Test Report

Curtis-Straus LLC, *a wholly owned subsidiary of BV CPS*

Report No	EN0477-1
Client	Temperature Alert
Address	108 Lincoln St, suite BA Boston, MA 02111
Phone	617-326-7300
Items tested	TM-ZP200
FCC ID	SZ9ZPOINT
IC ID	10940A-ZPOINT
FRN	0022436158
Equipment Type	Digital Transmission System
Equipment Code	DTS
Emission Designator	2M43F1D
FCC/IC Rule Parts	47 CFR 15.247, RSS 210 issue 8 and RSS GEN issue 3
Test Dates	February 28, March 1, March 7-8, March 14-15, and April 8, 2013
Results	As detailed within this report
Prepared by	Edward Breen – Test Engineer
Authorized by	Mairaj Hussain – EMC Supervisor
Issue Date	4-18-2013
Conditions of Issue	This Test Report is issued subject to the conditions stated in the '*Conditions of Testing*' section on page 38 of this report.

Contents

Form Final Report REV 7-20-07 (DW)

Summary

This test report supports an application for certification of a transmitter operating pursuant to 47 CFR 15.247, RSS-GEN, and RSS-210. The product is the TM-ZP200. It is a transmitter that operates in the range 2405-2470MHz

We found that the product met the above requirements without modification. The test sample was received in good condition.

Test Methodology

Radiated emission testing was performed according to the procedures specified in ANSI C63.4 (2003) and RSS-GEN. Radiated Emissions were maximized by rotating the device around three orthogonal axes as well as varying the test antenna's height and polarity. The device antenna was maximized separately. No AC mains conducted emissions testing was performed since product is battery operated.

The EUT operating voltage is 3.3V DC.

The following bandwidths were used during radiated spurious and line conducted emissions.

Frequency	RBW	VBW
0.15-30MHz	9kHz	30kHz
30-1000MHz	120kHz	1MHz
1-25GHz	1MHz	3MHz

Release Control Record

Issue No.	Reason for change	Date Issued
1	Original Release	May 21, 2013

Product Tested - Configuration Documentation

EUT Configuration										
Work Order:	N0477									
Company:	Temperature Alert									
Company Address:	108 Lincoln St, suite BA									
	Boston, MA 02111									
Contact:	Harry Schechter									
Person Present:	Josh Schadel									
		MN			**PN**			**SN**		
EUT:		TM-ZP200						none		
EUT Description:	Zpoint 200									
EUT Max Frequency:	24MHz									
EUT Tx Frequency:	2405-2470MHz									
Support Equipment:		**MN**						**SN**		
Dell Dimension desktop PC		3000						CN-0T6952-70821		
EUT Ports:										
Port Label	**Port Type**	**No. of ports**	**No. Populated**	**Cable Type**	**Shielded**	**Ferrites**	**Length**	**Max Length**	**In/Out NEBS Type**	**Unpopulated Reason**
Antenna	SMA	1	1	Antenna	No	None	varies	varies	In	
Temperature sensor	RJ45	2	2	Sensor	No	None	6ft	100ft	In	
Software / Operating Mode Description:										
Radio transmits a modulated signal on a channel in 2400-2483.5MHz band. Signal is set to customer specified power level.										
Performance Criteria:										
Transmitter and emissions testing only.										

Statement of Conformity

The TM-ZP200 has been found to conform to the following parts of 47 CFR and RSS 210 as detailed below:

RSS-GEN	RSS 210	Part 15	Comments
5.4		15.15(b)	There are no controls accessible to the user that varies the output power.
5.2		15.19	The label is shown in the label exhibit.
7.1.3 7.1.2		15.21	Information to the user is shown in the instruction manual exhibit.
		15.27	No special accessories are required for compliance.
4.1		15.31	The EUT was tested in accordance with the measurement standards in this section.
		15.33	Frequency range was investigated according to this section, unless noted in specific rule section under which the equipment operates.
		15.35	The EUT emissions were measured using the measurement detector and bandwidth specified in this section, unless noted in specific rule section under which the equipment operates.
7.1.2		15.203	The antenna for this device is connected by RP-SMA port.
	2.5	15.205 15.209	The fundamental is not in a Restricted band and the spurious and harmonic emissions in the Restricted bands comply with the general emission limits of 15.209.
7.2.4		15.207	No AC mains conducted emissions testing were performed since product is battery operated.
	Annex 8	15.247	The unit complies with the requirements of 15.247
4.6.1			Occupied Bandwidth measurements were made.

Modifications Required for Compliance

No modifications were necessary for compliance.

Bandwidth

LIMIT

The minimum 6 dB bandwidth shall be at least 500 kHz. [15.247(a) (2)]

15.247(a)(2): Channel bandwidth (6 dB)

Work Order: N0477
Date(s): 2/28/2013
Engineer(s): Edward Breen
EUT: TM-ZP200 Unit
Company: Temperature Alert

Testing Location: Littleton Distribution Center, One Distribution Center Circle, #1 - Littleton, MA 01460

Test Equipment Used:

Spectrum Analyzers / Receivers /Preselectors	Range	MN	Mfr	SN	Asset	Cat	Calibration Due
Rental SA #1 (Brown)	9kHz-26.5GHz	E4407B	Agilent	SG44210511	1510	I	3/14/2013
Radiated Emissions Sites	**FCC Code**	**IC Code**	**VCCI Code**	**Range**		**Cat**	**Calibration Due**
1DCC-OATS-3M-I	719150	2762A-8	A-0015	>1GHz		II	3/9/2013
Preamps /Couplers Attenuators / Filters	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**
HF 20dB 50W Attenuator	0.009-18 GHz	PE 7019-20	Pasternack	1	791	II	6/1/2013
Meteorological Meters		**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**
Temp./Humidity/Atm. Pressure Gauge		7400 Perception II	Davis	N/A	965	I	4/4/2013
1DCC-OATS-3M-I Thermohygrometer		35519-044	Control Company	72457635	1334	II	8/19/2013
Cables	**Range**		**Mfr**			**Cat**	**Calibration Due**
REMI-High-22	9kHz - 26.5GHz		C-S			II	2/2/2014

Atmospheric Conditions:

Temp: 23°C **Humidity:** 21% **Pressure:** 995mbar

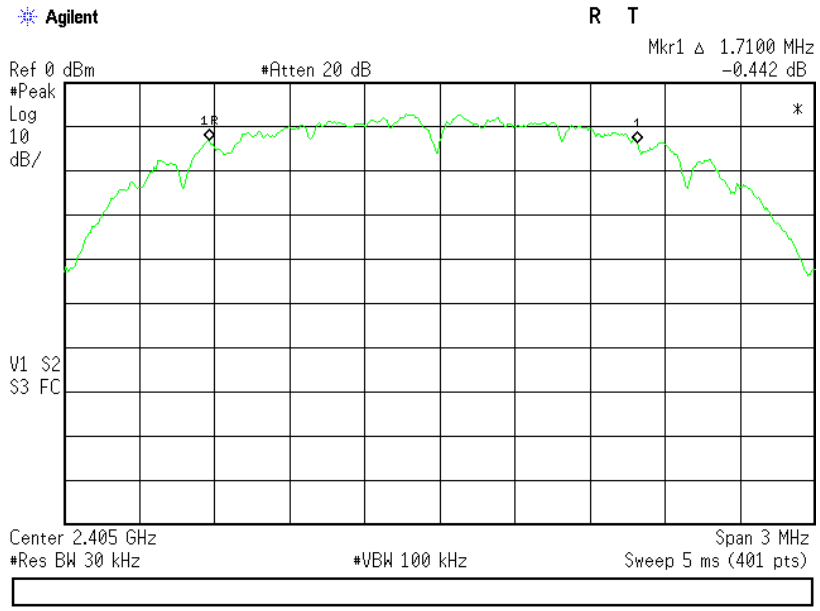
Measurement Settings:

Method: Conducted
RBW: 30kHz
VBW: 100kHz
Span: 3MHz
Detector: Peak
Trace mode: Max hold
Sweep: Auto couple

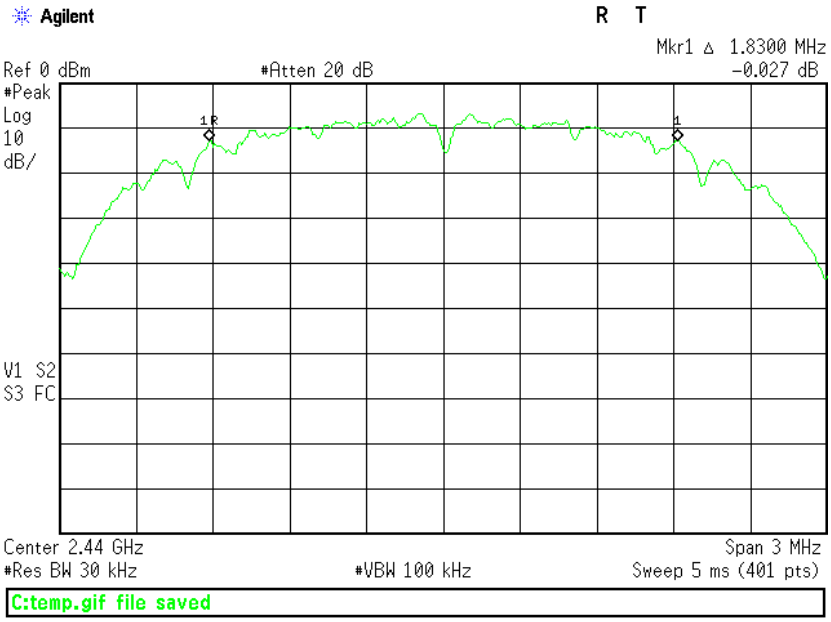
Results:

Channel (MHz)	Bandwidth (MHz)	Minimum (MHz)	Result
2405	1.71	0.5	Pass
2440	1.83	0.5	Pass
2475	1.84	0.5	Pass

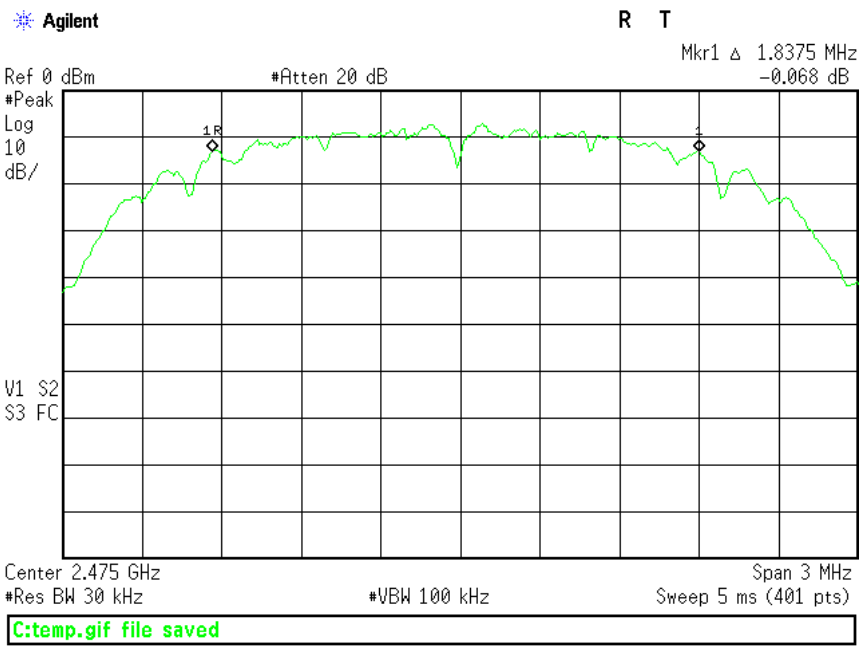
Note: applicant decided to drop 2475MHz channel and make 2470MHz channel the highest channel of operation.



