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FCC Part 15, Subpart C, Section 15.249 Industry Canada, RSS-210 and RSS-GEN

Test Report

On

908 MHz Transceiver FCC ID: Y3K-ROCM IC: 8622A-ROCM

Customer Name: Evolve Guest Controls

Customer P.O: 0001800

Date of Report Revision: April 15, 2015

Test Report No: R-2271P, Rev. A

Test Start Date: January 23, 2015

Test Finish Date: January 27, 2015

Test Technician: David Fiore

Approved By: Dean F. Landers

Report Prepared By: Colleen Reitz

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Technical Information

Report Number: R-2271P, Rev. A

Customer: Evolve Guest Controls

Address: 16 S. Maryland Avenue

Port Washington, NY 11050

Manufacturer: Mega World

Manufacturer Address: Unit J, 13/F, World Tech Center, 95 How Ming Street

Kwan Tong, Kowloon, Hong Kong

Test Sample: 908 MHz Transceiver

Model Number: ROC[m] v2.0

FCC ID: Y3K-ROCM

IC: 8622A-ROCM

Type: Unlicensed Radio Apparatus

Power Requirements: 5 VDC derived from 115 VAC, 60 Hz Adapter

Frequency of Operation: 908 MHz

Equipment Class: DXT

Equipment Use: Mobile >20cm

Test Specification:

FCC Rules and Regulations Part 15, Subpart C, Section 15.249 Radio Standards Specification, RSS-210, Issue 8, June, 2010

Test Procedure:

ANSI C63.4:2009 RSS-GEN, Issue 4, November 2014

Test Facility:

Retlif Testing Laboratories 3131 Detwiler Road Harleysville, PA 19438

FCC Registered Test Site Number: 98314

Tests Performed

The test methods performed on the 908 MHz Transceiver are shown below:

FCC Part 15, Subpart C	Industry Canada Industry Can RSS-210 RSS-GEN		Test Method
15.249(a)	A2.9	N/A	Field Strength of Emissions
15.249(d)	A2.9(b)	N/A	Field Strength of Spurious Emissions
15.249(d)	A2.9(b)	N/A	Field Strength of Emissions- Band Edge
15.107 / 15.207(a)	N/A	7.2.2	Conducted Emissions
15.109(a)	N/A	7.2.3	Receiver Radiated Emissions

General Test Requirements

- 1. The measurement procedures of ANSI C63.4:2009 were utilized as specified in FCC Part 15, Subpart C, Section 15.31(a)(3) and IC RSS-GEN Section 4.1.
- 2. All radiated emissions measurements were performed on an Open Area Test Site (OATS), listed with the FCC and IC, in accordance with FCC Section 15.31(d) and IC Section 4.2.
- 3. The level of the fundamental field strength was measured with the AC input varied from 85 to 115% of rated. The worst case results were reported in accordance with FCC Section 15.231(e) and IC Section 4.3(e).
- 4. All measurements were performed at the specified 3 meter test distance as required by FCC Section 15.31(f) and IC Section 7.25.
- 5. The EUT was rotated throughout 360 degrees for all radiated emissions measurements as specified in FCC Section 15.31(f)(5) and IC Section 4.3(h).
- 6. All readily accessible EUT controls were adjusted in such a manner as to maximize the level of emissions in accordance with FCC Section 15.31(g) and IC Section 4.3(h).
- 7. Appropriate accessories were attached to all EUT ports during the performance of radiated emissions measurements as required by FCC Section 15.31(i) and IC Section 4.3(d).
- 8. AC line conducted emissions were measured utilizing a 50 Ohm / 50 MicroHenry LISN as specified in FCC Section 15.31(I) and IC Section 7.2.2.
- 9. The EUT operated at the frequency of 908 MHz. Testing was performed with the device operating at 1 frequency in the middle of the range of operation in accordance with FCC Section 15.31(m) and IC Section 4.3(f)(g).
- 10. The frequency spectrum was investigated from the lowest frequency generated in the device up to the 10th harmonic of the highest fundamental frequency in accordance with FCC Section 15.33(a)(1) and IC Section 4.9.
- 11. Measurements below 1000 MHz were taken utilizing a Quasi-Peak Detector. Measurements above 1 GHz were taken utilizing an Average Detector in accordance with FCC Section 15.35(a) and IC Section 4.9. The peak value of emissions above 1 GHz was verified to meet the 20 dB requirement of FCC Section 15.35(b) and IC Section 7.2.1.

Certification and Signatures

We certify that this report is a true representation of the results obtained from the tests of the equipment stated. We further certify that the measurements shown in this report were made in accordance with the procedures indicated and vouch for the qualifications of all Retlif Testing Laboratories personnel taking them.

Dean F. Landers EMC Test Engineer

NVLAP Approved Signatory

Non-Warranty Provision

The testing services have been performed, findings obtained and reports prepared in accordance with generally accepted laboratory principles and practices. This warranty is in lieu of all others, either expressed or implied.

Non-Endorsement

This test report contains only findings and results arrived at after employing the specific test procedures and standards listed herein. It is not intended to constitute a recommendation, endorsement or certification of the product or material tested. This test report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government.

Requirements and Test Results

Requirement:

FCC Section 15.249(a) and (d) - Operation within the bands 902 - 928 MHz, 2400 - 2483.5 MHz, 5725 - 5875 MHz and 24.0 - 24.25 GHz

IC RSS-210, A2.9(a) and (b):

This section provides standards for low-power devices that can be used for any application provided the following condition is met:

FCC Section 15.249(a): Except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with Table 1.

