ELECTRONIC SYSTEMS, INC.
166 South Carter, Genoa City, WI 53128

Company:	Whirlpool Corporation
Model Tested:	XPWG3
Report Number:	20850
DLS Project:	7037

Code of Federal Regulations 47 Part 15 – Radio Frequency Devices

Subpart C – Intentional Radiators
Section 15.247
Operation within the bands 902 - 928 MHz,
2400 - 2483.5 MHz, 5725 - 5875 MHz,
and 24.0 - 24.25 GHz.

Part 1 - Pages 1 to 147

THE FOLLOWING **MEETS** THE ABOVE TEST SPECIFICATION

Formal Name:	Wifi Gen3
Kind of Equipment:	802.11b/g/n Wi-Fi appliance module
Frequency Range:	2412-2462 MHz
Test Configuration:	DC powered transceiver module
Model Number(s):	XPWG3
Model(s) Tested:	XPWG3
Serial Number(s):	RF Conducted SN: GW95013003GG Radiated SN: GW95013003IC
Date of Tests:	February 27th through March 19th , 2015
Test Conducted For:	Whirlpool Corporation 750 Monte Rd Benton Harbor, MI 49022, USA

NOTICE: "This test report relates only to the items tested and must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government". Please see the "Description of Test Sample" page listed inside of this report.

DLS ELECTRONIC SYSTEMS, INC.
166 South Carter, Genoa City, WI 53128

Company:	Whirlpool Corporation
Model Tested:	XPWG3
Report Number:	20850
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SIGNATURE PAGE

Tested By:

Craig Brandt
Senior Test Engineer

Reviewed By:

William Stumpf
OATS Manager

Approved By:

Brian Mattson
General Manager

Table of Contents

United States Department of Commerce
National Institute of Standards and Technology

NVLAP®

Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 100276-0

D.L.S. Electronic Systems, Inc.

Wheeling, IL

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

ELECTROMAGNETIC COMPATIBILITY AND TELECOMMUNICATIONS

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2014-10-01 through 2015-09-30

Effective dates

For the National Institute of Standards and Technology

NVLAP-01C (REV. 2009-01-28)

1.0 Summary of Test Report

It was determined that the Whirlpool Inc Wifi Gen3 model XPWG3, complies with the requirements of CFR 47 Part 15 Subpart C Section 15.247.

Subpart C Section 15.247 Applicable Technical Requirements Tested:

Section	Description	Procedure	Note	Compliant?
15.247(a)(2)	DTS Bandwidth	558074 D01 DTS Meas Guidance v03r02 Sections 8.0 & 8.1	1	Yes
15.247(b)(3)	Fundamental Emission Output Power	558074 D01 DTS Meas Guidance v03r02 Sections 9.1 & 9.1.2	1	Yes
15.247(e)	Maximum Power Spectral Density	558074 D01 DTS Meas Guidance v03r02 Sections 10.0 & 10.2	1	Yes
15.247(d)	Emissions in Non-Restricted Frequency Bands – RF Conducted	558074 D01 DTS Meas Guidance v03r02 Sections 11.0, 11.2 & 11.3	1	Yes
15.247(d) 15.205(a) 15.209(a)	Emissions in Restricted Frequency Bands – Radiated with on-board slot antennas	558074 D01 DTS Meas Guidance v03r02 Sections 12.0, 12.1,12.2.4 & 12.2.5.3 And ANSI C63.10-2009	2	Yes
15.247(d)	Band-Edge Measurements – RF Conducted	558074 D01 DTS Meas Guidance v03r02 Sections 11.0, 11.2, & 11.3	1	Yes
15.247(d) 15.205(a) 15.209(a)	Band-Edge Measurements - Radiated	558074 D01 DTS Meas Guidance v03r02 Sections 12.0, 12.1, 12.2.4, 13.0 & 13.3.3 and ANSI C63.10-2009	2	Yes
15.207	AC Line Conducted Emissions	ANSI C63.10-2009	3	Yes

Note 1: RF conducted measurement.
Note 2: Radiated emission measurement.
Note 3: AC power line conducted measurement.

2.0 Introduction

From February 27th to March 19, 2015, the WIFI Gen3 model XPWG3, as provided from Whirlpool was tested to the requirements of CFR 47 Part 15 Subpart C Section 15.247 for single modular approval. To meet these requirements, the procedures contained within this report were performed by personnel of D.L.S Electronic Systems, Inc.

3.0 Test Facilities

D.L.S. Electronic Systems, Inc. is a full service EMC/Safety Testing Laboratory accredited to ISO 17025. NVLAP Certificate and Scope can be viewed at http://www.dlsemc.com/certificate. Our facilities are registered with the FCC, Industry Canada, and VCCI.

Wisconsin Test Facility:
D.L.S. Electronic Systems, Inc.
166 S. Carter Street
Genoa City, Wisconsin 53128

Wheeling Test Facility:
D.L.S. Electronic Systems, Inc.
1250 Peterson Drive
Wheeling, IL 60090

4.0 Description of Test Sample

Description:

The XPWG3 Module is an 802.11b/g/n Wi-Fi radio transceiver. The transceiver was mounted on an FR4 substrate which included integrated printed circuit board with two "on-board" or imbedded antennas and a shield covering the RF circuitry. Firmware was included which allowed different modulation types, power settings and frequency of operation to be set as needed. The unit is powered by a 4.5V to 14V power source.

Type of Equipment / Frequency Range:

Mobile / 2412-2462 MHz

Physical Dimensions of Equipment Under Test:

91mm x 26mm x 10mm

4.0 Description of Test Sample (continued)

Power Source:

4.5 to 14 VDC

Internal Frequencies:

38.4 MHz, 32 MHz

Transmit / Receive Frequencies Used For Test Purpose:

For modulation types DSSS and OFDM
Low channel: 2412 MHz, Middle channel: 2437 MHz, High channel: 2462 MHz

Type of Modulation(s) / Antenna Type:

DSSS (802.11b), OFDM (802.11g and 802.11n) Modulations

2 x PCB Slot Antennas (1.76 dBi = highest antenna gain)

Description of Circuit Board(s) / Part Number:

PC Board	W10719302 Rev C

5.0 Test Equipment

A list of the equipment used can be found in the table below. All primary equipment was calibrated against known reference standards with a verified traceable path to NIST.

Radiated 30 – 1000 MHz (Site 2)

Description	Manufacturer	Model Number	Serial Number	Frequency Range	Cal Date	Cal Due Dates
Receiver	Rohde & Schwarz	ESI 26	837491/010	20 Hz – 26 GHz	7-17-14	7-17-15
Preamplifier	Rohde & Schwarz	TS-PR10	032001/004	9 kHz – 1 GHz	1-7-15	1-7-16
Antenna	EMCO	3104C	00054892	20 MHz – 200 MHz	10-1-14	10-1-16
Antenna	EMCO	3146	1205	200 MHz – 1 GHz	10-24-14	10-24-16
Broadband Dipole	Rohde & Schwarz	HUF-Z1	829.381/005	20 MHz – 80 MHz	9-4-14	9-4-16
Tunable Dipole Set	Com-Power	AD-100	40139	80 MHz – 1 GHz	N/A	N/A
Signal Generator	Rohde & Schwarz	SMT03	DE23762	9 kHz – 3 GHz	7-17-14	7-17-15
Test Software	Rohde & Schwarz	ESK-1	V1.7.1	N/A	N/A	N/A

AC Line Conducted (Screen Room)

Description	Manufacturer	Model Number	Serial Number	Frequency Range	Cal Date	Cal Due Dates
Receiver	Narda PMM	9010F	020WW40102	10Hz-50MHz	6-17-14	6-17-15
LISN	Solar	9252-50-R-24-BNC	961019	9 kHz – 30 MHz	5-29-14	5-29-15
Filter- High-Pass	SOLAR	7930-120	090702	120 kHz – 30 MHz	1-7-15	1-7-16
Limiter	Electro-Metrics	EM-7600	705	9 kHz – 30 MHz	1-7-15	1-7-16
Test Software	Narda PMM	PMM Emission Suite	Rel.2.17	N/A	N/A	N/A

5.0 Test Equipment - continued

Radiated 1-18 GHz (G1)

Description	Manufacturer	Model Number	Serial Number	Frequency Range	Cal Date	Cal Due Dates
Receiver	Rohde & Schwarz	ESI 40	837808/005	20 Hz – 40 GHz	7-17-14	7-17-15
Preamp	Ciao	CA118-4010	101	1GHz-18GHz	1-26-15	1-26-16
Horn Antenna	EMCO	3115	6204	1-18GHz	6-5-13	6-5-15
Filter- High-Pass	Q-Microwave	100462	2	4.2GHz-18GHz	6-24-14	6-24-15
Test Software	Rohde & Schwarz	ESK-1	V1.7.1	N/A	N/A	N/A

Additional Radiated 18-26 GHz (Site 2)

Description	Manufacturer	Model Number	Serial Number	Frequency Range	Cal Date	Cal Due Dates
Filter- High-Pass	K & L	50140-11SH10-18000/T40000-K-K	8	18 – 40 GHz	3-6-14	3-6-16
Preamp	Miteq	AMF-8B-180265-40-10P-H/S	438727	18GHz-26GHz	8-11-14	8-11-15
Horn Antenna	EMCO	3116	2549	18 – 40GHz	9-2-14	9-2-16
Test Software	Rohde & Schwarz	ESK-1	V1.7.1	N/A	N/A	N/A

RF Conducted / Other

Description	Manufacturer	Model Number	Serial Number	Frequency Range	Cal Date	Cal Due Dates
Wideband Power Meter	Anritsu	ML2487A	SK00002069	100 kHz – 65 GHz	7-17-14	7-17-15
Wideband Power Sensor	Anritsu	MA2490A	031563	50 MHz – 8 GHz	7-17-14	7-17-15
20 dB attenuator	Aeroflex / Weinschel	75A-20-12	1071	DC – 40 GHz	8-13-14	8-13-15

6.0 Test Arrangements

Radiated Emissions Measurement Arrangement:

All radiated emission measurements were performed at D.L.S. Electronic Systems, Inc. and set up according to FCC KDB 558074 D01 DTS Meas Guidance v03r02 and ANSI C63.10-2009, unless otherwise noted. Description of procedures and measurements can be found in Appendix B – Measurement Data. See Appendix A for additional photos of the test set up.

Unless otherwise noted, the bandwidth of the measuring receiver / analyzer used during testing is shown below.

Frequency Range	Bandwidth (-6 dB)
10 to 150 kHz	200 Hz
150 kHz to 30 MHz	9 kHz
30 MHz to 1 GHz	120 kHz
Above 1 GHz	1 MHz

RF Conducted Emissions Measurement Arrangement:

All RF conducted emission measurements were performed at D.L.S. Electronic Systems, Inc. and set up according to FCC KDB 558074 D01 DTS Meas Guidance v03r02 and ANSI C63.10-2009, unless otherwise noted. Description of procedures and measurements can be found in Appendix B – Measurement Data. See Appendix A for additional photos of the test set up.

7.0 Test Conditions

Normal Test Conditions:

Temperature and Humidity:

71°F at 27% RH unless otherwise noted on test data

Supply Voltage:

4.5 to 14 VDC

8.0 Modifications Made To EUT For Compliance

The output power settings were set during testing.

9.0 Additional Descriptions

The EUT was connected to the measuring equipment through a temporary SMA connector, soldered in place of the antenna, for RF conducted measurements.

The EUT was powered with an external DC bench supply for RF conducted emissions, and with a rechargable battery for radiated emissions.

The EUT was tested stand-alone for Single Modular Approval.

The EUT was programmed to transmit on Low, Mid, and High channels, using 802.11-b, g, and n modulation types with various data rates.

For radiated emissions, the EUT was rotated through 3 orthoganal axis to find worst-case.

10.0 Final Settings

802.11b											
Channel	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
Power Setting	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**

802.11g											
Channel	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
Power Setting	**11**	**14**	**16**	**17**	**18**	**18**	**17**	**16**	**14**	**14**	**9**

802.11n											
Channel	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
Power Setting	**10**	**14**	**15**	**16**	**17**	**17**	**17**	**15**	**14**	**14**	**9**

11.0 Results

Measurements were performed in accordance with FCC KDB 558074 D01 DTS Meas Guidance v03r02 and ANSI C63.10-2009. Graphical and tabular data can be found in Appendix B at the end of this report.

12.0 Conclusion

The Wifi Gen3 model XPWG3, as provided from Whirlpool, tested from February 27th to March 19th, 2015 **meets** the requirements of CFR 47 Part 15 Subpart C Section 15.247.

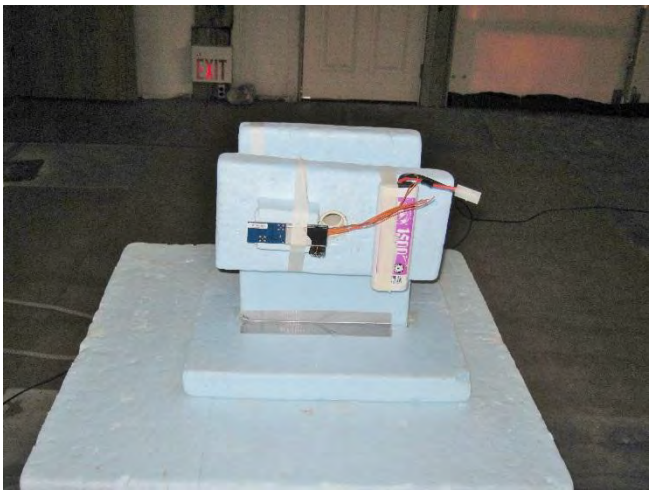
Appendix A – Test Photos

Photo Information and Test Setup:

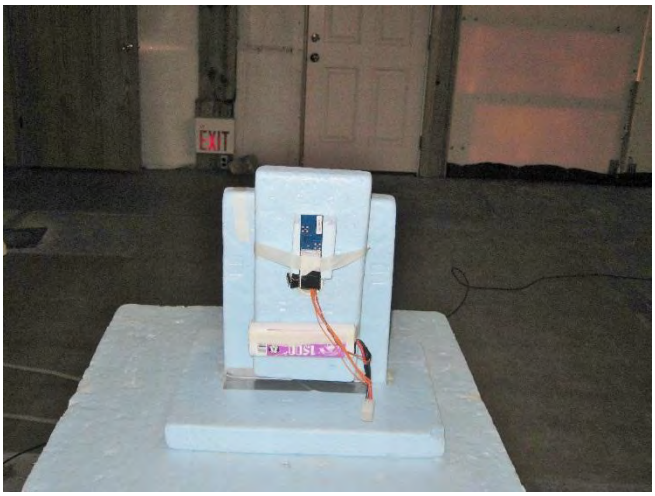
Item0: Whirlpool Corporation Model XPWG3
Item1: 7.5 Volt rechargeable battery (not part of the EUT)

Radiated Emissions Below 1 GHz

Position X



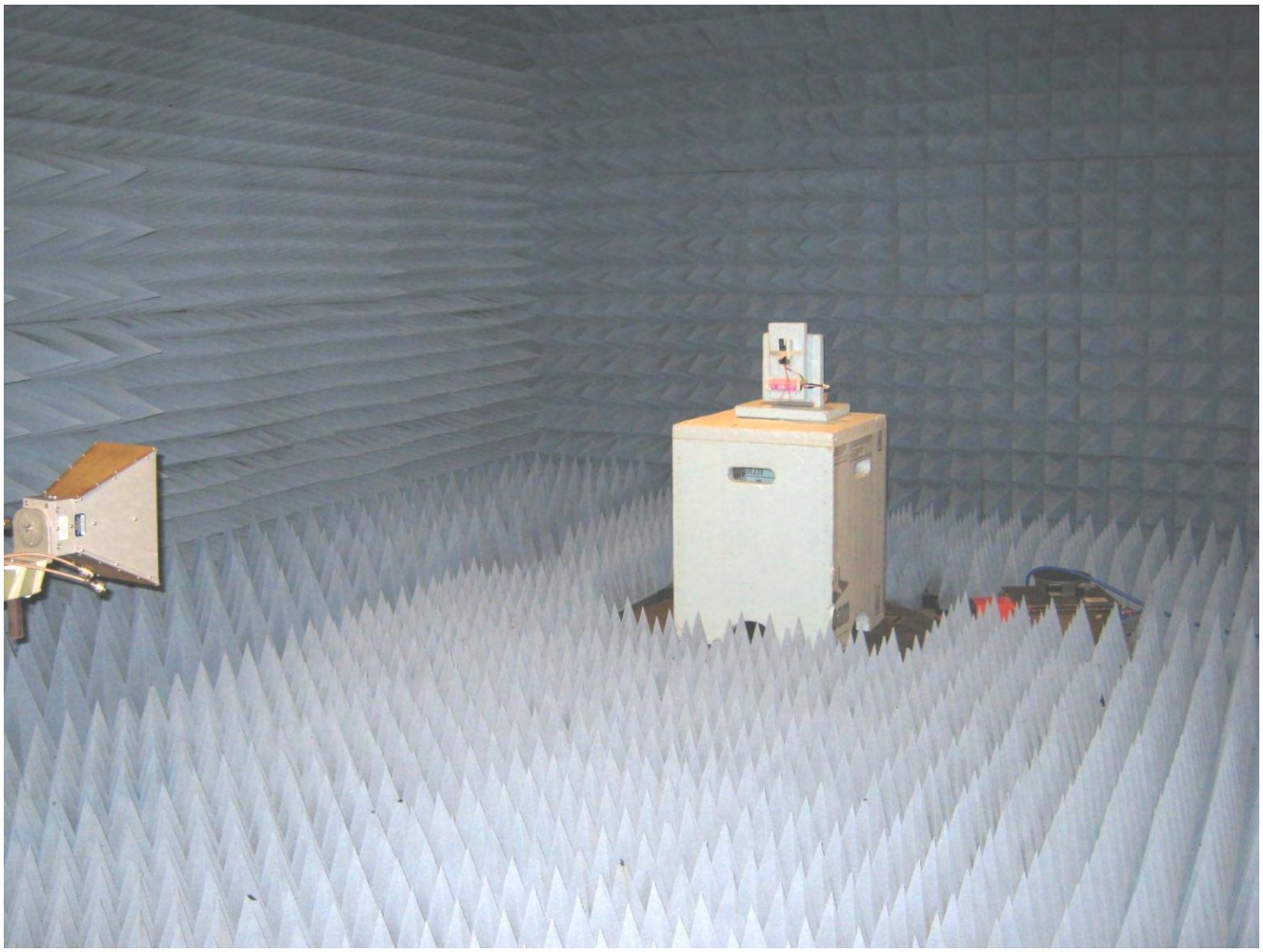
Position Y



Position Z

Appendix A

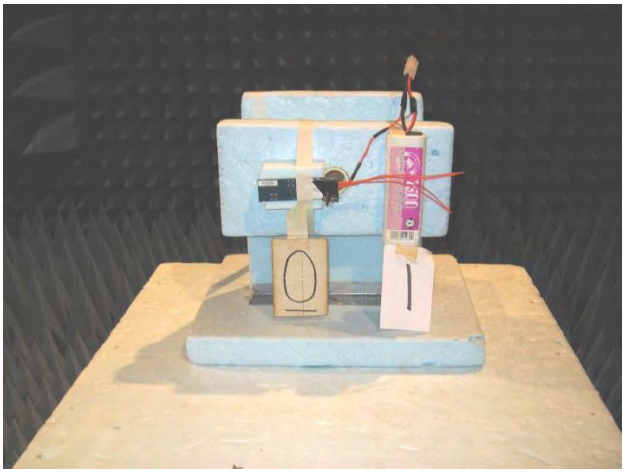
Radiated Emissions Above 1 GHz



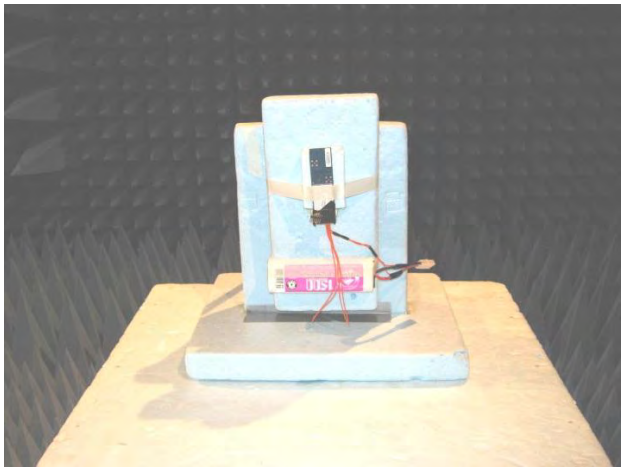
Appendix A

Radiated Emissions Above 1 GHz

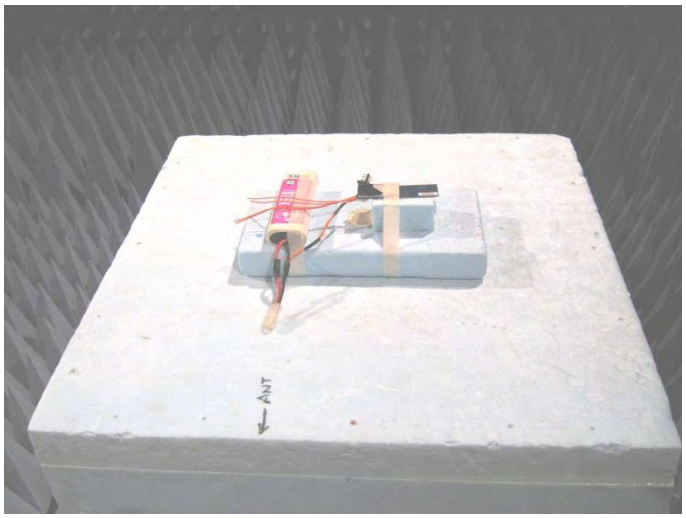
Position X



Position Y

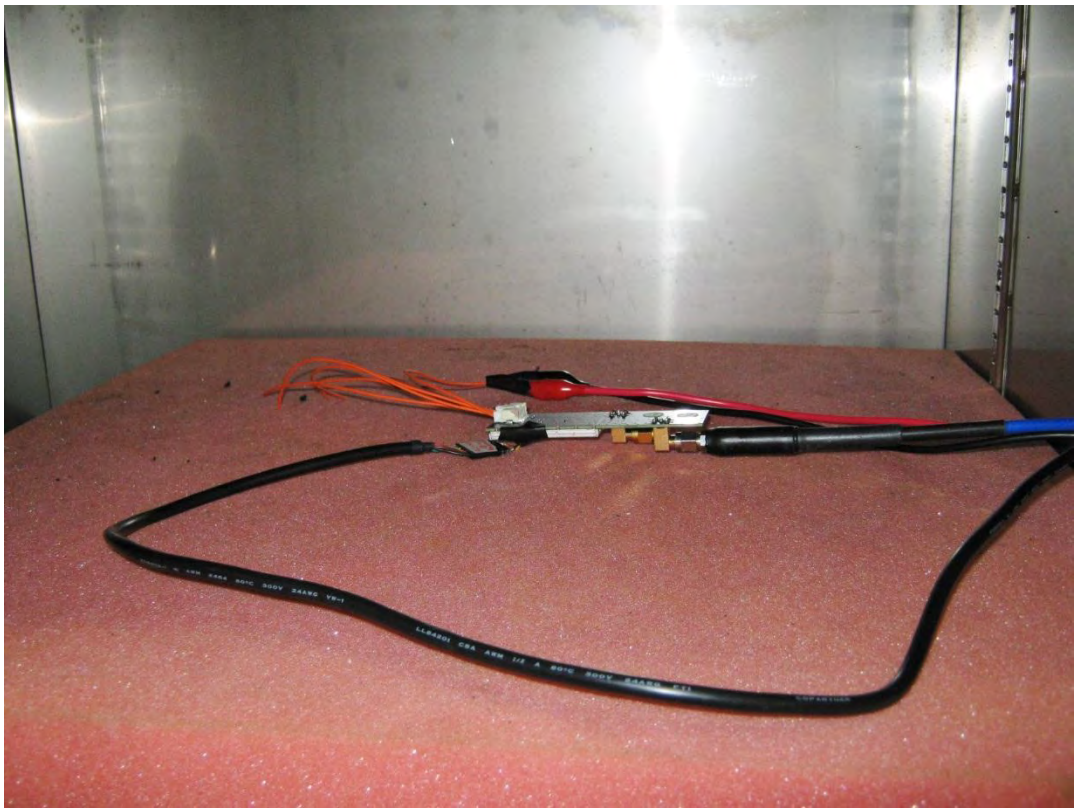


Position Z



Appendix A

RF Conducted



Appendix A

AC Line Conducted

Appendix B – Measurement Data

B1.0 DTS Bandwidth

Rule Part:

Section 15.247(a)(2)

Test Procedure:

558074 D01 DTS Meas Guidance v03r02
DTS Bandwidth, Section 8.0
Measurement Procedure, Section 8.1

Limit:

6 dB bandwidth shall be at least 500 kHz

Results:

Compliant
Minimum 6 dB bandwidth: **10.1 MHz**

Notes:

Initial bandwidth measurements indicate the narrowest (worst-case) channel bandwidth occurred with the lowest data rate, and 802.11b DSSS type modulation. Therefore, measurements were performed in this mode. Testing was performed using the manufacturer's test software with output power setting 19. The EUT was tested at the low, middle, and high channels of operation.

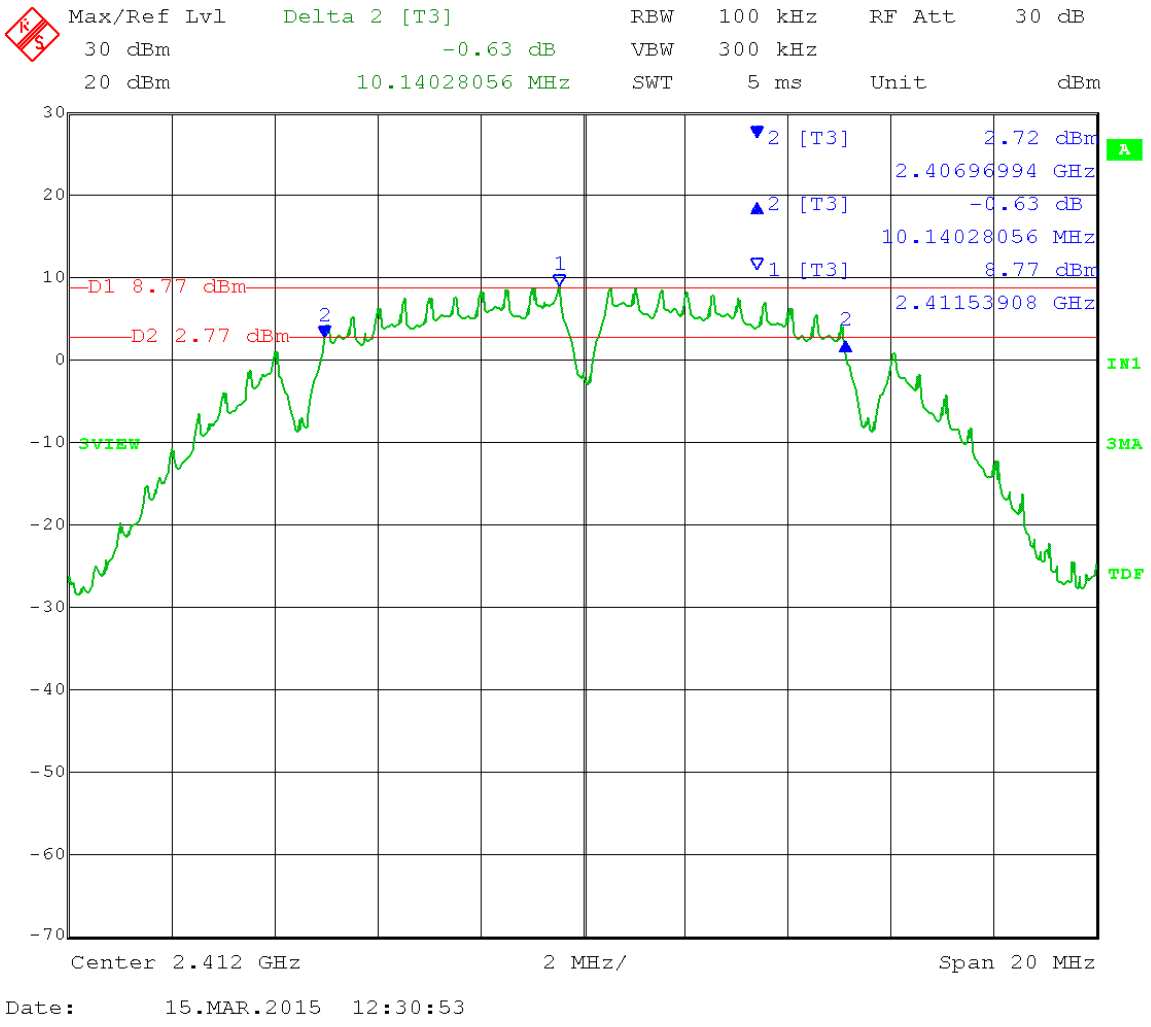
166 South Carter, Genoa City, WI 53128

Company:	Whirlpool Corporation
Model Tested:	XPWG3
Report Number:	20850
DLS Project:	7037

Test Date:	03-15-2015
Company:	Whirlpool Corporation
EUT:	XPWG3 RF module
Test:	DTS Bandwidth 6 dB Bandwidth
Operator:	Craig B

Antenna:	1
Channel:	Low, 2412 MHz
Modulation:	802.11-b, DSSS, 1 Mbps
Power setting:	19

Comment: DTS Bandwidth = 10.14 MHz



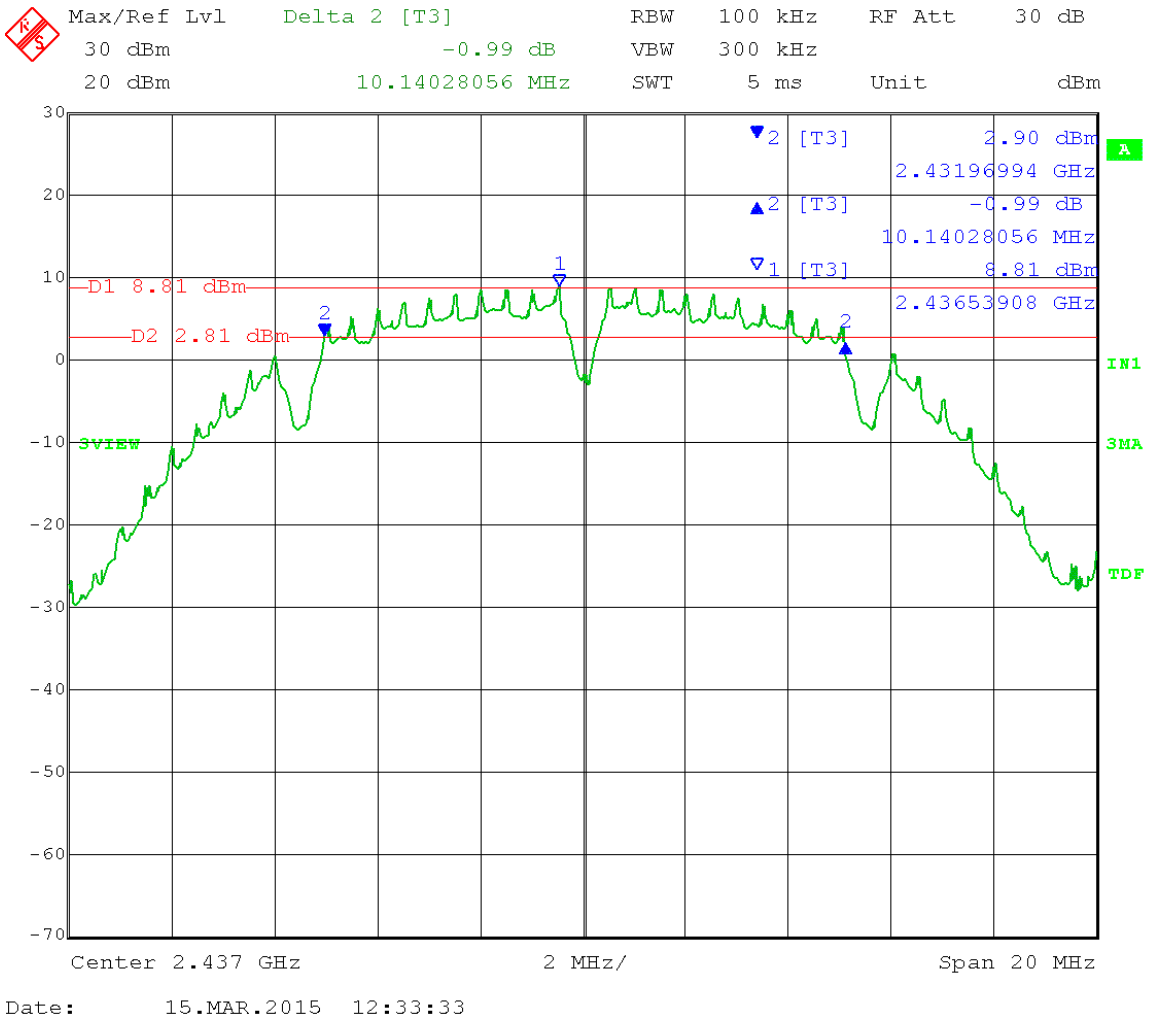
166 South Carter, Genoa City, WI 53128

Company:	Whirlpool Corporation
Model Tested:	XPWG3
Report Number:	20850
DLS Project:	7037

Test Date:	03-15-2015
Company:	Whirlpool Corporation
EUT:	XPWG3 RF module
Test:	DTS Bandwidth 6 dB Bandwidth
Operator:	Craig B

Antenna:	1
Channel:	Mid, 2437 MHz
Modulation:	802.11-b, DSSS, 1 Mbps
Power setting:	19

Comment: DTS Bandwidth = 10.14 MHz



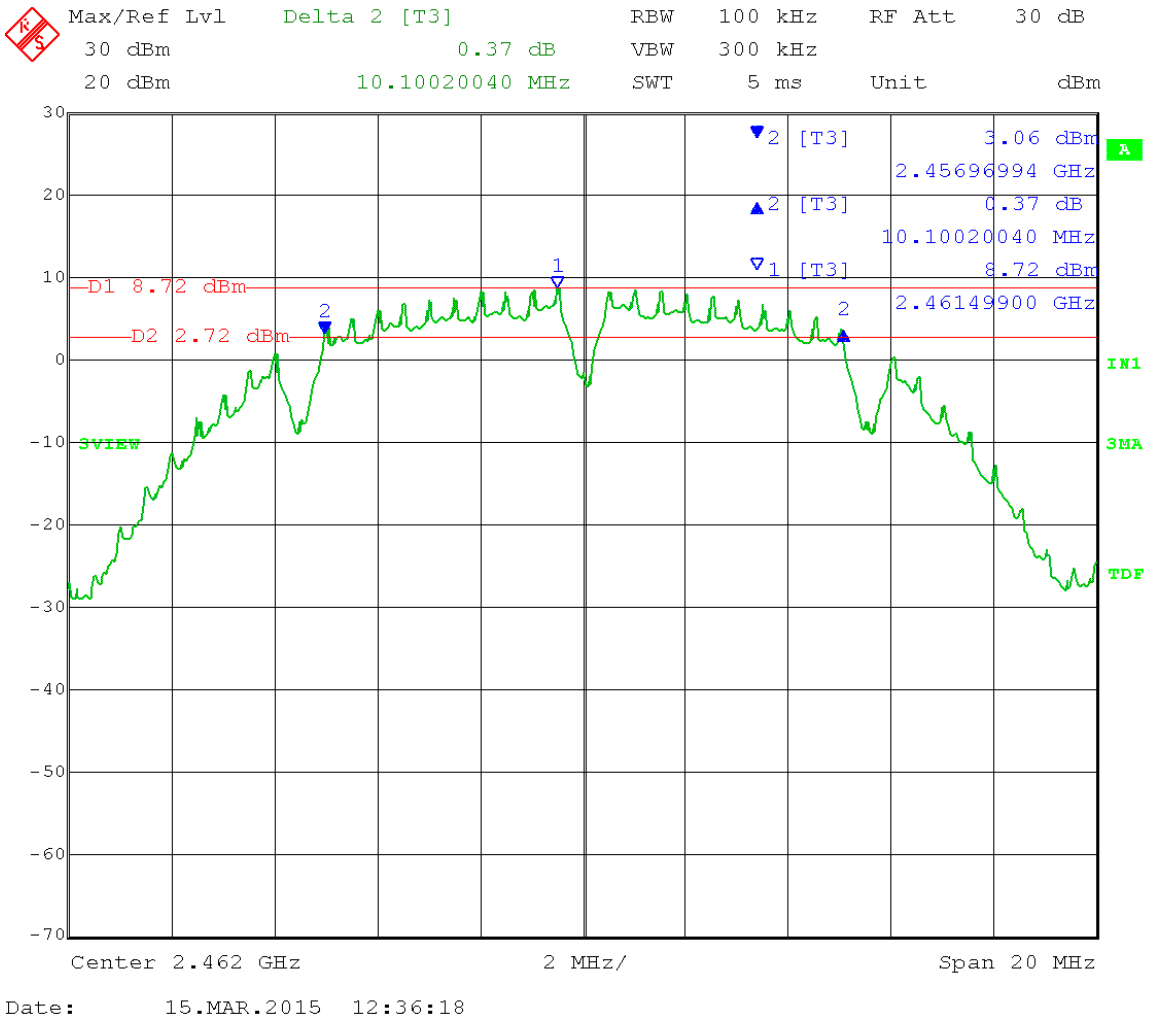
166 South Carter, Genoa City, WI 53128

Company:	Whirlpool Corporation
Model Tested:	XPWG3
Report Number:	20850
DLS Project:	7037

Test Date:	03-15-2015
Company:	Whirlpool Corporation
EUT:	XPWG3 RF module
Test:	DTS Bandwidth
	6 dB Bandwidth
Operator:	Craig B

Antenna:	1
Channel:	High, 2462 MHz
Modulation:	802.11-b, DSSS, 1 Mbps
Power setting:	19

Comment: DTS Bandwidth = 10.10 MHz



Appendix B

B2.0 Fundamental Emission Output Power

Rule Part:

15.247(b)(3)

Test Procedure:

558074 D01 DTS Meas Guidance v03r02
9.1 Maximum Peak Conducted Output Power
9.1.2 PKPM1 Peak power meter method

Limit:

The maximum peak conducted output power limit is 1 watt (30 dBm).

Results:

Compliant
Maximum peak conducted output power: **322.11 mW (25.08 dBm)**

Notes:

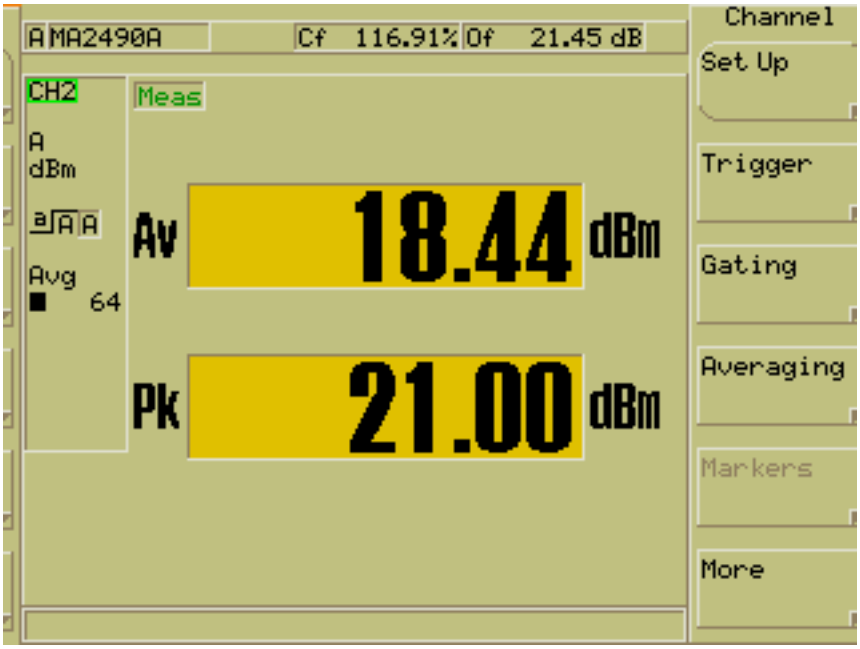
The EUT has 2 on-board antennas of which only one can operate at a time. Initial output power measurements indicate the highest power levels occurred from antenna 1. Measurements were performed with a temporary connector in place of antenna 1 to represent worst-case power levels. Testing was performed using the manufacturer's test software with output power setting 19 for 802.11-b mode and 18 for 802.11-g and 802.11-n modes. The date rate was set to worst-case (highest peak power) for each modulation type. The EUT was tested at the low, middle, and high channels of operation. The power meter measurements were corrected to account for the cable loss and external attenuator.

The output power was measured with power setting 19 for 802.11-b mode, and 18 for 802.11-g and 802.11-n modes. It was later determined that the power settings of the low and high channels needed to be reduced to meet the restricted band-edge requirements. See page 11 for the final power settings.

Test Date: 03-15-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Fundamental emission output power
Maximum peak conducted output power
Operator: Craig B

Antenna: 1
Channel: Low, 2412 MHz
Modulation: 802.11-b, DSSS, 1 Mbps
Power setting: 19

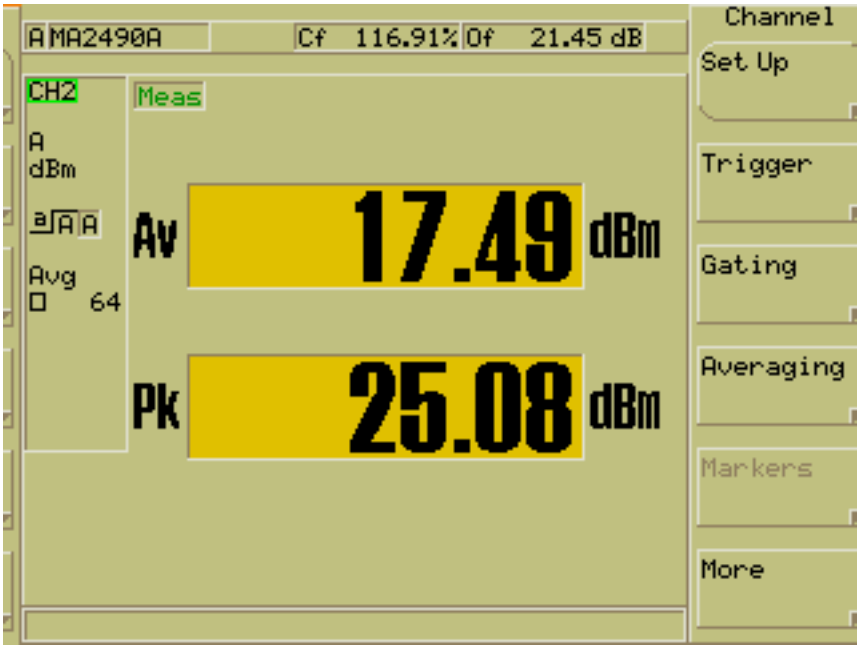
Comment: Maximum peak conducted output power = 21.00 dBm



Test Date: 03-01-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Fundamental emission output power
Maximum peak conducted output power
Operator: Craig B

Antenna: 1
Channel: Low, 2412 MHz
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 18

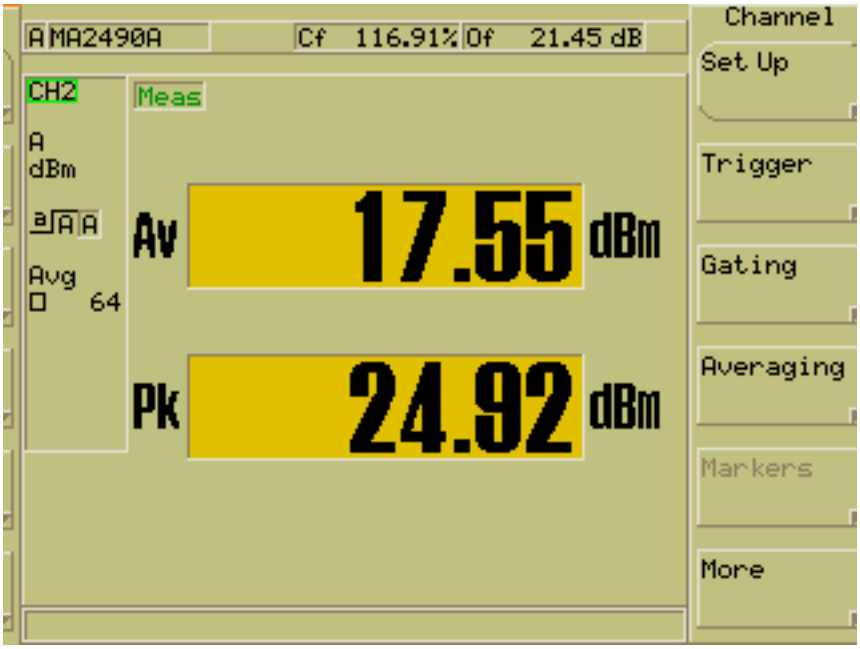
Comment: Maximum peak conducted output power = 25.08 dBm



Test Date: 03-01-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Fundamental emission output power
Maximum peak conducted output power
Operator: Craig B

Antenna: 1
Channel: Low, 2412 MHz
Modulation: 802.11-n, MCS7, 72.2 Mbps
Power setting: 18

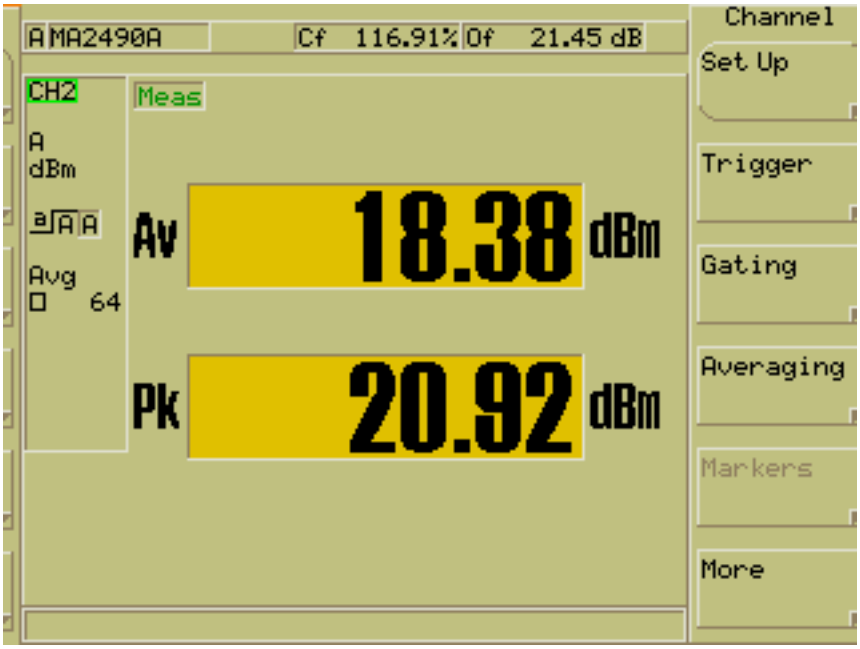
Comment: Maximum peak conducted output power = 24.92 dBm



Test Date: 03-15-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Fundamental emission output power
Maximum peak conducted output power
Operator: Craig B

Antenna: 1
Channel: Mid, 2437 MHz
Modulation: 802.11-b, DSSS, 1 Mbps
Power setting: 19

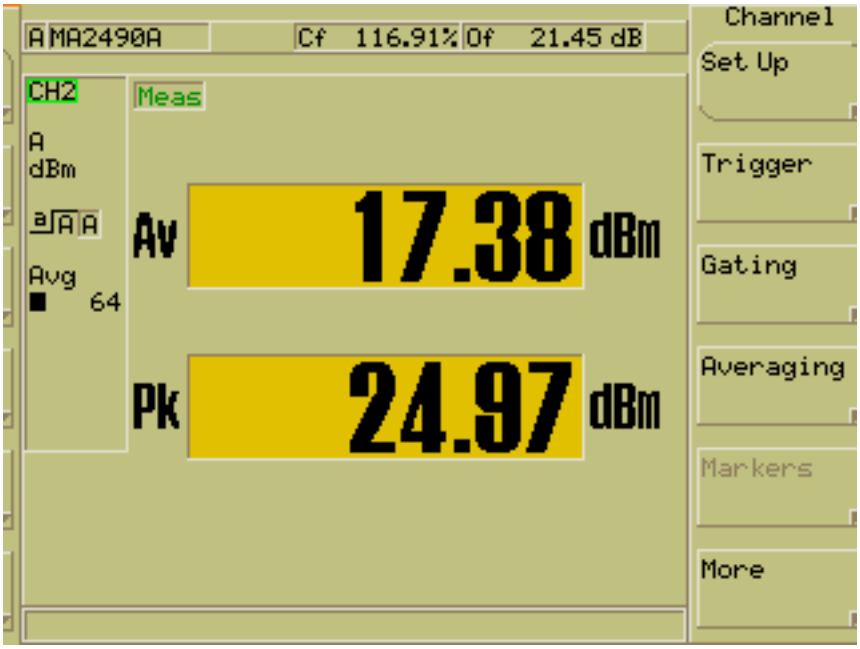
Comment: Maximum peak conducted output power = 20.92 dBm



Test Date: 03-01-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Fundamental emission output power
Maximum peak conducted output power
Operator: Craig B

Antenna: 1
Channel: Mid, 2437 MHz
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 18

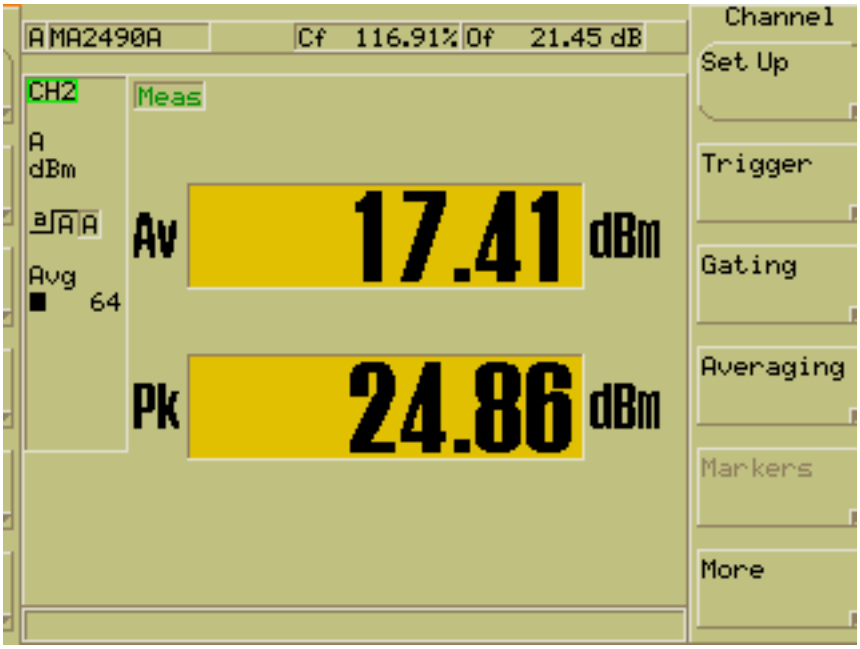
Comment: Maximum peak conducted output power = 24.97 dBm



Test Date: 03-01-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Fundamental emission output power
Maximum peak conducted output power
Operator: Craig B

Antenna: 1
Channel: Mid, 2437 MHz
Modulation: 802.11-n, MCS7, 72.2 Mbps
Power setting: 18

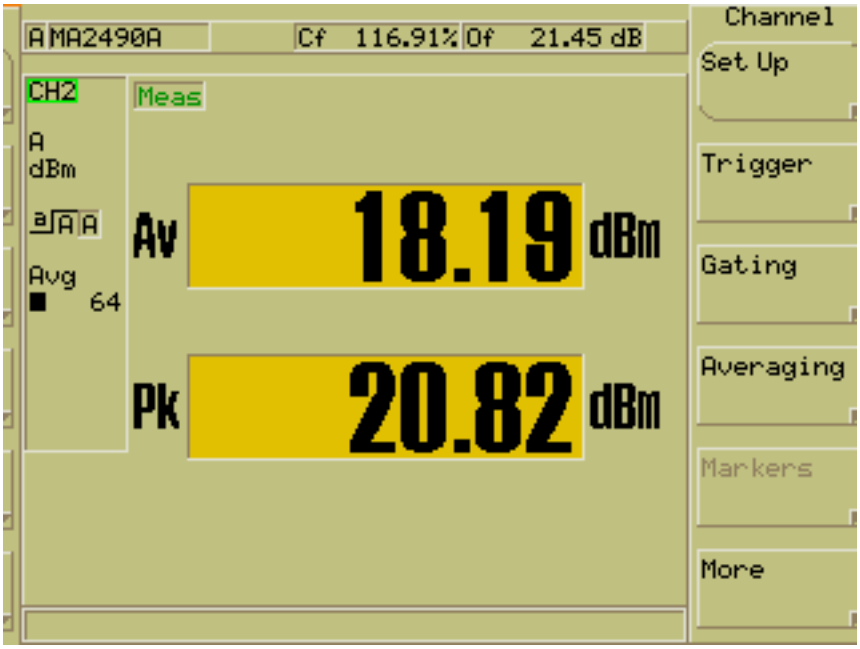
Comment: Maximum peak conducted output power = 24.86 dBm



Test Date: 03-15-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Fundamental emission output power
Maximum peak conducted output power
Operator: Craig B

Antenna: 1
Channel: High, 2462 MHz
Modulation: 802.11-b, DSSS, 1 Mbps
Power setting: 19

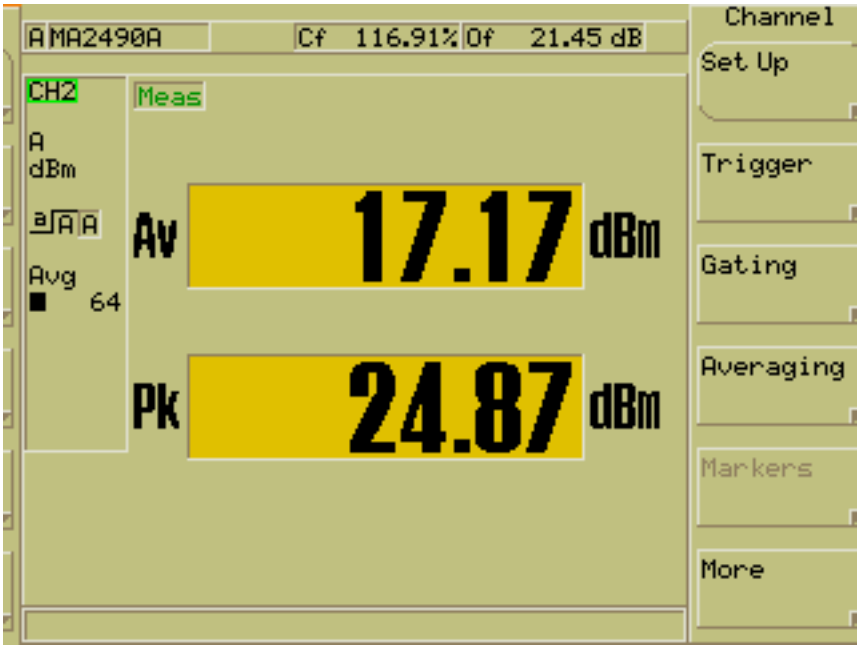
Comment: Maximum peak conducted output power = 20.82 dBm



Test Date: 03-01-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Fundamental emission output power
Maximum peak conducted output power
Operator: Craig B

Antenna: 1
Channel: High, 2462 MHz
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 18

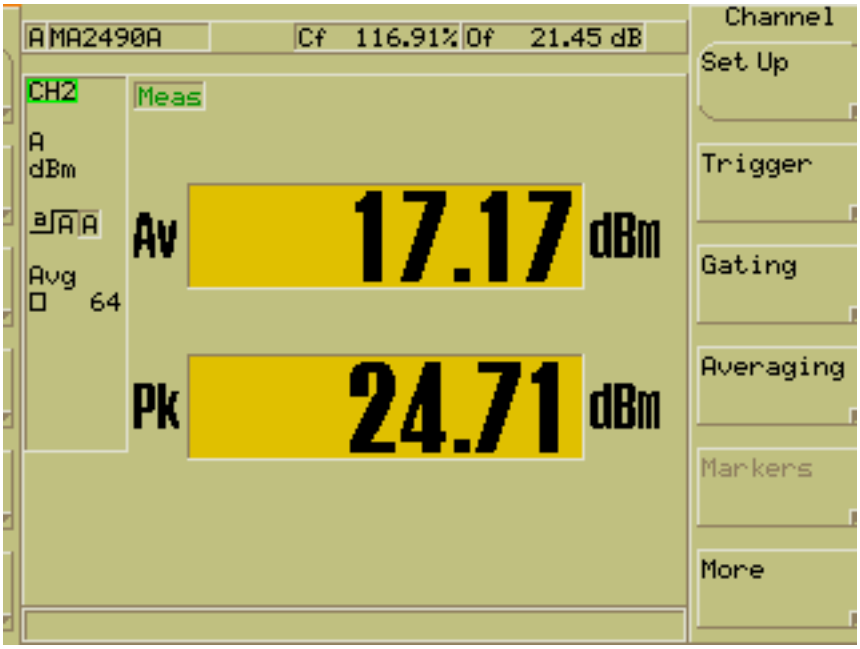
Comment: Maximum peak conducted output power = 24.87 dBm



Test Date: 03-01-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Fundamental emission output power
Maximum peak conducted output power
Operator: Craig B

Antenna: 1
Channel: High, 2462 MHz
Modulation: 802.11-n, MCS7, 72.2 Mbps
Power setting: 18

Comment: Maximum peak conducted output power = 24.71 dBm



Appendix B

B3.0 Maximum Power Spectral Density (PSD)

Rule Part:

15.247(e)

Test Procedure:

558074 D01 DTS Meas Guidance v03r02
10.0 Maximum Power Spectral Density Level in the Fundamental Emission
10.2 Method PKPSD (peak PSD)

Limit:

+8 dBm in any 3 kHz band segment within the fundamental during any time interval of continuous transmission.

