7.1	40	3.7	100	108	VERT
40.04	36.10	17.60	11.4	7.1	40	3.9	100	84	VERT
43.36	36.22	18.30	10.8	7.2	40	3.8	150	52	VERT
47.48	32.59	15.13	10.3	7.2	40	7.4	100	261	VERT
72.36	36.06	19.25	9.3	7.5	40	3.9	100	241	VERT
75.64	36.94	20.15	9.2	7.5	40	3.1	100	223	VERT
320.64	42.46	19.88	13.5	9.1	46	3.5	101	260	HORI
384.76	42.31	18.03	14.8	9.5	46	3.7	100	86	HORI
908.80	34.62	-0.61	23.8	11.4	46	11.4	99	179	VERT

Radiated emissions were measured from 9 kHz to 30 MHz and all emissions were 20 dB below the limit.

Average Measurements Above 1 GHz

Frequency MHz	Level dBμV/m	Measured dBμV	Transd dB	Gain dB	Limit dBμV/m	Margin dB	Height cm	Angle deg	Pol.
1064.0	32.45	31.97	23.3	22.8	54	21.6	178	103	VERT
1126.3	37.17	36.22	23.6	22.6	54	16.8	214	334	VERT
1130.4	36.70	35.71	23.6	22.6	54	17.3	213	339	VERT
1484.1	31.37	28.17	24.6	21.4	54	22.6	100	261	VERT
1512.9	31.19	27.89	24.6	21.3	54	22.8	100	266	VERT
1987.8	35.01	26.70	28.0	19.7	54	19.0	100	262	HORI
3029.1	38.11	25.40	30.4	17.7	54	15.9	231	308	HORI
3196.6	38.98	24.93	31.4	17.4	54	15.0	100	179	VERT
3810.0	38.57	23.92	30.8	16.2	54	15.4	250	199	VERT
3941.9	39.06	23.59	31.4	15.9	54	14.9	250	250	HORI
4811.5	41.12	22.76	33.0	14.7	54	12.9	190	227	VERT
4954.4	41.74	22.84	33.4	14.5	54	12.3	100	158	HORI
4988.3	42.10	23.10	33.4	14.4	54	11.9	133	174	HORI
4991.4	42.30	23.08	33.6	14.4	54	11.7	99	89	VERT
4994.8	42.28	23.04	33.7	14.4	54	11.7	150	61	VERT
4999.2	42.26	23.23	33.5	14.4	54	11.7	250	233	HORI

Peak Radiated Data for Emissions Above 1GHz					
Frequency MHz	Level dB μ V/m	Angle deg	Height cm	Pol.	Limit 74dB μ V/m
1062.12	48.00	102	200	VER	Pass
1064.19	47.29	102	200	VER	Pass
1066.13	45.71	335	200	VER	Pass
1124.29	45.95	340	200	VER	Pass
1126.25	48.70	338	200	VER	Pass
1128.26	46.98	337	200	VER	Pass
1130.26	48.88	343	200	VER	Pass
1132.26	42.24	78	100	VER	Pass
1482.97	46.54	274	100	VER	Pass
1484.97	47.40	274	100	VER	Pass
1511.02	49.15	255	100	VER	Pass
1513.03	48.36	278	100	VER	Pass
1985.97	45.75	355	200	VER	Pass
1987.98	47.47	267	100	HOR	Pass
1989.98	46.34	4	200	VER	Pass
3026.05	50.69	296	200	HOR	Pass
3030.06	49.09	30	100	VER	Pass
3194.39	51.14	169	100	VER	Pass
3198.40	50.87	27	200	HOR	Pass
3807.62	50.77	177	200	VER	Pass
3811.62	50.19	354	200	VER	Pass
3939.88	51.05	272	200	HOR	Pass
3943.89	49.90	254	200	HOR	Pass
4809.62	53.65	236	200	VER	Pass
4811.62	52.85	180	200	HOR	Pass
4813.63	52.19	12	100	VER	Pass
4953.91	53.75	180	100	HOR	Pass
4955.91	53.29	118	200	VER	Pass
4987.98	54.25	182	100	HOR	Pass
4989.98	53.43	100	100	VER	Pass
4991.98	52.57	263	200	HOR	Pass
4993.99	53.80	55	200	VER	Pass
4995.99	53.04	332	200	HOR	Pass
4997.99	54.13	244	200	HOR	Pass
5000.00	53.29	17	100	HOR	Pass

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 .