6dB Bandwidth – Low Channel



6dB Bandwidth – Mid Channel



6dB Bandwidth – High Channel

Emission bandwidth (26dB)

Work Order: N0477
Date(s): 3/1/2013
Engineer(s): Edward Breen

EUT: TM-ZP200 Unit
Company: Temperature Alert

Testing Location: Littleton Distribution Center, One Distribution Center Circle, #1 - Littleton, MA 01460

Test Equipment Used:

Spectrum Analyzers / Receivers /Preselectors	Range	MN	Mfr	SN	Asset	Cat	Calibration Due
Rental SA #1 (Brown)	9kHz-26.5GHz	E4407B	Agilent	SG44210511	1510	I	3/14/2013
Radiated Emissions Sites	**FCC Code**	**IC Code**	**VCCI Code**	**Range**		**Cat**	**Calibration Due**
1DCC-OATS-3M-I	719150	2762A-8	A-0015	>1GHz		II	3/9/2013
Preamps /Couplers Attenuators / Filters	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**
HF 20dB 50W Attenuator	0.009-18 GHz	PE 7019-20	Pasternack	1	791	II	6/1/2013
Meteorological Meters		**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**
Temp./Humidity/Atm. Pressure Gauge		7400 Perception II	Davis	N/A	965	I	4/4/2013
1DCC-OATS-3M-I Thermohygrometer		35519-044	Control Company	72457635	1334	II	8/19/2013
Cables	**Range**		**Mfr**			**Cat**	**Calibration Due**
REMI-High-22	9kHz - 26.5GHz		C-S			II	2/2/2014

Atmospheric Conditions:

Temp: 24.2°C **Humidity:** 20% **Pressure:** 997mbar

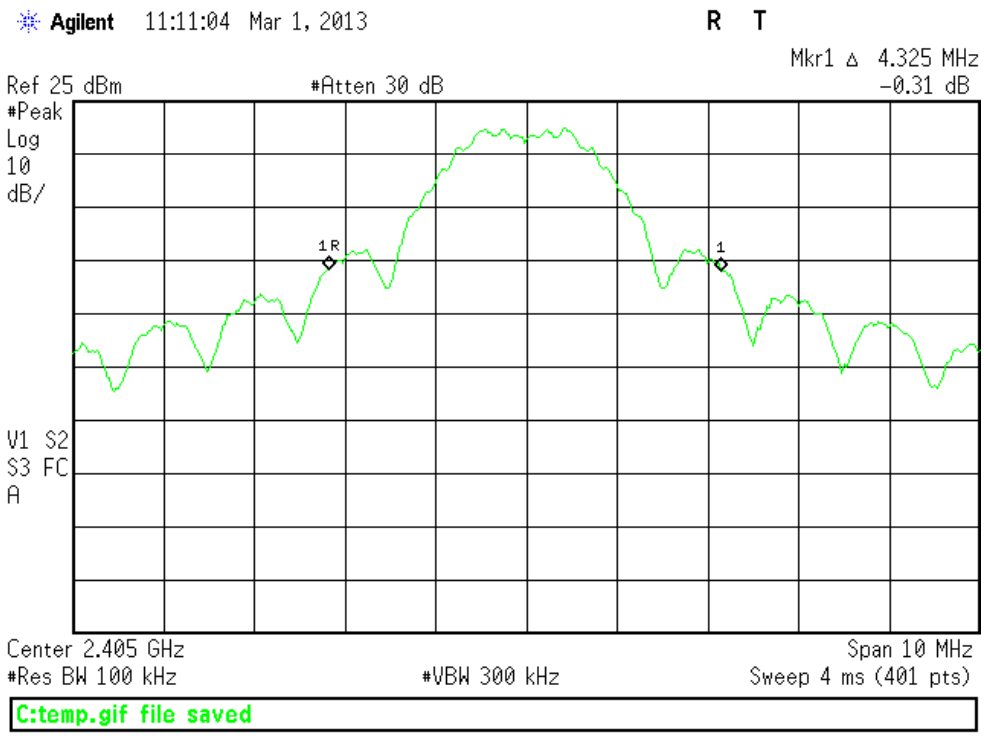
Measurement Settings:

Method: Conducted
RBW: 100kHz
VBW: 300kHz
Span: 10MHz
Detector: Peak
Trace mode: Max hold
Sweep: Auto couple

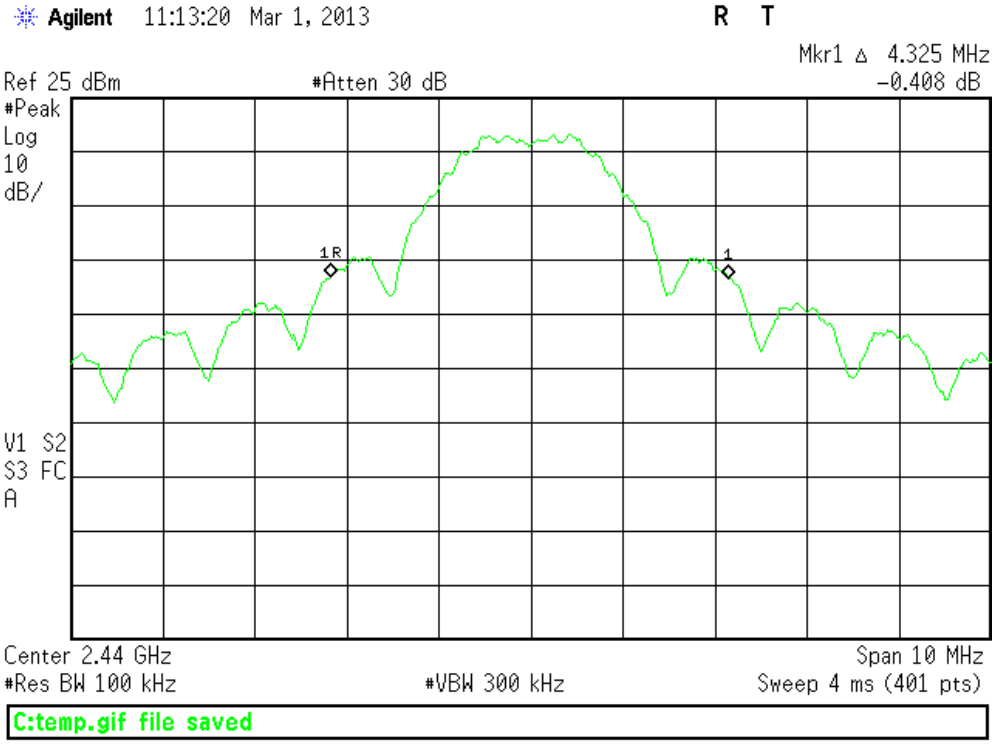
Results:

Channel (MHz)	Bandwidth (MHz)
2405	4.325
2440	4.325
2475	4.325

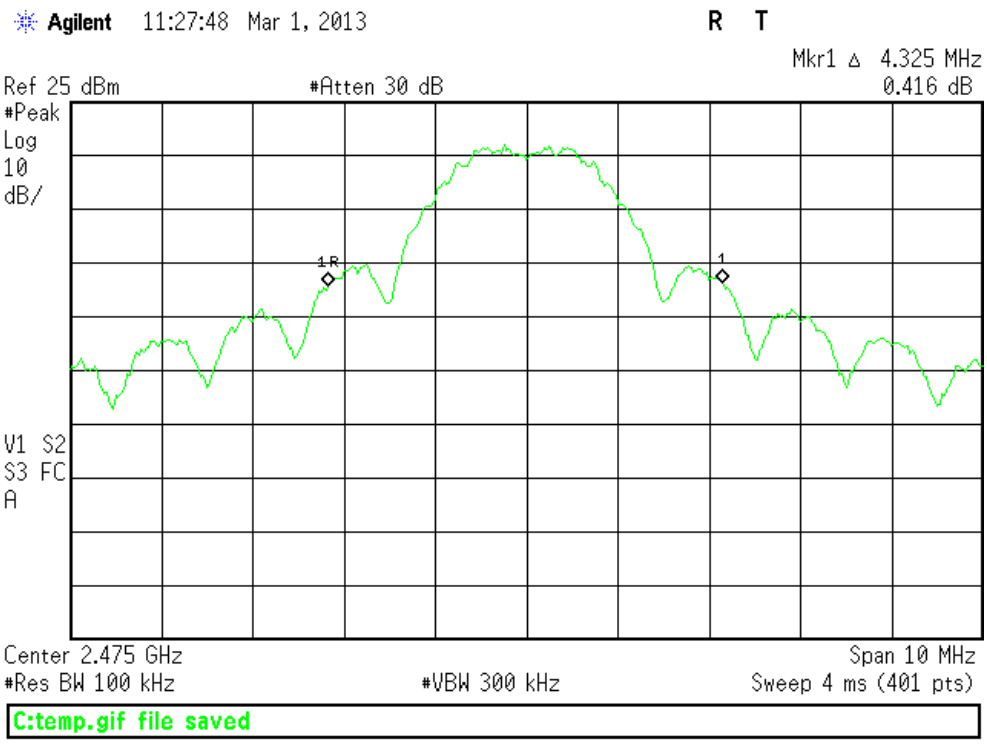
Note: applicant decided to drop 2475MHz channel and make 2470MHz channel the highest channel of operation.



26dB Bandwidth – Low Channel



26dB Bandwidth – Mid Channel



26dB Bandwidth – High Channel

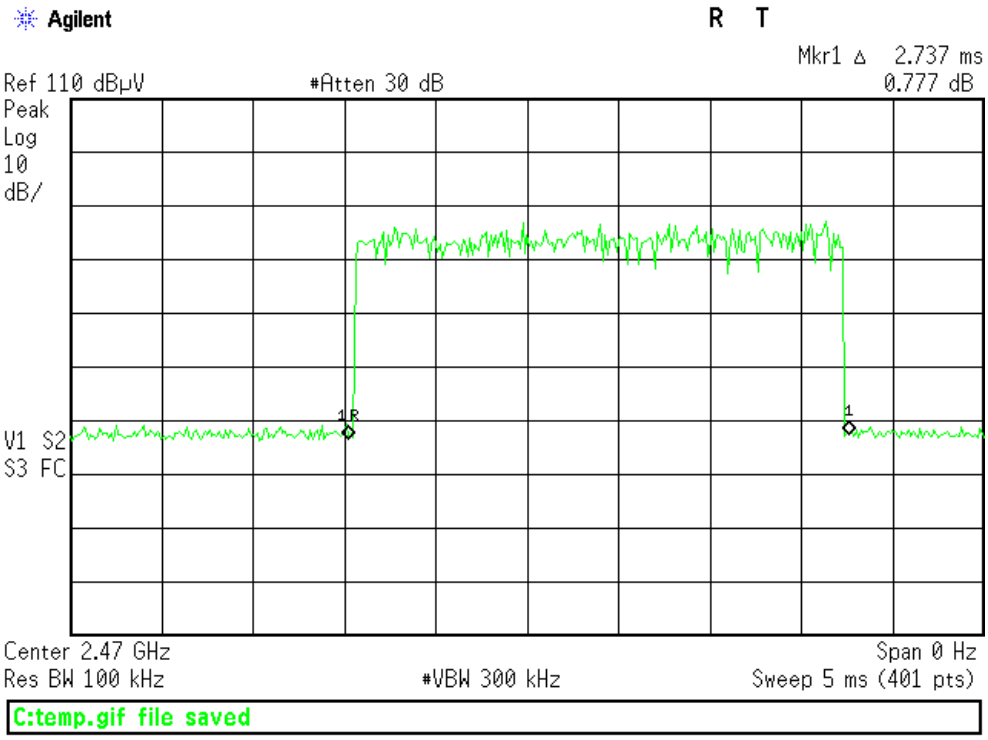
Duty Cycle Correction Calculation

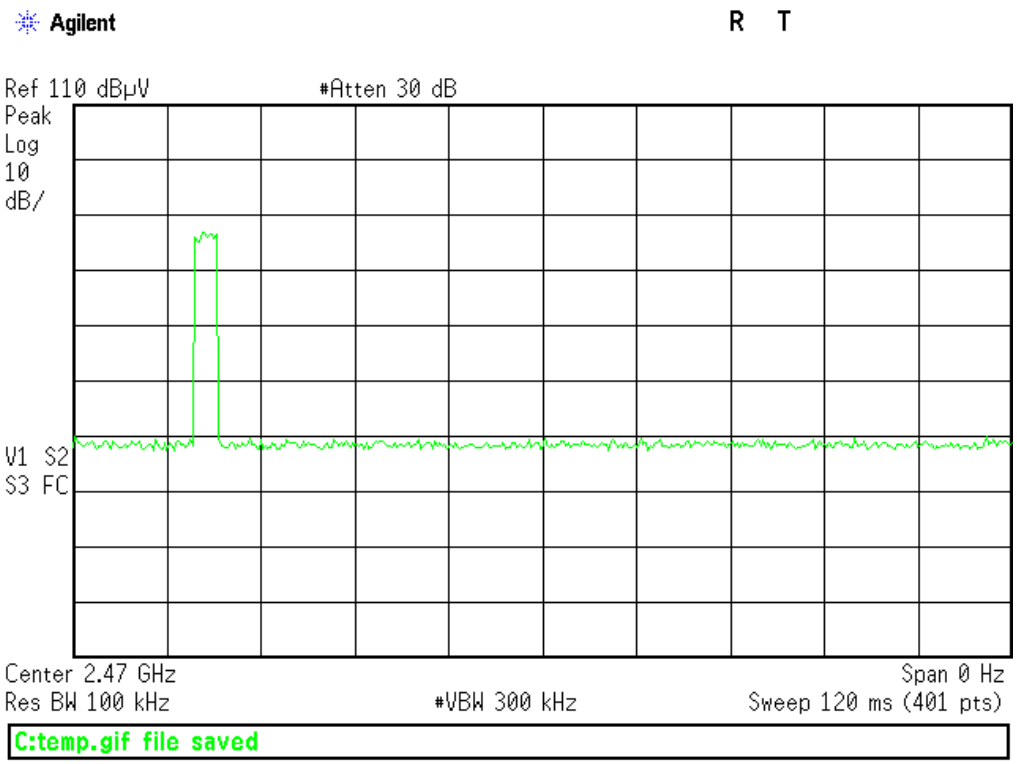
MEASUREMENTS / CALCULATIONS

Engineer	Edward Breen
Date	3/14/2013
Site	3M OATS

DCCF = 20*log(Total ON $_{time}$/100)

DCCF = 20*log(2.737/100) = -31.25dB





Rev. 3/11/2013

Spectrum Analyzers / Receivers /Preselectors	Range	MN	Mfr	SN	Asset	Cat	Calibration Due
Rental SA #1 (Brown)	9kHz-26.5GHz	E4407B	Agilent	SG44210511	1510	I	3/14/2013
Radiated Emissions Sites	**FCC Code**	**IC Code**	**VCCI Code**	**Range**		**Cat**	**Calibration Due**
1DCC-OATS-3M-I	719150	2762A-8	A-0015	>1GHz		II	3/9/2013
Preamps /Couplers Attenuators / Filters	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**
1517 HF Preamp	1-20GHz	CS	CS	N/A	1517	II	4/17/2013
Antennas	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**
Orange Horn	1-18GHz	3115	EMCO	0004-6123	390	I	7/27/2013
Meteorological Meters		**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**
Temp./Humidity/Atm. Pressure Gauge		7400 Perception II	Davis	N/A	965	I	4/4/2013
1DCC-OATS-3M-I Thermohygrometer		35519-044	Control Company	72457635	1334	II	8/19/2013
Cables	**Range**		**Mfr**			**Cat**	**Calibration Due**
REMI-High-22	9kHz - 15GHz		C-S			II	2/2/2014

All equipment is calibrated using standards traceable to NIST or other nationally recognized calibration standard.