Results:

Compliant
Maximum conducted power spectral density (PSD): **-4.85 dBm**

Notes:

The EUT has 2 on-board antennas of which only one can operate at a time. Initial pre-scan measurements indicate the highest power spectral density occurred from antenna 1, with IEEE 802.11-b DSSS modulation, and with the lowest data rate for that modulation. Therefore, measurements were performed in this mode with a temporary connector in place of antenna 1 to represent worst-case spectral power density levels. The EUT was tested at the low, middle, and high channels of operation with power setting 19. The spectrum analyzer measurements were corrected to account for the cable loss and external attenuator.

166 South Carter, Genoa City, WI 53128

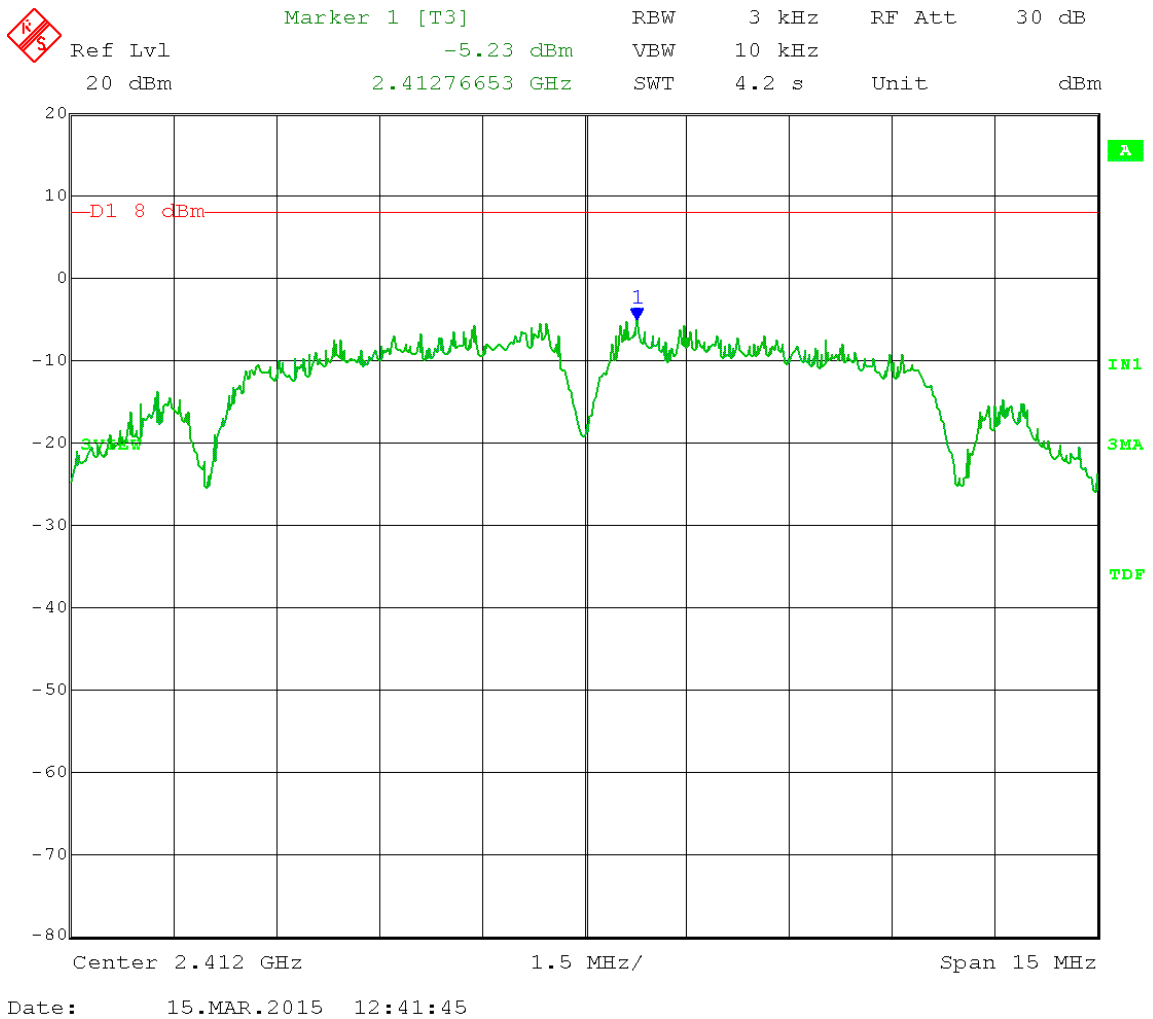
Company:	Whirlpool Corporation
Model Tested:	XPWG3
Report Number:	20850
DLS Project:	7037

Test Date:	03-15-2015
Company:	Whirlpool Corporation
EUT:	XPWG3 RF module
Test:	Maximum power spectral density level in the fundamental emission Peak Power Spectral Density
Operator:	Craig B

Antenna:	1
Channel:	Low, 2412 MHz
Modulation:	802.11-b, DSSS, 1 Mbps
Power setting:	19

Limit: 8 dBm / 3 kHz

Peak PSD = -5.23 dBm / 3 kHz

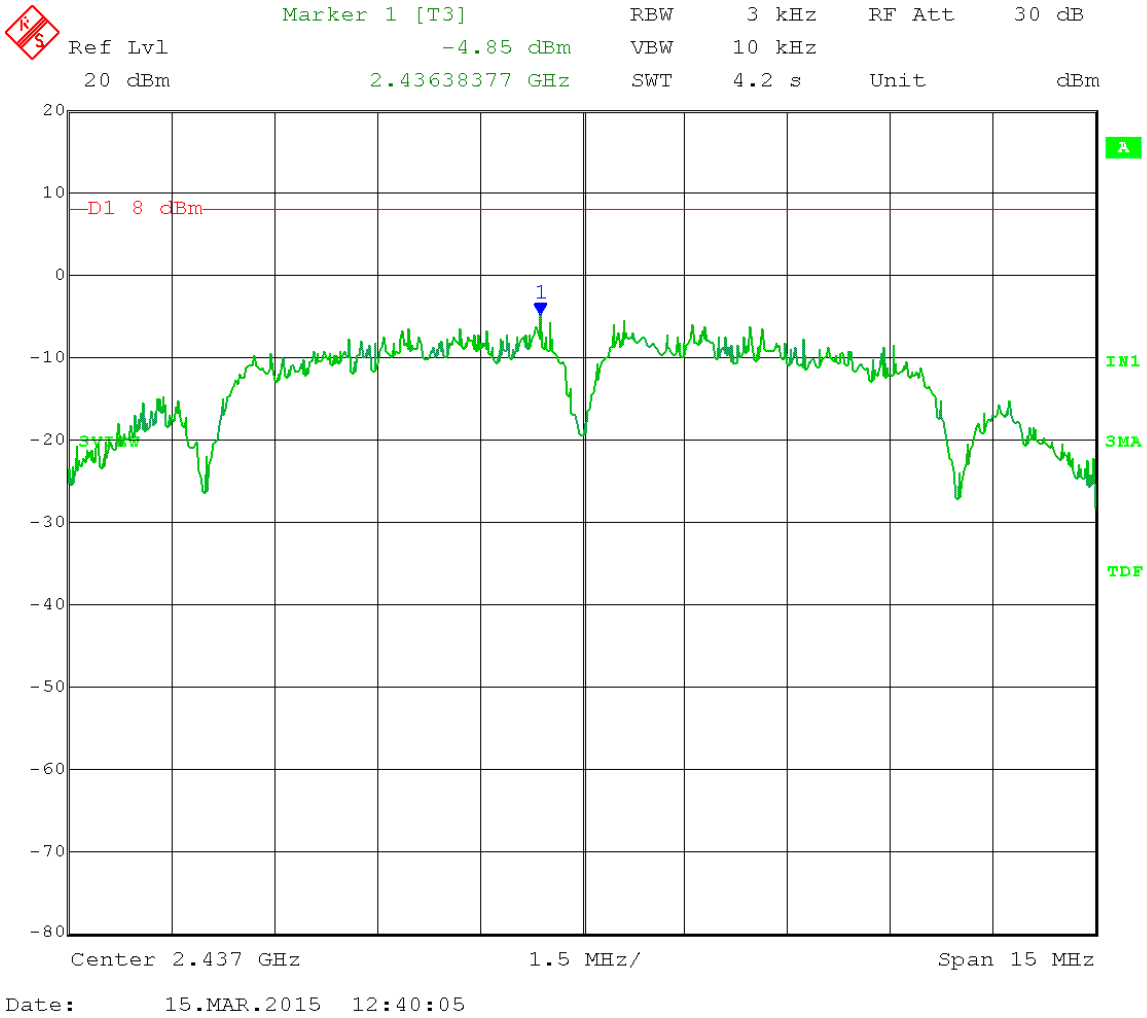


166 South Carter, Genoa City, WI 53128

Company:	Whirlpool Corporation
Model Tested:	XPWG3
Report Number:	20850
DLS Project:	7037

Test Date:	03-15-2015
Company:	Whirlpool Corporation
EUT:	XPWG3 RF module
Test:	Maximum power spectral density level in the fundamental emission Peak Power Spectral Density
Operator:	Craig B
Antenna:	1
Channel:	Mid, 2437 MHz
Modulation:	802.11-b, DSSS, 1 Mbps
Power setting:	19
Limit:	8 dBm / 3 kHz

Peak PSD = -4.85 dBm / 3 kHz

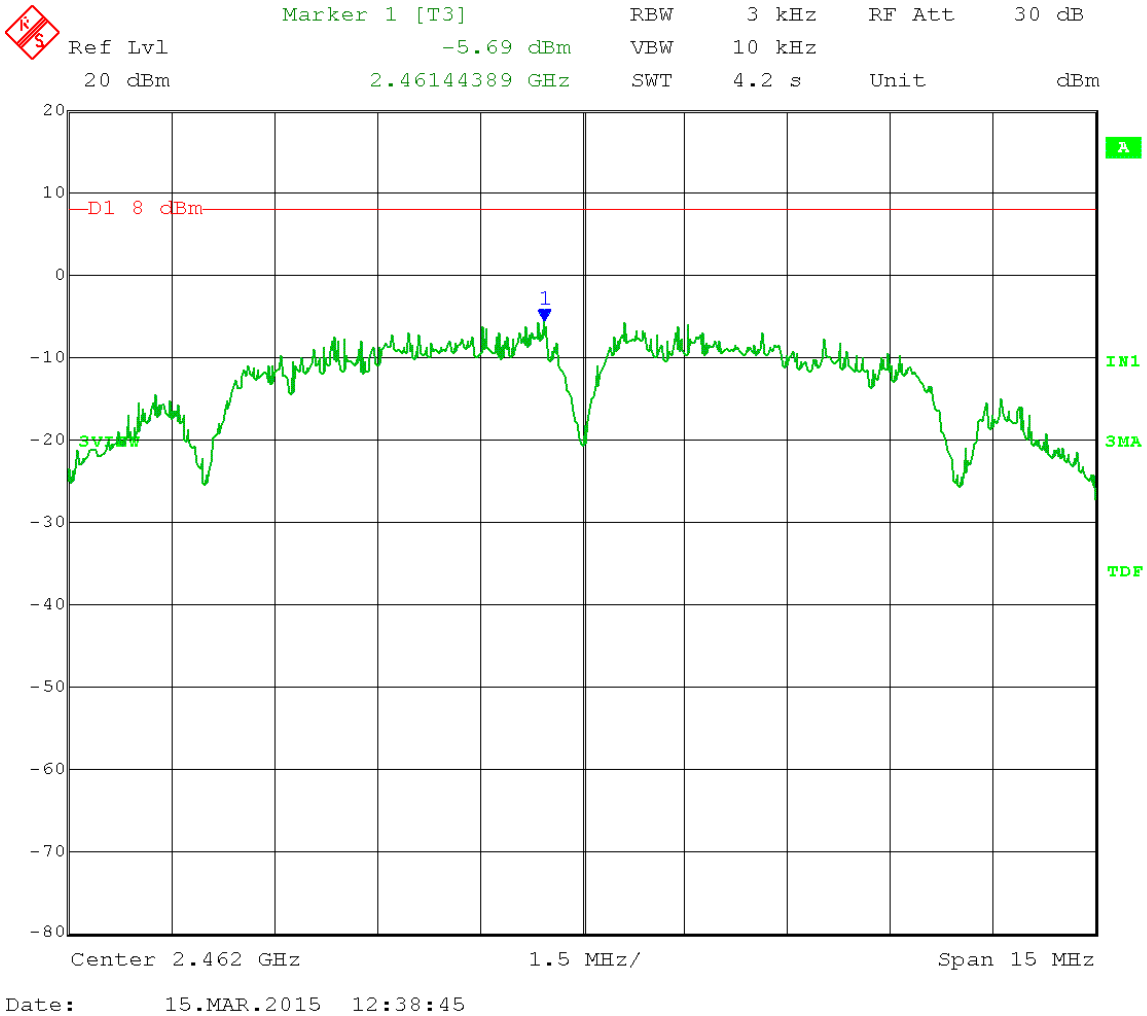


166 South Carter, Genoa City, WI 53128

Company:	Whirlpool Corporation
Model Tested:	XPWG3
Report Number:	20850
DLS Project:	7037

Test Date:	03-15-2015
Company:	Whirlpool Corporation
EUT:	XPWG3 RF module
Test:	Maximum power spectral density level in the fundamental emission Peak Power Spectral Density
Operator:	Craig B
Antenna:	1
Channel:	High, 2462 MHz
Modulation:	802.11-b, DSSS, 1 Mbps
Power setting:	19
Limit:	8 dBm / 3 kHz

Peak PSD = -5.69 dBm / 3 kHz



Appendix B

B4.0 Emissions in Non-Restricted Frequency Bands - RF Conducted

Rule Part:

15.247(d)

Test Procedure:

558074 D01 DTS Meas Guidance v03r02
11.0 Emissions in non-restricted frequency bands
11.2 Reference Level Measurement
11.3 Unwanted Emissions Level Measurement

Limit:

The peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum measured in-band peak PSD level.

Results:

Compliant

Notes:

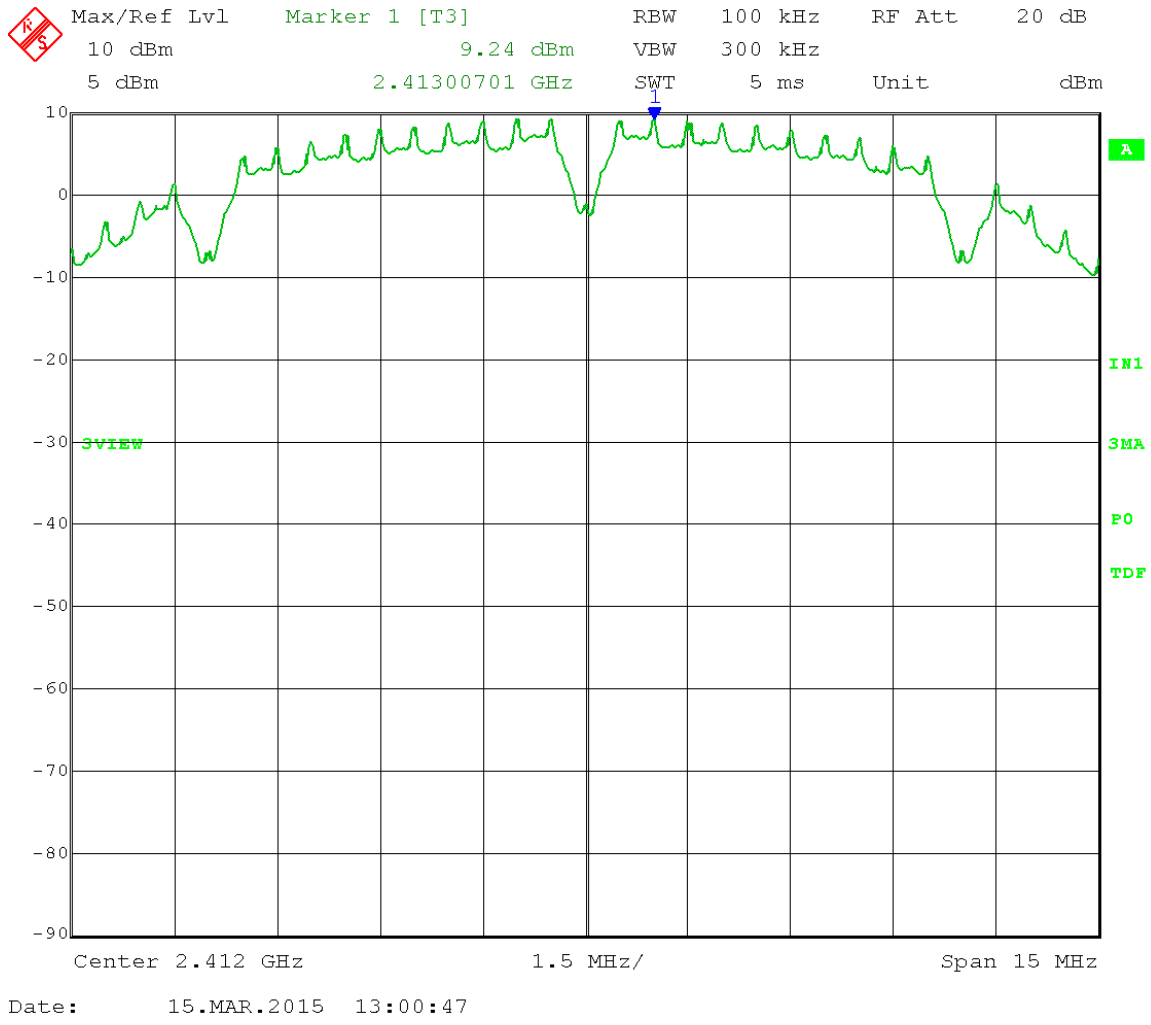
The EUT has 2 on-board antennas of which only one can operate at a time. Initial output power measurements indicate the highest power levels occurred from antenna 1. Therefore, measurements were performed with a temporary connector in place of antenna 1 to represent worst-case emissions. Testing was performed using the manufacturer's test software with output power setting 19 for 802.11-b mode and 18 for 802.11-g and 802.11-n modes. The EUT was tested at the low, middle, and high channels of operation. The spectrum analyzer measurements were corrected to account for the cable loss and external attenuator.

Test Date: 03-15-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: Low, 2412 MHz
Modulation: 802.11-b, DSSS, 1 Mbps
Power setting: 19

Reference Level measurement

Limit = 9.24 dBm – 20 dB = -10.76 dBm



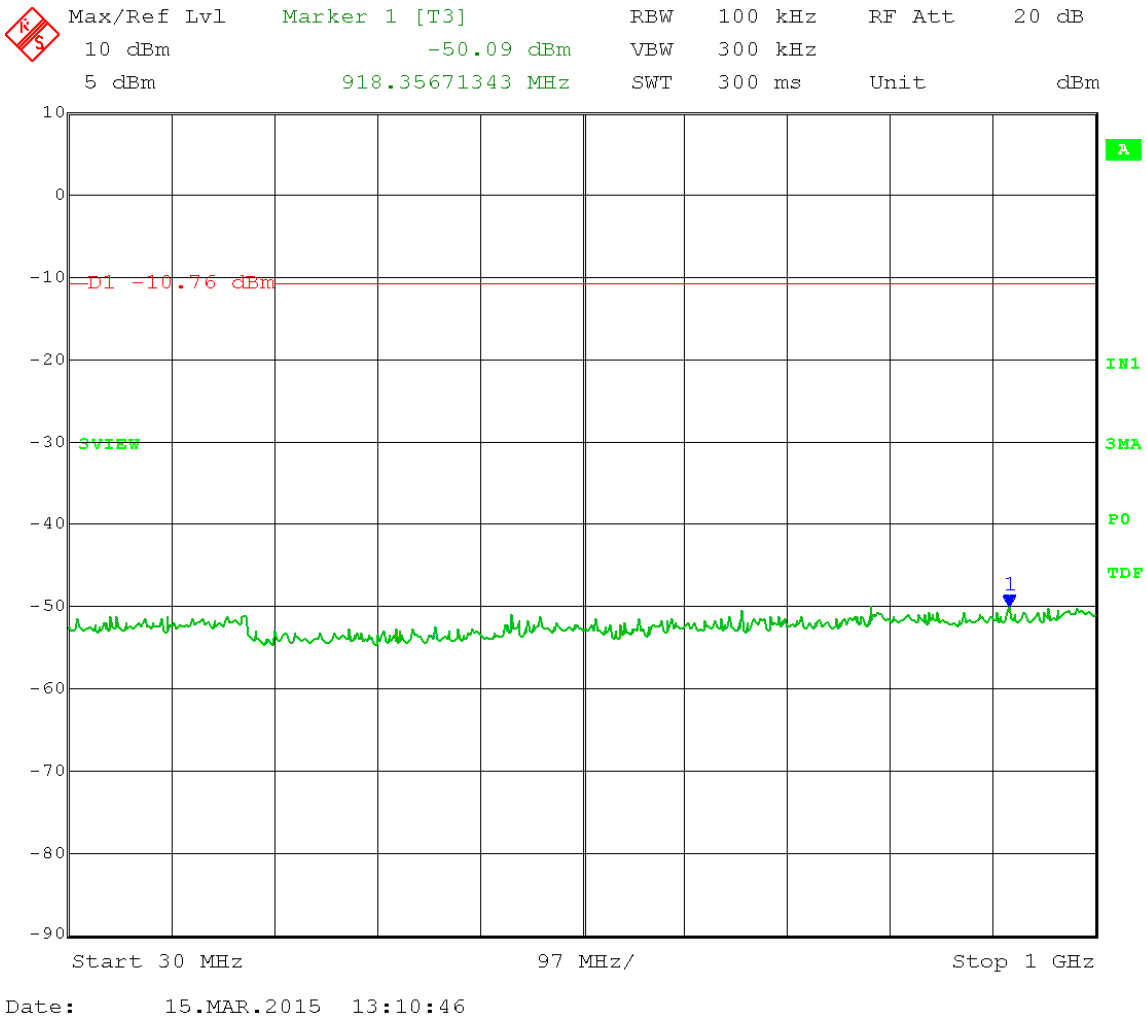
Test Date: 03-15-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: Low, 2412 MHz
Modulation: 802.11-b, DSSS, 1 Mbps
Power setting: 19

Emission Level measurement

Limit = 9.24 dBm – 20 dB = -10.76 dBm

Frequency Range: 30 – 1000 MHz



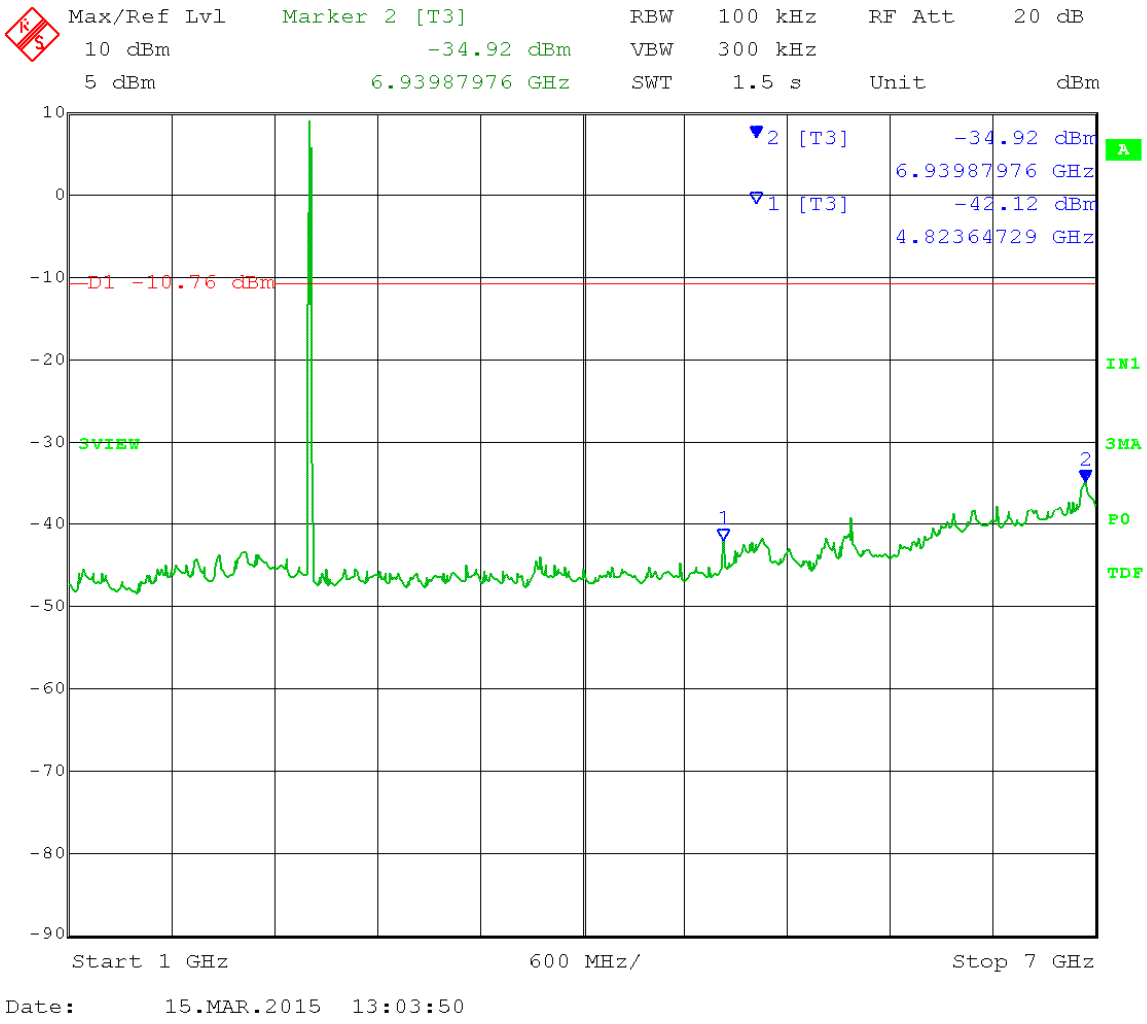
Test Date: 03-15-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: Low, 2412 MHz
Modulation: 802.11-b, DSSS, 1 Mbps
Power setting: 19

Emission Level measurement

Limit = 9.24 dBm – 20 dB = -10.76 dBm

Frequency Range: 1 – 7 GHz



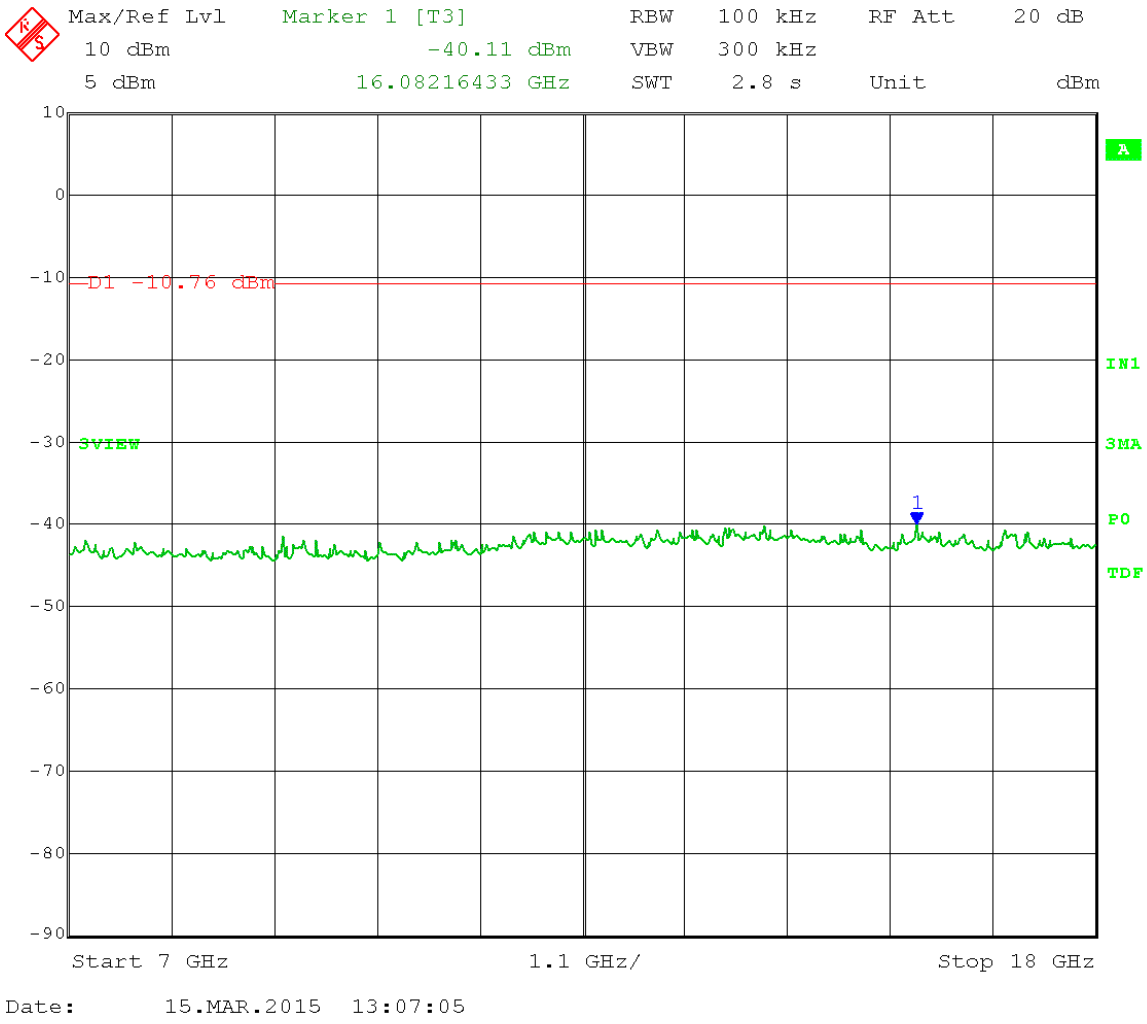
Test Date: 03-15-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: Low, 2412 MHz
Modulation: 802.11-b, DSSS, 1 Mbps
Power setting: 19

Emission Level measurement

Limit = 9.24 dBm – 20 dB = -10.76 dBm

Frequency Range: 7 – 18 GHz



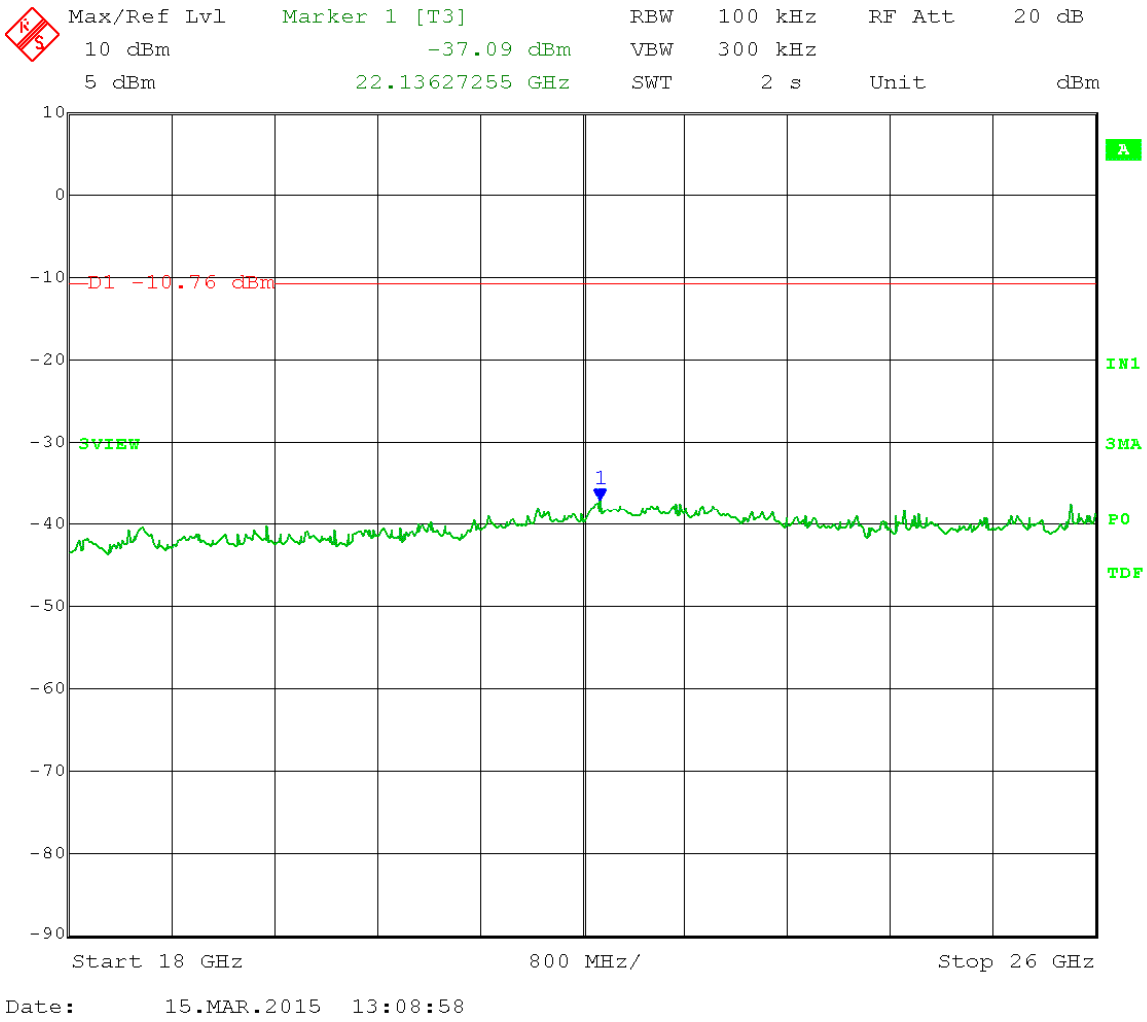
Test Date: 03-15-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: Low, 2412 MHz
Modulation: 802.11-b, DSSS, 1 Mbps
Power setting: 19

Emission Level measurement

Limit = 9.24 dBm – 20 dB = -10.76 dBm

Frequency Range: 18 – 26 GHz

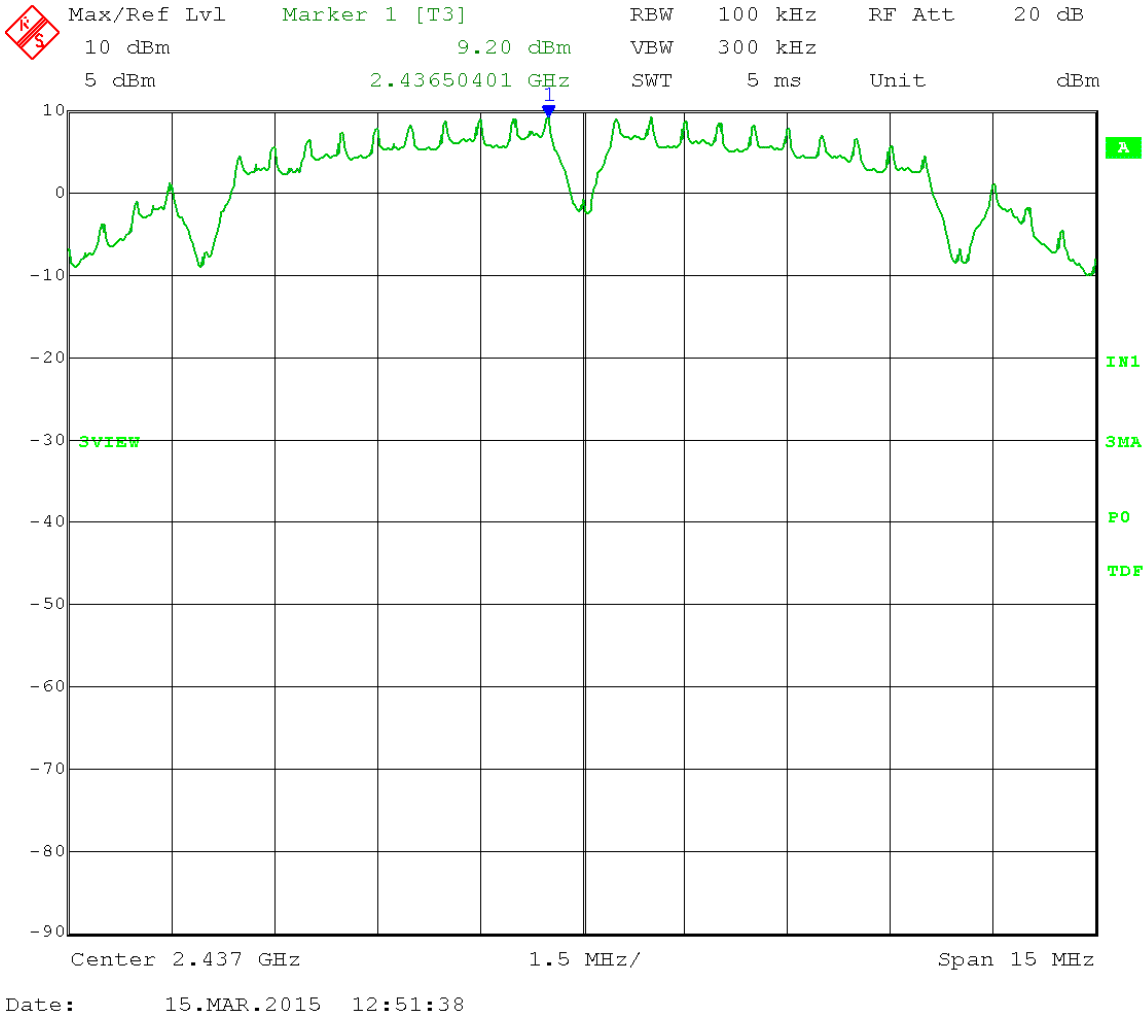


Test Date: 03-15-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: Mid, 2437 MHz
Modulation: 802.11-b, DSSS, 1 Mbps
Power setting: 19

Reference Level measurement

Limit = 9.20 dBm – 20 dB = -10.80 dBm



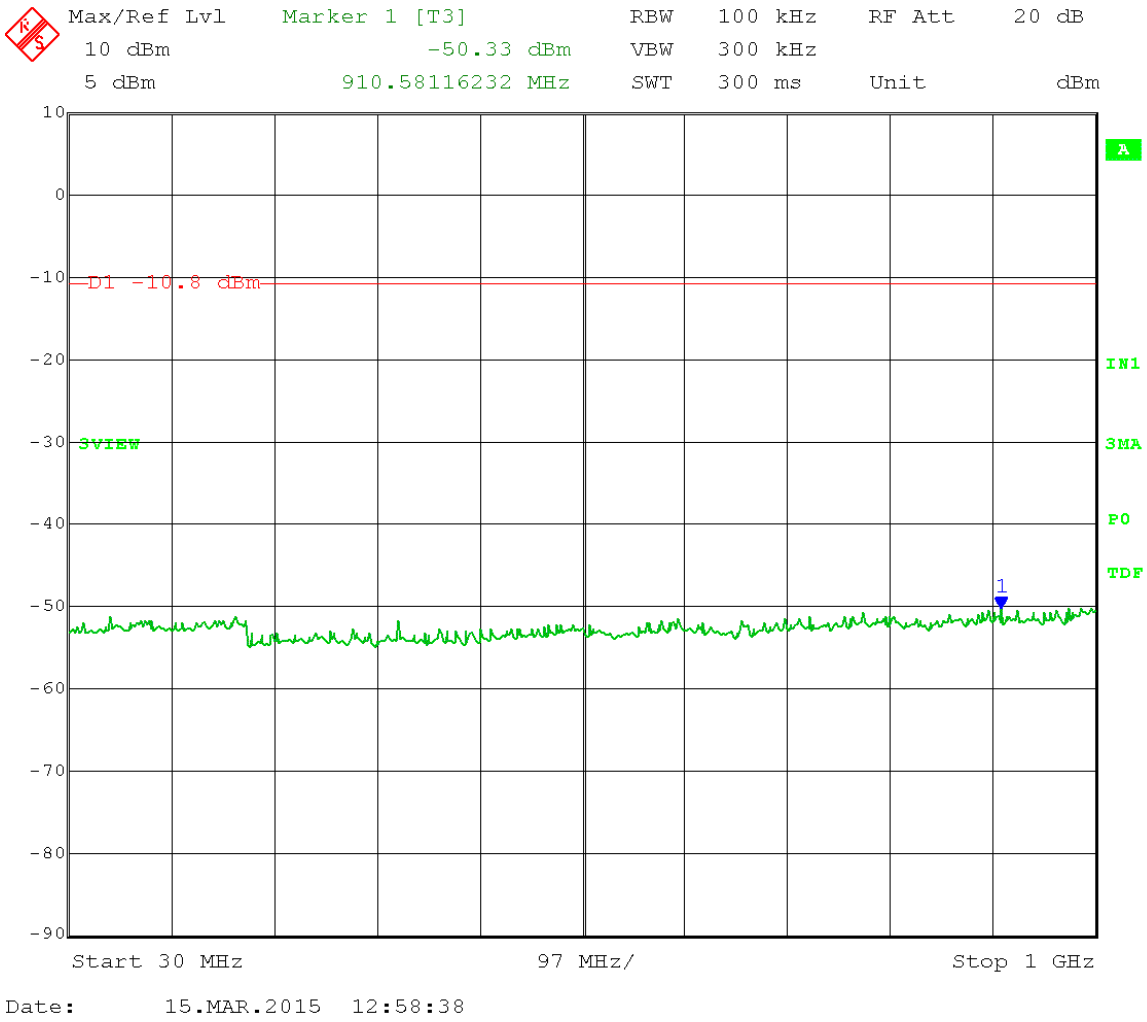
Test Date: 03-15-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: Mid, 2437 MHz
Modulation: 802.11-b, DSSS, 1 Mbps
Power setting: 19

Emission Level measurement

Limit = 9.20 dBm – 20 dB = -10.80 dBm

Frequency Range: 30 – 1000 MHz



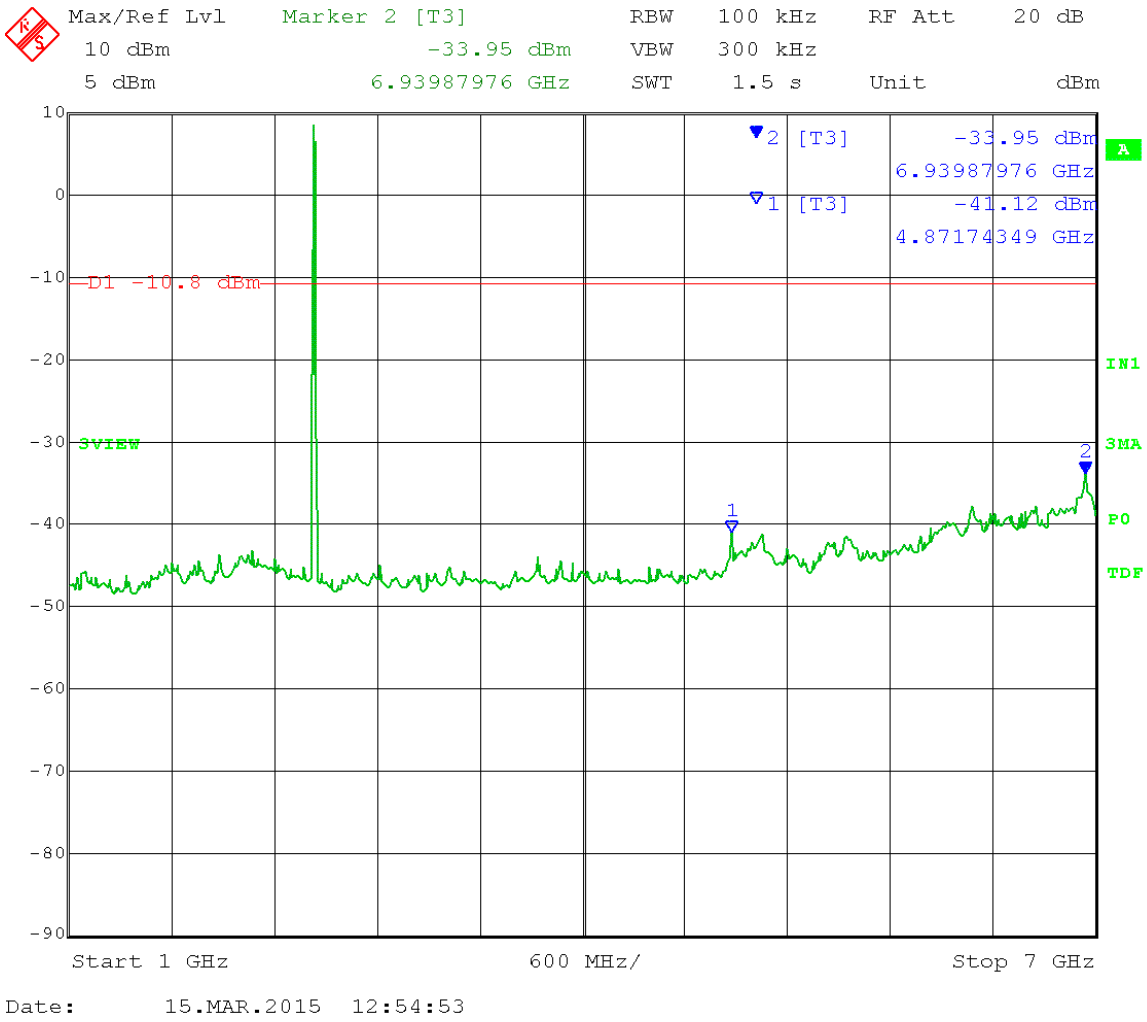
Test Date: 03-15-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: Mid, 2437 MHz
Modulation: 802.11-b, DSSS, 1 Mbps
Power setting: 19

Emission Level measurement

Limit = 9.20 dBm – 20 dB = -10.80 dBm

Frequency Range: 1 – 7 GHz



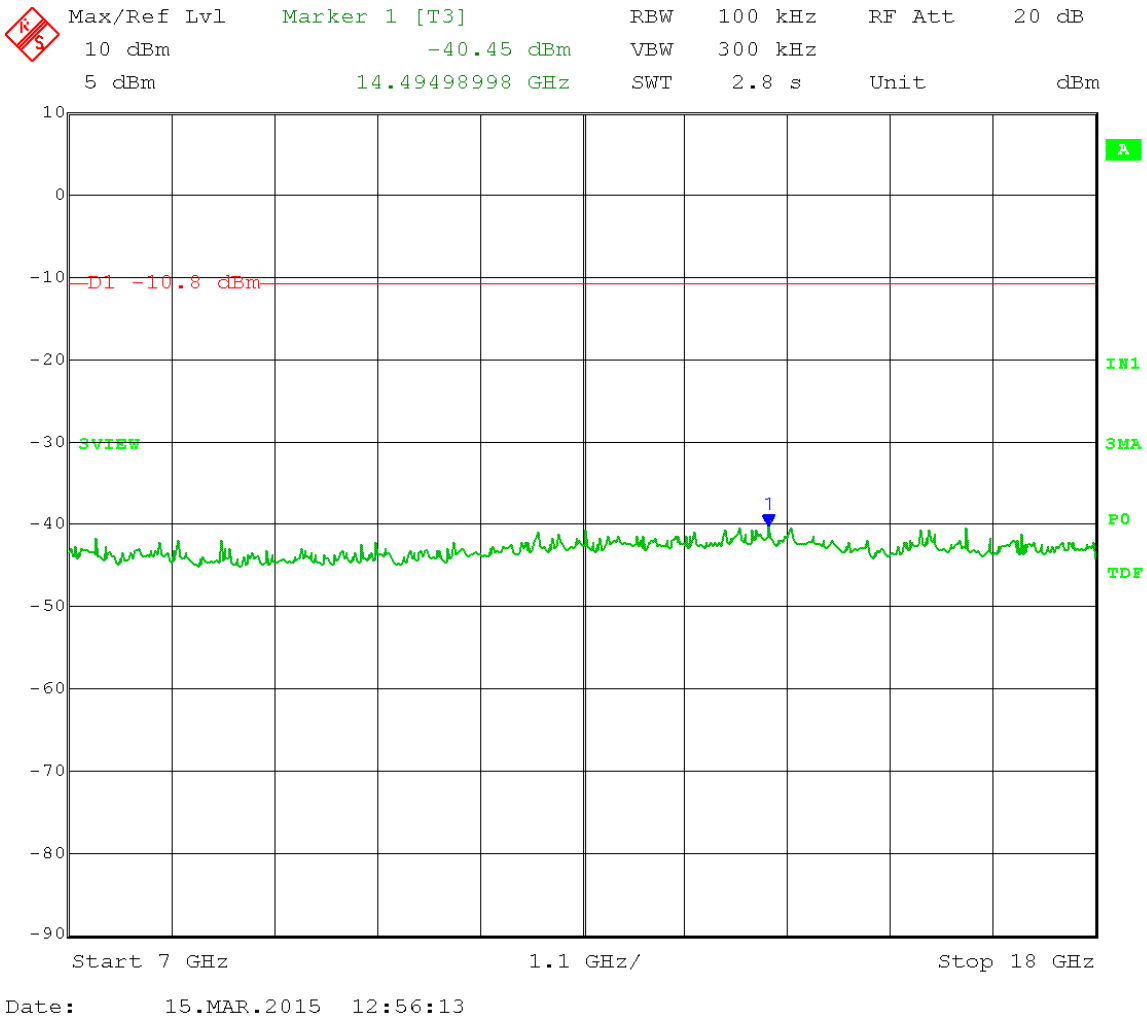
Test Date: 03-15-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: Mid, 2437 MHz
Modulation: 802.11-b, DSSS, 1 Mbps
Power setting: 19

Emission Level measurement

Limit = 9.20 dBm – 20 dB = -10.80 dBm

Frequency Range: 7 – 18 GHz



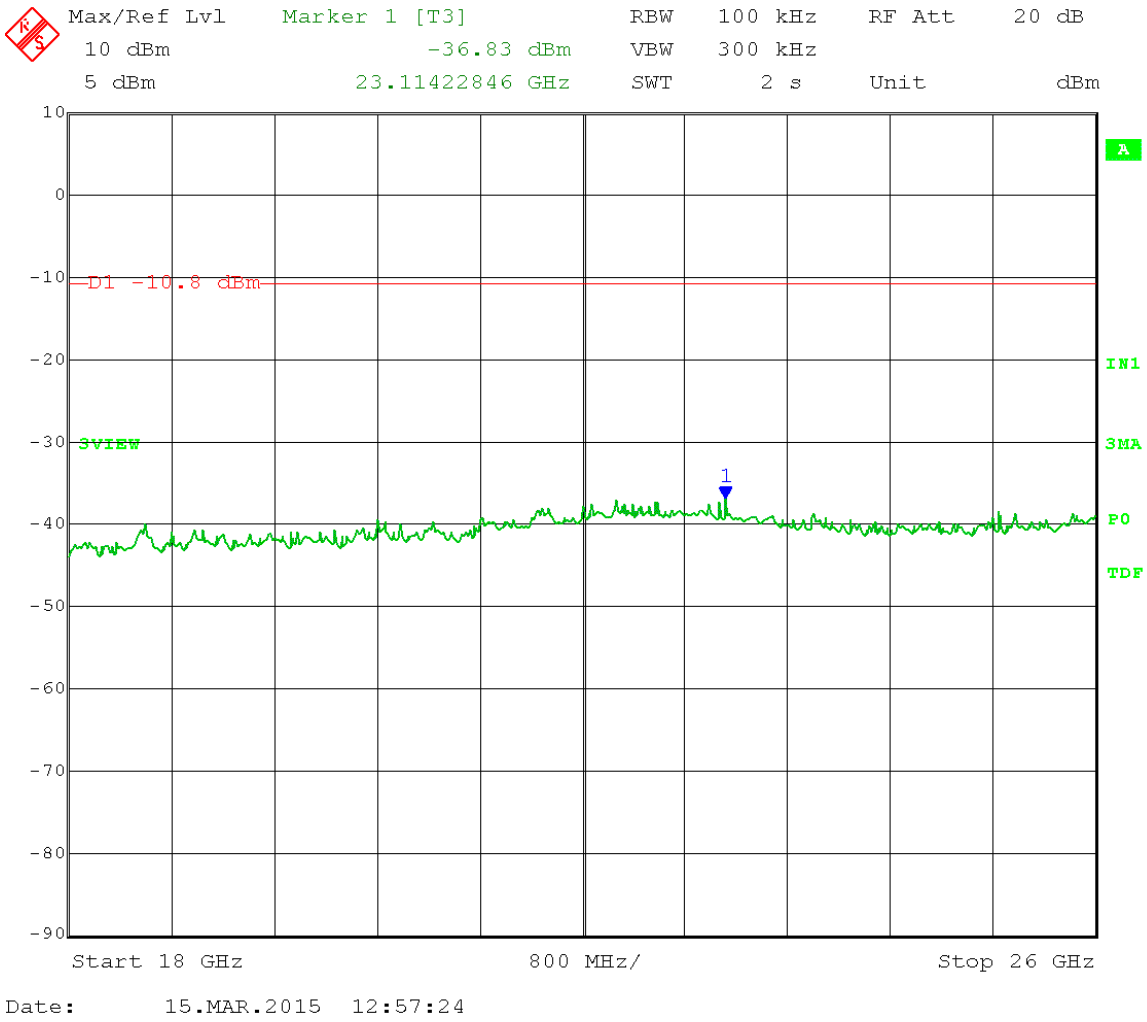
Test Date: 03-15-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: Mid, 2437 MHz
Modulation: 802.11-b, DSSS, 1 Mbps
Power setting: 19

Emission Level measurement

Limit = 9.20 dBm – 20 dB = -10.80 dBm

Frequency Range: 18 – 26 GHz

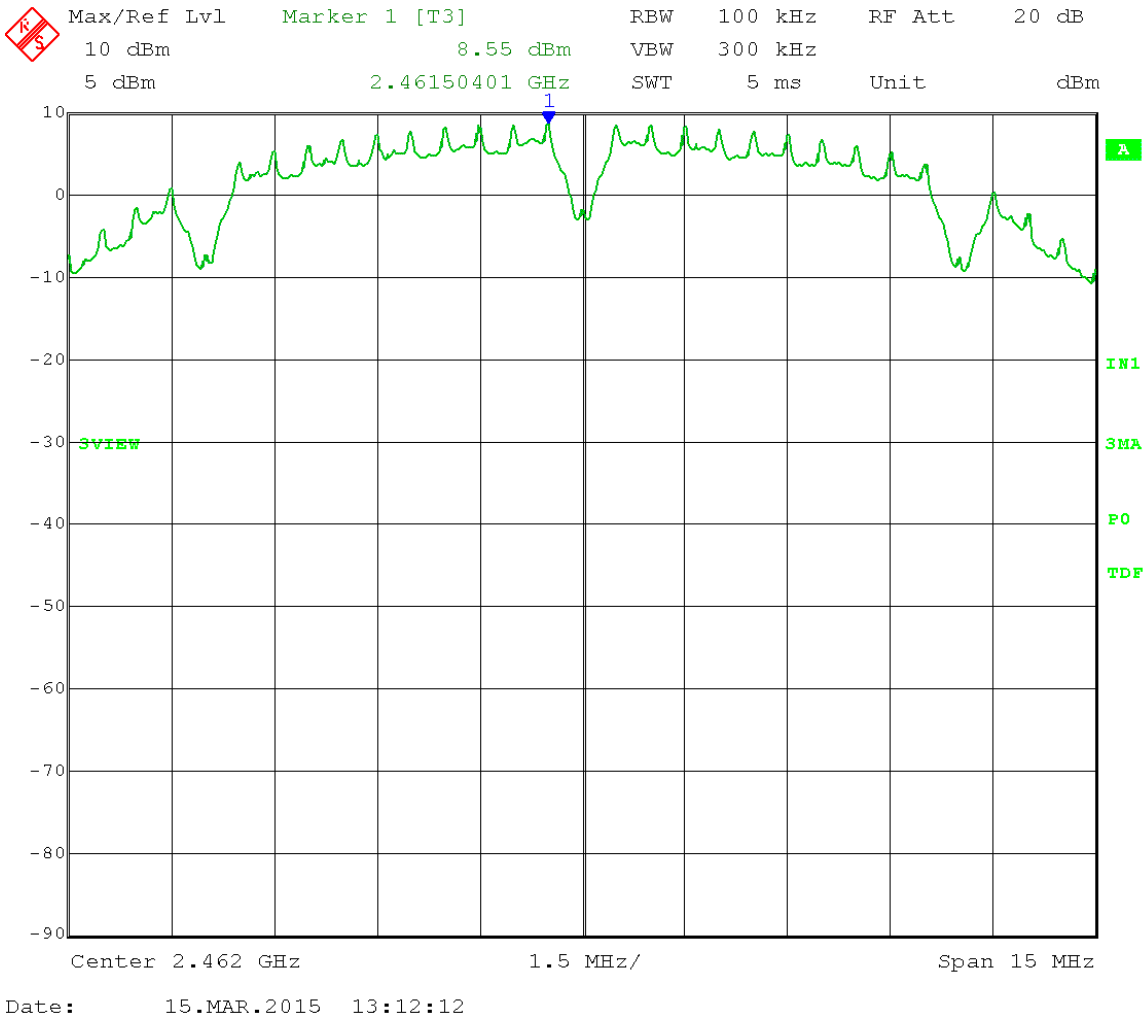


Test Date: 03-15-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: High, 2462 MHz
Modulation: 802.11-b, DSSS, 1 Mbps
Power setting: 19