IC A2.9(a): The field strengths measured at 3 meters shall not exceed the limits specified in Table 1.

Table 1 - Field Strength of Emissions

Fundamental Frequency	Field Strength - Fundamental (millivolts/meter)	Field Strength - Harmonics (microvolts/meter)	
902 to 928 MHz	50	500	
2400 to 2483.5 MHz	50	500	
5725 to 5875	50	500	
24.0 to 24.25 GHz	250	2500	

Results:

The EUT was operated at 908 MHz. The field strength of the fundamental did not exceed 50 mV/m peak. The field strength of the harmonics did not exceed 500 µV/m peak.

FCC Section 15.249(d): Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.

IC A2.9(b): Emissions radiated outside of the frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the limits of Table 2 (RSS-210), whichever is the less stringent.

Results:

Emissions radiated at the Band Edges and outside the specified frequency band were attenuated in accordance with the general radiated emissions limits of 15.209.

Requirements and Test Results (con't)

Requirement:

FCC Section 15.107/15.207(a) - Conducted Limits

For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits shown in Table 2, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of the paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applied at the boundary between the frequency ranges.

IC RSS-GEN, Section 7.2.2 -

Transmitter and Receiver AC Power Lines Conducted Emissions Limits

The purpose of this test is to measure unwanted radio frequency currents induced in any AC conductor external to the equipment which could conduct interference to other equipment via the AC electrical network.

Except when the requirements applicable to a given device state otherwise, for any liscense-exempt radio communication device equipped to operate from the public utility AC power supply, either directly or indirectly, the radio frequency voltage that is conducted back onto the AC power lines in the frequency range of 0.15 MHz to 30 MHz shall not exceed the limits shown in Table 2. The tighter limit applies at the frequency range boundaries.

The conducted emissions shall be measured with a 50 ohm/50 microhenry line impedance stabilization network.

	Conducted Limit (dBµV)					
Frequency of Emission (MHz)	Quasi-Peak	Average				
0.15 to 0.5	66 to 56*	56 to 46*				
0.5 to 5	56	46				
5 to 30	60	50				
*Decreases due to logarithm of the frequency						

Table 2 - Conducted Emission Limits

Results:

The conducted emissions observed did not exceed the limits specified in Table 2 when tested with the receiver on.

Requirements and Test Results (con't)

Requirement:

FCC Section 15.109(a) - Receiver Radiated Emissions

Except for Class A digital devices, the field strength of radiated emissions from intentional radiators at a distance of 3 meters shall not exceed the values shown in Table 3.

IC RSS-GEN, 7.2.3 - Receiver Spurious Emission Limits

Receiver spurious emissions at any discrete frequency shall not exceed 2 nanowatts in the band 30-1000 MHz, or 5 nanowatts above 1 GHz. All spurious emissions shall comply with the limits specified in Table 3.

Table 3 - Receiver Radiated Emission Limits

Frequency of Emission (MHz)	Field Strength (microvolts/meter)
30 to 88	100
88 to 216	150
216 to 960	200
Above 960	500

Results:

The emissions observed did not exceed the limits specified in Table 3.

General Requirements FCC and IC

RF Exposure Limits

The following power measurement was calculated from field strength measurements as outlined in Paragraph 4.2 of RSS-102, Issue 2:

TP =
$$\frac{(FS \times D)^2}{30 \times G}$$
 FS = 0.00570821 (Peak)
D = 3 M
G = 6.02
TP = 1.62 microwatts

In accordance with Paragraph 2.5.1 of RSS-102, Issue 2, this device is exempt from SAR evaluation since the TP is less than 200 milliwatts and the device is portable.

Equipment Lists

FCC Section 15.249(a) and IC RSS-GEN, A2.9 - Field Strength of Emissions

EN	Manufacturer	Description	Range	Model No.	Cal Date	Due Date
713D	MICRO-COAX	CABLE ASSEMBLY	3 FT. 50U50U	UFB311A1-0360-	9/30/2014	9/30/2015
713F	MICRO-COAX	CABLE ASSEMBLY	25 FT 50U50U	UFB311A1-2400-	9/30/2014	9/30/2015
8017	EMCO	DOUBLE RIDGE GUIDE	1 - 18 GHz	3115	8/21/2014	2/29/2016
8300	RETLIF	TEST SITE ATTENUATION	3/10 Meter OATS	RPA	8/7/2014	8/31/2015
8300C	UNKNOWN	3/10 METER CABLE	3/10 METER	3 METER CABLE	10/3/2014	10/31/2015
8317	AGILENT / HP	PRE-AMPLIFIER	1-26.5 GHz, 30 dB	8449B	6/12/2014	6/30/2015
8411	SONOMA INSTRUMENT	PRE-AMPLIFIER	9 kHz - 1 GHz	310N	9/30/2014	9/30/2015
8433	ETS LINDGREN	BICONILOG	20 - 6000 MHz	3142D	3/10/2014	9/30/2015
R650	AGILENT / HP	SPECTRUM ANALYZER	100 Hz - 26.5 GHz	E7405A	3/27/2014	3/31/2015

FCC Section 15.249(d) and IC RSS-GEN, A2.9(b) - Field Strength of Spurious Emissions