Band Edge Measurements

LIMITS

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).
[15.247(d)]

Radiated band Edge

Date: 15-Mar-13 **Company:** Temperatue Alert **Work Order:** N0477
Engineer: Doug Cormier **EUT Desc:** ZP200 **EUT Operating Voltage/Frequency:** AABat
Temp: 24.5°C **Humidity:** 20% **Pressure:** 1005mBar
Measurement Distance: 3 m
Notes: DCCF = -31.2! dB

Antenna Polarization (H / V)	Frequency (MHz)	Peak Reading (dBµV)	Average Reading (dBµV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Adjusted Peak Reading (dBµV/m)	Adjusted Avg Reading (dBµV/m)	FCC Class B High Frequency - Peak			FCC Class B High Frequency - Average		
									Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)	Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)
v	2390.0	44.2	13.0	21.7	28.1	8.5	59.1	27.9	74.0	-14.9	Pass	54.0	-26.1	Pass
Running on CH 18														
v	2483.5	36.2	36.2	21.8	28.5	8.7	51.6	51.6	74.0	-22.4	Pass	54.0	-2.4	Pass

Table Result: Pass by -2.4 dB ***Worst Freq:*** 2483.5 MHz

Test Site: EMI Chamber 1 **Cable 1:** Asset #1722 **Cable 2:** Asset #1507 **Cable 3:** ---
Analyzer: Asset #1327 **Preamp:** Asset #1517 **Antenna:** Orange Horn **Preselector:** ---

Rev. 3/11/2013

Spectrum Analyzers / Receivers /Preselectors	Range	MN	Mfr	SN	Asset	Cat	Calibration Due
SA EMI Chamber (1327)	9kHz-13.2 GHz	E4405B	Agilent	MY45103416	1327	I	5/30/2013

Radiated Emissions Sites	FCC Code	IC Code	VCCI Code	Range		Cat	Calibration Due
EMI Chamber 1	719150	2762A-6	A-0015			II	2/16/2014

Preamps /Couplers Attenuators / Filters	Range	MN	Mfr	SN	Asset	Cat	Calibration Due
1517 HF Preamp	1-20GHz	CS	CS	N/A	1517	II	4/17/2013

Antennas	Range	MN	Mfr	SN	Asset	Cat	Calibration Due
Orange Horn	1-18GHz	3115	EMCO	0004-6123	390	I	7/27/2013

Meteorological Meters		MN	Mfr	SN	Asset	Cat	Calibration Due
Temp./Humidity/Atm. Pressure Gauge		7400 Perception II	Davis	N/A	965	I	4/4/2013
CHAMBER1 Thermohygrometer		35519-044	Control Company	72457642	1345	II	8/19/2013

Cables	Range	Mfr			Cat	Calibration Due
Asset #1507	9kHz - 18GHz	Florida RF			II	2/27/2014
Asset #1722	9kHz - 18GHz	Florida RF			II	3/2/2014

All equipment is calibrated using standards traceable to NIST or other nationally recognized calibration standard.

Peak Power

LIMIT

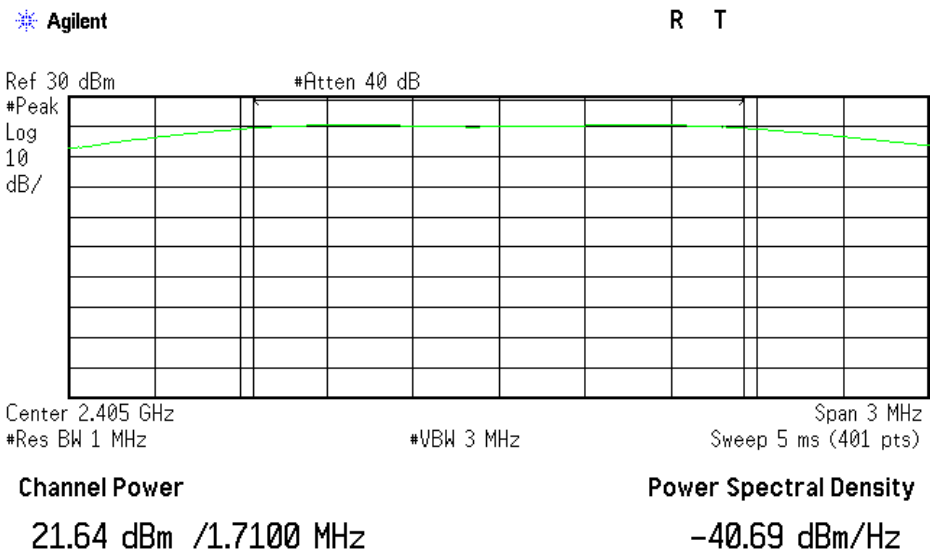
For systems using digital modulation in the 2400-2483.5MHz band: 1 Watt

[15.247(a)]

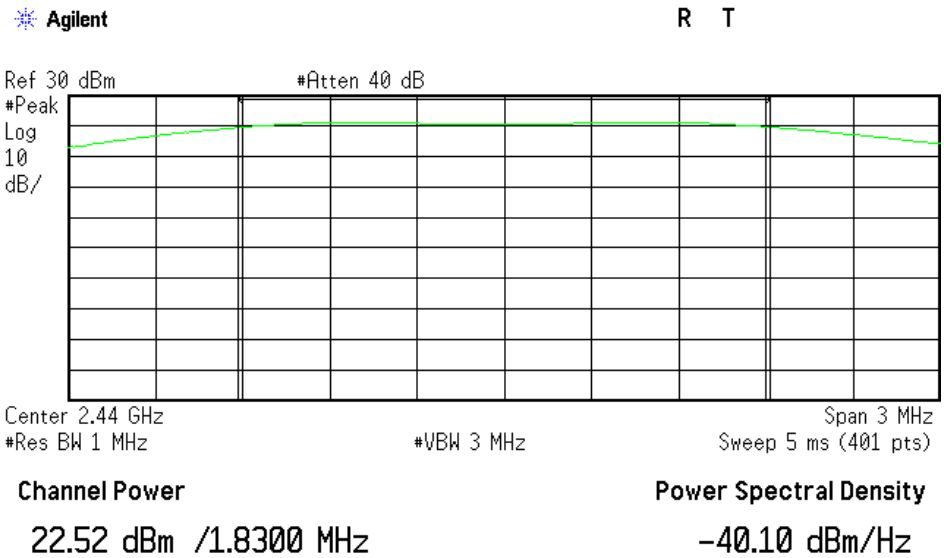
MEASUREMENTS / RESULTS

15.247(b)(3): Maximum Peak Conducted Output Power

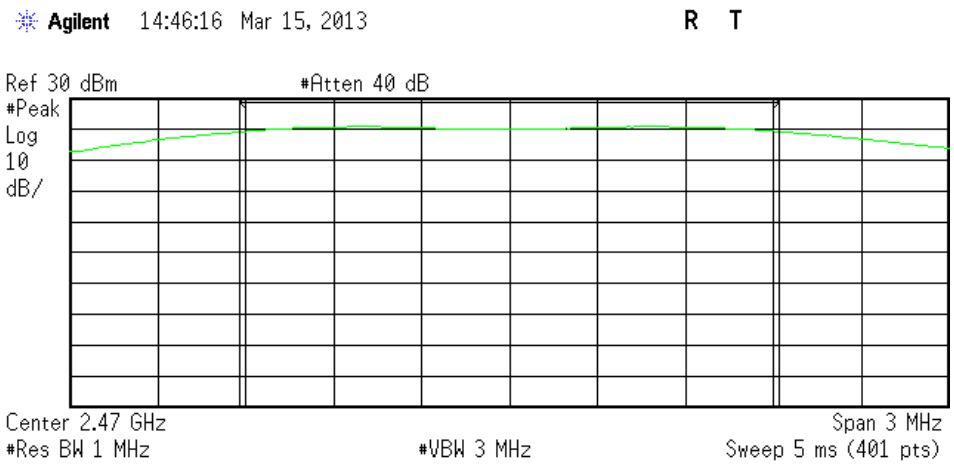
Work Order:	N0477						
Date(s):	3/14/2013, 3/15/2013						
Engineer(s):	Edward Breen						
EUT:	TM-ZP200 Unit						
Company:	Temperature Alert						
Testing Location:	Littleton Distribution Center, One Distribution Center Circle, #1 - Littleton, MA 01460						
Test Equipment Used:							
Spectrum Analyzers / Receivers /Preselectors	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**
Rental SA #1 (Brown)	9kHz-26.5GHz	E4407B	Agilent	SG44210511	1510	I	3/14/2013
SA EMI Chamber (1327)	9kHz-13.2 GHz	E4405B	Agilent	MY45103416	1327	I	5/30/2013
Radiated Emissions Sites	**FCC Code**	**IC Code**	**VCCI Code**	**Range**		**Cat**	**Calibration Due**
1DCC-OATS-3M-I	719150	2762A-8	A-0015	>1GHz		II	3/9/2013
EMI Chamber 1	719150	2762A-6	A-0015			II	2/16/2014
Preamps /Couplers Attenuators / Filters	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**
HF 20dB 50W Attenuator	0.009-18 GHz	PE7019-20	Pasternack	1	791	II	6/1/2013
Meteorological Meters		**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**
Temp./Humidity/Atm. Pressure Gauge		7400 Perception II	Davis	N/A	965	I	4/4/2013
1DCC-OATS-3M-I Thermohygrometer		35519-044	Control Company	72457635	1334	II	8/19/2013
Cables	**Range**		**Mfr**			**Cat**	**Calibration Due**
REMI-High-22	9kHz - 15GHz		C-S			II	2/2/2014
Asset #1507	9kHz - 18GHz		Florida RF			II	2/27/2014
Atmospheric Conditions:							
March 14, 2013	**Temp:** 26.6°C	**Humidity:** 20%		**Pressure:** 1000mbar			
March 15, 2013	**Temp:** 24.5°C	**Humidity:** 20%		**Pressure:** 1005mbar			
Measurement Settings:							
	Method: Conducted						
	RBW: 1MHz						
	VBW: 3MHz						
	Span: 3MHz						
	Detector: Peak						
	Trace mode: Max hold						
	Sweep: Auto couple						
Results:							
Power setting:	-4dBm						
	Channel (MHz)	**Power (dBm)**	**Limit (dBm)**	**Result**			
	2405	21.64	30	Pass			
	2440	22.52	30	Pass			
	2470	22.24	30	Pass			



Low Channel



Mid Channel



High Channel

Radiated Spurious Emissions

LIMITS

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).
[15.247(d)]

MEASUREMENTS / RESULTS

Transmit Mode

Radiated Emissions Table

Date: 15-Mar-13 **Company:** Temperature Alert **Work Order:** N0477
Engineer: Doug Cormier **EUT Desc:** Z-Point, TM-ZP200 **EUT Operating Voltage/Frequency:** AABat
Temp: 24.3°C **Humidity:** 20% **Pressure:** 1005mBar
Frequency Range: 30-1000MHz **Measurement Distance:** 3 m
Notes:

Antenna Polarization (H / V)	Frequency (MHz)	Reading (dBµV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Adjusted Reading (dBµV/m)	CISPR Class B Limit (dBµV/m)	CISPR Class B Margin (dB)	CISPR Class B Result (Pass/Fail)	FCC Class B Limit (dBµV/m)	FCC Class B Margin (dB)	FCC Class B Result (Pass/Fail)
v	72.37	33.6	25.7	8.1	1.2	17.2	40.5	-23.3	Pass	40.0	-22.8	Pass
v	179.8	33.3	25.6	10.7	2.0	20.4	40.5	-20.1	Pass	43.5	-23.1	Pass
v	289.55	30.0	25.8	13.2	2.7	20.1	47.5	-27.4	Pass	46.0	-25.9	Pass
v	292.0	29.6	25.7	13.2	2.7	19.8	47.5	-27.7	Pass	46.0	-26.2	Pass
v	277.1	30.3	25.8	13.2	2.5	20.2	47.5	-27.3	Pass	46.0	-25.8	Pass
h	232.5	40.7	25.7	11.1	2.4	28.5	47.5	-19.0	Pass	46.0	-17.5	Pass

Table Result: Pass by -17.5 dB ***Worst Freq:*** 232.5 MHz

Test Site: EMI Chamber 1 **Cable 1:** Asset #1722 **Cable 2:** EMIR-15
Analyzer: Asset #1327 **Preamp:** Orange **Antenna:** Red-Black

Rev. 3/11/2013

Spectrum Analyzers / Receivers /Preselectors	Range	MN	Mfr	SN	Asset	Cat	Calibration Due
SA EMI Chamber (1327)	9kHz-13.2 GHz	E4405B	Agilent	MY45103416	1327	I	5/30/2013

Radiated Emissions Sites	FCC Code	IC Code	VCCI Code	Range		Cat	Calibration Due
EMI Chamber 1	719150	2762A-6	A-0015			II	2/16/2014

Preamps /Couplers Attenuators / Filters	Range	MN	Mfr	SN	Asset	Cat	Calibration Due
Orange	0.009-2000MHz	ZFL-1000-LN	CS	N/A	765	II	2/2/2014

Antennas	Range	MN	Mfr	SN	Asset	Cat	Calibration Due
Red-Black Bilog	30-2000MHz	JB1	Sunol	A091604-2	1106	I	1/28/2015

Meteorological Meters		MN	Mfr	SN	Asset	Cat	Calibration Due
CHAMBER1 Thermohygrometer		35519-044	Control Company	72457642	1345	II	8/19/2013

Cables	Range	Mfr	Cat	Calibration Due
Asset #1722	9kHz - 18GHz	Florida RF	II	3/2/2014
REMI-15	9kHz - 2GHz	C-S	II	10/15/2013

All equipment is calibrated using standards traceable to NIST or other nationally recognized calibration standard.

