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## FCC PART 15.247 TEST REPORT

### DIGITAL SPREAD SPECTRUM

<b>Applicant</b>	MOTOROLA MOBILITY, INC.
<b>Address</b>	600 NORTH U.S. HWY 45 LIBERTYVILLE ILLINOIS 60048-5343 USA
<b>FCC ID</b>	IHDT56NQ2
<b>IC</b>	1090-T56NQ2
<b>Model Number</b>	XT626
<b>Product Description</b>	PORTABLE iDEN PHONE
<b>Date Sample Received</b>	4/25/2012
<b>Date Tested</b>	5/4/2012
<b>Tested By</b>	John A. Day
<b>Approved By</b>	Mario de Aranzeta
<b>Report Number</b>	1064GUT12TestReport_Rev.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

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**GENERAL REMARKS**

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

The test results relate only to the items 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:** May 18, 2012

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**GENERAL INFORMATION**

**DUT Specification**

<b>Applicable Standard</b>	Part 15.247		
<b>DUT Description</b>	PORTABLE iDEN PHONE		
<b>FCC ID</b>	IHDT56NQ2		
<b>IC</b>	109O-T56NQ2		
<b>SN</b>	364PNG04X2 and 364PNG04SF (for antenna conducted)		
<b>Operating Frequency</b>	TX: 2412 - 2462		
<b>Number of channels</b>	11		
<b>DUT Power Source</b>	<input type="checkbox"/> 110-120Vac/50- 60Hz		
	<input type="checkbox"/> DC Power		
	<input checked="" type="checkbox"/> Battery Operated Exclusively		
<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>Antenna Connector</b>	None		
<b>Antenna</b>	Integral antenna		
<b>AC Adaptor</b>	Model No: FMP5515A Input: 100 - 240 VAC, 50 - 60 Hz, 0.2A Output: 5 V, .75 A		
<b>Test Facility</b>	Timco Engineering Inc. located at 849 NW State Road 45 Newberry, FL 32669 USA.		
<b>Test Conditions</b>	Temperature: 26°C Relative humidity: 50%		
<b>Test Exercise</b>	The DUT was placed in continuous transmit mode of operation.		

**Test Supporting Equipment**

Supporting Device	Manufacturer	Model / FCC ID	Serial Number
N/A			

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## EMC EQUIPMENT LIST

Device	Manufacturer	Model	Serial Number	Cal/Char Date	Due Date
3-Meter Semi-Anechoic Chamber	Panashield	N/A	N/A	Listed 5/1/12	5/1/14
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
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
Power Meter	Boonton Electronics	4531	11793	CAL 11/12/2010	11/12/2012
EMI Receiver	Rohde & Schwarz	ESIB40	100274	CAL 3/16/2012	3/16/2014
Analyzer Tan Tower Preamplifier	HP	8449B-H02	3008A00372	CAL 10/28/11	10/28/13
Analyzer Tan Tower Quasi-Peak Adapter	HP	85650A	3303A01690	CAL 10/28/11	10/28/13
Analyzer Tan Tower RF Preselector	HP	85685A	3221A01400	CAL 10/28/11	10/28/13
Analyzer Tan Tower Spectrum Analyzer	HP	8566B Opt 462	3138A07786 3144A20661	CAL 10/28/11	10/28/13
Antenna	ETS	3117	35923	12/7/2011	12/7/2013
Antenna	Electro metrics	LPA-25	1122	5/04/2011	5/04/2013
Antenna	Electro metrics	BIA-25	1096	5/04/2011	5/04/2013

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## TEST PROCEDURES

**Radiation Interference:** ANSI C63.4-2003 using a spectrum analyzer, a preselector, a quasi-peak adapter, and an appropriate antenna. The analyzer was calibrated in dB above a microvolt at the output of the antenna. The resolution bandwidth was 100 kHz with an appropriate sweep speed and the video bandwidth was 300 kHz up to 1 GHz and 1 MHz with a video BW of 3 MHz above 1 GHz. When an emission was found, the table was rotated to produce the maximum signal strength. The antenna was placed in both the horizontal and vertical planes and the worse case emissions were reported. The spectrum was searched to at least the tenth (10) harmonic of the fundamental.

**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 dB $\mu$ V) 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 dB $\mu$ V	+ 10.36 dB	+ 0.5 = 30.86 dB $\mu$ V/m @ 3m

**Power Line Conducted Interference:** The procedure used was ANSI C63.4-2003 using a 50uH LISN. Both lines were observed. The bandwidth of the spectrum analyzer was 10 kHz with an appropriate sweep speed. The spectrum was scanned from 0.15 to 30 MHz.

**Occupied Bandwidth:** A small sample of the transmitter output was fed into the spectrum analyzer and the attached plot was printed. The vertical scale is set to -10 dBm per division.

**Bandwidth 6.0dB:** 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.

**Antenna Conducted Emissions:** The RBW=100 kHz, VBW=300 kHz and the span set to 10 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.

**ANSI C63.4-2003 10.1 Measurement Procedures:** The DUT was placed on a table 80 cm high and with dimensions of 1m by 1.5m. The DUT was placed in the center of the table (1.5m side). 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. Emissions attenuated more than 20 dB below the permissible value are not reported.

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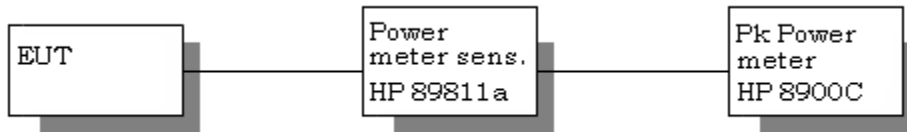
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**POWER OUTPUT**

**Rules Part #:** 15.247(b) 1 Watt conducted, 4W ERP

TEST SET UP:



\*Harmonics were checked through the 10<sup>th</sup> harmonic\*

**Test Results:**

	Frequency MHz	Po dBm	Po Milliwatts
802.11b	2462.00	24.4	275
802.11g	2462.00	25.4	347
802.11n/400ns	2412.00	24.2	263
802.11n/800ns	2436.00	23.8	240

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### OCCUPIED BANDWIDTH

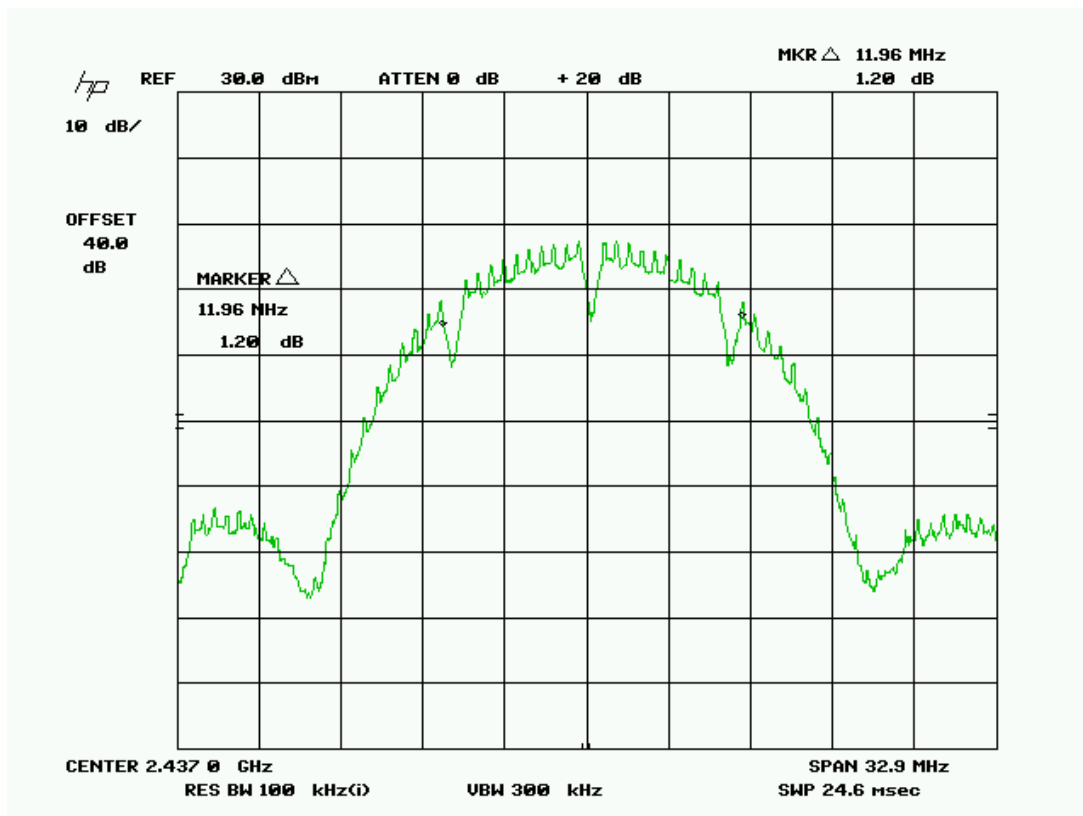
**Rules Part No.:** 15.247(a)(2)

**Requirements:** The 6 dB bandwidth must be greater than 500 kHz.

**Test Data:**

#### 802.11b mode

Three places in the band were measured and the worst case reported.



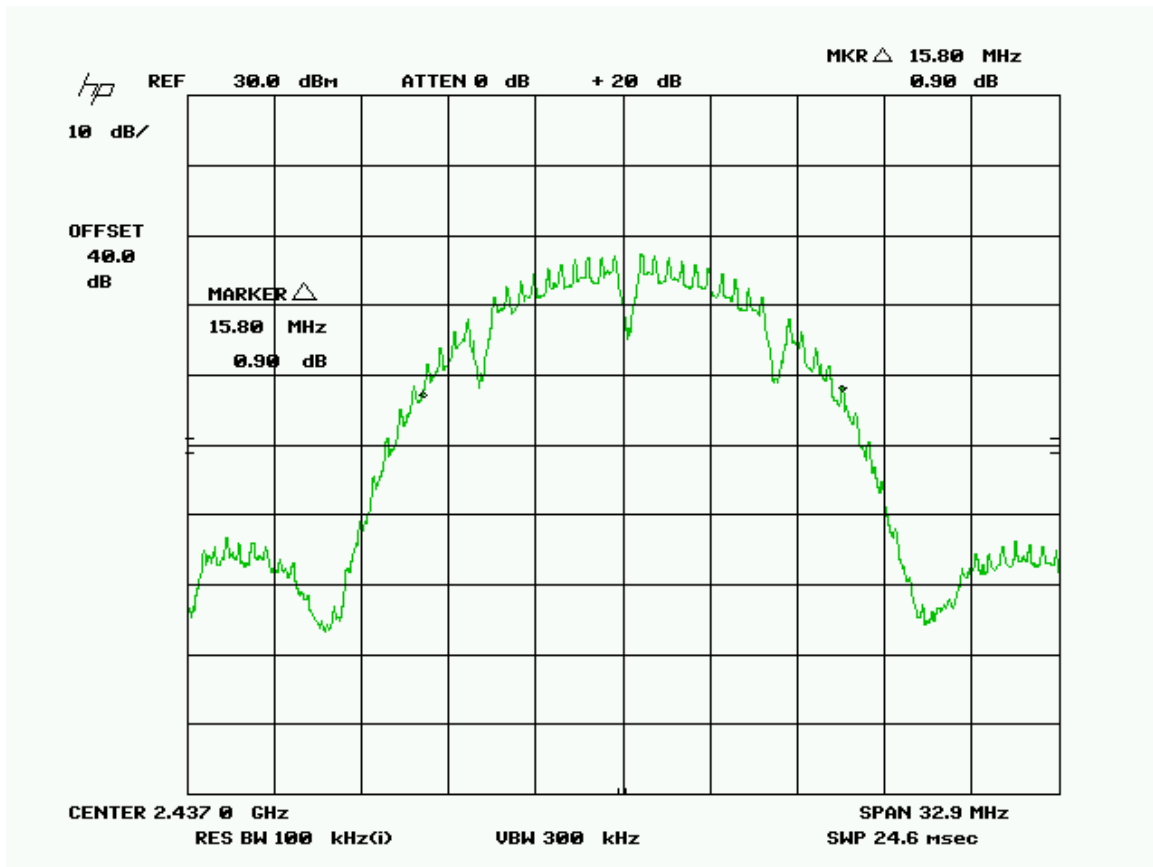
6dB bandwidth

APPLICANT: MOTOROLA MOBILITY, INC.

