TEST REPORT

ACCREDITED

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
CrossMatch Technologies
3960 RCA Blvd
Suite 6001
Palm Beach, FL 33410

Report Issue Date: 27 FEB 09
Sample S/N: SEE APPENIX B

Test Report Number: 08F201C
Model Designation: SMC800MCW-G w/Cradle SP-DK-02

Sample Receipt Date: 10 DEC 08
Sample Test Date: see data sheets

Product Description:

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 Jack Garner

Title Test Engineer Date 01/12/2009

Reviewed by:
Approved Signatory _____ Steve Hoke Date 27 FEB 09

D I R E C T O R Y - EMISSIONS

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

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 V1.3.1:2006		
☐ - EN 55014 -1: 2001/A1:2001 A2:2002	☐ - Household appliances and similar	
	☐ - Portable tools	
	☐ - Semiconductor devices	
■ - EN 55022:2006	☐ - Class A	■ - Class B
☐ -AS/NZS CISPR 22:2006	☐ - 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 15.225	■ - Certification	

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

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 : 230/120 Volts 50/60 Hz SINGLE phase

EUT was also tested as hand held, battery operated outside of of the cradle

Sign Explanations:

□ - not applicable
■ - applicable

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

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
■ - 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

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

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
□ -	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
□ -	BIA 25	Electro-Metrics	Biconical Antenna	4283
□ -	EMC-30	Electro-Metrics	EMI Receiver	191
□ -	8568B	Hewlett Packard	Spectrum Analyzer	2407A03213
□ -	85650A	Hewlett Packard	Quasi-Peak Adapter	2043A00358
□ -	85662A	Hewlett Packard	Analyzer Display	2340A05806
■ -	LPA30	Electro-Metrics	Log Periodic	2280
□ -	BIA-30	Electro-Metrics	Biconical Antenna	3852
■ -	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
□ -	FCC-TLISN-T8-02	Fischer Custom Com	T-LISN	20452
■ -	FCC-TLISN-T4-02	Fischer Custom Com	T_LISN	20454
□ -				
□ -				
□ -				

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

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
□ -	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

	Model Number	Manufacturer	Description	Serial Number
□ -	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 generator	B028883
□-				

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:

There were (2) configurations tested. The first was battery operated as a hand held device and the second was while operating from custom cradle and connected to AC. The radiated cradle test was performed while connected to (110) VAC / 60 Hz and the conducted testing was repeated for both 110 / 60 and 230 / 50 operation.

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

Emission Test Results:

Conducted emissions 150 kHz - 30 MHz

The requirements are ■ **- MET** □ **- NOT MET**

Minimum limit margin **1.0** dB at **039** MHz
Remarks:

Radiated emissions (magnetic field) 10 kHz - 30 MHz

The requirements are ■ **- MET** □ **- NOT MET**

Minimum limit margin **2.6** dB at **11.06** MHz
Remarks:

Radiated emissions (electric field) 30 MHz - 1000 MHz

The requirements are ■ **- MET** □ **- NOT MET**

Minimum limit margin **0.1** dB at **916.5** 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 **2.0** dB at **4.30** MHz
Remarks:

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

GENERAL REMARKS:
We made radiated emission measurements between (1.705) 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. At each frequency of concern, the orientation of the EUT was checked in three orthogonal positions. 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 testing was performed using the following CISPR bandwidths:

Between (1.705) & (30) MHz - RBW = (9) kHz / VBW = (10) kHz
Between (30) & (1,000) MHz – RBW = (120) kHz / VBW = (300) kHz
Above (1,000) MHz – RBW = (1) MHz / VBW = (1) MHz

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.

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 **December 10, 2008**

Testing End Date: **December 15, 2008**

- PRODUCT SAFETY ENGINEERING INC -

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

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

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

Tested as handheld devices for 15.201 & 15.225

Tested in cradles for 15.201 & 15.225

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

APPENDIX

A

Test Equipment Calibration Information

&

Test Data Sheets

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

TEST EQUIPMENT CALIBRATION INFORMATION

Manufacturer	Model	Description	Serial Number	Cal Due
Hewlett Packard	8566B	Spectrum Analyzer	2421A00526	07/25/09
Hewlett Packard	85662A	Display	2403A07352	07/25/09
Hewlett Packard	85650A	Quasi-Peak Adapter	2043A00209	07/31/09
Hewlett Packard	8447D	Preamp 0.1 - 1,000 MHz	2944A06832	12/18/08
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	3104C	Biconical Antenna	75927	12/20/08
Electro-Metrics	LPA 30	Log Periodic Antenna	2280	01/10/09
Electro-Metrics	BIA 30	Biconical Antenna	3852	
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	
Solar	8028	LISN	903725/903726	04/04/09
Schwartzbeck	MDS-21	Absorbing Clamp	02581	
Electro-Metrics	EMC-30	EMI Receiver	191	07/08/09
Antenna Research	ALA-130/A	Loop Antenna	106	08/14/09
Cole-Palmer	9970-00	Digital Barometer	61493735	
EMC Automation	HLP3003C	Hybrid Log Periodic	017501	
Fischer Custom	FCC-T4-02	Telecom ISN	20454	10/02/09
Fischer Custom	FCC-T8-02	Telecom ISN	20452	

* Cal Due Date Format = MM/DD/YY

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

Radiated Emissions Data

SMC-800MCW-G
Dual and Single Camera Versions Tested Together
Operating in Cradle Mode

PRODUCT EMISSIONS

PRODUCT SAFETY ENGINEERING Data File: SMC-800MCW-G CRD EN55022-B 12-11

No	EMISSION FREQUENCY MHz	SPEC LIMIT dBuV/m	MEASUREMENTS ABS dBuV/m	dLIM dB	MODE	POL	SITE HGT cm	SITE AZM deg	CORR FACTOR dB	COMMENTS
1	40.670	30.0	29.5	-0.5	QP	V	100	270	-15.8	
2	54.250	30.0	25.4	-4.6	PK	V	100	1	-16.2	
3	57.217	30.0	24.5	-5.5	PK	V	100	180	-16.5	
4	81.367	30.0	24.7	-5.3	PK	V	100	270	-20.	
5	108.483	30.0	27.3	-2.7	PK	V	100	270	-13.7	
6	122.050	30.0	27.8	-2.2	PK	V	100	1	-13.	
7	138.661	30.0	27.3	-2.7	QP	V	100	270	-13.4	
8	149.163	30.0	27.5	-2.5	PK	V	100	1	-13.4	
9	152.586	30.0	25.0	-5.0	PK	V	100	1	-13.1	
10	155.969	30.0	26.0	-4.0	QP	V	100	270	-12.7	
11	167.994	30.0	25.4	-4.6	PK	V	100	180	-11.1	
12	219.606	30.0	28.3	-1.7	QP	H	200	135	-13.4	
13	251.366	37.0	33.1	-3.9	QP	H	200	135	-12.9	
14	260.030	37.0	28.7	-8.3	PK	H	200	45	-12.5	
15	284.709	37.0	23.5	-13.5	PK	H	200	45	-11.2	
16	292.474	37.0	28.0	-9.0	PK	V	100	1	-10.8	
17	311.998	37.0	27.2	-9.8	PK	H	200	135	-10.3	
18	325.430	37.0	22.1	-14.9	PK	H	200	135	-10.2	
19	335.981	37.0	31.2	-5.9	PK	H	200	45	-10.1	
20	337.996	37.0	31.0	-6.0	PK	V	100	1	-10.1	
21	355.341	37.0	29.9	-7.1	QP	V	100	1	-10.1	
22	359.645	37.0	32.0	-5.0	PK	V	100	1	-10.1	
23	364.001	37.0	32.0	-5.0	PK	H	200	135	-10.1	
24	368.32	37.0	28.7	-8.3	PK	V	100	1	-10.1	
25	370.479	37.0	25.7	-11.3	PK	H	200	45	-10.1	
26	372.748	37.0	28.1	-8.9	PK	H	200	135	-10.1	
27	377.043	37.0	30.3	-6.7	PK	H	200	45	-10.1	
28	380.029	37.0	28.8	-8.2	PK	H	200	45	-10.1	
29	381.310	37.0	28.4	-8.6	PK	H	200	45	-10.1	
30	389.959	37.0	35.1	-1.9	QP	H	200	135	-10.1	
31	394.327	37.0	31.3	-5.7	PK	H	200	45	-10.1	
32	398.642	37.0	26.7	-10.3	QP	H	200	135	-10.1	
33	402.983	37.0	30.3	-6.7	QP	H	200	135	-10.	
34	407.380	37.0	33.9	-3.1	QP	H	200	135	-9.9	
35	411.636	37.0	31.4	-5.6	PK	V	100	1	-9.7	
36	416.006	37.0	32.8	-4.2	QP	H	200	135	-9.6	
37	420.337	37.0	31.9	-5.1	QP	H	200	135	-9.5	
38	428.966	37.0	33.2	-3.8	QP	H	200	135	-9.2	
39	433.307	37.0	32.1	-4.9	QP	H	200	135	-9.1	
40	441.958	37.0	35.7	-1.3	QP	V	100	1	-8.8	
41	519.984	37.0	29.2	-7.8	PK	H	200	45	-6.6	
42	550.277	37.0	27.9	-9.1	PK	H	200	45	-5.9	
43	623.941	37.0	33.0	-4.0	PK	H	200	135	-4.9	
44	677.946	37.0	29.2	-7.8	PK	H	200	135	-3.5	
45	916.457	37.0	36.9	-0.1	QP	H	200	135	1.1	
46	994.496	37.0	32.7	-4.3	PK	H	200	45	3.	

