

# TEST REPORT

## 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

Equitrac Corporation  
1000 South Pine Island Rd  
Suite 900  
Plantation, FL 33325

Report Issue Date: 12 Oct 2011

Sample S/N: PC369667

Test Report Number: 11F302C

Model Designation: PC-Copy See page (10) for  
additional models

Sample Receipt Date: 02 Sep 2011

Sample Test Date: see data sheets

Product Description: Page Counter Terminal

FCC ID: Z89-10554001

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

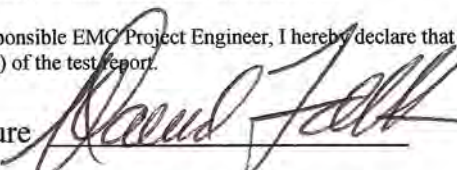
Estimated Measurement Uncertainty: *Not Applicable*

Special limitations of use: *None*

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

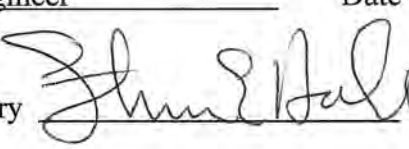
According to testing performed at Product Safety Engineering, Inc., the above-mentioned unit is in compliance with the electromagnetic compatibility requirements defined in regulations indicated on page (3) of the test report. The test results contained herein relate only to the model(s) identified above.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

Title Test Engineer Date \_\_\_\_\_

**Reviewed by:**

Approved Signatory  Steve Hoke Date 12 Oct 2011

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FCC IC: Z89-10554001

Test Report Number 11F302C

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

## DIRECTORY - EMISSIONS

|    |                                        | Page(s)           |
|----|----------------------------------------|-------------------|
| A) | Documentation                          |                   |
|    | Test report                            | 1 - 10            |
|    | Directory                              | 2                 |
|    | Test Regulations                       | 3                 |
|    | General Remarks                        | 10                |
|    | Test-setups (Photos)                   | 11 - 12           |
| B) | Test data                              |                   |
|    | Conducted emissions                    | 150 kHz - 30 MHz  |
|    | Radiated emissions                     | 10 kHz - 30 MHz   |
|    | Radiated emissions                     | 30 MHz - 1000 MHz |
|    | Conducted Emissions - Telecom port     | 150 kHz - 30 MHz  |
|    | Equivalent Radiated emissions          | 1 GHz - 18 GHz    |
|    | Antenna Terminal                       | 30 MHz - 1000 MHz |
| C) | Appendix A                             |                   |
|    | Test Equipment Calibration Information | A2                |
|    | Test Data Sheets                       | A3 - A18          |
| D) | Appendix B                             |                   |
|    | System Under Test Description          | B2 - B3           |
| E) | Appendix C                             |                   |
|    | Measurement Protocol                   | C1 - C2           |

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## EMISSIONS TEST REGULATIONS :

The emissions tests were performed according to following regulations:

☐ - EN 61000-6-3:2001

■ - RSS-210 Issue 7

☐ - EN 55011 : 2006 /A2:2007

☐ - Group 1

☐ - Group 2

☐ - Class A

☐ - Class B

■ - EN 300 330-2 V1.5.1

☐ - EN 55014 -1: 2001/A1:2001 A2:2002

☐ - Household appliances and similar

☐ - Portable tools

☐ - Semiconductor devices

■ - EN 55022:2006/A1:2007

■ - Class A

☐ - Class B

■ - CISPR 22:2005/A1:2005

■ - Class A

☐ - Class B

■ - ICES-003

■ - Class A

☐ - Class B

☐ - CNS 13438

☐ - Class A

☐ - Class B

☐ - VCCI V-3/2007.4

☐ - Class A

☐ - Class B

■ - FCC Part 15 Subpart B

■ - Class A

☐ - Class B

☐ - Certification

☐ - Verification

■ - Declaration of Conformity

■ - FCC Part 15.209

■ - Certification

### Report Revision History

| Release    | Issue Date | Comments                                         |
|------------|------------|--------------------------------------------------|
| Original   | 09/23/2011 | NA                                               |
| Revision 1 | 09/28/2011 | Added additional model numbers                   |
| Revision 2 | 10/12/2011 | (30-1,000) MHz retest with different peripherals |

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**Environmental conditions during testing:**

|                       | LAB   | OATS    |
|-----------------------|-------|---------|
| Temperature: *        | _____ | : _____ |
| Relative Humidity: ** | _____ | : _____ |

\* The ambient temperature during the testing was within the range of (50° - 104° F) unless indicted above.  
\*\* The humidity levels during the testing was within the range of (10% - 90%) relative humidity unless indicated above.

Power supply system : 115 / 60 & 230 / 50

**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 |
| □ - | 3825/2          | 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          |

## 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
- - 10 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        |
| ■ -                        | 8447D        | Hewlett-Packard | Preamplifier (26dB)     | 2944A06832    |
| ■ -                        | 8566B        | Hewlett-Packard | Spectrum Analyzer       | 2421A00526    |
| ■ -                        | 85662A       | Hewlett-Packard | Analyzer Display        | 2403A07352    |
| ■ -                        | 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    |
| ■ -                        | LPA30        | Electro-Metrics | Log Periodic            | 2280          |
| ■ -                        | BIA-30       | Electro-Metrics | Biconical Antenna       | 3852          |
| <input type="checkbox"/> - | 3104C        | EMCO            | Biconical Antenna       | 00075927      |

## Emissions Test Conditions): CONDUCTED EMISSIONS - TELECOMMUNICATIONS PORT

The *INTERFERENCE POWER* measurements were performed in the frequency range 0.15 MHz - 30 MHz at the following test location :

☐ - Test not applicable

- ☐ - Darby Lab
- ☐ -

### Test equipment used :

|                            | Model Number    | Manufacturer       | Description  | Serial Number |
|----------------------------|-----------------|--------------------|--------------|---------------|
| ■ -                        | EMC-30          | Electro-Metrics    | EMI Receiver | 191           |
| <input type="checkbox"/> - | FCC-TLISN-T8-02 | Fischer Custom Com | T-LISN       | 20452         |
| ■ -                        | FCC-TLISN-T4-02 | Fischer Custom Com | T_LISN       | 20454         |
| <input type="checkbox"/> - |                 |                    |              |               |
| <input type="checkbox"/> - |                 |                    |              |               |
| <input type="checkbox"/> - |                 |                    |              |               |

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The *EQUIVALENT RADIATED EMISSIONS* measurements in the frequency range GHz - 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 :

|                            | Model Number | Manufacturer      | Description             | Serial Number |
|----------------------------|--------------|-------------------|-------------------------|---------------|
| <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"/> - | 8449B        | Hewlett-Packard   | Preamplifier            | 3008A00320    |
| <input type="checkbox"/> - | 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

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

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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

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## Emission Test Results:

### Conducted emissions 150 kHz - 30 MHz

The requirements are ☒ - MET ☐ - NOT MET  
Minimum limit margin 17 dB at 16.17 MHz  
Remarks:

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

The requirements are ☒ - MET ☐ - NOT MET  
Minimum limit margin 28.3 dB at 0.125 MHz  
Remarks:

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

The requirements are ☒ - MET ☐ - NOT MET  
Minimum limit margin 1.2 dB at 294.88 MHz  
Remarks:

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

The requirements are ☐ - MET ☐ - NOT MET  
Minimum limit margin dB at MHz  
Remarks:

### Radiated emissions GHz - GHz

The requirements are ☐ - MET ☐ - NOT MET  
Minimum limit margin dB at GHz  
Remarks:

### Conducted Emissions - Telecommunications Port 150kHz - 30 MHz

The requirements are ☒ - MET ☐ - NOT MET  
Minimum limit margin 11.0 dB at 18.38 MHz  
Remarks:

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## GENERAL REMARKS:

We made radiated emission measurements between (0.1) MHz and (1,000) MHz. We followed the measurement procedures detailed in ANSI C63.4-2003.

The EUT was placed in the center of a non-conductive table at a height of (0.8) meters above the ground plane. The worst-case radiation for fundamental and spurious radiation was determined by rotating the EUT (360) degrees and scanning the height of the antenna between (1-4) meters for both antenna polarities when measuring above (30) MHz. When measuring below (30) MHz, the loop antenna was at a fixed (1) meter height and rotated (180) degrees. When the highest level was observed, the data was recorded.