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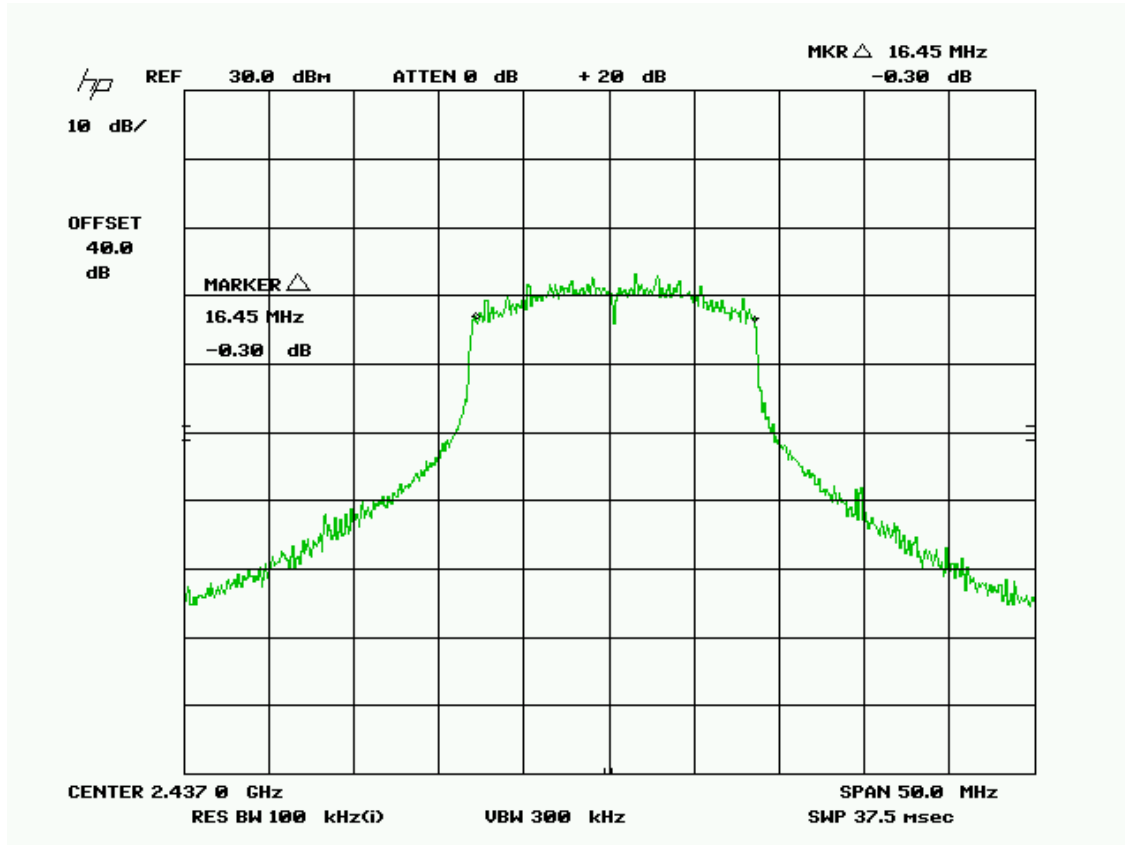


20dB bandwidth

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### 802.11g mode

Three places in the band were measured and the worst case reported.



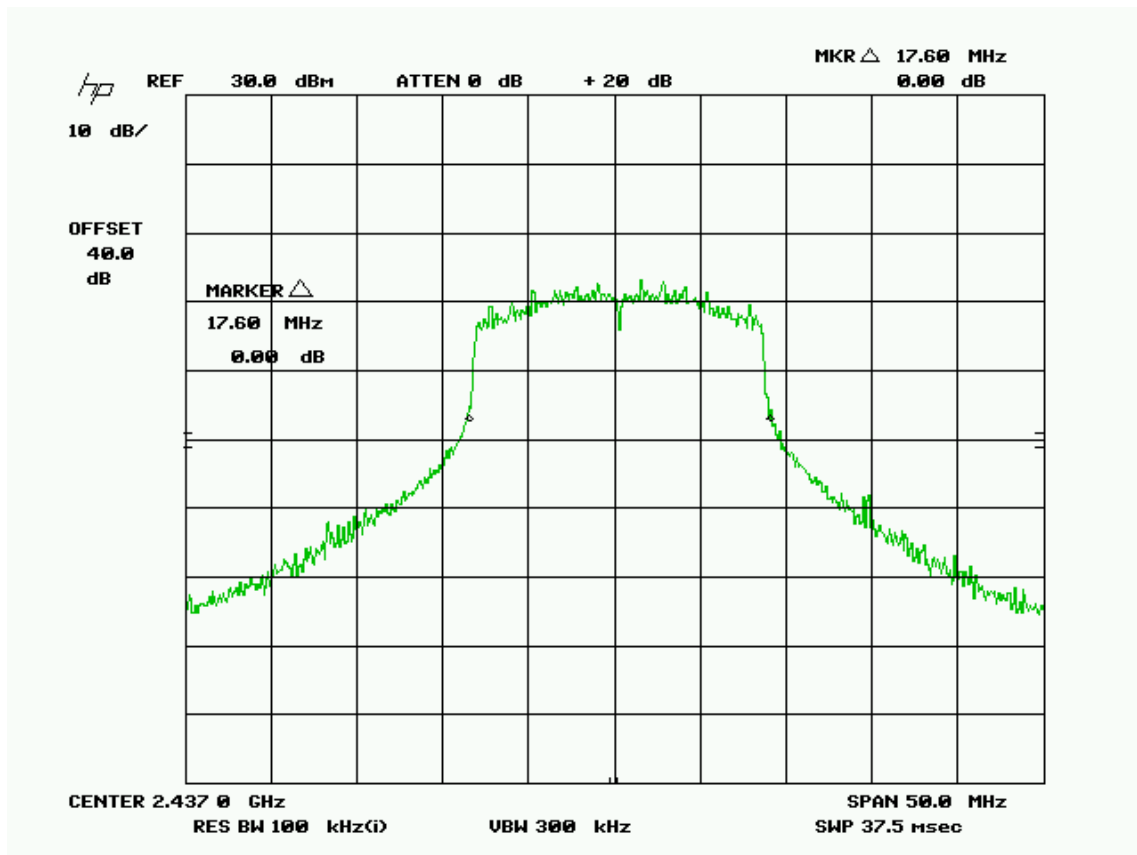
6dB bandwidth

APPLICANT: MOTOROLA MOBILITY, INC.

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IC: 1090-T56NQ2

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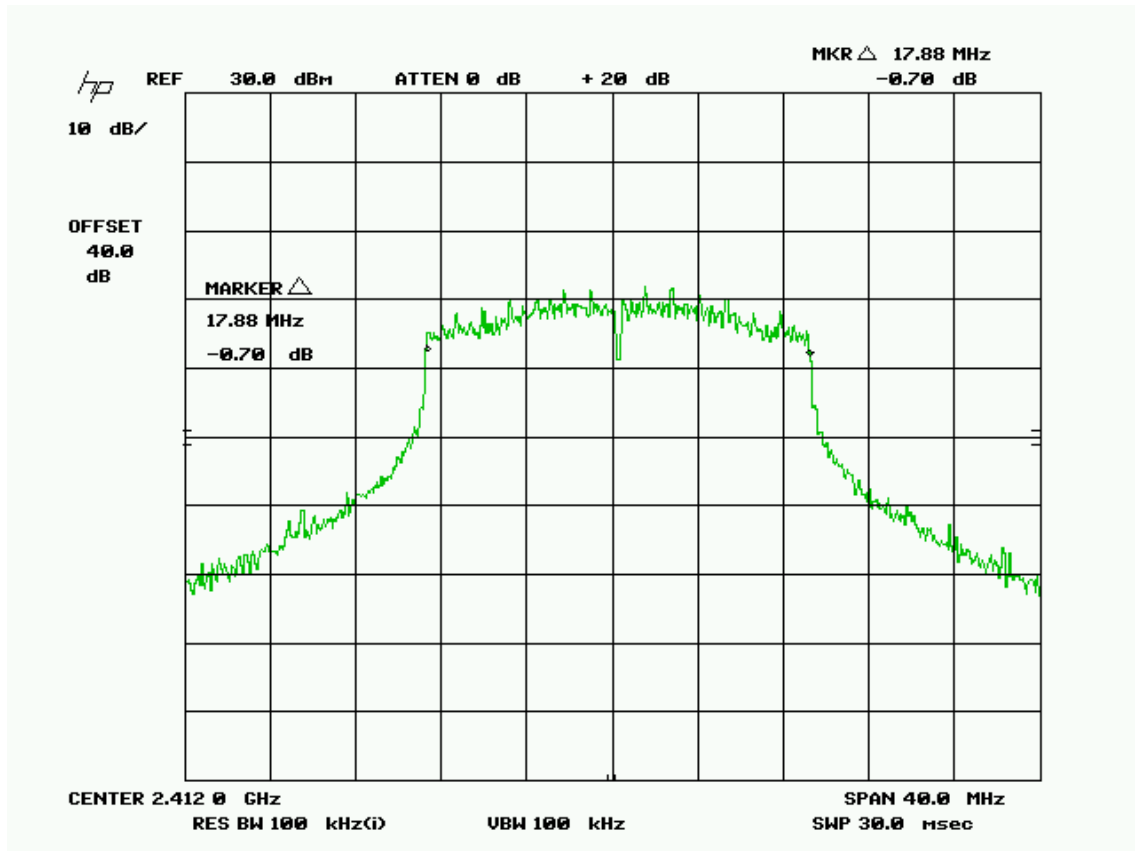


20dB bandwidth

APPLICANT: MOTOROLA MOBILITY, INC.  
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 IC: 1090-T56NQ2  
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### 802.11n mode

Three places in the band were measured and the worst case reported.



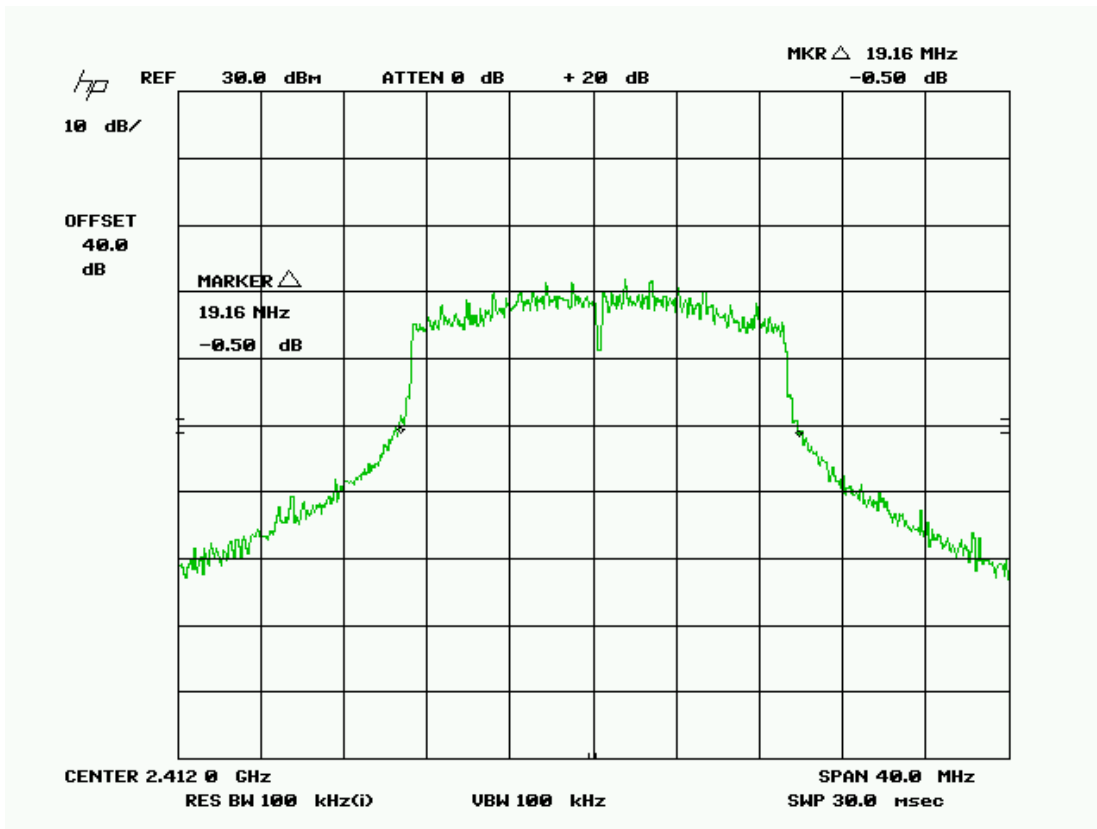
6dB bandwidth

APPLICANT: MOTOROLA MOBILITY, INC.

FCC ID: IHDT56NQ2

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20dB bandwidth

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**POWER LINE CONDUCTED INTERFERENCE**

**Rules Part No.:** Part 15.207

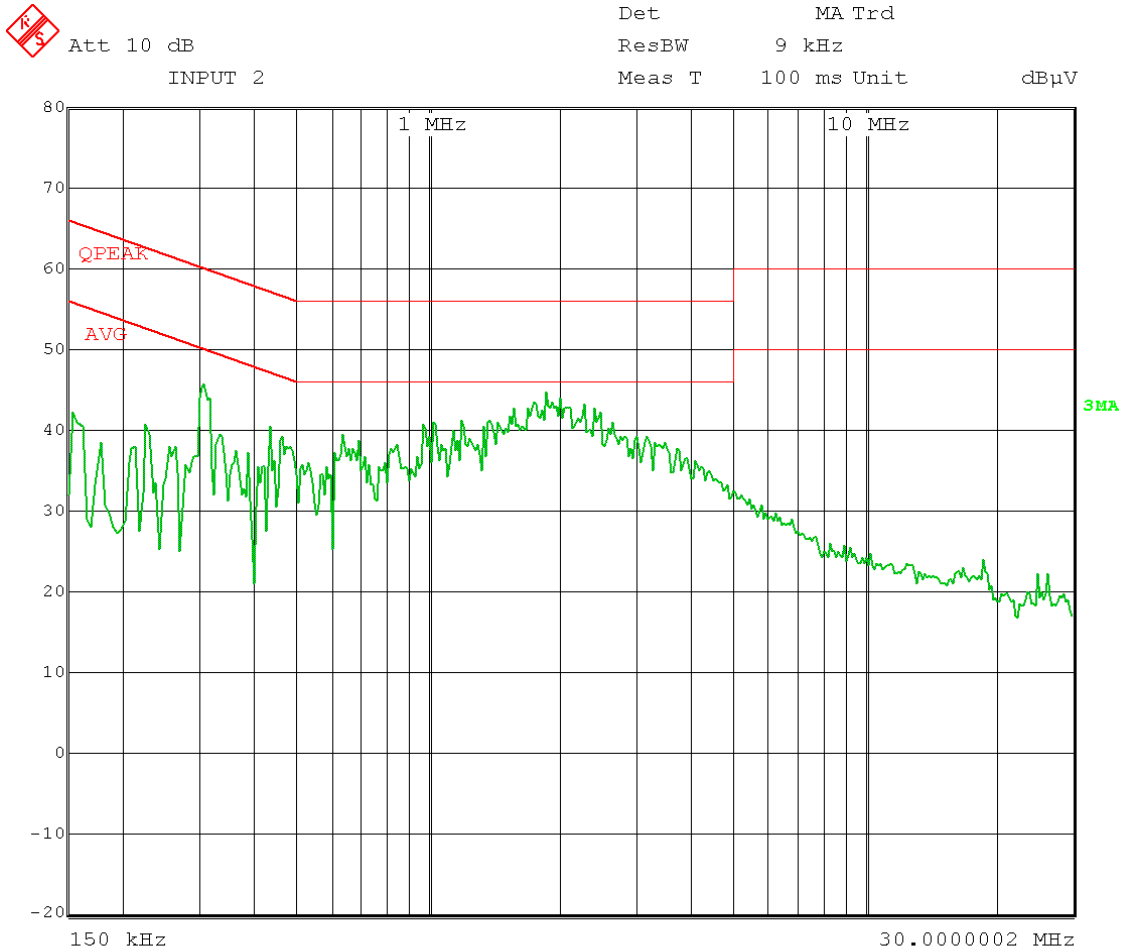
**Requirements:**

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.