EN	Manufacturer	Description	Range	Model No.	Cal Date	Due Date
713D	MICRO-COAX	CABLE ASSEMBLY	3 FT. 50U50U	UFB311A1-0360-	9/30/2014	9/30/2015
713F	MICRO-COAX	CABLE ASSEMBLY	25 FT 50U50U	UFB311A1-2400-	9/30/2014	9/30/2015
8017	EMCO	DOUBLE RIDGE GUIDE	1 - 18 GHz	3115	8/21/2014	2/29/2016
8300	RETLIF	TEST SITE ATTENUATION	3/10 Meter OATS	RPA	8/7/2014	8/31/2015
8300C	UNKNOWN	3/10 METER CABLE	3/10 METER	3 METER CABLE	10/3/2014	10/31/2015
8317	AGILENT / HP	PRE-AMPLIFIER	1-26.5 GHz, 30 dB	8449B	6/12/2014	6/30/2015
8411	SONOMA INSTRUMENT	PRE-AMPLIFIER	9 kHz - 1 GHz	310N	9/30/2014	9/30/2015
8433	ETS LINDGREN	BICONILOG	20 - 6000 MHz	3142D	3/10/2014	9/30/2015
R650	AGILENT / HP	SPECTRUM ANALYZER	100 Hz - 26.5 GHz	E7405A	3/27/2014	3/31/2015
3207	ETS/EMCO	ANTENNA, ACTIVE LOOP	10 kHz to 30 MHz	6502	1/26/2015	1/31/2016

FCC Section 15.249(d), IC RSS-GEN, A2.9(b) - Field Strength of Emissions Band Edge

EN	Manufacturer	Description	Range	Model No.	Cal Date	Due Date
713D	MICRO-COAX	CABLE ASSEMBLY	3 FT. 50U50U	UFB311A1-0360-	9/30/2014	9/30/2015
713F	MICRO-COAX	CABLE ASSEMBLY	25 FT 50U50U	UFB311A1-2400-	9/30/2014	9/30/2015
8017	EMCO	DOUBLE RIDGE GUIDE	1 - 18 GHz	3115	8/21/2014	2/29/2016
8300	RETLIF	TEST SITE ATTENUATION	3/10 Meter OATS	RPA	8/7/2014	8/31/2015
8300C	UNKNOWN	3/10 METER CABLE	3/10 METER	3 METER CABLE	10/3/2014	10/31/2015
8317	AGILENT / HP	PRE-AMPLIFIER	1-26.5 GHz, 30 dB	8449B	6/12/2014	6/30/2015
8411	SONOMA INSTRUMENT	PRE-AMPLIFIER	9 kHz - 1 GHz	310N	9/30/2014	9/30/2015
8433	ETS LINDGREN	BICONILOG	20 - 6000 MHz	3142D	3/10/2014	9/30/2015
R650	AGILENT / HP	SPECTRUM ANALYZER	100 Hz - 26.5 GHz	E7405A	3/27/2014	3/31/2015

Equipment Lists (con't)

FCC Section 15.107/15.207(a) - Conducted Emissions IC RSS-GEN, 7.2.2 - Transmitter and Receiver AC Power Lines Conducted Emission Limits

EN	Manufacturer	Description	Range	Model No.	Cal Date	Due Date
8079	ROHDE & SCHWARZ	EMI TEST RECEIVER		ESH3	6/30/2014	6/30/2015
8496	NARDA	MED POWER ATTENUATOR	DC-11GHZ / 20W	768-10	6/2/2014	6/30/2015
8557	NARDA MICROWAVE	ATTENUATOR, COAXIAL	10 dB; DC - 11 GHz	768-10	6/3/2014	6/30/2015
8575	RIGOL	ANALYZER, SPECTRUM	9 kHz - 1.5 GHz	DSA815-TG	12/12/2014	12/31/2015
8633	SOLAR ELECTRONICS	LINE IMPEDANCE STABILIZATION NETWORK	150 kHz - 30 MHz	21106-50-BP-25-BNC	1/13/2015	1/31/2016
8634	SOLAR ELECTRONICS	LINE IMPEDANCE STABILIZATION NETWORK	150 kHz - 30 MHz	21106-50-BP-25-BNC	1/13/2015	1/31/2016

FCC Section 15.109(a) - Receiver Radiated Emissions IC RSS-GEN, 7.2.3 - Receiver Spurious Emission Limits

EN	Manufacturer	Description	Range	Model No.	Cal Date	Due Date
713D	MICRO-COAX 50U50U	CABLE ASSEMBLY	3 FT.	UFB311A1-0360-	9/30/2014	9/30/2015
713F	MICRO-COAX 50U50U	CABLE ASSEMBLY	25 FT	UFB311A1-2400-	9/30/2014	9/30/2015
8017	EMCO	DOUBLE RIDGE GUIDE	1 - 18 GHz	3115	8/21/2014	2/29/2016
8300	RETLIF	TEST SITE ATTENUATION	3/10 Meter OATS	RPA	8/7/2014	8/31/2015
8300C	UNKNOWN	3/10 METER CABLE	3/10 METER	3 METER CABLE	10/3/2014	10/31/2015
8317	AGILENT / HP	PRE-AMPLIFIER	1-26.5 GHz, 30 dB	8449B	6/12/2014	6/30/2015
8411	SONOMA INSTRUMENT	PRE-AMPLIFIER	9 kHz - 1 GHz	310N	9/30/2014	9/30/2015
8433	ETS LINDGREN	BICONILOG	20 - 6000 MHz	3142D	3/10/2014	9/30/2015
R650	AGILENT / HP	SPECTRUM ANALYZER	100 Hz - 26.5 GHz	E7405A	3/27/2014	3/31/2015