All radiated measurements below (30) MHz reported were made with a PEAK detector. All other measurements were made in either peak or quasi-peak as indicated in the test data. The testing was completed with the RFID transmitter operating in a normal mode.

No spurious emissions were found in any restricted bands of operation listed in 15.205.

Models covered by this report:

PC-Copy

PC- XXXXXX

P/N: PC1CFZ00-X denotes a Model PC-COPY W/HID option only

P/N: PC3CFZ00-X denotes a Model PC-COPY W/HID and QWERTY

## 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 September 07, 2011

Testing End Date: October 11, 2011

- PRODUCT SAFETY ENGINEERING INC -

*Test Report Number 11F302C*

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



*Test Report Number 11F302C*

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

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



*Test Report Number 11F302C*

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# **APPENDIX**

## **A**

### **Test Equipment Calibration Information & Test Data Sheets**

## TEST EQUIPMENT CALIBRATION INFORMATION

| Manufacturer      | Model     | Description             | Serial Number | Cal Due         |
|-------------------|-----------|-------------------------|---------------|-----------------|
| Hewlett Packard   | 8566B     | Spectrum Analyzer       | 2421A00526    | <u>02/03/12</u> |
| Hewlett Packard   | 85662A    | Display                 | 2403A07352    | <u>02/03/12</u> |
| Hewlett Packard   | 85650A    | Quasi-Peak Adapter      | 2043A00209    | <u>02/03/12</u> |
| Hewlett Packard   | 8447D     | Preamp 0.1 - 1,000 MHz  | 2944A06832    | <u>02/10/12</u> |
| Hewlett Packard   | 8568B     | Spectrum Analyzer       | 2407A03213    | _____           |
| Hewlett Packard   | 85662A    | Display                 | 2340A05806    | _____           |
| Hewlett Packard   | 85650A    | Quasi-Peak Adapter      | 2043A00358    | _____           |
| Hewlett Packard   | 8447D     | Preamp 0.1 - 1,000 MHz  | 2944A06901    | _____           |
| Hewlett Packard   | 8447D     | Preamp 0.1 - 1,000 MHz  | 1937A03247    | _____           |
| Hewlett Packard   | 8449B     | Preamp 1 - 26.5 GHz     | 3008A00320    | _____           |
| EMCO              | 3148      | Log Periodic Antenna    | 00044783      | _____           |
| Electro-Metrics   | LPA 30    | Log Periodic Antenna    | 2280          | <u>02/14/12</u> |
| Electro-Metrics   | BIA 30    | Biconical Antenna       | 3852          | <u>04/01/12</u> |
| Electro-Metrics   | BIA 25    | Biconical Antenna       | 4283          | _____           |
| Electro-Mechanics | 3115      | Double Ridge Guide Ant. | 3810          | _____           |
| Electro-Metrics   | ALR30M    | Magnetic Loop Antenna   | 824           | _____           |
| Solar             | 8012      | LISN                    | 924840        | _____           |
| Solar             | 8028      | LISN                    | 829012/809022 | <u>03/31/12</u> |
| Solar             | 8028      | LISN                    | 903725/903726 | _____           |
| Schwartzbeck      | MDS-21    | Absorbing Clamp         | 02581         | _____           |
| Electro-Metrics   | EMC-30    | EMI Receiver            | 191           | <u>07/08/12</u> |
| Antenna Research  | ALA-130/A | Loop Antenna            | 106           | _____           |
| Cole-Palmer       | 9970-00   | Digital Barometer       | 61493735      | _____           |
| EMC Automation    | HLP3003C  | Hybrid Log Periodic     | 017501        | _____           |
| Fischer Custom    | FCC-T4-02 | Telecom ISN             | 20454         | <u>04/25/12</u> |
| Fischer Custom    | FCC-T8-02 | Telecom ISN             | 20452         | _____           |

\* Cal Due Date Format = MM/DD/YY

# Test Data

## Radiated Emissions

(125) kHz

### Limit per FCC Part 15.209

$(2,400 / F(\text{kHz})) \text{ uV/m @ (300) meters}$

$(2,400 / 125) \text{ uV/m @ (300) meters} = (19.2) \text{ uV/m @ (300) meters}$

$20 \text{ Log } (19.2) = (25.7) \text{ dBuV/m @ (300) meters}$

Limit adjustment extrapolated to (10) meters =  $40 \text{ Log } (300/10) = (59.1) \text{ dB}$

Limit @ (10) meters =  $(25.7) + (59.1) = (84.8) \text{ dBuV/m}$

### Compliance Data

Measured field strength = dBuV + ACF + Cable loss - Preamp Gain

$22 \text{ dBuV} + 58.5 \text{ dB} + 1.0 - 25 \text{ dB} = 56.5$

Measured field strength of signal @ (125) kHz = (56.5) dBuV/m

Limit - field strength = margin

Margin =  $(84.8) - (56.5) = (28.3) \text{ dB}$

PRODUCT EMISSIONS

PSE OPEN AREA TEST SITE

Data File: EQUITRAC PCCOPY W/HID CIS-A OCT11

| No | EMISSION         | SPEC            | MEASUREMENTS |            |      | SITE |           |            | CORR         | COMMENTS |
|----|------------------|-----------------|--------------|------------|------|------|-----------|------------|--------------|----------|
|    | FREQUENCY<br>MHz | LIMIT<br>dBuV/m | ABS          | dLIM<br>dB | MODE | POL  | HGT<br>cm | AZM<br>deg | FACTOR<br>dB |          |
| 1  | 30.157           | 40.0            | 35.8         | -4.2       | QP   | V    | 100       | 315        | -16.2        |          |
| 2  | 32.306           | 40.0            | 34.3         | -5.7       | PK   | V    | 150       | 180        | -16.6        |          |
| 3  | 36.005           | 40.0            | 35.7         | -4.4       | PK   | V    | 100       | 225        | -17.3        |          |
| 4  | 45.621           | 40.0            | 34.6         | -5.4       | QP   | V    | 150       | 180        | -18.2        |          |
| 5  | 49.999           | 40.0            | 36.3         | -3.7       | PK   | V    | 100       | 135        | -18.2        |          |
| 6  | 64.807           | 40.0            | 35.2         | -4.8       | PK   | V    | 100       | 225        | -19.         |          |
| 7  | 66.285           | 40.0            | 37.8         | -2.2       | QP   | V    | 200       | 315        | -19.2        |          |
| 8  | 71.999           | 40.0            | 35.0         | -5.0       | PK   | V    | 100       | 225        | -20.3        |          |
| 9  | 73.33            | 40.0            | 36.0         | -4.0       | PK   | V    | 100       | 1          | -20.5        |          |
| 10 | 82.040           | 40.0            | 35.2         | -4.8       | PK   | V    | 100       | 1          | -21.4        |          |
| 11 | 100.000          | 40.0            | 33.4         | -6.6       | PK   | H    | 250       | 90         | -16.6        |          |
| 12 | 109.19           | 40.0            | 34.9         | -5.1       | PK   | V    | 100       | 1          | -15.4        |          |
| 13 | 122.870          | 40.0            | 35.6         | -4.4       | PK   | V    | 100       | 1          | -14.7        |          |
| 14 | 125.001          | 40.0            | 33.7         | -6.3       | PK   | V    | 100       | 315        | -14.9        |          |
| 15 | 129.479          | 40.0            | 32.2         | -7.9       | PK   | V    | 100       | 45         | -15.3        |          |
| 16 | 143.995          | 40.0            | 32.7         | -7.3       | PK   | V    | 100       | 1          | -14.2        |          |
| 17 | 146.629          | 40.0            | 33.4         | -6.6       | PK   | V    | 100       | 90         | -13.9        |          |
| 18 | 150.005          | 40.0            | 33.3         | -6.7       | PK   | V    | 100       | 135        | -13.5        |          |
| 19 | 154.484          | 40.0            | 34.4         | -5.6       | PK   | V    | 100       | 45         | -13.6        |          |
| 20 | 169.510          | 40.0            | 30.7         | -9.3       | PK   | V    | 100       | 90         | -12.5        |          |
| 21 | 175.000          | 40.0            | 33.8         | -6.2       | PK   | V    | 100       | 135        | -12.2        |          |
| 22 | 185.776          | 40.0            | 36.5         | -3.5       | PK   | V    | 100       | 135        | -11.2        |          |
| 23 | 190.939          | 40.0            | 36.7         | -3.3       | PK   | V    | 150       | 225        | -10.6        |          |
| 24 | 191.572          | 40.0            | 38.0         | -2.0       | QP   | V    | 100       | 180        | -10.6        |          |
| 25 | 198.775          | 40.0            | 34.9         | -5.1       | PK   | V    | 100       | 180        | -10.7        |          |
| 26 | 199.982          | 40.0            | 34.0         | -6.0       | QP   | H    | 300       | 135        | -10.7        |          |
| 27 | 201.663          | 40.0            | 35.9         | -4.1       | PK   | V    | 100       | 180        | -15.9        |          |
| 28 | 221.196          | 40.0            | 37.3         | -2.7       | QP   | V    | 100       | 225        | -15.1        |          |
| 29 | 224.994          | 40.0            | 37.5         | -2.5       | QP   | V    | 100       | 225        | -15.         |          |
| 30 | 226.830          | 40.0            | 35.8         | -4.2       | PK   | V    | 100       | 180        | -14.9        |          |
| 31 | 229.390          | 40.0            | 37.3         | -2.7       | QP   | V    | 100       | 225        | -14.8        |          |
| 32 | 245.761          | 47.0            | 42.5         | -4.5       | QP   | H    | 350       | 225        | -14.2        |          |
| 33 | 275.000          | 47.0            | 42.8         | -4.2       | QP   | V    | 150       | 135        | -12.3        |          |
| 34 | 294.885          | 47.0            | 45.8         | -1.2       | QP   | H    | 350       | 180        | -11.         |          |
| 35 | 299.981          | 47.0            | 41.2         | -5.8       | PK   | H    | 300       | 135        | -10.7        |          |
| 36 | 324.983          | 47.0            | 42.4         | -4.6       | PK   | H    | 300       | 135        | -10.9        |          |
| 37 | 344.045          | 47.0            | 43.5         | -3.5       | QP   | H    | 200       | 270        | -11.3        |          |
| 38 | 374.996          | 47.0            | 41.0         | -6.0       | PK   | V    | 200       | 225        | -11.4        |          |
| 39 | 399.995          | 47.0            | 40.7         | -6.3       | PK   | V    | 100       | 315        | -11.2        |          |
| 40 | 491.507          | 47.0            | 41.9         | -5.1       | PK   | H    | 150       | 45         | -8.6         |          |
| 41 | 500.000          | 47.0            | 40.9         | -6.1       | PK   | V    | 100       | 270        | -8.3         |          |
| 42 | 699.980          | 47.0            | 38.9         | -8.1       | PK   | H    | 100       | 225        | -4.8         |          |
| 43 | 750.009          | 47.0            | 40.6         | -6.4       | PK   | V    | 100       | 180        | -4.6         |          |
| 44 | 875.000          | 47.0            | 41.8         | -5.2       | PK   | V    | 100       | 180        | -1.8         |          |
| 45 | 924.998          | 47.0            | 41.8         | -5.2       | PK   | H    | 100       | 135        | -1.3         |          |
| 46 | 999.999          | 47.0            | 39.5         | -7.5       | PK   | H    | 100       | 180        | 0.6          |          |



