RHEIN TECH LABORATORIES, INC.

Engineering Solutions & Electromagnetic Compatibility Services

FCC 15.231 Radiated Test Data

for

Model: RE110
319.508 MHz PIR
(RTL barcode: 020046)

for

Resolution Engineering

RTL Project Number 2011038

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	Remarks
319.523	PK	H	63.5	26.4	89.9	95.9	-6.0	Pass	
639.031	PK	H	45.3	-7.3	38.0	75.9	-37.9	Pass	
958.537	PK	V	67.8	-3.1	64.7	75.9	-11.2	Pass	
1278.043	PK	V	56.0	2.0	58.0	74.0	-16.0	Pass	2
1597.549	PK	V	57.8	5.0	62.8	74.0	-11.2	Pass	1
1917.055	PK	H	53.8	10.0	63.8	75.9	-12.1	Pass	
2236.559	PK	V	59.1	2.5	61.6	74.0	-12.4	Pass	1
2556.065	PK	V	65.7	4.5	70.2	75.9	-5.7	Pass	
2875.571	PK	V	50.7	6.0	56.7	74.0	-17.3	Pass	1
3195.077	PK	H	54.0	7.7	61.7	75.9	-14.2	Pass	

Remarks:

1. FCC/IC Restricted Band Limit
2. IC Restricted Band Limit

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.

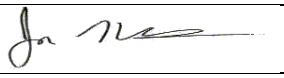
EUT Disposition

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)	Antenna Research Associates, Inc	LPB-2520	1037	900724	7/12/2011
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	1/13/2012
Amplifier	RTL	1003	N/A	901364	2/22/2012
Double ridged Guide Antenna (1-18 GHz)	ETS	EM-6961 (RGA-60)	2310	900814	10/27/2012
Emissions Testing Software	Rhein Tech Laboratories, Inc.	Automated Emission Tester	Rev. 14.0.2	N/A	N/A

Test Personnel:

Jon Wilson		March 23, 2011
Test Engineer	Signature	Date of Test

Test Configuration Photographs

Front

Side

EUT Photograph