Reference Level measurement

Limit = 8.55 dBm – 20 dB = -11.45 dBm



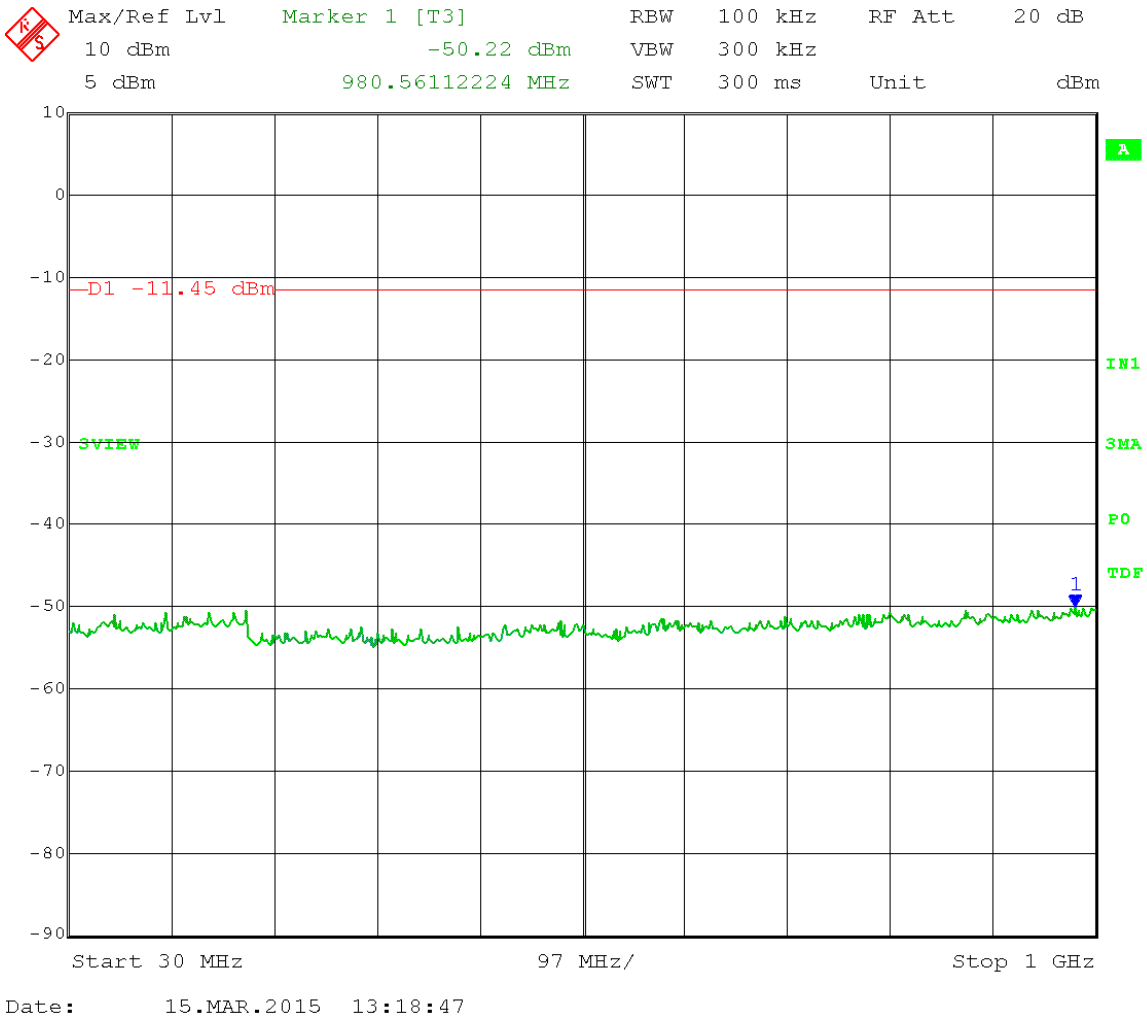
Test Date: 03-15-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: High, 2462 MHz
Modulation: 802.11-b, DSSS, 1 Mbps
Power setting: 19

Emission Level measurement

Limit = 8.55 dBm – 20 dB = -11.45 dBm

Frequency Range: 30 – 1000 MHz



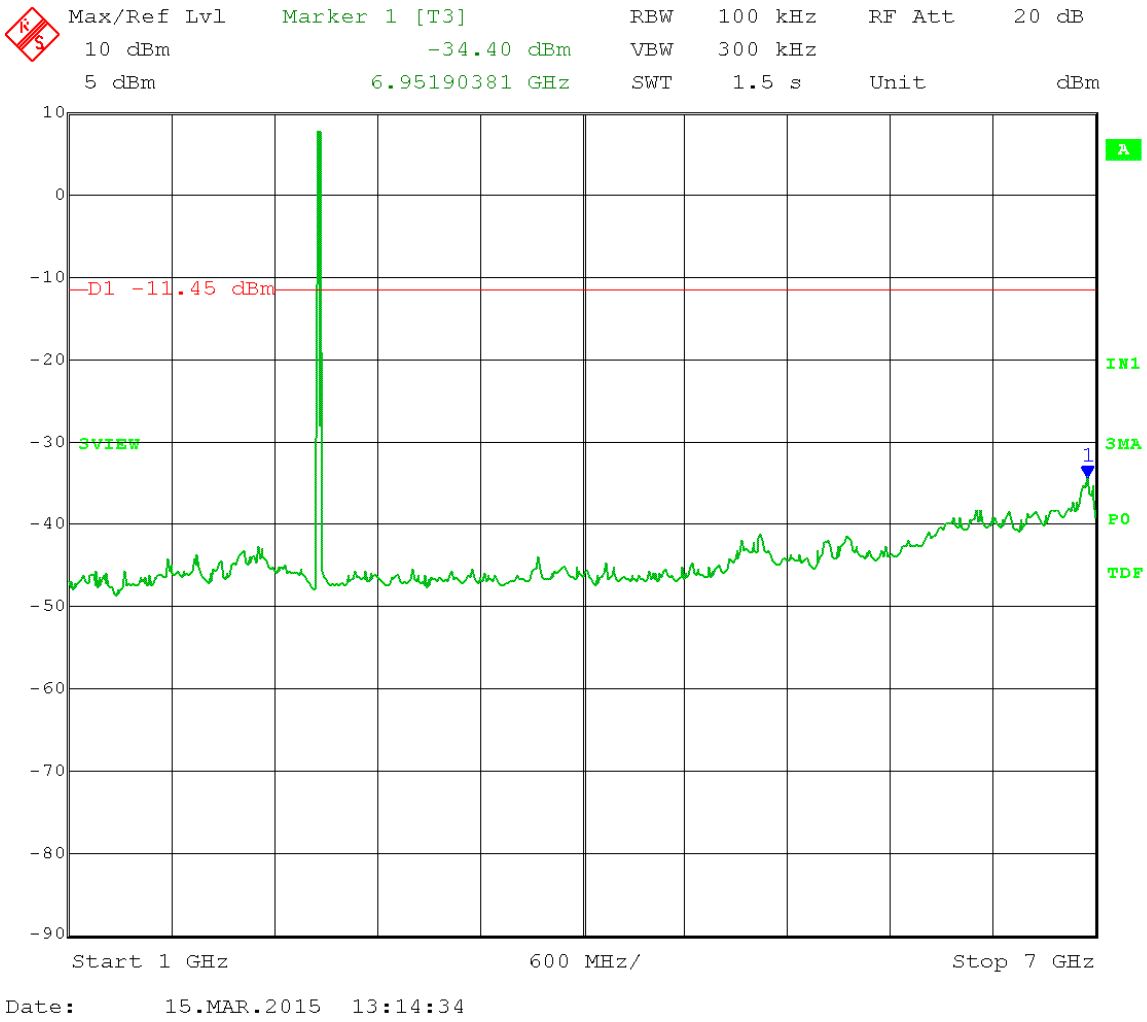
Test Date: 03-15-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: High, 2462 MHz
Modulation: 802.11-b, DSSS, 1 Mbps
Power setting: 19

Emission Level measurement

Limit = 8.55 dBm – 20 dB = -11.45 dBm

Frequency Range: 1 – 7 GHz



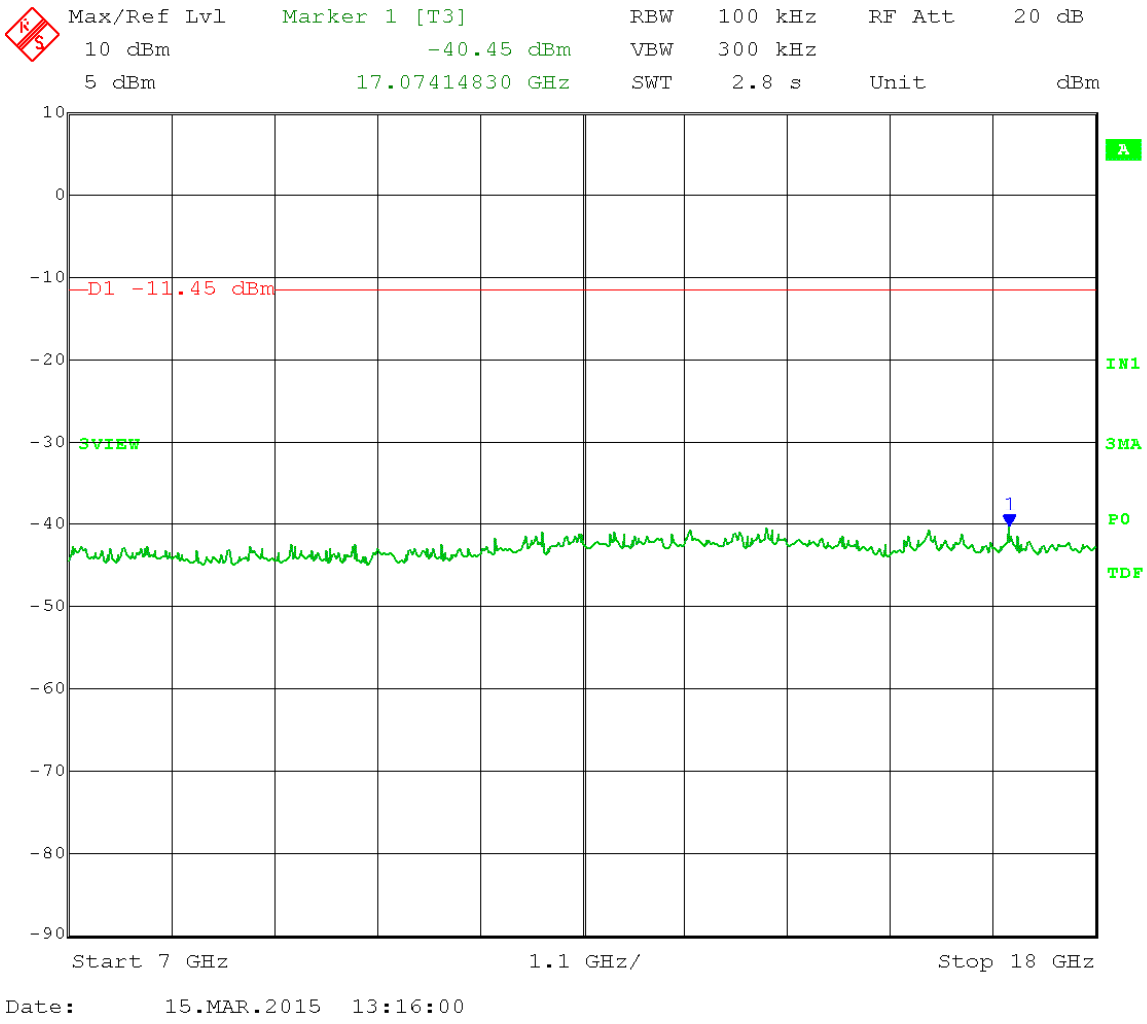
Test Date: 03-15-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: High, 2462 MHz
Modulation: 802.11-b, DSSS, 1 Mbps
Power setting: 19

Emission Level measurement

Limit = 8.55 dBm – 20 dB = -11.45 dBm

Frequency Range: 7 – 18 GHz



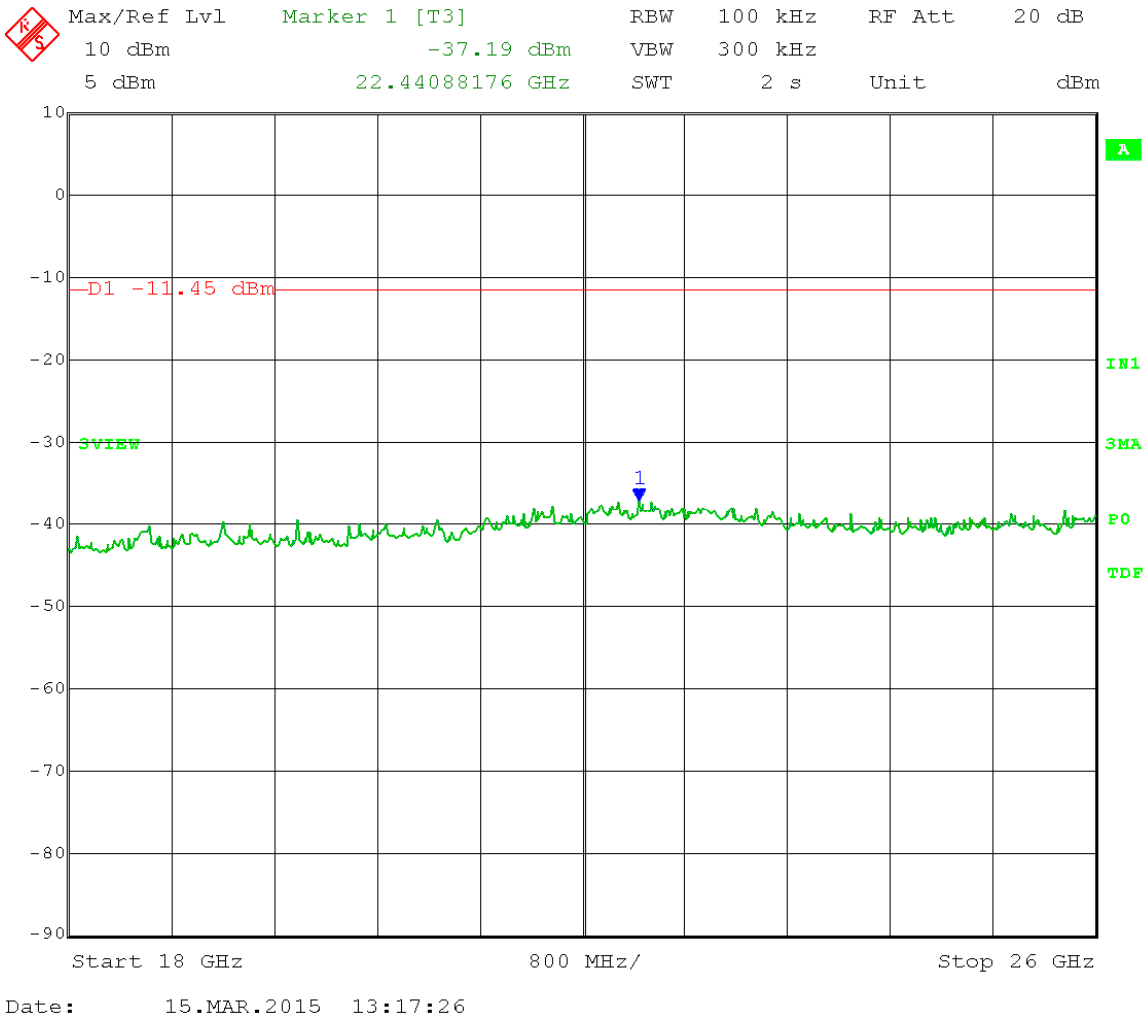
Test Date: 03-15-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: High, 2462 MHz
Modulation: 802.11-b, DSSS, 1 Mbps
Power setting: 19

Emission Level measurement

Limit = 8.55 dBm – 20 dB = -11.45 dBm

Frequency Range: 18 – 26 GHz

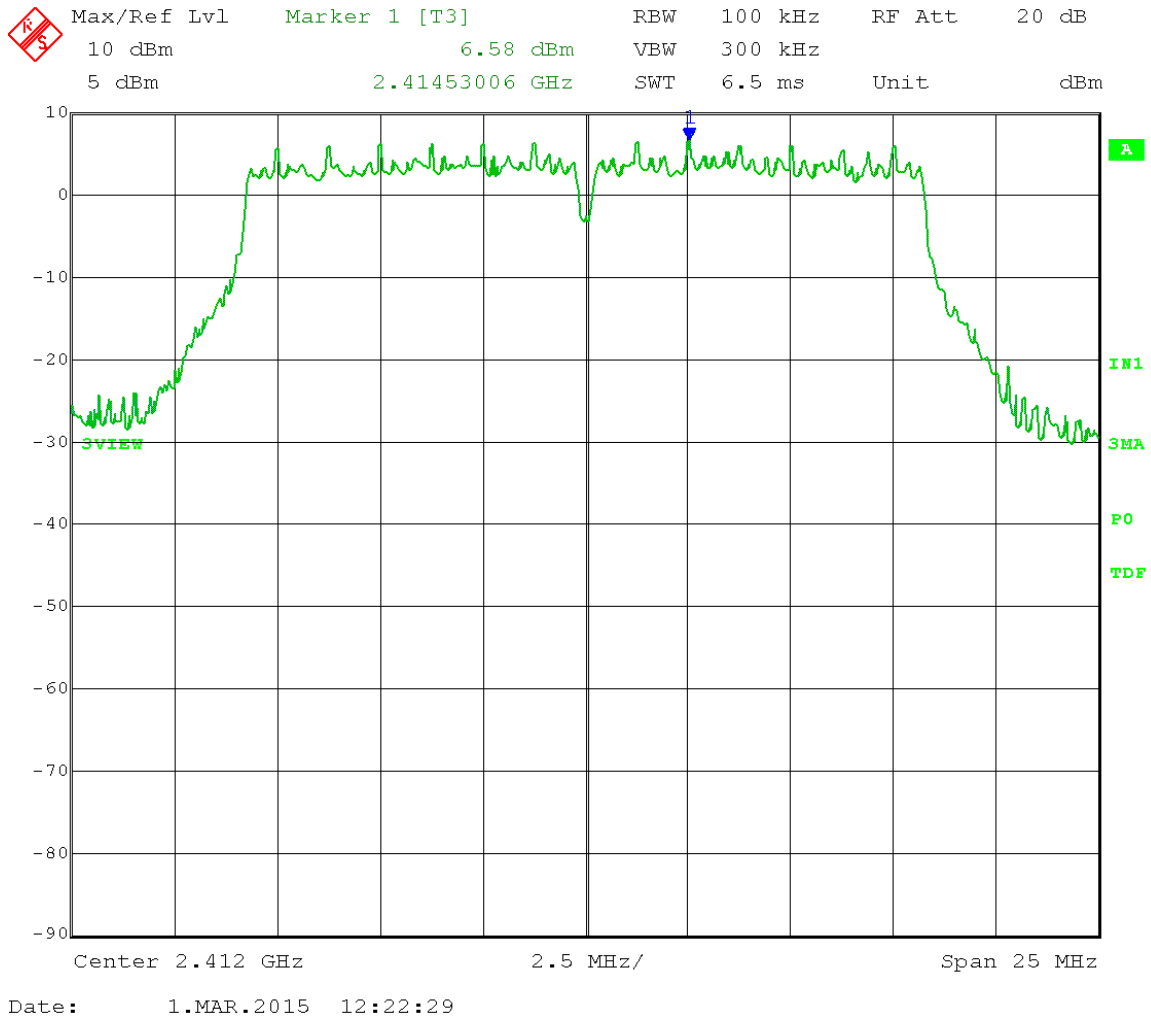


Test Date: 03-01-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: Low, 2412 MHz
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 18

Reference Level measurement

Limit = 6.58 dBm – 20 dB = -13.42 dBm



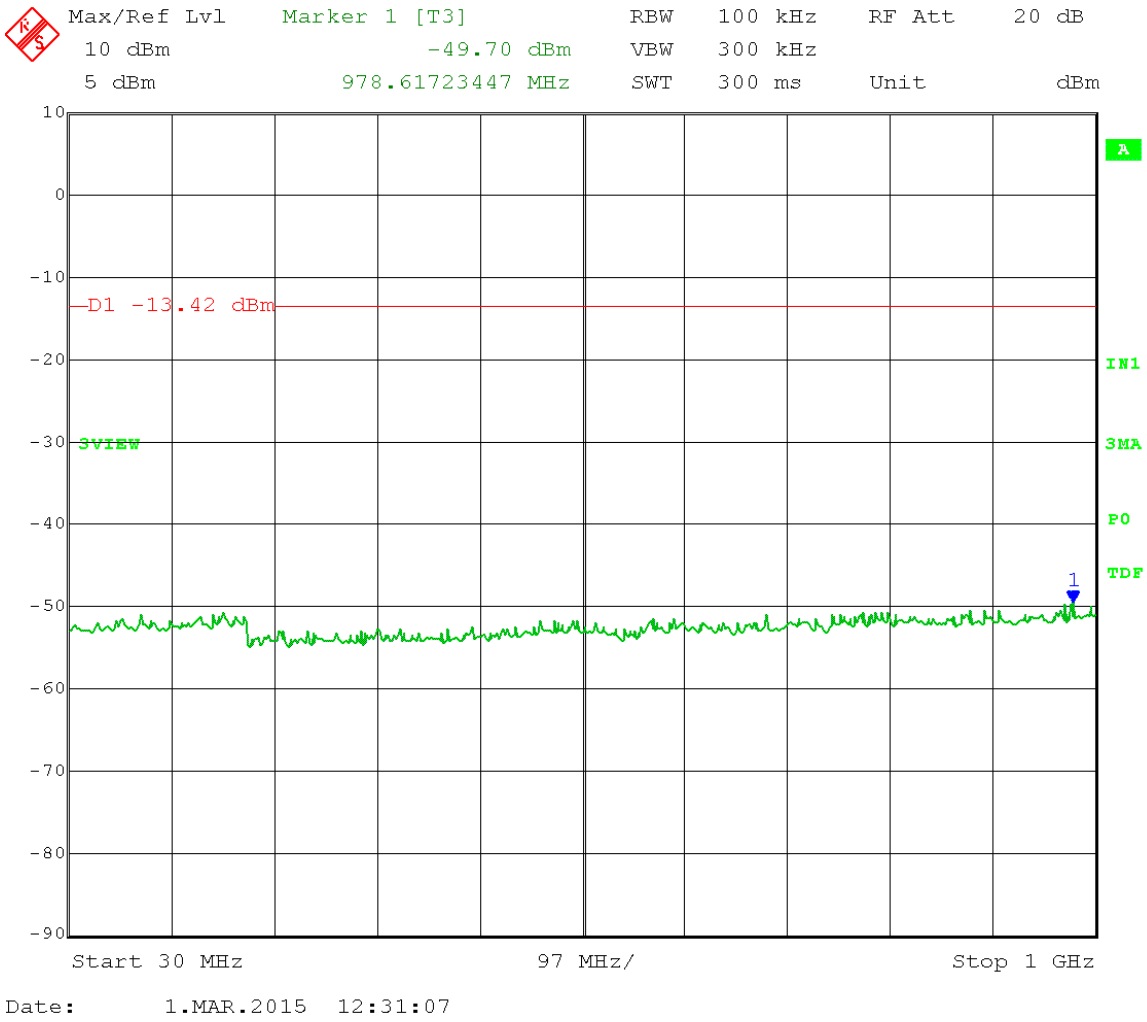
Test Date: 03-01-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: Low, 2412 MHz
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 18

Emission Level measurement

Limit = 6.58 dBm – 20 dB = -13.42 dBm

Frequency Range: 30 – 1000 MHz



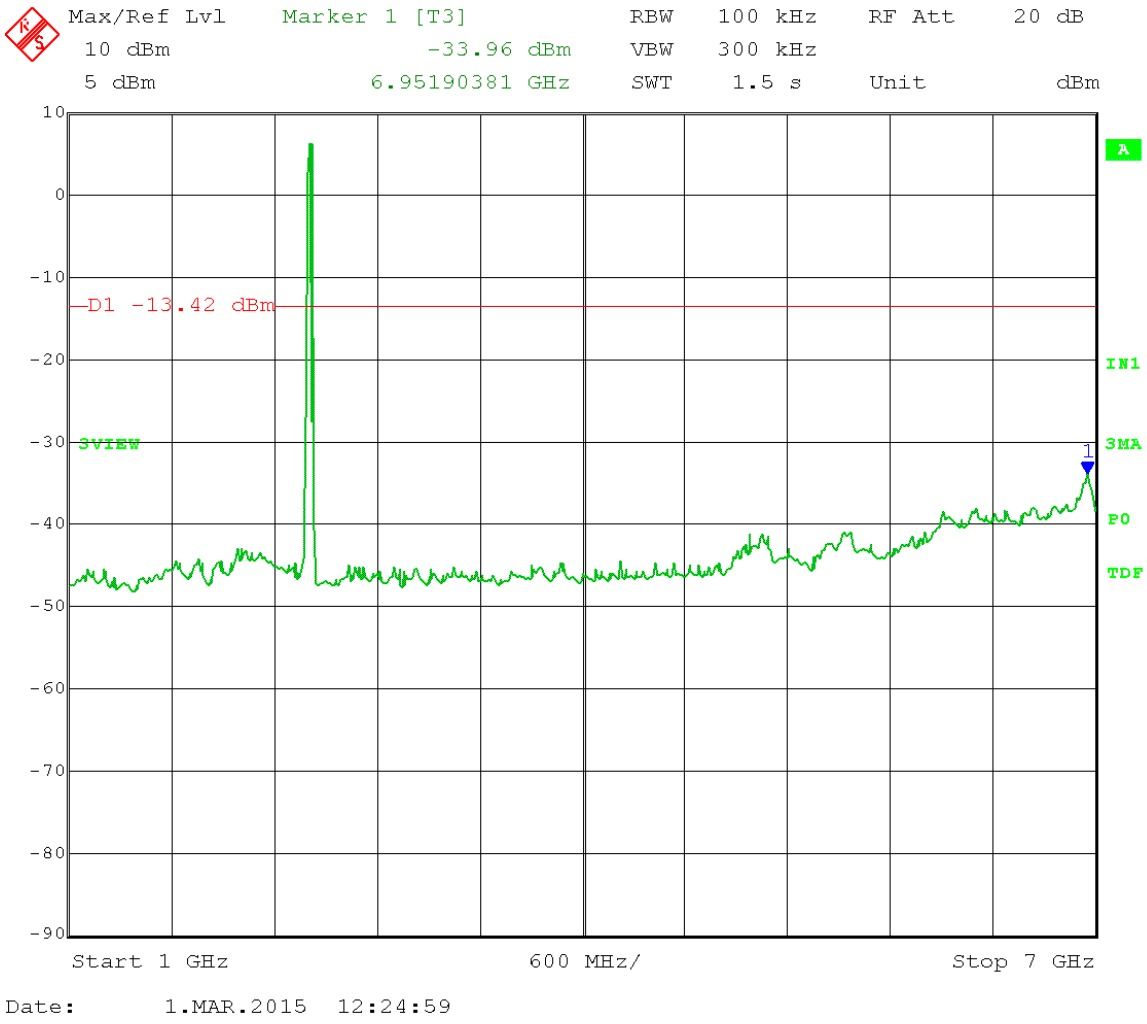
Test Date: 03-01-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: Low, 2412 MHz
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 18

Emission Level measurement

Limit = 6.58 dBm – 20 dB = -13.42 dBm

Frequency Range: 1 – 7 GHz



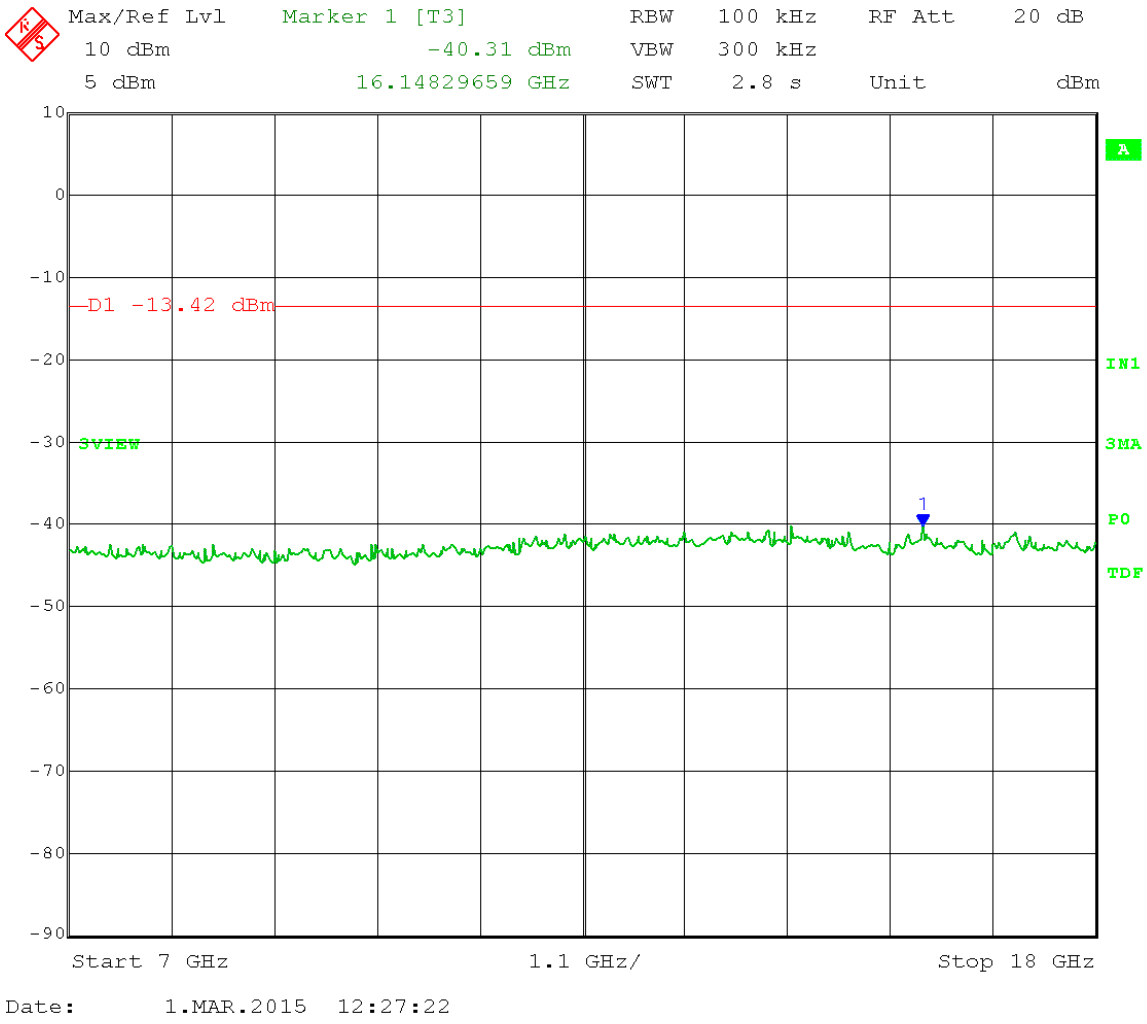
Test Date: 03-01-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: Low, 2412 MHz
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 18

Emission Level measurement

Limit = 6.58 dBm – 20 dB = -13.42 dBm

Frequency Range: 7 – 18 GHz



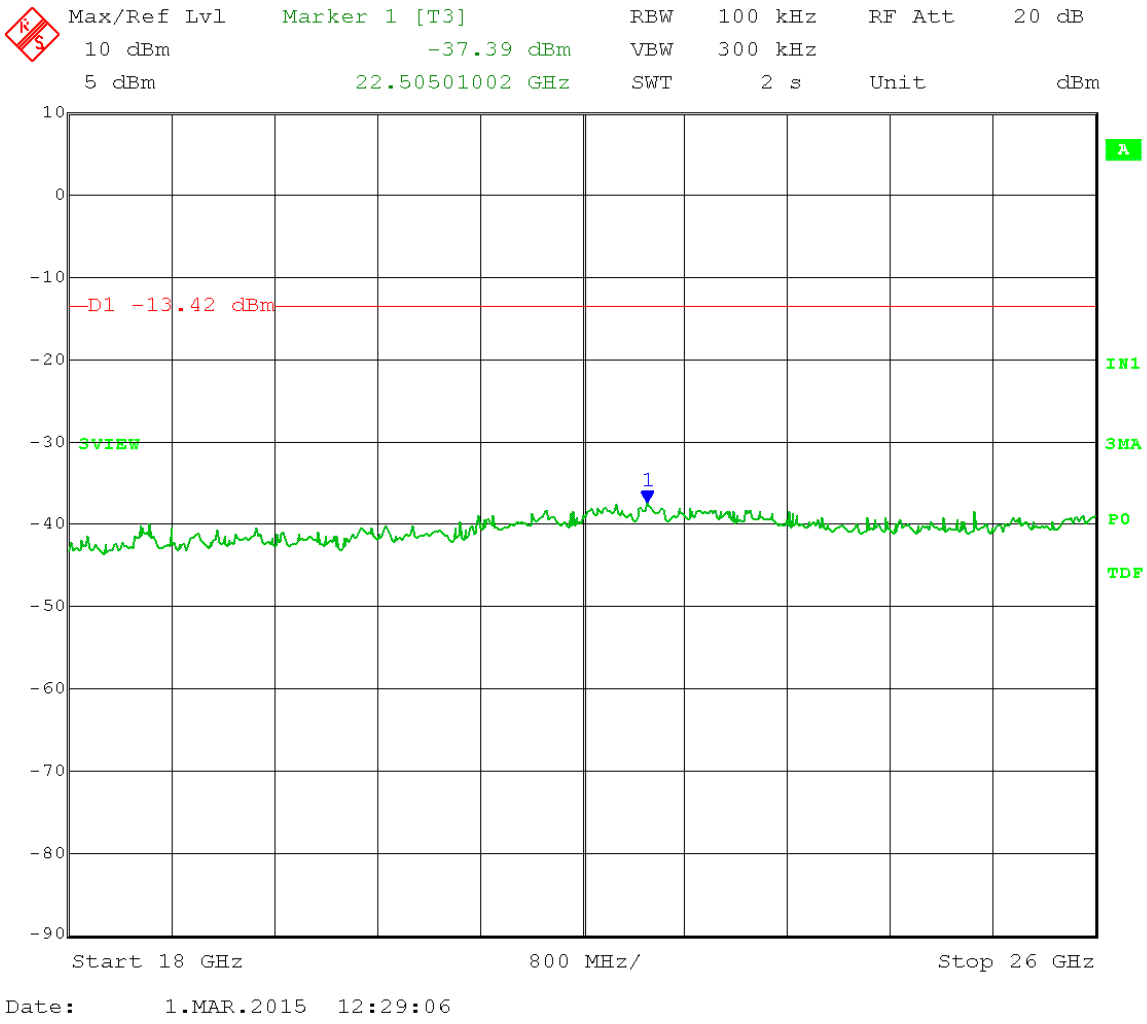
Test Date: 03-01-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: Low, 2412 MHz
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 18

Emission Level measurement

Limit = 6.58 dBm – 20 dB = -13.42 dBm

Frequency Range: 18 – 26 GHz

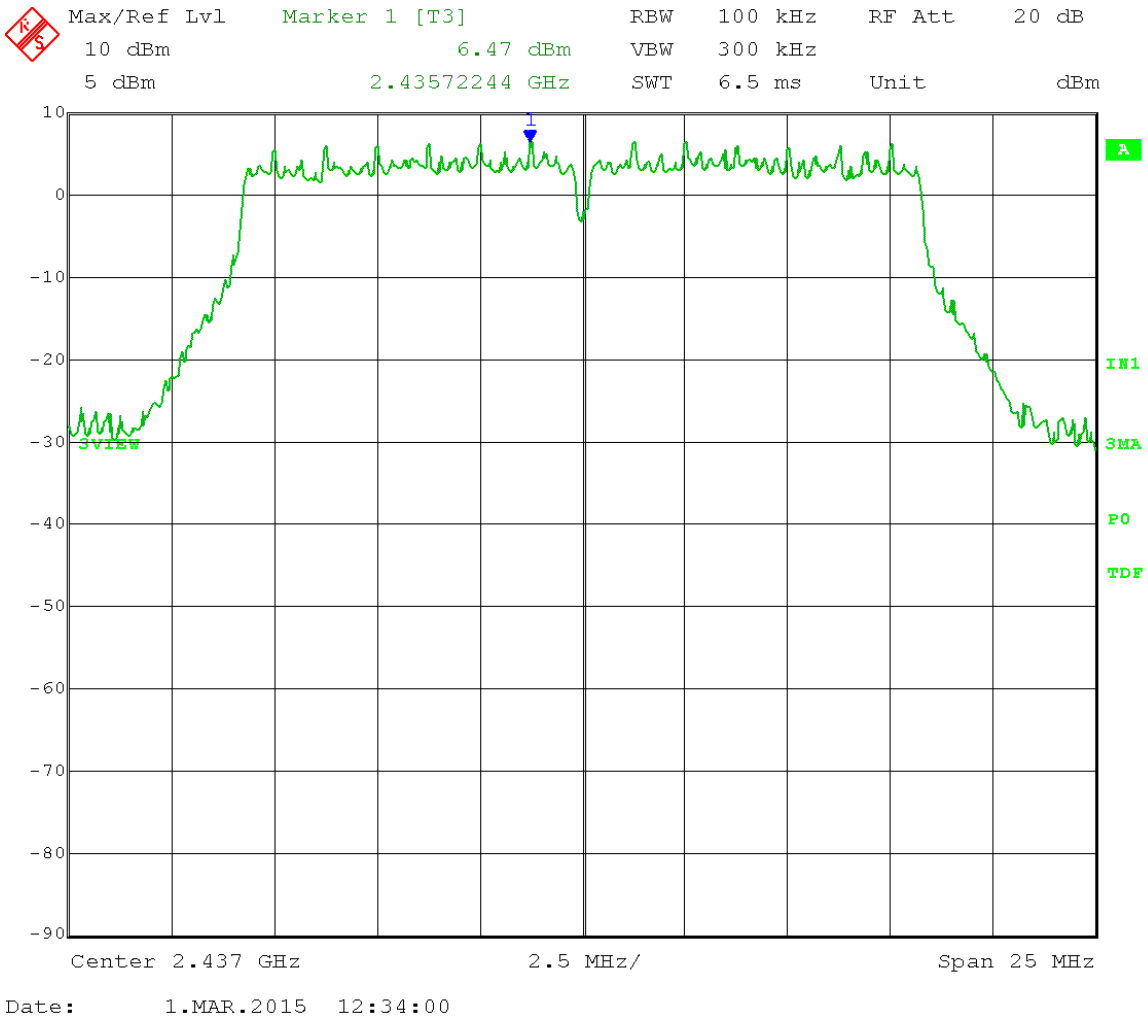


Test Date: 03-01-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: Mid, 2437 MHz
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 18

Reference Level measurement

Limit = 6.47 dBm – 20 dB = -13.53 dBm



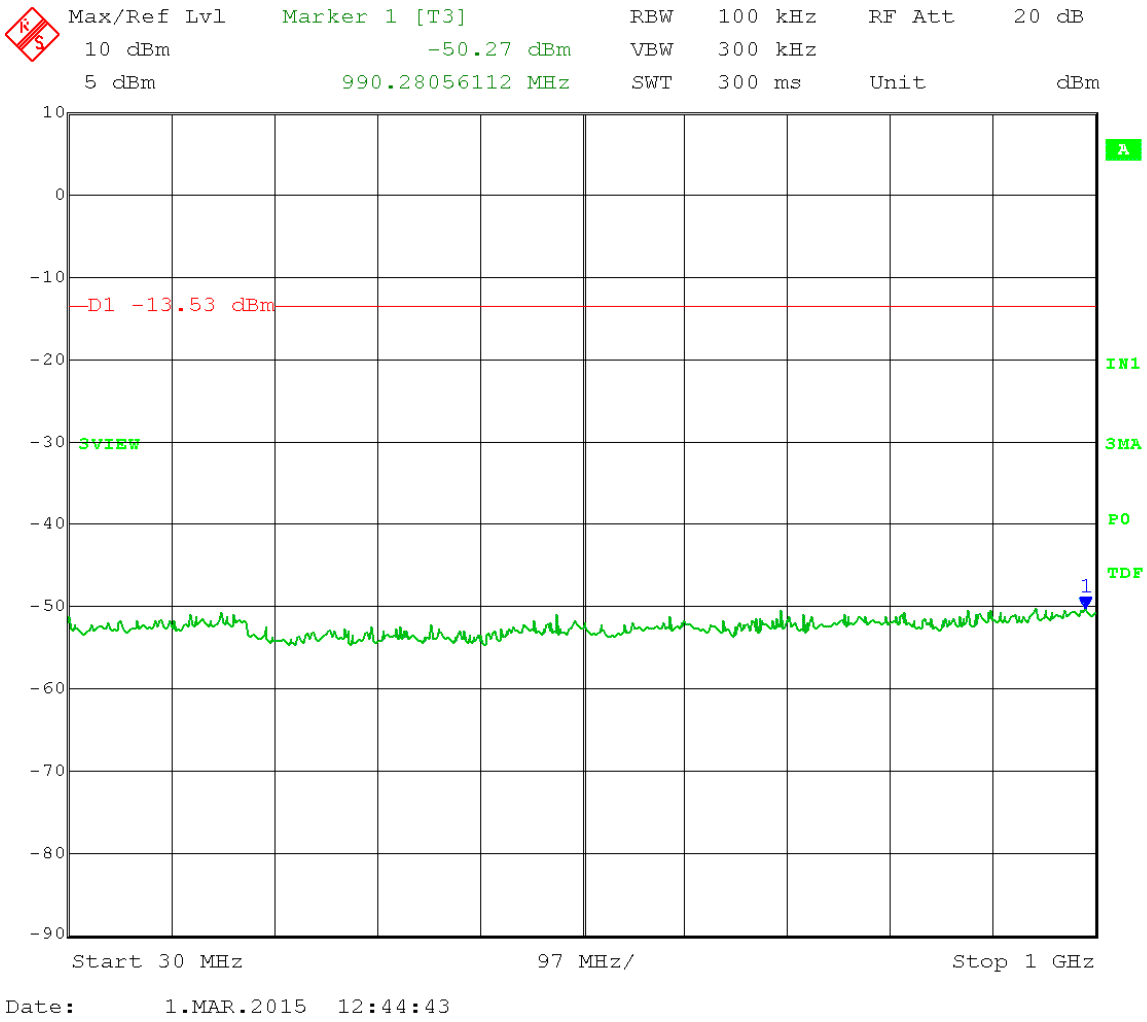
Test Date: 03-01-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: Mid, 2437 MHz
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 18

Emission Level measurement

Limit = 6.47 dBm – 20 dB = -13.53 dBm

Frequency Range: 30 – 1000 MHz



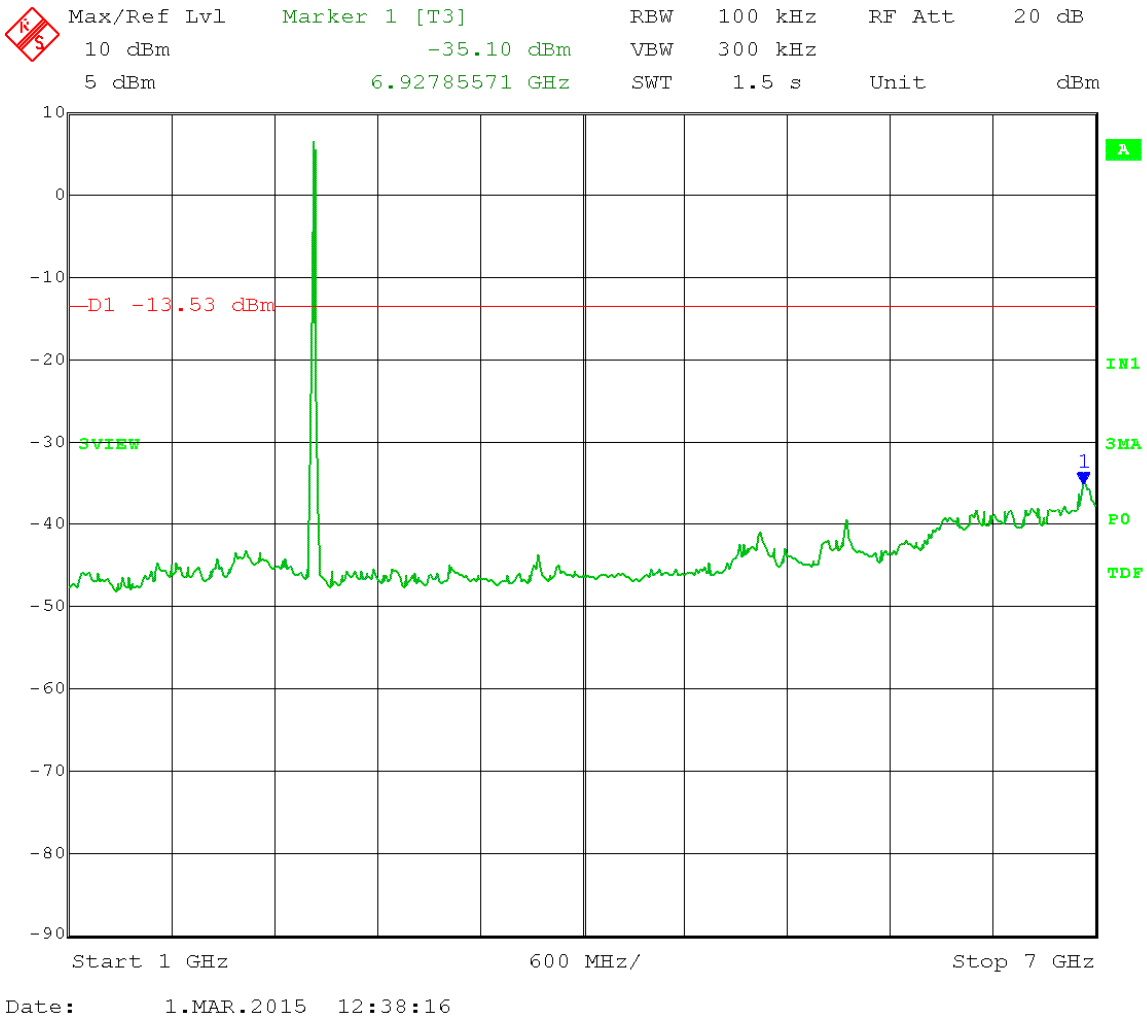
Test Date: 03-01-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: Mid, 2437 MHz
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 18

Emission Level measurement

Limit = 6.47 dBm – 20 dB = -13.53 dBm

Frequency Range: 1 – 7 GHz



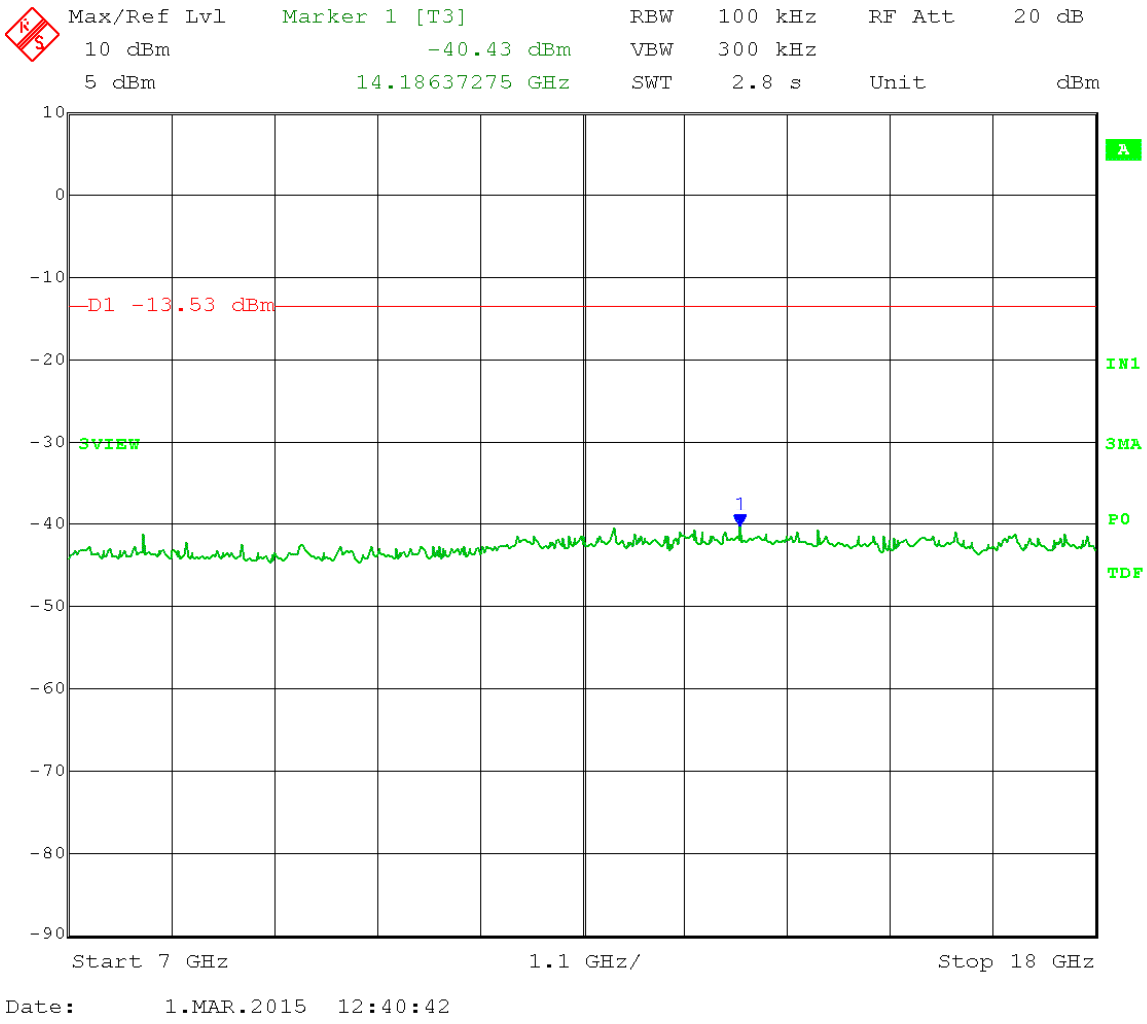
Test Date: 03-01-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: Mid, 2437 MHz
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 18

Emission Level measurement

Limit = 6.47 dBm – 20 dB = -13.53 dBm

Frequency Range: 7 – 18 GHz



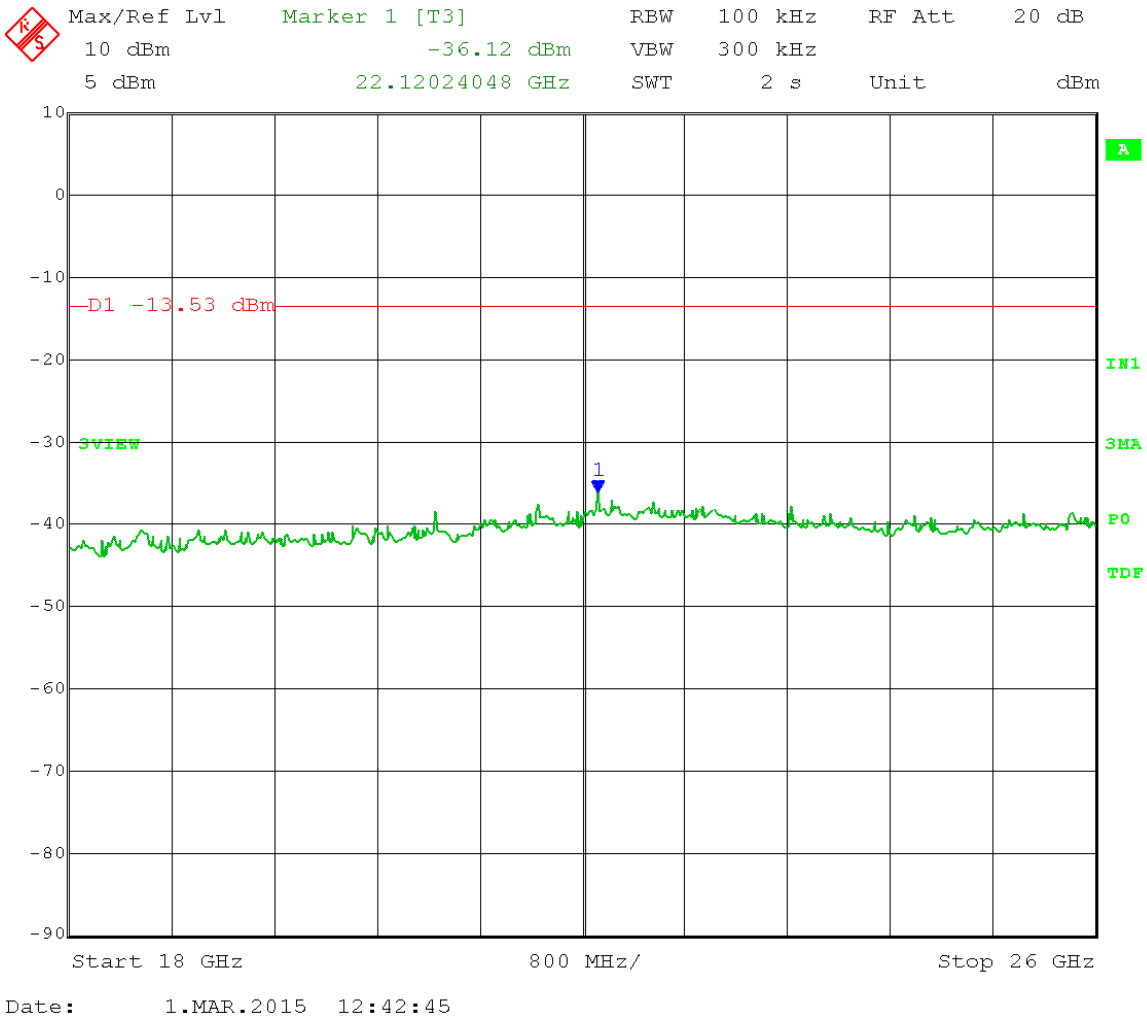
Test Date: 03-01-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: Mid, 2437 MHz
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 18