# Product Safety Engineering

EQUITRAC PAGECOUNTER WITH HID

Date : 09/09/11

Time : 06:58:46.82

Technician : CHIP FOERSTNER

Test Equip.: EMC-30

Test Method : EN55022 CLASS A

Test Number : 1

Equipment : PC COPY

Sensor Loc. : SIDE 1

Mode of Op. : NORMAL

Sensor Pol. :

Ext. Atten. : 0 dB

Serial No. :

EMC-30 SETTINGS

Detector QuasiPeak

Bandwidth CISPR

Dump/Dwell IN/A

RF Atten. 10 dB

IF Atten. 10 dB

SPECS

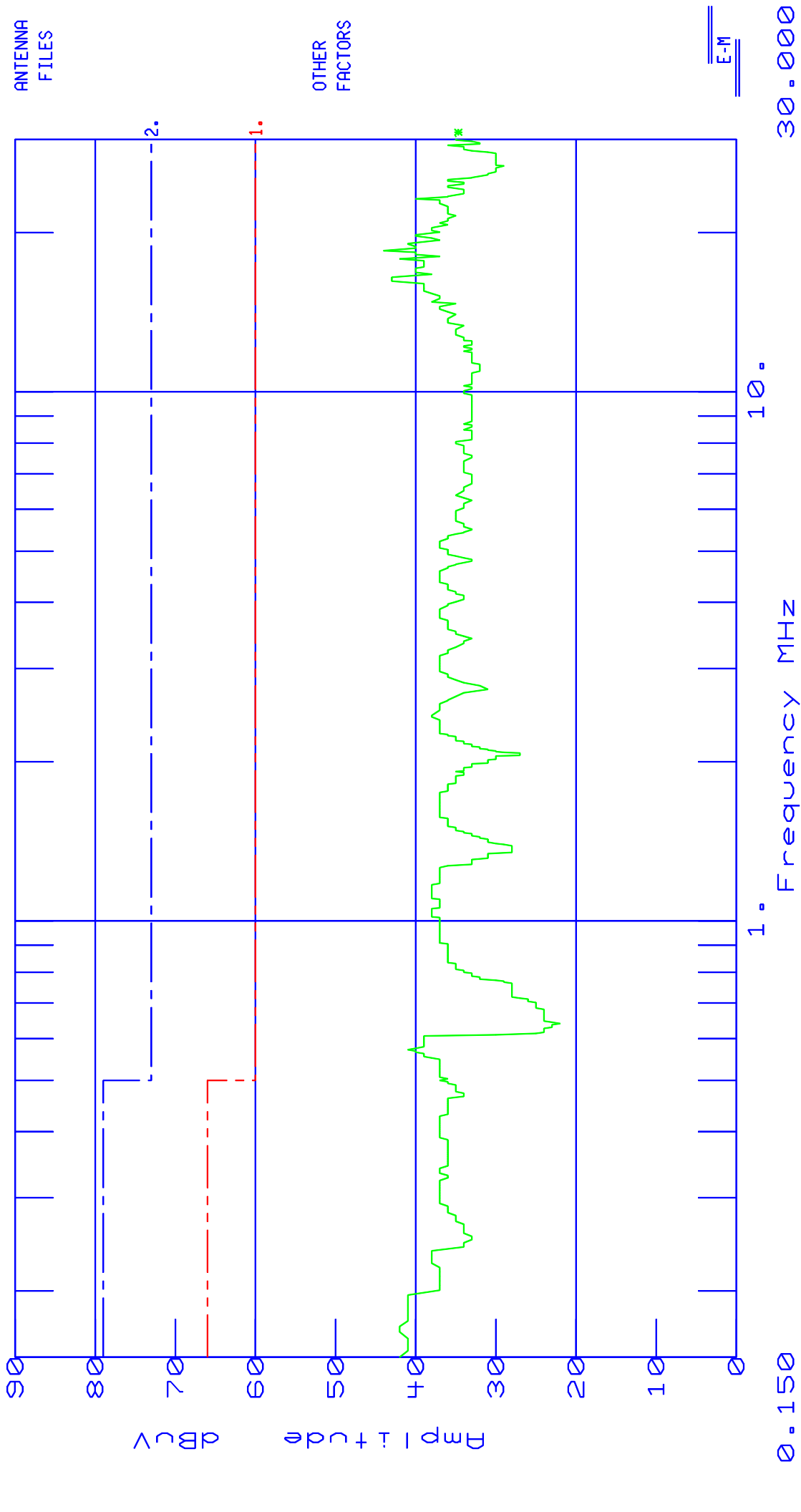
1) CISPR22 AVERAGE

2) CISPR 22 QUASI PEAK

3)

4)

Comment : 230 VAC / 50 HZ SINO-AMERICAN POWER SUPPLY MODEL #SA120G-05V



TEST TITLE:EQUITRAC PAGECOUNTER WITH HID

DATA FILE : 302-1

Amplitude Units : dBuV

Threshold -22 dB

PAGE 1

Freq.(MHz)

