

# TEST REPORT



Testing Certification # 1367-01

Laboratory ID

PRODUCT SAFETY ENGINEERING, INC.  
12955 Bellamy Brothers Boulevard  
Dade City, Florida 33525 USA  
PH (352) 588-2209 FX (352) 588-2544

Submitter ID

CAE Healthcare Inc.  
6300 Edgelake Drive  
Sarasota, FL 34240

Report Issue Date: 10/23/2012

Test Report Number: 12F231B

Sample S/N: None

Model Designation: Voicelink

Sample Receipt Date: 08/07/2012

Product Description: Wireless Voice Link

Sample Test Date: see data sheets

Description of non-standard test method or test practice: *None*

Estimated Measurement Uncertainty: *See page 9. This uncertainty represents and expanded uncertainty expressed at approximately 95% confidence level using a coverage factor of k=2.*

Special limitations of use: *None*

Traceability: *reference standards of measurement have been calibrated by a competent body using standards traceable to the NIST.*

According to testing performed at Product Safety Engineering, Inc., the above-mentioned unit is in compliance with the electromagnetic compatibility requirements defined in regulations indicated on page (3) of the test report. The test results contained herein relate only to the item identified above. It is the manufacturer's responsibility to assure that additional production units are manufactured with identical electrical and mechanical characteristics.

As the responsible EMC Project Engineer, I hereby declare that the equipment tested as specified above conforms to the requirements indicated on page (3) of the test report.

Signature

Name David Foerstner

Title Engineering Group Leader

Date 23 Oct 2012

Reviewed by:

Approved Signatory

Date 23 Oct 2012

Steve Hoke (EMC Site Manager)

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## DIR E C T O R Y - EMISSIONS

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Radiated emissions	10 kHz - 30 MHz
Radiated emissions	30 MHz - 1000 MHz
Interference power	30 MHz - 300 MHz
Equivalent Radiated emissions	1 GHz - 18 GHz
Antenna Disturbance Voltage	30 MHz - 1,000 MHz
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## EMISSIONS TEST REGULATIONS :

The emissions tests were performed according to following regulations:

- EN 61000-6-3:2007
- EN 61000-6-4:2007
- ETSI EN 300 328 V1.7.1
- EN 55011 : 2009/A1:2010  - Group 1  - Group 2  
 - Class A  - Class B
- RSS-210
  
- EN 55014 -1: 2006  - Household appliances and similar  
 - Portable tools  
 - Semiconductor devices
  
- EN 55022:2010  - Class A  - Class B
- AS/NZS CISPR 22  - Class A  - Class B
- ICES-003  - Class A  - Class B
- CNS 13438  - Class A  - Class B
- VCCI V-3/2010.4  - Class A  - Class B
- FCC Part 15 (per ANSI C63.4)  - Class A  - Class B  
 - Certification  
 - Verification  
 - Declaration of Conformity
  
- FCC Part 18

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FCC ID:Q7YWVL

## Environmental conditions during testing:

	LAB	OATS
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Temperature: \* \_\_\_\_\_ : \_\_\_\_\_

Relative Humidity: \*\* \_\_\_\_\_ : \_\_\_\_\_

\* The ambient temperature during the testing was within the range of (50° - 104° F) unless indicated above.

\*\* The humidity levels during the testing was within the range of (10% - 90%) relative humidity unless indicated above.

Power supply system : \_\_\_\_\_ Volts \_\_\_\_\_ Hz SINGLE phase

## Sign Explanations:

- not applicable

- applicable

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## Emissions Test Conditions: CONDUCTED EMISSIONS (Interference Voltage)

The **CONDUCTED EMISSIONS (INTERFERENCE VOLTAGE)** measurements were performed at the following test location:

- Test not applicable

- Darby Test Site (Open Area Test Site)
- Darby Laboratory

### Test equipment used :

Model Number	Manufacturer	Description	Serial Number
□ - 8028-50	Solar	50 Ω LISN	829012, 829022
□ - 8012	Solar	50 Ω LISN	924840
■ - EMC-30	Electro-Metrics	EMI Receiver	191
□ - 8566B	Hewlett-Packard	Spectrum Analyzer	2421A00526
□ - 85650A	Hewlett-Packard	Quasi-Peak Adapter	2043A00209
□ - 85662A	Hewlett Packard	Analyzer Display	2403A07352
□ - 8028-50	Solar	50 Ω LISN	903725, 903726
□ - FCC-TLISN-T4-02	Fisher Custom Com.	Telecom ISN	20454
□ - FCC-TLISN-T8-02	Fisher Custom Com.	Telecom ISN	20452
■ - LI-125	Com-Power	50 Ω LISN	191080/191081

## Emissions Test Conditions: RADIATED EMISSIONS (Magnetic Field)

The **RADIATED EMISSIONS (MAGNETIC FIELD)** measurements were performed at the following test location:

- Darby Test Site (Open Area Test Site)
- 
- 

at a test distance of :

- 3 meters
- 30 meters

- Test not applicable

### Test equipment used :

Model Number	Manufacturer	Description	Serial Number
□ - 3148	EMCO	Log Periodic Antenna	00044783
□ - BIA-25	Electro-Metrics	Biconical Antenna	4283
■ - 8566B	Hewlett-Packard	Spectrum Analyzer	2421A00526
■ - 85662A	Hewlett-Packard	Analyzer Display	2403A07352
■ - 85650A	Hewlett-Packard	Quasi-Peak Adapter	2043A00209
■ - ALR-30M	Electro-Metrics	Loop Antenna	824
□ - 8447D	Hewlett Packard	Preamplifier	2944A06832
□ - EMC-30	Electro-Metrics	EMI Receiver	191
□ - ALA-130/A	Antenna Research	Loop Antenna	106

