



MOBILE DEVICES BUSINESS

**PRODUCT SAFETY AND COMPLIANCE
EMC LABORATORY**

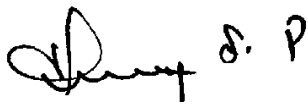
EMC TEST REPORT

Test Report Number – 24449-1 Inductive Charging Door

Report Date – June 22, 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: 

Name: Thanigaiselvan Palaniswami

Title: EMC Engineer

Date: June 22, 2011

This report must not be reproduced, except in full, without written approval from this laboratory.

This report must not be reproduced, except in full, without written approval from this laboratory.

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

UKAS Certificate Number: 2404

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:	ADR Testing Service Location Code: ADR LV Motorola Mobility Inc Product Safety and Compliance Group 600 North US Hwy 45 Libertyville, IL 60048 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, Bluetooth, 802.11b/802.11g/802.11n
FCC ID:	IHDT56MX1
Serial Numbers:	TA047049FK
Testing Complete Date:	June 22, 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

All testing for this report was performed with a Model SNN5892A 1735mAH Battery and Inductive Charging Door SJHN0701A.

The inductive charging door serves as the Wireless Power Receiver in an Inductive Charging System. The receiver is a Wireless Power Consortium (WPC) compliant receiver and requires a WPC compliant transmitter to create the appropriate magnetic field in order to function. The receiver is designed to apply power to the phone when placed in the appropriate magnetic field. Please see a more detailed description in the Operational Description given in Exhibit 12. Please see Exhibit 3 for external photos of the inductive charging door.

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 with it placed on a representative charging pad under normal charging conditions.

Equipment List

Manufacturer	Equipment Type	Model No.	Serial Number	Calibration Due Date
Rohde & Schwarz	Receiver	ESIB26	100001	09/23/2011
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
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
LG	Wireless Charging Pad	WCP-700	A1103WP005396	NA
LG	AC Adaptor	WCA-D01WT	TA120022106	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 FCC ID of the LG Wireless Charging Pad is BEJWCP700.

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 and peak 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 wireless charging pad were setup according to the procedures in ANSI C63.4- 2003. The EUT was placed on a representative charging pad (LG WCP-700) under normal charging conditions.

Additional EUT information:

Processor Speed – Up to 1 GHz
Xtal – 32.768 KHz
TCXO – 19.2MHz, 26 MHz
Memory Size – 1GB LPDDR2 SDRAM, 16GB eMMC
Video Resolution – 540x960 (qHD)
Video Clock - 1GHz
Refresh rate – 60Hz

Testing was conducted up to and including 5 GHz.

Measurement Results

Operating Mode – Placed on a Charging pad under normal Charging conditions.

Notes: Worst Case emissions reported.

30 MHz – 1000 MHz

Frequency	Level	Measured	Transd	Cables	Limit	Margin	Height	Angle	Pol.
MHz	dBuV/m	dBuV	dB	dB	dBuV/m	dB	cm	deg	
41.48	26.26	8.02	11.1	7.1	40	13.7	100	236	VERT
46.16	31.53	13.94	10.4	7.2	40	8.5	99	291	VERT
52.52	30.42	13.46	9.7	7.3	40	9.6	100	308	VERT
873.64	32.83	-0.7	22.2	11.3	46	13.2	149	303	VERT
903.56	34.13	-0.66	23.4	11.4	46	11.9	186	165	VERT
903.92	34.17	-0.7	23.4	11.4	46	11.8	100	158	VERT
904.92	34.41	-0.7	23.7	11.4	46	11.6	248	355	VERT
907.16	34.58	-0.61	23.7	11.4	46	11.4	149	165	VERT
908.16	34.65	-0.56	23.8	11.4	46	11.3	250	117	HORI
911.4	34.48	-0.61	23.6	11.5	46	11.5	123	24	HORI
913.6	34.22	-0.61	23.4	11.5	46	11.8	222	145	VERT