Radiated Emissions Table

Date: 15-Mar-13 **Company:** Temperature Alert **Work Order:** N0477
Engineer: Doug Cormier **EUT Desc:** Z-Point, TM-ZP200 **EUT Operating Voltage/Frequency:** AABat
Temp: 24.3°C **Humidity:** 20% **Pressure:** 1005mBar
Frequency Range: 1000-2900MHz **Measurement Distance:** 3 m
Notes:

Antenna Polarization (H / V)	Frequency (MHz)	Peak Reading (dBµV)	Average Reading (dBµV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Adjusted Peak Reading (dBµV/m)	Adjusted Avg Reading (dBµV/m)	FCC Class B High Frequency - Peak: Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)	FCC Class B High Frequency - Average: Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)
v	2110.0	34.6		19.1	27.9	8.1	51.5	---	74.0	-22.5	Pass	54.0	---	---
v	2261.0	35.7		20.5	27.9	8.3	51.4	---	74.0	-22.6	Pass	54.0	---	---
v	2309.0	38.7		21.2	28.0	8.4	53.9	---	74.0	-20.1	Pass	54.0	---	---
v	2499.0	37.77		21.8	28.5	8.8	53.3	---	74.0	-20.7	Pass	54.0	---	---

Table Result: Pass by -20.1 dB ***Worst Freq:*** 2309.0 MHz

Test Site: EMI Chamber 1 **Cable 1:** Asset #1722 **Cable 2:** Asset #1507
Analyzer: Asset #1327 **Preamp:** Asset #1517 **Antenna:** Orange Horn

Rev. 3/11/2013

Spectrum Analyzers / Receivers /Preselectors	Range	MN	Mfr	SN	Asset	Cat	Calibration Due
SA EMI Chamber (1327)	9kHz-13.2 GHz	E4405B	Agilent	MY45103416	1327	I	5/30/2013

Radiated Emissions Sites	FCC Code	IC Code	VCCI Code	Range		Cat	Calibration Due
EMI Chamber 1	719150	2762A-6	A-0015			II	2/16/2014

Preamps /Couplers Attenuators / Filters	Range	MN	Mfr	SN	Asset	Cat	Calibration Due
1517 HF Preamp	1-20GHz	CS	CS	N/A	1517	II	4/17/2013

Antennas	Range	MN	Mfr	SN	Asset	Cat	Calibration Due
Orange Horn	1-18GHz	3115	EMCO	0004-6123	390	I	7/27/2013

Meteorological Meters		MN	Mfr	SN	Asset	Cat	Calibration Due
Temp./Humidity/Atm. Pressure Gauge		7400 Perception II	Davis	N/A	965	I	4/4/2013
CHAMBER1 Thermohygrometer		35519-044	Control Company	72457642	1345	II	8/19/2013

Cables	Range	Mfr			Cat	Calibration Due
Asset #1507	9kHz - 18GHz	Florida RF			II	2/27/2014
Asset #1722	9kHz - 18GHz	Florida RF			II	3/2/2014

All equipment is calibrated using standards traceable to NIST or other nationally recognized calibration standard.

Radiated Emissions Table

Date: 14-Mar-13 **Company:** Temperature Alert **Work Order:** N0477
Engineer: Edward Breen **EUT Desc:** ZPoint, TM-ZP200 Unit **EUT Operating Voltage/Frequency:** Two AA batt
Temp: 26.6°C **Humidity:** 20% **Pressure:** 1000mBar
Frequency Range: 2.9-18GHz **Measurement Distance:** 3 m

Notes: Fundamental frequency: 2405MHz
Duty cycle correction factor: -31.25dB. Average reading = Peak reading - DCCF

Antenna Polarization (H / V)	Frequency (MHz)	Peak Reading (dBµV)	Average Reading (dBµV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Adjusted Peak Reading (dBµV/m)	Adjusted Avg Reading (dBµV/m)	FCC Class B High Frequency - Peak			FCC Class B High Frequency - Average		
									Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)	Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)
				---	---	---	---	---	---	---	---	---	---	---
power setting: -4dBm				---	---	---	---	---	---	---	---	---	---	---
H	4809.0	41.3	10.1	20.7	32.9	5.0	58.5	27.3	74.0	-15.5	Pass	54.0	-26.7	Pass
V	4811.0	43.0	11.8	20.7	32.9	5.0	60.2	29.0	74.0	-13.8	Pass	54.0	-25.0	Pass
				---	---	---	---	---	---	---	---	---	---	---
H	7216.0	48.5	17.3	20.3	36.1	6.4	70.7	39.5	74.0	-3.3	Pass	54.0	-14.5	Pass
V	7214.0	51.7	20.5	20.3	36.1	6.4	73.9	42.7	74.0	-0.1	Pass	54.0	-11.3	Pass
				---	---	---	---	---	---	---	---	---	---	---
H	12021.0	29.2	-2.1	19.7	39.4	8.8	57.7	26.4	74.0	-16.3	Pass	54.0	-27.6	Pass
V	12021.0	36.0	4.8	19.7	39.4	8.8	64.5	33.3	74.0	-9.5	Pass	54.0	-20.7	Pass
				---	---	---	---	---	---	---	---	---	---	---

Table Result: Pass by -0.1 dB ***Worst Freq:*** 7214.0 MHz

Test Site: 1DCC-OATS-3M-I **Cable 1:** EMIR-HIGH-22
Analyzer: Rental SA#1 **Preamp:** Asset #1517 **Antenna:** Orange Horn

Rev. 3/11/2013

Spectrum Analyzers / Receivers /Preselectors	Range	MN	Mfr	SN	Asset	Cat	Calibration Due
Rental SA #1 (Brown)	9kHz-26.5GHz	E4407B	Agilent	SG44210511	1510	I	3/14/2013
Radiated Emissions Sites	**FCC Code**	**IC Code**	**VCCI Code**	**Range**		**Cat**	**Calibration Due**
1DCC-OATS-3M-I	719150	2762A-8	A-0015	>1GHz		II	3/9/2013
Preamps /Couplers Attenuators / Filters	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**
1517 HF Preamp	1-20GHz	CS	CS	N/A	1517	II	4/17/2013
Antennas	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**
Orange Horn	1-18GHz	3115	EMCO	0004-6123	390	I	7/27/2013
Meteorological Meters		**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**
Temp./Humidity/Atm. Pressure Gauge		7400 Perception II	Davis	N/A	965	I	4/4/2013
1DCC-OATS-3M-I Thermohygrometer		35519-044	Control Company	72457635	1334	II	8/19/2013
Cables	**Range**		**Mfr**			**Cat**	**Calibration Due**
REMI-High-22	9kHz - 15GHz		C-S			II	2/2/2014

All equipment is calibrated using standards traceable to NIST or other nationally recognized calibration standard.

Radiated Emissions Table

Date: 14-Mar-13 **Company:** Temperature Alert **Work Order:** N0477
Engineer: Edward Breen **EUT Desc:** ZPoint, TM-ZP200 Unit **EUT Operating Voltage/Frequency:** Two AA batt
Temp: 26.6°C **Humidity:** 20% **Pressure:** 1000mBar
Frequency Range: 18-25GHz **Measurement Distance:** 0.1 m
Notes: Fundamental frequency: 2405MHz
Power setting: -4dBm

Antenna Polarization (H / V)	Frequency (MHz)	Peak Reading (dBµV)	Average Reading (dBµV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Adjusted Peak Reading (dBµV/m)	Adjusted Avg Reading (dBµV/m)	FCC Class B High Frequency - Peak			FCC Class B High Frequency - Average		
									Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)	Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)
No emissions in this range				---	---	---	---	---	---	---	---	---	---	---
				---	---	---	---	---	---	---	---	---	---	---
				---	---	---	---	---	---	---	---	---	---	---

Table Result: --- by --- dB ***Worst Freq:*** --- MHz

Test Site: EMI Chamber 1 **Cable 1:** EMIR-HIGH-22
Analyzer: Rental SA#1 **Preamp:** 18-26.5GHz **Antenna:** 18-26.5GHz Horn

Rev. 3/11/2013

Spectrum Analyzers / Receivers /Preselectors	Range	MN	Mfr	SN	Asset	Cat	Calibration Due
Rental SA #1 (Brown)	9kHz-26.5GHz	E4407B	Agilent	SG44210511	1510	I	3/14/2013
Radiated Emissions Sites	**FCC Code**	**IC Code**	**VCCI Code**	**Range**		**Cat**	**Calibration Due**
1DCC-OATS-3M-I	719150	2762A-8	A-0015	>1GHz		II	3/9/2013
Preamps /Couplers Attenuators / Filters	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**
HF (Yellow)	18-26.5GHz	AFS4-18002650-60-8P-4	CS	467559	1266	I	10/13/2013
Antennas	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**
HF (White) Horn	18-26.5GHz	801-WLM	Waveline	758	758	I	Verify before Use
Meteorological Meters		**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**
Temp./Humidity/Atm. Pressure Gauge		7400 Perception II	Davis	N/A	965	I	4/4/2013
1DCC-OATS-3M-I Thermohygrometer		35519-044	Control Company	72457635	1334	II	8/19/2013
Cables	**Range**		**Mfr**			**Cat**	**Calibration Due**
REMI-High-22	9kHz - 15GHz		C-S			II	2/2/2014

All equipment is calibrated using standards traceable to NIST or other nationally recognized calibration standard.

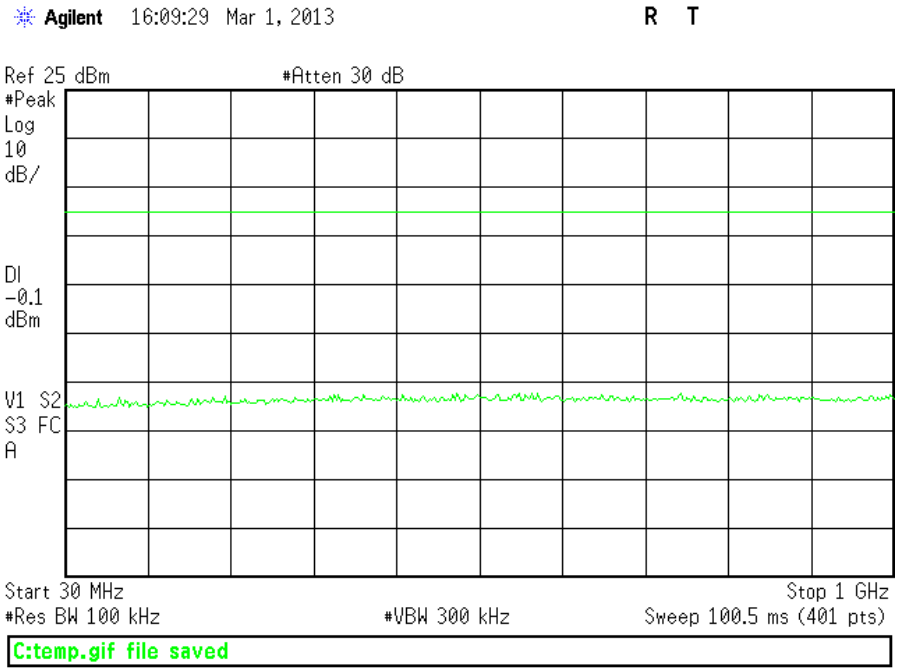
Conducted Spurious Emissions

LIMITS

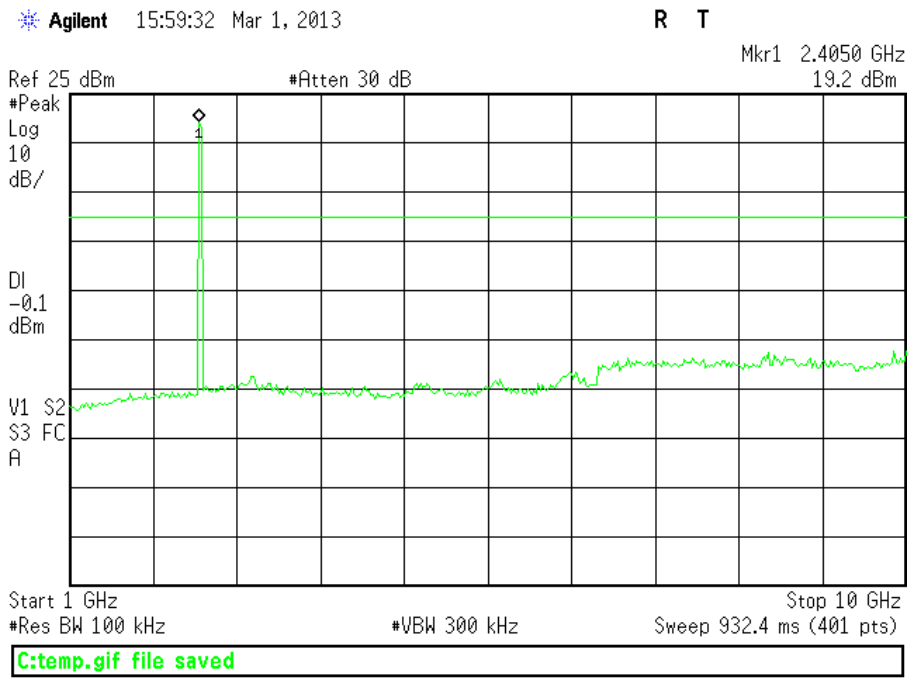
In any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth that contains the highest level of desired power…
[15.247(d)]

Note: applicant decided to drop 2475MHz channel and make 2470MHz channel the highest channel of operation.