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## Emissions Test Conditions: RADIATED EMISSIONS (Electric Field)

The **RADIATED EMISSIONS (ELECTRIC FIELD)** measurements, in the frequency range of 30 MHz-1000 MHz, were tested in a horizontal and vertical polarization at the following test location :

### - Test not applicable

- Darby Site (Open Area Test Site)

- Darby Lab

-

at a test distance of :

- 3 meters

- 10 meters

- 30 meters

### Test equipment used :

Model Number	Manufacturer	Description	Serial Number
<input type="checkbox"/> - HLP 3003C	EMC Automation	Hybrid Periodic Antenna	017501
<input checked="" type="checkbox"/> - 8447D	Hewlett-Packard	Preamplifier (26dB)	1937A03247
<input checked="" type="checkbox"/> - 8566B	Hewlett-Packard	Spectrum Analyzer	2421A00526
<input checked="" type="checkbox"/> - 85662A	Hewlett-Packard	Analyzer Display	2403A07352
<input checked="" type="checkbox"/> - 85650A	Hewlett-Packard	Quasi-Peak Adapter	2043A00209
<input type="checkbox"/> - BIA 25	Electro-Metrics	Biconical Antenna	4283
<input type="checkbox"/> - EMC-30	Electro-Metrics	EMI Receiver	191
<input type="checkbox"/> - 8568B	Hewlett Packard	Spectrum Analyzer	2407A03213
<input type="checkbox"/> - 85650A	Hewlett Packard	Quasi-Peak Adapter	2043A00358
<input type="checkbox"/> - 85662A	Hewlett Packard	Analyzer Display	2340A05806
<input type="checkbox"/> - LPA30	Electro-Metrics	Log Periodic	2280
<input checked="" type="checkbox"/> - 3104C	Emco	Biconical Antenna	00075927
<input checked="" type="checkbox"/> - 9005	Eaton	Log Periodic Antenna	1099

## Emissions Test Conditions): INTERFERENCE POWER

The **INTERFERENCE POWER** measurements were performed by using the absorbing clamp on the mains and interface cables in the frequency range 30 MHz - 300 MHz at the following test location :

### - Test not applicable

- Darby Lab

-

### Test equipment used :

Model Number	Manufacturer	Description	Serial Number
<input type="checkbox"/> - MDS-21	Rhode&Schwarz	Absorbing Clamp	8608447020
<input type="checkbox"/> - 8566B	Hewlett-Packard	Spectrum Analyzer	2421A00526
<input type="checkbox"/> - 85662A	Hewlett-Packard	Analyzer Display	2403A07352
<input type="checkbox"/> - 85650A	Hewlett-Packard	Quasi-Peak Adapter	2043A00209
<input type="checkbox"/> - 8447D	Hewlett-Packard	Amplifier (26 dB)	2944A06832
<input type="checkbox"/> - EMC-30	Electro-Metrics	EMI Receiver	191

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**The *EQUIVALENT RADIATED EMISSIONS* measurements in the frequency range 1 GHz -24 GHz were performed in a horizontal and vertical polarization at the following test location :**

- Darby Test Site (Open Area Test Site)

- 
- 
- 

**at a test distance of:**

- 1 meters
- 3 meters
- 10 meters

- **Test not applicable**

**Test equipment used :**

<b>Model Number</b>	<b>Manufacturer</b>	<b>Description</b>	<b>Serial Number</b>
■ - 8566B	Hewlett-Packard	Spectrum Analyzer	2421A00526
■ - 85662A	Hewlett-Packard	Analyzer Display	2403A07352
■ - 85650A	Hewlett-Packard	Quasi-Peak Adapter	2043A00209
■ - 8449B	Hewlett-Packard	Preamplifier	3008A00320
■ - 3115	Electro-Mechanics	Double Ridge Guide Horn	3810

**The *ANTENNA TERMINAL DISTURBANCE VOLTAGE* in the frequency range 30 MHz - 1,000 MHz were performed.**

- Darby Test Site (Open Area Test Site)
- Laboratory
- 
- 

- **Test not applicable**

<b>Model Number</b>	<b>Manufacturer</b>	<b>Description</b>	<b>Serial Number</b>
□ - 2F9-3C4-3C5	Wavecom	UHF PAL TV Modulator	185879
□ - 2F1-3C4-3C5	Wavecom	VHF PAL TV Modulator	157728
□ - A-8000	IFR	Spectrum Analyzer	1306
□ - 8648B	Hewlett-Packard	Signal Generator	3623A01433
□ - 8648B	Hewlett-Packard	Signal Generator	3623A01477
□ - LMV-182A	Leader	RMS Milli-Voltmeter	8010091
□ - 3202	Krhon-Hite	Active filter	5899
□ - FMT115	Leaming	FM Modulator	NONE
□ - 371	UDT	Optical power meter	06657
□ - TSG95	Tektronix	PAL video / Audio gen	B028883

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## **Equipment Under Test (EUT) Test Operation Mode - Emission tests :**

**The device under test was operated under the following conditions during emissions testing:**

- Standby
- Test program (H - Pattern)
- Test program (color bar)
- Test program (customer specific)
- Practice operation
- Normal Operating Mode
- 

### **Configuration of the device under test:**

- See System Under Test Information in Appendix B

### **Rationale for EUT setup / configuration:**

ANSI C63.4:2003

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## Emission Test Results:

### Conducted emissions 150 kHz - 30 MHz

The requirements are	<input checked="" type="checkbox"/> - MET	<input type="checkbox"/> - NOT MET
Minimum limit margin MU: 5.3 dB	14.0 dB	at 0.150 MHz

### Radiated emissions (magnetic field) 10 kHz - 30 MHz

The requirements are	<input type="checkbox"/> - MET	<input type="checkbox"/> - NOT MET
Minimum limit margin MU: NA	>20 dB	at MHz

### Radiated emissions (electric field) 30 MHz - 1000 MHz

The requirements are	<input checked="" type="checkbox"/> - MET	<input type="checkbox"/> - NOT MET
Minimum limit margin MU: 5.2 dB	5.0 dB	at 144 MHz

### Interference Power at the mains and interface cables 30 MHz - 300 MHz

The requirements are	<input type="checkbox"/> - MET	<input type="checkbox"/> - NOT MET
Minimum limit margin MU: NA	dB	at MHz

### Radiated emissions 1 GHz - 24 GHz

The requirements are	<input checked="" type="checkbox"/> - MET	<input type="checkbox"/> - NOT MET
Minimum limit margin MU: 4.9 dB	8.5 dB	at 4,960 GHz

### Antenna Terminal Disturbance Voltage 30 MHz - 1,000 MHz

The requirements are	<input type="checkbox"/> - MET	<input type="checkbox"/> - NOT MET
Minimum limit margin MU: NA	dB	at MHz

**MU = Measurement Uncertainty**

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## GENERAL REMARKS:

**Conducted emissions** - Exploratory measurements are used to identify the frequency of the emission that has the highest amplitude relative to the limit by operating the EUT in a range of typical modes of operation, cable positions, and with a typical system equipment configuration and arrangement. For each mode of operation and for each ac power current-carrying conductor, cable manipulation is performed within the range of likely configurations. For this measurement or series of measurements, the frequency spectrum of interest is monitored looking for the emission that has the highest amplitude relative to the limit. Once that emission is found for each current-carrying conductor of each power cord associated with the EUT (but not the cords associated with non-EUT equipment in the overall system), the one and arrangement and mode of operation that produces the emission closest to the limit across all the measured conductors is recorded. Software used is Electro metrics OS-30-CAT ver 1.10

**Radiated emissions** - The equipment under test is oriented at (0) degrees azimuth with respect to the measuring antenna. The antenna is placed in the vertical polarity and the software performs an automated set of measurements across the frequency range of interest. When complete, a database of all signals labeled "suspects" is displayed and the test engineer manually investigates any signal that is within (15) dB of the limit. Those determined to be from the EUT are placed on a separate database labeled "finals" and those not from the EUT are placed in the ambient database. The EUT is then rotated (90) degrees and the process is repeated. Upon completion of (4) scans, the antenna polarity is changed to horizontal, the EUT orientation is set to (45) degrees and the process is repeated (4) additional times. After every scan, the final list is completed re-measured and updated for amplitude and polarity if higher in amplitude.

Once all (8) scans are complete, the highest (6) signals are re-measured by maximizing the amplitude with cable manipulation, antenna height and EUT azimuth. The final (6) six signals are included in the test report. Software used is HP 85870A Opt655/Rev A.02.01.

## SUMMARY:

The requirements according to the technical regulations are

- met
- **not** met.

The device under test does

- fulfill the general approval requirements mentioned on page 3.
- **not** fulfill the general approval requirements mentioned on page 3.

Testing Start Date

11 Sep 2012

Testing End Date:

18 Sep 2012

- PRODUCT SAFETY ENGINEERING INC -

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Test-setup photo(s):  
Conducted emission 150 kHz - 30 MHz



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Test-setup photo(s):  
Radiated emission 30 MHz - 1000 MHz



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# **APPENDIX**

## **A**

### **Test Equipment Calibration Information**

**&**

### **Test Data Sheets**

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TEST EQUIPMENT CALIBRATION INFORMATION				
Manufacturier	Model	Description	Serial Number	Cal Due *
Hewlett Packard	8566B	Spectrum Analyzer	2421A00526	
Hewlett Packard	85662A	Display	2403A07352	
Hewlett Packard	85650A	Quasi-peak Adapter	2043A00209	11/4/2013
Hewlett Packard	8566B	Spectrum Analyzer	2532A02418	11/12/2013
Hewlett Packard	85662A	Display	2403A06604	11/12/2013
Hewlett Packard	85650A	Quasi-peak Adapter	2043A00358	
Hewlett Packard	8447D	Preamp 0.1 - 1,000 MHz	2944A06832	
Hewlett Packard	8447D	Preamp 0.1 - 1,000 MHz	2944A06901	
Hewlett Packard	8447D	Preamp 0.1 - 1,000 MHz	1937A03247	9/19/2013
Hewlett Packard	8449B	Preamp 1 - 26.5 GHz	3008A00320	5/7/2013
Hewlett Packard	E7402A	Portable Spectrum Analyzer	US40240204	
Eaton	96005	Log Periodic Antenna	1099	12/27/2012
Electro-Metrics	BIA-30	Biconical Antenna	3852	
EMCO	3104C	Biconical Antenna	75927	4/5/2013
Electro-Metrics	ALR30M	Magnetic Loop Antenna	824	11/9/2013
Electro-Metrics	EMC-30	EMI Receiver	191	7/24/2013
Electro-Metrics	3115	Double Ridge Guide Antenna	3810	5/25/2013
Solar	8028	LISN	829012/809022	
Com-Power	LI-125	LISN	191180/191181	9/17/2013
EMCO	3148	Log Periodic Antenna	75741	
Schwartzbeck	MDS-21	Absorbing Clamp	2581	
Fisher Custom	FCC-TLISN-T4-02	T LISN	20454	
Fisher Custom	FCC-TLISN-T8-02	Fisher Custom	20452	
* Cal Due Date Format = MM/DD/YY				
All equipment was calibrated one year prior to the cal due date listed unless otherwise indicated				