0.1500

| Freq(MHz) | Amp  | C22AAVG.S30<br>vs Spec(dB) | C22AQP.S30<br>vs Spec(dB) |
|-----------|------|----------------------------|---------------------------|
| 0.5511    | 38.0 | -22.000 *                  |                           |
| 0.5545    | 39.0 | -21.000 *                  |                           |
| 0.5580    | 39.0 | -21.000 *                  |                           |
| 0.5614    | 39.0 | -21.000 *                  |                           |
| 0.5648    | 40.0 | -20.000 *                  |                           |
| 0.5682    | 40.0 | -20.000 *                  |                           |
| 0.5716    | 41.0 | -19.000 *                  |                           |
| 0.5750    | 40.0 | -20.000 *                  |                           |
| 0.5791    | 39.0 | -21.000 *                  |                           |
| 0.5825    | 39.0 | -21.000 *                  |                           |
| 0.5859    | 39.0 | -21.000 *                  |                           |
| 0.5893    | 39.0 | -21.000 *                  |                           |
| 0.5927    | 39.0 | -21.000 *                  |                           |
| 0.5961    | 39.0 | -21.000 *                  |                           |
| 0.5995    | 39.0 | -21.000 *                  |                           |
| 0.6029    | 39.0 | -21.000 *                  |                           |
| 0.6063    | 39.0 | -21.000 *                  |                           |
| 1.0180    | 38.0 | -22.000 *                  |                           |
| 1.0214    | 38.0 | -22.000 *                  |                           |
| 1.0248    | 38.0 | -22.000 *                  |                           |
| 1.0279    | 38.0 | -22.000 *                  |                           |
| 1.0313    | 38.0 | -22.000 *                  |                           |
| 1.0347    | 38.0 | -22.000 *                  |                           |
| 1.0381    | 38.0 | -22.000 *                  |                           |
| 1.0415    | 38.0 | -22.000 *                  |                           |
| 1.0449    | 38.0 | -22.000 *                  |                           |
| 1.0483    | 38.0 | -22.000 *                  |                           |
| 1.0517    | 38.0 | -22.000 *                  |                           |
| 1.0551    | 38.0 | -22.000 *                  |                           |
| 1.1034    | 38.0 | -22.000 *                  |                           |
| 1.1101    | 38.0 | -22.000 *                  |                           |
| 1.1169    | 38.0 | -22.000 *                  |                           |
| 1.1237    | 38.0 | -22.000 *                  |                           |
| 1.1304    | 38.0 | -22.000 *                  |                           |
| 1.1372    | 38.0 | -22.000 *                  |                           |
| 1.1439    | 38.0 | -22.000 *                  |                           |
| 1.1507    | 38.0 | -22.000 *                  |                           |
| 1.1574    | 38.0 | -22.000 *                  |                           |
| 1.1642    | 38.0 | -22.000 *                  |                           |
| 1.1710    | 38.0 | -22.000 *                  |                           |
| 2.4317    | 38.0 | -22.000 *                  |                           |
| 2.4458    | 38.0 | -22.000 *                  |                           |
| 14.7927   | 38.0 | -22.000 *                  |                           |
| 15.3428   | 38.0 | -22.000 *                  |                           |
| 15.5105   | 39.0 | -21.000 *                  |                           |
| 15.6782   | 39.0 | -21.000 *                  |                           |
| 15.7184   | 39.0 | -21.000 *                  |                           |
| 16.0102   | 39.0 | -21.000 *                  |                           |
| 16.1779   | 43.0 | -17.000 *                  |                           |
| 16.3456   | 43.0 | -17.000 *                  |                           |
| 16.4664   | 43.0 | -17.000 *                  |                           |
| 16.6810   | 38.0 | -22.000 *                  |                           |
| 16.8118   | 40.0 | -20.000 *                  |                           |
| 17.0158   | 40.0 | -20.000 *                  |                           |
| 17.1194   | 40.0 | -20.000 *                  |                           |
| 17.2197   | 39.0 | -21.000 *                  |                           |

# Product Safety Engineering

EQUITRAC PAGECOUNTER WITH HID

Date : 09/09/11

Time : 07:34:10.23

Technician : CHIP FOERSTNER

Test Equip.: EMC-30

Test Method : EN55022 CLASS A

Test Number : 1

Equipment : PC COPY

Sensor Loc. : SIDE 2

Mode of Op. : NORMAL

Sensor Pol. :

Ext. Atten. : 0 dB

Serial No. :

EMC-30 SETTINGS

Detector QuasiPeak

Bandwidth CISPR

Dump/Dwell IN/A

RF Atten. 10 dB

IF Atten. 10 dB

SPECS

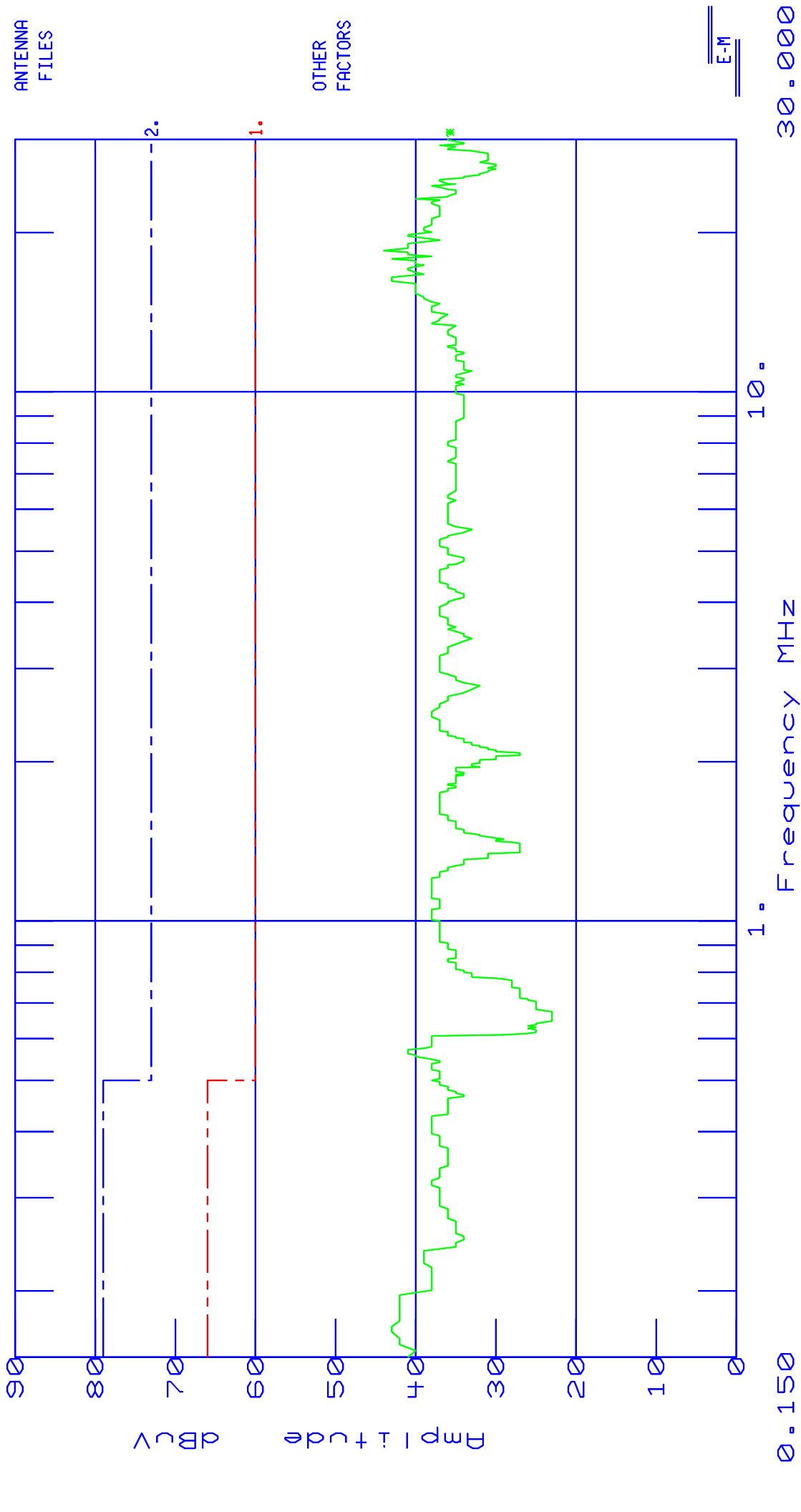
1) CISPR22 AVERAGE

2) CISPR 22 QUASI PEAK

3)