Emission Level measurement

Limit = 6.47 dBm – 20 dB = -13.53 dBm

Frequency Range: 18 – 26 GHz

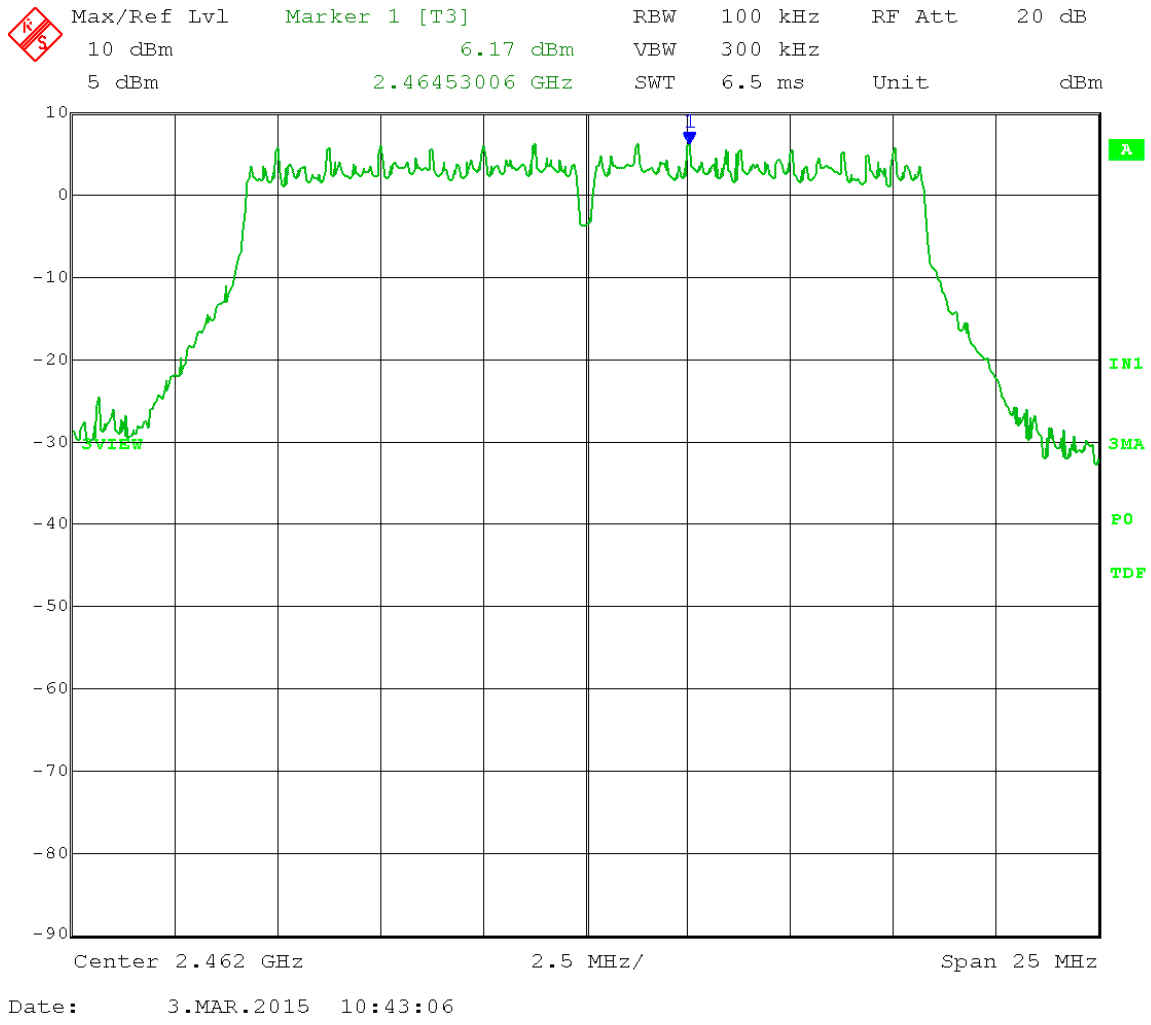


Test Date: 03-03-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: High, 2462 MHz
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 18

Reference Level measurement

Limit = 6.17 dBm – 20 dB = -13.83 dBm



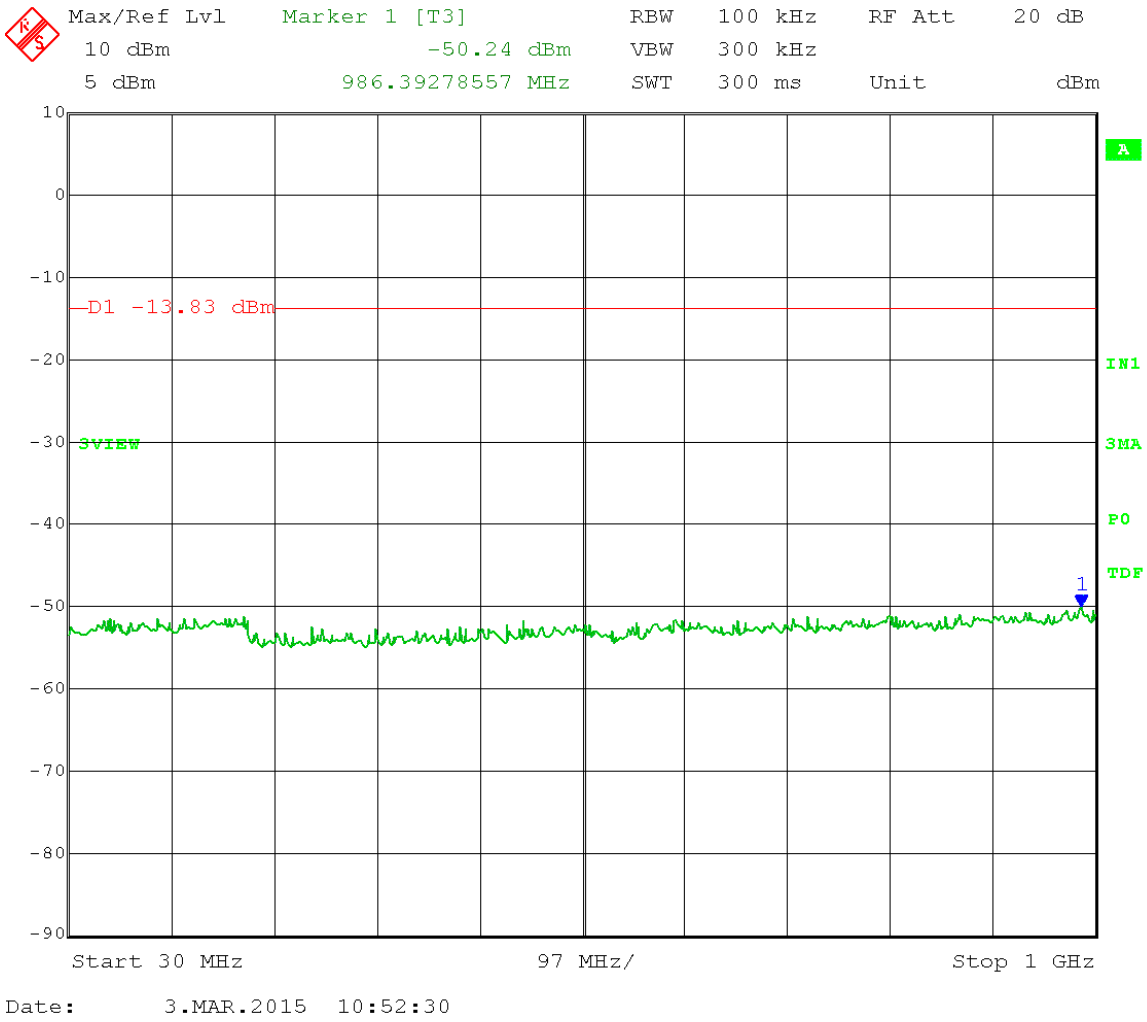
Test Date: 03-03-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: High, 2462 MHz
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 18

Emission Level measurement

Limit = 6.17 dBm – 20 dB = -13.83 dBm

Frequency Range: 30 – 1000 MHz



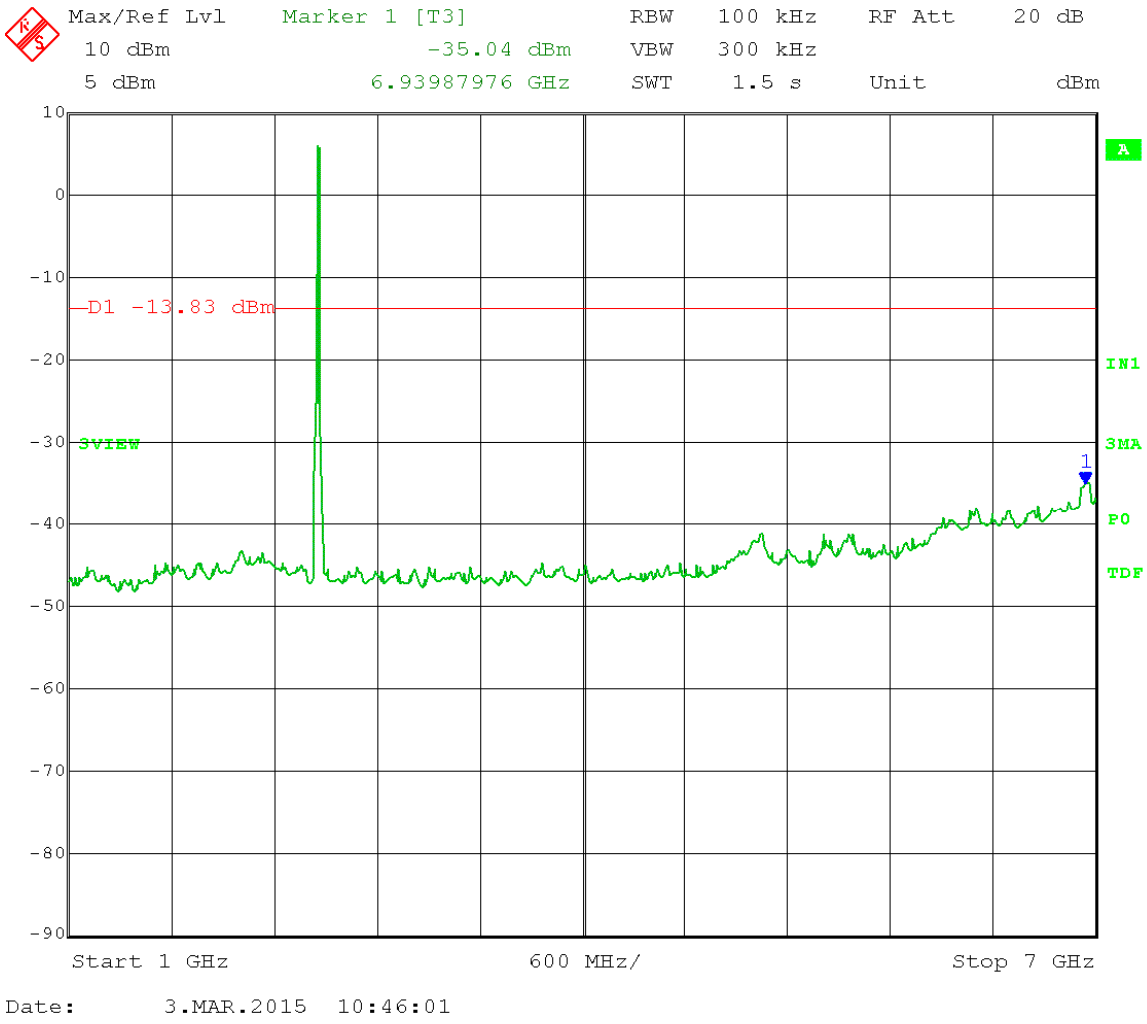
Test Date: 03-03-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: High, 2462 MHz
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 18

Emission Level measurement

Limit = 6.17 dBm – 20 dB = -13.83 dBm

Frequency Range: 1 – 7 GHz



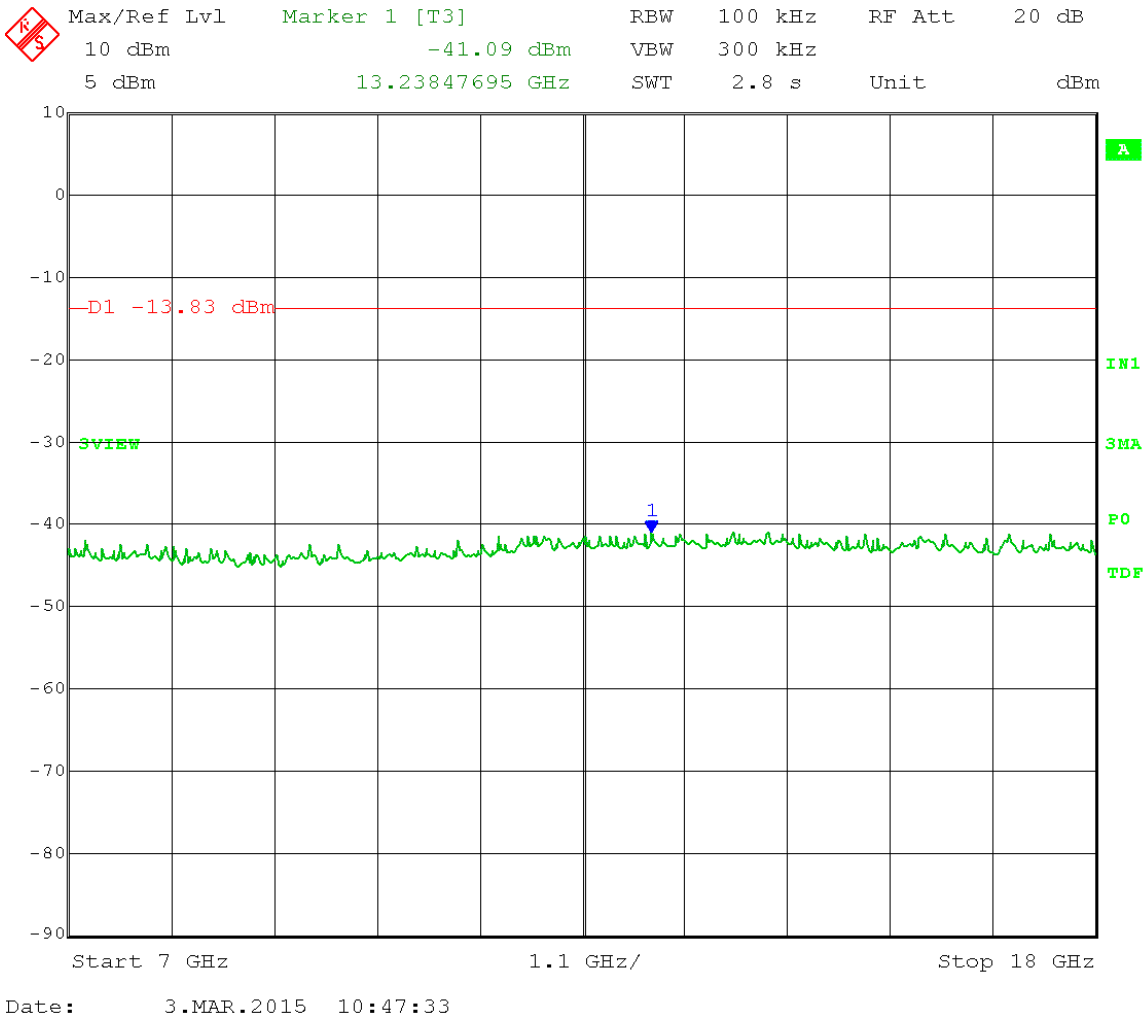
Test Date: 03-03-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: High, 2462 MHz
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 18

Emission Level measurement

Limit = 6.17 dBm – 20 dB = -13.83 dBm

Frequency Range: 7 – 18 GHz



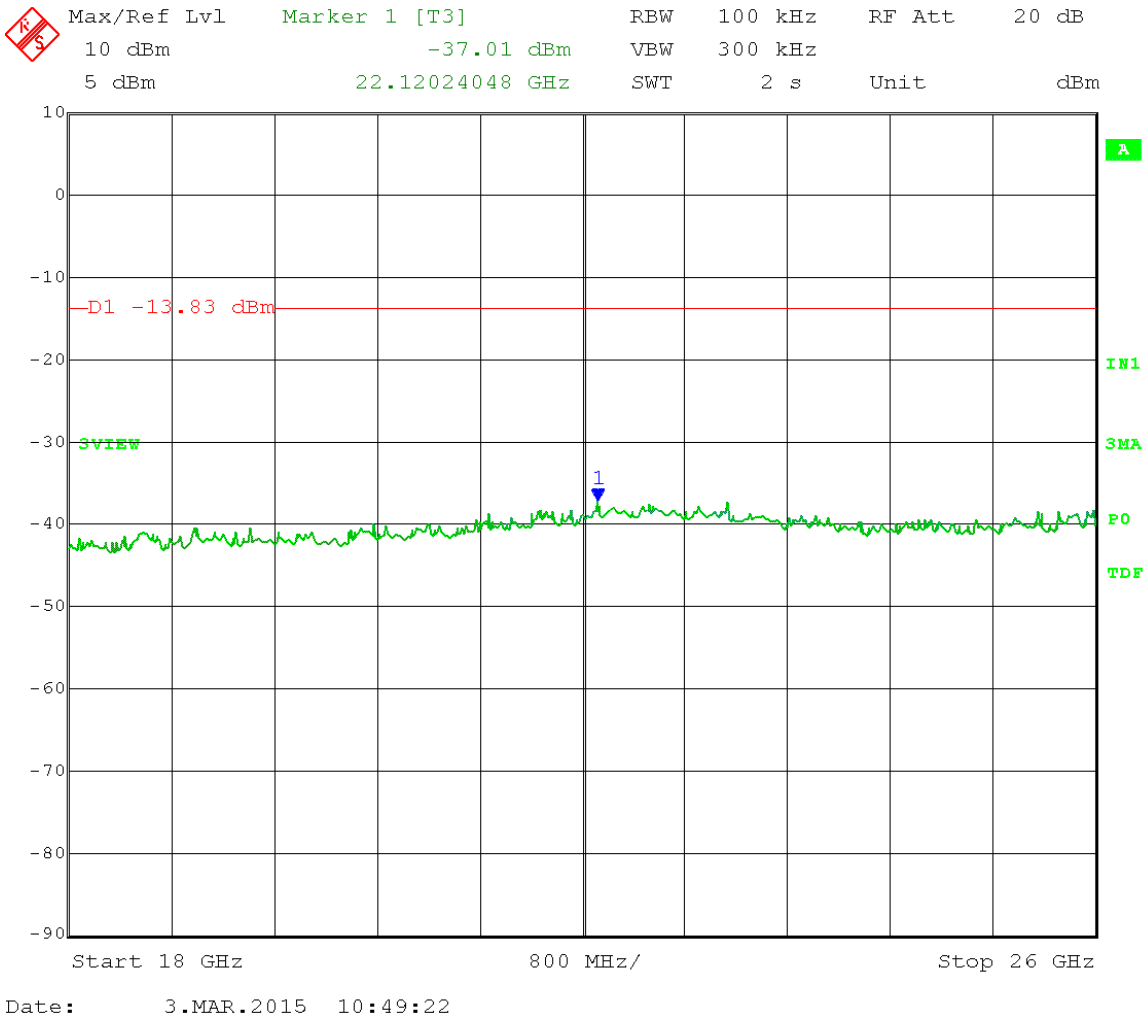
Test Date: 03-03-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: High, 2462 MHz
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 18

Emission Level measurement

Limit = 6.17 dBm – 20 dB = -13.83 dBm

Frequency Range: 18 – 26 GHz

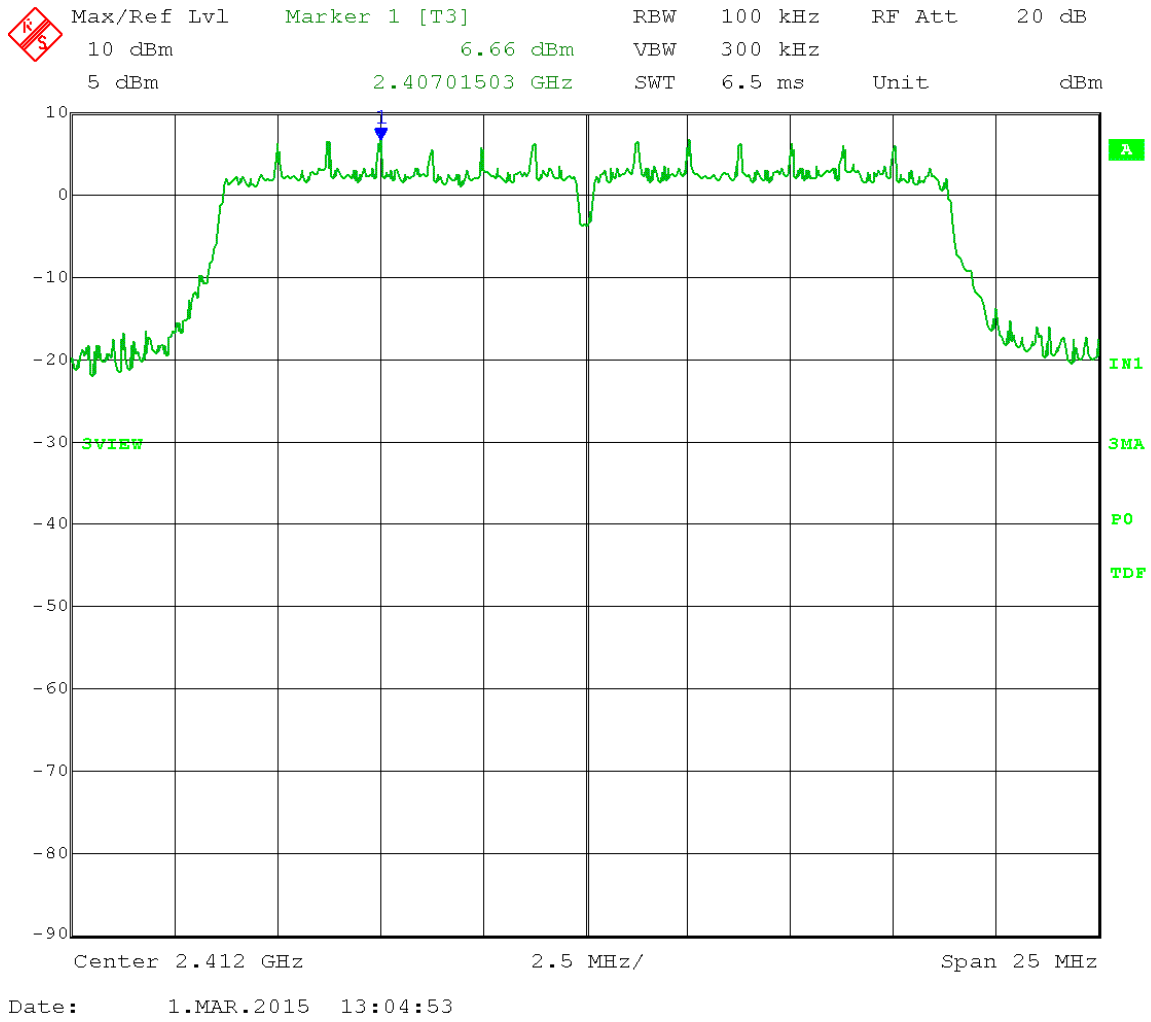


Test Date: 03-01-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: Low, 2412 MHz
Modulation: 802.11-n, MCS0, 7.2 Mbps
Power setting: 18

Reference Level measurement

Limit = 6.66 dBm – 20 dB = -13.34 dBm



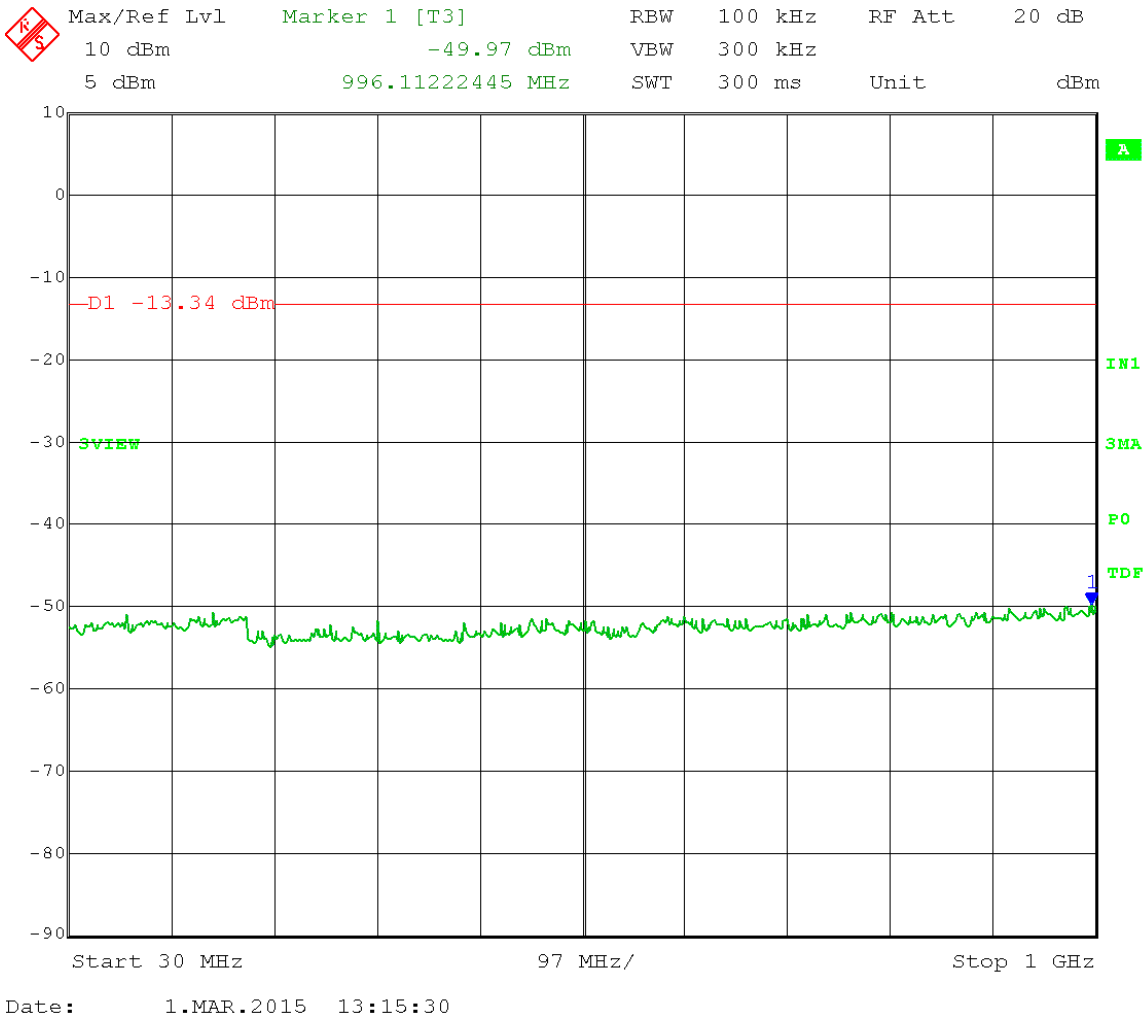
Test Date: 03-01-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: Low, 2412 MHz
Modulation: 802.11-n, MCS0, 7.2 Mbps
Power setting: 18

Emission Level measurement

Limit = 6.66 dBm – 20 dB = -13.34 dBm

Frequency Range: 30 – 1000 MHz



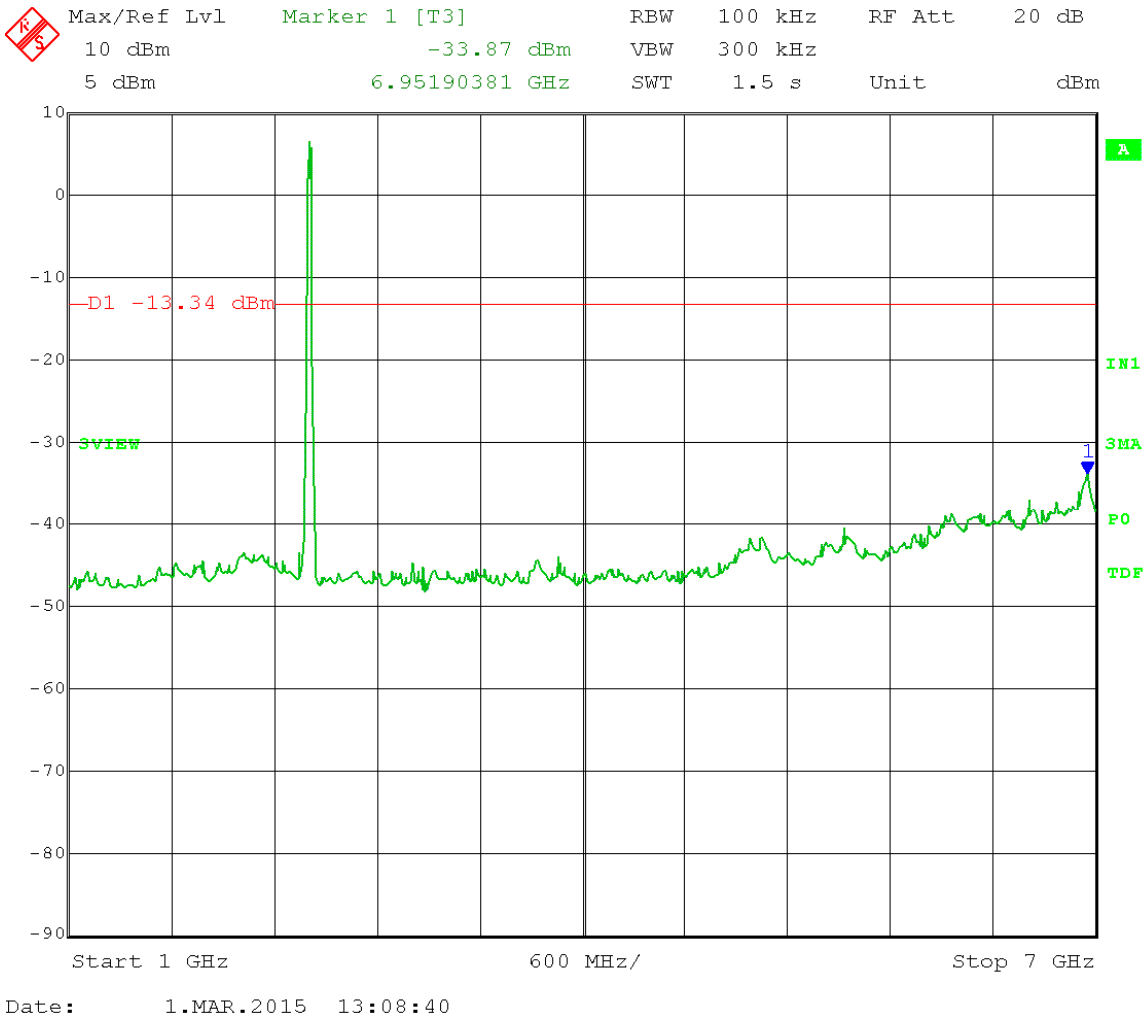
Test Date: 03-01-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: Low, 2412 MHz
Modulation: 802.11-n, MCS0, 7.2 Mbps
Power setting: 18

Emission Level measurement

Limit = 6.66 dBm – 20 dB = -13.34 dBm

Frequency Range: 1 – 7 GHz



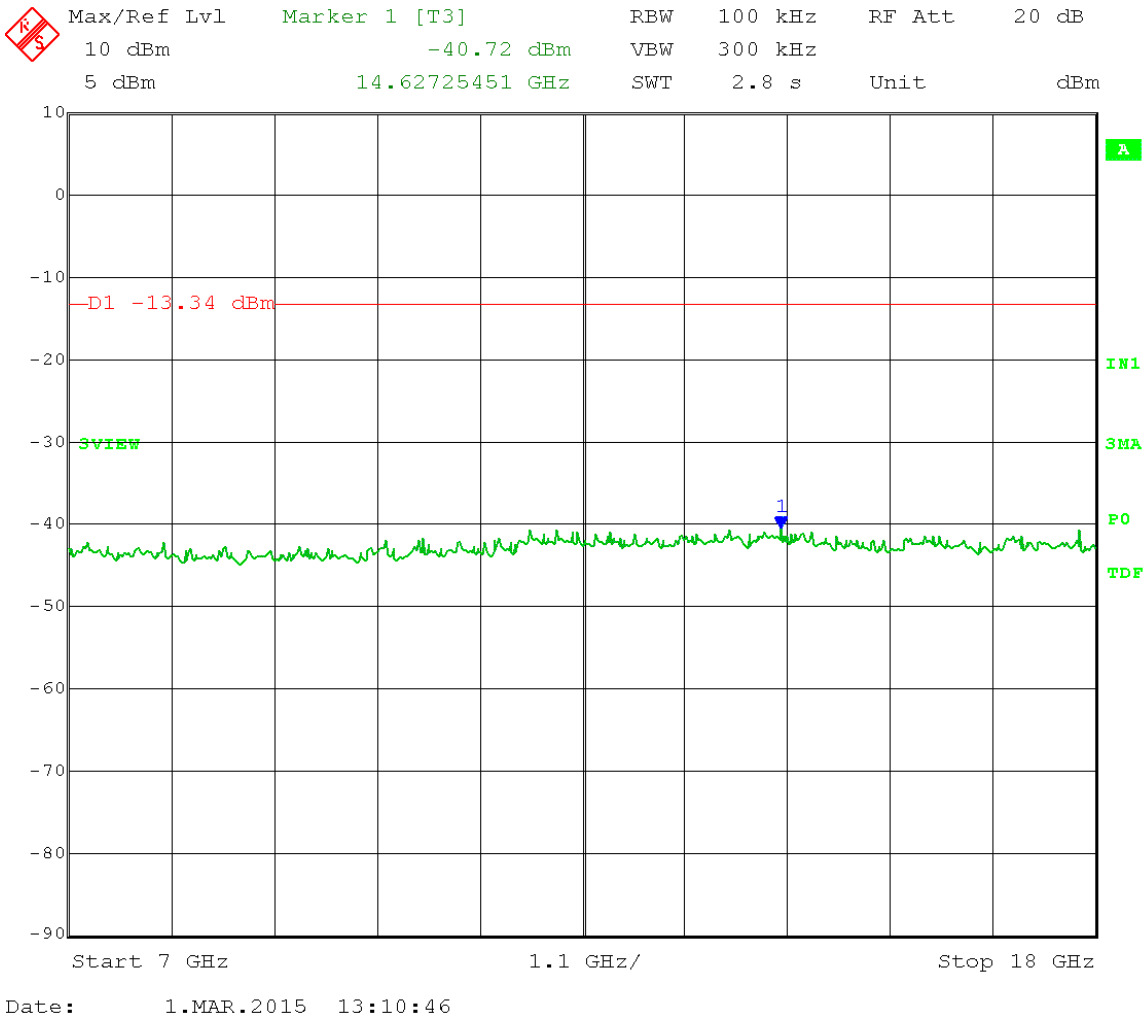
Test Date: 03-01-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: Low, 2412 MHz
Modulation: 802.11-n, MCS0, 7.2 Mbps
Power setting: 18

Emission Level measurement

Limit = 6.66 dBm – 20 dB = -13.34 dBm

Frequency Range: 7 – 18 GHz



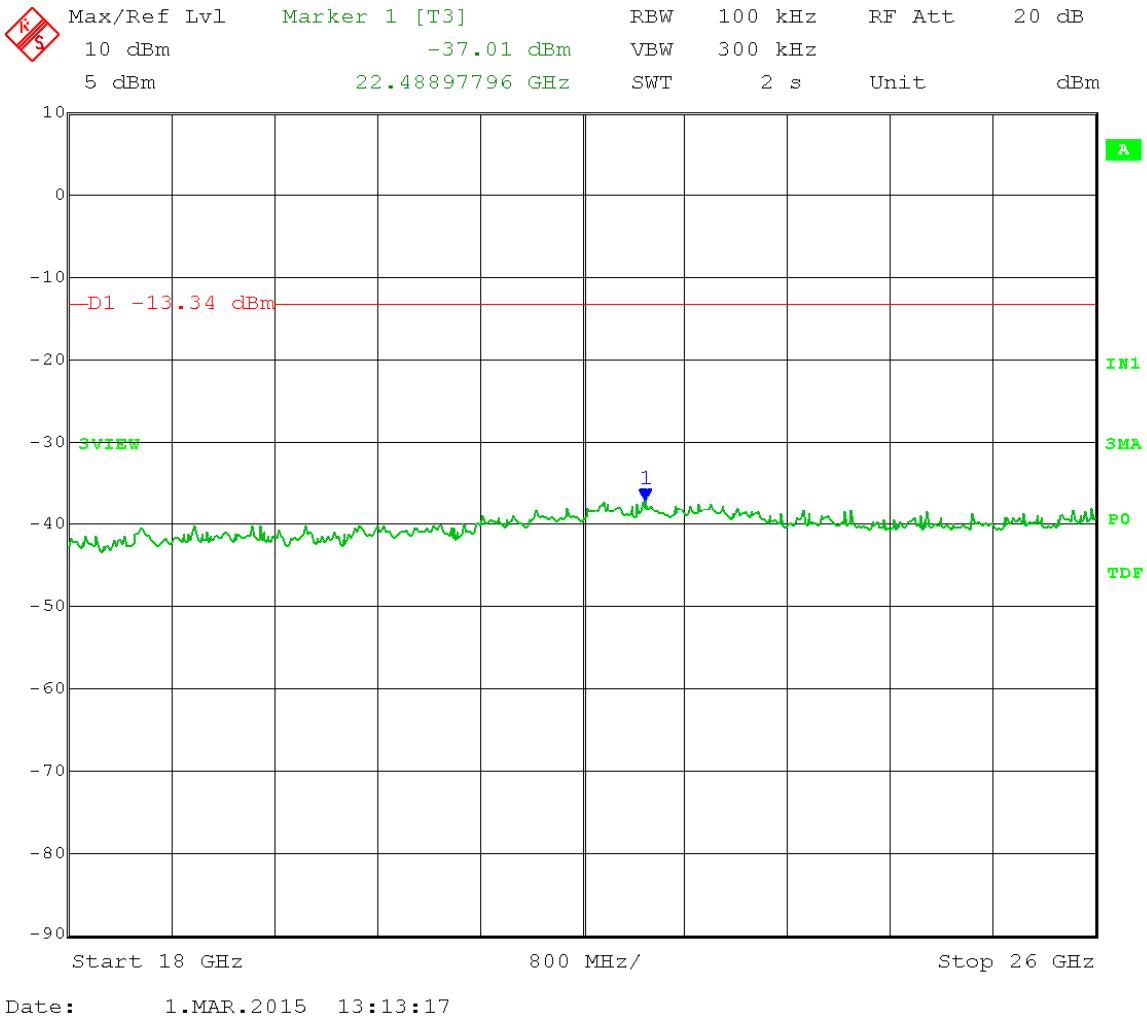
Test Date: 03-01-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: Low, 2412 MHz
Modulation: 802.11-n, MCS0, 7.2 Mbps
Power setting: 18

Emission Level measurement

Limit = 6.66 dBm – 20 dB = -13.34 dBm

Frequency Range: 18 – 26 GHz

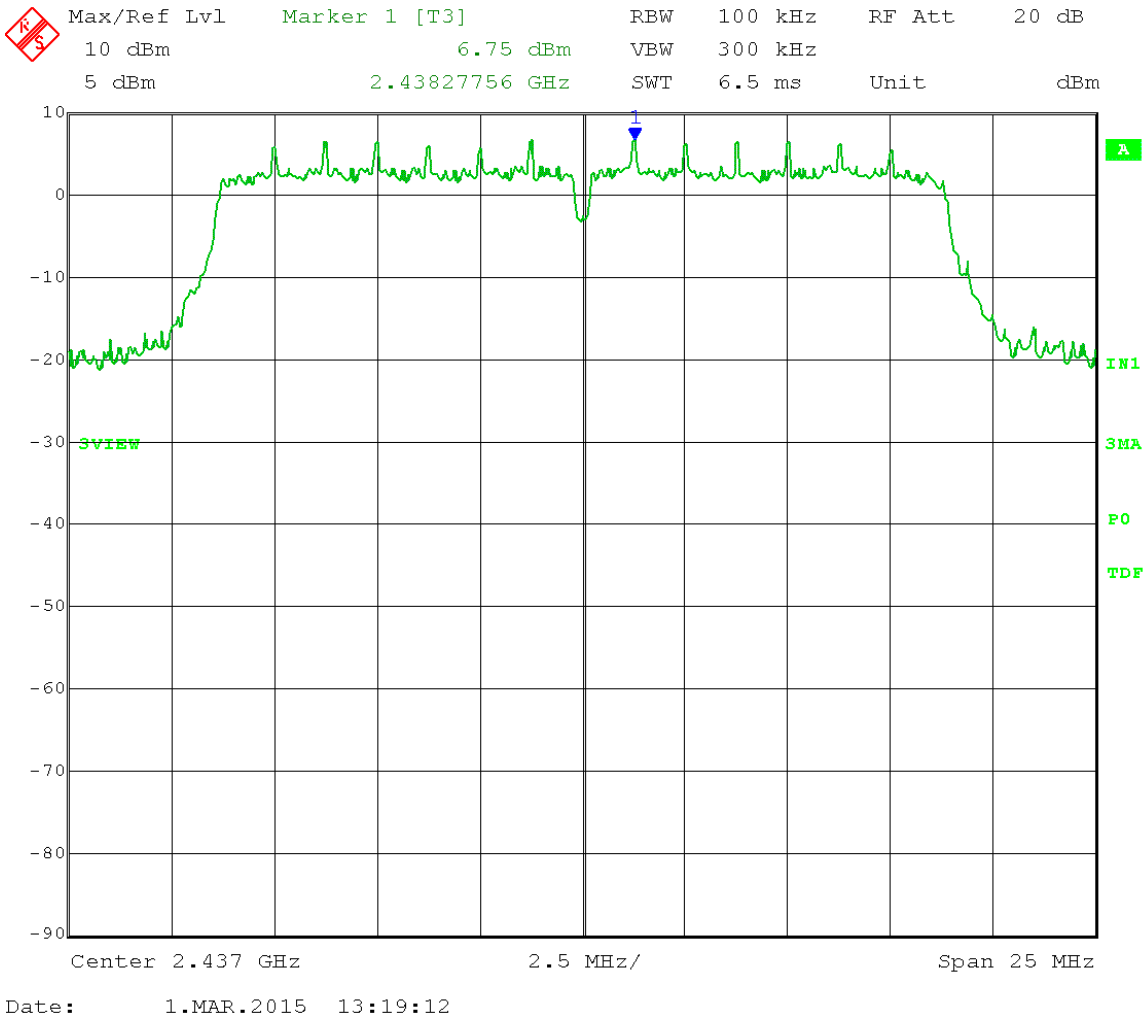


Test Date: 03-01-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: Mid, 2437 MHz
Modulation: 802.11-n, MCS0, 7.2 Mbps
Power setting: 18

Reference Level measurement

Limit = 6.75 dBm – 20 dB = -13.25 dBm



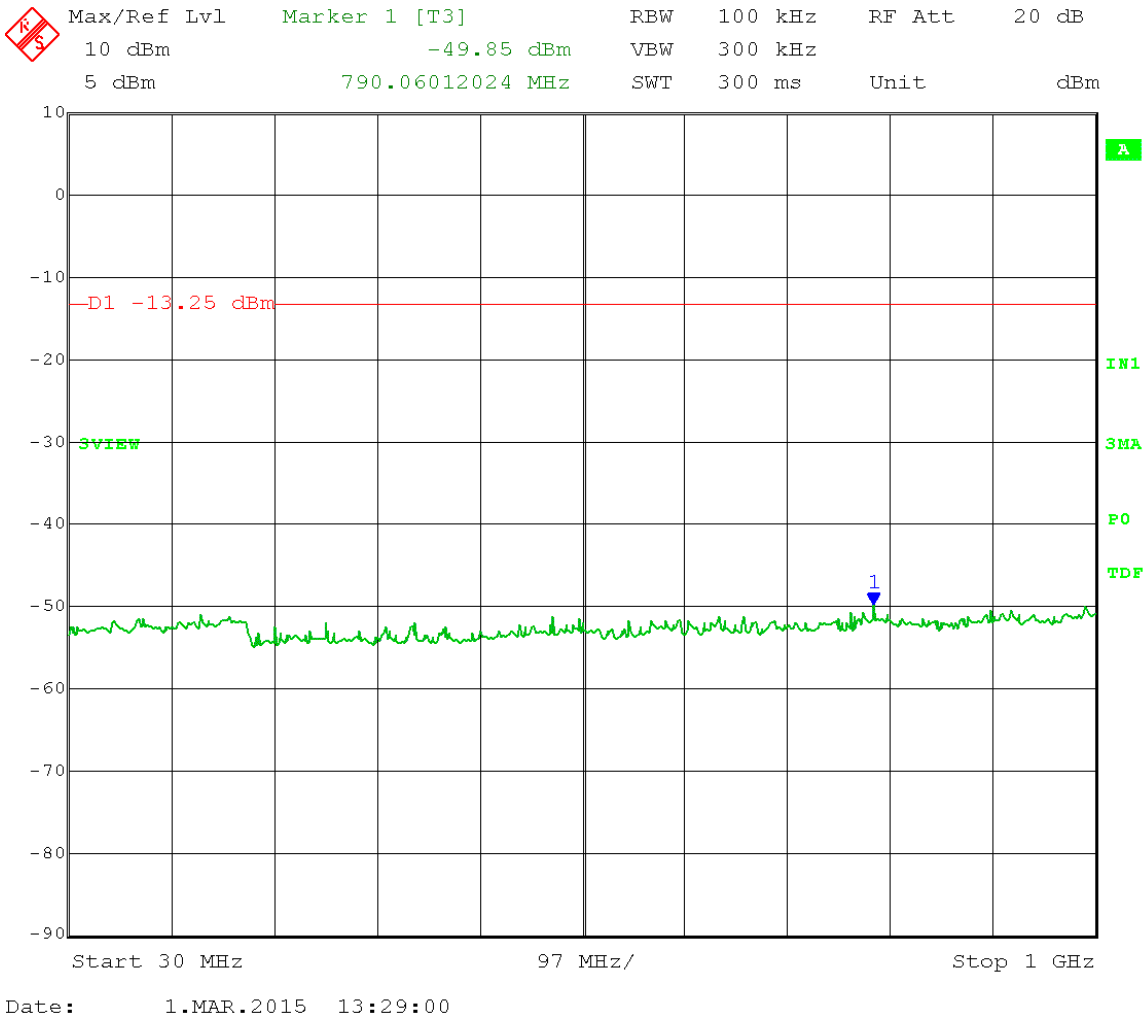
Test Date: 03-01-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: Mid, 2437 MHz
Modulation: 802.11-n, MCS0, 7.2 Mbps
Power setting: 18

Emission Level measurement

Limit = 6.75 dBm – 20 dB = -13.25 dBm

Frequency Range: 30 – 1000 MHz



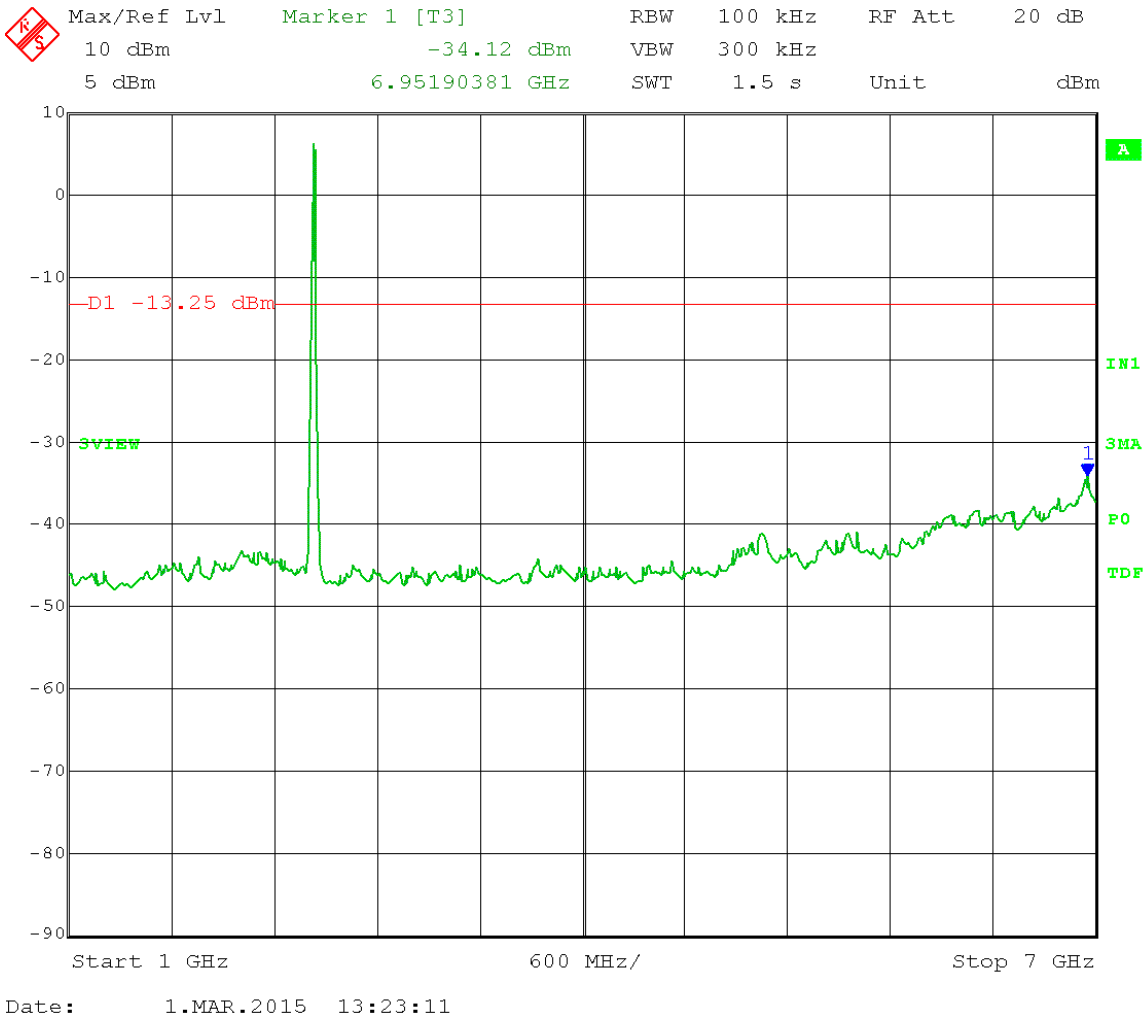
Test Date: 03-01-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: Mid, 2437 MHz
Modulation: 802.11-n, MCS0, 7.2 Mbps
Power setting: 18

Emission Level measurement

Limit = 6.75 dBm – 20 dB = -13.25 dBm

Frequency Range: 1 – 7 GHz



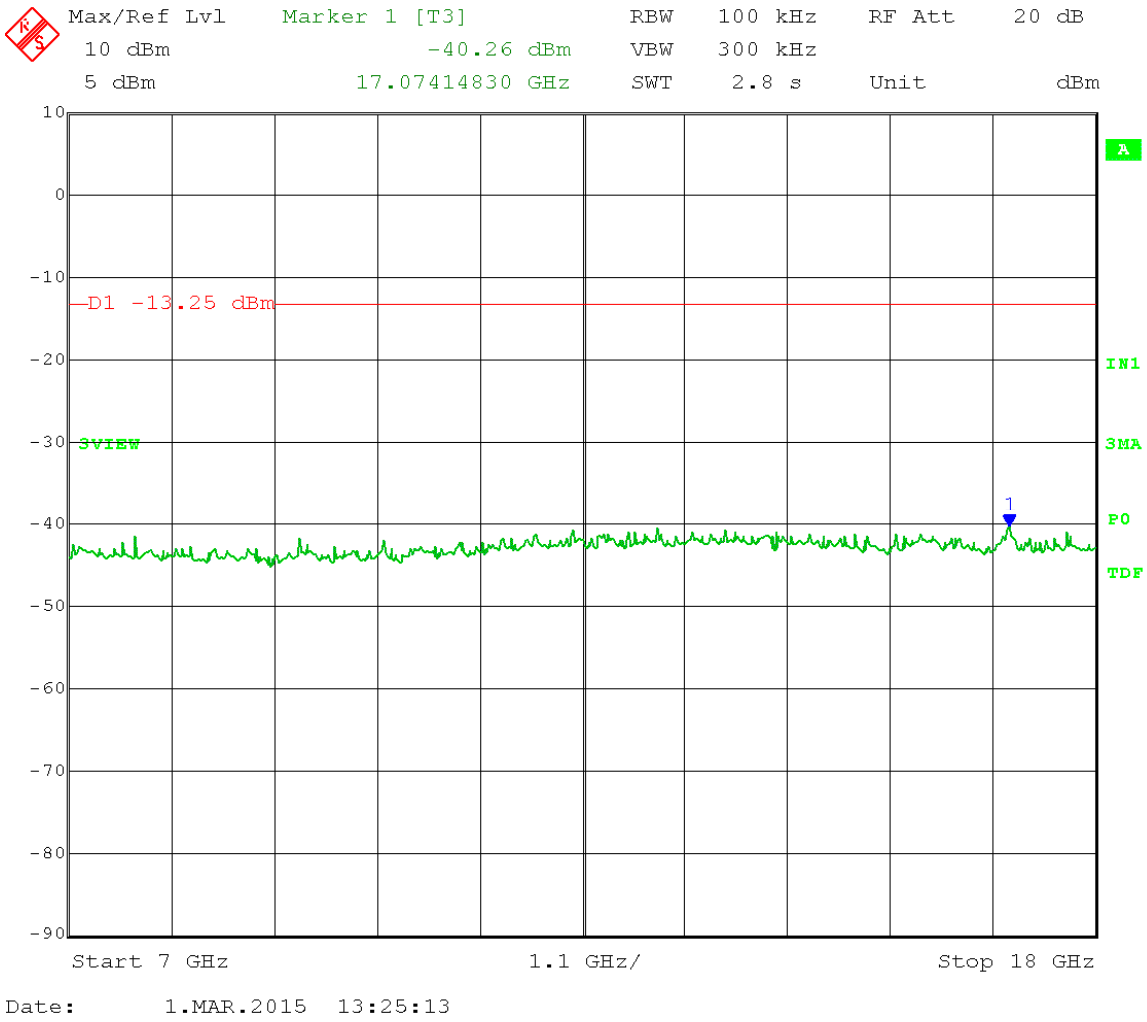
Test Date: 03-01-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: Mid, 2437 MHz
Modulation: 802.11-n, MCS0, 7.2 Mbps
Power setting: 18

Emission Level measurement

Limit = 6.75 dBm – 20 dB = -13.25 dBm

Frequency Range: 7 – 18 GHz



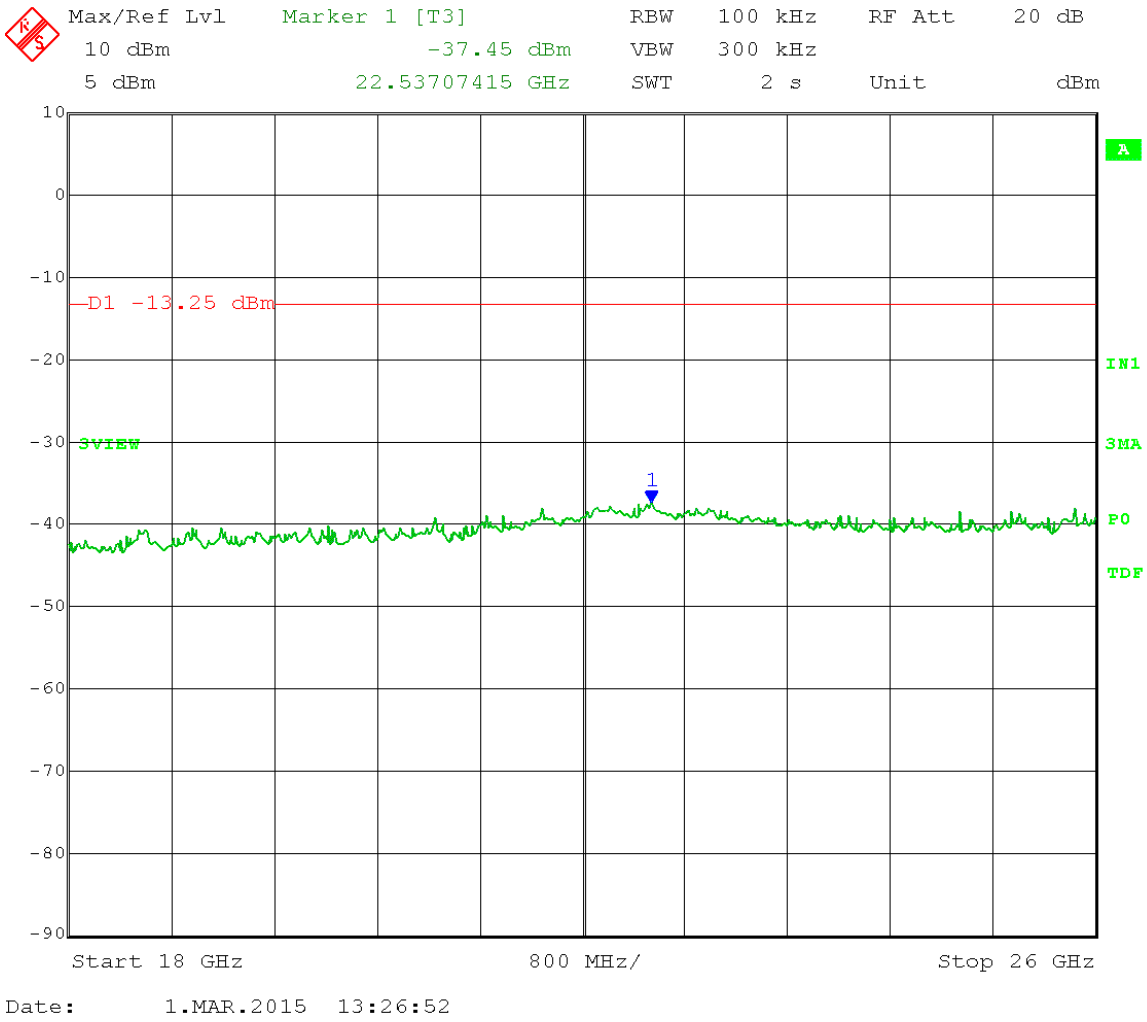
Test Date: 03-01-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: Mid, 2437 MHz
Modulation: 802.11-n, MCS0, 7.2 Mbps
Power setting: 18

