

TEST REPORT

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Project Number: G100356542

Report Issue Date: 03/14/2011

Product Designation: EN1941

Standards: FCC title 47 CFR part 15 subpart C
RSS-210:2010 Issue 8
AS/NZS 4268:2008

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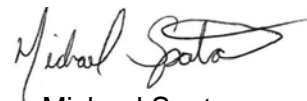
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1 Introduction and Conclusion

The tests indicated in section 2.0 were performed on the product constructed as described in section 3.0. The remaining test sections are the verbatim text from the actual data sheets used during the investigation. These test sections include the test name, the specified test Method, a list of the actual Test Equipment Used, documentation Photos, Results and raw Data. No additions, deviations, or exclusions have been made from the standard(s) unless specifically noted.

Based on the results of our investigation, we have concluded the product tested Passed with the requirements of the standard(s) indicated. The results obtained in this test report pertain only to the item(s) tested.

2 Test Summary

Section	Test full name	Test date	Result
5	Radiated Emissions – Output power of the Fundamental & Harmonics of the Fundamental - FCC 247(b)(2) (d)/15.205 Covers RSS-210 A8.4(1)	9/10/2008	Pass
6	Radiated Emissions – Unintentional & Spurious - FCC 15.247(d) / FCC 15.209/109 Covers RSS-210 A8.5	9/10/2008	Pass
	Bandwidth – FCC 15.247 (a)(2)	-----	N/A
	Power Spectral Density (PSD) – FCC 15.247(e)	-----	N/A
	Band Edge Measurements – FCC 15.247(d) / 15.209	-----	N/A
	Duty Cycle & Duty Cycle Correction Factor	-----	N/A
	AC Conducted Emissions – FCC 15.207 – Not Applicable	-----	N/A

Notes:

- 1) Only the fundamental, harmonics of the fundamental and Spurious emissions are covered in this test report as requested by the customer.
- 2) Only the high channel of the transmitter at 927.58 MHz falls within the frequency band specified in AS/NZS 4268:2008
- 3) FCC CFR47 Part 15.31: Measurement Standards: In any case where the device is powered off a battery, a fresh battery was used during test. In cases where the device is powered off an AC supply, voltage was varied per Part 15.31 to find worst case emissions.

3 Description of Equipment Under Test

Equipment Under Test			
Description	Manufacturer	Model Number	Serial Number
902-928MHz wireless transmitter.	Inovonics	EN1941	3879319

Receive Date:	09/10/2008
Received Condition:	Good
Type:	Production

Description of Equipment Under Test (provided by client)

The Inovonics dual input one way RF module provides reliable low-cost, low-power wireless communications for integrators. Makes virtually any binary switch device wireless by integrating with the RF module. The dual input one way RF module is powered by the input device.

The dual input one way RF module is available in two configurations. Use part number EE1941 for 868-870 Mhz Europe; use part number EN1941 for 902-928 Mhz North America, 915-928 Mhz Australia, and 922-928 Mhz New Zealand.

Equipment Under Test Power Configuration			
Rated Voltage	Rated Current	Rated Frequency	Number of Phases
3.3 VDC - Battery	-----	-----	-----

Operating modes of the EUT:

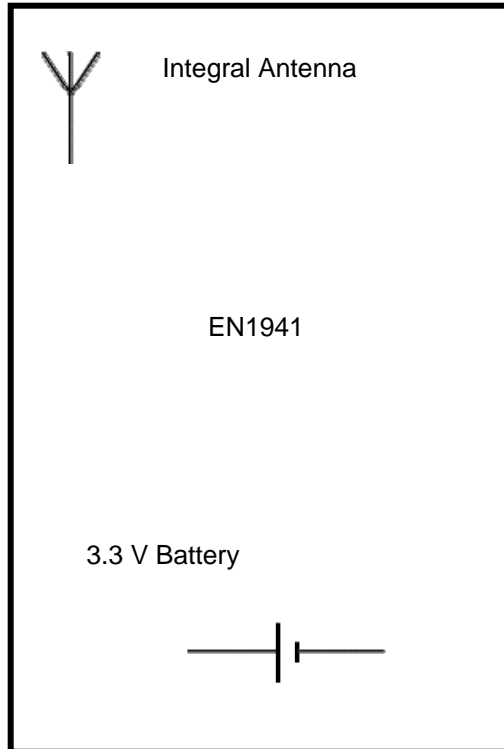
No.	Descriptions of EUT Exercising
1	For section 5 - Fundamental and Harmonics of the fundamental the EUT was placed in an unmodulated continuous wave mode.
2	For section 6 – Unintentional and Spurious emissions the EUT was placed in normal operating mode.

4 System setup including cable interconnection details, support equipment and simplified block diagram

4.1 Method:

Record the details of EUT cabling, document the support equipment, and show the interconnections in a block diagram.

4.2 EUT Block Diagram:



4.3 Data:

ID	Description	Length	Shielding	Ferrites

Support Equipment			
Description	Manufacturer	Model Number	Serial Number

General notes:

1. Product has no I/O or signal cables.
2. Product did not require any support equipment.

5 Radiated Emissions – Intentional Radiators: Output Power - Fundamental & Harmonics of the Fundamental for 15.247

5.1 Method

Unless otherwise stated no deviations were made from ANSI C63.10 and FCC public notice DA 00-705.

This testing was performed at Intertek Denver's OATS site, located at 40 Meadow Rd. Pinewoods Springs, CO 80540.

5.2 Test Equipment Used:

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
18882	Spectrum Analyzer	HP	8566B	2410A00154	11/13/2007	11/13/2008
18887	Horn Antenna 1-18GHz	EMCO	3115	9205-3886	3/6/2008	3/6/2009
18900	RF Pre-Amplifier (4-8 GHz)	Avantek	AFT97-8434-10F	1007	5/2/2008	5/2/2009
18901	RF Pre-Amplifier (8-18 GHz)	Avantek	AWT-18037	1002	5/2/2008	5/2/2009
18906	Amplifier	Mini-Circuits	ZHL-42	N052792-2	5/2/2008	5/2/2009
18808	Log Periodic Antenna	EMCO	3146	9203-3376	10/12/2007	10/12/2008

5.3 Results:

The sample tested was found to Comply.

5.4 Setup Photographs:



5.5 Plots: None

5.6 Test Data:

Field Strength Measurements Fundamental and Spurious of the Transmitter

Test Report #: 3164931	Test Area: Pinewood Site 1 (3m)	Temperature: 26.3 °C
Test Method: FCC 15.247	Test Date: 10-Sep-2008	Relative Humidity: 29.6 %
EUT Model #: EN1941/XS	EUT Power: 3VDC Battery	Air Pressure: 99.4 kPa
EUT Serial #: 3879319		
Manufacturer: Inovonics		
EUT Description: Wireless Transmitter-Serial Data		
Notes: Intentional Radiated Emissions		

Level Key	
Pk – Peak	Nb – Narrow Band
Qp – QuasiPeak	Bb – Broad Band
Av - Average	

