UL LLC
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Northbrook, IL 60062

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Order Number: 10105496

Date: February 5, 2014

Model: CJ501L5
(PCB Model 1D8075)

Electromagnetic Compatibility Test Report

For

Chamberlain Group Inc.

Test Report Details

Tests Performed By:	**UL LLC** **333 Pfingsten Rd.** **Northbrook, IL 60062**
Tests Performed For:	**Chamberlain Group Inc.** **845 Larch Av** **Elmhurst, IL 60126**
Applicant Contact: Phone: E-mail:	**Hank Sieradzki** **(630) 993-6564** **Hank.Sieradzki@chamberlaingroup.com**
Test Report Date:	**February 5, 2014**
Product Type:	**Wireless Device**
Product standards	**47 CFR Part 15, Subpart C, RSS-210, RSS-Gen**
Model Number:	**CJ501L5 (PCB Model 1D8075)**
EUT Category:	**Wireless Device**
Testing Start Date:	**January 7, 2014**
Date Testing Complete:	**January 21, 2014**
Overall Results:	**Compliant**

UL LLC reports apply only to the specific samples tested under stated test conditions. All samples tested were in good operating condition throughout the entire test program. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. UL LLC shall have no liability for any deductions, inferences or generalizations drawn by the client or others from UL LLC issued reports. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

This report may contain test results that are not covered by the NVLAP or A2LA accreditation. The scope of accreditation is limited to the specific tests that are listed on the NVLAP and/or A2LA websites referenced at the end of this report.

Report Directory

Report Revision History

Revision Date	Description	Revised By	Revision Reviewed By
-			

1.0 G E N E R A L - Product Description

1.1 Equipment Description

The Equipment Under Test is a Commercial Door Operator (CDO) with 900MHz FHSS Transceiver.

1.2 Device Configuration During Test

1.2.1 Equipment Used During Test:

Use	Product Type	Manufacturer	Model	Comments
EUT	Commercial Door Operator	Chamberlain	CJ501L5	(PCB Model 1D8075)
AE	Pushbutton control	Chamberlain	Generic	None
AE	Edge Sensor	Chamberlain	SMP13610	None

Note: **EUT** – Equipment Under Test, **AE** – Auxiliary/Associated Equipment, or **SIM** – Simulator (Not Subjected to Test)

1.2.2 Input/Output Ports:

Port #	Name	Type*	Cable Max. >3m (Y/N)	Cable Shielded (Y/N)	Comments
0	Enclosure	N/E	—	—	None
1	Mains	AC	N	N	None
2	Pushbutton Control	I/O	Y	N	None
3	Edge Sensor Cable	I/O	Y	N	None

Note:
AC = AC Power Port DC = DC Power Port N/E = Non-Electrical
I/O = Signal Input or Output Port (Not Involved in Process Control)
TP = Telecommunication Ports

1.2.3 Power Interface:

Mode # /Rated	Voltage (V)	Current (A)	Power (W)	Frequency (DC/AC-Hz)	Phases (#)	Comments
1	120	-	-	AC - 60Hz	1	

1.3 EUT Configurations

Mode #	Description
1	EUT was setup on 80 cm support, connected to power source and set to transmit in specific mode.
2	EUT was placed on bench top, connected to power. The 900MHz RF output was terminated into standard RF connector and it was connected to spectrum analyzer.

1.4 EUT Operation Modes

Mode #	Description
1	EUT in TX Mode on either low, middle or high channels.
2	EUT set to RX mode scanning all periodic transmitter frequency and 900MHz FHSS transmitter frequency for signals.

1.5 Rational for EUT Configuration

Mode #	Description
1	It was configured with accessories attached in typical wall mount orientation.

2.0 Summary

The tests listed in the Summary of Testing section of this report have been performed and the results recorded by UL LLC in accordance with the procedures stated in each test requirement and specification. The applicant determined the list of tests performed were applicable to the Equipment Under Test. As a result, the subject product has been verified to comply or not comply as noted in the Summary of Testing with each test specification. The test results relate only to the items tested.

2.1 Deviations from standard test methods

None

2.2 Device Modifications Necessary for Compliance

None

2.3 Reference Standards

Standard Number	Standard Name	Standard Date
RSS-210	Spectrum Management and Telecommunications Radio Standards Specification Licence-exempt Radio Apparatus (All Frequency Bands): Category I Equipment	Issue 8
RSS-Gen	Spectrum Management and Telecommunications Radio Standards Specification General Requirements and Information for the Certification of Radio Apparatus	Issue 3
47 CFR Part 15, Subpart C	Radio Frequency Devices	2012
Additional guidance used FCC Document: DA 00-705		

2.4 Results Summary

Requirement – Test	References	Result (Compliant / Non-Compliant)*
Mains Terminal – Conducted Emissions	47 CFR Part 15.107, 15.207 RSS-Gen 7.2.4	Compliant
Digital Radiated Emissions	47 CFR Part 15.109	Compliant
Spurious Emissions (Antenna Conducted and Radiated)	47 CFR Part 15.247(d) RSS-210, A8.5 RSS-Gen 7.2.5	Compliant
Bandedge Compliance	47 CFR Part 15.247(d) RSS-210, A8.5	Compliant
Carrier Frequency Separation	47 CFR Part 15.247(a)(1) RSS-210, A8.1(b)	Compliant
Number of Hopping Frequencies	47 CFR Part 15.247(a)(1)(i) RSS-210, A8.1(c)	Compliant
Dwell time and Duty Cycle	47 CFR Part 15.247(a)(1)(i) RSS-210, A8.1(c)	Compliant
20dB Bandwidth and 99% Bandwidth	47 CFR Part 15.247(a)(2) RSS-210, A8.1(a) RSS-Gen, 4.6.1	Compliant
Maximum Peak Output Power	47 CFR Part 15.247(b)(2) RSS-210, A8.4(1)	Compliant

Test Engineer:

Bartlomiej Mucha (Ext.41216)
WiSE Staff Engineer
Wireless, Interoperability, payment Security, & EMC
Verification Services

Reviewer:

Michael Ferrer(Ext.41312)
WiSE Project Lead
Wireless, Interoperability, payment Security, & EMC
Verification Services

3.0 Calibration of Equipment Used for Measurement

All test equipment and test accessories are calibrated on a regular basis. The maximum time between calibrations is one year or the manufacturers' recommendation, whichever is less.

All test equipment calibrations are traceable to the National Institute of Standards and Technology (NIST); therefore, all test data recorded in this report is traceable to NIST.

4.0 EMISSIONS TEST RESULTS

The emissions tests were performed according to following regulations:

---------- US ----------
47 CFR Part 15

---------- Canada ----------
RSS-210 and RSS-Gen

Unless specified otherwise in the individual Methods, the tests shall be conducted under the following ambient conditions. Confirmation of these conditions shall be verified at the time the test is conducted.

Ambient Temperature, °C	22.5 ± 2.5	Relative Humidity, %	45 ± 15	Barometric Pressure, mBar	950 ± 150

Sample Calculations
Radiated Field Strength and Conducted Emissions data contained within this report is calculated on the following basis:

Field Strength (dBuV/m) = Meter Reading (dBuV) + AF (dB/m) - Gain (dB) + Cable Loss (dB)
Conducted Voltage (dBuV) = Meter Reading (dBuV) + Cable Loss (dB) + LISN IL (dB)
Conducted Current (dBuA) = Meter Reading (dBuV) + Cable Loss (dB) - Transducer Factor (dBohms)

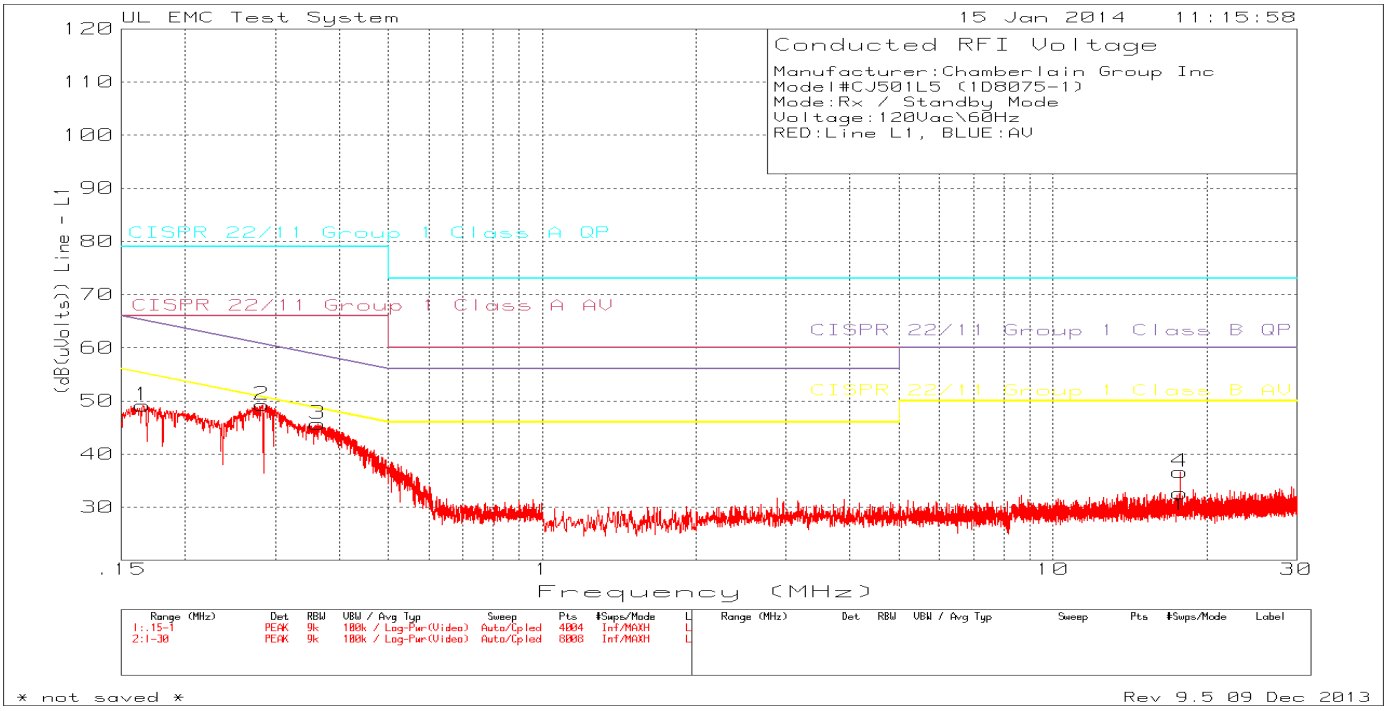
4.1 Test Conditions and Results – MAINS TERMINAL – CONDUCTED EMISSIONS

Test Description	Measurements were made on a ground plane. All power was connected to the system through Artificial Mains Network (AMN). Conducted voltage measurements on mains lines were made at the output of the AMN.		
Basic Standard		47 CFR Part 15.207, RSS-Gen 7.2.4	
UL LPG		80-EM-S0026	
		Frequency range on each side of line	Measurement Point
Fully configured sample scanned over the following frequency range		150kHz to 30MHz	Mains
Limits - Class B			
Frequency (MHz)	Limit (dBµV)		
	Quasi-Peak	Average	
0.15-0.5	66 to 56	56 to 46	
0.5-5	56	46	
5-30	60	50	
Supplementary information: None			

Table 1 Conducted Emissions EUT Configuration Settings

Power Interface Mode #	EUT Configurations Mode #	EUT Operation Mode #
1	1	1 and 2
Supplementary information: None		

Figure 1 Conducted Emissions Graph (RX / Standby Mode)



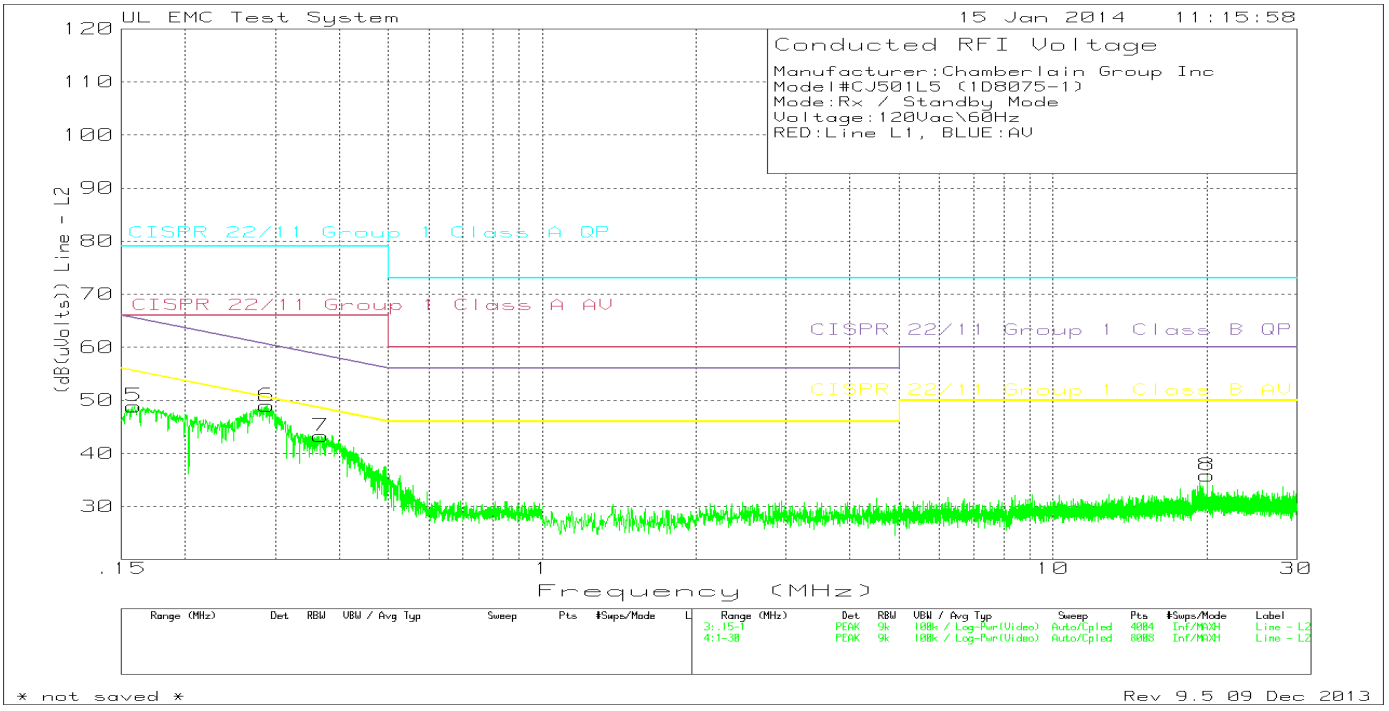


Table 2 Conducted Emissions Data Points (RX / Standby Mode)

Manufacturer:Chamberlain Group Inc
Model#CJ501L5 (1D8075-1)
Mode:Rx / Standby Mode
Voltage:120Vac\60Hz
RED:Line L1, BLUE:AV

