

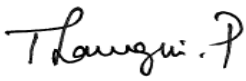


**ADR TESTING SERVICES
EMC LABORATORY
EMC TEST REPORT**

Test Report Number – 26015-1 WC

The test results and statements contained herein relate only to the model(s) identified and tested. 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: July 17, 2015

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TESTING CERT# 3465.01

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Test Report Details

Tests Performed By:	ADR Testing Services Motorola Mobility LLC Product Safety and Compliance Group 222 W. Merchandise Mart, Suite 1800 Chicago, IL 60654
Tests Requested By:	Motorola Mobility LLC 222 W. Merchandise Mart, Suite 1800 Chicago, IL 60654
Product Type :	Wireless Charger
Signaling Capability:	Part 15 Low Power Transmitter Below 1705 kHz. (DCD)
Operating Freq Range:	112 - 205 kHz
FCC ID:	IHDT6UA3
Serial Numbers:	Charger #1, Charger #2, Charger #3
Testing Complete Date:	July 17, 2015

Applicable Standards

All tests and measurements indicated in this document were performed in accordance with the Code of Federal Regulations Title 47:

Part 15 Subpart C – Intentional Radiators

Applicable Standards: ANSI 63.4 2009

Summary of Testing

Test #	Test Name	Pass/Fail
1	Field Strength of Spurious Emissions from Intentional Radiators	Pass. See Results
2	AC Line Conducted Emissions from Intentional Radiators	Pass. See Results

General and Special Conditions

The Equipment under Test is a Wireless Charger. Testing was performed while charging a Motorola Smart Watch at 3 different charging levels, 0, 50 and 90 % charge. The test data shown is for the worst case configuration.

All testing was done in an indoor controlled environment. The temperature and the relative humidity were maintained within the ANSI C63.4 2009 Standard requirements during the entire duration of testing.

Equipment and Cable Configurations

The EUT was tested in a configuration as specified by ANSI C63.4 2009 Standard requirements.

Equipment List

Manufacturer	Equipment Type	Model No.	Serial Number	Calibration Due Date
Rohde & Schwarz	Receiver	ESU40	100286	10/04/15
Agilent	Signal Generator	83623B	3844A00935	04/03/16
Weinschel	Attenuator	AS-6	7074	NCR
Agilent	Attenuator	8491A	50772	02/09/16
ETS-Lindgren	LISN	3810/2NM	00023630	09/12/15
ETS-Lindgren	Loop Antenna	6507	00049471	03/11/16
Agilent	Call Box	N1912A	MY45100116	04/03/16

All equipment is on a one-year calibration cycle. 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, 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.

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 Styrofoam table on the center of the turntable. Initially, for all radiated emissions from 9 kHz to 30 MHz, the turntable is rotated 45 degrees to obtain a maximum reading on the spectrum analyzer using the peak detector function. All final readings are then taken at the worst case EUT orientation. Below 1000 MHz, the final radiated emissions are then measured using an EMI receiver employing a CISPR quasi-peak detector. The receiver used has an average detector function and an RMS detector function.

All measurements are done at a 3 meter separation distance. The limit is adjusted using a 40 dB/decade factor as specified in FCC's 15.31(f) (2).

The emissions @ 110 kHz meet the radiated emissions requirement. The zoomed in plot shows measurement data taken at distance closer than the 3 meter test distance. The limit on the plot is for 3 meter test distance.

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 is setup according to the procedures in ANSI C63.4- 2009. The Equipment under Test is a Wireless Charger. Testing was performed while charging the Motorola Smart Watch at 3 different charging levels, 0, 50 and 90 % charge. The test data shown is for the worst case configuration.

