RHEIN TECH LABORATORIES, INC.

Engineering Solutions & Electromagnetic Compatibility Services

FCC 15.231 Radiated Test Data

for

Model: RE301
433.92 MHz DWS

for

Resolution Engineering

RTL Project Number 2010202

Test Engineer: Jon Wilson

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.

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
433.925	Pk	V	79.4	20.9	100.3	100.8	-0.5	Pass
867.850	Pk	V	81.1	-8.5	72.6	80.8	-8.2	Pass
1,301.775	Pk	H	76.8	-4.1	72.7	74.0	-1.3	Pass
1,735.700	Pk	H	60.4	0.5	60.9	80.8	-19.9	Pass
2,169.625	Pk	H	48.6	-3.1	45.5	80.8	-35.3	Pass
2,603.550	Pk	V	54.2	-1.9	52.3	80.8	-28.5	Pass
3,037.475	Pk	V	57.5	-1.4	56.1	80.8	-24.7	Pass
3,471.400	Pk	V	51.3	-0.8	50.5	80.8	-30.3	Pass
3,905.325	Pk	V	47.5	0.2	47.7	74.0	-26.3	Pass
4,339.250	Pk	H	33.4	5.0	38.4	74.0	-35.6	Pass

Test Procedure

Radiated emissions of the harmonics 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.

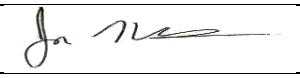
EUT Disposition

The EUT was adapted to continuously transmit for testing purposes.

Radiated Emissions Test Equipment

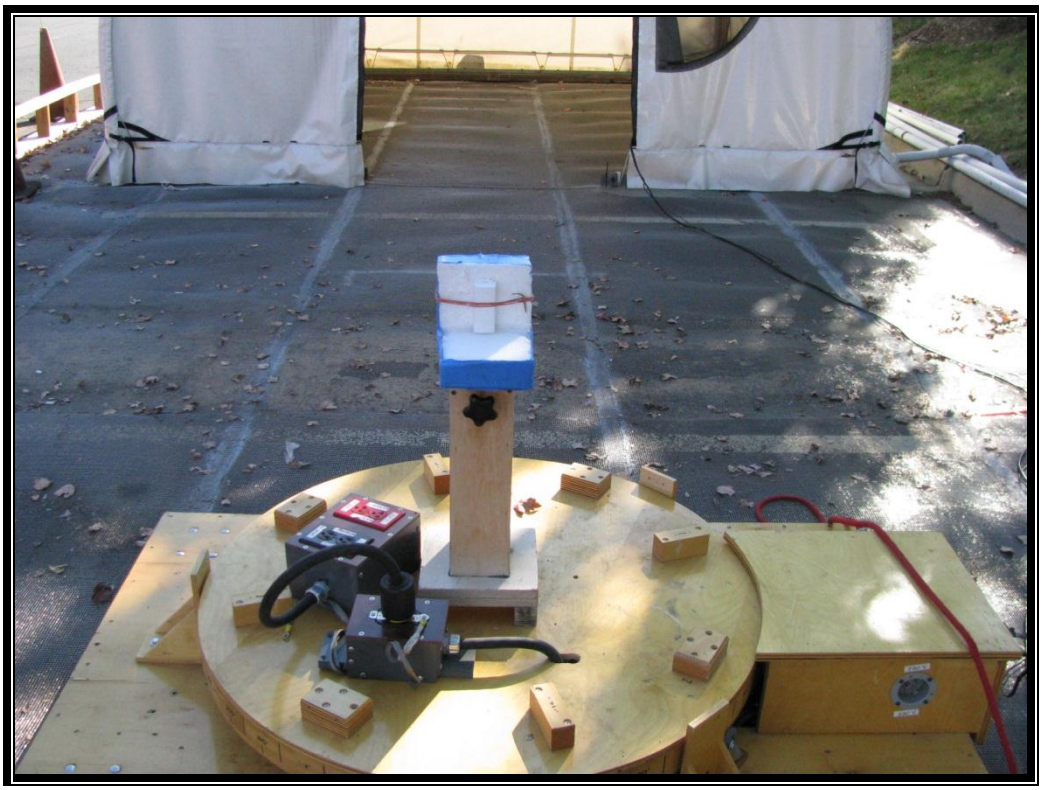
Part	Manufacturer	Model	Serial Number	RTL Bar Code	Calibration Due Date
Amplifier (20 MHz-2 GHz)	Rhein Tech Laboratories, Inc.	PR-1040	900905	900905	4/10/2011
Bilog Periodic Antenna (25 MHz-2 GHz)	Schaffner Chase	CBL6112	2099	900791	12/12/2010
EMI Receiver RF Section (9 kHz-6.5 GHz)	Hewlett Packard	85462A	3325A00159	900913	6/8/2011
RF Filter Section (100 kHz-6.5 GHz)	Hewlett Packard	85460A	3330A00107	900914	6/8/2011
Spectrum Analyzer	Hewlett Packard	8596EM	3826A00144	901215	11/23/2010
Amplifier	RTL	1003	N/A	901364	2/22/2011
Horn Antenna, 2.0-4.0 GHz	EMCO	3161-02	9804-1044	900772	6/13/2011
Horn Antenna, 4.0-8.2 GHz	EMCO	3161-03	9508-1020	900321	6/13/2011
Emissions Testing Software	Rhein Tech Laboratories, Inc.	Automated Emission Tester	Rev. 14.0.2	N/A	N/A