Emission Level measurement

Limit = 6.75 dBm – 20 dB = -13.25 dBm

Frequency Range: 18 – 26 GHz

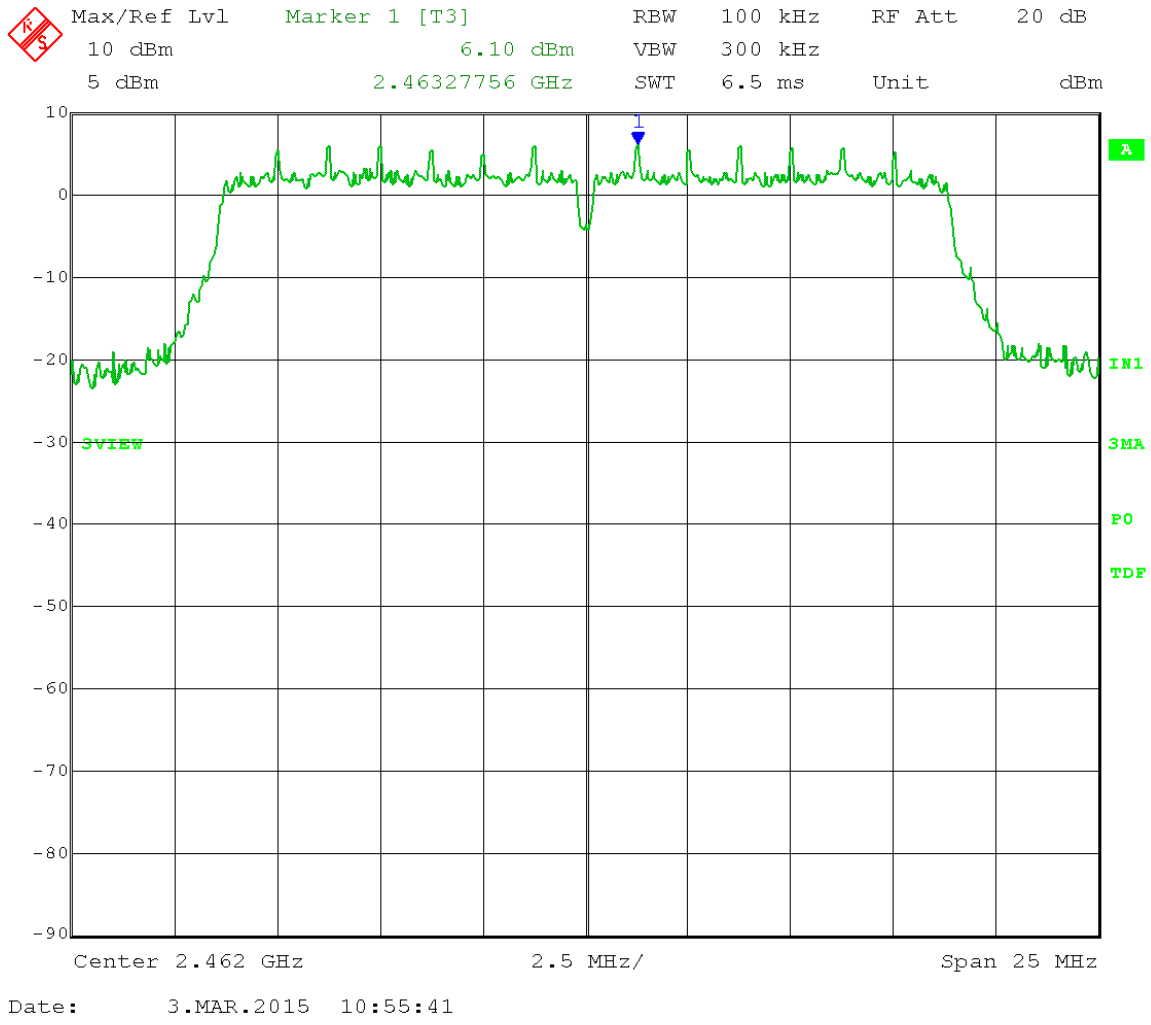


Test Date: 03-03-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: High, 2462 MHz
Modulation: 802.11-n, MCS0, 7.2 Mbps
Power setting: 18

Reference Level measurement

Limit = 6.10 dBm – 20 dB = -13.90 dBm



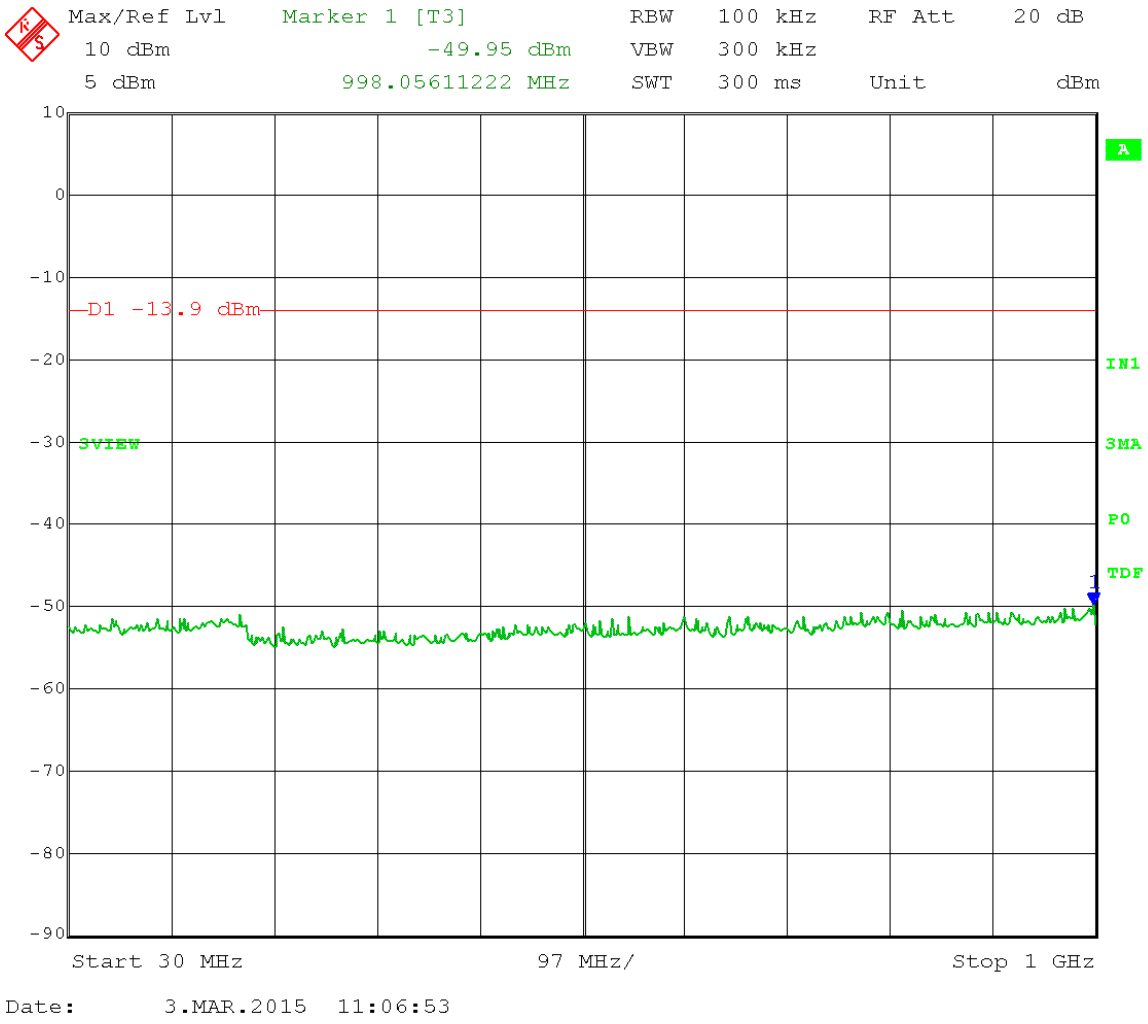
Test Date: 03-03-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: High, 2462 MHz
Modulation: 802.11-n, MCS0, 7.2 Mbps
Power setting: 18

Emission Level measurement

Limit = 6.10 dBm – 20 dB = -13.90 dBm

Frequency Range: 30 – 1000 MHz



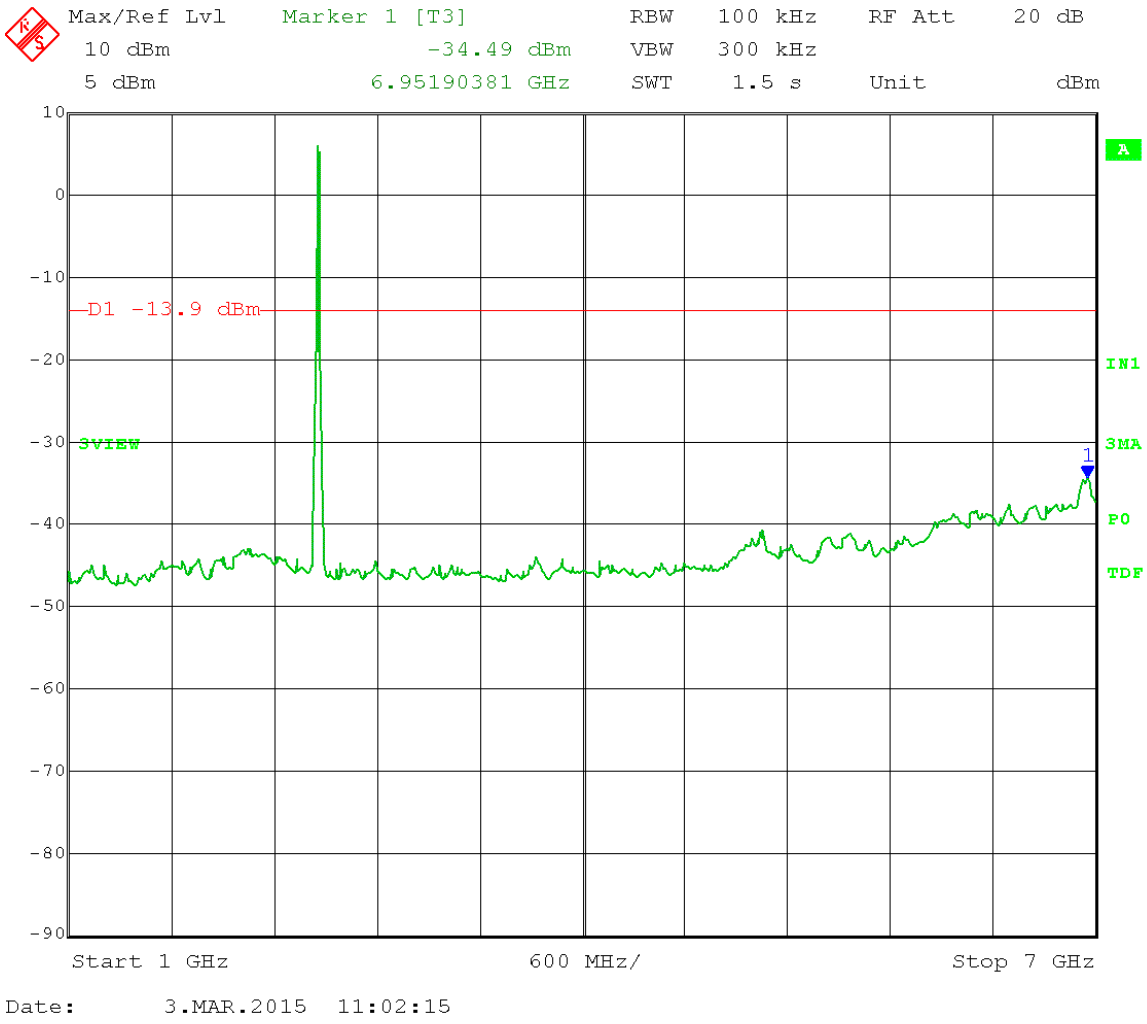
Test Date: 03-03-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: High, 2462 MHz
Modulation: 802.11-n, MCS0, 7.2 Mbps
Power setting: 18

Emission Level measurement

Limit = 6.10 dBm – 20 dB = -13.90 dBm

Frequency Range: 1 – 7 GHz



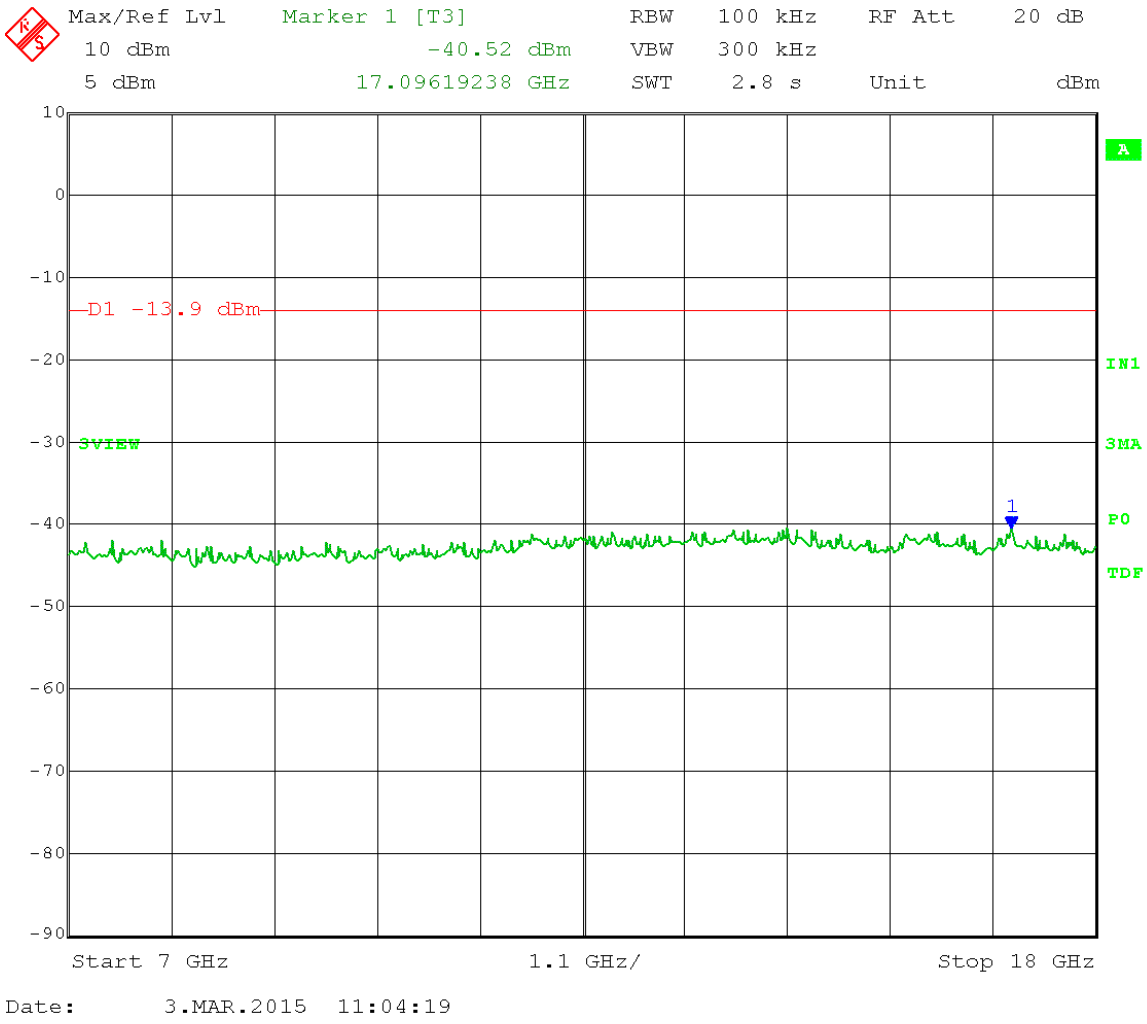
Test Date: 03-03-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: High, 2462 MHz
Modulation: 802.11-n, MCS0, 7.2 Mbps
Power setting: 18

Emission Level measurement

Limit = 6.10 dBm – 20 dB = -13.90 dBm

Frequency Range: 7 – 18 GHz



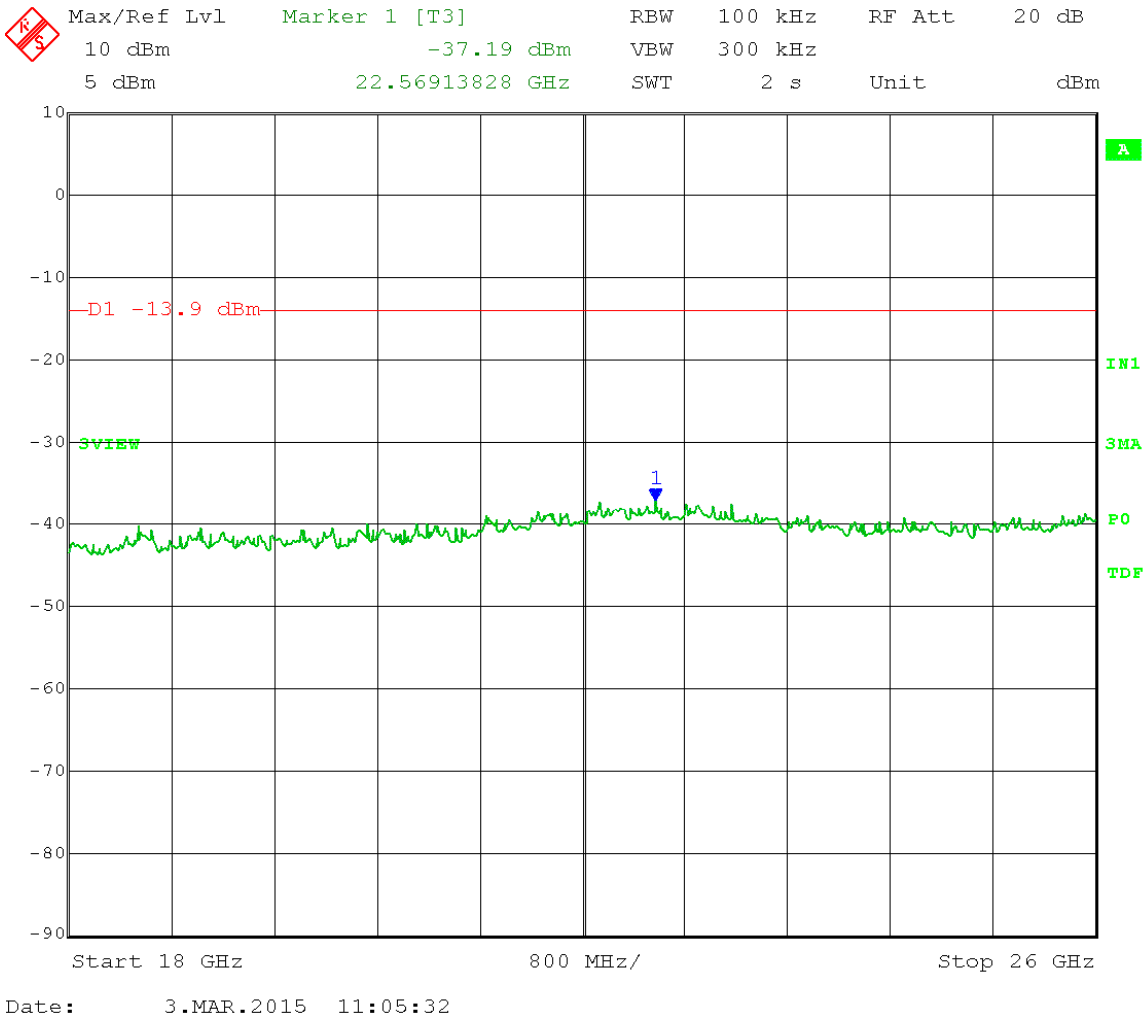
Test Date: 03-03-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted spurious emissions
Operator: Craig B

Antenna: 1
Channel: High, 2462 MHz
Modulation: 802.11-n, MCS0, 7.2 Mbps
Power setting: 18

Emission Level measurement

Limit = 6.10 dBm – 20 dB = -13.90 dBm

Frequency Range: 18 – 26 GHz



Appendix B

B5.0 Emissions in Restricted Frequency Bands – Radiated with on-board slot antennas

Rule Part:

15.247(d), 15.205(5), 15.209(a)

Test Procedure:

558074 D01 DTS Meas Guidance v03r02
12.0 Emissions in Restricted Frequency Bands
12.1 Radiated Emissions Measurements
12.2.4 Peak power measurement procedure
12.2.5.3 Reduced VBW averaging across on and off times of the EUT transmissions with max hold – to be used when duty cycle ≥ 98 percent cannot be achieved and the duty cycle is not constant
Measurement Procedure – ANSI C63.10-2009

Limits:

15.209(a)

Results:

Compliant

Notes:

Measurements were performed while the EUT was transmitting from antenna number 1. Testing was then repeated with the EUT transmitting from antenna number 2. Testing was performed with 802.11-b 1 Mbps modulation (found to be worst-case) and output power setting 19. The EUT was tested at the low, middle, and high channels of operation.

Radiated Emissions in Restricted Bands – 30 MHz to 1 GHz
Tested at a 3 Meter Distance

EUT: XPWG3 RF Module
Manufacturer: Whirlpool Corporation
Operating Condition: 71 deg F; 27% R.H.
Test Site: Site G1
Operator: Craig B
Test Specification: FCC Part 15.247 and Part 15.205
Comment: **Low, Mid, and High channels, 802.11-b, DSSS, 1 Mbps; Antennas #1 & #2**
Date: 03-17-2015
Notes: All other emissions at least 20 dB under the limit.

Frequency (MHz)	Measurement Type	Antenna Polarization	Level (dBuV)	Antenna Factor (dB/m)	System Loss (dB)	Total Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	EUT Angle (deg)	Comment
264.02	Max Peak	Horz	39.49	12.96	-22.4	30.05	46	15.95	1.00	225	
275.88	Max Peak	Horz	40.32	13.42	-22.3	31.44	46	14.56	1.00	225	

Radiated Emissions in Restricted Bands – 1 GHz to 26 GHz

1 GHz to 18 GHz Tested at a 3 Meter Distance
18 GHz to 26 GHz Tested at a 1 Meter Distance

EUT: XPWG3 RF Module
Manufacturer: Whirlpool Corporation
Operating Condition: 71 deg F; 27% R.H.
Test Site: Site G1
Operator: Craig B
Test Specification: FCC Part 15.247 and Part 15.205
Comment: **Low channel: 2.412 GHz, 802.11-b, DSSS, 1 Mbps; Antenna #1**
Date: 03-15-2015
Notes: All other emissions at least 20 dB under the limit.

Frequency (GHz)	Measurement Type	Antenna Polarization	Level (dBuV)	Antenna Factor (dB/m)	System Loss (dB)	Total Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	EUT Angle (deg)	Comment
4.824	Max Peak	Vert	54.41	33.01	-36.7	50.72	74	23.28	1.28	216	Harmonic
4.824	Average	Vert	50.42	33.01	-36.7	46.73	54	7.27	1.28	216	Harmonic
4.824	Max Peak	Horz	53.10	33.01	-36.7	49.41	74	24.59	1.43	224	Harmonic
4.824	Average	Horz	49.07	33.01	-36.7	45.38	54	8.62	1.43	224	Harmonic

Radiated Emissions in Restricted Bands – 1 GHz to 26 GHz

1 GHz to 18 GHz Tested at a 3 Meter Distance
18 GHz to 26 GHz Tested at a 1 Meter Distance

EUT: XPWG3 RF Module
Manufacturer: Whirlpool Corporation
Operating Condition: 71 deg F; 27% R.H.
Test Site: Site G1
Operator: Craig B
Test Specification: FCC Part 15.247 and Part 15.205
Comment: **Mid channel: 2.437 GHz, 802.11-b, DSSS, 1 Mbps; Antenna #1**
Date: 03-15-2015
Notes: All other emissions at least 20 dB under the limit.

Frequency (GHz)	Measurement Type	Antenna Polarization	Level (dBuV)	Antenna Factor (dB/m)	System Loss (dB)	Total Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	EUT Angle (deg)	Comment
4.874	Max Peak	Vert	53.55	33.05	-36.8	49.80	74	24.20	1.00	210	Harmonic
4.874	Average	Vert	48.89	33.05	-36.8	45.14	54	8.86	1.00	210	Harmonic
4.874	Max Peak	Horz	52.68	33.05	-36.8	48.93	74	25.07	1.43	224	Harmonic
4.874	Average	Horz	47.27	33.05	-36.8	43.52	54	10.48	1.43	224	Harmonic
7.311	Max Peak	Vert	49.10	36.46	-34.2	51.36	74	22.64	1.00	71	Harmonic
7.311	Average	Vert	38.90	36.46	-34.2	41.16	54	12.84	1.00	71	Harmonic
7.311	Max Peak	Horz	49.02	36.46	-34.2	51.28	74	22.72	1.00	206	Harmonic
7.311	Average	Horz	39.34	36.46	-34.2	41.60	54	12.40	1.00	206	Harmonic

166 South Carter, Genoa City, WI 53128

Company: Whirlpool Corporation
Model Tested: XPWG3
Report Number: 20850
DLS Project: 7037

Radiated Emissions in Restricted Bands – 1 GHz to 26 GHz

1 GHz to 18 GHz Tested at a 3 Meter Distance

18 GHz to 26 GHz Tested at a 1 Meter Distance

EUT: XPWG3 RF Module
Manufacturer: Whirlpool Corporation
Operating Condition: 71 deg F; 27% R.H.
Test Site: Site G1
Operator: Craig B
Test Specification: FCC Part 15.247 and Part 15.205
Comment: **High channel: 2.462 GHz, 802.11-b, DSSS, 1 Mbps; Antenna #1**
Date: 03-15-2015
Notes: All other emissions at least 20 dB under the limit.

Frequency (GHz)	Measurement Type	Antenna Polarization	Level (dBuV)	Antenna Factor (dB/m)	System Loss (dB)	Total Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	EUT Angle (deg)	Comment
4.924	Max Peak	Vert	52.11	33.11	-36.8	48.42	74	25.58	1.00	209	Harmonic
4.924	Average	Vert	46.27	33.11	-36.8	42.58	54	11.42	1.00	209	Harmonic
4.924	Max Peak	Horz	51.38	33.11	-36.8	47.69	74	26.31	1.53	303	Harmonic
4.924	Average	Horz	45.08	33.11	-36.8	41.39	54	12.61	1.53	303	Harmonic
7.386	Max Peak	Vert	48.08	36.70	-34.2	50.58	74	23.42	1.00	70	Harmonic
7.386	Average	Vert	36.99	36.70	-34.2	39.49	54	14.51	1.00	70	Harmonic
7.386	Max Peak	Horz	48.29	36.70	-34.2	50.79	74	23.21	1.46	211	Harmonic
7.386	Average	Horz	37.66	36.70	-34.2	40.16	54	13.84	1.46	211	Harmonic

Radiated Emissions in Restricted Bands – 1 GHz to 26 GHz

1 GHz to 18 GHz Tested at a 3 Meter Distance
18 GHz to 26 GHz Tested at a 1 Meter Distance

EUT: XPWG3 RF Module
Manufacturer: Whirlpool Corporation
Operating Condition: 71 deg F; 27% R.H.
Test Site: Site G1
Operator: Craig B
Test Specification: FCC Part 15.247 and Part 15.205
Comment: **Low channel: 2.412 GHz, 802.11-b, DSSS, 1 Mbps; Antenna #2**
Date: 03-16-2015
Notes: All other emissions at least 20 dB under the limit.

Frequency (GHz)	Measurement Type	Antenna Polarization	Level (dBuV)	Antenna Factor (dB/m)	System Loss (dB)	Total Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	EUT Angle (deg)	Comment
4.824	Max Peak	Vert	56.37	33.01	-36.7	52.68	74	21.32	1.24	146	Harmonic
4.824	Average	Vert	53.13	33.01	-36.7	49.44	54	4.56	1.24	146	Harmonic
4.824	Max Peak	Horz	57.07	33.01	-36.7	53.38	74	20.62	1.23	29	Harmonic
4.824	Average	Horz	53.93	33.01	-36.7	50.24	54	3.76	1.23	29	Harmonic

Radiated Emissions in Restricted Bands – 1 GHz to 26 GHz

1 GHz to 18 GHz Tested at a 3 Meter Distance
18 GHz to 26 GHz Tested at a 1 Meter Distance

EUT: XPWG3 RF Module
Manufacturer: Whirlpool Corporation
Operating Condition: 71 deg F; 27% R.H.
Test Site: Site G1
Operator: Craig B
Test Specification: FCC Part 15.247 and Part 15.205
Comment: **Mid channel: 2.437 GHz, 802.11-b, DSSS, 1 Mbps; Antenna #2**
Date: 03-16-2015
Notes: All other emissions at least 20 dB under the limit.

Frequency (GHz)	Measurement Type	Antenna Polarization	Level (dBuV)	Antenna Factor (dB/m)	System Loss (dB)	Total Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	EUT Angle (deg)	Comment
4.874	Max Peak	Vert	55.96	33.05	-36.8	52.21	74	21.79	1.26	151	Harmonic
4.874	Average	Vert	52.34	33.05	-36.8	48.59	54	5.41	1.26	151	Harmonic
4.874	Max Peak	Horz	55.45	33.05	-36.8	51.70	74	22.30	1.18	25	Harmonic
4.874	Average	Horz	51.15	33.05	-36.8	47.40	54	6.60	1.18	25	Harmonic
7.311	Max Peak	Vert	50.60	36.46	-34.2	52.86	74	21.14	1.00	194	Harmonic
7.311	Average	Vert	41.76	36.46	-34.2	44.02	54	9.98	1.00	194	Harmonic
7.311	Max Peak	Horz	48.69	36.46	-34.2	50.95	74	23.05	1.00	234	Harmonic
7.311	Average	Horz	38.64	36.46	-34.2	40.90	54	13.10	1.00	234	Harmonic

166 South Carter, Genoa City, WI 53128

Company: Whirlpool Corporation
Model Tested: XPWG3
Report Number: 20850
DLS Project: 7037

Radiated Emissions in Restricted Bands – 1 GHz to 26 GHz

1 GHz to 18 GHz Tested at a 3 Meter Distance
18 GHz to 26 GHz Tested at a 1 Meter Distance

EUT: XPWG3 RF Module
Manufacturer: Whirlpool Corporation
Operating Condition: 71 deg F; 27% R.H.
Test Site: Site G1
Operator: Craig B
Test Specification: FCC Part 15.247 and Part 15.205
Comment: **High channel: 2.462 GHz, 802.11-b, DSSS, 1 Mbps; Antenna #2**
Date: 03-16-2015
Notes: All other emissions at least 20 dB under the limit.

Frequency (GHz)	Measurement Type	Antenna Polarization	Level (dBuV)	Antenna Factor (dB/m)	System Loss (dB)	Total Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	EUT Angle (deg)	Comment
4.924	Max Peak	Vert	54.57	33.11	-36.8	50.88	74	23.12	1.04	65	Harmonic
4.924	Average	Vert	50.14	33.11	-36.8	46.45	54	7.55	1.04	65	Harmonic
4.924	Max Peak	Horz	53.05	33.11	-36.8	49.36	74	24.64	1.14	26	Harmonic
4.924	Average	Horz	47.26	33.11	-36.8	43.57	54	10.43	1.14	26	Harmonic
7.386	Max Peak	Vert	49.95	36.70	-34.2	52.45	74	21.55	1.00	60	Harmonic
7.386	Average	Vert	42.19	36.70	-34.2	44.69	54	9.31	1.00	60	Harmonic
7.386	Max Peak	Horz	48.93	36.70	-34.2	51.43	74	22.57	1.12	260	Harmonic
7.386	Average	Horz	38.02	36.70	-34.2	40.52	54	13.48	1.12	260	Harmonic

Appendix B

B6.0 Band-Edge Measurements – RF Conducted

Rule Part:

15.247(d)

Test Procedure:

558074 D01 DTS Meas Guidance v03r02
11.0 Emissions in non-restricted frequency bands
11.2 Reference Level Measurement
11.3 Unwanted Emissions Level Measurement

Limit:

The peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum measured in-band peak PSD level.

Results:

Compliant

Notes:

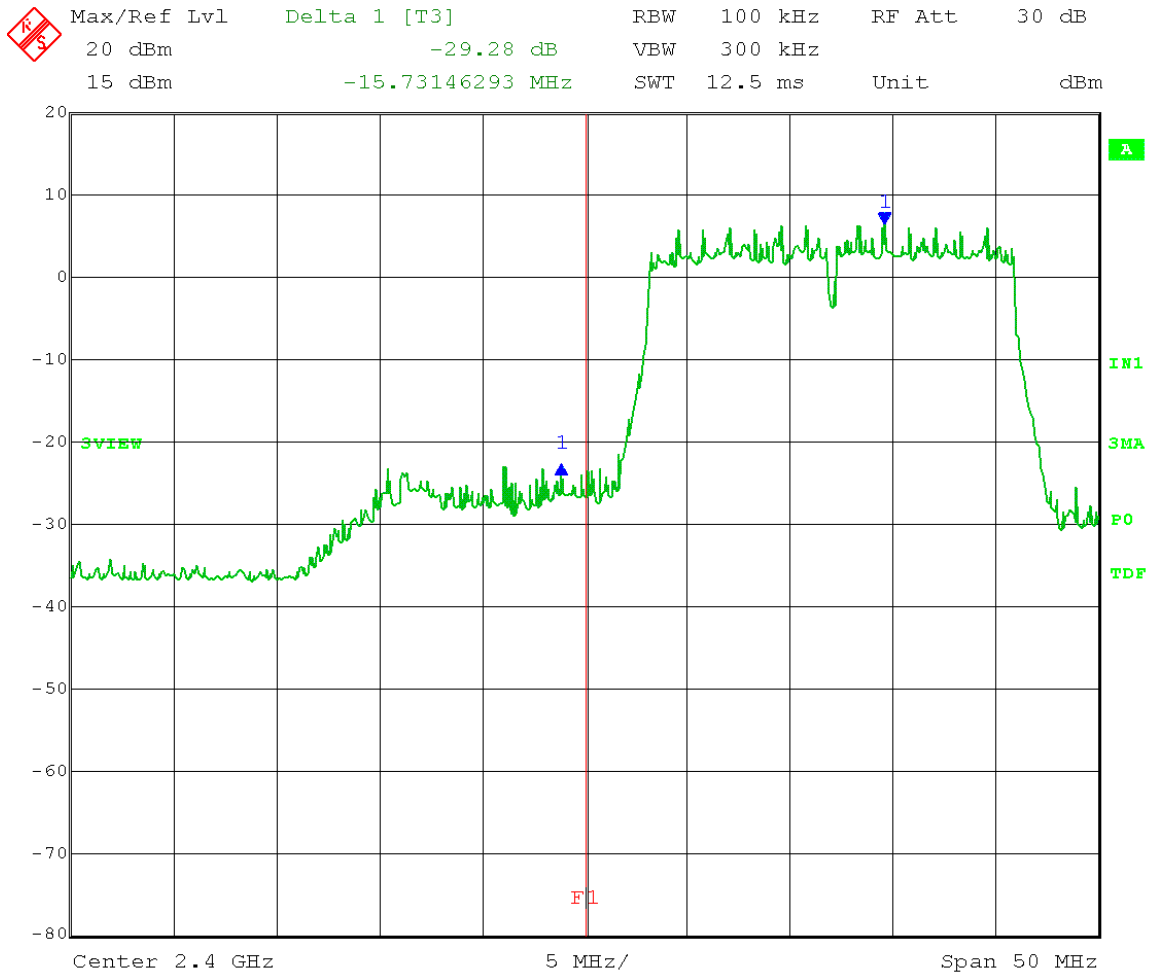
The EUT has 2 on-board antennas of which only one can operate at a time. Initial output power measurements indicate the highest power levels occurred from antenna 1. Therefore, measurements were performed with a temporary connector in place of antenna 1 to represent worst-case emissions. Testing was performed using the manufacturer's test software with output power setting 18 and with modulation and data rate set to 802.11-n, 72.2 Mbps (widest signal; worst-case). The EUT was tested at the lowest, and highest channels of operation. The spectrum analyzer measurements were corrected to account for the cable loss and external attenuator.

Test Date: 03-01-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted band-edge emission
Operator: Craig B

Antenna: 1
Channel: Low, 2412 MHz
Modulation: 802.11-n, MCS7, 72.2 Mbps
Power setting: 18

Limit: Band-Edge > 20 dB Below Peak In-Band Emission

Band-Edge Frequency = 2.4 GHz



Date: 1.MAR.2015 14:00:20

ELECTRONIC SYSTEMS, INC.
166 South Carter, Genoa City, WI 53128

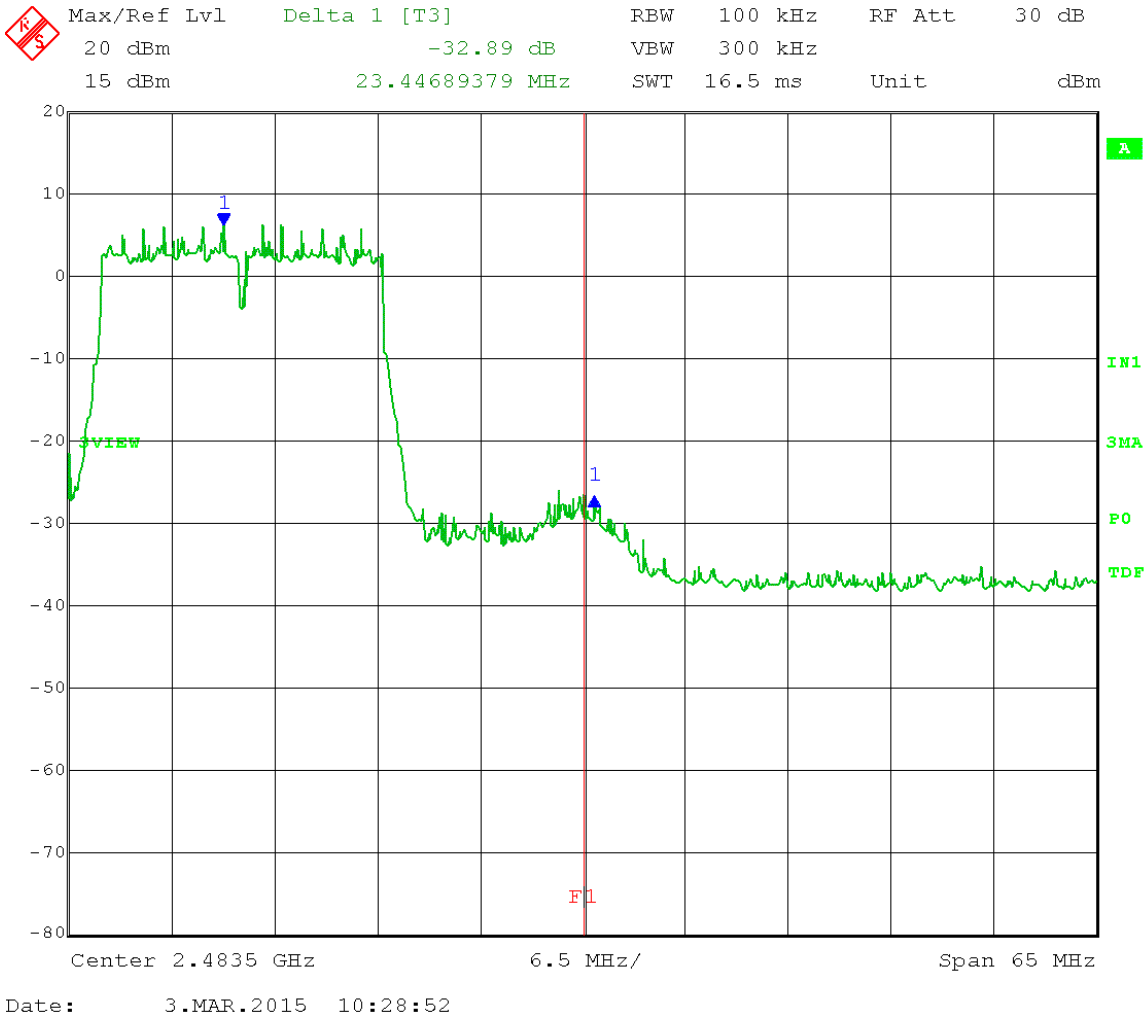
Company: Whirlpool Corporation
Model Tested: XPWG3
Report Number: 20850
DLS Project: 7037

Test Date: 03-03-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Emissions in non-restricted frequency bands
RF conducted band-edge emission
Operator: Craig B

Antenna: 1
Channel: High, 2462 MHz
Modulation: 802.11-n, MCS7, 72.2 Mbps
Power setting: 18

Limit: Band-Edge > 20 dB Below Peak In-Band Emission

Band-Edge Frequency = 2.4835 GHz



Appendix B

B7.0 Band-Edge Measurements – Radiated

Measured at nearest restricted bands

Rule Part:

15.247(d), 15.205(a), 15.209(a)

Test Procedure:

558074 D01 DTS Meas Guidance v03r02
12.0 Emissions in Restricted Frequency Bands
12.1 Radiated Emissions Measurements
12.2.4 Peak power measurement procedure
13.0 Band-edge measurements
13.3.3 Reduced VBW averaging across on and off times of the EUT transmissions with max hold – to be used when duty cycle ≥ 98 percent cannot be achieved and the duty cycle is not constant
Measurement Procedure – ANSI C63.10-2009

Limit:

15.209(a)

Results:

Compliant

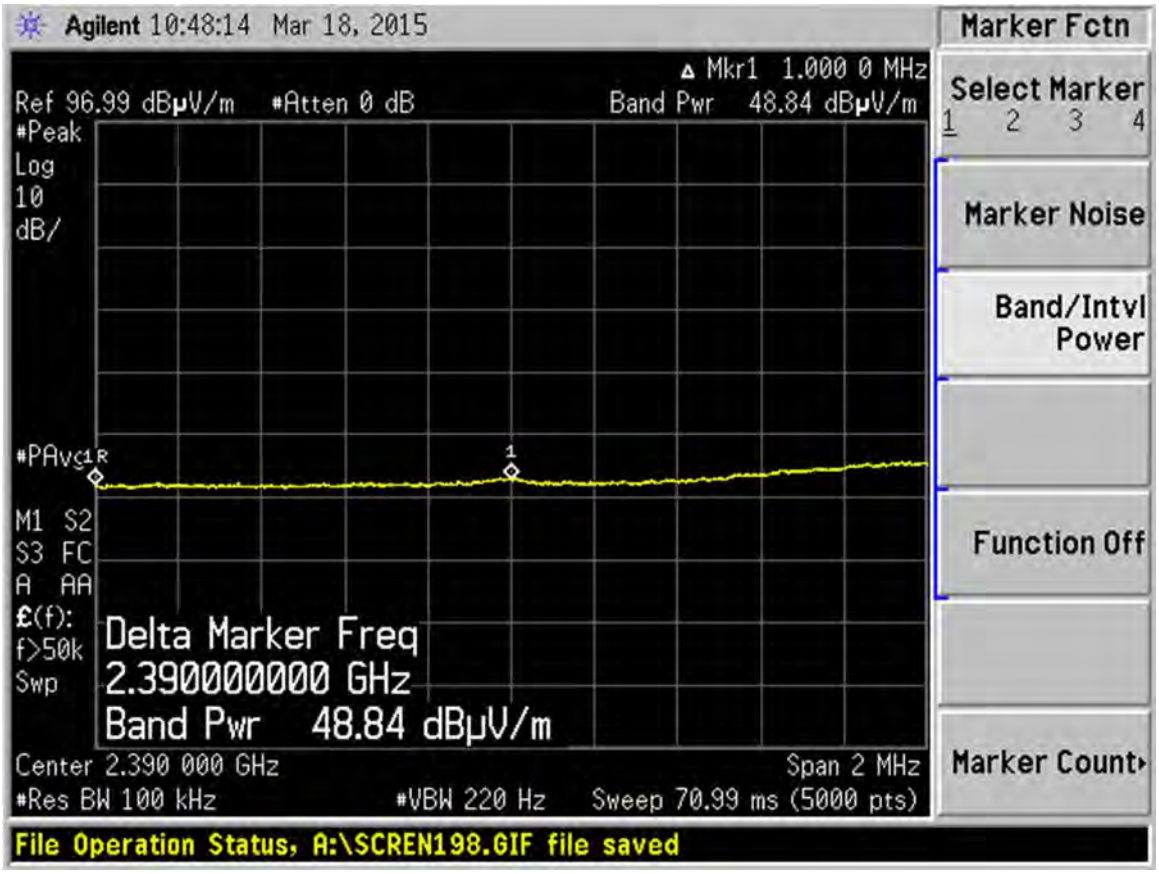
Notes:

Measurements were performed while the EUT was transmitting from antenna number 1. Testing was then repeated with the EUT transmitting from antenna number 2. Testing was performed with all modulation types using the data rate that produced the widest signal. The EUT was tested at various channels of operation. The highest output power setting that resulted in a passing condition is noted on the data. Measurements were performed at the 2.39 GHz and 2.4835 GHz restricted band edges. The duty cycle of the EUT using the manufacturer's test software is less than 98% and not constant.

Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 1
Channel: Low, 2412 MHz, channel 1
Modulation: 802.11-b, DSSS, 1 Mbps
Power setting: 19

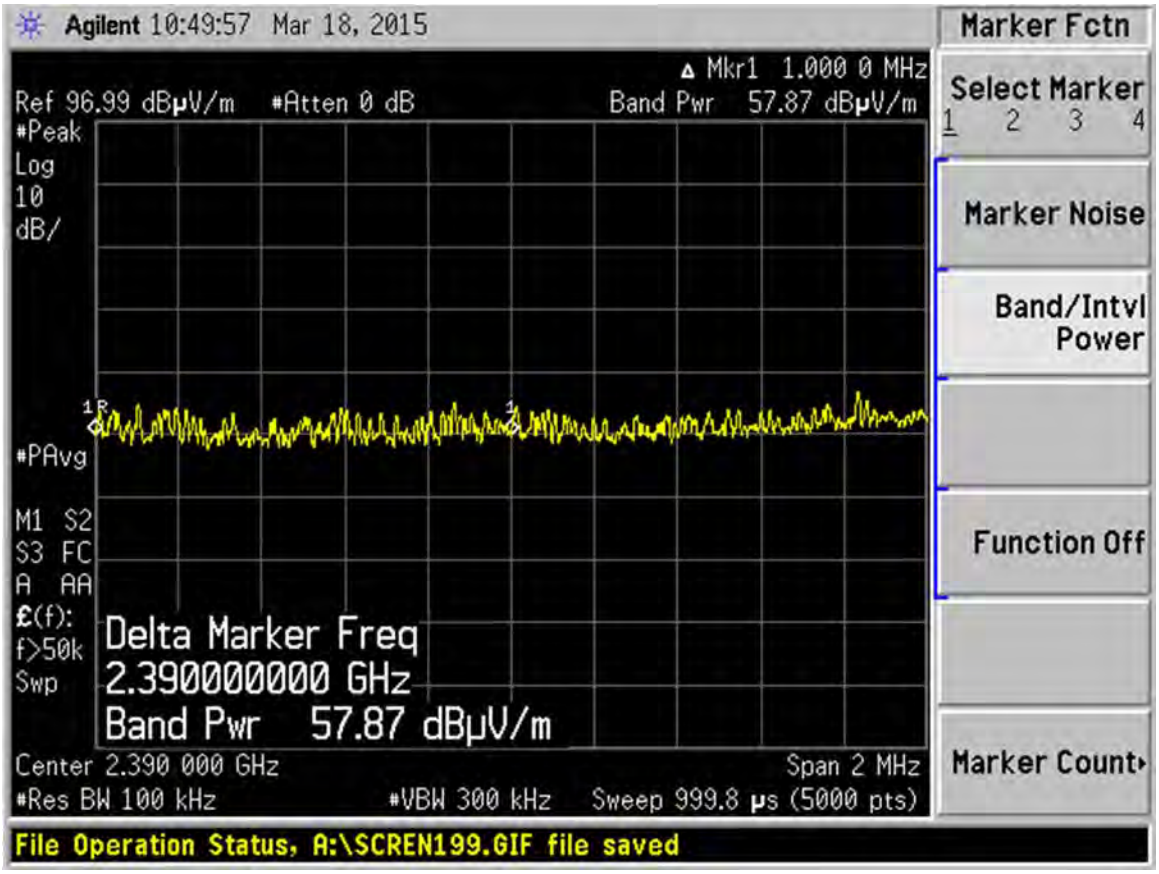
HORIZONTAL:
AVERAGE: Limit = 54 dBµV/m @ 3 meters
Using procedure 13.3.3, T = 4.62 mS, VBW = 220 Hz



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 1
Channel: Low, 2412 MHz, channel 1
Modulation: 802.11-b, DSSS, 1 Mbps
Power setting: 19

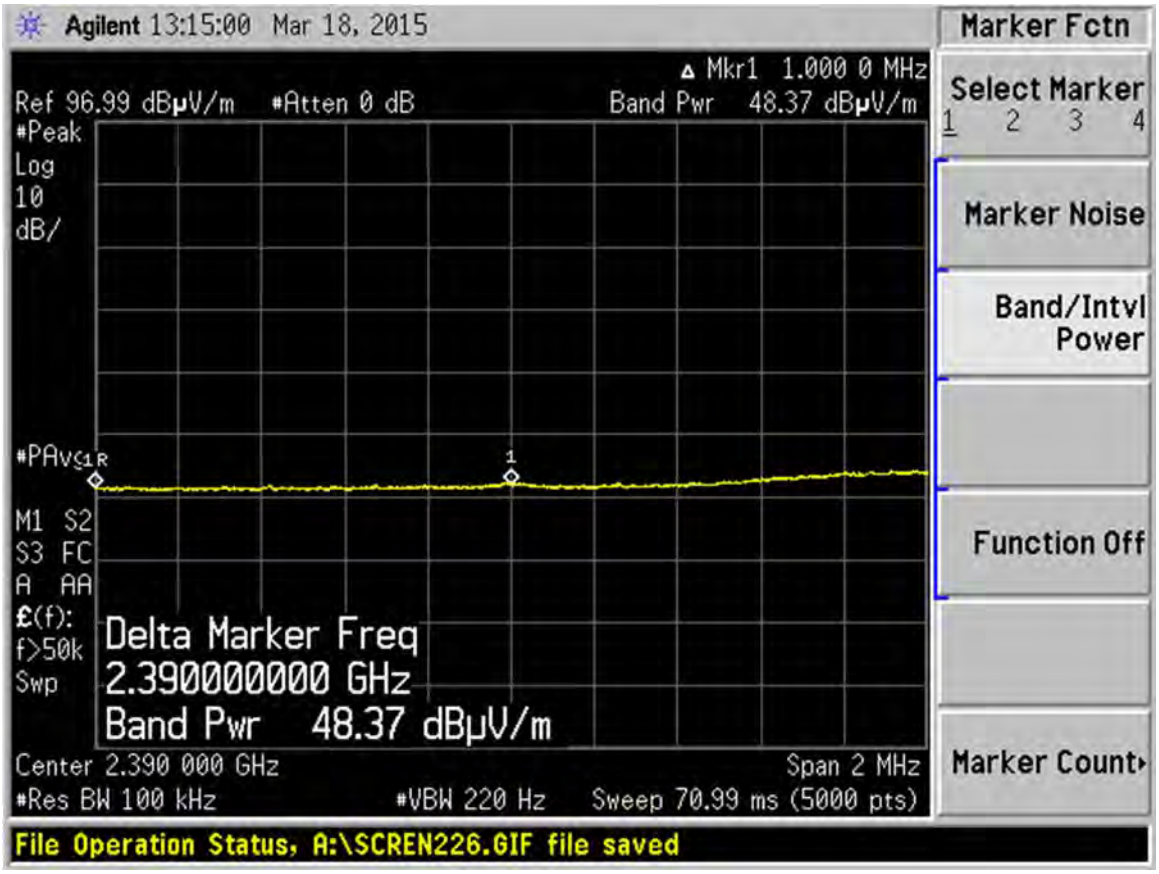
HORIZONTAL:
PEAK: Limit = 74 dBµV/m @ 3 meters



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 1
Channel: Low, 2412 MHz, channel 1
Modulation: 802.11-b, DSSS, 1 Mbps
Power setting: 19

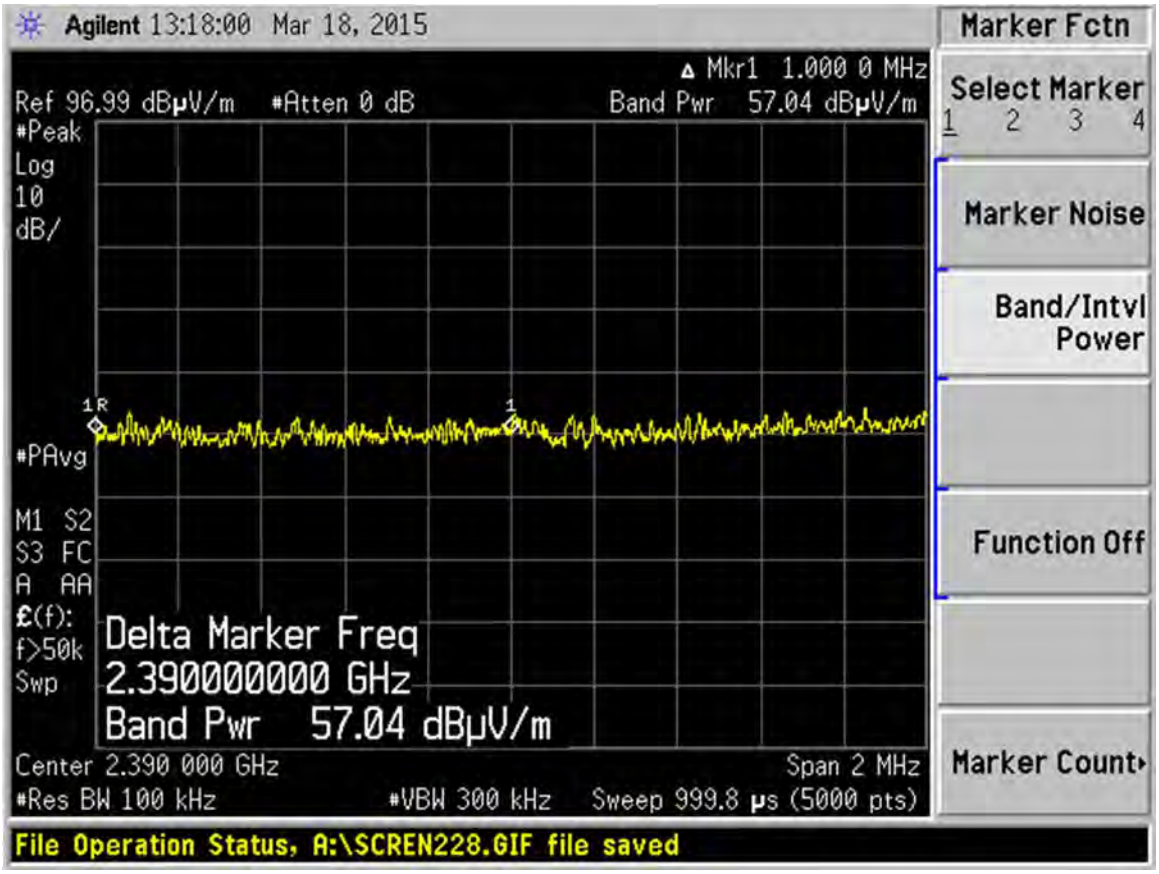
VERTICAL:
AVERAGE: Limit = 54 dBµV/m @ 3 meters
Using procedure 13.3.3, T = 4.62 mS, VBW = 220 Hz



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 1
Channel: Low, 2412 MHz, channel 1
Modulation: 802.11-b, DSSS, 1 Mbps
Power setting: 19

