

*FCC PART 15*  
*SUBPART F SECTION 15.510*  
*TEST REPORT*

*for*

Through D-Wall Imaging System  
MODEL: Eagle5-N

Prepared for

TIALINX  
2151 MICHELSON DRIVE, SUITE 232  
IRVINE, CALIFORNIA 92612

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DATE: JULY 19, 2013

	REPORT BODY	APPENDICES					TOTAL
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## GENERAL REPORT SUMMARY

This electromagnetic emission test report is generated by Compatible Electronics Inc., which is an independent testing and consulting firm. The test report is based on testing performed by Compatible Electronics personnel according to the measurement procedures described in the test specifications given below and in the "Test Procedures" section of this report.

The measurement data and conclusions appearing herein relate only to the sample tested and this report may not be reproduced without the written permission of Compatible Electronics, unless done so in full.

This report must not be used to claim product endorsement by NVLAP, NIST or any other agency of the U.S. Government.

Device Tested: Through D-Wall Imaging System  
Model Number: Eagle5-N  
S/N: E5-1-1.77

Product Description: This is a through wall D-Wall Imaging System.

Modifications: The EUT was modified during the testing. See list located in Appendix B.

Manufacturer: Tialinx  
2151 Michelson Drive, Suite 232  
Irvine, California 92612

Test Dates: May 29, 2013

Test Specification: EMI requirements  
CFR Title 47, FCC Part 15, Subpart B, Subpart C and Subpart F (15.510)

Test Procedure: ANSI C63.4 & ANSI C63.10

## SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Conducted RF Emissions, 150 kHz – 30 MHz	Complies with the limits of CFR Title 47, Part 15 Subpart B, Section 15.107 & Subpart C, Section 15.207
2	Radiated RF Emissions, 30 – 1000 MHz	Complies with the limits of CFR Title 47, Part 15 Subpart B Section 15.109
3	Radiated RF Emissions, 9 kHz– 960 MHz	Complies with the limits of CFR Title 47, Part 15 Subpart C Section 15.209
4	UWB Bandwidth	Complies with the requirements of CFR Title 47, Part 15, Subpart F, section 15.503 [d]
5	Radiated RF Emissions, 960 MHz – 40 GHz	Complies with the limits of CFR Title 47, Part 15, Subpart F, section 15.510 [d]
7	Radiated Emissions in GPS Band 1164 – 1240 MHz & 1559 – 1610 MHz	Complies with the limits of CFR Title 47, Part 15, Subpart F, section 15.510 [d]
8	Peak Emissions within a 50 MHz Bandwidth	Complies with the limits of CFR Title 47, Part 15, Subpart F, section 15.510 [d]

## 1. PURPOSE

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on the Through D-Wall Imaging System Model Number: EAGLE5-N. The EMI measurements were performed according to the measurement procedure described in ANSI C63.10. The tests were performed in order to determine whether the electromagnetic emissions from the equipment under test, referred to as EUT hereafter, are within the specification limits defined by CFR Title 47, Part 15, Subpart F – Ultra-Wideband Operation, sections 15.503, 15.505, 15.510, and 15.521.

Note: For the unintentional radiator portion of the test, the EUT was within the **Class B** specification limits defined by CFR Title 47, Part 15, Subpart B.



## 2. ADMINISTRATIVE DATA

## **2.1 Location of Testing**

The EMI tests described herein were performed at the test facility of Compatible Electronics, 20621 Pascal Way, Lake Forest, California 92630.

## 2.2 Traceability Statement

The calibration certificates of all test equipment used during the test are on file at the location of the test. The calibration is traceable to the National Institute of Standards and Technology (NIST).

### **2.3 Cognizant Personnel**

Tialinx

Fred Mohamadi CEO

Compatible Electronics, Inc.

Matt Harrison      Test Engineer  
Josh Hansen      Lab Manager

#### **2.4 Date Test Sample was Received**

The test sample was received on May 29, 2013.

## **2.5 Disposition of the Test Sample**

The sample has remains at Compatible Electronics as of the date of this test report.

## **2.6 Abbreviations and Acronyms**

The following abbreviations and acronyms may be used in this document.

RF	Radio Frequency	UWB	Ultra-Wideband
EMI	Electromagnetic Interference	USB	Universal Serial Bus
EUT	Equipment Under Test		
P/N	Part Number		
S/N	Serial Number		
HP	Hewlett Packard		
ITE	Information Technology Equipment		
CML	Corrected Meter Limit		
LISN	Line Impedance Stabilization Network		

### 3. APPLICABLE DOCUMENTS

The following documents are referenced or used in the preparation of this EMI Test Report.

SPEC	TITLE
ANSI C63.4 2009	Methods of measurement of radio-noise emissions from low-voltage electrical and electronic equipment in the range of 9 kHz to 40 GHz
ANSI C63.10 2009	Methods of measurement of radio-noise emissions from low-voltage electrical and electronic equipment in the range of 9 kHz to 40 GHz
FCC Title 47, Part 15	FCC Rules - Radio frequency devices

## 4. DESCRIPTION OF TEST CONFIGURATION

### 4.1 Description of Test Configuration

#### - Setup of the equipment under test.

Specifics of the EUT and Peripherals Tested

The EUT was set up in a tabletop configuration while connected to a remote laptop computer via the Ethernet port. For the Power Supply/Charging mode, the EUT was also connected to a Power Supply via barrel connector. There was a ½" thick sheet of drywall placed directly in front of the EUT. A proprietary software program was used to exercise the EUT to maximize the highest RF emissions possible within the limits.

#### - Operation of the EUT during the testing

**For the intentional radiator portion of the test** – An RF signal was generated by the EUT with the highest radiated emission base on the power level of the signal.

**For the unintentional radiator portion of the test** – The EUT was operating in the above described mode.

The final radiated as well as the conducted data was taken in the modes above. Please see Appendix E for the data sheets.

#### 4.2 Cable Construction and Termination

**Cable 1** This is a 7 meter un-shielded Ethernet cable connecting the EUT to the remote laptop computer. There is a RJ45 connector at both ends of the cable.

**Cable 2** This is a 1 meter braid shielded round cable connecting the EUT to the power supply. There is a barrel connector at the EUT end and it is hardwired into the power supply end.

**5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT****5.1 EUT and Accessory List**

#	EQUIPMENT TYPE	MANUFACTURER	MODEL	SERIAL NUMBER
1	THROUGH D-WALL IMAGING SYSTEM (EUT)	TIALINX	EAGLE5-N	NONE
2	PSU (EUT)	DVE	DSA-50W-12 1 120500	E50-2-1.47C1
3	LAPTOP COMPUTER	RUGGED NOTEBOOKS	D14RM-WKE	SY0471000148
4	PSU (LAPTOP COMPUTER)	FSP GROUP, INC.	FSP065-RAB	WS111110002285

## 5.2 EMI Test Equipment

EQUIPMENT TYPE	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	CAL. DATE	CAL. DUE DATE
Computer	Compatible Electronics	s5250t	MXV94400D8	N/A	N/A
EMI Receiver	Rohde & Schwarz	ESIB40	100219	09/26/2012	09/26/2013
Antenna, Loop	Com Power	AL-130	17085	01/29/2013	01/29/2015
Antenna, CombiLog	Com Power	AC-220	25857	04/16/2013	04/16/2014
Antenna, Horn 1-18GHz	Com Power	AH-118	071225	07/03/2012	07/03/2013
Antenna, Horn 18-26GHz	Com Power	AH826	081033	N.C.R.	N.C.R.
Antenna, Horn 26-40GHz	Com Power	AH640	091010	N.C.R.	N.C.R.
Pre-Amp, 1-18GHz	Com Power	PAM-118	443013	04/08/2013	04/08/2014
Pre-Amp, 1-18GHz	Com Power	PAM-118	443011	04/08/2013	04/08/2014
Pre-Amp, 18-40GHz	Com Power	PA-840	181289	06/13/2012	06/13/2013
LISN	Com Power	LI 215	12088	03/22/2013	03/22/2014
Mast, Antenna Positioner	Sunol Science Corporation	TWR 95-4	020808-3	N/A	N/A
Antenna Mast	Sunol Science Corporation	TWR 95-4	020808-3	N/A	N/A
Turntable	Sunol Science Corporation	FM 2001	N/A	N/A	N/A
Mast and Turntable Controller	Sunol Science Corporation	SC104V	020808-1	N/A	N/A

**5.3 EMI Measurement and Control Software Information**

LAB(S)	SOFTWARE TITLE	MANUFACTURER	VERSION	RELEASE DATE
P, R	Measurement and Automation Software	TDK TestLab	5.53	

## 6. TEST SITE DESCRIPTION

### 6.1 Test Facility Description

Please refer to section 2.1 and 7.1 of this report for EMI test location.

### 6.2 EUT Mounting, Bonding and Grounding

The EUT was mounted on a 1.0 by 1.5 meter non-conductive table 0.8 meters above the ground plane.

The EUT was grounded via the Power Supply while in Charge Mode and not grounded during Battery Mode.

## 7. TEST PROCEDURES

The following sections describe the test methods and the specifications for the tests. The test results are included in this section.

### 7.1 RF Emissions

#### 7.1.1 Conducted Emissions

The spectrum analyzer was used as a measuring meter. The data was collected with the spectrum analyzer in the peak detect mode with the "Max Hold" feature activated. A quasi-peak and/or average reading was taken only where indicated in the data sheets. A 10 dB attenuation pad was used for the protection of the spectrum analyzer input stage, and the offset was adjusted accordingly to read the actual data measured. The LISN output was measured using the spectrum analyzer. The output of the second LISN was terminated by a 50 ohm termination. The effective measurement bandwidth used for this test was 9 kHz.

Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The EUT was powered through the LISN, which was bonded to the ground plane. The EUT was set up with the minimum distances from any conductive surfaces as specified in ANSI C63.4. The excess power cord was wrapped in a figure eight pattern to form a bundle not exceeding 0.4 meters in length.

The conducted emissions from the EUT were maximized for operating mode as well as cable placement. The final data was collected under program control by the Compatible Electronics conducted emissions software in several overlapping sweeps by running the spectrum analyzer at a minimum scan rate of 10 seconds per octave. The final qualification data is located in Appendix E.

#### Conducted Emissions Test Limits

For an intentional radiator that is designed to be connected to the public AC mains, the radio frequency voltage emission that is conducted back on the AC power line within the band of 150kHz to 30MHz shall not exceed the limits in the following table.

Frequency Range (MHz)	Conducted Limit (dB $\mu$ V)	
	Quasi-Peak	Average
0.15 to 0.5	66 to 56	56 to 46
0.5 to 5	56	46
5 to 30	60	50

#### Test Results:

The EUT complies with the relevant requirements of CFR Title 47, FCC Part 15, Subpart C 15.207. Please see the data sheets located in Appendix E.

## 7.1.2 Radiated Emissions

### Test Limits

The radiated emission limits at or below 960 MHz shall not exceed the emission levels located in 15.209. The radiated emissions above 960MHz shall not exceed the average limits located in Section 15.510 [d] when using a resolution bandwidth of 1MHz.

### Test Procedure

#### (Spurious Emissions outside BW of EUT) (9kHz to 18000MHz)

The EMI Receiver was used as a measuring meter along with the quasi-peak adapter. Amplifiers were used to increase the sensitivity of the instrument. The EMI Receiver was used in the peak detect mode with the "Max Hold" feature activated. In this mode, the EMI Receiver records the highest measured reading over all the sweeps.

A quasi-peak and/or average reading was taken only for those readings which are marked accordingly on the data sheets.

The frequencies above 960MHz were averaged using an CISPR compliant average detector built into the EMI Receiver.

#### Radiated Emissions (all other measurements) (1GHz to 40000MHz)

The EMI receiver was used as a measuring meter. Amplifiers were used to increase the sensitivity of the instrument. The EMI receiver was used in the peak and RMS average detect mode with the "Max Hold" feature activated. In this mode, the EMI receiver records the highest measured reading over all the sweeps.

### Radiated Emissions (Continued)

The measurement bandwidths and transducers used for the radiated emissions are listed below unless otherwise specified.

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
9 kHz to 150 kHz	200 Hz	Active Loop Antenna
150 kHz to 30 MHz	9 kHz	Active Loop Antenna
30 MHz to 1 GHz	100 kHz	Combilog Antenna
1 GHz to 40 GHz	1 MHz	Horn Antenna

The TDK FAC-3 shielded test chamber of Compatible Electronics, Inc. was used for radiated emissions testing. This test site is in full compliance with ANSI C63.4, EN 50147-2, and CISPR 22. Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The turntable supporting the EUT is remote controlled using a motor. The turntable permits EUT rotation of 360 degrees in order to maximize emissions. Also, the antenna mast allows height variation of the antenna from 1 meter to 4 meters. Data was collected in the worst case (highest emission) configuration of the EUT. At each reading, the EUT was rotated 360 degrees and the antenna height was varied from 1 to 4 meters in both vertical and horizontal polarizations (for E field radiated field strength).

### Test Results:

The EUT complies with the relevant requirements of CFR Title 47, FCC Part 15, Subpart B, 15.109 Subpart C, 15.209 and Subpart F section 15.510.

### 7.1.3 UWB Bandwidth

#### Test Limits

An Ultra-wideband (UWB) transmitter is an intentional radiator that, at any point in time, has a fractional bandwidth equal to or greater than 0.20 or has a UWB bandwidth equal to or greater than 500MHz, regardless of the fractional bandwidth.

The bandwidth of a UWB emission is defined by the points on the emission spectrum where the amplitude is 10 dB below the maximum emission amplitude (i.e., the -10 dB points). In cases where the measured emission spectrum contains multiple (more than two) -10 dB points, the outermost points define the bandwidth (i.e., the widest bandwidth is assumed) based on the complete transmission system including the antenna. The upper boundary is designated  $f_h$  and the lower boundary is designated  $f_l$ . The frequency at which the highest radiated emission occurs is designated  $f_m$ .

The center frequency  $f_c$  equals  $(f_h + f_l) / 2$ .

The fractional bandwidth equals  $2(f_h - f_l) / (f_h + f_l)$ .

The UWB bandwidth of the UWB system must be contained between 1990MHz and 10600MHz.

#### Test Procedure

A resolution bandwidth (RBW) of 1MHz and video bandwidth (VBW) of 3MHz , with the sweep time set to auto and the RMS detector enabled. The measured bandwidth points were taken at the 10dB points below the peak signal. See section 7.1.2 for the test setup description. The final test results are located in Appendix E.

#### Test Results:

The EUT complies with the relevant requirements of CFR Title 47, FCC Part 15, Subpart F section 15.503.

#### 7.1.4 Radiated Emissions In GPS Band 1164-1240MHz & 1559-1610MHz

##### Test Limits

The UWB transmitters emissions shall not exceed the following average limits when measured using a resolution bandwidth of no less than 1kHz.

Frequency (MHz)	EIRP (dBm)
1164 to 1240	-56.30
1559 to 1610	-56.30

##### Test Procedure

The radiated emission measurements made over the frequency range from 1164MHz to 1240MHz and 1559MHz to 1610MHz were maximized using an EMI receiver with the average detector enabled. The RMS average measurements were made with the resolution bandwidth (RBW) set at 1MHz and the video bandwidth (VBW) set at 3MHz, with the sweep time set to auto. See section 7.1.2 for the test setup description. The final test results are located in Appendix E.

##### Test Results:

The EUT complies with the relevant requirements of CFR Title 47, FCC Part 15, Subpart F section 15.510 [d].

