



FCC 15.231 Test Data

for

Model: RE353

433.92 MHz Outdoor PIR

(RTL barcode: 20558)

for

Resolution Engineering

Report #: 2012102

Test Engineer: Jon Wilson

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These tests are accredited and meet the requirements of ISO/IEC 17025 as verified by ANSI-ASQ National Accreditation Board/ACCLASS. 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. Data is also presented for spurious, non-harmonic radiated emissions per 15.209.

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
216.968	Qp	V	40.1	-21.7	18.4	46.0	-27.6	Pass
325.445	Qp	V	39.1	-14.6	24.5	46.0	-21.5	Pass
420.355	Qp	V	33.0	4.9	37.9	46.0	-8.1	Pass
433.950*	Peak	H	65.2	30.5	95.7	100.8	-5.1	Pass
454.744	Qp	V	33.1	2.1	35.2	46.0	-10.8	Pass
542.563	Qp	V	35.9	-5.1	30.8	46.0	-15.2	Pass
651.274	Qp	H	35.1	-6.9	28.2	46.0	-17.8	Pass
867.833	Peak	V	46.7	-3.2	43.5	80.8	-37.3	Pass
1301.773	Peak	H	49.8	3.4	53.2	74.0	-20.8	Pass
1735.693	Peak	V	41.6	7.8	49.4	80.8	-31.4	Pass
2169.605	Peak	H	60.7	-14.3	46.4	80.8	-34.4	Pass
2603.525	Peak	V	70.4	-14.7	55.7	80.8	-25.1	Pass
3037.445	Peak	H	67.0	-14.2	52.8	80.8	-28.0	Pass
3471.365	Peak	V	76.2	-13.3	62.9	80.8	-17.9	Pass
3905.285	Peak	H	52.0	-13.5	38.5	74.0	-35.5	Pass
4339.205	Peak	V	58.0	-7.6	50.4	74.0	-23.6	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.

EUT Disposition

The EUT was adapted to continuously transmit for testing purposes.

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 Suite 1400
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<http://www.rheintech.com>

Client: Resolution Engineering
 Model: RE353
 FCC ID: N/A
 Standards: FCC Part 2, 15
 Report #: 2012102

Radiated Emissions Test Equipment – 2012 testing

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 2012
Test Engineer	Signature	Date of Test

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Radiated Emissions Test Equipment – 2013 testing

Part	Manufacturer	Model	Serial Number	RTL Bar Code	Calibration Due Date
Amplifier (20 MHz-2 GHz)	Rhein Tech Laboratories, Inc.	PR-1040	900905	900905	8/20/2013
Bilog Periodic Antenna (25 MHz-2 GHz)	Schaffner Chase	CBL6112	2099	900791	2/2/2014
EMI Receiver RF Section (9 kHz-6.5 GHz)	Hewlett Packard	85462A	3325A00159	900913	9/20/2013
RF Filter Section (100 kHz-6.5 GHz)	Hewlett Packard	85460A	3330A00107	900914	9/20/2013
Spectrum Analyzer	Rohde & Schwarz	FSU	1166.1660.50	901581	6/4/2013
Amplifier (1 GHz–26.0 GHz)	Rhein Tech Laboratories, Inc.	PR-1042	N/A	901364	9/28/2013
Horn Antenna (2.0-4.0 GHz)	EMCO	3161-02	9804-1044	900772	4/20/2015
Horn Antenna (4.0-8.2 GHz)	EMCO	3161-03	9508-1020	900321	4/20/2015
Emissions Testing Software	Rhein Tech Laboratories, Inc.	Automated Emission Tester	Rev. 14.0.2	N/A	N/A

Test Personnel:

Jon Wilson		April 4, 2013
Test Engineer	Signature	Date of Test

FCC/IC Cross Reference

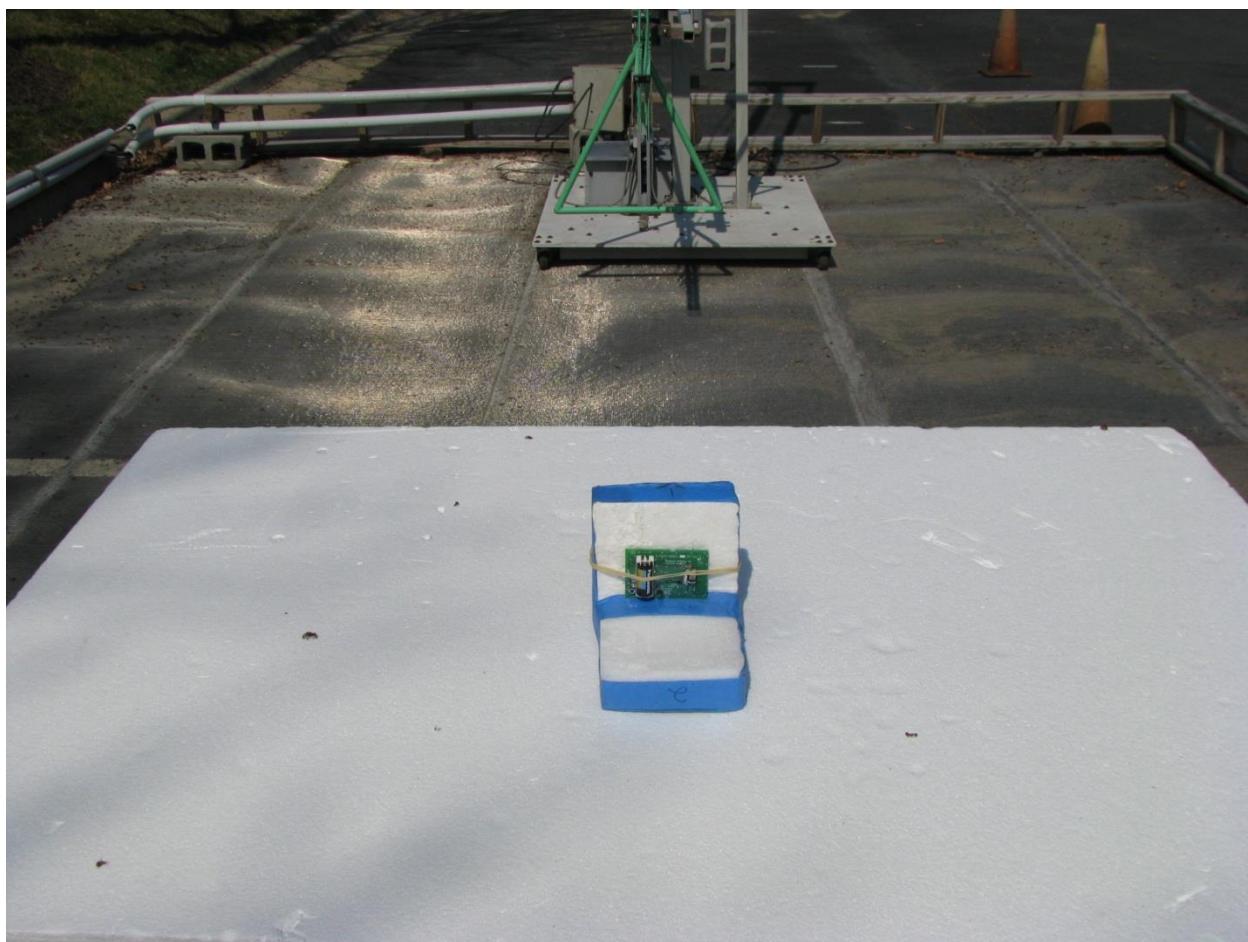
FCC 15.231(b)(2)	RSS-210 Issue 8 A1.1
FCC 15.35(b)	RSS-Gen Issue 3 7.2.3
FCC 15.205	RSS-Gen Issue 3 7.2.2
FCC 15.209	RSS-Gen Issue 3 7.2.5

