





# Test Report



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

Report No	ER1113-1
Client	Ideal Industries, Inc. Tim Tunnell
Address	Becker Place Sycamore, IL 60178
Phone	(815) 895-1295
Items tested	SCELV1000-277
FCC ID	2AAMXSCELV1000
IC ID	11250A-SCELV1000
FRN	0002862225
Equipment Type	Digital Transmission System
Equipment Code	DTS
Emission Designator	758KG1D
FCC/IC Rule Parts	47 CFR 15.247, RSS-247 Issue 2
Test Dates	January 14 and 15, 2016, May 6 and 8, April 20, 21, and 23, July 16 and 18, August 16, 2017
Results	As detailed within this report
Prepared by	 Zachary Johnson – Test Engineer
Authorized by	 Jason Haley – Sr. EMC Engineer
Issue Date	10/4/2017
Conditions of Issue	This Test Report is issued subject to the conditions stated in the 'Conditions of Testing' section on page 41 of this report.

Curtis-Straus LLC is accredited by the American Association for Laboratory Accreditation for the specific scope of accreditation under Certificate Number 1627-01. This report may contain data which is not covered by the A2LA accreditation.



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**Contents**

Contents.....2

Summary.....2

Test Methodology.....3

Product Tested - Configuration Documentation .....4

*Statement of Conformity* .....5

Modifications Required for Compliance .....5

Test Results .....6

*Bandwidth*.....6

*Peak Power* .....9

*Radiated Spurious Emissions* .....12

*Conducted Spurious Emissions* .....14

*Power Spectral Density*.....31

*AC Line Conducted Emissions*.....34

Occupied Bandwidth.....37

Measurement Uncertainty.....40

Conditions Of Testing .....41

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**Summary**

This test report supports an application for certification of a transmitter operating pursuant to 47 CFR 15.247 and RSS-247. The product is the SCELV1000-277. It is a transmitter that operates in the range 902-928MHz.

We found that the product met the above requirements without modifications. The test sample was received in good condition on January 14, 2016.



## Test Methodology

All testing was performed according to the following rules/procedures/documents;  
CFR 47 Part 15.247, RSS-247 Issue 2, RSS-Gen Issue 4, FCC KDB 558074 D01 DTS  
Measurement Guidance v03r04 and ANSI C63.10-2013.

Radiated emissions were maximized by rotating the device around three orthogonal axes as well as varying the test antenna's height and polarity. AC line conducted emissions testing was performed with a 50 $\Omega$ /50 $\mu$ H LISN. The EUT operating voltage was 120/277VAC at 60Hz. RF measurements were performed at the antenna port.

The environmental conditions were as shown below.

Date	Temperature	Humidity
January 14, 2016	21°C	30%RH
January 15, 2016	22°C	29%RH
May 6, 2017	24°C	27%RH
May 8, 2017	24°C	29%RH
April 20, 2017	25°C	29%RH
April 21, 2017	25°C	29%RH
April 23, 2017	25°C	26%RH
July 16, 2017	27°C	41%RH
July 18, 2017	26.7°C	47%RH
August 16, 2017	24°C	51%RH

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

**Product Tested - Configuration Documentation**

EUT Configuration										
<b>Work Order:</b>	R1113									
<b>Company:</b>	Ideal Industries, Inc.									
<b>Company Address:</b>	Becker Place Sycamore, IL 60178									
<b>Contact:</b>	Tim Tunnell									
	MN			PN			SN			
<b>EUT:</b>	SCELV1000-277			--			--			
<b>EUT Description:</b>	SCELV1000-277									
Port Label	Port Type	# ports	# populated	cable type	shielded	ferrites	length (m)	in/out	under test	comment
AC Mains	Power AC	1	1	Power AC	No	No	1.4	in	yes	
<b>Software Operating Mode Description:</b>										
EUT is transmitting one of these frequencies: 902MHz, 915MHz, and 927MHz.										



## Statement of Conformity

The SCELV1000-277 has been found to conform to the following parts of 47 CFR and RSS 247 as detailed below:

RSS-GEN	RSP-100	RSS 247	Part 15	Comments
6.3			15.15(b)	There are no controls accessible to the user that varies the output power to operate in violation of the regulatory requirements.
	3.1		15.19	The label is shown in the label exhibit.
	4		15.21	Information to the user is shown in the instruction manual exhibit.
			15.27	No special accessories are required for compliance.
3, 6.1			15.31	The EUT was tested in accordance with the measurement standards in this section.
6.13			15.33	Frequency range was investigated according to this section, unless noted in specific rule section under which the equipment operates.
8.1			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.
8.3			15.203	The antenna for this device is integrated hardwired to the PCB with a gain of 4.55dBi.
8.10			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 or RSS-Gen as applicable
8.8			15.207	EUT meets the AC Line conducted emissions requirements of this section.
			15.247	The unit complies with the requirements of 15.247
		RSS 247		The unit complies with the requirements of RSS-247
6.6				Occupied Bandwidth measurements were made.

## Modifications Required for Compliance

No modifications required for Compliance

**Test Results**

**Bandwidth**

**LIMIT**

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

**MEASUREMENTS / RESULTS**

DTS Bandwidth (Conducted) Table							
Date: 14-Jan-16		Company: Ideal Industries, Inc.			Work Order: Q0060		
Engineer: Jason Haley		EUT Desc: SCELV1000		EUT Operating Voltage/Frequency: 120Vac/60Hz			
Temp: 20.2°C		Humidity: 35%		Pressure: 1007mBar			
Frequency Range: 902-928MHz							
Notes: Measured per DTS Meas Guidance V03r04 Section 8.2							
Frequency (MHz)	Resolution Bandwidth Setting (kHz)	Video Bandwidth Setting (kHz)	Frequency Span Setting (MHz)	Detector Function	Measured DTS Bandwidth (kHz)	FCC Part 15.247(a) (2) Emission Bandwidth	
						Limit (kHz minimum)	Result (Pass/Fail)
902.7	100	300	2	Peak	662.5	500.0	Pass
915.0	100	300	2	Peak	663.7	500.0	Pass
927.3	100	300	2	Peak	663.6	500.0	Pass
<b>Table Result:</b> Pass							

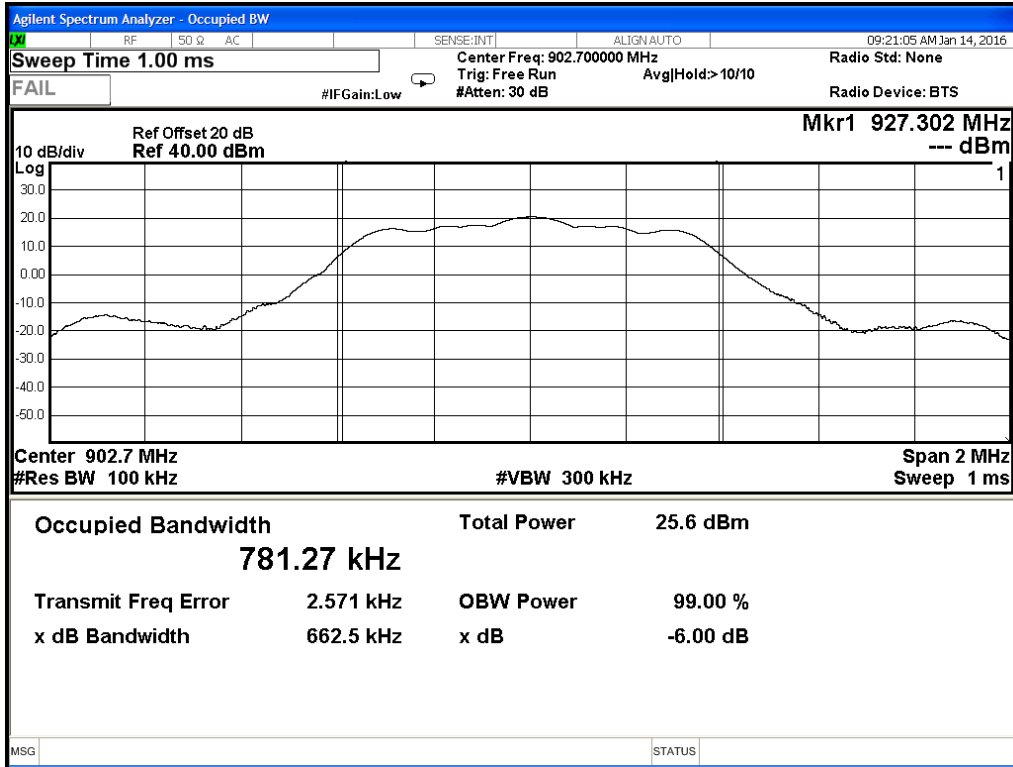
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Meteorological Meters	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on	
Weather Clock (Pressure Only) TH A#2084	BA928 HTC-1	Oregon Scientific HDE	C3166-1	831 2084	I II	3/19/2016 4/2/2016	3/19/2014 4/2/2015	
Spectrum Analyzers / Receivers / Preselectors	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
MXE EMI Receiver	20Hz-8.4GHz	N9038A	Agilent	MY53290009	1168255	I	6/16/2016	6/16/2015
Preamps / Couplers Attenuators / Filters	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
HF 20dB 50W Attenuator	0.009-18 GHz	PE 7019-20	Pasternack	1	791	II	7/31/2016	7/31/2015

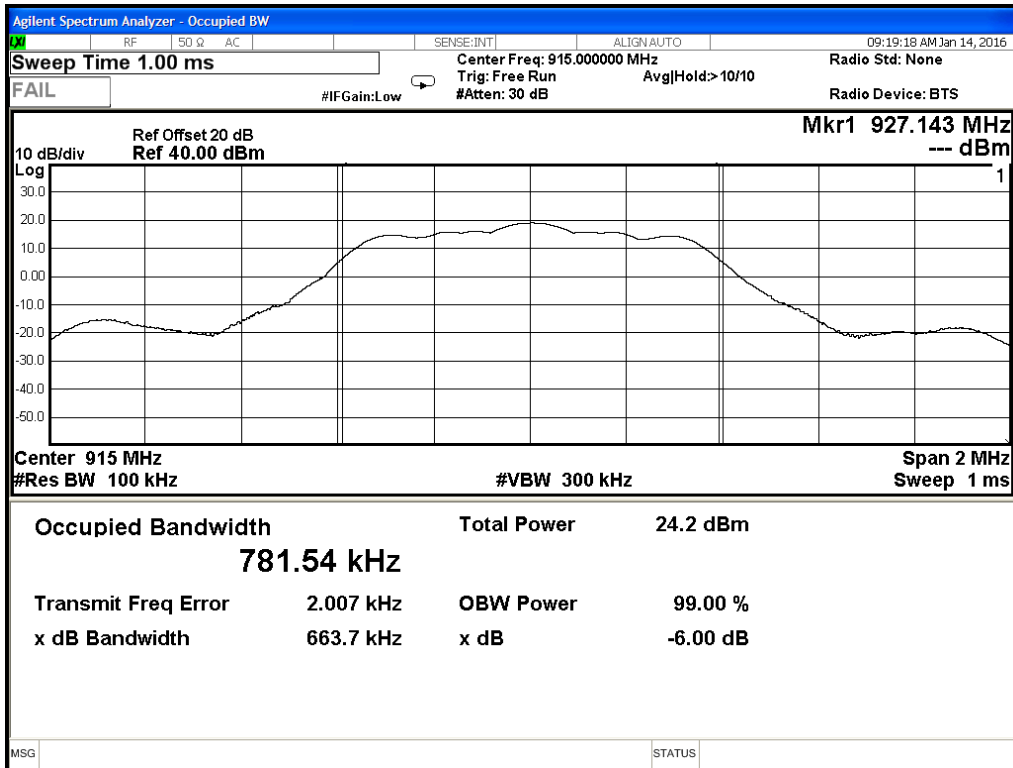
All equipment is calibrated using standards traceable to NIST or other nationally recognized calibration standard.



PLOTS

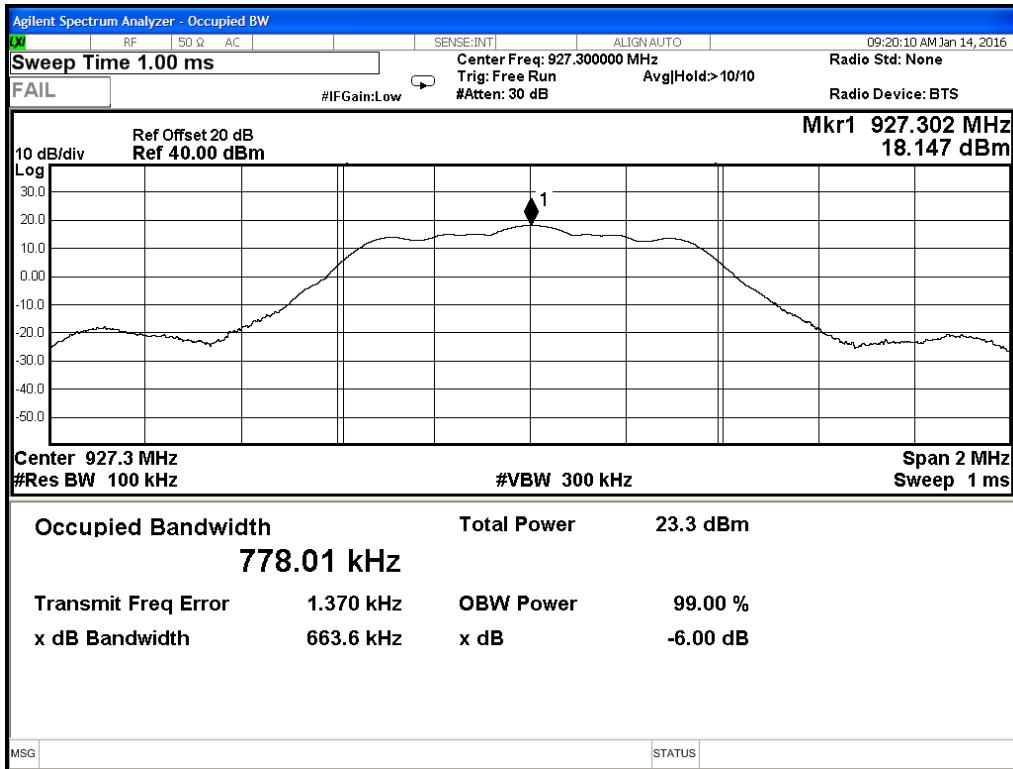


DTS Bandwidth Plot, Low Channel



DTS Bandwidth Plot, Mid Channel





DTS Bandwidth, High Channel





# Peak Power

## LIMIT

Conducted Output Power

1 Watt

[15.247(b) (3)]

## MEASUREMENTS / RESULTS

Conducted Output Power Table								
Date: 14-Jan-16		Company: Ideal Industries, Inc.			Work Order: Q0060			
Engineer: Jason Haley		EUT Desc: SCELV1000			EUT Operating Voltage/Frequency: 120/60			
Temp: 20.2°C		Humidity: 35%		Pressure: 1007mBar				
Frequency Range: 902-928MHz								
Notes: Measured per DTS Meas Guidance V03r04 Section 9.2.2, Method AVGSA-1 (trace averaging with the EUT transmitting at full power throughout each sweep)								
Frequency (MHz)	Resolution Bandwidth Setting (kHz)	Video Bandwidth Setting (kHz)	Frequency Span Setting (MHz)	Detector Function	Measured Power Level (dBm)	FCC Part 15.247 b 3. Conducted Output Power		
						Limit (dBm)	Margin (dB)	Result (Pass/Fail)
902.7	30	100	2	RMS	20.71	30.0	-9.3	Pass
915.0	30	100	2	RMS	19.16	30.0	-10.8	Pass
927.3	30	100	2	RMS	18.34	30.0	-11.7	Pass
<b>Table Result: Pass</b> by -9.3 dB						<b>Worst Freq:</b> 902.7 MHz		

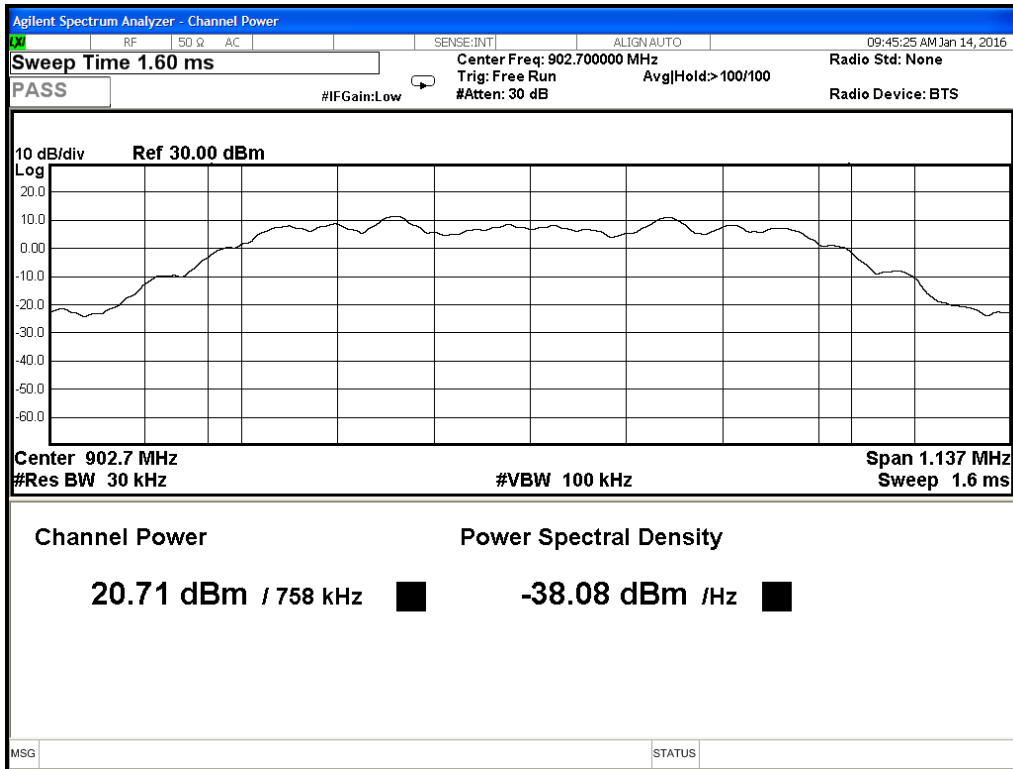
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Meteorological Meters		MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on	
Weather Clock (Pressure Only)		BA928	Oregon Scientific	C3166-1	831	I	3/19/2016	3/19/2014	
TH A#2084		HTC-1	HDE		2084	II	4/2/2016	4/2/2015	
Spectrum Analyzers / Receivers /Preselectors		Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
MXE EMI Receiver		20Hz-8.4GHz	N9038A	Agilent	MY53290009	1168255	I	6/16/2016	6/16/2015