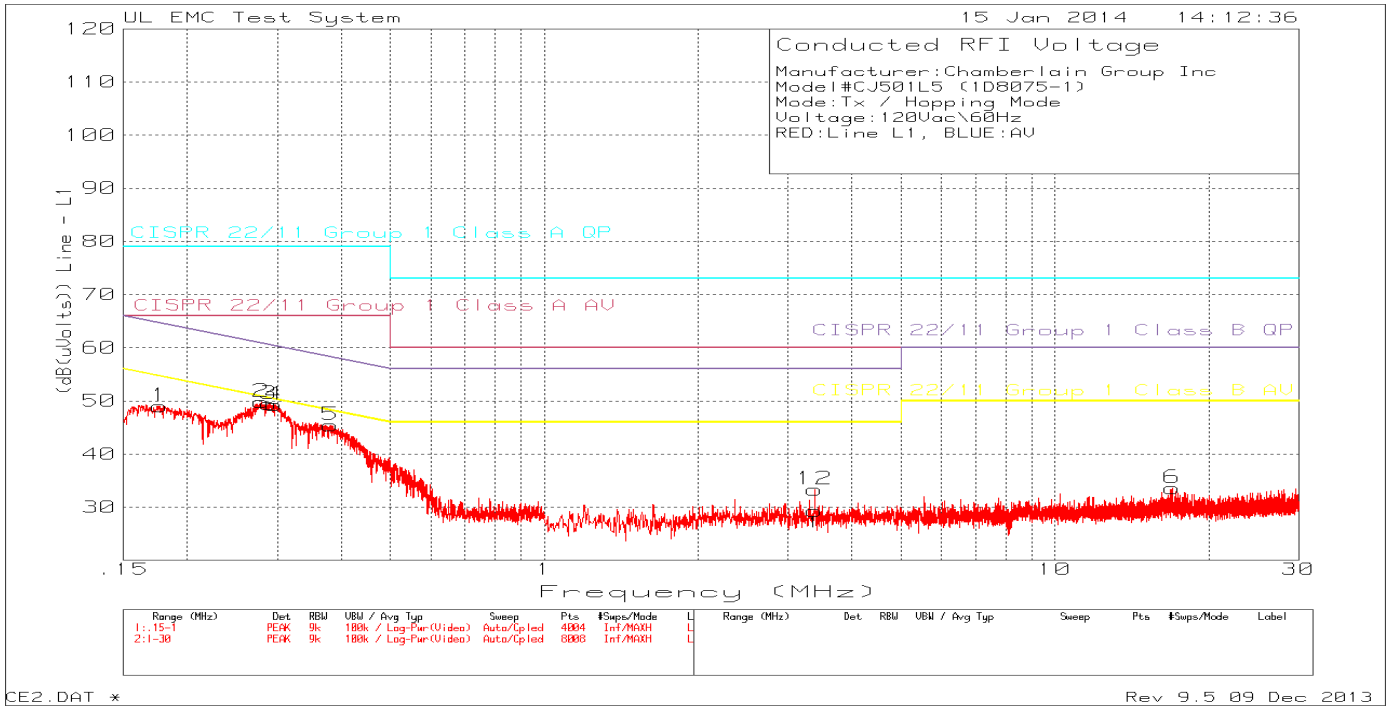
Trace Markers

No.	Test Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading	Limit:1 (dB(uVolts))	2	3	4	5	6
Line - L1											
1	.16508	35.68dBuV PK	.1	13.4	49.18	79	66	65.2	55.2	-	-
					Margin (dB)	-29.82	-16.82	-16.02	-6.02	-	-
2	.28293	38.18dBuV PK	.1	11	49.28	79	66	60.73	50.73	-	-
					Margin (dB)	-29.72	-16.72	-11.45	-1.45	-	-
3	.36372	34.83dBuV PK	.1	10.8	45.73	79	66	58.64	48.64	-	-
					Margin (dB)	-33.27	-20.27	-12.91	-2.91	-	-
4	17.7057	25.17dBuV PK	.2	11.3	36.67	73	60	60	50	-	-
					Margin (dB)	-36.33	-23.33	-23.33	-13.33	-	-
Line - L2											
5	.15871	34.92dBuV PK	.1	13.9	48.92	79	66	65.53	55.53	-	-
					Margin (dB)	-30.08	-17.08	-16.61	-6.61	-	-
6	.28866	37.85dBuV PK	.1	11	48.95	79	66	60.56	50.56	-	-
					Margin (dB)	-30.05	-17.05	-11.61	-1.61	-	-
7	.36956	32.34dBuV PK	.1	10.8	43.24	79	66	58.51	48.51	-	-
					Margin (dB)	-35.76	-22.76	-15.27	-5.27	-	-
8	20.0617	23.91dBuV PK	.4	11.5	35.81	73	60	60	50	-	-
					Margin (dB)	-37.19	-24.19	-24.19	-14.19	-	-

LIMIT 1: CISPR 22/11 Group 1 Class A QP
LIMIT 2: CISPR 22/11 Group 1 Class A AV
LIMIT 3: CISPR 22/11 Group 1 Class B QP
LIMIT 4: CISPR 22/11 Group 1 Class B AV

PK - Peak detector

Figure 2 Conducted Emissions Graph (TX / Hopping Mode)



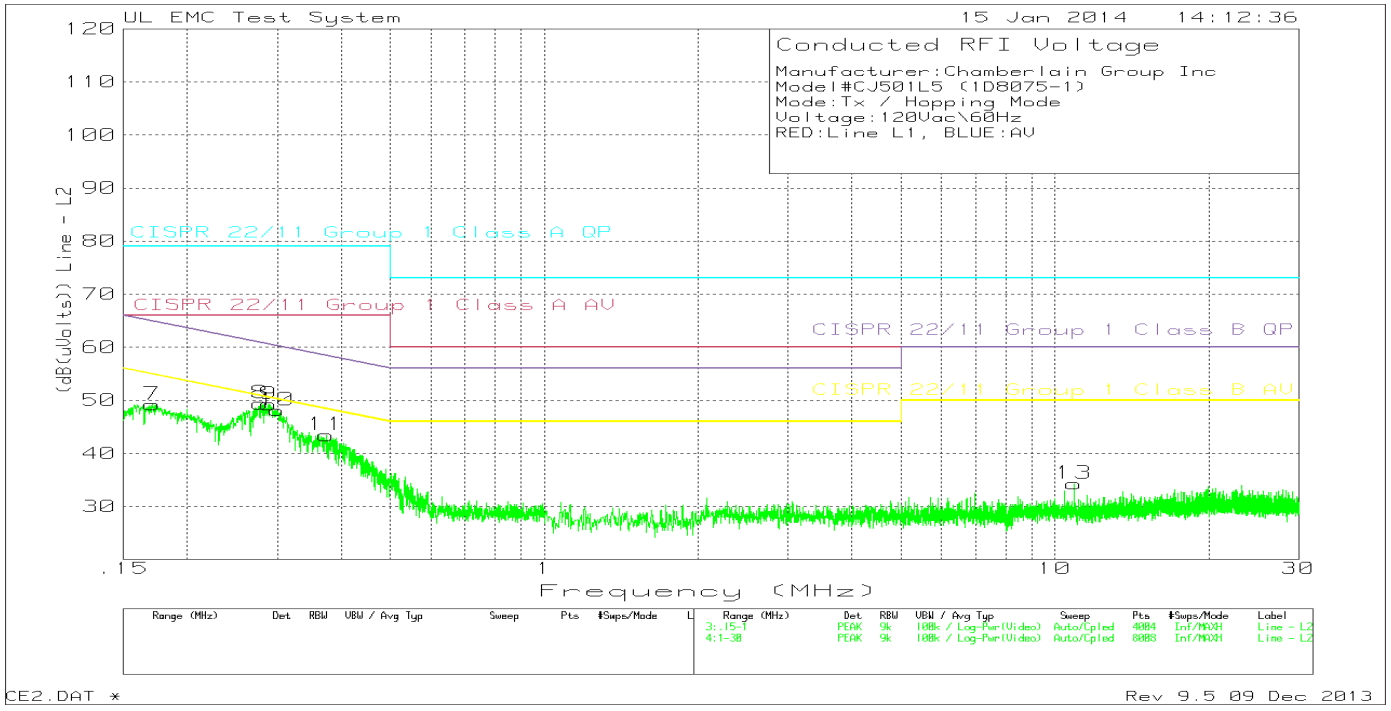


Table 3 Conducted Emissions Data Points (TX / Standby Mode)

Manufacturer:Chamberlain Group Inc
Model#CJ501L5 (1D8075-1)
Mode:Tx / Hopping Mode
Voltage:120Vac\60Hz
RED:Line L1, BLUE:AV

Trace Markers

No.	Test Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading (dB(uVolts))	Limit:1	2	3	4	5	6
Line - L1											
1	.17676	36.56dBuV PK	.1	12.4	49.06	79	66	64.64	54.64	-	-
					Margin (dB)	-29.94	-16.94	-15.58	-5.58	-	-
2	.27889	38.74dBuV PK	.1	11	49.84	79	66	60.85	50.85	-	-
					Margin (dB)	-29.16	-16.16	-11.01	-1.01	-	-
3	.28866	38.46dBuV PK	.1	10.9	49.46	79	66	60.56	50.56	-	-
					Margin (dB)	-29.54	-16.54	-11.1	-1.1	-	-
4	.2963	38.29dBuV PK	.1	10.9	49.29	79	66	60.35	50.35	-	-
					Margin (dB)	-29.71	-16.71	-11.06	-1.06	-	-
5	.38209	34.48dBuV PK	.1	10.8	45.38	79	66	58.23	48.23	-	-
					Margin (dB)	-33.62	-20.62	-12.85	-2.85	-	-
6	17.00125	22.15dBuV PK	.2	11.3	33.65	73	60	60	50	-	-
					Margin (dB)	-39.35	-26.35	-26.35	-16.35	-	-
12	3.38317	22.59dBuV PK	.1	10.6	33.29	73	60	56	46	-	-
					Margin (dB)	-39.71	-26.71	-22.71	-12.71	-	-
Line - L2											
7	.1706	36.11dBuV PK	.1	13	49.21	79	66	64.93	54.93	-	-
					Margin (dB)	-29.79	-16.79	-15.72	-5.72	-	-
8	.27847	38.34dBuV PK	.1	11	49.44	79	66	60.86	50.86	-	-
					Margin (dB)	-29.56	-16.56	-11.42	-1.42	-	-
9	.28972	38.13dBuV PK	.1	11	49.23	79	66	60.53	50.53	-	-
					Margin (dB)	-29.77	-16.77	-11.3	-1.3	-	-
10	.29991	37.14dBuV PK	.1	10.9	48.14	79	66	60.25	50.25	-	-
					Margin (dB)	-30.86	-17.86	-12.11	-2.11	-	-
11	.37444	32.53dBuV PK	.1	10.8	43.43	79	66	58.4	48.4	-	-
					Margin (dB)	-35.57	-22.57	-14.97	-4.97	-	-
13	10.89484	23.12dBuV PK	.2	11	34.32	73	60	60	50	-	-
					Margin (dB)	-38.68	-25.68	-25.68	-15.68	-	-

LIMIT 1: CISPR 22/11 Group 1 Class A QP
LIMIT 2: CISPR 22/11 Group 1 Class A AV
LIMIT 3: CISPR 22/11 Group 1 Class B QP
LIMIT 4: CISPR 22/11 Group 1 Class B AV

PK - Peak detector

4.2 Test Conditions and Results – DIGITAL RADIATED EMISSIONS

Test Description	Measurements were made in a 10-meter semi-anechoic chamber that complies to CISPR 16/ANSI C63.4:2003. Preliminary (peak) measurements were performed at an antenna to EUT separation distance of 10meter. The EUT was rotated 360° about its azimuth with the receive antenna located at various heights in both horizontal and vertical polarities. Final measurements (quasi-peak or average as noted) were then performed by rotating the EUT 360° and adjusting the receive antenna height from 1 to 4-meters. All frequencies were investigated in both horizontal and vertical antenna polarity, where applicable.		
Basic Standard	47 CFR Part 15.109 / ICES-003		
UL LPG	80-EM-S0029		
	Frequency range	Measurement Point	
Fully configured sample scanned over the following frequency range	30MHz – 5GHz	10 m distance	

Limits - Class B

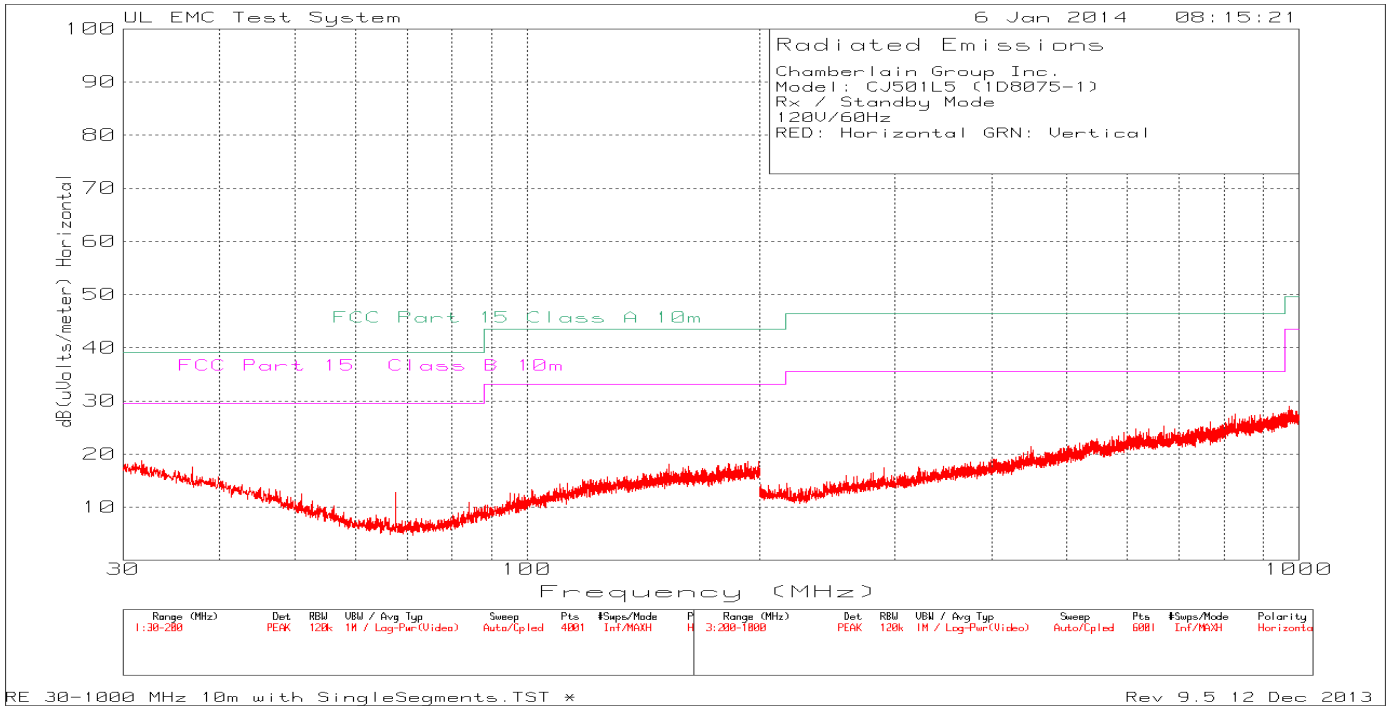
Frequency (MHz)	Limit (dBµV/m)	
	Quasi-Peak	Average
30 – 88	29.54	NA
88 – 216	33.06	NA
216 – 960	35.56	NA
960 – 1,000	43.52	NA

Supplementary information: FCC Part 15, subpart B, class B limits were extrapolated to 10 meter distance.

