

NORTHWEST EMC

Emerson Process Management

WPG

FCC 15.247:2015

2.4GHz ISM Radio

Report # EMPM0007.3



NVLAP Lab Code: 200881-0

This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government of the United States of America. This Report may only be duplicated in its entirety

CERTIFICATE OF TEST

Last Date of Test: October 19, 2015
Emerson Process Management
Model: WPG

Radio Equipment Testing

Standards

Specification	Method
FCC 15.247:2015	ANSI C63.10:2013

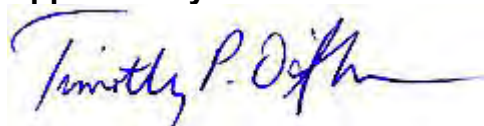
Results

Method Clause	Test Description	Applied	Results	Comments
6.2	Powerline Conducted Emissions	No	N/A	Not required for a battery powered EUT.
6.5, 6.6, 11.12.1, 11.13.2	Spurious Radiated Emissions	Yes	Pass	
6.10.4	Band Edge Compliance	Yes	Pass	
11.6	Duty Cycle	Yes	Pass	
11.8.2	Occupied Bandwidth	Yes	Pass	
11.9	Output Power	Yes	Pass	
11.10	Power Spectral Density	Yes	Pass	
11.11	Spurious Conducted Emissions	Yes	Pass	

Deviations From Test Standards

None

Approved By:



Tim O'Shea, Operations Manager

Product compliance is the responsibility of the client; therefore, the tests and equipment modes of operation represented in this report were agreed upon by the client, prior to testing. The results of this test pertain only to the sample(s) tested. The specific description is noted in each of the individual sections of the test report supporting this certificate of test. This report reflects only those tests from the referenced standards shown in the certificate of test. It does not include inspection or verification of labels, identification, marking or user information.

REVISION HISTORY

Revision Number		Description	Date	Page Number
00		None		

ACCREDITATIONS AND AUTHORIZATIONS

United States

FCC - Designated by the FCC as a Telecommunications Certification Body (TCB). Certification chambers, Open Area Test Sites, and conducted measurement facilities are listed with the FCC.

A2LA - Accredited by A2LA to ISO / IEC 17065 as a product certifier. This allows Northwest EMC to certify transmitters to FCC and IC specifications.

NVLAP - Each laboratory is accredited by NVLAP to ISO 17025

Canada

IC - Recognized by Industry Canada as a Certification Body (CB). Certification chambers and Open Area Test Sites are filed with IC.

European Union

European Commission – Validated by the European Commission as a Conformity Assessment Body (CAB) under the EMC directive and as a Notified Body under the R&TTE Directive.

Australia/New Zealand

ACMA - Recognized by ACMA as a CAB for the acceptance of test data.

Korea

MSIP / RRA - Recognized by KCC's RRA as a CAB for the acceptance of test data.

Japan

VCCI - Associate Member of the VCCI. Conducted and radiated measurement facilities are registered.

Taiwan

BSMI – Recognized by BSMI as a CAB for the acceptance of test data.

NCC - Recognized by NCC as a CAB for the acceptance of test data.

Singapore

IDA – Recognized by IDA as a CAB for the acceptance of test data.

Israel

MOC – Recognized by MOC as a CAB for the acceptance of test data.

Hong Kong

OFCA – Recognized by OFCA as a CAB for the acceptance of test data.

Vietnam

MIC – Recognized by MIC as a CAB for the acceptance of test data.

SCOPE

For details on the Scopes of our Accreditations, please visit:

<http://www.nwemc.com/accreditations/>
<http://gsi.nist.gov/global/docs/cabs/designations.html>

MEASUREMENT UNCERTAINTY

Measurement Uncertainty

When a measurement is made, the result will be different from the true or theoretically correct value. The difference is the result of tolerances in the measurement system that cannot be completely eliminated. To the extent that technology allows us, it has been our aim to minimize this error. Measurement uncertainty is a statistical expression of measurement error qualified by a probability distribution.

A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty (K=2) for each test is on each data sheet. Our measurement data meets or exceeds the measurement uncertainty requirements of the applicable specification; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for estimating measurement uncertainty are based upon ETSI TR 100 028 (or CISPR 16-4-2 as applicable), and are available upon request.

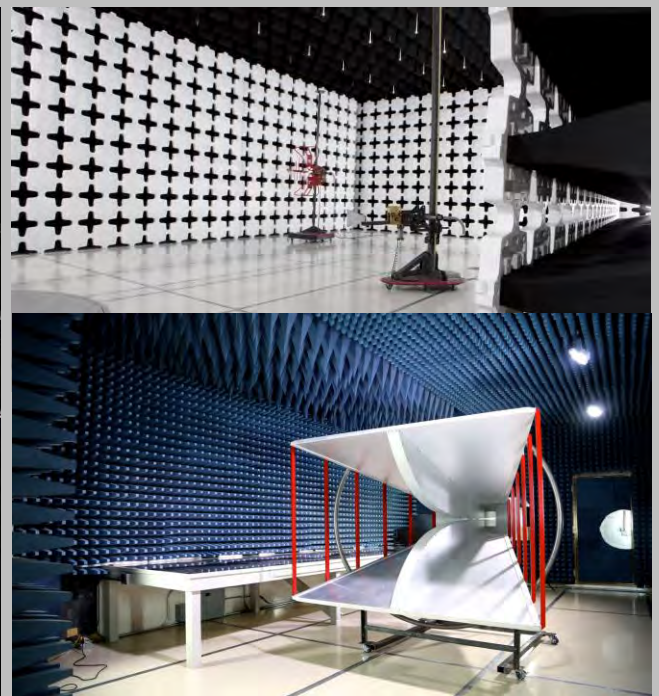
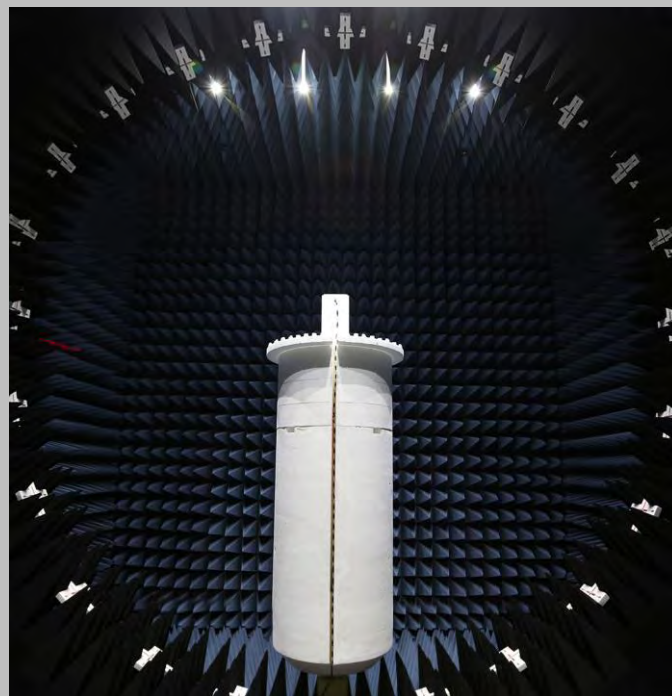
The following table represents the Measurement Uncertainty (MU) budgets for each of the tests that may be contained in this report.

Test	+ MU	- MU
Frequency Accuracy (Hz)	0.0007%	-0.0007%
Amplitude Accuracy (dB)	1.2 dB	-1.2 dB
Conducted Power (dB)	0.3 dB	-0.3 dB
Radiated Power via Substitution (dB)	0.7 dB	-0.7 dB
Temperature (degrees C)	0.7°C	-0.7°C
Humidity (% RH)	2.5% RH	-2.5% RH
Voltage (AC)	1.0%	-1.0%
Voltage (DC)	0.7%	-0.7%
Field Strength (dB)	5.2 dB	-5.2 dB
AC Powerline Conducted Emissions (dB)	2.4 dB	-2.4 dB

FACILITIES



California Labs OC01-13 41 Tesla Irvine, CA 92618 (949) 861-8918	Minnesota Labs MN01-08, MN10 9349 W Broadway Ave. Brooklyn Park, MN 55445 (612)-638-5136	New York Labs NY01-04 4939 Jordan Rd. Elbridge, NY 13060 (315) 554-8214	Oregon Labs EV01-12 22975 NW Evergreen Pkwy Hillsboro, OR 97124 (503) 844-4066	Texas Labs TX01-09 3801 E Plano Pkwy Plano, TX 75074 (469) 304-5255	Washington Labs NC01-05 19201 120 th Ave NE Bothell, WA 9801 (425)984-6600
NVLAP					
NVLAP Lab Code: 200676-0	NVLAP Lab Code: 200881-0	NVLAP Lab Code: 200761-0	NVLAP Lab Code: 200630-0	NVLAP Lab Code:201049-0	NVLAP Lab Code: 200629-0
Industry Canada					
2834B-1, 2834B-3	2834E-1	N/A	2834D-1, 2834D-2	2834G-1	2834F-1
BSMI					
SL2-IN-E-1154R	SL2-IN-E-1152R	N/A	SL2-IN-E-1017	SL2-IN-E-1158R	SL2-IN-E-1153R
VCCI					
A-0029	A-0109	N/A	A-0108	A-0201	A-0110
Recognized Phase I CAB for ACMA, BSMI, IDA, KCC/RRR, MIC, MOC, NCC, OFCA					
US0158	US0175	N/A	US0017	US0191	US0157



PRODUCT DESCRIPTION

Client and Equipment Under Test (EUT) Information

Company Name:	Emerson Process Management
Address:	8200 Market Blvd. MS SC3L
City, State, Zip:	Chanhassen, MN 55317
Test Requested By:	Merritt Pulkrabek
Model:	WPG
First Date of Test:	October 14, 2015
Last Date of Test:	October 19, 2015
Receipt Date of Samples:	October 14, 2015
Equipment Design Stage:	Production
Equipment Condition:	No Damage

Information Provided by the Party Requesting the Test

Functional Description of the EUT:
TX 2.4GHz 15 Channels Max output power is +8dBm conducted with an internal antenna with a Max gain of 2dBi.
Testing Objective:
To demonstrate compliance of the 2.4 GHz ISM radio to FCC 15.247 requirements.

CONFIGURATIONS

Configuration EMPM0007- 1

Software/Firmware Running during test			
Description		Version	
Purple Hart		6.6.5	

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Wireless Pressure Gauge	Emerson Process Management	WPG	0987564

Configuration EMPM0007- 2

Software/Firmware Running during test			
Description		Version	
Purple Hart		6.6.5	

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Wireless Pressure Gauge	Emerson Process Management	WPG	Unknown

Peripherals in test setup boundary			
Description	Manufacturer	Model/Part Number	Serial Number
USB Interface	MACTek Corporation	Viator	340976
Test Laptop	Acer	Aspire One	IS486
AC/DC Power Supply	Delta Electronics, Inc	ADP-40TH	None

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
SMA	Yes	10 cm	No	Zigbee Radio	Test Cable (to Spec An)
IO	Unknown	1.3 m	None	Test Laptop	Wireless Pressure Gauge
DC Power Cable	Unknown	1.5	Yes	Test Laptop	AC Mains

MODIFICATIONS

Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	10/14/2015	Spurious Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
2	10/14/2015	Band Edge Compliance	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
3	10/14/2015	Duty Cycle	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
4	10/14/2015	Occupied Bandwidth	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
5	10/14/2015	Output Power	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
6	10/14/2015	Power Spectral Density	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
7	10/19/2015	Spurious Radiated Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data. The test data represents the configuration / operating mode/ model that produced the highest emission levels as compared to the specification limit.

CHANNELS OF OPERATION

Low Channel 0, 2405 MHz

Middle Channel 7, 2440 MHz

High Channel 15, 2480 MHz

MODULATION OF OPERATION

OQPSK

POWER SETTINGS INVESTIGATED

Battery, 3 VDC

CONFIGURATIONS INVESTIGATED

EMPM0006 - 1

FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	26500 MHz
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SAMPLE CALCULATIONS

Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Attenuator	S.M. Electronics	SA6-20	REO	3/2/2015	12 mo
Filter - High Pass	Micro-Tronics	HPM50111	HGQ	3/2/2015	12 mo
Filter - Low Pass	Micro-Tronics	LPM50004	HGW	9/18/2015	12 mo
Filter - Low Pass	Micro-Tronics	LPM50004	HGK	3/2/2015	12 mo
Amplifier - Pre-Amplifier	Miteq	JSD4-18002600-26-8P	APU	9/18/2015	12 mo
Cable	Northwest EMC	18-26GHz Standard Gain Horn Cable	MNP	9/18/2015	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-09	AHG	NCR	0 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVW	3/2/2015	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-08	AIQ	NCR	0 mo
Cable	ESM Cable Corp.	Standard Gain Horn Cables	MNJ	5/5/2015	12 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVV	3/2/2015	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-07	AXP	NCR	0 mo
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVX	3/2/2015	12 mo
Cable	ESM Cable Corp.	Double Ridge Guide Horn Cables	MNI	5/5/2015	12 mo
Antenna - Double Ridge	ETS Lindgren	3115	AJA	6/3/2014	24 mo
Amplifier - Pre-Amplifier	Miteq	AM-1616-1000	PAD	3/2/2015	12 mo
Cable	ESM Cable Corp.	Bilog Cables	MNH	3/30/2015	12 mo
Antenna - Biconilog	Teseg	CBL 6141B	AYD	12/17/2013	24 mo
Analyzer - Spectrum Analyzer	Agilent	N9010A	AFI	1/27/2015	12 mo

MEASUREMENT BANDWIDTHS

Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (kHz)
0.01 - 0.15	1.0	0.2	0.2
0.15 - 30.0	10.0	9.0	9.0
30.0 - 1000	100.0	120.0	120.0
Above 1000	1000.0	N/A	1000.0