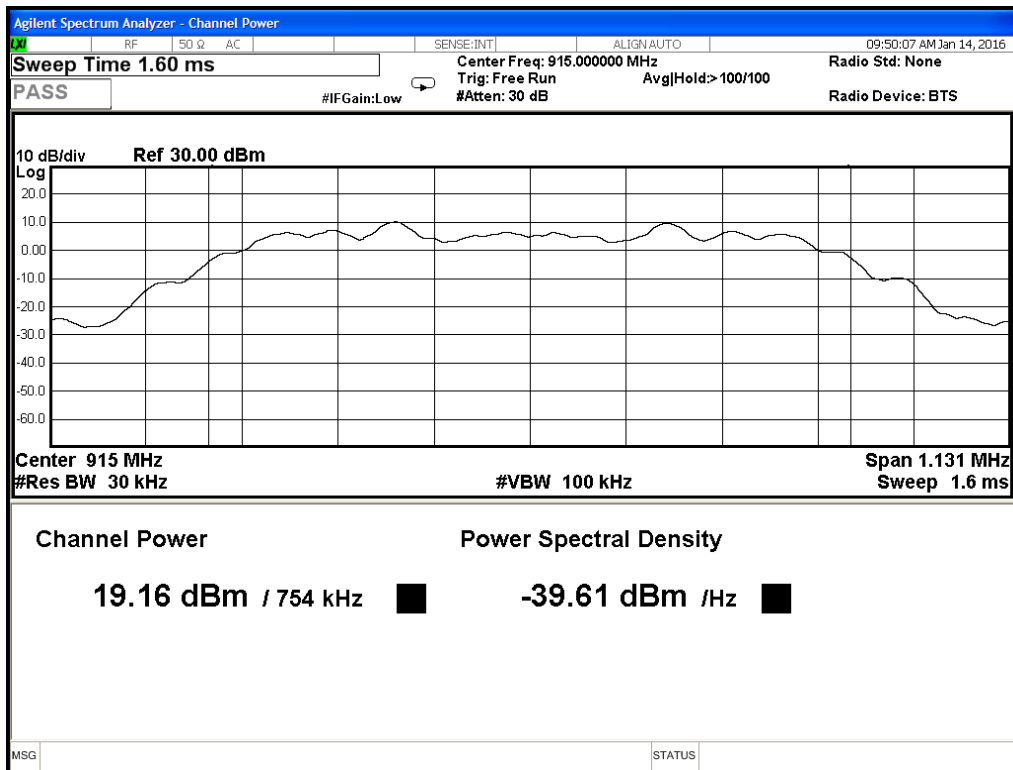
All equipment is calibrated using standards traceable to NIST or other nationally recognized calibration standard.



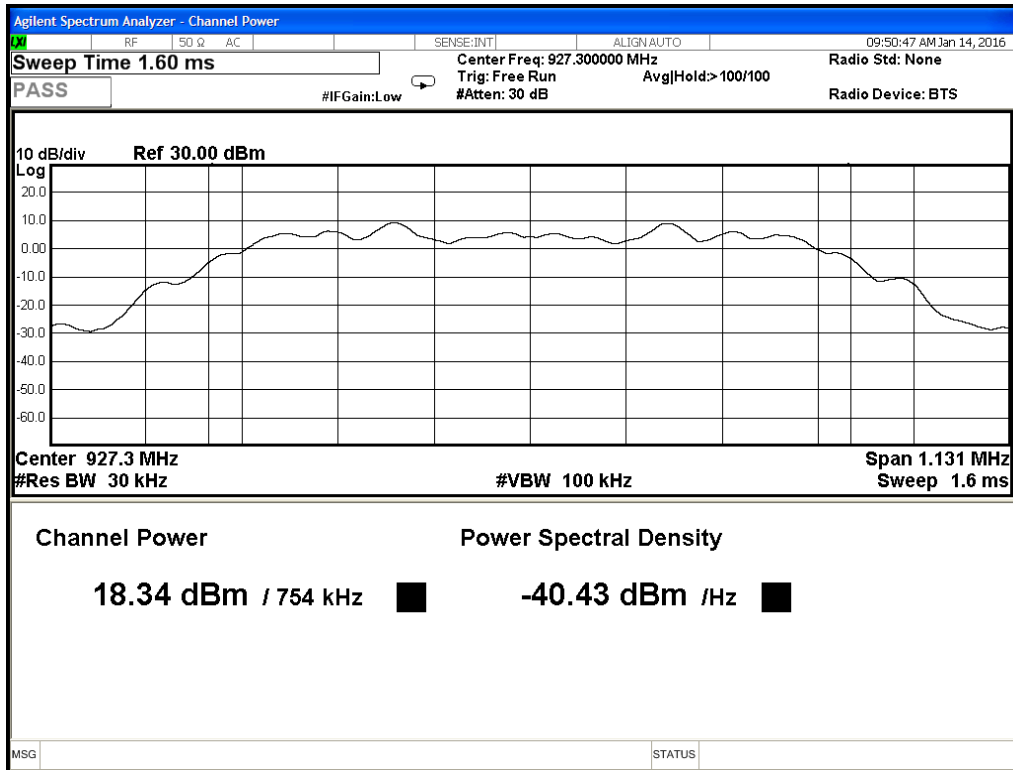
PLOTS



Peak Output Power, Low Channel



Peak Output Power, Mid Channel



Peak Output Power, 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)]

Testing has been performed on 3 channels (low, middle and high). Worst case results are shown in the following data tables.

### MEASUREMENTS / RESULTS

Curtis Straus - a Bureau Veritas Company							Work Order - R1113					
Radiated Emissions Electric Field 3m Distance							EUT Power 60Hz					
Top Peaks Horizontal 30-1000MHz							Test Site - Chamber#2					
Operator: Nirak So							Temp; Humid; Pres - 25°C; 29%RH; 1011mBar					
							EUT in Y Orientation. 902MHz TX channel is used.					
							Req. 1; Req. 2 - FCC Part 15.247					
Frequency	Delta to Marginal Level	Peak Reading	Preamp Factor	Antenna Factor	Cable Factor	Adjusted Peak Level	Requirement 1 Limit	Requirement 1 Margin	Requirement 1 Results	Antenna Height	EUT Azimuth	Worst Margin Limit 1
MHz	dB	dBµV	dB	dB/m	dB	dBµV/m	dBµV/m	dB	Pass/Fail	centimeters	degrees	dB
779.859	0.3	41.6	24.5	21.3	1.9	40.3	46	-5.7	PASS	100	180	-5.7
786.067	-0.9	40.7	24.6	21.2	1.9	39.2	46	-6.9	PASS	100	0	
787.376	-1.2	40.3	24.6	21.2	1.9	38.8	46	-7.2	PASS	100	0	

Curtis Straus - a Bureau Veritas Company							Work Order - R1113					
Radiated Emissions Electric Field 3m Distance							EUT Power 60Hz					
Top Peaks Vertical 30-1000MHz							Test Site - Chamber#2					
Operator: Nirak So							Temp; Humid; Pres - 25°C; 29%RH; 1011mBar					
Client Present:												
Company:							EUT in Y Orientation. 902MHz TX channel is used.					
							Req. 1; Req. 2 - FCC Part 15.247					
Frequency	Delta to Marginal Level	Peak Reading	Preamp Factor	Antenna Factor	Cable Factor	Adjusted Peak Reading	Requirement 1 Limit	Requirement 1 Margin	Requirement 1 Results	Antenna Height	Turntable Azimuth	Worst Margin Limit 1
MHz	dB	dBµV	dB	dB/m	dB	dBµV/m	dBµV/m	dB	Pass/Fail	centimeters	degrees	dB
38.924	1.2	46	25.2	13.9	0.4	35.2	40	-4.8	PASS	150	180	-4.8
786.018	-1.6	40	24.6	21.2	1.9	38.4	46	-7.6	PASS	150	45	

30-1000MHz



Radiated Emissions Table														
Date: 21-Aug-17			Company: Powercast			Work Order: R1113								
Engineer: Zac Johnson			EUT Desc: SCELV-277			EUT Operating Voltage/Frequency: 120V/60Hz								
Temp: 26.8 C			Humidity: 44%			Pressure: 1013mBar								
Frequency Range: 1-6GHz						Measurement Distance: 3 m								
Notes: Y Orientation						EUT Max Freq: 928MHz								
900-930MHz notch filter used, added 1dB loss for 2213 cable														
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)
Mid Channel														
H	1830.0	55.3	45.6	37.5	30.8	3.3	51.9	42.2	74.0	-22.1	Pass	54.0	-11.8	Pass
V	1830.0	54.2	42.0	37.5	30.8	3.3	50.8	38.6	74.0	-23.2	Pass	54.0	-15.4	Pass
H	2745.0	46.0	33.1	37.7	32.5	3.7	44.5	31.6	74.0	-29.5	Pass	54.0	-22.4	Pass
V	2745.0	46.5	34.1	37.7	32.5	3.7	45.0	32.6	74.0	-29.0	Pass	54.0	-21.4	Pass
High Channel														
H	1855.0	50.6	38.2	37.4	31.0	3.4	47.6	35.2	74.0	-26.4	Pass	54.0	-18.8	Pass
V	1855.0	52.3	37.3	37.4	31.0	3.4	49.3	34.3	74.0	-24.7	Pass	54.0	-19.7	Pass
H	2782.0	46.3	33.9	37.6	32.6	3.8	45.1	32.7	74.0	-28.9	Pass	54.0	-21.3	Pass
V	2782.0	47.3	33.8	37.6	32.6	3.8	46.1	32.6	74.0	-27.9	Pass	54.0	-21.4	Pass
Low Channel														
H	1805.0	52.5	40.8	37.5	30.6	3.3	48.9	37.2	74.0	-25.1	Pass	54.0	-16.8	Pass
V	1805.0	53.1	43.2	37.5	30.6	3.3	49.5	39.6	74.0	-24.5	Pass	54.0	-14.4	Pass
H	2708.0	46.9	33.7	37.8	32.5	3.6	45.2	32.0	74.0	-28.8	Pass	54.0	-22.0	Pass
V	2708.0	48.4	34.2	37.8	32.5	3.6	46.7	32.5	74.0	-27.3	Pass	54.0	-21.5	Pass
<b>Table Result:</b> Pass by -11.8 dB <b>Worst Freq:</b> 1830.0 MHz														
Test Site: EMI Chamber 2			Cable 1: Asset #2052			Cable 2: Asset #2053			Cable 3: Asset #2213					
Analyzer: Rental SA#2			Preamp: Asset #2111			Antenna: Blue Horn			Preselector: ---					
CSsoft Radiated Emissions Calculator v 1.017.188 Copyright Curtis-Straus LLC 2000														
Adjusted Reading = Reading - Preamp Factor + Antenna Factor + Cable Factor														

1-6GHz

Rev. 8/21/2017

Spectrum Analyzers / Receivers / Preselectors	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
2093 MXE EMI Receiver	20Hz-26.5GHz	N9038A	Agilent	MY51210181	2093	I	9/9/2017	8/9/2016
Radiated Emissions Sites	FCC Code	IC Code	VCCI Code	Range	Asset	Cat	Calibration Due	Calibrated on
EMI Chamber 2	719150	2762A-7	A-0015	1-18GHz	1686	I	12/21/2018	12/21/2016
Preamps / Couplers Attenuators / Filters	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
2111 HF Preamp	0.5-18GHz	PAM-118A	COM-POWER	551063	2111	II	11/5/2017	11/5/2016
2130 BRP	0.009-18000MHz	BRM18770	Micro-Tronics	1	2130	II	1/7/2018	1/7/2017
Antennas	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Blue Horn	1-18GHz	3117	ETS	157647	1861	I	2/14/2019	2/14/2017
Meteorological Meters	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on	
Weather Clock (Pressure Only)	BA928	Oregon Scientific	C3166-1	831	I	4/28/2018	4/28/2016	
TH A#2078	HTC-1	HDE		2078	II	3/23/2018	3/23/2017	
Cables	Range	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on	
Asset #2052	9kHz - 18GHz	Florida RF			II	3/5/2018	3/5/2017	
Asset #2053	9kHz - 18GHz	Florida RF			II	10/30/2017	10/30/2016	
Asset #2213	9kHz-18GHz	Mini-Circuits			II	10/2/2017	10/2/2016	

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

Radiated Emissions Table														
Date: 23-Apr-17			Company: Powercast Corporation			Work Order: R1113								
Engineer: Nirak So			EUT Desc: SCLINE-277			EUT Operating Voltage/Frequency: 120Vac, 60Hz								
Temp: 25C			Humidity: 26%			Pressure: 1009mBar								
Frequency Range: 6 to 10GHz						Measurement Distance: 1 m								
Notes: EUT is Y position with 902MHz channel.						EUT Max Freq:								
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 Emission was found.														
<b>Table Result:</b> by dB <b>Worst Freq:</b> MHz														
Test Site: EMI Chamber 1			Cable 1: Asset #2052			Cable 2: Asset #2054			Cable 3: ---					
Analyzer: Rental SA#5			Preamp: Brown			Antenna: Orange Horn			Preselector: ---					
CSsoft Radiated Emissions Calculator v 1.017.186 Copyright Curtis-Straus LLC 2000														
Adjusted Reading = Reading - Preamp Factor + Antenna Factor + Cable Factor														

6-10GHz



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## Conducted Spurious Emissions

### LIMITS

In any 100 kHz 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 based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be **30 dB** instead of 20 dB ...  
[15.247(d)]

### MEASUREMENTS / RESULTS

#### Band Edge Measurements

Band-edge Measurements (Conducted) Table						
Date: 14-Jan-16		Company: Ideal Industries, Inc.		Work Order: Q0060		
Engineer: Jason Haley		EUT Desc: SCELV1000		EUT Operating Voltage/Frequency: 120/60		
Temp: 20.2°C		Humidity: 35%		Pressure: 1007mBar		
Frequency Range: 902-928MHz						
Notes: Measured per DTS Meas Guidance V03r04 Section 11.0						
Band-Edge Emission Frequency (MHz)	Band-edge Emission Level (dBm)	In-band Emission Peak Level (dBm)	Delta Level (dBm)	FCC Part 15.247 e		
				Limit (dBm)	Margin (dB)	Result (Pass/Fail)
900.37	-40.3	18.8	-59.1	-30.0	-29.1	Pass
900.658	-35.3	18.8	-54.1	-30.0	-24.1	Pass
901.21	-25.8	18.8	-44.6	-30.0	-14.6	Pass
901.84	-15.6	18.8	-34.4	-30.0	-4.4	Pass
902.0	-21.0	18.8	-39.8	-30.0	-9.8	Pass
928.0	-24.7	16.4	-41.1	-30.0	-11.1	Pass
928.17	-21.8	16.4	-38.2	-30.0	-8.2	Pass
928.745	-33.9	16.4	-50.3	-30.0	-20.3	Pass
929.365	-42.1	16.4	-58.5	-30.0	-28.5	Pass
930.9	-48.4	16.4	-64.8	-30.0	-34.8	Pass
<b>Table Result: Pass</b> by -4.4 dB				<b>Worst Freq:</b> 901.84 MHz		