Test Personnel:

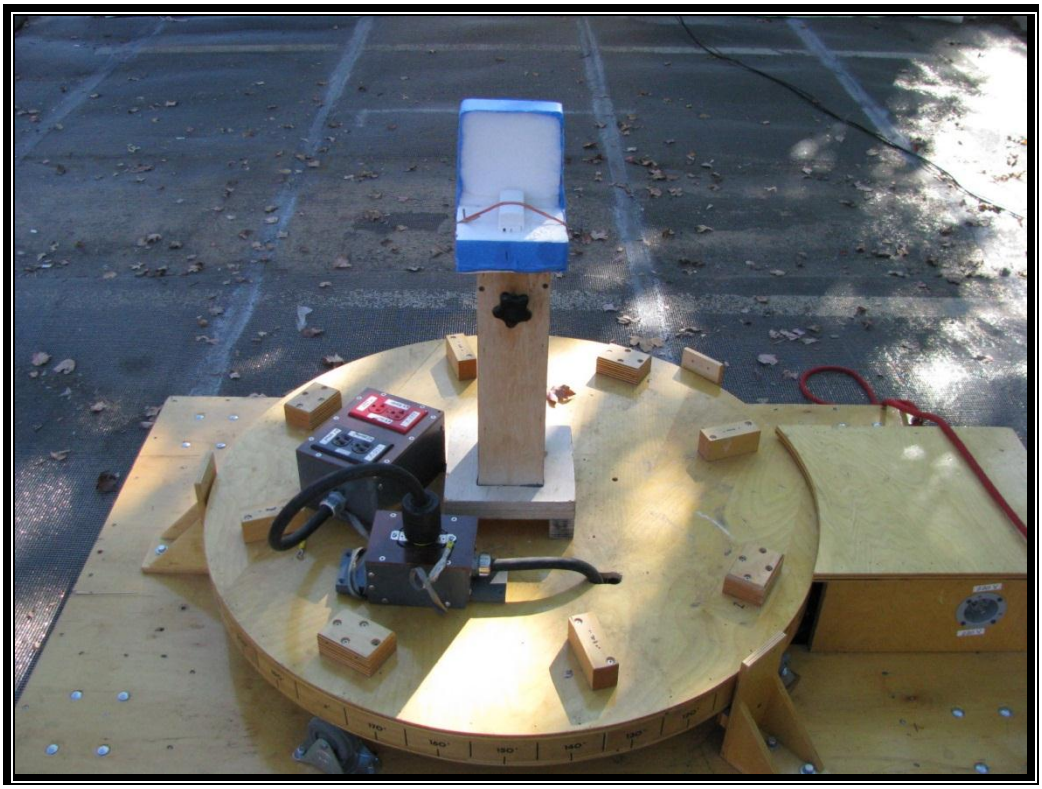
Jon Wilson		October 13, 2010
Test Engineer	Signature	Date of Test

Test Configuration Photographs

X-Axis



Y-Axis



Z-Axis