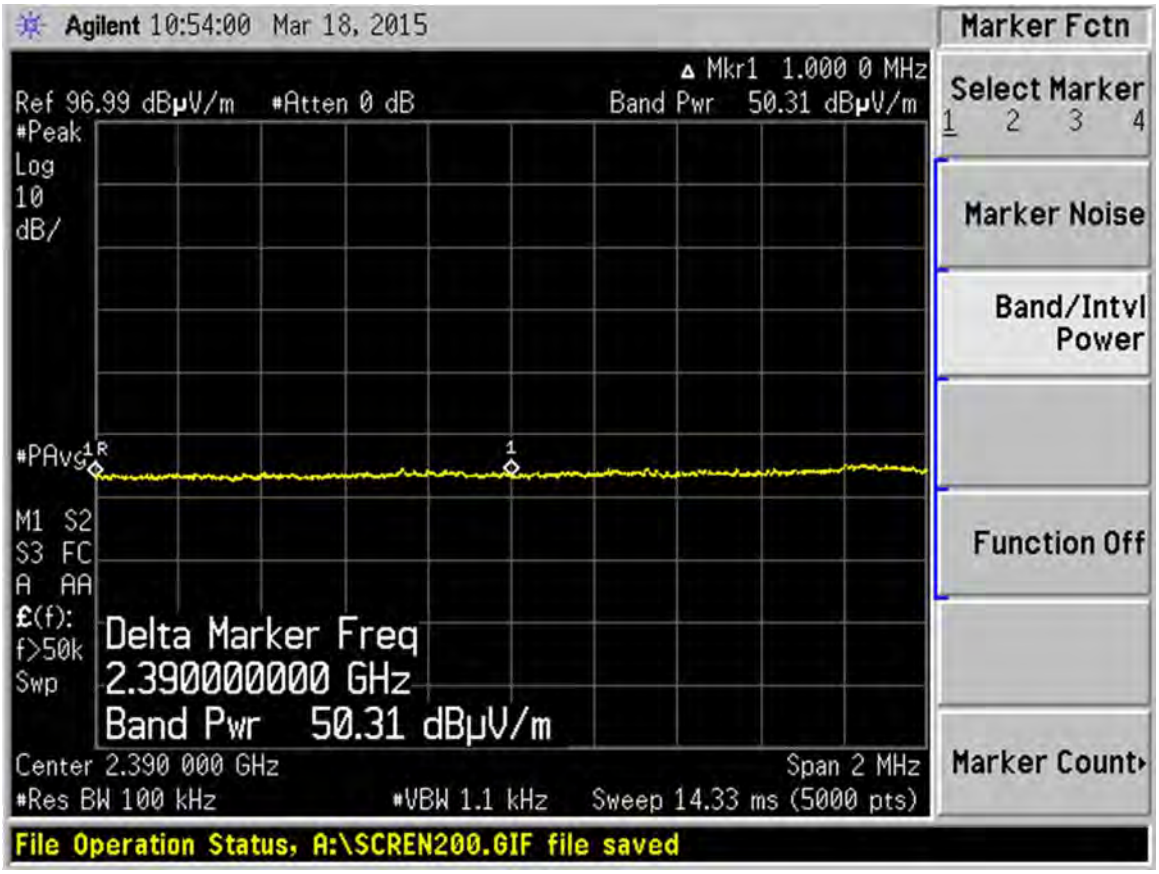
VERTICAL:
PEAK: Limit = 74 dBµV/m @ 3 meters



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 1
Channel: Low, 2412 MHz, channel 1
Modulation: 802.11-b, DSSS, 11 Mbps
Power setting: 19

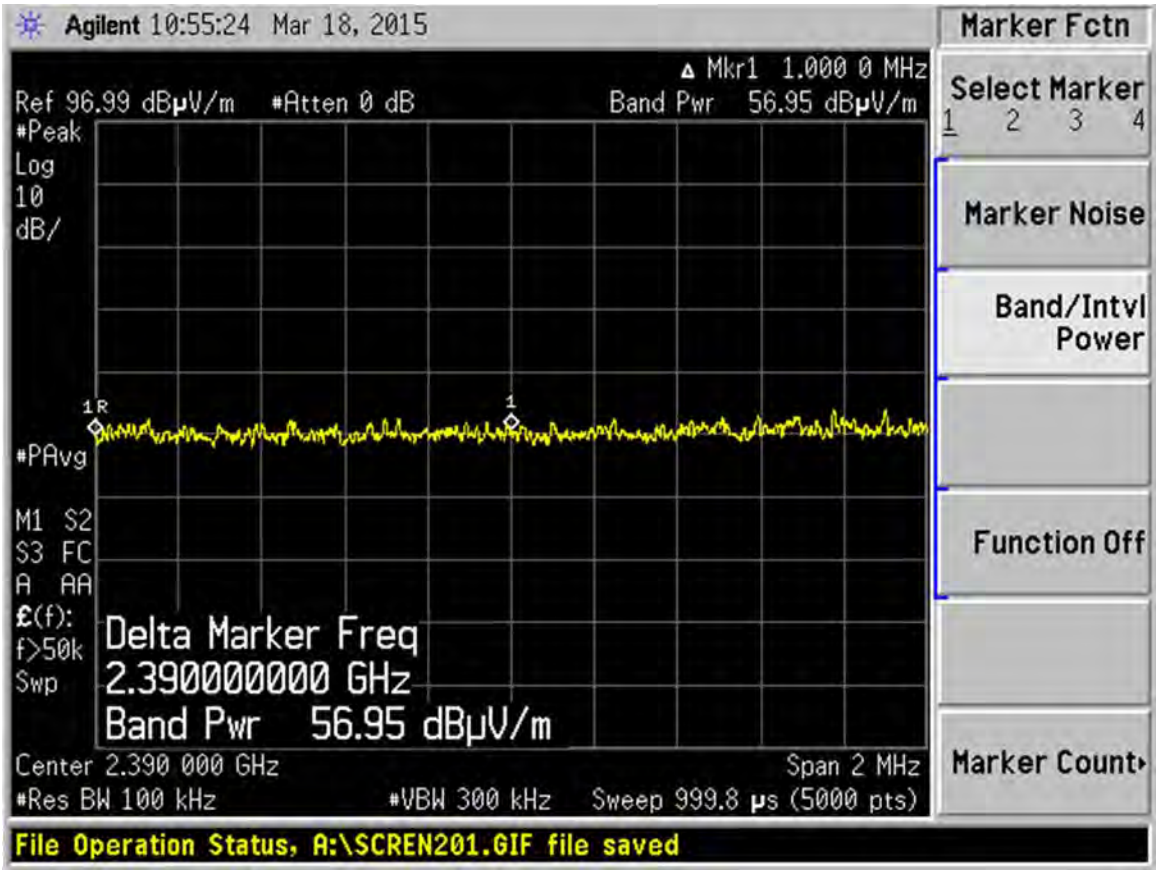
HORIZONTAL:
AVERAGE: Limit = 54 dBµV/m @ 3 meters
Using procedure 13.3.3, T = 962 µS, VBW = 1.1 kHz



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 1
Channel: Low, 2412 MHz, channel 1
Modulation: 802.11-b, DSSS, 11 Mbps
Power setting: 19

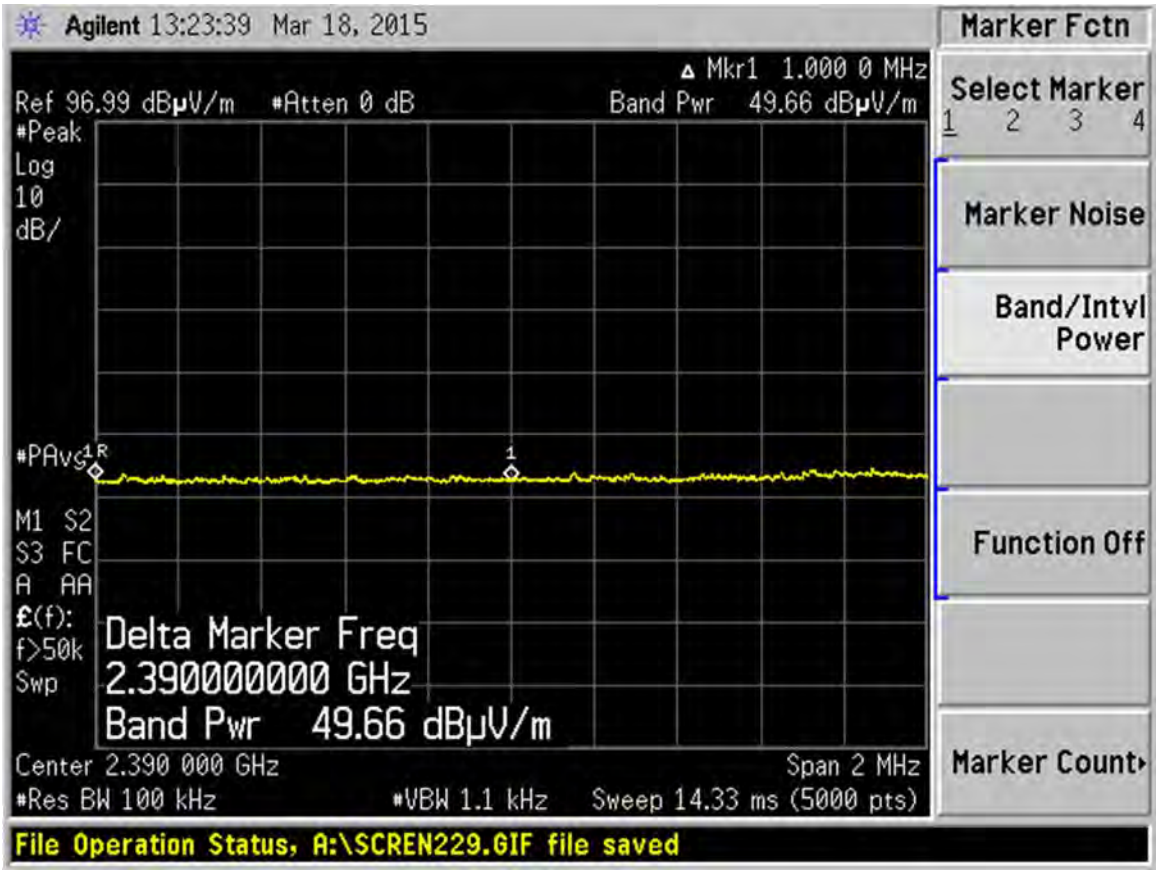
HORIZONTAL:
PEAK: Limit = 74 dBµV/m @ 3 meters



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 1
Channel: Low, 2412 MHz, channel 1
Modulation: 802.11-b, DSSS, 11 Mbps
Power setting: 19

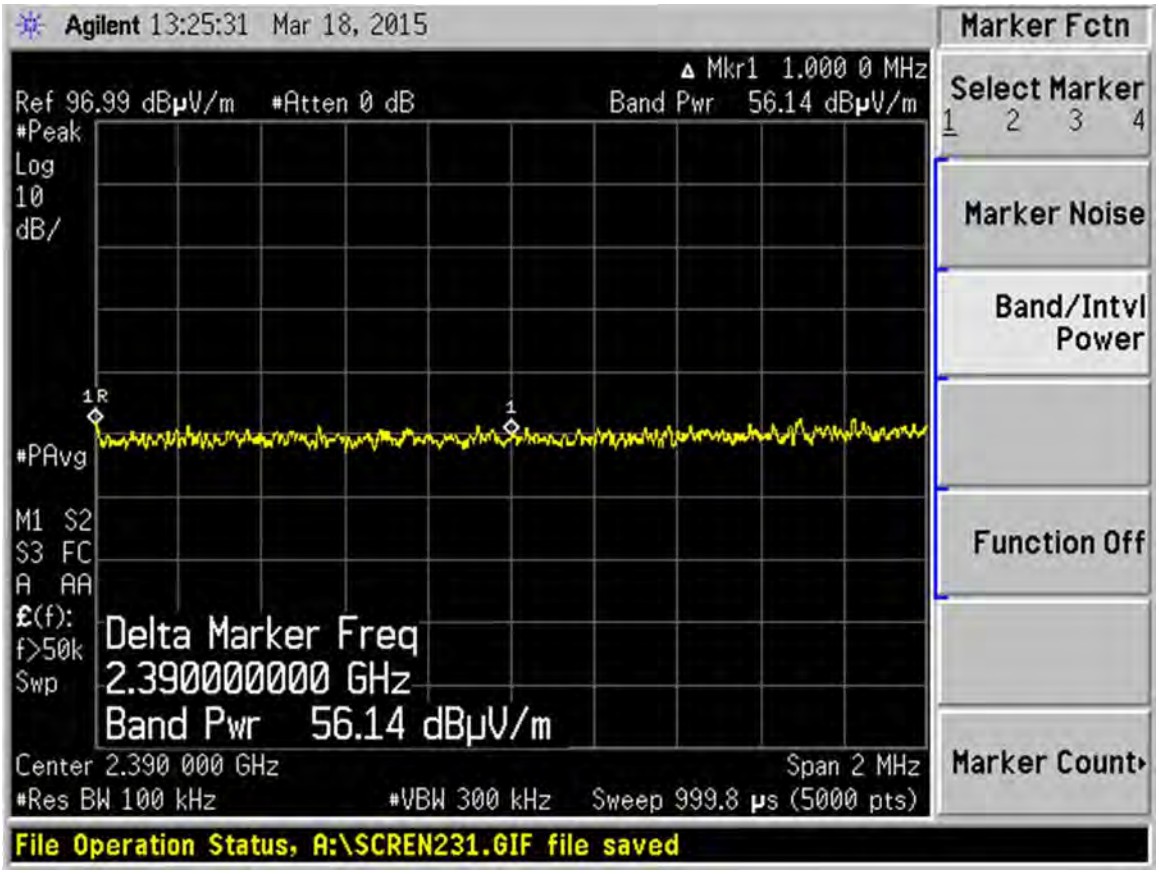
VERTICAL:
AVERAGE: Limit = 54 dBµV/m @ 3 meters
Using procedure 13.3.3, T = 962 µS, VBW = 1.1 kHz



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 1
Channel: Low, 2412 MHz, channel 1
Modulation: 802.11-b, DSSS, 11 Mbps
Power setting: 19

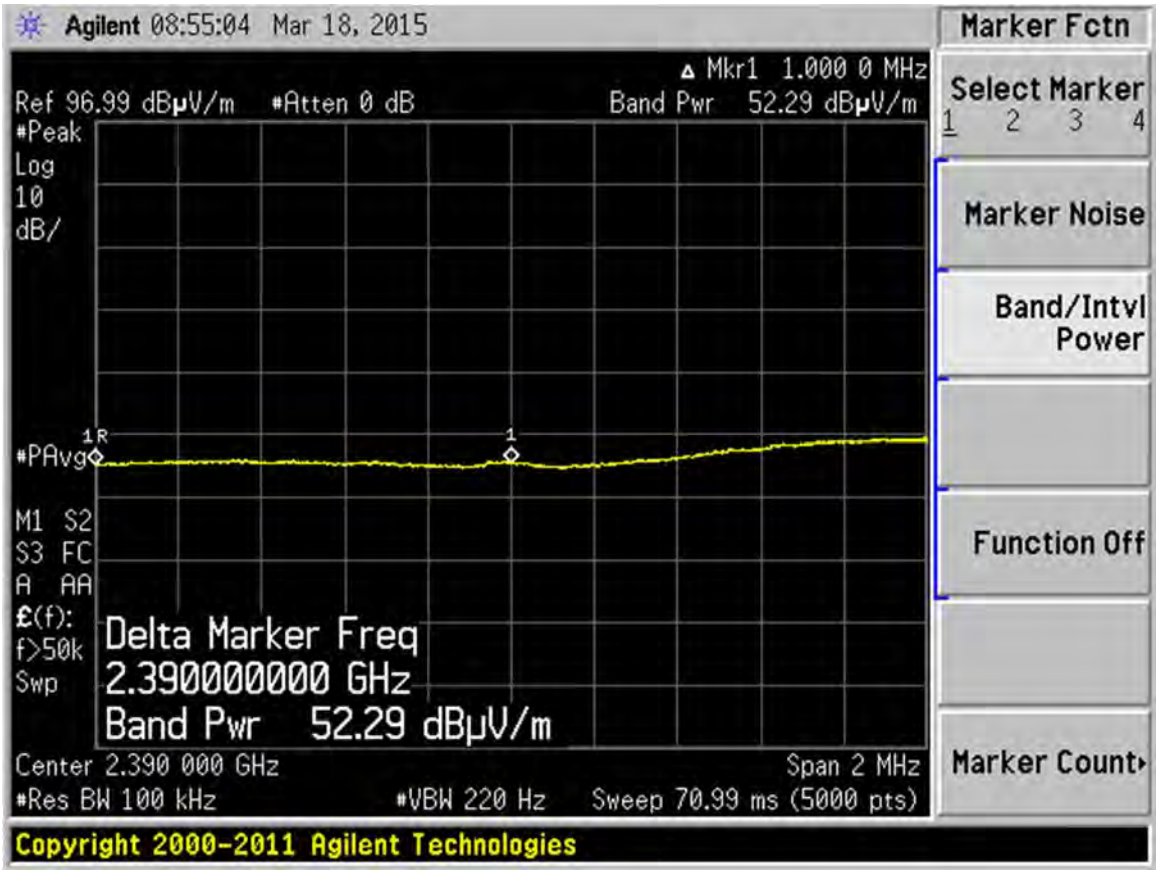
VERTICAL:
PEAK: Limit = 74 dBµV/m @ 3 meters



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 2
Channel: Low, 2412 MHz, channel 1
Modulation: 802.11-b, DSSS, 1 Mbps
Power setting: 19

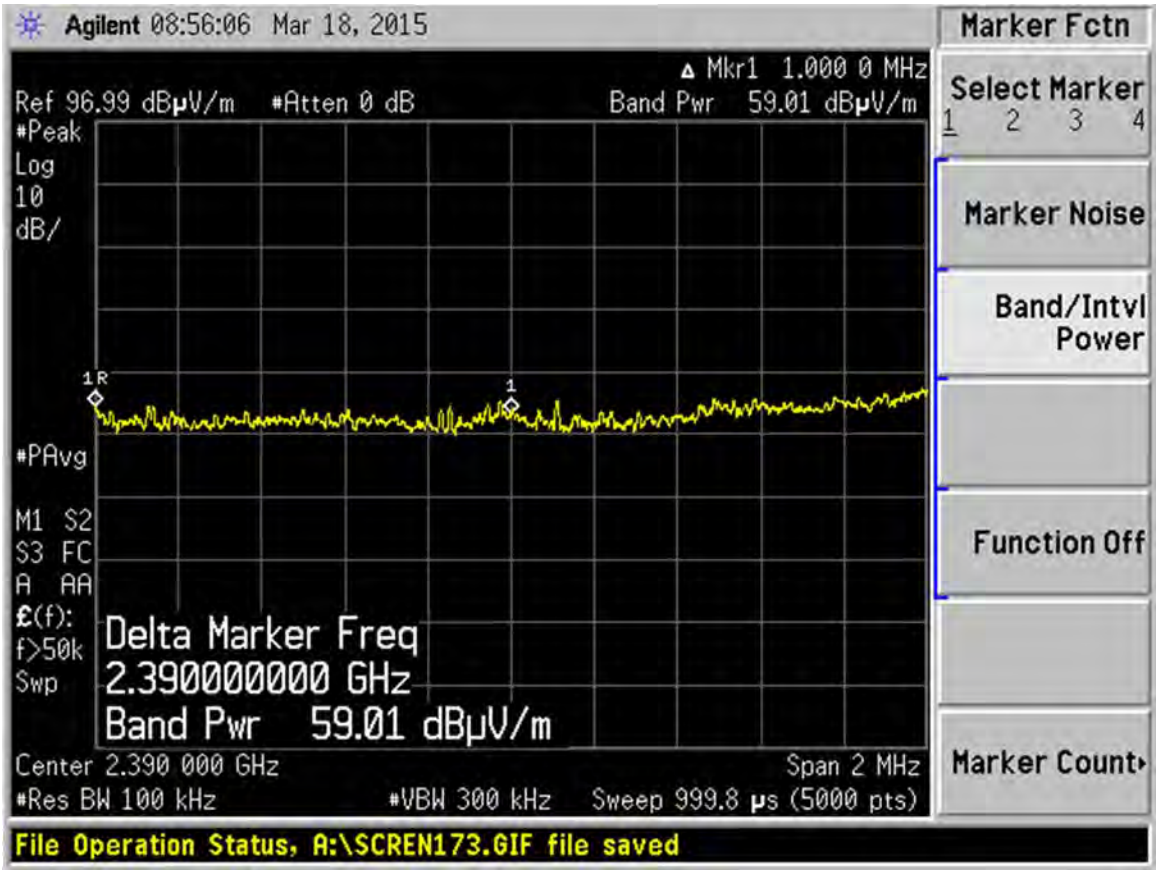
HORIZONTAL:
AVERAGE: Limit = 54 dBµV/m @ 3 meters
Using procedure 13.3.3, T = 4.62 mS, VBW = 220 Hz



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 2
Channel: Low, 2412 MHz, channel 1
Modulation: 802.11-b, DSSS, 1 Mbps
Power setting: 19

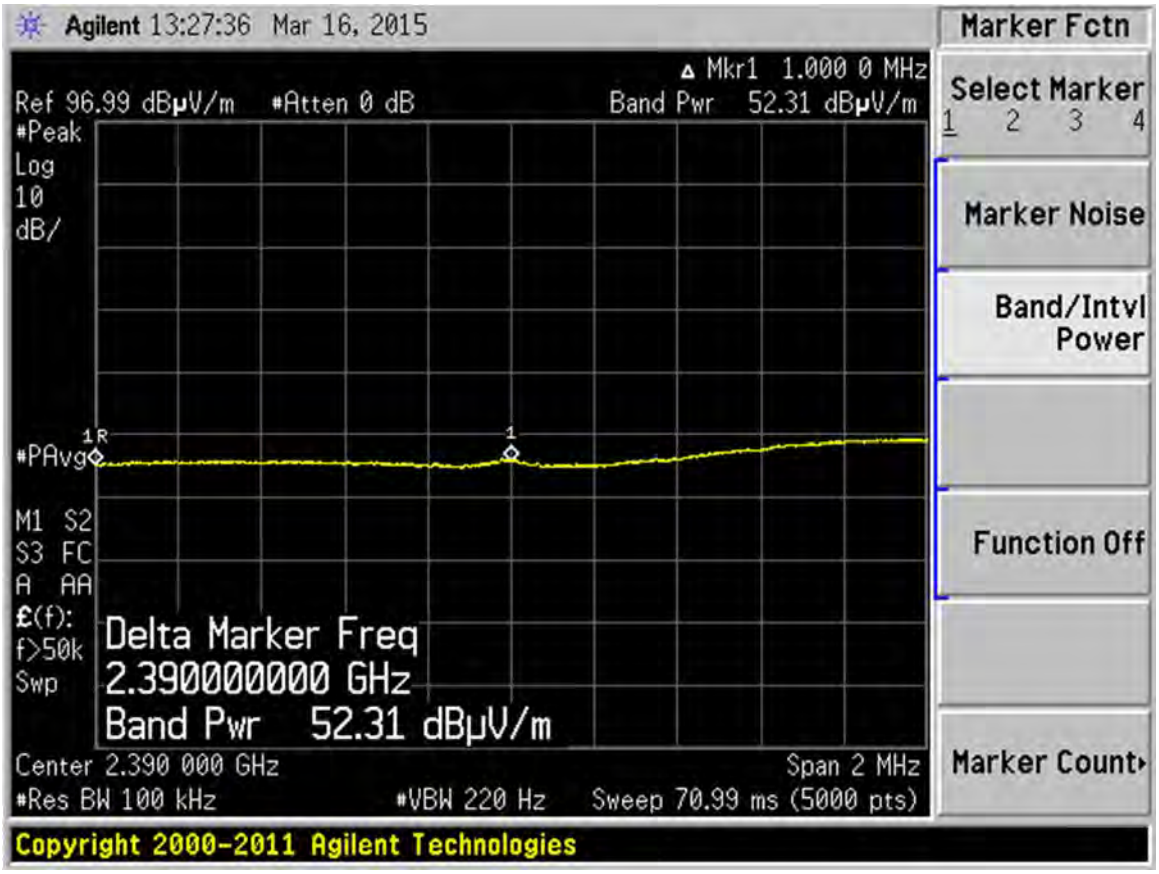
HORIZONTAL:
PEAK: Limit = 74 dBµV/m @ 3 meters



Test Date: 03-16-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 2
Channel: Low, 2412 MHz, channel 1
Modulation: 802.11-b, DSSS, 1 Mbps
Power setting: 19

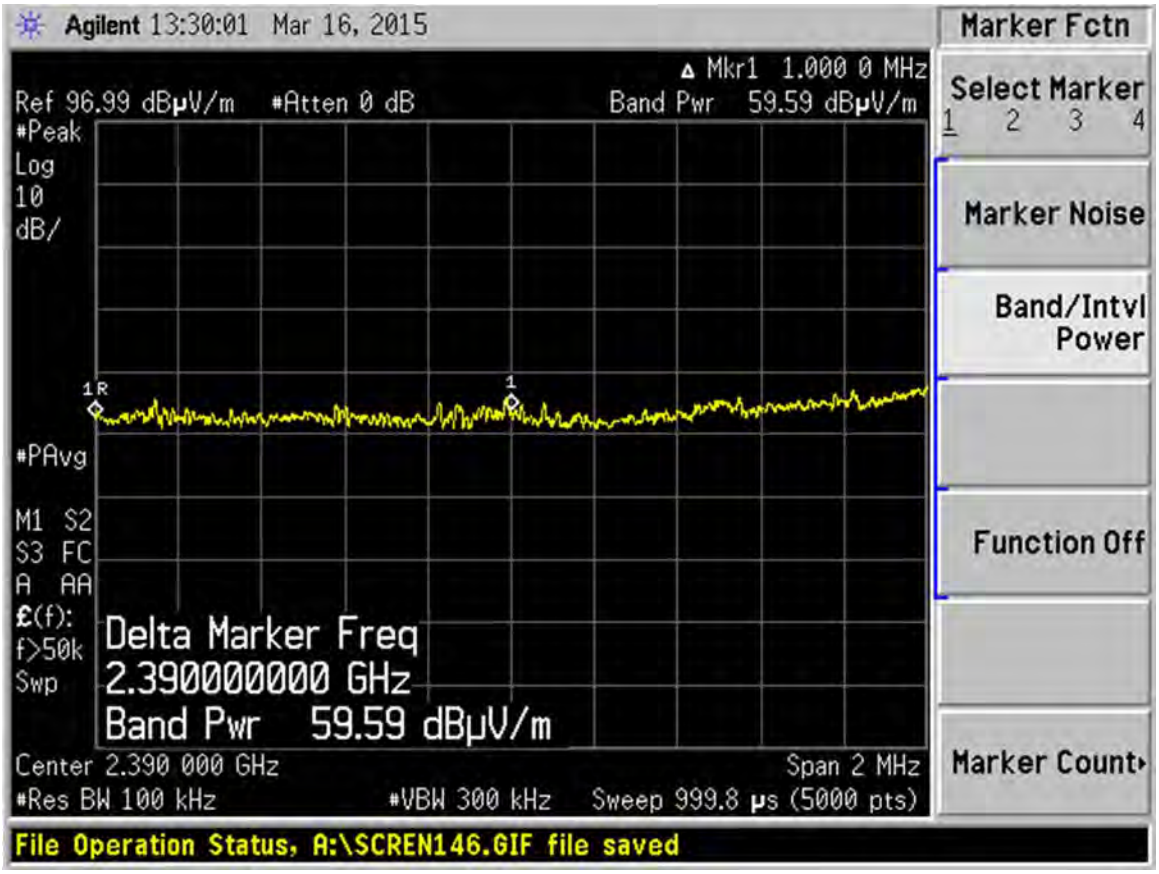
VERTICAL:
AVERAGE: Limit = 54 dBµV/m @ 3 meters
Using procedure 13.3.3, T = 4.62 mS, VBW = 220 Hz



Test Date: 03-16-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 2
Channel: Low, 2412 MHz, channel 1
Modulation: 802.11-b, DSSS, 1 Mbps
Power setting: 19

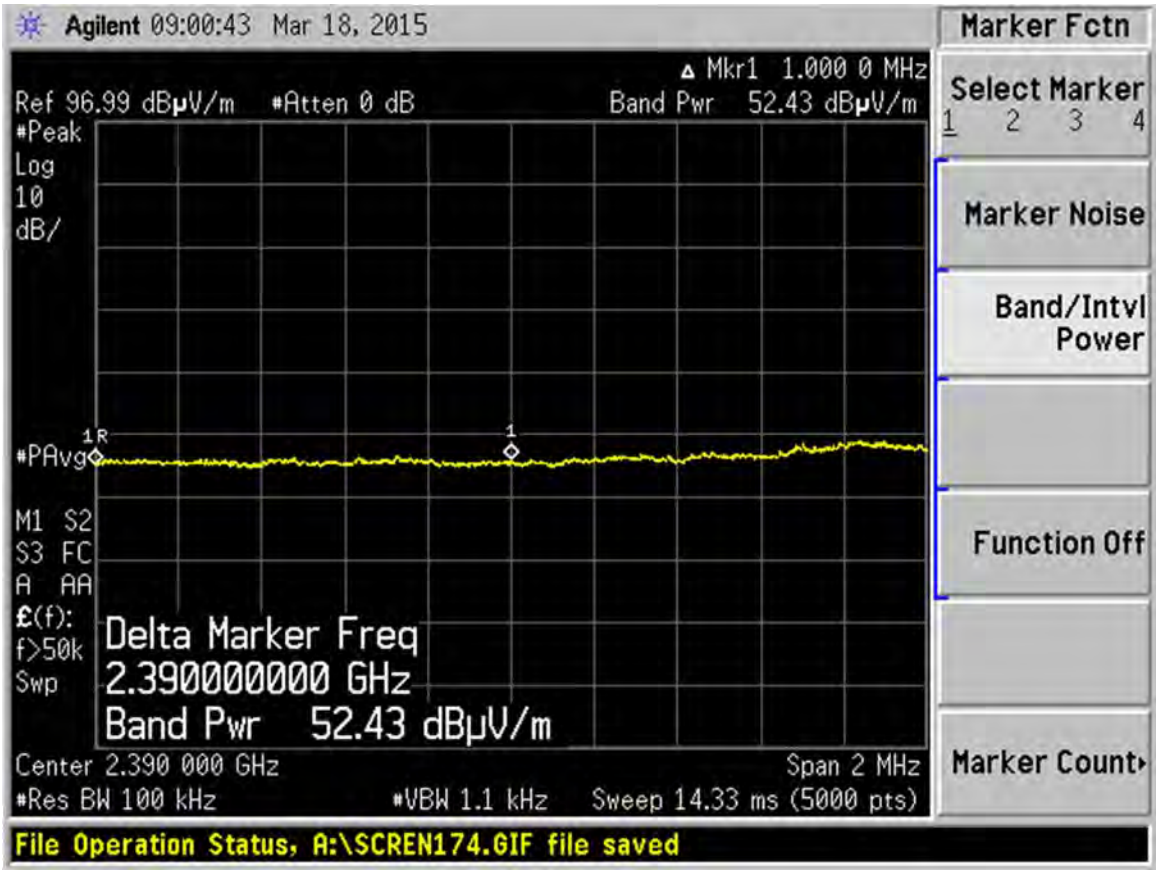
VERTICAL:
PEAK: Limit = 74 dBµV/m @ 3 meters



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 2
Channel: Low, 2412 MHz, channel 1
Modulation: 802.11-b, DSSS, 11 Mbps
Power setting: 19

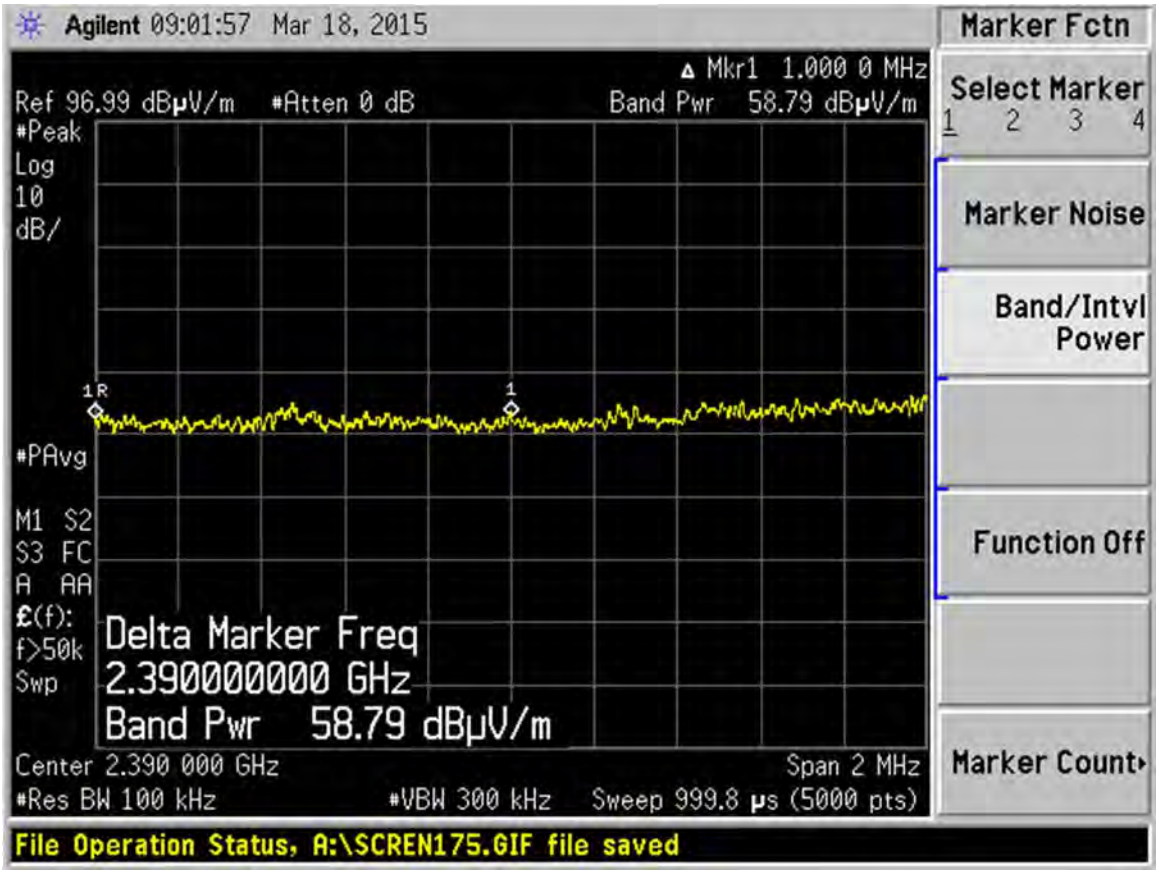
HORIZONTAL:
AVERAGE: Limit = 54 dBµV/m @ 3 meters
Using procedure 13.3.3, T = 962 µS, VBW = 1.1 kHz



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 2
Channel: Low, 2412 MHz, channel 1
Modulation: 802.11-b, DSSS, 11 Mbps
Power setting: 19

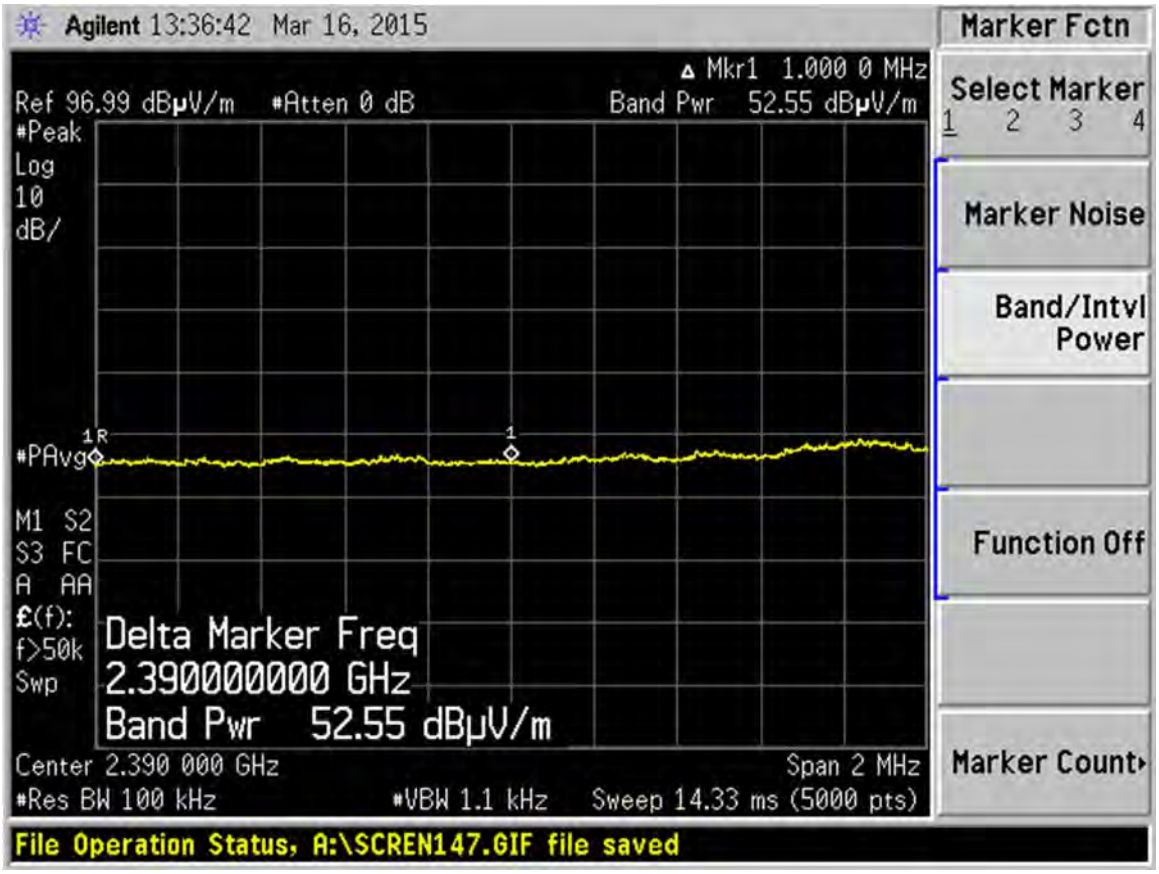
HORIZONTAL:
PEAK: Limit = 74 dBµV/m @ 3 meters



Test Date: 03-16-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 2
Channel: Low, 2412 MHz, channel 1
Modulation: 802.11-b, DSSS, 11 Mbps
Power setting: 19

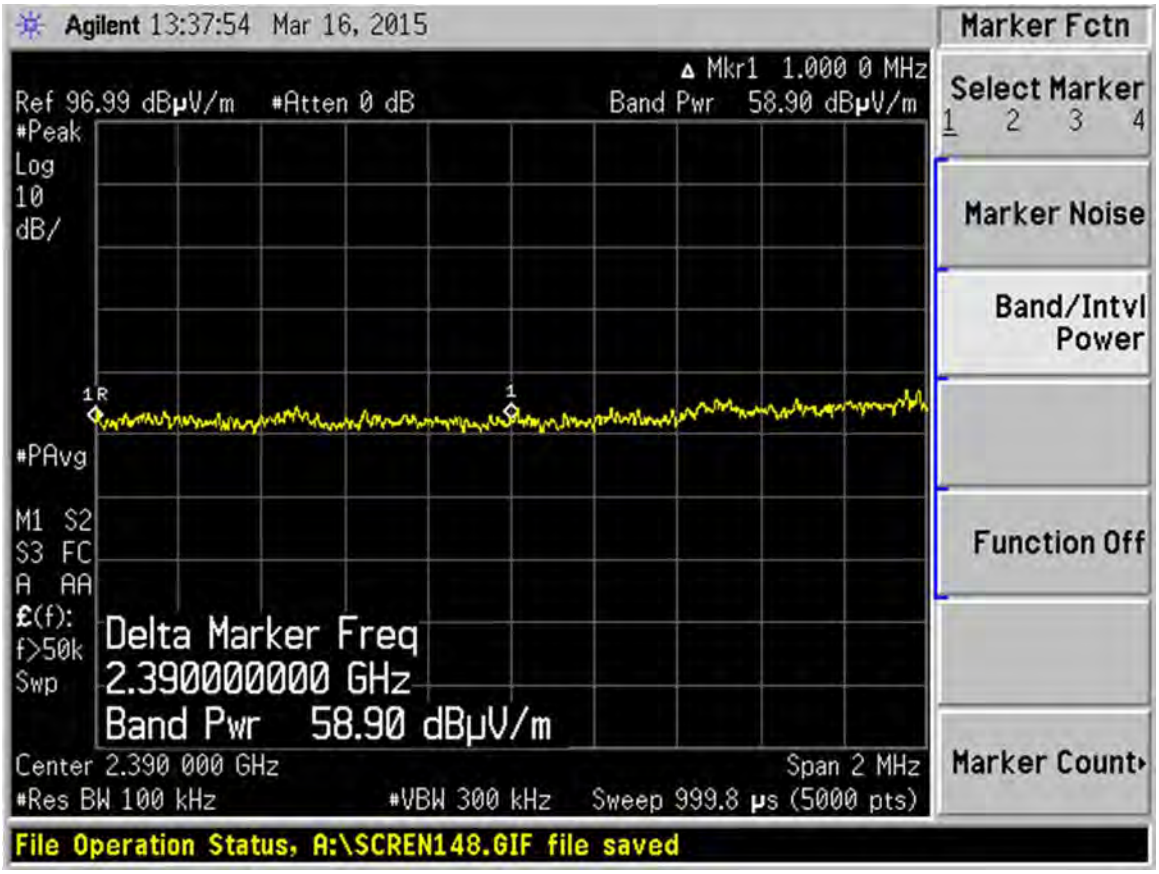
VERTICAL:
AVERAGE: Limit = 54 dBµV/m @ 3 meters
Using procedure 13.3.3, T = 962 µS, VBW = 1.1 kHz



Test Date: 03-16-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 2
Channel: Low, 2412 MHz, channel 1
Modulation: 802.11-b, DSSS, 11 Mbps
Power setting: 19

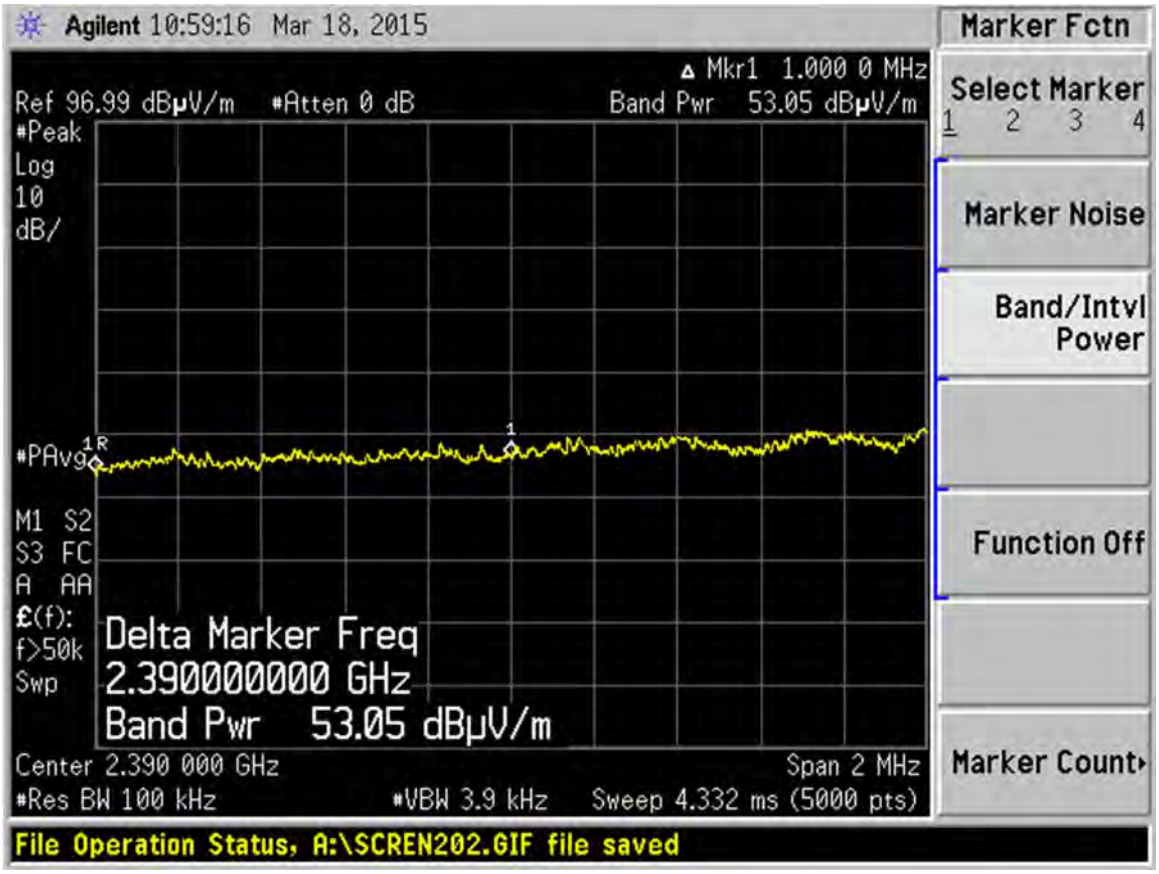
VERTICAL:
PEAK: Limit = 74 dBµV/m @ 3 meters



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 1
Channel: 2412 MHz, channel 1
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 11

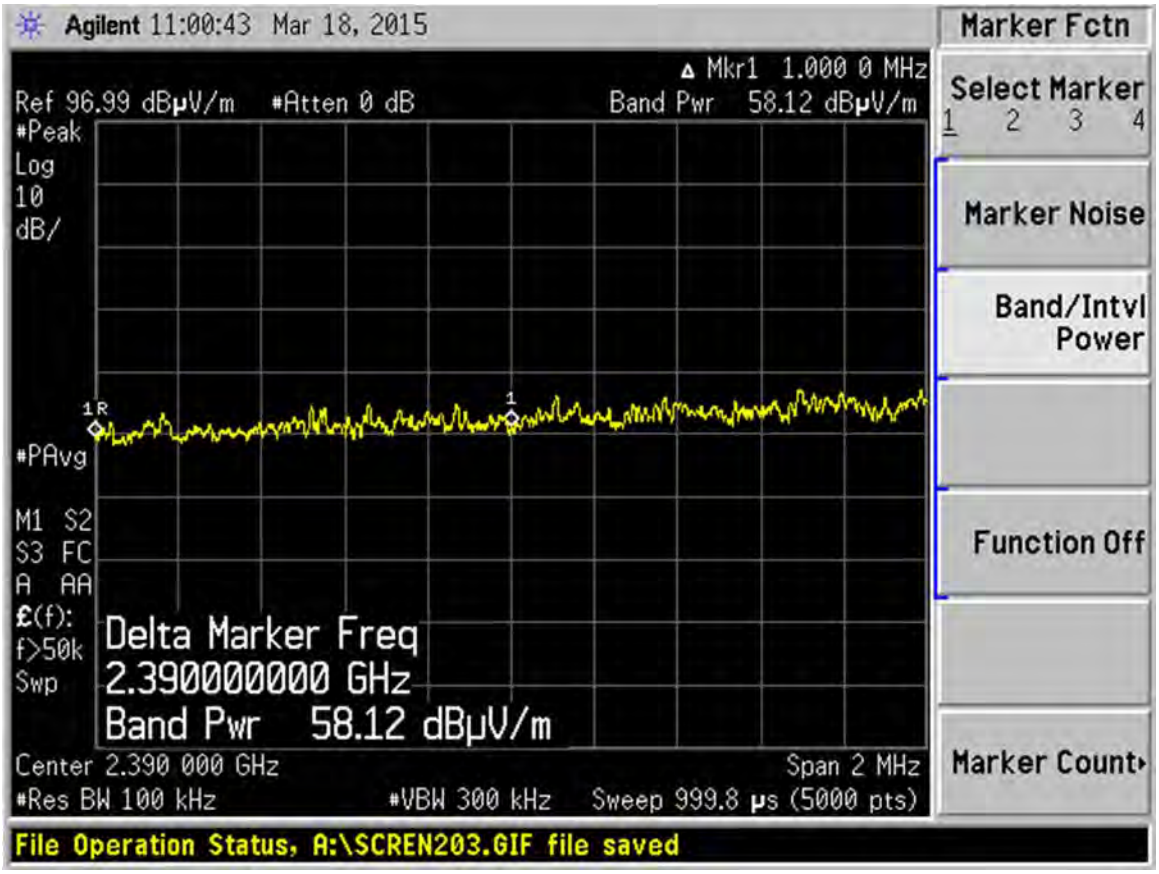
HORIZONTAL:
AVERAGE: Limit = 54 dBµV/m @ 3 meters
Using procedure 13.3.3, T = 260 µS, VBW = 3.9 kHz



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 1
Channel: 2412 MHz, channel 1
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 11

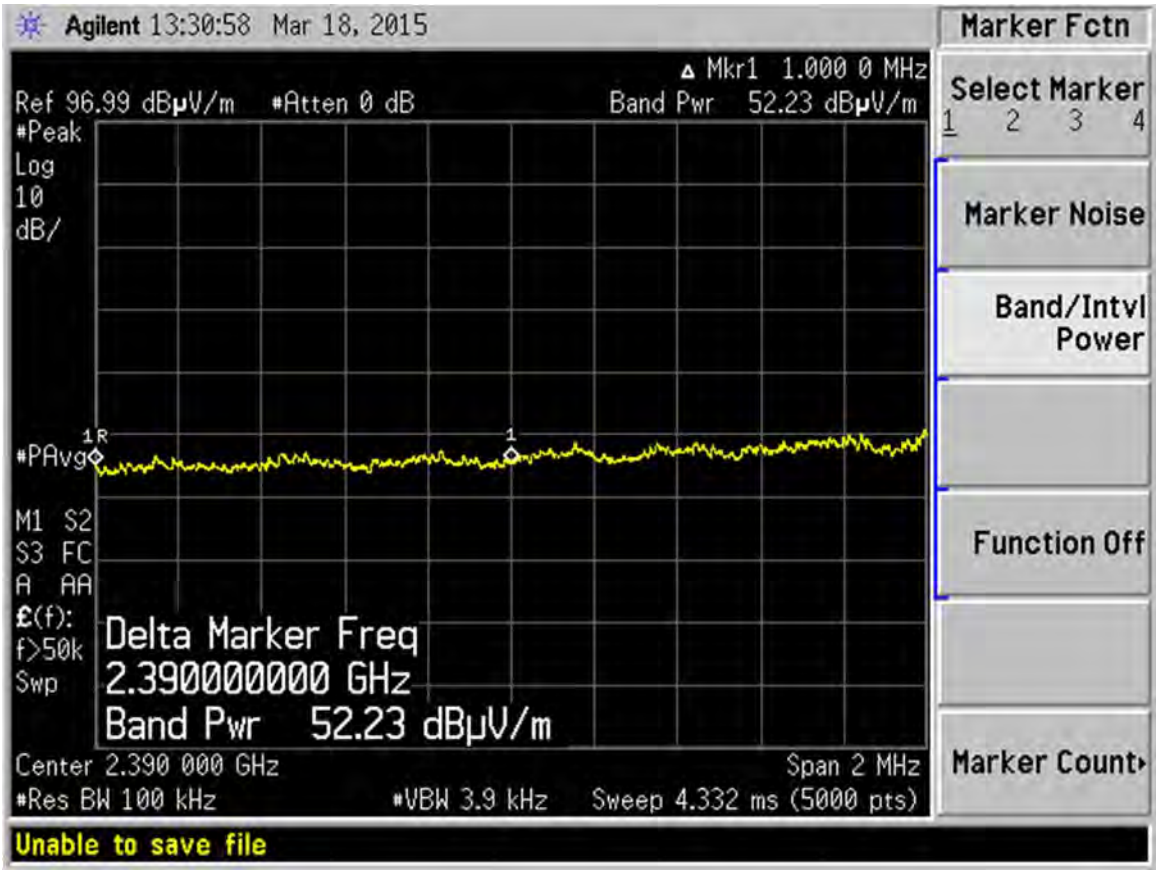
HORIZONTAL:
PEAK: Limit = 74 dBµV/m @ 3 meters



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 1
Channel: 2412 MHz, channel 1
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 11

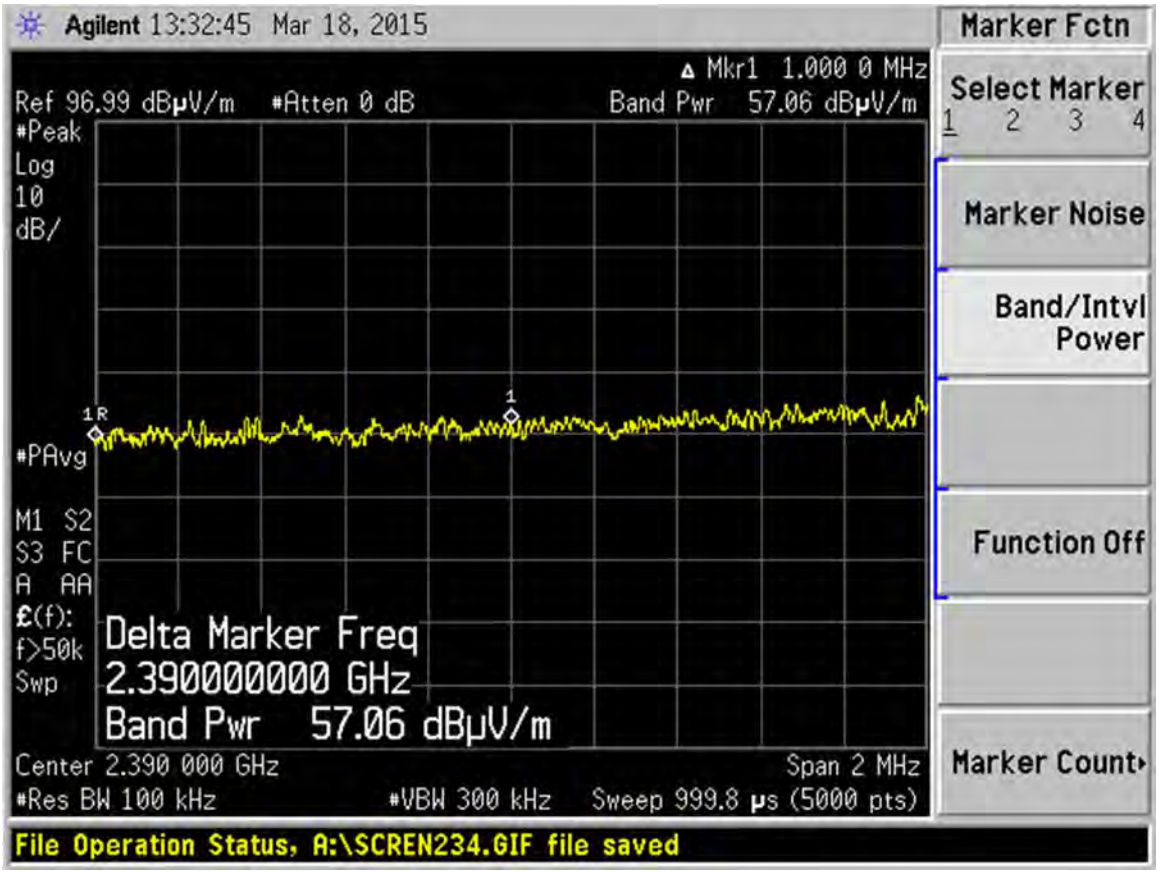
VERTICAL:
AVERAGE: Limit = 54 dBµV/m @ 3 meters
Using procedure 13.3.3, T = 260 µS, VBW = 3.9 kHz



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 1
Channel: 2412 MHz, channel 1
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 11

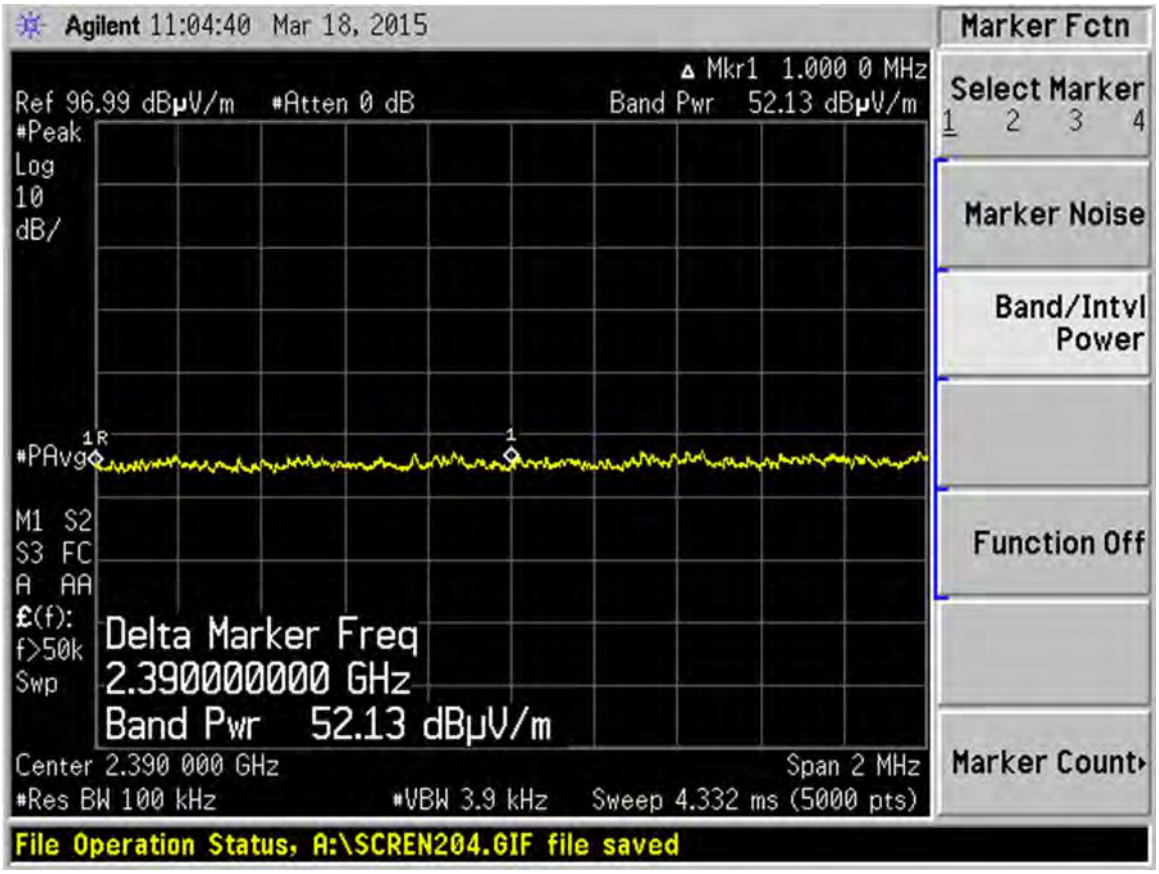
VERTICAL:
PEAK: Limit = 74 dBµV/m @ 3 meters



