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**COMPLIANCE TEST REPORT**  
**PER FCC PT 90, PT 24**  
**AND RSS-119 AND RSS-134**

<b>APPLICANT</b>	MOTOROLA MOBILITY, INC.
<b>ADDRESS</b>	600 NORTH U.S. HWY 45 LIBERTYVILLE ILLINOIS 60048-5343 USA
<b>FCC ID</b>	IHDP56MS1
<b>IC ID</b>	1090-P56MS1
<b>MODEL NUMBER</b>	H2021B51014A
<b>PRODUCT DESCRIPTION</b>	i867 iDEN PHONE
<b>DATE SAMPLE RECEIVED</b>	10/10/2011
<b>DATES TESTED</b>	10/24/2011
<b>TESTED BY</b>	John A. Day
<b>APPROVED BY</b>	Mario R. de Aranzeta
<b>TIMCO REPORT NO.</b>	2331AT11TestReport i867 iDEN TX Part 90_Rev.pdf
<b>TEST RESULTS</b>	<input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL

**THE ATTACHED REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL  
WITHOUT THE WRITTEN APPROVAL OF TIMCO ENGINEERING, INC.**



Certificate # 0955-01



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Applicant: MOTOROLA MOBILITY, INC.  
FCC ID: IHDP56MS1  
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## ATTESTATIONS

This equipment has been tested in accordance with the standards identified in this test report. To the best of my knowledge and belief, these tests were performed using the measurement procedures described in this report.

All instrumentation and accessories used to test products for compliance to the indicated standards are calibrated regularly in accordance with ISO 17025: 2005 requirements.



Testing Certificate # 0955-01

I attest that the necessary measurements were made, under my supervision, at:

Timco Engineering Inc.  
849 NW State Road 45  
Newberry, Fl 32669



### Authorized Signatory Name:

Mario de Aranzeta C.E.T.  
Compliance Engineer/ Lab. Supervisor

**Date:** 10/27/11

## REPORT SUMMARY

<b>Disclaimer</b>	The test results relate only to the items tested.
<b>Purpose of Test</b>	To demonstrate compliance with FCC CFR 47, Part 90 requirements. To demonstrate compliance with FCC CFR 47, Part 24 requirements for narrow band PCS equipment. To demonstrate compliance with IC RSS-119 requirements. To demonstrate compliance with IC RSS-134 requirements.
<b>Test Standards</b>	ANSI/TIA 603-C: 2004, FCC CFR 47 Part 90, ANSI C63.4: 2003 RSS-119, RSS-134, RSS-GEN
<b>Related Approval</b>	Digital portion is verified

## TEST ENVIRONMENT AND TEST SETUP

<b>Test Facility</b>	RF output power and radiated emission by: Timco Engineering Inc. 849 NW State Road 45, Newberry, FL 32669 USA
<b>Laboratory Test Condition</b>	Temperature was 26°C Relative humidity of 50%.
<b>Deviation from the standards</b>	No deviation
<b>Modification to the DUT</b>	No modification was made.
<b>Test Exercise (software etc.)</b>	The DUT was placed in continuous transmitting mode of operation.
<b>System Setup</b>	Stand alone device.

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**DUT SPECIFICATION**

<b>DUT Description</b>	i867 iDEN PHONE
<b>FCC ID</b>	IHDP56MS1
<b>Model Number</b>	H2021B51014A
<b>Serial Number</b>	364BMS008N
<b>Hardware</b>	PL-1
<b>Software</b>	DD8.00.13
<b>Operating Frequency</b>	806.0125 – 824.9875 MHz 896.01875 – 901.98125 MHz
<b>DUT Power Source</b>	<input type="checkbox"/> 110–120Vac/50– 60Hz
	<input type="checkbox"/> DC Power 12V
	<input checked="" type="checkbox"/> Battery Operated
<b>Test Item</b>	<input type="checkbox"/> Prototype
	<input checked="" type="checkbox"/> Pre-Production
	<input type="checkbox"/> Production
<b>Type of Equipment</b>	<input type="checkbox"/> Fixed
	<input type="checkbox"/> Mobile
	<input checked="" type="checkbox"/> Portable