FREQ	LEVEL	CABLE / ANT / PREAMP	FINAL	POL / HGT / AZ	Duty Cycle Correction	Final Corrected	Limit	DELTA
(MHz)	(dBuV)	(dB) (dBm) (dB)	(dBuV)	(m) (DEG)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
The following Duty Cycle was declared by the manufacturer:								
20.8%								
Averaging method for pulsed signals and calculation in accordance to FCC CFR47 Part 15.35 utilized to calculate field strength emissions.								
The testing performed in accordance to FCC CFR47 Part 15.205 (restricted bands of operation) and 15.247 emissions and delta limits were calculated as follows:								
Final Corrected Peak Measurement – Duty Cycle Correction Factor* = Final Calculated Emission								
The Final Calculated Emission was then compared to the Limits in CFR47 Part 15.209 and 15.247 and the emission/limit delta was calculated. the DTCF is calculated as follows $20 \cdot \log_{10}(\text{duty cycle in } 100\text{ms})$ "not to exceed 20dB"								
Part 15.247 and 15.205 Respectively								
Fundamental Measurements								
Low Channel Axis 1 - EUT is Flat on the table.								
902.38	75.0 Pk	3.6 / 22.7 / 0.0	101.3	V / 1.0 / 15.0	0.0	101.3	119.2	-17.9
902.38	85.0 Pk	3.6 / 22.7 / 0.0	111.3	H / 1.1 / 352.0	0.0	111.3	119.2	-7.9
Axis 2 - EUT is Vertical on the table.								
902.38	81.7 Pk	3.6 / 22.7 / 0.0	108	H / 1.0 / 12.0	0.0	108.0	119.2	-11.2
902.38	79.7 Pk	3.6 / 22.7 / 0.0	106	V / 1.4 / 74.0	0.0	106.0	119.2	-13.2
Axis 3 - EUT is Vertical on the table & Rotated 90 Deg.								
902.38	84.1 Pk	3.6 / 22.7 / 0.0	110.4	V / 1.2 / 115.0	0.0	110.4	119.2	-8.8
902.38	73.0 Pk	3.6 / 22.7 / 0.0	99.2	H / 1.2 / 48.0	0.0	99.2	119.2	-20.0
Mid Channel Axis 1								
914.78	88.8 Pk	3.6 / 22.7 / 0.0	115.2	H / 1.1 / 352.0	0.0	115.2	119.2	-4.0
914.78	76.6 Pk	3.6 / 22.7 / 0.0	103	V / 1.0 / 15.0	0.0	103.0	119.2	-16.2
Axis 2								
914.78	80.5 Pk	3.6 / 22.7 / 0.0	106.8	V / 1.6 / 52.0	0.0	106.8	119.2	-12.4

FREQ	LEVEL	CABLE / ANT / PREAMP	FINAL	POL / HGT / AZ	Duty Cycle Correction	Final Corrected	Limit	DELTA
(MHz)	(dBuV)	(dB) (dBm) (dB)	(dBuV)	(m) (DEG)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
914.78	85.0 Pk	3.6 / 22.7 / 0.0	111.4	H / 1.2 / 350.0	0.0	111.4	119.2	-7.8
Axis 3								
914.78	77.1 Pk	3.6 / 22.7 / 0.0	103.5	H / 1.1 / 144.0	0.0	103.5	119.2	-15.7
914.78	87.5 Pk	3.6 / 22.7 / 0.0	113.9	V / 1.1 / 115.0	0.0	113.9	119.2	-5.3
High Channel Axis 1								
927.58	80.8 Pk	3.6 / 22.8 / 0.0	107.2	V / 1.0 / 17.0	0.0	107.2	119.2	-12.0
927.58	89.0 Pk	3.6 / 22.8 / 0.0	115.5	H / 1.1 / 352.0	0.0	115.5	119.2	-3.7
Axis 2								
927.58	88.6 Pk	3.6 / 22.8 / 0.0	115.1	H / 1.1 / 12.0	0.0	115.1	119.2	-4.1
927.58	81.5 Pk	3.6 / 22.8 / 0.0	107.9	V / 1.0 / 354.0	0.0	107.9	119.2	-11.3
Axis 3								
927.58	92.2 Pk	3.6 / 22.8 / 0.0	118.7	V / 1.1 / 12.0	0.0	118.7	119.2	-0.5
927.58	73.8 Pk	3.6 / 22.8 / 0.0	100.2	H / 2.0 / 18.0	0.0	100.2	119.2	-19.0
Axis 3 was determined to be the worst case axis								
All Harmonics will be measured in Axis 3								
Harmonics - Low Channel								
1804.83	94.2 Pk	3.0 / 26.3 / 37.1	86.4	H / 2.1 / 354.0	-13.6	72.8	90.4	-17.6
1804.82	96.8 Pk	3.0 / 26.3 / 37.1	88.9	V / 2.1 / 10.0	-13.6	75.3	90.4	-15.1
2707.24	65.5 Pk	3.8 / 29.7 / 37.6	61.4	H / 2.0 / 354.0	-13.6	47.8	54.0	-6.2
2707.25	60.5 Pk	3.8 / 29.7 / 37.6	56.4	V / 1.9 / 358.0	-13.6	42.8	54.0	-11.2
3609.66	53.8 Pk	5.0 / 31.7 / 38.4	52.1	H / 1.7 / 12.0	-13.6	38.5	54.0	-15.5
3609.66	52.0 Pk	5.0 / 31.7 / 38.4	50.3	V / 1.5 / 358.0	-13.6	36.7	54.0	-17.3
4512.07	56.2 Pk	6.6 / 32.3 / 40.7	54.5	V / 1.6 / 24.0	-13.6	40.9	54.0	-13.1
4512.07	57.7 Pk	6.6 / 32.3 / 40.7	55.9	H / 1.8 / 34.0	-13.6	42.3	54.0	-11.7
5414.48	54.7 Pk	6.9 / 34.3 / 39.9	56	V / 1.5 / 24.0	-13.6	42.4	54.0	-11.6
5414.48	53.6 Pk	6.9 / 34.3 / 39.9	54.9	H / 1.5 / 56.0	-13.6	41.3	54.0	-12.7
6316.89	56.9 Pk	8.2 / 35.2 / 40.4	59.9	V / 1.3 / 42.0	-13.6	46.3	90.4	-44.1
6316.89	55.2 Pk	8.2 / 35.2 / 40.4	58.2	H / 1.6 / 28.0	-13.6	44.6	90.4	-45.8
7219.3	53.7 Pk	8.1 / 36.2 / 39.9	58.2	V / 1.4 / 12.0	-13.6	44.6	90.4	-45.8
7219.3	47.2 Pk	8.1 / 36.2 / 39.9	51.8	H / 1.5 / 12.0	-13.6	38.2	90.4	-52.2
8121.71	45.9 Pk	8.3 / 37.1 / 47.5	43.8	H / 1.4 / 34.0	-13.6	30.2	54.0	-23.8
8121.71	45.7 Pk	8.3 / 37.1 / 47.5	43.7	V / 1.4 / 12.0	-13.6	30.1	54.0	-23.9
9024.12	49.6 Pk	8.5 / 37.9 / 48.5	47.6	H / 1.2 / 34.0	-13.6	34.0	54.0	-20.0
9024.12	53.5 Pk	8.5 / 37.9 / 48.5	51.5	V / 1.4 / 12.0	-13.6	37.9	54.0	-16.1
Harmonics - Mid Channel								
1829.64	98.0 Pk	3.0 / 26.4 / 37.1	90.3	V / 1.9 / 10.0	-13.6	76.7	93.9	-17.2
1829.64	95.5 Pk	3.0 / 26.4 / 37.1	87.8	H / 1.6 / 346.0	-13.6	74.2	93.9	-19.7
2744.46	60.1 Pk	3.8 / 29.8 / 37.6	56.2	V / 1.6 / 269.0	-13.6	42.6	54.0	-11.4
2744.46	64.5 Pk	3.8 / 29.8 / 37.6	60.6	H / 2.1 / 348.0	-13.6	47.0	54.0	-7.0
3659.28	55.0 Pk	5.1 / 31.8 / 38.4	53.6	V / 1.7 / 269.0	-13.6	40.0	54.0	-14.0
3659.28	53.0 Pk	5.1 / 31.8 / 38.4	51.6	H / 1.6 / 10.0	-13.6	38.0	54.0	-16.0
4574.09	58.6 Pk	6.8 / 32.4 / 40.7	57.1	V / 1.6 / 48.0	-13.6	43.5	54.0	-10.5
4574.1	58.0 Pk	6.8 / 32.4 / 40.7	56.5	H / 1.7 / 18.0	-13.6	42.9	54.0	-11.1