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Test Configuration Photographs

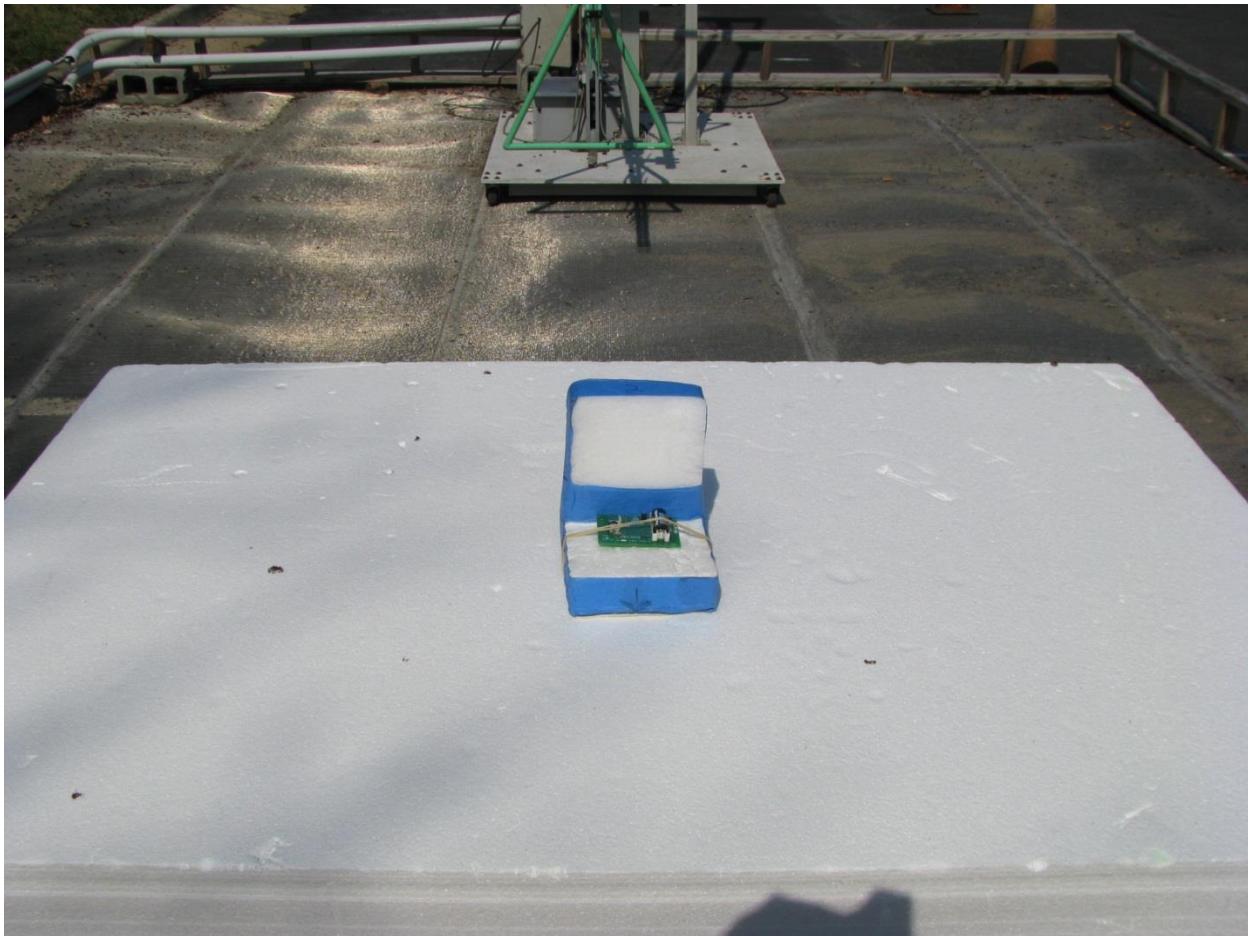
X-Axis



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