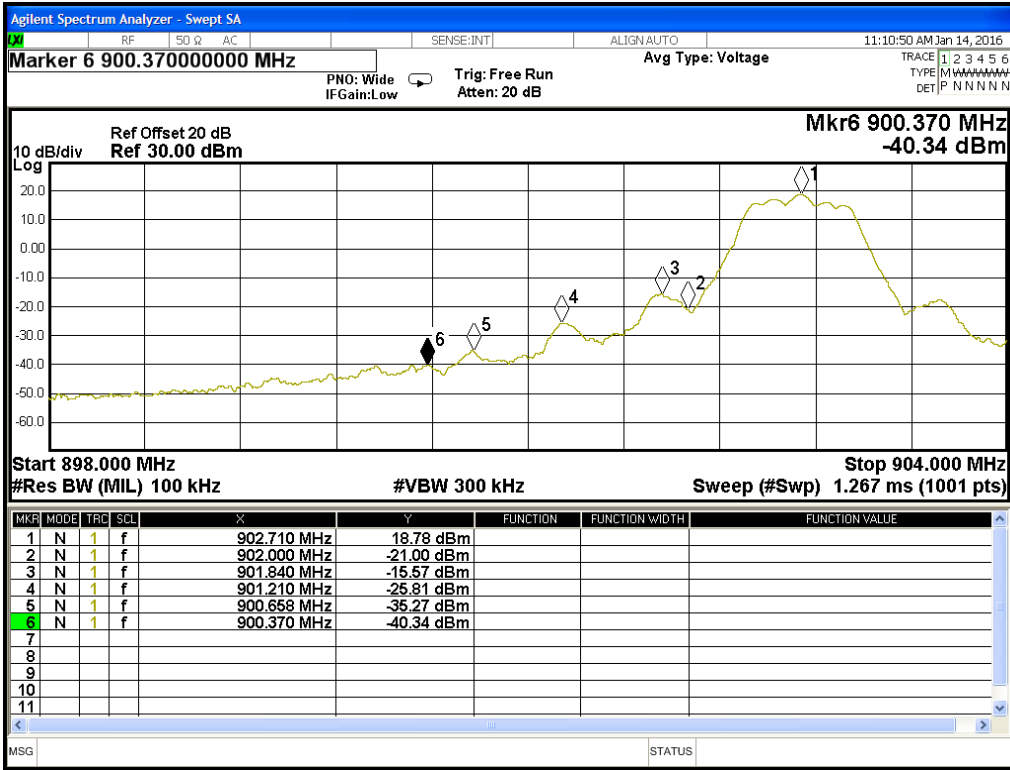
Rev. 1/12/2016

Meteorological Meters		MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on	
Weather Clock (Pressure Only)		BA928	Oregon Scientific	C3166-1	831	I	3/19/2016	3/19/2014	
TH A#2084		HTC-1	HDE		2084	II	4/2/2016	4/2/2015	
Spectrum Analyzers / Receivers / Preselectors		Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
MXE EMI Receiver		20Hz-8.4GHz	N9038A	Agilent	MY53290009	1168255	I	6/16/2016	6/16/2015
Preamps / Couplers Attenuators / Filters		Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
HF 20dB 50W Attenuator		0.009-18 GHz	PE 7019-20	Pasternack	1	791	II	7/31/2016	7/31/2015

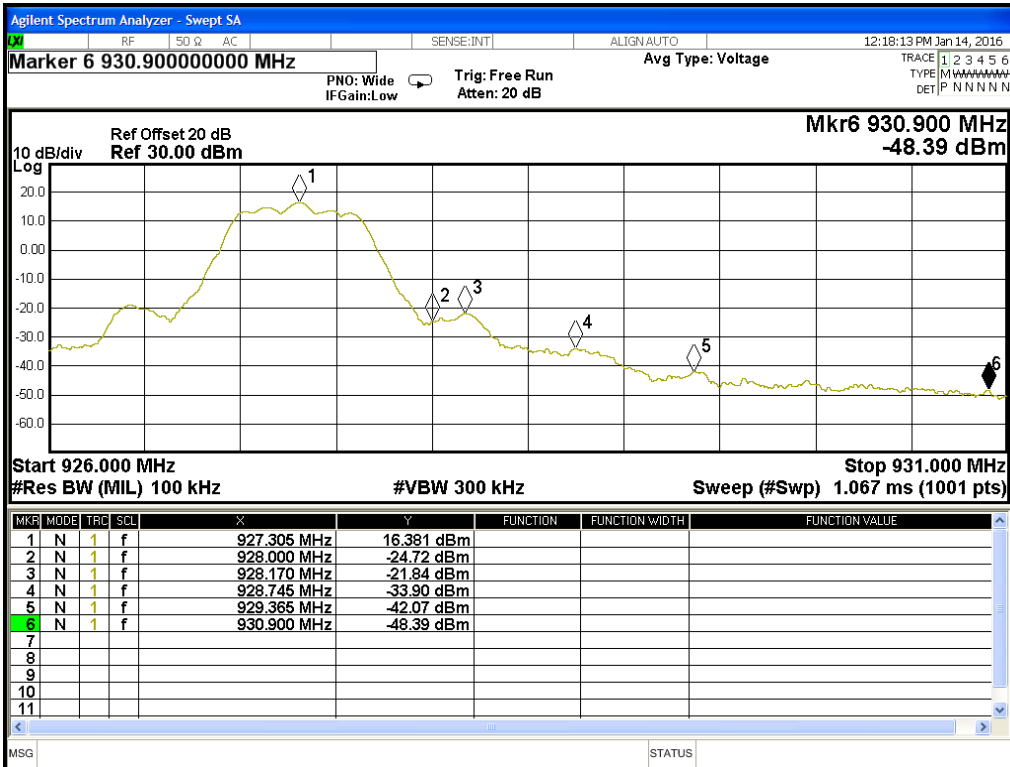
All equipment is calibrated using standards traceable to NIST or other nationally recognized calibration standard.



PLOTS



Band Edge, Lower Channel



Band Edge, Upper Channel



### Conducted Spurious Emission

Non-Restricted Band Spurious Emissions Measurements (Conducted) Table								
Date: 14-Jan-16		Company: Ideal Industries, Inc.			Work Order: Q0060			
Engineer: Jason Haley		EUT Desc: SCELV1000			EUT Operating Voltage/Frequency: 120/60			
Temp: 20.2°C		Humidity: 35%			Pressure: 1007mBar			
Frequency Range: 9kHz to 9.3GHz								
Notes: Non-Restricted Band Emissions measured per DTS Meas Guidance V03r04 Section 11.1 b, maximum conducted (average) output power.								
EUT Transmit Band	Spurious Emission Frequency (MHz)	Spurious Emission Level (dBm)	Maximum In-band Peak PSD Level in 100kHz (dBm)	Delta Level (dBc)	FCC Part 15.247 d			
					Limit (dBc)	Margin (dB)	Result (Pass/Fail)	
Low	0.0091	-63.6	18.5	-82.1	-30.0	-52.1	Pass	
Low	0.1540	-59.8	18.5	-78.3	-30.0	-48.3	Pass	
Low	901.8	-13.3	18.5	-31.8	-30.0	-1.8	Pass	
Low	1805	-41.2	18.5	-59.7	-30.0	-29.7	Pass	
Low	3156	-57.3	18.5	-75.8	-30.0	-45.8	Pass	
Low	5758	-57.2	18.5	-75.7	-30.0	-45.7	Pass	
Low	7223	-59.2	18.5	-77.7	-30.0	-47.7	Pass	
Low	8739	-59.3	18.5	-77.8	-30.0	-47.8	Pass	
Low	9127	-57.7	18.5	-76.2	-30.0	-46.2	Pass	
Mid	0.0091	-64.5	18.5	-83.0	-30.0	-53.0	Pass	
Mid	0.1500	-61.4	18.5	-79.9	-30.0	-49.9	Pass	
Mid	786.7	-49.2	18.5	-67.7	-30.0	-37.7	Pass	
Mid	1830.0	-43.1	18.5	-61.6	-30.0	-31.6	Pass	
Mid	3176.0	-57.9	18.5	-76.4	-30.0	-46.4	Pass	
Mid	6089.0	-58.6	18.5	-77.1	-30.0	-47.1	Pass	
Mid	7015.0	-58.9	18.5	-77.4	-30.0	-47.4	Pass	
Mid	8784.0	-59.8	18.5	-78.3	-30.0	-48.3	Pass	
Mid	9109.0	-59.3	18.5	-77.8	-30.0	-47.8	Pass	
High	0.0095	-65.6	18.5	-84.1	-30.0	-54.1	Pass	
High	0.1500	-61.2	18.5	-79.7	-30.0	-49.7	Pass	
High	794.0	-46.0	18.5	-64.5	-30.0	-34.5	Pass	
High	928.2	-21.2	18.5	-39.7	-30.0	-9.7	Pass	
High	3063	-58.5	18.5	-77.0	-30.0	-47.0	Pass	
High	5631	-58.7	18.5	-77.2	-30.0	-47.2	Pass	
High	7515	-58.9	18.5	-77.4	-30.0	-47.4	Pass	
High	8811	-60.2	18.5	-78.7	-30.0	-48.7	Pass	
High	8995	-60.0	18.5	-78.5	-30.0	-48.5	Pass	

**Table Result: Pass** by **-1.8 dB** **Worst Freq: 901.8 MHz**

Rev. 1/12/2016

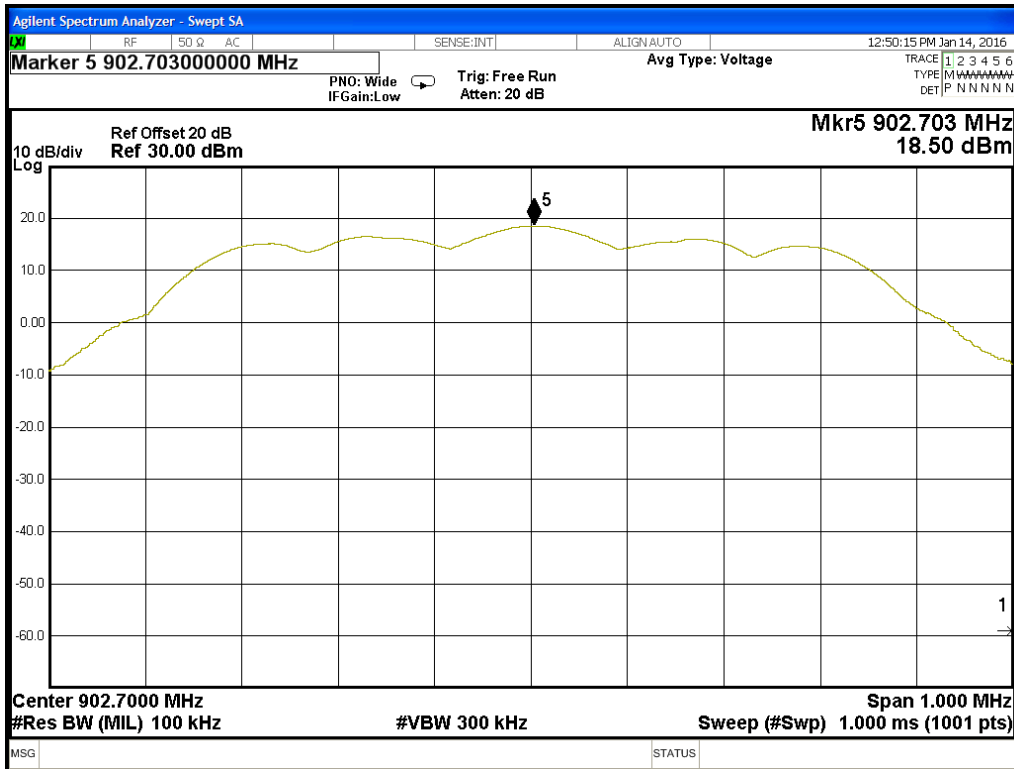
Meteorological Meters		MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on	
Weather Clock (Pressure Only)		BA928	Oregon Scientific	C3166-1	831	I	3/19/2016	3/19/2014	
TH A#2084		HTC-1	HDE		2084	II	4/2/2016	4/2/2015	
Spectrum Analyzers / Receivers / Preselectors		Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
MXE EMI Receiver		20Hz-8.4GHz	N9038A	Agilent	MY53290009	1168255	I	6/16/2016	6/16/2015
SA #5 (1178898)		9kHz-26.5GHz	E4407B	Agilent	US40241082	1178898	I	12/30/2016	12/30/2015
Preamps / Couplers Attenuators / Filters		Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
HF 20dB 50W Attenuator		0.009-18 GHz	PE 7019-20	Pasternack	1	791	II	7/31/2016	7/31/2015