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FREQ	LEVEL	CABLE / ANT / PREAMP	FINAL	POL / HGT / AZ	Duty Cycle Correction	Final Corrected	Limit	DELTA
(MHz)	(dBuV)	(dB) (dBm) (dB)	(dBuV)	(m) (DEG)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
5488.91	51.8 Pk	6.7 / 34.5 / 40.1	52.9	H / 1.6 / 48.0	-13.6	39.3	93.9	-54.6
5488.91	51.0 Pk	6.7 / 34.5 / 40.1	52.1	V / 1.4 / 48.0	-13.6	38.5	93.9	-55.4
6403.71	57.9 Pk	8.3 / 35.2 / 40.5	61	H / 1.4 / 48.0	-13.6	47.4	93.9	-46.5
6403.71	59.4 Pk	8.3 / 35.2 / 40.5	62.5	V / 1.5 / 48.0	-13.6	48.9	93.9	-45.0
7318.53	50.3 Pk	8.2 / 36.4 / 40.3	54.5	H / 1.4 / 48.0	-13.6	40.9	54.0	-13.1
7318.53	52.0 Pk	8.2 / 36.4 / 40.3	56.1	V / 1.3 / 48.0	-13.6	42.5	54.0	-11.5
8233.32	54.0 Pk	8.4 / 37.1 / 47.7	51.8	V / 1.5 / 12.0	-13.6	38.2	54.0	-15.8
8233.34	47.7 Pk	8.4 / 37.1 / 47.7	45.5	H / 1.3 / 12.0	-13.6	31.9	54.0	-22.1
9148.14	50.9 Pk	8.8 / 38.1 / 48.6	49.1	V / 1.3 / 352.0	-13.6	35.5	54.0	-18.5
9148.14	52.1 Pk	8.8 / 38.1 / 48.6	50.4	H / 1.4 / 338.0	-13.6	36.8	54.0	-17.2
Harmonics - High Channel								
1855.25	90.1 Pk	3.0 / 26.5 / 37.1	82.5	H / 2.6 / 346.0	-13.6	68.9	98.7	-29.8
1855.24	96.8 Pk	3.0 / 26.5 / 37.1	89.2	V / 1.9 / 346.0	-13.6	75.6	98.7	-23.1
2782.85	66.2 Pk	3.8 / 30.0 / 37.6	62.4	V / 1.8 / 12.0	-13.6	48.8	54.0	-5.2
2782.86	68.8 Pk	3.8 / 30.0 / 37.6	64.9	H / 1.7 / 348.0	-13.6	51.3	54.0	-2.7
3710.48	59.4 Pk	5.2 / 31.9 / 38.2	58.2	H / 2.1 / 168.0	-13.6	44.6	54.0	-9.4
3710.48	61.7 Pk	5.2 / 31.9 / 38.2	60.5	V / 1.6 / 354.0	-13.6	46.9	54.0	-7.1
4638.1	62.5 Pk	6.9 / 32.6 / 40.5	61.6	V / 1.5 / 10.0	-13.6	48.0	54.0	-6.0
4638.1	56.5 Pk	6.9 / 32.6 / 40.5	55.5	H / 1.5 / 18.0	-13.6	41.9	54.0	-12.1
5565.71	61.9 Pk	6.8 / 34.6 / 39.8	63.5	H / 1.8 / 58.0	-13.6	49.9	98.7	-48.8
5565.73	65.2 Pk	6.8 / 34.6 / 39.8	66.8	V / 1.4 / 10.0	-13.6	53.2	98.7	-45.5
6493.32	68.5 Pk	8.5 / 35.3 / 40.2	72	V / 1.3 / 10.0	-13.6	58.4	98.7	-40.3
6493.32	67.0 Pk	8.5 / 35.3 / 40.2	70.5	H / 1.4 / 48.0	-13.6	56.9	98.7	-41.8
7420.93	52.8 Pk	8.2 / 36.5 / 39.8	57.6	V / 1.4 / 10.0	-13.6	44.0	54.0	-10.0
7420.93	54.1 Pk	8.2 / 36.5 / 39.8	59	H / 1.6 / 10.0	-13.6	45.4	54.0	-8.6
8348.54	59.7 Pk	8.4 / 37.1 / 47.9	57.3	V / 1.6 / 12.0	-13.6	43.7	54.0	-10.3
8348.55	57.0 Pk	8.4 / 37.1 / 47.9	54.6	H / 1.5 / 68.0	-13.6	41.0	54.0	-13.0
9276.16	47.8 Pk	9.0 / 38.2 / 48.5	46.5	H / 1.3 / 68.0	-13.6	32.9	98.7	-65.8
9276.16	49.9 Pk	9.0 / 38.2 / 48.5	48.6	V / 1.4 / 12.0	-13.6	35.0	98.7	-63.7

Example calculation for Intentional Radiated Emissions:

Measured Level	+	Transducer, Cable Loss Pre- Amplifier	=	Corrected Reading	-	Duty Cycle Correction	=	FINAL Measurement	-	Specification Limit	=	Delta from Specification Limit
(dB μ V)		(dB)		(dB μ V/m)		(dB μ V/m)		(dB μ V/m)		(dB μ V/m)		
24.0		14.9		38.9		10.0		28.9		40.0		-11.1

Electric Field to Power Conversion

From DA 00-705 – Alternative Test Procedures.

If antenna conducted tests cannot be performed on this device, radiated tests to show compliance with the peak output power limit specified in Section 15.247(b) and the spurious RF conducted emission limit specified in Section 15.247(c) are acceptable. As stated previously, a pre-amp, and, in the latter case, a high pass filter, are required for the following measurements.

1) Calculate the transmitter's peak power using the following equation:

$$E = \frac{\sqrt{30PG}}{d}$$

Where: E is the measured maximum fundamental field strength in V/m, utilizing a RBW \geq the 20 dB bandwidth of the emission, VBW > RBW, peak detector function. Follow the procedures in C63.4-1992 with respect to maximizing the emission.

G is the numeric gain of the transmitting antenna with reference to an isotropic radiator.

d is the distance in meters from which the field strength was measured.

P is the power in watts for which you are solving:

$$P = \frac{(E*d)^2}{30G}$$

In this case:

E = 118.7dB/uV (from above high channel axis 3) = 0.8609V/m

D = 3 meters

G = 4 unknown

P = 0.0555 W

Limit from 15.247(b)(2) = .25W

Delta = 0.0555 - .25 = -0.1945W

6 Radiated Emissions Unintentional & Spurious

6.1 Method

Unless otherwise stated no deviations were made from ANSI C63.10 and FCC public notice DA 00-705.