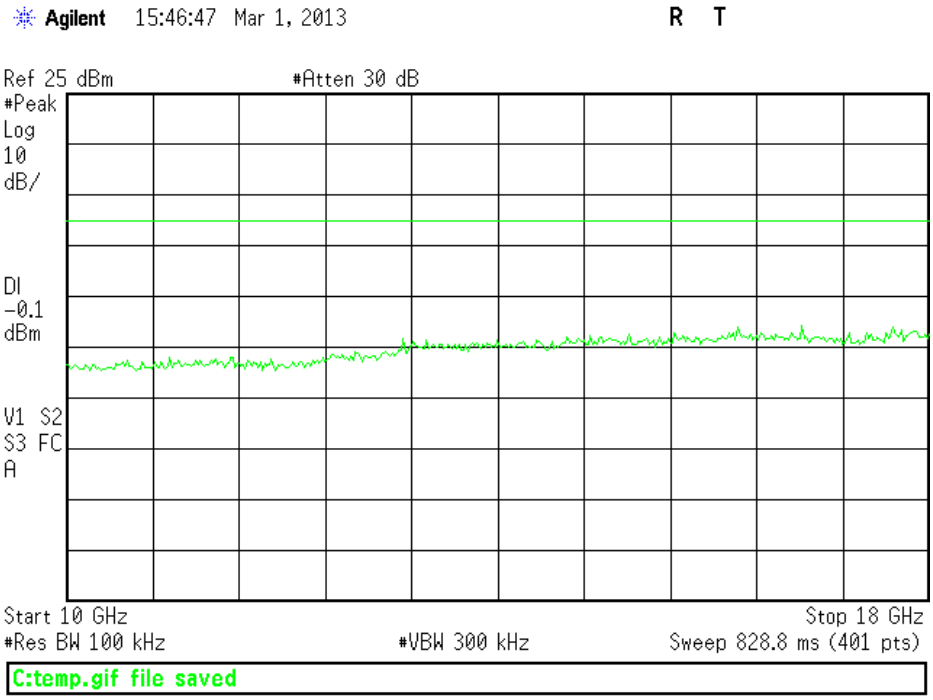
MEASUREMENTS / RESULTS



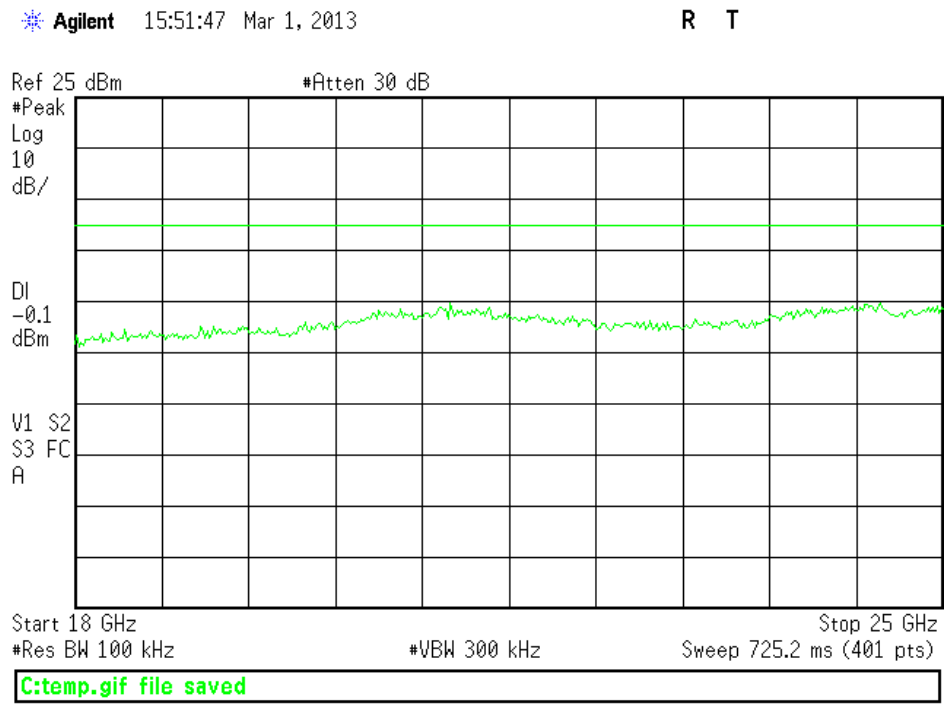
Low channel, 30-1000MHz



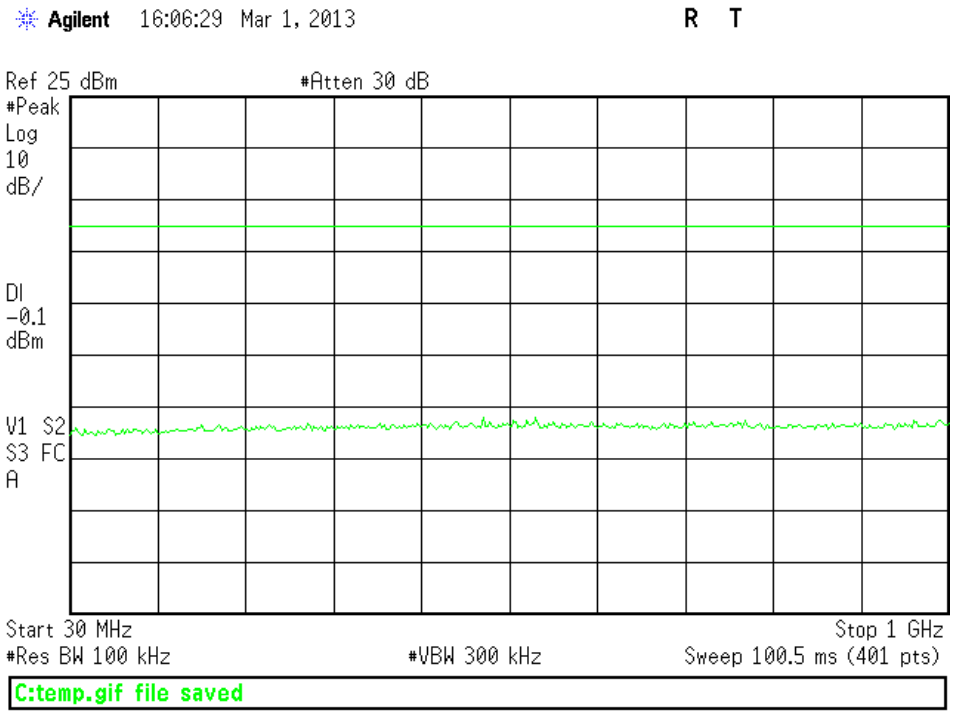
Low channel, 1-10GHz



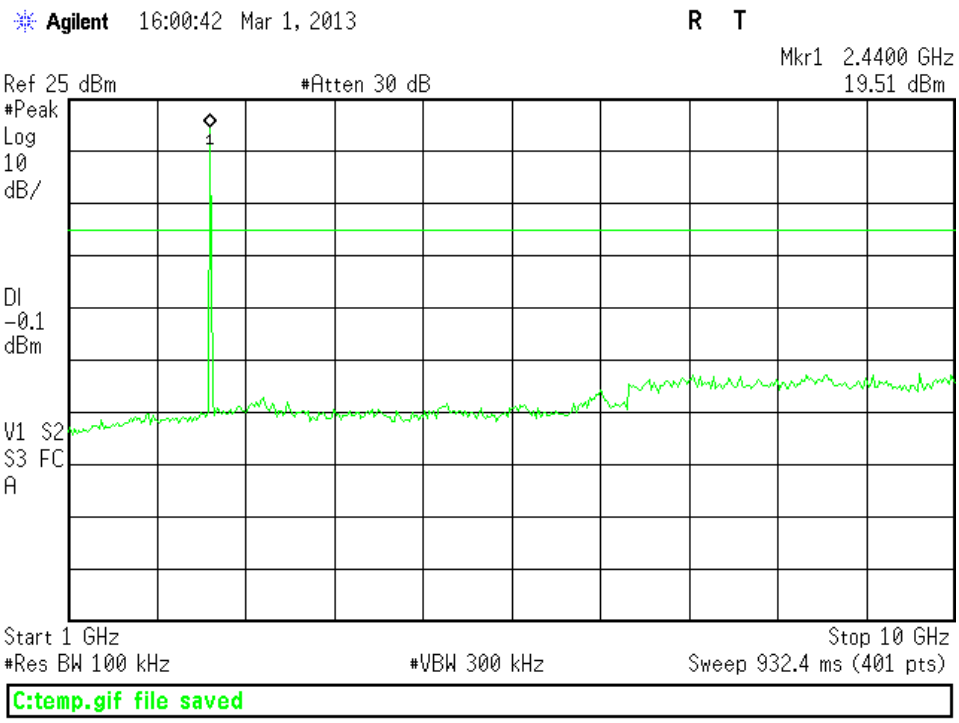
Low channel, 10-18GHz



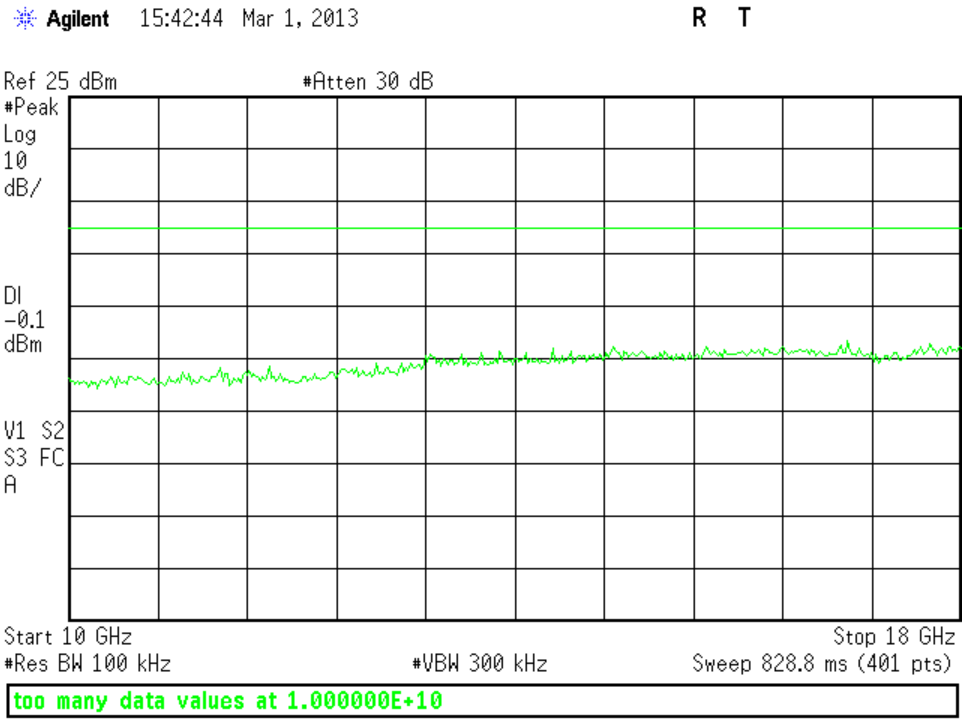
Low channel, 18-25GHz



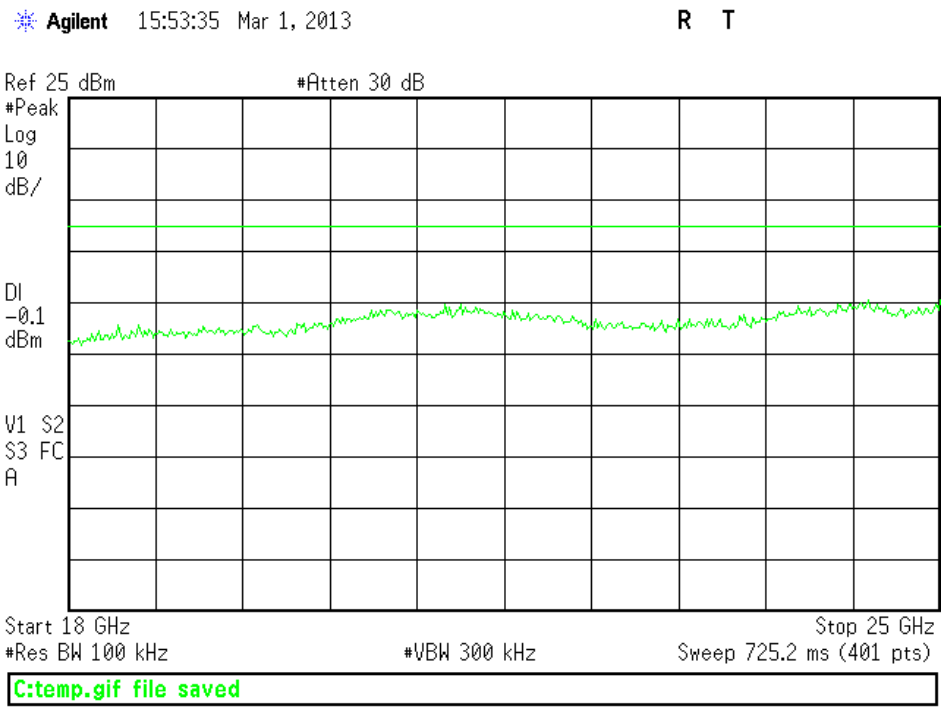
Mid channel, 30-1000MHz



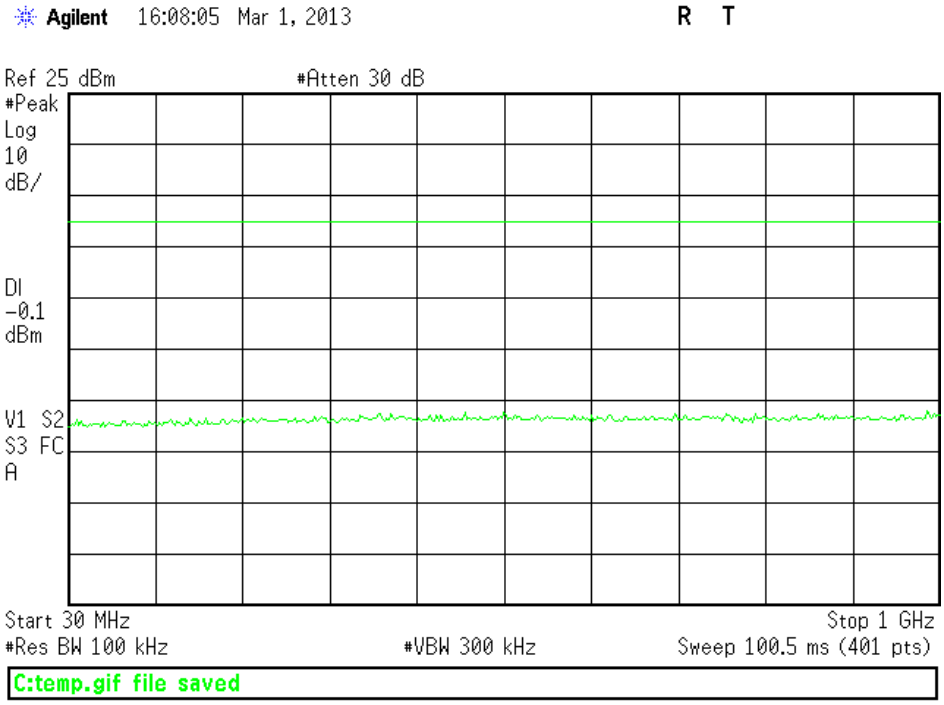
Mid channel, 1-10GHz



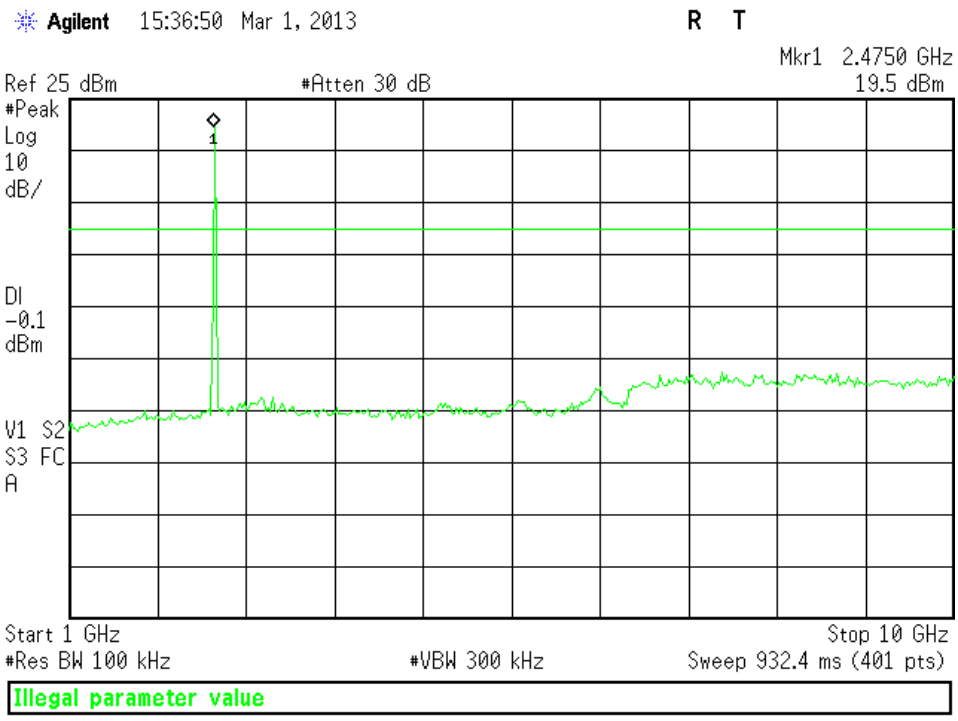
Mid channel, 10-18GHz



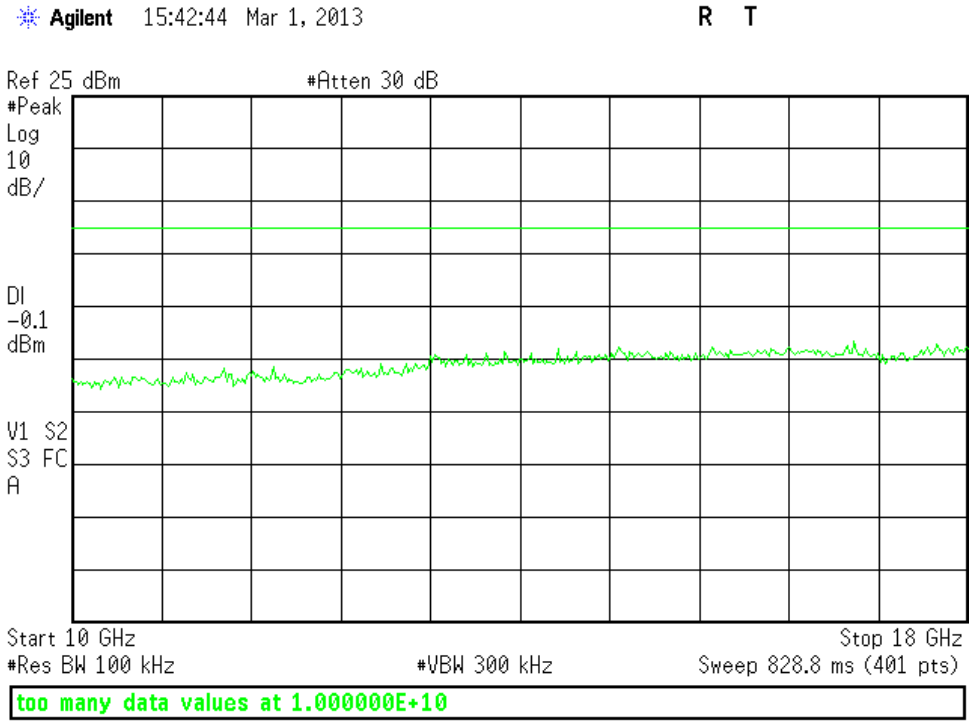
Mid channel, 18-25GHz



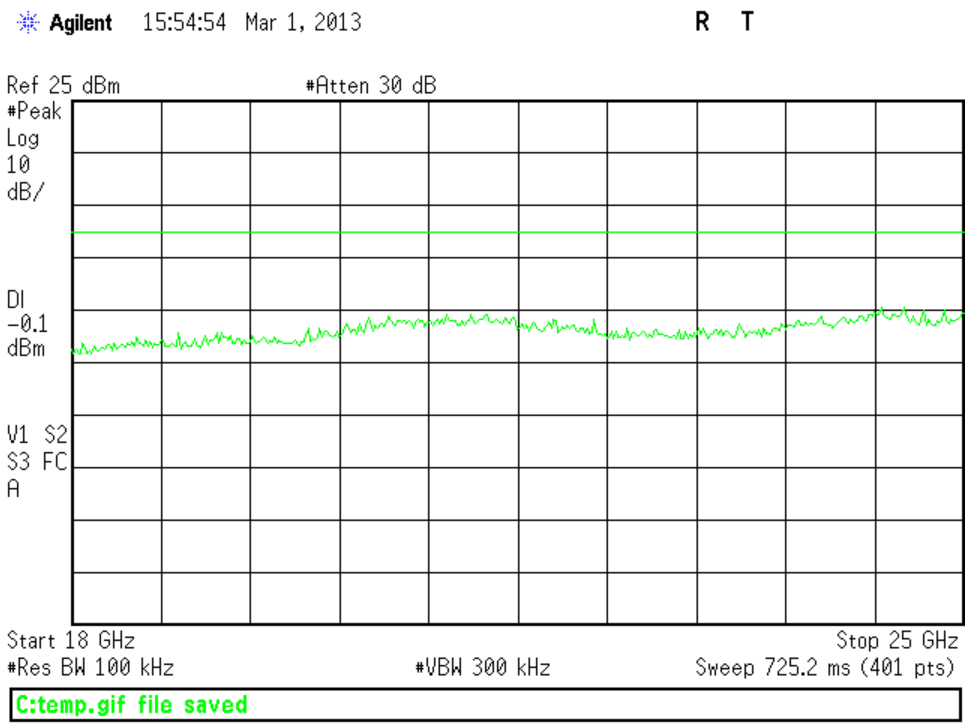
High channel, 30-1000MHz



High channel, 1-10GHz



High channel, 10-18GHz



High channel, 18-25GHz

Rev. 3/11/2013

Spectrum Analyzers / Receivers /Preselectors	Range	MN	Mfr	SN	Asset	Cat	Calibration Due
SA EMI Chamber (1327)	9kHz-13.2 GHz	E4405B	Agilent	MY45103416	1327	I	5/30/2013
Radiated Emissions Sites	**FCC Code**	**IC Code**	**VCCI Code**	**Range**		**Cat**	**Calibration Due**
EMI Chamber 1	719150	2762A-6	A-0015			II	2/16/2014
Cables	**Range**		**Mfr**			**Cat**	**Calibration Due**
Asset #1507	9kHz - 18GHz		Florida RF			II	2/27/2014
Preamps /Couplers Attenuators / Filters	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**
HF 20dB 50W Attenuator	0.009-18 GHz	PE 7019-20	Pasternack	1	791	II	6/1/2013

All equipment is calibrated using standards traceable to NIST or other nationally recognized calibration standard.

AC Line Conducted Emissions

LIMITS

Frequency of emission (MHz)	Quasi-peak limit (dBµV)	Average limit (dBµV)
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

[47 CFR 15.207(a)]

MEASUREMENTS / RESULTS

This test is not applicable as the EUT is battery powered.