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

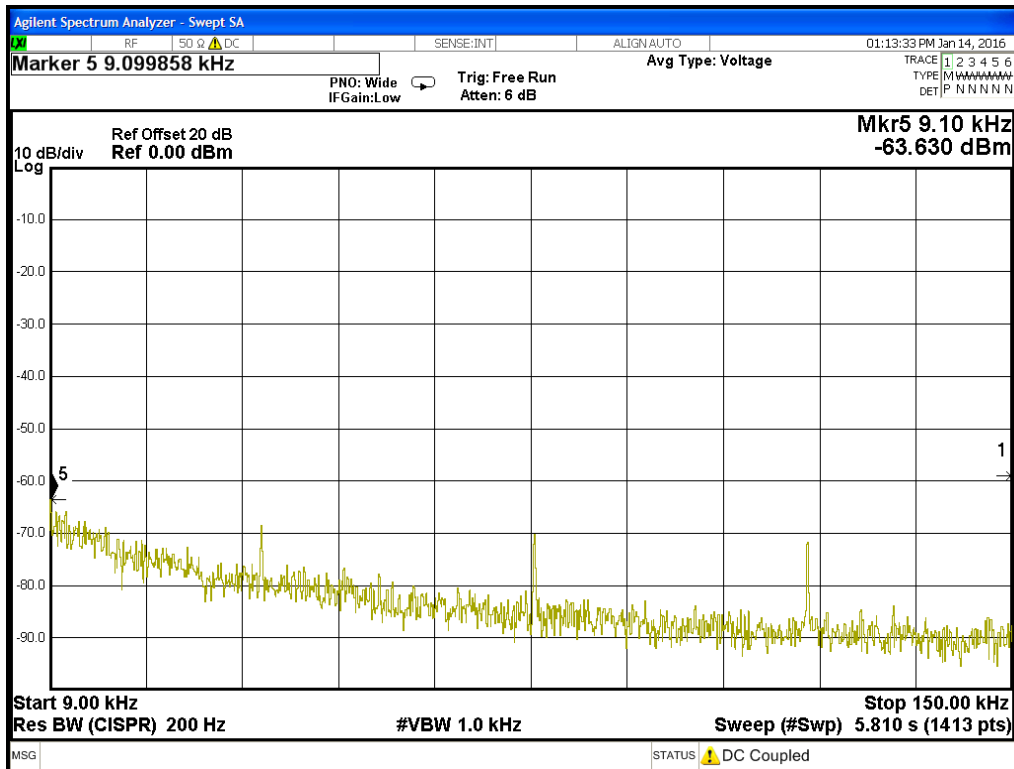




PLOTS

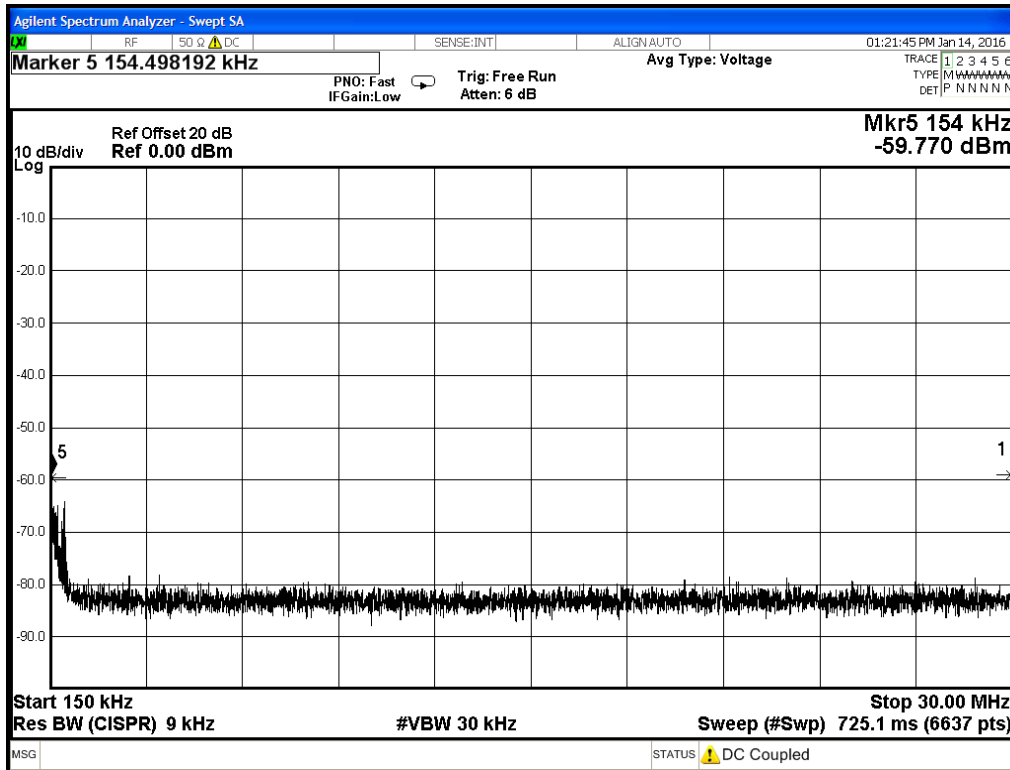


Conducted Emissions - Antenna Port, Reference Measurement

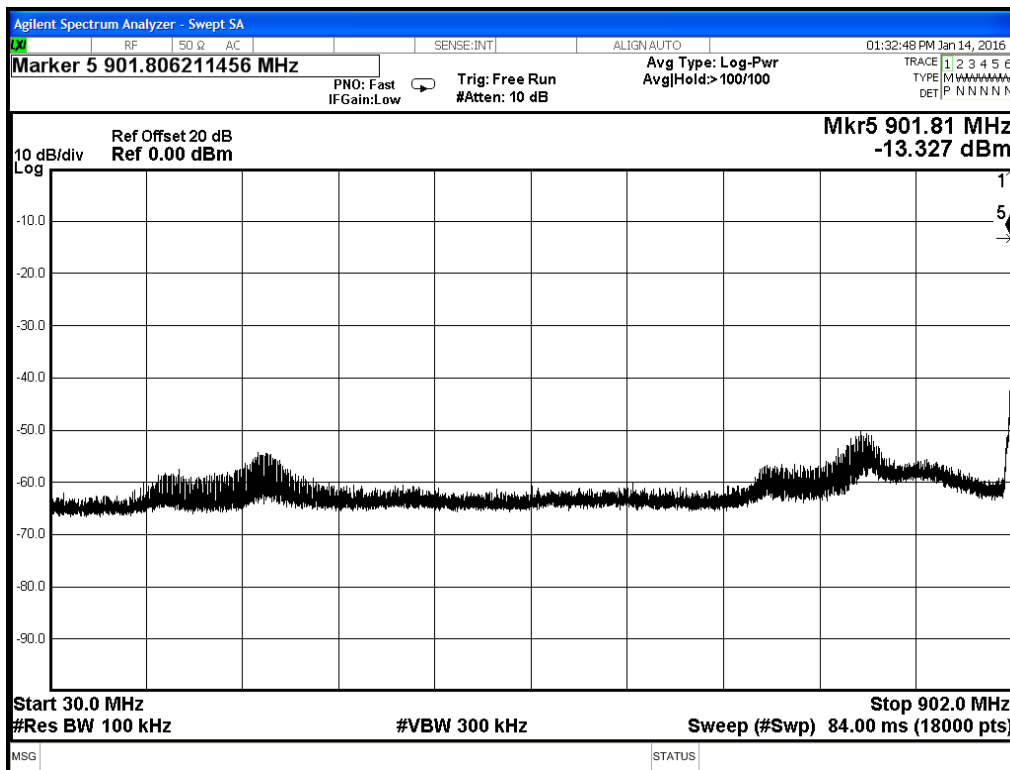


Conducted EMI at the Antenna port, 9-150kHz, low channel



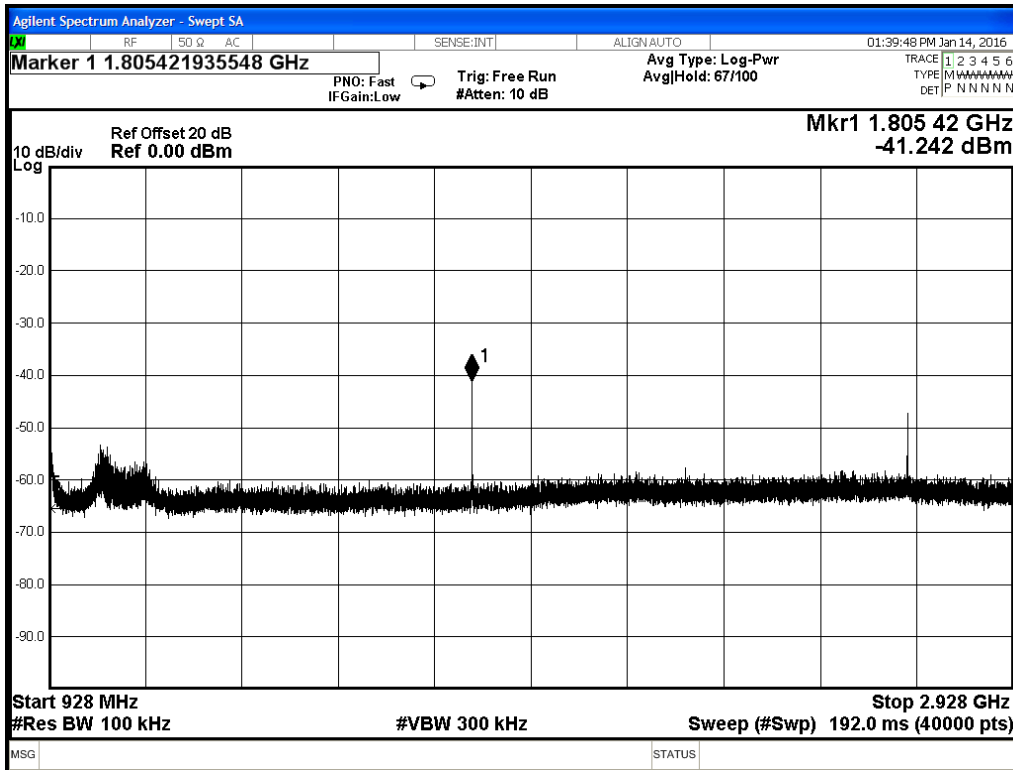


Conducted EMI at the Antenna port, 0.15-30MHz, low channel

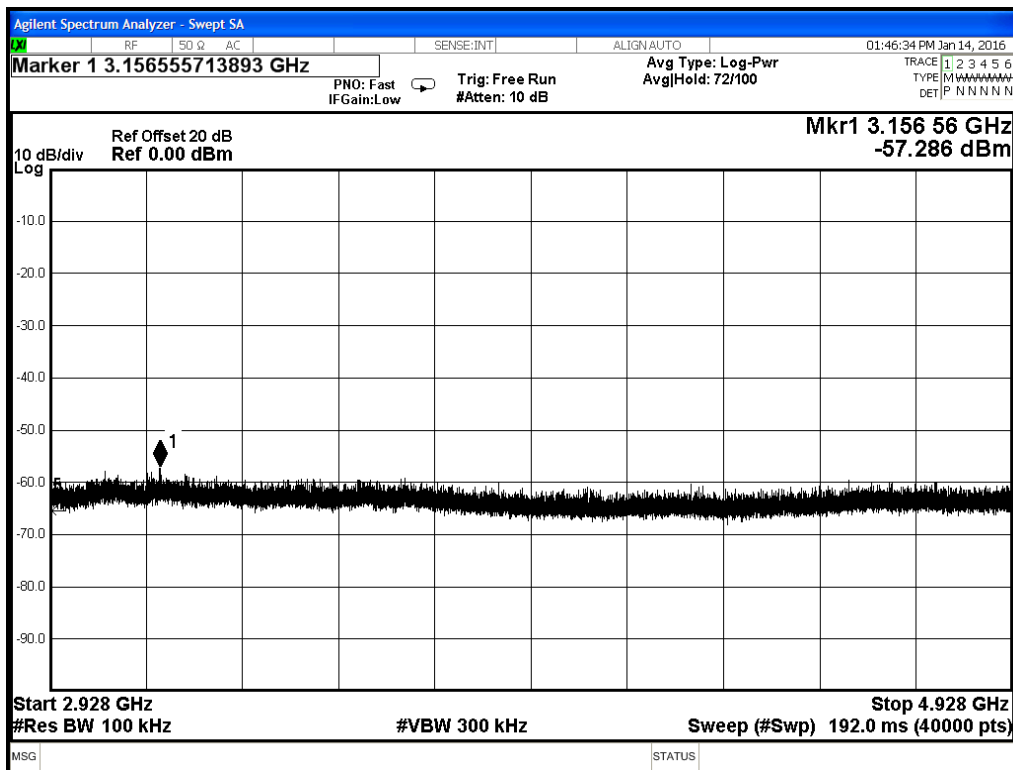


Conducted EMI at the Antenna port, 30-902MHz, low channel



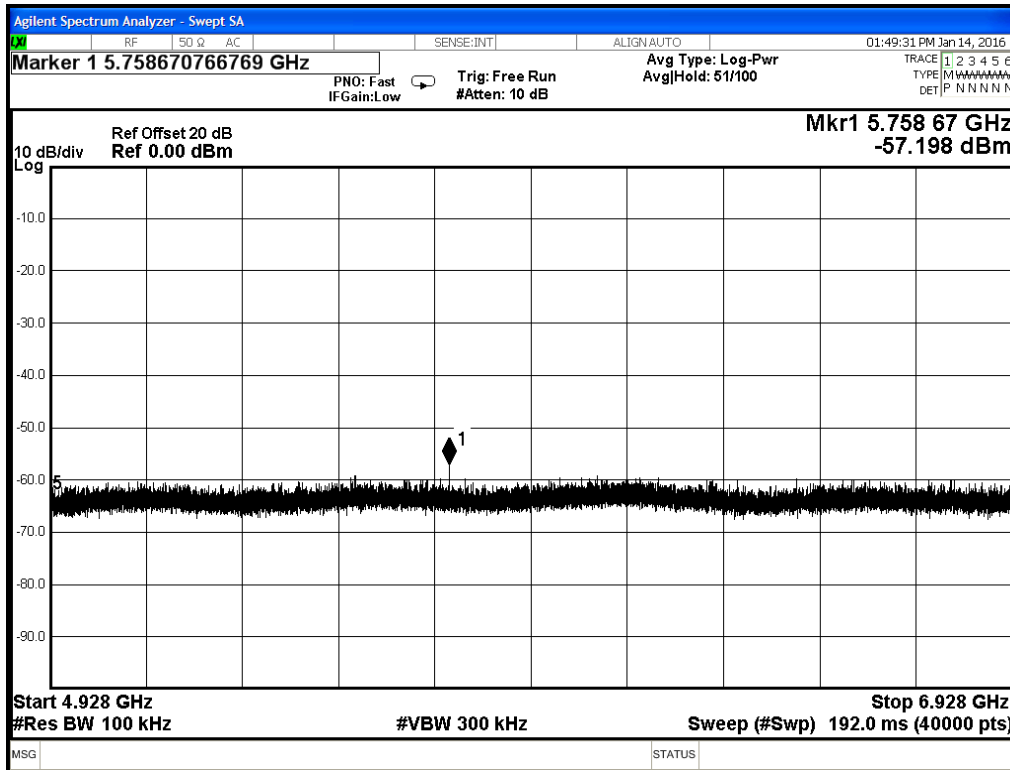


Conducted EMI at the Antenna port, 928-2928MHz, low channel

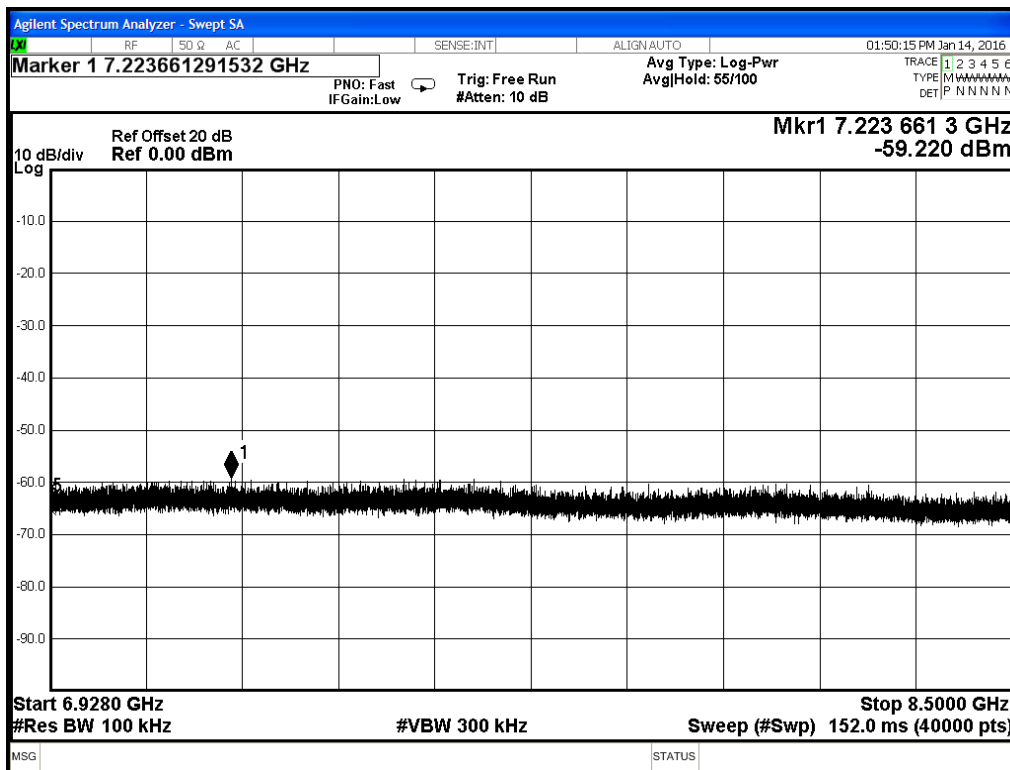


Conducted EMI at the Antenna port, 2928-4928MHz, low channel



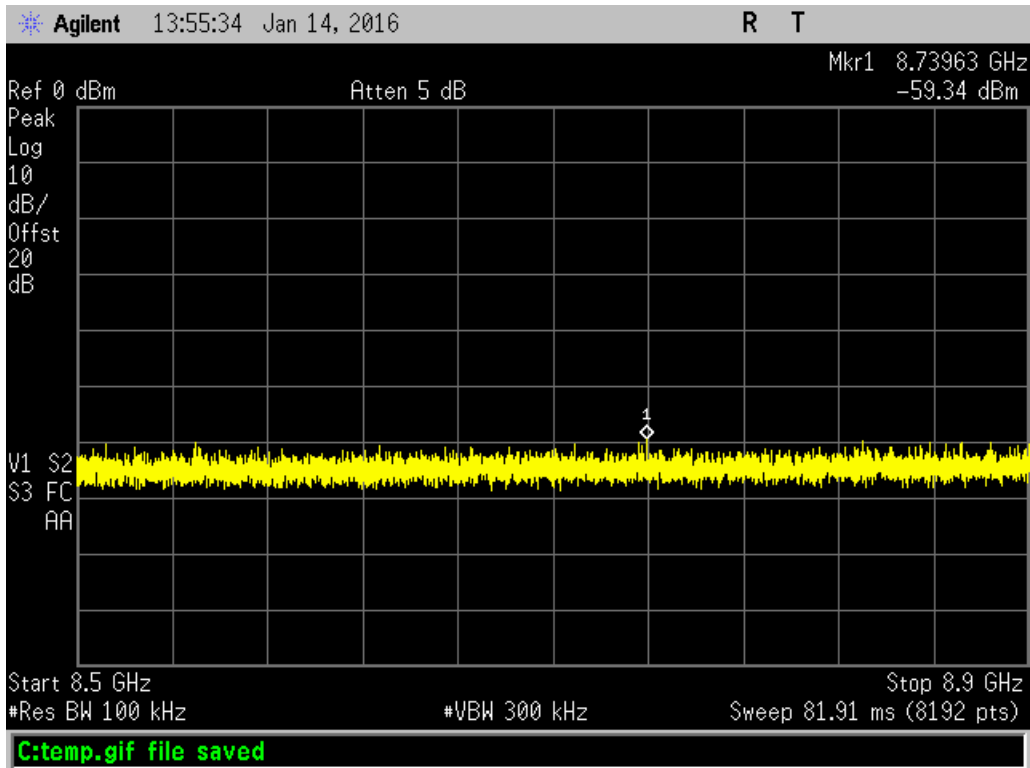


Conducted EMI at the Antenna port, 4928-6928MHz, low channel