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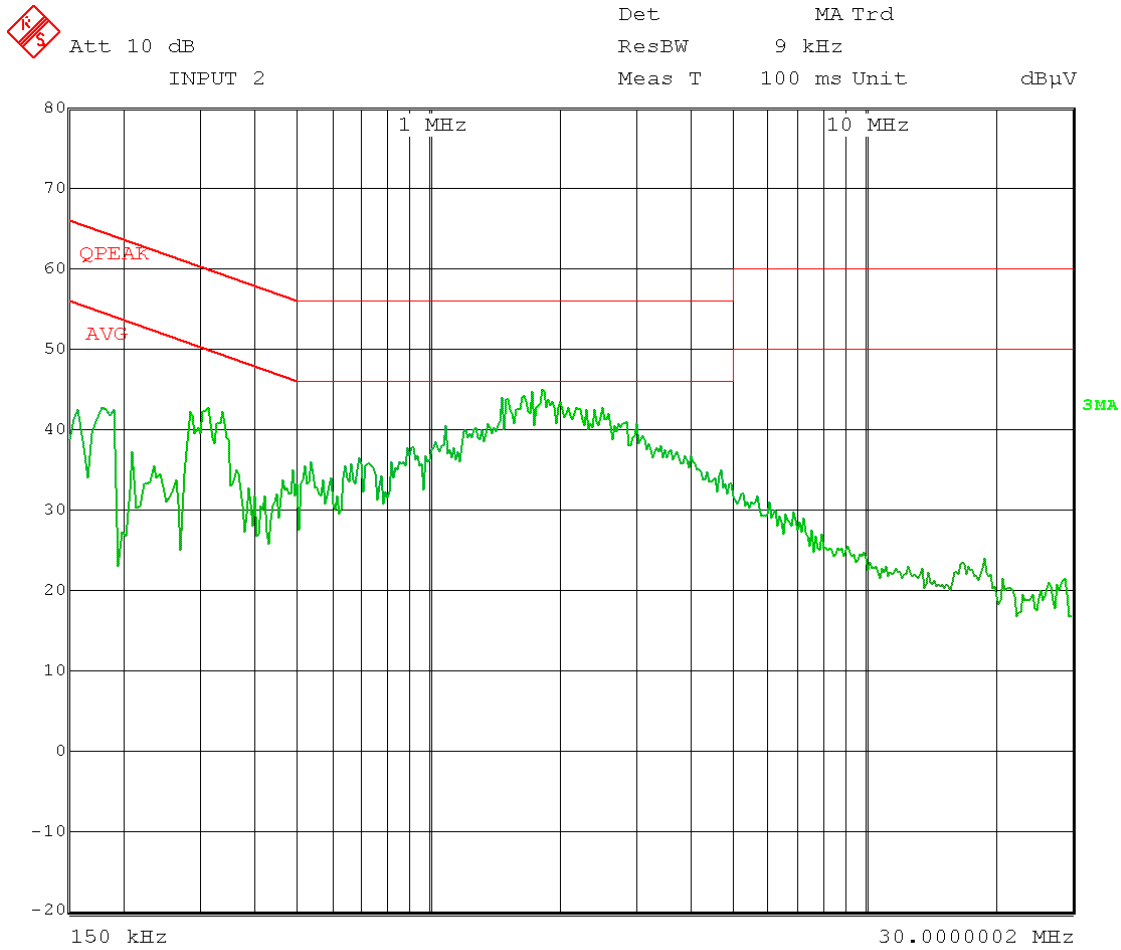
POWERLINE CONDUCTED PLOT - LINE 1



Date: 7.MAY.2012 13:41:06

APPLICANT: MOTOROLA MOBILITY, INC.  
 FCC ID: IHDT56NQ2  
 IC: 1090-T56NQ2  
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POWERLINE CONDUCTED PLOT - LINE 2



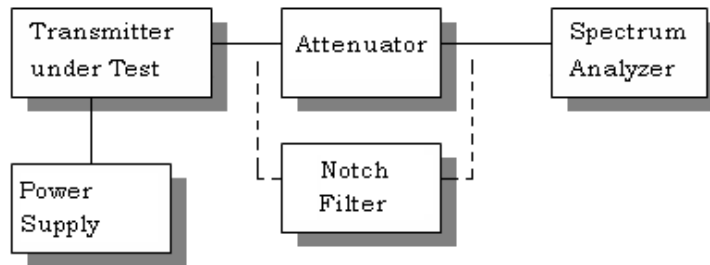
Date: 7.MAY.2012 13:34:55

APPLICANT: MOTOROLA MOBILITY, INC.  
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### SPURIOUS EMISSIONS AT ANTENNA TERMINALS

**Requirements:** Emissions must be at least 20dB down from the highest emission level within the authorized band as measured with a 100 kHz RBW.

15.247(c) Method of Measuring RF Conducted Spurious Emissions



**Test Data:**

Harmonics were measured to the 10<sup>th</sup>. NF = nothing found.

802.11b mode

Emission Frequency MHz	dB Below Carrier (dBc)	Emission Frequency MHz	dB Below Carrier (dBc)	Emission Frequency MHz	dB Below Carrier (dBc)
2412.00		2437.00		2462.00	
4824.00	79	4874.00	76	4924.00	83.8
7236.00	84.3	7311.00	90.5	7386.00	87.6
9648.00	86	9748.00	83.7	9848.00	88.2
12060.00	91.9	12185.00	91.4	12310.00	89.8
14472.00	86.3	14622.00	79.9	14772.00	85.9
16884.00	NF	17059.00	NF	17234.00	NF
19296.00	NF	19496.00	NF	19696.00	NF
21708.00	NF	21933.00	NF	22158.00	NF
24120.00	NF	24370.00	NF	24620.00	NF

802.11g mode

Emission Frequency MHz	dB Below Carrier (dBc)	Emission Frequency MHz	dB Below Carrier (dBc)	Emission Frequency MHz	dB Below Carrier (dBc)
2412.00		2437.00	87.5	2462.00	
4824.00	79.3	4874.00	90.7	4924.00	85
7236.00	83.9	7311.00	86.9	7386.00	89
9648.00	88.2	9748.00	91.6	9848.00	88.8
12060.00	92.1	12185.00	83.5	12310.00	90.5
14472.00	86.4	14622.00	NF	14772.00	86.7
16884.00	NF	17059.00	NF	17234.00	NF
19296.00	NF	19496.00	NF	19696.00	NF
21708.00	NF	21933.00	NF	22158.00	NF
24120.00	NF	24370.00	NF	24620.00	NF

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802.11n – 400ns mode

Emission Frequency MHz	dB Below Carrier (dBc)	Emission Frequency MHz	dB Below Carrier (dBc)	Emission Frequency MHz	dB Below Carrier (dBc)
2412.00		2437.00		2462.00	
4824.00	88	4874.00	83	4924.00	83.1
7236.00	83.6	7311.00	89.9	7386.00	88.4
9648.00	87.4	9748.00	86.5	9848.00	87.1
12060.00	91.4	12185.00	90.7	12310.00	88.9
14472.00	86.7	14622.00	79.2	14772.00	85.6
16884.00	NF	17059.00	NF	17234.00	NF
19296.00	NF	19496.00	NF	19696.00	NF
21708.00	NF	21933.00	NF	22158.00	NF
24120.00	NF	24370.00	NF	24620.00	NF

802.11n – 800ns mode

Emission Frequency MHz	dB Below Carrier (dBc)	Emission Frequency MHz	dB Below Carrier (dBc)	Emission Frequency MHz	dB Below Carrier (dBc)
2412.00		2437.00		2462.00	
4824.00	87.3	4874.00	85.1	4924.00	82.7
7236.00	87.4	7311.00	89.8	7386.00	87.5
9648.00	87.5	9748.00	87.8	9848.00	86.9
12060.00	82.7	12185.00	89.3	12310.00	88
14472.00	85.5	14622.00	79.2	14772.00	85.2
16884.00	NF	17059.00	NF	17234.00	NF
19296.00	NF	19496.00	NF	19696.00	NF
21708.00	NF	21933.00	NF	22158.00	NF
24120.00	NF	24370.00	NF	24620.00	NF

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## RADIATION INTERFERENCE

Rules Part No.: 15.247, 15.209

### Requirements:

Frequency	Limits
Part 15.209	
9 to 490 kHz	2400/F (kHz) $\mu\text{V}/\text{m}$ @ 300 meters
490 to 1705 kHz	24000/F (kHz) $\mu\text{V}/\text{m}$ @ 30 meters
1705 kHz to 30 MHz	29.54 dB $\mu\text{V}/\text{m}$ @ 30 meters
30 – 88	40.0 dB $\mu\text{V}/\text{m}$ @ 3 meters
80 – 216	43.5 dB $\mu\text{V}/\text{m}$ @ 3 meters
216 – 960	46.0 dB $\mu\text{V}/\text{m}$ @ 3 meters
Above 960	54.0 dB $\mu\text{V}/\text{m}$ @ 3 meters
Part 15.247	
Fundamental 902 – 928 MHz	127.37 dB $\mu\text{V}/\text{m}$ @ 3 meters
Fundamental 2.4 – 2.4835 MHz	127.37 dB $\mu\text{V}/\text{m}$ @ 3 meters
Harmonics	54.0 dB $\mu\text{V}/\text{m}$ @ 3 meters

Any emissions that fall in the restricted bands (15.205) must be less than or equal to 54 dB $\mu\text{V}/\text{m}$ . Spurious emissions not in a restricted band must be 20 dBc. Emissions were measured from the lowest frequency generated (or 9 kHz) to the 10<sup>th</sup> harmonic.

**Test Data:** All values are peak unless noted.  
Items mark with an \* designate a frequency in a restricted band.

### 802.11b mode

Tuned Frequency MHz	Emission Frequency MHz	Meter Reading dB $\mu\text{V}$	Ant. Polarity	Coax Loss dB	Correction Factor dB/m	Field Strength dB $\mu\text{V}/\text{m}$	Margin dB
2,412.00	2,412.00	78.2	H	3.19	32.49	113.88	13.5
2,412.00	2,412.00	78.7	V	3.19	32.49	114.38	13
2,412.00	4,824.00	7.6	H	4.91	33.96	46.47	7.53
2,412.00	4,824.00	8	V	4.91	33.96	46.87	7.13
2,412.00	7,236.00	7.4	H	5.74	35.65	48.79	5.21
2,412.00	7,236.00	9.1	V	5.74	35.65	50.49	3.51
2,412.00	9,648.00	7.5	H	6.79	36.85	51.14	2.86
2,412.00	9,648.00	8.6	V	6.79	36.85	52.24	1.76
2,437.00	2,437.00	75.5	H	3.21	32.52	111.23	16.15
2,437.00	2,437.00	76.8	V	3.21	32.52	112.53	14.85
2,437.00	4,874.00	8.1	H	4.94	33.97	47.01	6.99
2,437.00	4,874.00	8.3	V	4.94	33.97	47.21	6.79

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2,437.00	7,311.00	7.2	H	5.79	35.64	48.63	5.37
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Test data continue (802.11b)

Tuned Frequency MHz	Emission Frequency MHz	Meter Reading dBμV	Ant. Polarity	Coax Loss dB	Correction Factor dB/m	Field Strength dBμV/m	Margin dB
2,437.00	7,311.00	7.8	V	5.79	35.64	49.23	4.77
2,437.00	9,748.00	7.7	V	6.82	36.95	51.47	2.53
2,437.00	9,748.00	8.2	H	6.82	36.95	51.97	2.03
2,462.00	2,462.00	75.4	H	3.22	32.55	111.17	16.21
2,462.00	2,462.00	75.6	V	3.22	32.55	111.37	16.01
2,462.00	4,924.00	7	V	4.96	33.98	45.94	8.06
2,462.00	4,924.00	7.1	H	4.96	33.98	46.04	7.96
2,462.00	7,386.00	7.9	H	5.83	35.62	49.35	4.65
2,462.00	7,386.00	8.8	V	5.83	35.62	50.25	3.75
2,462.00	9,848.00	7.1	V	6.85	37.05	51	3

APPLICANT: MOTOROLA MOBILITY, INC.  
 FCC ID: IHDT56NQ2  
 IC: 1090-T56NQ2  
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**802.11g mode**