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 1
Channel: 2417 MHz, channel 2
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 14

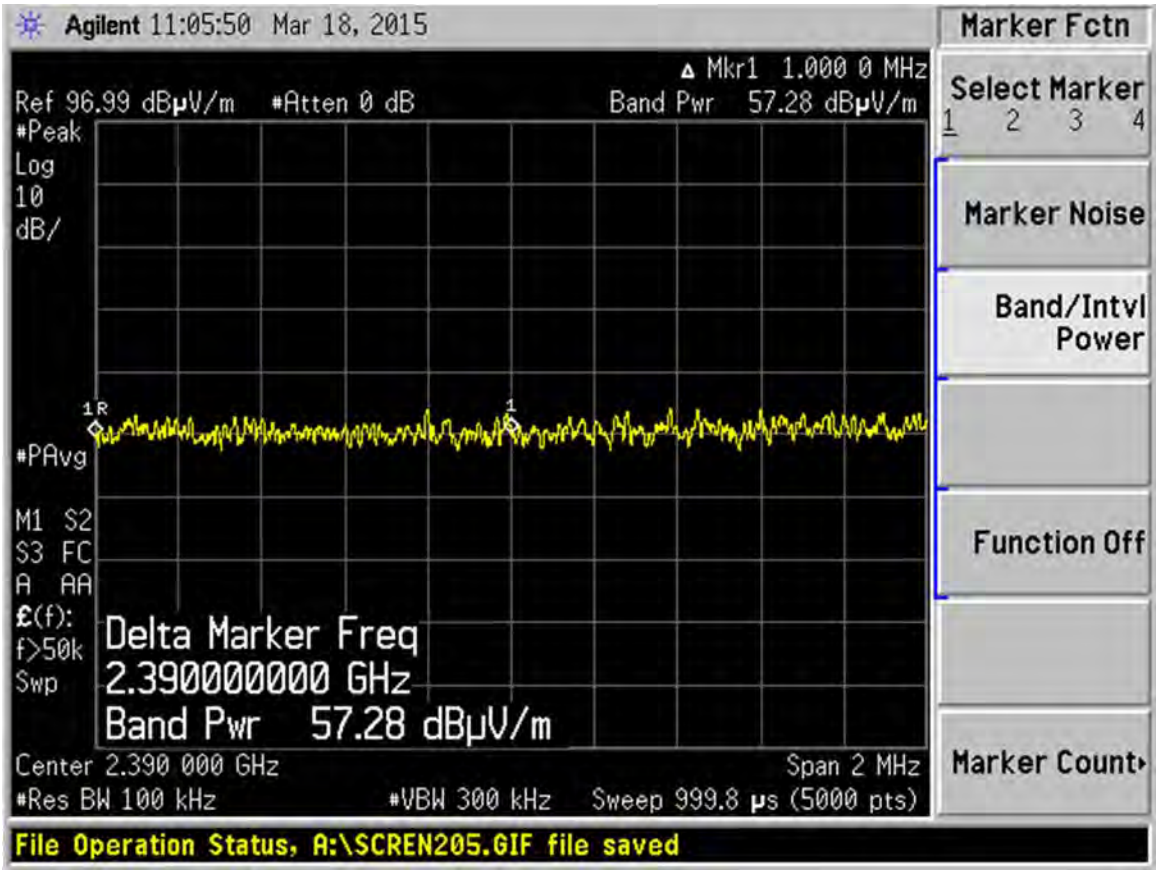
HORIZONTAL:
AVERAGE: Limit = 54 dBµV/m @ 3 meters
Using procedure 13.3.3, T = 260 µS, VBW = 3.9 kHz



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 1
Channel: 2417 MHz, channel 2
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 14

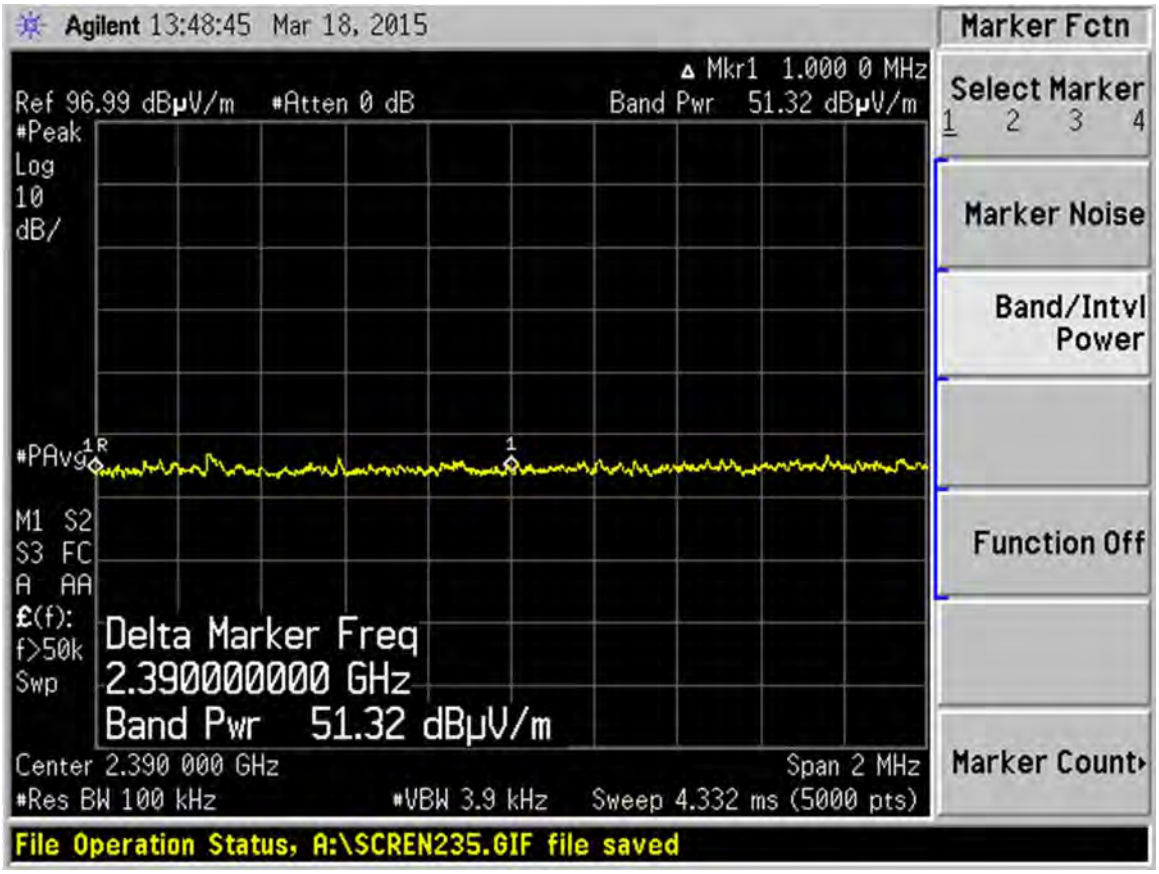
HORIZONTAL:
PEAK: Limit = 74 dBµV/m @ 3 meters



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 1
Channel: 2417 MHz, channel 2
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 14

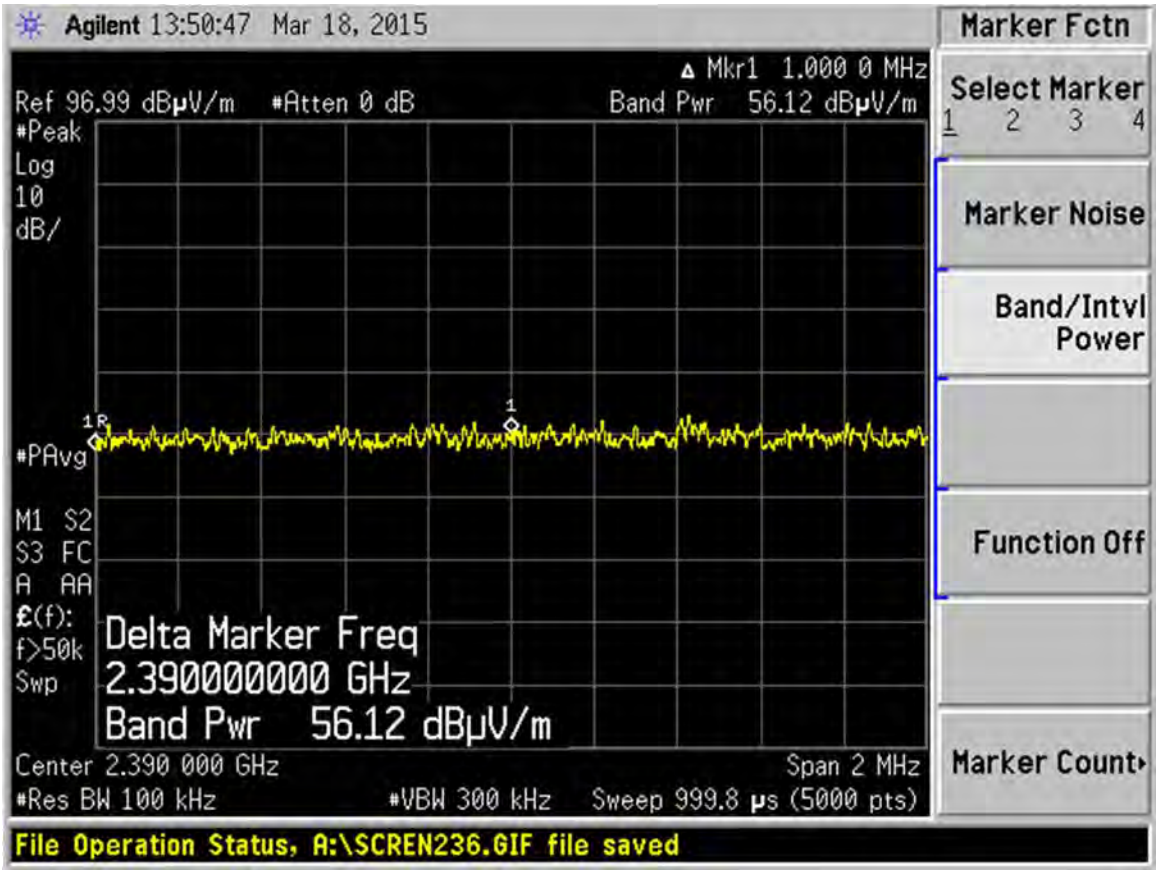
VERTICAL:
AVERAGE: Limit = 54 dBµV/m @ 3 meters
Using procedure 13.3.3, T = 260 µS, VBW = 3.9 kHz



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 1
Channel: 2417 MHz, channel 2
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 14

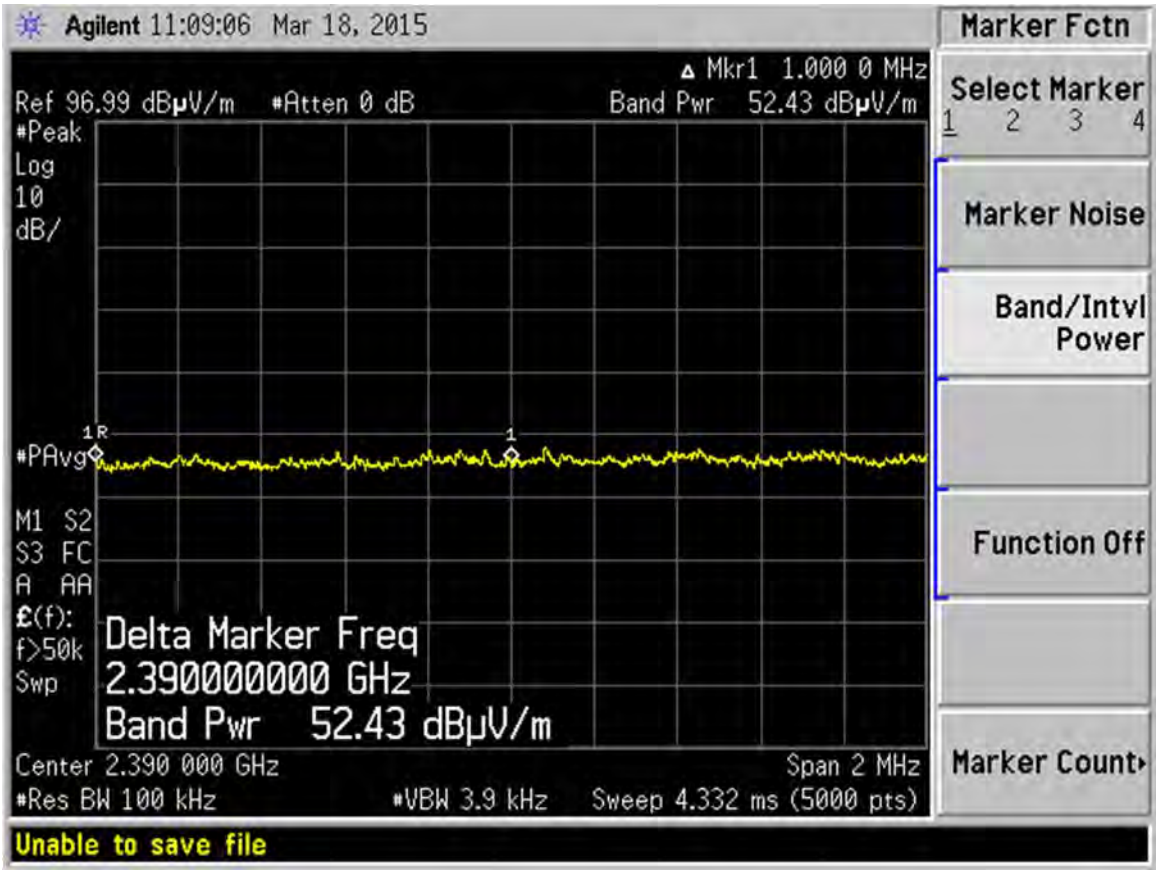
VERTICAL:
PEAK: Limit = 74 dBµV/m @ 3 meters



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 1
Channel: 2422 MHz, channel 3
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 16

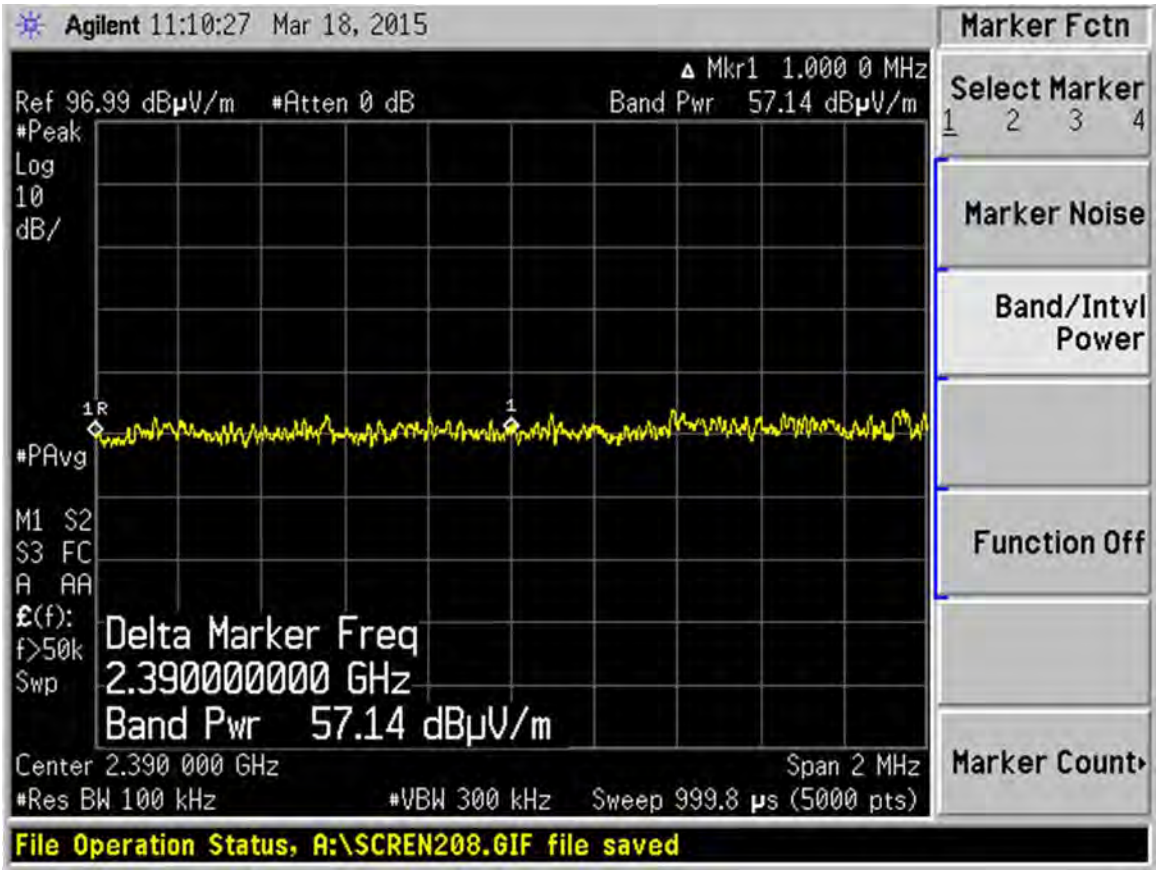
HORIZONTAL:
AVERAGE: Limit = 54 dBµV/m @ 3 meters
Using procedure 13.3.3, T = 260 µS, VBW = 3.9 kHz



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 21
Channel: 2422 MHz, channel 3
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 16

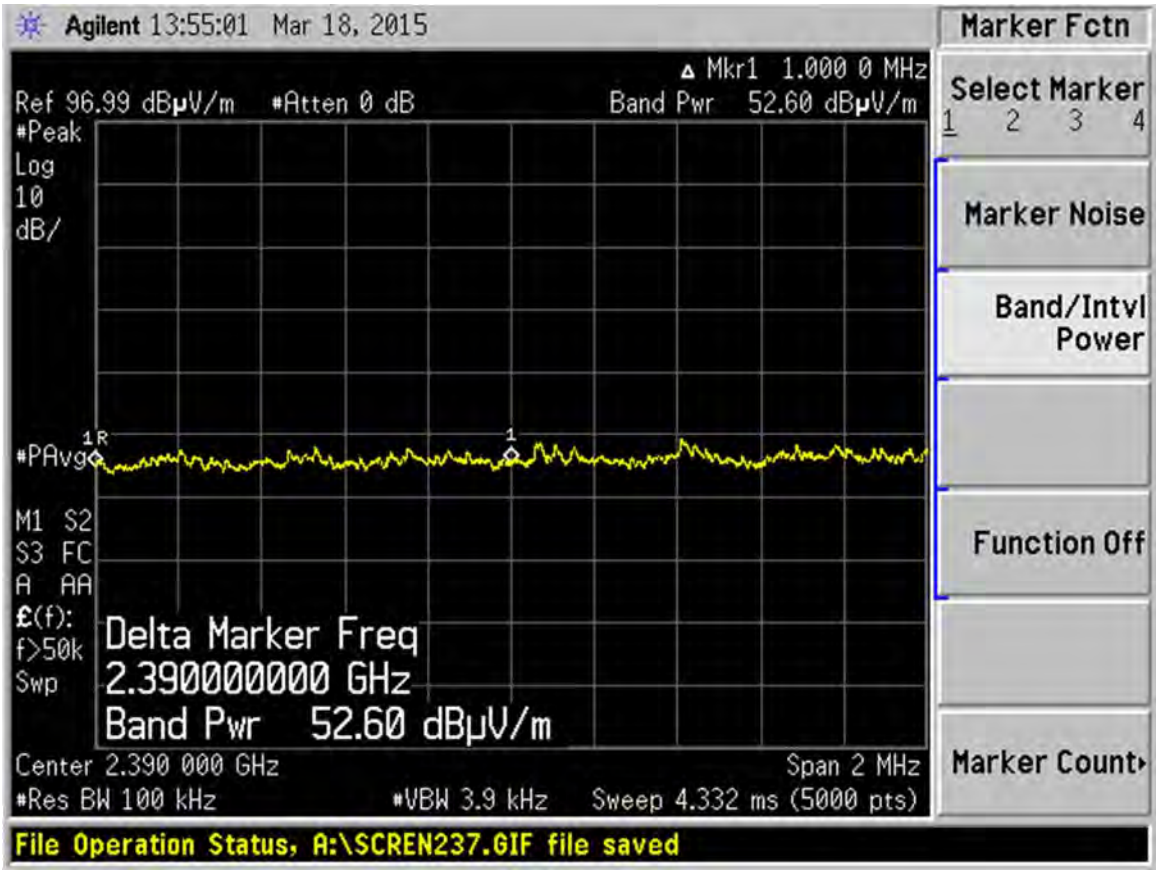
HORIZONTAL:
PEAK: Limit = 74 dBµV/m @ 3 meters



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 1
Channel: 2422 MHz, channel 3
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 16

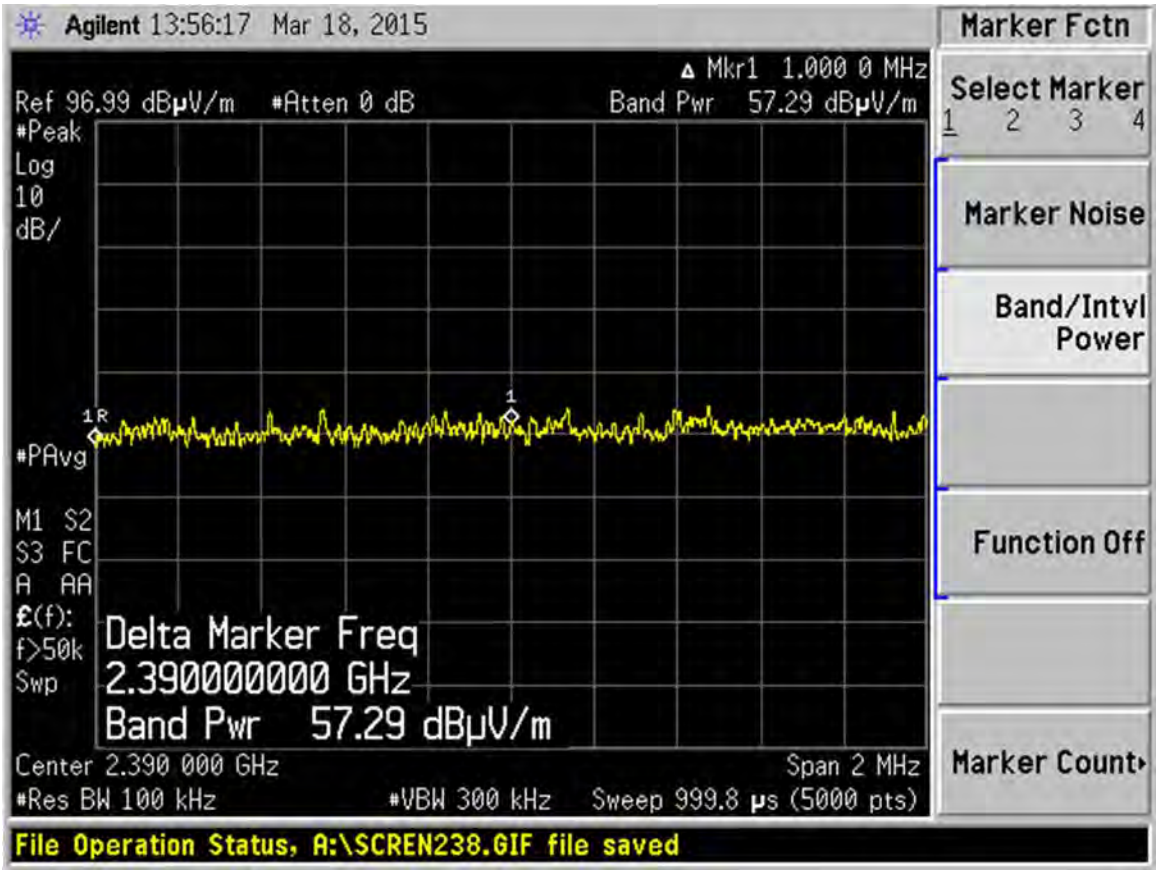
VERTICAL:
AVERAGE: Limit = 54 dBµV/m @ 3 meters
Using procedure 13.3.3, T = 260 µS, VBW = 3.9 kHz



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 1
Channel: 2422 MHz, channel 3
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 16

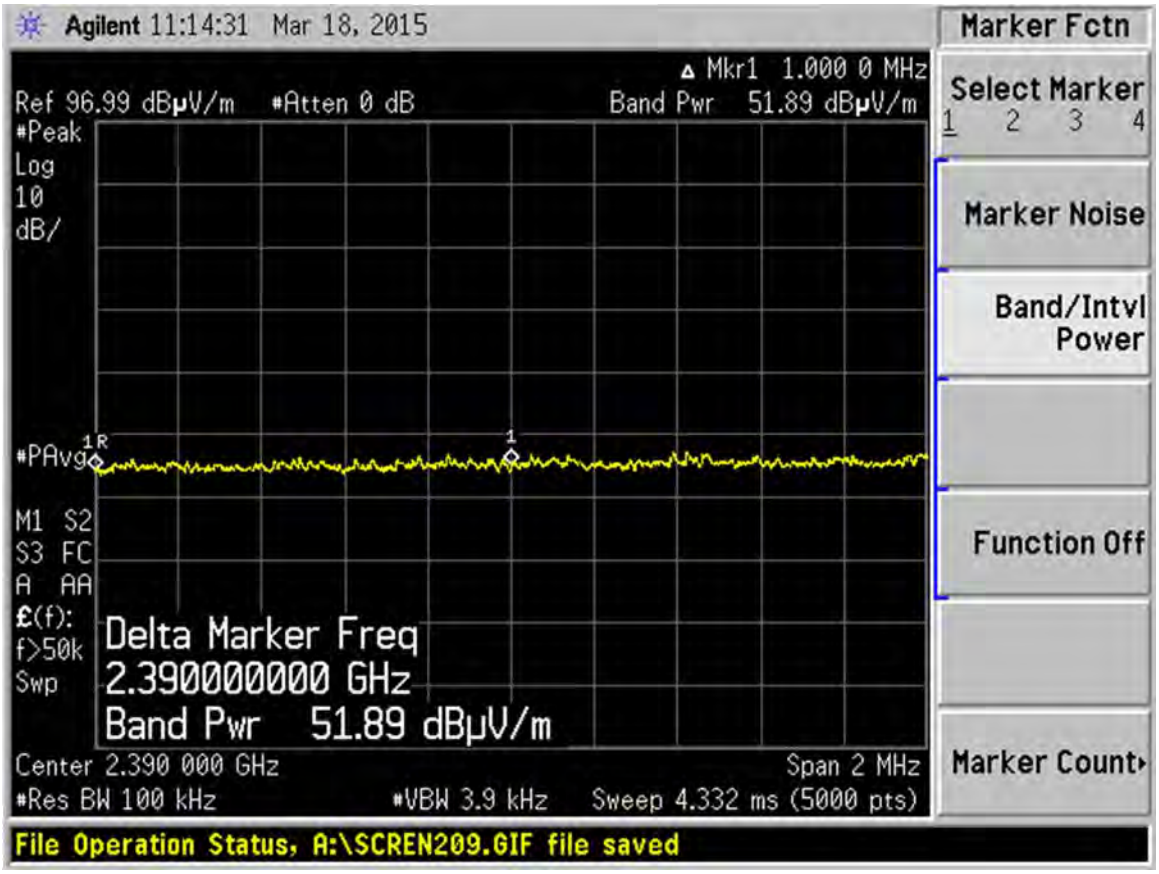
VERTICAL:
PEAK: Limit = 74 dBµV/m @ 3 meters



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 1
Channel: 2427 MHz, channel 4
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 17

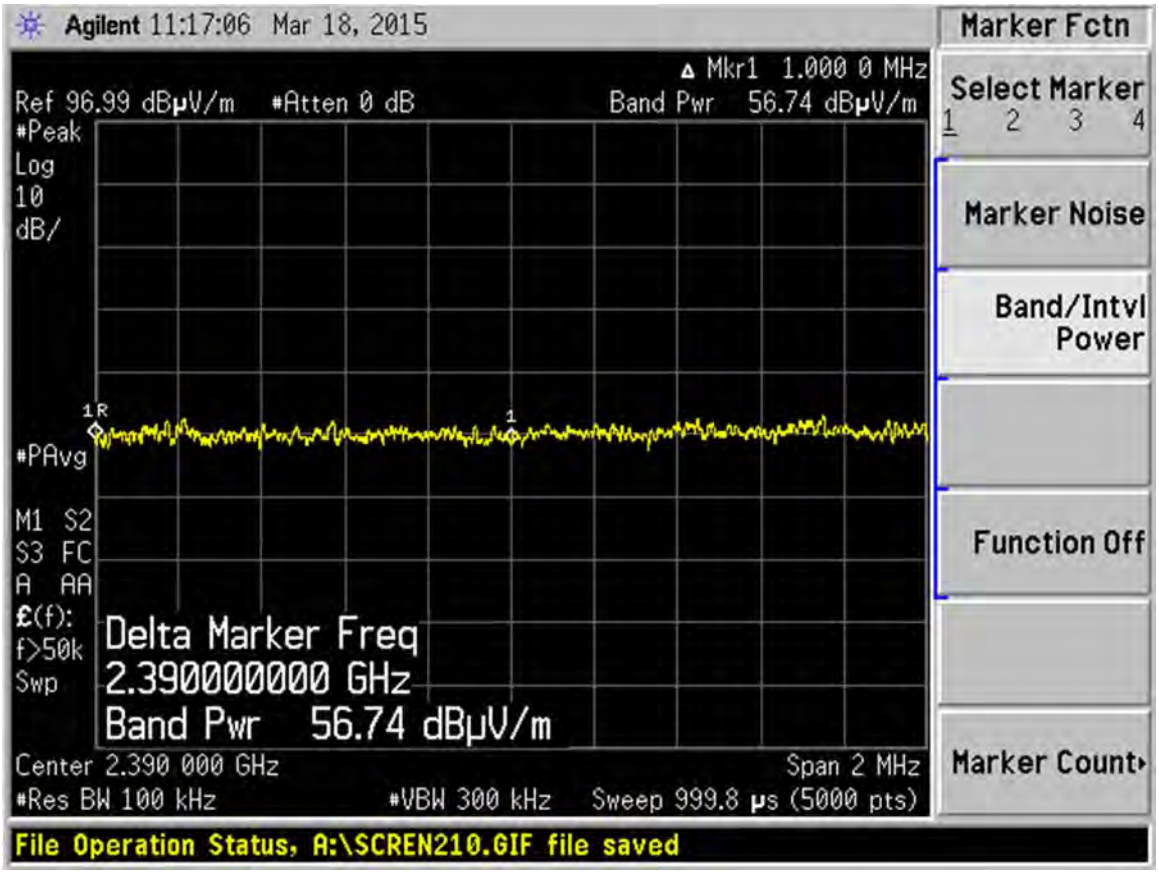
HORIZONTAL:
AVERAGE: Limit = 54 dBµV/m @ 3 meters
Using procedure 13.3.3, T = 260 µS, VBW = 3.9 kHz



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 1
Channel: 2427 MHz, channel 4
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 17

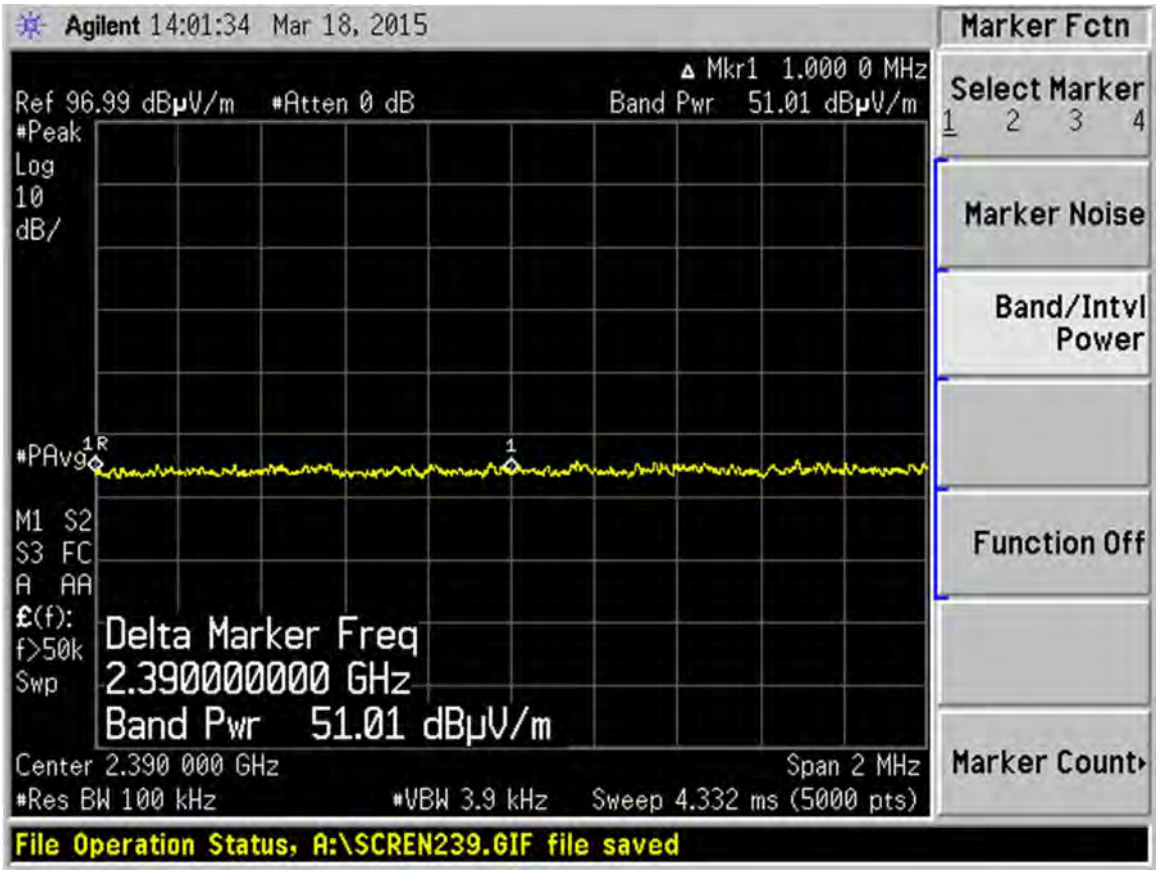
HORIZONTAL:
PEAK: Limit = 74 dBµV/m @ 3 meters



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 1
Channel: 2427 MHz, channel 4
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 17

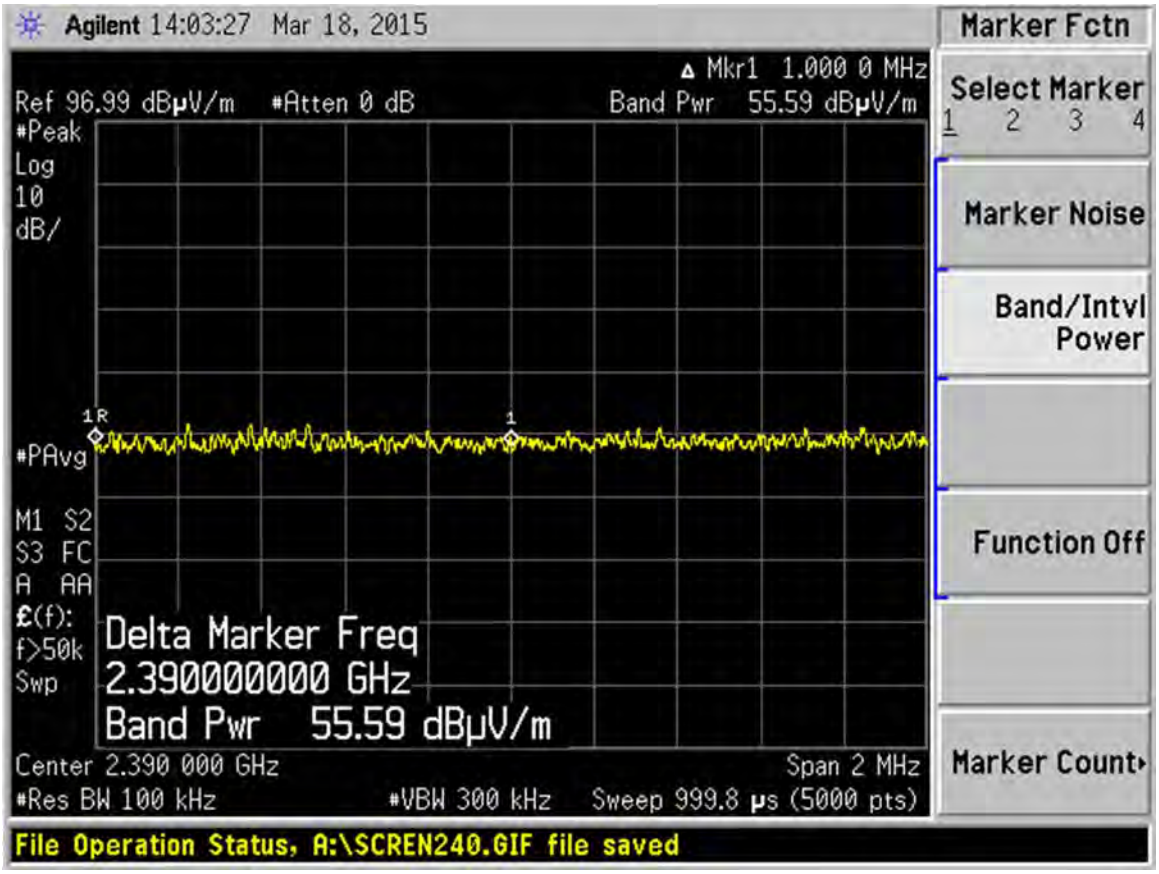
VERTICAL:
AVERAGE: Limit = 54 dBµV/m @ 3 meters
Using procedure 13.3.3, T = 260 µS, VBW = 3.9 kHz



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 1
Channel: 2427 MHz, channel 4
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 17

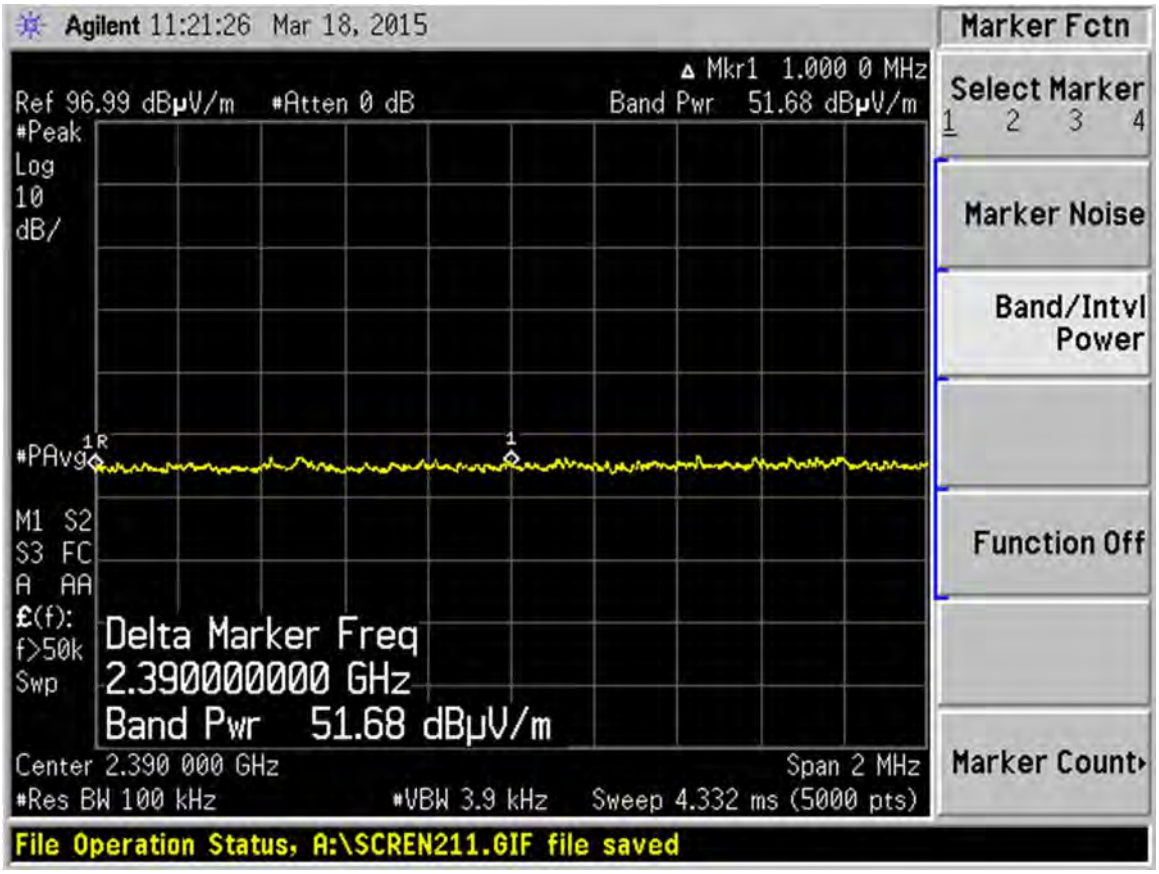
VERTICAL:
PEAK: Limit = 74 dBµV/m @ 3 meters



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 1
Channel: 2432 MHz, channel 5
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 18

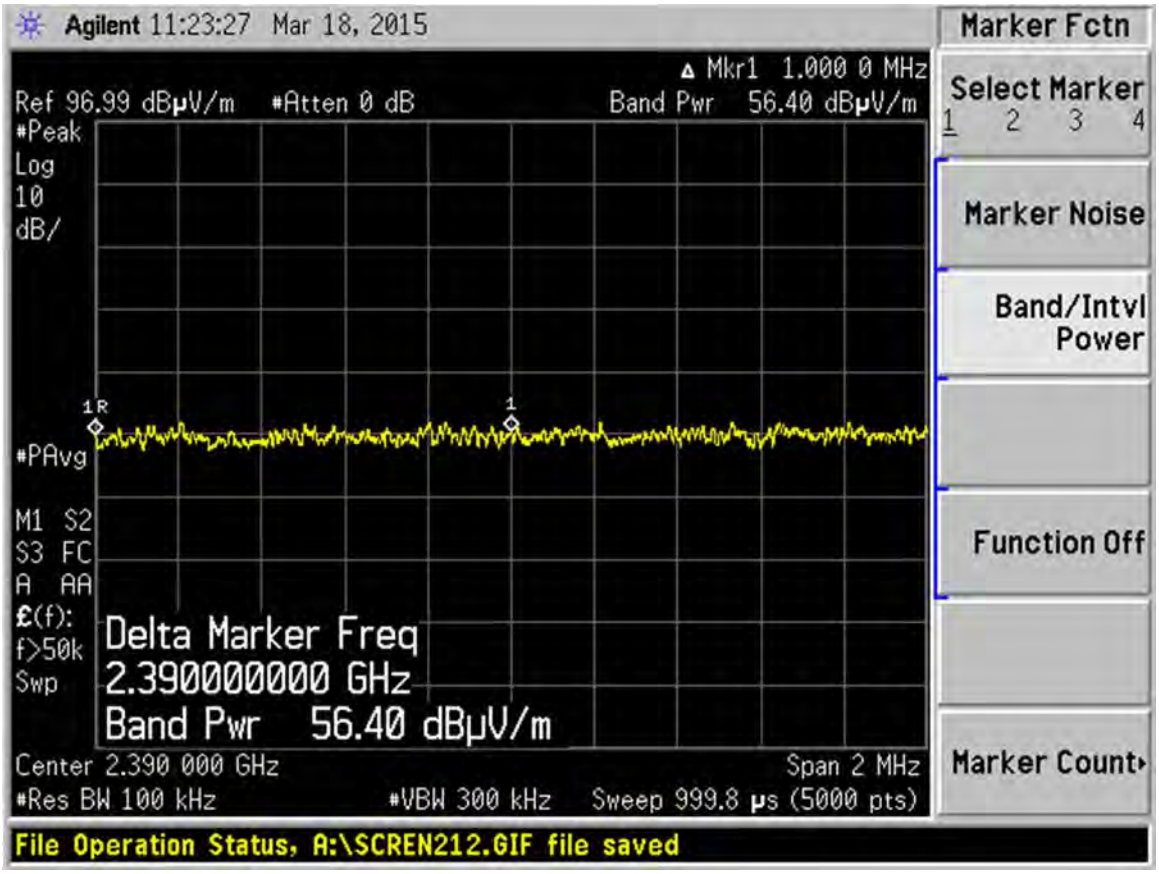
HORIZONTAL:
AVERAGE: Limit = 54 dBµV/m @ 3 meters
Using procedure 13.3.3, T = 260 µS, VBW = 3.9 kHz



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 1
Channel: 2432 MHz, channel 5
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 18

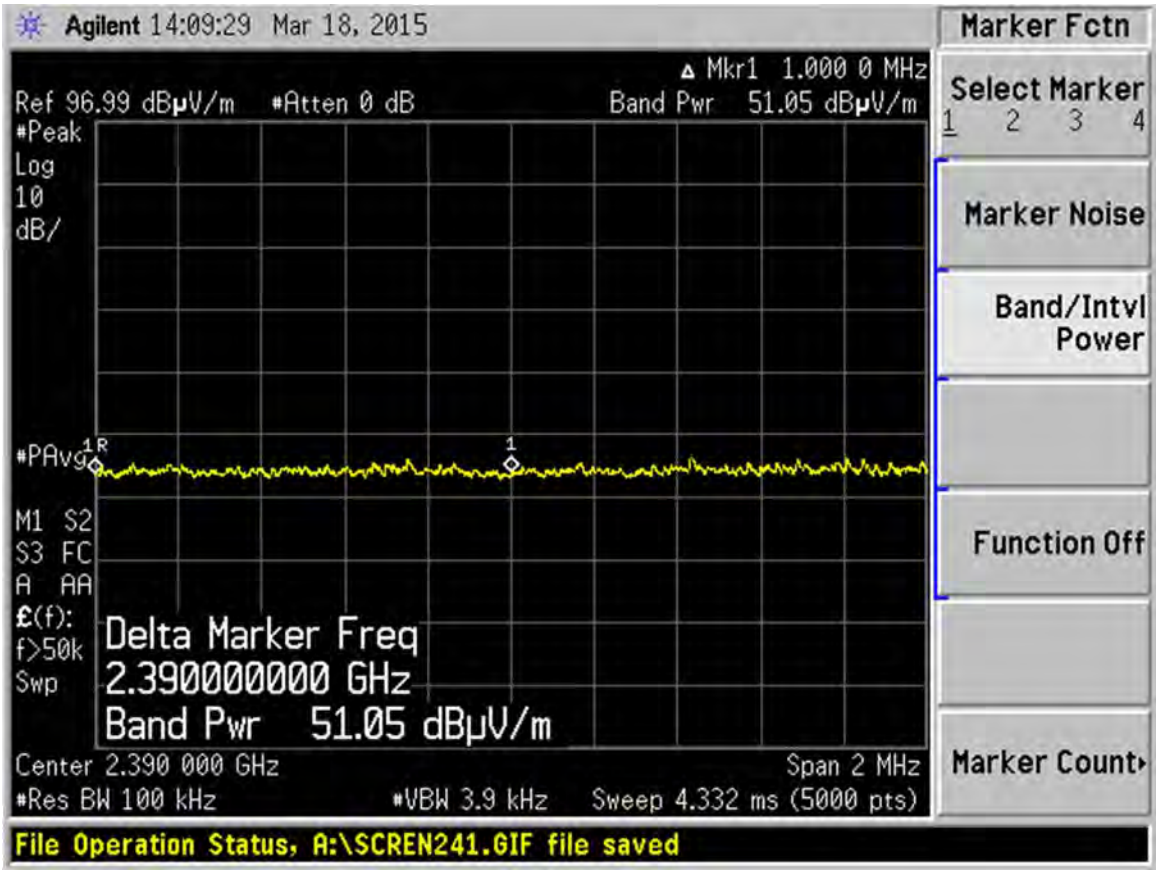
HORIZONTAL:
PEAK: Limit = 74 dBµV/m @ 3 meters



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 1
Channel: 2432 MHz, channel 5
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 18

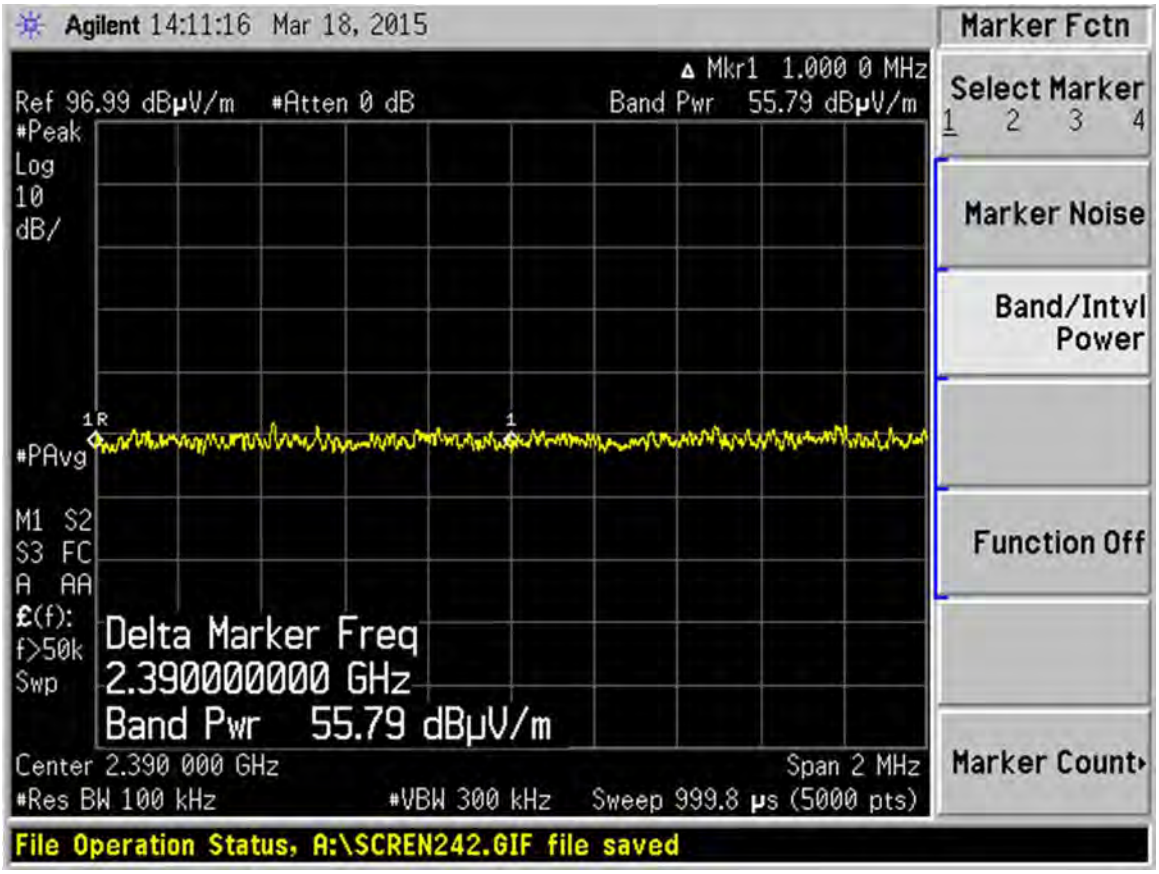
VERTICAL:
AVERAGE: Limit = 54 dBµV/m @ 3 meters
Using procedure 13.3.3, T = 260 µS, VBW = 3.9 kHz



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 1
Channel: 2432 MHz, channel 5
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 18

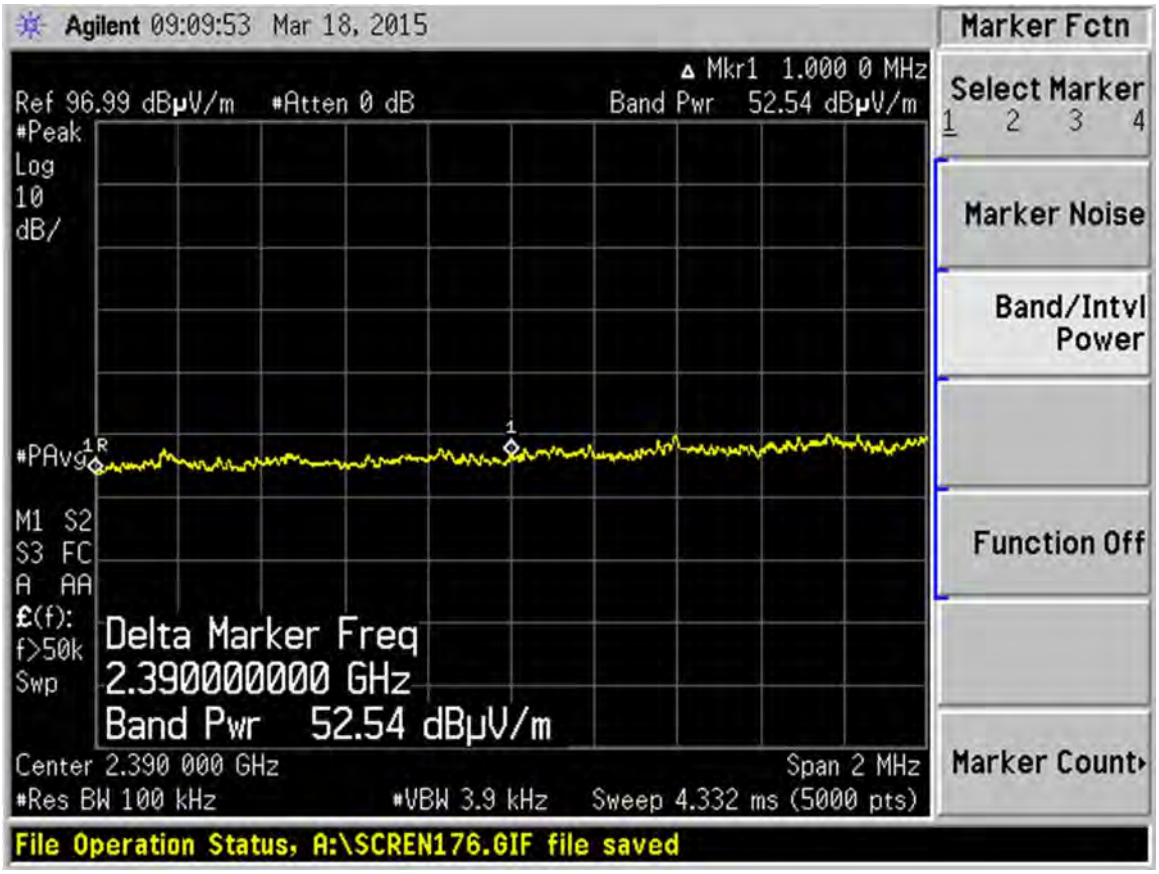
VERTICAL:
PEAK: Limit = 74 dBµV/m @ 3 meters



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 2
Channel: 2412 MHz, channel 1
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 11

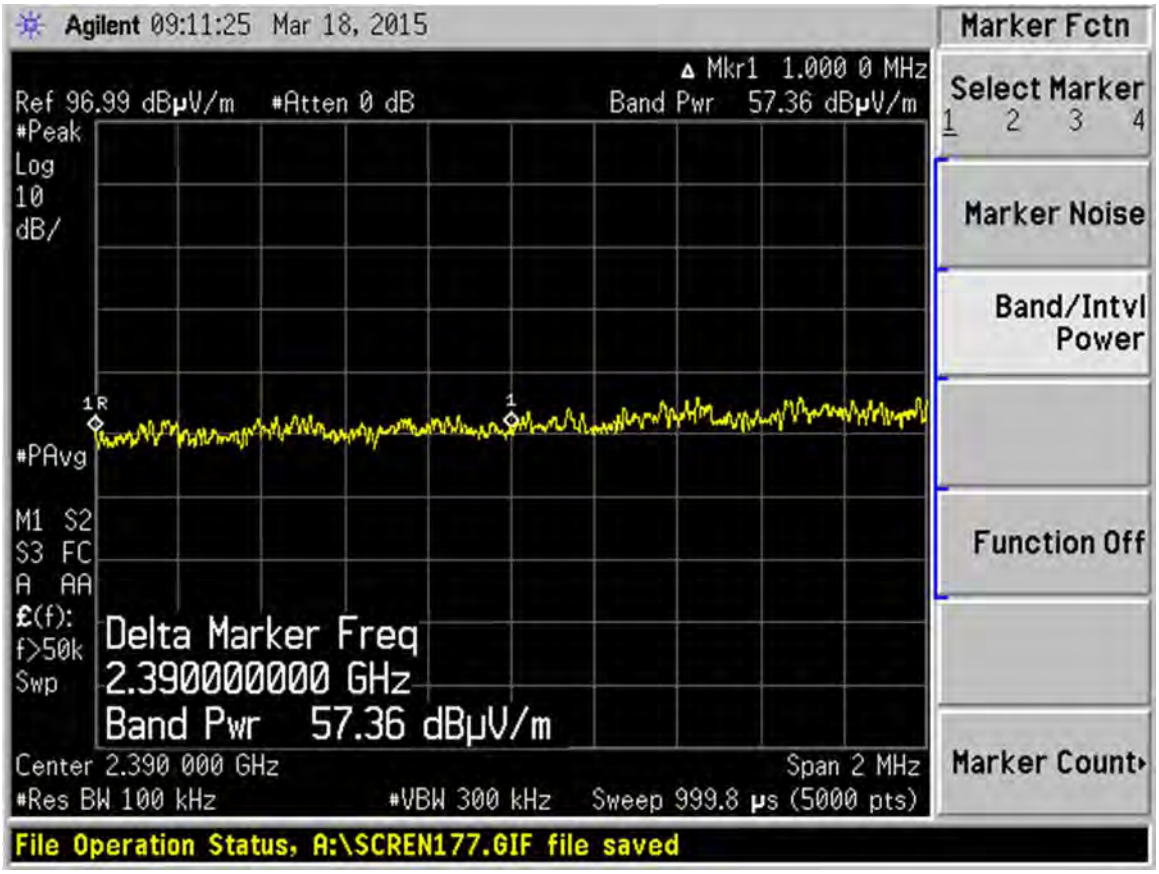
HORIZONTAL:
AVERAGE: Limit = 54 dBµV/m @ 3 meters
Using procedure 13.3.3, T = 260 µS, VBW = 3.9 kHz