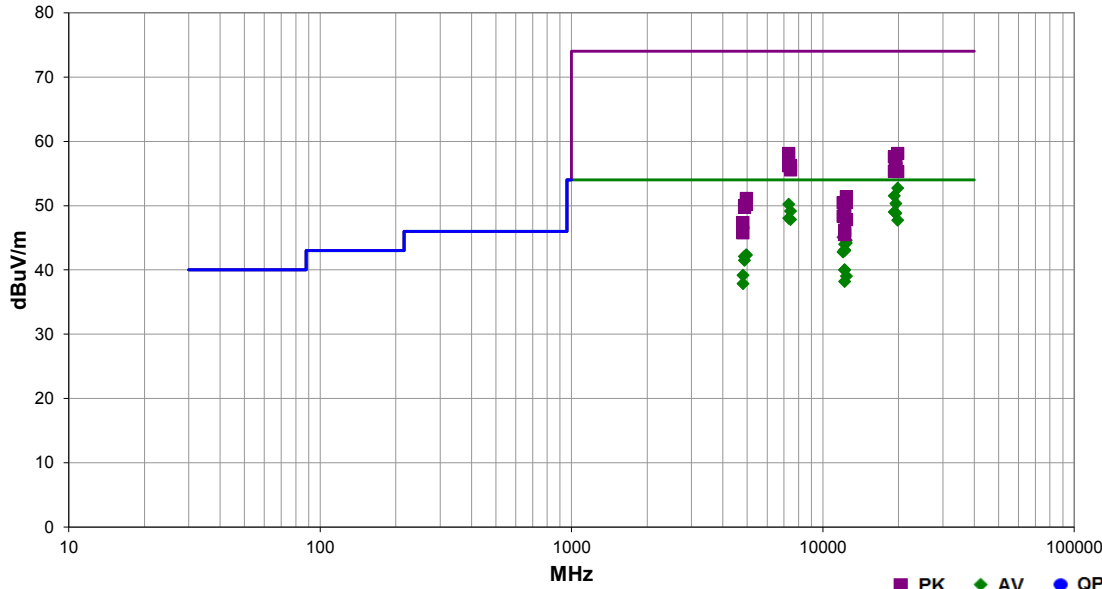
TEST DESCRIPTION

The highest gain of each type of antenna to be used with the EUT was tested. The EUT was configured for low, mid, and high band transmit frequencies. For each configuration, the spectrum was scanned throughout the specified range. In addition, measurements were made in the restricted bands to verify compliance. While scanning, emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and the EUT antenna in three orthogonal axis, and adjusting measurement antenna height and polarization. A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

Work Order:	EMPM0007	Date:	10/19/15		
Project:	None	Temperature:	21.4 °C		
Job Site:	MN05	Humidity:	30.5% RH		
Serial Number:	0987564	Barometric Pres.:	979.7 mbar	Tested by:	Jared Ison
EUT:	WPG				
Configuration:	1				
Customer:	Emerson Process Management				
Attendees:	None				
EUT Power:	Battery, 3 VDC				
Operating Mode:	Continuous single channel transmission.				
Deviations:	None				
Comments:	Reference data comments for channel and EUT orientation.				

Test Specifications	FCC 15.247:2015	Test Method	ANSI C63.10:2013
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Run #	47	Test Distance (m)	3	Antenna Height(s)	1 to 4(m)	Results	Pass
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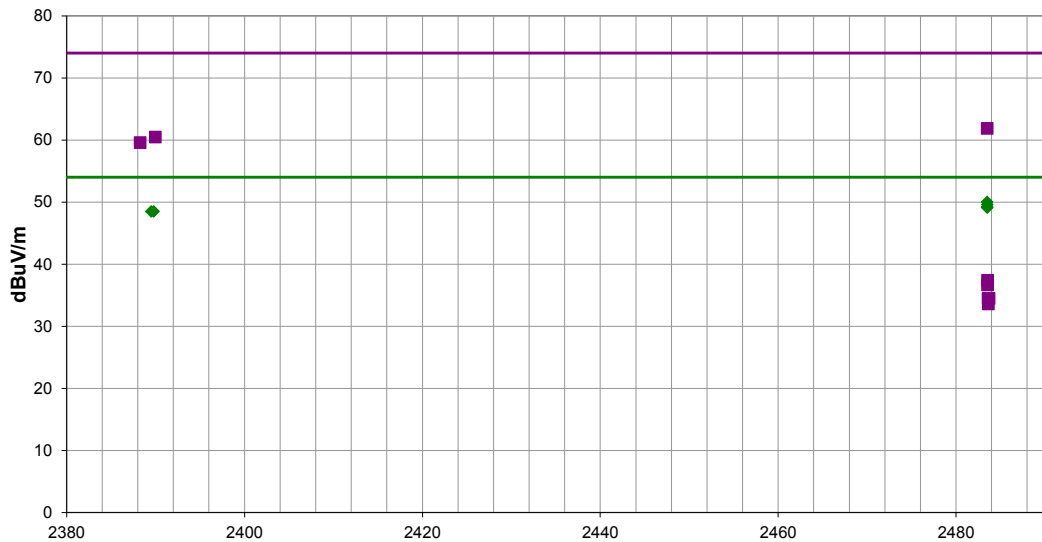


Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
19843.760	40.3	12.4	1.6	353.0	3.0	0.0	Vert	AV	0.0	52.7	54.0	-1.3	High Ch. 15: 2480 MHz, EUT Horz
19243.720	39.7	11.8	1.6	147.0	3.0	0.0	Vert	AV	0.0	51.5	54.0	-2.5	Low Ch. 0: 2405 MHz, EUT Horz
19523.800	38.2	12.1	1.6	358.0	3.0	0.0	Vert	AV	0.0	50.3	54.0	-3.7	Mid Ch. 7: 2440 MHz, EUT Horz
7321.280	36.0	14.2	2.3	289.9	3.0	0.0	Horz	AV	0.0	50.2	54.0	-3.8	Ch. 7: 2440 MHz, EUT On Side
7441.347	34.5	14.6	1.0	23.1	3.0	0.0	Horz	AV	0.0	49.1	54.0	-4.9	Ch. 15: 2480 MHz, EUT On Side
19243.840	37.2	11.8	1.6	226.0	3.0	0.0	Horz	AV	0.0	49.0	54.0	-5.0	Low Ch. 0: 2405 MHz, EUT On Side
19523.780	36.7	12.1	1.6	70.1	3.0	0.0	Horz	AV	0.0	48.8	54.0	-5.2	Mid Ch. 7: 2440 MHz, EUT On Side
7321.347	33.8	14.2	1.0	158.0	3.0	0.0	Vert	AV	0.0	48.0	54.0	-6.0	Ch. 7: 2440 MHz, EUT Horz
7441.320	33.2	14.6	1.0	28.0	3.0	0.0	Vert	AV	0.0	47.8	54.0	-6.2	Ch. 15: 2480 MHz, EUT Horz
19843.760	35.3	12.4	1.6	68.0	3.0	0.0	Horz	AV	0.0	47.7	54.0	-6.3	High Ch. 15: 2480 MHz, EUT On Side
12027.320	48.8	-3.7	1.6	285.0	3.0	0.0	Horz	AV	0.0	45.1	54.0	-8.9	Ch. 0: 2405 MHz, EUT On Side
12397.450	47.3	-2.7	2.6	74.0	3.0	0.0	Horz	AV	0.0	44.6	54.0	-9.4	Ch. 15: 2480 MHz, EUT On Side
12397.500	46.9	-2.7	1.8	29.1	3.0	0.0	Vert	AV	0.0	44.2	54.0	-9.8	Ch. 15: 2480 MHz, EUT Horz
12202.270	47.1	-3.1	1.8	203.1	3.0	0.0	Vert	AV	0.0	44.0	54.0	-10.0	Ch. 7: 2440 MHz, EUT Horz
12202.270	46.2	-3.1	1.0	275.0	3.0	0.0	Horz	AV	0.0	43.1	54.0	-10.9	Ch. 7: 2440 MHz, EUT On Side
12202.310	46.1	-3.1	2.1	115.0	3.0	0.0	Horz	AV	0.0	43.0	54.0	-11.0	Ch. 7: 2440 MHz, EUT Vert
12027.280	46.5	-3.7	2.5	205.0	3.0	0.0	Vert	AV	0.0	42.8	54.0	-11.2	Ch. 0: 2405 MHz, EUT Horz
4960.880	35.5	6.8	1.0	229.9	3.0	0.0	Vert	AV	0.0	42.3	54.0	-11.7	Ch. 15: 2480 MHz, EUT Horz
4960.813	35.5	6.8	1.8	294.9	3.0	0.0	Horz	AV	0.0	42.3	54.0	-11.7	Ch. 15: 2480 MHz, EUT On Side
4880.840	35.6	6.5	1.0	114.0	3.0	0.0	Vert	AV	0.0	42.1	54.0	-11.9	Ch. 7: 2440 MHz, EUT Horz
4880.853	35.0	6.5	1.1	44.1	3.0	0.0	Horz	AV	0.0	41.5	54.0	-12.5	Ch. 7: 2440 MHz, EUT On Side
12202.360	43.1	-3.1	1.0	193.0	3.0	0.0	Vert	AV	0.0	40.0	54.0	-14.0	Ch. 7: 2440 MHz, EUT Vert
12202.230	43.1	-3.1	1.9	198.0	3.0	0.0	Vert	AV	0.0	40.0	54.0	-14.0	Ch. 7: 2440 MHz, EUT On Side
4810.880	32.8	6.4	2.6	247.9	3.0	0.0	Vert	AV	0.0	39.2	54.0	-14.8	Ch. 0: 2405 MHz, Vert
12402.390	36.8	2.2	1.0	336.0	3.0	0.0	Horz	AV	0.0	39.0	54.0	-15.0	Ch. 15: 2480 MHz, EUT On Side
12202.320	41.3	-3.1	1.1	48.1	3.0	0.0	Horz	AV	0.0	38.2	54.0	-15.8	Ch. 7: 2440 MHz, EUT Horz
7321.587	43.9	14.2	2.3	289.9	3.0	0.0	Horz	PK	0.0	58.1	74.0	-15.9	Ch. 7: 2440 MHz, EUT On Side
19843.860	45.7	12.4	1.6	353.0	3.0	0.0	Vert	PK	0.0	58.1	74.0	-15.9	High Ch. 15: 2480 MHz, EUT Horz

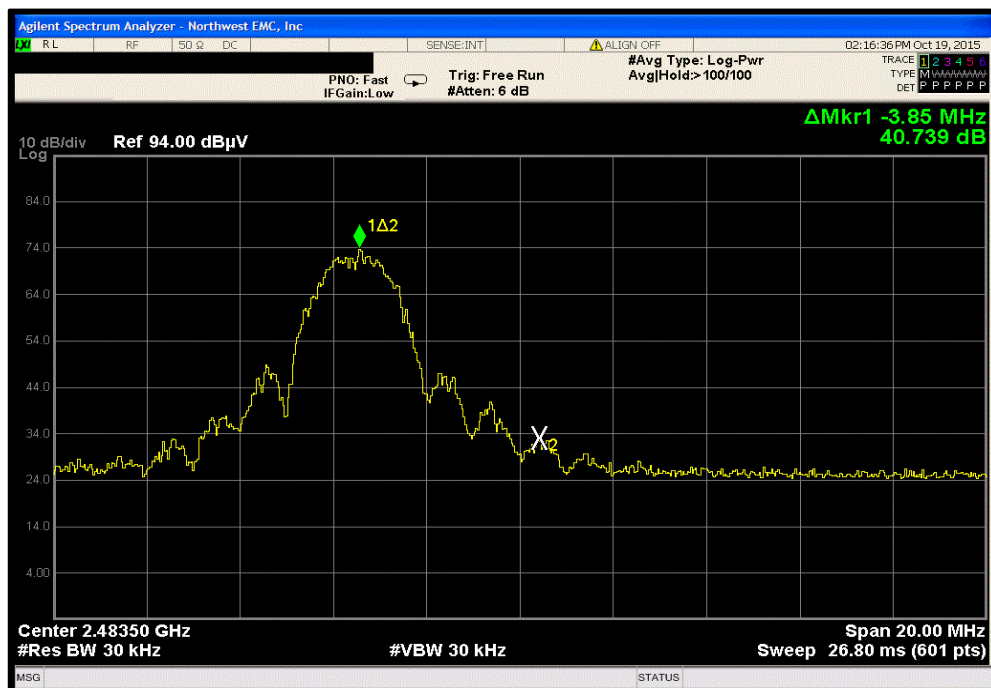
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
4810.853	31.5	6.4	1.0	36.0	3.0	0.0	Horz	AV	0.0	37.9	54.0	-16.1	Ch. 0: 2405 MHz, EUT On Side
19235.940	45.8	11.8	1.6	147.0	3.0	0.0	Vert	PK	0.0	57.6	74.0	-16.4	Low Ch. 0: 2405 MHz, EUT Horz
19515.700	44.7	12.1	1.6	358.0	3.0	0.0	Vert	PK	0.0	56.8	74.0	-17.2	Mid Ch. 7: 2440 MHz, EUT Horz
7441.320	41.6	14.6	1.0	23.1	3.0	0.0	Horz	PK	0.0	56.2	74.0	-17.8	Ch. 15: 2480 MHz, EUT On Side
7318.600	42.0	14.2	1.0	158.0	3.0	0.0	Vert	PK	0.0	56.2	74.0	-17.8	Ch. 7: 2440 MHz, EUT Horz
19515.660	43.7	12.1	1.6	70.1	3.0	0.0	Horz	PK	0.0	55.8	74.0	-18.2	Mid Ch. 7: 2440 MHz, EUT On Side
7441.440	40.9	14.6	1.0	28.0	3.0	0.0	Vert	PK	0.0	55.5	74.0	-18.5	Ch. 15: 2480 MHz, EUT Horz
19243.960	43.6	11.8	1.6	226.0	3.0	0.0	Horz	PK	0.0	55.4	74.0	-18.6	Low Ch. 0: 2405 MHz, EUT On Side
19843.880	42.9	12.4	1.6	68.0	3.0	0.0	Horz	PK	0.0	55.3	74.0	-18.7	High Ch. 15: 2480 MHz, EUT On Side
12397.400	54.1	-2.7	2.6	74.0	3.0	0.0	Horz	PK	0.0	51.4	74.0	-22.6	Ch. 15: 2480 MHz, EUT On Side
4960.907	44.3	6.8	1.8	294.9	3.0	0.0	Horz	PK	0.0	51.1	74.0	-22.9	Ch. 15: 2480 MHz, EUT On Side
12397.330	53.2	-2.7	1.8	29.1	3.0	0.0	Vert	PK	0.0	50.5	74.0	-23.5	Ch. 15: 2480 MHz, EUT Horz
12022.550	54.2	-3.7	1.6	285.0	3.0	0.0	Horz	PK	0.0	50.5	74.0	-23.5	Ch. 0: 2405 MHz, EUT On Side
4958.787	43.4	6.8	1.0	229.9	3.0	0.0	Vert	PK	0.0	50.2	74.0	-23.8	Ch. 15: 2480 MHz, EUT Horz
4880.347	43.5	6.5	1.1	44.1	3.0	0.0	Horz	PK	0.0	50.0	74.0	-24.0	Ch. 7: 2440 MHz, EUT On Side
4881.027	43.3	6.5	1.0	114.0	3.0	0.0	Vert	PK	0.0	49.8	74.0	-24.2	Ch. 7: 2440 MHz, EUT Horz
12202.190	52.2	-3.1	1.8	203.1	3.0	0.0	Vert	PK	0.0	49.1	74.0	-24.9	Ch. 7: 2440 MHz, EUT Horz
12197.370	52.1	-3.1	2.1	115.0	3.0	0.0	Horz	PK	0.0	49.0	74.0	-25.0	Ch. 7: 2440 MHz, EUT Vert
12197.610	51.9	-3.1	1.0	275.0	3.0	0.0	Horz	PK	0.0	48.8	74.0	-25.2	Ch. 7: 2440 MHz, EUT On Side
12022.240	52.1	-3.7	2.5	205.0	3.0	0.0	Vert	PK	0.0	48.4	74.0	-25.6	Ch. 0: 2405 MHz, EUT Horz
12402.310	45.6	2.2	1.0	336.0	3.0	0.0	Horz	PK	0.0	47.8	74.0	-26.2	Ch. 15: 2480 MHz, EUT On Side
4808.867	41.0	6.4	2.6	247.9	3.0	0.0	Vert	PK	0.0	47.4	74.0	-26.6	Ch. 0: 2405 MHz, Vert
12197.190	49.3	-3.1	1.9	198.0	3.0	0.0	Vert	PK	0.0	46.2	74.0	-27.8	Ch. 7: 2440 MHz, EUT On Side
12202.490	49.2	-3.1	1.0	193.0	3.0	0.0	Vert	PK	0.0	46.1	74.0	-27.9	Ch. 7: 2440 MHz, EUT Vert
4808.507	39.4	6.4	1.0	36.0	3.0	0.0	Horz	PK	0.0	45.8	74.0	-28.2	Ch. 0: 2405 MHz, EUT On Side
12202.050	48.6	-3.1	1.1	48.1	3.0	0.0	Horz	PK	0.0	45.5	74.0	-28.5	Ch. 7: 2440 MHz, EUT Horz