Tuned Frequency MHz	Emission Frequency MHz	Meter Reading dBμV	Ant. Polarity	Coax Loss dB	Correction Factor dB/m	Field Strength dBμV/m	Margin dB
2,412.00	2,412.00	73.7	H	3.19	32.49	109.38	18
2,412.00	2,412.00	75	V	3.19	32.49	110.68	16.7
2,412.00	4,824.00	7.5	V	4.91	33.96	46.37	7.63
2,412.00	4,824.00	7.8	H	4.91	33.96	46.67	7.33
2,412.00	7,236.00	7.1	H	5.74	35.65	48.49	5.51
2,412.00	7,236.00	7.9	V	5.74	35.65	49.29	4.71
2,412.00	9,648.00	8.2	H	6.79	36.85	51.84	2.16
2,412.00	9,648.00	8.4	V	6.79	36.85	52.04	1.96
2,437.00	2,437.00	74.3	H	3.21	32.52	110.03	17.35
2,437.00	2,437.00	74.7	V	3.21	32.52	110.43	16.95
2,437.00	4,874.00	7	V	4.94	33.97	45.91	8.09
2,437.00	4,874.00	7.7	H	4.94	33.97	46.61	7.39
2,437.00	7,311.00	7.3	V	5.79	35.64	48.73	5.27
2,437.00	7,311.00	7.5	H	5.79	35.64	48.93	5.07
2,437.00	9,748.00	7	H	6.82	36.95	50.77	3.23
2,437.00	9,748.00	7.5	V	6.82	36.95	51.27	2.73
2,462.00	2,462.00	73.1	H	3.22	32.55	108.87	18.51
2,462.00	2,462.00	73.6	V	3.22	32.55	109.37	18.01
2,462.00	4,924.00	7.8	H	4.96	33.98	46.74	7.26
2,462.00	4,924.00	7.9	V	4.96	33.98	46.84	7.16
2,462.00	7,386.00	7.8	V	5.83	35.62	49.25	4.75
2,462.00	7,386.00	8.6	H	5.83	35.62	50.05	3.95
2,462.00	9,848.00	7.2	V	6.85	37.05	51.1	2.9
2,462.00	9,848.00	7.3	H	6.85	37.05	51.2	2.8

APPLICANT: MOTOROLA MOBILITY, INC.

FCC ID: IHDT56NQ2

IC: 1090-T56NQ2

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**802.11n mode**

Tuned Frequency MHz	Emission Frequency MHz	Meter Reading dBμV	Ant. Polarity	Coax Loss dB	Correction Factor dB/m	Field Strength dBμV/m	Margin dB
2,412.00	2,412.00	74	V	3.19	32.49	109.68	17.7
2,412.00	2,412.00	74.2	H	3.19	32.49	109.88	17.5
2,412.00	4,824.00	7.2	V	4.91	33.96	46.07	7.93
2,412.00	4,824.00	8.1	H	4.91	33.96	46.97	7.03
2,412.00	7,236.00	6.8	H	5.74	35.65	48.19	5.81
2,412.00	7,236.00	7.6	V	5.74	35.65	48.99	5.01
2,412.00	9,648.00	7.2	V	6.79	36.85	50.84	3.16
2,412.00	9,648.00	8.6	H	6.79	36.85	52.24	1.76
2,437.00	2,437.00	73.8	H	3.21	32.52	109.53	17.85
2,437.00	2,437.00	74.8	V	3.21	32.52	110.53	16.85
2,437.00	4,874.00	7.7	H	4.94	33.97	46.61	7.39
2,437.00	4,874.00	8.2	V	4.94	33.97	47.11	6.89
2,437.00	7,311.00	7	H	5.79	35.64	48.43	5.57
2,437.00	7,311.00	7.6	V	5.79	35.64	49.03	4.97
2,437.00	9,748.00	7.2	V	6.82	36.95	50.97	3.03
2,437.00	9,748.00	7.8	H	6.82	36.95	51.57	2.43
2,462.00	2,462.00	71.6	V	3.22	32.55	107.37	20.01
2,462.00	2,462.00	73.1	H	3.22	32.55	108.87	18.51
2,462.00	4,924.00	6.5	V	4.96	33.98	45.44	8.56
2,462.00	4,924.00	8.5	H	4.96	33.98	47.44	6.56
2,462.00	7,386.00	7.5	V	5.83	35.62	48.95	5.05
2,462.00	7,386.00	7.6	H	5.83	35.62	49.05	4.95
2,462.00	9,848.00	7.8	V	6.85	37.05	51.7	2.3
2,462.00	9,848.00	7.9	H	6.85	37.05	51.8	2.2

APPLICANT: MOTOROLA MOBILITY, INC.

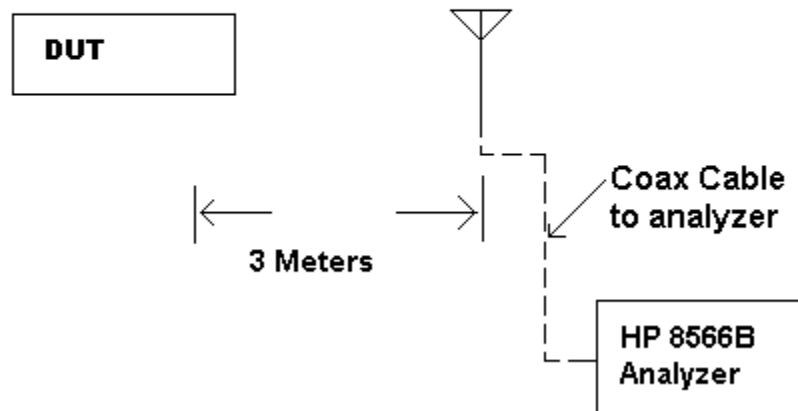
FCC ID: IHDT56NQ2

IC: 1090-T56NQ2

REPORT: O:\M\MOTOROLA IL LL\1064GUT12\1064GUT12TestReport\_Rev.doc

## Method of Measuring Radiated Spurious Emissions

Antenna is Calibrated  
and appropriate one.  
Raised from 1 to 4 M.



**METHOD OF MEASUREMENT:** The procedure used was ANSI standard C63.4-2003 & the FCC/OET Guidance on Measurements for Spread Spectrum Systems – KDB 558074 dated March 23, 2005.

APPLICANT: MOTOROLA MOBILITY, INC.

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## RADIATED SPURIOUS EMISSIONS INTO ADJACENT RESTRICTED BAND

**Requirements:** Emissions that fall in the restricted bands (15.205). These emissions must be less than or equal to 500  $\mu\text{V}/\text{m}$  (54  $\text{dB}\mu\text{V}/\text{m}$ ).

**Test Procedure:** An in band field strength measurement of the fundamental Emission using the RBW and detector function required by C63.4-2000 and FCC Rules. The procedure was repeated with an average detector and a plot made. The calculated field strength in the adjacent restricted band is presented below.

### Test result for 802.11b mode

Lower restricted band peak - ch 2412



Tuned Frequency MHz	Emission Frequency MHz	Meter Reading dB $\mu\text{V}$	Ant. Polarity	Detector	Coax Loss dB	Correction Factor dB/m	Field Strength dB $\mu\text{V}/\text{m}$	Margin dB
2,412.00	2,400.00	25.2	V	Peak	3.18	32.48	60.86	13.14
2,412.00	2,400.00	13.4	V	Avg	3.18	32.48	49.06	4.94

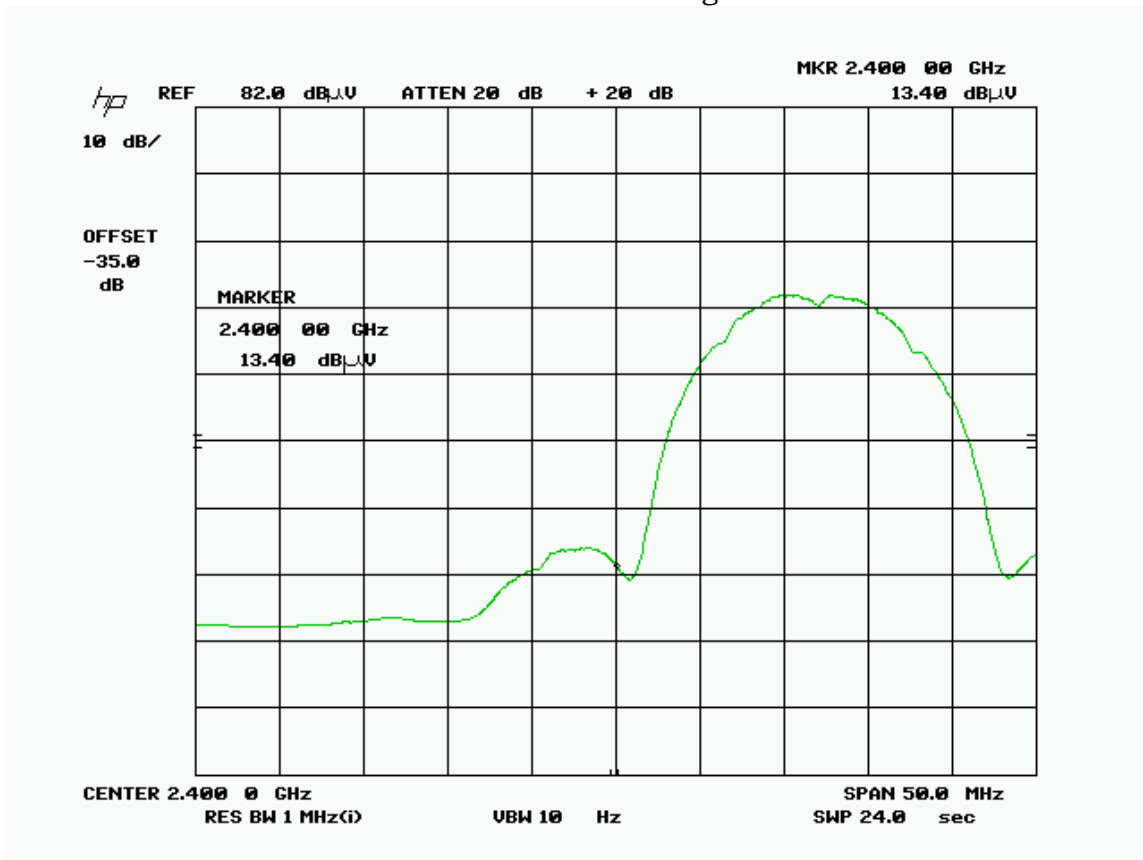
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FCC ID: IHDT56NQ2

IC: 1090-T56NQ2

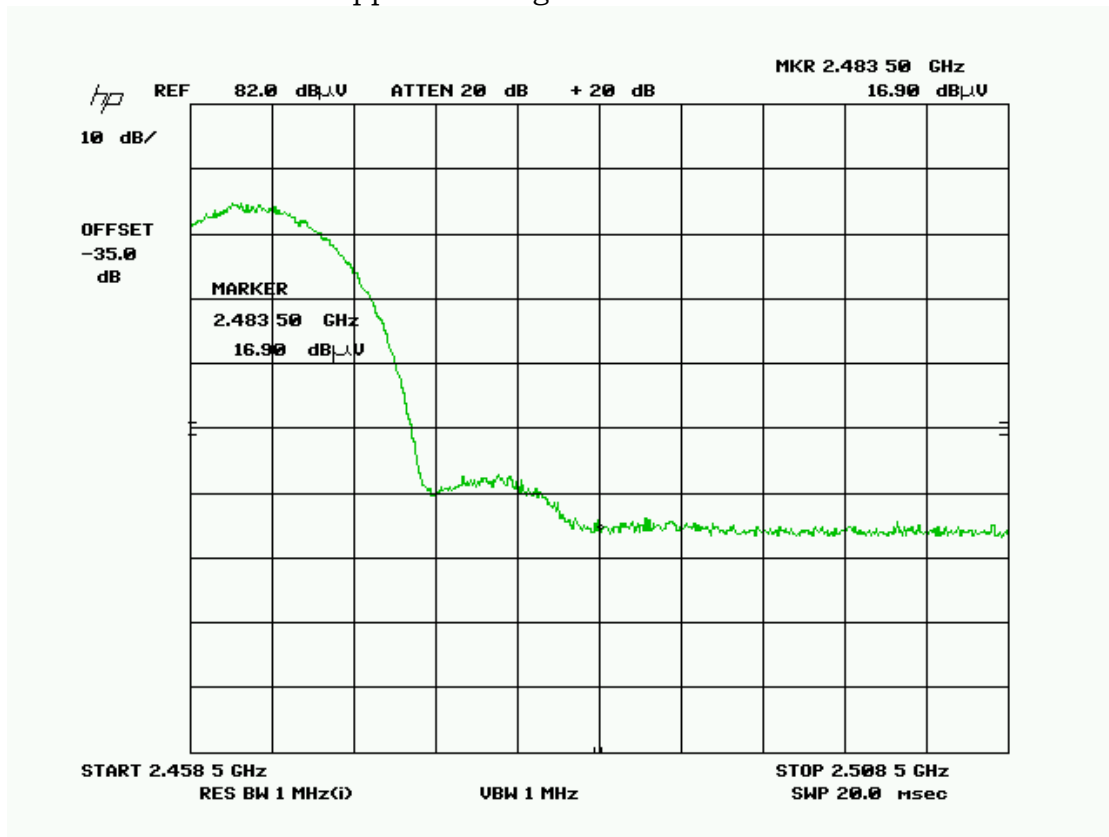
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Lower restricted band Average- ch 2412



APPLICANT: MOTOROLA MOBILITY, INC.  
 FCC ID: IHDT56NQ2  
 IC: 1090-T56NQ2  
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Upper bandedge Peak - ch 2462



Tuned Frequency MHz	Emission Frequency MHz	Meter Reading dBμV	Ant. Polarity	Detector	Coax Loss dB	Correction Factor dB/m	Field Strength dBμV/m	Margin dB
2,462.00	2,483.50	16.9	V	Peak	3.24	32.58	52.72	1.28

APPLICANT: MOTOROLA MOBILITY, INC.