### 7.1.5 Peak Radiated Emissions in a 50MHz BW

#### Test Limits

There is a limit on the peak level of the emissions contained within a 50MHz bandwidth centered on the frequency at which the highest radiated emission occurs,  $f_m$ . That limit is 0dBm EIRP. It is acceptable to employ a different resolution bandwidth, and a correspondingly different peak emission limit, following the procedures described in section 15.521.

#### Test Procedure

The radiated emissions measurements made over the frequency range from 1990MHz to 10600MHz were maximized using an EMI receiver with the peak detector enabled. The peak measurements were made with the resolution bandwidth (RBW) and video bandwidth (VBW) set at 1MHz, with the sweep time set to auto.

Since a resolution bandwidth other than 50MHz was employed, the peak EIRP limit had to adjusted by the resolution bandwidth ratio of  $20\log(RBW/50)$  dB, where RBW is the resolution bandwidth used for the measurement expressed in MHz.

The radiated field measurements were made with a test distance of 1 meter. See section 7.1.2 for the setup description. The final test results are located in Appendix E.

#### Test Results:

The EUT complies with the relevant requirements of CFR Title 47, FCC Part 15, Subpart F section 15.510 [d].

### 7.1.6 Voltage Fluctuations

The supply voltage fluctuations test was performed using the EMI Receiver. The EUT input power was varied between 85% and 1150% of the nominal rated supply voltage. The UWB frequency was monitored for any change in amplitude

#### Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.31 (e)

### 7.1.7 EIRP Calculations

As defined in FCC CFR Part 15 Subpart F (15.503 [k]), EIRP is the equivalent isotropic radiated power, ie. The product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna. The EIRP, in terms of dBm, can be converted to field strength, in dB $\mu$ V/m at 3 meters, by adding 95.2 dB. Conversely, the field strength in dB $\mu$ V/m at 3 meters can be converted to the EIRP in dBm by subtracting 95.2 dB. As used in Subpart F, EIRP refers to the highest signal strength measured in any direction and at any frequency from the UWB device, as tested in accordance with the procedures specified in 15.31(a) and 15.523 of title 47 CFR FCC.

To convert to an EIRP reading at 3 meter use  $EIRP \text{ (dBm)} = E \text{ (dB}\mu\text{V/m)} - 95.2 \text{ (dB)}$

$$EIRP \text{ (dBm)} = 36.5 \text{ (dB}\mu\text{V/m)} - 95.2 \text{ (dB)} = -58.7 \text{ dBm}$$

### 7.1.8 Measurement Calculations

Assume a spectrum analyzer reading of 50 dB $\mu$ V at 80MHz on 3 m site. With an antenna factor of 10dB, system losses of about 1.5dB and a pre-amplifier gain of 25 dB, the resulting electric field strength would be calculated as follows.

$$E \text{ (dB}\mu\text{V/m)} = 50 \text{ (dB}\mu\text{V)} + 10 \text{ (dB)} + 1.5 \text{ (dB)} - 25 \text{ (dB)} = 36.5 \text{ dB}\mu\text{V/m}$$

Now assume the measurement distance was decreased from 3 meters to 1 meter. With a field strength reading of 36.5 dB $\mu$ V/m at 3 meters the resulting electric field strength would be calculated as follows:

$$E \text{ (dB}\mu\text{V/m)} @ 1 \text{ meter} = E \text{ (dB}\mu\text{V/m)} @ 3 \text{ meters} - 20\log(\text{Spec distance} / \text{measurement distance})$$

$$E \text{ (dB}\mu\text{V/m)} @ 1 \text{ meter} = 36.5 \text{ (dB}\mu\text{V)} - 9.54 = 26.96 \text{ (dB}\mu\text{V/m)}$$

## 8. TEST PROCEDURE DEVIATIONS

Where specified test distances were reduced to from 3 meter to 1 meter to increase the signal to floor noise ratio. For these measurements a 9.54dB factor was subtracted from the measurement. The factor of 9.54dB was derived from the formula  $20\log(\text{Spec distance}/\text{Test Distance})$ .

An example of the calculation is below:

$$20\log(3/1)$$

$$20\log(3)$$

$$9.54$$

## 9. CONCLUSIONS

The Through D-Wall Imaging System Model Number: EAGLE5-N meets all of the specification limits defined in CFR Title 47, FCC Part 15, Subpart C, sections 15.207 and 15.209, Subpart F, sections 15.503, 15.505, 15.510 and 15.521.

Note: For the unintentional radiator portion of the test, the EUT was within the **Class B** specification limits defined by CFR Title 47, Part 15, Subpart B.

## **APPENDIX A**

### ***LABORATORY ACCREDITATIONS & RECOGNITIONS***

## LABORATORY ACCREDITATIONS AND RECOGNITIONS

NVLAP CODES 200063-0,  
200528-0, 200527-0

For US, Canada, Australia/New Zealand, Taiwan and the European Union, Compatible Electronics is currently accredited by NVLAP to ISO/IEC 17025 an ISO 9002 equivalent. Please follow the link to the NIST site for each of our facilities NVLAP certificate and scope of accreditation.

Silverado/Lake Forest Division: <http://ts.nist.gov/ts/htdocs/210/214/scopes/2005270.htm>

Brea Division: <http://ts.nist.gov/ts/htdocs/210/214/scopes/2005280.htm>

Agoura Division: <http://ts.nist.gov/ts/htdocs/210/214/scopes/2000630.htm>



Compatible Electronics has been accredited by ANSI and appointed by the FCC to serve as a Telecommunications Certification Body (TCB). Compatible Electronics ANSI TCB listing can be found at: [http://www.ansi.org/public/ca/ansi\\_cp.html](http://www.ansi.org/public/ca/ansi_cp.html)



Compatible Electronics has been nominated as a Conformity Assessment Body (CAB) for EMC under the US/EU Mutual Recognition Agreement (MRA). Compatible Electronics NIST US/EU CAB listing can be found at: <http://ts.nist.gov/ts/htdocs/210/gsig/emc-cabs-mar02.pdf>



Compatible Electronics has been nominated as a Conformity Assessment Body (CAB) for Taiwan/BSMI under the US/APEC (Asia-Pacific Economic Cooperation) Mutual Recognition Agreement (MRA). Compatible Electronics NIST US/APEC CAB listing can be found at: <http://ts.nist.gov/ts/htdocs/210/gsig/apec/bsmi-cabs-may02.pdf>



Compatible Electronics has been validated by NEMKO against ISO/IEC 17025 under the NEMKO EMC Laboratory Authorization (ELA) program to all EN standards required by the European Union (EU) EMC Directive 89/336/EEC. Please follow the link to the Compatible Electronics' web site for each of our facilities NEMKO ELA certificate and scope of accreditation. <http://www.ceelectronics.com/certs.htm>

We are also certified/listed for IT products by the following country/agency:



Compatible Electronics VCCI listing can be found at:  
[http://www.vcci.or.jp/vcci\\_e/member/tekigo/setsubi\\_index\\_id.html](http://www.vcci.or.jp/vcci_e/member/tekigo/setsubi_index_id.html)

Just type "Compatible Electronics" into the Keyword search box.



Compatible Electronics FCC listing can be found at:  
[https://gullfoss2.fcc.gov/prod/oet/index\\_ie.html](https://gullfoss2.fcc.gov/prod/oet/index_ie.html)

Just type "Compatible Electronics" into the Test Firms search box.



Compatible Electronics IC listing can be found at:  
[http://spectrum.ic.gc.ca/~cert/labs/oats\\_lab\\_c\\_e.html](http://spectrum.ic.gc.ca/~cert/labs/oats_lab_c_e.html)

## **APPENDIX B**

### ***MODIFICATIONS TO THE EUT***

## MODIFICATIONS TO THE EUT

The modifications listed below were made to the EUT to pass FCC Part 15 Subpart F specifications.

All the rework described below was implemented during the test in a method that could be reproduced in all the units by the manufacturer.

Modifications:

- 1) Added 3-#0431173951 Material Ferrite Beads to Power Input Cable (1 Bead) and Power Switch Cables (2 beads).
- 2) Added 1-#0431164281 Material Ferrite the Ethernet Cable (Internal) at Output.
- 3) A 3dB attenuator was added at the Antenna Connection.

## **APPENDIX C**

### ***ADDITIONAL MODELS COVERED UNDER THIS REPORT***

## **ADDITIONAL MODELS COVERED UNDER THIS REPORT**

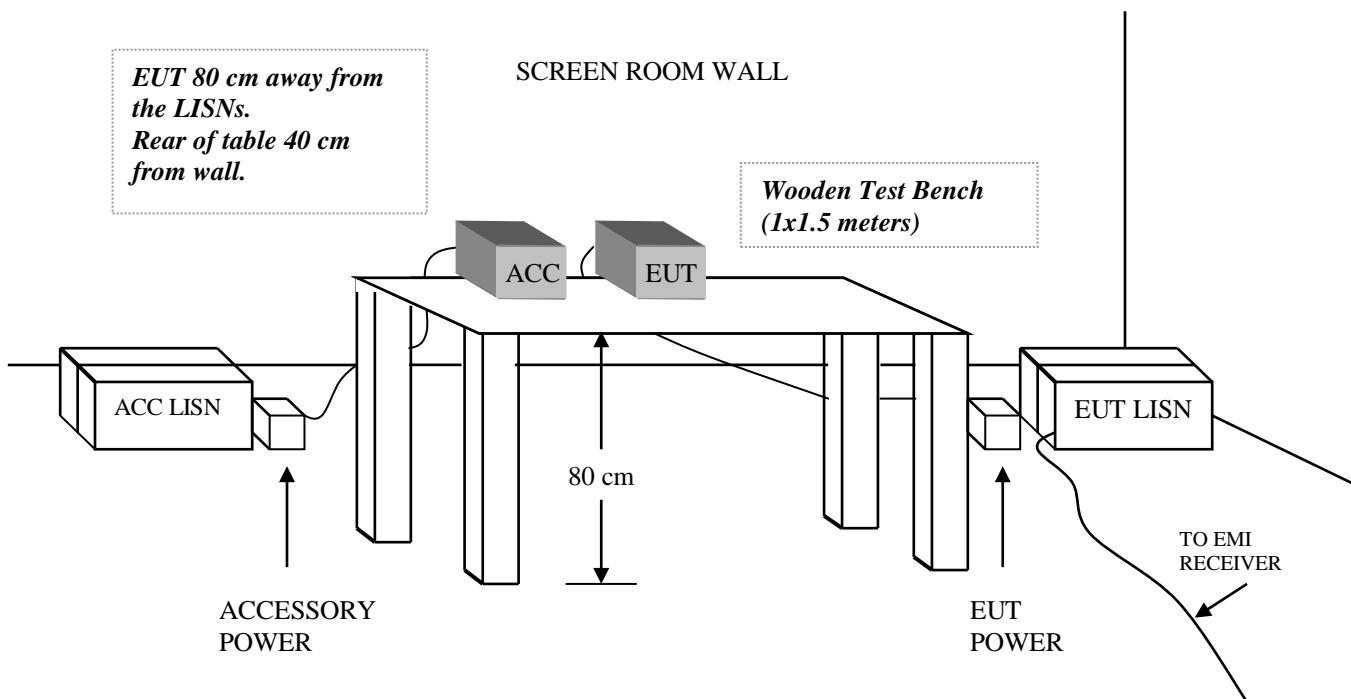
### **USED FOR THE PRIMARY TEST**

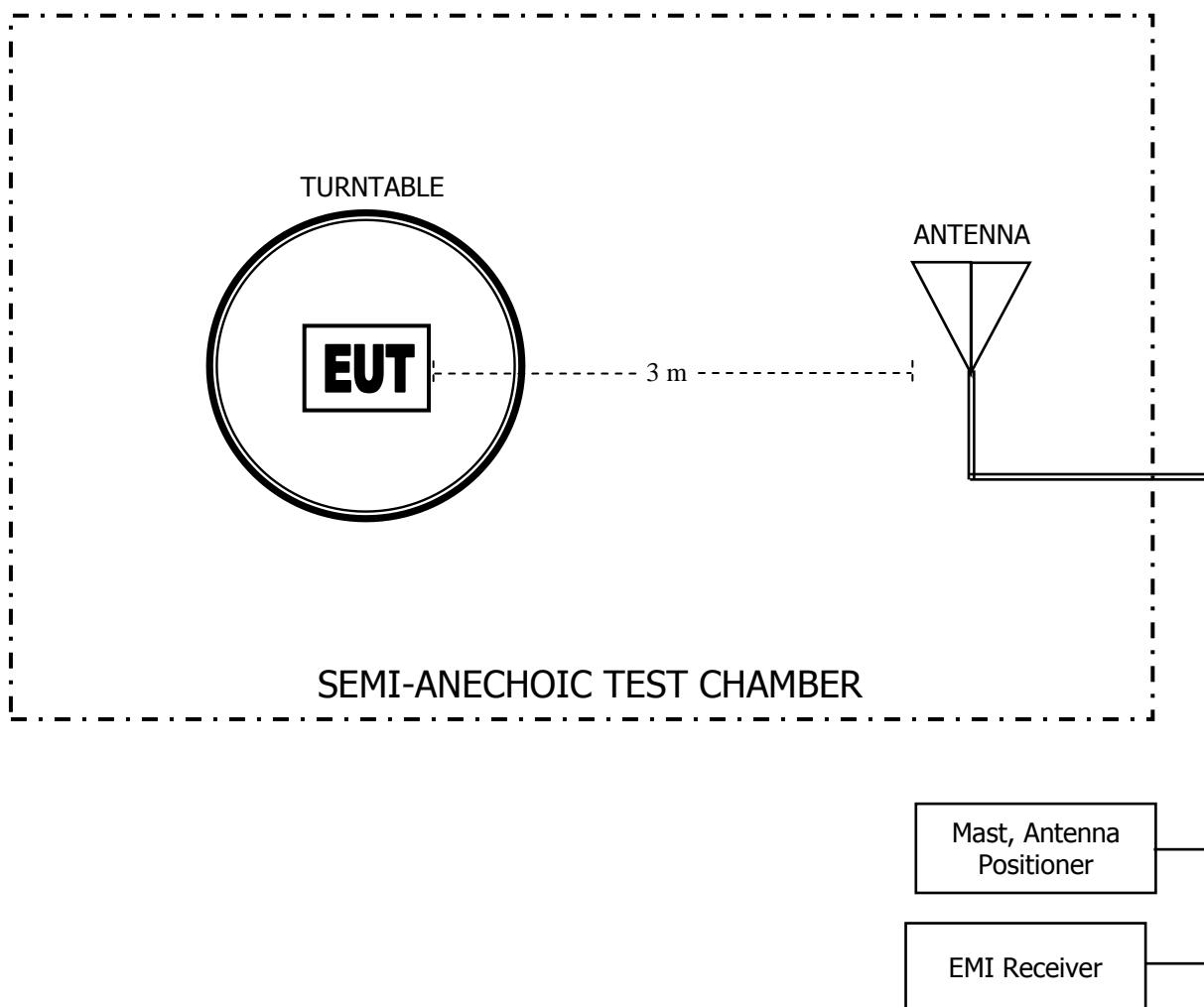
Through D-Wall Imaging System  
Model Number: EAGLE5-N  
S/N: E5-1-1.77

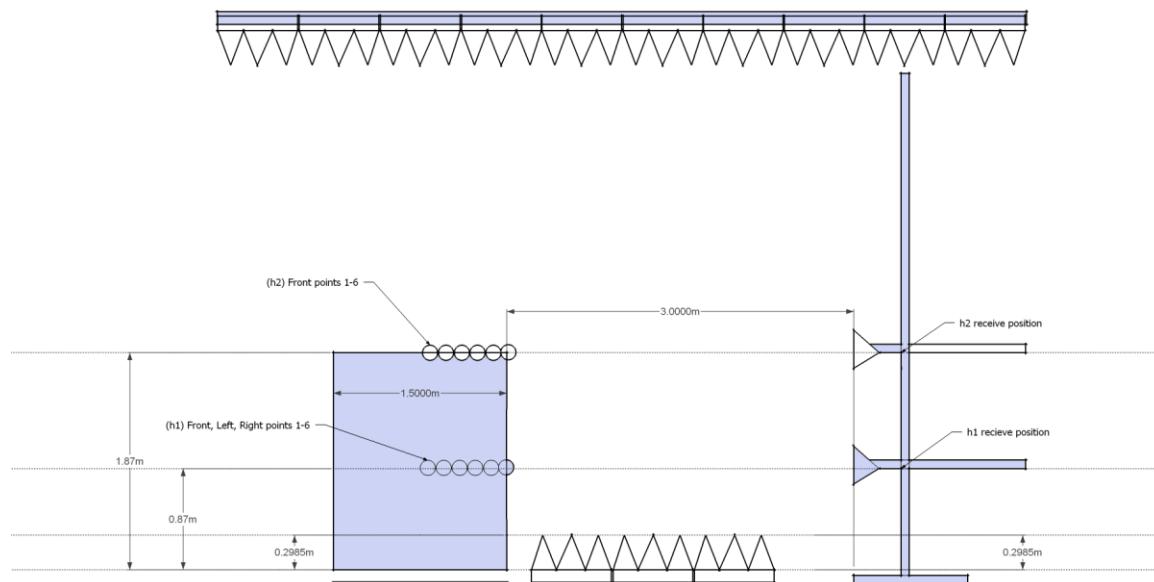
There were no additional models covered under this report.