Work Order:	EMPM0007	Date:	10/19/15	
Project:	None	Temperature:	21.4 °C	
Job Site:	MN05	Humidity:	30.5% RH	
Serial Number:	0987564	Barometric Pres.:	979.7 mbar	
EUT:	WPG			Tested by: Jared Ison
Configuration:	1			
Customer:	Emerson Process Management			
Attendees:	None			
EUT Power:	Battery, 3 VDC			
Operating Mode:	Continuous single channel transmission.			
Deviations:	None			
Comments:	Reference data comments for channel and EUT orientation. MD means that the value was taken with the marker delta method (see screen capture).			

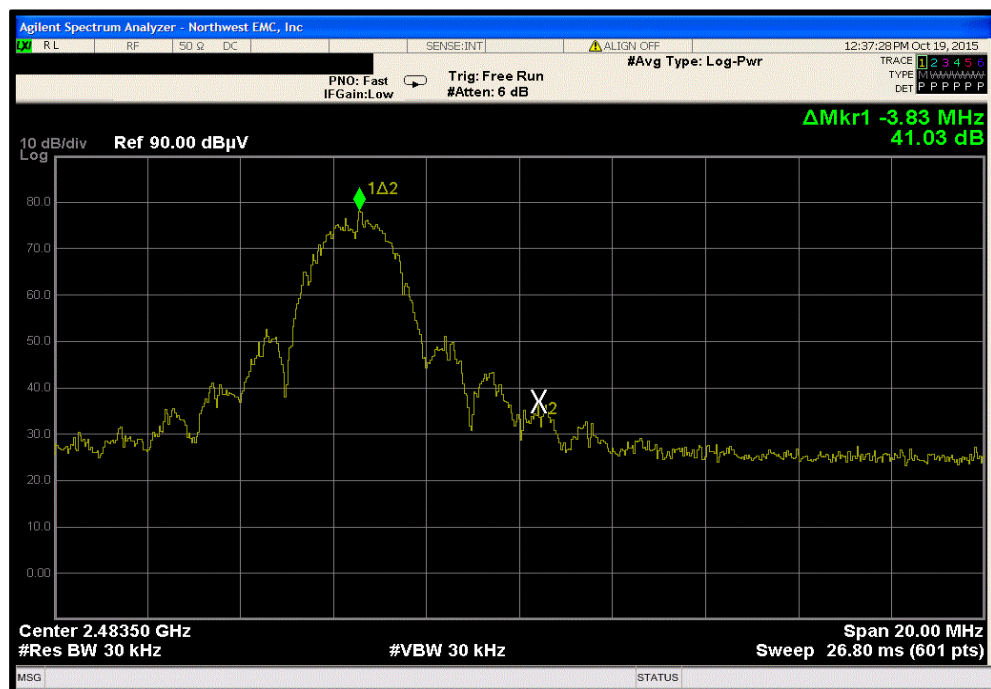
Test Specifications				Test Method			
FCC 15.247:2015				ANSI C63.10:2013			
Run #	50	Test Distance (m)	3	Antenna Height(s)	1 to 4(m)	Results	Pass



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
2483.500	31.9	-1.9	1.0	74.0	3.0	20.0	Horz	AV	0.0	50.0	54.0	-4.0	High Ch. 15: 2480 MHz, EUT Horz 10 Hz
2483.517	31.5	-1.9	3.7	110.9	3.0	20.0	Vert	AV	0.0	49.6	54.0	-4.4	High Ch. 15: 2480 MHz, EUT On Side 10 Hz
2483.513	31.1	-1.9	3.9	68.0	3.0	20.0	Vert	AV	0.0	49.2	54.0	-4.8	High Ch. 15: 2480 MHz, EUT Horz 10 Hz
2483.500	31.1	-1.9	1.0	206.1	3.0	20.0	Horz	AV	0.0	49.2	54.0	-4.8	High Ch. 15: 2480 MHz, EUT Vert 10 Hz
2483.527	31.0	-1.9	1.0	347.0	3.0	20.0	Vert	AV	0.0	49.1	54.0	-4.9	High Ch. 15: 2480 MHz, EUT Vert 10 Hz
2389.527	30.7	-2.2	3.4	235.0	3.0	20.0	Vert	AV	0.0	48.5	54.0	-5.5	Low Ch. 0: 2405 MHz, EUT On Side
2389.793	30.7	-2.2	1.0	350.0	3.0	20.0	Horz	AV	0.0	48.5	54.0	-5.5	Low Ch. 0: 2405 MHz, EUT Horz
2483.500	84.8	-1.9	1.0	74.0	3.0	20.0	Horz	PK	0.0	61.9	74.0	-12.1	High Ch. 15: 2480 MHz, EUT Horz MD
2389.970	42.7	-2.2	3.4	235.0	3.0	20.0	Vert	PK	0.0	60.5	74.0	-13.5	Low Ch. 0: 2405 MHz, EUT On Side
2388.260	41.8	-2.2	1.0	350.0	3.0	20.0	Horz	PK	0.0	59.6	74.0	-14.4	Low Ch. 0: 2405 MHz, EUT Horz
2483.547	60.4	-1.9	3.7	111.0	3.0	20.0	Vert	PK	0.0	37.4	74.0	-36.6	High Ch. 15: 2480 MHz, EUT On Side MD
2483.550	59.0	-1.9	1.0	235.9	3.0	20.0	Horz	PK	0.0	36.6	74.0	-37.4	High Ch. 15: 2480 MHz, EUT On Side MD
2483.607	57.5	-1.9	1.0	206.1	3.0	20.0	Horz	PK	0.0	34.5	74.0	-39.5	High Ch. 15: 2480 MHz, EUT Vert MD
2483.720	57.1	-1.9	3.9	68.0	3.0	20.0	Vert	PK	0.0	34.5	74.0	-39.5	High Ch. 15: 2480 MHz, EUT Horz MD
2483.640	57.1	-1.9	1.0	347.0	3.0	20.0	Vert	PK	0.0	33.6	74.0	-40.4	High Ch. 15: 2480 MHz, EUT Vert



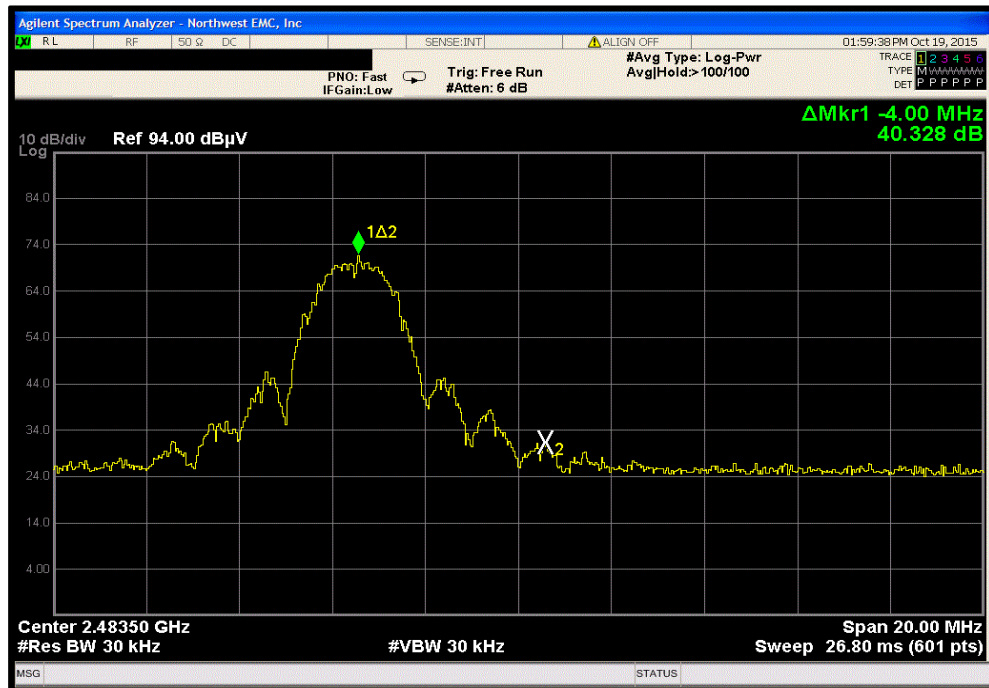
EUT: Horizontal
Antenna Polarity: Vertical



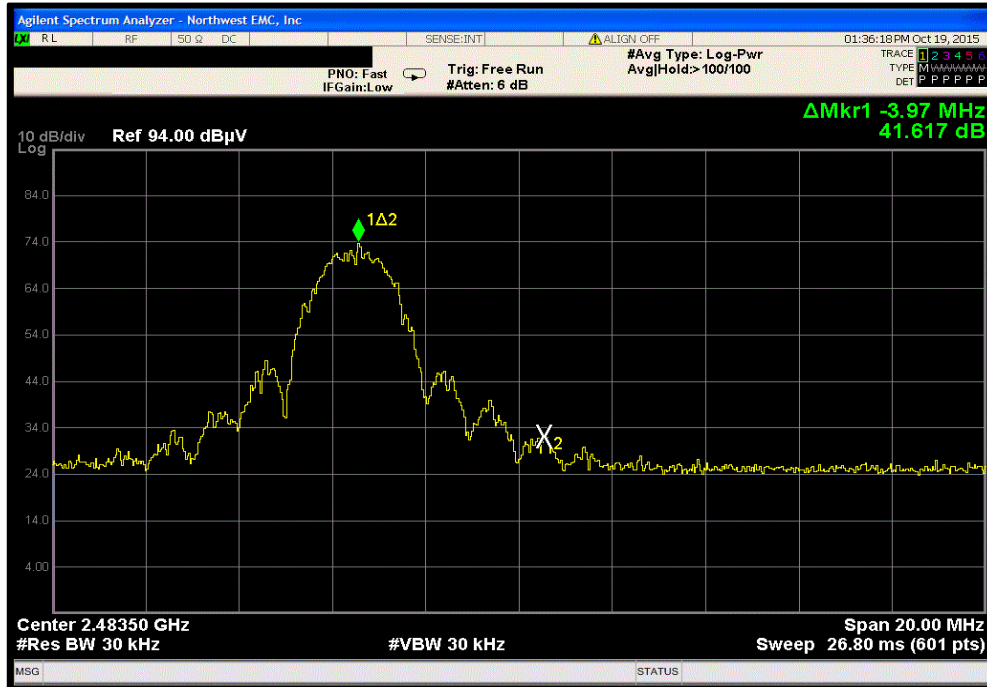
EUT: Horizontal
Antenna Polarity: Horizontal