Above 1 GHz

Frequency	Level	Measured	Transd	Gain	Limit	Margin	Height	Angle	Pol.
MHz	dBuV/m	dBuV	dB	dB	dBuV/m	dB	cm	deg	
1923.9	33.86	26.82	27	19.9	54	20.1	100	330	VERT
1970.1	34.8	26.85	27.7	19.8	54	19.2	151	51	HORI
3339.3	37.92	24.4	30.6	17.1	54	16.1	182	157	HORI
3944.3	39.07	23.53	31.4	15.9	54	14.9	191	334	VERT
4617	40.3	22.83	32.4	14.9	54	13.7	128	18	HORI
4747	41	22.8	33	14.8	54	13	148	30	HORI
4835.4	41.36	22.76	33.3	14.6	54	12.6	101	26	HORI
4876.2	41.37	22.82	33.1	14.6	54	12.6	99	48	VERT
4944.5	41.72	22.81	33.4	14.5	54	12.3	209	157	VERT
4976.9	41.95	22.98	33.4	14.5	54	12.1	250	200	HORI
4985.6	42.21	23.03	33.6	14.4	54	11.8	100	40	VERT

Peak Radiated Data for Emissions Above 1GHz

Frequency	Level	Angle	Height	Pol.	Limit	Result
MHz	dB μ V/m	deg	cm		dB μ V/m	
1921.8437	46.38	340	100	VER	74	Pass
1969.9399	46.69	29	100	HOR	74	Pass
1971.9439	45.88	320	200	HOR	74	Pass
3338.6774	51.24	179	200	HOR	74	Pass
3342.6854	48.85	210	100	HOR	74	Pass
3943.8878	49.8	322	100	VER	74	Pass
3947.8958	51.08	356	200	VER	74	Pass
4617.2345	51.07	100	200	HOR	74	Pass
4619.2385	52.44	52	100	HOR	74	Pass
4747.495	53.83	45	100	HOR	74	Pass
4835.6713	52.57	263	100	VER	74	Pass
4875.7515	52.52	45	200	VER	74	Pass
4877.7555	53.96	44	100	VER	74	Pass
4945.8918	53.76	157	200	VER	74	Pass
4977.9559	53.99	178	200	HOR	74	Pass
4985.9719	54.11	31	100	VER	74	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

