



Test Report Serial Number: **1402080-R1.1**
Test Report Date: **15 February 2016**

EMC Test Report

Applicant:



President Electronics USA
1004 Collier Ctr. Way, Suite 206
Naples, FL, 34110
USA

FCC ID:

2AEOCUT412

IC Registration Number

20240-UT412

Product Model Number / HVIN

Johnson II USA

Product Name / PMN

Johnson II USA

In Accordance With:

FCC 47 CFR Part 95 Subpart D, Part 15 Subpart B

Licensed Non-Broadcast Station Transmitter (TNB)

RSS-GEN, RSS-236 Issue 1

Citizen Band (26.960 to 27.410 MHz)

Approved By:

Ben Hewson, President

Celltech Labs Inc.
21-364 Lougheed Rd.
Kelowna, BC, V1X 7R8
Canada



Test Lab Certificate: 2470.01



**Industry
Canada**

IC Registration 3874A-1



FCC Registration: 714830

This report shall not be reproduced in any form without the expressed written consent of Celltech Labs Inc.

TABLE OF CONTENTS

1.0 REVISION LOG	3
2.0 TEST RESULT SUMMARY	4
3.0 PASS/FAIL CRITERIA	4
4.0 SCOPE	5
5.0 REFERENCES	5
6.0 FACILITIES AND ACCREDITATIONS	6
7.0 GENERAL INFORMATION	6
APPENDIX A - RF CONDUCTED OUTPUT POWER MEASUREMENT	7
APPENDIX B - MODULATION CHARACTERISTICS (MODULATION LIMITING)	9
APPENDIX C - MODULATION CHARACTERISTICS (AUDIO FREQUENCY)	11
APPENDIX D - OCCUPIED BANDWIDTH AND EMISSION MASK	14
APPENDIX E - SPURIOUS EMISSIONS AT THE ANTENNA TERMINAL	17
APPENDIX F - RADIATED SPURIOUS EMISSIONS	20
APPENDIX G - FREQUENCY STABILITY	24

1.0 REVISION LOG


Prepared By:	Art Voss		
Reviewed By:	Art Voss		
Issue Number	Description	By	Issue Date
1.0	Initial Release	Art Voss	10 February 2016
1.1	Corrections Per TCB	Art Voss	15 February 2016

2.0 TEST RESULT SUMMARY

TEST SUMMARY					
Referenced Standard(s):		FCC CFR Title 47 Parts 2, 95(D), 15(B), RSS-GEN, RSS-236			
Appendix	Description of Test	Procedure Reference	Limit Reference	Test Date	Result
A	Conducted Power	ANSI/TIA/EIA-382-A	§2.1033, 95 RSS-236	1 Feb 2016	Pass
B	Modulation	ANSI/TIA/EIA-382-A	§2.1047, 95 RSS-236	3 Feb 2016	Pass
C	Audio Frequency Response	ANSI/TIA/EIA-382-A	§2.1047, 95 RSS-236	3 Feb 2016	Pass
D	Occupied Bandwidth and Emission Mask	ANSI/TIA/EIA-382-A	§2.1049, 95 RSS-236	22 Jan 2016	Pass
E	Conducted TX Spurious Emissions	ANSI/TIA/EIA-382-A	§2.1053, 95 RSS-236	15 Jan 2016	Pass
F	Radiated TX Spurious Emissions	ANSI/TIA/EIA-382-A	§2.1053, 95 RSS-236	21 Jan 2016	Pass
	Radiated Spurious Emissions	ANSI C63.4:2003	§15 Subpart B ICES-003	21 Jan 2016	Pass
G	Frequency Stability	ANSI/TIA/EIA-382-A	§2.1055, 95 RSS-236	2 Feb 2016	Pass

3.0 PASS/FAIL CRITERIA

Unless otherwise noted in the Appendices, the pass/fail criteria are the limits set forth in the reference standards. The DUT is considered to have passed the requirements if the data collected during the described measurement procedure is no greater than the specified limits as defined. The pass/fail statements made in this report only apply to the unit(s) tested.

<p>I attest to the accuracy of the data reported herein and that all tests and measurements were performed by me or by trained personnel under my direct supervision. The results of this investigation are based solely on the test sample(s) provided by the client and were not modified in any manner by Celltech Labs Inc. This test report has been completed in accordance with ISO/IEC 17025.</p>	 <hr/> Art Voss, P.Eng. Technical Manager Celltech Labs Inc. <hr/> 10 February 2016 Date
---	--



4.0 SCOPE

This report outlines the measurements made and results collected during electromagnetic emissions testing of the President Electronics USA CB Radio Transceiver FCC/IC: 2AEOCUT412/20240-UT412. The measurement results were applied against the applicable EMC requirements and limits outlined in the technical rules and regulations set forth in the Federal Communication's Commission Code of Federal Regulations Title 47 Part 2, Part 15B, Part 95 Subpart D and RSS-236.

5.0 REFERENCES

Normative References

ANSI / ISO 17025:2005	General Requirements for competence of testing and calibration laboratories
IEEE/ANSI C63.4:2014	Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
ANSI/TIA/EIA-382-A	Citizens Band Radio Service Amplitude Modulated (AM) Transceivers Operating in the 27 MHz Band
CFR Title 47 Part 2	Code of Federal Regulations Title 47: Telecommunication Part 2: Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
CFR Title 47 Part 95	Code of Federal Regulations Title 47: Telecommunication Part 95: Personal Radio Services Subpart D: Citizens Band (CB) Radio Service
Industry Canada	RSS-236, RSS-GEN

6.0 FACILITIES AND ACCREDITATIONS

The facilities used in collecting the test results outlined in this report are located at 21-364 Lougheed Road, Kelowna, British Columbia, Canada V1X 7R8. The radiated emissions site conforms to the requirements set forth in ANSI C63.4 and is filed and listed with Industry Canada under File Number IC 3874A-1. Celltech test site is listed with the FCC as an accredited test facility.

7.0 GENERAL INFORMATION

Client Information					
Applicant Name	President Electronics USA				
Applicant Address	1004 Collier Ctr. Way, Suite 206				
	Naples, FL, 34110				
	USA				
DUT Information					
Device Identifier(s):	<table border="1"> <tr> <td>FCC ID:</td> <td>2AEOCUT412</td> </tr> <tr> <td>IC</td> <td>20240-UT412</td> </tr> </table>	FCC ID:	2AEOCUT412	IC	20240-UT412
FCC ID:	2AEOCUT412				
IC	20240-UT412				
Device Type:	Mobile CB Radio Transceiver				
Device Model(s) / HVIN:	Johnson II USA				
Device Marketing Name / PMN:	Johnson II USA				
Firmware Version ID Number / FVIN:	n/a				
Host Marketing Name / HMN:	n/a				
Test Sample Serial No.:	T/A Sample - Identical Prototype				
Transmit Frequency Range:	26.965 - 27.405 MHz (Chan. 1-40)				
Number of Channels:	40				
Manuf. Max. Rated Output Power:	4.0W AM				
Antenna Gain:	External Whip, 0dBi nominal (3dBi maximum).				
Modulation:	AM				
Emission Designator:	6k00A3E Bn = 2M M = 3000 Bn = 6000				
DUT Power Source:	12-24 VDC Battery, DC Power Supply (13.8 V - 27.6VDC)				
Type of Equipment:	Licensed Non-Broadcast Station Transmitter (TNB)				
Deviation(s) from standard/procedure:	None				
Modification of DUT:	None				
Applicable Standards:	EIA/TIA-382-A, FCC 47 CFR Part 95D, RSS-GEN, RSS-236				