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**EQUIPMENT LIST**

<b>Device</b>	<b>Manufacturer</b>	<b>Model</b>	<b>Serial Number</b>	<b>Cal/Char Date</b>	<b>Due Date</b>
3-Meter Semi-Anechoic Chamber	Panashield	N/A	N/A	Listed 5/10/10	5/10/12
AC Voltmeter	HP	400FL	2213A14499	CAL 6/12/11	6/12/13
Antenna: Active Loop	ETS-Lindgren	6502	00062529	CAL 9/23/10	9/23/12
Antenna: Passive Loop	EMC Test Systems	EMCO 6512	9706-1211	CAL. 10/1/09	10/2/11
Frequency Counter	HP	5385A	2730A03025	CAL 8/17/11	8/17/13
Hygro-Thermometer	Extech	445703	0602	CAL 6/15/11	6/15/13
Modulation Analyzer	HP	8901A	3435A06868	CAL 7/18/11	7/18/13
Digital Multimeter	Fluke	FLUKE-77	35053830	CAL 9/9/11	9/9/13
Analyzer Tan Tower Preamplifier	HP	8449B-H02	3008A00372	CAL 11/21/09	11/21/11
Analyzer Tan Tower Quasi-Peak Adapter	HP	85650A	3303A01690	CAL 11/22/09	11/22/11
Analyzer Tan Tower RF Preselector	HP	85685A	3221A01400	CAL 11/21/09	11/21/11
Analyzer Tan Tower Spectrum Analyzer	HP	8566B Opt 462	3138A07786 3144A20661	CAL 11/24/09	11/24/11
Temperature Chamber	Tenney Engineering	TTRC	11717-7	CHAR 4/25/10	4/25/12
Antenna	ETS	3117	41534	9/22/2010	9/22/2012
Antenna	Electro metrics	LPA-25	1122	5/04/2011	5/04/2013
Antenna	Electro metrics	BIA-25	1171	1/15/2010	1/15/2012

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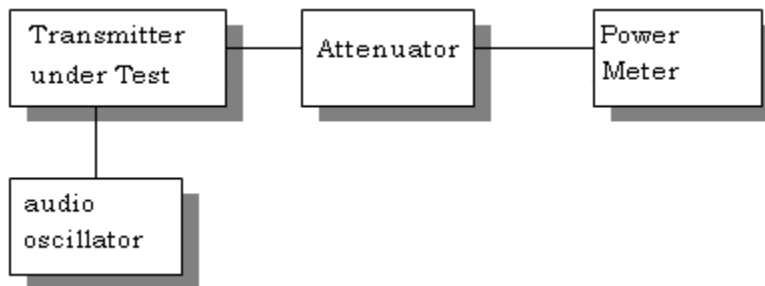
Report: Z:\MMOTOROLA IL LL\2331AT11\2331AT11TestReport i867 iDEN TX Part 90\_Rev.doc

## TEST PROCEDURE

**Power Line Conducted Interference:** The procedure used was ANSI/TIA 603-C: 2004, using a 50uH LISN. Both lines were observed with the DUT transmitting. The bandwidth of the spectrum analyzer was 10 kHz with an appropriate sweep speed.

**Bandwidth 20 dB:** The measurements were made with the spectrum analyzer's resolution bandwidth (RBW) = 1 MHz and the video bandwidth (VBW) = 3 MHz and the span set as shown on plot.

**Power Output:** The RF power output was measured at the antenna feed point using a peak power meter. A 50-ohm, resistive wattmeter was connected to the RF output connector. With a nominal battery voltage or supply voltage and the transmitter properly adjusted the RF output measures:



**Antenna Conducted Emissions:** The RBW = 100 kHz, VBW = 300 kHz and the span set to 10.0 MHz and the spectrum was scanned from 30 MHz to the 10<sup>th</sup> harmonic of the fundamental. Above 1 GHz the resolution bandwidth was 1 MHz and the VBW = 3 MHz and the span to 50 MHz.

**Radiation Interference:** The test procedure used was ANSI/TIA 603-C: 2004, using an Agilent spectrum receiver with preselector. The bandwidth (RBW) of the spectrum ANSI/TIA 603-C: 2004, receiver was 100 kHz up to 1 GHz and 1 MHz above 1 GHz with an appropriate sweep speed. The VBW above 1 GHz was 3 MHz. The analyzer was calibrated in dB above a microvolt at the output of the antenna.

[Continued]

**Modulation Characteristic**

Audio frequency response

The audio frequency response was measured in accordance with ANSI/TIA 603-C: 2004. A curve or equivalent data showing the frequency response of the audio modulating circuit over a range of 100 – 5000Hz shall be submitted. The audio frequency response curve is shown below.

Audio Low Pass Filter

The audio low pass filter for voice-modulated equipment was measured in accordance with ANSI/TIA 603-C: 2004. For equipment required to have an audio low-pass filter, a curve showing the frequency response of the filter or of all the circuitry installed between the modulation limiter and the modulated stage shall be submitted.

Audio Input versus modulation

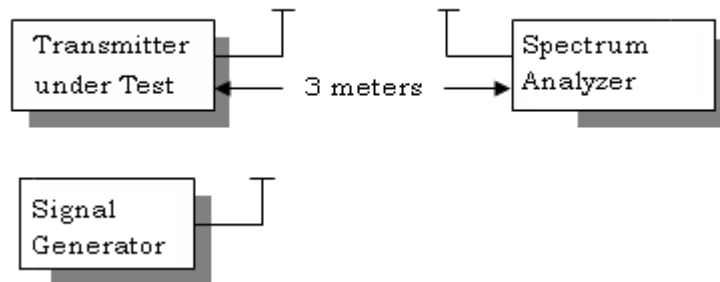
The audio input level needed for a particular percentage of modulation was measured in accordance with ANSI/TIA 603-C: 2004. Curves are provided for audio input frequencies of 300, 1000, and 3000 Hz.