4)

Comment : 230 VAC / 50 HZ SINO-AMERICAN POWER SUPPLY MODEL #SA120G-05V



TEST TITLE: EQUITRAC PAGECOUNTER WITH HID

DATA FILE : 302-2

Amplitude Units : dBuV

Threshold -20 dB

PAGE 1

Freq. (MHz)

0.1500

| Freq(MHz) | Amp  | C22AAVG.S30<br>vs Spec(dB) | C22AQP.S30<br>vs Spec(dB) |
|-----------|------|----------------------------|---------------------------|
| 0.5545    | 40.0 | -20.000 *                  |                           |
| 0.5580    | 40.0 | -20.000 *                  |                           |
| 0.5614    | 41.0 | -19.000 *                  |                           |
| 0.5648    | 41.0 | -19.000 *                  |                           |
| 0.5682    | 41.0 | -19.000 *                  |                           |
| 0.5716    | 41.0 | -19.000 *                  |                           |
| 15.3428   | 40.0 | -20.000 *                  |                           |
| 15.4098   | 40.0 | -20.000 *                  |                           |
| 15.6782   | 40.0 | -20.000 *                  |                           |
| 15.7184   | 40.0 | -20.000 *                  |                           |
| 16.0102   | 40.0 | -20.000 *                  |                           |
| 16.1779   | 43.0 | -17.000 *                  |                           |
| 16.3456   | 43.0 | -17.000 *                  |                           |
| 16.4664   | 43.0 | -17.000 *                  |                           |
| 16.8118   | 40.0 | -20.000 *                  |                           |
| 17.0158   | 41.0 | -19.000 *                  |                           |
| 17.1194   | 41.0 | -19.000 *                  |                           |
| 17.4269   | 40.0 | -20.000 *                  |                           |
| 17.6808   | 40.0 | -20.000 *                  |                           |
| 17.8279   | 43.0 | -17.000 *                  |                           |
| 18.1721   | 41.0 | -19.000 *                  |                           |
| 18.3492   | 41.0 | -19.000 *                  |                           |
| 18.4795   | 44.0 | -16.000 *                  |                           |
| 18.6834   | 41.0 | -19.000 *                  |                           |
| 18.8237   | 41.0 | -19.000 *                  |                           |
| 19.0176   | 41.0 | -19.000 *                  |                           |
| 19.0610   | 41.0 | -19.000 *                  |                           |
| 19.6853   | 41.0 | -19.000 *                  |                           |
| 19.8060   | 41.0 | -19.000 *                  |                           |
| 23.1665   | 40.0 | -20.000 *                  |                           |

# Product Safety Engineering

EQUITRAC PAGECOUNTER WITH HID

Date : 09/09/11

Time : 09:07:04.40

Technician : CHIP FOERSTNER

Test Equip.: EMC-30

Test Method : EN55022 CLASS A

Test Number : 1

Equipment : PC COPY

Sensor Loc. : LINE

Mode of Op. : NORMAL

Sensor Pol. :

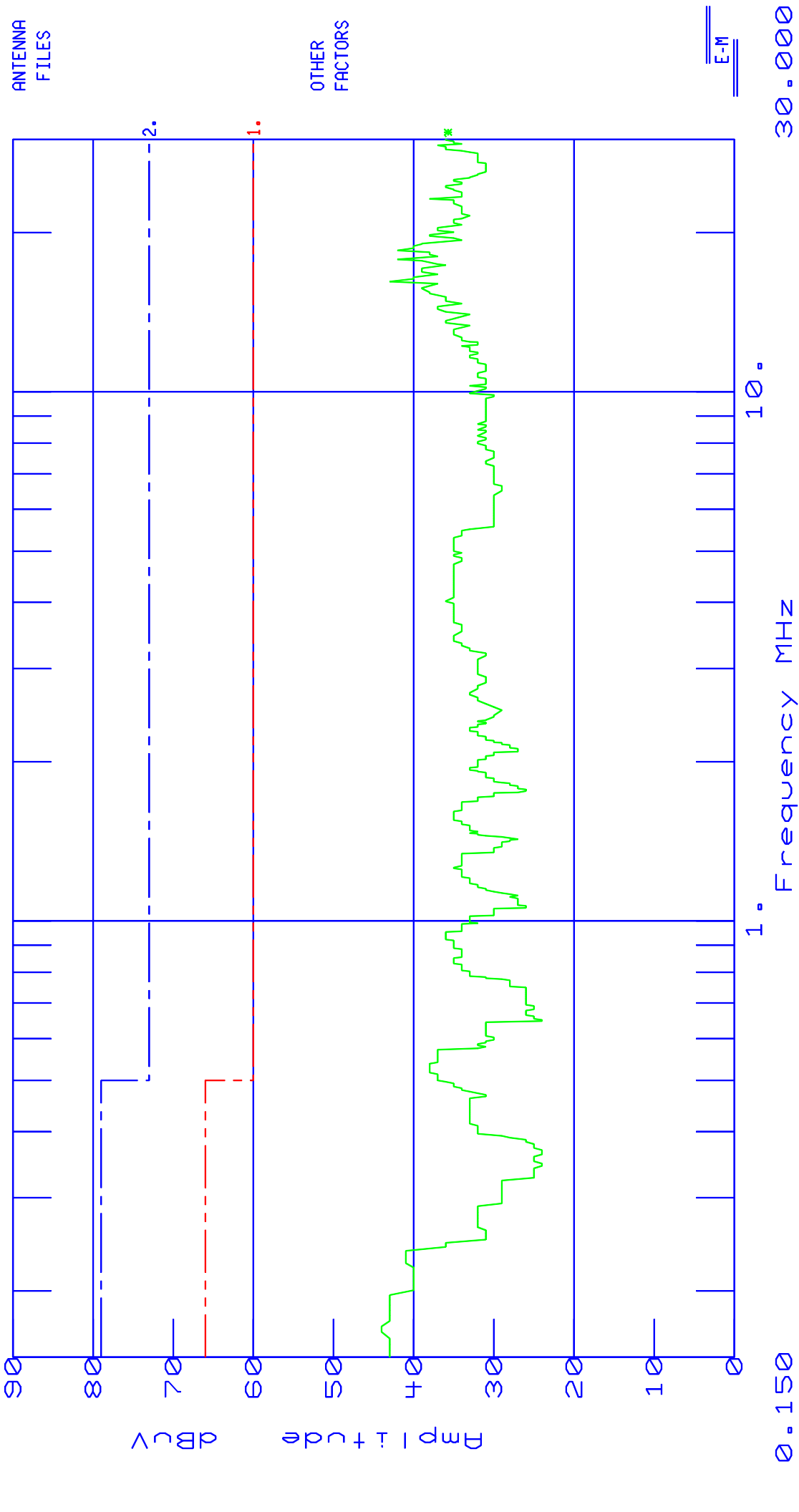
Serial No. :

Ext. Atten. : 0 dB

EMC-30 SETTINGS  
Detector QuasiPeak  
Bandwidth CISPR  
Dump/DwellIN/A  
RF Atten. 10 dB  
IF Atten. 10 dB

SPECS  
1) CISPR22 AVERAGE  
2) CISPR 22 QUASI PEAK  
3)  
4)

Comment : 120 VAC / 60 HZ SINO-AMERICAN POWER SUPPLY MODEL #SA120G-05V



TEST TITLE:EQUITRAC PAGECOUNTER WITH HID

DATA FILE : 302-L

Amplitude Units : dBuV

Threshold -22 dB

PAGE 1

Freq.(MHz)