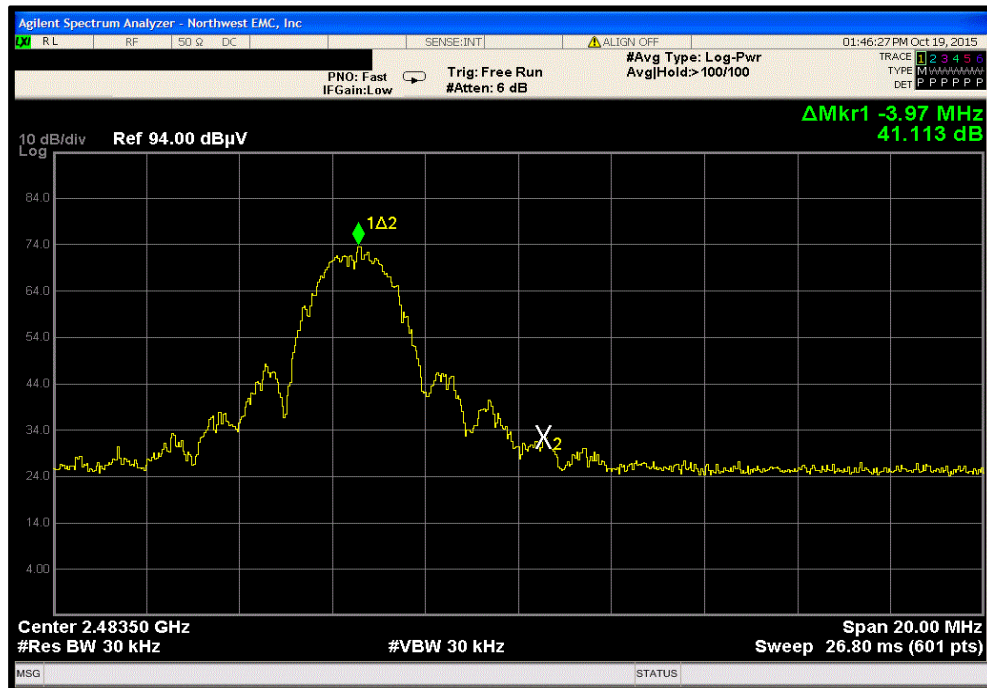
EUT: On Side
Antenna Polarity: Vertical



EUT: On Side
Antenna Polarity: Horizontal



EUT: Vertical
Antenna Polarity: Vertical



EUT: Vertical
Antenna Polarity: Horizontal

BAND EDGE COMPLIANCE

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval (mo)
Attenuator	S.M. Electronics	SA26B-20	RFW	3/10/2015	12
Block - DC	Fairview Microwave	SD3379	AMI	9/18/2015	12
Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNU	9/18/2015	12
Generator - Signal	Agilent	N5183A	TIK	10/17/2014	36
Analyzer - Spectrum Analyzer	Agilent	E4440A	AAX	4/20/2015	12

TEST DESCRIPTION

The spurious RF conducted emissions at the edges of the authorized bands were measured with the EUT set to low and high transmit frequencies in each available band. The channels closest to the band edges were selected. The measurement was made using a direct connection between the RF output of the EUT and the spectrum analyzer. The EUT was transmitting at the data rate(s) listed in the datasheet.

The spectrum was scanned below the lower band edge and above the higher band edge.

BAND EDGE COMPLIANCE

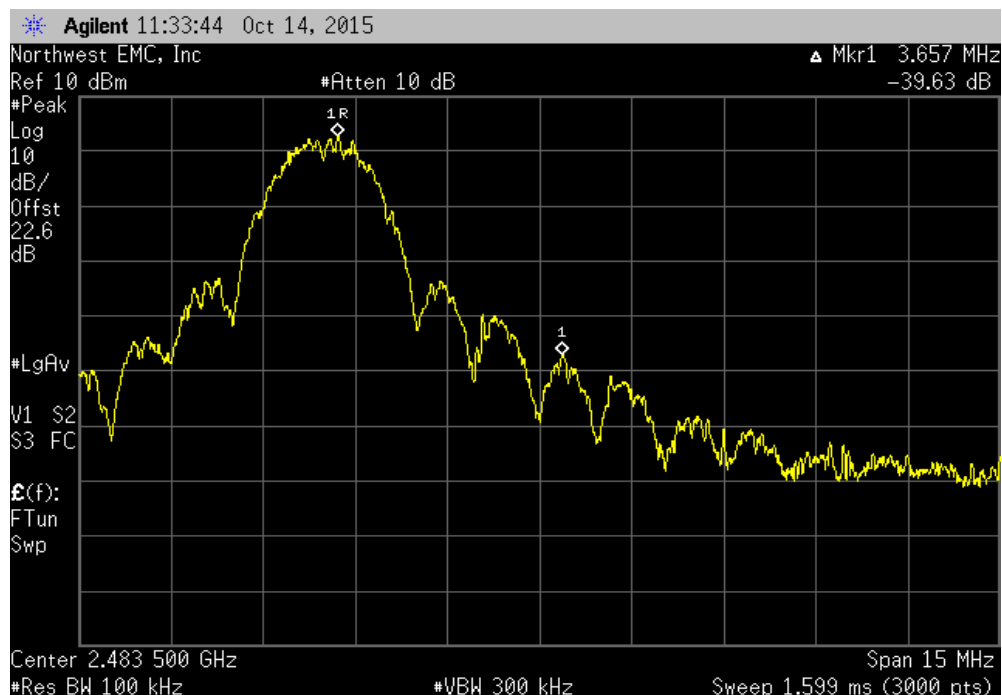
EUT: WPG		Work Order: EMPM0007	
Serial Number: Unknown		Date: 10/14/15	
Customer: Emerson Process Management		Temperature: 21.4°C	
Attendees: None		Humidity: 36%	
Project: None		Barometric Pres.: 986.5	
Tested by: Jared Ison	Power: Battery, 3 VDC	Job Site: MN08	
TEST SPECIFICATIONS			
FCC 15.247:2015		Test Method	
		ANSI C63.10:2013	
COMMENTS			
EUT set to single channel continuous transmission using test software. EUT set to max power.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	2	Signature 	
		Value (dBc)	Limit ≤ (dBc)
			Result
OQPSK			
Low Channel, 0, 2405 MHz		-45.18	Pass
High Channel, 15, 2480 MHz		-39.63	Pass

BAND EDGE COMPLIANCE

OQPSK, Low Channel, 0, 2405 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-45.18	-20	Pass



OQPSK, High Channel, 15, 2480 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-39.63	-20	Pass



DUTY CYCLE

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval (mo)
Generator - Signal	Agilent	N5183A	TIK	10/17/2014	36
Block - DC	Fairview Microwave	SD3379	AMI	9/18/2015	12
Attenuator	S.M. Electronics	SA26B-20	RFW	3/10/2015	12
Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNU	9/18/2015	12
Analyzer - Spectrum Analyzer	Agilent	E4440A	AAX	4/20/2015	12

TEST DESCRIPTION

The Duty Cycle (x) of the single channel operation of the radio as controlled by the provided test software was measured for each of the EUT operating modes.

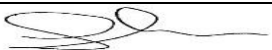
There is no compliance requirement to be met by this test, so therefore no Pass / Fail criteria.

The measurements were made using a zero span on the spectrum analyzer to see the pulses in the time domain. The transmit power was set to its default maximum. A direct connection was made between the RF output of the EUT and a spectrum analyzer. Attenuation and a DC block were used.

The duty cycle was calculated by dividing the transmission pulse duration (T) by the total period of a single on and total off time.

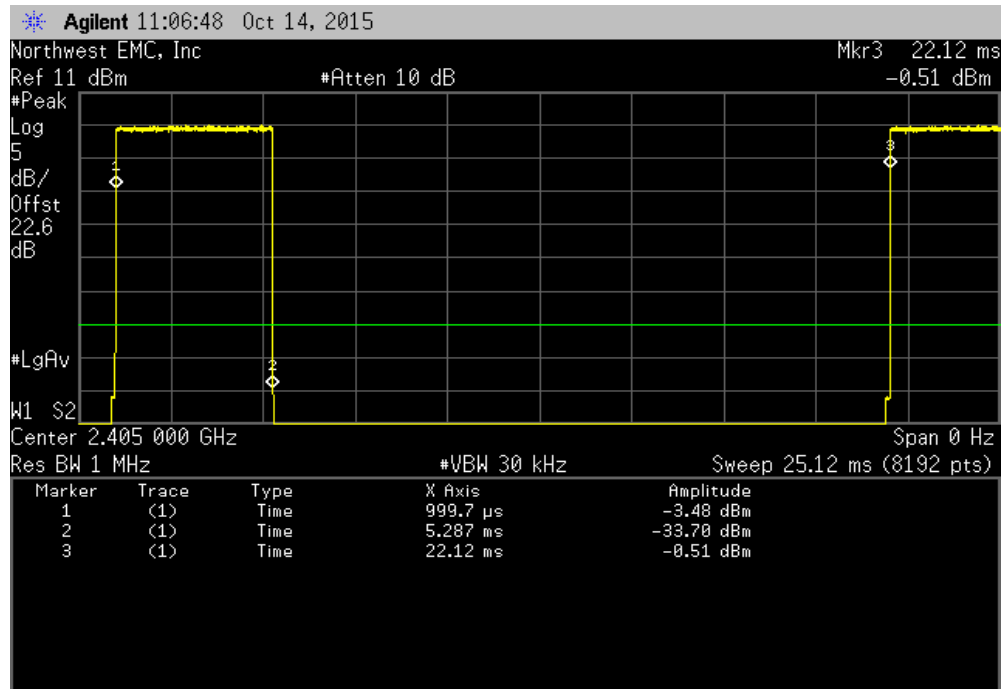
If the transmit duty cycle < 98 percent, burst gating may have been used during some of the other tests in this report to only take the measurement during the burst duration.

DUTY CYCLE

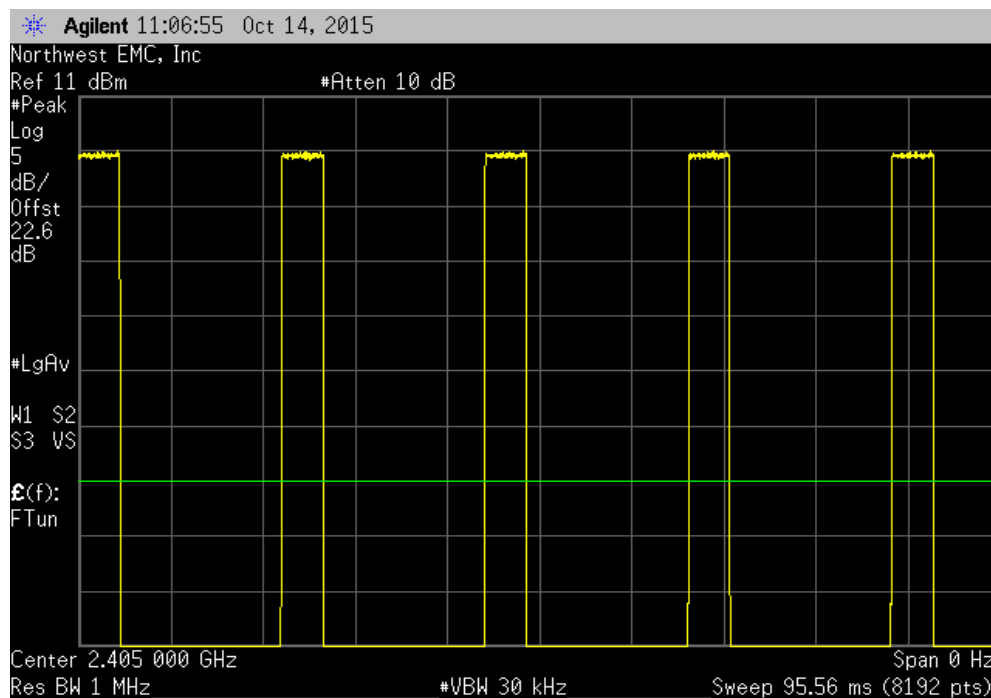
EUT: WPG				Work Order: EMPM0007				
Serial Number: Unknown				Date: 10/14/15				
Customer: Emerson Process Management				Temperature: 21.4°C				
Attendees: None				Humidity: 36%				
Project: None				Barometric Pres.: 986.5				
Tested by: Jared Ison			Power: Battery, 3 VDC	Job Site: MN08				
TEST SPECIFICATIONS			Test Method					
FCC 15.247:2015			ANSI C63.10:2013					
COMMENTS								
EUT set to single channel continuous transmission using test software. EUT set to max power.								
DEVIATIONS FROM TEST STANDARD								
None								
Configuration #	2							
			Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
OQPSK								
Low Channel, 0, 2405 MHz			4.287 ms	21.12 ms	1	20.3	N/A	N/A
Low Channel, 0, 2405 MHz			N/A	N/A	5	N/A	N/A	N/A
Mid Channel, 7, 2440 MHz			4.284 ms	21.086 ms	1	20.3	N/A	N/A
Mid Channel, 7, 2440 MHz			N/A	N/A	5	N/A	N/A	N/A
High Channel, 15, 2480 MHz			4.281 ms	21.086 ms	1	20.3	N/A	N/A
High Channel, 15, 2480 MHz			N/A	N/A	5	N/A	N/A	N/A

DUTY CYCLE

OQPSK, Low Channel, 0, 2405 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	4.287 ms	21.12 ms	1	20.3	N/A	N/A

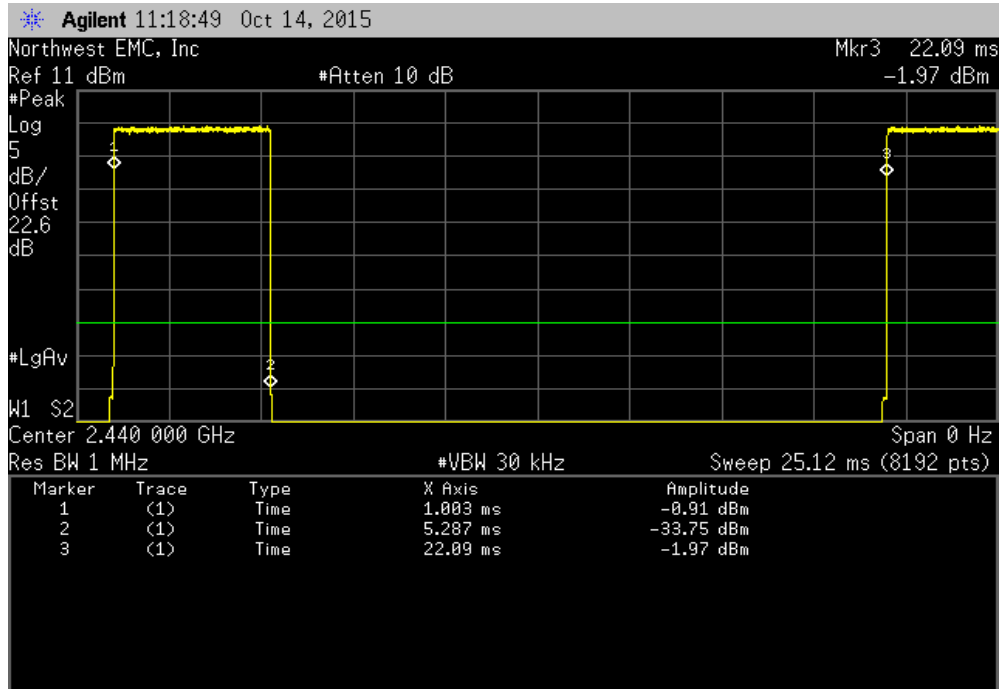


OQPSK, Low Channel, 0, 2405 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A