**Frequency Stability**

The frequency stability was measured per ANSI/TIA 603-C: 2004.

**Field Strength of Spurious Emissions**

The spectrum was scanned from 30 MHz to at least the tenth harmonic of the fundamental. This test was conducted per ANSI/TIA 603-C: 2004 using the substitution method.





**RF POWER OUTPUT**

**Rule Part No.:** Pt 2.1046(a), Pt 90, Pt 24, RSS-119, RSS-134

**Test Requirements:** Pt 2.1046(a), Pt 90, Pt 24, RSS-119, RSS-134

**Test Data:**

OUTPUT POWER: Nominal – 0.60 Watts

Part 2.1033 (c)(8) DC Input into the final amplifier

FOR HIGH POWER SETTING INPUT POWER:  $(3.7V)(1.2A) = 4.44$  Watts

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**FIELD STRENGTH OF SPURIOUS EMISSIONS - Max Power**

**Rule Parts. No.:** Part 2.1051(a), Pt 90, Pt 24, RSS-119, RSS-134

**Requirements:** 25 kHz Channel Spacing =  $43+10\log(0.60) = 40.8$  dBc  
 12.5 kHz channel spacing =  $50+10\log(0.6) = 47.8$  dBc

**Test Data:**

Emission Frequency MHz	Ant. Polarity	dB Below Carrier (dBc)	Emission Frequency MHz	Ant. Polarity	dB Below Carrier (dBc)
806.0625	0	0.0	813.5625	0	0.0
1612.1250	V	82.3	1627.1250	V	81.9
2418.1875	V	89.4	2440.6875	H	89.0
3224.2500	H	89.9	3254.2500	H	91.4
4030.3125	V	88.0	4067.8125	V	87.2
4836.3750	H	83.4	4881.3750	H	86.0
5642.4375	V	82.2	5694.9375	H	82.5
6448.5000	H	79.1	6508.5000	V	80.3
7254.5625	V	79.7	7322.0625	H	79.2
8060.6250	V	79.4	8135.6250	V	79.6

Emission Frequency MHz	Ant. Polarity	dB Below Carrier (dBc)	Emission Frequency MHz	Ant. Polarity	dB Below Carrier (dBc)
820.9875	0	0.0	824.9875	0	0.00
1641.9750	V	81.5	1649.9750	V	81.4
2462.9625	H	91.5	2474.9625	V	89.2
3283.9500	H	88.6	3299.9500	V	89.0
4104.9375	H	88.0	4124.9375	H	89.2
4925.9250	H	84.1	4949.9250	V	86.1
5746.9125	V	82.3	5774.9125	H	82.6
6567.9000	V	80.3	6599.9000	H	79.1
7388.8875	H	78.8	7424.8875	V	80.6
8209.8750	H	79.1	8249.8750	H	79.7

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Emission Frequency MHz	Ant. Pol	dB Below Carrier (dBc)	Emission Frequency MHz	Ant. Pol	dB Below Carrier (dBc)	Emission Frequency MHz	Ant. Pol	dB Below Carrier (dBc)
896.01875	0	0.0	900.98125	0	0.0	901.49375	0	0.0
1792.03750	V	80.9	1801.96250	V	79.6	1802.98750	V	79.6
2688.05625	H	88.7	2702.94375	H	91.2	2704.48125	H	89.2
3584.07500	H	88.5	3603.92500	V	86.9	3605.97500	H	88.5
4480.09375	H	84.5	4504.90625	V	84.9	4507.46875	H	84.8
5376.11250	H	81.2	5405.88750	V	81.8	5408.96250	V	82.9
6272.13125	H	78.4	6306.86875	V	82.4	6310.45625	V	81.6
7168.15000	H	78.7	7207.85000	V	78.7	7211.95000	H	78.6
8064.16875	H	79.9	8108.83125	V	80.3	8113.44375	H	78.7
8960.18750	H	77.7	9009.81250	H	78.5	9014.93750	H	78.6

**\* = 20 dB or more below the limit**

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**POWER LINE CONDUCTED INTERFERENCE**