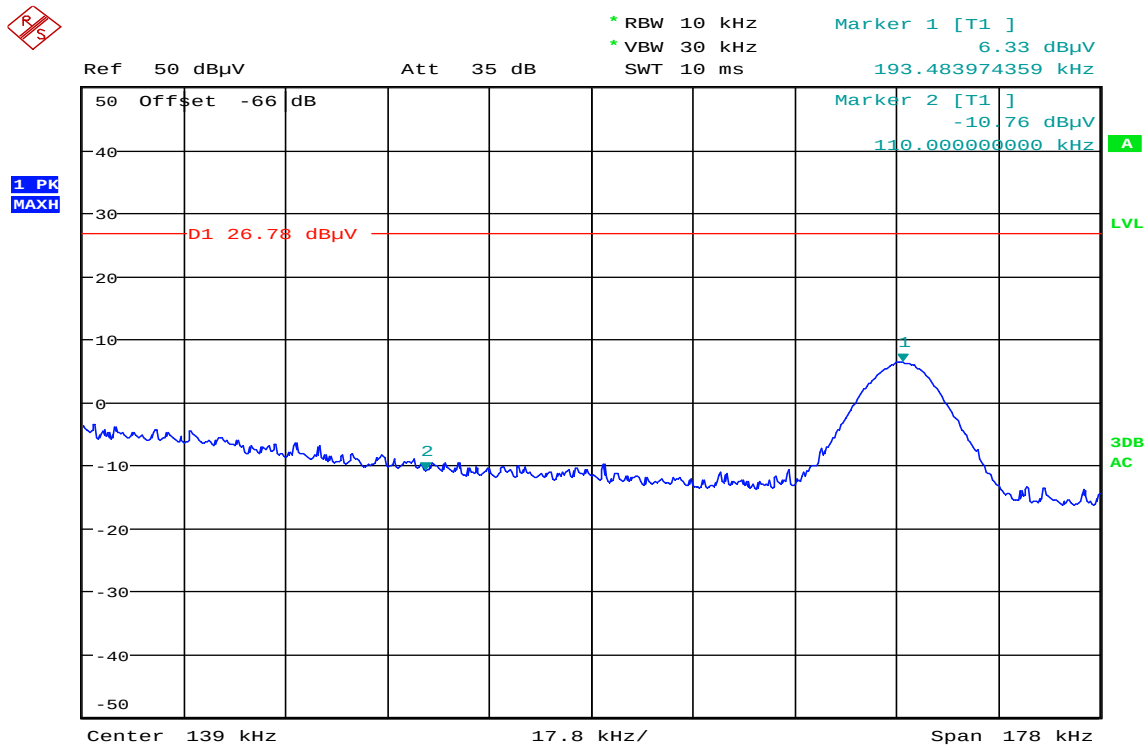
Measurement Results

Preliminary Radiated emissions were measured from 9 kHz to 30 MHz using a peak and all emissions were 20 dB below the limit. No final measurements were performed using Average and RMS detector function.

Operating Mode – Charging Mode, Smart Watch Charge @ 50 %

9 kHz – 30 MHz

Freq (MHz)	(PEAK) EMI (dBuV/m)	Limit (dBuV/m)	(PEAK) Trace (dBuV)	Margin dB
0.1	45.22	108.05	26.62	62.83
0.15	50.62	104.37	32.17	53.75
0.2	65.56	101.76	47.16	36.2
0.5	57.95	73.56	39.45	15.61
1	50	67.65	31.41	17.65
5	35.1	69.54	17.41	34.44
10	29.59	69.54	12.29	39.95
15	28.84	69.54	11.74	40.7
20	26.53	69.54	9.63	43.01
25	28.43	69.54	11.83	41.11
29	27.42	69.54	11.15	42.12
30	26.75	69.54	10.55	42.79



Date: 17.JUL.2015 13:07:18

Notes: Worst Case emissions reported.

AC Line Conducted Emissions**Measurements Procedure**

AC power-line conducted emission measurements are made over the frequency range from 150 kHz to 30 MHz to determine the line-to-ground radio-noise voltage that is conducted from all of the EUT current-carrying power input terminals that are directly or indirectly connected to a public power network. The measurements are 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. The EUT is tested using a LISN and the supporting equipments are connected to another LISN. Preliminary measurements are made using a peak detector and final measurements are performed using Quasi Peak and Average Detectors. The RBW of the EMI receiver is set to 9 kHz for all final measurements.

Conducted Emission (dBuV) = EMI Receiver Level (dBuV) + Loss (dB)

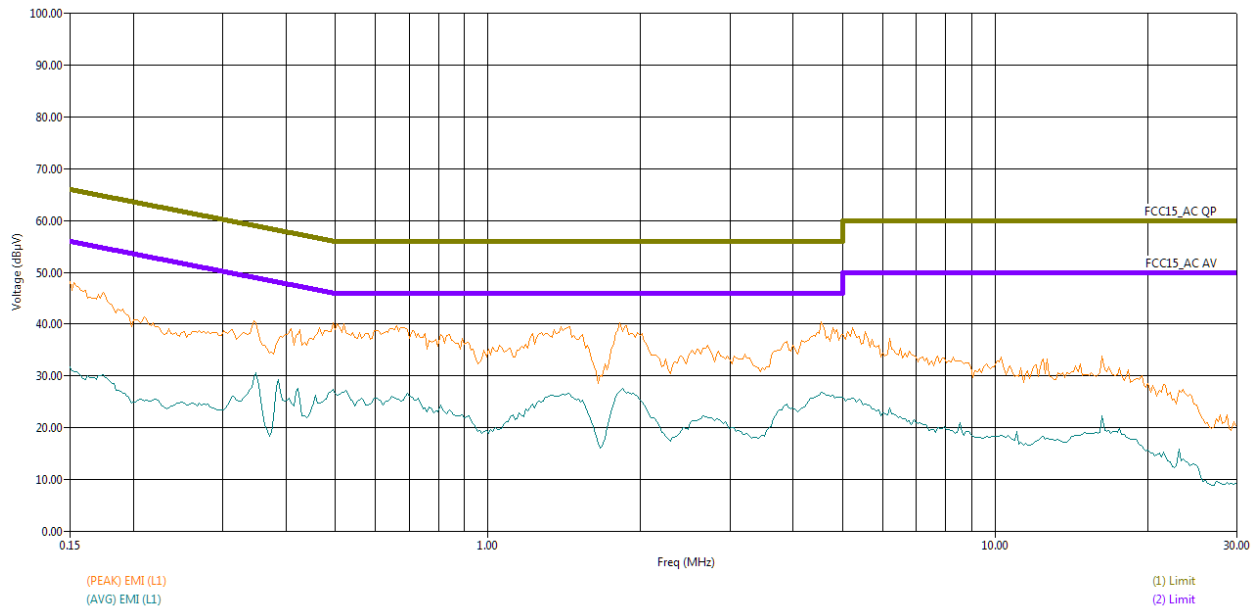
Test Setup

The EUT is setup according to the procedures in ANSI C63.4- 2009. The test is performed with the EUT connected to the LISN while charging the Motorola Smart Watch at 3 different charging levels, 0, 50 and 90 % charge.