## **APPENDIX D**

### ***DIAGRAMS, CHARTS AND PHOTOS***

**FIGURE 1: CONDUCTED EMISSIONS TEST SETUP**

**FIGURE 2: RADIATED EMISSIONS 3-METER  
SEMI-ANECHOIC TEST CHAMBER**

**FIGURE 3: RADIATED EMISSIONS 3-METER  
SEMI-ANECHOIC TEST CHAMBER ABOVE 1 GHz**

## COM-POWER AL-130

### LOOP ANTENNA

S/N: 17085

CALIBRATION DUE: JANUARY 29, 2015

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)	FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
<b>0.009</b>	-40.70	10.80	<b>0.8</b>	-40.91	10.59
<b>0.01</b>	-40.50	11.00	<b>0.9</b>	-40.80	10.70
<b>0.02</b>	-40.70	10.80	<b>1.0</b>	-40.81	10.69
<b>0.03</b>	-40.10	11.40	<b>2.0</b>	-40.51	10.99
<b>0.04</b>	-40.50	11.00	<b>3.0</b>	-40.54	10.96
<b>0.05</b>	-41.10	10.40	<b>4.0</b>	-40.44	11.06
<b>0.06</b>	-41.00	10.50	<b>5.0</b>	-40.32	11.18
<b>0.07</b>	-41.10	10.40	<b>6.0</b>	-40.69	10.81
<b>0.08</b>	-41.10	10.40	<b>7.0</b>	-40.37	11.13
<b>0.09</b>	-41.20	10.30	<b>8.0</b>	-39.99	11.51
<b>0.1</b>	-41.20	10.30	<b>9.0</b>	-40.00	11.50
<b>0.2</b>	-41.40	10.10	<b>10.0</b>	-40.08	11.42
<b>0.3</b>	-41.30	10.20	<b>15.0</b>	-42.36	9.14
<b>0.4</b>	-41.20	10.30	<b>20.0</b>	-38.75	12.75
<b>0.5</b>	-41.40	10.10	<b>25.0</b>	-40.70	10.80
<b>0.6</b>	-41.40	10.10	<b>30.0</b>	-41.09	10.41
<b>0.7</b>	-41.20	10.30			

**COM-POWER AC-220**

**LAB R - COMBILOG ANTENNA**

**S/N: 25857**

**CALIBRATION DUE: April 16, 2014**

<b>FREQUENCY (MHz)</b>	<b>FACTOR (dB)</b>	<b>FREQUENCY (MHz)</b>	<b>FACTOR (dB)</b>
<b>30</b>	17.8	<b>160</b>	8.3
<b>35</b>	18.4	<b>180</b>	9.4
<b>40</b>	19.2	<b>200</b>	9.0
<b>45</b>	17.2	<b>250</b>	12.0
<b>50</b>	17.2	<b>300</b>	13.4
<b>60</b>	13.5	<b>400</b>	15.0
<b>70</b>	8.9	<b>500</b>	17.3
<b>80</b>	6.0	<b>600</b>	17.8
<b>90</b>	7.1	<b>700</b>	20.0
<b>100</b>	8.0	<b>800</b>	20.5
<b>120</b>	9.2	<b>900</b>	20.8
<b>140</b>	7.5	<b>1000</b>	22.4

**COM-POWER AH-118****HORN ANTENNA****S/N: 071250****CALIBRATION DUE: JULY 3, 2013**

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
<b>1000</b>	26.5	<b>9500</b>	40.4
<b>1500</b>	27.2	<b>10000</b>	40.3
<b>2000</b>	31.5	<b>10500</b>	41.7
<b>2500</b>	31.9	<b>11000</b>	42.1
<b>3000</b>	32.7	<b>11500</b>	42.3
<b>3500</b>	34.0	<b>12000</b>	42.6
<b>4000</b>	33.5	<b>12500</b>	41.4
<b>4500</b>	34.9	<b>13000</b>	42.7
<b>5000</b>	36.2	<b>13500</b>	43.6
<b>5500</b>	36.6	<b>14000</b>	42.4
<b>6000</b>	36.8	<b>14500</b>	42.7
<b>6500</b>	37.4	<b>15000</b>	45.4
<b>7000</b>	39.4	<b>15500</b>	45.1
<b>7500</b>	39.6	<b>16000</b>	42.9
<b>8000</b>	42.4	<b>16500</b>	44.0
<b>8500</b>	40.3	<b>17000</b>	46.8
<b>9000</b>	39.6	<b>17500</b>	47.5
		<b>18000</b>	46.6

**COM-POWER AH-826****HORN ANTENNA****S/N: 81033****CALIBRATION DUE: N.C.R.**

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
<b>18000</b>	32.80	<b>22500</b>	32.70
<b>18500</b>	32.20	<b>23000</b>	32.70
<b>19000</b>	31.90	<b>23500</b>	32.00
<b>19500</b>	31.50	<b>24000</b>	32.90
<b>20000</b>	33.30	<b>24500</b>	33.70
<b>20500</b>	33.20	<b>25000</b>	34.10
<b>21000</b>	32.60	<b>25500</b>	33.60
<b>21500</b>	33.20	<b>26000</b>	35.10
<b>22000</b>	33.00	<b>26500</b>	33.60

**COM-POWER AH-640****HORN ANTENNA****S/N: 091010****CALIBRATION DUE: N.C.R.**

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
<b>26500</b>	35.00	<b>34000</b>	36.30
<b>27000</b>	35.10	<b>35000</b>	35.10
<b>28000</b>	35.70	<b>36000</b>	38.00
<b>29000</b>	35.60	<b>37000</b>	43.90
<b>30000</b>	35.60	<b>38000</b>	39.20
<b>31000</b>	36.40	<b>39000</b>	40.80
<b>32000</b>	36.70	<b>40000</b>	42.60
<b>33000</b>	37.10		

**COM-POWER PAM-118****1-18GHz - PREAMPLIFIER****S/N: 443009****CALIBRATION DUE: APRIL 8, 2014**

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
500	29.9	5500	26.7
1000	27.8	6000	26.5
1100	28.0	6500	25.9
1200	27.9	7000	25.3
1300	29.1	7500	25.5
1400	27.8	8000	25.9
1500	28.4	8500	25.6
1600	29.0	9000	26.6
1700	27.9	9500	27.6
1800	28.6	10000	28.0
1900	28.0	11000	27.6
2000	28.1	12000	27.8
2500	28.7	13000	27.2
3000	28.6	14000	25.4
3500	28.0	15000	26.0
4000	27.8	16000	26.3
4500	27.4	17000	25.7
5000	27.2	18000	25.2

**COM-POWER PAM-118****1-18GHz - PREAMPLIFIER****S/N: 443011****CALIBRATION DUE: APRIL 8, 2014**

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
500	27.00	7000	24.00
1000	25.70	7500	24.30
1500	26.50	8000	24.30
2000	26.50	8500	24.40
2500	27.10	9500	27.70
3000	27.10	10000	28.40
3500	26.70	11000	27.20
4000	27.20	12000	27.70
4500	26.60	13000	25.90
5000	26.60	14000	24.30
5500	25.90	15000	27.20
6000	26.10	16000	26.10
6500	25.40	17000	26.00
		18000	28.90

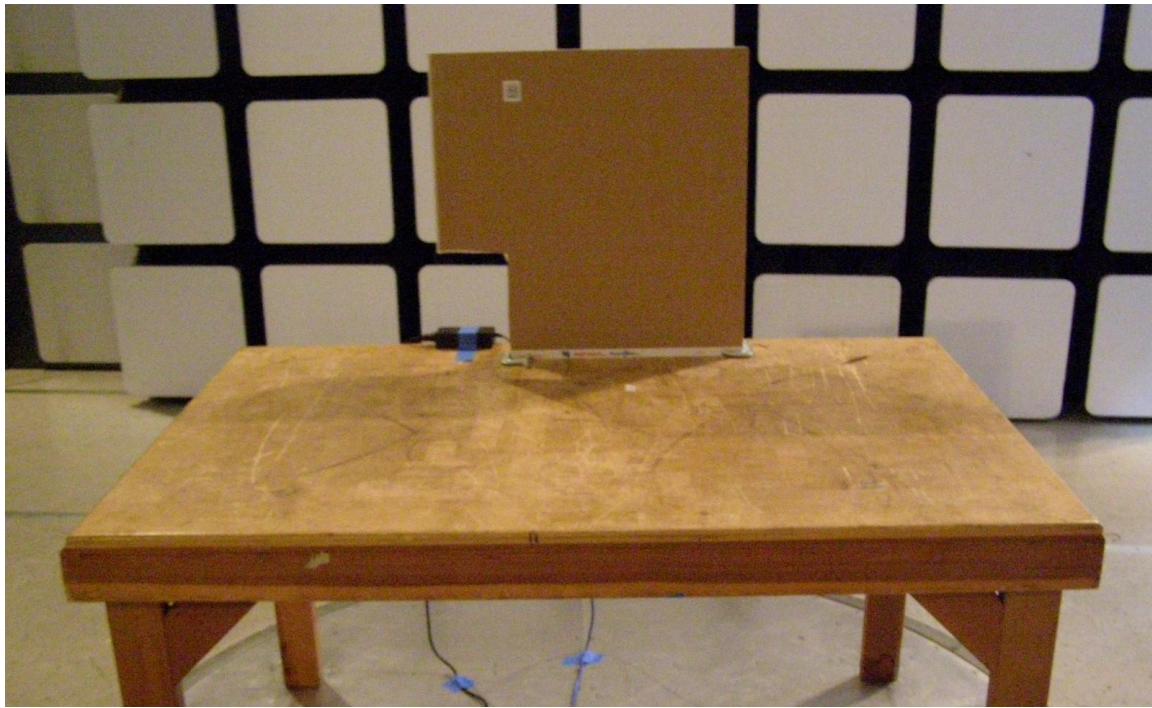
## COM-POWER PA-840

### 18-40 GHz PREAMPLIFIER

S/N: 181289

CALIBRATION DUE: JUNE 13, 2013

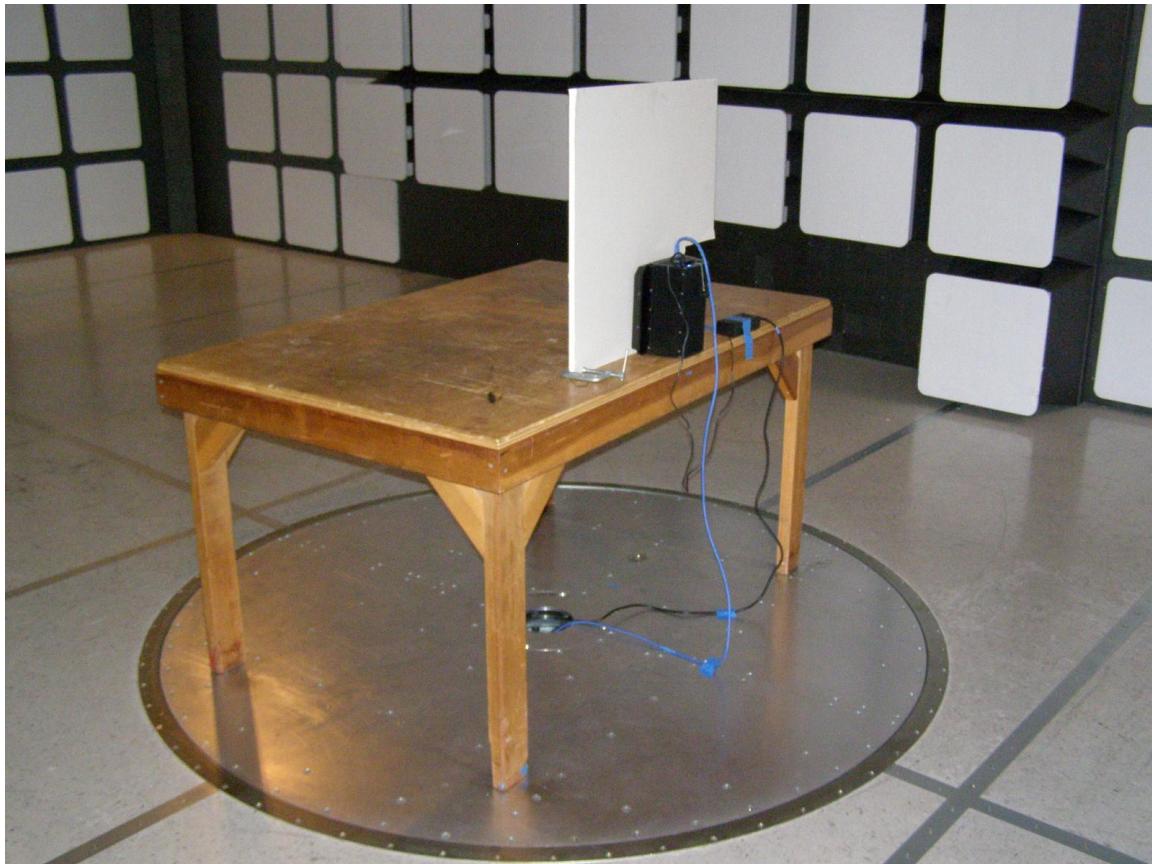
FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
18000	30.33	31500	29.12
19000	29.21	32000	28.84
20000	29.33	32500	28.04
21000	31.35	33000	28.72
22000	30.81	33500	28.09
23000	28.37	34000	27.91
24000	28.77	34500	27.87
25000	29.14	35000	27.82
26000	31.88	35500	27.70
26500	31.08	36000	25.38
27000	31.47	36500	27.82
27500	30.73	37000	27.45
28000	29.87	37500	27.62
28500	30.02	38000	28.40
29000	29.78	38500	29.00
29500	29.81	39000	30.33
30000	28.82	39500	31.43
30500	28.56	39999	29.61
31000	29.78		