APPENDIX A - RF Conducted Output Power Measurement

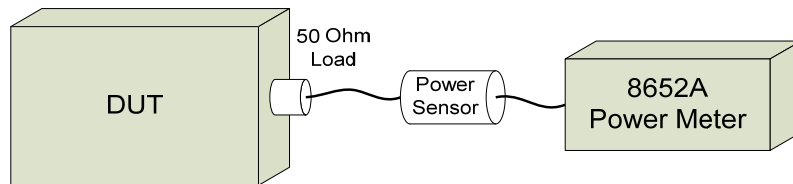
Test Conditions

Normative Reference	FCC 47 CFR §2.1046, §95D, RSS-236
Limits	
§95.639 RSS-236, 5.2	4.0W, 36dBm
Environmental Conditions (Typical)	
Temperature	25°C
Humidity	<60%
Barometric Pressure	101 +/- 3kPa

Equipment List

Asset Number	Manufacturer	Model Number	Description	Last Calibrated	Calibration Interval	Calibration Due
00110	Gigatronics	8652A	Power Meter	17 Feb 2014	Biennial	17 Feb 2016
00248	Gigatronics	80334A	Power Sensor	17 Feb 2014	Biennial	17 Feb 2016

Set-Up Drawing



Conducted Power Measurement

Method of Measurement: The RF power is measured with a 50 ohm resistive watt-meter connected at the EUT's RF output connector. Nomiminal DC power of 13.8VDC is applied.

Measured Output Power (Ch 1):	3.85W
Measured Output Power (Ch 19):	3.84W
Measured Output Power (Ch 40):	3.84W
FCC CFR 47 §2.1033(c)(8): Power to Transmitter:	$I_{Rx} = 0.340A, I_{Tx} = 1.20A$
	$I_{xmitter} = 0.86A$
	$(13.8VDC)(0.86A) = 11.9W$
Manufacturer's Rated Output Power:	4.0W
FCC/IC Limit:	4.0W
Result:	Complies

APPENDIX B - Modulation Characteristics (Modulation Limiting)

Test Conditions

Normative Reference	FCC 47 CFR §2.1047, Part 95D, 95.637, RSS-236, 5.3.2
----------------------------	--

Limits

FCC §2.1047	Modulation can not exceed 100% - Modulation Limiting.
-------------	---

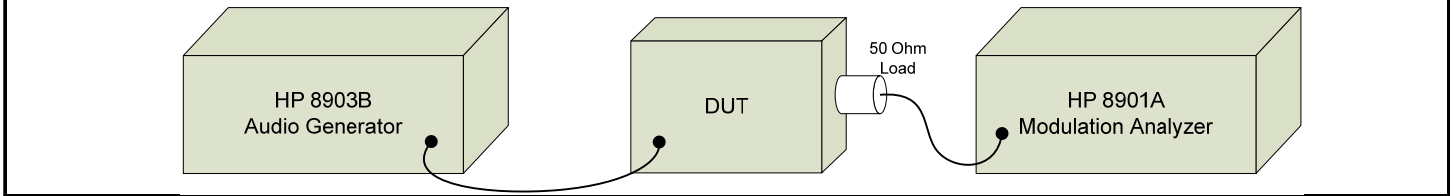
Environmental Conditions (Typical)

Temperature	25°C
Humidity	<60%
Barometric Pressure	101 +/- 3kPa

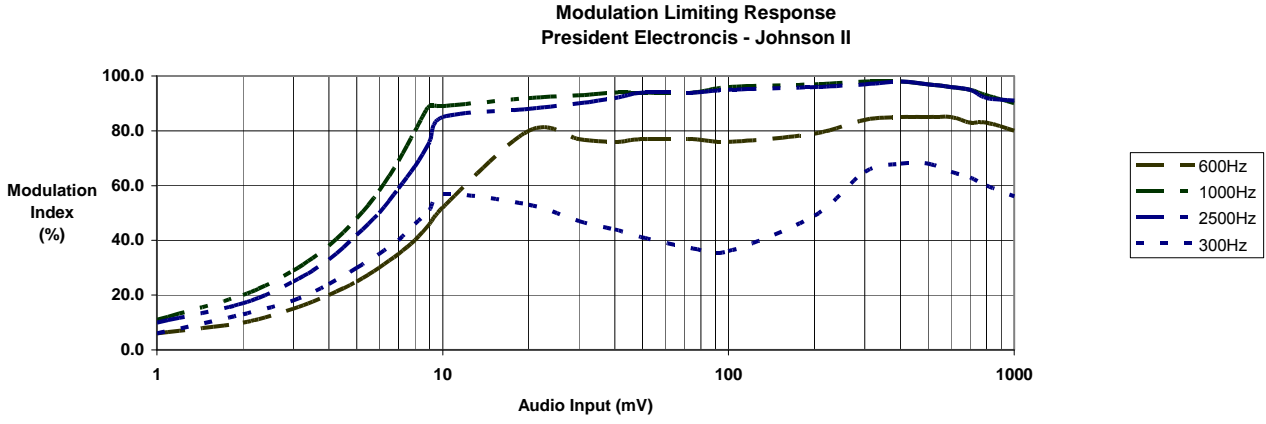
Equipment List

Asset Number	Manufacturer	Model Number	Description	Last Calibrated	Calibration Interval	Calibration Due
00028	HP	8901A	Modulation Analyzer	22 Dec 2014	Biennial	22 Dec 2016
00027	HP	8903B	Audio Generator	22 Dec 2014	Biennial	22 Dec 2016

Set-Up Drawing



Modulation Limiting Response



Measured Modulation Response [Modulation Index (%)]																								
Freq (Hz)	Audio Input (mV)																							
	1	2	3	4	5	6	7	8	9	10	20	30	40	50	75	100	200	300	400	500	600	700	800	1000
300	6	13	18	24	30	35	40	46	51	57	53	47	44	41	37	36	49	65	68	68	65	63	60	56
600	6	10	15	20	25	30	35	40	46	52	80	77	76	77	77	76	79	84	85	85	85	83	83	80
1000	11	20	29	38	48	58	69	80	89	89	92	93	94	94	94	96	97	98	98	97	96	95	93	90
2500	10	17	25	33	42	50	59	67	76	85	88	90	92	94	94	95	96	97	98	97	96	95	92	91
Audio Frequency @ Maximum Audio Sensitivity:																					1000Hz			
Audio Input @ Maximum Audio Sensitivity (50%MI):																					5.2mV			
40dB Above Maximum Sensitivity Input:																					520mV			
Maximum Measured Modulation Index(%):																					98			
Result:																					Complies			

APPENDIX C - Modulation Characteristics (Audio Frequency)

Test Conditions

Normative Reference	FCC 47 CFR §2.1047, TIA/EIA-382-A, Para 25.
----------------------------	---

Limits

Limits	
FCC §2.1047	a) Voice modulated communication equipment. A curve or equivalent data showing the frequency response of the audio modulating circuit over a range of 100 to 5000 Hz shall be submitted.