This testing was performed at Intertek Denver's OATS site, located at 40 Meadow Rd. Pinewood Springs, CO 80540.

6.2 Test Equipment Used:

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
18880	Q.P Adapter	HP	85650A	2811A01300	11/15/2007	11/15/2008
18882	Spectrum Analyzer	HP	8566B	2410A00154	11/13/2007	11/13/2008
18912	9 kHz- 1.3GHz Pre Amp	HP	8447F	3113A05545	5/2/2008	5/2/2009
18888	Log Periodic Antenna	EMCO	3146	9402-3775	11/8/2007	11/8/2008
18889	Biconical Antenna 30-300MHz	EMCO	3109	3142	11/12/2007	11/12/2008
18887	Horn Antenna 1-18GHz	EMCO	3115	9205-3886	3/6/2008	3/6/2009
18900	RF Pre-Amplifier (4-8 GHz)	Avantek	AFT97-8434-10F	1007	5/2/2008	5/2/2009
18906	Amplifier	Mini-Circuits	ZHL-42	N052792-2	5/2/2008	5/2/2009

6.3 Results:

The sample tested was found to Comply.

6.4 Setup Photographs:



6.5 Plots: None

6.6 Data:

Radiated Electromagnetic Emissions

Test Report #: 3164931	Test Area: Pinewood Site 1 (10m)	Temperature: 25.1 °C
Test Method: FCC part 15	Test Date: 28-Oct-2008	Relative Humidity: 31.4 %
EUT Model #: EN1941/XS	EUT Power: 3.3VDC	Air Pressure: 98.2 kPa
EUT Serial #: 3879319		
Manufacturer: Inovonics		
EUT Description: Wireless Transmitter-Serial Data		
Notes: Products tested in a "bundle" per client		

Level Key	
Pk – Peak	Nb – Narrow Band
Qp – QuasiPeak	Bb – Broad Band
Av - Average	

FREQ	LEVEL	CABLE / ANT / PREAMP	FINAL	POL / HGT / AZ	DELTA1 (dB)	DELTA2 (dB)
(MHz)	(dBuV)	(dB) (dB/m) (dB)	(dBuV)	(m) (DEG)	15.209 <1GHz	15.209 >1GHz
30-200MHz Vertical 0 degrees						
30.00	32.8 Qp	1.5 / 12.8 / 28.2	18.8	V / 1.0 / 0.0	-10.7	N/A
40.00	32.5 Qp	1.8 / 11.4 / 28.2	17.5	V / 1.0 / 0.0	-12.0	N/A
137.43	34.9 Qp	3.0 / 12.4 / 27.8	22.6	V / 1.0 / 0.0	-10.5	N/A
149.95	34.5 Qp	3.2 / 12.2 / 27.7	22.2	V / 1.0 / 0.0	-10.9	N/A
199.99	33.2 Qp	3.9 / 13.3 / 27.3	23.1	V / 1.0 / 0.0	-10.0	N/A
32.00	29.1 Qp	1.6 / 12.3 / 28.2	14.8	V / 1.0 / 0.0	-14.7	N/A
36.00	32.9 Qp	1.7 / 11.9 / 28.2	18.2	V / 1.0 / 0.0	-11.3	N/A
48.00	31.1 Qp	1.8 / 10.1 / 28.2	14.9	V / 1.0 / 0.0	-14.6	N/A
60.00	33.5 Qp	2.1 / 8.3 / 28.1	15.8	V / 1.0 / 0.0	-13.7	N/A
64.00	35.4 Qp	2.2 / 7.9 / 28.1	17.3	V / 1.0 / 0.0	-12.2	N/A
72.00	35.0 Qp	2.3 / 8.0 / 28.1	17.1	V / 1.0 / 0.0	-12.4	N/A
76.00	35.9 Qp	2.4 / 7.2 / 28.1	17.3	V / 1.0 / 0.0	-12.2	N/A
80.00	36.1 Qp	2.4 / 6.8 / 28.1	17.2	V / 1.0 / 0.0	-12.3	N/A
120.00	31.2 Qp	2.9 / 11.4 / 27.9	17.5	V / 1.0 / 0.0	-15.6	N/A
160.00	31.9 Qp	3.3 / 12.0 / 27.7	19.6	V / 1.0 / 0.0	-13.5	N/A
180.00	34.3 Qp	3.6 / 12.3 / 27.4	22.8	V / 1.0 / 0.0	-10.3	N/A
192.00	34.2 Qp	3.8 / 12.9 / 27.4	23.4	V / 1.0 / 0.0	-9.7	N/A
50.00	35.2 Qp	1.8 / 9.8 / 28.2	18.6	V / 1.0 / 0.0	-10.9	N/A
70.00	34.3 Qp	2.2 / 8.5 / 28.2	16.8	V / 1.0 / 0.0	-12.7	N/A
150.00	33.0 Qp	3.2 / 12.2 / 27.7	20.7	V / 1.0 / 0.0	-12.4	N/A
30-200MHz Vertical 90 degrees						
36.00	31.4 Qp	1.7 / 11.9 / 28.2	16.8	V / 1.0 / 90.0	-12.7	N/A
40.00	31.6 Qp	1.8 / 11.4 / 28.2	16.6	V / 1.0 / 90.0	-12.9	N/A
30-200MHz Vertical 180 degrees						