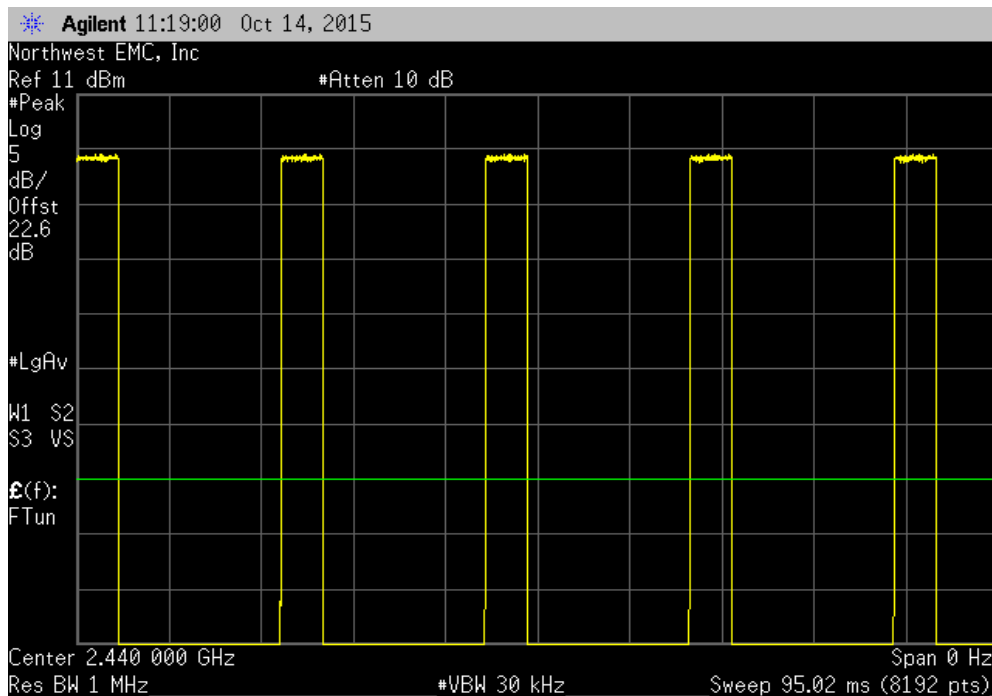


DUTY CYCLE

OQPSK, Mid Channel, 7, 2440 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	4.284 ms	21.086 ms	1	20.3	N/A	N/A

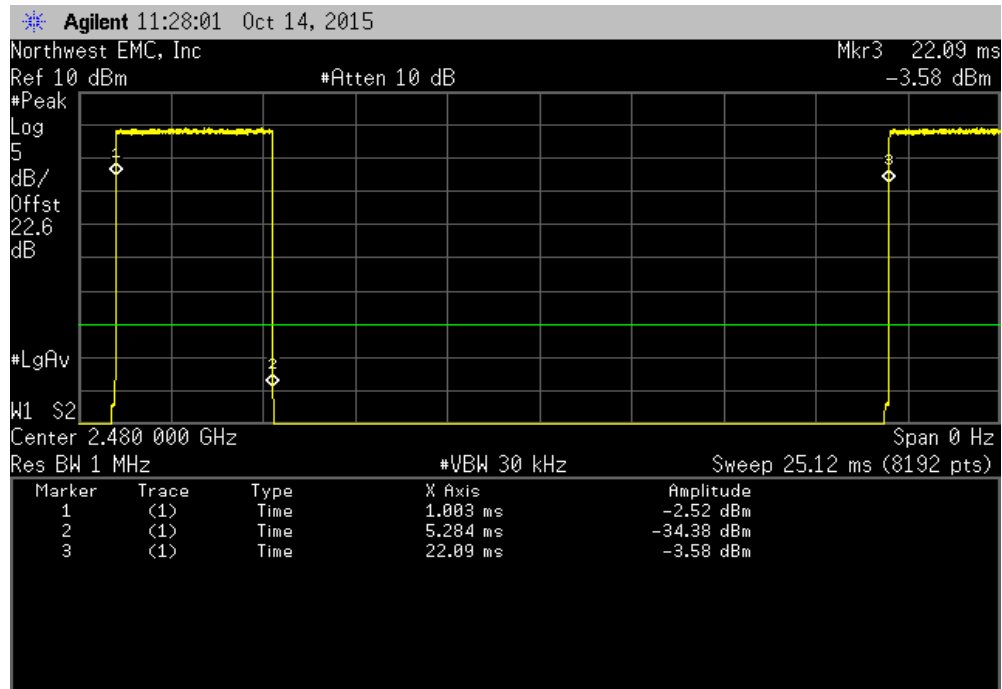


OQPSK, Mid Channel, 7, 2440 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A

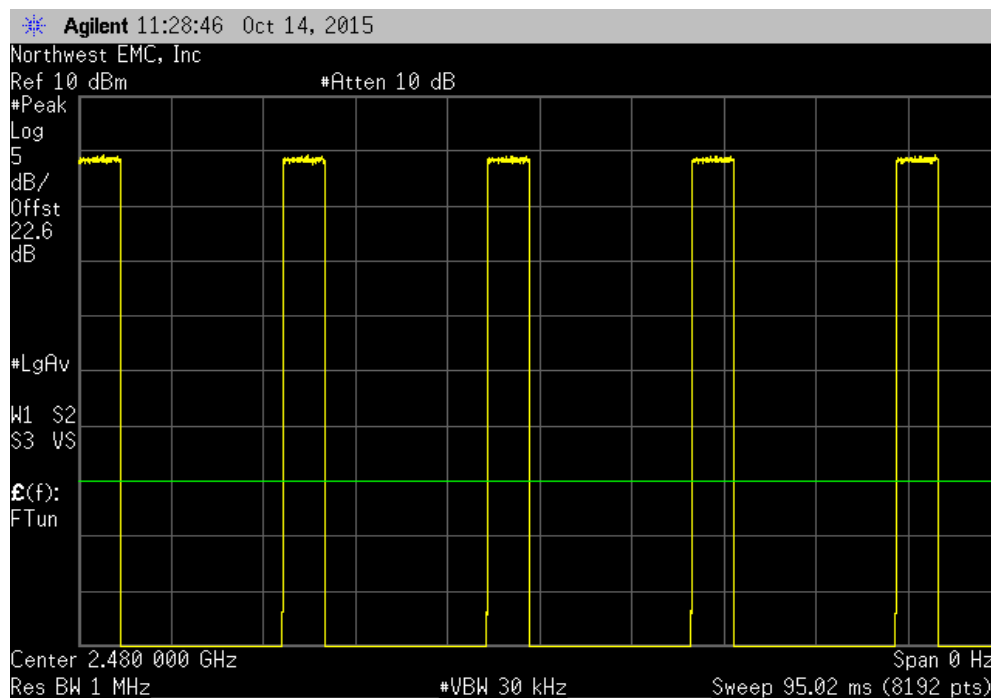


DUTY CYCLE

OQPSK, High Channel, 15, 2480 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	4.281 ms	21.086 ms	1	20.3	N/A	N/A



OQPSK, High Channel, 15, 2480 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A



OCCUPIED BANDWIDTH

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval (mo)
Block - DC	Fairview Microwave	SD3379	AMI	9/18/2015	12
Attenuator	S.M. Electronics	SA26B-20	RFW	3/10/2015	12
Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNU	9/18/2015	12
Generator - Signal	Agilent	N5183A	TIK	10/17/2014	36
Analyzer - Spectrum Analyzer	Agilent	E4440A	AAX	4/20/2015	12

TEST DESCRIPTION

The 6dB occupied bandwidth was measured using 100 kHz resolution bandwidth and 300 kHz video bandwidth. The 99.9% (approximate 26 dB) emission bandwidth (EBW) was also measured at the same time.

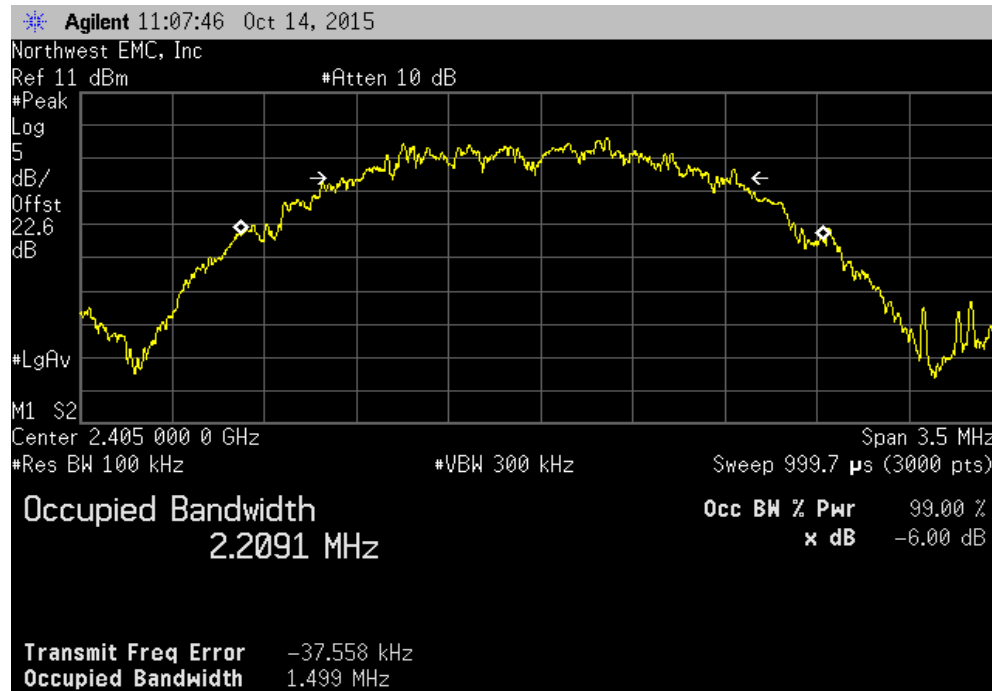
The EUT was set to the channels and modes listed in the datasheet. The measurement was made using a direct connection between the RF output of the EUT and the spectrum analyzer.

OCCUPIED BANDWIDTH

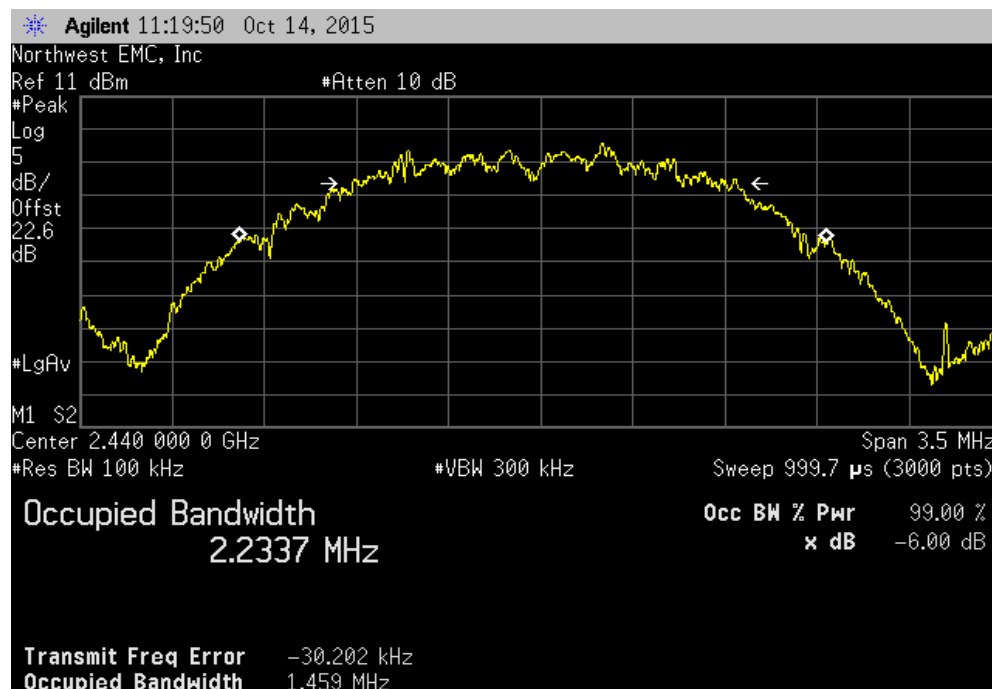
EUT: WPG		Work Order: EMPM0007	
Serial Number: Unknown		Date: 10/14/15	
Customer: Emerson Process Management		Temperature: 21.4°C	
Attendees: None		Humidity: 36%	
Project: None		Barometric Pres.: 986.5	
Tested by: Jared Ison	Power: Battery, 3 VDC	Job Site: MN08	
TEST SPECIFICATIONS			
FCC 15.247:2015		Test Method	
		ANSI C63.10:2013	
COMMENTS			
EUT set to single channel continuous transmission using test software. EUT set to max power.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	2	Signature 	
		Value	Limit (>)
OQPSK			Result
Low Channel, 0, 2405 MHz		1.499 MHz	500 kHz Pass
Mid Channel, 7, 2440 MHz		1.459 MHz	500 kHz Pass
High Channel, 15, 2480 MHz		1.459 MHz	500 kHz Pass

OCCUPIED BANDWIDTH

OQPSK, Low Channel, 0, 2405 MHz						
				Value	Limit (>)	Result
				1.499 MHz	500 kHz	Pass