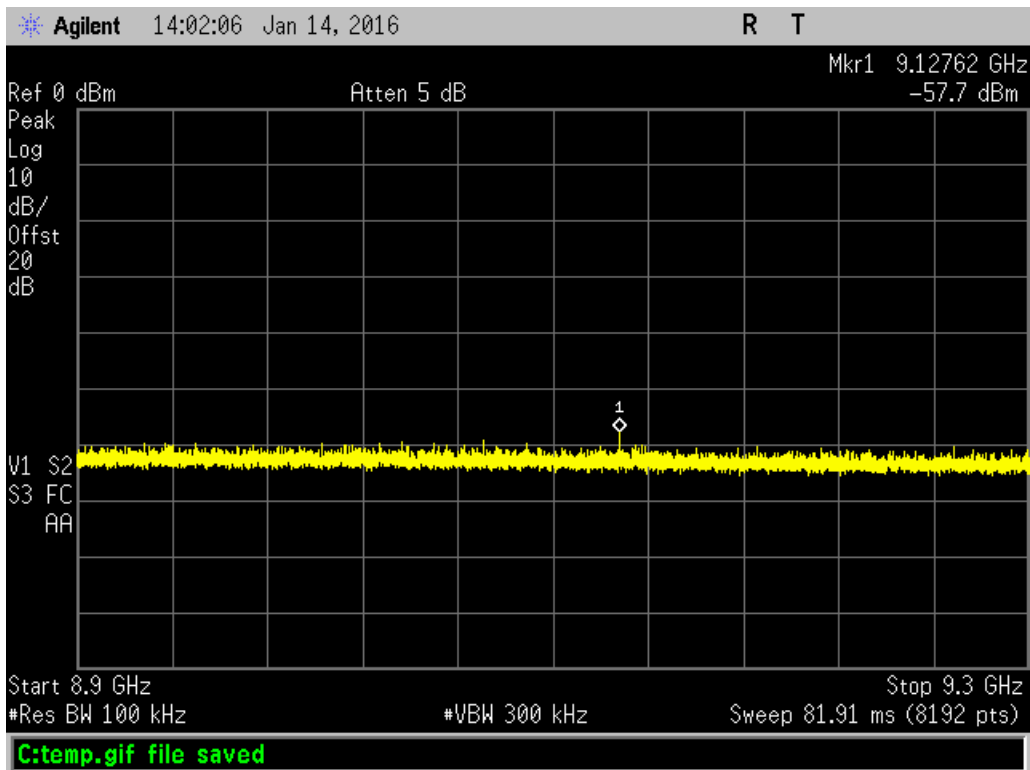


Conducted EMI at the Antenna port, 6928-8500MHz, low channel



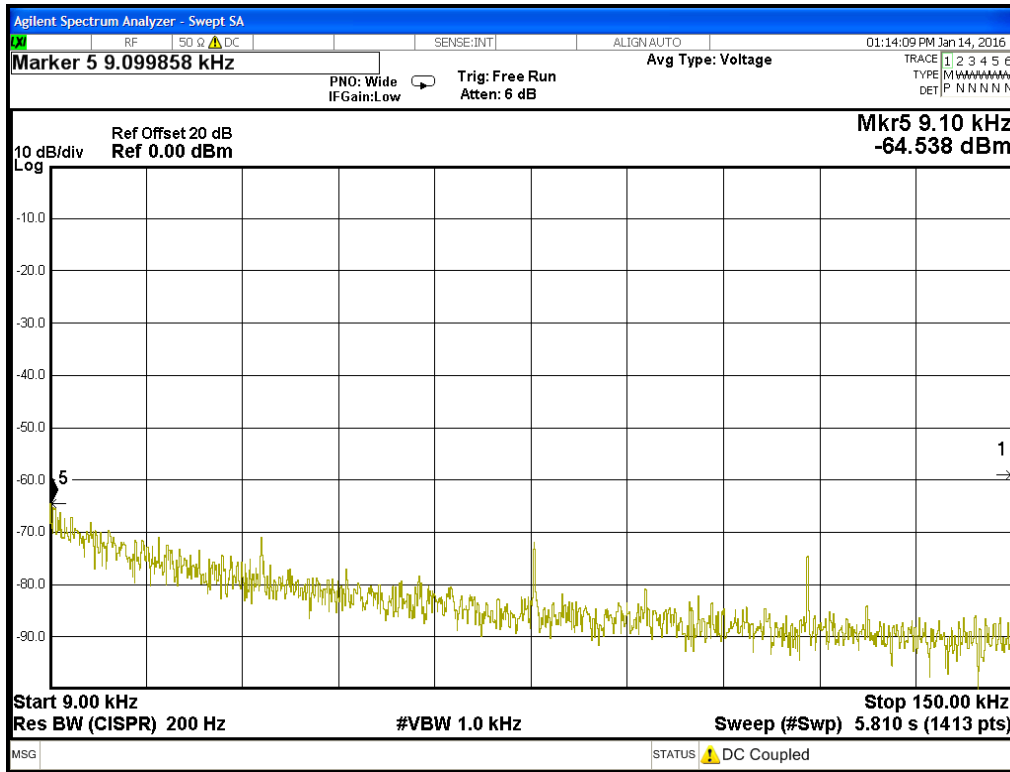


Conducted EMI at the Antenna port, 8.5-8.9GHz, low channel

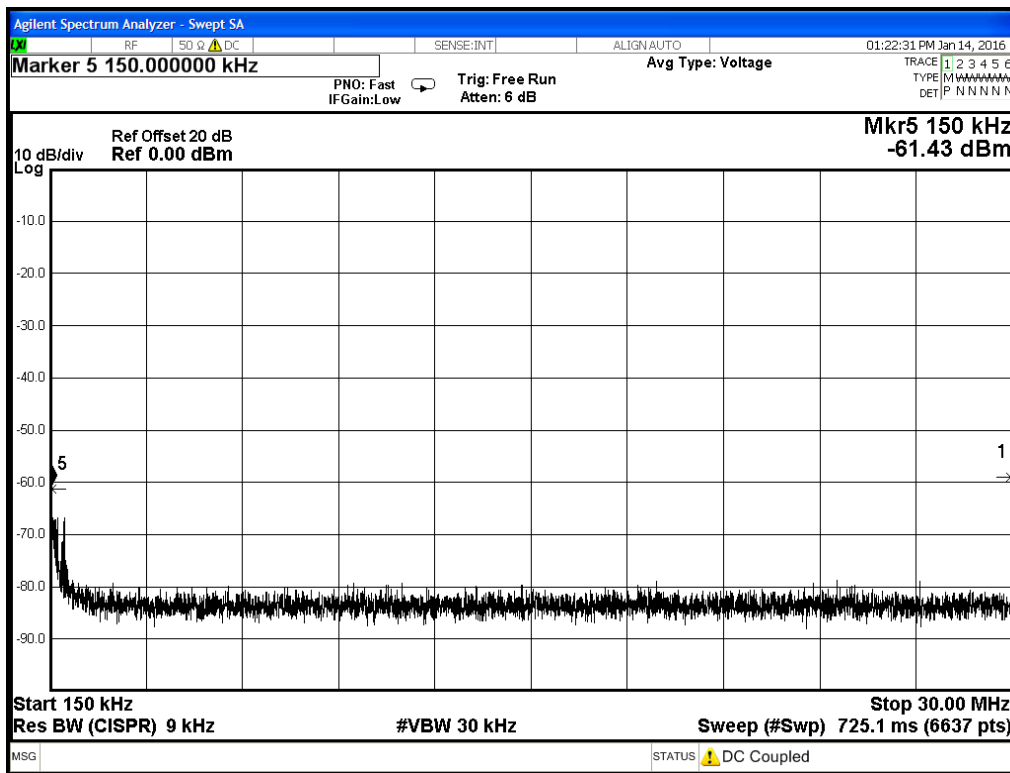


Conducted EMI at the Antenna port, 8.9-9.3GHz, low channel

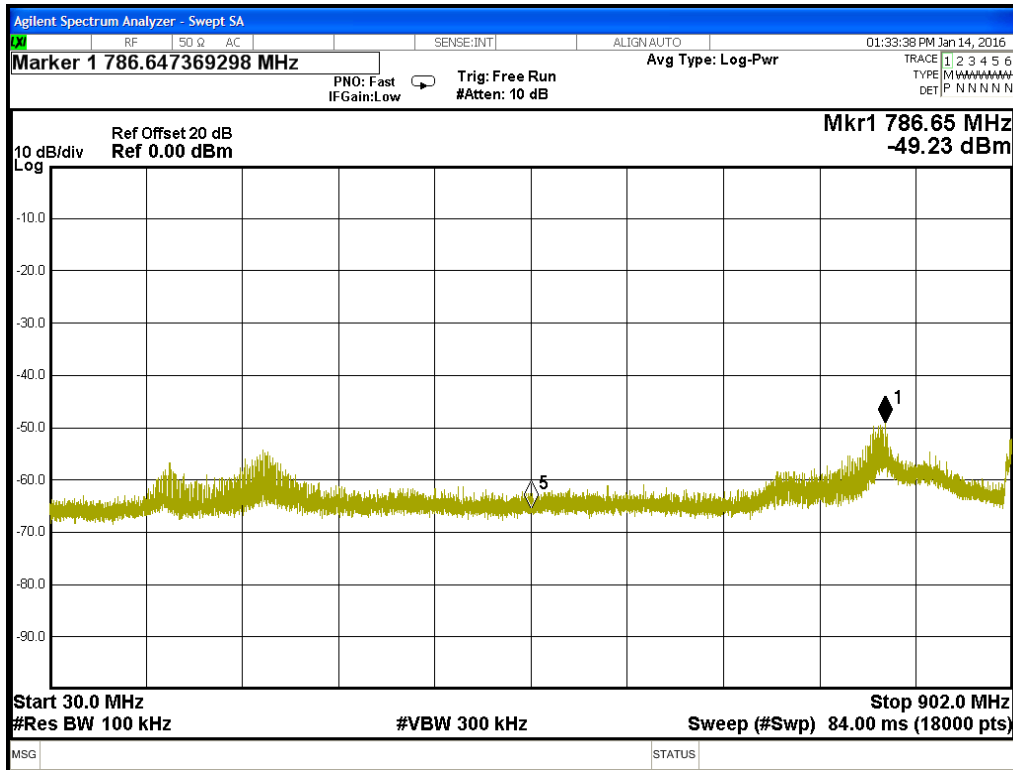




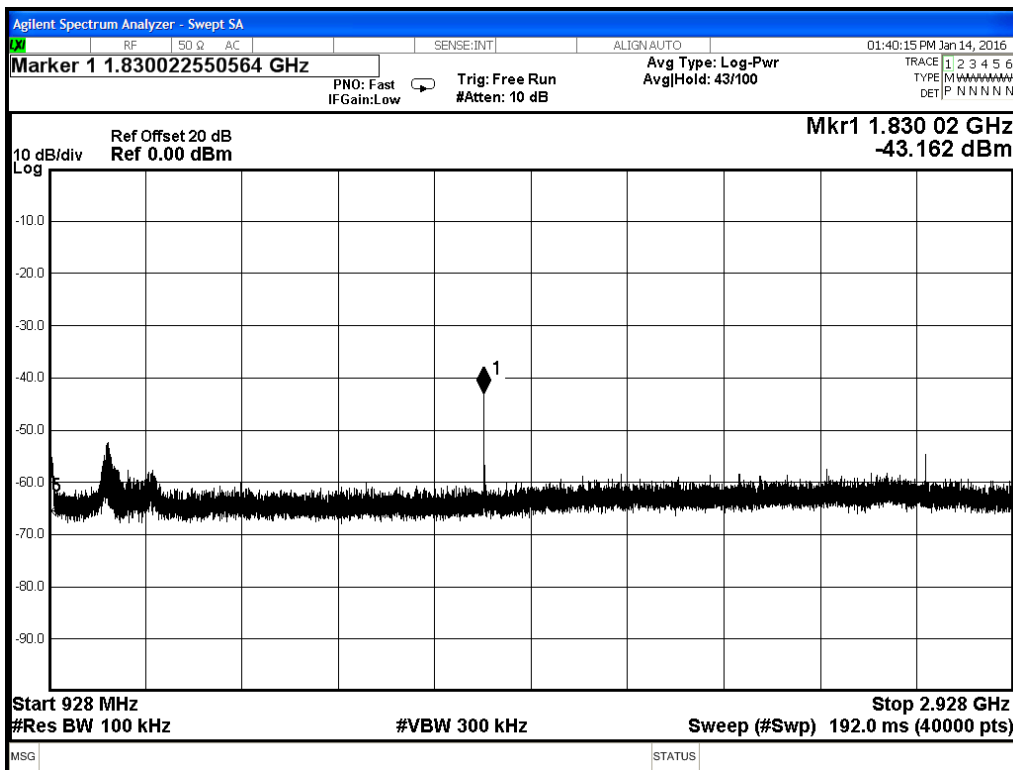
Conducted EMI at the Antenna port, 9-150kHz, mid channel



Conducted EMI at the Antenna port, 0.15-30MHz, mid channel

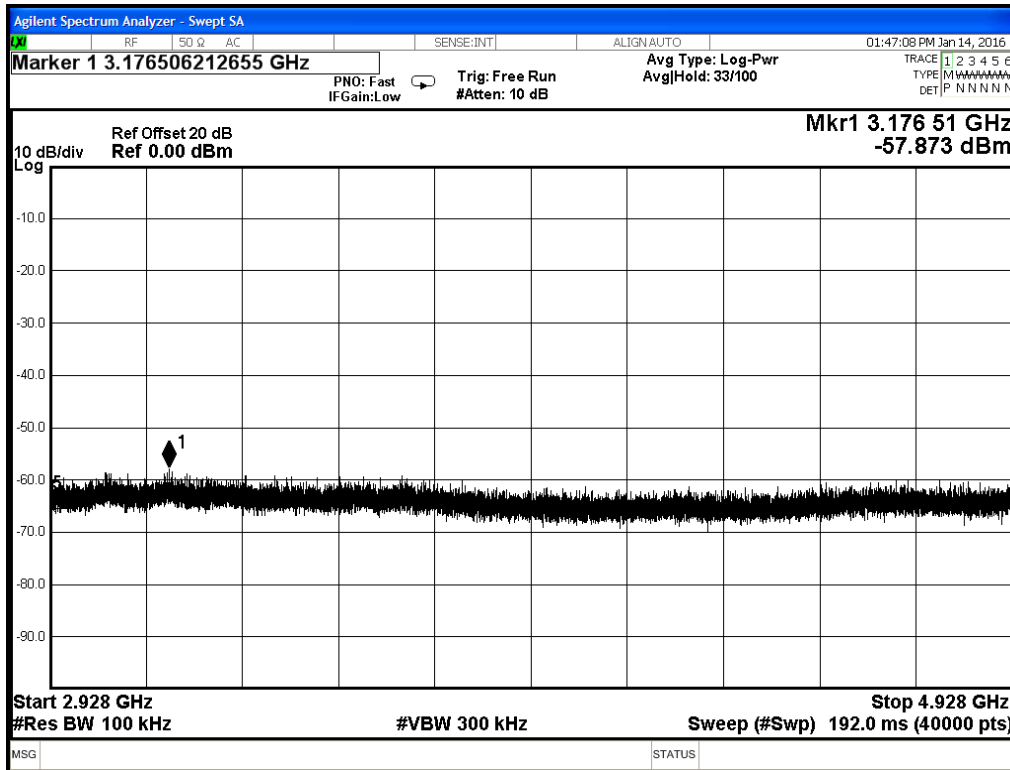


Conducted EMI at the Antenna port, 30-902MHz, mid channel

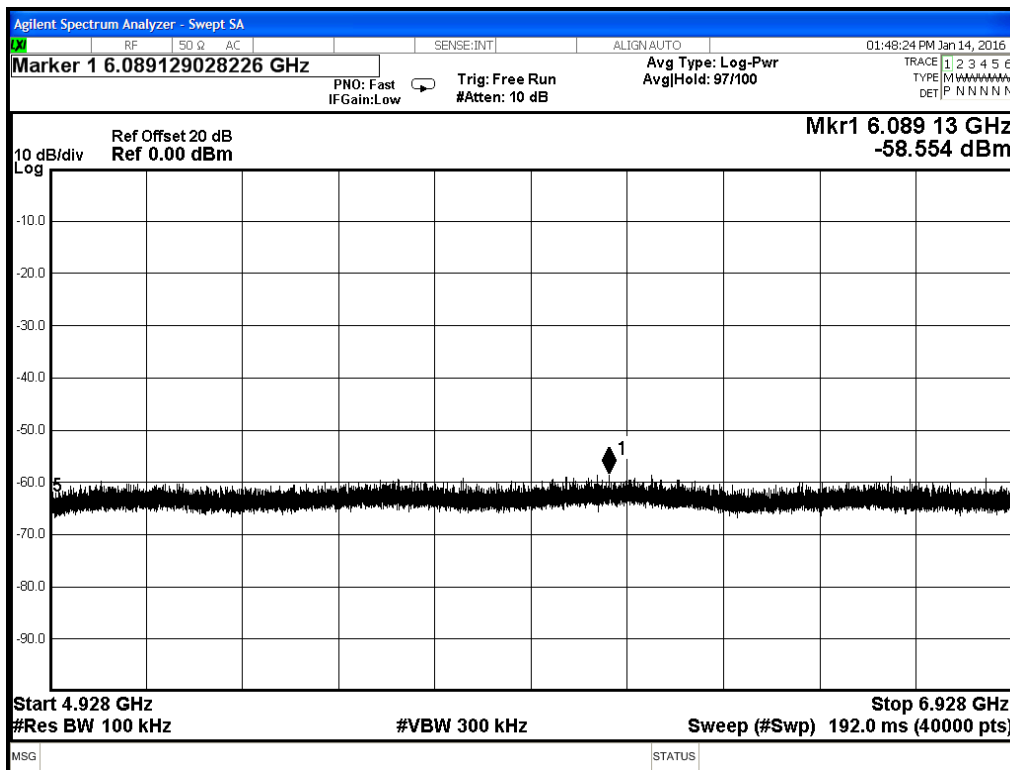


Conducted EMI at the Antenna port, 928-2928MHz, mid channel





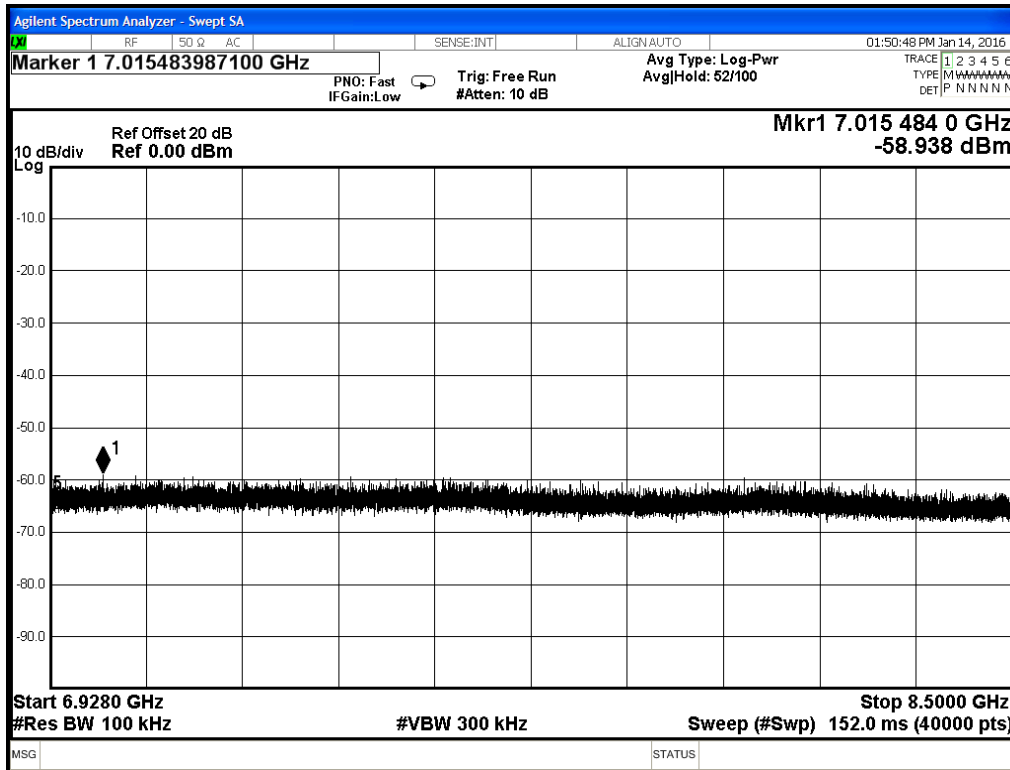
Conducted EMI at the Antenna port, 2928-4928MHz, mid channel