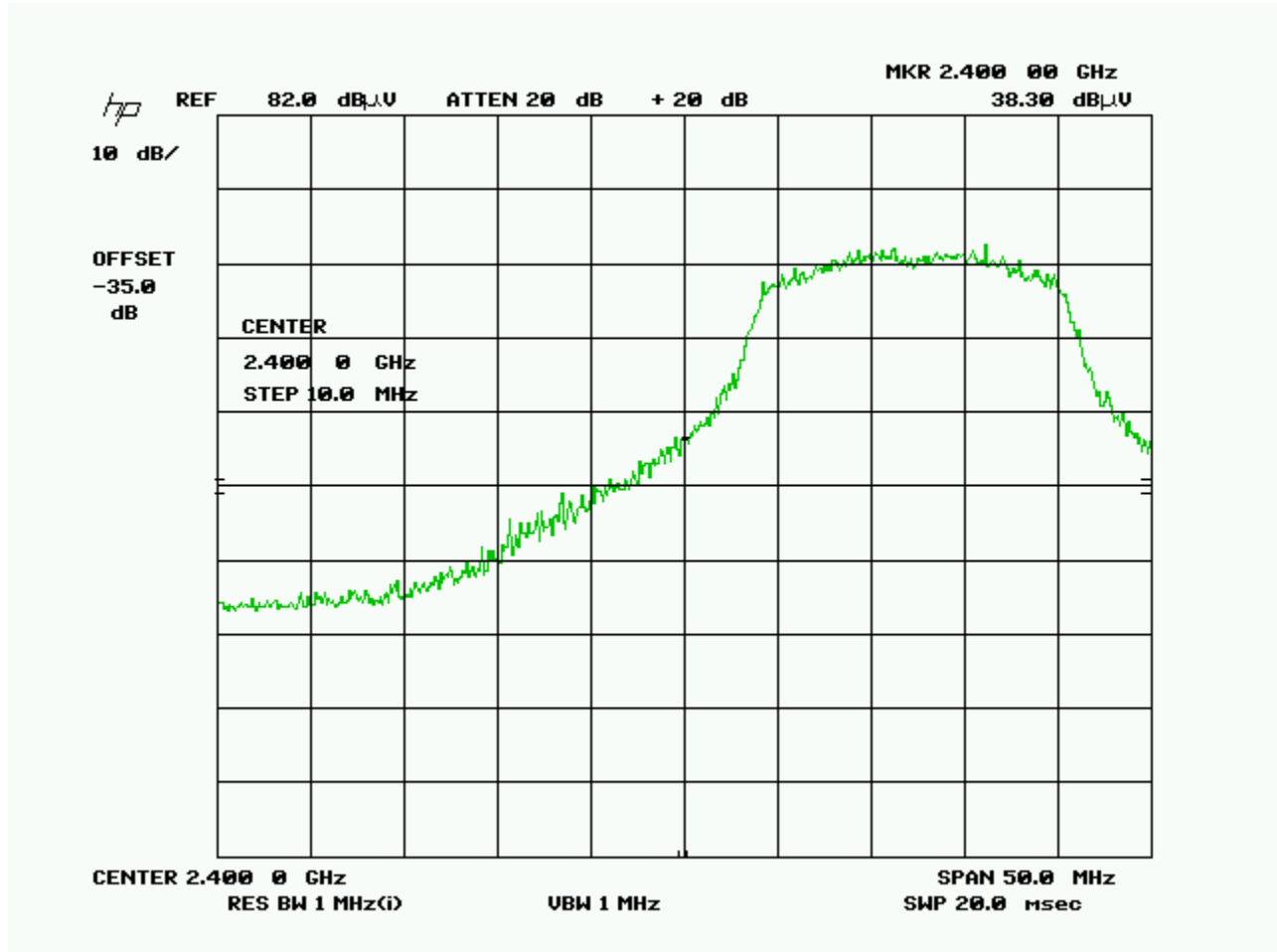
FCC ID: IHDT56NQ2

IC: 1090-T56NQ2

REPORT: O:\M\MOTOROLA IL LL\1064GUT12\1064GUT12TestReport\_Rev.doc

**Test result for 802.11g mode**

Lower restricted band Peak - ch 2412



Tuned Frequency MHz	Emission Frequency MHz	Meter Reading dBµV	Ant. Polarity	Detector	Coax Loss dB	Correction Factor dB/m	Field Strength dBµV/m	Margin dB
2,412.00	2,400.00	38.3	V	Peak	3.18	32.48	73.96	0.04
2,412.00	2,400.00	17.6	V	Avg	3.18	32.48	53.26	0.74

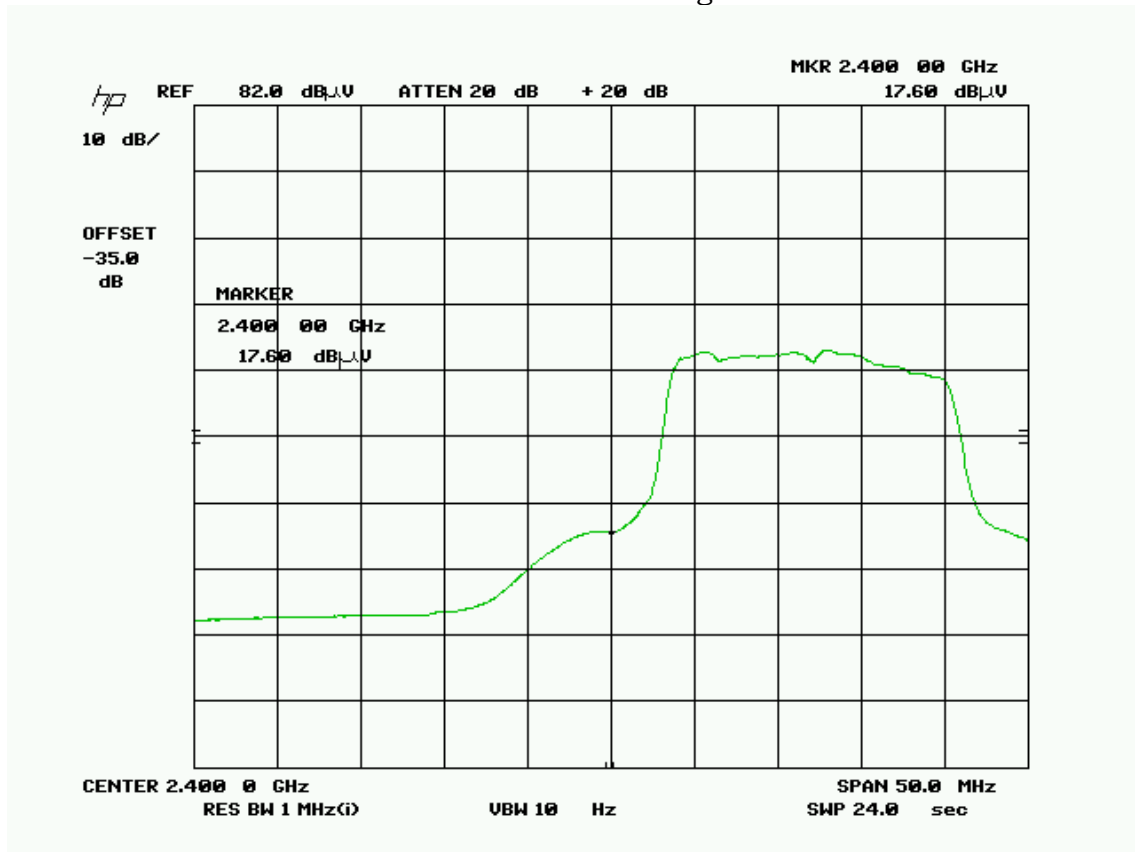
APPLICANT: MOTOROLA MOBILITY, INC.

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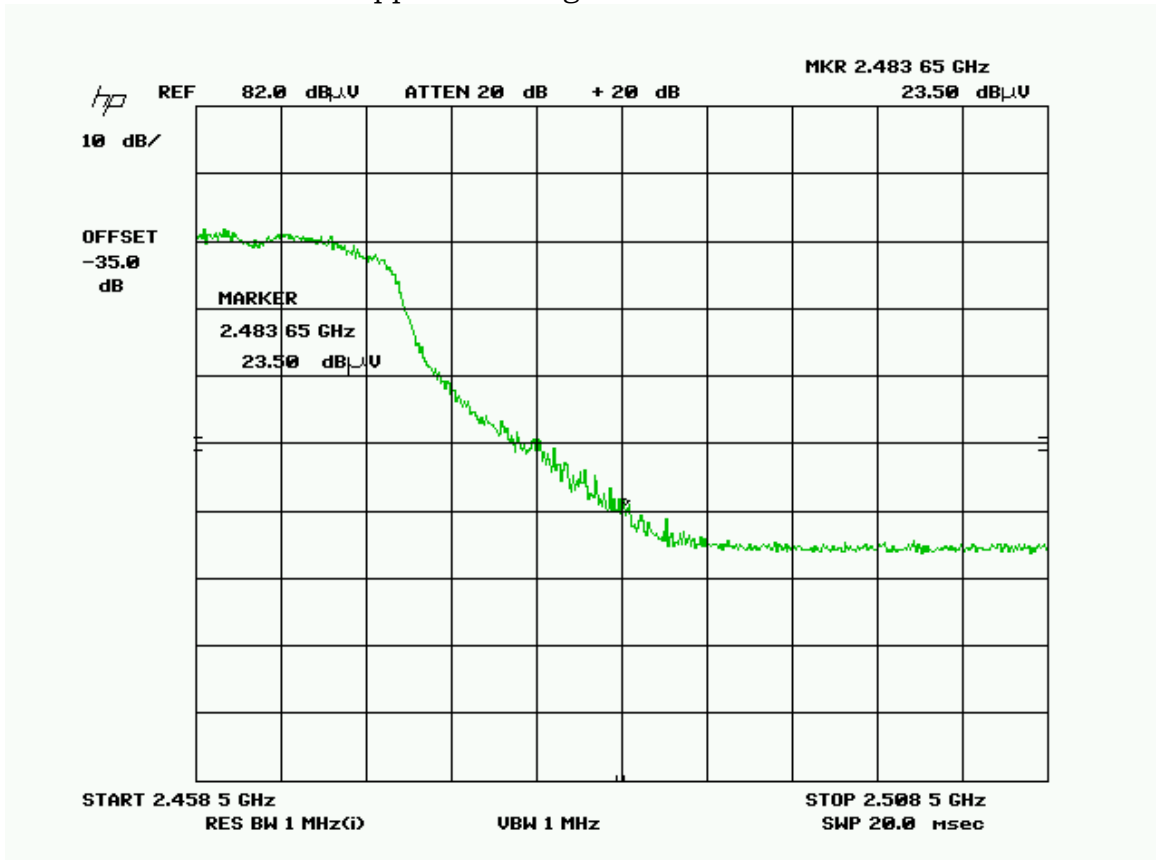
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Lower restricted band Average- ch 2412



APPLICANT: MOTOROLA MOBILITY, INC.  
 FCC ID: IHDT56NQ2  
 IC: 1090-T56NQ2  
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Upper bandedge Peak- ch 2462



Tuned Frequency MHz	Emission Frequency MHz	Meter Reading dBμV	Ant. Polarity	Detector	Coax Loss dB	Correction Factor dB/m	Field Strength dBμV/m	Margin dB
2,462.00	2,483.50	23.5	V	Peak	3.24	32.58	59.32	14.68
2,462.00	2,483.50	5.1	V	Avg	3.24	32.58	40.92	13.08

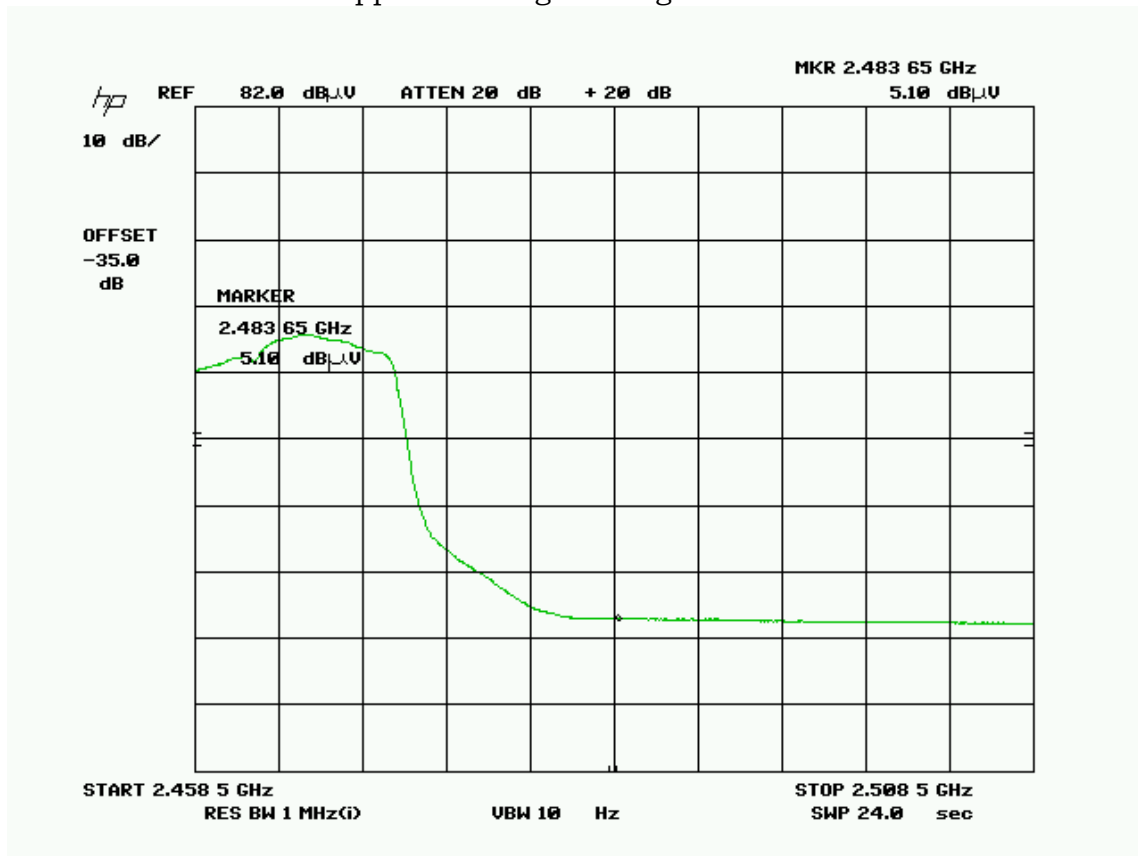
APPLICANT: MOTOROLA MOBILITY, INC.