**FRONT VIEW**

TIALINX  
THROUGH D-WALL IMAGING SYSTEM  
MODEL NUMBER: EAGLE5-N WITH PSU  
FCC PART 15 SUBPART F - RADIATED EMISSIONS 30-960MHz

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION  
FOR MAXIMUM EMISSIONS**



**REAR VIEW**

TIALINX  
THROUGH D-WALL IMAGING SYSTEM  
MODEL NUMBER: EAGLE5-N WITH PSU  
FCC PART 15 SUBPART F - RADIATED EMISSIONS 30-960MHz

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION  
FOR MAXIMUM EMISSIONS**



**FRONT VIEW**

TIALINX  
THROUGH D-WALL IMAGING SYSTEM  
MODEL NUMBER: EAGLE5-N BATTERY MODE  
FCC PART 15 SUBPART F - RADIATED EMISSIONS 30-960MHz

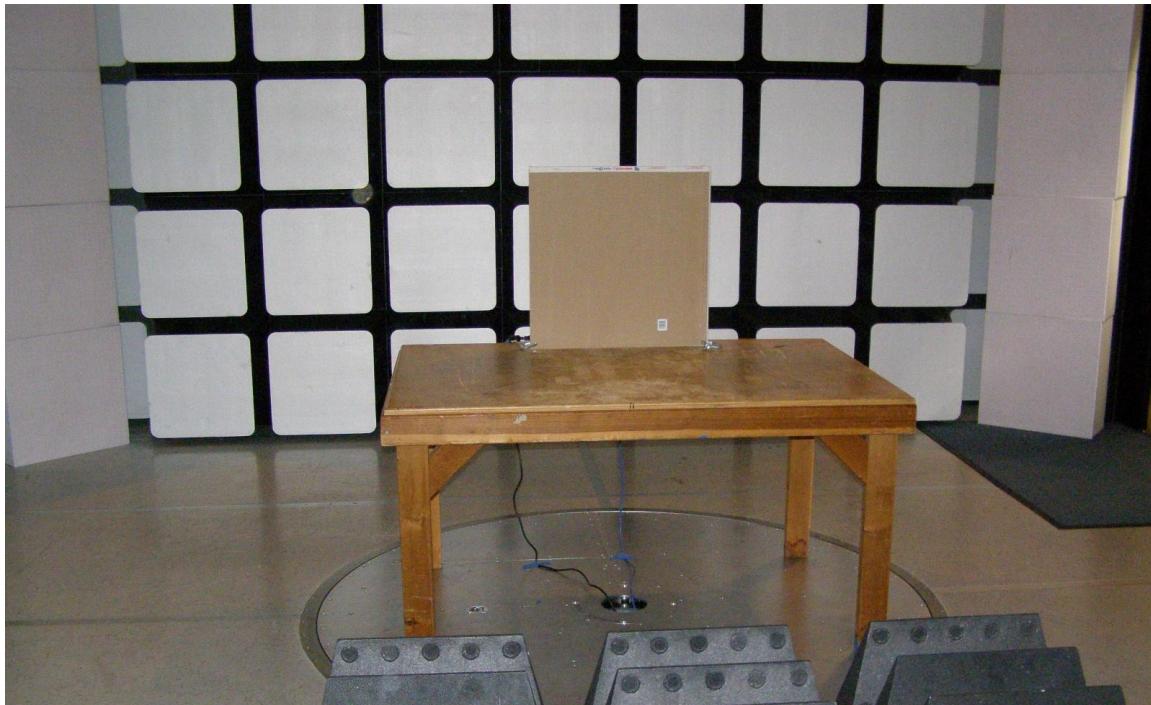
**PHOTOGRAPH SHOWING THE EUT CONFIGURATION  
FOR MAXIMUM EMISSIONS**



**REAR VIEW**

TIALINX  
THROUGH D-WALL IMAGING SYSTEM  
MODEL NUMBER: EAGLE5-N WITH PSU  
FCC PART 15 SUBPART F - RADIATED EMISSIONS 30-960MHz

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION  
FOR MAXIMUM EMISSIONS**



**FRONT VIEW**

TIALINX  
THROUGH D-WALL IMAGING SYSTEM  
MODEL NUMBER: EAGLE5-N WITH PSU

FCC PART 15 SUBPART F - RADIATED EMISSIONS 960MHz-18GHz @ 3m TEST DISTANCE

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION  
FOR MAXIMUM EMISSIONS**

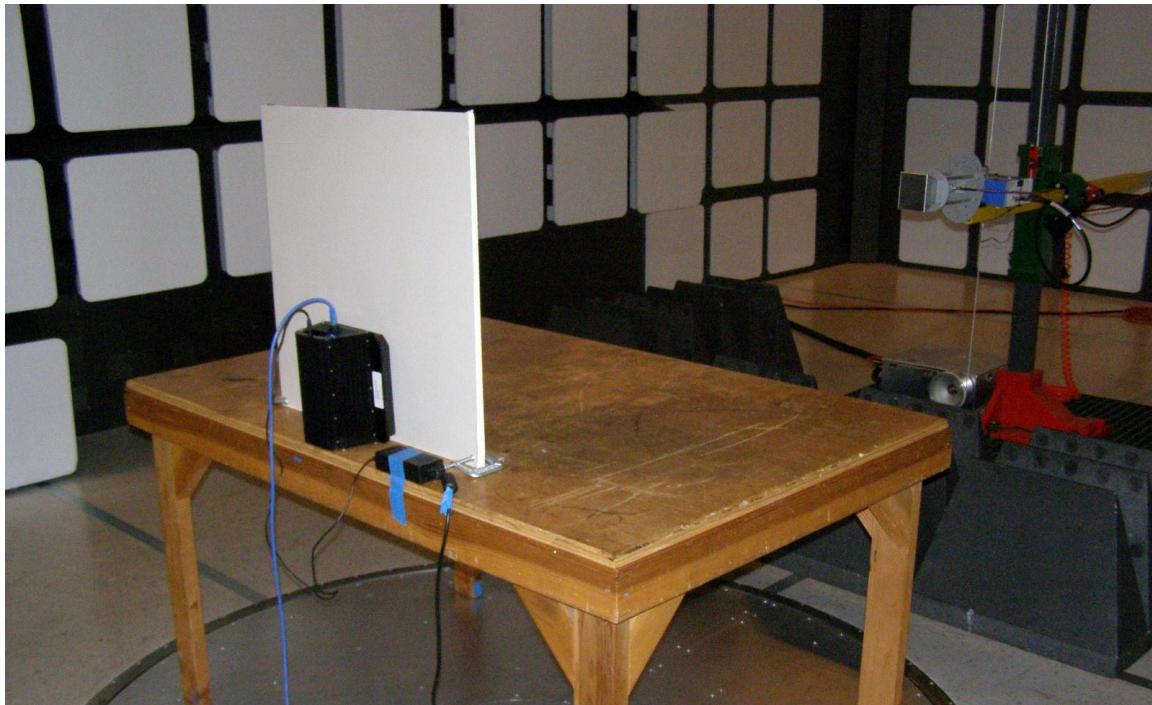


**REAR VIEW**

TIALINX  
THROUGH D-WALL IMAGING SYSTEM  
MODEL NUMBER: EAGLE5-N WITH PSU

FCC PART 15 SUBPART F - RADIATED EMISSIONS 960MHz-18GHz@ 3m TEST DISTANCE

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION  
FOR MAXIMUM EMISSIONS**



**FRONT VIEW**

TIALINX  
THROUGH D-WALL IMAGING SYSTEM  
MODEL NUMBER: EAGLE5-N WITH PSU

FCC PART 15 SUBPART F - RADIATED EMISSIONS 18-26GHz@ 1m TEST DISTANCE

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION  
FOR MAXIMUM EMISSIONS**



**REAR VIEW**

TIALINX  
THROUGH D-WALL IMAGING SYSTEM  
MODEL NUMBER: EAGLE5-N WITH PSU

FCC PART 15 SUBPART F - RADIATED EMISSIONS 18-26GHz@ 1m TEST DISTANCE

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION  
FOR MAXIMUM EMISSIONS**



**FRONT VIEW**

TIALINX  
THROUGH D-WALL IMAGING SYSTEM  
MODEL NUMBER: EAGLE5-N WITH PSU

FCC PART 15 SUBPART F - RADIATED EMISSIONS 18-26GHz@ 1m TEST DISTANCE

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION  
FOR MAXIMUM EMISSIONS**



**REAR VIEW**

TIALINX

THROUGH D-WALL IMAGING SYSTEM

MODEL NUMBER: EAGLE5-N BATTERY MODE

FCC PART 15 SUBPART F - RADIATED EMISSIONS 18-26GHz@ 1m TEST DISTANCE

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION  
FOR MAXIMUM EMISSIONS**



**FRONT VIEW**

TIALINX  
THROUGH D-WALL IMAGING SYSTEM  
MODEL NUMBER: EAGLE5-N

FCC PART 15 SUBPART C Section 15.207 - CONDUCTED EMISSIONS

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION  
FOR MAXIMUM EMISSIONS**



**REAR VIEW**

TIALINX  
THROUGH D-WALL IMAGING SYSTEM  
MODEL NUMBER: EAGLE5-N

FCC PART 15 SUBPART C Section 15.207 - CONDUCTED EMISSIONS

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION  
FOR MAXIMUM EMISSIONS**

## **APPENDIX E**

### ***DATA SHEETS***

## UWB Bandwidth

**FCC 15.510 (d)(5)**

Company: TiaLinx

Date: 5/29/2013

EUT: Through D-Wall Imaging System

Lab: Lab R

Model: Eagle5-N SN:E5-1-1.77

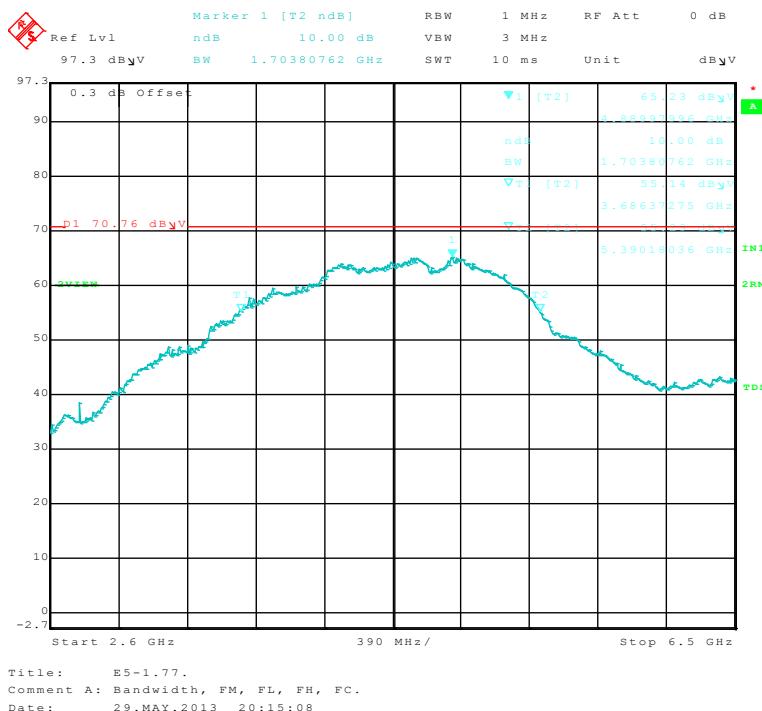
Test ENG: Matt Harrison

**Fractional Bandwidth:  $2(f_h-f_l) / (f_h+f_l) = 2(5390.18-3686.37) / (5390.18+3686.37) = 0.375$** 
**Compatible Electronics, Inc. FAC-3 (Lab R)**

	<b>Freq (MHz)</b>	<b>Pol (v/h)</b>	<b>Limit (kHz)</b>	<b>Margin (kHz)</b>	<b>Ant. Height (cm)</b>	<b>Table Angle (deg)</b>	<b>Comments</b>
BW	1703.81	H	4538.275	-2834.465	100	0	
f <sub>L</sub>	3686.37	H	--	--	100	0	
f <sub>H</sub>	5390.18	H	--	--	100	0	
f <sub>C</sub>	4538.28	H	--	--	100	0	
f <sub>M</sub>	4889.97	H	--	--	100	0	

Test Distance:

1 meter



## Peak Radiated Emissions in a 50MHz RBW

**FCC 15.510 (d)(5)**

Company: TiaLinx

Date: 5/29/2013

EUT: Through D-Wall Imaging System

Lab: Lab R

Model: Eagle5-N SN:E5-1-1.77

Test ENG: Matt Harrison

**Limit = 20Log (1/50)**
**RBW = 1MHz**
**Compatible Electronics, Inc. FAC-3 ( Lab R )**

Freq. (MHz)	Level EIRP (dBm)	Pol (v/h)	Limit EIRP (dBm)	Margin (dB)	Peak / QP / Avg	Ant. Height (cm)	Table Angle (deg)	Comments
4889.97	-34.77	H	-33.97	-0.79	Peak	100	0	3dB Internal Attenuation
5061.92	-49.66	V	-33.97	-15.69	Peak	100	0	3dB Internal Attenuation

Test Distance:

1 meter

*Comments: AC Powered MODE produced worst case results and is represented above.*

# UWB Band Edges

FCC 15.510 (d)(5)

Company: TiaLinx  
EUT: Through D-Wall Imaging System  
Model: Eagle5-N SN:E5-1-1.77

Date: 5/29/2013  
Lab: Lab R  
Test ENG: Matt Harrison

**Compatible Electronics, Inc. FAC-3 ( Lab R )**

Freq (MHz)	Level EIRP (dBm)	Pol (v/h)	Limit EIRP (dBm)	Margin (dB)	Peak / QP / Avg	Ant. Height (cm)	Table Angle (deg)	Comments
1,972.04	-63.97	H	-41.30	-22.67	RMS	180	0	
1,970.56	-64.09	V	-41.30	-22.79	RMS	100	0	
--	--	--	--	--	--	--	--	--
10,719.57	-54.93	H	-51.30	-3.63	RMS	105	0	
10,719.57	-53.74	V	-51.30	-2.44	RMS	140	0	

Test Distance:

3 meter

*Comments: AC Powered MODE produced worst case results and is represented above.*

# RADIATED SPURIOUS EMISSIONS

## AC Powered MODE

Title: FCC 15.209

File: Radiated Pre-Scan 30-960Mhz\_PSU\_2.set

5/29/2013 10:17:48 AM

Sequence: Preliminary Scan

Operator: Matt Harrison

EUT Type: EAGLE5-N.

EUT Condition: Charging and Constantly Transmitting.

Comments: Connected to PSU and Remote Laptop. With 3dB Attenuator @ Antenna. With #0431173951 Material Ferrites Internal @ Power Switch, PSU Input @ Board. With #0431164281 Mat. Ferrite @ Ethernet (Internal @ Exit).