0.1500

| Freq(MHz) | Amp  | C22AAVG.S30<br>vs Spec(dB) | C22AQP.S30<br>vs Spec(dB) |
|-----------|------|----------------------------|---------------------------|
| 0.1673    | 44.0 | -22.000 *                  |                           |
| 0.1715    | 44.0 | -22.000 *                  |                           |
| 0.5170    | 38.0 | -22.000 *                  |                           |
| 0.5205    | 38.0 | -22.000 *                  |                           |
| 0.5239    | 38.0 | -22.000 *                  |                           |
| 0.5273    | 38.0 | -22.000 *                  |                           |
| 0.5307    | 38.0 | -22.000 *                  |                           |
| 0.5341    | 38.0 | -22.000 *                  |                           |
| 0.5375    | 38.0 | -22.000 *                  |                           |
| 15.3428   | 38.0 | -22.000 *                  |                           |
| 15.4098   | 38.0 | -22.000 *                  |                           |
| 15.6782   | 39.0 | -21.000 *                  |                           |
| 15.7184   | 39.0 | -21.000 *                  |                           |
| 16.1578   | 43.0 | -17.000 *                  |                           |
| 16.3456   | 40.0 | -20.000 *                  |                           |
| 16.4664   | 40.0 | -20.000 *                  |                           |
| 16.8487   | 39.0 | -21.000 *                  |                           |
| 17.0158   | 39.0 | -21.000 *                  |                           |
| 17.1194   | 39.0 | -21.000 *                  |                           |
| 17.6808   | 39.0 | -21.000 *                  |                           |
| 17.7878   | 42.0 | -18.000 *                  |                           |
| 18.1721   | 38.0 | -22.000 *                  |                           |
| 18.3492   | 38.0 | -22.000 *                  |                           |
| 18.5063   | 42.0 | -18.000 *                  |                           |
| 18.6834   | 40.0 | -20.000 *                  |                           |
| 18.8438   | 40.0 | -20.000 *                  |                           |
| 19.0176   | 39.0 | -21.000 *                  |                           |
| 19.0610   | 39.0 | -21.000 *                  |                           |
| 19.6853   | 38.0 | -22.000 *                  |                           |
| 19.8060   | 38.0 | -22.000 *                  |                           |
| 23.1632   | 38.0 | -22.000 *                  |                           |

Product Safety Engineering

EQUITRAC PAGECOUNTER WITH HID

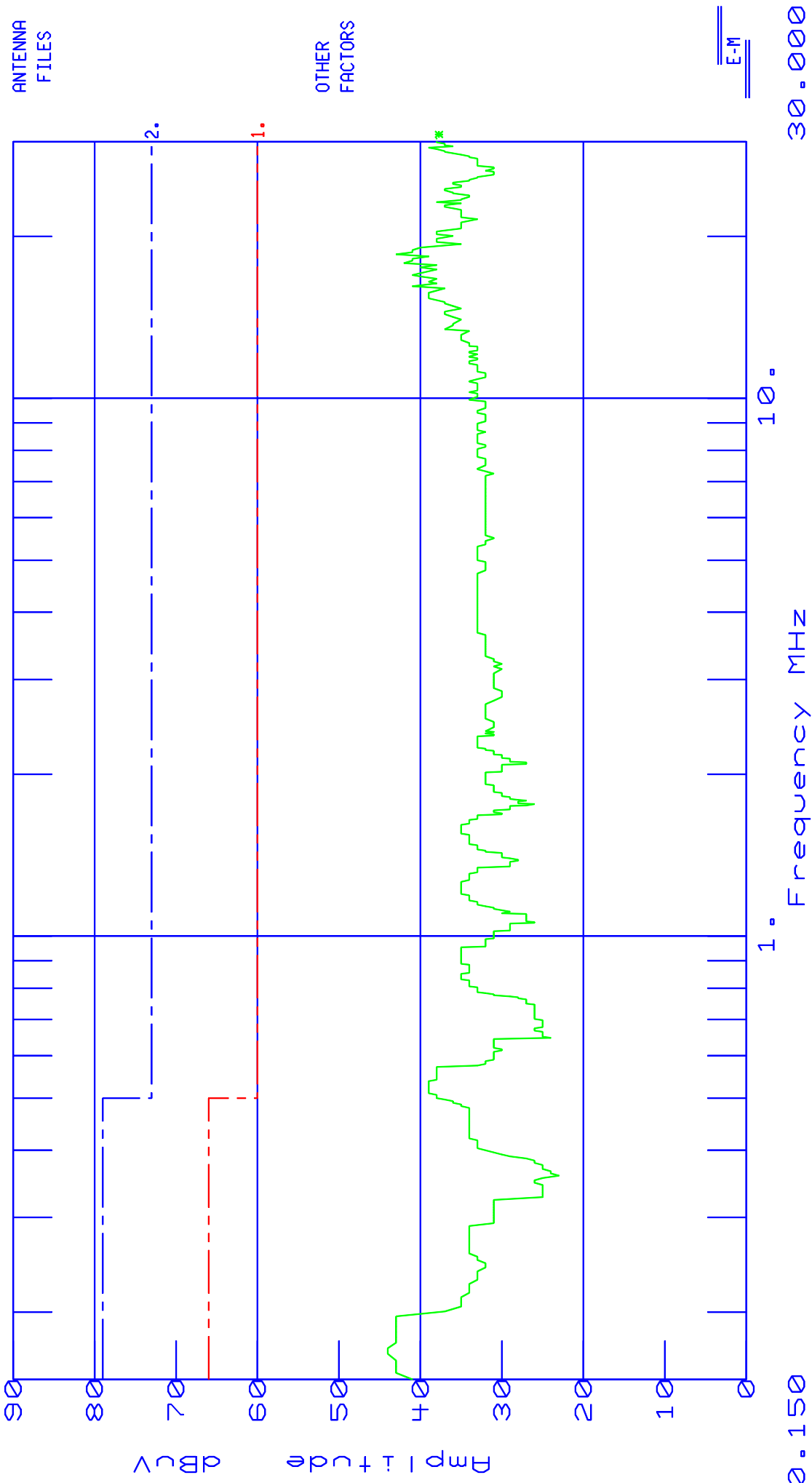
Date : 09/09/11  
Technician : CHIP FOERSTNER  
Test Method : EN55022 CLASS A  
Equipment : PC COPY  
Mode of Op. : NORMAL  
Serial No. :

Time : 09:43:49.83  
Test Equip. : EMC-30  
Test Number : 1  
Sensor Loc. : NEUTRAL  
Sensor Pol. :  
Ext. Atten. : 0 dB

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

SPECS  
1) CISPR22 AVERAGE  
2) CISPR 22 QUASI PEAK  
3)  
4)

Comment : 120 VAC / 60 HZ SINO-AMERICAN POWER SUPPLY MODEL #SA120G-05V



| Freq(MHz) | Amp  | C22AAVG.S30<br>vs Spec(dB) | C22AQP.S30<br>vs Spec(dB) |
|-----------|------|----------------------------|---------------------------|
| 0.5102    | 39.0 | -21.000 *                  |                           |
| 0.5136    | 39.0 | -21.000 *                  |                           |
| 0.5170    | 39.0 | -21.000 *                  |                           |
| 0.5205    | 39.0 | -21.000 *                  |                           |
| 0.5239    | 39.0 | -21.000 *                  |                           |
| 0.5273    | 39.0 | -21.000 *                  |                           |
| 0.5307    | 39.0 | -21.000 *                  |                           |
| 0.5341    | 39.0 | -21.000 *                  |                           |
| 0.5375    | 39.0 | -21.000 *                  |                           |
| 15.3428   | 39.0 | -21.000 *                  |                           |
| 15.5105   | 39.0 | -21.000 *                  |                           |
| 15.6782   | 39.0 | -21.000 *                  |                           |
| 15.7184   | 39.0 | -21.000 *                  |                           |
| 16.1578   | 41.0 | -19.000 *                  |                           |
| 16.4664   | 39.0 | -21.000 *                  |                           |
| 16.8487   | 40.0 | -20.000 *                  |                           |
| 16.9423   | 41.0 | -19.000 *                  |                           |
| 17.0827   | 40.0 | -20.000 *                  |                           |
| 17.5104   | 40.0 | -20.000 *                  |                           |
| 17.8279   | 42.0 | -18.000 *                  |                           |
| 18.0150   | 41.0 | -19.000 *                  |                           |
| 18.1721   | 41.0 | -19.000 *                  |                           |
| 18.3492   | 39.0 | -21.000 *                  |                           |
| 18.5163   | 43.0 | -17.000 *                  |                           |
| 18.6834   | 41.0 | -19.000 *                  |                           |
| 18.8505   | 41.0 | -19.000 *                  |                           |
| 18.8605   | 41.0 | -19.000 *                  |                           |
| 19.0610   | 40.0 | -20.000 *                  |                           |
| 29.2233   | 39.0 | -21.000 *                  |                           |