FCC ID: IHDT56NQ2

IC: 1090-T56NQ2

REPORT: O:\M\MOTOROLA IL LL\1064GUT12\1064GUT12TestReport\_Rev.doc

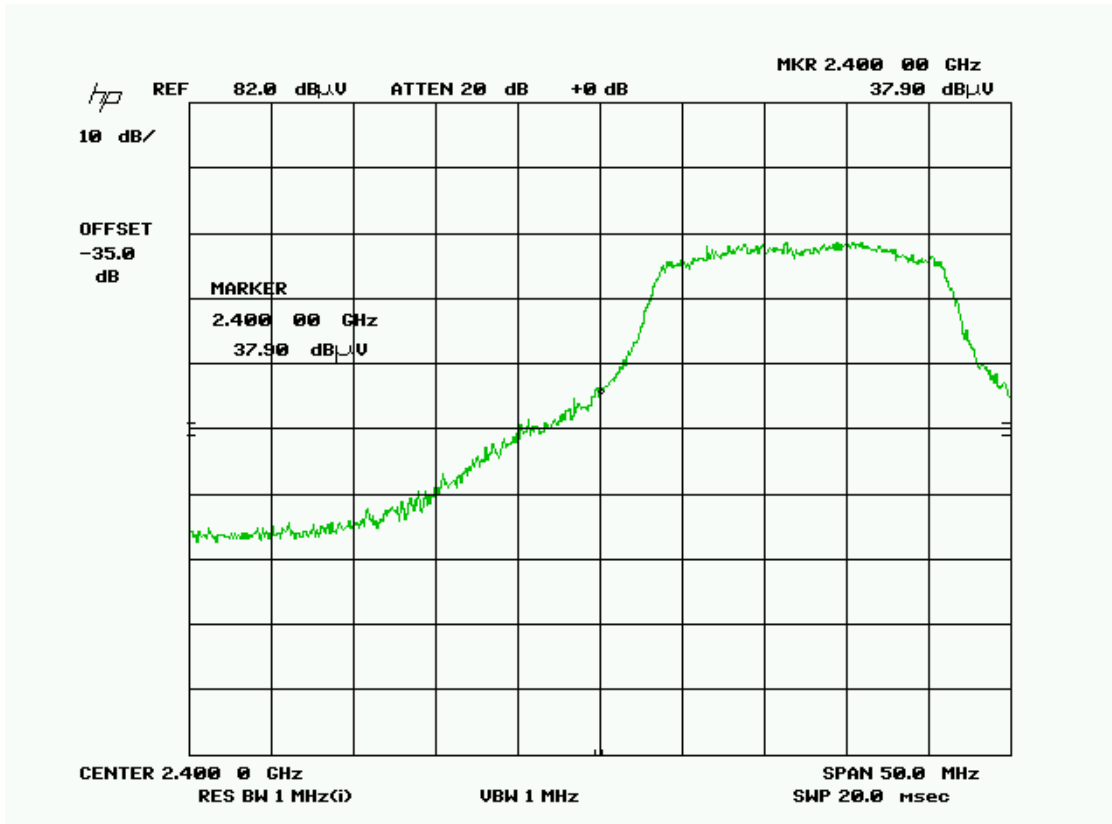
Upper bandedge Average- ch 2462



APPLICANT: MOTOROLA MOBILITY, INC.  
 FCC ID: IHDT56NQ2  
 IC: 1090-T56NQ2  
 REPORT: O:\M\MOTOROLA IL LL\1064GUT12\1064GUT12TestReport\_Rev.doc

**Test result for 802.11n-400 mode**

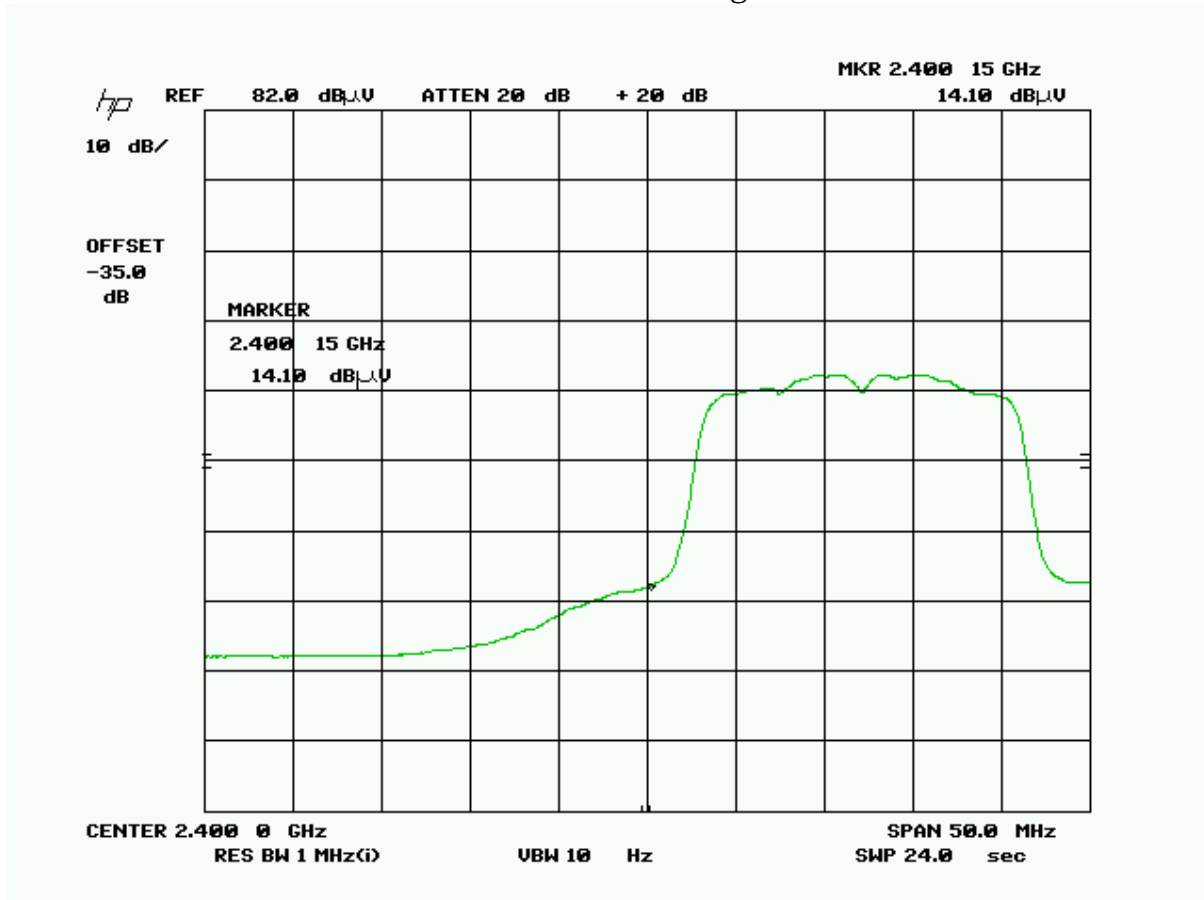
Lower restricted band Peak - ch 2412



Tuned Frequency MHz	Emission Frequency MHz	Meter Reading dBμV	Ant. Polarity	Detector	Coax Loss dB	Correction Factor dB/m	Field Strength dBμV/m	Margin dB
2,412.00	2,400.00	37.9	V	Peak	3.18	32.48	73.56	0.44
2,412.00	2,400.00	14.1	V	Avg	3.18	32.48	49.76	4.24

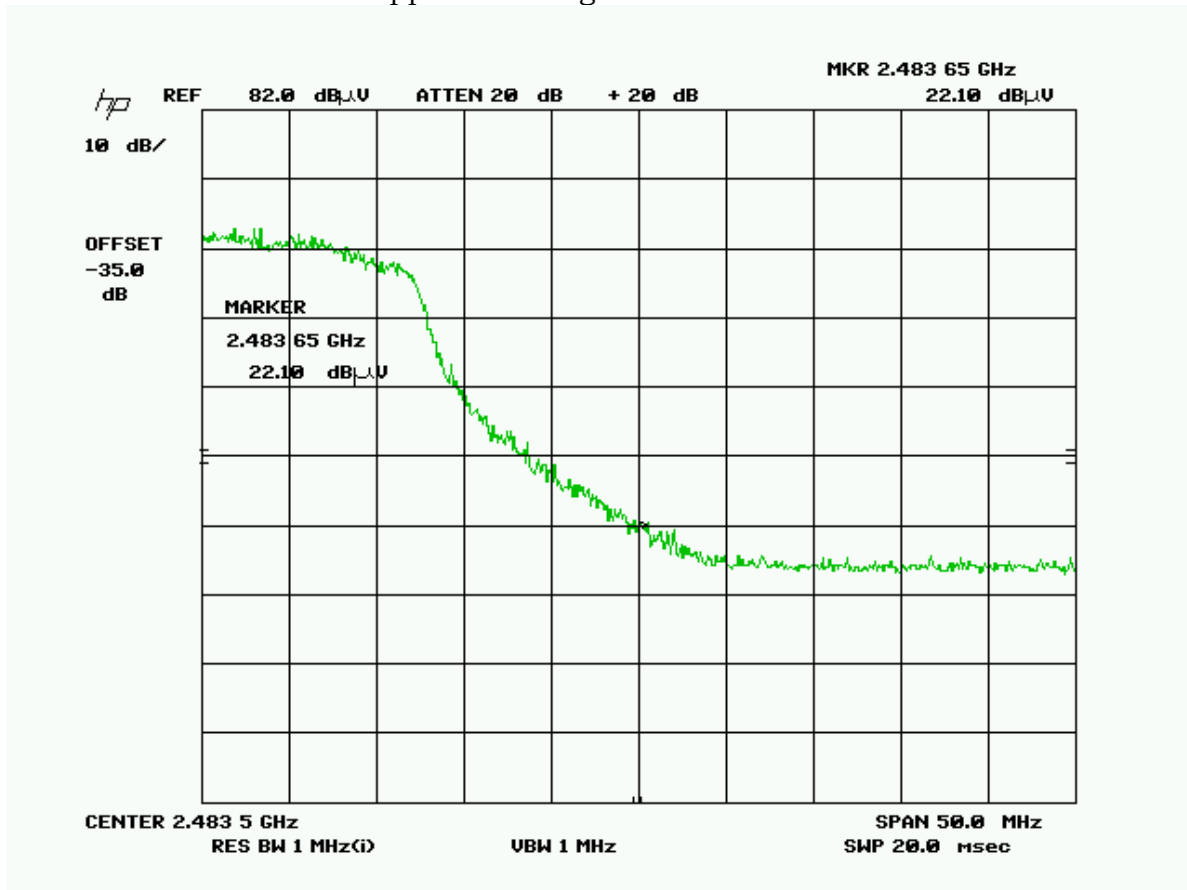
APPLICANT: MOTOROLA MOBILITY, INC.  
 FCC ID: IHDT56NQ2  
 IC: 1090-T56NQ2  
 REPORT: O:\M\MOTOROLA IL LL\1064GUT12\1064GUT12TestReport\_Rev.doc

Lower restricted band Average- ch 2412



APPLICANT: MOTOROLA MOBILITY, INC.  
 FCC ID: IHDT56NQ2  
 IC: 1090-T56NQ2  
 REPORT: O:\M\MOTOROLA IL LL\1064GUT12\1064GUT12TestReport\_Rev.doc

Upper bandedge Peak- ch 2462



Tuned Frequency MHz	Emission Frequency MHz	Meter Reading dBμV	Ant. Polarity	Detector	Coax Loss dB	Correction Factor dB/m	Field Strength dBμV/m	Margin dB
2,462.00	2,483.50	22.1	V	Peak	3.24	32.58	57.92	16.08
2,462.00	2,483.50	6.8	V	Avg	3.24	32.58	42.62	11.38