Radiated Emissions Data

SMC-800MCW-G
Dual and Single Camera Versions Tested Together
Handheld Mode

PRODUCT EMISSIONS

PRODUCT SAFETY ENGINEERING Data File: SMC-800MCW-G EN55022-B 12-10

No	EMISSION FREQUENCY MHz	SPEC LIMIT dBuV/m	MEASUREMENTS ABS	dLIM dB	MODE	POL	SITE HGT cm	AZM deg	CORR FACTOR dB	COMMENTS
1	57.217	30.0	21.5	-8.5	PK	V	100	1	-16.5	
2	137.800	30.0	19.4	-10.6	PK	V	100	270	-13.4	
3	152.572	30.0	19.4	-10.6	PK	V	100	270	-13.1	
4	219.607	30.0	23.1	-6.9	PK	H	200	270	-13.4	
5	251.352	37.0	31.7	-5.3	PK	H	200	270	-12.9	
6	284.720	37.0	26.5	-10.5	PK	H	200	270	-11.2	
7	298.29	37.0	28.4	-8.6	PK	H	200	180	-10.5	
8	311.896	37.0	27.7	-9.3	PK	H	200	270	-10.3	
9	325.409	37.0	27.7	-9.3	PK	H	200	270	-10.2	
10	338.945	37.0	27.9	-9.1	PK	H	200	270	-10.1	
11	352.575	37.0	29.2	-7.9	PK	H	200	270	-10.1	
12	363.966	37.0	36.0	-1.0	QP	H	200	270	-10.1	
13	368.330	37.0	34.7	-2.3	PK	H	200	270	-10.1	
14	370.472	37.0	30.4	-6.6	QP	H	200	270	-10.1	
15	372.668	37.0	35.9	-1.1	QP	H	200	270	-10.1	
16	377.050	37.0	34.9	-2.1	PK	H	200	270	-10.1	
17	379.642	37.0	34.2	-2.8	PK	H	200	270	-10.1	
18	381.200	37.0	30.1	-6.9	PK	H	200	270	-10.1	
19	519.992	37.0	33.2	-3.8	PK	H	200	270	-6.6	
20	550.293	37.0	29.1	-7.9	PK	H	200	270	-5.9	
21	569.479	37.0	28.0	-9.0	PK	H	200	270	-6.	
22	596.600	37.0	32.3	-4.7	PK	H	200	90	-6.1	
23	623.72	37.0	32.3	-4.7	PK	H	200	180	-4.9	
24	677.949	37.0	35.4	-1.6	QP	H	200	270	-3.5	
25	705.090	37.0	35.4	-1.6	QP	H	200	270	-3.4	
26	994.486	37.0	33.2	-3.8	PK	H	200	270	3.	

RADIATED DATA SHEET

Below (30) MHz

FCC Rule Part	Frequency range	Limit dBuV/m @ 30 meters	Measured Freq. (MHz)	Level dBuV/m	Margin dB
15.225 (a)	**13.553 - 13.567**	84	13.556	34.0	-50.0
15.225 (b)	**13.410 - 13.553**	50.5	13.543	32.0	-18.5
15.225 (b)	**13.567 - 13.710**	50.5	13.588	30.0	-20.5
15.225 (c)	**13.110 - 13.410**	40.5	13.410	29.2	-11.3
15.225 (c)	**13.710 - 14.010**	40.5	13.928	30.8	-9.7
15.225 (d)	**1.705 - 13.110**	29.5	11.06	26.9	-2.6
15.225 (d)	**14.010 - 30.0**	29.5	22.56	25.5	-4.0

* All measurements were collected with peak detector

DATA SHEET

Frequency tolerance

§15.225

(e) The frequency tolerance of the carrier signal shall be maintained within +/-0.01% of the operating frequency over a temperature variation of -20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

Temperature	Frequency (Hz)	Tolerance
-20 C	13,557,790	13,557,740 - 13,557,790 = -50
+ 50 C	13,558,150	13,557,740 - 13,558,150 = -410
+ 20 C	13,557,740	0.0001 X 13,557,740 = 1,356

The supply voltage to the host computer was varied from (102) to (138) VAC while we monitored the frequency. The frequency did not change during this voltage variation.

PASS

(f) In the case of radio frequency powered tags designed to operate with a device authorized under this section, the tag may be approved with the device or be considered as a separate device subject to its own authorization. Powered tags approved with a device under a single application shall be labeled with the same identification number as the device.

NOT APPLICABLE

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

Compliance Checklist (per EN 300 330-2) V1.3.1
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.

Frequency (MHz)	Limit dBuV/m @ 10 m	Frequency (MHz)	Margin (dB)
13.553 -13.567	93.5	13.556	>20
13.403 - 13.553	60.5	13.543	>20
13.567 -13.717	60.5	13.588	>20
12.953 - 13.403	48.0	NA	>20
13.717 - 14.167	48.0	13.928	17.2
12.053 - 12.953	41.5	NA	>20
14.167 - 15.067	41.5	NA	>20
1.705 -12.053	35.5	11.06	8.6
15.067 - 30.0	35.5	22.56	10

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.

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.

Conducted Emissions Data

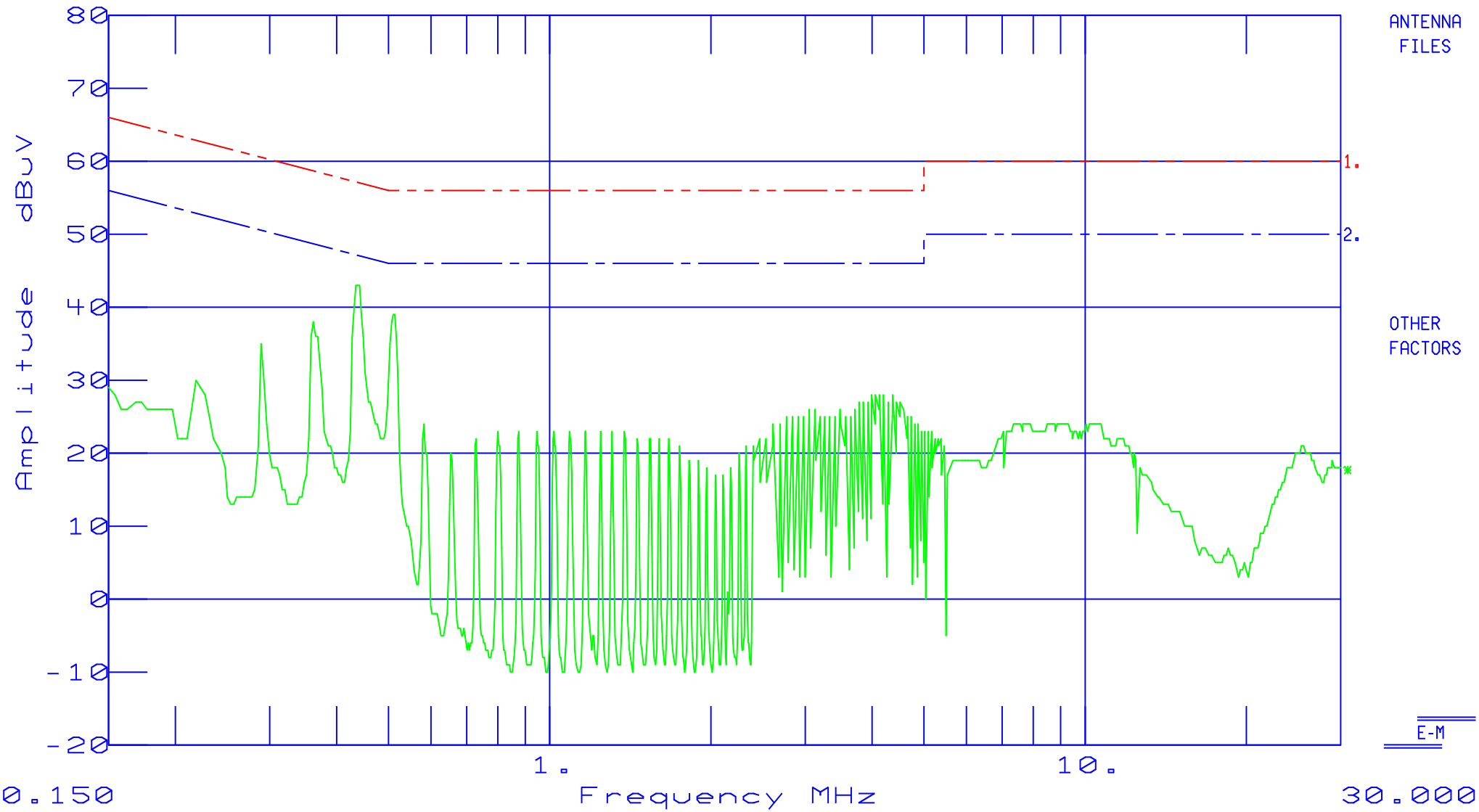
SMC-800MCW-G
Single Camera Version

Product Safety Engineering

CROSS MATCH TECHNOLOGIES

Date :	12/15/08	Time :	13:51:08.66	EMC-30 SETTINGS	SPECS
Technician :	JACK GARNER	Test Equip. :	EMC-30	Detector QuasiPeak	1) CISPR 22 Quasi Peak
Test Method :	EN55022 CLASS B	Test Number :	1	Bandwidth CISPR	2) CISPR 22 AVG
Equipment :	SMC-800MCW-G W/CRD	Sensor Loc. :	SIDE 1	Dump/Dwell N/A	3)
Mode of Op. :	NORMAL	Sensor Pol. :		RF Atten. 10 dB	4)
Serial No. :		Ext. Atten. :	0 dB	IF Atten. 10 dB	

