
**COMPLIANCE WORLDWIDE INC.
TEST REPORT 275-06**

In Accordance with the Requirements of

Industry Canada RSS 210, Issue 6, Annex II
Federal Communications Commission CFR Title 47 Part 15.249, Subpart C
Low Power License-Exempt Radio Communication Devices
Intentional Radiators

Issued to

**Summer Infant, Inc.
582 Great Road
P.O. Box 829
Slatersville, RI 02876**

for

Day and Night Video Monitor

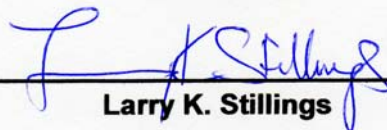
**FCC ID: PZK222T
IC: 4400A-222T**

Report Issued on October 13, 2006



Brian F. Breault

Reviewed By



Larry K. Stillings

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1 Scope

This test report certifies that the Summer Infant Day and Night Video Monitor, as tested, meets the RSS 210 Annex 1 Rules and FCC Part 15.249, Subpart C requirements. The scope of this test report is limited to the test sample provided by the client, only in as much as that sample represents other production units. If any significant changes are made to the unit, the changes shall be evaluated and a retest may be required.

2. Product Details

- 2.1. Manufacturer:** Summer Infant, Inc.
- 2.2. Model Number:** Model 02220 900 MHz Digital Day and Night Video Monitor Transmitter
- 2.3. Serial Number:** Prototype
- 2.4. Description:** The Model 02220 900 MHz Digital Day & Night Video Monitor Transmitter utilizes three channel selection and 900 MHz technology for superior clarity and range.
- 2.5. Power Source:** DC 9 volts, 300 mA utilizing an AC Adapter
- 2.6. EMC Modifications:** Unmodified Rev. B Sample

3. Product Configuration

3.1. Operational Characteristics

The Model 02220 900 MHz Digital Day & Night Video Monitor Transmitter is operated by plugging in the AC adapter and setting the device switch to one of the three transmit channels; A, B or C.

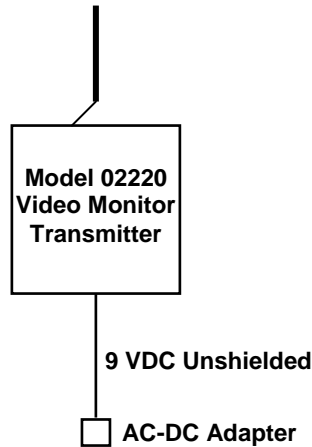
3.2. Support Equipment

- 3.2.1. Foreen Industries Model 35-D09-300 AC-DC Adapter (Included) Direct Plug-In Class 2 Transformer, Input: 120 volts AC, Output 9 volts DC, 300 mA, 3 meter DC cord.
- 3.2.2. Model 02220 900 MHz Digital Day & Night Video Monitor Receiver (remotely located).

3.3. EUT Cables

There were no cables other than the power cord used.

3.4. Block Diagram



4 Measurements Parameters

4.1 Measurement Equipment Used to Perform Test

Device	Manufacturer	Model No.	Serial No.	Last Cal	Cal Due
EMI Receiver	Hewlett Packard	8546A	3650A00360	1/5/2005	1/5/2007
Spectrum Analyzer	Hewlett Packard	8593E	3829A03887	3/16/2006	3/16/2007
Microwave Preamp	Hewlett Packard	8449B	3008A01323	9/22/2006	9/22/2008
Bilog Antenna	Com-Power	AC220	25509	7/31/2006	7/31/2007
Horn Antenna	Electro-Metrics	EM-6961	6337	8/25/2006	8/25/2007
Function Generator	Hewlett Packard	33120A	US36018408	1/14/2005	1/14/2007
Artificial Mouth	Bruel & Kjaer	4227	1785287	Cal'd before Use	
Microphone & Amp	Bruel & Kjaer	2609	1792894	Cal'd before Use	

4 Measurements Parameters (continued)

4.2 Measurement & Equipment Setup

Test Date:	10/12/2006
Test Engineer:	Robert J. McCall
Normal Site Temperature (15 - 35°C):	21.4
Extreme Test Temperatures (°C):	0 and +35
Relative Humidity (20 -75%RH):	32
Frequency Range:	>902 MHz & <928 MHz
Measurement Distance:	3 Meters
EMI Receiver IF Bandwidth:	Depends on measurement
EMI Receiver Avg Bandwidth:	Depends on measurement
Detector Function:	Depends on measurement

4.3 Test Procedure

Test measurements were made in accordance FCC Part 15.249: Operation within the bands 902 - 928 MHz, 2400 - 2483.5 MHz, 5725 - 5875 MHz, and 24.0 - 24.25 GHz.