FCC Part 15, Subpart C, Section 15.249(a) and IC RSS-210, Annex A2.9 Field Strength of Emissions

Test Metho			rt 15, Subpart -210, Annex A2							
Customer:			Guest Controls	•			R-2271P			
Test Sampl	e:	908 MH	lz Transceiver							
Part No.:		ROC[m] V2.0			SN: 11001				
Operating N	/lode:		ously transmittir	ng a CW signa	l at 908 MHz					
Technician:		D.Fiore	-			Date:	01/23/2015			
Notes:	Detector	: Quasi-P	eak below 1GH	z, Peak above	1GHz T	est Distance: 3	3 Meters			
Test Freq.		enna Height	EUT Orientation	Meter Reading	Correction Factor	Corrected Reading	Converted Reading	Peak Limit		
MHz	(V/H)/I	Meters		dΒμV	dB	dBµV/m	uV/m	uV/m		
908.00	V / ·	1.00	178.0	74.48	0.65	75.13	5708.21	50,000		
908.00	H/:	2.86	152.3	70.43	0.65	71.08	3580.96	50,000		
1816.00	V/1		157.3	49.94	-6.67	43.27	145.71	500		
1816.00	H/1	.36	152.2	47.15	-6.67	40.48	105.68	500		
1070100										
*2724.00	V/1		180.0	40.62	-4.8	35.82	61.80	500		
*2724.00	H/1	.00	180.0	40.25	-4.8	35.45	59.22	500		
*3632.00	1//4	00	400.0	44.45	4.40	40.00	4.45.55	500		
*3632.00	V/1 H/1		180.0 180.0	44.45 44.01	-1.19 -1.19	43.26 42.82	145.55 138.35	500		
3032.00		.00	160.0	44.01	-1.19	42.02	130.33	500		
*4540.00	V/1	00	180.0	44.96	0.36	45.32	184.50	500		
*4540.00		.00	180.0	44.59	0.36	44.95	176.81	500		
	, .		100.0	11.00	0.00	11.00	170.01			
*5448.00	V/1	.00	180.0	45.23	2.55	47.78	244.91	500		
*5448.00	H/1	.00	180.0	45.54	2.55	48.09	253.80	500		
*6356.00	V/1	.00	180.0	44.11	3.44	47.55	238.51	500		
*6356.00	H/1	.00	180.0	45.23	3.44	48.67	271.33	500		
*7264.00		.00	180.0	46.14	5.04	51.18	362.24	500		
*7264.00	H/1	.00	180.0	45.14	5.04	50.18	322.85	500		
*0470.00			400.0	45.40	5 10	5 000	000.00	500		
*8172.00		.00	180.0	45.18	5.18	50.36	329.60	500		
*8172.00	H/1	.00	180.0	45.33	5.18	50.51	335.35	500		
*9080.00	\ / / 4	00	100.0	44.70	6.00	FO 04	24744	F00		
*9080.00		.00	180.0 180.0	44.72 44.60	6.09 6.09	50.81 50.69	347.14 342.37	500 500		
3000.00	П/ І	.00	100.0	44.00	0.09	30.09	342.31	300		
	The free	quency ra	Inge was scanne	ed from 908 M	 Hz to 9.080 G	 SHz. All emission	ons not recorded	were more		
							ed the specified li			
			asurements, min				•			

Ī		ECC Pa	rt 15, Subpart	C Section 15	240(a) Field	I Strongth of E	missions				
Test Metho	d:		-210, Annex A2								
Customer:			Guest Controls	,	Job No.:	R-2271P					
Test Sample	e:	908 MHz Transceiver									
Part No.:		ROC[m	ROC[m] V2.0 SN: 11001								
Operating N	/lode:		ously transmittii	ng a CW signa	l at 908 MHz						
Technician:		D.Fiore	•	<u> </u>		Date:	01/23/2015				
Notes:		: Average)		1	Test Distance:	3 Meters				
		enna	EUT	Meter	Correction	Corrected	Converted	Peak			
Test Freq.	Pol./H	Height	Orientation	Reading	Factor	Reading	Reading	Limit			
MHz	(V/H)-	Meters		dΒμV	dB	dBµV/m	uV/m	uV/m			
	,			•							
1816.00	V/1	.28	157.3	40.21	-6.67	33.54	47.53	500			
1816.00	H/1	.36	152.2	36.41	-6.67	29.74	30.69	500			
*2724.00		.00	180.0	31.31	-4.8	26.51	21.16	500			
*2724.00	H/1	.00	180.0	31.39	-4.8	26.59	21.35	500			
*2022.00	2.774	00	400.0	00.00	4.40	00.74	07.00	500			
*3632.00		.00	180.0	29.90	-1.19	28.71	27.26	500			
*3632.00	H/1	.00	180.0	29.35	-1.19	28.16	25.59	500			
*4540.00	\//1	.00	180.0	29.58	0.36	29.94	31.41	500			
*4540.00		1.00	180.0	29.62	0.36	29.94	31.55	500			
10 10.00	1 1/ 1	.00	100.0	29.02	0.30	29.90	31.33	1			
*5448.00	V/1	.00	180.0	28.86	2.55	31.41	37.20	500			
*5448.00		.00	180.0	29.01	2.55	31.56	37.84	500			
*6356.00	V/1	.00	180.0	28.93	3.44	33.27	46.08	500			
*6356.00	H/1	.00	180.0	28.98	3.44	33.42	46.88	500			
*7264.00		.00	180.0	30.06	5.04	35.10	56.89	500			
*7264.00	H/1	.00	180.0	30.04	5.04	35.08	56.75	500			
*0.470.00											
*8172.00		.00	180.0	29.82	5.18	35.00	56.23	500			
*8172.00	H/1	.00	180.0	29.84	5.18	35.02	56.36	500			
*9080.00	\//4	.00	190.0	30.29	6.00	36.38	65.92	500			
*9080.00		.00	180.0 180.0	30.29	6.09 6.09	36.37	65.84	500 500			
3000.00	17/1	.00	160.0	30.20	0.09	30.37	05.04	300			
							ons not recorded				
							ed the specified I	imits.			
	* Noise	floor mea	surements, mir	imum sensitiv	ity of measure	ement system.					