Comment : 230 VAC / 50 HZ (SINGLE CAMERA HANDHELD)



TEST TITLE:CROSS MATCH TECHNOLOGIES
DATA FILE :201_12.D30
Amplitude Units : dBuV
Threshold -10 dB

PAGE 1
Freq.(MHz)
0.1500

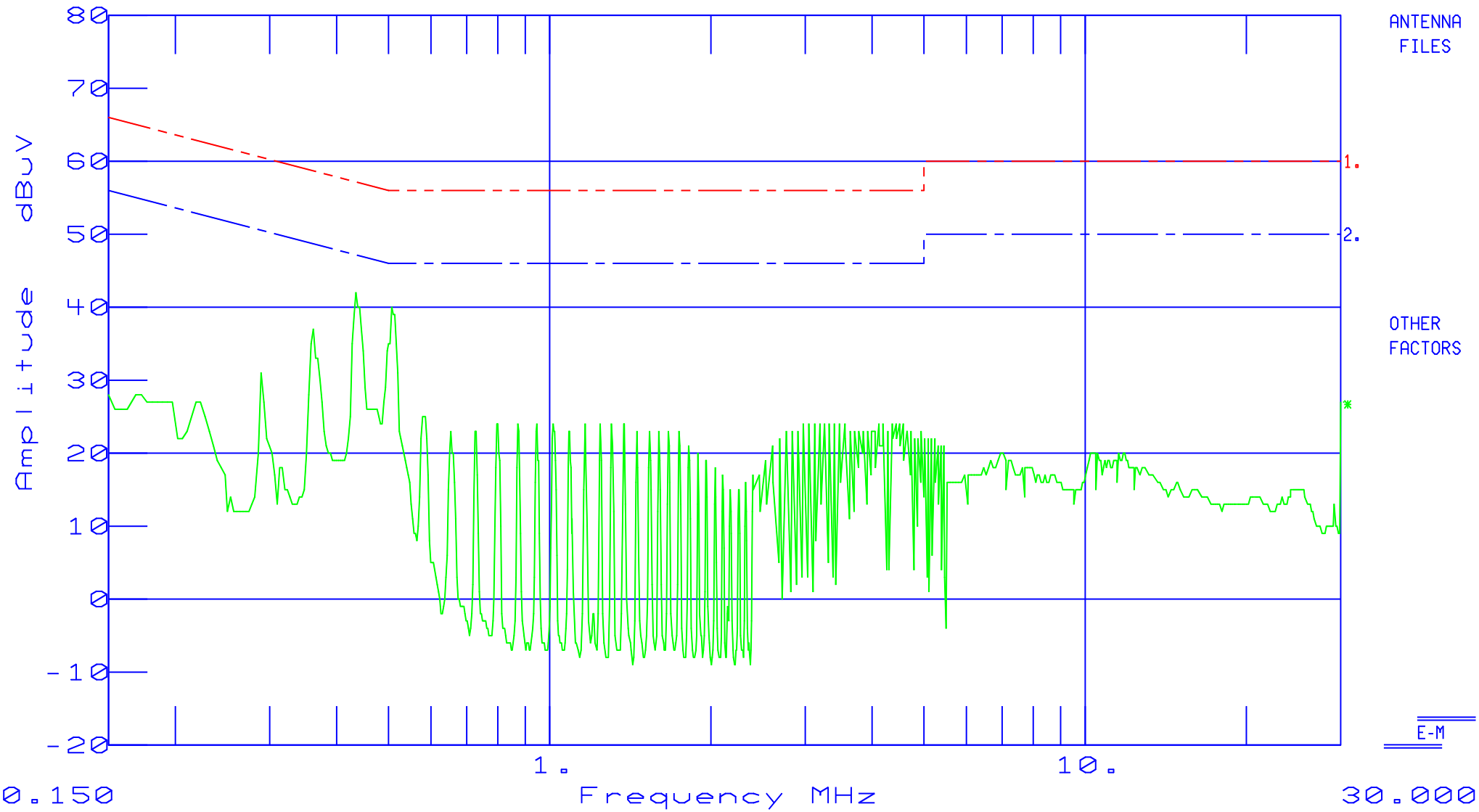
Freq(MHz)	Amp	C22BQP.S30 vs Spec(dB)	C22BAVG.S30 vs Spec(dB)
0.4312	40.0		-7.230 *
0.4346	43.0		-4.164 *
0.4381	43.0		-4.098 *
0.4416	43.0		-4.032 *
0.4450	39.0		-7.968 *
0.5068	38.0		-8.000 *
0.5102	39.0		-7.000 *
0.5136	39.0		-7.000 *
0.5170	36.0		-10.000 *

Product Safety Engineering

CROSS MATCH TECHNOLOGIES

Date :	12/15/08	Time :	15:21:22.01	EMC-30 SETTINGS	SPECS
Technician :	JACK GARNER	Test Equip. :	EMC-30	Detector QuasiPeak	1) CISPR 22 Quasi Peak
Test Method :	EN55022 CLASS B	Test Number :	1	Bandwidth CISPR	2) CISPR 22 AVG
Equipment :	SMC-800MCW-G W/CRD	Sensor Loc. :	SIDE 2	Dump/DwellN/A	3)
Mode of Op. :	NORMAL	Sensor Pol. :		RF Atten. 10 dB	4)
Serial No. :		Ext. Atten. :	0 dB	IF Atten. 10 dB	

Comment : 230 VAC / 50 HZ (SINGLE CAMERA HANDHELD)



TEST TITLE:CROSS MATCH TECHNOLOGIES
DATA FILE :201_22.D30
Amplitude Units : dBuV
Threshold -10 dB

PAGE 1
Freq.(MHz)
0.1500

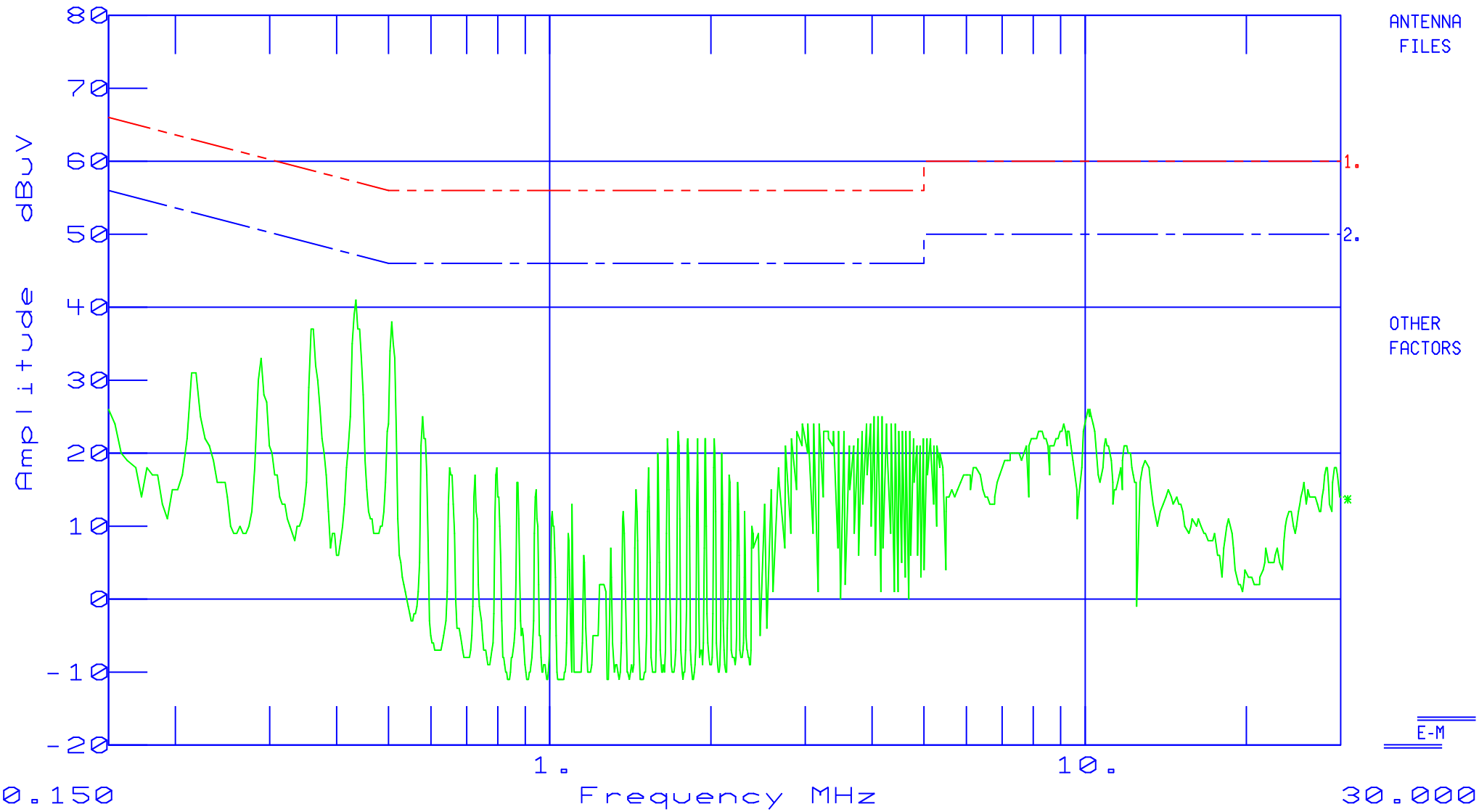
Freq(MHz)	Amp	C22BQP.S30 vs Spec(dB)	C22BAVG.S30 vs Spec(dB)
0.4312	39.0		-8.230 *
0.4346	42.0		-5.164 *
0.4381	40.0		-7.098 *
0.4416	40.0		-7.032 *
0.4450	37.0		-9.968 *
0.5068	40.0		-6.000 *
0.5102	39.0		-7.000 *
0.5136	39.0		-7.000 *