Table 4 Radiated Emissions EUT Configuration Settings

Power Interface Mode #	EUT Configurations Mode #	EUT Operation Mode #
1	1	2
Supplementary information: None		

Figure 3 Receive Mode 30MHz-1GHz Radiated Emissions Graph



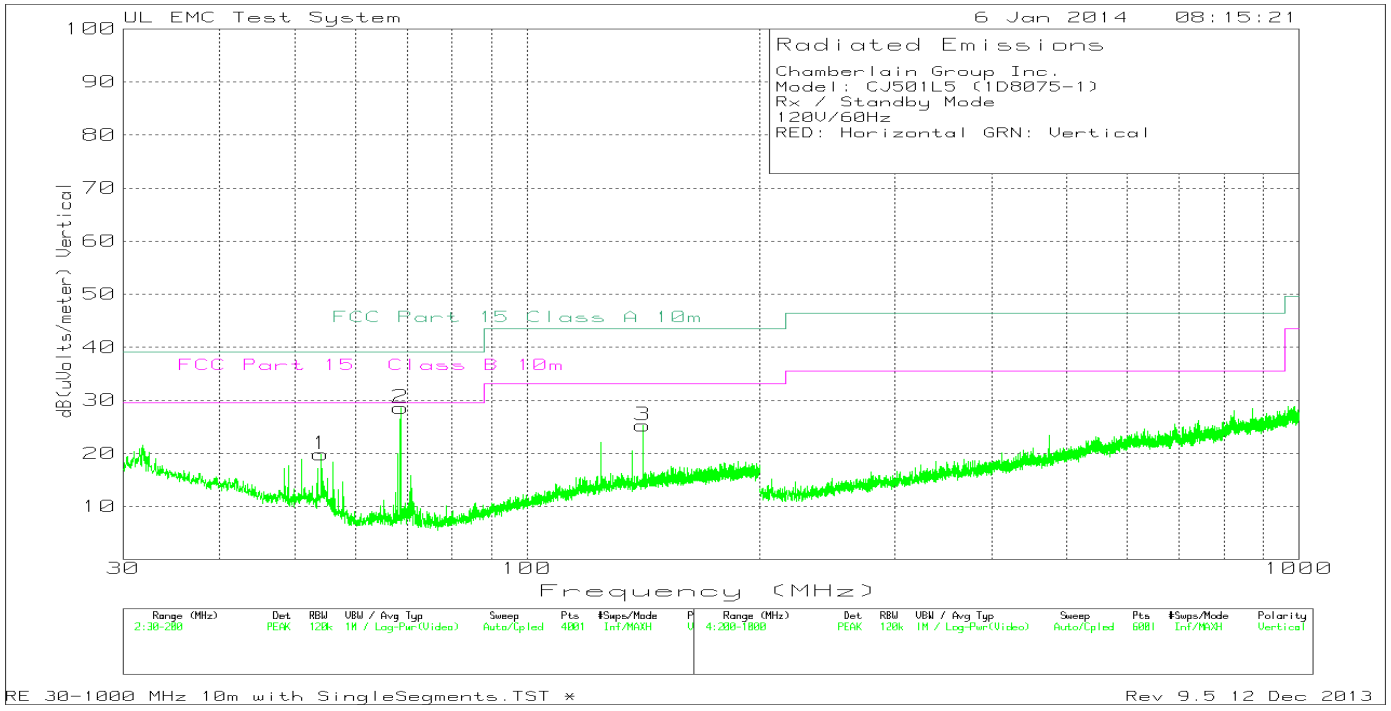


Table 5 Receive Mode 30MHz-1GHz Radiated Emissions Data Points

Chamberlain Group Inc.
Model: CJ501L5 (1D8075-1)
Rx / Standby Mode
120V/60Hz
RED: Horizontal GRN: Vertical

Trace Markers

No.	Test Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading	Limit:1 dB(uVolts/meter)	2	3	4	5	6
1	54.14	41.41dBuV PK	8.4	-30	19.81	-	-	39.08	29.55	-	-
		Azimuth:0-360	Height:99 Vert		Margin (dB)	-	-	-19.27	-9.74	-	-
2	68.5475	52.54dBuV PK	6.1	-30	28.64	-	-	39.08	29.55	-	-
		Azimuth:0-360	Height:250 Vert		Margin (dB)	-	-	-10.44	-.91	-	-
3	141.435	40.66dBuV PK	14.3	-29.7	25.26	-	-	43.52	33.07	-	-
		Azimuth:0-360	Height:250 Vert		Margin (dB)	-	-	-18.26	-7.81	-	-

Radiated Emission Data

Test Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading	Limit:1 dB(uVolts/meter)	2	3	4	5	6
68.54	27.03dBuV QP	6.1	-30	3.13	-	-	39.08	29.55	-	-
Azimuth: 110	Height:179 Vert			Margin (dB):	-	-	-35.95	-26.42	-	-

LIMIT 3: FCC Part 15 Class A 10m
LIMIT 4: FCC Part 15 Class B 10m

PK - Peak detector
QP - Quasi-Peak detector

4.3 Test Conditions and Results – SPURIOUS EMISSIONS (Antenna Conducted and Radiated)

Test Description	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 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the 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. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, 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) (see Section15.205(c)). For Radiated Emissions above 1GHz the RBW/VBW=1MHz/3MHz for Peak Measurements and RBW/VBW 1MHz/10Hz for Average measurements.

Basic Standard	47 CFR Part 15.247(d) RSS-210, A8.5 RSS-Gen 7.2.1 and 7.2.3

	Frequency range	Measurement Point
Fully configured sample scanned over the following frequency range	30MHz – 1GHz	3 meter distance and / or antenna port
Fully configured sample scanned over the following frequency range	1GHz – 10GHz	3 meter distance and / or antenna port

Limits (Antenna Conducted)

All emissions must be 20dB below the level of the fundamental frequency. For all antenna port measurements the SA input was changed to 75 Ohms

Limits (Radiated – Restricted Bands Only)

Frequency (MHz)	Limit (dBµV/m)		
	Quasi-Peak	Average	
	General Emissions	Fundamental	Spurious
30 – 88	29.54	-	-
88 – 216	33.06	-	-
216-960	35.56	-	-
960-1000	43.52	-	-
1,000-25,000	-	-	54

Supplementary information: Below 1GHz, spectrum was checked. All emissions related to the transmitter below 1GHz are not in the restricted band therefore only antenna conducted limits apply (20dB below the peak level of the fundamental).

Table 6 SPURIOUS EMISSIONS EUT Configuration Settings

Power Interface Mode #	EUT Configurations Mode #	EUT Operation Mode #
1	1 and 2	1 and 2
Supplementary information: None		

Figure 4 30MHz-10GHz Antenna Port Spurious Emissions Plot TX Mode, Low Channel.

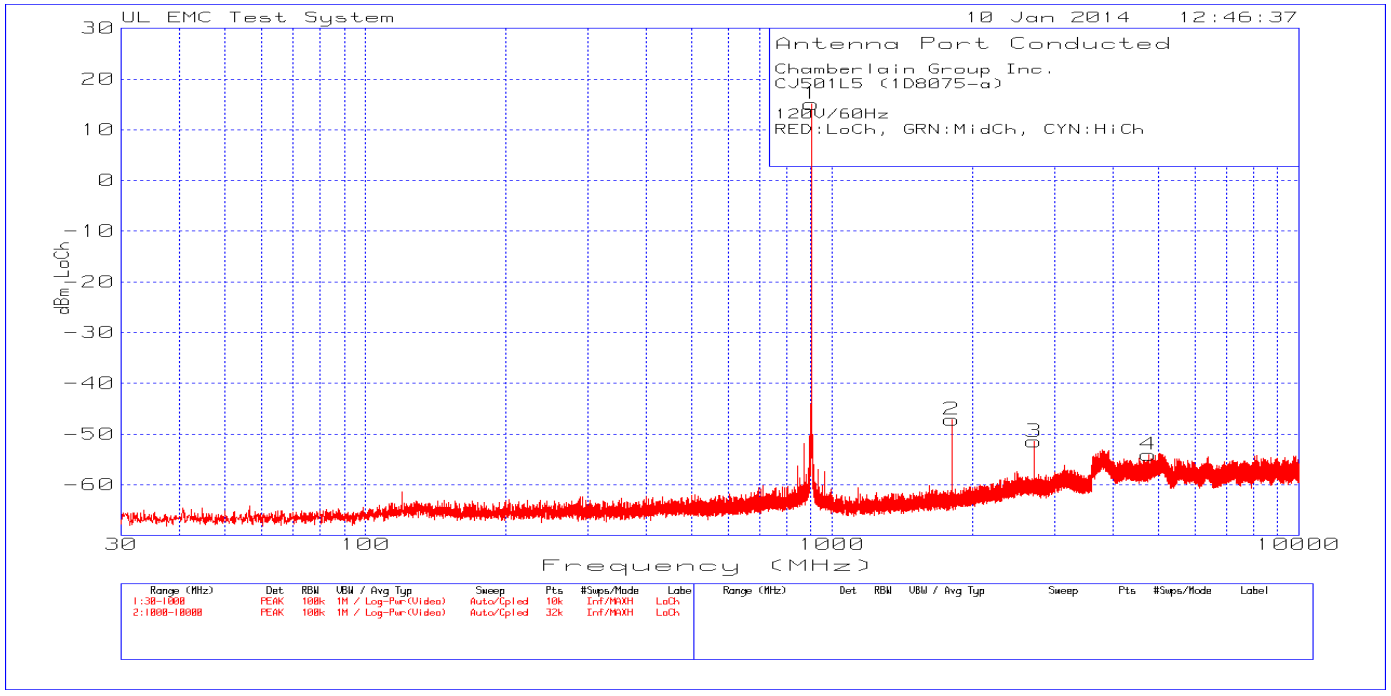


Figure 5 30MHz-10GHz Antenna Port Spurious Emissions Plot TX Mode, Middle Channel.

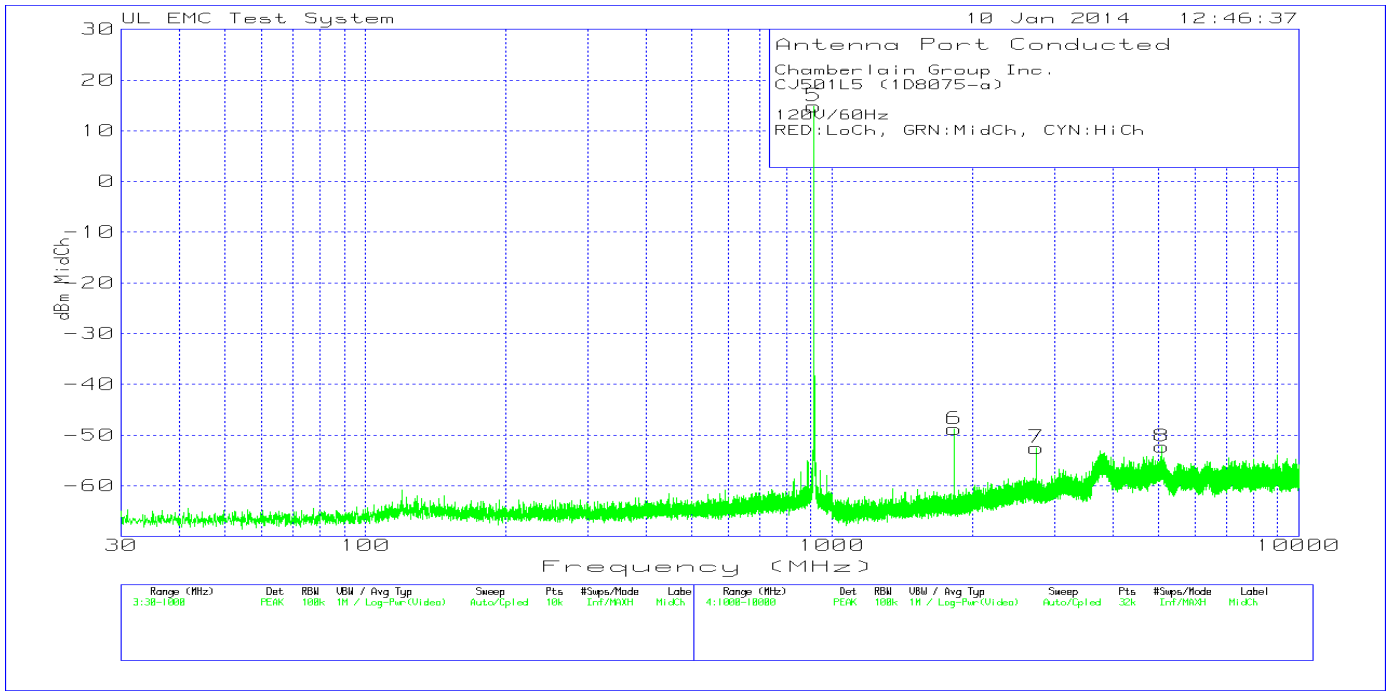


Figure 6 30MHz-10GHz Antenna Port Spurious Emissions Plot TX Mode, High Channel.

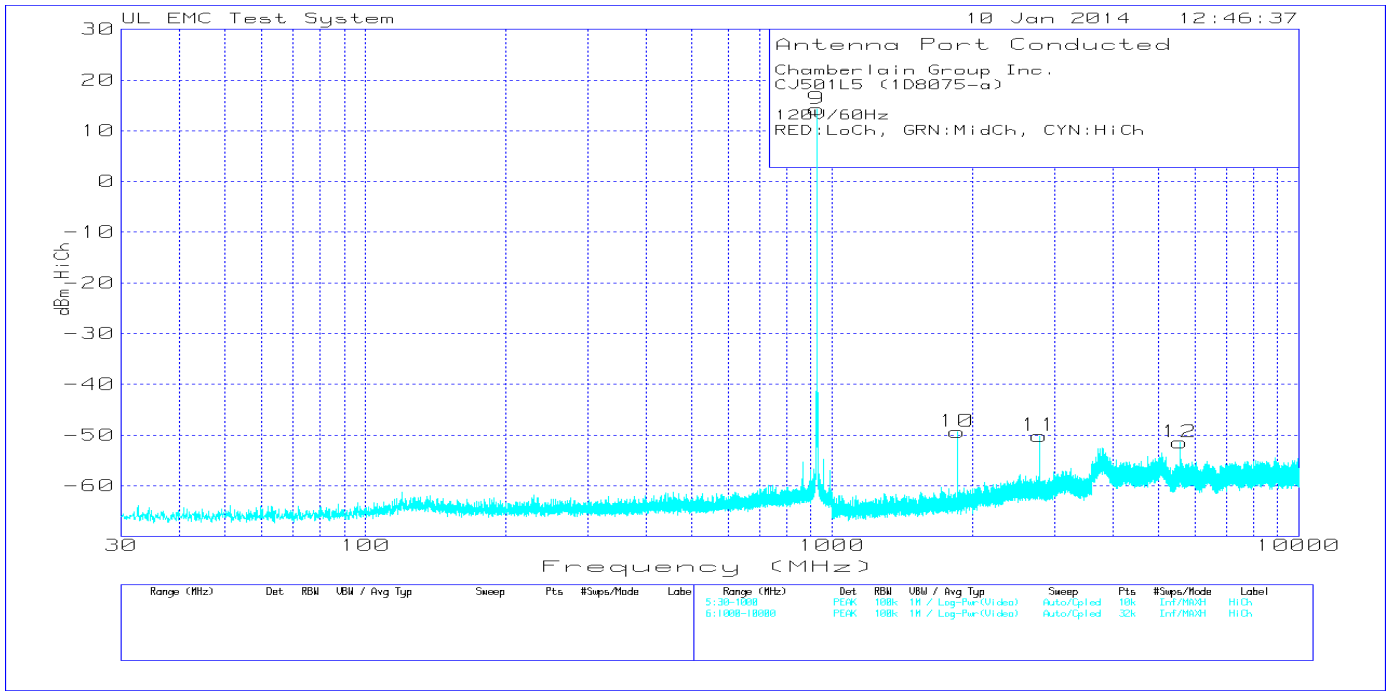


Table 7 Spurious Emissions Tabular Data for Low, Middle and High Channels

Chamberlain Group Inc. CJ501L5 (1D8075-a) 120V/60Hz RED:LoCh, GRN:MidCh, CYN:HiCh Trace Markers					
LoCh 30 - 1000MHz					
Marker No.	Test Frequency (MHz)	Meter Reading (dBm)	Detector	10dB Pad & cable.TXT	Corrected Reading dBm
1	902.224	4.6	PK	10.5	15.1
2	1804.656	-57.97	PK	10.8	-47.17
3	2706.625	-62.58	PK	11.1	-51.48
4	4766.781	-65.67	PK	11.6	-54.07
MidCh 30 - 1000MHz					
Marker No.	Test Frequency (MHz)	Meter Reading(dBm)	Detector	10dB Pad & cable.TXT	Corrected Reading dBm
5	914.737	4.33	PK	10.5	14.83
6	1829.406	-59.6	PK	10.8	-48.8
7	2744.031	-63.61	PK	11.1	-52.51
8	5095.844	-63.86	PK	11.6	-52.26
HiCh 30 - 1000MHz					
Marker No.	Test Frequency (MHz)	Meter Reading (dBm)	Detector	10dB Pad & cable.TXT	Corrected Reading dBm
9	926.765	3.73	PK	10.5	14.23
10	1853.594	-60.14	PK	10.8	-49.34
11	2780.313	-61.25	PK	11.1	-50.15
12	5560.188	-63.16	PK	11.7	-51.46
PK - Peak detector All Spurious emissions are at least 20dBc below the level of the fundamental.					

Figure 7 Band Edge Antenna Port Spurious Emissions Plot TX Mode, Low & High Channel, not hopping.