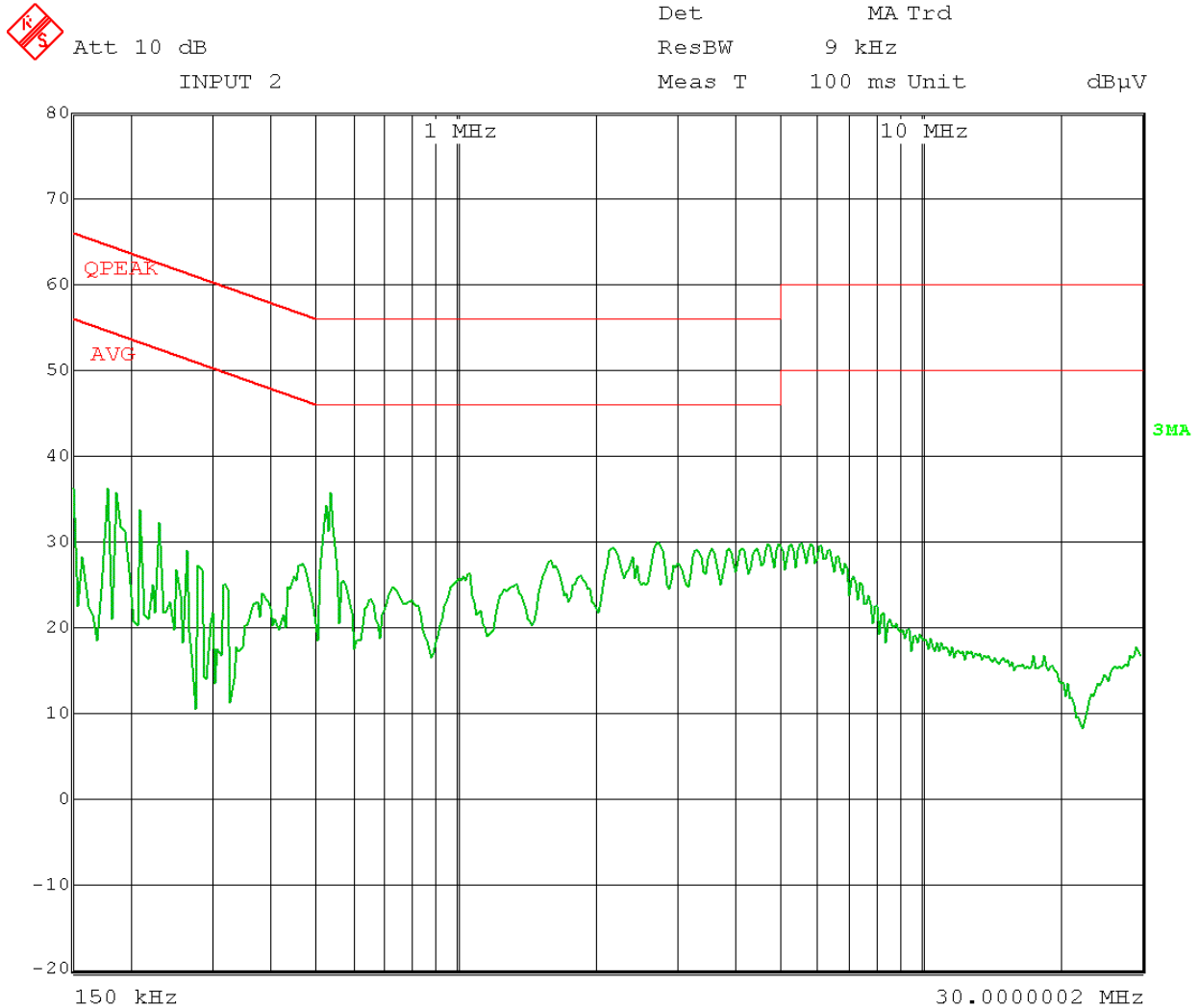
**Rules Part No.:** Part 15.207

**Requirements:**

Frequency (MHz)	Quasi Peak Limits (dB $\mu$ V)	Average Limits (dB $\mu$ V)
0.15 – 0.5	66 – 56 *	56 – 46 *
0.5 – 5.0	56	46
5.0 – 30	60	50
* Decrease with logarithm of frequency		