Product Safety Engineering

CROSS MATCH TECHNOLOGIES

Date : 12/15/08	Time : 09:58:55.66	EMC-30 SETTINGS	SPECS
Technician : JACK GARNER	Test Equip. :EMC-30	Detector QuasiPeak	1) CISPR 22 Quasi Peak
Test Method :EN55022 CLASS B	Test Number :1	Bandwidth CISPR	2) CISPR 22 AVG
Equipment : SMC-800MCW-G W/CRD	Sensor Loc. :LINE	Dump/DwellN/A	3)
Mode of Op. :NORMAL	Sensor Pol. :	RF Atten. 10 dB	4)
Serial No. :	Ext. Atten. :0 dB	IF Atten. 10 dB	

Comment : 120 VAC / 60 HZ (SINGLE CAMERA HANDHELD)



TEST TITLE:CROSS MATCH TECHNOLOGIES			PAGE 1
DATA FILE :201_L2.D30			Freq.(MHz)
Amplitude Units : dBuV		Threshold -10 dB	0.1500

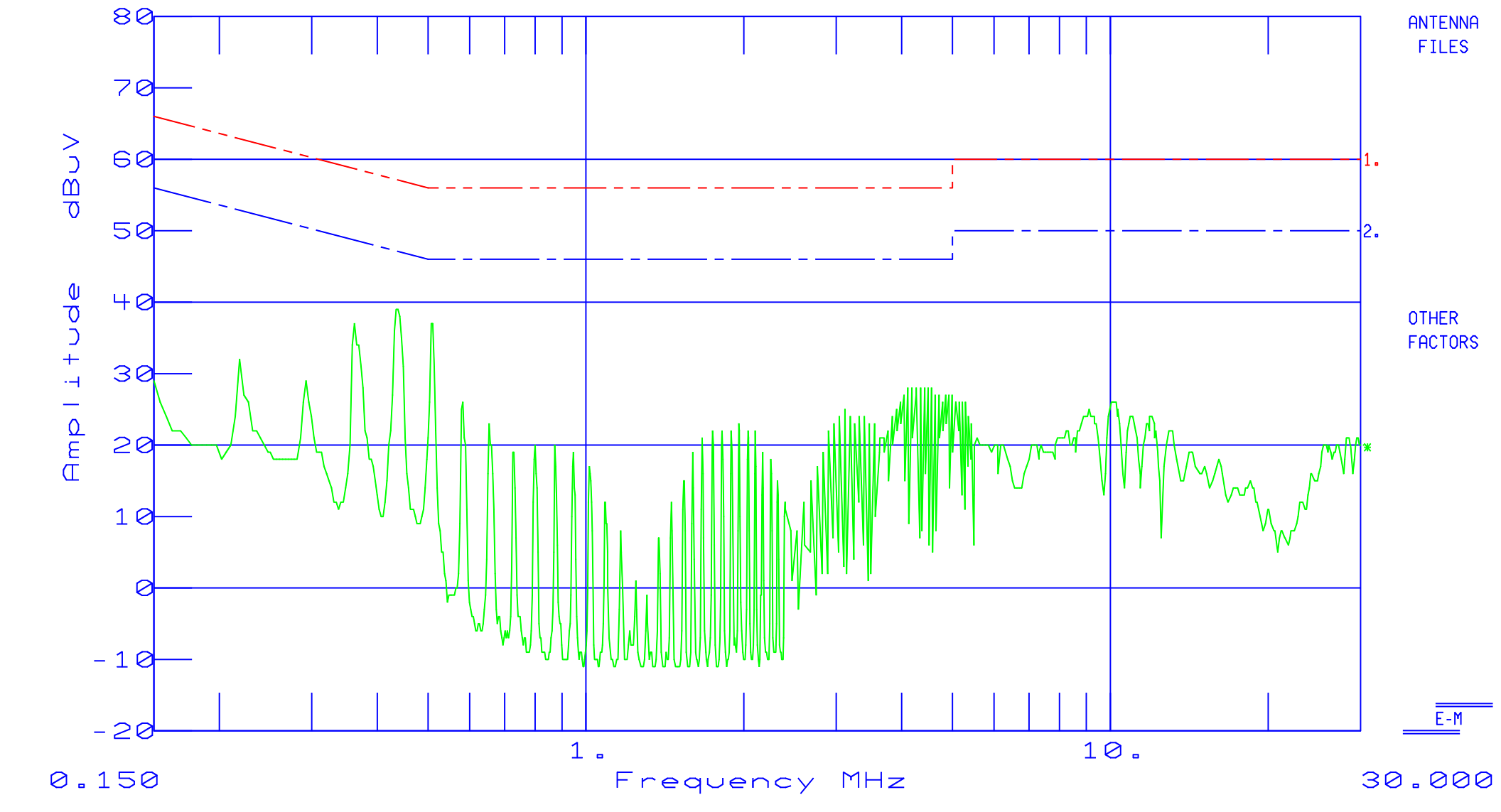
Freq(MHz)	Amp	C22BQP.S30 vs Spec(dB)	C22BAVG.S30 vs Spec(dB)
0.4312	39.0		-8.230 *
0.4346	41.0		-6.164 *
0.5068	38.0		-8.000 *

Product Safety Engineering

CROSS MATCH TECHNOLOGIES

Date :	12/15/08	Time :	09:25:40.60	EMC-30 SETTINGS	SPECS
Technician :	JACK GARNER	Test Equip. :	EMC-30	Detector QuasiPeak	1) CISPR 22 Quasi Peak
Test Method :	EN55022 CLASS B	Test Number :	1	Bandwidth CISPR	2) CISPR 22 AVG
Equipment :	SMC-800MCW-G W/CRD	Sensor Loc. :	NEUTRAL	Dump/Dwell N/A	3)
Mode of Op. :	NORMAL	Sensor Pol. :		RF Atten. 10 dB	4)
Serial No. :		Ext. Atten. :	0 dB	IF Atten. 10 dB	

Comment : 120 VAC / 60 HZ (SINGLE CAMERA HANDHELD)



TEST TITLE:CROSS MATCH TECHNOLOGIES
DATA FILE :201_N2.D30
Amplitude Units : dBuV
Threshold -10 dB

Freq.(MHz)
0.1500

Freq(MHz)	Amp	C22BQP.S30 vs Spec(dB)	C22BAVG.S30 vs Spec(dB)
0.4346	39.0		-8.164 *
0.4381	39.0		-8.098 *
0.4416	38.0		-9.032 *
0.5068	37.0		-9.000 *
0.5102	37.0		-9.000 *

Product Safety Engineering

CROSS MATCH

Date :	03/03/09	Time :	08:26:06.27
Technician :	JACK GARNER	Test Equip. :	EMC-30
Test Method :	EN55022 CLASS B	Test Number :	1
Equipment :	SMC-800MCW-G W/CRDL	Sensor Loc. :	ETHERNET
Mode of Op. :	NORMAL	Sensor Pol. :	
Serial No. :		Ext. Atten. :	0 dB