FREQ	LEVEL	CABLE / ANT / PREAMP	FINAL	POL / HGT / AZ	DELTA1 (dB)	DELTA2 (dB)
(MHz)	(dBuV)	(dB) (dB/m) (dB)	(dBuV)	(m) (DEG)	15.209 <1GHz	15.209 >1GHz
40.00	33.2 Qp	1.8 / 11.4 / 28.2	18.2	V / 1.0 / 180.0	-11.3	N/A
50.00	36.0 Qp	1.8 / 9.8 / 28.2	19.4	V / 1.0 / 180.0	-10.1	N/A
30-200MHz Vertical 270 degrees						
48.00	29.9 Qp	1.8 / 10.1 / 28.2	13.7	V / 1.0 / 270.0	-15.8	N/A
Following signals are maximized between 30 & 200MHz Vertical						
40.00	35.0 Qp	1.8 / 11.4 / 28.2	20.0	V / 1.0 / 176.0	-9.5	N/A
50.00	40.2 Qp	1.8 / 9.8 / 28.2	23.6	V / 1.0 / 258.0	-5.9	N/A
150.01	35.2 Qp	3.2 / 12.2 / 27.7	23.0	V / 1.0 / 126.0	-10.1	N/A
179.99	36.5 Qp	3.6 / 12.3 / 27.4	25.0	V / 1.0 / 188.0	-8.1	N/A
192.00	34.5 Qp	3.8 / 12.9 / 27.4	23.8	V / 1.0 / 348.0	-9.3	N/A
199.99	27.8 Qp	3.9 / 13.3 / 27.3	17.6	V / 1.0 / 348.0	-15.5	N/A
30-200MHz Horizontal 0 degrees						
30.00	22.6 Qp	1.5 / 12.8 / 28.2	8.7	H / 2.0 / 0.0	-20.8	N/A
32.00	26.4 Qp	1.6 / 12.3 / 28.2	12.1	H / 2.0 / 0.0	-17.4	N/A
36.00	29.6 Qp	1.7 / 11.9 / 28.2	14.9	H / 2.0 / 0.0	-14.6	N/A
40.00	32.6 Qp	1.8 / 11.4 / 28.2	17.6	H / 2.0 / 0.0	-11.9	N/A
48.00	26.1 Qp	1.8 / 10.1 / 28.2	9.9	H / 2.0 / 0.0	-19.6	N/A
50.00	25.4 Qp	1.8 / 9.8 / 28.2	8.9	H / 2.0 / 0.0	-20.6	N/A
60.00	31.5 Qp	2.1 / 8.3 / 28.1	13.8	H / 2.0 / 0.0	-15.7	N/A
64.00	33.4 Qp	2.2 / 7.9 / 28.1	15.3	H / 2.0 / 0.0	-14.2	N/A
70.00	32.4 Qp	2.2 / 8.5 / 28.2	14.9	H / 2.0 / 0.0	-14.6	N/A
72.00	29.3 Qp	2.3 / 8.0 / 28.1	11.5	H / 2.0 / 0.0	-18.0	N/A
76.00	34.8 Qp	2.4 / 7.2 / 28.1	16.2	H / 2.0 / 0.0	-13.3	N/A
80.00	36.4 Qp	2.4 / 6.8 / 28.1	17.5	H / 2.0 / 0.0	-12.0	N/A
120.00	35.0 Qp	2.9 / 11.4 / 27.9	21.4	H / 2.0 / 0.0	-11.7	N/A
137.43	26.4 Qp	3.0 / 12.4 / 27.8	14.1	H / 2.0 / 0.0	-19.0	N/A
149.95	31.8 Qp	3.2 / 12.2 / 27.7	19.5	H / 2.0 / 0.0	-13.6	N/A
150.01	32.1 Qp	3.2 / 12.2 / 27.7	19.9	H / 2.0 / 0.0	-13.2	N/A
160.00	27.4 Qp	3.3 / 12.0 / 27.7	15.1	H / 2.0 / 0.0	-18.0	N/A
179.99	28.4 Qp	3.6 / 12.3 / 27.4	16.9	H / 2.0 / 0.0	-16.2	N/A
191.99	24.6 Qp	3.8 / 12.9 / 27.4	13.9	H / 2.0 / 0.0	-19.2	N/A
199.99	22.4 Qp	3.9 / 13.3 / 27.3	12.2	H / 2.0 / 0.0	-20.9	N/A
30-200MHz Horizontal 90 degrees						
160.00	27.6 Qp	3.3 / 12.0 / 27.7	15.3	H / 2.0 / 90.0	-17.8	N/A
No higher signals found: 30-200MHz Horizontal						
Following signals maximized between 30 & 200MHz Horizontal						
40.00	32.2 Qp	1.8 / 11.4 / 28.2	17.2	H / 2.4 / 138.0	-12.3	N/A
50.00	26.4 Qp	1.8 / 9.8 / 28.2	9.9	H / 2.4 / 336.0	-19.6	N/A
137.43	30.4 Qp	3.0 / 12.4 / 27.8	18.1	H / 2.6 / 138.0	-15.0	N/A

FREQ	LEVEL	CABLE / ANT / PREAMP	FINAL	POL / HGT / AZ	DELTA1 (dB)	DELTA2 (dB)
(MHz)	(dBuV)	(dB) (dB\m) (dB)	(dBuV)	(m) (DEG)	15.209 <1GHz	15.209 >1GHz
179.99	26.0 Qp	3.6 / 12.3 / 27.4	14.5	H / 1.9 / 12.0	-18.6	N/A
192.00	26.6 Qp	3.8 / 12.9 / 27.4	15.8	H / 2.1 / 298.0	-17.3	N/A
200-1000MHz Vertical 0 degrees						
250.07	31.7 Qp	4.2 / 11.6 / 27.2	20.3	V / 1.0 / 0.0	-15.3	N/A
267.54	30.6 Qp	4.4 / 12.3 / 27.2	20.0	V / 1.0 / 0.0	-15.6	N/A
626.32	25.1 Qp	7.1 / 18.9 / 28.3	22.7	V / 1.0 / 0.0	-12.9	N/A
699.26	24.6 Qp	7.6 / 20.6 / 28.1	24.8	V / 1.0 / 0.0	-10.8	N/A
959.99	25.6 Qp	9.1 / 22.4 / 27.3	29.8	V / 1.0 / 0.0	-5.8	N/A
208.00	30.2 Qp	3.9 / 10.9 / 27.4	17.7	V / 1.0 / 0.0	-15.4	N/A
220.00	35.1 Qp	4.0 / 10.3 / 27.2	22.3	V / 1.0 / 0.0	-13.3	N/A
240.00	32.9 Qp	4.1 / 10.9 / 27.2	20.7	V / 1.0 / 0.0	-14.9	N/A
324.00	23.7 Qp	4.9 / 13.9 / 27.1	15.3	V / 1.0 / 0.0	-20.3	N/A
399.93	25.2 Qp	5.5 / 17.2 / 27.7	20.1	V / 1.0 / 0.0	-15.5	N/A
380.00	21.7 Qp	5.3 / 15.3 / 27.6	14.7	V / 1.0 / 0.0	-20.9	N/A
250.06	34.2 Qp	4.2 / 11.6 / 27.2	22.8	V / 1.0 / 0.0	-12.8	N/A
200-1000MHz Vertical 90 degrees						
250.06	33.5 Qp	4.2 / 11.6 / 27.2	22.1	V / 1.0 / 90.0	-13.5	N/A
267.54	34.9 Qp	4.4 / 12.3 / 27.2	24.4	V / 1.0 / 90.0	-11.2	N/A
324.00	23.5 Qp	4.9 / 13.9 / 27.1	15.1	V / 1.0 / 90.0	-20.5	N/A
379.90	23.8 Qp	5.3 / 15.3 / 27.6	16.8	V / 1.0 / 90.0	-18.8	N/A
626.32	24.9 Qp	7.1 / 18.9 / 28.3	22.6	V / 1.0 / 90.0	-13.0	N/A
699.26	24.8 Qp	7.6 / 20.6 / 28.1	25.0	V / 1.0 / 90.0	-10.6	N/A
959.99	25.1 Qp	9.1 / 22.4 / 27.3	29.3	V / 1.0 / 90.0	-6.3	N/A
200-1000MHz Vertical 180 degrees						
959.99	24.9 Qp	9.1 / 22.4 / 27.3	29.1	V / 1.0 / 90.0	-6.5	N/A
No higher signals found: 200-1000MHz Vertical						
Following signals maximized between 200 & 1000MHz Vertical						
208.00	33.6 Qp	3.9 / 10.9 / 27.4	21.1	V / 1.0 / 224.0	-12.0	N/A
220.00	36.1 Qp	4.0 / 10.3 / 27.2	23.2	V / 1.0 / 126.0	-12.4	N/A
267.54	33.8 Qp	4.4 / 12.3 / 27.2	23.2	V / 1.0 / 246.0	-12.4	N/A
959.99	25.4 Qp	9.1 / 22.4 / 27.3	29.6	V / 1.0 / 12.0	-6.0	N/A
200-1000MHz Horizontal 0 degrees						
208.00	29.7 Qp	3.9 / 10.9 / 27.4	17.2	H / 2.0 / 0.0	-15.9	N/A
220.00	25.7 Qp	4.0 / 10.3 / 27.2	12.8	H / 2.0 / 0.0	-22.8	N/A
240.00	28.4 Qp	4.1 / 10.9 / 27.2	16.3	H / 2.0 / 0.0	-19.3	N/A
250.06	26.6 Qp	4.2 / 11.6 / 27.2	15.2	H / 2.0 / 0.0	-20.4	N/A
267.54	23.6 Qp	4.4 / 12.3 / 27.2	13.1	H / 2.0 / 0.0	-22.5	N/A
324.00	22.5 Qp	4.9 / 13.9 / 27.1	14.1	H / 2.0 / 0.0	-21.5	N/A
380.00	21.7 Qp	5.3 / 15.3 / 27.6	14.7	H / 2.0 / 0.0	-20.9	N/A
626.32	25.5 Qp	7.1 / 18.9 / 28.3	23.1	H / 2.0 / 0.0	-12.5	N/A