FCC Part 15, Subpart C, Section 15.249(d) and IC RSS-GEN, A2.9(b) Field Strength of Spurious Emissions

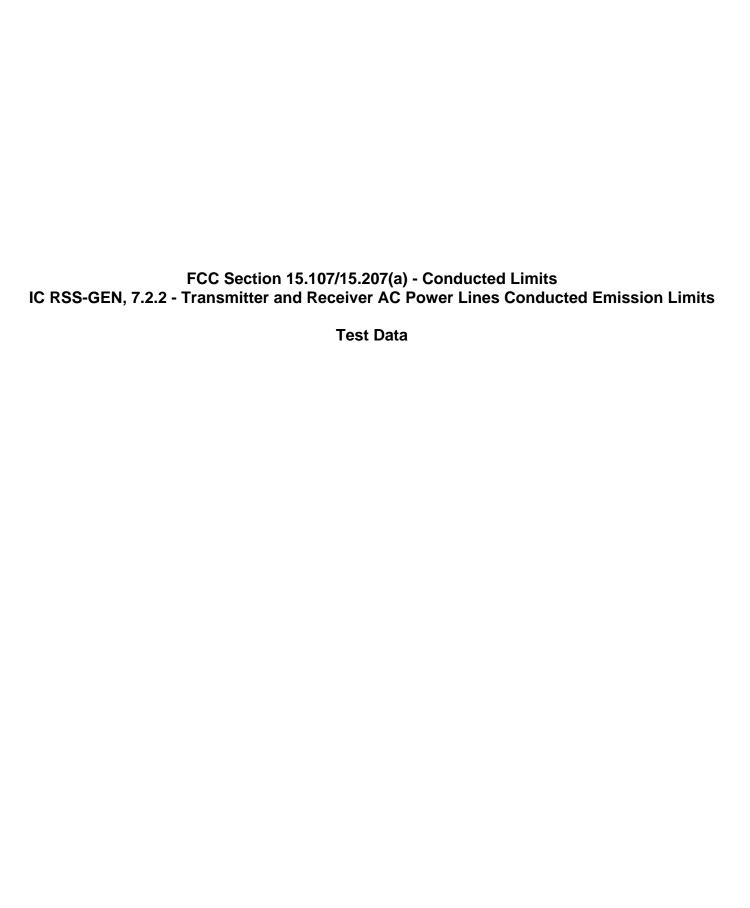
1				. =							
Test Metho	d:	Para:15.2	: 15, Subpart 249(d), IC, RS .nds 902–928	S-210 Anne	ength of Spur x 2.9(b) – Fiel	ious Em ld Strenç	issions, 30 MI gth of Spuriou	Hz to 10.0 GH s Emissions (z, Operating		
Customer:		Evolve G	uest Controls				Job No.:	R-2271P			
Test Sampl	ъ.		Transceiver				00.011011	1			
Model No.:	<u>. </u>	ROC[m] \					Serial No.:	10835			
Operating N	Mode:	Continuo	usly Transmitt	ing a Modula	ted signal at 9	008MHz.		J			
Technician		D.Fiore	•				Date:	01/26/2015			
Notes:		Distance: 3	Meters			Т	emp: 2.1°C	RH: 71%			
110100.			-Peak Below 1	GHz. Peak	above 1 GHz		omp. 2.1 0	1411. 7 170			
								0	1		
Frequency		ntenna osition	EUT Orientation	Meter Readings	Correction Factor		rected ading	Converted Reading	Limit		
MHz	(V/H) /	Meters	Degrees	dBuV	dB	dB	uV/m	uV/m	uV/m		
0.009									267		
	<u> </u>								1 1 2		
0.490 0.490	-								4.8 49.97		
0.430									75.51		
1.705									14.07		
1.705									30		
8.00	Dor	ollol/1 O	190.0	20.00	0.55	10	3.45	0.27			
8.00 8.00		allel/1.0 ndicular/1.0	180.0 180.0	28.00 36.57	-9.55 -9.55		7.02	8.37 22.44			
1	Тогрог	idiodidi/ 1.0	100.0	00.07	0.00		.02	22.77	i		
30.00									30		
125.00		//1.00	302.0	28.56	9.56		3.12	80.53			
125.00	F	1/2.96	165.7	25.15	9.56	34	1.71	54.38			
166.67	\	//1.00	49.3	29.93	11.60	//1	1.53	119.26			
166.67		1/2.01	147.5	27.68	11.60		9.28	92.04			
		,, 2.0 .		27.00	11.00		,,	02.0	i		
216									150		
216									200		
250.01		//1.00	89.7	28.95	16.71	15	5.66	191.87			
250.01		1/2.53	32.6	27.25	16.71		3.96	157.76			
	<u> </u>		52.5						<u> </u>		
291.64		//1.00	28.0	21.24	17.15		3.39	83.08	İ		
291.64	F	1/1.72	323.4	24.58	17.15	41	.73	122.04			
222.25	1	//1.00	26.4	22.20	19.02	A C) 41	104.92			
333.35 333.35		//1.00 I/1.00	36.4 25.9	22.39 26.22	18.02 18.02).41 1.24	104.83 162.93			
	†	.,	20.0	20.22	10.02			102.00			
416.68	V	//1.32	237.2	20.24	21.00	41	.24	115.35	İ		
416.68	F	1/2.24	171.6	19.22	21.00	40).22	102.57			
060.00	-								200		
960.00 960.00	 						+		200 500		
j											
1000.0									500		
			was scanned fro								
					the specified limit						
		issions not recorded were more than 20dB under the specified limit.									