## PRODUCT EMISSIONS

PSE OPEN AREA TEST SITE

Data File: WIRELESS LINKS FCC-B03M 17SEPT12

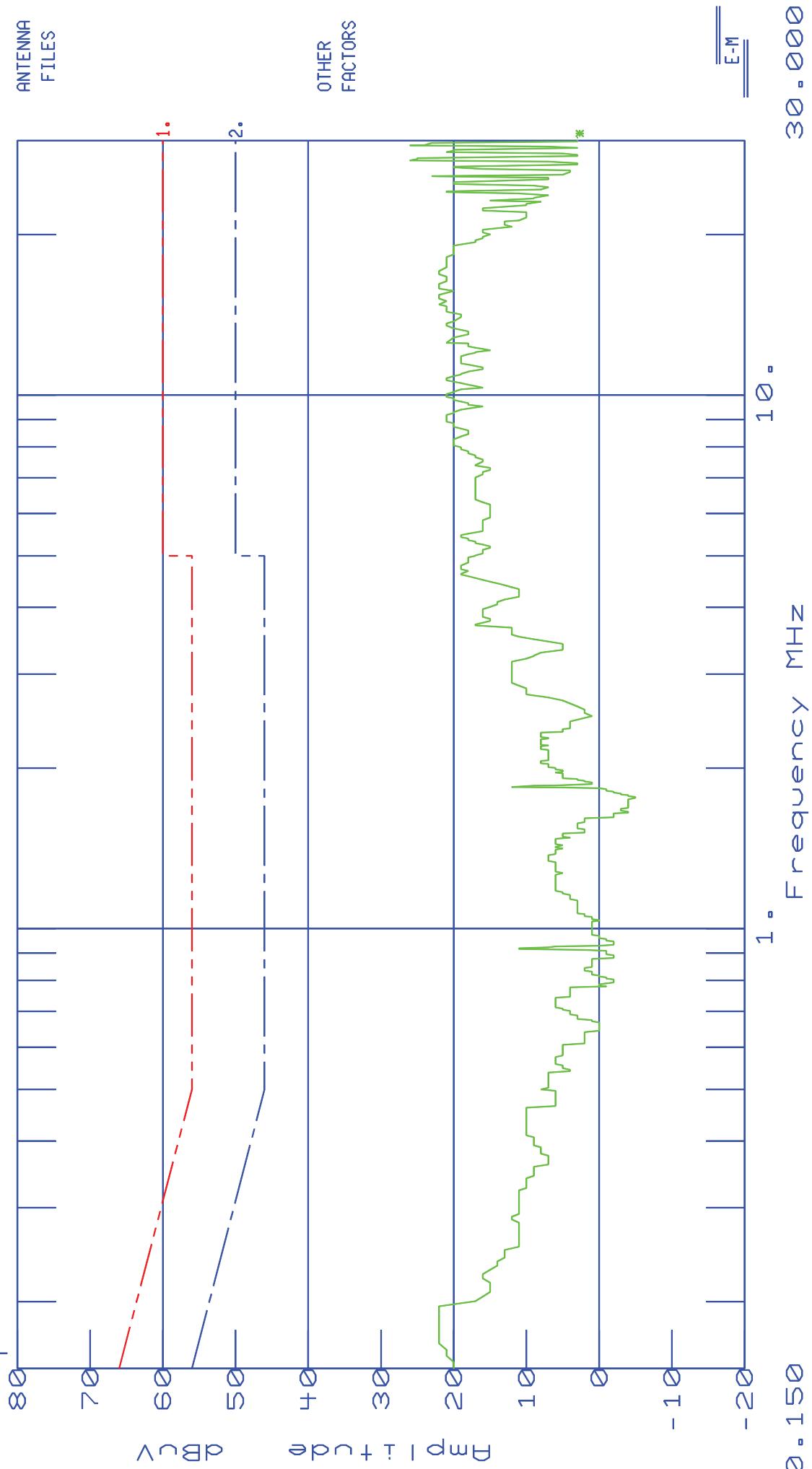
No	EMISSION FREQUENCY MHz	SPEC LIMIT dBuV/m	MEASUREMENTS			SITE			CORR FACTOR dB	COMMENTS
			ABS	dLIM	MODE	POL	HGT	AZM		
1	33.100	40.0	33.8	-6.2	PK	V	100	225	-16.8	
2	55.109	40.0	31.9	-8.2	PK	V	150	180	-18.1	
3	72.000	40.0	34.8	-5.2	PK	V	150	270	-20.3	
4	96.006	43.5	38.0	-5.5	PK	V	100	225	-18.	
5	144.004	43.5	38.5	-5.0	PK	V	150	270	-14.2	
6	175.002	43.5	36.0	-7.5	PK	V	150	270	-12.2	
7	192.001	43.5	37.9	-5.6	PK	V	100	135	-10.6	
8	215.995	43.5	31.8	-11.7	PK	H	200	135	-15.3	
9	240.001	46.0	34.8	-11.2	PK	H	150	180	-14.4	
10	600.004	46.0	33.9	-12.1	PK	V	100	270	-7.7	