**Test Data:** The following plots represent the emissions for power line conducted. Both lines were observed.

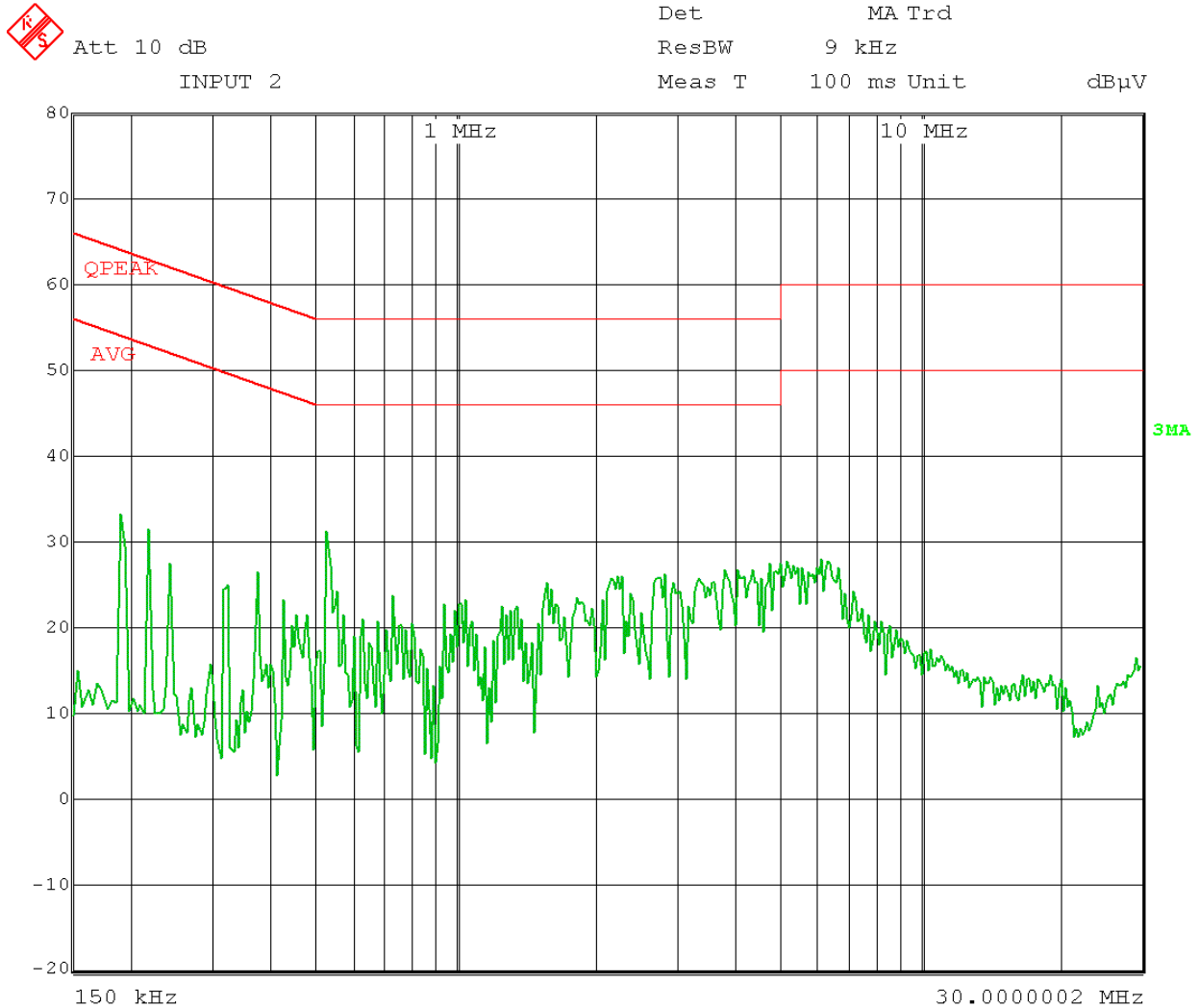
POWERLINE CONDUCTED EMISSIONS – LINE 1  
806 MHz



Date: 24.OCT.2011 13:50:32

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FCC ID: IHDP56MS1  
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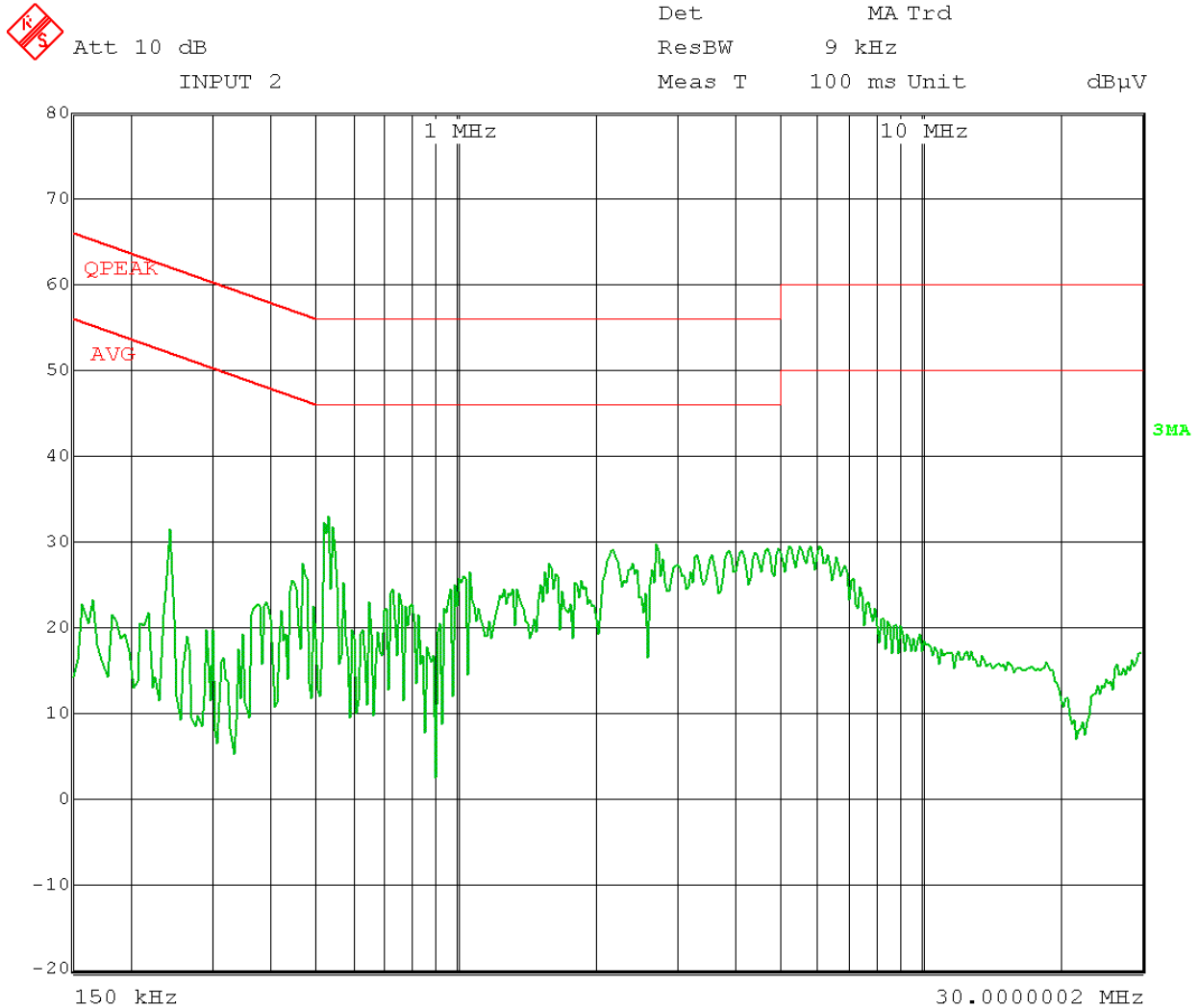
POWERLINE CONDUCTED EMISSIONS – LINE 2  
806 MHz