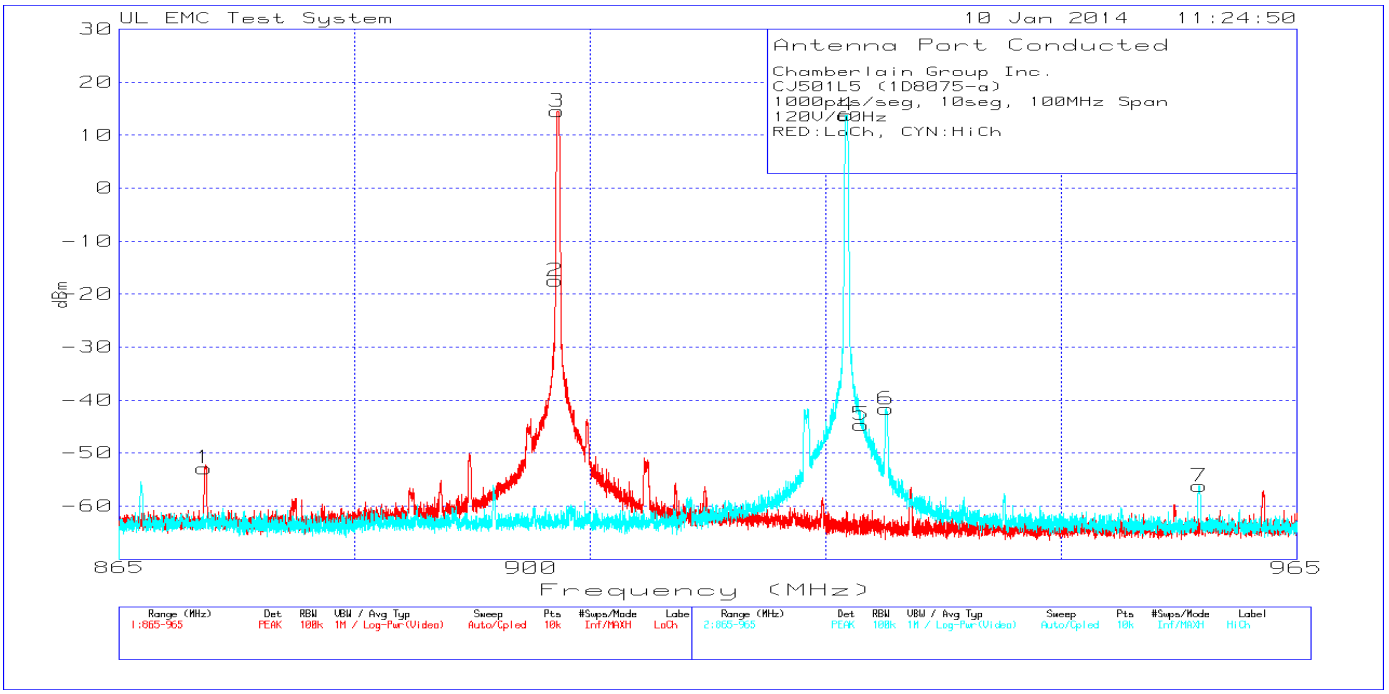


Table 8 Band Edge Antenna Port Spurious Emissions Data TX Mode, Low & High Channel, not hopping

Chamberlain Group Inc. CJ501L5 (1D8075-a) 1000pts/seg, 10seg, 100MHz Span 120V/60Hz RED:LoCh, CYN:HiCh					
LoCh 865 - 965MHz					
Marker No.	Test Frequency (MHz)	Meter Reading (dBm)	Detector	10dB Pad & cable.TXT	Corrected Reading dBm
1	872.2335	-63.34	PK	10.5	-52.84
2	902.0067	-27.99	PK	10.5	-17.49
3	902.1865	4.01	PK	10.5	14.51
HiCh 865 - 965MHz					
Marker No.	Test Frequency (MHz)	Meter Reading \(dBm)	Detector	10dB Pad & cable.TXT	Corrected Reading dBm
4	926.6995	3.31	PK	10.5	13.81
5	928.0033	-55.16	PK	10.5	-44.66
6	930.1414	-52.19	PK	10.5	-41.69
7	956.7474	-66.73	PK	10.5	-56.23
PK - Peak detector All Spurious emissions are at least 20dBc below the level of the fundamental.					

Figure 8 Band Edge Antenna Port Spurious Emissions Plot TX Mode, Low & High Channel, hopping

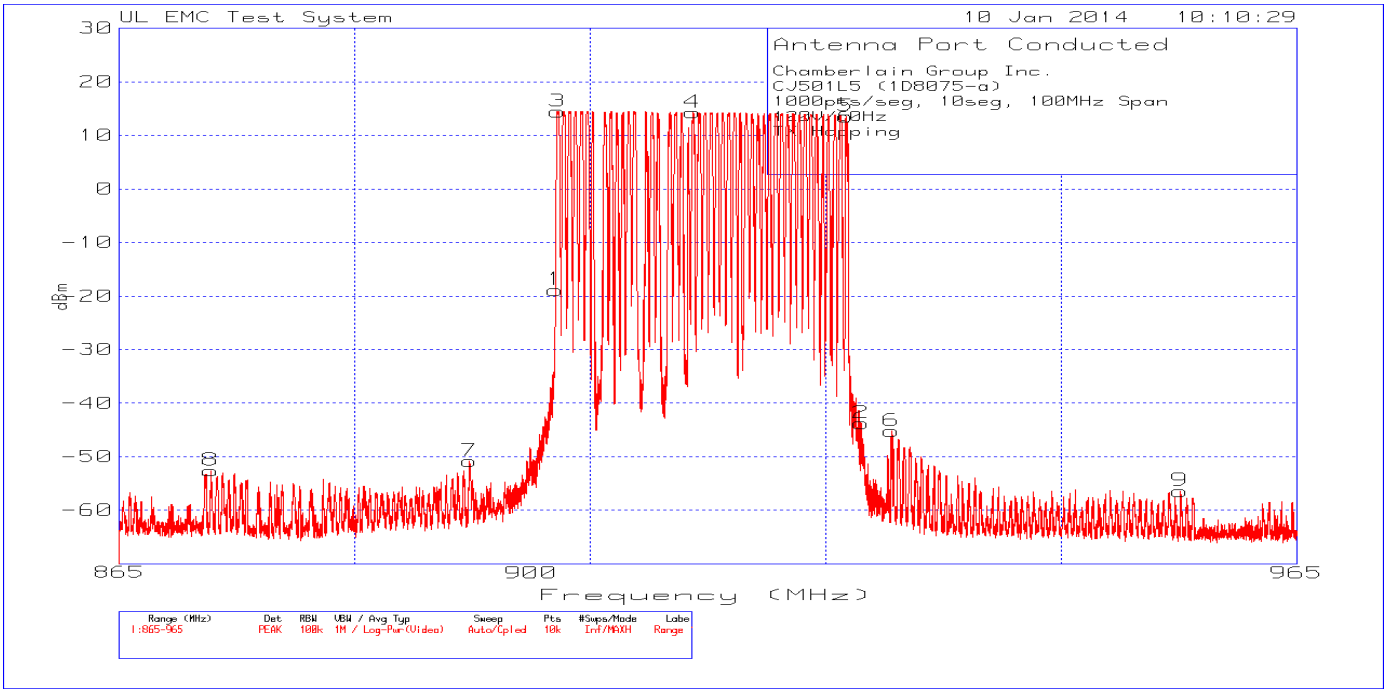
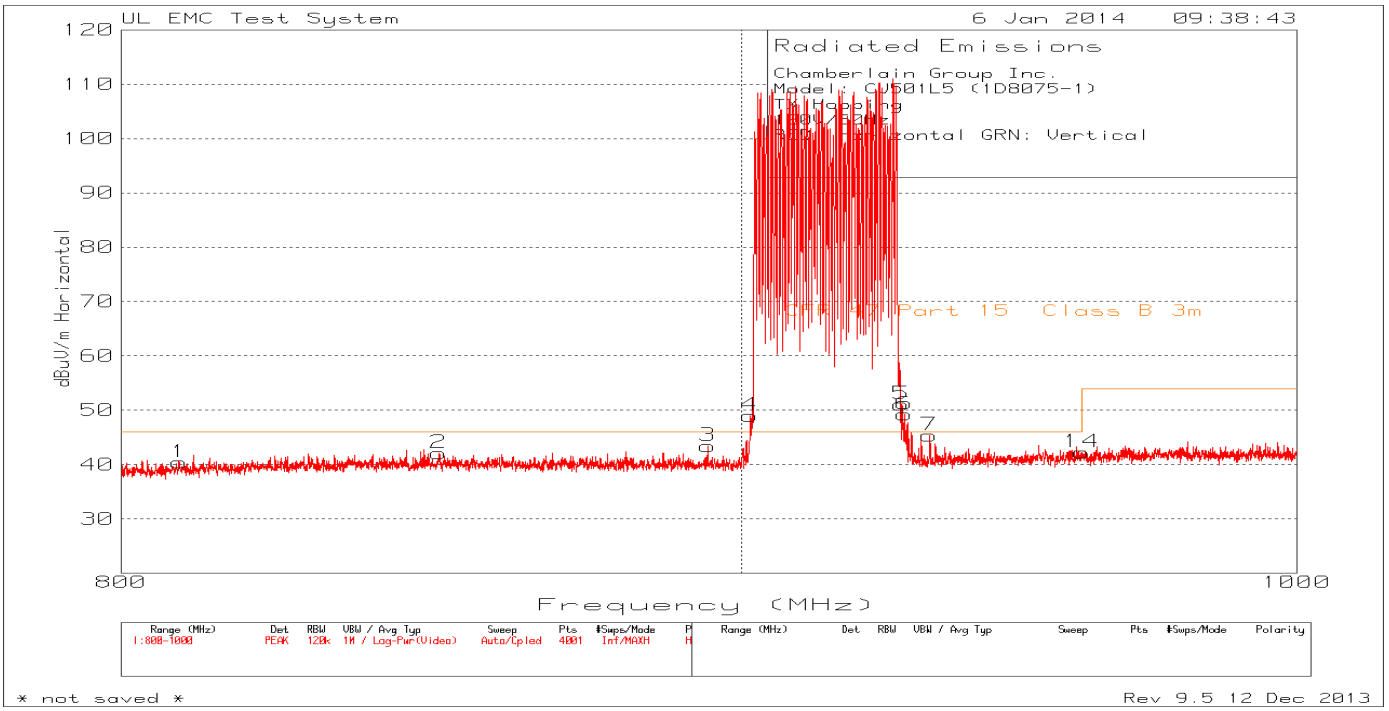


Table 9 Band Edge Antenna Port Spurious Emissions Data TX Mode, Low & High Channels, Hopping

Chamberlain Group Inc. CJ501L5 (1D8075-a) 1000pts/seg, 10seg, 100MHz Span 120V/60Hz TX Hopping					
Range 1 865 - 965MHz					
Marker No.	Test Frequency (MHz)	Meter Reading(dBm)	Detector	10dB Pad & cable.TXT	Corrected Reading dBm
1	902.0167	-29.36	PK	10.5	-18.86
2	928.0333	-54.23	PK	10.5	-43.73
3	902.2115	3.95	PK	10.5	14.45
4	913.6912	3.77	PK	10.5	14.27
5	926.6945	3.05	PK	10.5	13.55
6	930.571	-55.69	PK	10.5	-45.19
7	894.7332	-61.31	PK	10.5	-50.81
8	872.743	-63.08	PK	10.5	-52.58
9	955.1189	-66.89	PK	10.5	-56.39
PK - Peak detector All Spurious emissions are at least 20dBc below the level of the fundamental.					

Figure 9 Bandedge Radiated Emissions Graph – Hopping (conducted at 3m distance)



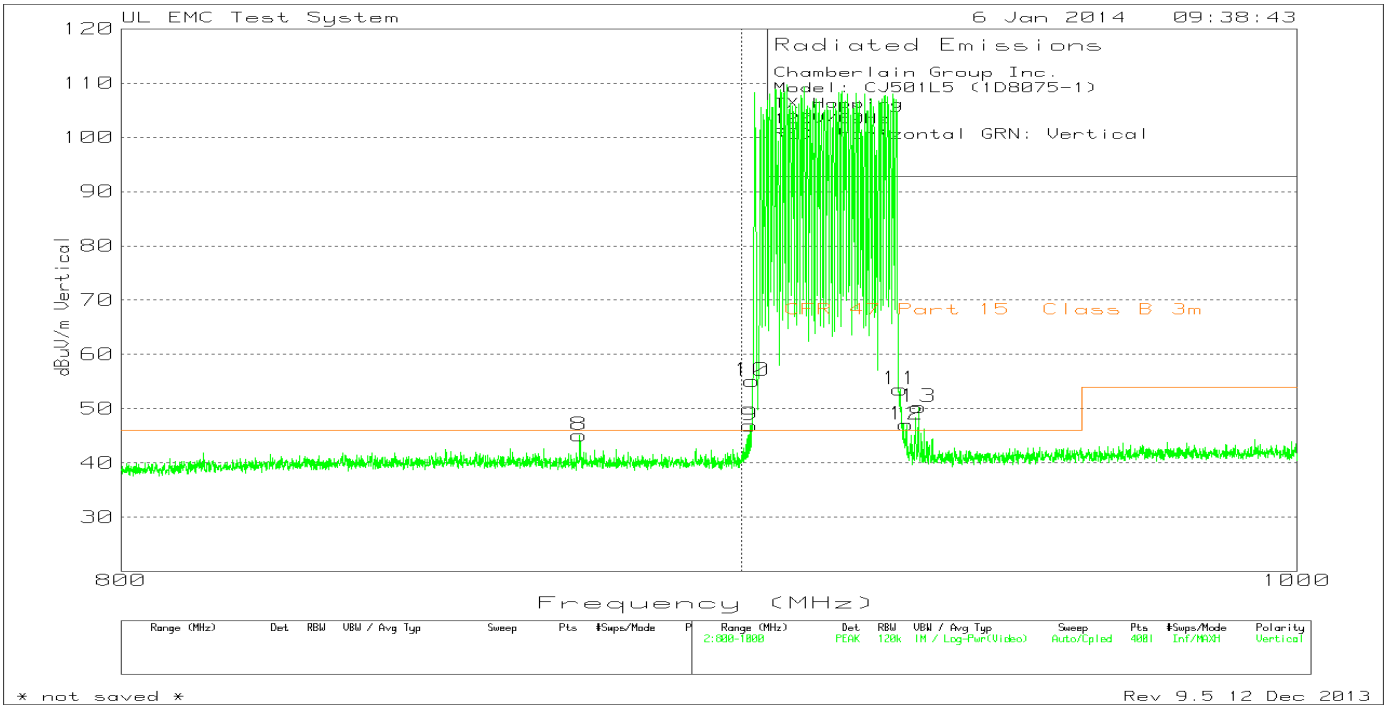


Table 10 Bandedge Radiated Emissions Data - Hopping (conducted at 3 meter distance)

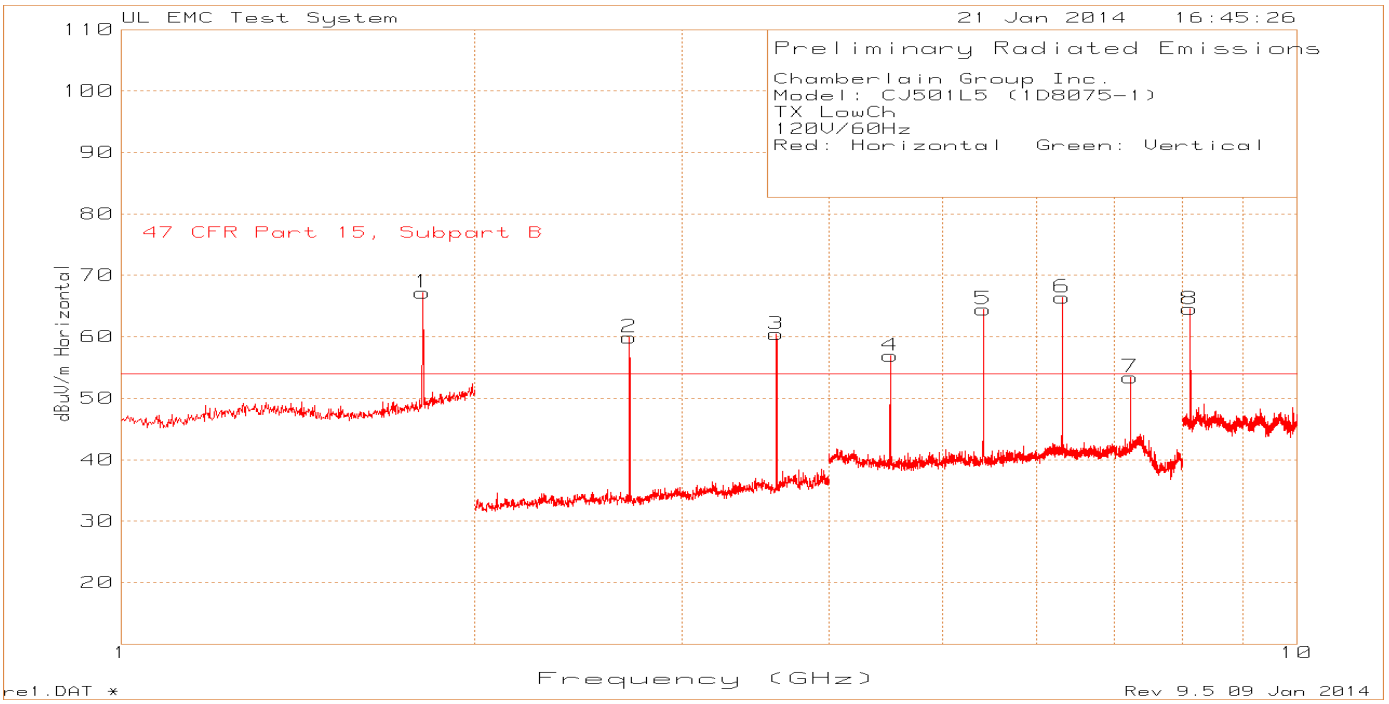
Chamberlain Group Inc.
Model: CJ501L5 (1D8075-1)
TX Hopping
120V/60Hz
RED: Horizontal GRN: Vertical