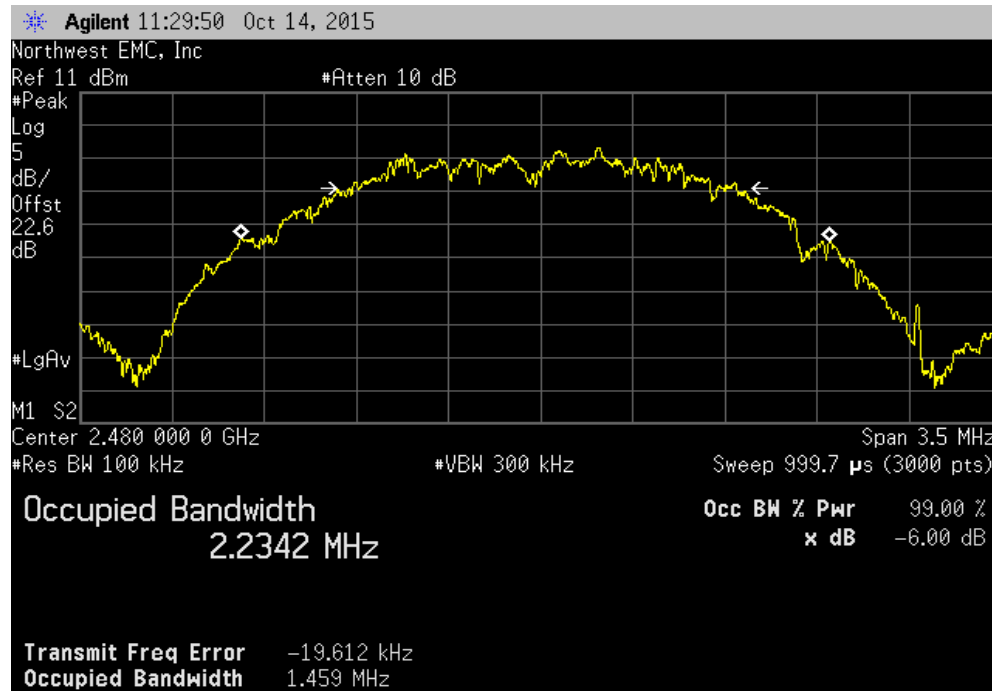


OQPSK, Mid Channel, 7, 2440 MHz						
				Value	Limit (>)	Result
				1.459 MHz	500 kHz	Pass



OCCUPIED BANDWIDTH

OQPSK, High Channel, 15, 2480 MHz						
				Value	Limit (>)	Result
				1.459 MHz	500 kHz	Pass



OUTPUT POWER

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval (mo)
Generator - Signal	Agilent	N5183A	TIK	10/17/2014	36
Block - DC	Fairview Microwave	SD3379	AMI	9/18/2015	12
Attenuator	S.M. Electronics	SA26B-20	RFW	3/10/2015	12
Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNU	9/18/2015	12
Analyzer - Spectrum Analyzer	Agilent	E4440A	AAX	4/20/2015	12

TEST DESCRIPTION

The transmit frequency was set to the required channels in each band. The transmit power was set to its default maximum. A direct connection was made between the RF output of the EUT and a spectrum analyzer. Attenuation and a DC block were used. The reference level offset on the spectrum analyzer was adjusted to compensate for cable loss and the external attenuation used between the RF output and the spectrum analyzer input.

Prior to measuring peak transmit power the DTS bandwidth (B) and the transmission pulse duration (T) were measured. Both are required to determine the method of measuring Maximum Conducted Output Power. The transmission pulse duration (T) was measured using a zero span on the spectrum analyzer to see the pulses in the time domain.

The method found in ANSI C63.10:2013 Section 11.10.2 was used because the RBW on the analyzer was greater than the DTS Bandwidth of the radio..

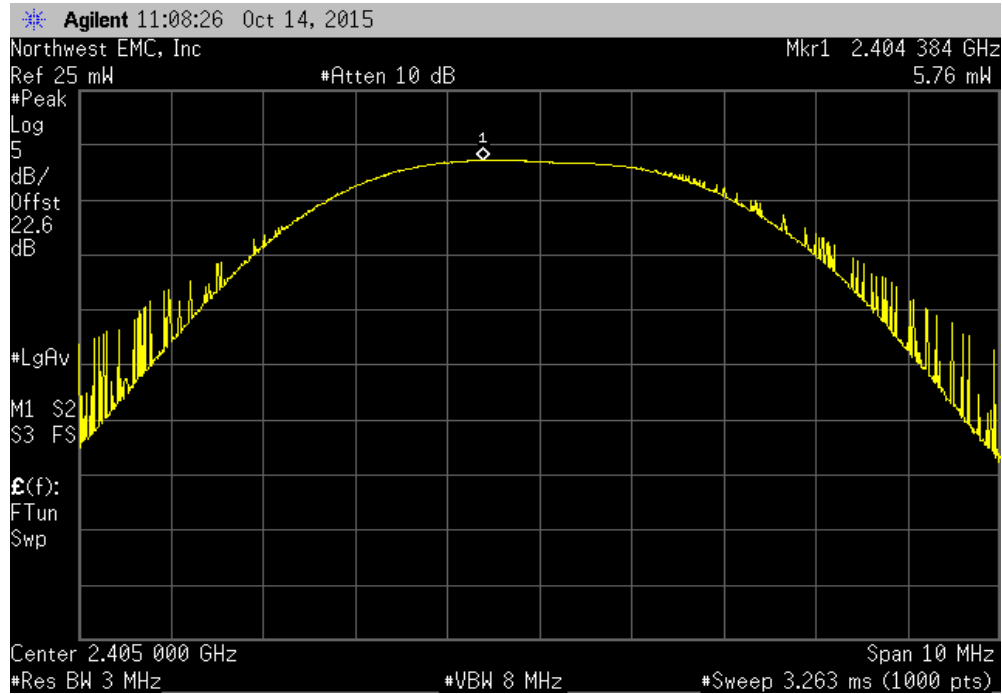
De Facto EIRP Limit: Per 47 CFR 15.247 (b)(1-3), the EUT meets the de facto EIRP limit of +36 dBm.

OUTPUT POWER

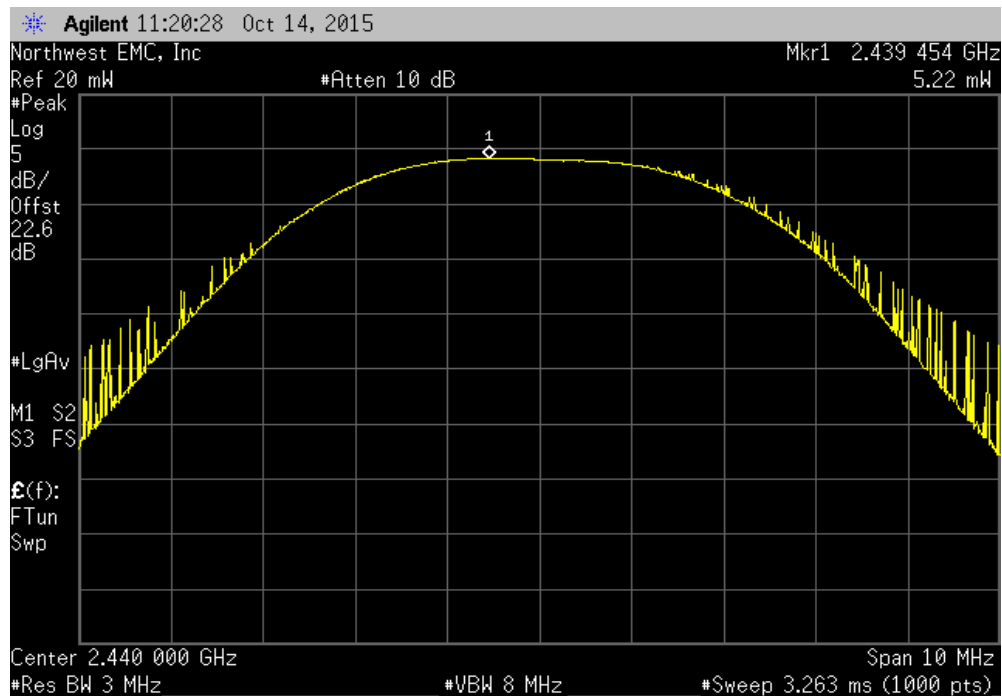
EUT: WPG		Work Order: EMPM0007	
Serial Number: Unknown		Date: 10/14/15	
Customer: Emerson Process Management		Temperature: 21.4°C	
Attendees: None		Humidity: 36%	
Project: None		Barometric Pres.: 986.5	
Tested by: Jared Ison	Power: Battery, 3 VDC	Job Site: MN08	
TEST SPECIFICATIONS			
FCC 15.247:2015		Test Method	
		ANSI C63.10:2013	
COMMENTS			
EUT set to single channel continuous transmission using test software. EUT set to max power.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	2	Signature 	
		Value	Limit (<)
OQPSK			Result
Low Channel, 0, 2405 MHz		5.762 mW	1 W Pass
Mid Channel, 7, 2440 MHz		5.222 mW	1 W Pass
High Channel, 15, 2480 MHz		4.149 mW	1 W Pass

OUTPUT POWER

OQPSK, Low Channel, 0, 2405 MHz						
				Value	Limit (<)	Result
				5.762 mW	1 W	Pass

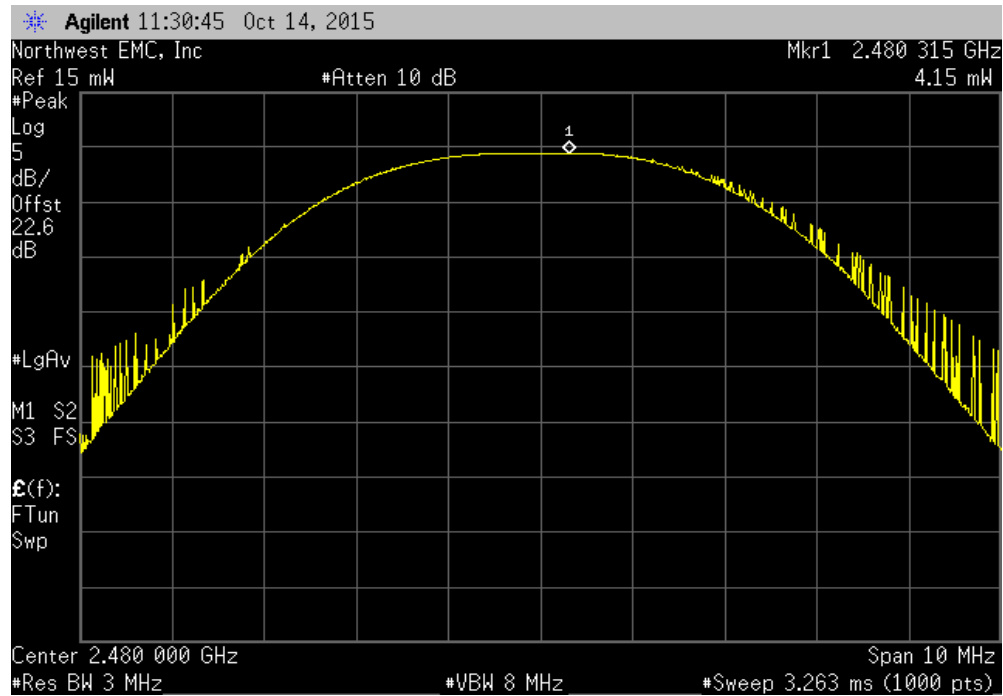


OQPSK, Mid Channel, 7, 2440 MHz						
				Value	Limit (<)	Result
				5.222 mW	1 W	Pass



OUTPUT POWER

OQPSK, High Channel, 15, 2480 MHz						
				Value	Limit (<)	Result
				4.149 mW	1 W	Pass



POWER SPECTRAL DENSITY

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval (mo)
Generator - Signal	Agilent	N5183A	TIK	10/17/2014	36
Block - DC	Fairview Microwave	SD3379	AMI	9/18/2015	12
Attenuator	S.M. Electronics	SA26B-20	RFW	3/10/2015	12
Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNU	9/18/2015	12
Analyzer - Spectrum Analyzer	Agilent	E4440A	AAX	4/20/2015	12

TEST DESCRIPTION

The maximum power spectral density measurements was measured using the channels and modes as called out on the following data sheets.

A direct connection was made between the RF output of the EUT and a spectrum analyzer. External attenuation and a DC block were used. The reference level offset on the spectrum analyzer was adjusted to compensate for cable loss and the external attenuation used between the RF output and the spectrum analyzer input.

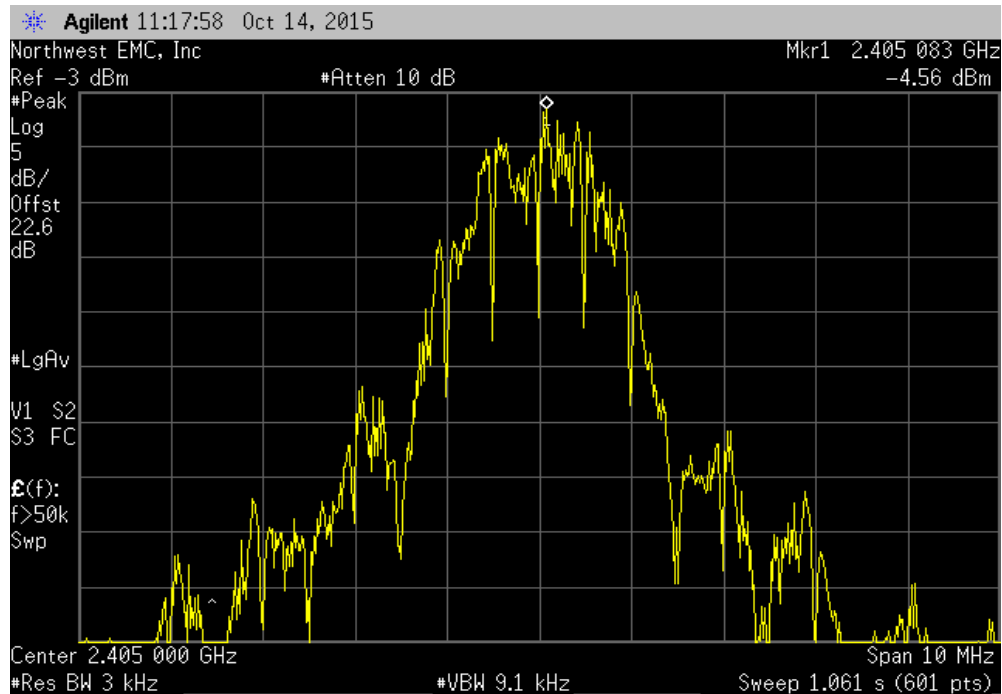
Per the procedure outlined in ANSI C63.10 the peak power spectral density was measured in a 3 kHz RBW.