Date: 24.OCT.2011 13:52:17

Applicant: MOTOROLA MOBILITY, INC.  
FCC ID: IHDP56MS1  
Report: Z:\MMOTOROLA IL LL\2331AT11\2331AT11TestReport i867 iDEN TX Part 90\_Rev.doc

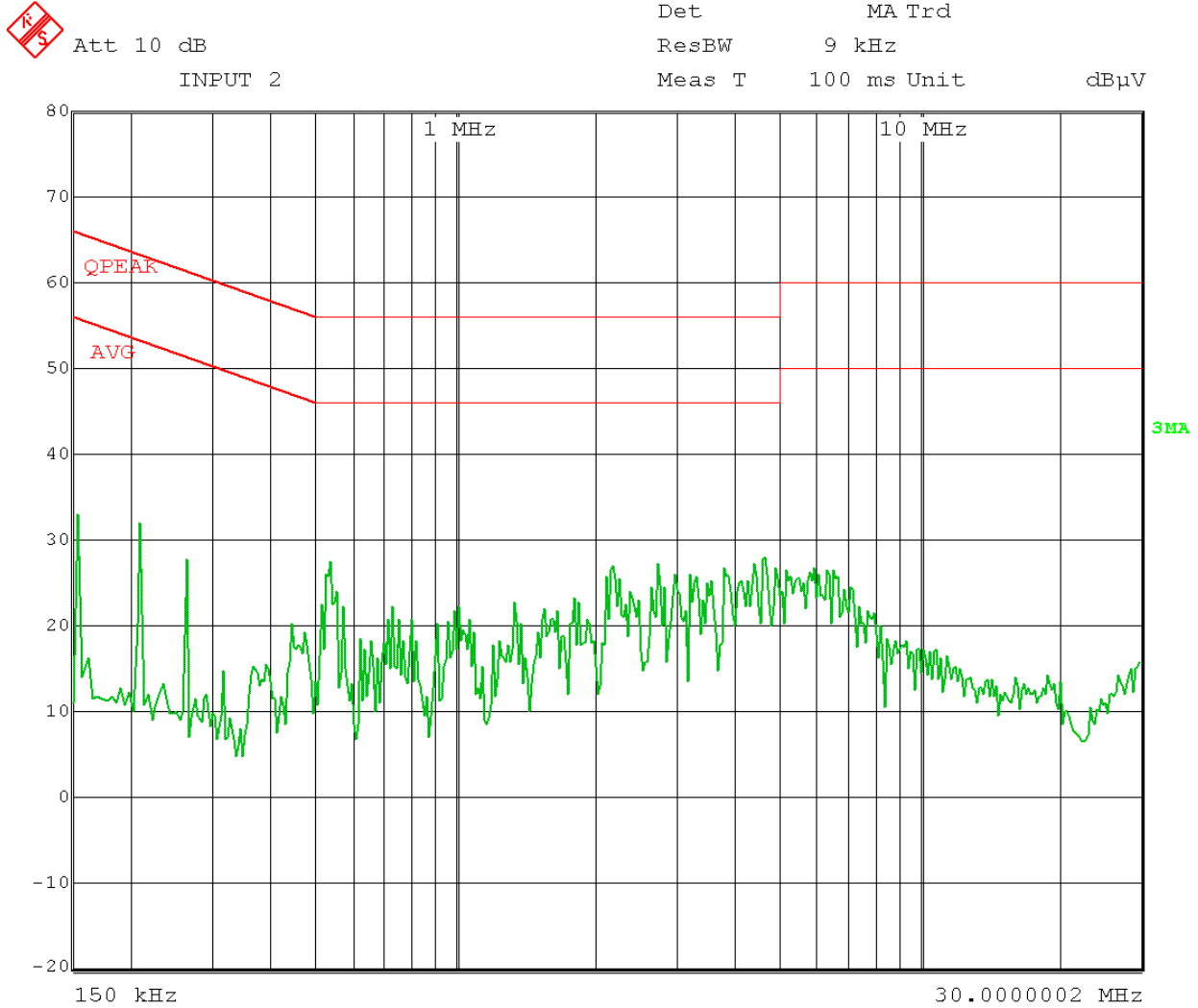
POWERLINE CONDUCTED EMISSIONS – LINE 1  
896MHz