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 2
Channel: 2412 MHz, channel 1
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 11

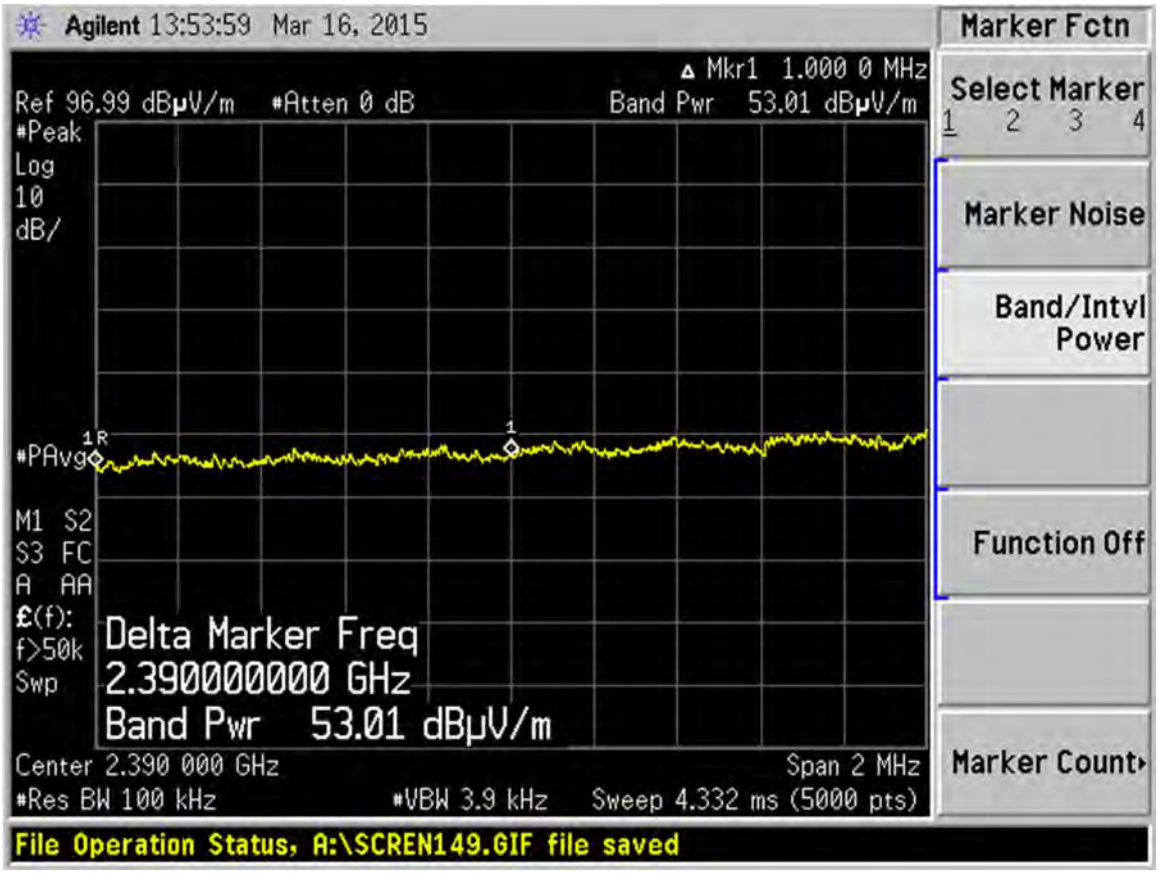
HORIZONTAL:
PEAK: Limit = 74 dBµV/m @ 3 meters



Test Date: 03-16-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 2
Channel: 2412 MHz, channel 1
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 11

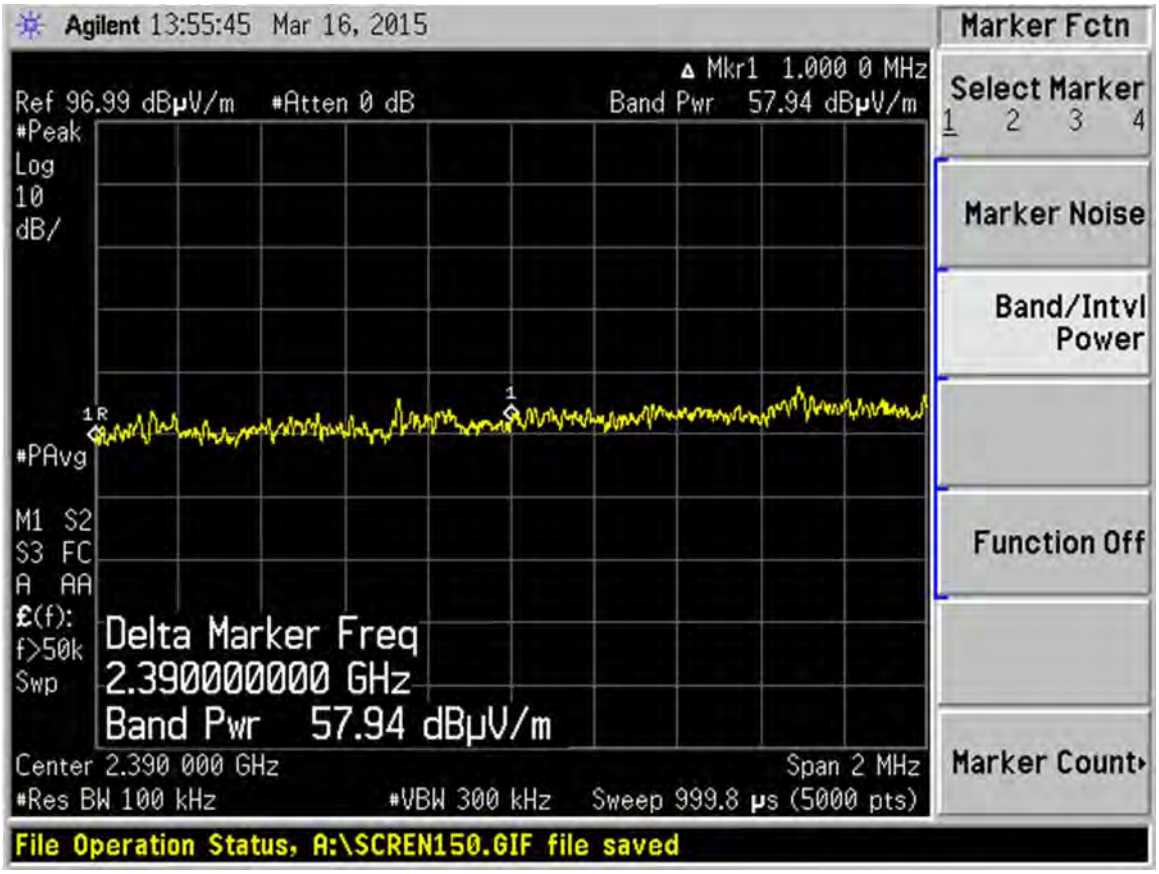
VERTICAL:
AVERAGE: Limit = 54 dBµV/m @ 3 meters
Using procedure 13.3.3, T = 260 µS, VBW = 3.9 kHz



Test Date: 03-16-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 2
Channel: 2412 MHz, channel 1
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 11

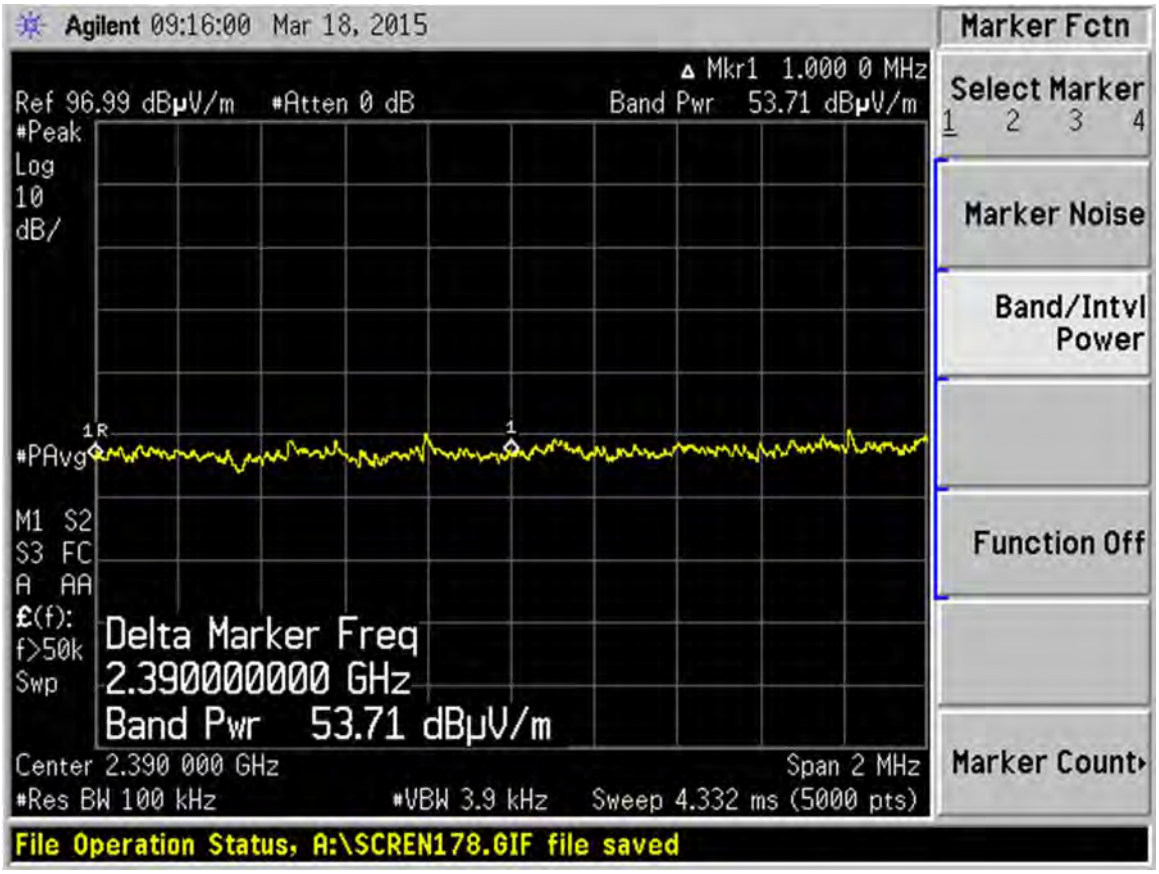
VERTICAL:
PEAK: Limit = 74 dBµV/m @ 3 meters



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 2
Channel: 2417 MHz, channel 2
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 14

HORIZONTAL:
AVERAGE: Limit = 54 dBµV/m @ 3 meters
Using procedure 13.3.3, T = 260 µS, VBW = 3.9 kHz



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
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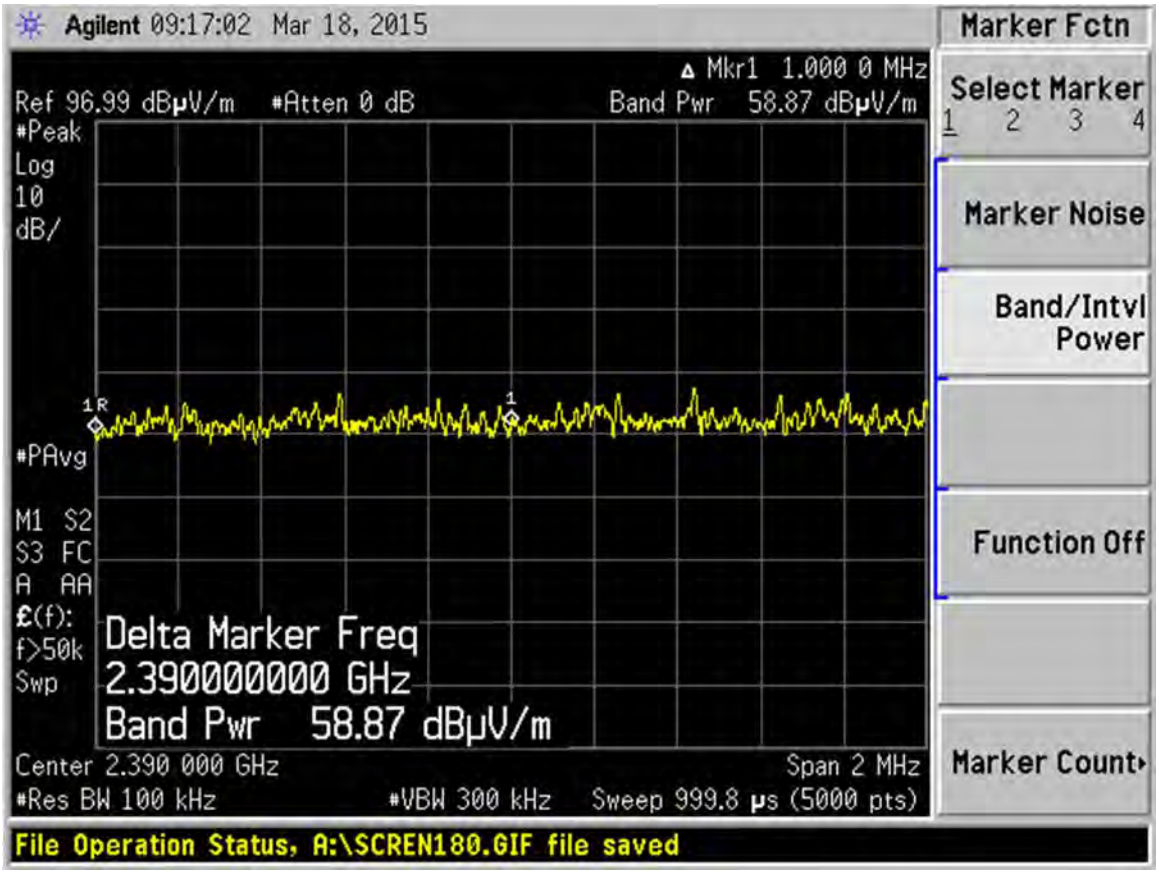
Channel: 2417 MHz, channel 2
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 14

HORIZONTAL:
PEAK: Limit = 74 dBµV/m @ 3 meters



Test Date: 03-16-2015
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Antenna: 2
Channel: 2417 MHz, channel 2
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VERTICAL:
AVERAGE: Limit = 54 dBµV/m @ 3 meters
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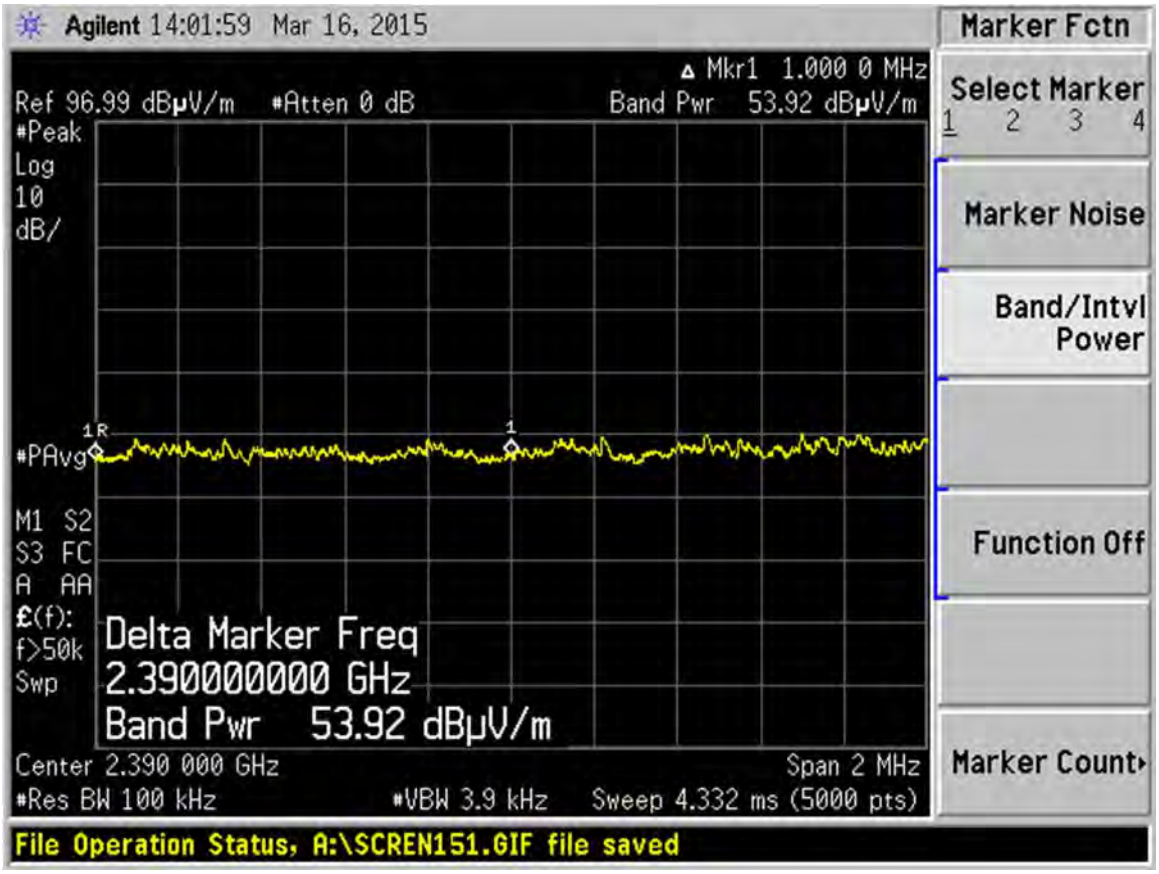
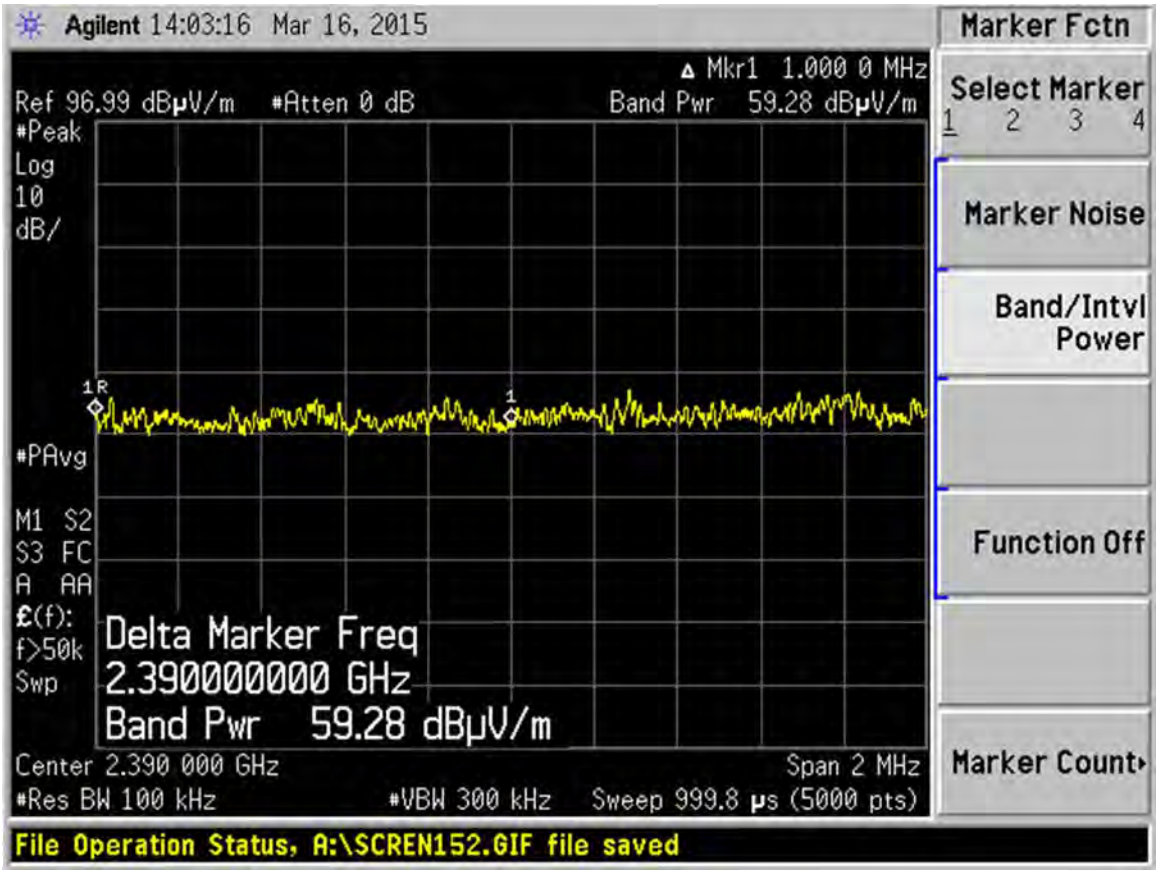


Test Date: 03-16-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 2
Channel: 2417 MHz, channel 2
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 14

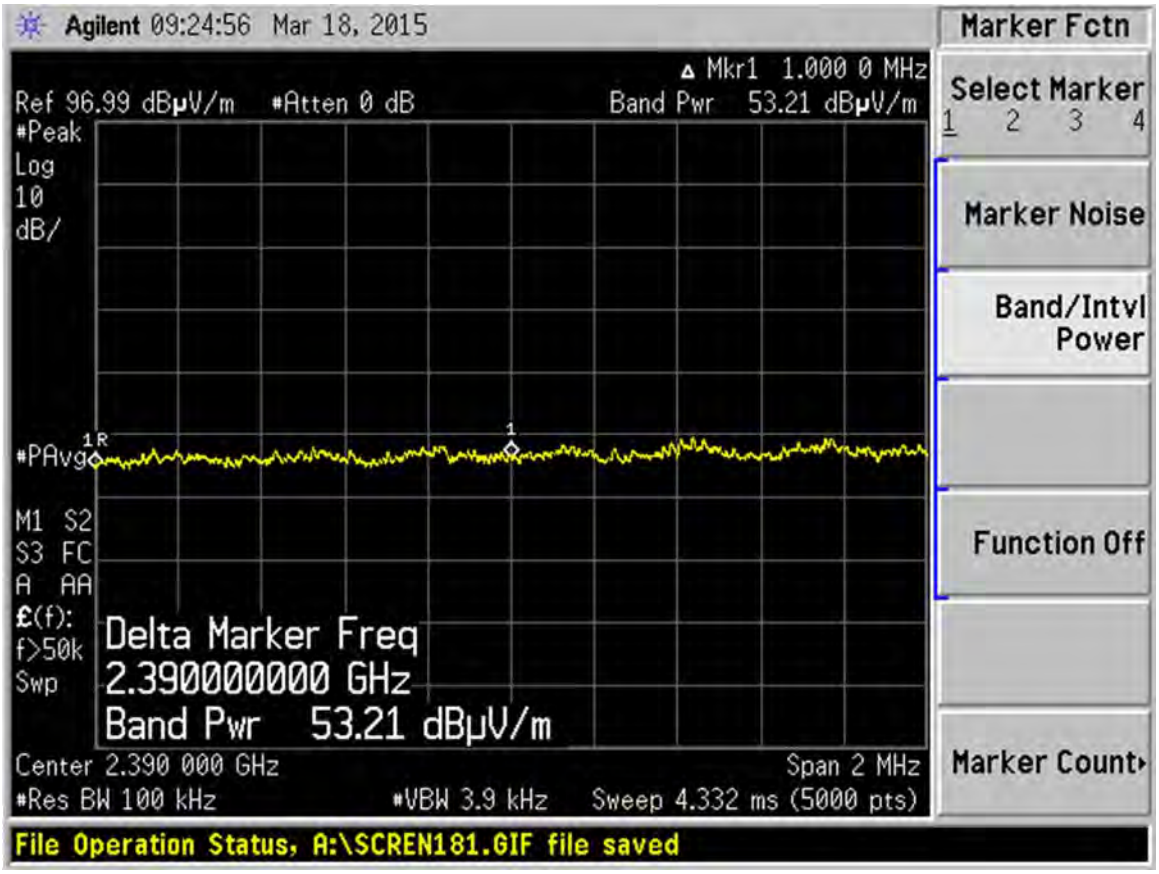
VERTICAL:
PEAK: Limit = 74 dBµV/m @ 3 meters



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 2
Channel: 2422 MHz, channel 3
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 16

HORIZONTAL:
AVERAGE: Limit = 54 dBµV/m @ 3 meters
Using procedure 13.3.3, T = 260 µS, VBW = 3.9 kHz



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
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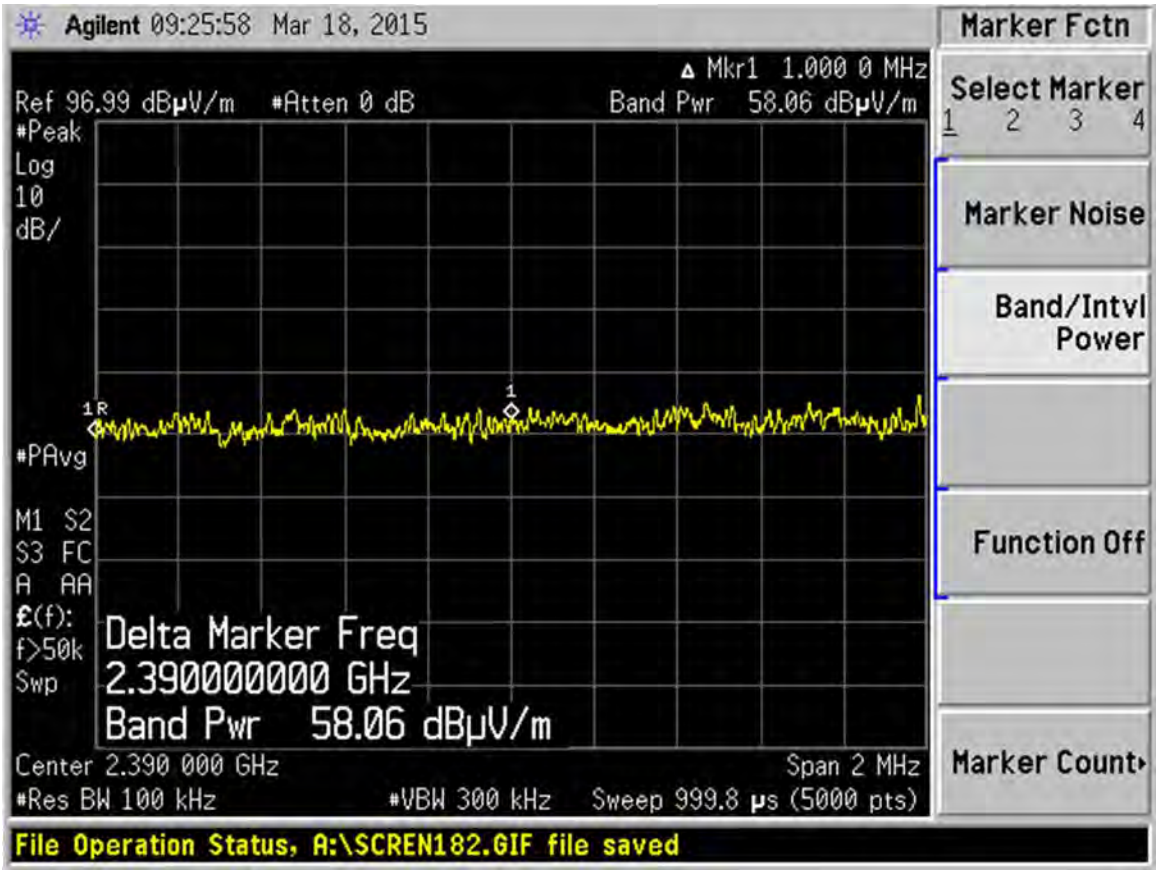
Antenna: 2
Channel: 2422 MHz, channel 3
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 16

HORIZONTAL:
PEAK: Limit = 74 dBµV/m @ 3 meters



Test Date: 03-16-2015
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Antenna: 2
Channel: 2422 MHz, channel 3
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 16

VERTICAL:
AVERAGE: Limit = 54 dBµV/m @ 3 meters
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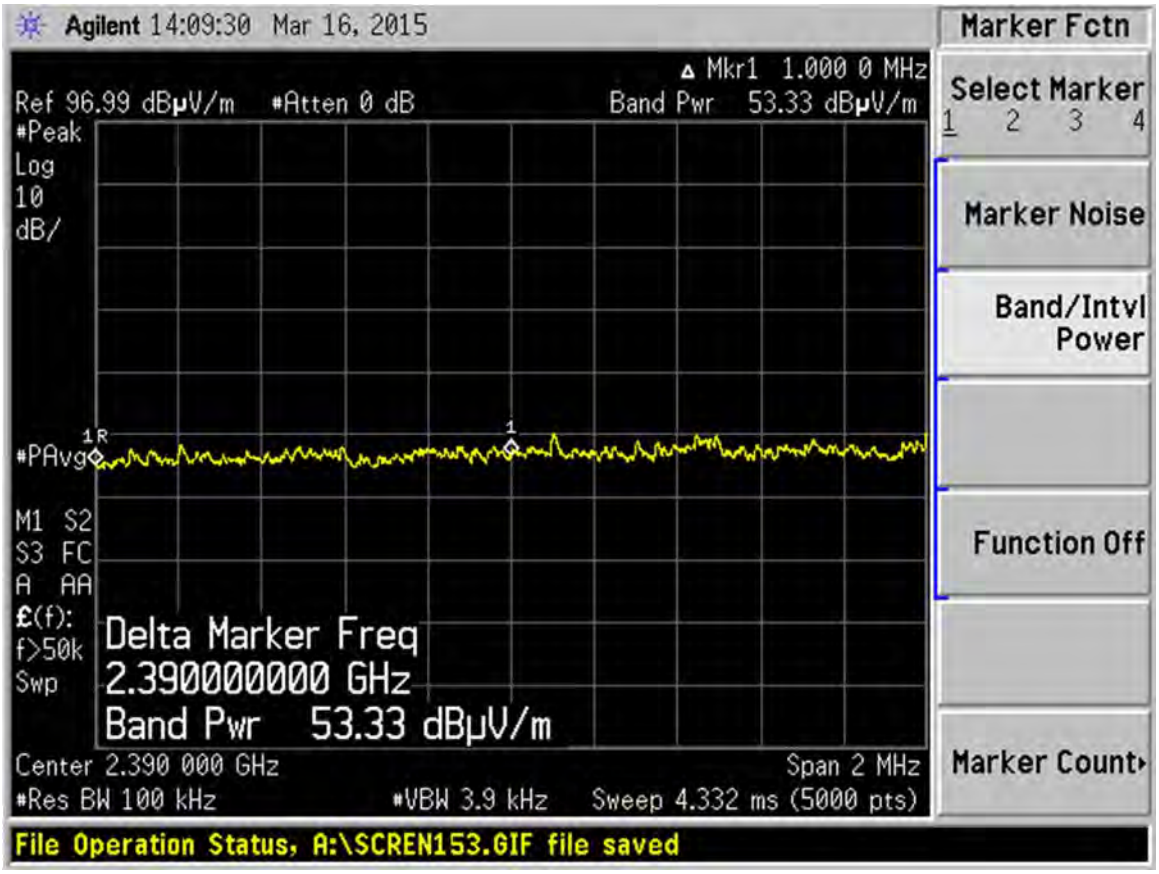

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Antenna: 2
Channel: 2422 MHz, channel 3
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VERTICAL:
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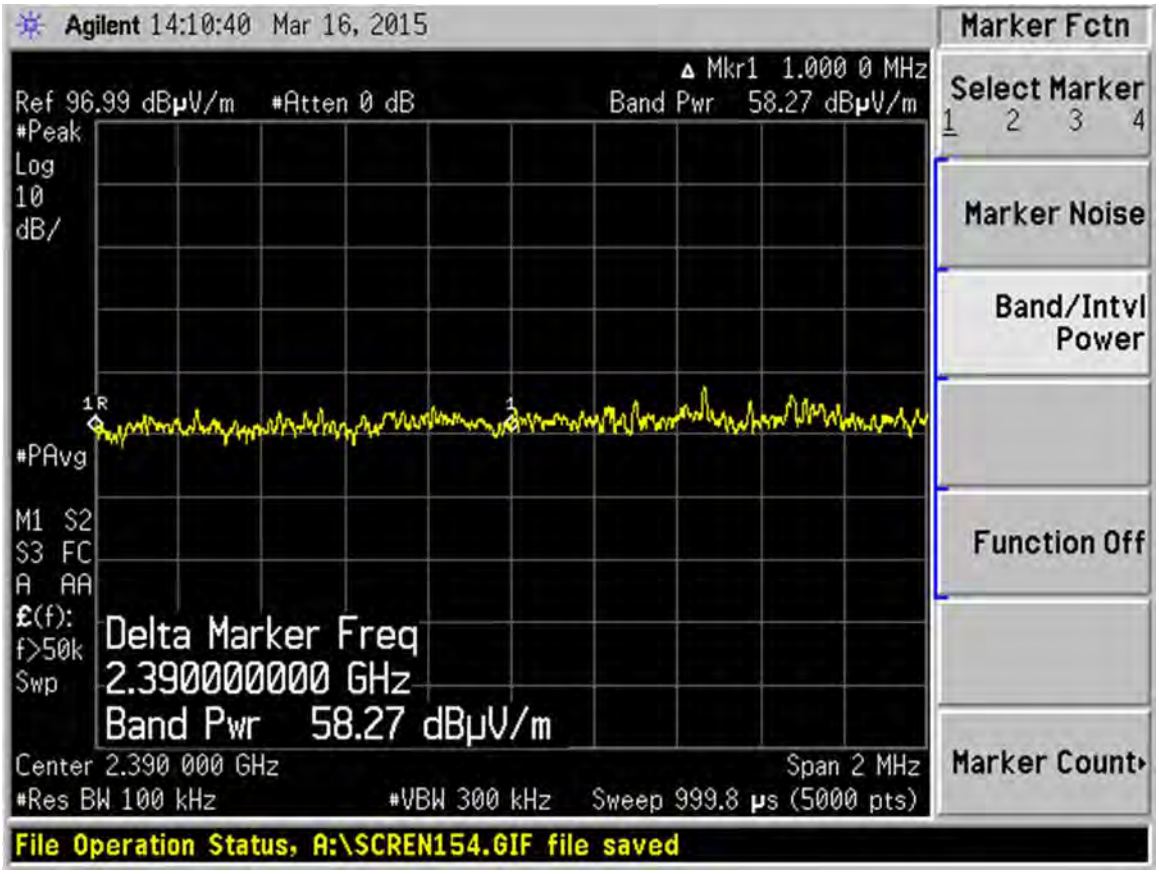

Test Date: 03-18-2015
Company: Whirlpool Corporation
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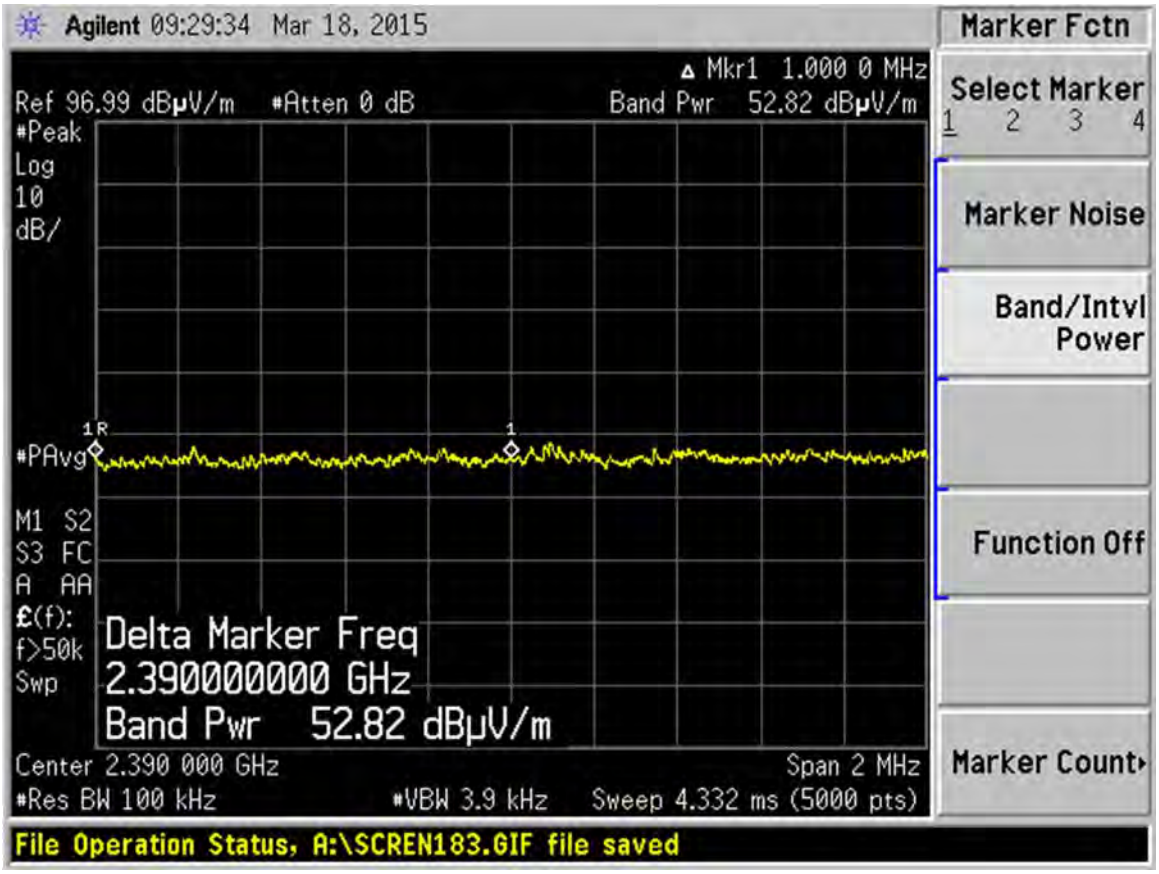
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 2
Channel: 2427 MHz, channel 4
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 17

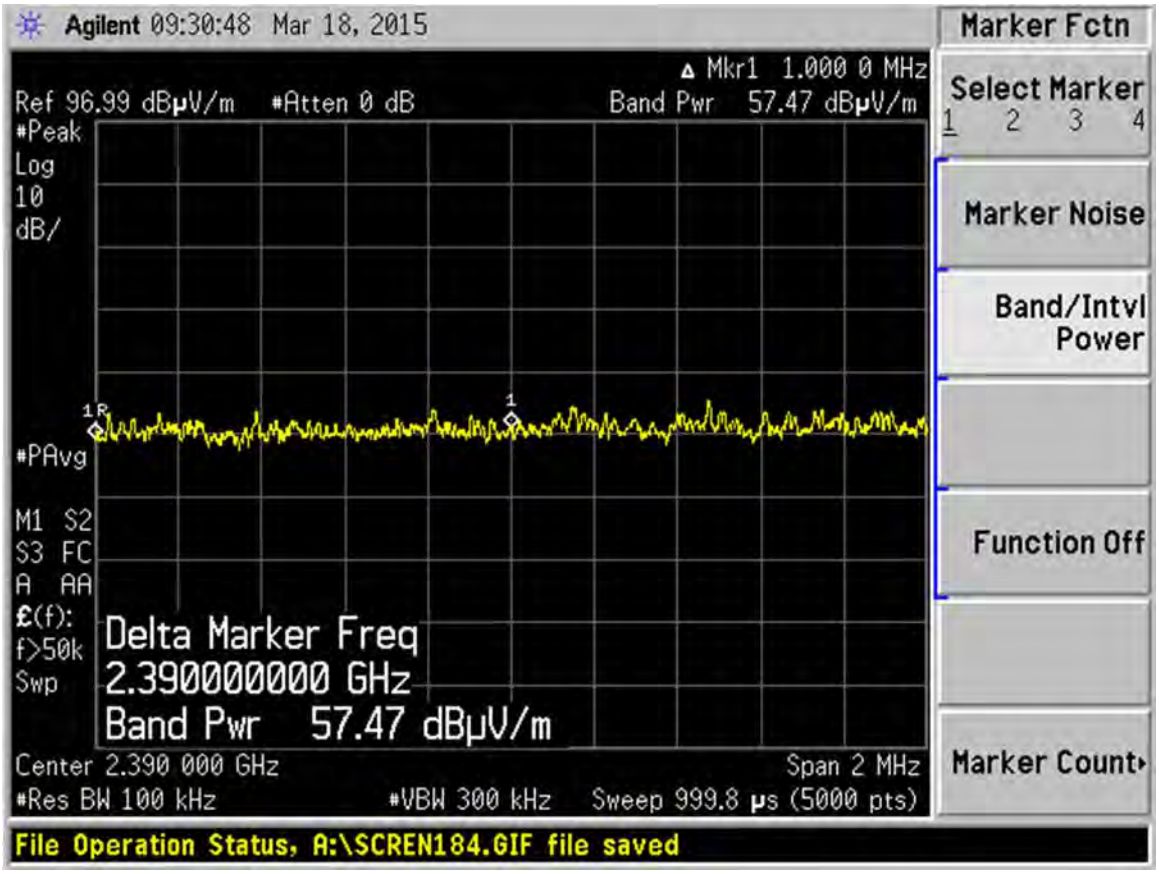
HORIZONTAL:
AVERAGE: Limit = 54 dBµV/m @ 3 meters
Using procedure 13.3.3, T = 260 µS, VBW = 3.9 kHz



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 2
Channel: 2427 MHz, channel 4
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 17

HORIZONTAL:
PEAK: Limit = 74 dBµV/m @ 3 meters



Test Date: 03-16-2015
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Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 2
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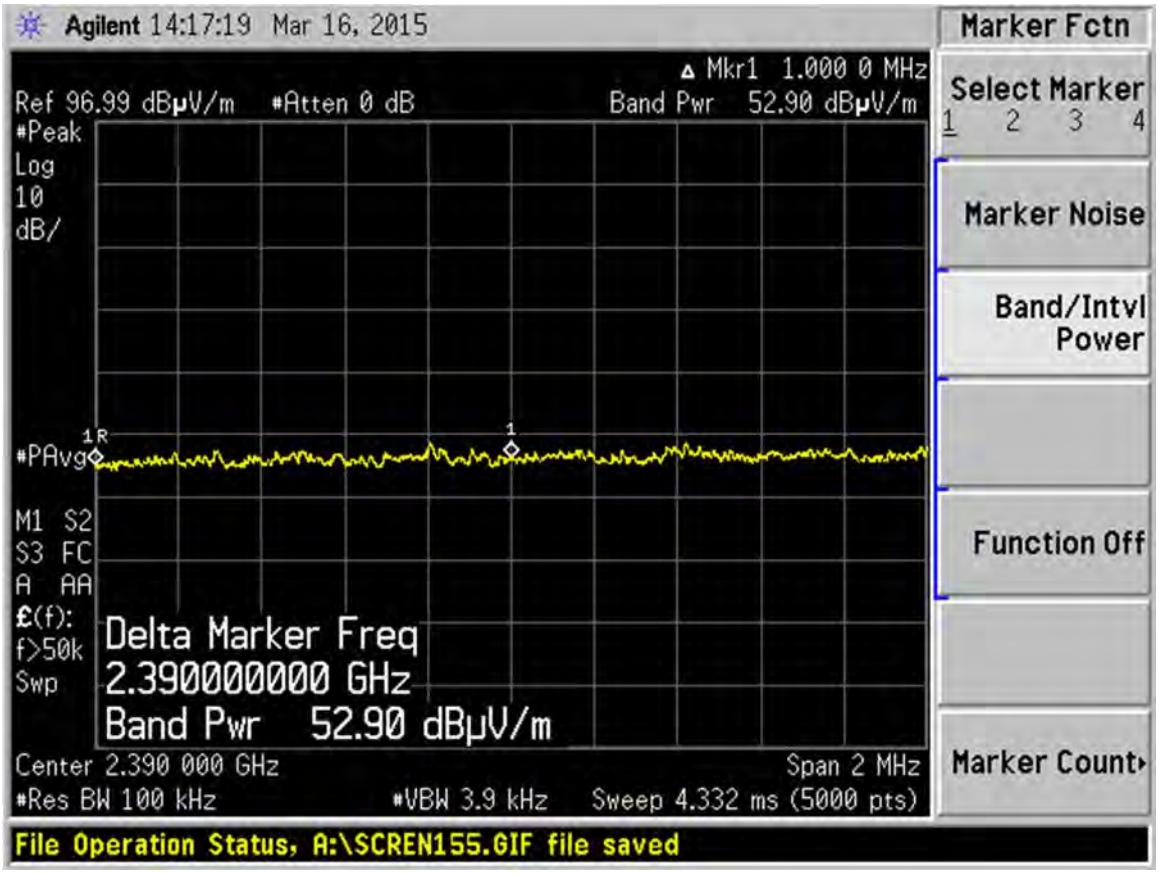
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 17

VERTICAL:
AVERAGE: Limit = 54 dBµV/m @ 3 meters
Using procedure 13.3.3, T = 260 µS, VBW = 3.9 kHz



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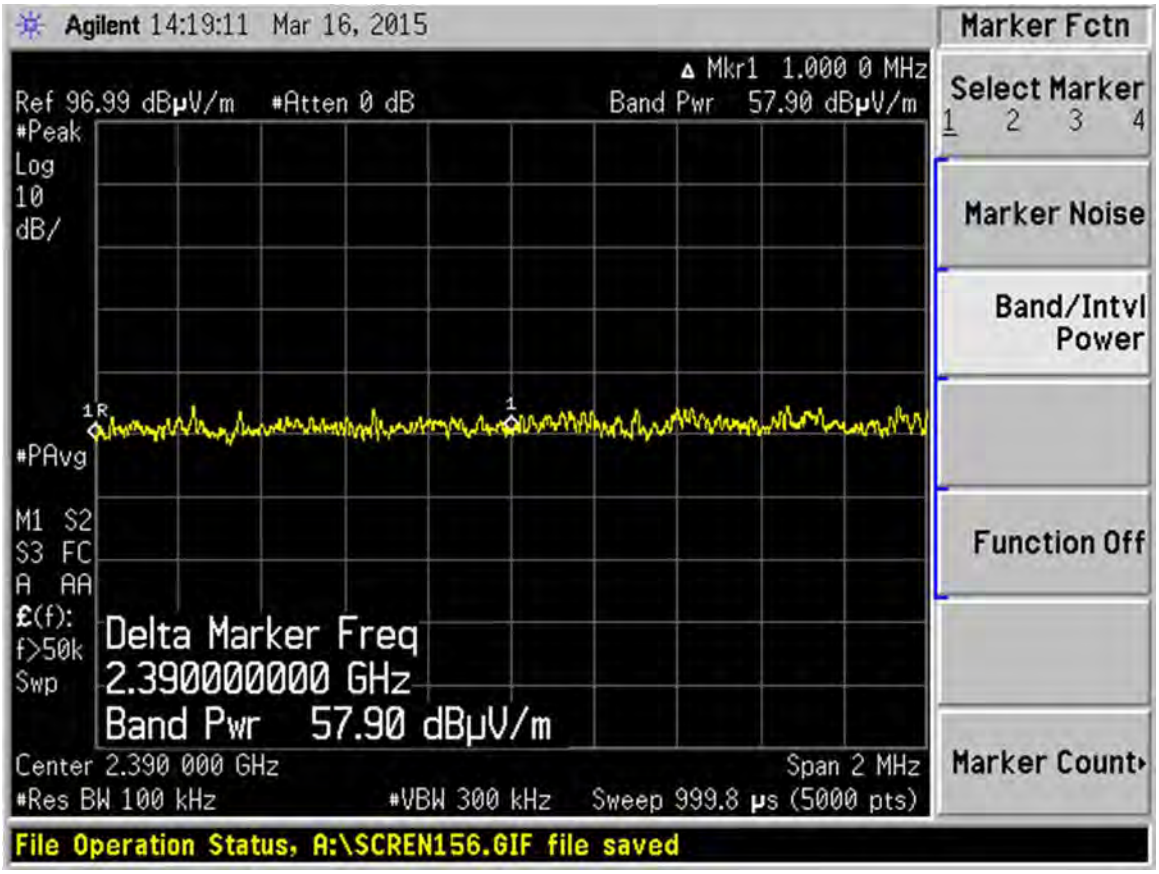
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 2
Channel: 2427 MHz, channel 4
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 17

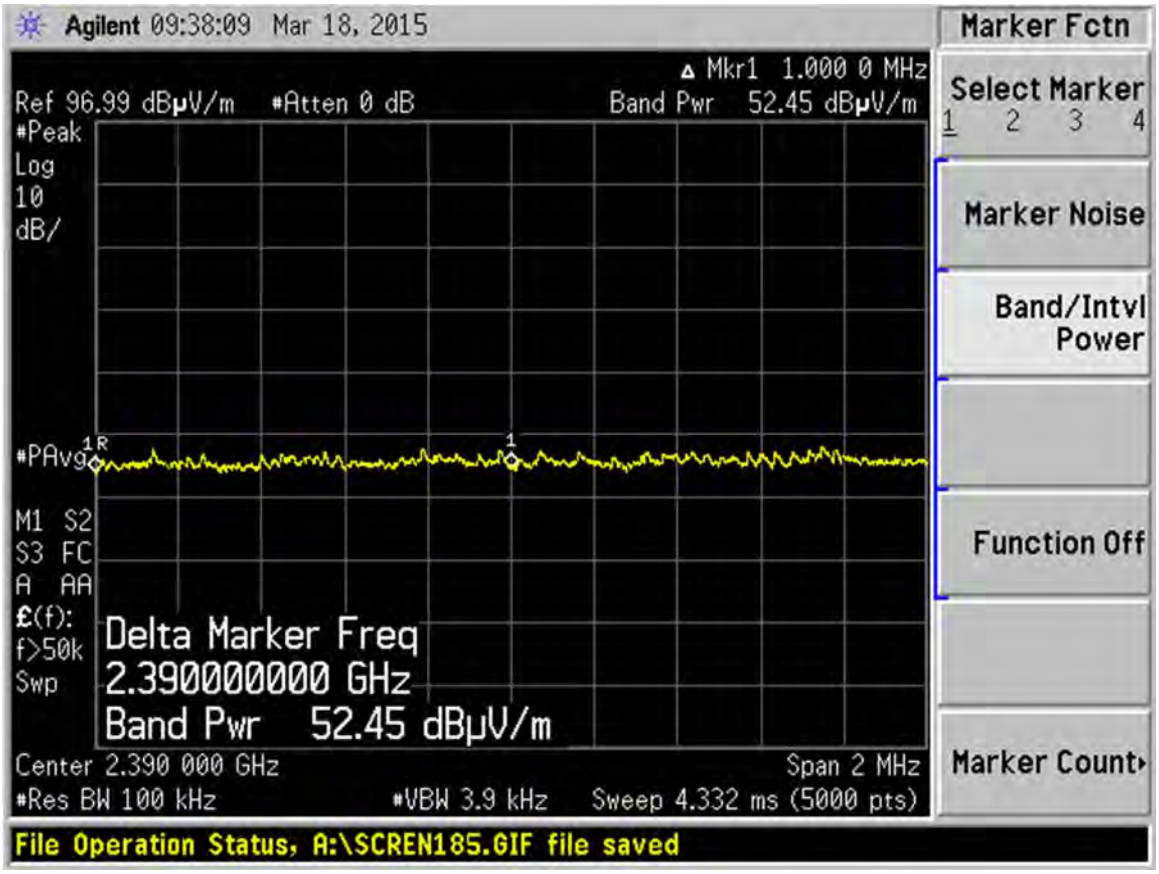
VERTICAL:
PEAK: Limit = 74 dBµV/m @ 3 meters



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 2
Channel: 2432 MHz, channel 5
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 18

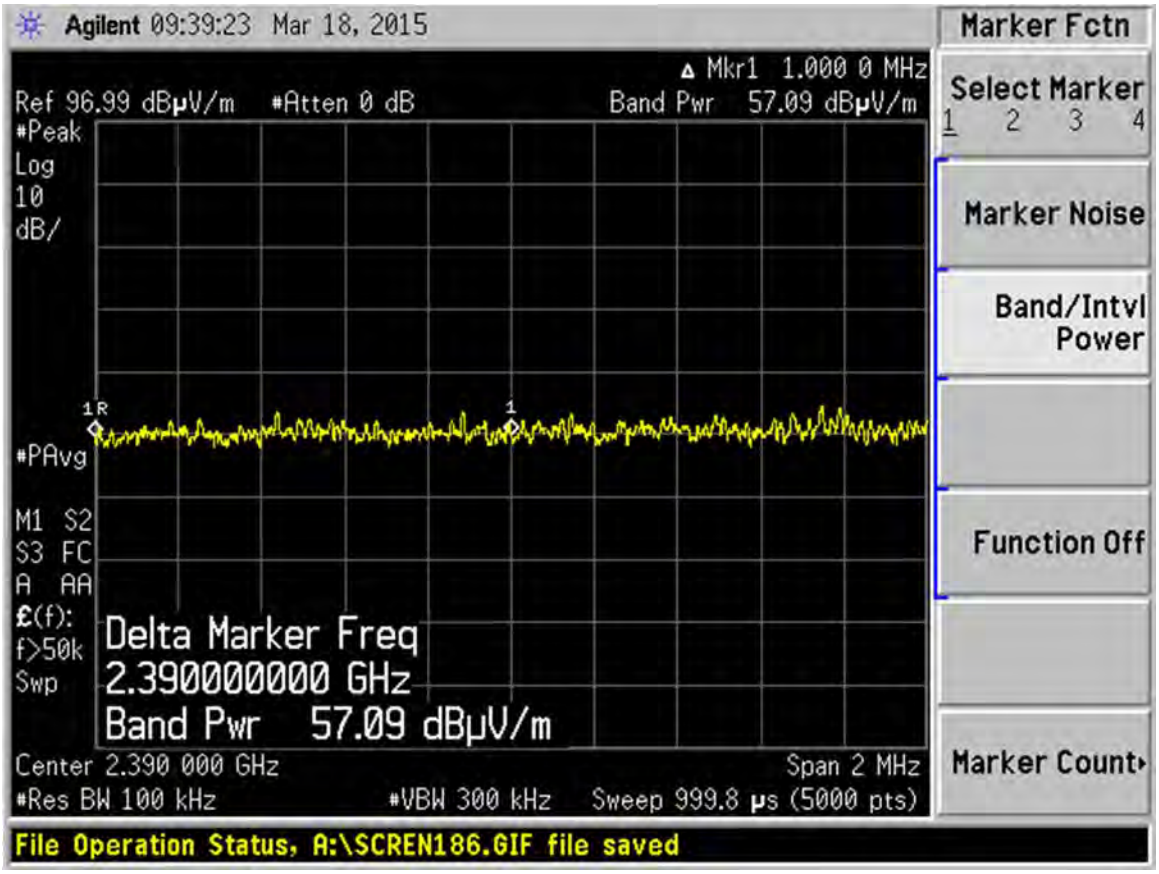
HORIZONTAL:
AVERAGE: Limit = 54 dBµV/m @ 3 meters
Using procedure 13.3.3, T = 260 µS, VBW = 3.9 kHz



Test Date: 03-18-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 2
Channel: 2432 MHz, channel 5
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 18

HORIZONTAL:
PEAK: Limit = 74 dBµV/m @ 3 meters



Test Date: 03-16-2015
Company: Whirlpool Corporation
EUT: XPWG3 RF module
Test: Lower Restricted Band-Edge Radiated
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B

Antenna: 2
Channel: 2432 MHz, channel 5
Modulation: 802.11-g, OFDM, 54 Mbps
Power setting: 18

VERTICAL:
AVERAGE: Limit = 54 dBµV/m @ 3 meters
Using procedure 13.3.3, T = 260 µS, VBW = 3.9 kHz