Test Method:		Para:1	art 15, Subpa 5.249(d), IC, I ting in the Baı	RSS-210 An	nex 2.9(b) -						
Customer:		Evolve	Guest Control	S			Job	No.:	R-2271P		
Test Sample	e:	908 MI	dz Transceiver	•							
Model No.:		ROC[m	n] V2.0				Serial I	No.:	10835		
Operating N	/lode:	Continu	uously Transm	itting a Modu	ulated signal a	at 908MH	Z.				
Technician:		D.Fiore)				D	ate:	01/26/2015		
Notes:			: 3 Meters asi-Peak Below	ı 1 GHz, Pea	ak above 1 Gl	Hz	Temp: 2.	1°C	RH: 71%		
Frequency		enna sition	EUT Orientation	Meter Readings	Correction Factor		ected ading	(Converted Reading	Li	mit
MHz	(V/H)	/	Degrees	dBuV	dB	dB	uV/m		uV/m	u'	V/m
*1.05	H/′	1.00	180.0	42.10	-10.96	31	.14		36.05	5	00
4.95	H/	1.00	180.0	44.96	0.39	45	.35		185.13		<u> </u>
					0.00	10.00					İ
*9.079	H/	1.00	180.0	45.12	6.08	51.20			363.07	5	00
	—										
			range was sc				find limite				
			s observed from								
		sissions not recorded were more than 20dB under the specified limit. bise floor measurements, minimum sensitivity of measurement system.									

FCC Section 15.249(d), IC RSS-GEN, A2.9(b) Field Strength of Emissions Band Edge

Test Method:		10.0 G	FCC Part 15, Subpart C, Field Strength of Spurious Emissions-Band Edge, 30 MHz to 10.0 GHz, Para:15.249(d), IC, RSS-210 Annex 2.9(b) – Field Strength of Spurious Emissions Operating in the Bands 902–928 MHz									
Customer:		Evolve	olve Guest Controls Job No.: R-2271P									
Test Sampl	le:	908 MF	dz Transceive	r				"				
Model No.:		ROCIm	OC[m] V2.0 Serial No.: 10835									
Operating I	Modo:	_	uously Transm	nitting a Modu	ulated signal a	ot OOSMAL						
				illing a wood	ulateu sigilal a	at 900ivii i						
Technician		D.Fiore					Date					
Notes:			: 3 Meters asi-Peak Belov	v 1 GHz, Pea	ak above 1 GH	Нz	Temp: 2.1°C	RH: 71%				
Frequency	-	enna sition	EUT Orientation	Meter Readings	Correction Factor		ected ading	Converted Reading	Limit			
MHz	(V/H) /	/ Meters	Degrees	dBuV	dB	dB	uV/m	uV/m	uV/m			
30.00									100			
41.67	\//-	1.00	146.3	25.58	13.58	30	.16	90.78				
41.67		1.29	267.1	23.56	13.58		.14	71.94				
88.00									100			
88.00									150			
125.00	V/·	1.00	302.0	28.56	9.56	38	.12	80.53				
125.00	H/2.96		165.7	25.15	9.56	34.71		54.38				
166.67 166.67		1.00 2.01	49.3 147.5	29.93 27.68	11.60 11.60		.53 .28	119.26 92.04				
100.07	Π/2	2.01	147.5	27.00	11.00	39	.20	92.04				
216									150			
216									200			
250.04	1//	1.00	00.7	20.05	40.74	4.5	66	404.07				
250.01 250.01		1.00 2.53	89.7 32.6	28.95 27.25	16.71 16.71		.66 .96	191.87 157.76				
	1 1/2	2.00	02.0	27.20	10.71		.00	107.70				
291.64		1.00	28.0	21.24	17.15		.39	83.08				
291.64	H/	1.72	323.4	24.58	17.15	41	.73	122.04				
333.35	\//-	1.00	36.4	22.39	18.02	4∩	.41	104.83				
333.35		1.00	25.9	26.22	18.02		.24	162.93				
416.68		1.32	237.2	20.24	21.00		.24	115.35				
416.68	H/2	2.24	171.6	19.22	21.00	40	.22	102.57				
902.00	V/1	18.2	180.0	-0.80	33.33	32	.53	42.22				
902.00		18.2	180.0	-0.82	33.33		.51	42.22				
			, = =									
928.00		1.00	180.0 180.0	-0.94	32.48		.54	37.76				
928.00 I	H/	1.00	100.0	-0.56	32.48	31	.92	39.45				
960.00									200			
960.00		-							500			
1000.0									F00			
1000.0	The fr	edilency r	ange was scan	L ned from 30 M	 	7			500			
			observed from t				its.					
	Emiss	ions not r	ecorded were m	nore than 20d	B under the spe	cified limit	=					
	No em	issions w	ere observed a	t the specified	band edges, 90	02 MHz ar	d 928 MHz					