Trace Markers

Marker No.	Test Frequency (MHz)	Meter Reading (dBuV)	Detector	Antenna Facotr dB/m	Path Factor dB	Corrected Reading dBuV/m	Limit dBuV/m @ 3m	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	808.9	8.48	PK	22.2	9.7	40.38	N/A	N/A	0-360	399	H
2	849.75	9.15	PK	23.1	9.9	42.15	N/A	N/A	0-360	299	H
3	894.2	10.7	PK	22.8	9.9	43.4	N/A	N/A	0-360	101	H
4	901.5	16.25	PK	22.9	9.9	49.05	N/A	N/A	0-360	101	H
5	927.65	17.78	PK	23.3	10	51.08	N/A	N/A	0-360	101	H
6	928.3	15.92	PK	23.3	10	49.22	N/A	N/A	0-360	101	H
7	932.7	11.91	PK	23.5	10	45.41	N/A	N/A	0-360	101	H
14	959.95	8.16	PK	23.9	10.2	42.26	N/A	N/A	0-360	199	H
8	872.7	12.32	PK	22.9	9.9	45.12	N/A	N/A	0-360	201	V
9	901.45	14.13	PK	22.9	9.9	46.93	N/A	N/A	0-360	301	V
10	901.75	22.34	PK	22.9	9.9	55.14	N/A	N/A	0-360	301	V
11	927.45	20.4	PK	23.2	10	53.6	N/A	N/A	0-360	201	V
12	928.55	13.74	PK	23.3	10	47.04	N/A	N/A	0-360	201	V
13	930.7	16.78	PK	23.4	10.1	50.28	N/A	N/A	0-360	201	V

All above emissions are product of the transmitter. According to 47 CFR Part 15.247 (d) - radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)). None of the above emissions are in restricted bands therefore there are no radiated emissions limits.
PK - Peak detector

Figure 10 Low Channel 1GHz – 10GHz Radiated Emissions Graph



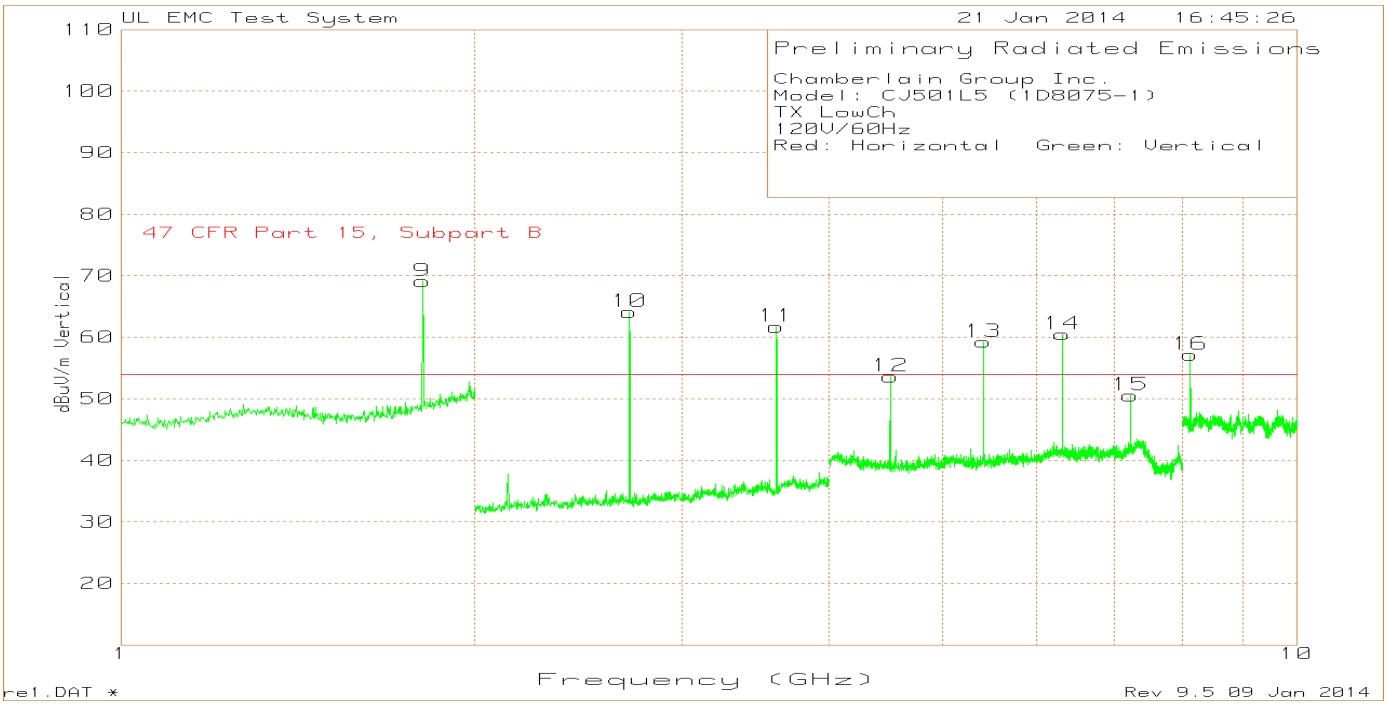


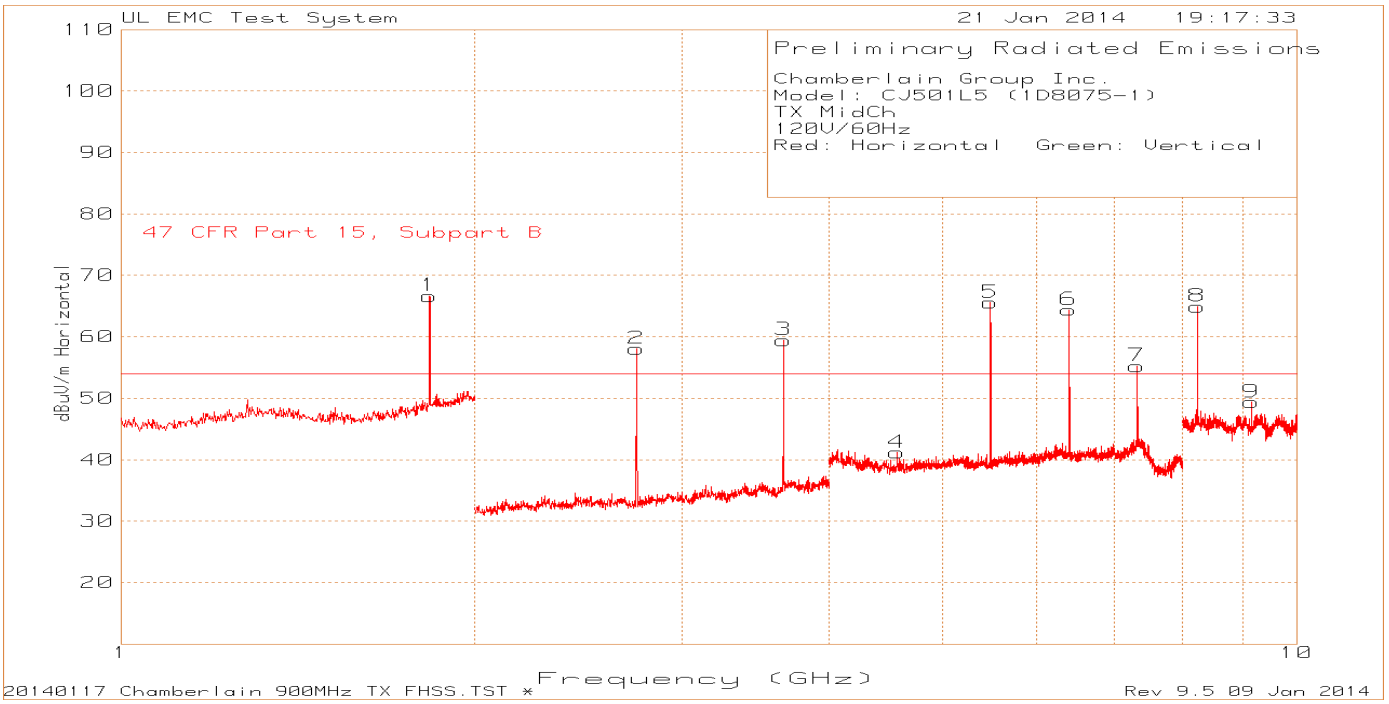
Table 11 Low Channel 1GHz – 10GHz Radiated Emissions Data Points

Chamberlain Group Inc.
Model: CJ501L5 (1D8075-1)
TX LowCh
120V/60Hz
Red: Horizontal Green: Vertical

Marker No.	Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	BOMS Factor (dB)	Corrected Reading dBuV/m PK	Peak Limit dBuV/m	Margin (dB)	Peak Level with DC Factor (-37.52dB) dBuV/m	AV Limit dBuV/m	Margin dB	Azimuth [Degs]	Height [cm]	Polarity
1	1.8056	82.85	PK	29.9	-45.54	67.21	N/A	N/A	N/A	N/A	N/A	0-360	100	H
2	* 2.7068	88.55	PK	22.1	-50.69	59.96	74	-14.04	22.44	54	-31.56	356	120	H
3	* 3.6096	87.63	PK	23.2	-50.39	60.44	74	-13.56	22.92	54	-31.08	0-360	100	H
4	* 4.5103	80.79	PK	27.8	-51.68	56.91	74	-17.09	19.39	54	-34.61	0-360	100	H
5	* 5.4132	85.47	PK	27.9	-49.12	64.25	74	-9.75	26.73	54	-27.27	360	100	H
6	6.3152	84.06	PK	29.2	-46.82	66.44	N/A	N/A	N/A	N/A	N/A	0-360	100	H
7	7.2196	69.85	PK	29.8	-46.26	53.39	N/A	N/A	N/A	N/A	N/A	0-360	100	H
8	* 8.1198	78.09	PK	36.2	-48.57	65.72	74	-8.28	28.2	54	-25.8	39	144	H
9	1.8056	84.74	PK	29.9	-45.54	69.1	N/A	N/A	N/A	N/A	N/A	0-360	149	V
10	* 2.7069	92.55	PK	22.1	-50.69	63.96	74	-10.04	26.44	54	-27.56	353	167	V
11	* 3.6096	88.94	PK	23.2	-50.39	61.75	74	-12.25	24.23	54	-29.77	0-360	149	V
12	* 4.5103	77.49	PK	27.8	-51.68	53.61	74	-20.39	16.09	54	-37.91	0-360	100	V
13	* 5.4135	80.58	PK	27.9	-49.12	59.36	74	-14.64	21.84	54	-32.16	326	100	V
14	6.3152	78.15	PK	29.2	-46.82	60.53	N/A	N/A	N/A	N/A	N/A	0-360	149	V
15	7.2176	67.09	PK	29.8	-46.29	50.6	N/A	N/A	N/A	N/A	N/A	0-360	149	V
16	* 8.1197	73.01	PK	36.2	-48.57	60.64	74	-13.36	23.12	54	-30.88	15	152	V

Note 1: Frequencies with star(*) in front are in restricted bands and radiated spurious limits apply
Note 2: Only peak measurements were conducted and duty cycle factor was applied to peak levels. Since the duty cycle factor brings all the emissions under the limit average measurements were considered not necessary.
Note 3: Data with azimuth specified as 0-360 its based on prescan data. Six worst case points were measured and maximized.
According to 47 CFR Part 15.247 (d) - radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).
Based on the above all other emissions that are product of the transmitter and that do not fall in the restricted bands are only subject to Antenna Port Conducted Measurements.