## Radiated Emissions (1 - 24) GHz



## Conducted Emissions

ITEM	TEST DATE	TEST TIME	TEST EQUIPMENT	TEST NUMBER	SENSOR LOCATION	SENSOR POLARITY	EXT. ATTEN.	TEST COMMENTS
TEST DATE :	09/18/12	14:45:38.10	Test Equip. : EMC-30	Test Number : 1	Sensor Loc. : SIDE 1	Sensor Pol. :	Ext. Atten. : 0 dB	Comment : 230 VAC / 50 HZ
TEST TECHNICIAN :	CHIP FOERSTNER		Detector : QuasiPeak					PHIHONG SWITCHING SUPPLY MODEL# PSC11R-050 5VDC OUTPU
TEST METHOD :	EN55022 CLASS B		Bandwidth : CISPR					SPECIFICATIONS
TEST EQUIPMENT :	WIRELESS VOICE LINK		Dump/Dwell : N/A					1) CISPR 22 Quasi Peak
TEST MODE OF OP. :	NORMAL		RF Attenu. : 10 dB					2) CISPR 22 AVG
TEST SERIAL NO. :	NONE		IF Attenu. : 10 dB					3) 4)



TEST TITLE: CAE  
DATA FILE : 12231\_1.D30  
Amplitude Units : dBuV

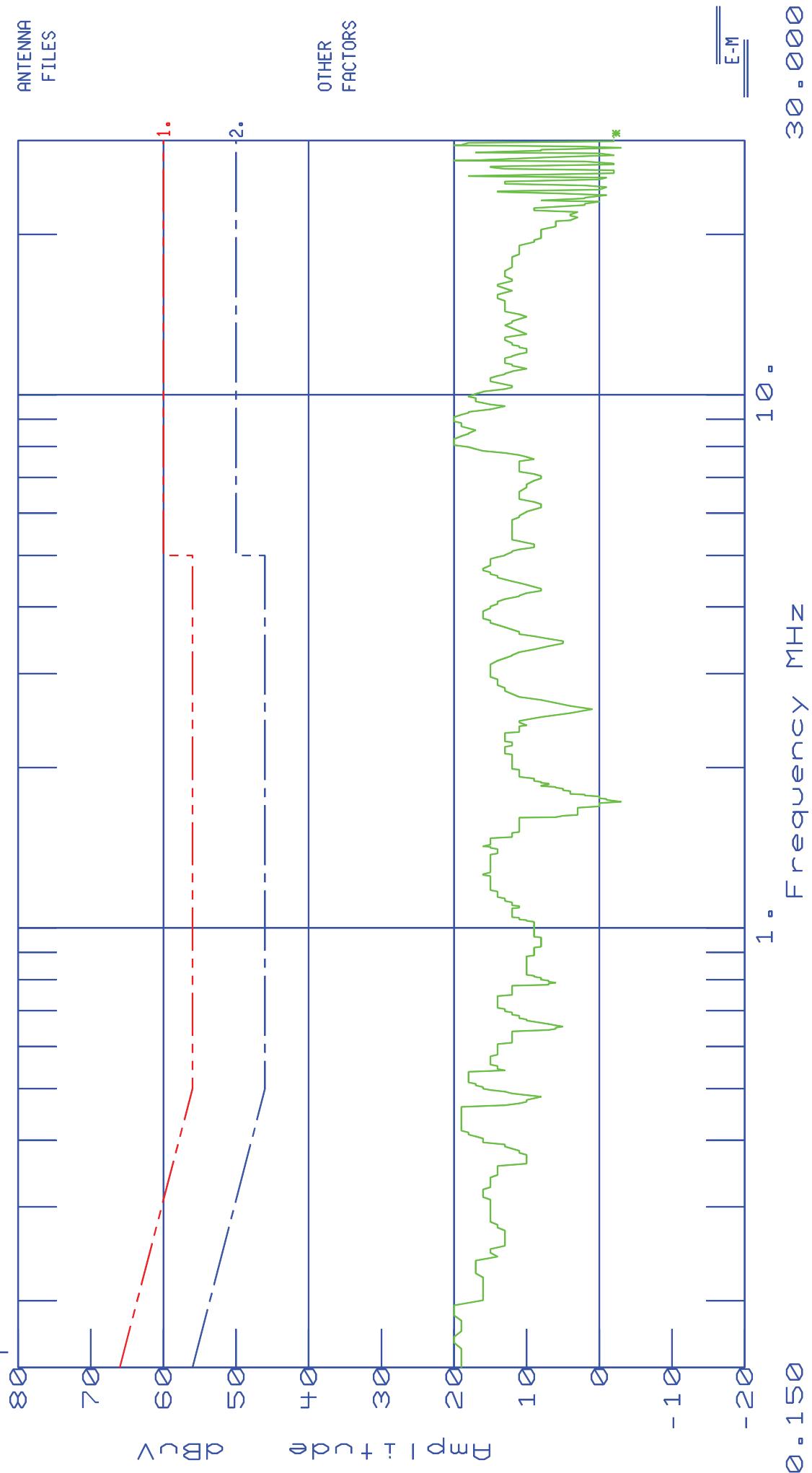
Threshold -27 dB

PAGE 1  
Freq. (MHz)  
0.1500

Freq (MHz)	Amp	C22BQP. S30	C22BAVG. S30
		vs Spec (dB)	vs Spec (dB)
4.6123	19.0		-27.000 *
4.6264	19.0		-27.000 *
4.7179	19.0		-27.000 *
4.7531	19.0		-27.000 *
4.7882	19.0		-27.000 *
4.7953	19.0		-27.000 *
25.7202	23.0		-27.000 *
27.5435	26.0		-24.000 *
27.7114	25.0		-25.000 *
27.8121	25.0		-25.000 *
29.3738	26.0		-24.000 *
29.3906	24.0		-26.000 *
29.6996	23.0		-27.000 *