Test Method:		GHz, P	FCC Part 15, Subpart C, Field Strength of Spurious Emissions, Band Edge 30 MHz to 10.0 GHz, Para:15.249(d), IC, RSS-210 Annex 2.9(b) – Field Strength of Spurious Emissions Operating in the Bands 902–928 MHz									
Customer:	Evolve Guest Controls Job No.: R-2271P								R-2271P			
Test Sample	e:	908MHz Transceiver										
Model No.:		ROC[n	n] V2.0				Serial	No.:	10835			
Operating N	lode:	Continu	uously Transm	itting a Modu	ulated signal a	at 908MH	Z.					
Technician:		D.Fiore	9				D	ate:	01/26/2015			
Notes:			: 3 Meters asi-Peak Belov	v 1 GHz. Pea	ak above 1 Gl	H7	Temp: 2.	1°C	RH: 71%			
Frequency	Anto	enna sition	EUT Orientation	Meter Readings	Correction Factor	Corr	ected ading	(Converted Reading	Li	mit	
MHz	(V/H)	/	Degrees	dBuV	dB	dB	uV/m		uV/m	u'	V/m	
	` /		<u> </u>	-				İ		7 7/111		
*1.05	H/	1.00	180.0	42.10	-10.96	31	.14		36.05	5	00	
*4.95	H/′	1.00	180.0	44.96	0.39	45	.35		185.13		<u> </u>	
*9.079	Ш/	1.00	180.0	45.12	6.08	E 1	51.20		363.07		00	
9.079	Π/	1.00	100.0	45.12	6.06	31	.20		303.07	3	00	
	The fr	eguency	range was sc	anned from	30 MHz to 9.0)8 GHz.		1				
			s observed from				fied limits.					
	Emissions not recorded were more than 20dB under the specified limit. *Noise floor measurements, minimum sensitivity of measurement system.											



		E	MISSIONS TE	ST DATA SHE	ET					
Test S	specification:	FCC Part 15, Subpart B. Class B, Conducted Emissions, 150 kHz to 30 MHz Paragraph 15.107, RSS-GEN, Section 7.2.2								
	Method:	Conducted Emissions, AC Power Ports, 150kHz to 30MHz								
Job Numbe	er/Customer:	R-2271P-1 / E	volve Guest Co	ontrols						
	Test Sample:	908MHz Tran	sceiver							
Mo	del Number:	ROC[m] V2.0								
Se	rial Number:	10892								
Ope	rating Mode:	Continuously	Receiving							
Power	Port Tested:	115VAC,60Hz	Z							
	Technician:	D.Fiore								
	Date(s):	01/27/2015								
	Temperature:	21.3°								
Relati	ve Humidity:	30%								
Frequency	Lead Tested	Peak Meter Reading	Quasi-Peak Meter Reading	Average Meter Reading	Quasi-Peak Limit	Average Limit				
MHz		dBuV	dBuv	dBuV	dBuV	dBuV				
0.448	Hot	47.30	Х	27.34	56.91	46.91				
0.896	Hot	41.80	Х	Х	56.00	46.00				
2.78	Hot	30.30	Х	Х	56.00	46.00				
3.83	Hot	36.60	Х	Х	56.00	46.00				
6.51	Hot	35.12	Х	Х	60.00	50.00				
7.66	Hot	33.70	Х	Х	60.00	50.00				
7.00	1100	30.73			00.00	30.00				
0.448	Neutral	44.60	Х	Х	56.91	46.91				
0.896	Neutral	39.20	X	X	56.00	46.00				
2.78	Neutral	35.40	X	X	56.00	46.00				
3.83	Neutral	35.70	X	X	56.00	46.00				
6.51	Neutral	33.10	X	X	60.00	50.00				
7.66	Neutral	30.40	X	X	60.00	50.00				
7.00	Neutrai	30.40	^	Λ	00.00	30.00				

The frequency range was scanned from 0.15 MHz to 30 MHz.
The highest emissions relative to the limit are presented.
The peak emissions observed from the EUT do not exceed the specified average limits.

EMISSIONS TEST DATA SHEET										
Test S	specification:	FCC Part 15, Subpart C, Conducted Emissions, 150 kHz to 30 MHz, Paragraph 15.207(a), IC, RSS-GEN, Section 7.2.2								
	Method:	Conducted Emissions, AC Power Ports, 150kHz to 30MHz								
Job Numbe	er/Customer:	R-2271P-1 / E	Evolve Guest Co	ontrols						
-	Test Sample:	908MHz Tran								
Mo	del Number:	ROC[m] V2.0								
Se	rial Number:	10835								
Ope	rating Mode:		Transmitting a l	Modulated Sign	nal at 908MHz					
Power	Port Tested:	115VAC,60Hz	Z							
	Technician:	D.Fiore								
	Date(s):	01/27/2015								
1	Temperature:	21.3°								
Relati	ve Humidity:	30%								
Frequency	Lead Tested	Peak Meter Reading	Quasi-Peak Meter Reading	Average Meter Reading		Quasi-Peak Limit	Average Limit			
MHz		dBuV	dBuv	dBuV		dBuV	dBuV			
0.303	Hot	51.50	Х	43.50		60.16	50.16			
0.461	Hot	52.40	Х	32.80		56.67	46.67			
1.39	Hot	43.50	Х	Х		56.00	46.00			
2.72	Hot	40.80	Х	Х		56.00	46.00			
3.65	Hot	37.40	Х	Χ		56.00	46.00			
6.77	Hot	36.40	Х	Х		60.00	50.00			
0.1.1		33.13				00.00	00.00			
0.303	Neutral	52.10	Х	42.30		60.16	50.16			
0.461	Neutral	47.70	X	30.41		56.67	46.67			
1.39	Neutral	40.80	X	X		56.00	46.00			
2.72	Neutral	37.00	X	X		56.00	46.00			
3.65	Neutral	36.40	X	X		56.00	46.00			
6.77	Neutral	33.80	X	X		60.00	50.00			
0.77	ricuttai	33.00				00.00	30.00			