The test methods used to generate the data in this test report is in accordance with ANSI C63.4: 2003, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz

5 Measurement Summary

Test Requirement	FCC Rule Requirement	Test Report Section	Result	Comment
Antenna Requirement	15.203	N.A	Compliant	Permanently attached
Radiated Field Strength of Fundamental	15.249 (a)	6.1	Compliant	
Radiated Field Strength of Harmonics	15.249 (a)	6.2	Compliant	
Occupied Bandwidth		6.3	Compliant	
Band Edge Measurements		6.4	Compliant	
Spurious Radiated Emissions	15.249 (d), 15.209	6.5	Compliant	
Conducted Emissions	15.207	6.7	Compliant	

6 Measurement Data

6.1 Radiated Field Strength of Fundamental (15.249, Section (a), IC RSS-210 A2.9)

Requirement: The 3 meter field strength of the fundamental emissions from intentional radiators operated within the 902 - 928 MHz frequency bands shall comply with the following requirement: 50 millivolts/meter (94dB μ V/m), quasi-peak mode measurement.

Note: The peak field strength of any emission shall not exceed the maximum permitted average limits specified by more than 20 dB under any condition of modulation.

Channel	Frequency (MHz)	Amplitude (dB μ V)		Corr Fact (dB)	Amplitude (dB μ V/m)		Quasi-Pk Limit	Margin (dB)	Ant Pol	Ant Ht	TT Pos	Result
		Peak	QP		Peak	QP						
Low (A)	910.0	63.74	62.94	26.66	90.4	89.6	94	-4.4	H	110	250	Passed
Middle (B)	915.0	64.10	63.30	26.70	90.8	90.0	94	-4.0	H	109	164	Passed
High (C)	921.3	64.28	63.48	26.72	91.0	90.2	94	-3.8	H	113	214	Passed

6.2 Radiated Field Strength of Harmonics (15.249, Section (a), IC RSS-210 A2.9)

Requirement: The 3 meter field strength of the harmonic emissions from intentional radiators operated within the 902 - 928 MHz frequency bands shall comply with the following: 500 microvolts/meter (54 dB μ V/m), average mode measurement

Note: The peak field strength of any emission shall not exceed the maximum permitted average limits specified by more than 20 dB under any condition of modulation.

6.2.1 Low Channel (A) (910 MHz)

Frequency (MHz)	Amplitude (dB μ V)		Corr. Fact. (dB)	Amplitude (dB μ V/m)		Average Limit	Margin (dB)	Ant Pol	Ant Ht	TT Pos	Result
	Peak	Avg		Peak	Avg						
1820.000	62.63	53.59	-5.26	57.37	48.33	54	-5.67	H	135	250	Passed
2730.000 ¹	53.21	48.02	-2.07	51.14	45.94	54	-8.06	H	117	270	Passed
3640.000 ¹	42.81	36.77	1.78	44.59	38.55	54	-15.45	H	100	280	Passed
4550.000 ¹	42.78	22.78	2.47	45.25	25.25	54	-28.75	Noise Floor			Passed
5460.000	41.98	21.98	5.70	47.68	27.68	54	-26.32	Noise Floor			Passed
6370.000	40.81	20.81	8.10	48.91	28.91	54	-25.09	Noise Floor			Passed
7280.000 ¹	41.48	21.48	4.24	45.72	25.72	54	-28.28	Noise Floor			Passed
8190.000 ¹	41.74	21.74	5.68	47.42	27.42	54	-26.58	Noise Floor			Passed
9100.000 ¹	41.52	21.52	6.27	47.79	27.79	54	-26.21	Noise Floor			Passed

¹ Frequency falls within the Restricted Bands of Operation. See FCC Part 15, Section 15.205 for additional information.