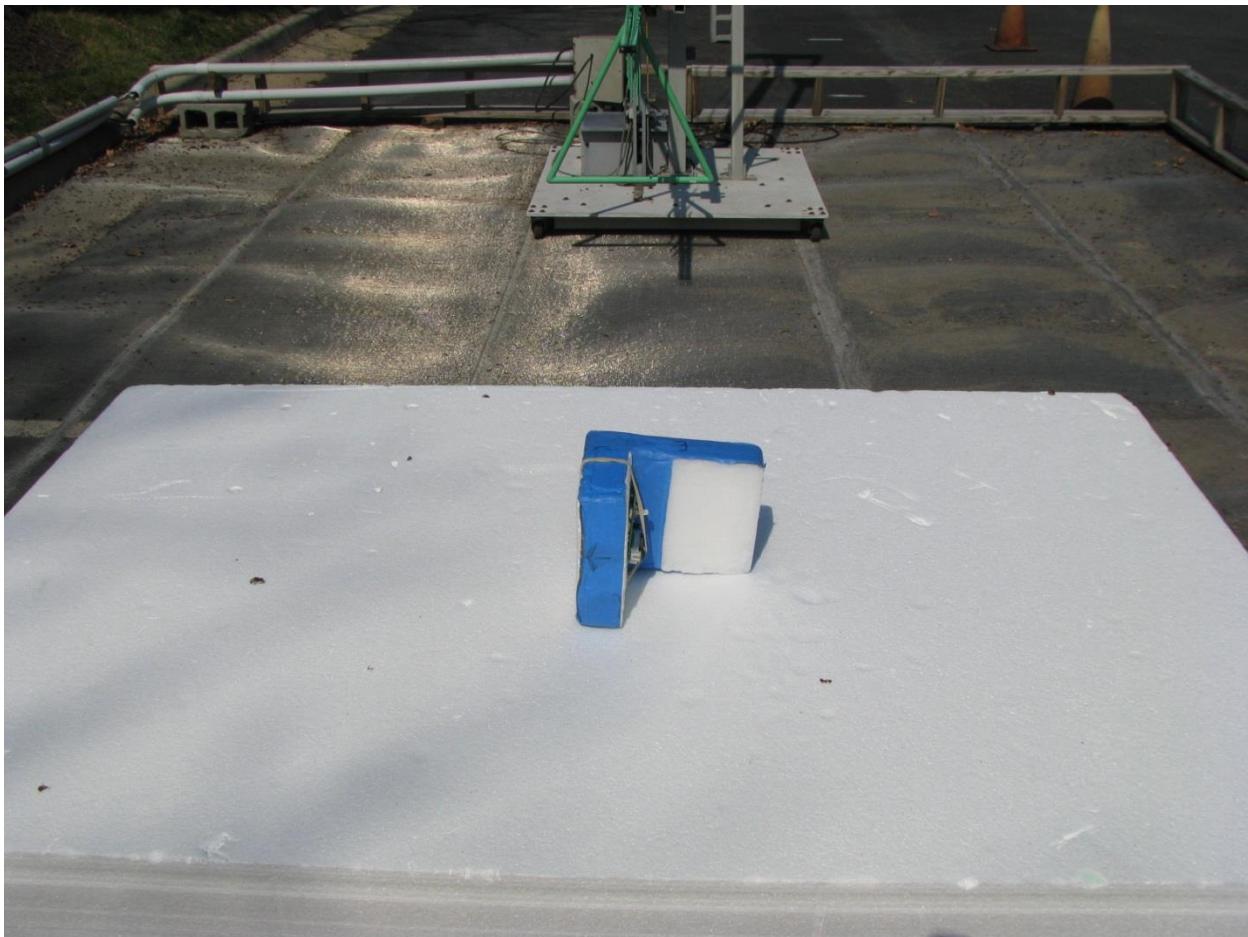
Y-Axis



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Z-Axis



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EUT Photograph