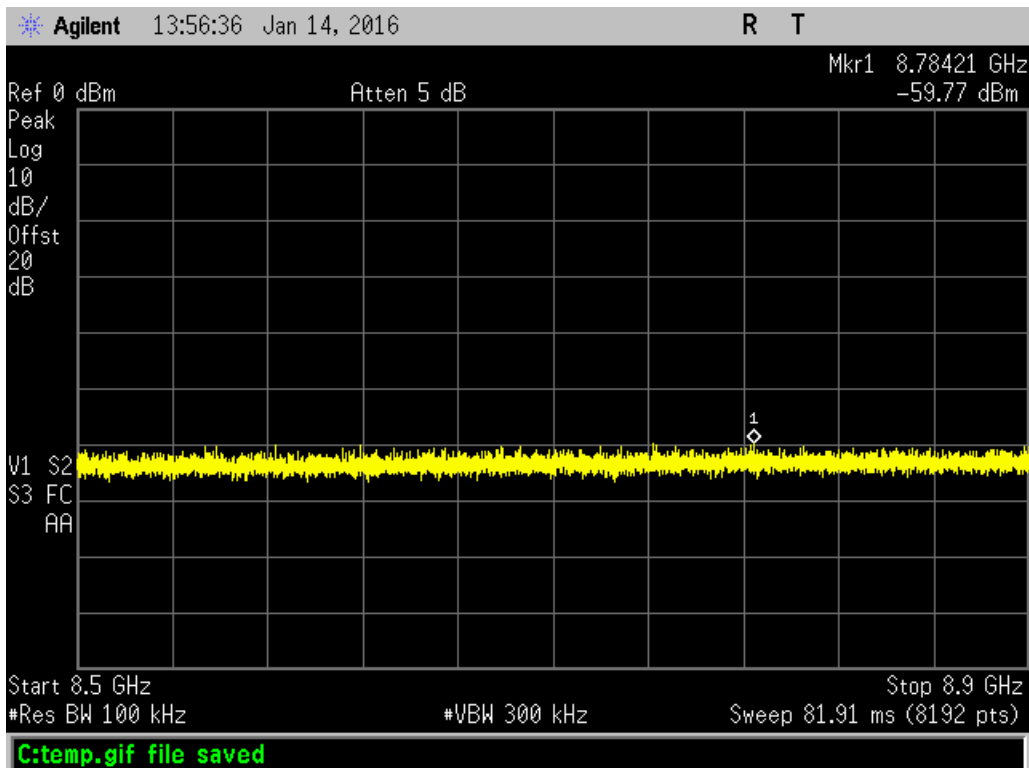
Conducted EMI at the Antenna port, 4928-6928MHz, mid channel