Figure 11 Middle Channel 1GHz – 10GHz Radiated Emissions Graph



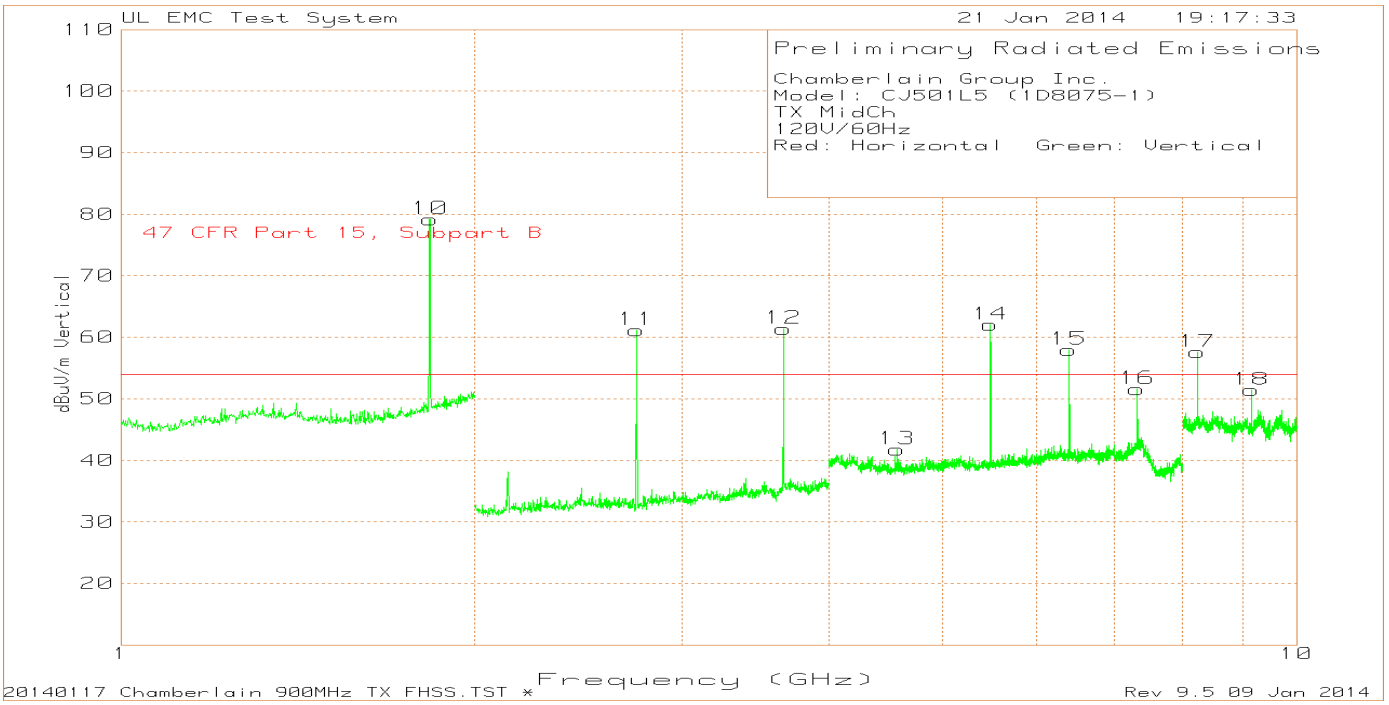


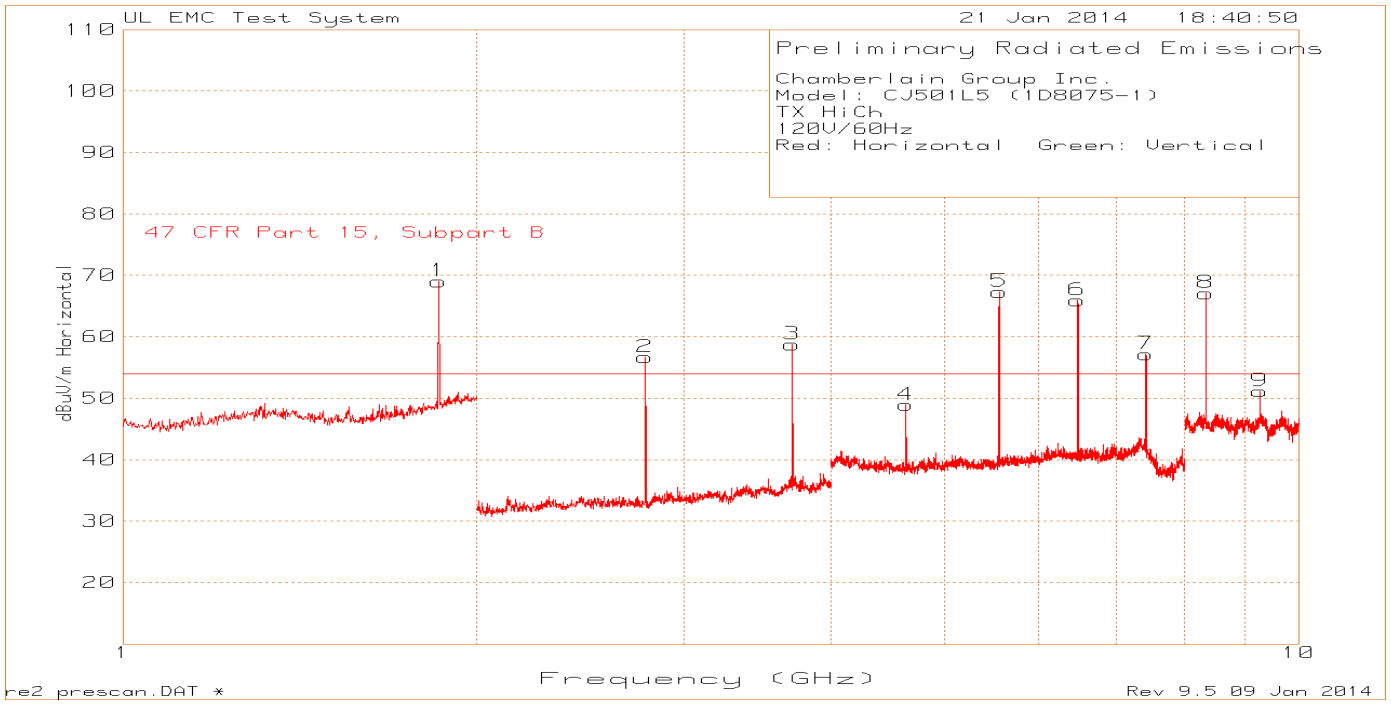
Table 12 Middle Channel 1GHz – 10GHz Radiated Emissions Data Points

Chamberlain Group Inc.
Model: CJ501L5 (1D8075-1)
TX MidCh
120V/60Hz
Red: Horizontal Green: Vertical

Marker No.	Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	BOMS Factor (dB)	Corrected Reading dBuV/m PK	Peak Limit dBuV/m	Margin (dB)	Peak Level with DC Factor (-37.52dB) dBuV/m	AV Limit dBuV/m	Margin dB	Azimuth [Degs]	Height [cm]	Polarity
1	1.8297	81.87	PK	30.2	-45.43	66.64	N/A	N/A	N/A	N/A	N/A	0-360	100	H
2	* 2.7441	87.02	PK	22.1	-50.67	58.45	74	-15.55	20.93	54	-33.07	54	109	H
3	* 3.6592	85.93	PK	23.4	-49.01	60.32	74	-13.68	22.8	54	-31.2	346	136	H
4	* 4.5723	65.03	PK	27.7	-51.57	41.16	74	-32.84	3.64	54	-50.36	0-360	100	H
5	5.4887	86.7	PK	28.1	-49.24	65.56	N/A	N/A	N/A	N/A	N/A	0-360	100	H
6	6.4032	82.23	PK	29.2	-47.02	64.41	N/A	N/A	N/A	N/A	N/A	0-360	100	H
7	* 7.3197	70.37	PK	30.6	-45.71	55.26	74	-18.74	17.74	54	-36.26	0-360	149	H
8	* 8.2322	77.54	PK	36.4	-46.99	66.95	74	-7.05	29.43	54	-24.57	39	155	H
9	* 9.1471	62.5	PK	36.3	-49.43	49.37	74	-24.63	11.85	54	-42.15	0-360	100	H
10	1.8317	94.3	PK	30.3	-45.43	79.17	N/A	N/A	N/A	N/A	N/A	0-360	149	V
11	* 2.7441	90.36	PK	22.1	-50.67	61.79	74	-12.21	24.27	54	-29.73	360	165	V
12	* 3.6588	87.69	PK	23.4	-49.02	62.07	74	-11.93	24.55	54	-29.45	19	142	V
13	* 4.5743	65.67	PK	27.7	-51.56	41.81	74	-32.19	4.29	54	-49.71	0-360	100	V
14	5.4887	83.18	PK	28.1	-49.24	62.04	N/A	N/A	N/A	N/A	N/A	0-360	149	V
15	6.4032	75.79	PK	29.2	-47.02	57.97	N/A	N/A	N/A	N/A	N/A	0-360	100	V
16	* 7.3197	66.72	PK	30.6	-45.71	51.61	74	-22.39	14.09	54	-39.91	0-360	149	V
17	* 8.2325	71.75	PK	36.4	-46.99	61.16	74	-12.84	23.64	54	-30.36	360	141	V
18	* 9.1491	64.57	PK	36.3	-49.44	51.43	74	-22.57	13.91	54	-40.09	0-360	149	V

Note 1: Frequencies with star(*) in front are in restricted bands and radiated spurious limits apply
Note 2: Only peak measurements were conducted and duty cycle factor was applied to peak levels. Since the duty cycle factor brings all the emissions under the limit average measurements were considered not necessary.
Note 3: Data with azimuth specified as 0-360 its based on prescan data. Six worst case points were measured and maximized.
According to 47 CFR Part 15.247 (d) - radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).
Based on the above all other emissions that are product of the transmitter and that do not fall in the restricted bands are only subject to Antenna Port Conducted Measurements

Figure 12 High Channel 1GHz – 10GHz Radiated Emissions Graph



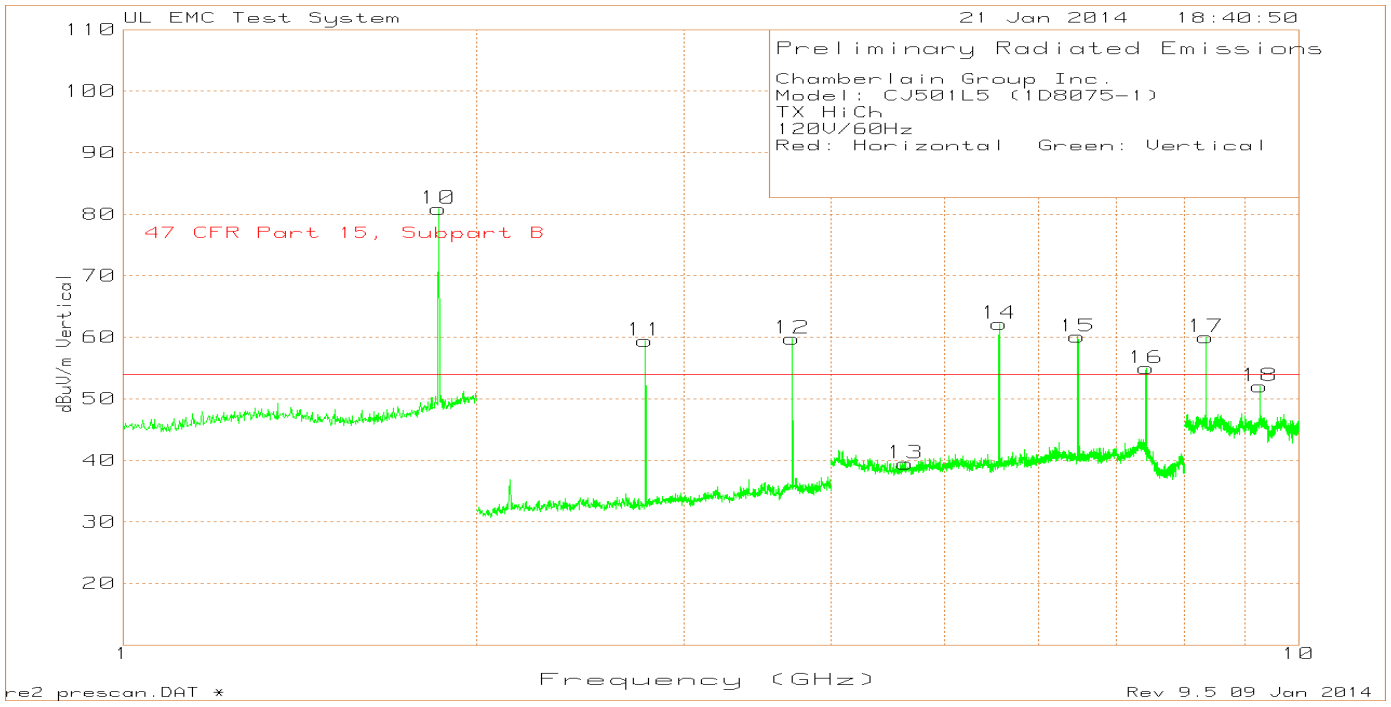


Table 13 High Channel 1GHz – 10GHz Radiated Emissions Data Points

Chamberlain Group Inc.
Model: CJ501L5 (1D8075-1)
TX HiCh
120V/60Hz
Red: Horizontal Green: Vertical

Marker No.	Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	BOMS Factor (dB)	Corrected Reading dBuV/m PK	Peak Limit dBuV/m	Margin (dB)	Peak Level with DC Factor (-37.52dB) dBuV/m	AV Limit dBuV/m	Margin dB	Azimuth [Degs]	Height [cm]	Polarity
1	1.8537	83.89	PK	30.5	-45.36	69.03	N/A	N/A	N/A	N/A	N/A	0-360	149	H
2	* 2.7803	85.14	PK	22.2	-50.49	56.85	74	-17.15	19.33	54	-34.67	54	100	H
3	* 3.7072	84.92	PK	23.5	-48.91	59.51	74	-14.49	21.99	54	-32.01	348	135	H
4	* 4.6343	72.74	PK	27.7	-51.53	48.91	74	-25.09	11.39	54	-42.61	0-360	100	H
5	5.5608	88.55	PK	28.3	-49.49	67.36	N/A	N/A	N/A	N/A	N/A	0-360	100	H
6	6.4872	84.18	PK	29.1	-47.36	65.92	N/A	N/A	N/A	N/A	N/A	0-360	100	H
7	* 7.4137	72.61	PK	31	-46.45	57.16	74	-16.84	19.64	54	-34.36	0-360	100	H
8	* 8.3402	80.85	PK	36.5	-48.4	68.95	74	-5.05	31.43	54	-22.57	36	147	H
9	9.2693	62.63	PK	36.4	-47.85	51.18	N/A	N/A	N/A	N/A	N/A	0-360	149	H
10	1.8537	95.77	PK	30.5	-45.36	80.91	N/A	N/A	N/A	N/A	N/A	0-360	149	V
11	* 2.78	88.34	PK	22.2	-50.49	60.05	74	-13.95	22.53	54	-31.47	360	163	V
12	* 3.7072	85.97	PK	23.5	-48.91	60.56	74	-13.44	23.04	54	-30.96	19	153	V
13	* 4.6323	63.29	PK	27.7	-51.52	39.47	74	-34.53	1.95	54	-52.05	0-360	149	V
14	5.5608	83.36	PK	28.3	-49.49	62.17	N/A	N/A	N/A	N/A	N/A	0-360	100	V
15	6.4872	78.36	PK	29.1	-47.36	60.1	N/A	N/A	N/A	N/A	N/A	0-360	149	V
16	* 7.4157	70.54	PK	30.9	-46.48	54.96	74	-19.04	17.44	54	-36.56	0-360	100	V
17	* 8.3412	74.13	PK	36.5	-48.42	62.21	74	-11.79	24.69	54	-29.31	358	150	V
18	9.2673	63.51	PK	36.4	-47.87	52.04	N/A	N/A	N/A	N/A	N/A	0-360	100	V

Note 1: Frequencies with star(*) in frot are in restricted bands and radiated spurious limits apply
Note 2: Only peak measurements were conducted and duty cycle factor was applied to peak levels. Since the duty cycle factor brings all the emissions under the limit average measurements were considered not necessary.
Note 3: Data with asimuth specified as 0-360 its based on prescan data. Six worst case points were measured and maximized.
According to 47 CFR Part 15.247 (d) - radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).
Based on the above all other emissions that are product of the transmitter and that do not fall in the restricted bands are only subject to Antenna Port Conducted Measurements

4.4 Test Conditions and Results – MAXIMUM PEAK OUTPUT POWER

Test Description	For frequency hopping systems operating in the 902-928 MHz band: 1 watt for systems employing at least 50 hopping channels; and, 0.25 watts for systems employing less than 50 hopping channels, but at least 25 hopping channels, as permitted under paragraph (a)(1)(i) of this section.	
Basic Standard	47 CFR Part 15.247(b)(2) RSS-210, A8.4(2)	
	Frequency range	Measurement Point
Fully configured sample scanned over the following frequency range	902MHz – 928MHz	Antenna Conducted
Limits		
Frequency (MHz)	Limit mW	
	Peak	
902 - 928	1000 (30dBm – gain of Antenna over 6dBi)	
Supplementary information: None		

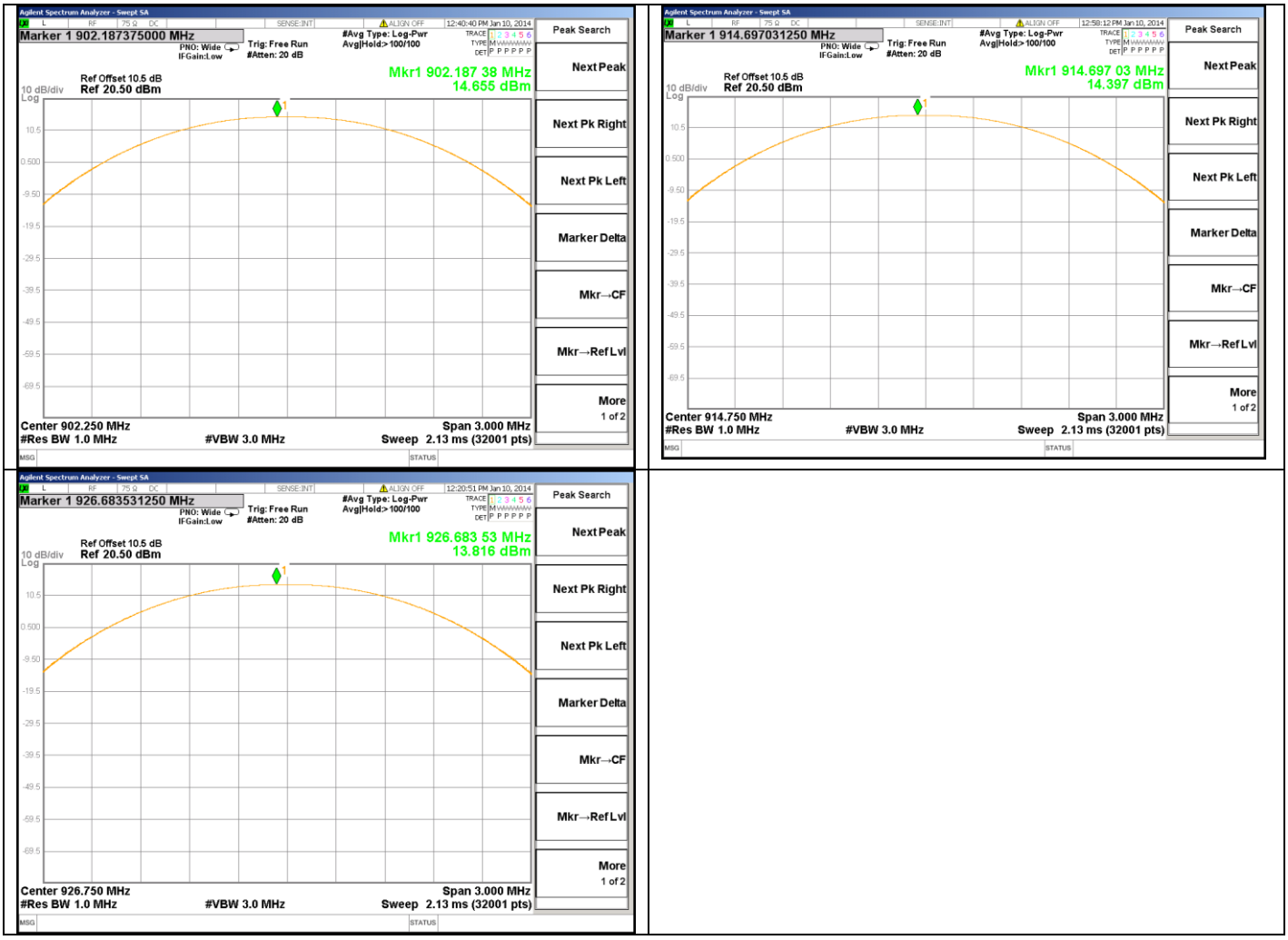
Table 14 Maximum Peak Output Power EUT Configuration Settings