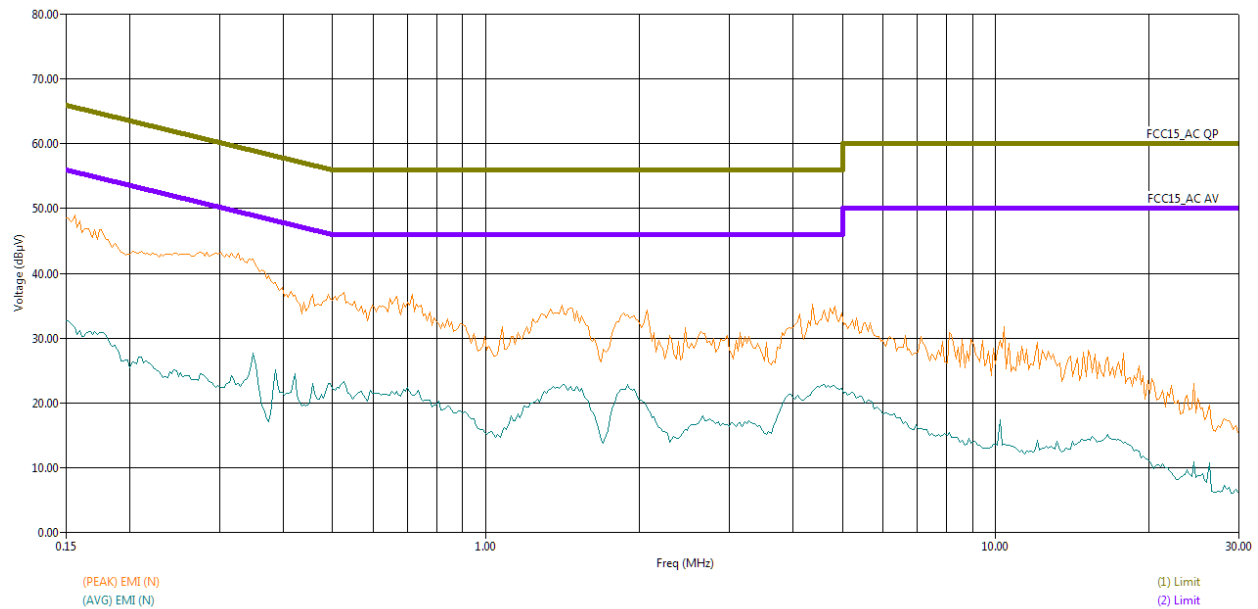
Measurement results

The test data shown is for the worst case configuration.

Operating Mode – Charging Mode, Smart Watch Charge @ 50 %.

Tx Mode - Line Coupling

Freq	(PEAK) EMI (L1)	(AVG) EMI (L1)	QP Limit	AVG Limit	QP Margin	AVG Margin
MHz	dBuV	dBuV	dBuV	dBuV	dB	dB
0.15	48.23	31.82	66	56	17.77	24.18
0.3	37.73	23.47	60.38	50.38	22.65	26.91
5	37.87	25.64	60	50	22.13	24.36
10	32.85	18.33	60	50	27.15	31.67
15	30.2	18.9	60	50	29.8	31.1
20	28.59	15.64	60	50	31.41	34.36
25	23.2	12.15	60	50	36.8	37.85
27	22.46	9.24	60	50	37.54	40.76
30	20.48	9.27	60	50	39.52	40.73

Tx Mode - Neutral Coupling

Freq	(PEAK) EMI (N)	(AVG) EMI (N)	QP Limit	AVG Limit	QP Margin	AVG Margin
MHz	dBuV	dBuV	dBuV	dBuV	dB	dB
0.15	48.56	32.7	66	56	17.44	23.3
0.5	36.04	22.96	56.08	46.08	20.04	23.12
0.5	35.87	22.2	56	46	20.13	23.8
1	28.18	15.05	56	46	27.82	30.95
5	32	21.51	60	50	28	28.49
9	29.01	14.07	60	50	30.99	35.93
12	29.32	14.2	60	50	30.68	35.8
15	24.04	14.25	60	50	35.96	35.75
20	21.45	10.87	60	50	38.55	39.13
27	15.56	6.15	60	50	44.44	43.85
29	15.9	6.08	60	50	44.1	43.92
30	15.37	6.24	60	50	44.63	43.76

End of test Report