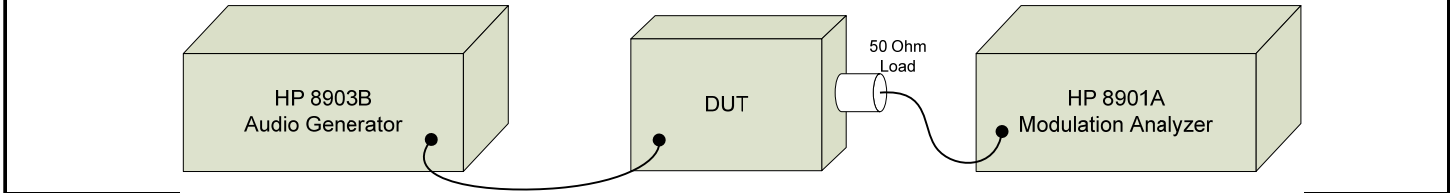
Environmental Conditions (Typical)

Temperature	25°C
Humidity	<60%
Barometric Pressure	101 +/- 3kPa

Equipment List

Asset Number	Manufacturer	Model Number	Description	Last Calibrated	Calibration Interval	Calibration Due
00028	HP	8901A	Modulation Analyzer	22 Dec 2014	Biennial	22 Dec 2016
00027	HP	8903B	Audio Generator	22 Dec 2014	Biennial	22 Dec 2016

Set-Up Drawing

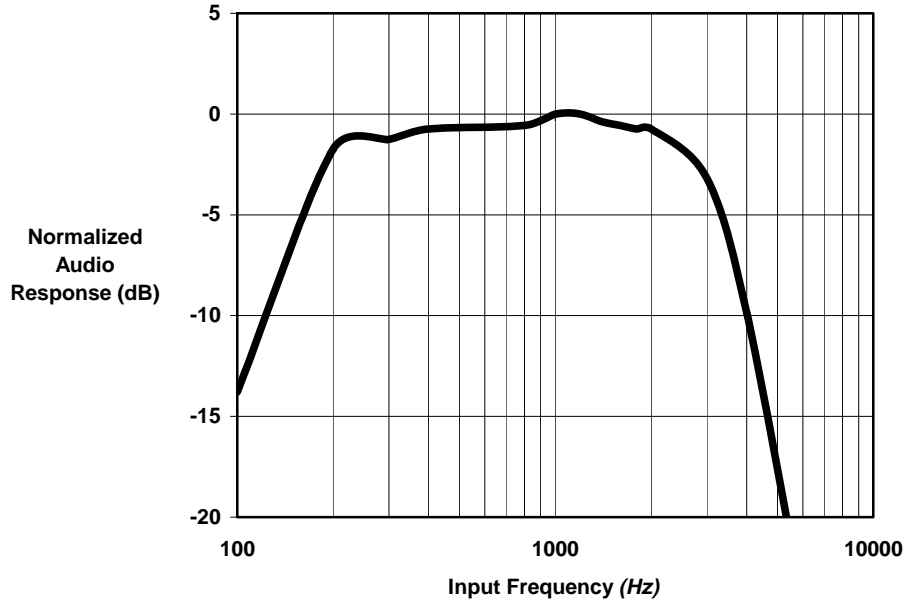


Audio Frequency Response

Measured Audio Response		
Freq (Hz)	Audio Response (Input) @50%MI	
	(mV)	(dB)*
100	22.0	-13.8
200	5.5	-1.7
300	5.2	-1.3
400	4.9	-0.7
800	4.8	-0.6
1000	4.5	0.0
1200	4.5	0.0
1400	4.7	-0.4
1600	4.8	-0.6
1800	4.9	-0.7
2000	4.9	-0.7
3000	6.5	-3.2
4000	14.0	-9.9
6000	74.0	-24.3

* Normalize to 1000Hz

**Audio Frequency Response @50%MI
President Electronic - Johnson II**



Maximum Deviation from Reference Between 300Hz and 3000Hz (dB) :	-3.2
Result:	Complies

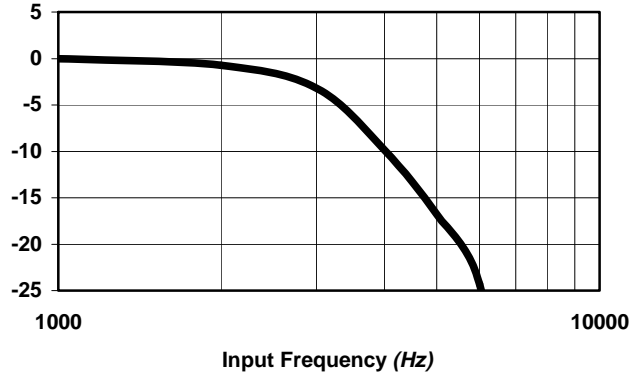
Audio Low Pass Filter Response

Measured Audio Response

Freq (Hz)	Audio Input (mV)	Attenuation (dB)
1000	4.5	0.000
2000	4.9	-0.740
3000	6.5	-3.194
4000	14	-9.858
5000	31	-16.763
6000	74	-24.320
7000	1000	-46.936
8000	1000	-46.936
9000	1000	-46.936
10000	1000	-46.936

Attenuation (dB)

Audio Low Pass Filter President Electronics - Johnson II



Normalized to 1000Hz

Cut-Off Frequency @ > -6dB:	3500 Hz
Result:	Complies

*** Note: Modulation Index of 50% Could Not Be Maintained Above 7kHz Audio Input.**

APPENDIX D - Occupied Bandwidth and Emission Mask

Test Conditions

Normative Reference	FCC CFR 47 §2.1049, §95.635, RSS-236, 5.4.4
Procedure Description	Occupied bandwidth was performed by connecting the output of the DUT to the input of a spectrum analyzer. The unit was supplied a 2500Hz audio signal adjusted to 50% plus 16dB.

Limits

FCC §95.635	At least 25 dB (decibels) on any frequency removed from the center of the authorized bandwidth by more than 50% up to and including 100% of the authorized bandwidth.
RSS-236, 5.4.4	At least 35 dB on any frequency removed from the center of the authorized bandwidth by more than 100% up to and including 250% of the authorized bandwidth.
RSS-Gen	At least 53 + 10 log ₁₀ (T) dB on any frequency removed from the center of the authorized bandwidth by more than 250%.
	RSS-Gen - When the occupied bandwidth limit is not stated in the applicable RSS or reference measurement method, the transmitted signal bandwidth shall be reported as the 99% emission

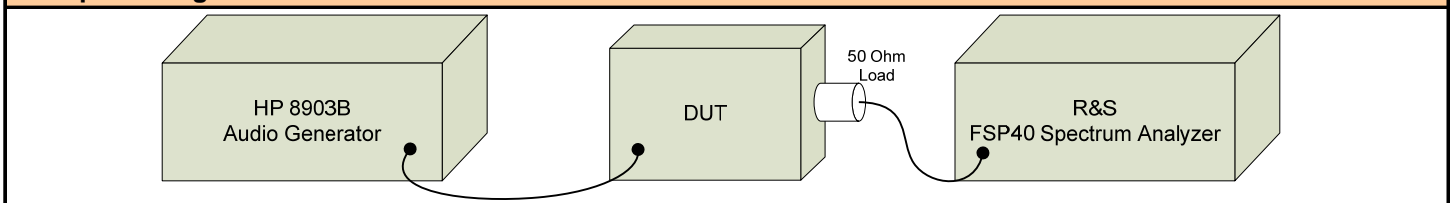
Environmental Conditions (Typical)