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FREQ	LEVEL	CABLE / ANT / PREAMP	FINAL	POL / HGT / AZ	DELTA1 (dB)	DELTA2 (dB)
(MHz)	(dBuV)	(dB) (dB\m) (dB)	(dBuV)	(m) (DEG)	15.209 <1GHz	15.209 >1GHz
699.26	24.4 Qp	7.6 / 20.6 / 28.1	24.6	H / 2.0 / 0.0	-11.0	N/A
959.99	21.8 Qp	9.1 / 22.4 / 27.3	26.0	H / 2.0 / 0.0	-9.6	N/A
200-1000MHz Horizontal 90 degrees						
250.06	27.0 Qp	4.2 / 11.6 / 27.2	15.6	H / 2.0 / 90.0	-20.0	N/A
626.32	25.7 Qp	7.1 / 18.9 / 28.3	23.3	H / 2.0 / 90.0	-12.3	N/A
No higher signals found: 200-1000MHz Horizontal						
Following signals maximized between 200 & 1000MHz Horizontal						
208.00	30.6 Qp	3.9 / 10.9 / 27.4	18.1	H / 2.3 / 352.0	-15.0	N/A

FREQ	LEVEL	CABLE / ANT / PREAMP	FINAL	POL / HGT / AZ	DELTA1 (dB)	DELTA2 (dB)
(MHz)	(dBuV)	(dB) (dB\m) (dB)	(dBuV)	(m) (DEG)	15.209 <1GHz	15.209 >1GHz
***** Measurement Summary *****						
959.99	25.6 Qp	9.1 / 22.4 / 27.3	29.8	V / 1.0 / 0.0	-5.8	N/A
50.00	40.2 Qp	1.8 / 9.8 / 28.2	23.6	V / 1.0 / 258.0	-5.9	N/A
179.99	36.5 Qp	3.6 / 12.3 / 27.4	25.0	V / 1.0 / 188.0	-8.1	N/A
192.00	34.5 Qp	3.8 / 12.9 / 27.4	23.8	V / 1.0 / 348.0	-9.3	N/A
40.00	35.0 Qp	1.8 / 11.4 / 28.2	20.0	V / 1.0 / 176.0	-9.5	N/A
199.99	33.2 Qp	3.9 / 13.3 / 27.3	23.1	V / 1.0 / 0.0	-10.0	N/A
150.01	35.2 Qp	3.2 / 12.2 / 27.7	23.0	V / 1.0 / 126.0	-10.1	N/A
137.43	34.9 Qp	3.0 / 12.4 / 27.8	22.6	V / 1.0 / 0.0	-10.5	N/A
699.26	24.8 Qp	7.6 / 20.6 / 28.1	25.0	V / 1.0 / 90.0	-10.6	N/A
30.00	32.8 Qp	1.5 / 12.8 / 28.2	18.8	V / 1.0 / 0.0	-10.7	N/A
149.95	34.5 Qp	3.2 / 12.2 / 27.7	22.2	V / 1.0 / 0.0	-10.9	N/A
267.54	34.9 Qp	4.4 / 12.3 / 27.2	24.4	V / 1.0 / 90.0	-11.2	N/A
36.00	32.9 Qp	1.7 / 11.9 / 28.2	18.2	V / 1.0 / 0.0	-11.3	N/A
120.00	35.0 Qp	2.9 / 11.4 / 27.9	21.4	H / 2.0 / 0.0	-11.7	N/A
80.00	36.4 Qp	2.4 / 6.8 / 28.1	17.5	H / 2.0 / 0.0	-12.0	N/A
208.00	33.6 Qp	3.9 / 10.9 / 27.4	21.1	V / 1.0 / 224.0	-12.0	N/A
64.00	35.4 Qp	2.2 / 7.9 / 28.1	17.3	V / 1.0 / 0.0	-12.2	N/A
76.00	35.9 Qp	2.4 / 7.2 / 28.1	17.3	V / 1.0 / 0.0	-12.2	N/A
626.32	25.7 Qp	7.1 / 18.9 / 28.3	23.3	H / 2.0 / 90.0	-12.3	N/A
72.00	35.0 Qp	2.3 / 8.0 / 28.1	17.1	V / 1.0 / 0.0	-12.4	N/A
220.00	36.1 Qp	4.0 / 10.3 / 27.2	23.2	V / 1.0 / 126.0	-12.4	N/A
70.00	34.3 Qp	2.2 / 8.5 / 28.2	16.8	V / 1.0 / 0.0	-12.7	N/A
250.06	34.2 Qp	4.2 / 11.6 / 27.2	22.8	V / 1.0 / 0.0	-12.8	N/A
160.00	31.9 Qp	3.3 / 12.0 / 27.7	19.6	V / 1.0 / 0.0	-13.5	N/A
60.00	33.5 Qp	2.1 / 8.3 / 28.1	15.8	V / 1.0 / 0.0	-13.7	N/A
48.00	31.1 Qp	1.8 / 10.1 / 28.2	14.9	V / 1.0 / 0.0	-14.6	N/A
32.00	29.1 Qp	1.6 / 12.3 / 28.2	14.8	V / 1.0 / 0.0	-14.7	N/A
240.00	32.9 Qp	4.1 / 10.9 / 27.2	20.7	V / 1.0 / 0.0	-14.9	N/A
399.93	25.2 Qp	5.5 / 17.2 / 27.7	20.1	V / 1.0 / 0.0	-15.5	N/A
379.90	23.8 Qp	5.3 / 15.3 / 27.6	16.8	V / 1.0 / 90.0	-18.8	N/A

FREQ	LEVEL	CABLE / ANT / PREAMP	FINAL	POL / HGT / AZ	DELTA1 (dB)	DELTA2 (dB)
(MHz)	(dBuV)	(dB) (dB\m) (dB)	(dBuV)	(m) (DEG)	15.209 <1GHz	15.209 >1GHz
324.00	23.7 Qp	4.9 / 13.9 / 27.1	15.3	V / 1.0 / 0.0	-20.3	N/A
380.00	21.7 Qp	5.3 / 15.3 / 27.6	14.7	H / 2.0 / 0.0	-20.9	N/A

FREQ	LEVEL	CABLE / ANT / PREAMP	FINAL	POL / HGT / AZ	DELTA1 (dB)	DELTA2 (dB)
(MHz)	(dBuV)	(dB) (dB\m) (dB)	(dBuV)	(m) (DEG)	15.209 >1GHz	N/A