6 Measurement Data (continued)

6.2 Radiated Field Strength of Harmonics (continued)

6.2.2 Middle Channel (B) (915 MHz)

Frequency (MHz)	Amplitude (dB μ V)		Corr. Fact. (dB)	Amplitude (dB μ V/m)		Average Limit	Margin (dB)	Ant Pol	Ant Ht	TT Pos	Result
	Peak	Avg		Peak	Avg						
1830.000	61.90	58.10	-5.27	56.63	52.83	54	-1.17	H	131	260	Passed
2745.000 ¹	52.57	47.12	-2.61	49.96	44.51	54	-9.49	H	117	270	Passed
3660.000 ¹	44.54	35.68	0.67	45.21	36.35	54	-17.65	H	128	305	Passed
4575.000 ¹	42.05	22.05	0.45	42.50	22.50	54	-31.50	Noise Floor			Passed
5490.000	41.37	21.37	3.00	44.37	24.37	54	-29.63	Noise Floor			Passed
6405.000	41.66	21.66	4.31	45.97	25.97	54	-28.03	Noise Floor			Passed
7320.000 ¹	41.90	21.90	6.32	48.22	28.22	54	-25.78	Noise Floor			Passed
8235.000 ¹	42.04	22.04	8.34	50.38	30.38	54	-23.62	Noise Floor			Passed
9150.000 ¹	42.35	22.35	8.21	50.56	30.56	54	-23.44	Noise Floor			Passed

¹ Frequency falls within the Restricted Bands of Operation. See FCC Part 15, Section 15.205 for additional information.

6.2.3 Upper Channel (C) (921 MHz)

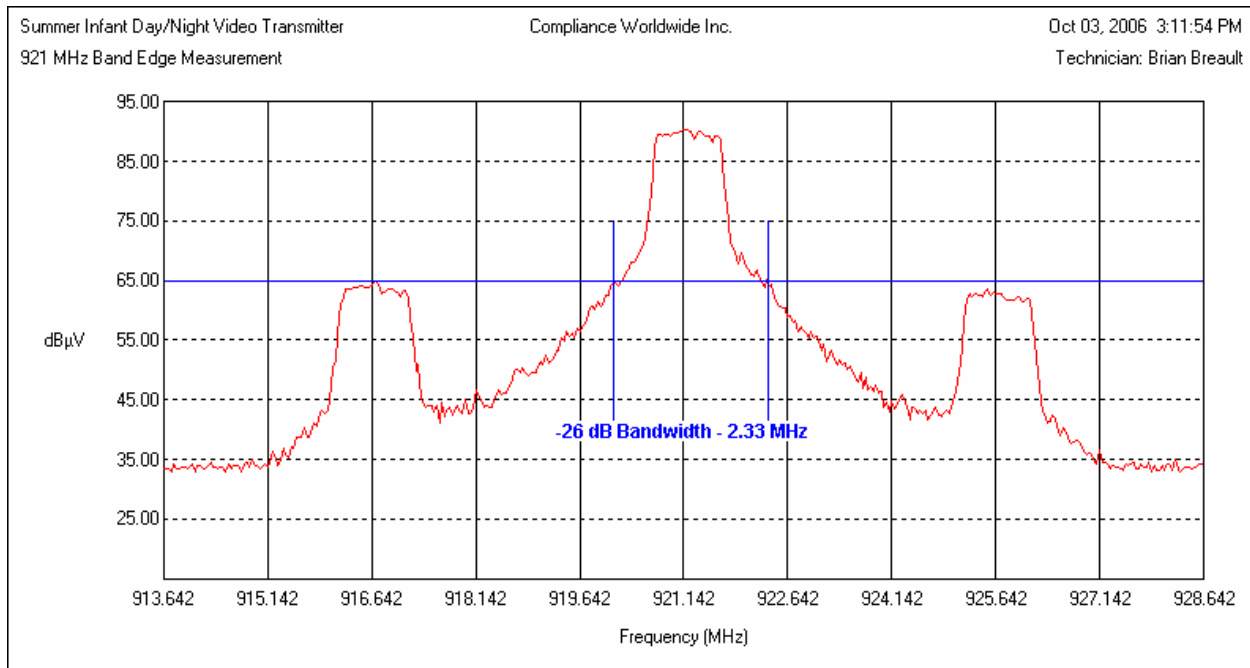
Frequency (MHz)	Amplitude (dB μ V)		Corr. Fact. (dB)	Amplitude (dB μ V/m)		Average Limit	Margin (dB)	Ant Pol	Ant Ht	TT Pos	Result
	Peak	Avg		Peak	Avg						
1842.000	61.00	58.54	-5.78	55.22	52.76	54	-1.24	H	125	260	Passed
2763.000 ¹	51.65	45.56	-3.05	48.60	42.51	54	-11.49	H	101	270	Passed
3684.000 ¹	44.82	37.10	-1.20	43.62	35.90	54	-18.10	H	128	170	Passed
4605.000 ¹	42.47	22.47	0.64	43.11	23.11	54	-30.89	Noise Floor			Passed
5526.000	41.61	21.61	2.83	44.44	24.44	54	-29.56	Noise Floor			Passed
6447.000	41.48	21.48	3.40	44.88	24.88	54	-29.12	Noise Floor			Passed
7368.000 ¹	41.58	21.58	4.90	46.48	26.48	54	-27.52	Noise Floor			Passed
8289.000 ¹	42.30	22.30	7.78	50.08	30.08	54	-23.92	Noise Floor			Passed
9210.000 ¹	42.02	22.02	7.67	49.69	29.69	54	-24.31	Noise Floor			Passed