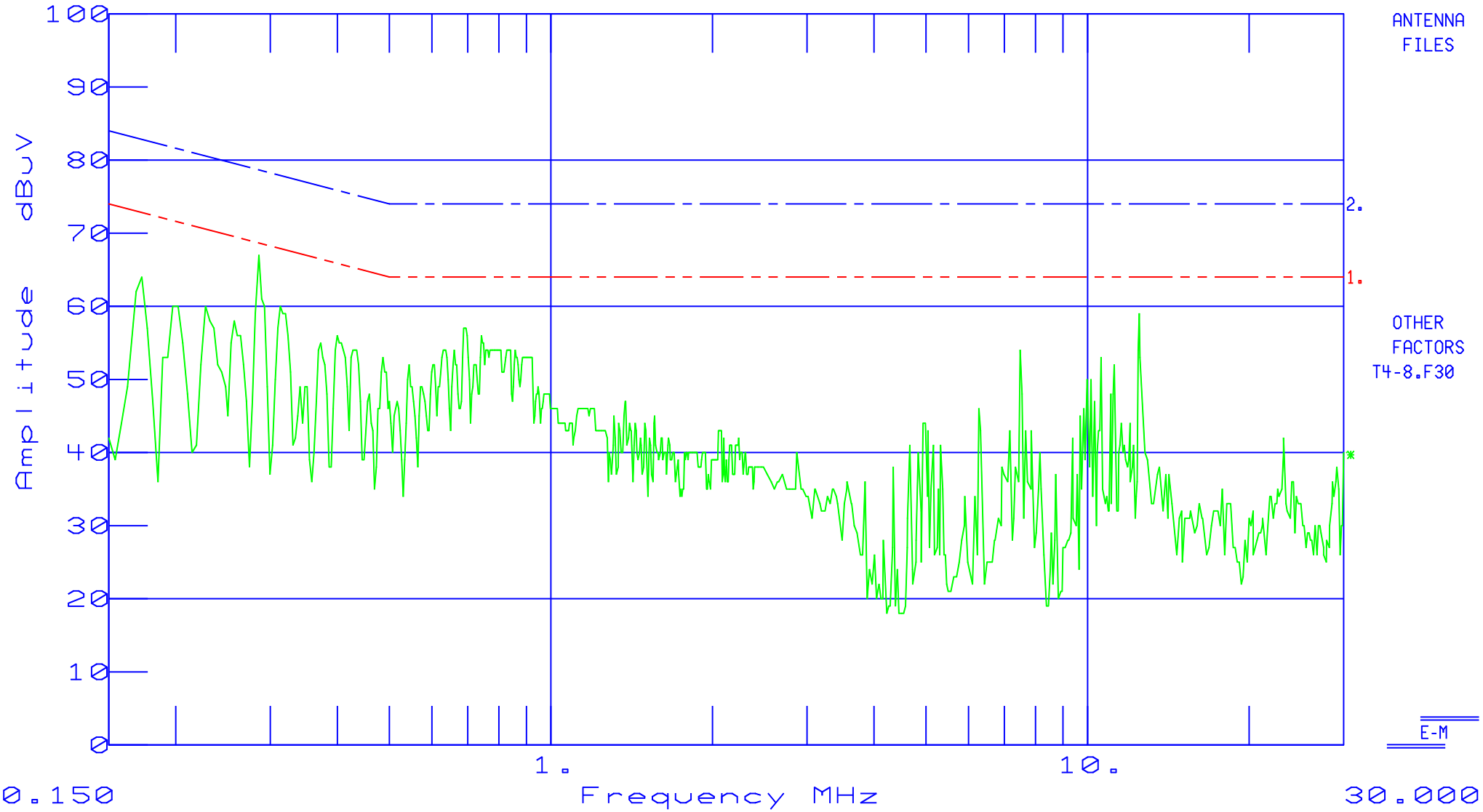
Comment : 230 VAC / 50 HZ (SINGLE CAMERA UNIT)

EMC-30 SETTINGS

Detector QuasiPeak
Bandwidth CISPR
Dump/Dwell N/A
RF Atten. 10 dB
IF Atten. 10 dB

SPECS

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



TEST TITLE:CROSS MATCH
DATA FILE :201_E2.D30
Amplitude Units : dBuV

Threshold -6 dB

PAGE 1
Freq.(MHz)
0.1500

Freq(MHz)	Amp	ETHBAVG.S30 vs Spec(dB)	ETHBQP.S30 vs Spec(dB)
0.2856	67.0	-1.651 *	
12.4824	59.0	-5.000 *	

Conducted Emissions Data

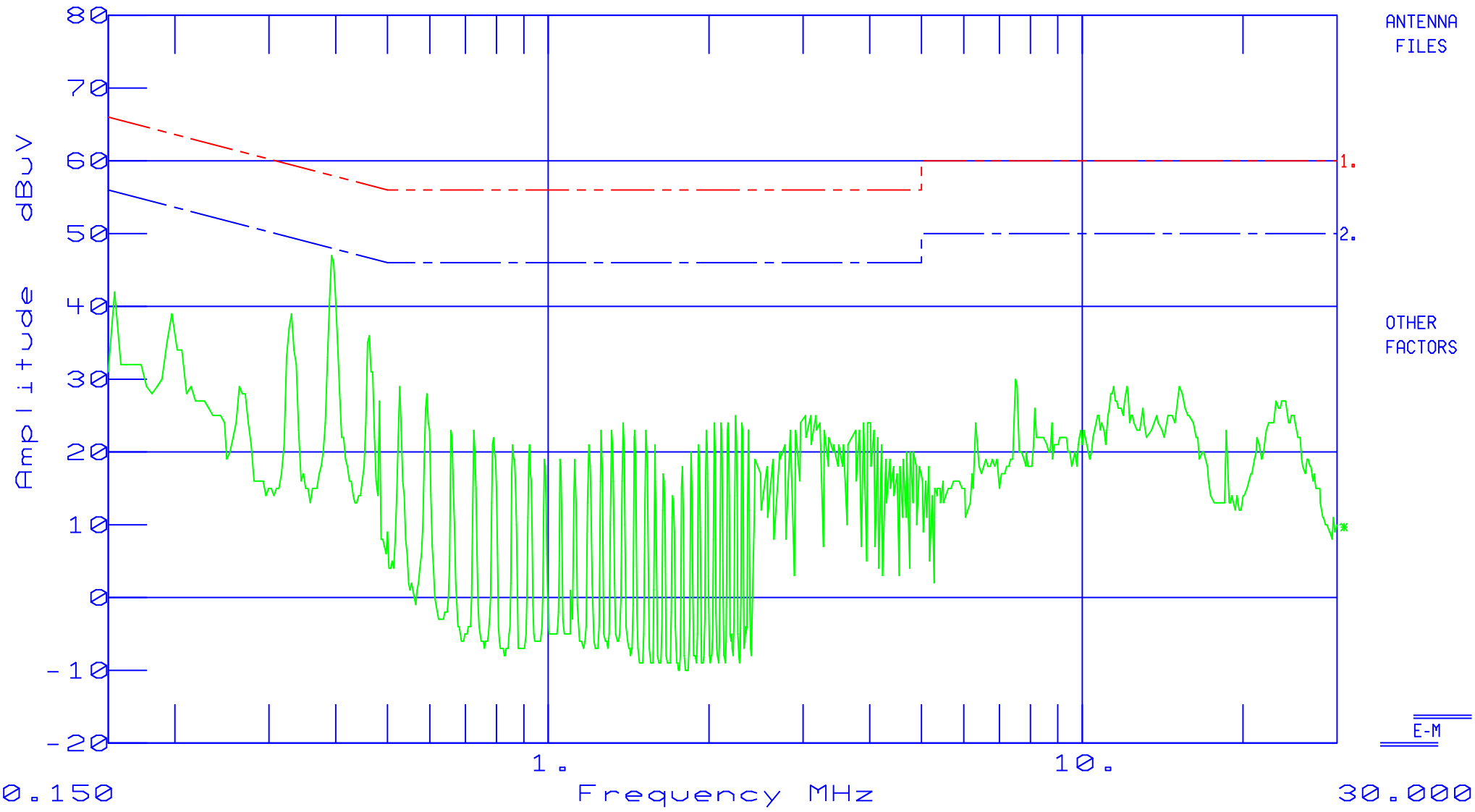
SMC-800MCW-G
Dual Camera Version

Product Safety Engineering

CROSS MATCH TECHNOLOGIES

Date :	12/15/08	Time :	08:38:21.99	EMC-30 SETTINGS	SPECS
Technician :	JACK GARNER	Test Equip. :	EMC-30	Detector QuasiPeak	1) CISPR 22 Quasi Peak
Test Method :	EN55022 CLASS B	Test Number :	1	Bandwidth CISPR	2) CISPR 22 AVG
Equipment :	SMC-800MCW-G W/CRD	Sensor Loc. :	SIDE 1	Dump/Dwell N/A	3)
Mode of Op. :	NORMAL	Sensor Pol. :		RF Atten. 10 dB	4)
Serial No. :		Ext. Atten. :	0 dB	IF Atten. 10 dB	

Comment : 230 VAC / 50 HZ



TEST TITLE:CROSS MATCH TECHNOLOGIES
DATA FILE :201_1.D30
Amplitude Units : dBuV
Threshold -10 dB