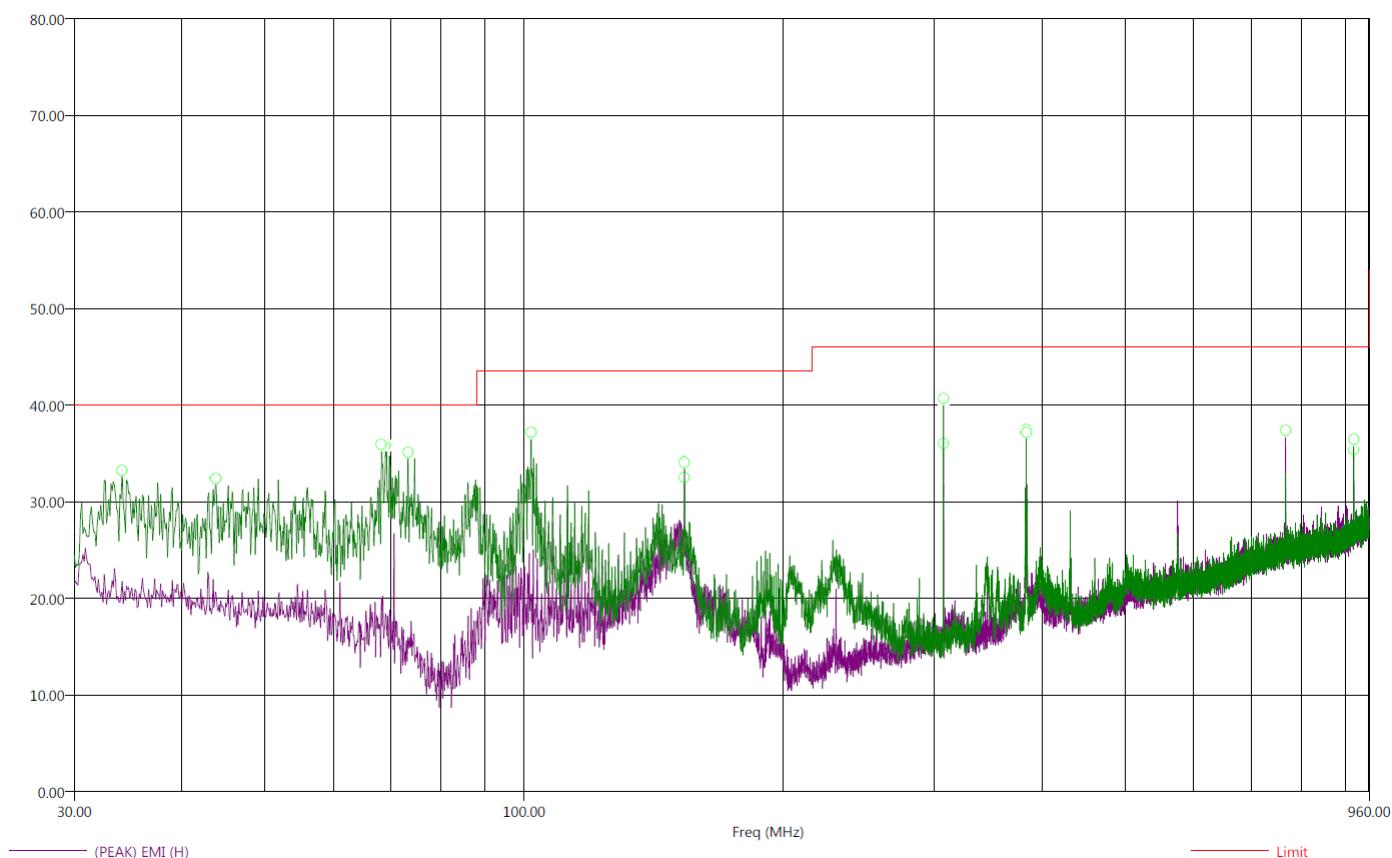
Temp: 72f

Hum: 52%

120V 60Hz

### Compatible Electronics, Inc. FAC- 3 ( LAB R)

Electric Field Strength (dB $\mu$ V/m)



Comments: No Emissions found below 30MHz

# RADIATED SPURIOUS EMISSIONS

## AC Powered MODE

Title: FCC 15.209

File: Radiated Final 30-960Mhz\_PSU\_2.set

5/29/2013 10:41:36 AM

Sequence: Final Measurements

Operator: Matt Harrison

EUT Type: EAGLE5-N.

EUT Condition: Charging and Constantly Transmitting.

Comments: Connected to PSU and Remote Laptop. With 3dB Attenuator @ Antenna. With #0431173951 Material Ferrites Internal @ Power Switch, PSU Input @ Board. With #0431164281 Mat. Ferrite @ Ethernet (Internal @ Exit).

Temp: 72f

Hum: 52%

120V 60Hz

Compatible Electronics, Inc. FAC- 3 ( LAB R)

Freq (MHz)	(QP) Margin (dB)	(QP) EMI (dB $\mu$ V/m)	(PEAK) EMI (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Pol	Ttbl Agl (deg)	Twr Ht (cm)	Transducer (dB)	Cable (dB)
34.10	-10.76	29.24	33.60	40.00	V	292.75	111.13	18.30	0.54
43.80	-9.14	30.86	33.46	40.00	V	185.25	109.70	17.67	0.60
68.30	-8.08	31.92	40.33	40.00	V	301.75	133.76	9.66	0.70
69.00	-10.64	29.36	34.73	40.00	V	113.75	175.55	9.37	0.70
73.30	-12.74	27.26	46.36	40.00	V	311.75	196.56	7.91	0.70
101.90	-6.09	37.43	40.35	43.52	V	110.75	99.67	8.12	0.92
153.60	-12.28	31.24	32.75	43.52	H	314.50	160.08	8.06	1.30
153.60	-11.23	32.29	35.02	43.52	V	286.50	120.62	8.05	1.30
307.20	-13.17	32.83	34.14	46.00	H	158.50	102.23	13.52	1.93
307.20	-4.30	41.70	42.12	46.00	V	189.25	168.74	13.52	1.93
383.50	-6.80	39.20	40.24	46.00	H	181.25	99.85	14.68	2.17
383.50	-6.41	39.59	40.64	46.00	V	338.25	131.97	14.68	2.17
768.00	-8.92	37.08	38.87	46.00	H	35.00	100.62	20.35	3.54
921.60	-9.47	36.53	38.44	46.00	H	10.00	246.11	21.16	3.94
921.60	-7.77	38.23	40.09	46.00	V	264.75	159.37	21.16	3.94

Comments: No Emissions found below 30MHz

# RADIATED SPURIOUS EMISSIONS

## AC Powered MODE

Title: FCC 15.510

5/29/2013 5:31:49 PM

File: Radiated Pre-scan 0.96-18GHz\_PSU.set

Sequence: Preliminary Scan

Operator: Matt Harrison

EUT Type: EAGLE5-N.

EUT Condition: Charging and Constantly Transmitting.

Comments: Connected to Remote Laptop and PSU. With 3dB Attenuator @ Antenna. With #0431173951 Material Ferrites Internal @ Power Switch, PSU Input @ Board. With #0431164281 Mat. Ferrite @ Ethernet (Internal @ Exit).

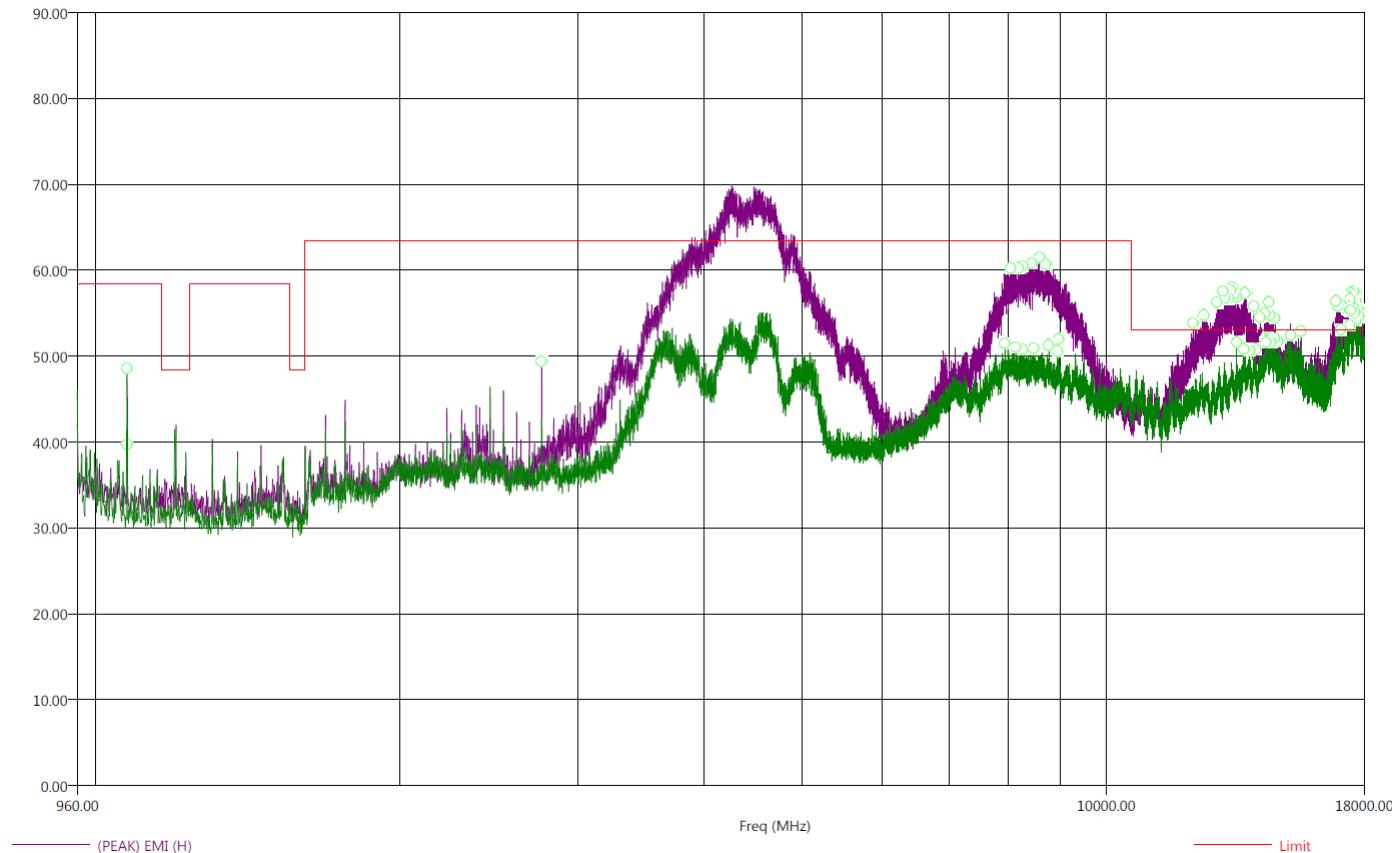
Temp: 72f

Hum: 52%

120V 60Hz, Test Distance 1m.

### Compatible Electronics, Inc. FAC- 3 ( LAB R)

Electric Field Strength (dB $\mu$ V/m)



Comments: No Emissions found above 17,800.13 MHz.

# RADIATED SPURIOUS EMISSIONS

## AC Powered MODE

Title: FCC 15.510

File: Radiated Final 0.96-18GHz\_PSU.set

5/29/2013 5:48:12 PM

Sequence: Final Measurements

Operator: Matt Harrison

EUT Type: EAGLE5-N.

EUT Condition: Constantly Transmitting.

Comments: Connected to Remote Laptop. With 3dB Attenuator @ Antenna. With #0431173951

Material Ferrites Internal @ Power Switch, PSU Input @ Board. With #0431164281 Mat.

Ferrite @ Ethernet (Internal @ Exit).

Temp: 72f

Hum: 52%

Battery Mode, Test Distance 1m.

### Compatible Electronics, Inc. FAC- 3 ( LAB R)

Freq (MHz)	(AVG) Margin (dB)	(AVG) EIRP (dBm)	(PEAK) EIRP (dBm)	Limit EIRP (dBm)	Pol	Ttbl Agl (deg)	Twr Ht (cm)	Transducer (dB)	Cable (dB)	Preamp (dB)
1075.24	-13.13	-59.43	-57.03	-46.30	H	214.5	101.7	26.6	3.29	51.54
1075.27	-8.21	-54.51	-53.03	-46.30	V	346	101.7	26.6	3.29	51.54
2764.94	-15.31	-56.61	-53.78	-41.30	H	320.25	101.7	32.37	5.34	53.17
7946.14	-23.86	-65.16	-52	-41.30	V	38.5	101.7	42.07	9.64	47.2
8049.25	-13.56	-54.86	-44.61	-41.30	H	360	101.7	42.15	9.72	47.09
8142.13	-24.46	-65.76	-53.26	-41.30	V	40.25	101.7	41.77	9.81	46.93
8186.27	-12.16	-53.46	-43.79	-41.30	H	359.75	101.7	41.58	9.85	46.85
8264.19	-11.63	-52.93	-42.41	-41.30	H	357.75	101.7	41.27	9.92	46.71
8266.16	-23.92	-65.22	-52.31	-41.30	V	147	101.7	41.26	9.92	46.71
8440.14	-12.45	-53.75	-43.15	-41.30	H	359.5	101.7	40.56	9.96	46.41
8479.17	-24.29	-65.59	-52.88	-41.30	V	220.25	101.7	40.4	9.96	46.35
8593.13	-11.13	-52.43	-41.87	-41.30	H	360	101.7	40.18	10.1	46.54
8724.52	-12.00	-53.30	-41.58	-41.30	H	0	101.7	39.98	10.29	46.87
8783.08	-25.10	-66.40	-53.72	-41.30	V	109.5	101.7	39.89	10.31	47.02
8952.92	-25.17	-66.47	-53.19	-41.30	V	0	101.7	39.64	10.19	47.43
8979.92	-24.84	-66.14	-53.31	-41.30	V	282.5	101.7	39.6	10.18	47.49
12196.58	-9.74	-61.42	-50.65	-51.30	H	360	101.7	42.09	12.62	52.44
12500.79	-8.13	-59.81	-47.76	-51.30	H	360	101.7	41.39	12.93	51.64
12887.10	-6.24	-57.92	-45.51	-51.30	H	356.75	101.7	42.4	13.19	50.66
13053.57	-4.85	-56.53	-44.78	-51.30	H	-0.25	101.7	42.78	13.31	50.18
13098.37	-4.68	-56.36	-45.92	-51.30	H	1.25	101.7	42.86	13.35	50
13231.71	-4.02	-55.70	-45.87	-51.30	H	359.25	101.7	43.1	13.47	49.5
13276.16	-4.78	-56.46	-45.31	-51.30	H	0	101.7	43.17	13.5	49.33
13326.19	-5.38	-57.06	-45.27	-51.30	H	357.25	101.7	43.26	13.55	49.15
13367.79	-3.87	-55.55	-44.73	-51.30	H	360.75	101.7	43.33	13.58	48.99
13472.74	-15.87	-67.55	-54.96	-51.30	V	87.75	101.7	43.52	13.67	48.6
13474.96	-6.19	-57.87	-47	-51.30	H	-0.25	101.7	43.52	13.67	48.59
13691.45	-13.89	-65.57	-52.93	-51.30	V	94.5	101.7	43.1	14	47.8
13708.64	-4.78	-56.46	-44.94	-51.30	H	3	101.7	43.06	14.03	47.74
13755.56	-3.41	-55.09	-45.09	-51.30	H	-0.5	101.7	42.94	14.1	47.57
13860.74	-13.88	-65.56	-52.58	-51.30	V	333.75	101.7	42.69	14.27	47.19
14006.93	-7.30	-58.98	-47.65	-51.30	H	0.5	101.7	42.36	14.49	46.72
14062.35	-15.38	-67.06	-54.3	-51.30	V	261.75	101.7	42.41	14.56	46.98
14192.44	-8.34	-60.02	-48.28	-51.30	H	0.75	101.7	42.51	14.7	47.58
14368.57	-9.67	-61.35	-48.38	-51.30	H	356.5	101.7	42.64	14.9	48.39
14380.38	-13.80	-65.48	-53.11	-51.30	V	239	101.7	42.65	14.91	48.44
14398.56	-13.50	-65.18	-52.29	-51.30	V	324.5	101.7	42.66	14.93	48.52
14413.25	-12.91	-64.59	-51.68	-51.30	V	33.75	101.7	42.68	14.95	48.59
14463.29	-13.24	-64.92	-51.43	-51.30	V	253	101.7	42.71	15	48.82
14489.61	-8.96	-60.64	-48.96	-51.30	H	360	101.7	42.73	15.03	48.94
14520.44	-9.17	-60.85	-47.43	-51.30	H	0	101.7	42.85	15.04	49.08
14566.20	-12.76	-64.44	-51.61	-51.30	V	294.75	101.7	43.09	15.03	49.28



