



Engineering Solutions & Electromagnetic Compatibility Services

FCC Part 15.249 Test Data

**EUT: Lifeshield Repeater 56-0052-01 Rev D00
(908.42 MHz transmitter portion)**

for

**Resolution Engineering, Inc.
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**Testing Conducted By
Rhein Tech Laboratories, Inc.
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RTL Test Engineer: Jon Wilson

RTL Project/Report Number: 2014058-2

May 13, 2014

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These tests are accredited and meet the requirements of ISO/IEC 17025 as verified by ANSI-ASQ National Accreditation Board/ACLASS. Refer to certificate and scope of accreditation AT-1445.

Testing Represented in Report:

15.249

The data and limits presented in this report are for radiated emissions per 15.249(e) which references 15.35(b), and peak limiting for restricted bands per 15.209(e), which again references 15.35(b)(2), as procured by Resolution Engineering. No average data is presented in this report. Data is also presented for spurious, non-harmonic radiated emissions per 15.209.

The Equipment Under Test (EUT) was the **Lifeshield Repeater 56-0052-01 Rev D00 (RTL Bar Code 21427)**.

15.249 Radiated Emissions Test Data – FCC Limits/ 3m Distance

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Analyzer Reading (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pass/Fail
908.420*	Peak	H	67.4	25.3	92.7	94.0	-1.3	Pass
1816.840	Peak	H	36.3	5.3	41.6	74.0	-32.4	Pass
2725.260	Peak	V	54.7	-8.5	46.2	74.0	-27.8	Pass
3633.680	Peak	V	44.4	-6.8	37.6	74.0	-36.4	Pass
4542.100	Peak	V	46.1	-0.3	45.8	74.0	-28.2	Pass
5450.520	Peak	H	33.0	0.4	33.4	74.0	-40.6	Pass
6358.940	Peak	H	37.3	2.2	39.5	74.0	-34.5	Pass
7267.360	Peak	H	37.0	2.9	39.9	74.0	-34.1	Pass
8175.780	Peak	V	43.1	9.5	52.6	74.0	-21.4	Pass
9084.200	Peak	V	32.0	9.2	41.2	74.0	-32.8	Pass

* Fundamental

Test Procedure

Radiated fundamental and spurious emissions were tested at three meters. The EUT was tested in the three orthogonal planes with the receive antenna in both polarities. The emissions were maximized per ANSI C63.4:2003 8.3.1.2; that is, the measurement antenna height was varied between 1 and 4 m, and the EUT was rotated through 360° on a rotating turntable until the maximum emissions were found. Both horizontal and vertical measurement antenna polarizations were used. A resolution bandwidth of 100 kHz was used for frequencies less than 1000 MHz, and a resolution bandwidth of 1 MHz was used for frequencies greater than or equal to 1000 MHz. The video bandwidth was set to a value at least three times greater than the resolution bandwidth.

Radiated emissions was also performed with both the transmitter identified in this report as well as a co-located 345 MHz transmitter located on the same PCB (345 MHz transmitter data presented in a separate report contained in this filing). No additional emissions were identified as a result of both transmitters transmitting simultaneously.


EUT Disposition

The EUT was adapted to continuously transmit for testing purposes.

Radiated Emissions Test Equipment

Part	Manufacturer	Model	Serial Number	RTL Bar Code	Calibration Due Date
Amplifier (20 MHz-2 GHz)	Rhein Tech Laboratories, Inc.	PR-1040	900905	900905	8/20/14
Spectrum Analyzer (10 Hz-26.5 GHz)	Agilent	EXA N9010	MY51250846	901583	4/16/15
Bilog Periodic Antenna (25 MHz-2000 MHz)	ARA	LPB-2520	1037	900724	4/19/15
Amplifier (1 GHz–26.5 GHz)	Hewlett Packard	8449B OPT H02	3008A00505	900932	8/10/2014
Horn Antenna (2.0-4.0 GHz)	EMCO	3161-02	9804-1044	900772	4/20/15
Horn Antenna (4.0-8.2 GHz)	EMCO	3161-03	9508-1020	900321	4/20/15
Horn Antenna (8.2-12.4 GHz)	EMCO	3160-07	9605-1054	900323	4/20/15
Emissions Testing Software	Rhein Tech Laboratories, Inc.	Automated Emission Tester	Rev. 14.0.2	N/A	N/A