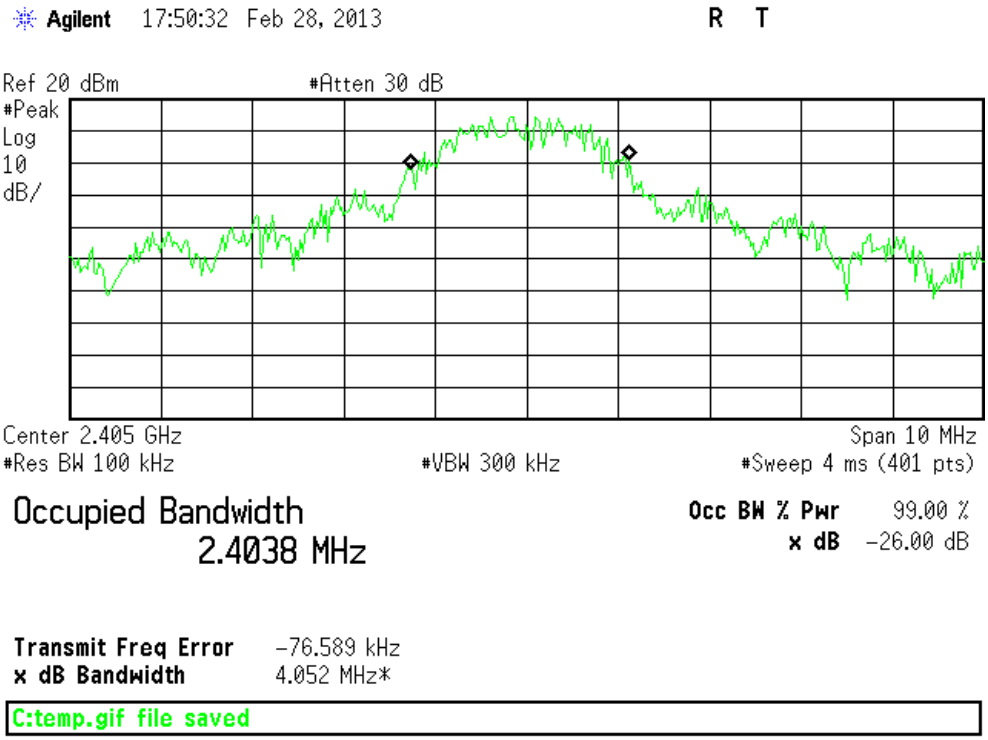
Occupied Bandwidth

REQUIREMENT

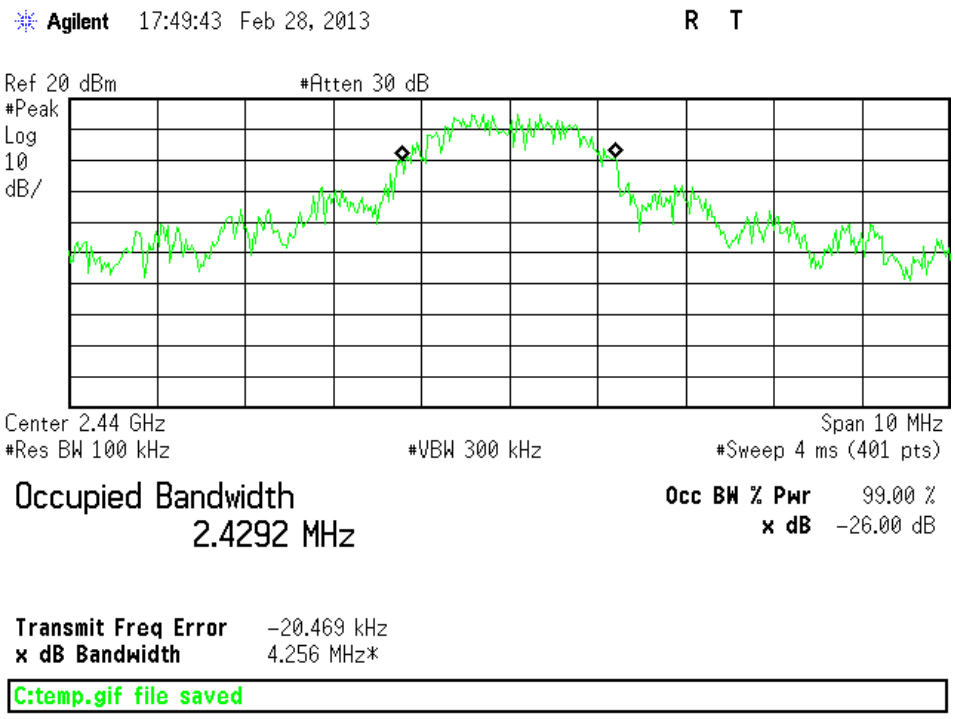
When an occupied bandwidth is no specified in the applicable RSS, the transmitted signal bandwidth to be reported is to be its 99% emission bandwidth, as calculated or measured. [RSS-GEN 4.6.1]

Engineer	Edward Breen
Date	2/28/2013, 3/15/2013
Site	3M OATS

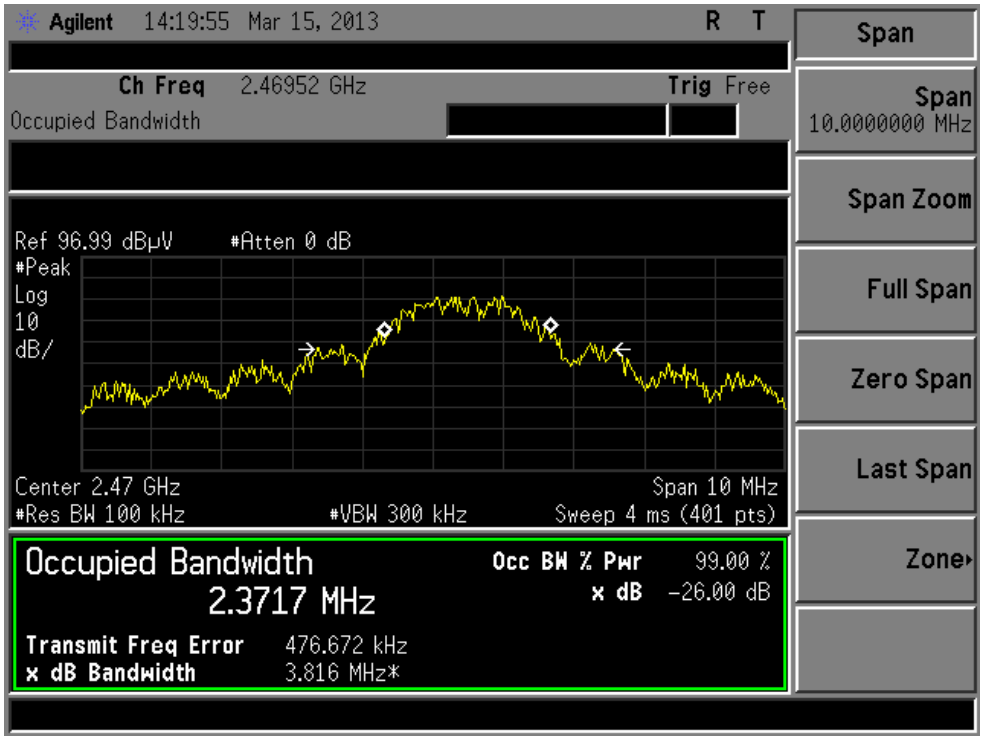
23°C, 21%, 995mb



OBW – Low Channel



OBW – Mid Channel



OBW – High Channel

Spectrum Analyzers / Receivers /Preselectors	Range	MN	Mfr	SN	Asset	Cat	Calibration Due
Rental SA #1 (Brown)	9kHz-26.5GHz	E4407B	Agilent	SG44210511	1510	I	3/14/2013
Radiated Emissions Sites	**FCC Code**	**IC Code**	**VCCI Code**	**Range**		**Cat**	**Calibration Due**
1DCC-OATS-3M-I	719150	2762A-8	A-0015	>1GHz		II	3/9/2013
Preamps /Couplers Attenuators / Filters	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**
HF 20dB 50W Attenuator	0.009-18 GHz	PE 7019-20	Pasternack	1	791	II	6/1/2013
Meteorological Meters		**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**
Temp./Humidity/Atm. Pressure Gauge		7400 Perception II	Davis	N/A	965	I	4/4/2013
1DCC-OATS-3M-I Thermohygrometer		35519-044	Control Company	72457635	1334	II	8/19/2013
Cables	**Range**		**Mfr**			**Cat**	**Calibration Due**
REMI-High-22	9kHz - 26.5GHz		C-S			II	2/2/2014

Power Spectral Density

LIMIT

…the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmission. [15.247(e)]

MEASUREMENTS / RESULTS

15.247(e): Maximum Power Spectral Density

Work Order:	N0477						
Date(s):	3/14/2013, 3/15/2013						
Engineer(s):	Edward Breen						
EUT:	TM-ZP200 Unit						
Company:	Temperature Alert						
Testing Location:	Littleton Distribution Center, One Distribution Center Circle, #1 - Littleton, MA 01460						

Test Equipment Used:

Spectrum Analyzers / Receivers /Preselectors	Range	MN	Mfr	SN	Asset	Cat	Calibration Due
Rental SA #1 (Brown)	9kHz-26.5GHz	E4407B	Agilent	SG44210511	1510	I	3/14/2013
SA EMI Chamber (1327)	9kHz-13.2 GHz	E4405B	Agilent	MY45103416	1327	I	5/30/2013
Radiated Emissions Sites	**FCC Code**	**IC Code**	**VCCI Code**	**Range**		**Cat**	**Calibration Due**
1DCC-OATS-3M-I	719150	2762A-8	A-0015	>1GHz		II	3/9/2013
EMI Chamber 1	719150	2762A-6	A-0015			II	2/16/2014
Preamps /Couplers Attenuators / Filters	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**
HF 20dB 50W Attenuator	0.009-18 GHz	PE7019-20	Pasternack	1	791	II	6/1/2013
Meteorological Meters		**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**
Temp./Humidity/Atm. Pressure Gauge		7400 Perception II	Davis	N/A	965	I	4/4/2013
1DCC-OATS-3M-I Thermohygrometer		35519-044	Control Company	72457635	1334	II	8/19/2013
CHAMBER1 Thermohygrometer		35519-044	Control Company	72457642	1345	II	8/19/2013
Cables	**Range**		**Mfr**			**Cat**	**Calibration Due**
REMI-High-22	9kHz - 26.5GHz		C-S			II	2/2/2014
Asset #1507	9kHz - 18GHz		Florida RF			II	2/27/2014

Atmospheric Conditions:

March 14, 2013	**Temp:** 26.6°C	**Humidity:** 20%	**Pressure:** 1000mbar		
March 15, 2013	**Temp:** 24.5°C	**Humidity:** 20%	**Pressure:** 1005mbar		

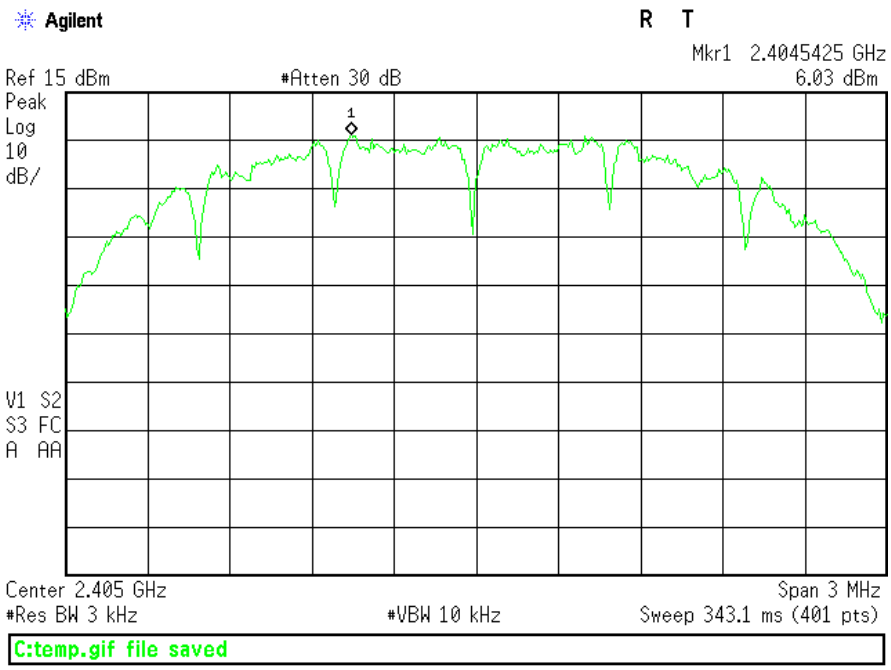
Measurement settings:

Method:	Conducted
RBW:	3kHz
VBW:	10kHz
Span:	3MHz
Detector:	Peak
Trace mode:	Max hold
Sweep:	Auto couple

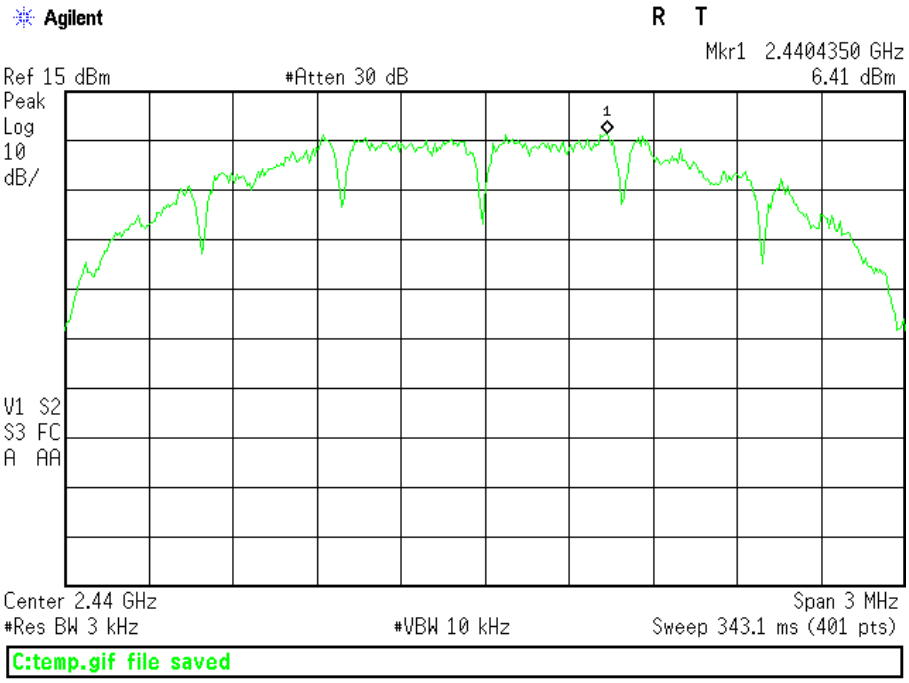
Results:

Power setting: -4dBm

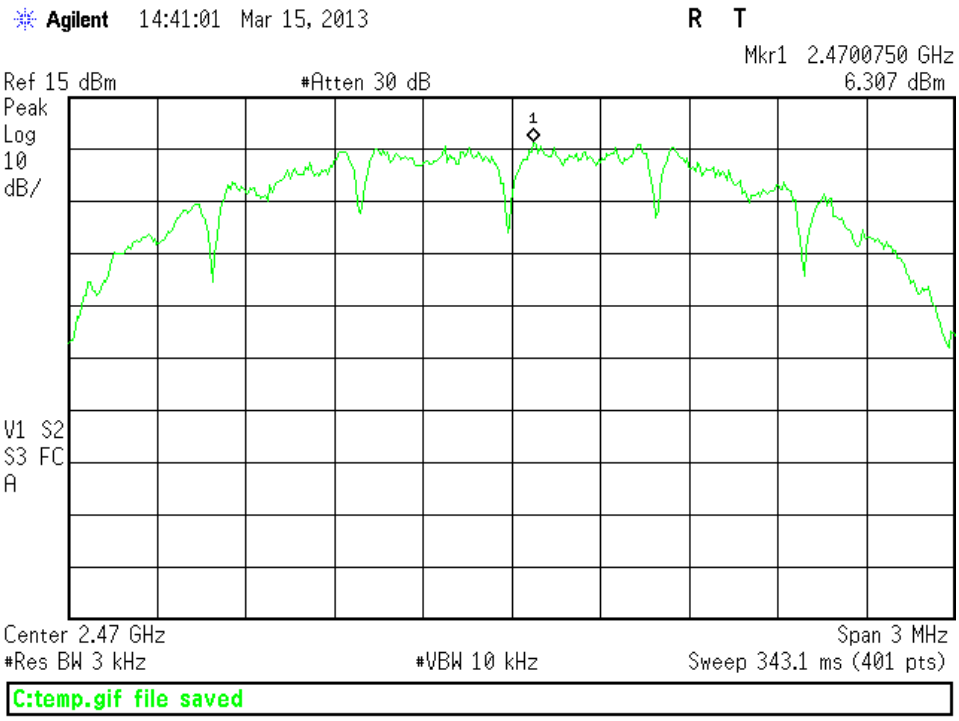
Channel (MHz)	Power (dBm)	Limit (dBm)	Result
2405	6.03	8	Pass
2440	6.41	8	Pass
2470	6.307	8	Pass



Low channel



Mid channel



High channel

Measurement Uncertainty

The listed uncertainties are the worst case uncertainty for the entire range of measurement. Please note that the uncertainty values are provided for informational purposes only and are not used in determining the PASS/FAIL results.