Freq.(MHz)
0.1500

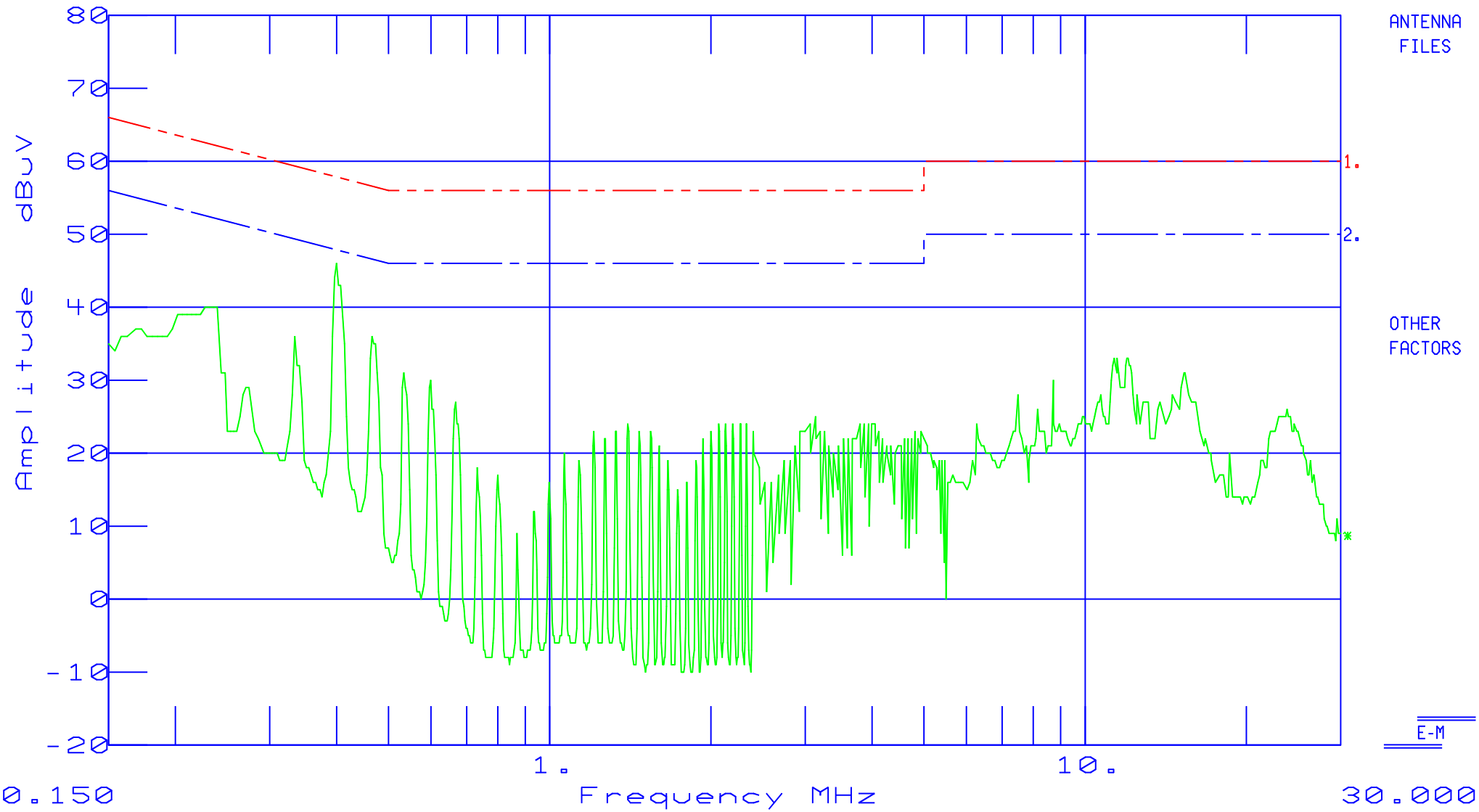
Freq(MHz)	Amp	C22BQP.S30 vs Spec(dB)	C22BAVG.S30 vs Spec(dB)
0.3895	41.0		-7.074 *
0.3929	47.0		-1.002 *
0.3964	46.0		-1.928 *
0.3999	41.0		-6.855 *

Product Safety Engineering

CROSS MATCH TECHNOLOGIES

Date :	12/15/08	Time :	09:41:06.48	EMC-30 SETTINGS	SPECS
Technician :	JACK GARNER	Test Equip. :	EMC-30	Detector QuasiPeak	1) CISPR 22 Quasi Peak
Test Method :	EN55022 CLASS B	Test Number :	1	Bandwidth CISPR	2) CISPR 22 AVG
Equipment :	SMC-800MCW-G W/CRD	Sensor Loc. :	SIDE 2	Dump/DwellN/A	3)
Mode of Op. :	NORMAL	Sensor Pol. :		RF Atten. 10 dB	4)
Serial No. :		Ext. Atten. :	0 dB	IF Atten. 10 dB	

Comment : 230 VAC / 50 HZ



TEST TITLE:CROSS MATCH TECHNOLOGIES
DATA FILE :201_2.D30
Amplitude Units : dBuV
Threshold -10 dB

PAGE 1
Freq.(MHz)
0.1500

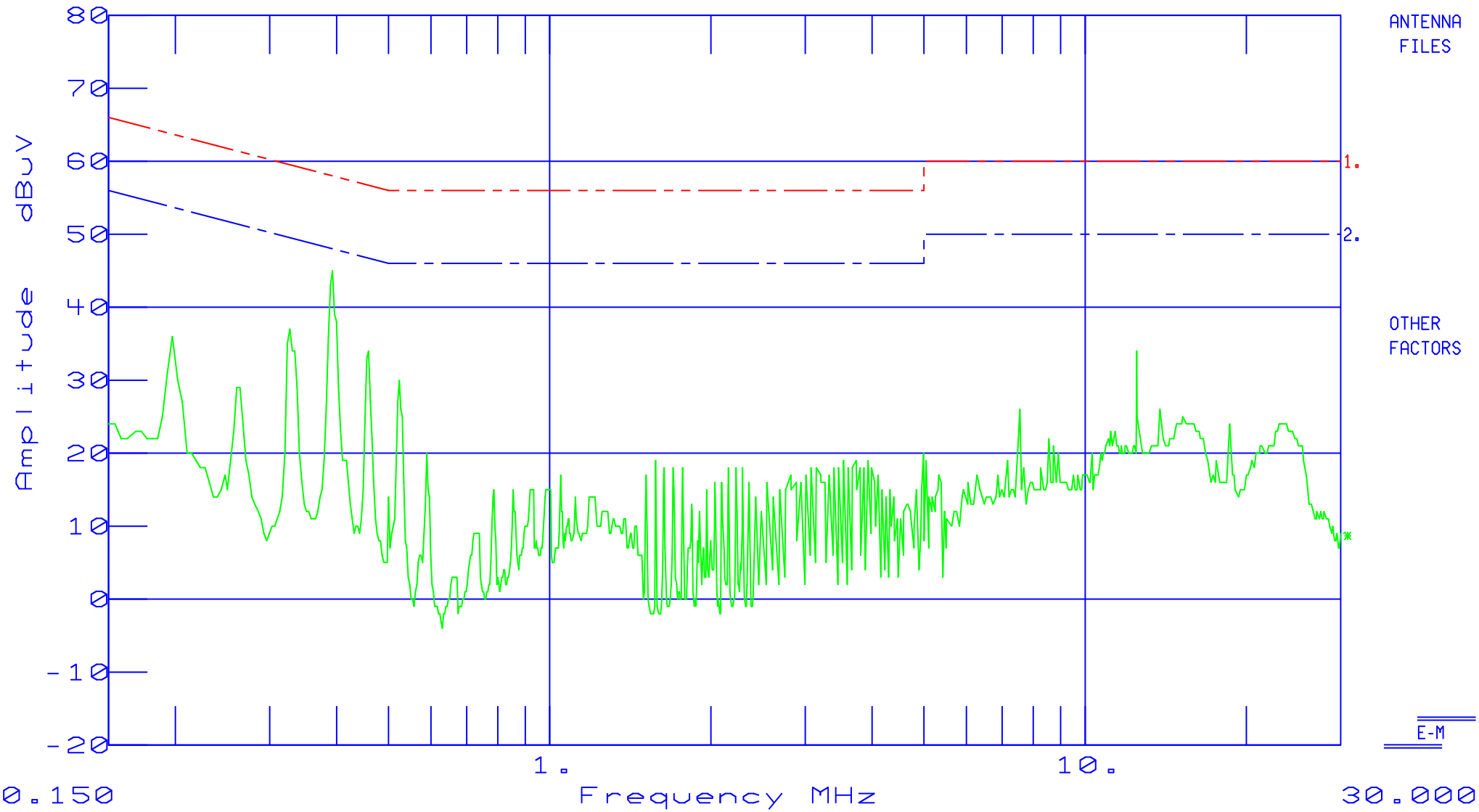
Freq(MHz)	Amp	C22BQP.S30 vs Spec(dB)	C22BAVG.S30 vs Spec(dB)
0.3964	44.0		-3.928 *
0.3999	46.0		-1.855 *
0.4033	43.0		-4.785 *
0.4069	43.0		-4.711 *
0.4103	39.0		-8.642 *

Product Safety Engineering

CROSS MATCH TECHNOLOGIES

Date :	12/12/08	Time :	16:18:21.29	EMC-30 SETTINGS	SPECS
Technician :	JACK GARNER	Test Equip. :	EMC-30	Detector QuasiPeak	1) CISPR 22 Quasi Peak
Test Method :	EN55022 CLASS B	Test Number :	1	Bandwidth CISPR	2) CISPR 22 AVG
Equipment :	SMC-800MCW-G W/CRD	Sensor Loc. :	LINE	Dump/Dwell N/A	3)
Mode of Op. :	NORMAL	Sensor Pol. :		RF Atten. 10 dB	4)
Serial No. :		Ext. Atten. :	0 dB	IF Atten. 10 dB	

Comment : 120 VAC / 60 HZ



TEST TITLE:CROSS MATCH TECHNOLOGIES
DATA FILE :201_L.D30
Amplitude Units : dBuV
Threshold -10 dB