# Product Safety Engineering

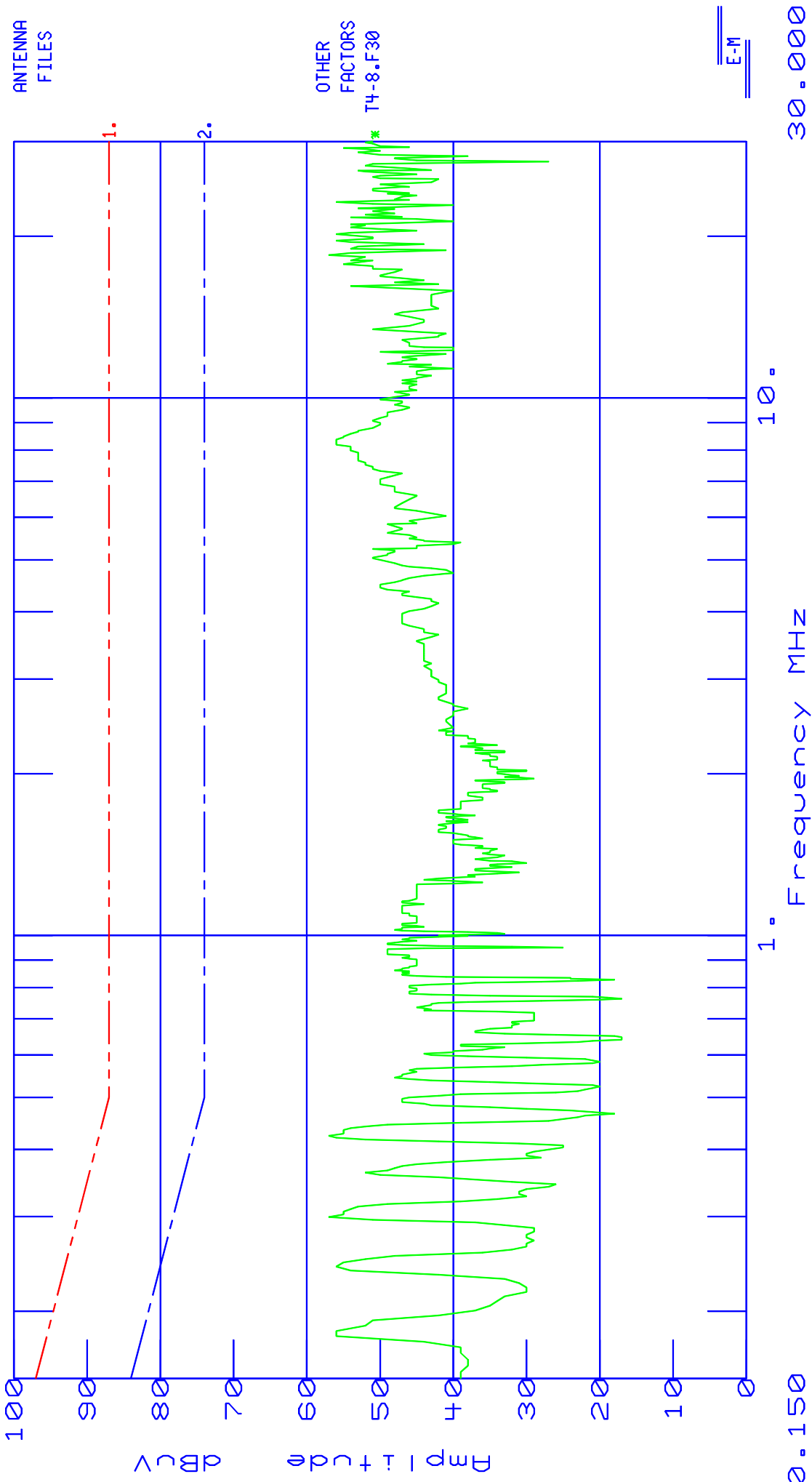
EQUITRAC PAGECOUNTER WITH HID

Date : 09/09/11 Time : 05:41:59.45  
Technician : CHIP FOERSTNER Test Equip. : EMC-30  
Test Method : EN55022 CLASS A Test Number : 1  
Equipment : PC COPY Sensor Loc. : ETHERNET 1  
Mode of Op. : LOOP BACK TRANSMISS Sensor Pol. :  
Serial No. : Ext. Atten. : 0 dB

Comment : 230 VAC / 50 HZ

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

SPECS  
1) Default Spec (same as V885)  
2) Default Spec (same as V885)  
3)  
4)



| Freq(MHz) | Amp  | ETHAQP.S30<br>vs Spec(dB) | ETHAAVG.S30<br>vs Spec(dB) |
|-----------|------|---------------------------|----------------------------|
| 0.4243    | 57.0 |                           | -18.364 *                  |
| 8.1862    | 56.0 |                           | -18.000 *                  |
| 8.2535    | 56.0 |                           | -18.000 *                  |
| 8.3207    | 56.0 |                           | -18.000 *                  |
| 8.3678    | 56.0 |                           | -18.000 *                  |
| 8.4553    | 55.0 |                           | -19.000 *                  |
| 8.4754    | 55.0 |                           | -19.000 *                  |
| 17.7410   | 55.0 |                           | -19.000 *                  |
| 18.4361   | 57.0 |                           | -17.000 *                  |
| 19.6283   | 56.0 |                           | -18.000 *                  |
| 20.1648   | 56.0 |                           | -18.000 *                  |
| 23.1632   | 56.0 |                           | -18.000 *                  |
| 29.1728   | 55.0 |                           | -19.000 *                  |

