

849 NW State Road 45  
Newberry, Fl 32669 USA  
Phone: 888.472.2424 or 352.472.5500  
Fax: 352.472.2030  
Email: [info@timcoengr.com](mailto:info@timcoengr.com)  
Website: [www.timcoengr.com](http://www.timcoengr.com)

## TEST REPORT

<b>Applicant</b>	MOTOROLA MOBILITY, INC.
<b>Address</b>	8000 W. SUNRISE BLVD MAIL STOP 52-5JJ PLANTATION FLORIDA 33322 USA
<b>FCC ID</b>	IHDT56MH1
<b>IC CERTIFICATION</b>	1090-T56MH1
<b>Model Number</b>	H78XAN9JR9AN
<b>Product Description</b>	Powerline conducted data for PART 90S/24D (iDEN) - i1Q/i1X
<b>Date Sample Received</b>	1/25/2011
<b>Dates Tested</b>	1/31/2011 - 2/7/2011
<b>Tested By</b>	Richard Block
<b>Approved By</b>	Mario de Aranzeta
<b>Report Number</b>	159BT11TestReport i1Q i1X iDEN TX Part 15.doc
<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.**



Testing Certificate # 0955-01



**TABLE OF CONTENTS**

GENERAL REMARKS ..... 3

REPORT SUMMARY ..... 4

TEST ENVIRONMENT ..... 4

TEST SETUP SUMMARY ..... 4

SUPPORTING PERIPHERAL EQUIPMENT..... **Error! Bookmark not defined.**

DUT SPECIFICATION ..... 5

TEST EQUIPMENT LIST ..... 6

TEST PROCEDURES ..... 7

POWER LINE CONDUCTED INTERFERENCE..... 8

DECLARATION OF CONFORMITY INFORMATION ..... **Error! Bookmark not defined.**

DECLARATION OF CONFORMITY ..... **Error! Bookmark not defined.**

APPLICANT: MOTOROLA MOBILITY, INC.  
 FCC ID: IHDT56MH1 IC: 1090-T56MH1  
 REPORT: M\MOTOROLA FL JL\159BT11\159BT11TestReport i1Q i1X iDEN TX Part  
 15.doc

**GENERAL REMARKS**

The attached report shall not be reproduced except in full without the written permission of Timco Engineering Inc.

The test results only relate to the item tested.

**Summary**

The device under test does:

- fulfill the general approval requirements as identified in this test report
- not fulfill the general approval requirements as identified in this test report

**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:** February 9, 2011

APPLICANT: MOTOROLA MOBILITY, INC.  
FCC ID: IHDT56MH1 IC: 1090-T56MH1  
REPORT: M\MOTOROLA FL JL\159BT11\159BT11TestReport i1Q i1X iDEN TX Part  
15.doc

## REPORT SUMMARY

Applicable Rule(s)	Pt 15.207, ANSI C63.4: 2003
--------------------	-----------------------------

## TEST ENVIRONMENT

Test Facility	Timco Engineering, Inc. 849 NW State Road 45 Newberry, FL 32669 USA.
Test Condition in the laboratory	Temperature: 26°C Relative humidity: 50%

## TEST SETUP SUMMARY

Test Setup Diagram/Description	The DUT was placed on the turntable per setup per ANSI C63.4: 2003. A test set up photo is provided for clarification.
Deviation from the standard/procedure	No deviation
Modification of DUT	No modification

APPLICANT: MOTOROLA MOBILITY, INC.

FCC ID: IHDT56MH1

IC: 1090-T56MH1

REPORT: M\MOTOROLA FL JL\159BT11\159BT11TestReport iIQ iIX iDEN TX Part 15.doc

**DUT SPECIFICATION**

<b>DUT Description</b>	Powerline conducted TESTING for PART 90S/24D (iDEN) - i1Q/i1X
<b>Model Number</b>	H78XAN9JR9AN
<b>FCC ID</b>	IHDT56MH1
<b>IC CERTIFICATION</b>	1090-T56MH1
<b>Serial Number</b>	364VLYK5VR
<b>Hardware</b>	P1B-1
<b>Software</b>	DCD.00.18
<b>DUT Power Source</b>	<input type="checkbox"/> 110-120Vac/50- 60Hz
	<input type="checkbox"/> DC Power
	<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
<b>Laboratory Test Conditions</b>	Temperature: 26°C Humidity: 55%
<b>Modifications to DUT:</b>	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (explanation below)

APPLICANT: MOTOROLA MOBILITY, INC.  
 FCC ID: IHDT56MH1                      IC: 1090-T56MH1  
 REPORT: M\MOTOROLA FL JL\159BT11\159BT11TestReport i1Q i1X iDEN TX Part  
 15.doc