Freq (MHz)	(AVG) Margin (dB)	(AVG) EIRP (dBm)	(PEAK) EIRP (dBm)	Limit EIRP (dBm)	Pol	Ttbl Agl (deg)	Twr Ht (cm)	Transducer (dB)	Cable (dB)	Preamp (dB)
14683.19	-13.13	-64.43	-51.93	-51.30	V	328.25	100.00	43.71	15.01	49.80
14689.33	-9.19	-60.49	-47.59	-51.30	H	359.50	100.00	43.74	15.01	49.83
14807.70	-14.61	-65.91	-53.11	-51.30	V	220.75	100.00	44.36	14.99	50.36
15239.46	-12.81	-64.11	-51.19	-51.30	V	360.00	100.00	45.24	15.05	51.03
15598.48	-13.65	-64.95	-52.44	-51.30	V	340.75	100.00	44.68	15.16	50.79
16896.88	-7.45	-58.75	-46.91	-51.30	H	357.50	100.00	46.21	15.58	50.67
16935.07	-7.40	-58.70	-46.90	-51.30	H	360.00	100.00	46.43	15.62	50.68
17081.74	-12.03	-63.33	-50.01	-51.30	V	323.75	100.00	46.91	15.71	50.77
17083.82	-8.94	-60.24	-47.43	-51.30	H	359.00	100.00	46.91	15.71	50.77
17104.92	-8.25	-59.55	-46.78	-51.30	H	0.00	100.00	46.94	15.71	50.79
17276.86	-8.58	-59.88	-47.46	-51.30	H	357.00	100.00	47.18	15.73	50.95
17304.00	-8.99	-60.29	-47.18	-51.30	H	354.00	100.00	47.22	15.73	50.98
17421.11	-10.85	-62.15	-49.19	-51.30	V	108.50	100.00	47.38	15.74	51.08
17429.64	-8.22	-59.52	-47.37	-51.30	H	355.75	100.00	47.39	15.74	51.09
17436.75	-8.10	-59.40	-47.37	-51.30	H	0.25	100.00	47.40	15.75	51.10
17442.33	-7.75	-59.05	-46.71	-51.30	H	356.75	100.00	47.41	15.75	51.10
17448.77	-10.13	-61.43	-48.40	-51.30	V	75.25	100.00	47.42	15.75	51.11
17477.89	-8.50	-59.80	-47.34	-51.30	H	-0.25	100.00	47.46	15.75	51.14
17520.70	-8.94	-60.24	-47.80	-51.30	H	0.75	100.00	47.46	15.73	51.18
17608.36	-8.28	-59.58	-47.09	-51.30	H	0.00	100.00	47.30	15.64	51.26
17628.10	-10.28	-61.58	-48.72	-51.30	V	173.75	100.00	47.27	15.62	51.28
17628.41	-10.27	-61.57	-48.98	-51.30	V	50.25	100.00	47.27	15.62	51.28
17635.70	-8.20	-59.50	-46.82	-51.30	H	359.50	100.00	47.25	15.61	51.28
17653.65	-10.61	-61.91	-48.68	-51.30	V	67.00	100.00	47.22	15.59	51.30
17659.48	-8.38	-59.68	-47.03	-51.30	H	360.00	100.00	47.21	15.58	51.31
17768.50	-8.34	-59.64	-47.07	-51.30	H	0.00	100.00	47.02	15.47	51.41
17795.12	-8.28	-59.58	-46.92	-51.30	H	360.00	100.00	46.98	15.44	51.43
17800.13	-10.18	-61.48	-48.97	-51.30	V	68.75	100.00	46.97	15.44	51.43
14807.70	-14.61	-65.91	-53.11	-51.30	V	220.75	100.00	44.36	14.99	50.36
15239.46	-12.81	-64.11	-51.19	-51.30	V	360.00	100.00	45.24	15.05	51.03
15598.48	-13.65	-64.95	-52.44	-51.30	V	340.75	100.00	44.68	15.16	50.79
16896.88	-7.45	-58.75	-46.91	-51.30	H	357.50	100.00	46.21	15.58	50.67
16935.07	-7.40	-58.70	-46.90	-51.30	H	360.00	100.00	46.43	15.62	50.68
17081.74	-12.03	-63.33	-50.01	-51.30	V	323.75	100.00	46.91	15.71	50.77
17083.82	-8.94	-60.24	-47.43	-51.30	H	359.00	100.00	46.91	15.71	50.77
17104.92	-8.25	-59.55	-46.78	-51.30	H	0.00	100.00	46.94	15.71	50.79
17276.86	-8.58	-59.88	-47.46	-51.30	H	357.00	100.00	47.18	15.73	50.95
17304.00	-8.99	-60.29	-47.18	-51.30	H	354.00	100.00	47.22	15.73	50.98
17421.11	-10.85	-62.15	-49.19	-51.30	V	108.50	100.00	47.38	15.74	51.08
17429.64	-8.22	-59.52	-47.37	-51.30	H	355.75	100.00	47.39	15.74	51.09
17436.75	-8.10	-59.40	-47.37	-51.30	H	0.25	100.00	47.40	15.75	51.10
17442.33	-7.75	-59.05	-46.71	-51.30	H	356.75	100.00	47.41	15.75	51.10
17448.77	-10.13	-61.43	-48.40	-51.30	V	75.25	100.00	47.42	15.75	51.11
17477.89	-8.50	-59.80	-47.34	-51.30	H	-0.25	100.00	47.46	15.75	51.14
17520.70	-8.94	-60.24	-47.80	-51.30	H	0.75	100.00	47.46	15.73	51.18
17608.36	-8.28	-59.58	-47.09	-51.30	H	0.00	100.00	47.30	15.64	51.26
17628.10	-10.28	-61.58	-48.72	-51.30	V	173.75	100.00	47.27	15.62	51.28
17628.41	-10.27	-61.57	-48.98	-51.30	V	50.25	100.00	47.27	15.62	51.28
17635.70	-8.20	-59.50	-46.82	-51.30	H	359.50	100.00	47.25	15.61	51.28
17653.65	-10.61	-61.91	-48.68	-51.30	V	67.00	100.00	47.22	15.59	51.30
17659.48	-8.38	-59.68	-47.03	-51.30	H	360.00	100.00	47.21	15.58	51.31
17768.50	-8.34	-59.64	-47.07	-51.30	H	0.00	100.00	47.02	15.47	51.41
17795.12	-8.28	-59.58	-46.92	-51.30	H	360.00	100.00	46.98	15.44	51.43
17800.13	-10.18	-61.48	-48.97	-51.30	V	68.75	100.00	46.97	15.44	51.43

Comments: No Emissions found above 17,800.13 MHz.

# CONDUCTED SPURIOUS EMISSIONS

## AC Powered MODE

Title: FCC 15.207

5/29/2013 1:58:03 PM

File: Conducted Pre-Line.set

Sequence: Preliminary Scan

Operator: Matt Harrison

EUT Type: EAGLE5-N.

EUT Condition: Charging and Constantly Transmitting.

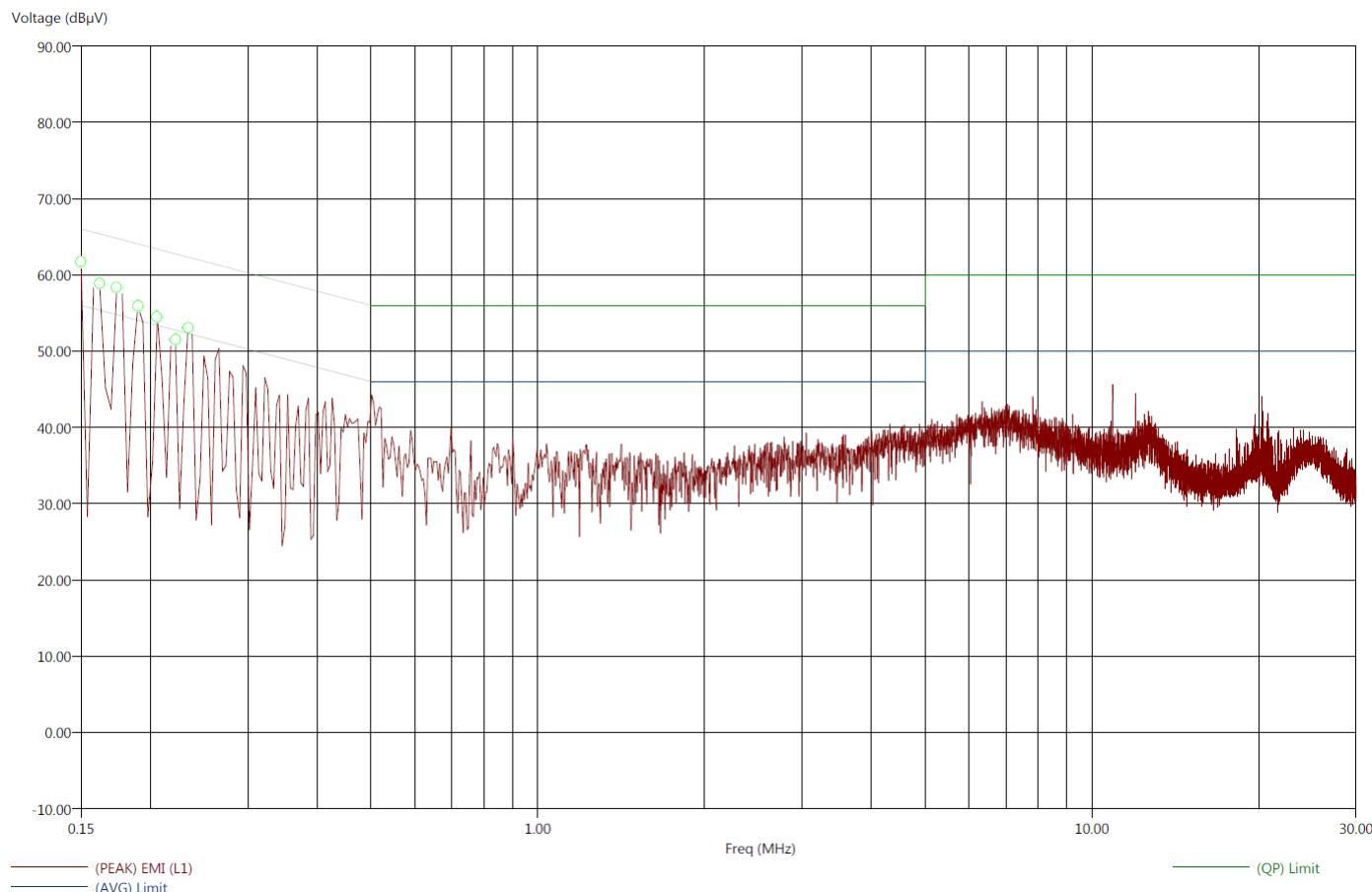
Comments: Connected to PSU & Remote Laptop. With 3dB Attenuator @ Antenna. With #0431173951 Material Ferrites Internal @ Power Switch, PSU Input @ Board. With #0431164281 Mat. Ferrite @ Ethernet (Internal @ Exit).

Temp: 72f

Hum: 52%

120V 60Hz

### Compatible Electronics, Inc. FAC- 3 ( LAB R)



# CONDUCTED SPURIOUS EMISSIONS

## AC Powered MODE

Title: FCC 15.207

5/29/2013 2:00:55 PM

File: Conducted Final-Line.set

Sequence: Final Measurements

Operator: Matt Harrison

EUT Type: EAGLE5-N.

EUT Condition: Charging and Constantly Transmitting.

Comments: Connected to PSU & Remote Laptop. With 3dB Attenuator @ Antenna. With #0431173951 Material Ferrites Internal @ Power Switch, PSU Input @ Board. With #0431164281 Mat. Ferrite @ Ethernet (Internal @ Exit).

Temp: 72f

Hum: 52%

120V 60Hz

### Compatible Electronics, Inc. FAC- 3 ( LAB R)

Freq (MHz)	(AVG) Margin AVL (dB)	(QP) Margin QPL (dB)	(AVG) EMI (dB $\mu$ V)	(QP) EMI (dB $\mu$ V)	(PEAK) EMI (dB $\mu$ V)	(AVG) Limit (dB $\mu$ V)	(QP) Limit (dB $\mu$ V)	Transducer (dB)	Cable (dB)
0.15	-26.41	-11.57	29.59	54.43	63.04	56.00	66.00	0.50	0.00
0.16	-32.44	-12.46	22.92	52.91	60.62	55.36	65.36	0.46	0.00
0.17	-30.37	-13.31	24.40	51.45	59.50	54.77	64.77	0.42	0.00
0.19	-22.34	-14.12	31.69	49.91	58.48	54.04	64.04	0.37	0.00
0.21	-34.97	-15.32	18.40	48.05	55.54	53.37	63.37	0.33	0.00
0.22	-31.51	-16.33	21.23	46.41	54.84	52.74	62.74	0.28	0.00
0.23	-24.74	-16.80	27.57	45.50	53.79	52.31	62.31	0.25	0.00

# CONDUCTED SPURIOUS EMISSIONS

## AC Powered MODE

Title: FCC 15.207

5/29/2013 2:08:17 PM

File: Conducted Pre-Neutral.set

Sequence: Preliminary Scan

Operator: Matt Harrison

EUT Type: EAGLE5-N.

EUT Condition: Charging and Constantly Transmitting.