## Conducted Emissions

Comments: 230 VAC / 50 Hz PHIHONG SWITCHING SUPPLY MODEL# PSC11R-050 5VDC OUTPUT  
 Date: 09/18/12 Time: 14:21:08.52  
 Technician: CHIP FOERSTNER Test Equip.: EMC-30  
 Test Method: EN55022 CLASS B Test Number: 1  
 Equipment: WIRELESS VOICE LINK Sensor Loc.: SIDE 2  
 Mode of Op.: NORMAL Sensor Pol.:  
 Serial No.: NONE Ext. Atten.: 0 dB  
 EMC-30 SETTINGS  
 Detector: QuasiPeak  
 Bandwidth: CISPR  
 Dump/Dwell: N/A  
 RF Atten.: 10 dB  
 IF Atten.: 10 dB  
 SPECS  
 1) CISPR 22 Quasi Peak  
 2) CISPR 22 AVG  
 3)  
 4)



TEST TITLE: CAE  
DATA FILE : 12231\_2.D30  
Amplitude Units : dBuV

Threshold -30 dB

PAGE 1  
Freq. (MHz)  
0.1670

Freq (MHz)	Amp	C22BQP. S30	C22BAVG. S30
		vs Spec (dB)	vs Spec (dB)
0.4101	18.0		-29.646 *
0.4135	18.0		-29.578 *
0.4170	19.0		-28.508 *
0.4205	19.0		-28.438 *
0.4239	19.0		-28.371 *
0.4274	19.0		-28.303 *
0.4309	19.0		-28.235 *
0.4343	19.0		-28.170 *
0.4378	19.0		-28.103 *
0.4413	19.0		-28.037 *
0.4447	19.0		-27.974 *
0.4482	19.0		-27.908 *
0.4517	19.0		-27.844 *
0.4551	19.0		-27.782 *
0.4586	19.0		-27.718 *
0.4621	19.0		-27.655 *
0.5000	16.0		-30.000 *
0.5034	16.0		-30.000 *
0.5068	17.0		-29.000 *
0.5102	17.0		-29.000 *
0.5136	18.0		-28.000 *
0.5170	18.0		-28.000 *
0.5204	18.0		-28.000 *
0.5238	18.0		-28.000 *
0.5272	18.0		-28.000 *
0.5306	18.0		-28.000 *
0.5341	18.0		-28.000 *
0.5375	18.0		-28.000 *
1.2584	16.0		-30.000 *
1.2618	16.0		-30.000 *
1.4239	16.0		-30.000 *
3.8064	16.0		-30.000 *
3.8416	16.0		-30.000 *
3.8768	16.0		-30.000 *
3.9120	16.0		-30.000 *
3.9261	16.0		-30.000 *
4.6827	16.0		-30.000 *
4.7179	16.0		-30.000 *
4.7249	16.0		-30.000 *
8.0481	20.0		-30.000 *
8.1154	20.0		-30.000 *
8.1829	20.0		-30.000 *
8.2501	20.0		-30.000 *
8.2569	20.0		-30.000 *
8.9194	20.0		-30.000 *
8.9867	20.0		-30.000 *
9.0538	20.0		-30.000 *
9.0739	20.0		-30.000 *
27.5133	20.0		-30.000 *
29.3839	20.0		-30.000 *