Temperature	25°C
Humidity	<60%
Barometric Pressure	101 +/- 3kPa

Equipment List

Asset Number	Manufacturer	Model Number	Description	Last Calibrated	Calibration Interval	Calibration Due
00241	R&S	FSP40	Spectrum Analyzer	23 Apr 2015	Biennial	23 Apr 2017
00027	HP	8903B	Audio Generator	22 Dec 2014	Biennial	22 Dec 2016

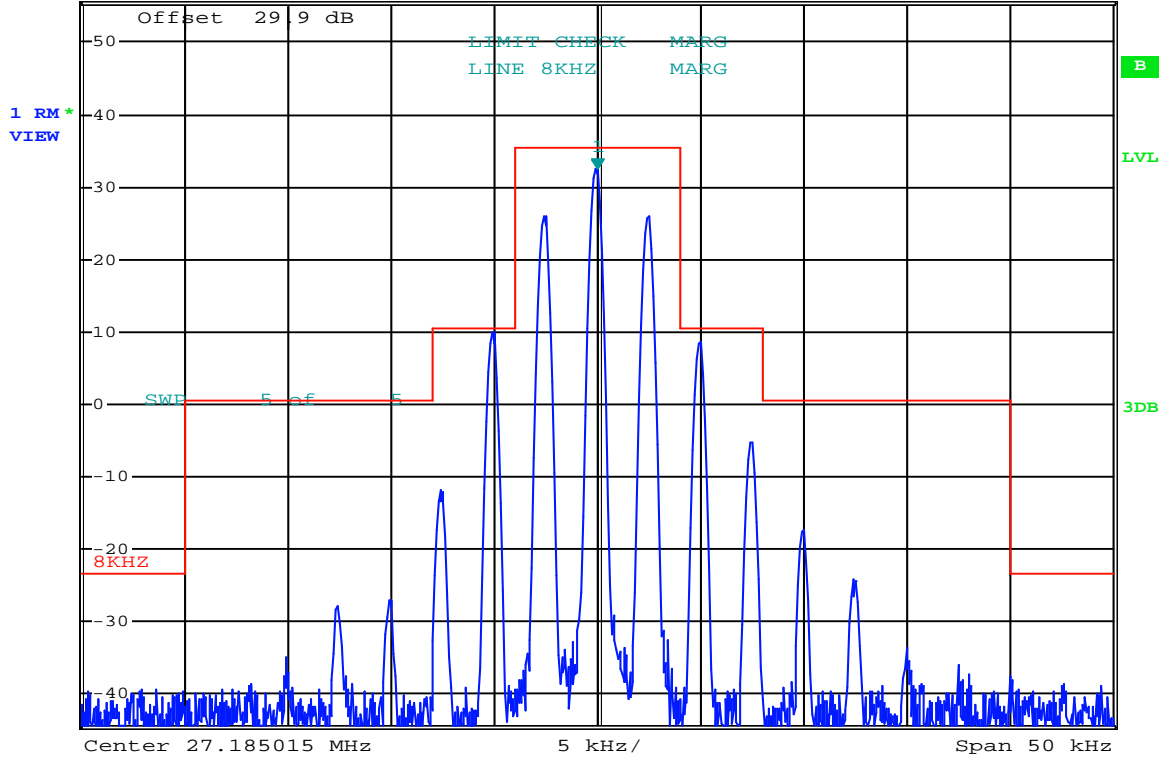
Set-Up Drawing



Occupied Bandwidth (Ch 19) w/ Emission Mask



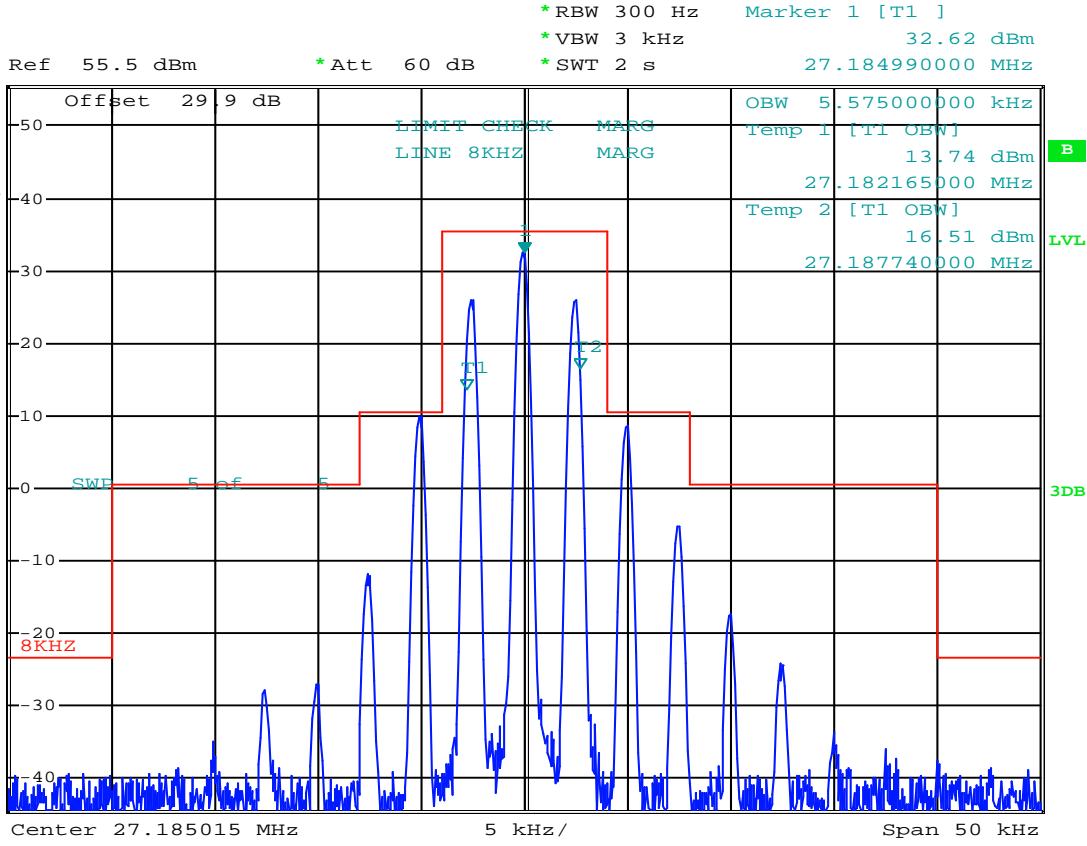
Ref 55.5 dBm *Att 60 dB *RBW 300 Hz Marker 1 [T1] 32.62 dBm
 *VBW 3 kHz 27.184990000 MHz
 *SWT 2 s



Date: 22.JAN.2016 10:01:53

Channel Frequency: (Ch 19):	27.185
Authorized Bandwidth §95.633(a), RSS-236 (5.3.2):	8kHz
Result:	Complies