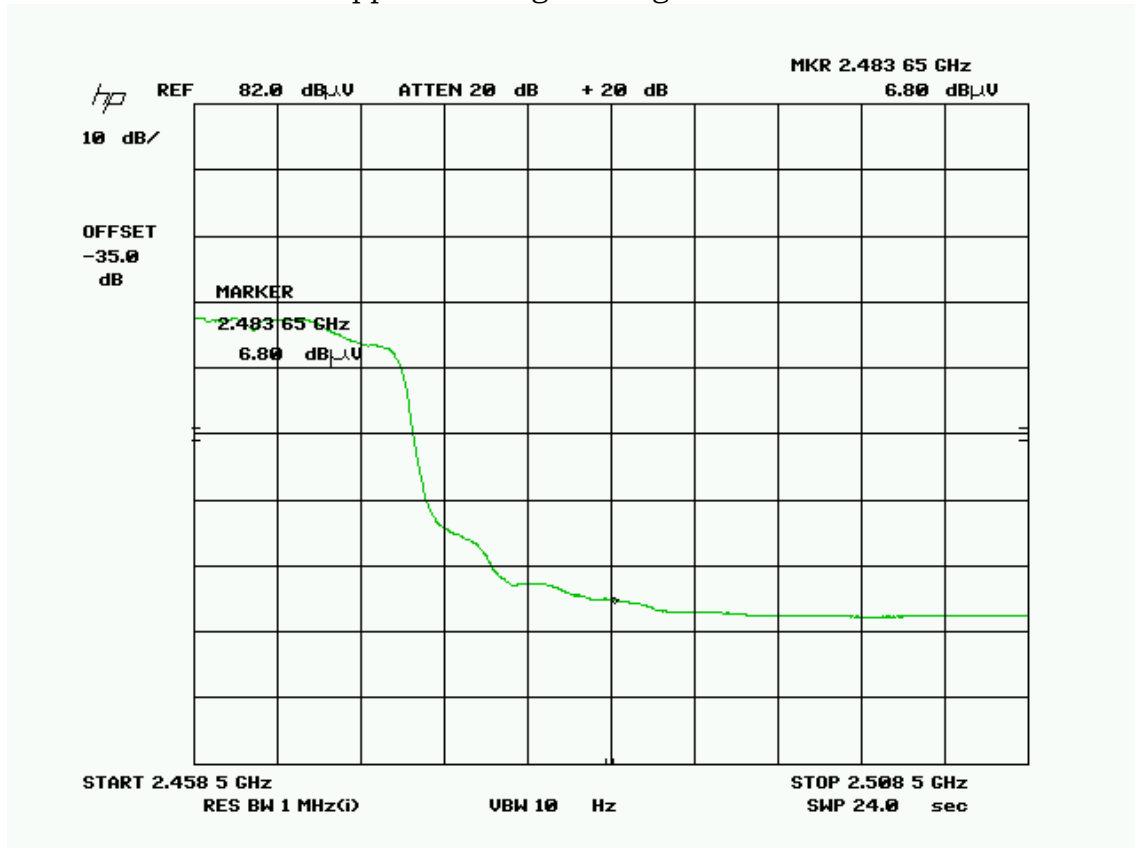
APPLICANT: MOTOROLA MOBILITY, INC.

FCC ID: IHDT56NQ2

IC: 1090-T56NQ2

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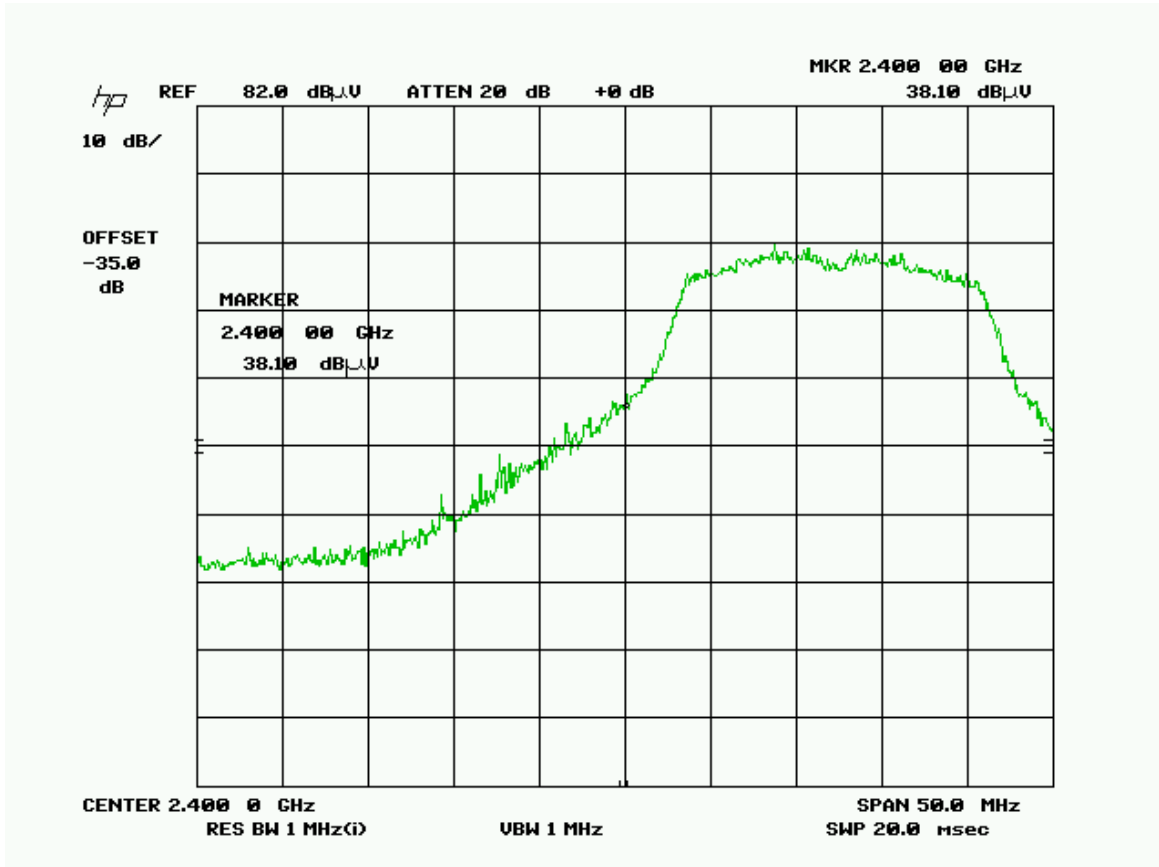
Upper bandedge Average- ch 2462



APPLICANT: MOTOROLA MOBILITY, INC.  
 FCC ID: IHDT56NQ2  
 IC: 1090-T56NQ2  
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**Test result for 802.11n-800 mode**

Lower restricted band Peak - ch 2412



Tuned Frequency MHz	Emission Frequency MHz	Meter Reading dBμV	Ant. Polarity	Detector	Coax Loss dB	Correction Factor dB/m	Field Strength dBμV/m	Margin dB
2,412.00	2,400.00	38.1	V	Peak	3.18	32.48	73.76	0.24
2,412.00	2,400.00	13.5	V	Avg	3.18	32.48	49.16	4.84

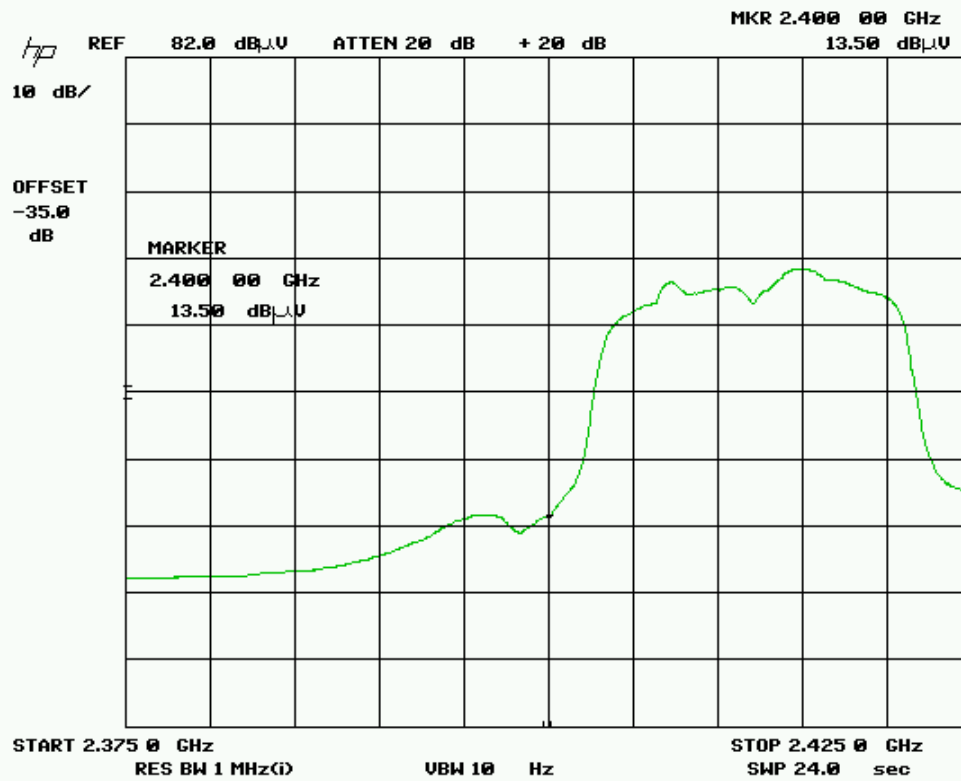
APPLICANT: MOTOROLA MOBILITY, INC.

FCC ID: IHDT56NQ2

IC: 1090-T56NQ2

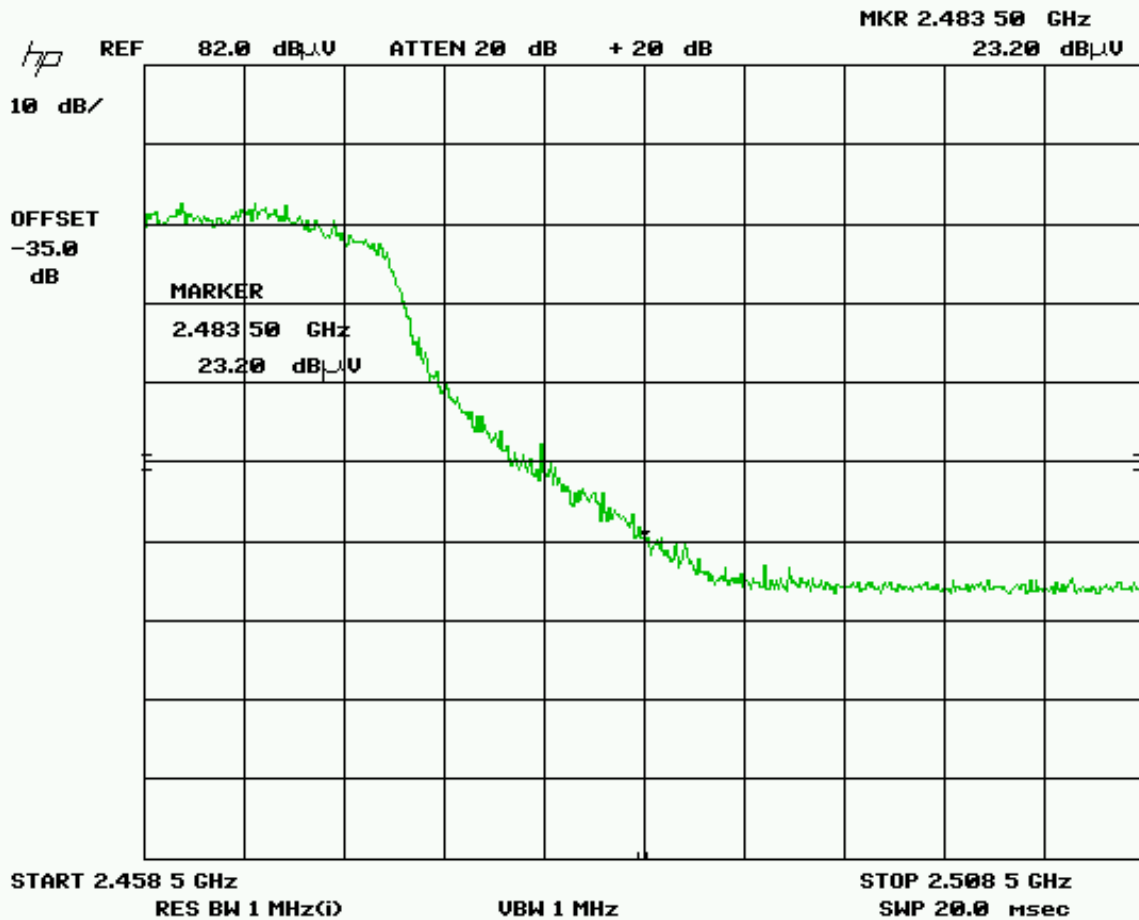
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Lower restricted band Average- ch 2412



APPLICANT: MOTOROLA MOBILITY, INC.  
 FCC ID: IHDT56NQ2  
 IC: 1090-T56NQ2  
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Upper bandedge Peak- ch 2462



Tuned Frequency MHz	Emission Frequency MHz	Meter Reading dB $\mu$ V	Ant. Polarity	Detector	Coax Loss dB	Correction Factor dB/m	Field Strength dB $\mu$ V/m	Margin dB
2,462.00	2,483.50	23.2	V	Peak	3.24	32.58	59.02	14.98
2,462.00	2,483.50	7.7	V	Avg	3.24	32.58	43.52	10.48