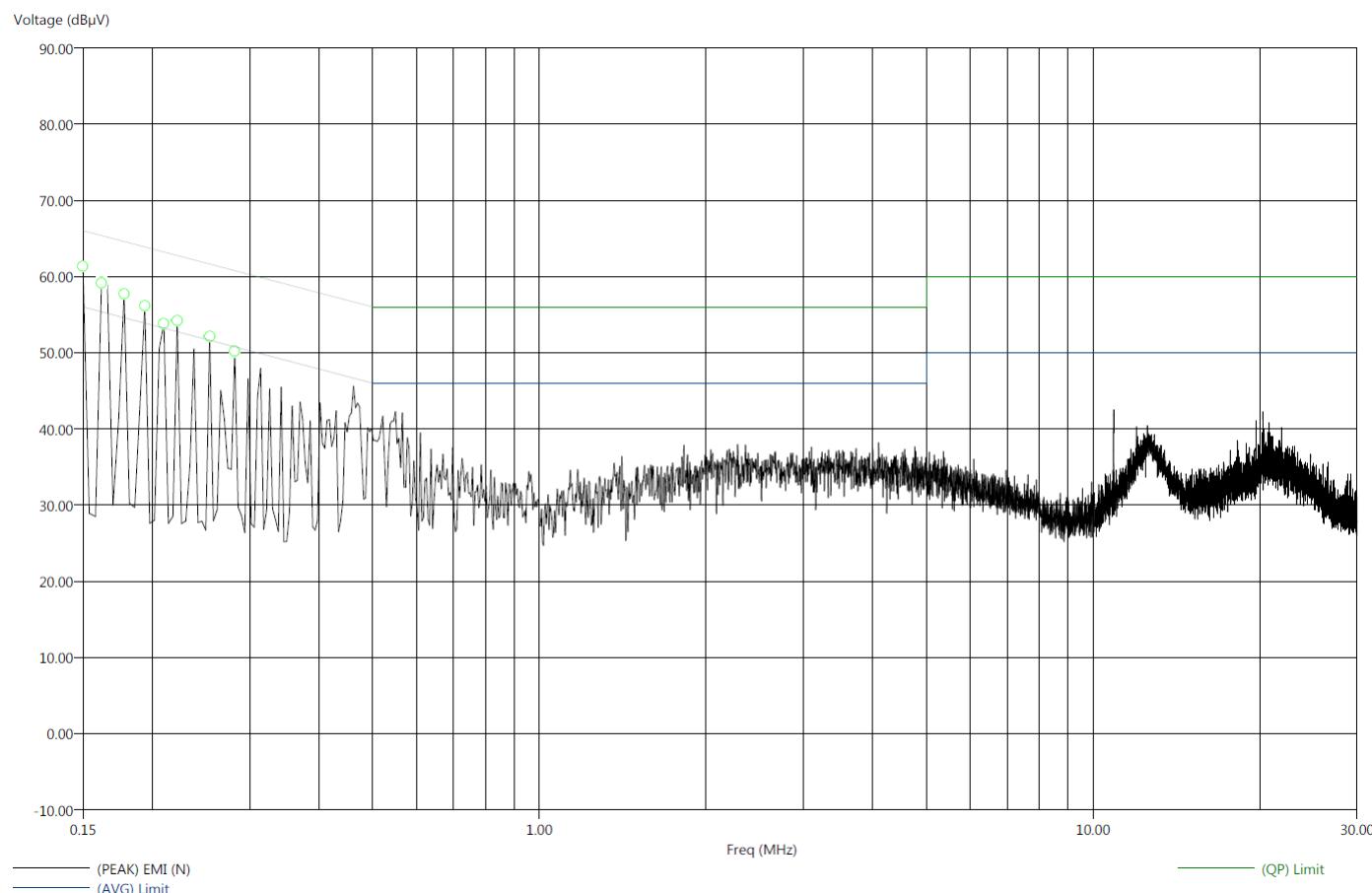
Comments: Connected to PSU & Remote Laptop. With 3dB Attenuator @ Antenna. With #0431173951 Material Ferrites Internal @ Power Switch, PSU Input @ Board. With #0431164281 Mat. Ferrite @ Ethernet (Internal @ Exit).

Temp: 72f

Hum: 52%

120V 60Hz

### Compatible Electronics, Inc. FAC- 3 ( LAB R)



# CONDUCTED SPURIOUS EMISSIONS

## AC Powered MODE

Title: FCC 15.207

5/29/2013 2:11:21 PM

File: Conducted Final-Neutral.set

Sequence: Final Measurements

Operator: Matt Harrison

EUT Type: EAGLE5-N.

EUT Condition: Charging and Constantly Transmitting.

Comments: Connected to PSU & Remote Laptop. With 3dB Attenuator @ Antenna. With #0431173951 Material Ferrites Internal @ Power Switch, PSU Input @ Board. With #0431164281 Mat. Ferrite @ Ethernet (Internal @ Exit).

Temp: 72f

Hum: 52%

120V 60Hz

### Compatible Electronics, Inc. FAC- 3 ( LAB R)

Freq (MHz)	(AVG) Margin (dB)	(QP) Margin (dB)	(AVG) EMI (dB $\mu$ V)	(QP) EMI (dB $\mu$ V)	(PEAK) EMI (dB $\mu$ V)	(AVG) Limit (dB $\mu$ V)	(QP) Limit (dB $\mu$ V)	Transducer (dB)	Cable (dB)
0.15	-28.45	-11.37	27.55	54.63	62.73	56.00	66.00	0.50	0.00
0.16	-31.46	-12.14	23.90	53.22	61.58	55.36	65.36	0.46	0.00
0.18	-25.27	-13.55	29.30	51.03	59.54	54.58	64.58	0.41	0.00
0.19	-28.96	-14.41	24.91	49.45	57.41	53.86	63.86	0.36	0.00
0.21	-33.34	-15.41	19.86	47.79	55.57	53.21	63.21	0.31	0.00
0.22	-30.74	-16.33	22.00	46.41	54.26	52.74	62.74	0.28	0.00
0.25	-34.82	-17.97	16.81	43.66	51.52	51.63	61.63	0.21	0.00
0.28	-22.43	-19.09	28.33	41.67	49.83	50.76	60.76	0.15	0.00

# RADIATED SPURIOUS EMISSIONS

## BATTERY MODE

Title: FCC 15.209

File: Radiated Pre-Scan 30-960Mhz\_Batt.set

5/29/2013 11:20:15 AM

Sequence: Preliminary Scan

Operator: Matt Harrison

EUT Type: EAGLE5-N.

EUT Condition: Constantly Transmitting.

Comments: Connected to Remote Laptop. With 3dB Attenuator @ Antenna. With #0431173951

Material Ferrites Internal @ Power Switch, PSU Input @ Board. With #0431164281 Mat.

Ferrite @ Ethernet (Internal @ Exit).

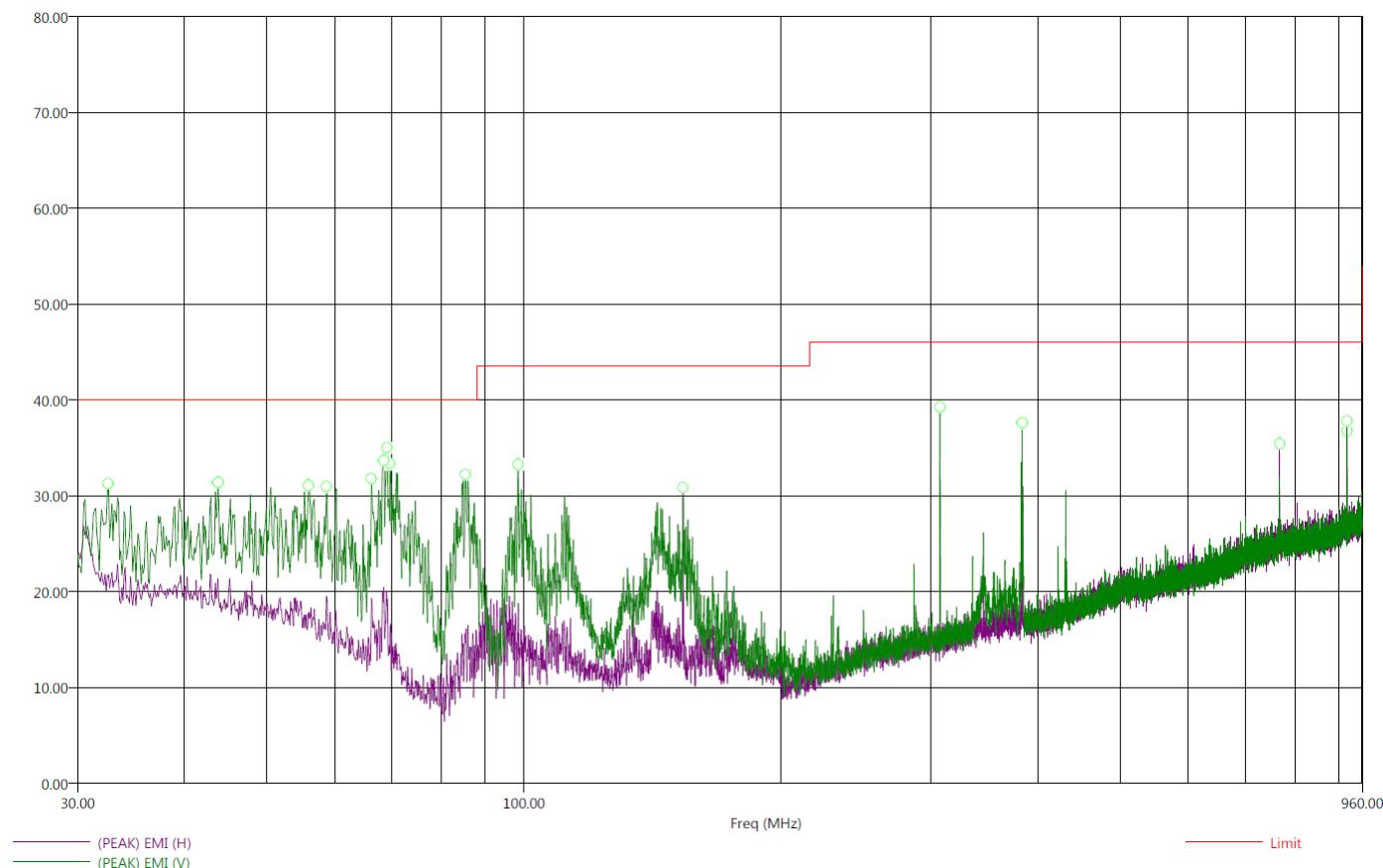
Temp: 72f

Hum: 52%

Battery Mode

**Compatible Electronics, Inc. FAC- 3 ( LAB R)**

Electric Field Strength (dB $\mu$ V/m)



Comments: No Emissions found below 30MHz

# RADIATED SPURIOUS EMISSIONS

## BATTERY MODE

Title: FCC 15.209

File: Radiated Final 30-960Mhz\_PSU\_2.set

5/29/2013 11:41:43 AM

Sequence: Final Measurements

Operator: Matt Harrison

EUT Type: EAGLE5-N.

EUT Condition: Constantly Transmitting.

Comments: Connected to Remote Laptop. With 3dB Attenuator @ Antenna. With #0431173951

Material Ferrites Internal @ Power Switch, PSU Input @ Board. With #0431164281 Mat.

Ferrite @ Ethernet (Internal @ Exit).

Temp: 72f

Hum: 52%

Battery Mode

Compatible Electronics, Inc. FAC- 3 ( LAB R)

Freq (MHz)	(QP) Margin (dB)	(QP) EMI (dB $\mu$ V/m)	(PEAK) EMI (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Pol	Ttbl Agl (deg)	Twr Ht (cm)	Transducer (dB)	Cable (dB)
32.60	-10.13	29.87	32.85	40.00	V	171.75	101.76	18.12	0.53
43.80	-9.49	30.51	33.01	40.00	V	232.25	108.38	17.66	0.60
56.00	-9.53	30.47	32.75	40.00	V	360.25	107.07	14.90	0.66
58.70	-10.31	29.69	32.62	40.00	V	351.25	117.46	13.94	0.69
66.30	-9.53	30.47	33.27	40.00	V	189.00	111.19	10.53	0.70
68.50	-7.66	32.34	34.90	40.00	V	170.25	106.71	9.57	0.70
69.10	-7.20	32.80	35.37	40.00	V	181.25	127.55	9.28	0.70
69.70	-8.14	31.86	34.13	40.00	V	360.00	106.53	9.04	0.70
85.40	-7.04	32.96	34.88	40.00	V	138.50	144.74	6.62	0.81
98.40	-10.81	32.71	36.06	43.52	V	89.00	107.31	7.87	0.90
153.60	-12.88	30.64	31.87	43.52	H	91.00	167.25	8.06	1.30
307.20	-10.20	35.80	36.68	46.00	V	105.75	181.52	13.52	1.93
383.50	-6.76	39.24	40.17	46.00	V	315.75	157.88	14.68	2.17
768.00	-8.95	37.05	39.02	46.00	H	43.50	100.56	20.35	3.54
921.60	-7.94	38.06	39.54	46.00	H	-0.25	246.47	21.16	3.94
921.60	-8.21	37.79	40.22	46.00	V	220.00	99.13	21.16	3.94

Comments: No Emissions found below 30MHz

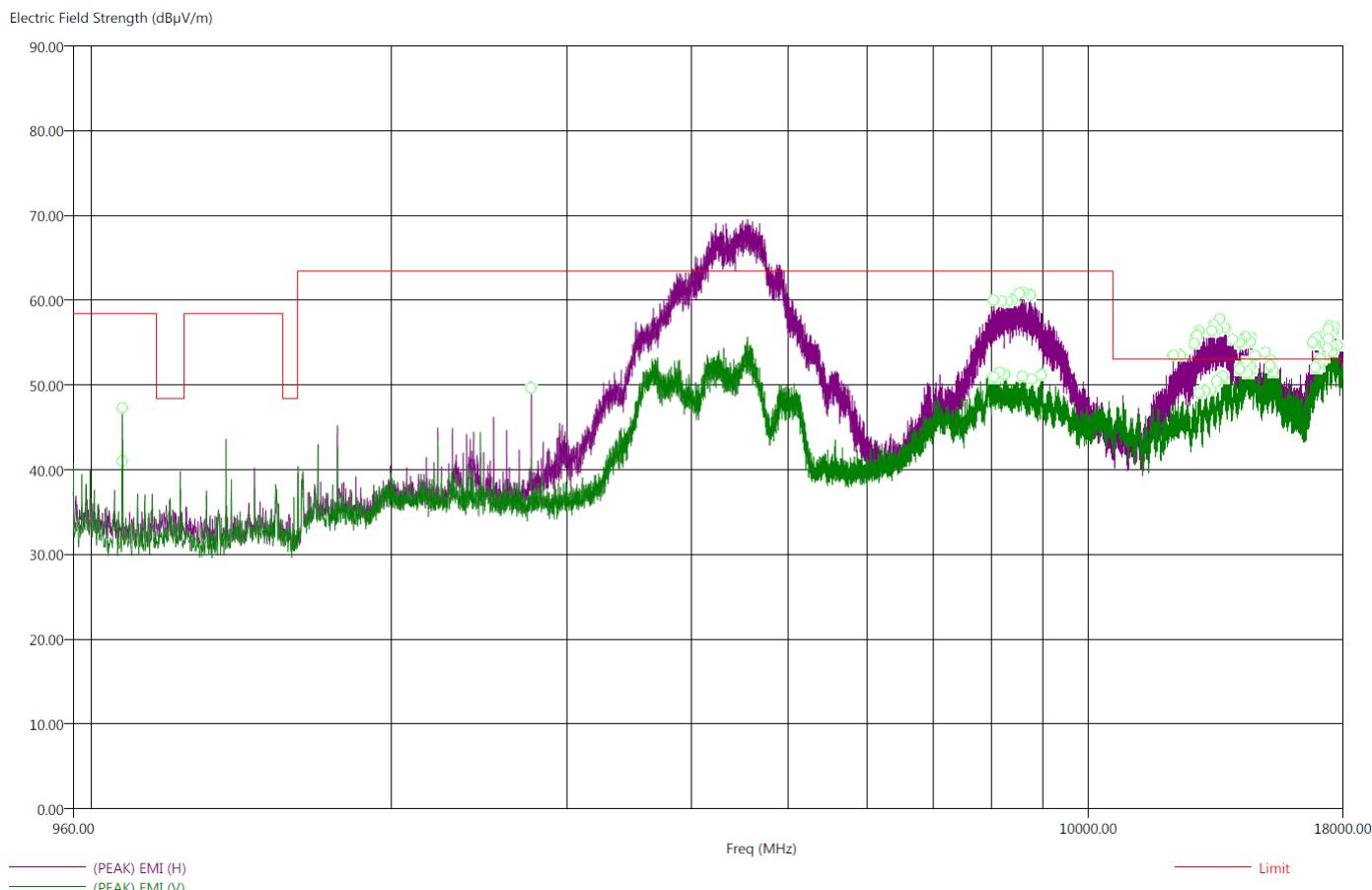
# RADIATED SPURIOUS EMISSIONS

## BATTERY MODE

Title: FCC 15.510  
 File: Radiated Pre-scan 0.96-18GHz\_Batt.set  
 Operator: Matt Harrison  
 EUT Type: EAGLE5-N.  
 EUT Condition: Constantly Transmitting.  
 Comments: Connected to Remote Laptop. With 3dB Attenuator @ Antenna. With #0431173951 Material Ferrites Internal @ Power Switch, PSU Input @ Board. With #0431164281 Mat. Ferrite @ Ethernet (Internal @ Exit).  
 Temp: 72f  
 Hum: 52%  
 Battery Mode, Test Distance 1m.