The frequency range was scanned from 0.15 MHz to 30 MHz.
The highest emissions relative to the limit are presented.
The peak emissions observed from the EUT do not exceed the specified average limits.

FCC Section 15.109(a) - Receiver Radiated Emissions IC RSS-GEN, 7.2.3 - Receiver Spurious Emission Limits

Test Method:		FCC Part 15, Subpart C, Radiated Emissions, 30 MHz to 5.0 GHz, Para:15.109(a), IC, RSS-210 Annex 7 – Field Disturbance Sensors Operating in the Bands 902–928 MHz									
Customer:		Evolve	Evolve Guest Controls Job No.: R-2271P								
Test Sampl	e:	908MH	908MHz Transceiver								
Model No.:		ROC[m	1 V2.0				Serial No.:	10892			
Operating N	Mode:	-	uously Receiv	ing				1			
Technician		D.Fiore)				Date:	01/27/2015			
Notes:			3 Meters si-Peak Belov	v 1 GHz. Pea	ak above 1 GF	17	Temp: -3.1°C	RH: 79	%		
Frequency	Ant	enna sition	EUT Orientation	Meter Readings	Correction Factor	Corr	ected ading	Converted Reading	Limit		
MHz	(V/H) /	/ Meters	Degrees	dBuV	dB	dB	uV/m	uV/m	uV/m		
30.00									100		
41.67	\//-	1.00	157.9	25.64	13.58	30	.22	91.41			
41.67		1.84	174.2	21.56	13.58		.14	57.14			
	,	1.01		21.00	10.00			01111			
88.00									100		
88.00									150		
125.01	\//-	1.00	326.4	26.45	9.56	26	.01	63.17			
125.01		2.02	153.8	20.45	9.56		.83	39.04			
123.01	1 1/2	2.02	100.0	22.21	9.50	- 01	.00	33.04			
166.68	V/·	1.00	91.5	30.02	11.60	41	.62	120.50			
166.68	H/:	2.10	159.5	30.06	11.60	41	.66	121.05			
									1 1 1		
216									150		
216 I									200		
250.00	V/·	1.00	301.9	28.53	16.71	45	.24	182.81			
250.00		1.59	128.8	27.71	16.71		.42	166.34	İ		
291.67		1.00	339.4	25.68	17.15		.83	138.52			
291.67	H/	1.35	343.3	26.61	17.15	43	.76	154.17			
333.35	\//-	1.00	177.0	20.6	18.02	30	.62	85.31			
333.35		1.28	103.6	21.3	18.02		.32	92.47			
	,	0						V=1.11			
416.68		1.00	295.2	19.89	21.00		.89	110.79			
416.68	H/	1.00	321.3	20.03	21.00	41	.03	112.59			
000.00									000		
960.00 960.00									200 500		
900.00									1		
1000.0									500		
					Hz to 4.54 GHz						
					t exceed the sp						
	Emiss	ions not re	ecorded were m	ore than 20d	3 under the spe	cified limit	•				

Test Method:			FCC Part 15, Subpart B, Class B, Radiated Emissions, 30 MHz to 5.0 GHz, Para:15.109(a), IC, RSS-210 Annex 7 – Field Disturbance Sensors Operating in the Bands 902–928 MHz									
Customer:			Guest Control				Job N		R-2271P			
Test Sampl	e:	908MF	08MHz Transceiver									
Model No.:		ROC[n	n] V2.0				Serial N	No.:	10892			
Operating I	/lode:	-	uously Receiv	ring								
Technician		D.Fiore	9				Da	ate:	01/27/2015			
Notes:	Test [Distance	: 3 Meters				Temp: -3.	1°C	RH: 79 %	, n		
			asi-Peak Belov	v 1 GHz Pea	ak above 1 Gl	H ₇	. ср. с.			-		
	1		1	Meter		1	ected	,	Converted			
Frequency		enna sition	EUT Orientation	Readings	Correction Factor		ected ading	(Reading	Li	imit	
. ,												
MHz	(V/H)	/	Degrees	dBuV	dB	dB	uV/m		uV/m	u'	V/m	
										_		
*1.05	H/ ⁻	1.00	180.0	42.10	-10.96	31	.14		36.05	5	00	
*0.00	11/	4.00	100.0	40.50	0.00	40			400.07		<u> </u>	
*3.00	H/'	1.00	180.0	43.56	-3.23	40	.33		103.87		<u> </u>	
*4.53	11/	1.00	180.0	44.00	0.20	4.5	5.35		185.13		.00	
4.53	H/*	1.00	180.0	44.96	0.39	45	0.35		185.13	5	00	
	Tho fr	earrose.	l / range was sc	anned from	30 MH2 to 4							
			s observed fror				fied limits					
	l – mies		not recorded were more than 20dB under the specified limit. r measurement, minimum sensitivity of measurement system.									