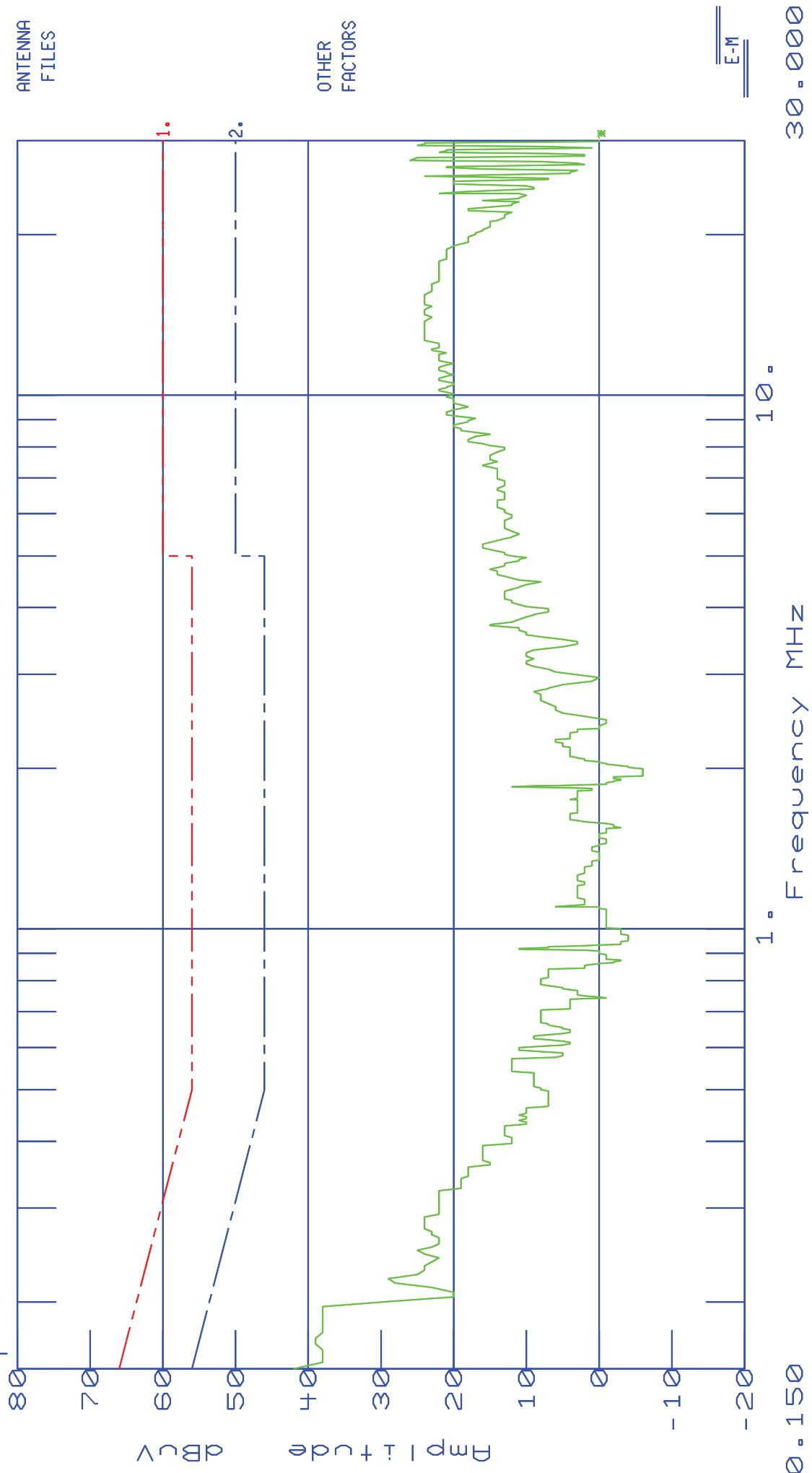
## Conducted Emissions

DATE : 09/18/12 TIME : 15:05:50 .36  
 TECHNICIAN : CHIP FOERSTNER TEST EQUIP. : EMC-30  
 TEST METHOD : EN55022 CLASS B TEST NUMBER : 1  
 EQUIPMENT : WIRELESS VOICE LINK SENSOR LOC. : LINE  
 MODE OF OP. : NORMAL SENSOR POL. :  
 SERIAL NO. : NONE EXT. ATTEN. : 0 dB

EMC-30 SETTINGS  
 Detector QuasiPeak  
 Bandwidth CISPR  
 Dump/Dwell N/A  
 RF Attenu. 10 dB  
 IF Attenu. 10 dB

SPECS  
 1) CISPR 22 Quasi Peak  
 2) CISPR 22 AVG  
 3)  
 4)

PHIHONG SWITCHING SUPPLY MODEL# PSC11R-050 5VDC OUTPUT



TEST TITLE: CAE  
DATA FILE : 12231\_L.D30  
Amplitude Units : dBuV

Threshold -16 dB

PAGE 1  
Freq. (MHz)  
0.1500

Freq( MHz)	Amp	C22BQP. S30		C22BAVG. S30	
		vs Spec( dB)	Spec( dB)	vs Spec( dB)	Spec( dB)
0.1500	42.0			-14.000	*
0.1711	39.0			-15.907	*
0.1920	38.0			-15.950	*
0.1961	38.0			-15.774	*

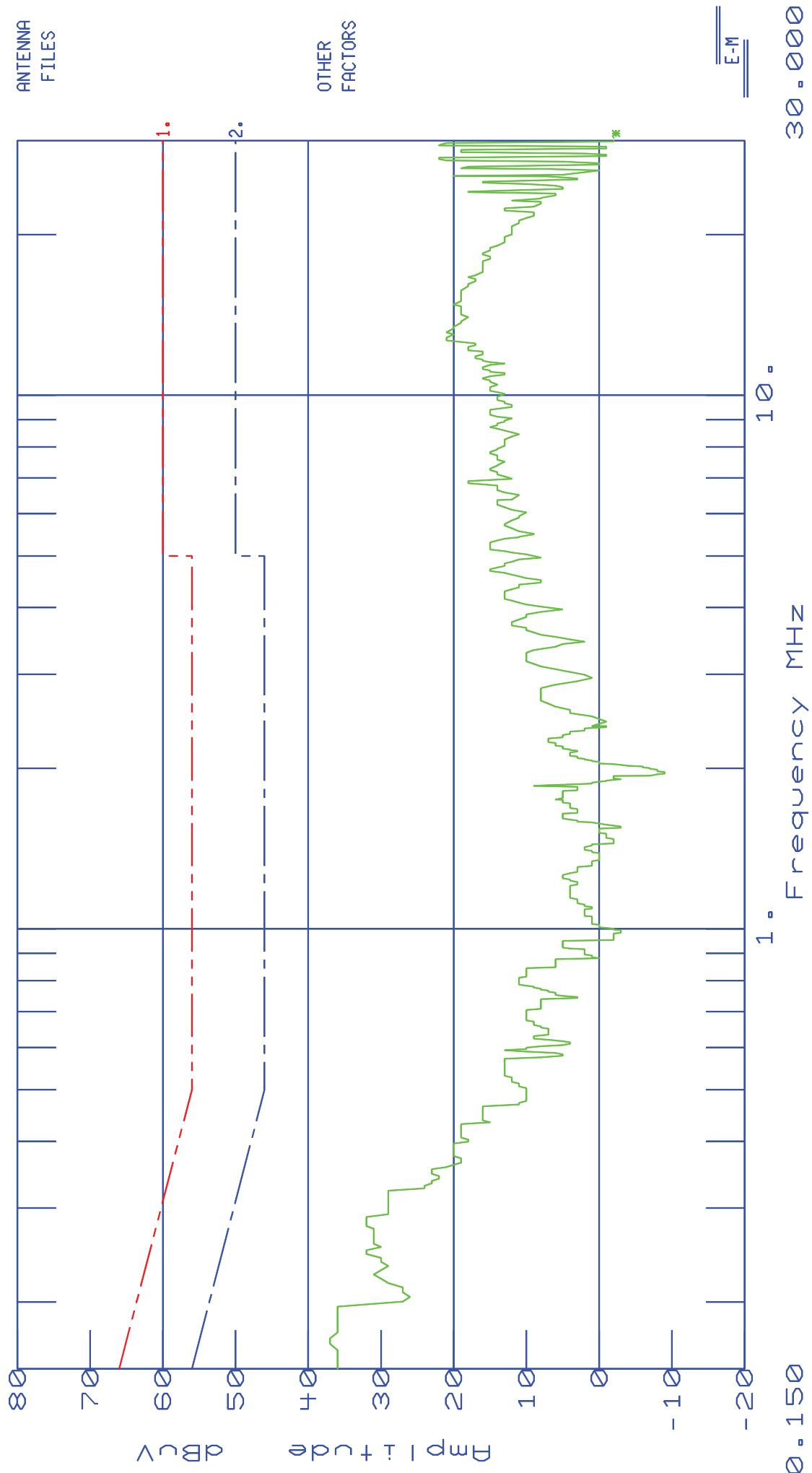
## Conducted Emissions

```

C:\> EMC-30 SETTINGS
Date : 09/18/12 Time : 14:06:31.74
Technician : CHIP FOERSTNER Test Equip. : EMC-30
Test Method : EN55022 CLASS B Test Number : 1
Equipment : WIRELESS VOICE LINK Sensor Loc. : LINE
Mode of Op. : NORMAL Sensor Pol. :
Serial No. : NONE Ext. Atten. : 0 dB
Comment : 120 VAC / 60 Hz

SPECS
1) CISPR 22 Quasi Peak
2) CISPR 22 AVG
3)
4)