5/29/2013 2:48:01 PM  
 Sequence: Preliminary Scan

### Compatible Electronics, Inc. FAC- 3 ( LAB R)



# RADIATED SPURIOUS EMISSIONS

## BATTERY MODE

Title: FCC 15.510

File: Radiated Final 0.96-18GHz\_Batt.set

5/29/2013 3:04:53 PM

Sequence: Final Measurements

Operator: Matt Harrison

EUT Type: EAGLE5-N.

EUT Condition: Constantly Transmitting.

Comments: Connected to Remote Laptop. With 3dB Attenuator @ Antenna. With #0431173951

Material Ferrites Internal @ Power Switch, PSU Input @ Board. With #0431164281 Mat.

Ferrite @ Ethernet (Internal @ Exit).

Temp: 72f

Hum: 52%

Battery Mode, Test Distance 1m.

Compatible Electronics, Inc. FAC- 3 ( LAB R)

Freq (MHz)	(AVG) Margin (dB)	(AVG) EIRP (dBm)	(PEAK) EIRP (dBm)	Limit EIRP (dBm)	Pol	Ttbl Agl (deg)	Twr Ht (cm)	Transducer (dB)	Cable (dB)	Preamp (dB)
1075.23	-10.70	-57.00	-55.15	-46.30	V	360.00	100.00	26.60	3.29	51.54
1075.24	-15.75	-62.05	-59.36	-46.30	H	208.00	100.00	26.60	3.29	51.54
2764.80	-14.31	-55.61	-52.81	-41.30	H	317.50	100.00	32.37	5.34	53.17
8043.94	-13.29	-54.59	-44.34	-41.30	H	352.00	100.00	42.17	9.72	47.10
8045.09	-24.37	-65.67	-52.24	-41.30	V	241.50	100.00	42.17	9.72	47.10
8154.51	-24.07	-65.37	-52.27	-41.30	V	360.00	100.00	41.71	9.82	46.90
8189.23	-11.90	-53.20	-41.78	-41.30	H	354.75	100.00	41.57	9.86	46.84
8259.51	-24.06	-65.36	-52.80	-41.30	V	31.50	100.00	41.28	9.92	46.72
8303.14	-11.65	-52.95	-43.11	-41.30	H	355.75	100.00	41.11	9.93	46.65
8414.56	-12.07	-53.37	-41.96	-41.30	H	356.75	100.00	40.66	9.95	46.46
8534.78	-12.13	-53.43	-42.61	-41.30	H	355.25	100.00	40.27	10.02	46.40
8593.73	-24.26	-65.56	-53.16	-41.30	V	52.50	100.00	40.18	10.10	46.55
8618.99	-12.48	-53.78	-43.58	-41.30	H	353.00	100.00	40.14	10.14	46.61
8753.34	-13.29	-54.59	-43.43	-41.30	H	360.00	100.00	39.94	10.33	46.94
8799.47	-24.62	-65.92	-53.27	-41.30	V	242.75	100.00	39.87	10.30	47.06
8982.35	-24.80	-66.10	-53.32	-41.30	V	277.50	100.00	39.60	10.18	47.50
12174.72	-11.15	-62.45	-51.08	-51.30	H	360.00	100.00	42.14	12.60	52.49
12390.02	-8.51	-59.81	-47.91	-51.30	H	357.75	100.00	41.64	12.82	51.93
12788.06	-8.94	-60.24	-48.44	-51.30	H	360.75	100.00	42.14	13.12	50.91
12863.35	-6.48	-57.78	-46.42	-51.30	H	353.00	100.00	42.34	13.17	50.72
12914.20	-6.70	-58.00	-46.65	-51.30	H	360.00	100.00	42.47	13.21	50.59
12933.44	-15.57	-66.87	-54.22	-51.30	V	189.50	100.00	42.52	13.22	50.55
13106.02	-15.58	-66.88	-54.46	-51.30	V	298.75	100.00	42.88	13.36	49.98
13290.67	-15.24	-66.54	-54.18	-51.30	V	360.00	100.00	43.20	13.52	49.28
13331.72	-5.56	-56.86	-45.36	-51.30	H	357.75	100.00	43.27	13.55	49.12
13383.59	-6.06	-57.36	-45.71	-51.30	H	0.00	100.00	43.36	13.59	48.93
13475.76	-15.81	-67.11	-53.99	-51.30	V	355.00	100.00	43.52	13.67	48.59
13496.95	-7.29	-58.59	-47.12	-51.30	H	360.00	100.00	43.56	13.69	48.51
13569.83	-6.63	-57.93	-46.64	-51.30	H	355.75	100.00	43.39	13.80	48.24
13644.83	-15.13	-66.43	-53.79	-51.30	V	302.75	100.00	43.21	13.92	47.97
13688.09	-13.89	-65.19	-52.20	-51.30	V	342.75	100.00	43.10	13.99	47.81
13728.26	-4.68	-55.98	-45.16	-51.30	H	356.50	100.00	43.01	14.06	47.66
13990.85	-8.51	-59.81	-48.02	-51.30	H	358.50	100.00	42.38	14.47	46.72
14202.55	-8.81	-60.11	-48.18	-51.30	H	360.75	100.00	42.52	14.71	47.63
14214.03	-14.40	-65.70	-53.02	-51.30	V	334.25	100.00	42.52	14.73	47.68
14229.91	-13.81	-65.11	-52.34	-51.30	V	10.00	100.00	42.54	14.74	47.75
14269.81	-9.28	-60.58	-48.98	-51.30	H	-0.25	100.00	42.57	14.79	47.94
14379.15	-9.22	-60.52	-46.99	-51.30	H	358.50	100.00	42.65	14.91	48.44
14414.26	-13.49	-64.79	-51.82	-51.30	V	330.00	100.00	42.68	14.95	48.60
14419.21	-9.39	-60.69	-48.64	-51.30	H	-0.25	100.00	42.68	14.95	48.62
14468.07	-13.57	-64.87	-52.35	-51.30	V	352.75	100.00	42.72	15.01	48.84
14493.94	-13.76	-65.06	-52.67	-51.30	V	229.75	100.00	42.74	15.04	48.96



Freq (MHz)	(AVG) Margin (dB)	(AVG) EIRP (dBm)	(PEAK) EIRP (dBm)	Limit EIRP (dBm)	Pol	Ttbl Agl (deg)	Twr Ht (cm)	Transducer (dB)	Cable (dB)	Preamp (dB)
14558.74	-9.05	-60.35	-47.80	-51.30	H	360.00	100.00	43.05	15.03	49.25
14562.21	-13.06	-64.36	-51.36	-51.30	V	128.75	100.00	43.07	15.03	49.26
14580.20	-13.27	-64.57	-51.60	-51.30	V	343.50	100.00	43.17	15.03	49.34
14597.07	-8.43	-59.73	-47.78	-51.30	H	358.25	100.00	43.25	15.03	49.42
14724.65	-10.25	-61.55	-48.59	-51.30	H	354.75	100.00	43.92	15.01	49.99
15072.66	-11.73	-63.03	-49.61	-51.30	H	360.00	100.00	45.32	14.99	51.15
15231.34	-13.96	-65.26	-52.61	-51.30	V	322.25	100.00	45.25	15.05	51.04
15245.86	-12.50	-63.80	-51.06	-51.30	V	158.00	100.00	45.24	15.05	51.03
15255.05	-11.49	-62.79	-49.88	-51.30	H	354.50	100.00	45.24	15.06	51.02
15351.74	-13.06	-64.36	-51.13	-51.30	V	281.75	100.00	45.20	15.09	50.96
16798.19	-10.37	-61.67	-49.48	-51.30	H	360.00	100.00	45.65	15.45	50.65
16914.62	-8.45	-59.75	-48.18	-51.30	H	352.75	100.00	46.31	15.60	50.67
16931.53	-12.16	-63.46	-50.40	-51.30	V	71.00	100.00	46.41	15.62	50.68
16939.75	-8.43	-59.73	-48.01	-51.30	H	358.50	100.00	46.45	15.63	50.68
17020.53	-8.27	-59.57	-46.58	-51.30	H	353.25	100.00	46.82	15.70	50.71
17068.19	-11.90	-63.20	-49.90	-51.30	V	168.25	100.00	46.89	15.71	50.75
17095.05	-12.19	-63.49	-51.10	-51.30	V	308.75	100.00	46.92	15.71	50.78
17106.69	-8.87	-60.17	-48.46	-51.30	H	360.00	100.00	46.94	15.71	50.79
17132.64	-12.96	-64.26	-51.90	-51.30	V	359.75	100.00	46.98	15.71	50.81
17236.15	-8.86	-60.16	-47.22	-51.30	H	1.00	100.00	47.12	15.72	50.91
17265.16	-8.56	-59.86	-46.94	-51.30	H	350.25	100.00	47.16	15.73	50.94
17273.29	-11.50	-62.80	-50.03	-51.30	V	246.75	100.00	47.18	15.73	50.95
17353.94	-9.36	-60.66	-48.97	-51.30	H	357.50	100.00	47.29	15.74	51.02
17404.39	-11.53	-62.83	-49.83	-51.30	V	53.50	100.00	47.36	15.74	51.07
17431.45	-10.96	-62.26	-49.82	-51.30	V	220.00	100.00	47.40	15.74	51.09
17435.79	-8.26	-59.56	-46.59	-51.30	H	350.25	100.00	47.40	15.75	51.10
17449.36	-7.43	-58.73	-46.10	-51.30	H	358.00	100.00	47.42	15.75	51.11
17468.34	-11.40	-62.70	-50.28	-51.30	V	321.50	100.00	47.45	15.75	51.13
17471.90	-8.29	-59.59	-47.61	-51.30	H	351.25	100.00	47.45	15.75	51.13
17509.65	-8.74	-60.04	-47.76	-51.30	H	0.75	100.00	47.47	15.74	51.17
17597.19	-10.79	-62.09	-49.38	-51.30	V	269.00	100.00	47.32	15.65	51.25
17607.89	-7.76	-59.06	-47.08	-51.30	H	357.25	100.00	47.30	15.64	51.26
17611.29	-10.49	-61.79	-49.05	-51.30	V	61.50	100.00	47.30	15.63	51.26
17667.99	-7.53	-58.83	-45.96	-51.30	H	356.50	100.00	47.19	15.57	51.32
17799.23	-10.23	-61.53	-48.96	-51.30	V	245.25	100.00	46.97	15.44	51.43
14580.20	-13.27	-64.57	-51.60	-51.30	V	343.50	100.00	43.17	15.03	49.34
14597.07	-8.43	-59.73	-47.78	-51.30	H	358.25	100.00	43.25	15.03	49.42
14724.65	-10.25	-61.55	-48.59	-51.30	H	354.75	100.00	43.92	15.01	49.99
15072.66	-11.73	-63.03	-49.61	-51.30	H	360.00	100.00	45.32	14.99	51.15
15231.34	-13.96	-65.26	-52.61	-51.30	V	322.25	100.00	45.25	15.05	51.04
15245.86	-12.50	-63.80	-51.06	-51.30	V	158.00	100.00	45.24	15.05	51.03
15255.05	-11.49	-62.79	-49.88	-51.30	H	354.50	100.00	45.24	15.06	51.02
15351.74	-13.06	-64.36	-51.13	-51.30	V	281.75	100.00	45.20	15.09	50.96
16798.19	-10.37	-61.67	-49.48	-51.30	H	360.00	100.00	45.65	15.45	50.65
16914.62	-8.45	-59.75	-48.18	-51.30	H	352.75	100.00	46.31	15.60	50.67
16931.53	-12.16	-63.46	-50.40	-51.30	V	71.00	100.00	46.41	15.62	50.68
16939.75	-8.43	-59.73	-48.01	-51.30	H	358.50	100.00	46.45	15.63	50.68
17020.53	-8.27	-59.57	-46.58	-51.30	H	353.25	100.00	46.82	15.70	50.71
17068.19	-11.90	-63.20	-49.90	-51.30	V	168.25	100.00	46.89	15.71	50.75
17095.05	-12.19	-63.49	-51.10	-51.30	V	308.75	100.00	46.92	15.71	50.78
17106.69	-8.87	-60.17	-48.46	-51.30	H	360.00	100.00	46.94	15.71	50.79
17132.64	-12.96	-64.26	-51.90	-51.30	V	359.75	100.00	46.98	15.71	50.81
17236.15	-8.86	-60.16	-47.22	-51.30	H	1.00	100.00	47.12	15.72	50.91
17265.16	-8.56	-59.86	-46.94	-51.30	H	350.25	100.00	47.16	15.73	50.94
17273.29	-11.50	-62.80	-50.03	-51.30	V	246.75	100.00	47.18	15.73	50.95
17353.94	-9.36	-60.66	-48.97	-51.30	H	357.50	100.00	47.29	15.74	51.02
17404.39	-11.53	-62.83	-49.83	-51.30	V	53.50	100.00	47.36	15.74	51.07
17431.45	-10.96	-62.26	-49.82	-51.30	V	220.00	100.00	47.40	15.74	51.09
17435.79	-8.26	-59.56	-46.59	-51.30	H	350.25	100.00	47.40	15.75	51.10
17449.36	-7.43	-58.73	-46.10	-51.30	H	358.00	100.00	47.42	15.75	51.11
17468.34	-11.40	-62.70	-50.28	-51.30	V	321.50	100.00	47.45	15.75	51.13
17471.90	-8.29	-59.59	-47.61	-51.30	H	351.25	100.00	47.45	15.75	51.13
17597.19	-10.79	-62.09	-49.38	-51.30	V	269.00	100.00	47.32	15.65	51.25
14558.74	-9.05	-60.35	-47.80	-51.30	H	360.00	100.00	43.05	15.03	49.25



Freq (MHz)	(AVG) Margin (dB)	(AVG) EIRP (dBm)	(PEAK) EIRP (dBm)	Limit EIRP (dBm)	Pol	Ttbl Agl (deg)	Twr Ht (cm)	Transducer (dB)	Cable (dB)	Preamp (dB)
17607.89	-7.76	-59.06	-47.08	-51.30	H	357.25	100.00	47.30	15.64	51.26
17611.29	-10.49	-61.79	-49.05	-51.30	V	61.50	100.00	47.30	15.63	51.26
17670.99	-7.53	-58.83	-45.96	-51.30	H	356.50	100.00	47.19	15.57	51.32
17799.23	-10.23	-61.53	-48.96	-51.30	V	245.25	100.00	46.97	15.44	51.43

Comments: No Emissions found above 17799.23 MHz.