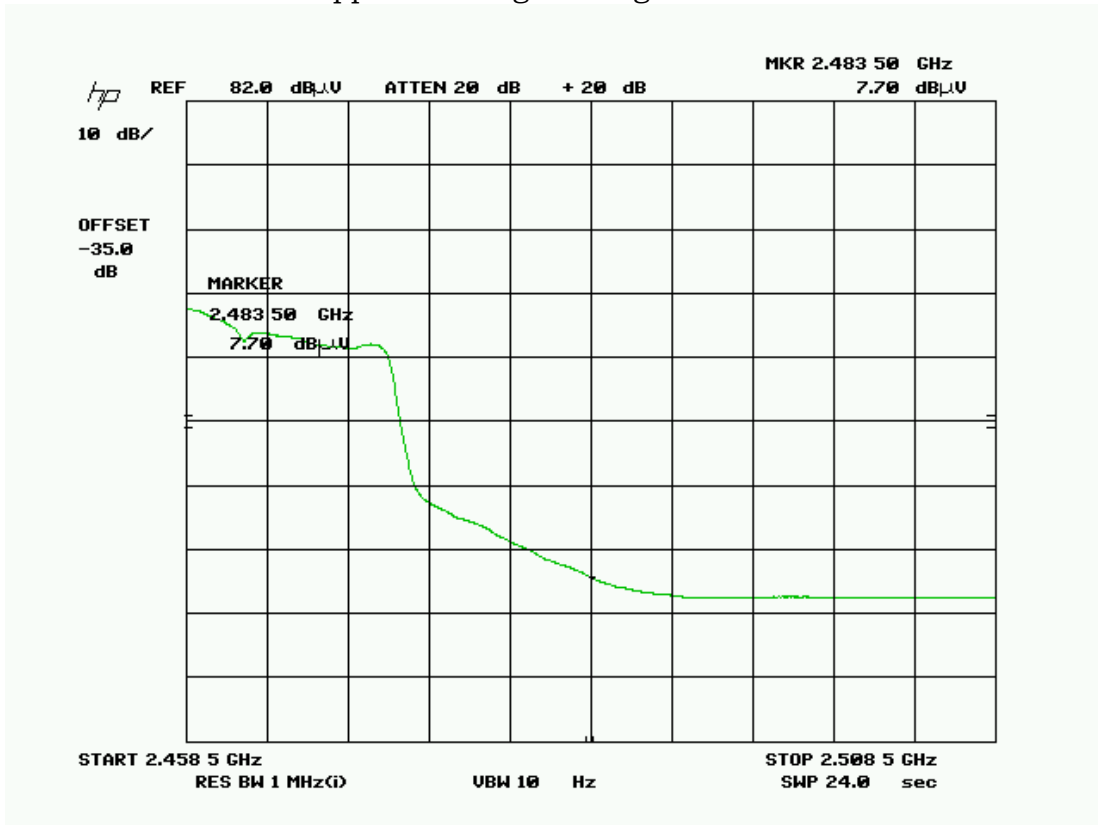
APPLICANT: MOTOROLA MOBILITY, INC.

FCC ID: IHDT56NQ2

IC: 1090-T56NQ2

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Upper bandedge Average- ch 2462



APPLICANT: MOTOROLA MOBILITY, INC.  
 FCC ID: IHDT56NQ2  
 IC: 1090-T56NQ2  
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**POWER SPECTRAL DENSITY**

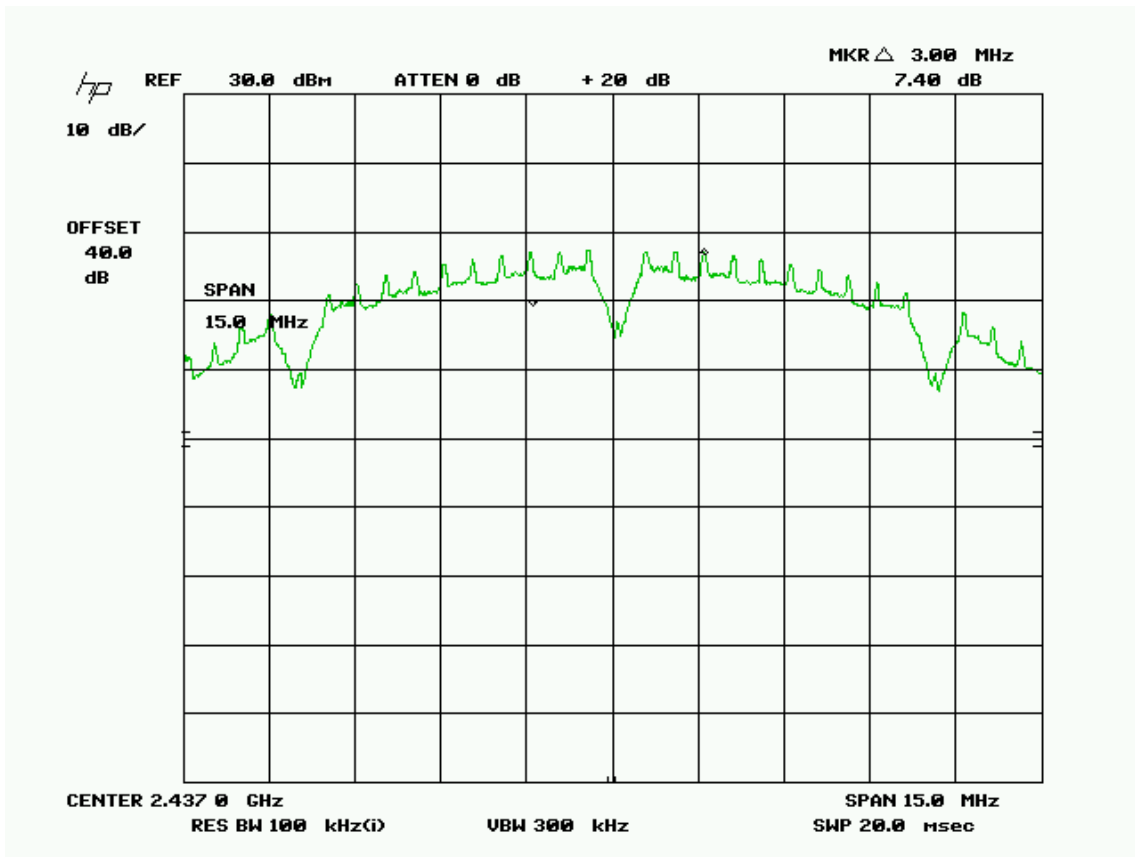
**Rules Part No.:** 15.247(d)

**Requirements:** The peak level measured must be less than +8.0 dBm.

**Test Data:** SEE THE FOLLOWING PLOTS

Three places in the band of each mode data were measured and the worst case reported.

**802.11b mode**



Correction factor:  $BWCF = 10\log(3\text{ kHz}/100\text{ kHz}) = -15.2\text{ dB}$   
 $PSD = 7.4 + (-15.2) = -7.8\text{ dBm}$

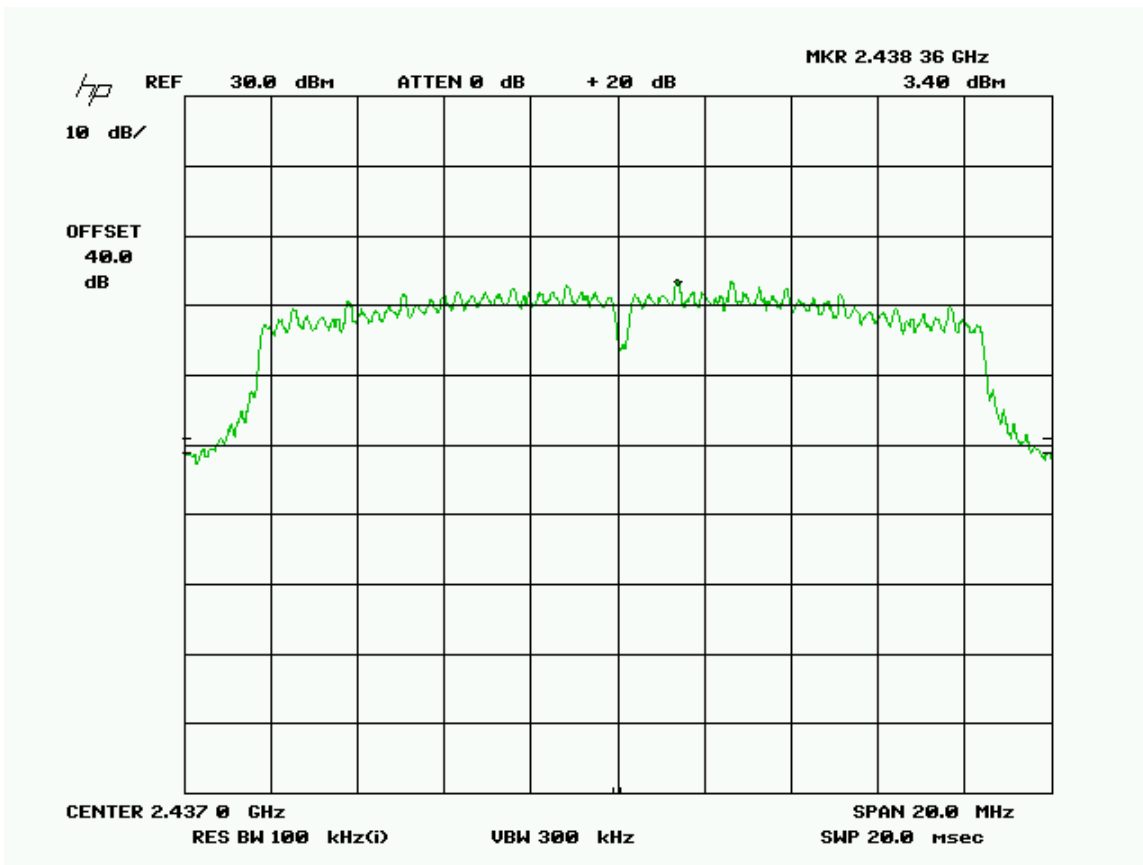
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REPORT: O:\M\MOTOROLA IL LL\1064GUT12\1064GUT12TestReport\_Rev.doc

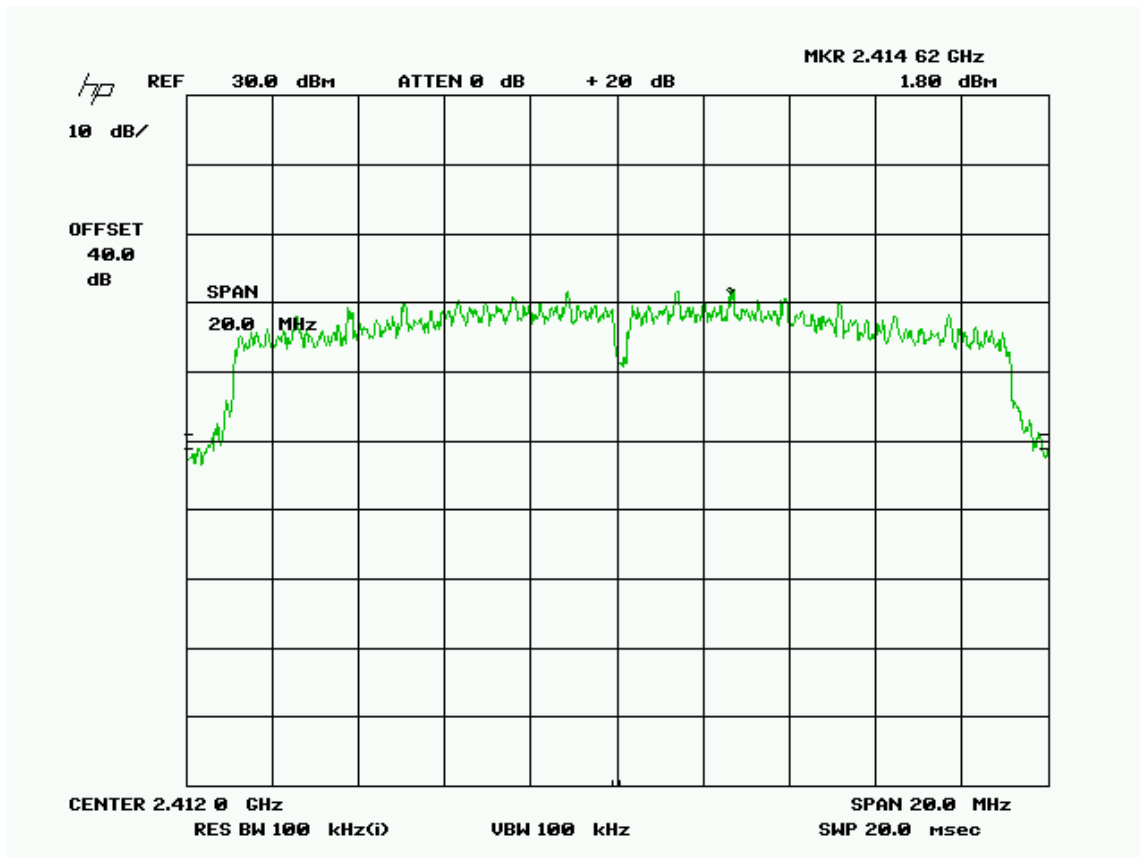
**802 11g mode**



Correction factor:  $BWCF = 10\log(3\text{ kHz}/100\text{ kHz}) = -15.2\text{ dB}$   
 PSD =  $3.4 + (-15.2) = -11.8$

APPLICANT: MOTOROLA MOBILITY, INC.  
 FCC ID: IHDT56NQ2  
 IC: 1090-T56NQ2  
 REPORT: O:\M\MOTOROLA IL LL\1064GUT12\1064GUT12TestReport\_Rev.doc

**802.11n mode**



Correction factor:  $BWCF = 10\log(3\text{ kHz}/100\text{ kHz}) = -15.2\text{ dB}$   
 PSD =  $1.8 + (-15.2) = -13.4$

APPLICANT: MOTOROLA MOBILITY, INC.  
 FCC ID: IHDT56NQ2  
 IC: 1090-T56NQ2  
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