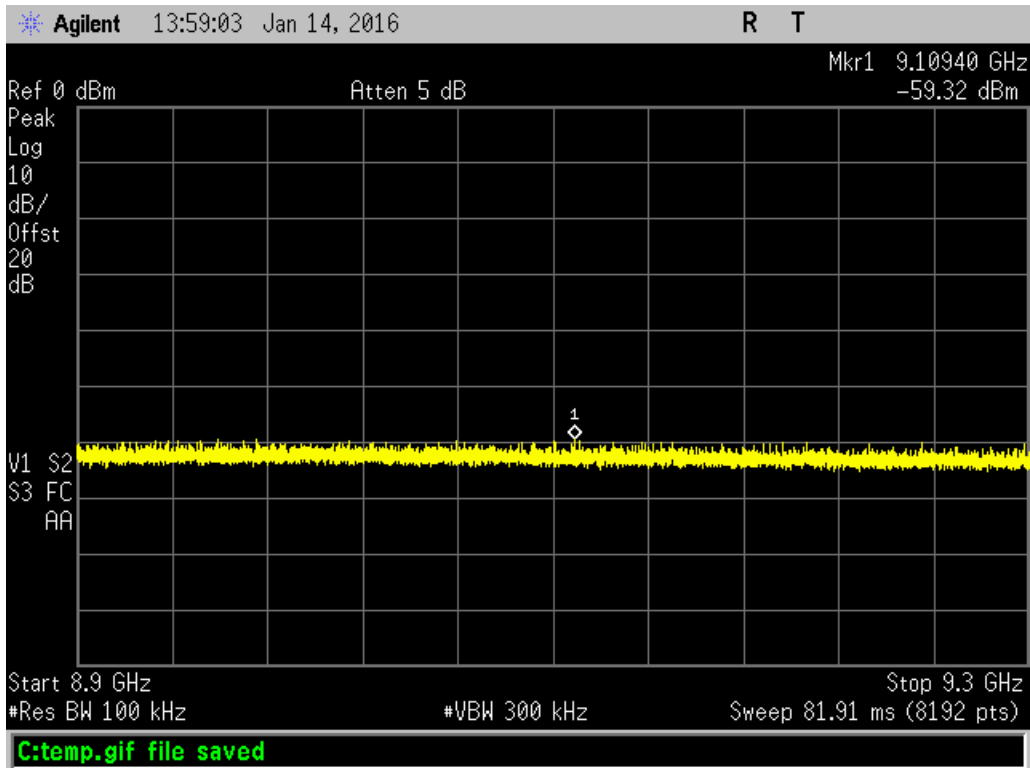


Conducted EMI at the Antenna port, 6928-8500MHz, mid channel

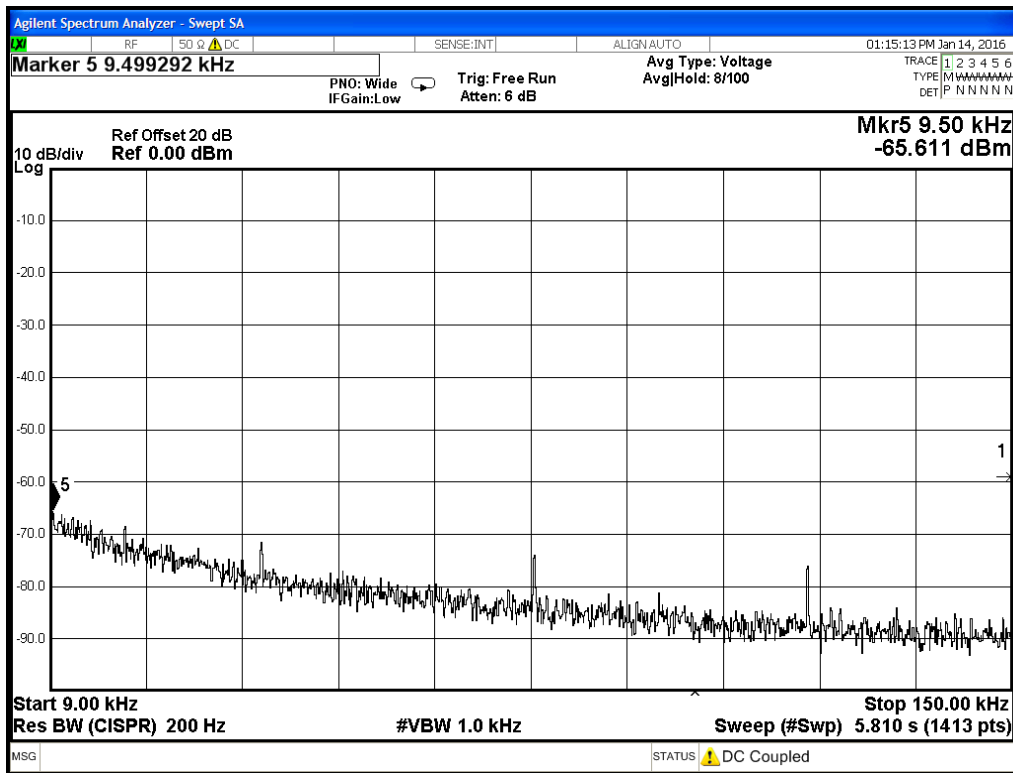


Conducted EMI at the Antenna port, 8.5-8.9GHz, mid channel



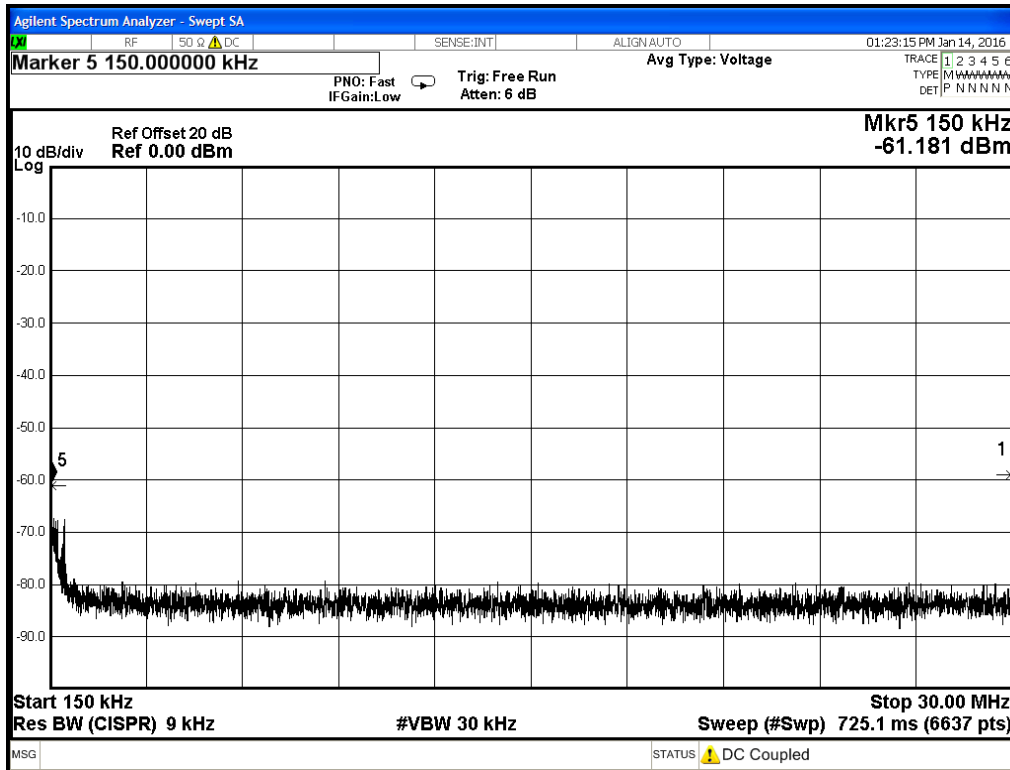


Conducted EMI at the Antenna port, 8.9-9.3GHz, mid channel

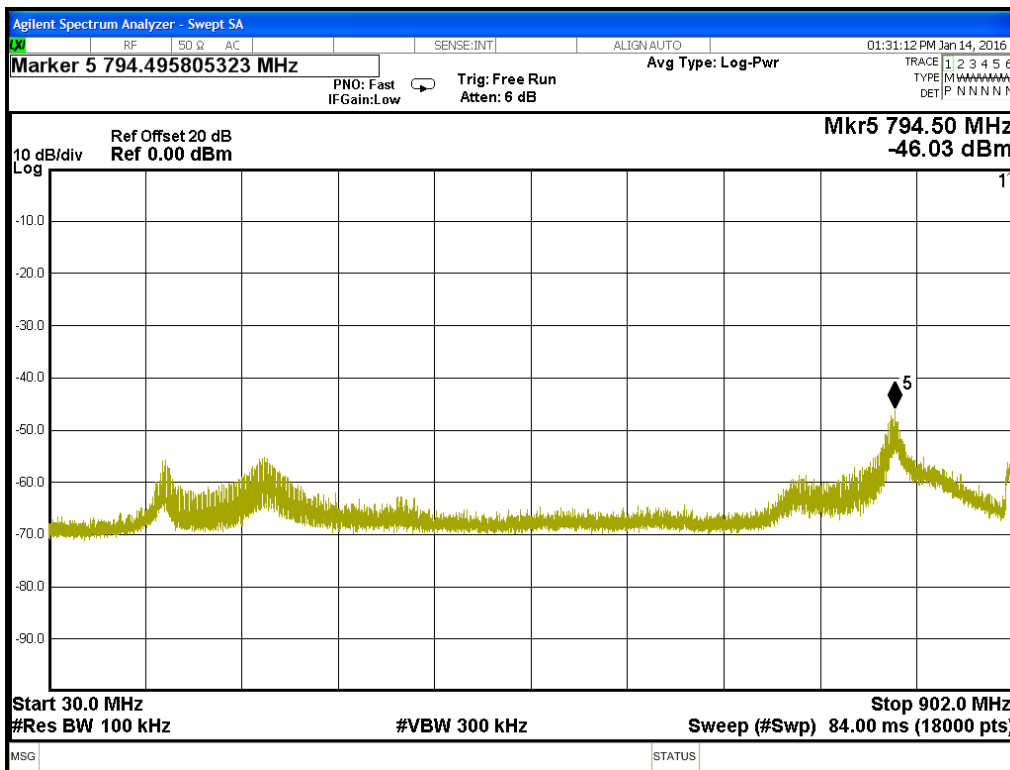


Conducted EMI at the Antenna port, 9-150kHz, high channel



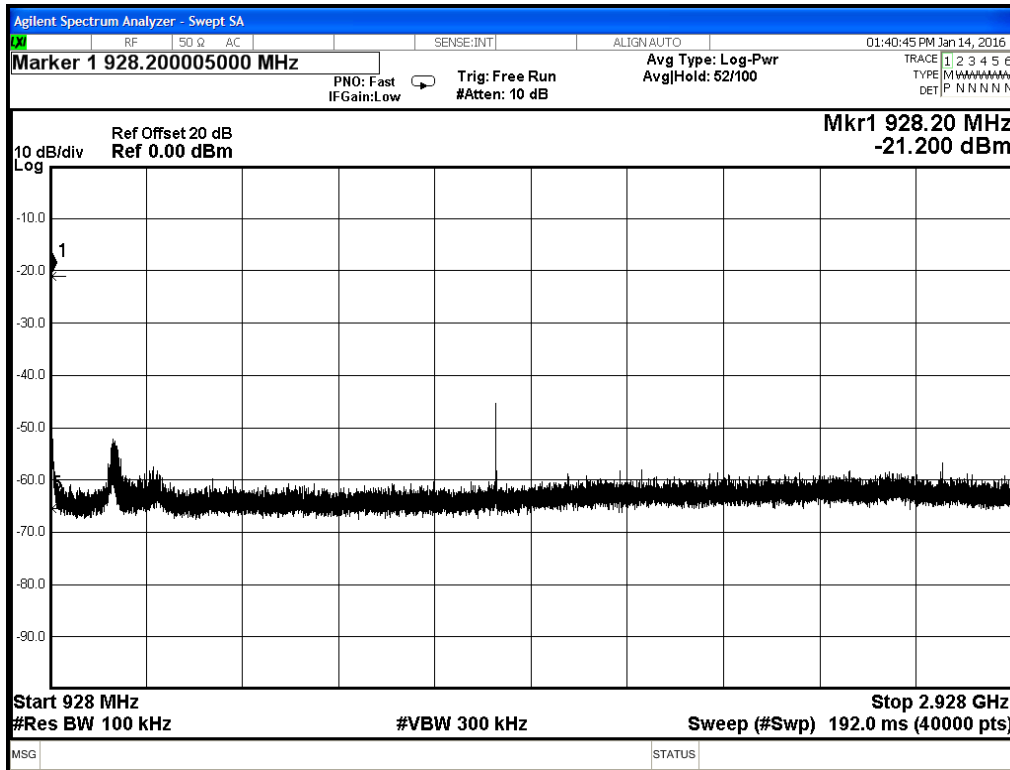


Conducted EMI at the Antenna port, 0.15-30MHz, high channel

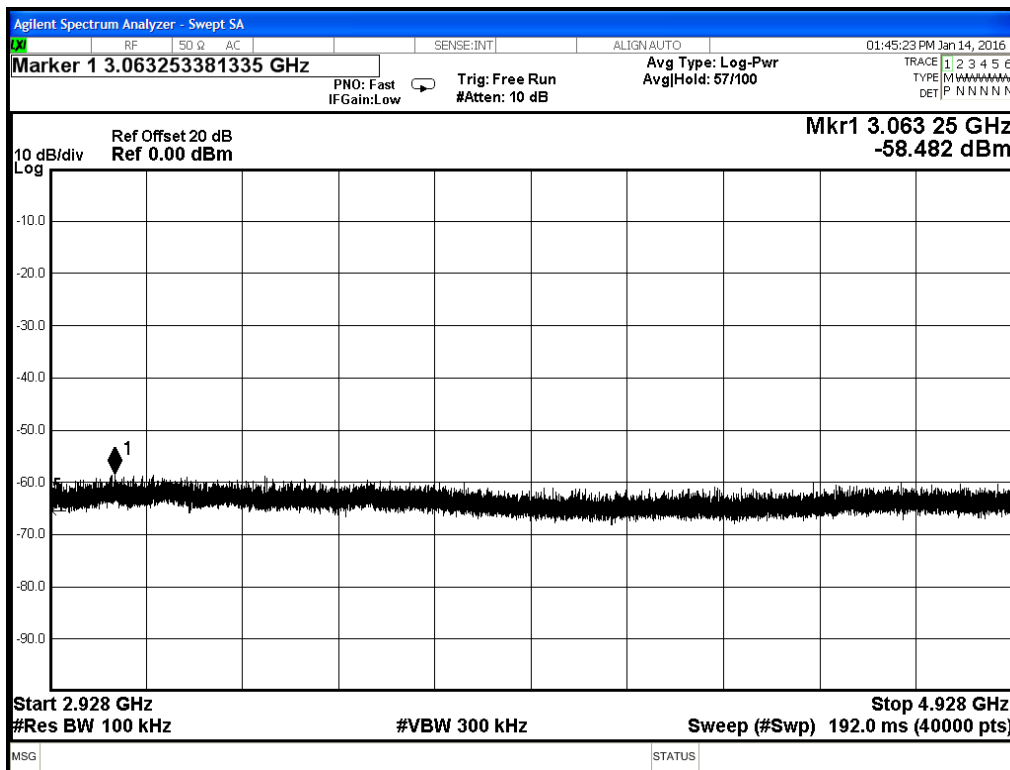


Conducted EMI at the Antenna port, 30-902MHz



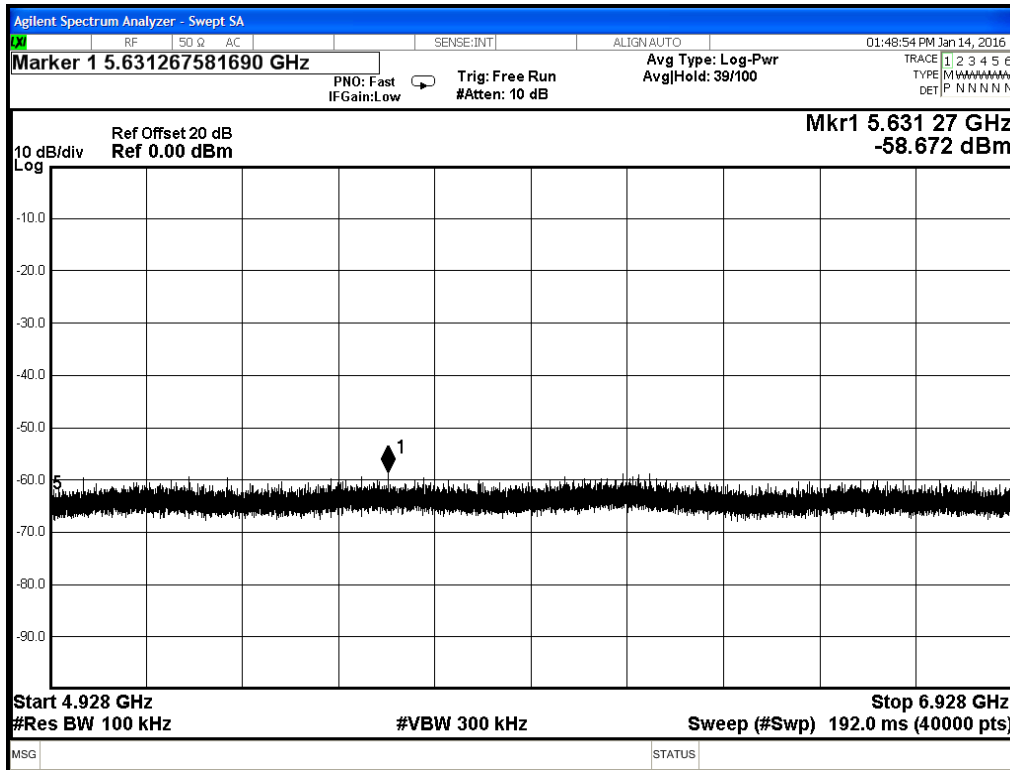


Conducted EMI at the Antenna port, 928-2928MHz, high channel

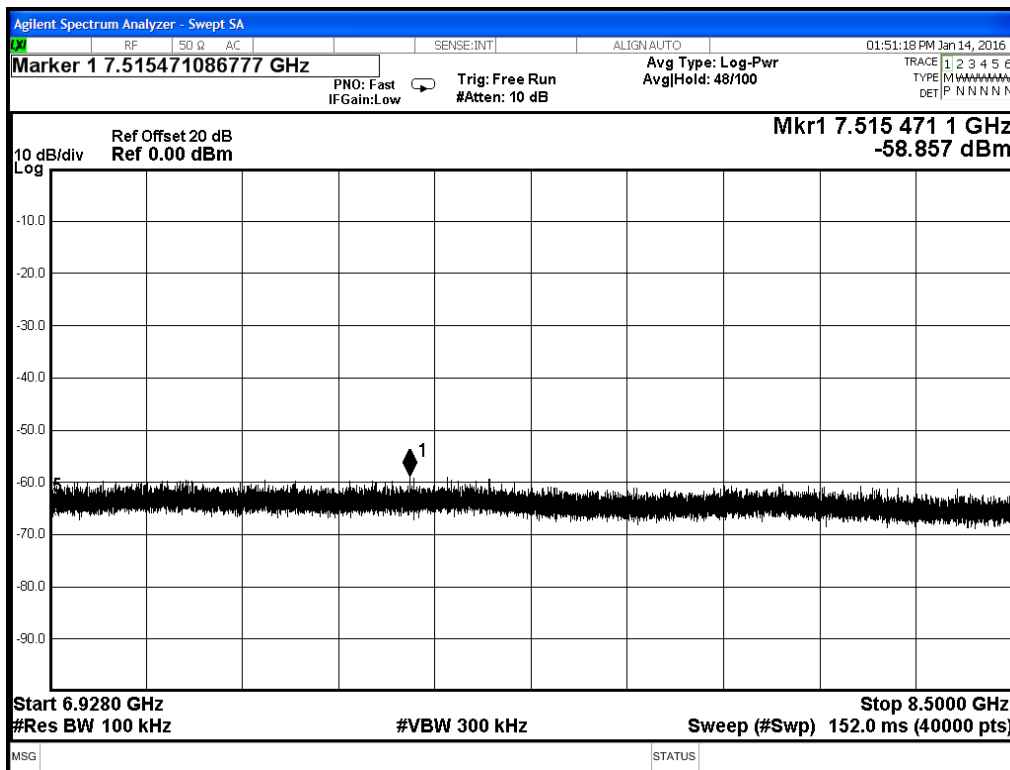


Conducted EMI at the Antenna port, 2928-4928MHz



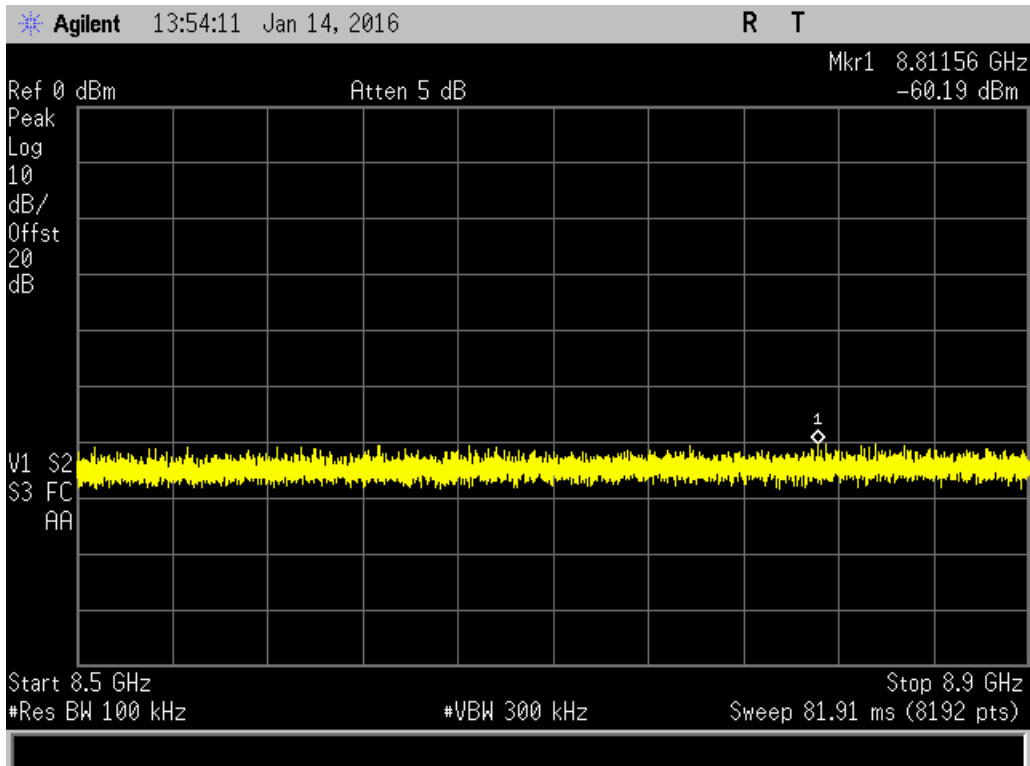


Conducted EMI at the Antenna port, 4928-6928MHz, high channel

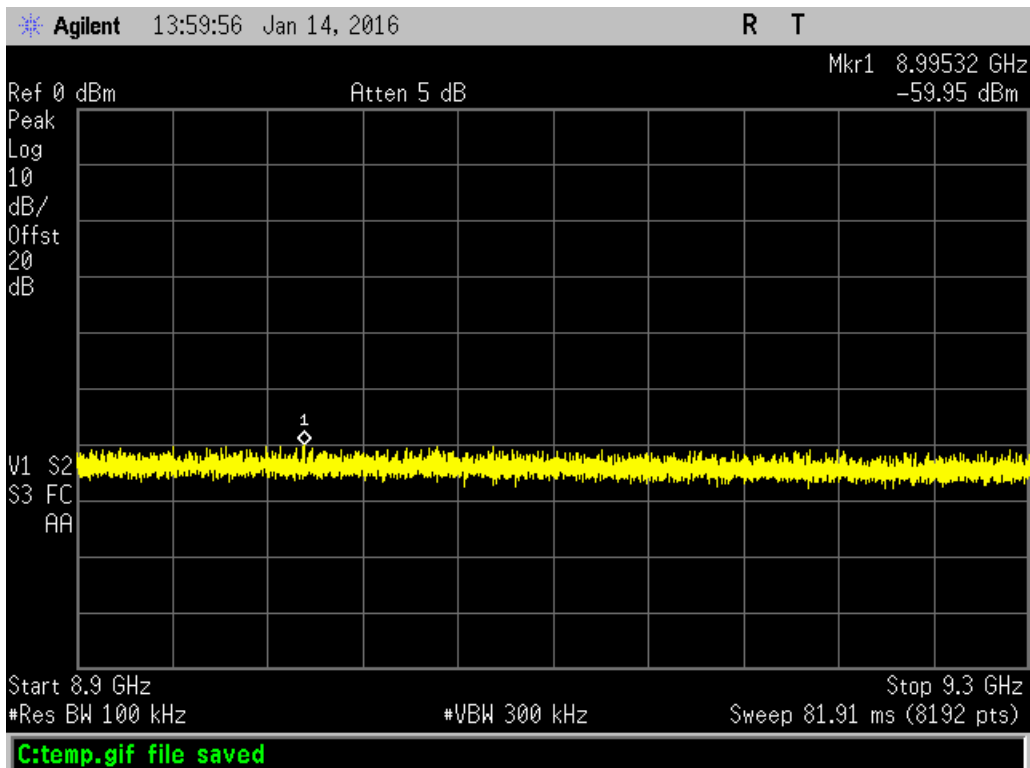


Conducted EMI at the Antenna port, 6928-8500MHz, high channel





Conducted EMI at the Antenna port, 8.5-8.9GHz, high channel



Conducted EMI at the Antenna port, 8.9-9.3GHz, high channel

# 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

Power Spectral Density (Conducted) Table								
Date: 14-Jan-16		Company: Ideal Industries, Inc.			Work Order: Q0060			
Engineer: Jason Haley		EUT Desc: SCELV1000			EUT Operating Voltage/Frequency: 120/60			
Temp: 20.2°C		Humidity: 35%		Pressure: 1007mBar				
Frequency Range: 902-928MHz								
Notes: Measured per DTS Meas Guidance V03r04 Section 10.3, Method AVGPSD-1 (trace averaging with the EUT transmitting at full power throughout each sweep)								
Frequency (MHz)	Resolution Bandwidth Setting (kHz)	Video Bandwidth Setting (kHz)	Frequency Span Setting (MHz)	Detector Function	Measured Level (dBm)	FCC Part 15.247 e		
						Limit (dBm)	Margin (dB)	Result (Pass/Fail)
902.7	9	30	1.2	RMS	7.375	8.0	-0.6	Pass
915.0	9	30	1.2	RMS	5.81	8.0	-2.2	Pass
927.3	9	30	1.2	RMS	4.962	8.0	-3.0	Pass
<b>Table Result: Pass</b> by -0.6 dB						<b>Worst Freq:</b> 902.7 MHz		

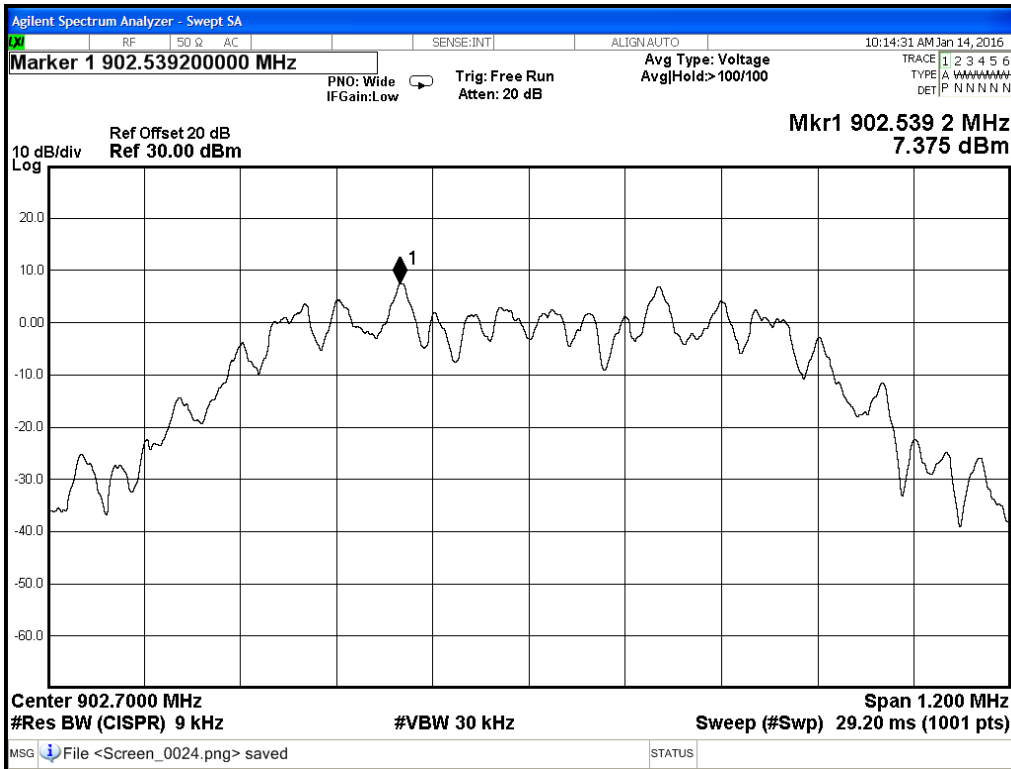
Rev. 1/12/2016

Meteorological Meters		MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Weather Clock (Pressure Only)		BA928	Oregon Scientific	C3166-1	831	I	3/19/2016	3/19/2014
TH A#2084		HTC-1	HDE		2084	II	4/2/2016	4/2/2015
Spectrum Analyzers / Receivers / Preselectors		Range	MN	Mfr	SN	Asset	Calibration Due	Calibrated on
MXE EMI Receiver		20Hz-8.4GHz	N9038A	Agilent	MY53290009	1168255	6/16/2016	6/16/2015
Preamps / Couplers Attenuators / Filters		Range	MN	Mfr	SN	Asset	Calibration Due	Calibrated on
HF 20dB 50W Attenuator		0.009-18 GHz	PE 7019-20	Pasternack	1	791	7/31/2016	7/31/2015

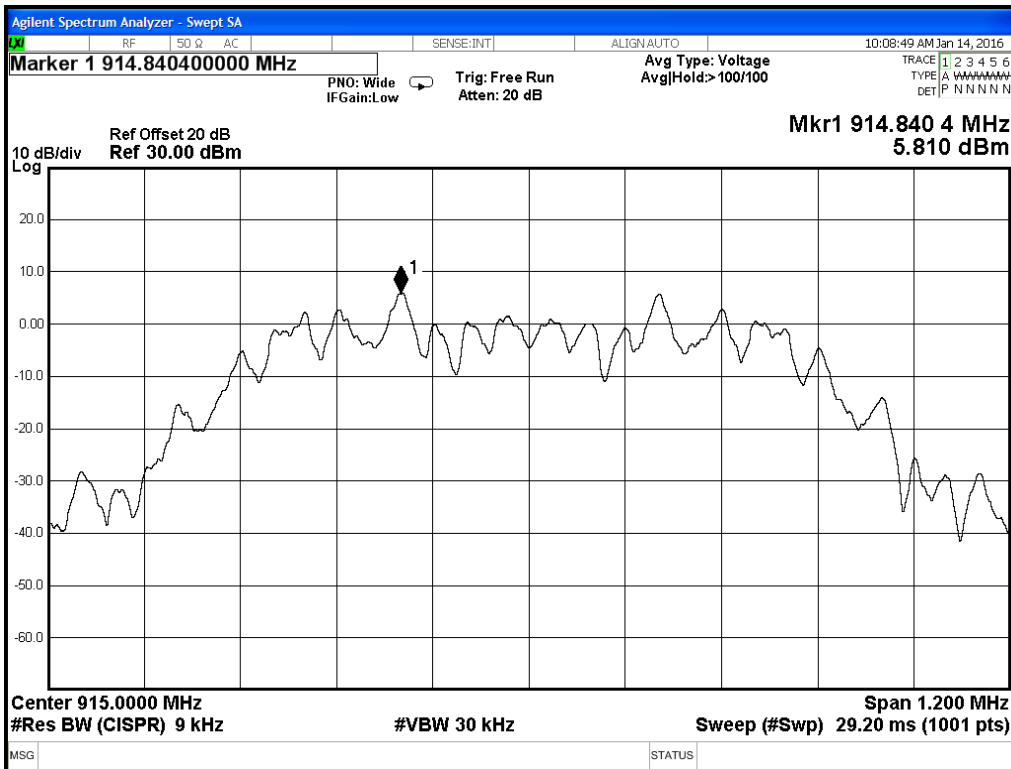
All equipment is calibrated using standards traceable to NIST or other nationally recognized calibration standard.