POWER SPECTRAL DENSITY

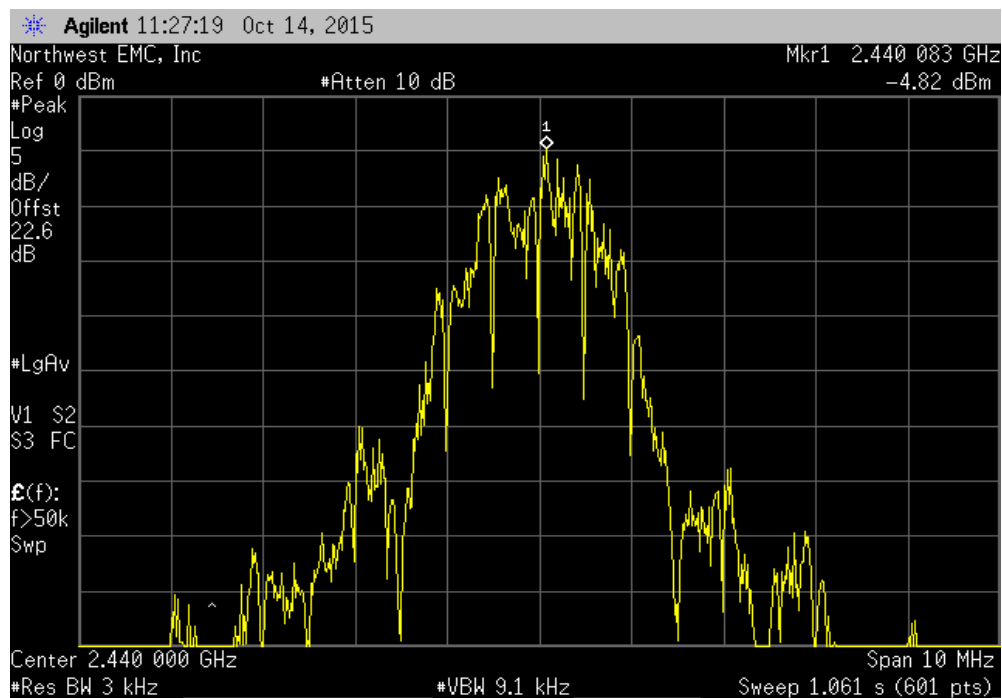
EUT: WPG		Work Order: EMPM0007	
Serial Number: Unknown		Date: 10/14/15	
Customer: Emerson Process Management		Temperature: 21.4°C	
Attendees: None		Humidity: 36%	
Project: None		Barometric Pres.: 986.5	
Tested by: Jared Ison	Power: Battery, 3 VDC	Job Site: MN08	
TEST SPECIFICATIONS			
FCC 15.247:2015		Test Method	
		ANSI C63.10:2013	
COMMENTS			
EUT set to single channel continuous transmission using test software. EUT set to max power.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	2	Signature 	
		Value dBm/3kHz	Limit < dBm/3kHz
OQPSK			Results
Low Channel, 0, 2405 MHz		-4.556	8 Pass
Mid Channel, 7, 2440 MHz		-4.816	8 Pass
High Channel, 15, 2480 MHz		-6.18	8 Pass

POWER SPECTRAL DENSITY

OQPSK, Low Channel, 0, 2405 MHz						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				-4.556	8	Pass

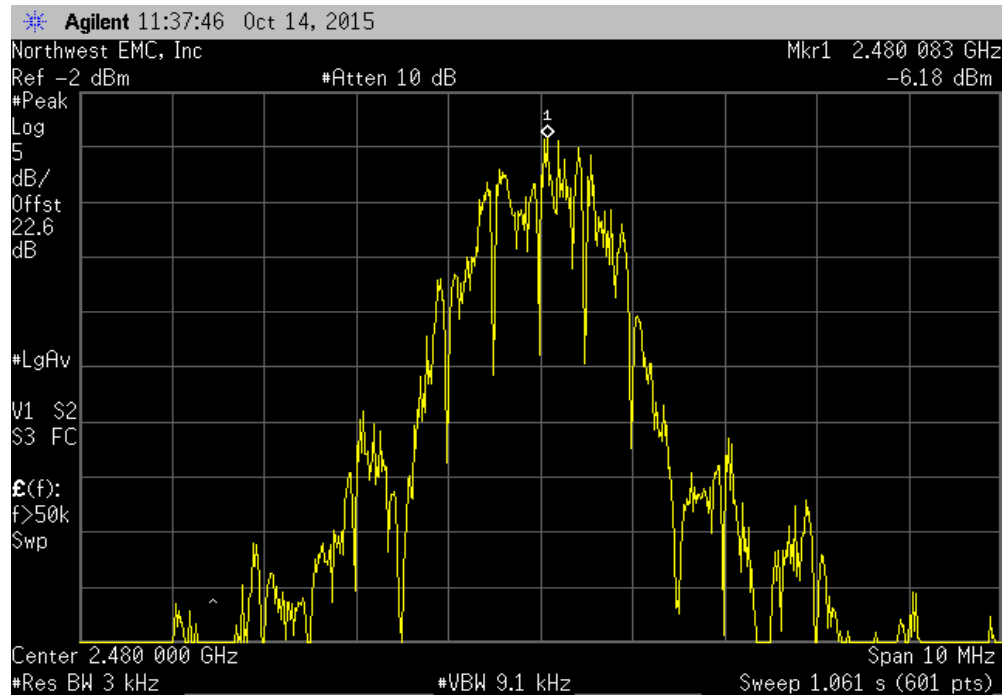


OQPSK, Mid Channel, 7, 2440 MHz						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				-4.816	8	Pass



POWER SPECTRAL DENSITY

OQPSK, High Channel, 15, 2480 MHz						
				Value	Limit	Results
				dBm/3kHz	< dBm/3kHz	
				-6.18	8	Pass



SPURIOUS CONDUCTED EMISSIONS

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval (mo)
Generator - Signal	Agilent	N5183A	TIK	10/17/2014	36
Block - DC	Fairview Microwave	SD3379	AMI	9/18/2015	12
Attenuator	S.M. Electronics	SA26B-20	RFW	3/10/2015	12
Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNU	9/18/2015	12
Analyzer - Spectrum Analyzer	Agilent	E4440A	AAX	4/20/2015	12

TEST DESCRIPTION

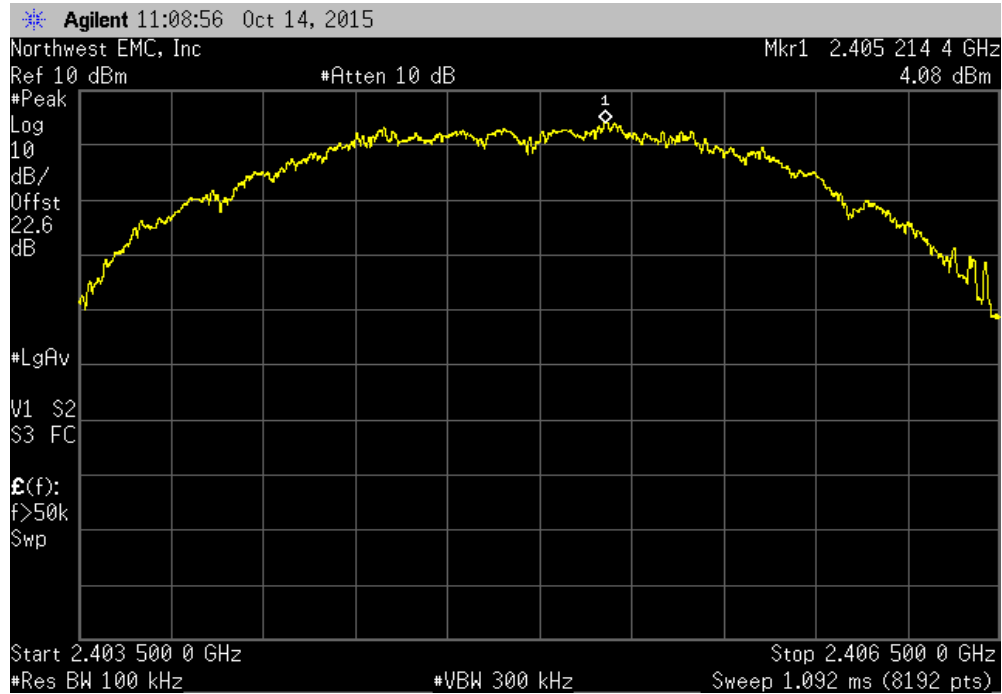
The spurious RF conducted emissions were measured with the EUT set to low, medium and high transmit frequencies. The measurements were made using a direct connection between the RF output of the EUT and the spectrum analyzer. The EUT was transmitting at the data rate(s) listed in the datasheet. For each transmit frequency, the spectrum was scanned throughout the specified frequency range.

SPURIOUS CONDUCTED EMISSIONS

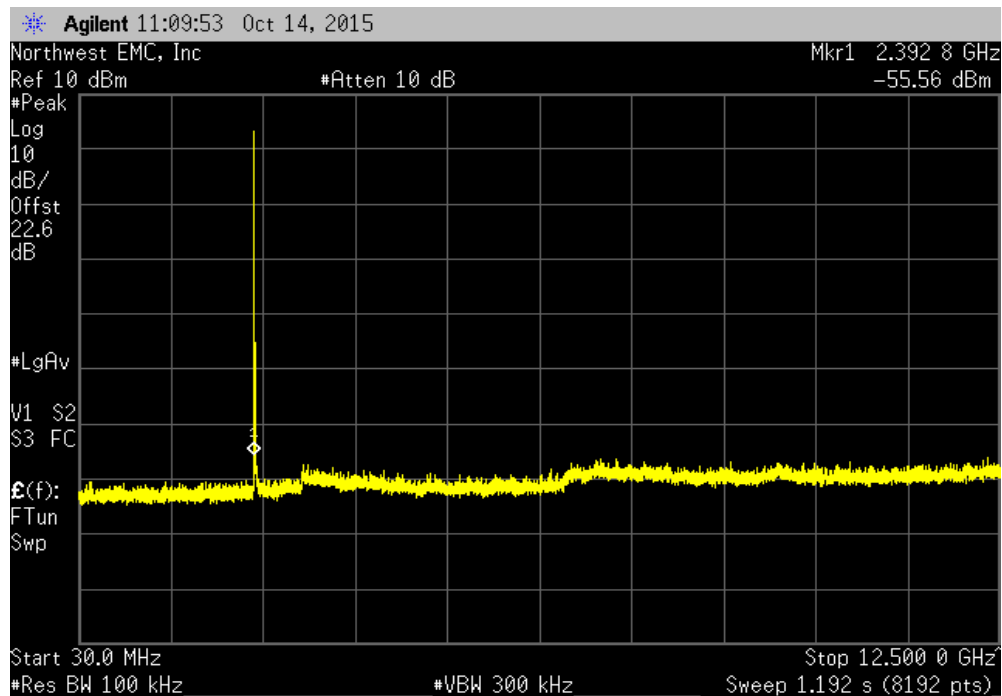
EUT: WPG		Work Order: EMPM0007		
Serial Number: Unknown		Date: 10/14/15		
Customer: Emerson Process Management		Temperature: 21.4°C		
Attendees: None		Humidity: 36%		
Project: None		Barometric Pres.: 986.5		
Tested by: Jared Ison	Power: Battery, 3 VDC	Job Site: MN08		
TEST SPECIFICATIONS		Test Method		
FCC 15.247:2015		ANSI C63.10:2013		
COMMENTS				
EUT set to single channel continuous transmission using test software. EUT set to max power.				
DEVIATIONS FROM TEST STANDARD				
None				
Configuration #	2	Signature 		
		Frequency Range	Max Value (dBc) Limit ≤ (dBc) Result	
OQPSK				
Low Channel, 0, 2405 MHz	Fundamental	N/A	N/A	N/A
Low Channel, 0, 2405 MHz	30 MHz - 12.5 GHz	-59.64	-20	Pass
Low Channel, 0, 2405 MHz	12.5 GHz - 25 GHz	-55.32	-20	Pass
Mid Channel, 7, 2440 MHz	Fundamental	N/A	N/A	N/A
Mid Channel, 7, 2440 MHz	30 MHz - 12.5 GHz	-58.96	-20	Pass
Mid Channel, 7, 2440 MHz	12.5 GHz - 25 GHz	-54.65	-20	Pass
High Channel, 15, 2480 MHz	Fundamental	N/A	N/A	N/A
High Channel, 15, 2480 MHz	30 MHz - 12.5 GHz	-55.18	-20	Pass
High Channel, 15, 2480 MHz	12.5 GHz - 25 GHz	-54.48	-20	Pass

SPURIOUS CONDUCTED EMISSIONS

OQPSK, Low Channel, 0, 2405 MHz					
Frequency Range		Max Value (dBc)	Limit ≤ (dBc)	Result	
Fundamental		N/A	N/A	N/A	

