



Engineering Solutions & Electromagnetic Compatibility Services

FCC 15.231 Test Data

for

Model: RE153

319.5 MHz Outdoor PIR

(RTL barcode: 20556)

for

Resolution Engineering

Report #: 2012100

Test Engineer: Jon Wilson

This report may not be reproduced, except in full, without the full written approval of Rhein Tech Laboratories, Inc. and Resolution Engineering. Test results relate only to the item tested.

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.

Description of testing presented in this test report

The data and limits presented in this report are for peak emissions limiting per 15.231(b)(2) 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.

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
319.507	Peak	V	68.3	26.4	94.7	95.9	-1.2	Pass
639.008	Peak	H	67.5	-5.2	62.3	75.9	-13.6	Pass
958.527	Peak	V	44.4	-1.8	42.6	75.9	-33.3	Pass
1278.023	Peak	H	43.8	3.0	46.8	74.0	-27.2	Pass
1597.523	Peak	V	39.8	6.7	46.5	74.0	-27.5	Pass
1917.023	Peak	V	44.7	11.7	56.4	75.9	-19.5	Pass
2236.661	Peak	V	70.1	-14.0	56.1	74.0	-17.9	Pass
2556.184	Peak	V	78.5	-14.8	63.7	75.9	-12.2	Pass
2875.707	Peak	V	68.5	-14.3	54.2	74.0	-19.8	Pass
3195.230	Peak	V	74.4	-13.5	60.9	75.9	-15.0	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

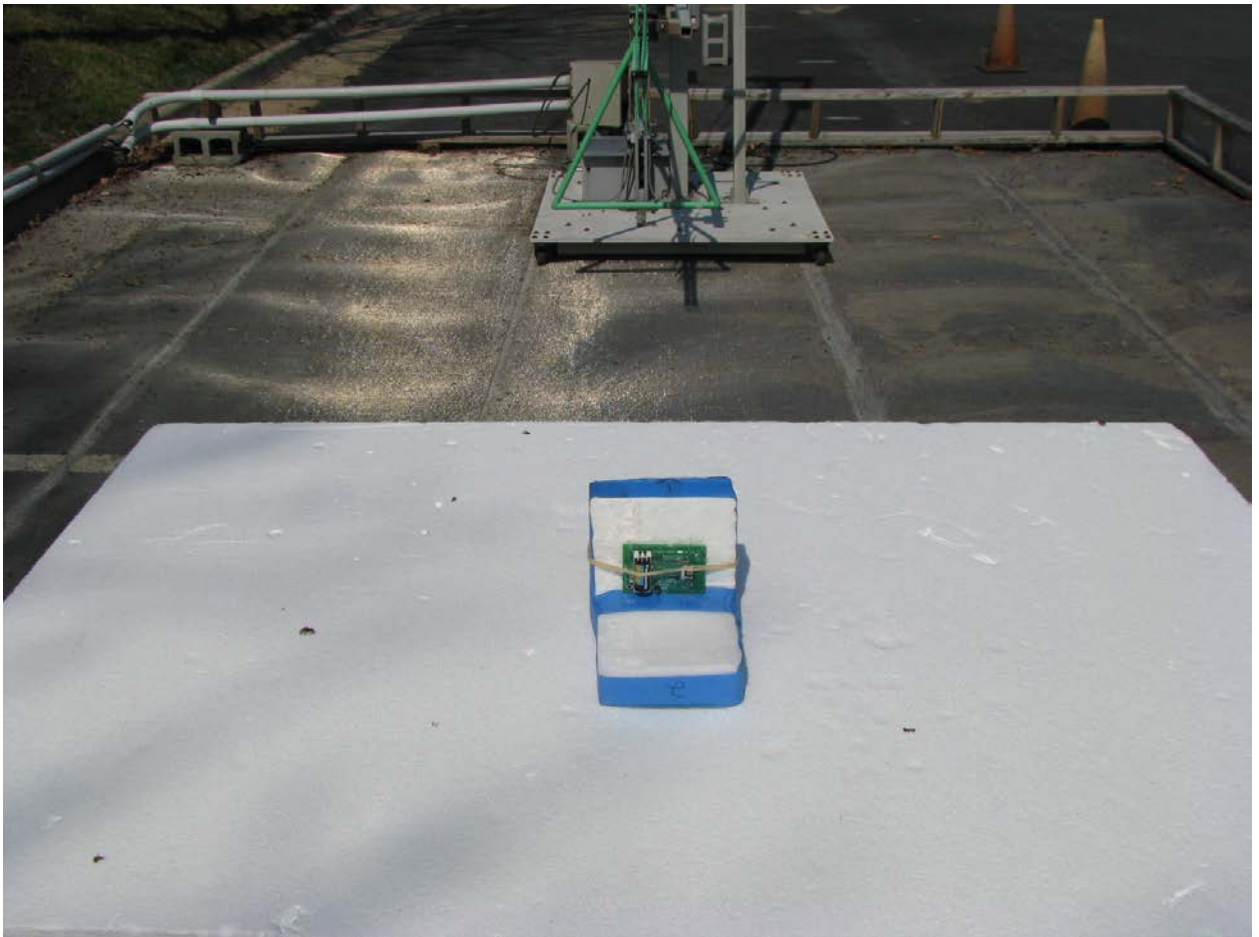
Part	Manufacturer	Model	Serial Number	RTL Bar Code	Calibration Due Date
Amplifier (20 MHz-2 GHz)	Rhein Tech Laboratories, Inc.	PR-1040	900905	900905	4/10/12
Spectrum Analyzer (100 Hz-22 GHz)	Hewlett Packard	HP-8566B	3138A07771	900930	9/13/12
Bilog Periodic Antenna (25 MHz-2 GHz)	Schaffner Chase	CBL6112	2099	900791	12/12/12
EMI Receiver RF Section (9 KHz-6.5 GHz)	Hewlett Packard	85462A	3325A00159	900913	6/8/12
RF Filter Section (100 KHz-6.5 GHz)	Hewlett Packard	85460A	3330A00107	900914	6/8/12
Amplifier (1 GHz-26.0 GHz)	Rhein Tech Laboratories, Inc.	PR-1042	N/A	901364	7/14/12
Horn Antenna (2.0-4.0 GHz)	EMCO	3161-02	9804-1044	900772	6/13/12
Horn Antenna (4.0-8.0 GHz)	EMCO	3161-03	9508-1020	900321	6/13/12
Emissions Testing Software	Rhein Tech Laboratories, Inc.	Automated Emission Tester	Rev. 14.0.2	N/A	N/A

Test Personnel:

Jon Wilson		March 26 th , 2012
Test Engineer	Signature	Date of Test

Test Configuration Photographs

X-Axis



Y-Axis



Z-Axis



EUT Photograph