99% Occupied Bandwidth (Ch 19) w/ Emission Mask



Date: 22.JAN.2016 10:02:44

Channel Frequency: (Ch 19):	27.185
Measured Occupied Bandwidth (99%) RSS-Gen:	5.6kHz
Authorized Bandwidth §95.633(a), RSS-236 (5.3.2):	8kHz

APPENDIX E - Spurious Emissions at the Antenna Terminal

Test Conditions

Normative Reference	FCC 47 CFR §2.1051, Part 95D, §95.635; RSS-236, 5.4.4, RSS-GEN
----------------------------	--

Limits

47 CFR 95D, §95.639 RSS-236, 5.4.4	53 + 10 Log (Po) = 59dBc, 60dBc ≥ twice the fundamental frequency.
---------------------------------------	--

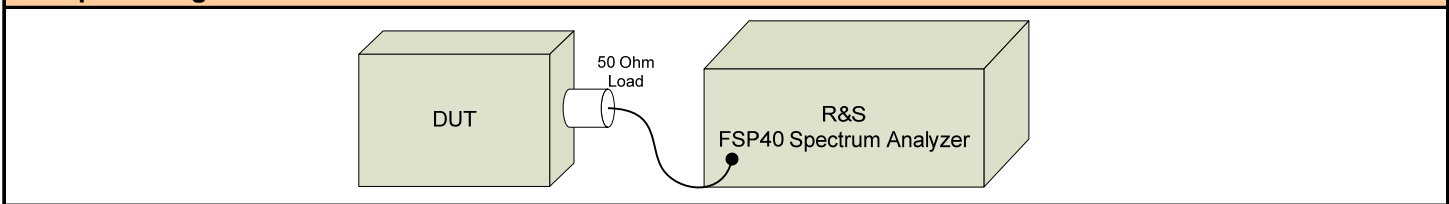
Environmental Conditions (Typical)

Temperature	25°C
Humidity	<60%
Barometric Pressure	101 +/- 3kPa

Equipment List

Asset Number	Manufacturer	Model Number	Description	Last Calibrated	Calibration Interval	Calibration Due
00241	R&S	FSU40	Spectrum Analyzer	23 Apr 2015	Biennial	23 Apr 2017

Set-Up Drawing



Conducted Spurious Emissions Ch 19



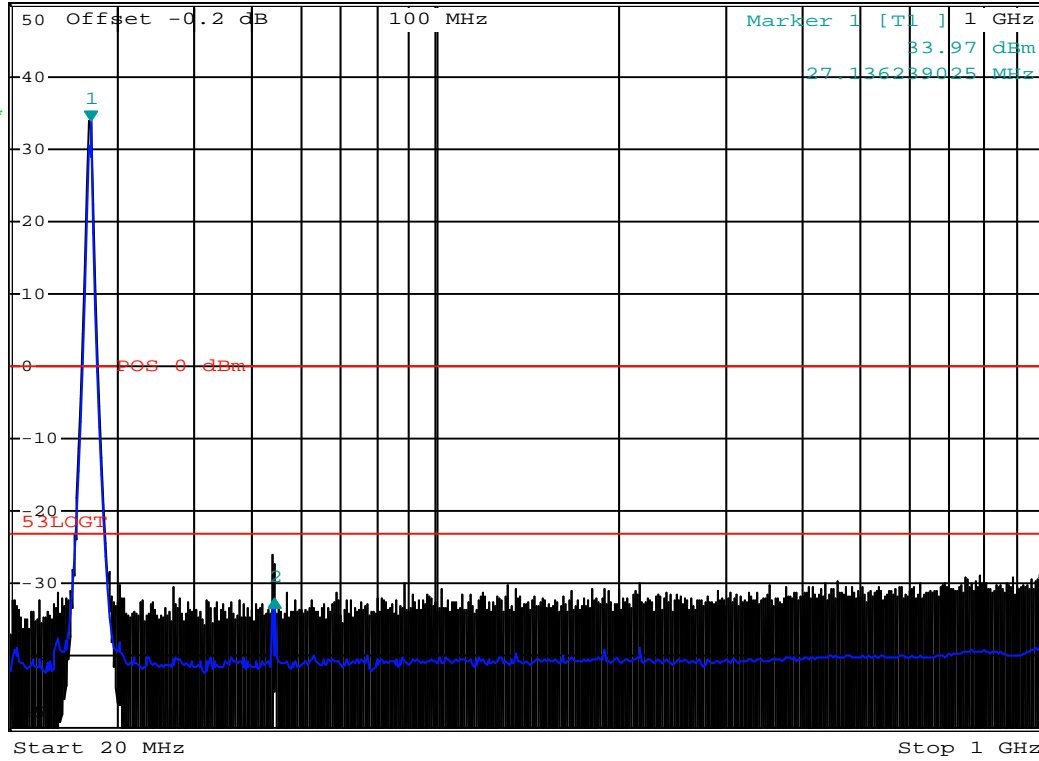
*RBW 300 kHz Delta 2 [T1]
 VBW 300 kHz -65.92 dB
 *Att 30 dB
 *SWT 500 ms 27.309803343 MHz