Date: 24.OCT.2011 13:57:57

Applicant: MOTOROLA MOBILITY, INC.  
FCC ID: IHDP56MS1  
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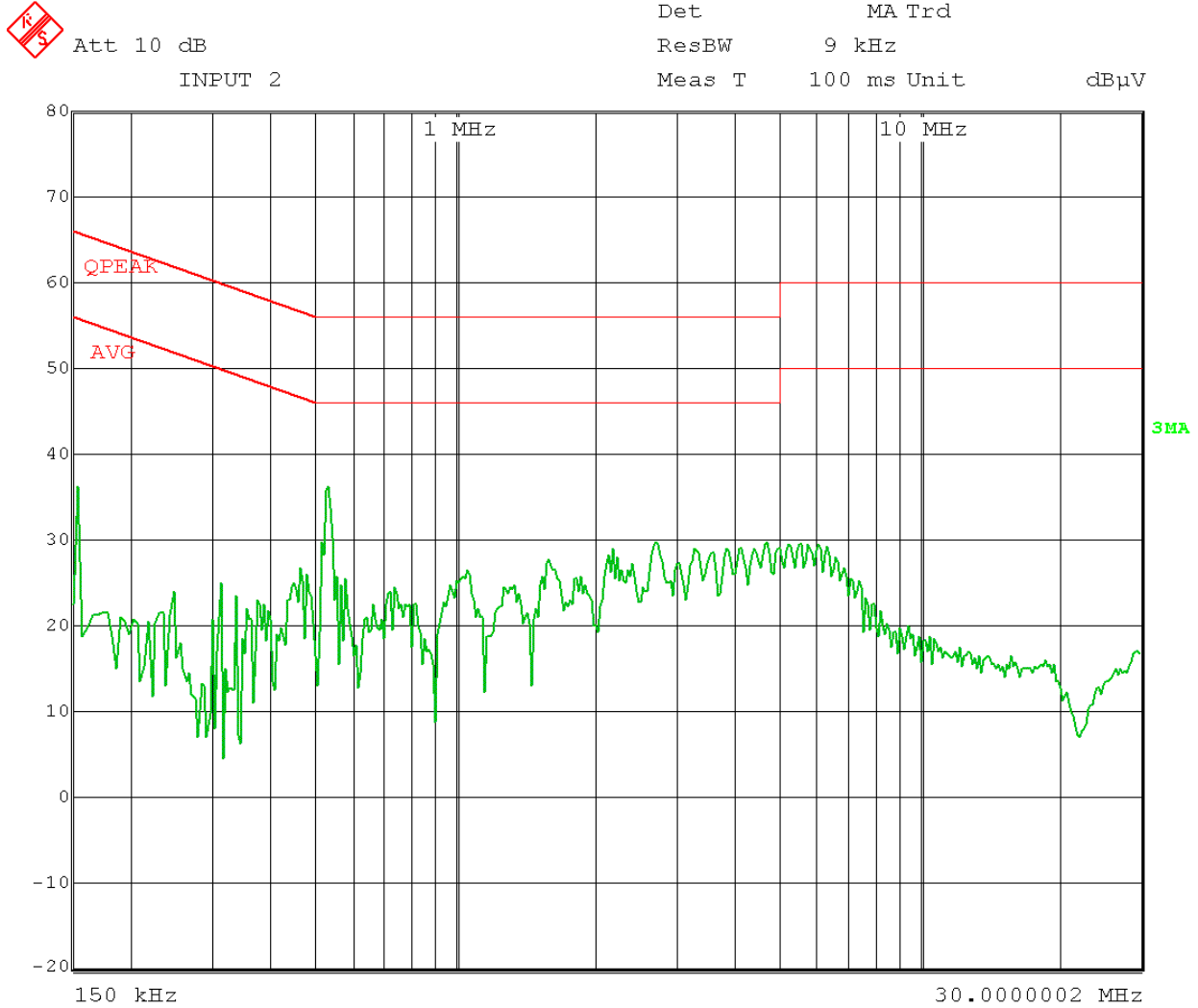
POWERLINE CONDUCTED EMISSIONS – LINE 2  
896MHz