Freq.(MHz)
0.1500

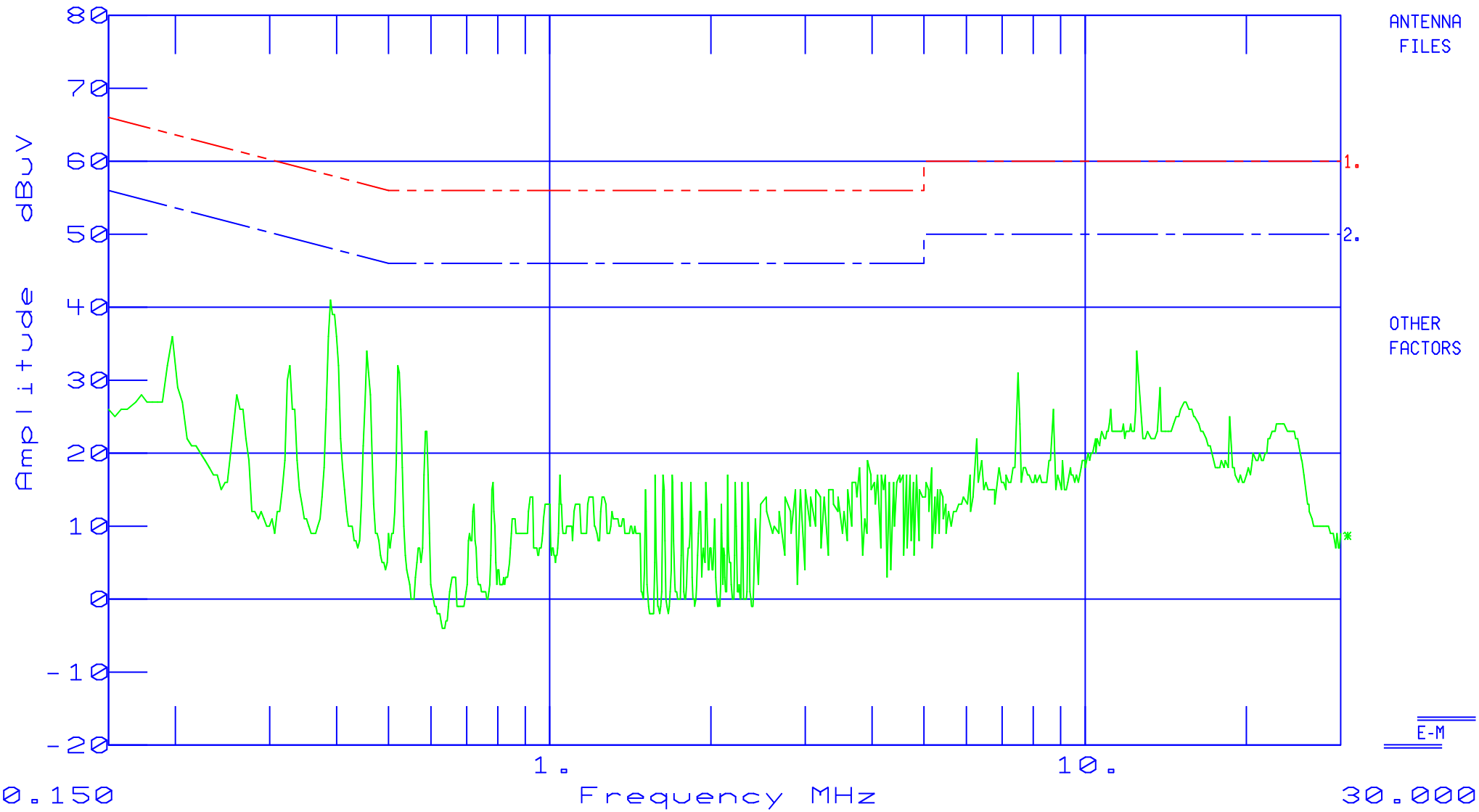
Freq(MHz)	Amp	C22BQP.S30 vs Spec(dB)	C22BAVG.S30 vs Spec(dB)
0.3895	43.0		-5.074 *
0.3929	45.0		-3.002 *
0.3964	39.0		-8.928 *
0.3999	38.0		-9.855 *

Product Safety Engineering

CROSS MATCH TECHNOLOGIES

Date :	12/12/08	Time :	15:44:46.51	EMC-30 SETTINGS	SPECS
Technician :	JACK GARNER	Test Equip. :	EMC-30	Detector QuasiPeak	1) CISPR 22 Quasi Peak
Test Method :	EN55022 CLASS B	Test Number :	1	Bandwidth CISPR	2) CISPR 22 AVG
Equipment :	SMC-800MCW-G W/CRD	Sensor Loc. :	NEUTRAL	Dump/Dwell N/A	3)
Mode of Op. :	NORMAL	Sensor Pol. :		RF Atten. 10 dB	4)
Serial No. :		Ext. Atten. :	0 dB	IF Atten. 10 dB	

Comment : 120 VAC / 60 HZ



TEST TITLE:CROSS MATCH TECHNOLOGIES
DATA FILE :201_N.D30
Amplitude Units : dBuV
Threshold -10 dB

Freq.(MHz)
0.1500

Freq(MHz)	Amp	C22BQP.S30 vs Spec(dB)	C22BAVG.S30 vs Spec(dB)
0.3895	41.0		-7.074 *
0.3929	39.0		-9.002 *
0.3964	39.0		-8.928 *

Product Safety Engineering

CROSS MATCH

Date :	12/15/08	Time :	10:15:18.28
Technician :	JACK GARNER	Test Equip. :	EMC-30
Test Method :	EN55022 CLASS B	Test Number :	1
Equipment :	SMC-800MCW-G W/CRDL	Sensor Loc. :	ETHERNET
Mode of Op. :	NORMAL	Sensor Pol. :	
Serial No. :		Ext. Atten. :	0 dB

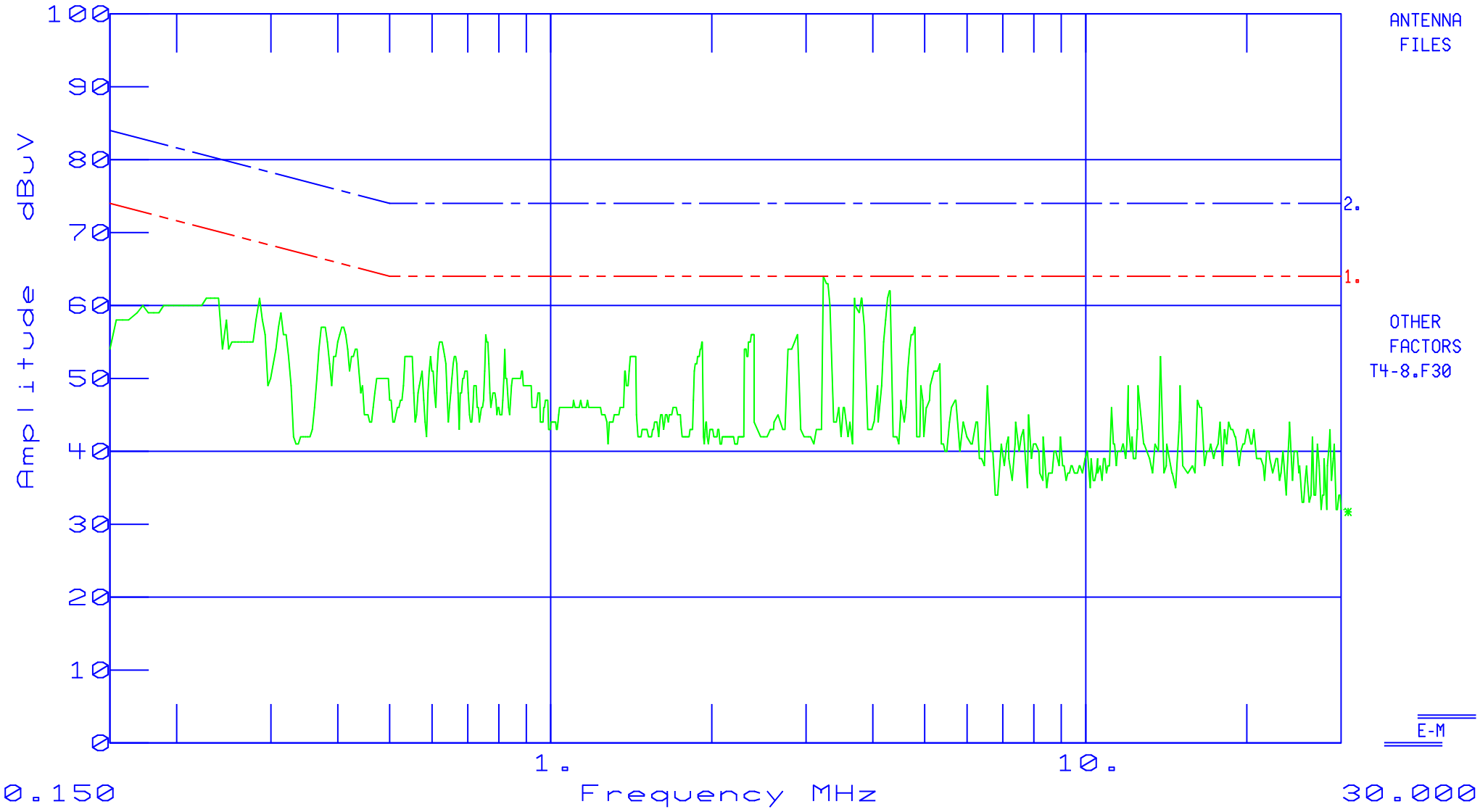
Comment : 230 VAC / 50 HZ

EMC-30 SETTINGS

Detector QuasiPeak
Bandwidth CISPR
Dump/Dwell N/A
RF Atten. 10 dB
IF Atten. 10 dB