Test Personnel:

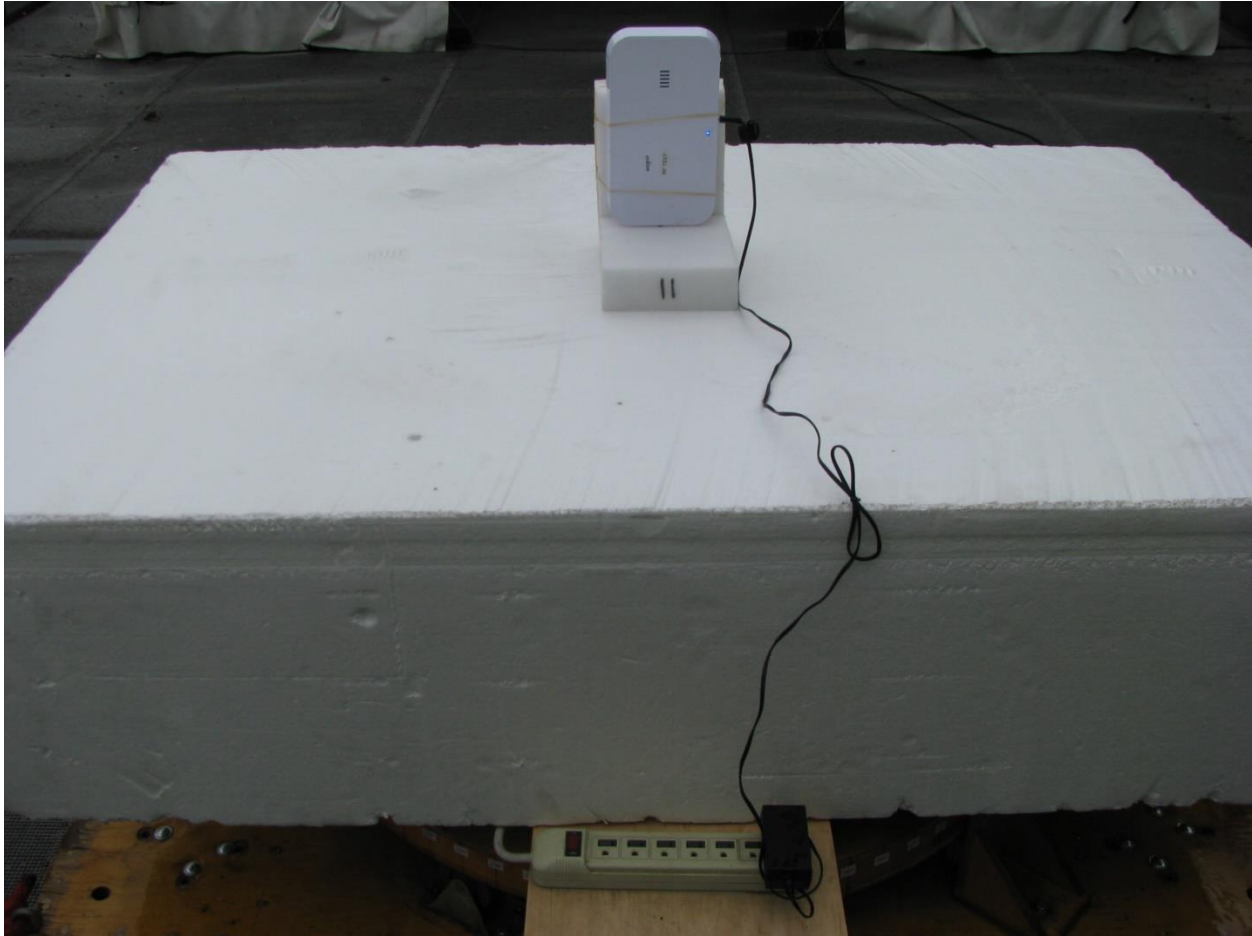
Jon Wilson		May 9-12, 2014
Test Engineer	Signature	Date of Test

FCC/IC Cross Reference

FCC 15.249	RSS-210 Issue 8 A2.9
FCC 15.35(b)	RSS-Gen Issue 3 7.2.3
FCC 15.205	RSS-Gen Issue 3 7.2.2
FCC 15.209	RSS-Gen Issue 3 7.2.5

Test Configuration Photograph

Radiated Emissions



EUT Photographs