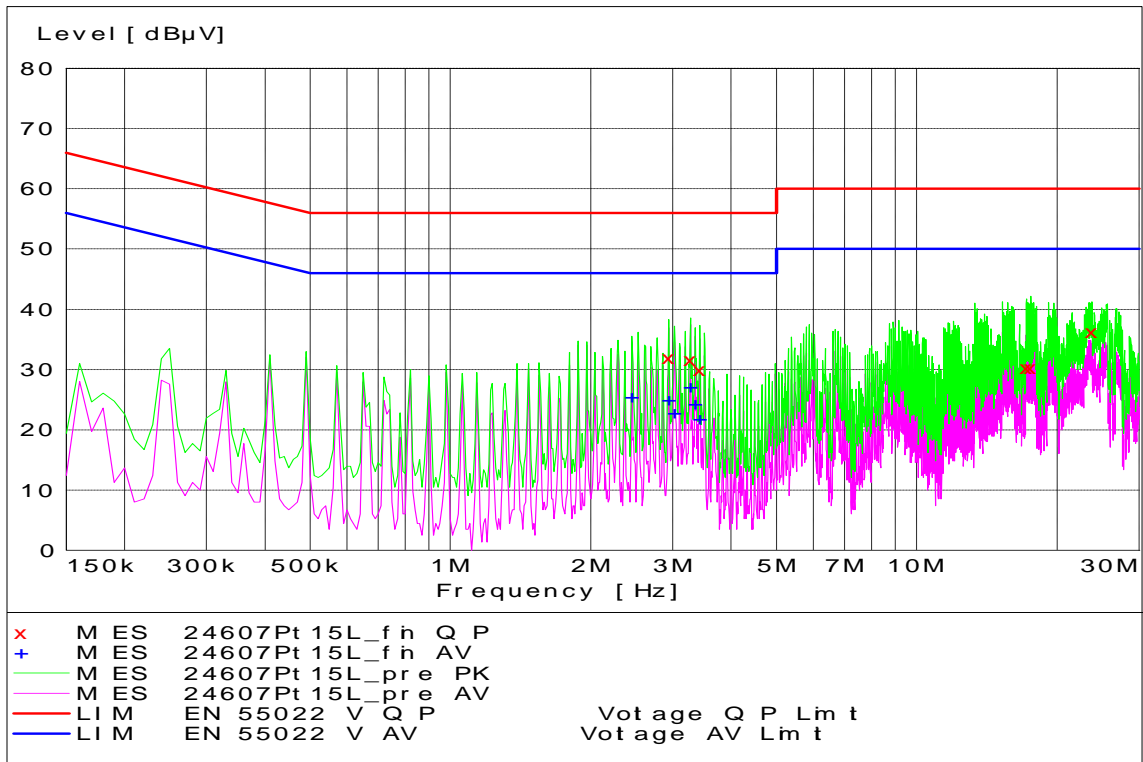
Detectors - Quasi Peak and Average Detector

Test Setup

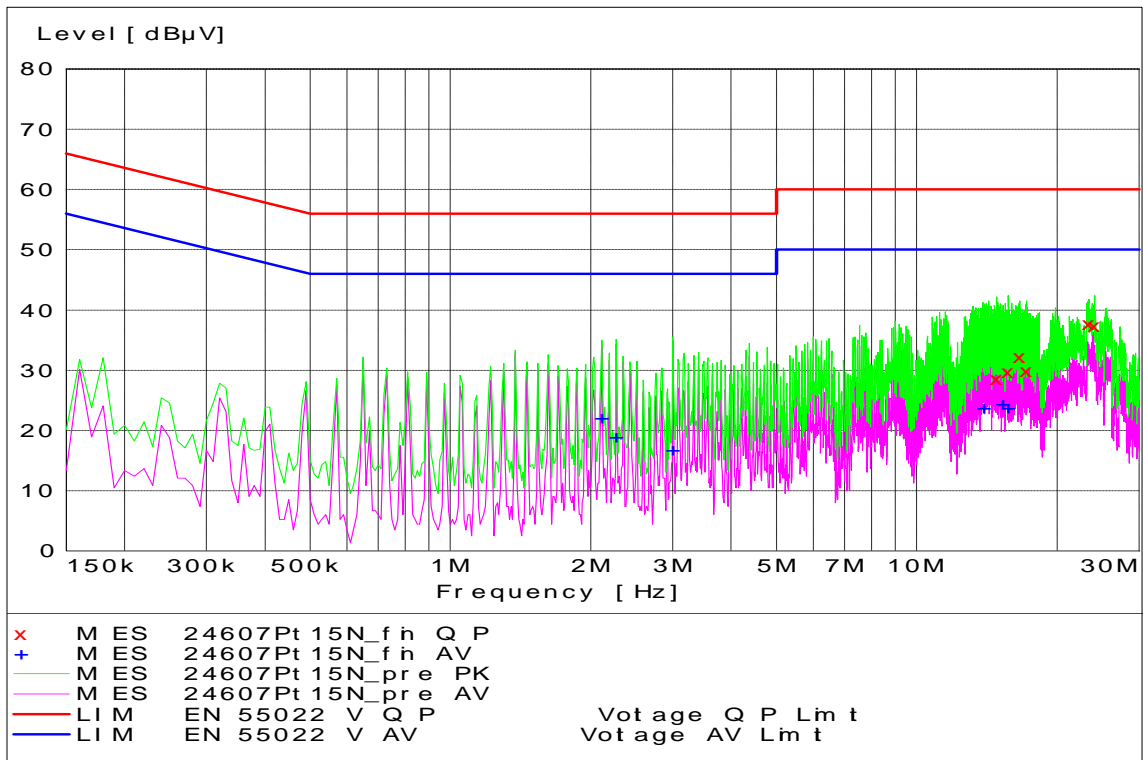
The EUT and the host equipment were setup according to the procedures in ANSI C63.4-2003. The EUT was connected to a laptop computer using a USB data cable. The USB data cable is 1 m in length. The parallel and the serial ports of the computer were populated. The EUT was communicating with the laptop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

Measurement Results

See attached:



Tx Mode - Line Coupling



Tx Mode - Neutral Coupling

End of Test Report