```



TEST TITLE: CAE  
DATA FILE : 12231\_N.D30  
Amplitude Units : dBuV

Threshold -20 dB

PAGE 1  
Freq. (MHz)  
0.1500

Freq (MHz)	Amp	C22BQP. S30	C22BAVG. S30
		vs Spec (dB)	vs Spec (dB)
0.1500	36.0		-20.000 *
0.1542	36.0		-19.771 *
0.1583	36.0		-19.553 *
0.1625	36.0		-19.335 *
0.1670	37.0		-18.108 *
0.1711	37.0		-17.907 *
0.1752	36.0		-18.710 *
0.1794	36.0		-18.513 *
0.1836	36.0		-18.321 *
0.1878	36.0		-18.133 *
0.1920	36.0		-17.950 *
0.1961	36.0		-17.774 *
0.2461	32.0		-19.888 *
0.2500	32.0		-19.757 *
0.2743	31.0		-19.987 *
0.2778	32.0		-18.881 *
0.2812	32.0		-18.780 *
0.2852	32.0		-18.663 *
0.2887	32.0		-18.562 *

# **APPENDIX**

## **B**

### **System Under Test Description**

Page B1 of B2

*Test Report Number 12F231B*

**Product Safety Engineering, Inc 12955 Bellamy Brothers Blvd. Dade City, FL 33525**  
Tel (352) 588-2209 Fax (352) 588-2544

## SYSTEM COMPONENTS

\*\*\*\*\*

DEVICE TYPE: EUT, Wireless Voice Link with Phihong power supply model PSC11R-050

\*\*\*\*\*

### INTERFACE CABLES

\*\*\*\*\*

DEVICE TYPE: Serial

SHIELD: Yes

LENGTH: 2.3 meters

CONNECTOR TYPE: 3 pin Molex type to unterminated

PORT: Serial

\*\*\*\*\*

DEVICE TYPE: Line out

SHIELD: Coax

LENGTH: 1 meter

CONNECTOR TYPE: audio miniplug to jack

PORT: Line out

\*\*\*\*\*

### AC LINE CORDS

\*\*\*\*\*

DEVICE TYPE: Plug in power supply (**DC side**)

SHIELD: Coax

LENGTH: 1.8 meters Ferrite at plug end

CONNECTOR TYPE: dedicated to miniplug

\*\*\*\*\*

# APPENDIX

## C

### Measurement Protocol

Page C1 of C2

*Test Report Number 12F231B*

Product Safety Engineering, Inc 12955 Bellamy Brothers Blvd. Dade City, FL 33525  
Tel (352) 588-2209 Fax (352) 588-2544

ANSI C63.4 2003 was the guiding document for test procedures as required by 47 CFR Part 15 Subpart A Section 15.31(a)(3).

The EUT was powered with an external power supply during the collection of data included within.

The data is compared to the FCC Part 15 Class B limits.

The "EMI" instrumentation is capable of calculating the final emission level based on the following formula:

Level at the receiver (dB $\mu$ V) + Antenna Correction Factor (dB/M) + Cable Loss (dB) - Preamp Gain (dB) = Actual Level in dB $\mu$ V/M.

The sample calculation below is based on the actual test data collected:

Observed Level	<b>50.6</b>	dB $\mu$ V
ACF	+	<b>13.3</b> dB/M
Cable Loss	+	<b>0.6</b> dB
Preamp Gain	-	<b>26.0</b> dB
Actual Level		<b>38.5</b> dB $\mu$ V/M @ 144 MHz

**Please have a company official review this report and sign.**

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