## TEST EQUIPMENT LIST

Device	Manufacturer	Model	Serial Number	Cal/Char Date	Due Date
3-Meter Semi-Anechoic Chamber	Panashield	N/A	N/A	Listed 3/10/10	3/10/12
AC Voltmeter	HP	400FL	2213A14499	CAL 3/23/09	3/23/11
Antenna: Dipole Kit	Electro-Metrics	TDA-30/1-4	153	CHAR 6/10/09	6/10/11
Frequency Counter	HP	5385A	3242A07460	CAL 5/26/09	5/26/11
Hygro-Thermometer	Extech	445703	0602	CAL 1/30/09	1/30/11
Modulation Analyzer	HP	8901A	3435A06868	CAL 5/26/09	5/26/11
Digital Multimeter	Fluke	FLUKE-77-3	79510405	CAL 5/18/09	5/18/11
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

APPLICANT: MOTOROLA MOBILITY, INC.

FCC ID: IHDT56MH1

IC: 1090-T56MH1

REPORT: M\MOTOROLA FL JL\159BT11\159BT11TestReport ilQ ilX iDEN TX Part  
15.doc

## TEST PROCEDURES

**Power line conducted Emission:** The test procedure used was ANSI C63.4-2003. The spectrum was scanned from 0.15 to 30 MHz.

**Radiation Interference:** The test procedure used was ANSI C63.4-2003 using a spectrum analyzer with preselector. The resolution bandwidth used was 100 kHz with an appropriate sweep speed. The analyzer was calibrated in dB above a microvolt at the output of the antenna. The video bandwidth was always greater than or equal to the RBW.

The unit under test was placed on a table 80 cm high and with dimensions of 1m by 1.5m. The table used for radiated measurements is capable of continuous rotation. When an emission was found, the table was rotated to produce the maximum signal strength. At this point, the antenna was raised and lowered from 1m to 4m. The antenna was placed in both the horizontal and vertical planes. The frequency was scanned from 30 MHz to 1.0 GHz. The DUT was measured in three (3) orthogonal planes when necessary.

**Formula of Conversion Factors:** The field strength at 3m was established by adding the meter reading of the spectrum analyzer (which is set to read in units of dBμV) to the antenna correction factor supplied by the antenna manufacturer plus the coax loss. The antenna correction factors are stated in terms of dB. The gain of the preselector was accounted for in the spectrum analyzer meter reading.

**Example:**

Freq (MHz)	Meter Reading	+ ACF	+CL	= FS
33	20 dBμV	+ 10.36 dB/m	+0.40 dB	=30.76 dBμV/m @ 3m

**POWER LINE CONDUCTED INTERFERENCE**

**Rules Part No.:** Power line conducted data for radio in TX mode (Part 90 transmitter).

**Requirements:**

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

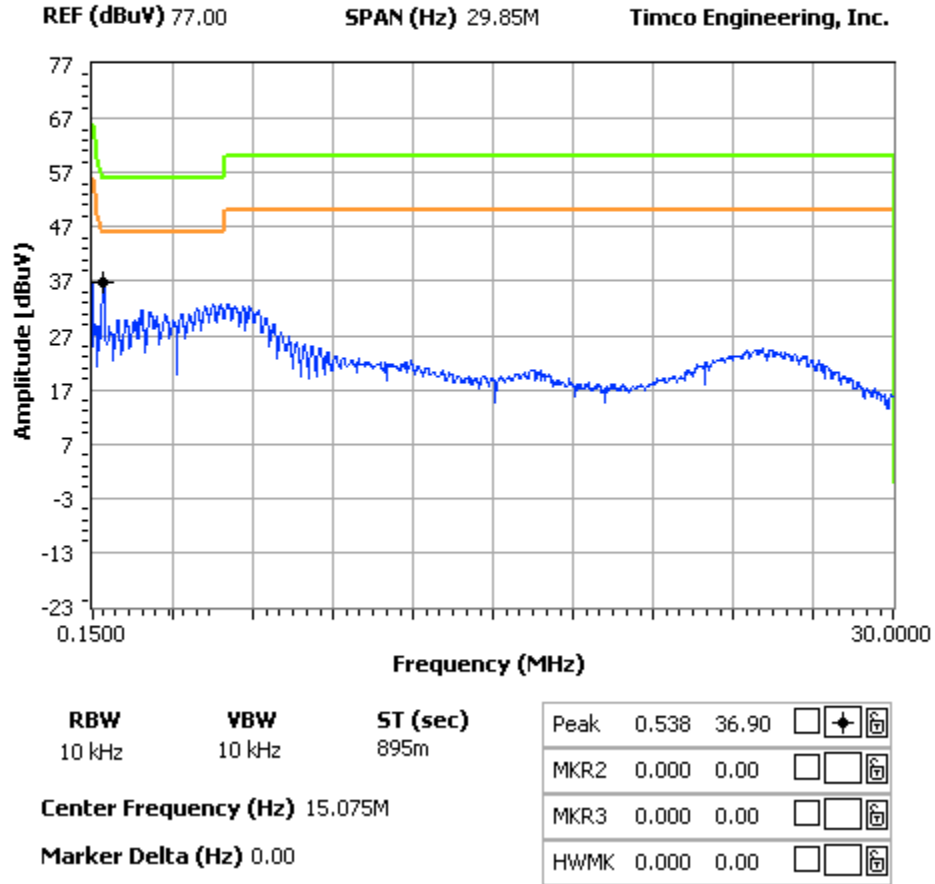
**Test Data:** The following plots represent the emissions read for power line conducted. Both lines were observed.