Power Interface Mode #	EUT Configurations Mode #	EUT Operation Mode #
1	2	1
Supplementary information: None		

Table 15 Maximum Peak Output Power Results

Channel	Declared Antenna Gain (dBi)	Limit (dBm)	Power dBm	Power W
Low Channel	-	30	14.655	0.0292
Middle Channel	-	30	14.397	0.0275
High Channel	-	30	13.816	0.0241

Figure 13 Maximum Peak Output Power Graph



4.5 Test Conditions and Results – Dwell Time and Duty Cycle Correction

Test Description	For frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period; if the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second period. The maximum allowed 20 dB bandwidth of the hopping channel is 500 kHz.
Basic Standard	47 CFR Part 15.247(a)(1)(i) RSS-210, A8.1(d)

Table 16 Dwell Time Configuration Settings

Power Interface Mode #	EUT Configurations Mode #	EUT Operation Mode #
1	2	1
Supplementary information: Duty cycle also measured/calculated for use in radiated spurious measurements		

Table 17 Dwell Time Results

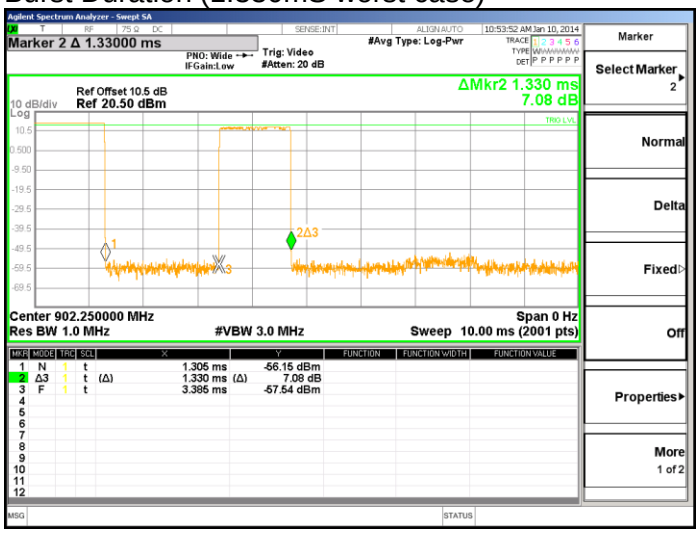
Mode	Number of Channels	Maximum Time Allowed in 20s.	Measured Dwell Time in 20s.
TX Hopping	50	0.4	109.06

Table 18 Duty Cycle Correction Factor

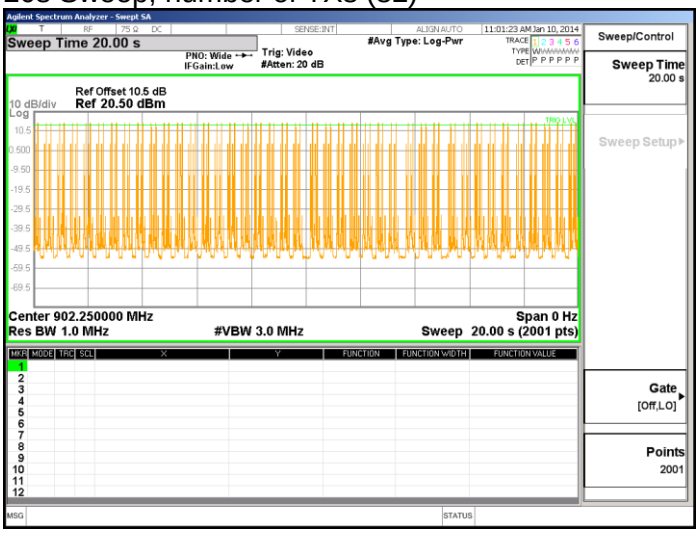
Mode	Number of TX in 100mS	TX Duration in 100mS	Duty Cycle Correction (dB) $20\times\log(\frac{TX(ms)}{100ms})$
TX Hopping Middle Channel	1	1.330	-37.52

Figure 14 Dwell Time Graphs

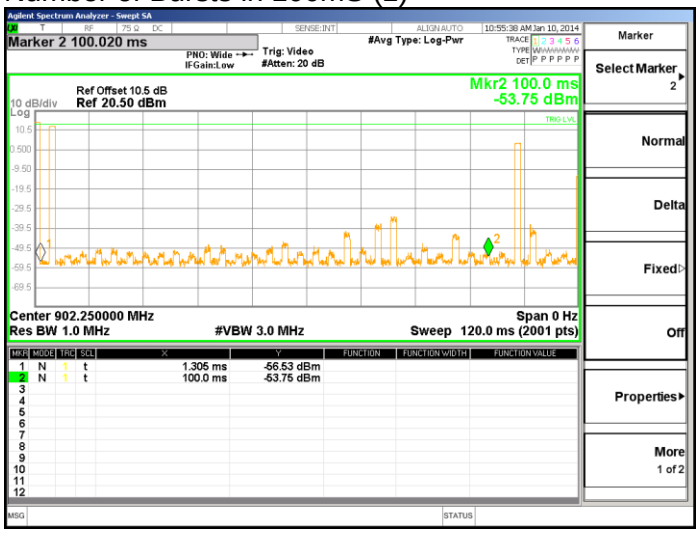
Burst Duration (1.330mS worst case)



20s Sweep, number of TXs (82)



Number of Bursts in 100mS (1)



The number of transitions plots show only the single channel. It was checked that the number of transitions was the same on other channels do to equal channel use. The total number of transitions counted in 20s is: 82. Total maximum transmit time: 109.06mS within 20s.

4.6 Test Conditions and Results – NUMBER OF HOPPING FREQUENCIES

Test Description	For frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period; if the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second period. The maximum allowed 20 dB bandwidth of the hopping channel is 500 kHz. Frequency hopping systems operating in the 2400-2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.
Basic Standard	47 CFR Part 15.247(a)(1)(i) RSS-210, A8.1(d)

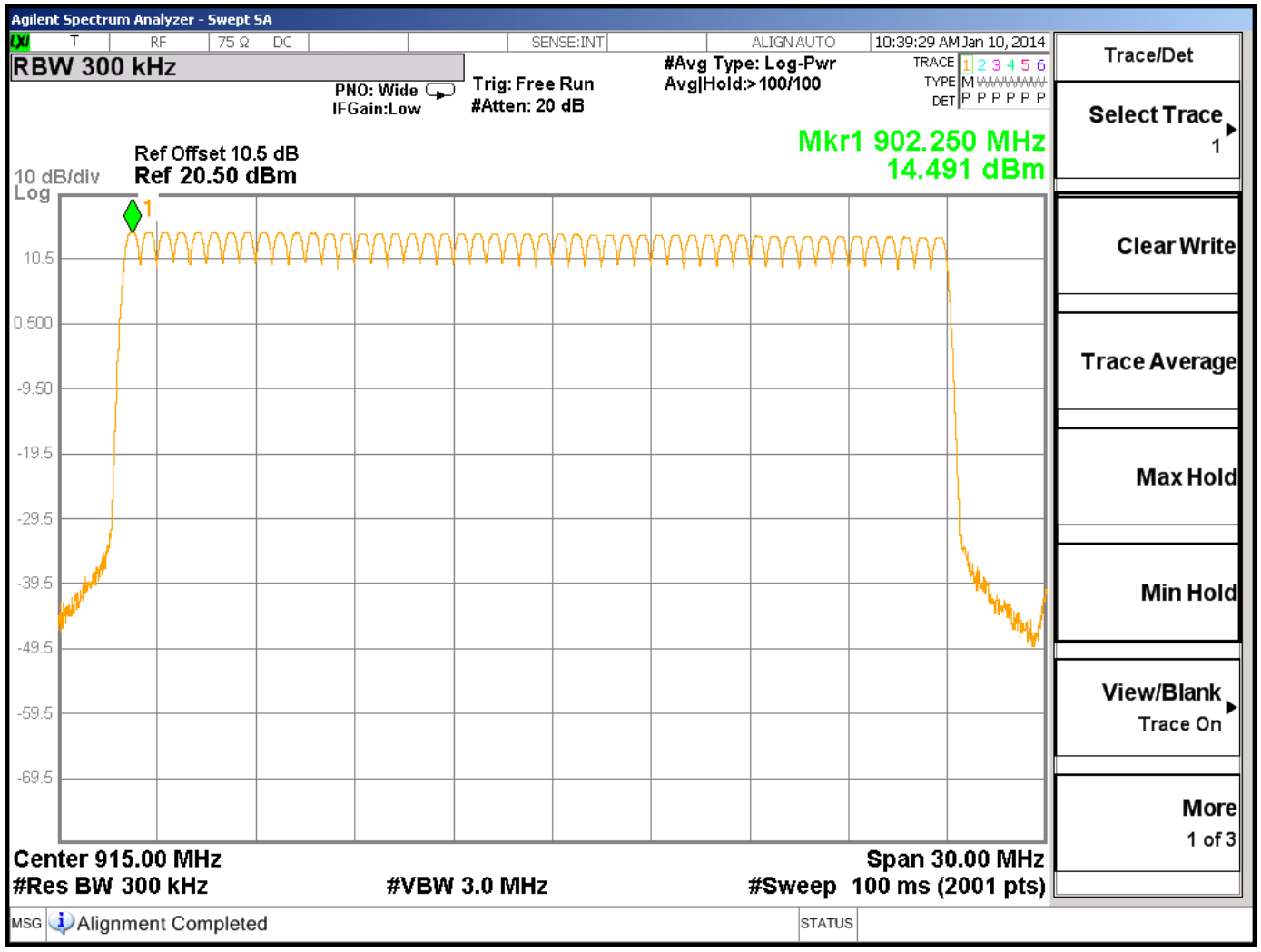
Table 19 Number of Hopping Frequencies Configuration Settings

Power Interface Mode #	EUT Configurations Mode #	EUT Operation Mode #
1	2	1
Supplementary information: None		

Table 20 Number of Hopping Frequencies Results

Mode	Number of Channels	Minimum Number Required
TX, Hopping	50	50

Figure 15 Number of Hopping Frequencies Graphs



4.7 Test Conditions and Results – 20DB BANDWIDTH & 99% BANDWIDTH

Test Description	For frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period; if the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second period. The maximum allowed 20 dB bandwidth of the hopping channel is 500 kHz.
Basic Standard	47 CFR Part 15.247(a)(1)(i) RSS-210, A8.1(b)

Table 21 20dB Bandwidth Configuration Settings

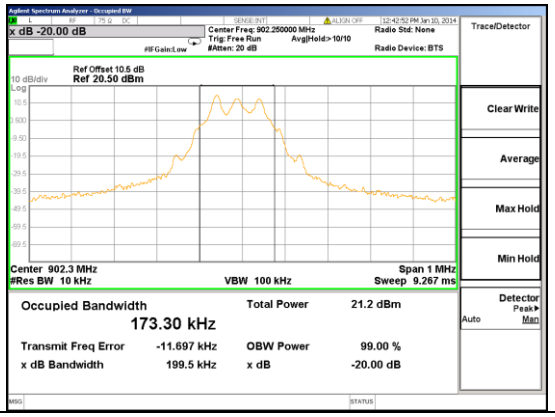
Power Interface Mode #	EUT Configurations Mode #	EUT Operation Mode #
1	2	1
Supplementary information: None		

Table 22 20dB Bandwidth Results (kHz)

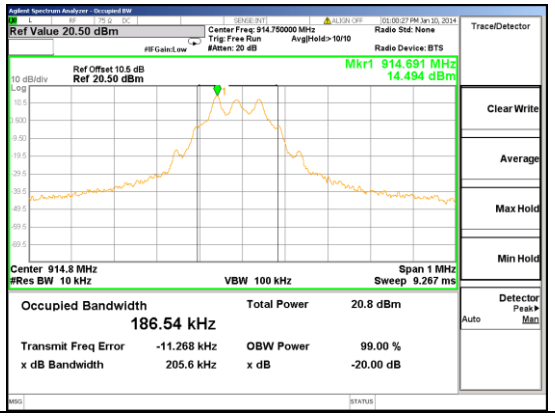
Mode	Channel	20dB Bandwidth	99% Bandwidth
TX	Low	199.5	173.5
	Middle	205.6	187.1
	High	204.8	187.6

Figure 16 20dB Bandwidth Graphs & 99% Power Bandwidth Graphs

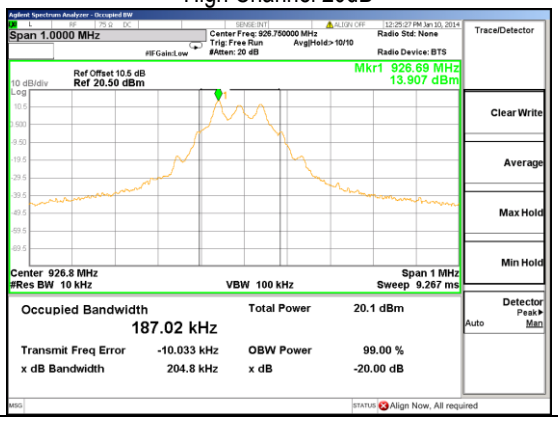
Low Channel 20dB



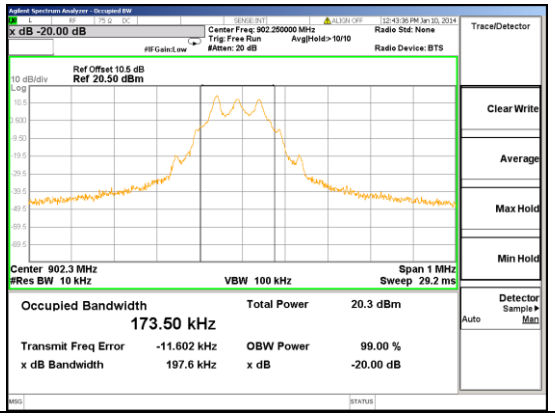
Middle Channel 20dB



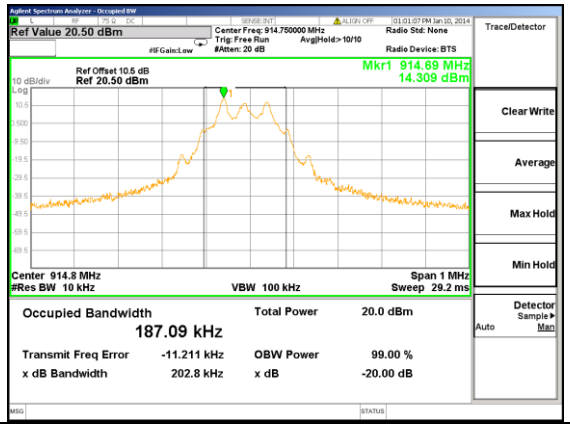
High Channel 20dB



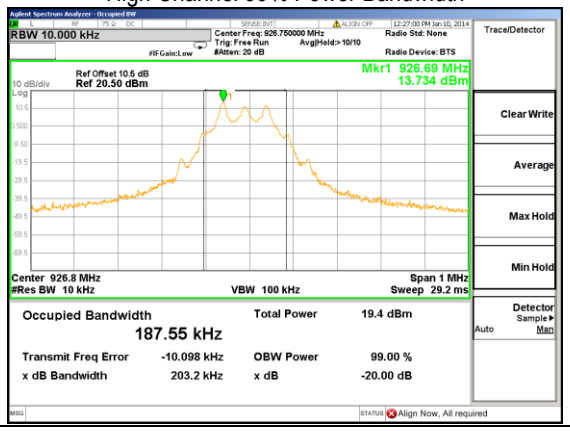
Low Channel 99% Power Bandwidth



Middle Channel 99% Power Bandwidth



High Channel 99% Power Bandwidth



4.8 Test Conditions and Results – Carrier Frequency Separation

Test Description	Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.
Basic Standard	47 CFR Part 15.247(a)(1) RSS-210, A8.1(b)

Table 23 Carrier Frequency Separation Configuration Settings

Power Interface Mode #	EUT Configurations Mode #	EUT Operation Mode #
1	2	1
Supplementary information: Separation frequencies were measured for each channel and then averaged.		