Measurement	Expanded Uncertainty k=2	Maximum allowable uncertainty
Radiated Emissions (30-1000MHz) NIST CISPR	 5.6dB 4.6dB	 N/A 5.2dB (Ucispr)
Radiated Emissions (1-26.5GHz)	4.6dB	N/A
Radiated Emissions (above 26.5GHz)	4.9dB	N/A
Magnetic Radiated Emissions	5.6dB	N/A
Conducted Emissions NIST CISPR	 3.9dB 3.6dB	 N/A 3.6dB (Ucispr)
Telco Conducted Emissions (Current)	2.9dB	N/A
Telco Conducted Emissions (Voltage)	4.4dB	N/A
Electrostatic Discharge	11.5%	N/A
Radiated RF Immunity (Uniform Field)	1.6dB	N/A
Electrical Fast Transients	23.1%	N/A
Surge	23.1%	N/A
Conducted RF Immunity	3dB	N/A
Magnetic Immunity	12.8%	N/A
Dips and Interrupts	2.3V	N/A
Harmonics	3.5%	N/A
Flicker	3.5%	N/A
Radio frequency (@ 2.4GHz)	3.23×10^{-8}	1×10^{-7}
RF power, conducted	0.40dB	0.75dB
Maximum frequency deviation: • Within 300Hz and 6kHz of audio frequency / Within 6kHz and 25kHz of audio frequency	 3.4% 0.3dB	 5% 3dB
Adjacent channel power	1.9dB	3dB
Conducted spurious emission of transmitter, valid up to 12.75GHz	2.39dB	3dB
Conducted emission of receivers	1.3dB	3dB
Radiated emission of transmitter, valid up to 26.5GHz	3.9dB	6dB
Radiated emission of transmitter, valid up to 80GHz	3.3dB	6dB
Radiated emission of receiver, valid up to 26.5GHz	3.9dB	6dB
Radiated emission of receiver, valid up to 80GHz	3.3dB	6dB
Humidity	2.37%	5%
Temperature	0.7°C	1.0°C
Time	4.1%	10%
RF Power Density, Conducted	0.4dB	3dB
DC and low frequency voltages	1.3%	3%
Voltage (AC, <10kHz)	1.3%	2%
Voltage (DC)	0.62%	1%
The above reflects a 95% confidence level		

Product Documentation

The following documentation has been provided by the client for inclusion in this report.

Conditions Of Testing

[Bureau Veritas Consumer Products Services, Inc., a Massachusetts corporation], and/or its affiliates (collectively, the "Company") will conduct, at the request of the Submitter ("**Client**"), the tests specified on the submitted Test Request Form or equivalent in accordance with, and subject to, the following terms and conditions (collectively, "**Conditions**"):

1. All orders for tests are subject to acceptance by the Company, and no order will constitute a binding commitment of the Company unless and until such order is accepted by it, as evidenced by the issuance of a written report ("**Test Report**") by the Company. The Test Report is issued solely by the Company, is intended for the exclusive use of Client and shall not be published, used for advertising purposes, copied or replicated for distribution to any other person or entity or otherwise publicly disclosed without the prior written consent of the Company. By submitting a request for services to the Company, Client consents to the disclosure to accreditation bodies of those records of Client relevant to the accreditation body's assessment of the Company's competence and compliance with relevant accreditation criteria. The Company shall not be liable for any loss or damage whatsoever resulting from the failure of the Company to provide its services within any time period for completion estimated by the Company. If Client anticipates using the Test Report in any legal proceeding, arbitration, dispute resolution forum or other proceeding, it shall so notify the Company prior to submitting the Test Report in such proceeding. The Company has no obligation to provide a fact or expert witness at such proceeding unless the Company agrees in advance to do so for a separate and additional fee.
2. The Test Report will set forth the findings of the Company solely with respect to the test samples identified therein. Unless specifically and expressly indicated in the Test Report, the results set forth in such Test Report are not intended to be indicative or representative of the quality or characteristics of the lot from which a test sample is taken, and Client shall not rely upon the Test Report as being so indicative or representative of the lot or of the tested product in general. The Test Report will reflect the findings of the Company at the time of testing only, and the Company shall have no obligation to update the Test Report after its issuance. The Test Report will set forth the results of the tests performed by the Company based upon the written information provided to the Company. The Test Report will be based solely on the samples and written information submitted to the Company by Client, and the Company shall not be obligated to conduct any independent investigation or inquiry with respect thereto.
3. The Company may, in its sole discretion, destroy samples which have been furnished to the Company for testing and which have not been destroyed in the course of testing. The Company may delegate the performance of all or a portion of the services contemplated hereunder to an affiliate, agent or subcontractor of the Company, and Client consents to such delegation.
4. These Conditions and the Test Report represent the entire understanding of the parties hereto with respect to the subject matter hereof and of the Test Report, and no modification, variance or extrapolation with respect thereto shall be permitted without the prior written consent of the Company.
5. The names, service marks, trademarks and copyrights of the Company and its affiliates, including the names "**BUREAU VERITAS**," "**BUREAU VERITAS CONSUMER PRODUCTS SERVICES**," "**BVCPS**", "**MTL**", "**ACTS**", "**MTL-ACTS**" and **CURTIS-STRAUS** (collectively, the "**Marks**") are and shall remain the sole property of the Company or its affiliates and shall not be used by Client except solely to the extent that Client obtains the prior written approval of the Company and then only in the manner prescribed by the Company. Client shall not contest the validity of the Marks or take any action that might impair the value or goodwill associated with the Marks or the image or reputation of the Company or its affiliates.
6. Payment in full shall be due 30 days after the date of invoice. Interest shall be due on overdue amounts from the due date until paid at an interest rate of 1.5% per month or, if less, the maximum rate permitted by law. The Company reserves the right, at any time and from time to time, to revoke any credit extended to Client. Client shall reimburse the Company for any costs it incurs in collecting past due amounts, including court costs and fees and expenses of attorneys and collection agencies. The Test Report may not be used or relied upon by Client if and for so long as Client fails to pay when due any invoice issued by the Company or any affiliate of it to Client or any affiliate or subsidiary of Client together with interest and penalties, if any, accrued thereon.
7. The Company disclaims any and all responsibility or liability arising out of or in connection with e-mail transmissions of such information.
8. Client understands and agrees that the Company is neither an insurer nor a guarantor, that the Company does not take the place of Client or any designer, manufacturer, agent, buyer, distributor or transportation or shipping company, and that the Company disclaims all liability in such capacities. Client further understands that if it seeks assurance against loss or damage, it should obtain appropriate insurance.
9. Client agrees that the Company, by providing the services, does not take the place of Client nor any third party, nor does the Company release them from any of their obligations, nor does the Company otherwise assume, abridge, abrogate or undertake to discharge any duty of any third party to Client or any duty of Client or any third party to any other third party, and Client will not release any third party from its obligations and duties with respect to the tested goods.
10. Client shall, on a timely basis, (a) provide adequate instructions to the Company in order to enable the Company to perform properly its services, (b) provide, or cause Client's suppliers and contractors to provide, the Company with all documents necessary to enable the Company to perform its services, (c) furnish the Company with all relevant information regarding Client's intended use and purposes of the tested goods, (d) advise the Company of essential dates and deadlines relevant to the tested goods and (e) fully exercise all rights and remedies available to Client against third parties in respect of the tested goods.
11. The Company shall undertake due care and ordinary skill in the performance of its services to Client, and the Company shall accept responsibility only were such skill has not been exercised and, even in such event, only to the extent of the limitation of liability set forth herein.
12. If Client desires to assert a claim arising from or relating to (i) the performance, purported performance or non-performance of any services by the Company or (ii) the sale, resale, manufacture, distribution or use of any tested goods, it must submit that claim to the Company in a writing that sets forth with particularity the basis for such claim within 60 days from discovery of the potential claim and not more than six months after the date of issuance of the Test Report to Client. Client waives any and all such claims including, without limitation, claims that the Test Report is inaccurate, incomplete or misleading or that additional or different testing is required, unless and then only to the extent that Client submits a written claim to the Company within both such time periods.

13. CLIENT SHALL, EXCEPT TO THE EXTENT OF COMPANY'S LIABILITY TO CLIENT HEREUNDER (WHICH IN NO EVENT SHALL EXCEED THE LIMITATION OF LIABILITY HEREIN), HOLD HARMLESS AND INDEMNIFY THE COMPANY, ITS AFFILIATES AND THEIR RESPECTIVE DIRECTORS, OFFICERS, EMPLOYEES, AGENTS AND SUBCONTRACTORS AGAINST ALL ACTUAL OR ALLEGED THIRD PARTY CLAIMS FOR LOSS, DAMAGE OR EXPENSE OF WHATSOEVER NATURE AND HOWSOEVER ARISING FROM OR RELATING TO (i) THE PERFORMANCE, PURPORTED PERFORMANCE OR NON-PERFORMANCE OF ANY SERVICES BY THE COMPANY OR (ii) THE SALE, RESALE, MANUFACTURE, DISTRIBUTION OR USE OF ANY TESTED GOODS.

14. EXCEPT AS MAY OTHERWISE BE EXPRESSLY AGREED TO IN WRITING BY THE COMPANY AND NOTWITHSTANDING ANY PROVISION TO THE CONTRARY CONTAINED HEREIN OR IN ANY TEST REPORT, NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE, IS MADE.

15. (A) IN NO EVENT WHATSOEVER SHALL THE COMPANY BE LIABLE FOR ANY CONSEQUENTIAL, SPECIAL, INCIDENTAL, EXEMPLARY OR PUNITIVE DAMAGES IN CONNECTION WITH, RELATING TO OR ARISING OUT OF THE TEST REPORT OR THE SERVICES PROVIDED BY THE COMPANY HEREUNDER, INCLUDING WITHOUT LIMITATION LOSS OF OR DAMAGE TO PROPERTY; LOSS OF INCOME, PROFIT OR USE; OR ANY CLAIMS OR DEMANDS MADE AGAINST CLIENT OR ANY OTHER PERSON BY ANY THIRD PARTY IN CONNECTION WITH, RELATING TO OR ARISING OUT OF THE SERVICES PROVIDED BY THE COMPANY HEREUNDER.

(B)NOTWITHSTANDING ANY PROVISION TO THE CONTRARY CONTAINED HEREIN, AND IN RECOGNITION OF THE RELATIVE RISKS AND BENEFITS TO CLIENT AND THE COMPANY ASSOCIATED WITH THE TESTING SERVICES CONTEMPLATED HEREBY, THE RISKS HAVE BEEN ALLOCATED SUCH THAT UNDER NO CIRCUMSTANCES WHATSOEVER SHALL THE LIABILITY OF THE COMPANY TO CLIENT OR ANY THIRD PARTY IN RESPECT OF ANY CLAIM FOR LOSS, DAMAGE OR EXPENSE, OF WHATSOEVER NATURE OR MAGNITUDE, AND HOWSOEVER ARISING, EXCEED AN AMOUNT EQUAL TO FIVE (5) TIMES THE AMOUNT OF THE FEES PAID TO THE COMPANY FOR THE SPECIFIC SERVICES WHICH GAVE RISE TO SUCH CLAIM OR U.S.$10,000, WHICHEVER IS THE LESSER AMOUNT.

16. The Company shall not be liable for any loss or damage resulting from any delay or failure in performance of its obligations hereunder resulting directly or indirectly from any event of force majeure or any event outside the control of the Company. If any such event occurs, the Company may immediately cancel or suspend its performance hereunder without incurring any liability whatsoever to Client.

17. Company's services, including these Conditions, shall be governed by, and construed in accordance with, the local laws of the country where the Company performs the tests or, in the case of tests performed in the United States of America, the laws of Massachusetts without regard to conflicts of laws principles. If any aspect(s) of these Conditions is found to be illegal or unenforceable, the validity, legality and enforceability of all remaining aspects of these Conditions shall not in any way be affected or impaired thereby. Any proceeding related to the subject matter hereof shall be brought, if at all, in the courts of the country where the Company performs the tests or, in the case of tests performed in the United States of America, in the courts of Massachusetts. Client waives the right to interpose any counterclaim or setoffs of any nature in any litigation arising hereunder.

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