POWERLINE CONDUCTED EMISSIONS – LINE 1

**NOTES:**

POWERLINE CONDUCTED -- LINE 1  
 IDEN TX 813.5625 MHz -- MAX POWER

**FCC 15.107 Mask Class B**



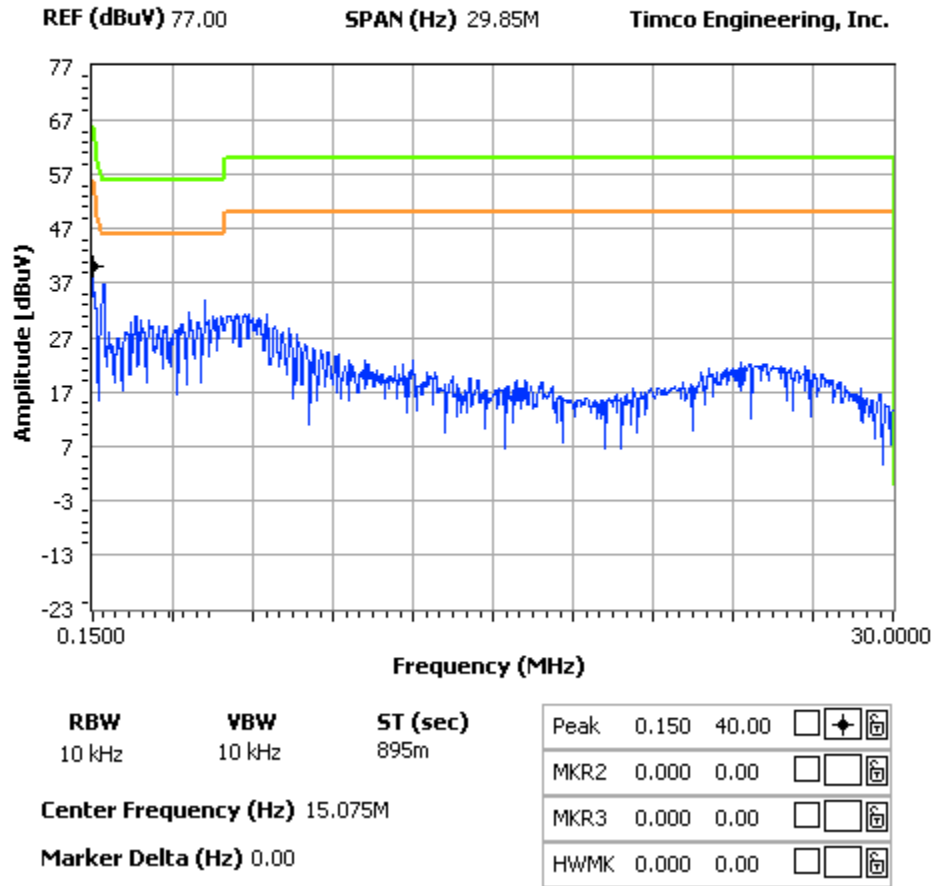
APPLICANT: MOTOROLA MOBILITY, INC.  
 FCC ID: IHDT56MH1      IC: 1090-T56MH1  
 REPORT: M\MOTOROLA FL JL\159BT11\159BT11TestReport ilQ ilX iDEN TX Part  
 15.doc

POWERLINE CONDUCTED EMISSIONS – LINE 2

**NOTES:**

POWERLINE CONDUCTED -- LINE 2  
 IDEN TX 813.5625 MHz -- MAX POWER

**FCC 15.107 Mask Class B**



APPLICANT: MOTOROLA MOBILITY, INC.

FCC ID: IHDT56MH1

IC: 1090-T56MH1

REPORT: M\MOTOROLA FL JL\159BT11\159BT11TestReport ilQ ilX iDEN TX Part 15.doc