Table 24 Carrier Frequency Separation Results

Mode	Channel	Carrier Frequency Separation Limit	Channel Separation
TX Hopping	Low Side	> 20dB Bandwidth (aprx. 200kHz)	500kHz
	High Side		500kHz

Figure 17 Carrier Frequency Separation Graph bottom channels

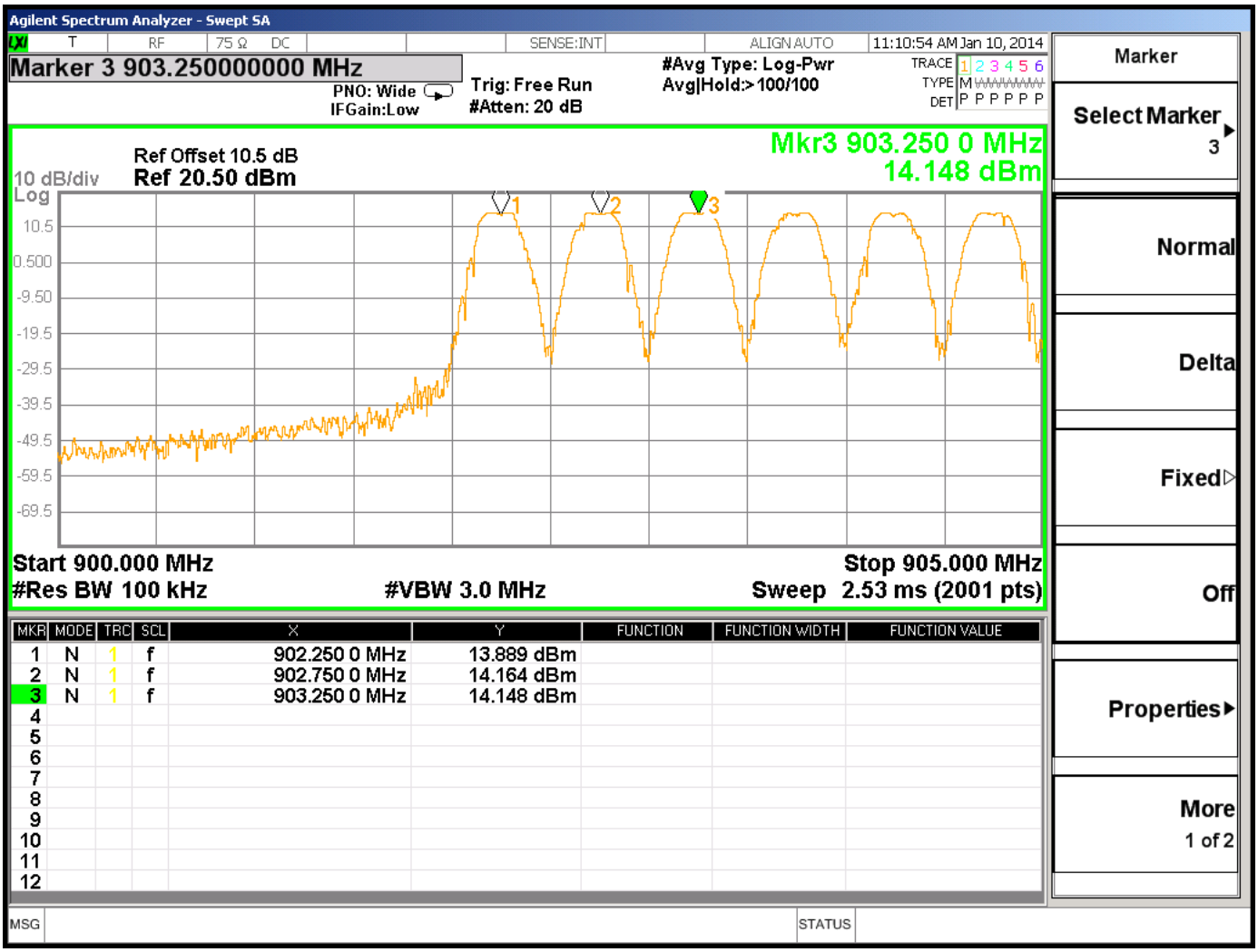
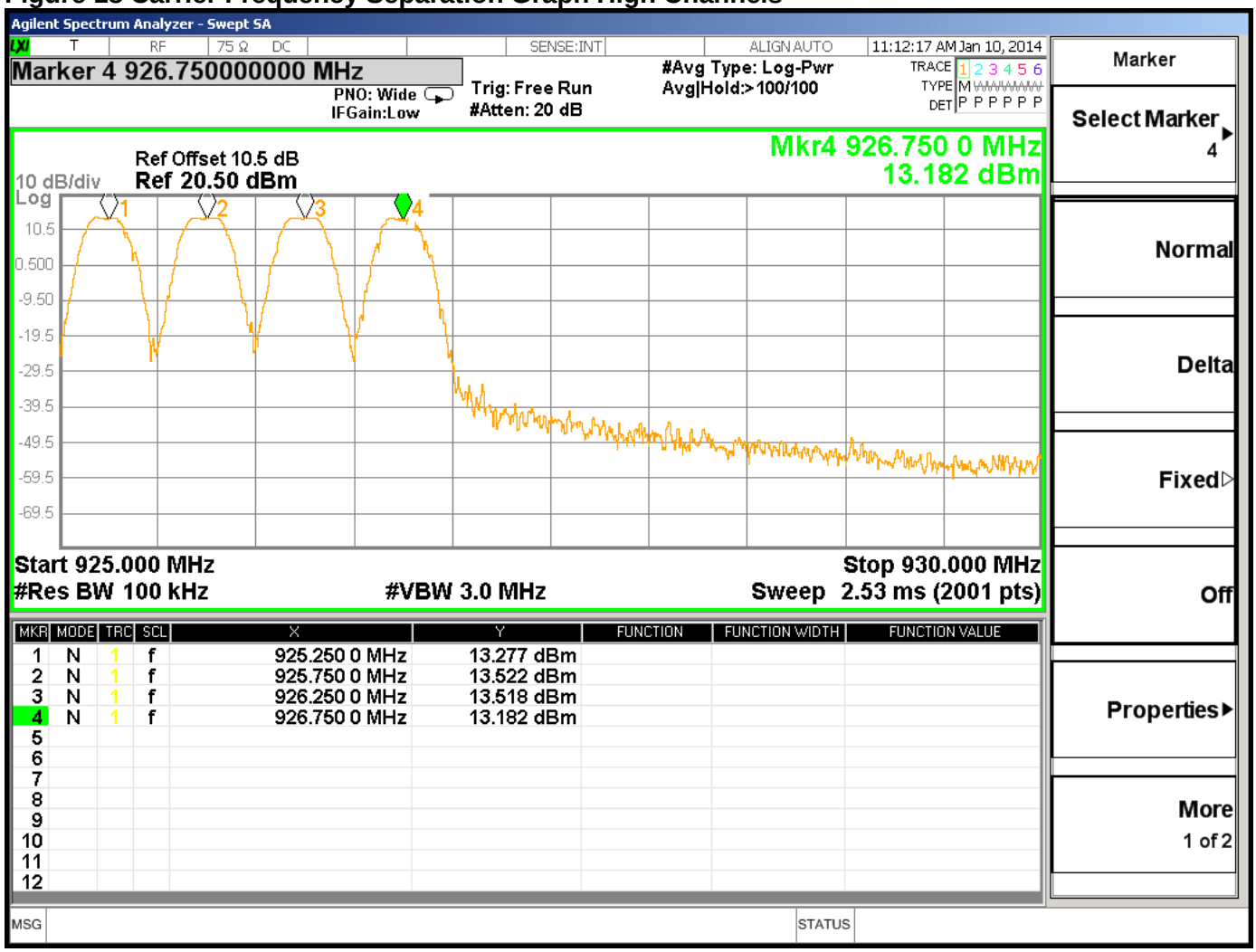


Figure 18 Carrier Frequency Separation Graph High Channels

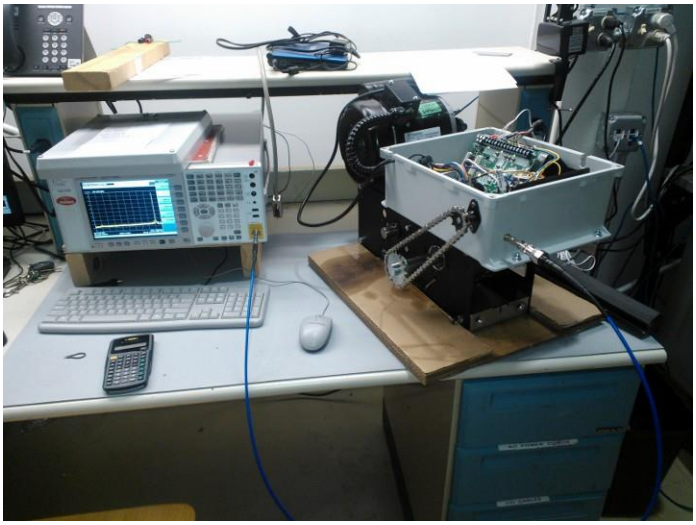


Appendix A

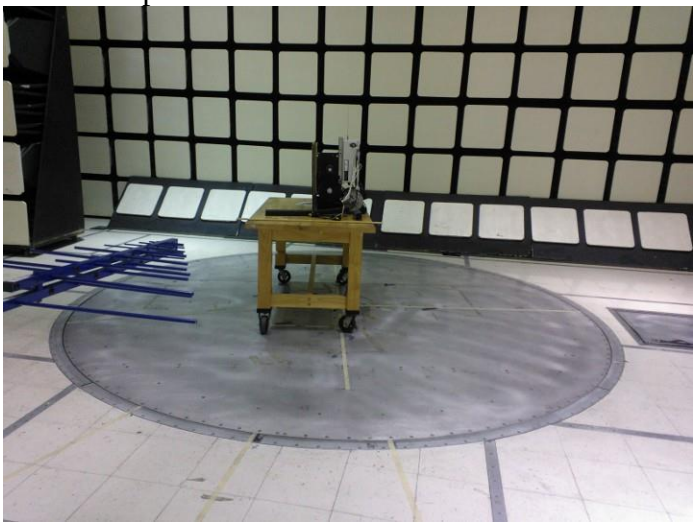
Test Setup Photos

Line Conducted Emissions

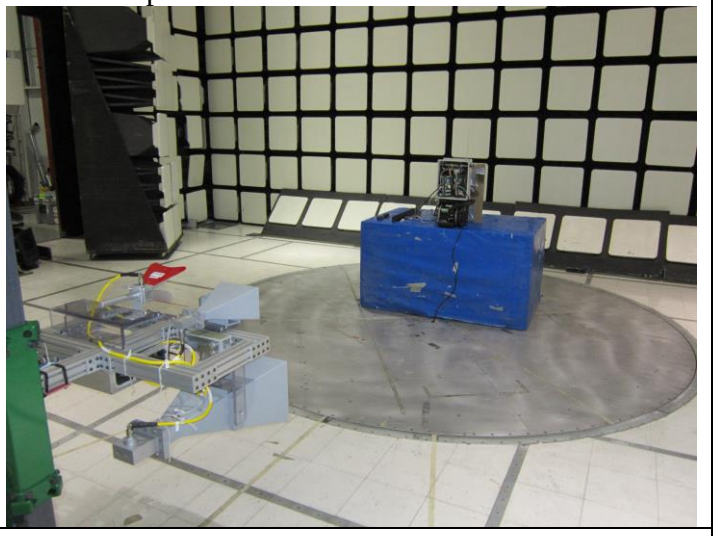
Antenna Port Emissions



Radiated Spurious Emissions above below 1GHz



Radiated Spurious Emissions above 1GHz



Appendix B

Test Equipment

Conducted Emissions

Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due Date
EMI Test Receiver	Rohde & Schwarz	ESCI	EMC4328	20131217	20141231
Transient Limiter	Electro-Metrics	EM7600-2	EMC4224	N/A	N/A
HighPass Filter	Solar Electronics	2803-150	885551	N/A	N/A
Attenuator	HP	8494B	2831A00838	N/A	N/A
LISN - L1	Solar	8602-50-TS-50-N	EMC4052	Jan 15, 2013	Jan 16, 2014
LISN - L2	Solar	8602-50-TS-50-N	EMC4064	Jan 15, 2013	Jan 16, 2014

Radiated Emissions – 10-Meter Chamber

Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due Date
EMI Test Receiver	Rohde & Schwarz	ESU	EMC4323	20131220	20141231
Bicon Antenna	Chase	VBA6106A	EMC4078	20130213	20140228
Log-P Antenna	Chase	UPA6109	EMC4313	20131003	20141003
Spectrum Analyzer	Rhode & Schwarz	FSEK	EMC4182	20131226	20141231
Antenna Array	UL	BOMS	EMC4276	20130912	20140930

Antenna Port Conducted Emissions

Description	Manufacturer	Model	Identifier	Cal Date	Cal Due Date
Spectrum analyzer	Agilent	N9030A	EMC4360	20131221	20141221
Cable and Attenuator	-	-	-	*	*
* measured at the time of testing					

Appendix C

Accreditations and Authorizations

NVLAP Lab code: 100414-0

NVLAP: The National Institute of Standards and Technology (NIST) administers the National Voluntary Laboratory Accreditation Program (NVLAP). NVLAP is comprised of laboratory accreditation programs (LAPs) which are established on the basis of requests and demonstrated need. Each LAP includes specific calibration and/or test standards and related methods and protocols assembled to satisfy the unique needs for accreditation in a field of testing or calibration. NVLAP accredits public and private laboratories based on evaluation of their technical qualifications and competence to carry out specific calibrations or tests. Accreditation criteria are established in accordance with the U.S. Code of Federal Regulations (CFR, Title 15, Part 285), NVLAP Procedures and General Requirements, and encompass the requirements of ISO/IEC 17025. For a full scope listing see http://ts.nist.gov/standards/scopes/1004140.htm

FCC: Details of the measurement facilities used for these tests have been filed with the Federal Communications Commission's Laboratory in Columbia, Maryland (Ref. No. 91044).

Industry Canada Industrie Canada

Industry of Canada: Accredited by Industry Canada for performance of radiated measurements. Our test site complies with RSP 100, Issue 7, Section 3.3. File #: IC 2180A

VCCI: Accepted as an Associate Member to the VCCI. The measurement facilities detailed in this test report have been registered in accordance with Regulations for Voluntary Control Measures, Article 8. Registration Nos.: A0140.

ICASA: ICASA (Independent Communications Authority of South Africa) has appointed UL as a Designated Test Laboratory to test Telecommunications equipment for type approval in compliance with CISPR 22 to assist in fulfilling its mandate under section 54(1) of the Telecommunications Act, 1996 (Act 103 of 1996).

NIST/CAB: Validated by the European Commission as a U.S. Conformity Assessment Body (CAB) of the U.S.-EU Mutual Recognition Agreement (MRA) for the Electromagnetic Compatibility - Council Directive 2004/108/EC, Annex III (2-3). Also validated for the Telecommunication Equipment-Council Directive 99/5/EC, Annex III and IV, Identification Number: 0983.
NIST/CAB: Provisioned to act as a U.S. Conformity Assessment Body (CAB) under Appendix B, Phase I Procedures, of the Asia Pacific Economic Cooperation (APEC) MRA between the American Institute in Taiwan (AIT) and the United States. Our laboratory is considered qualified to test equipment subject to the applicable EMC regulations of the Chinese Taipei Bureau of Standards, Metrology and Inspection (BSMI) which require testing to CNS 13438 (CISPR 22).
NIST/CAB: Recognized by the Infocomm Development Authority of Singapore (IDA) under the Asia Pacific Economic Cooperation Mutual Recognition Agreement (APEC MRA). Our laboratory is provisionally designated to act as a Conformity Assessment Body (CAB) under Appendix B, Phase I Procedures, of the APEC MRA. Our scope of designation includes IDA TS EMC (CISPR 22), IEC 61000-4-2, -4-3, -4-4, -4-5, and -4-6