PLOTS



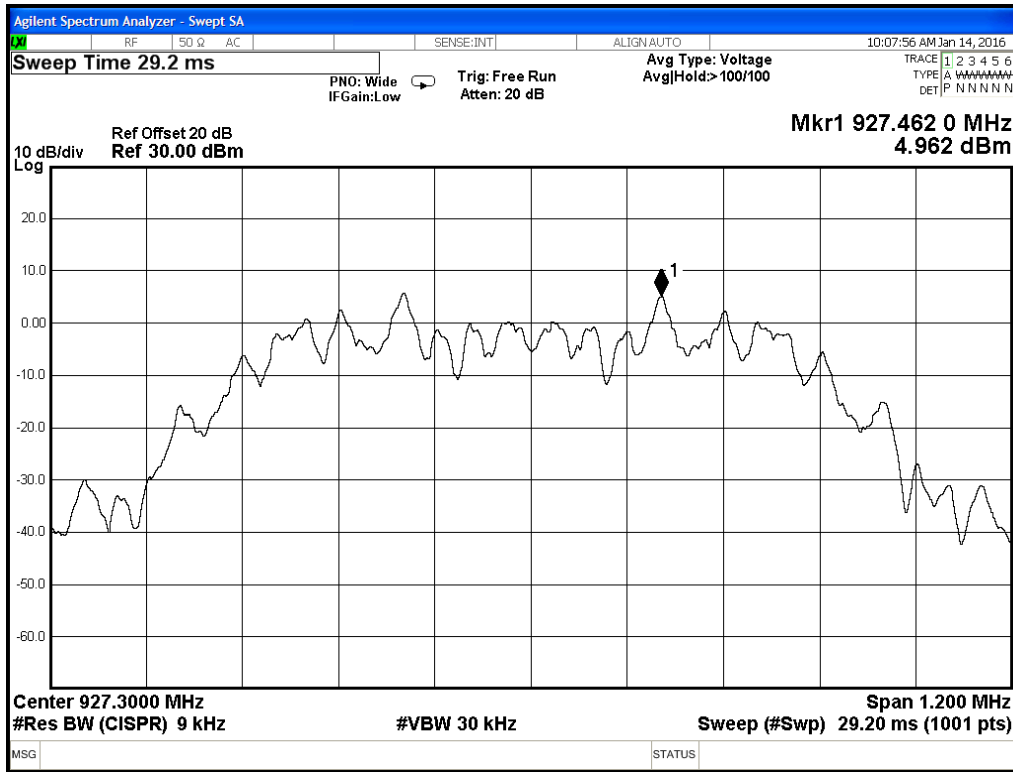
Power Spectral Density, Low Channel



Power Spectral Density, Mid Channel







Power Spectral Density, High Channel



## 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

Curtis Straus - a Bureau Veritas Company				Work Order # - R1113			
Conducted Emissions per CISPR 16-2-1				EUT Power Input - 120VAC/60 Hz			
Peak Detector Tabular Data - Voltage Measurement				Test Site - CEMI-5			
Operator: Michael Mehrmann				Temp; Humid; Pres - 21.4°C;32 %RH; 999mBar			
EUT Line tested:120VAC/60Hz; Phase				EUT Maximum Freq - MHz			
EUT Mode of Operation:				Requirement - FCC/CISPR Class B			
Frequency	Raw Peak Reading	Correction Factor	Adjusted Peak Amplitude	Quasi-peak Limit	Margin to the QP Limit	Peak to QP Limit Results	Worst Margin
MHz	dBµV	dB	dBµV	dBµV	dB	Pass/Fail	dB
18.065	24	20.9	44.9	60	-15.1	PASS	
18.497	25.3	20.9	46.3	60	-13.7	PASS	-13.7
19.115	24.4	20.9	45.3	60	-14.7	PASS	
19.289	24.8	20.9	45.8	60	-14.2	PASS	
19.949	24.5	20.9	45.5	60	-14.5	PASS	
20.072	24.5	20.9	45.5	60	-14.5	PASS	

Hot Lead - Peak

Curtis Straus - a Bureau Veritas Company				EUT Line tested:120VAC/60Hz; Phase			
Conductor: CISPR Average Detector				EUT Mode of Operation:			
Quick Average Detector Tabular Data - Voltage Measurement				Test Site - CEMI-5			
Operator: Michael Mehrmann				Temp; Humid; Pres - 21.4°C;32 %RH; 999mBar			
EUT Line tested:120VAC/60Hz; Phase				EUT Mode of Operation:			
Frequency	Raw Average Reading	Correction Factor	Adjusted Average Amplitude	Average Limit	Average Margin	Average Results	Worst Average Margin
MHz	dBµV	dB	dBµV	dBµV	dB	Pass/Fail	dB
18.503	16.3	20.9	37.3	50	-12.7	PASS	
18.914	16.4	20.9	37.3	50	-12.7	PASS	
19.455	16.3	20.9	37.2	50	-12.8	PASS	
19.764	17.2	20.9	38.1	50	-11.9	PASS	-11.9
19.88	16.5	20.9	37.4	50	-12.6	PASS	
20.054	16.2	20.9	37.1	50	-12.9	PASS	

Hot Lead – Average

Curtis Straus - a Bureau Veritas Company				Work Order # - R1113			
Conducted Emissions per CISPR 16-2-1				EUT Power Input - 120VAC/60 Hz			
Peak Detector Tabular Data - Voltage Measurement				Test Site - CEMI-5			
Operator: Michael Mehrmann				Temp; Humid; Pres - 21.4°C;32 %RH; 999mBar			
EUT Line tested:120VAC/60Hz; Neutral				EUT Maximum Freq - MHz			
EUT Mode of Operation:				Requirement - FCC/CISPR Class B			
Frequency	Raw Peak Reading	Correction Factor	Adjusted Peak Amplitude	Quasi-peak Limit	Margin to the QP Limit	Peak to QP Limit Results	Worst Margin
MHz	dBµV	dB	dBµV	dBµV	dB	Pass/Fail	dB
0.422	22.1	20.7	42.8	57.4	-14.6	PASS	
17.576	23.5	21	44.5	60	-15.5	PASS	
18.983	24.1	21	45.1	60	-14.9	PASS	
19.273	25.2	21	46.1	60	-13.9	PASS	-13.9
19.47	23.1	21	44.1	60	-15.9	PASS	
19.797	23.1	21	44.1	60	-15.9	PASS	

Neutral Lead - Peak



Curtis Straus - a Bureau Veritas Company				Work Order # - R1113			
Conductor: CISPR Average Detector				EUT Power Input - 120VAC/60 Hz			
Quick Average Detector Tabular Data - Voltage Measurement				Test Site - CEMI-5			
Operator: Michael Mehrmann				Temp; Humid; Pres - 21.4°C;32 %RH; 999mBar			
EUT Line tested:120VAC/60Hz; Neutral				EUT Maximum Freq - MHz			
EUT Mode of Operation:				Requirement - FCC/CISPR Class B			
Frequency	Raw Average Reading	Correction Factor	Adjusted Average Amplitude	Average Limit	Average Margin	Average Results	Worst Average Margin
MHz	dBµV	dB	dBµV	dBµV	dB	Pass/Fail	dB
0.154	24	20.7	44.7	55.8	-11.1	PASS	
0.205	21.8	20.7	42.5	53.4	-10.9	PASS	-10.9
0.423	15	20.7	35.7	47.4	-11.7	PASS	
19.085	16.1	21	37	50	-13	PASS	
19.214	16.4	21	37.4	50	-12.6	PASS	
19.642	16	21	37	50	-13	PASS	

Neutral Lead - Average



## Occupied Bandwidth

### REQUIREMENT

When an occupied bandwidth is not 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 6.6]

### MEASUREMENTS / RESULTS

RSS-GEN 4.6.1 Occupied Bandwidth (Conducted) Table				
Date: 14-Jan-16		Company: Ideal Industries, Inc.		Work Order: Q0060
Engineer: Jason Haley		EUT Desc: SCELV1000		EUT Operating Voltage/Frequency: 120/60
Temp: 20.2°C		Humidity: 35%		Pressure: 1007mBar
Frequency Range: 902-928MHz				
Notes:				
Frequency (MHz)	Resolution Bandwidth Setting (kHz)	Video Bandwidth Setting (kHz)	Frequency Span Setting (MHz)	Occupied Bandwidth (MHz)
902.7	30	100	2	0.758
915.0	30	100	2	0.754
927.3	30	100	2	0.755

Rev. 1/12/2016

#### Meteorological Meters

Weather Clock (Pressure Only)  
TH A#2084

MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
BA928	egon Scienti	C3166-1	831	I	3/19/2016	3/19/2014
HTC-1	HDE		2084	II	4/2/2016	4/2/2015

#### Spectrum Analyzers / Receivers / Preselectors

MXE EMI Receiver

Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
20Hz-8.4GHz	N9038A	Agilent	MY53290009	1168255	I	6/16/2016	6/16/2015

#### Preamps / Couplers Attenuators / Filters

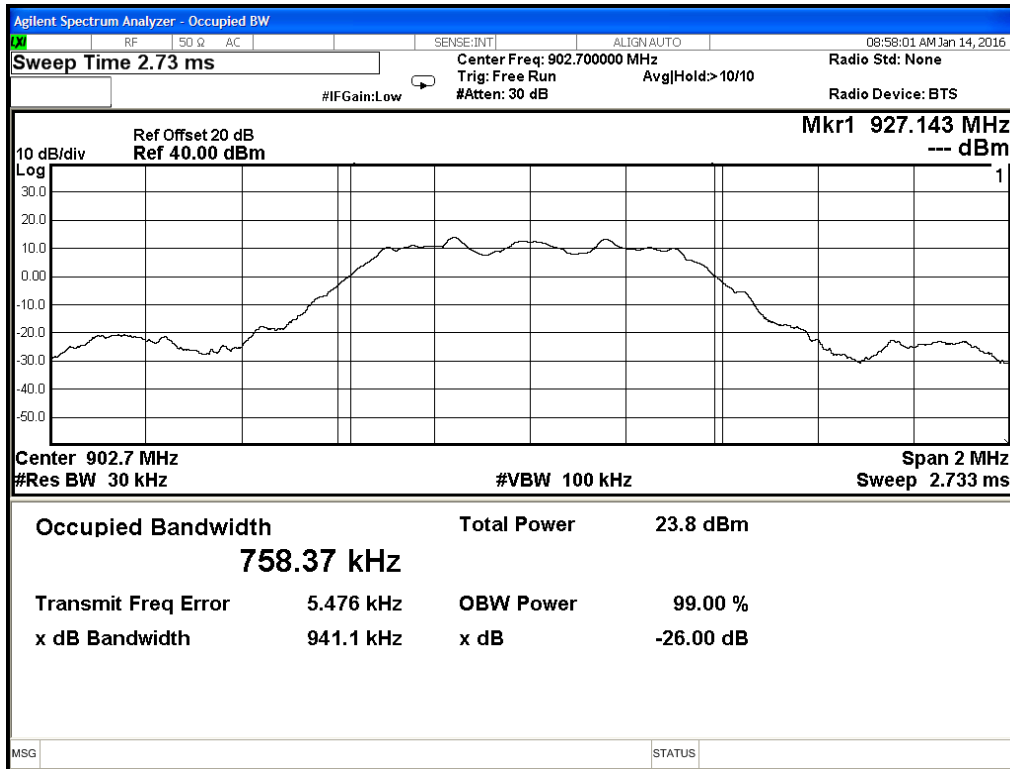
HF 20dB 50W Attenuator

Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
0.009-18 GHz	PE 7019-20	Pasternack	1	791	II	7/31/2016	7/31/2015

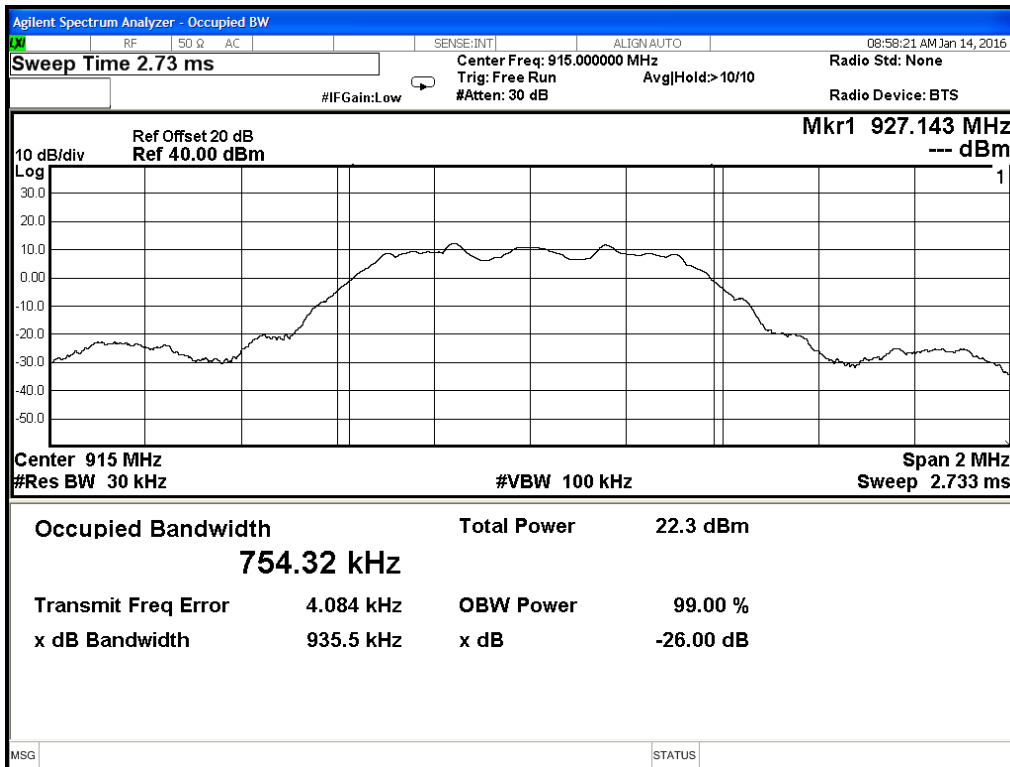
All equipment is calibrated using standards traceable to NIST or other nationally recognized calibration standard.



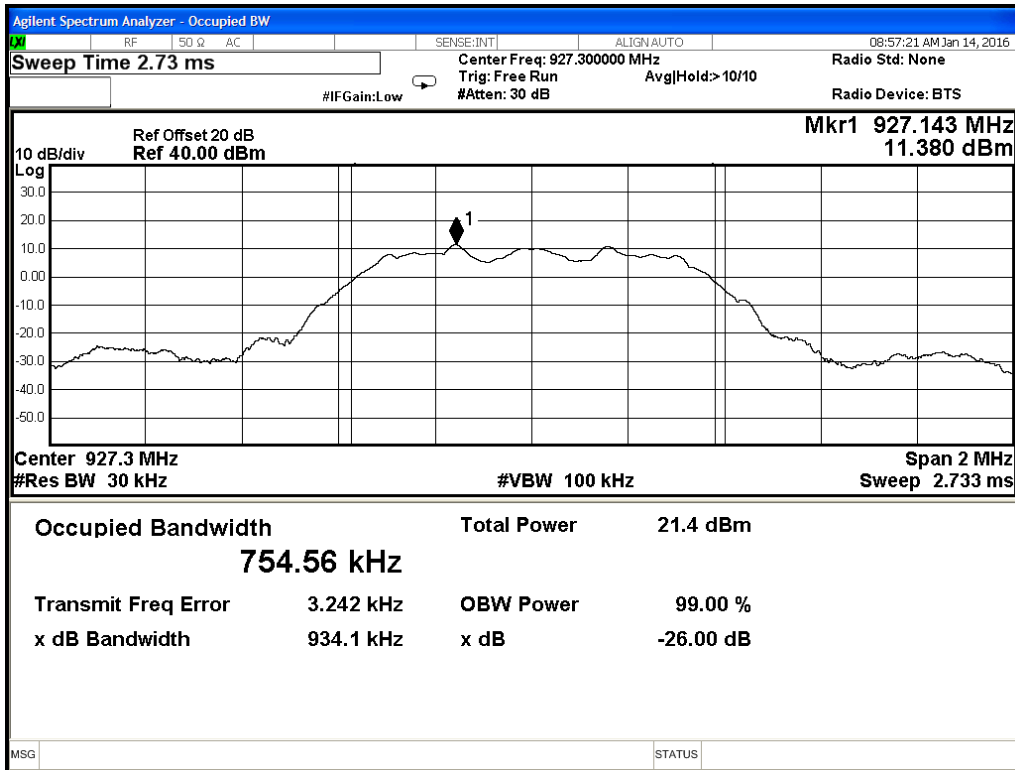
PLOTS



Occupied Bandwidth, Low Channel



Occupied Bandwidth, Mid Channel



Occupied Bandwidth, 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	5.6dB	N/A
CISPR	4.6dB	5.2dB (Ucisprr)
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	3.9dB	N/A
CISPR	3.6dB	3.6dB (Ucisprr)
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)	$3.23 \times 10^{-8}$	$1 \times 10^{-7}$
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%	5%
Adjacent channel power	0.3dB	3dB
Conducted spurious emission of transmitter, valid up to 12.75GHz	1.9dB	3dB
Conducted emission of receivers	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		





## 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.



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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.

The complete list of the Approved Subcontractors Curtis-Straus may use to delegate the performance of work can be provided upon request.  
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