1-4GHz Vertical 0 degrees

1112.09	42.5 Av	2.1 / 23.9 / 38.3	30.2	V / 1.0 / 0.0	-23.8	N/A
1112.50	44.3 Av	2.1 / 23.9 / 38.3	32.0	V / 1.0 / 0.0	-22.0	N/A
1112.95	44.5 Av	2.1 / 23.9 / 38.3	32.1	V / 1.0 / 0.0	-21.9	N/A
1113.55	42.3 Av	2.1 / 23.9 / 38.3	30.0	V / 1.0 / 0.0	-24.0	N/A
1166.50	36.4 Av	2.2 / 23.7 / 38.3	24.0	V / 1.0 / 0.0	-30.0	N/A
2333.32	37.2 Av	3.2 / 27.4 / 38.4	29.3	V / 1.0 / 0.0	-24.7	N/A

1-4GHz Vertical 90 degrees

1112.09	40.4 Av	2.1 / 23.9 / 38.3	28.1	V / 1.0 / 90.0	-25.9	N/A
1112.50	41.6 Av	2.1 / 23.9 / 38.3	29.3	V / 1.0 / 90.0	-24.7	N/A
1112.95	41.6 Av	2.1 / 23.9 / 38.3	29.3	V / 1.0 / 90.0	-24.7	N/A
1113.55	40.1 Av	2.1 / 23.9 / 38.3	27.8	V / 1.0 / 90.0	-26.2	N/A
1166.50	35.9 Av	2.2 / 23.7 / 38.3	23.5	V / 1.0 / 90.0	-30.5	N/A

1-4GHz Vertical 180 degrees

1112.09	49.0 Av	2.1 / 23.9 / 38.3	36.7	V / 1.0 / 180.0	-17.3	N/A
1112.51	51.2 Av	2.1 / 23.9 / 38.3	38.9	V / 1.0 / 180.0	-15.1	N/A
1112.93	52.0 Av	2.1 / 23.9 / 38.3	39.7	V / 1.0 / 180.0	-14.3	N/A
1112.95	51.9 Av	2.1 / 23.9 / 38.3	39.5	V / 1.0 / 180.0	-14.5	N/A
1113.55	49.8 Av	2.1 / 23.9 / 38.3	37.4	V / 1.0 / 180.0	-16.6	N/A
1166.50	36.2 Av	2.2 / 23.7 / 38.3	23.8	V / 1.0 / 180.0	-30.2	N/A

1-4GHz Vertical 270 degrees

1112.10	46.3 Av	2.1 / 23.9 / 38.3	34.0	V / 1.0 / 270.0	-20.0	N/A
1112.50	49.1 Av	2.1 / 23.9 / 38.3	36.8	V / 1.0 / 270.0	-17.2	N/A
1112.95	49.4 Av	2.1 / 23.9 / 38.3	37.0	V / 1.0 / 270.0	-17.0	N/A
1112.95	49.5 Av	2.1 / 23.9 / 38.3	37.2	V / 1.0 / 270.0	-16.8	N/A
1113.55	46.7 Av	2.1 / 23.9 / 38.3	34.4	V / 1.0 / 270.0	-19.6	N/A
1166.50	37.0 Av	2.2 / 23.7 / 38.3	24.6	V / 1.0 / 270.0	-29.4	N/A

Following signals maximized between 1 & 4 GHz Vertical

1112.09	49.0 Av	2.1 / 23.9 / 38.3	36.6	V / 1.1 / 192.0	-17.4	N/A
1112.48	51.8 Av	2.1 / 23.9 / 38.3	39.4	V / 1.1 / 202.0	-14.6	N/A
1112.97	52.4 Av	2.1 / 23.9 / 38.3	40.1	V / 1.1 / 188.0	-13.9	N/A
1113.55	50.0 Av	2.1 / 23.9 / 38.3	37.7	V / 1.1 / 204.0	-16.3	N/A
1166.50	37.0 Av	2.2 / 23.7 / 38.3	24.6	V / 1.0 / 339.0	-29.4	N/A
2333.32	40.5 Av	3.2 / 27.4 / 38.4	32.6	V / 1.2 / 12.0	-21.4	N/A

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FREQ	LEVEL	CABLE / ANT / PREAMP	FINAL	POL / HGT / AZ	DELTA1 (dB)	DELTA2 (dB)
(MHz)	(dBuV)	(dB) (dB/m) (dB)	(dBuV)	(m) (DEG)	15.209 >1GHz	N/A
1-4GHz Horizontal 0 degrees						
1112.09	39.7 Av	2.1 / 23.9 / 38.3	27.4	H / 1.8 / 0.0	-26.6	N/A
1112.49	40.6 Av	2.1 / 23.9 / 38.3	28.3	H / 1.8 / 0.0	-25.7	N/A
1112.95	40.8 Av	2.1 / 23.9 / 38.3	28.5	H / 1.8 / 0.0	-25.5	N/A
1112.93	40.8 Av	2.1 / 23.9 / 38.3	28.5	H / 1.8 / 0.0	-25.5	N/A
1113.55	39.5 Av	2.1 / 23.9 / 38.3	27.2	H / 1.8 / 0.0	-26.8	N/A
1166.50	35.2 Av	2.2 / 23.7 / 38.3	22.8	H / 1.8 / 0.0	-31.2	N/A
2333.32	35.7 Av	3.2 / 27.4 / 38.4	27.8	H / 1.8 / 0.0	-26.2	N/A
1-4GHz Horizontal 90 degrees						
1112.08	38.1 Av	2.1 / 23.9 / 38.3	25.8	H / 1.8 / 90.0	-28.2	N/A
1112.50	38.7 Av	2.1 / 23.9 / 38.3	26.4	H / 1.8 / 90.0	-27.6	N/A
1112.95	38.7 Av	2.1 / 23.9 / 38.3	26.4	H / 1.8 / 90.0	-27.6	N/A
1112.97	38.7 Av	2.1 / 23.9 / 38.3	26.4	H / 1.8 / 90.0	-27.6	N/A
1112.95	38.6 Av	2.1 / 23.9 / 38.3	26.3	H / 1.8 / 90.0	-27.7	N/A
1112.93	38.8 Av	2.1 / 23.9 / 38.3	26.4	H / 1.8 / 90.0	-27.6	N/A
1112.95	38.8 Av	2.1 / 23.9 / 38.3	26.4	H / 1.8 / 90.0	-27.6	N/A
1112.95	38.8 Av	2.1 / 23.9 / 38.3	26.5	H / 1.8 / 90.0	-27.5	N/A
1113.55	37.9 Av	2.1 / 23.9 / 38.3	25.5	H / 1.8 / 90.0	-28.5	N/A
1-4GHz Horizontal 180 degrees						
1112.09	42.3 Av	2.1 / 23.9 / 38.3	30.0	H / 1.8 / 180.0	-24.0	N/A
1112.51	44.0 Av	2.1 / 23.9 / 38.3	31.6	H / 1.8 / 180.0	-22.4	N/A
1112.94	44.2 Av	2.1 / 23.9 / 38.3	31.9	H / 1.8 / 180.0	-22.1	N/A
1113.54	42.0 Av	2.1 / 23.9 / 38.3	29.7	H / 1.8 / 180.0	-24.3	N/A
1112.93	44.3 Av	2.1 / 23.9 / 38.3	32.0	H / 1.8 / 180.0	-22.0	N/A
1112.97	44.2 Av	2.1 / 23.9 / 38.3	31.9	H / 1.8 / 180.0	-22.1	N/A
1112.95	44.2 Av	2.1 / 23.9 / 38.3	31.9	H / 1.8 / 180.0	-22.1	N/A
1112.93	44.1 Av	2.1 / 23.9 / 38.3	31.8	H / 1.8 / 180.0	-22.2	N/A
1112.95	44.2 Av	2.1 / 23.9 / 38.3	31.9	H / 1.8 / 180.0	-22.1	N/A
1113.55	42.0 Av	2.1 / 23.9 / 38.3	29.7	H / 1.8 / 180.0	-24.3	N/A
No higher signals found: 1-4GHz Horizontal 270 degrees						
Following signals maximized between 1 & 4 GHz Horizontal						
1112.08	48.5 Av	2.1 / 23.9 / 38.3	36.2	H / 1.4 / 186.0	-17.8	N/A
1112.49	51.1 Av	2.1 / 23.9 / 38.3	38.8	H / 1.4 / 196.0	-15.2	N/A
1112.95	51.5 Av	2.1 / 23.9 / 38.3	39.2	H / 1.3 / 188.0	-14.8	N/A