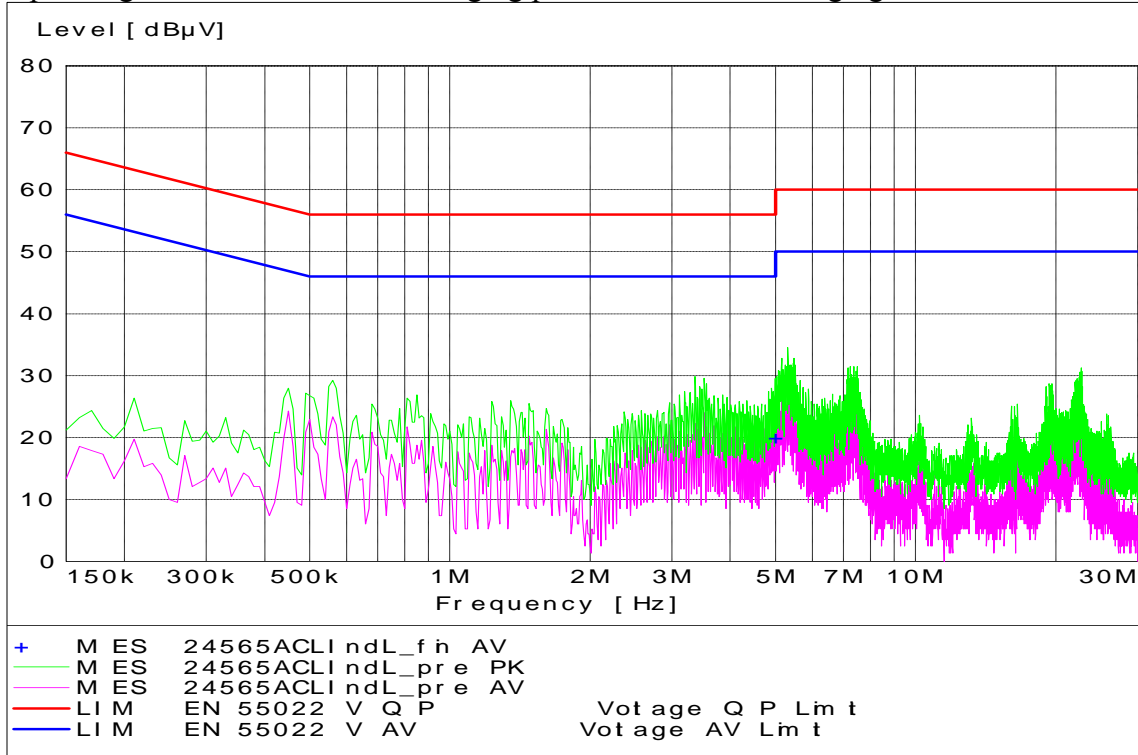
Test Setup

The EUT and the wireless charging pad were setup according to the procedures in ANSI C63.4- 2003. The EUT was placed on a representative charging pad (LG WCP-700) under normal charging conditions. The Wireless Charging pad was connected to the LISN

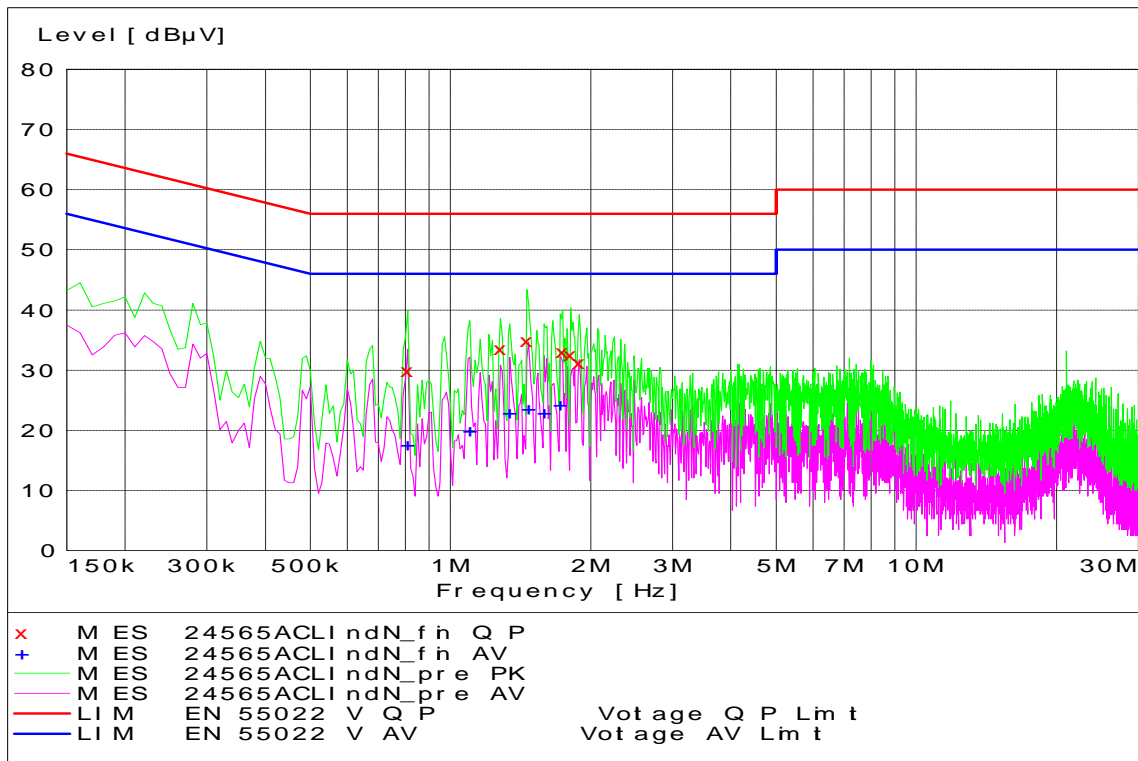
Measurement Results

See attached:

Operating Mode – Placed on a Charging pad under normal Charging conditions.



Tx Mode - Line Coupling



End of Test Report