Date: 24.OCT.2011 13:59:17

Applicant: MOTOROLA MOBILITY, INC.  
FCC ID: IHDP56MS1  
Report: Z:\MMOTOROLA IL LL\2331AT11\2331AT11TestReport i867 iDEN TX Part 90\_Rev.doc

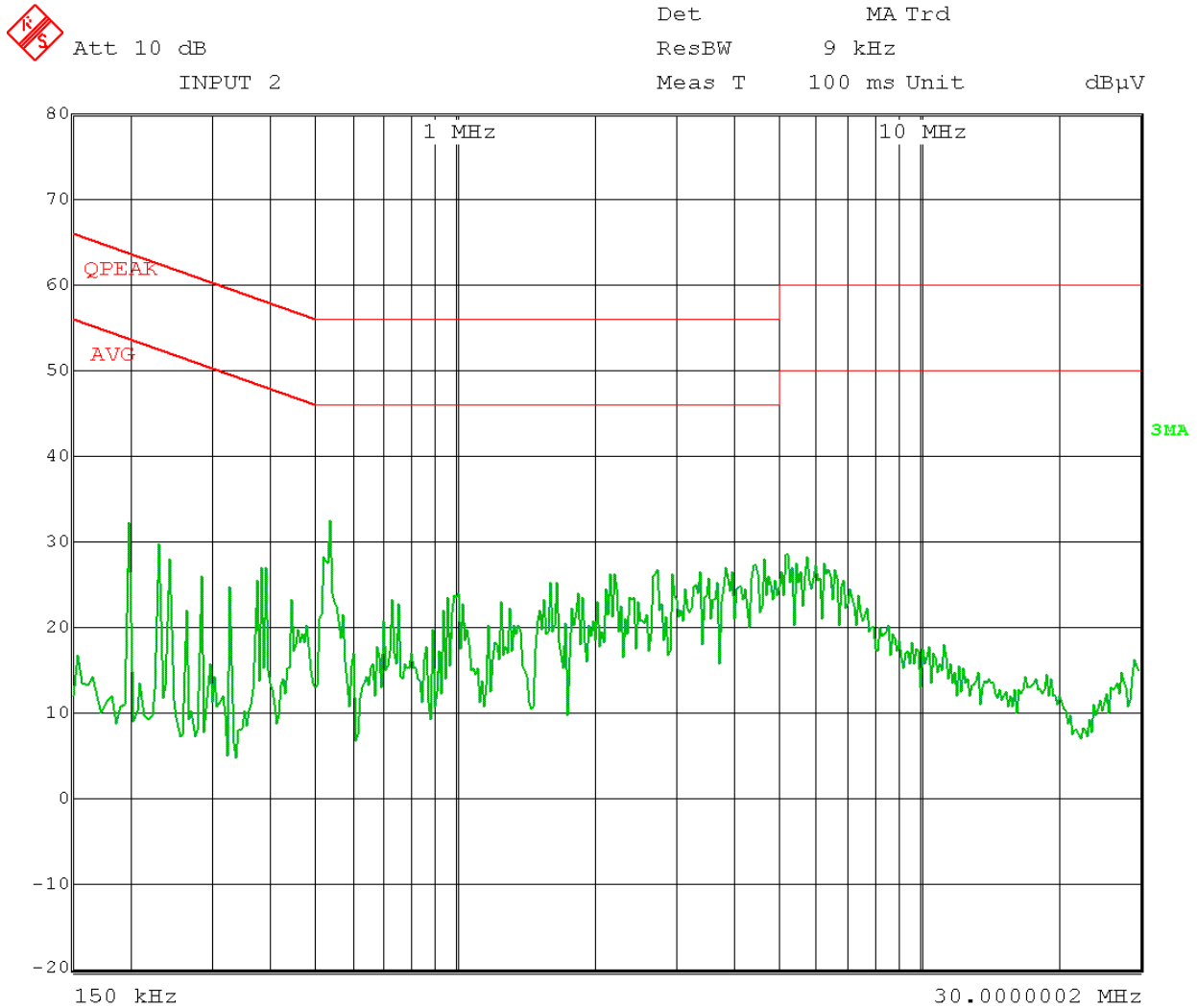
POWERLINE CONDUCTED EMISSIONS – LINE 1  
901 MHz



Date: 24.OCT.2011 14:04:26

Applicant: MOTOROLA MOBILITY, INC.  
FCC ID: IHDP56MS1  
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POWERLINE CONDUCTED EMISSIONS – LINE 2  
901 MHz



Date: 24.OCT.2011 14:05:53

Applicant: MOTOROLA MOBILITY, INC.  
FCC ID: IHDP56MS1  
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