Ref 0 dBm

*Att 30 dB

1 RM*
MAXH

2 AP
CLRWR



Date: 15.JAN.2016 15:00:01

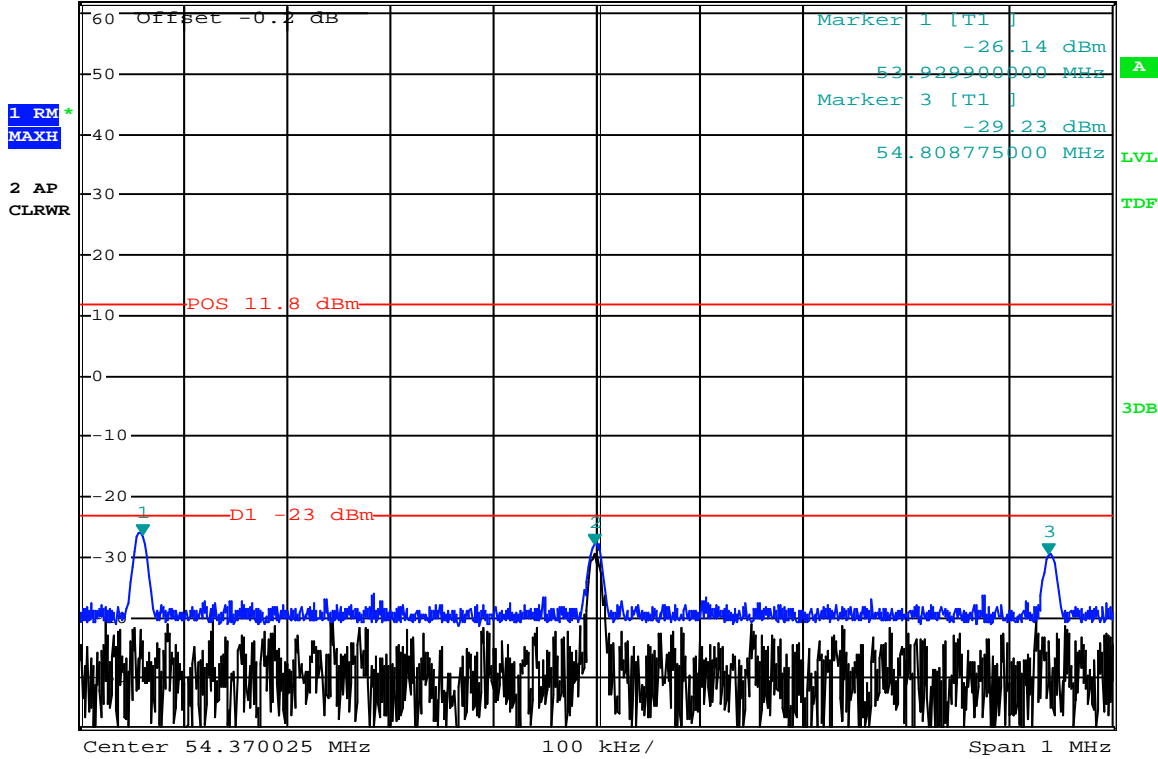
Plot for Reference Only

Frequency Span: 20MHz to 1GHz

Conducted Spurious Emissions Channels 1, 19, 40



Ref 11.8 dBm *Att 30 dB *RBW 10 kHz Marker 2 [T1] -27.81 dBm
 *VBW 10 kHz 54.368775000 MHz
 SWT 40 ms



Date: 15.JAN.2016 14:58:28

Plot for Reference Only

Frequency (MHz)	Measured Emission (dBm)	Limit (dBm)	Margin (dB)
53.9	-26.1	-23.0	3.1
54.4	-27.8	-23.0	4.8
54.8	-29.2	-23.0	6.2

No other emission detected beyond 2nd harmonic

Harmonic:	2nd
Minimum Attenuation §95.633(a), RSS-236 (5.3.2):	-23dBm
Minimum Attenuation Measured:	-26.1dBm
Margin:	3.1dB
Result:	Complies

APPENDIX F - Radiated Spurious Emissions

Test Conditions	
Normative Reference	FCC 47 CFR §2.1053, §95.635, §15B: RSS-236, 5.4, RSS-GEN
Procedure Reference	ANSI/TIA/EIA-382-A, ANSI C63.4

Limits	
FCC §95.635 RSS-236, 5.4	At least 53 + 10 log ₁₀ (T) dB on any frequency removed from the center, 60 dB twice removed from fundamental.

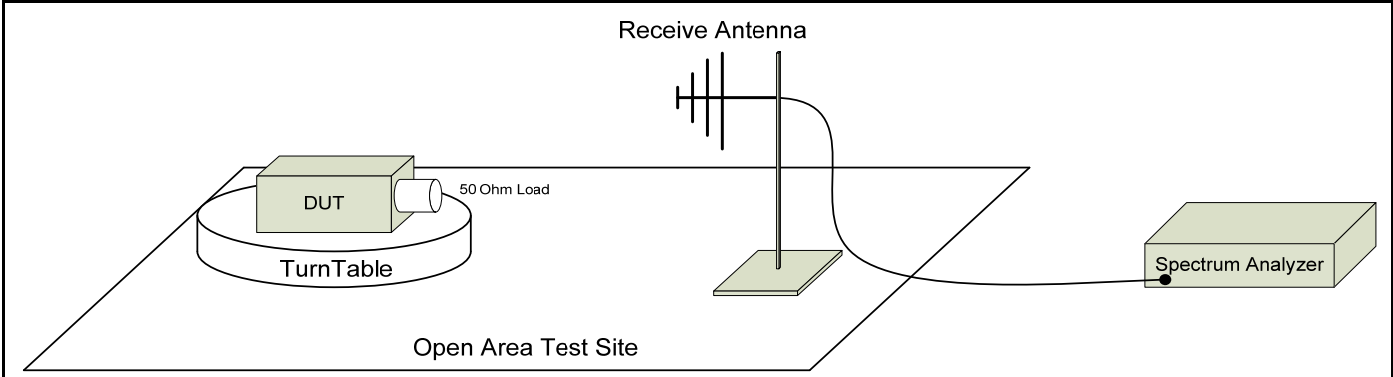
Environmental Conditions (Typical)	
Temperature	25°C
Humidity	<60%
Barometric Pressure	101 +/- 3kPa

Equipment List						
Asset Number	Manufacturer	Model Number	Description	Last Calibrated	Calibration Interval	Calibration Due
00051	HP	8566B	Spectrum Analyzer	30 Apr 2014	Biennial	30 Apr 2016
00049	HP	85650A	Quasi-peak Adapter	30 Apr 2014	Biennial	30 Apr 2016
00047	HP	85685A	RF Preselector	30 Apr 2014	Biennial	30 Apr 2016
00072	EMCO	2075	Mini-mast	n/a	n/a	n/a
00073	EMCO	2080	Turn Table	n/a	n/a	n/a
00071	EMCO	2090	Multi-Device Controller	n/a	n/a	n/a
00265	Miteq	JS32-00104000-58-5P	Microwave L/N Amplifier	COU	n/a	COU
00241	R&S	FSU40	Spectrum Analyzer	23 Apr 2015	Biennial	23 Apr 2017
00050	Chase	CBL-6111A	Bilog Antenna	25 Apr 2014	Biennial	25 Apr 2016
00275	Coaxis	LMR400	25m Cable	COU	n/a	COU
00276	Coaxis	LMR400	4m Cable	COU	n/a	COU
00278	TILE	34G3	TILE Test Software	NCR	n/a	NCR
00034	ETS	3115	Double Ridged Guide Horn	06 Dec 2012	Triennial	06 Dec 2015