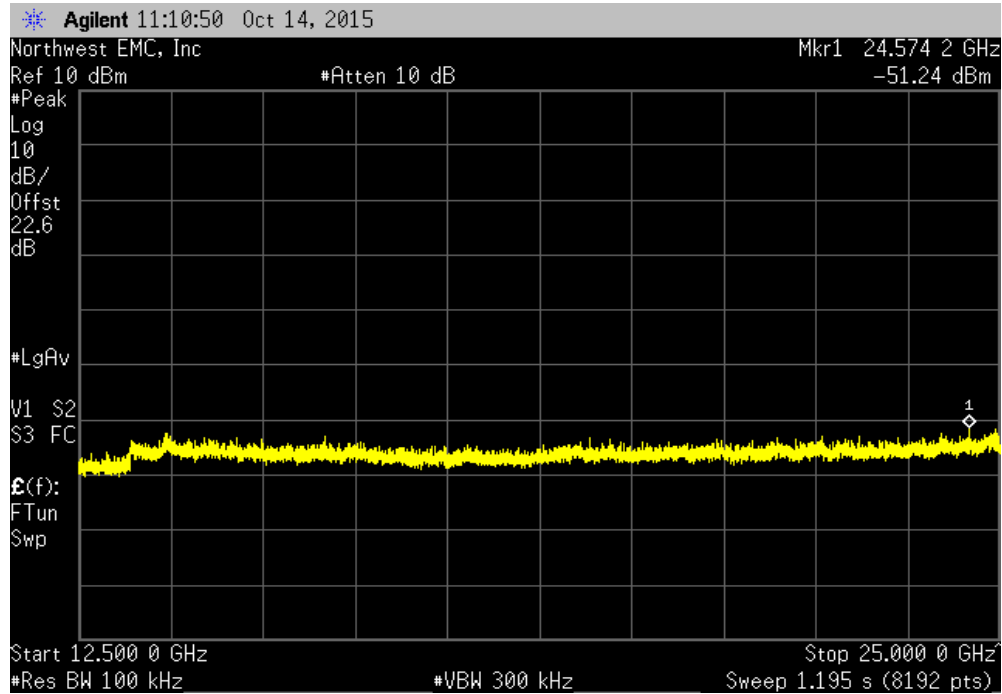


OQPSK, Low Channel, 0, 2405 MHz					
Frequency Range		Max Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz		-59.64	-20	Pass	

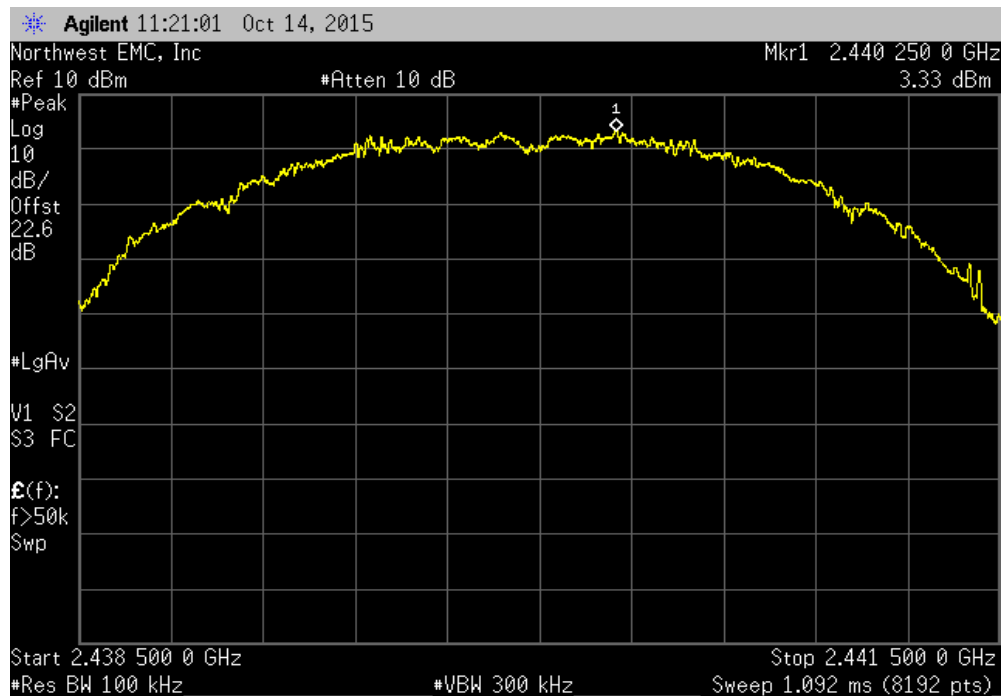


SPURIOUS CONDUCTED EMISSIONS

OQPSK, Low Channel, 0, 2405 MHz				
Frequency Range	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	-55.32	-20	Pass	

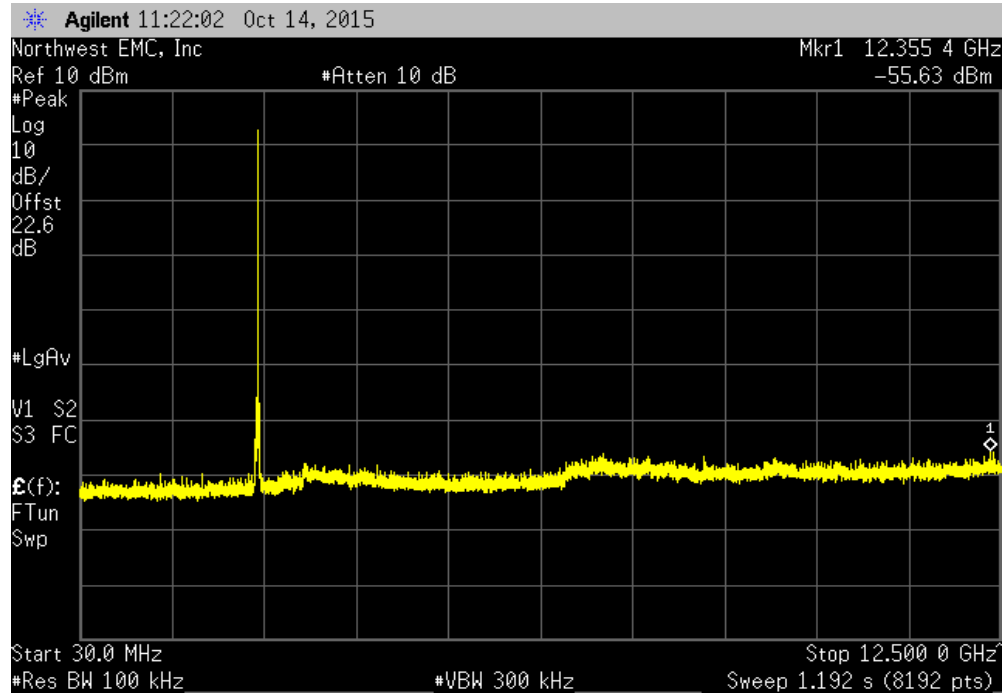


OQPSK, Mid Channel, 7, 2440 MHz				
Frequency Range	Max Value (dBc)	Limit ≤ (dBc)	Result	
Fundamental	N/A	N/A	N/A	

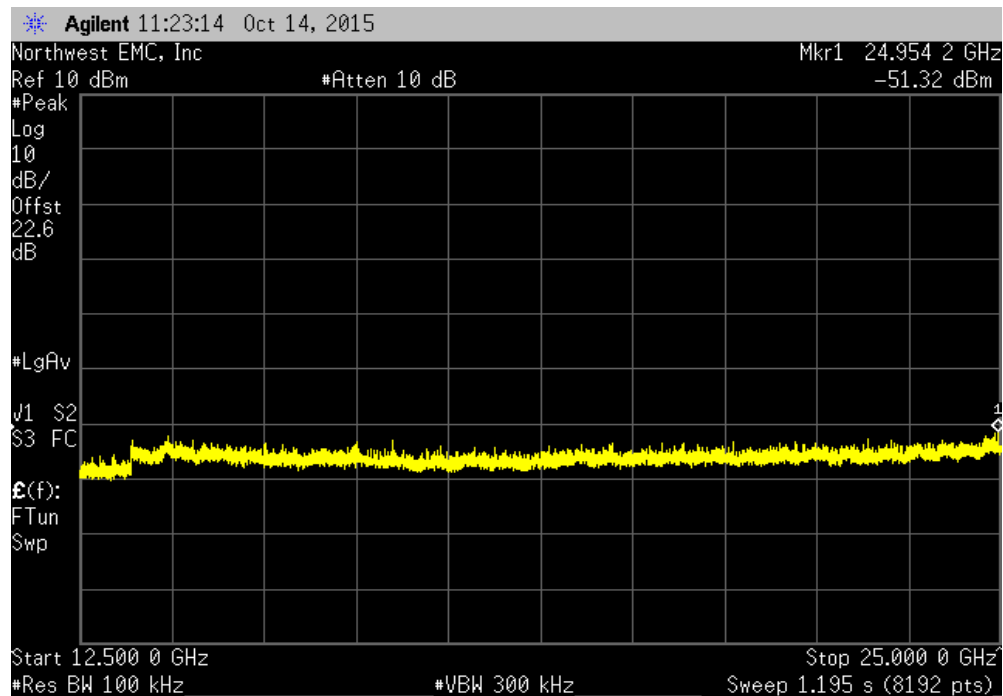


SPURIOUS CONDUCTED EMISSIONS

OQPSK, Mid Channel, 7, 2440 MHz				
Frequency Range	Max Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	-58.96	-20	Pass	

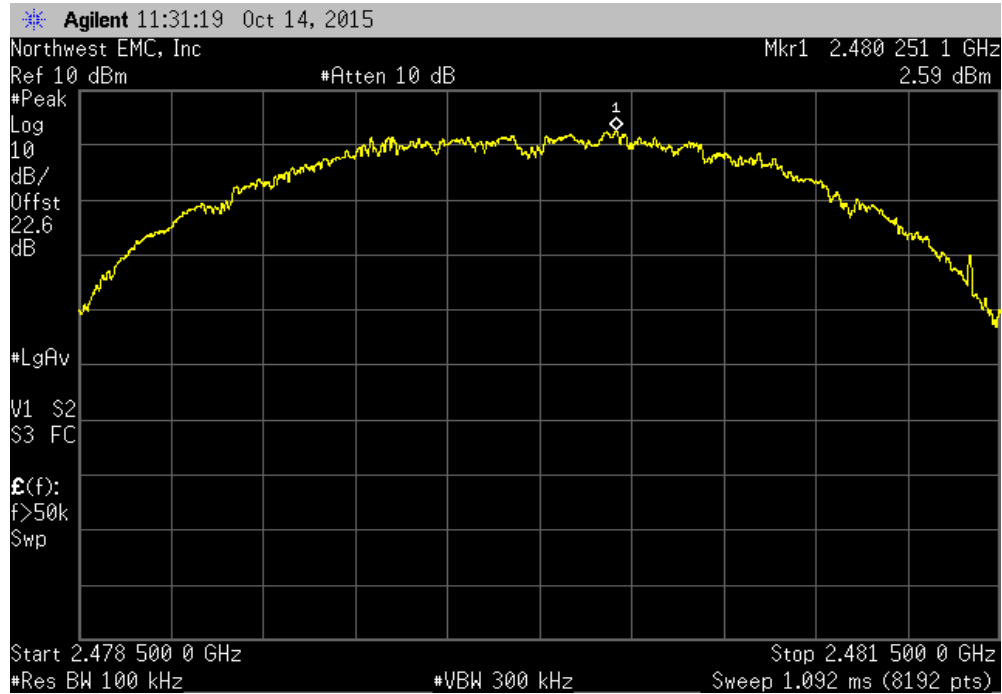


OQPSK, Mid Channel, 7, 2440 MHz				
Frequency Range	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	-54.65	-20	Pass	

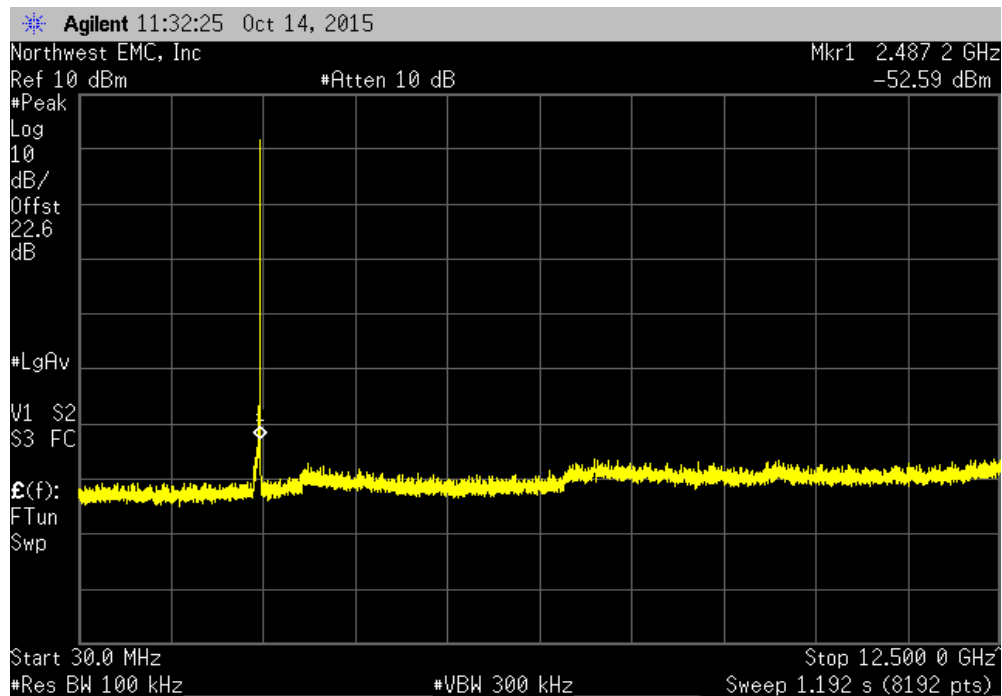


SPURIOUS CONDUCTED EMISSIONS

OQPSK, High Channel, 15, 2480 MHz						
Frequency Range		Max Value (dBc)		Limit ≤ (dBc)	Result	
Fundamental		N/A		N/A	N/A	



OQPSK, High Channel, 15, 2480 MHz						
Frequency Range		Max Value (dBc)		Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz		-55.18		-20	Pass	



SPURIOUS CONDUCTED EMISSIONS

OQPSK, High Channel, 15, 2480 MHz				
Frequency Range	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	-54.48	-20	Pass	