SPECS

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



TEST TITLE:CROSS MATCH
DATA FILE :201_E.D30
Amplitude Units : dBuV

Threshold -8 dB

Freq.(MHz)
0.1500

Freq(MHz)	Amp	ETHBAVG.S30 vs Spec(dB)	ETHBQP.S30 vs Spec(dB)
0.2856	61.0	-7.651 *	
0.7561	56.0	-8.000 *	
2.3693	56.0	-8.000 *	
2.3761	56.0	-8.000 *	
2.3828	56.0	-8.000 *	
2.3896	56.0	-8.000 *	
2.3963	56.0	-8.000 *	
2.3997	56.0	-8.000 *	
2.8904	56.0	-8.000 *	
2.8939	56.0	-8.000 *	
3.2316	64.0	0.000 *	
3.2773	63.0	-1.000 *	
3.2985	63.0	-1.000 *	
3.3266	60.0	-4.000 *	
3.6973	61.0	-3.000 *	
3.7043	60.0	-4.000 *	
3.7712	59.0	-5.000 *	
3.8064	61.0	-3.000 *	
3.8134	61.0	-3.000 *	
3.8556	57.0	-7.000 *	
4.2253	58.0	-6.000 *	
4.2605	61.0	-3.000 *	
4.2957	62.0	-2.000 *	
4.3098	62.0	-2.000 *	
4.7184	56.0	-8.000 *	
4.7536	56.0	-8.000 *	
4.7888	57.0	-7.000 *	
4.7959	57.0	-7.000 *	

Product Safety Engineering

CROSS MATCH

Date :	12/15/08	Time :	10:34:58.79
Technician :	JACK GARNER	Test Equip. :	EMC-30
Test Method :	EN55022 CLASS B	Test Number :	1
Equipment :	SMC-800MCW-G W/CRDL	Sensor Loc. :	ETHERNET
Mode of Op. :	NORMAL	Sensor Pol. :	
Serial No. :		Ext. Atten. :	0 dB

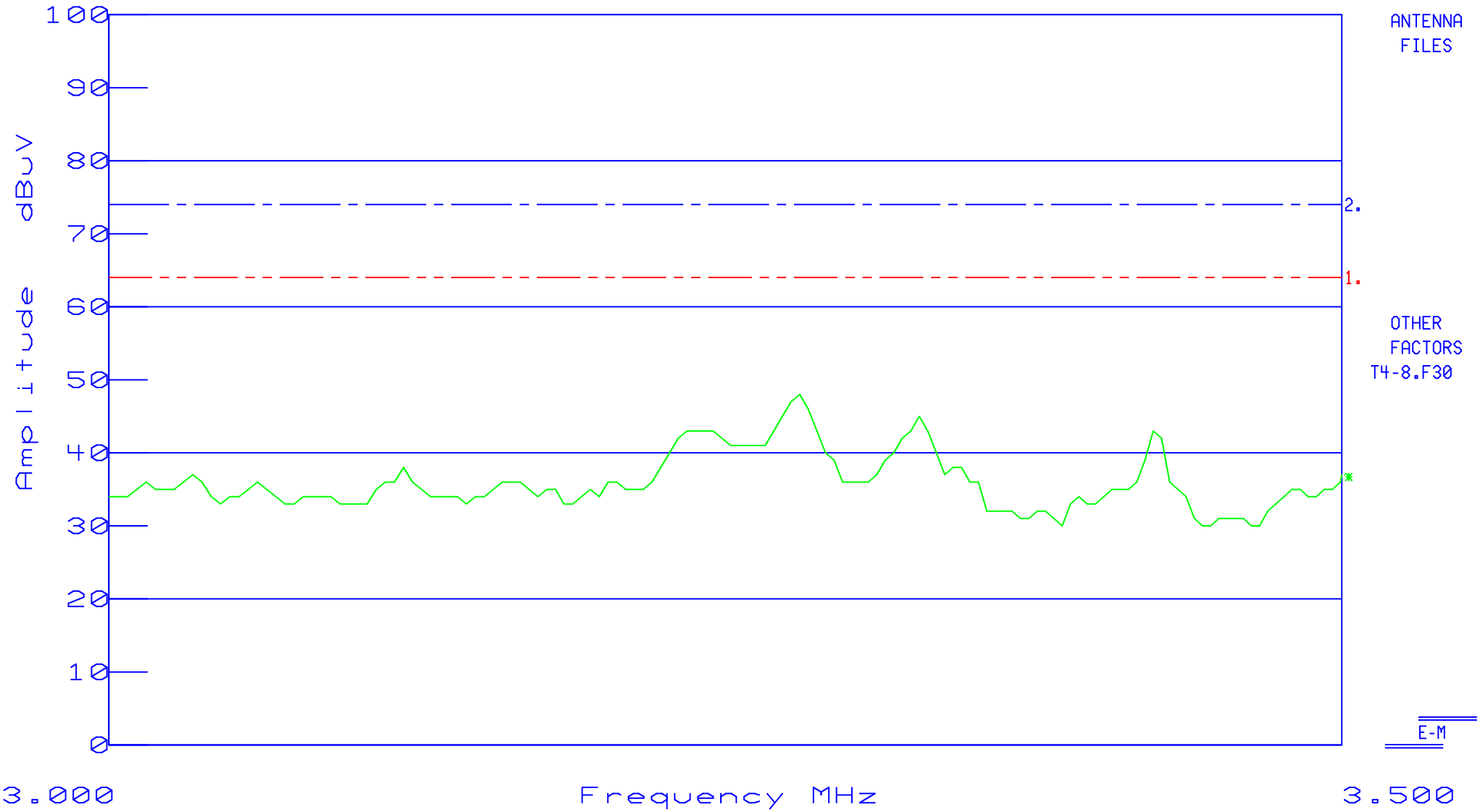
Comment : 230 VAC / 50 HZ

EMC-30 SETTINGS

Detector	Average
Bandwidth	CISPR
Dump/Dwell	N/A
RF Atten.	10 dB
IF Atten.	10 dB

SPECS

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



TEST TITLE:CROSS MATCH			PAGE 1
DATA FILE :201_EA.D30			Freq.(MHz)
Amplitude Units : dBuV		Threshold -19 dB	3.0000

Freq(MHz)	Amp	ETHBAVG.S30 vs Spec(dB)	ETHBQP.S30 vs Spec(dB)
3.2636	45.0	-19.000 *	
3.2671	47.0	-17.000 *	
3.2707	48.0	-16.000 *	
3.2742	46.0	-18.000 *	
3.3199	45.0	-19.000 *	

APPENDIX

B

System Under Test Description

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, CROSSMATCH SMC-800MCW-G
S/N: A713000834

****

DEVICE TYPE: EUT, CROSSMATCH SMC-800MCW-G
S/N: D84900139B

****

DEVICE TYPE: EUT, CROSSMATCH CRADLE SP-DK-02
S/N: 0970822000021

****

DEVICE TYPE: EUT, CROSSMATCH CRADLE SP-DK-02
S/N: 0970822000001

****

DEVICE TYPE: EUT POWER SUPPLY, GLOBTEK GT-21097-5012 (2X)

****

DEVICE TYPE: LAPTOP COMPUTER

****

DEVICE TYPE: USB MOUSE (2X)

****

DEVICE TYPE: CONTACT CARD (2X)

****

DEVICE TYPE: CONTACTLESS CARD (2X)

****

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

INTERFACE CABLES

****

DEVICE TYPE: EUT CRADLE **(3X)**
SHIELD: YES
LENGTH: 1 METER
CONNECTOR TYPE: USB-A TO UNTERMINATED
PORT: USB HOST
****

DEVICE TYPE: EUT CRADLE
SHIELD: YES
LENGTH: 1 METER
CONNECTOR TYPE: USB-A TO MOUSE
PORT: USB HOST
****

DEVICE TYPE: EUT CRADLE
SHIELD: YES
LENGTH: 1 METER
CONNECTOR TYPE: USB-B TO LAPTOP
PORT: USB CLIENT
****

DEVICE TYPE: EUT CRADLE
SHIELD: YES
LENGTH: 1 METER
CONNECTOR TYPE: 9 PIN D-SUB TO UNTERMINATED
PORT: RS-232
****

DEVICE TYPE: EUT CRADLE
SHIELD: NO
LENGTH: 125 FEET
CONNECTOR TYPE: RJ-45 TO RJ-45
PORT: ETHERNET TO SUPPORT COMPUTER IN LAB
****

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

AC LINE CORDS

****

DEVICE TYPE: EUT POWER SUPPLY
SHIELD: NO
LENGTH: 1 METER
CONNECTOR TYPE: IEC TO DEDICATED
****

DEVICE TYPE: LAPTOP COMPUTER
SHIELD: NO
LENGTH: 1 METER
CONNECTOR TYPE: IEC TO DEDICATED
****

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

APPENDIX

C

Measurement Protocol

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

The test methodology followed during the collection of the data included within this technical report was ANSI C63.4:1992.

The EUT was powered with (230) VAC / (50) Hz during the collection of data included within.

The data is compared to the CISPR-22 Class B limits.

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

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

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

Observed Level		**25.8**	dBµV	
ACF	+	**24.0**	dB/M	
Cable Loss	+	**13.1**	dB	
Preamp Gain	–	**26.0**	dB	
Actual Level		**36.9**	dBµV/M	@ 916.5 MHz

Please have a company official review this report and sign.

_____

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