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FREQ	LEVEL	CABLE / ANT / PREAMP	FINAL	POL / HGT / AZ	DELTA1 (dB)	DELTA2 (dB)
(MHz)	(dBuV)	(dB) (dB/m) (dB)	(dBuV)	(m) (DEG)	15.209 >1GHz	N/A
1113.55	49.1 Av	2.1 / 23.9 / 38.3	36.8	H / 1.3 / 188.0	-17.2	N/A
4-5 GHz Vertical						
No signals found: Noisefloor						
4001.02	34.9 Av	4.8 / 31.4 / 39.9	31.1	V / 1.0 / 0.0	-22.9	N/A
4532.92	31.9 Av	5.3 / 31.2 / 40.7	27.8	V / 1.0 / 0.0	-26.2	N/A
4794.04	25.0 Av	5.5 / 32.2 / 40.4	22.3	V / 1.0 / 0.0	-31.7	N/A
4-5GHz Horizontal						
No signals found: Noisefloor						
4566.36	30.6 Av	5.3 / 31.3 / 40.7	26.5	H / 1.0 / 0.0	-27.5	N/A
4875.67	25.0 Av	5.6 / 32.3 / 40.4	22.5	H / 1.0 / 0.0	-31.5	N/A

FREQ	LEVEL	CABLE / ANT / PREAMP	FINAL	POL / HGT / AZ	DELTA1 (dB)	DELTA2 (dB)
(MHz)	(dBuV)	(dB) (dB/m) (dB)	(dBuV)	(m) (DEG)	15.209 >1GHz	N/A
***** Measurement Summary *****						
1112.97	52.4 Av	2.1 / 23.9 / 38.3	40.1	V / 1.1 / 188.0	-13.9	N/A
1112.93	52.0 Av	2.1 / 23.9 / 38.3	39.7	V / 1.0 / 180.0	-14.3	N/A
1112.95	51.5 Av	2.1 / 23.9 / 38.3	39.2	H / 1.3 / 188.0	-14.8	N/A
1113.55	50.0 Av	2.1 / 23.9 / 38.3	37.7	V / 1.1 / 204.0	-16.3	N/A
1112.95	49.5 Av	2.1 / 23.9 / 38.3	37.2	V / 1.0 / 270.0	-16.8	N/A
2333.32	40.5 Av	3.2 / 27.4 / 38.4	32.6	V / 1.2 / 12.0	-21.4	N/A
1112.95	44.5 Av	2.1 / 23.9 / 38.3	32.1	V / 1.0 / 0.0	-21.9	N/A
1112.93	44.3 Av	2.1 / 23.9 / 38.3	32.0	H / 1.8 / 180.0	-22.0	N/A
4001.02	34.9 Av	4.8 / 31.4 / 39.9	31.1	V / 1.0 / 0.0	-22.9	N/A
1112.95	41.6 Av	2.1 / 23.9 / 38.3	29.3	V / 1.0 / 90.0	-24.7	N/A
1112.93	40.8 Av	2.1 / 23.9 / 38.3	28.5	H / 1.8 / 0.0	-25.5	N/A
4532.92	31.9 Av	5.3 / 31.2 / 40.7	27.8	V / 1.0 / 0.0	-26.2	N/A
1112.95	38.8 Av	2.1 / 23.9 / 38.3	26.5	H / 1.8 / 90.0	-27.5	N/A
4566.36	30.6 Av	5.3 / 31.3 / 40.7	26.5	H / 1.0 / 0.0	-27.5	N/A
1166.50	37.0 Av	2.2 / 23.7 / 38.3	24.6	V / 1.0 / 339.0	-29.4	N/A
4875.67	25.0 Av	5.6 / 32.3 / 40.4	22.5	H / 1.0 / 0.0	-31.5	N/A
4794.04	25.0 Av	5.5 / 32.2 / 40.4	22.3	V / 1.0 / 0.0	-31.7	N/A

Example calculation for Unintentional Radiated Emissions:

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Measured Level		Transducer, Cable Loss & Amplifier corrections		Corrected Reading	Specification Limit		Corrected Reading		Delta Specification
(dB μ V)	+	(dB)	=	(dB μ V/m)	(dB μ V/m)	-	(dB μ V/m)	=	
14.0		14.9		28.9	40.0		28.9		-11.1

Deviations, Additions, or Exclusions: None

7 Measurement Uncertainty

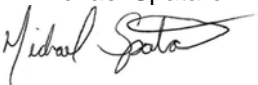
The measured value related to the corresponding limit will be used to decide whether the equipment meets the requirements.

The measurement uncertainty figures were calculated and correspond to a coverage factor of $k = 2$, providing a confidence level of respectively 95.45 % in the case where the distributions characterizing the actual measurement uncertainties are normal (Gaussian).

Measurement uncertainty Table

Parameter	Uncertainty \pm	Notes
Radiated emissions, 10kHz to 1000 MHz	4.8 dB	
Radiated emissions, 1 to 18 GHz	4.9 dB	
AC mains Conducted emissions, 150kHz to 30 MHz	3.14 dB	
Disturbance Power 30 to 1000 MHz	3.3 dB	
Telecom Port Conducted emissions, Voltage 150 kHz to 30 MHz	TBD	In Process
Harmonics	-	Meets the requirements specified by the standard.
Flicker	-	Meets the requirements specified by the standard.
ESD	4.4 %	
Radiated RF field immunity 80MHz to 2.7GHz	2.2 dB	
EFT	4.3 %	
Surge	4.3 %	
Conducted RF immunity	2.1 dB	
Power frequency magnetic field immunity	2.3 dB	
Voltage dips / interruptions immunity	0.3 mV	

8 Revision History

Revision Level	Date	Report Number	Notes
1	03/14/2011	10035654DEN-001A	<p>This report is an update of report numbers: 3164931DEN-0004D and 3164931DEN-004C.</p> <p>No additional testing was performed, the two reports are combined into one and a validation for the latest version of RSS-210 was performed.</p> <p>Michael Spataro </p>