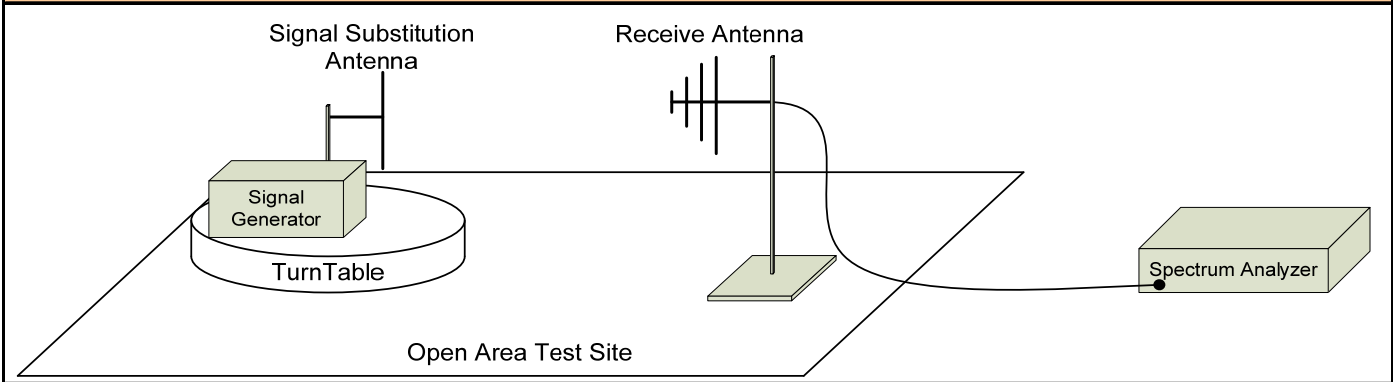
CNR: Calibration Not Required

COU: Calibrate On Use

Set-Up Drawing - DUT Measurement



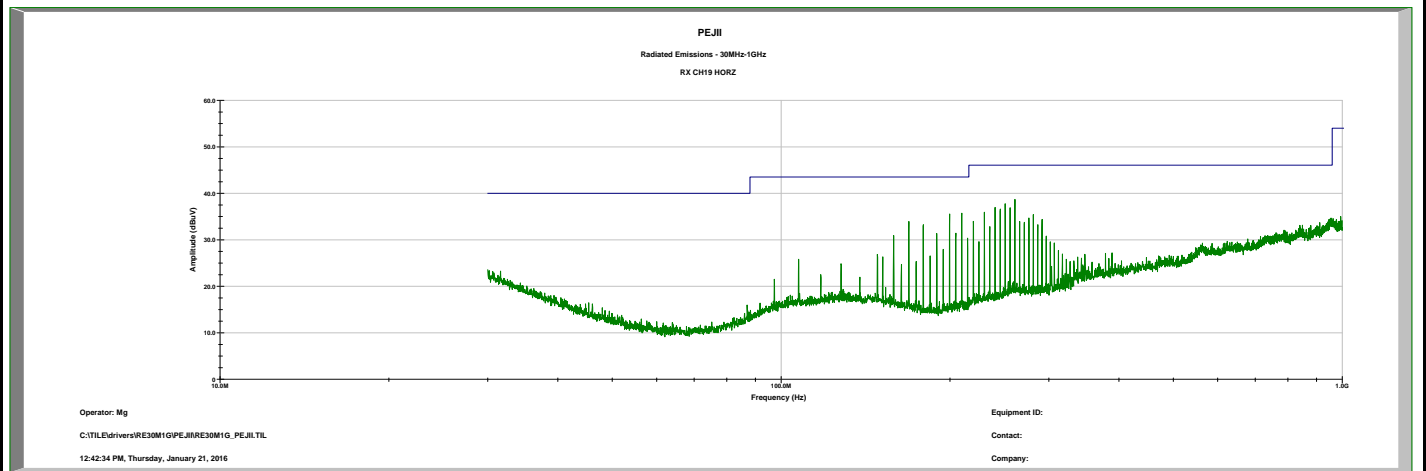
Set-Up Drawing - Signal Substitution Measurement



Notes:

The spectrum was searched from the lowest frequency generated in the device to the 10th harmonic of the fundamental.
 All detected emissions have been reported.
 The DUT was searched on all axis for worst case performance.
 Worst case emissions are reported.

Radiated Spurious Emissions (Rx)



Plot for Reference Only

Frequency (MHz)	Antenna Polarization	Emission Level @ 3m	Antenna Factor	Cable Loss	Substitution Method Correction	Corrected Emission @ 3m	Limit @ 3m	Margin
		[E _{Meas}] (dBuV/m)	[AF] (dB)	[L _{Cable}] (dB)	[L _{Sub}] (dB)	[E _{Corr}] (dBuV/m)	[E _{Lim}] (dBuV/m)	
180	H	15.1	9.3	1.6	n/a	26.0	43.5	17.5
200	H	17.1	10.0	1.7	n/a	28.8	43.5	14.7
210	H	16.8	10.5	1.7	n/a	29.0	43.5	14.5
220	H	19.8	10.4	1.7	n/a	31.9	46.0	14.1
230	H	21.3	11.0	1.8	n/a	34.1	46.0	11.9
240	H	24.2	11.9	1.8	n/a	37.9	46.0	8.1
251	H	22.5	12.8	1.8	n/a	37.1	46.0	8.9
261	H	25.8	14.1	1.9	n/a	41.8	46.0	4.2
180	V	16.4	9.8	1.6	n/a	27.8	43.5	15.7
200	V	18.6	10.1	1.7	n/a	30.4	43.5	13.1
210	V	14.6	10.5	1.7	n/a	26.8	43.5	16.7
220	V	17.5	10.9	1.7	n/a	30.1	46.0	15.9
230	V	23.8	11.4	1.8	n/a	37.0	46.0	9.0
240	V	23.6	11.8	1.8	n/a	37.2	46.0	8.8
251	V	19.8	12.5	1.8	n/a	34.1	46.0	11.9
261	V	22.1	13.5	1.9	n/a	37.5	46.0	8.5

$$E_{Corr} = E_{Meas} + AF + L_{Cable} + L_{Sub}$$

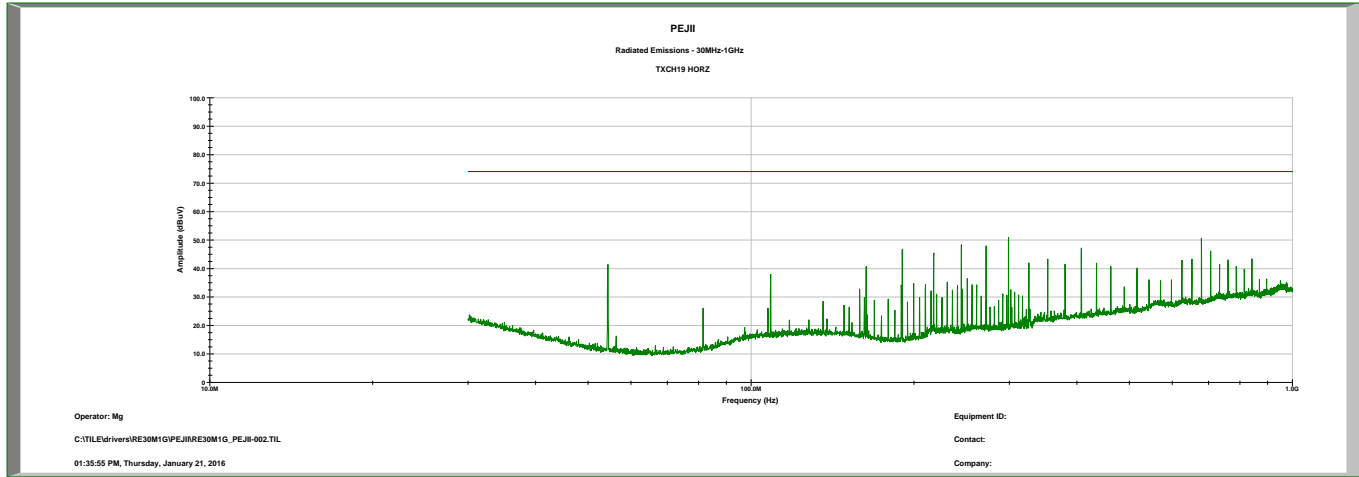
$$Margin = E_{Lim} - E_{Corr}$$

Result: Complies

Notes

- Worst-case emissions shown
- The device was searched to the 10th harmonic of the fundamental (270 MHz)
- Data presented may use a peak detector and compared to quasi-peak limit
- All detected emissions have been reported