# Product Safety Engineering

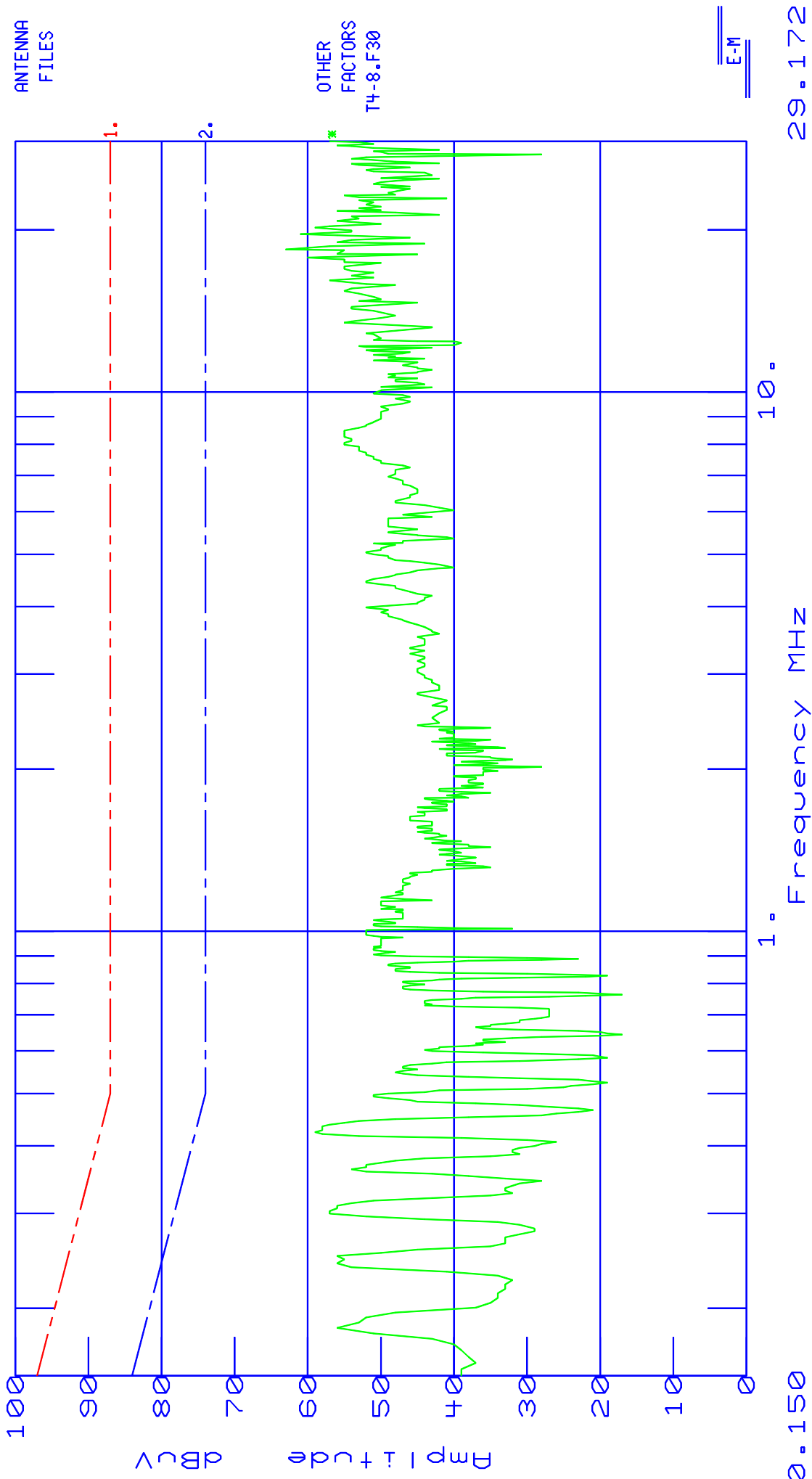
EQUITRAC PAGECOUNTER WITH HID

Date : 09/09/11 Time : 05:05:45.60  
Technician : CHIP FOERSTNER Test Equip. : EMC-30  
Test Method : EN55022 CLASS A Test Number : 1  
Equipment : PC COPY Sensor Loc. : ETHERNET 2  
Mode of Op. : LOOP BACK TRANSMISS Sensor Pol. :  
Serial No. : Ext. Atten. : 0 dB

Comment : 230 VAC / 50 HZ

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

SPECS  
1) Default Spec (same as V885)  
2) Default Spec (same as V885)  
3)  
4)



| Freq(MHz) | Amp  | ETHAQP.S30<br>vs Spec(dB) | ETHAAVG.S30<br>vs Spec(dB) |
|-----------|------|---------------------------|----------------------------|
| 0.4208    | 58.0 |                           | -17.432 *                  |
| 0.4243    | 59.0 |                           | -16.364 *                  |
| 0.4277    | 58.0 |                           | -17.296 *                  |
| 0.4312    | 58.0 |                           | -17.229 *                  |
| 0.4347    | 58.0 |                           | -17.163 *                  |
| 16.1075   | 57.0 |                           | -17.000 *                  |
| 17.7477   | 60.0 |                           | -14.000 *                  |
| 18.0284   | 56.0 |                           | -18.000 *                  |
| 18.3826   | 63.0 |                           | -11.000 *                  |
| 18.6199   | 57.0 |                           | -17.000 *                  |
| 18.9507   | 56.0 |                           | -18.000 *                  |
| 19.5176   | 56.0 |                           | -18.000 *                  |
| 19.6316   | 61.0 |                           | -13.000 *                  |
| 20.1682   | 59.0 |                           | -15.000 *                  |
| 20.2956   | 57.0 |                           | -17.000 *                  |
| 20.7551   | 56.0 |                           | -18.000 *                  |
| 21.6689   | 56.0 |                           | -18.000 *                  |
| 28.6621   | 56.0 |                           | -18.000 *                  |
| 29.1728   | 57.0 |                           | -17.000 *                  |

## **Compliance Checklist (per EN 300 330-2) V1.5.1**

### **Section 4 TECHNICAL REQUIREMENT SPECIFICATIONS**

#### **4.2.1.1 Radiated H-field**

The radiated H-field, as defined in EN 300 330-1 [2], clause 7.2.1.1, shall not exceed the limits in EN 300 330-1 [2], clause 7.2.1.3, table 4. This requirement applies to transmitters with an integral or dedicated loop antenna. Testing was performed at both normal and extremes. Measurements made at (10) meters.

| <b>Frequency Band (kHz)</b> | <b>Limit dBuA/m @<br/>10 m</b> | <b>Frequency<br/>Measured (kHz)</b> | <b>H-Field<br/>dBuA/m</b> | <b>Margin (dB)</b> |
|-----------------------------|--------------------------------|-------------------------------------|---------------------------|--------------------|
| 119 - 135                   | 66.0                           | 125.06                              | 5.0                       | >20                |

#### **4.2.1.2 Carrier Current**

Not applicable - Product Class 3 only

#### **4.2.1.3 Radiated E-Field**

Not applicable - Product Class 4 only

#### **4.2.1.4 Permitted frequency range of modulation bandwidth**

The permitted range of the modulation bandwidth shall be within the limits of the assigned frequency band. The EUT complies based on results shown within table of 4.2.1.1. Testing was performed at both normal and extremes.

| <b>Frequency Band (kHz)</b> | <b>Voltage</b> | <b>Temperature</b> | <b>Frequency<br/>(kHz)</b> | <b>Pass / Fail</b> |
|-----------------------------|----------------|--------------------|----------------------------|--------------------|
| 119 - 135                   | 207            | 22c                | 125.03                     | Pass               |
| 119 - 135                   | 253            | 22c                | 125.03                     | Pass               |
| 119 - 135                   | 230            | -20c               | 125.025                    | Pass               |
| 119 - 135                   | 230            | +55c               | 125.16                     | Pass               |

#### **4.2.1.5 Spurious Emissions**

##### **4.2.1.5.1 Conducted spurious emissions at frequencies below 30 MHz**

Not applicable - Product Class 3 only

##### **4.2.1.5.2 Conducted spurious emissions at frequencies above 30 MHz**

Not applicable - Product Class 3 only

##### **4.2.1.5.3 Radiated spurious emissions at frequencies below 30 MHz**

The EUT complies based on results shown within table of 4.2.1.1.

##### **4.2.1.5.4 Radiated spurious emissions at frequencies above 30 MHz**

No emissions were observed that exceeded the limit shown in table 8 of 300-330-1.

#### **4.2.1.56 Duty Cycle**

The device is declared to be a duty cycle class 4.

# **APPENDIX**

## **B**

### **System Under Test Description**

## SYSTEM COMPONENTS

\*\*\*\*\*

DEVICE TYPE: EUT, Equitrac PageCounter model# PC COPY with HID Reader  
Power supply: Sino-American SA-120G-05V

\*\*\*\*\*

DEVICE TYPE: TrendNET Router model# TW100-BVR204/A (Support Equipment)  
Power supply: AC-DC adapter model# MW41-0900700 9VDC output

\*\*\*\*\*

DEVICE TYPE: Fluke 45 Multimeter (Support Equipment)

\*\*\*\*\*

DEVICE TYPE: HID proximity access card to activate HID reader

\*\*\*\*\*

## INTERFACE CABLES

\*\*\*\*\*

DEVICE TYPE: EUT  
SHIELD: No  
LENGTH: 1 Meter Bundle  
CONNECTOR TYPE: RJ45 to Trendnet Router (Router Active ON)  
PORT: Expansion

\*\*\*\*\*

DEVICE TYPE: EUT  
SHIELD: No  
LENGTH: 1 Meter Bundle  
CONNECTOR TYPE: RJ 45 to Trendnet Router (Router Active ON)  
PORT: Ethernet

\*\*\*\*\*

DEVICE TYPE: EUT  
SHIELD: Yes  
LENGTH: 1 Meter Bundled  
CONNECTOR TYPE: 9 pin Dsub to same as Fluke 45 Multimeter (Meter powered OFF)  
PORT: Serial port

\*\*\*\*\*

DEVICE TYPE: EUT  
SHIELD: Yes  
LENGTH: 1 Meter Bundled  
CONNECTOR TYPE: 26 pin Dsub to Resistive 1kOhm Load as terminator  
PORT: Copy control

\*\*\*\*\*



## AC LINE CORDS

\*\*\*\*\*

DEVICE TYPE: EUT PS

SHIELD: No

LENGTH: 6 feet

CONNECTOR TYPE: IEC to dedicated

\*\*\*\*\*

DEVICE TYPE: EUT PS (DC side)

SHIELD: No

LENGTH: 5 feet

CONNECTOR TYPE: dedicated 4 pin DIN, ferrite at PS end

\*\*\*\*\*

# **APPENDIX**

## **C**

### **Measurement Protocol**

ANSCI 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 (230) VAC during the collection of data included within.

The data is compared to the CISPR-22 Class A 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>54.6</b>        | dB $\mu$ V   |           |
| ACF            | + | <b>15.4</b>        | dB/M         |           |
| Cable Loss     | + | <b>1.8</b>         | dB           |           |
| Preamp Gain    | - | <b><u>26.0</u></b> | dB           |           |
| Actual Level   |   | <b>45.8</b>        | dB $\mu$ V/M | @ 295 MHz |

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

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