Radiated Spurious Emissions (Tx) Channel 19



Plot for Reference Only

Frequency	Antenna Polarization	Emission Level @ 3m [E _{Meas}] (dBuV/m)	Antenna Factor [AF] (dB)	Cable Loss [L _{Cable}] (dB)	Substitution Method Correction [L _{Sub}] (dB)	Correction dBuV/m @3m to dBm [F _{Corr}] (dBuV/m)	Corrected Emission @ 3m [E _{Corr}] (dBuV/m)	Limit @ 3m [E _{Lim}] (dBuV/m)	Margin (dB)
54	H	41.4	7.4	0.8	0.5	97.4	-47.3	-24.0	23.3
81	H	26.6	8.0	0.8	-0.7	97.4	-62.7	-24.0	38.7
108	H	37.6	11.5	0.9	0.2	97.4	-47.2	-24.0	23.2
135	H	28.4	12.6	1.0	1.7	97.4	-53.7	-24.0	29.7
54	V	41.6	7.3	0.8	1.9	97.4	-45.8	-24.0	21.8
81	V	27.8	7.4	0.8	0.2	97.4	-61.2	-24.0	37.2
108	V	34.9	12.0	0.9	0.4	97.4	-49.2	-24.0	25.2
135	V	34.6	12.9	1.0	1.5	97.4	-47.4	-24.0	23.4

$$E_{Corr} = E_{Meas} + AF + L_{Cable} + L_{Sub} - F_{Corr}$$

$$Margin = E_{Lim} - E_{Corr}$$

Result: Complies

No Emissions within 20dB of limit detected

Notes

- Worst-case emissions shown
- The device was searched to the 10th harmonic of the fundamental (270 MHz)
- Data presented may use a peak detector and compared to quasi-peak limit
- All detected emissions have been reported

APPENDIX G - Frequency Stability

Test Conditions

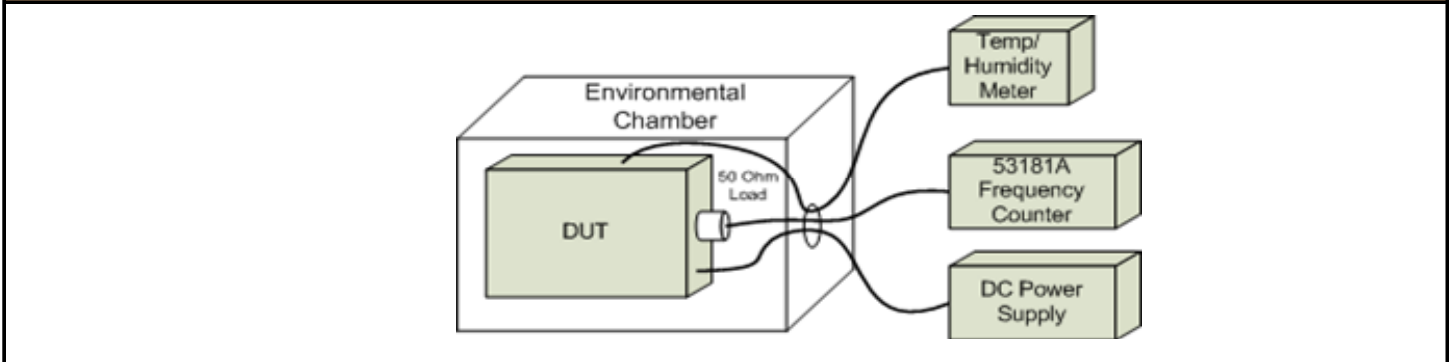
Normative Reference	FCC 47 CFR §2.1055, §95.625, RSS-GEN
----------------------------	--------------------------------------

Limits	
FCC §95.625	The channel center must be maintained within a frequency tolerance of 0.005%.

Test Conditions	
Temperature	-30°C to +50°C at 10°C Increments
Humidity	<100% Non Condensating
Voltage (VDC)	11.7(85%) - 13.8 - 15.9(115%), 23.5(85%) - 27.6 - 31.7(115%)

Equipment List						
Asset Number	Manufacturer	Model Number	Description	Last Calibrated	Calibration Interval	Calibration Due
n/a	ESPEC	ECT-2	Environmental Chamber	CNR	n/a	CNR
00003	HP	53181A	Frequency Counter	28 Apr 2014	Biennial	28 Apr 2016
n/a	HP	E3611A	Power Supply	COU	n/a	COU
00234	VWR	61161-378	Temp/Humidity Meter	New	Annual	08 May 2016

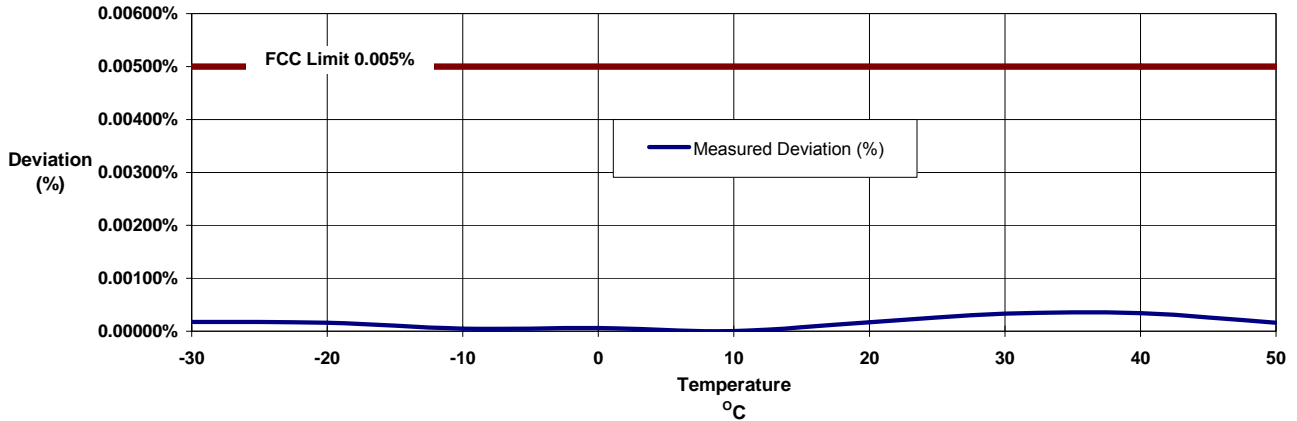
Set-Up Drawing



Frequency Stability

Nominal Frequency (MHz):	26.965
Nominal Channel BW (KHz):	8.0
Nominal Voltage (VDC):	13.8
Nominal Temperature (°C):	25

**Frequency Stability
President Electronics
Johnson II**



Frequency Stability Measurements (Temperature)				
Temp (°C)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Deviation (Hz)	Deviation (%)
-30	26.965000	26.964952	48	0.00018%
-20	26.965000	26.964957	43	0.00016%
-10	26.965000	26.964987	13	0.00005%
0	26.965000	26.964984	16	0.00006%
10	26.965000	26.965002	2	0.00001%
20	26.965000	26.964954	46	0.00017%
30	26.965000	26.964910	90	0.00033%
40	26.965000	26.964908	92	0.00034%
50	26.965000	26.964957	43	0.00016%
Maximum Deviation:				0.00034%
Maximum Limit:				0.00500%
Result:				Complies

Frequency Stability Measurements (Voltage)				
Voltage (VDC)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Deviation (Hz)	Deviation (%)
15.9 (115%)	26.965000	26.964954	46	0.00017%
13.8 (100%)	26.965000	26.964954	46	0.00017%
11.7 (85%)	26.965000	26.964952	48	0.00018%
Maximum Deviation:				0.00018%
Maximum Limit:				0.00500%
Result:				Complies

END OF DOCUMENT