¹ Frequency falls within the Restricted Bands of Operation. See FCC Part 15, Section 15.205 for additional information.

6 Measurement Data (continued)

6.3 Occupied Bandwidth

-26 dB Bandwidth = 2.33 MHz



For the Bandwidth Measurements a 100 dB SPL 1 kHz tone at 10 cm from the EUT's microphone was generated to modulate the audio carrier. To modulate the video a light was used to modulate the carrier. The bandwidth shown is the worst case under both conditions.

6 Measurement Data (continued)

6.4 Band Edge Measurements

Requirement: In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

6.4.1 Measurement Results – Lower Band Edge

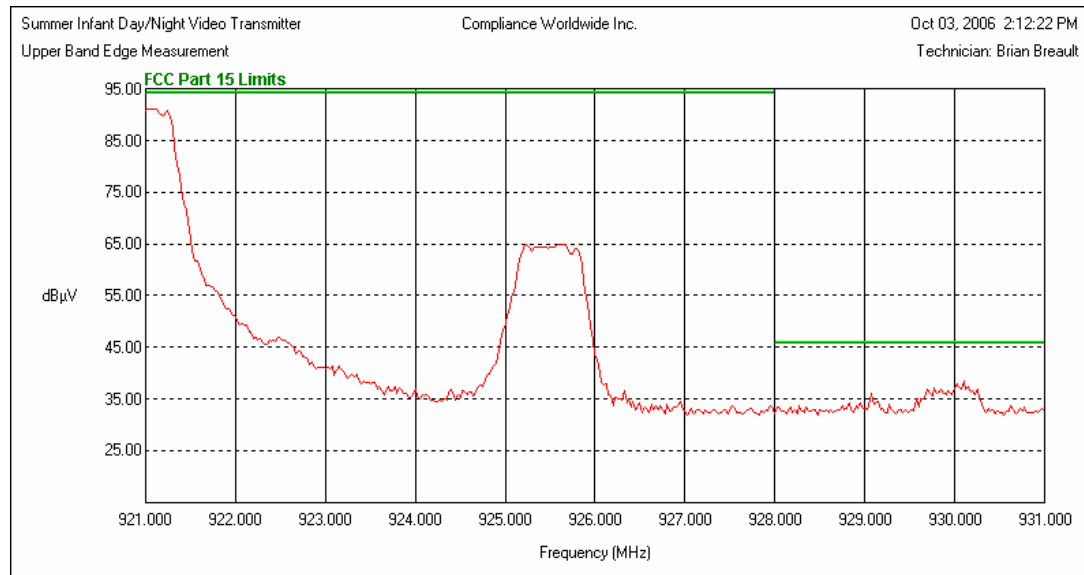
Lowest Channel (MHz)	Field Strength (dB μ V/m)		Band Edge Frequency (MHz)	Field Strength (dB μ V/m)		Margin (dB)		Result
	Peak	QP		Peak	QP	Peak	QP	
910.000	90.4	89.6	902.000	37.00	N/A	>20 dB	>20 dB	Compliant

6 Measurement Data (continued)

6.4 Band Edge Measurements (continued)

6.4.2 Measurement Results – Upper Band Edge

Highest Channel (MHz)	Field Strength (dB μ V/m)		Band Edge Frequency (MHz)	Field Strength (dB μ V/m)		Margin (dB)		Result
	Peak	QP		Peak	QP	Peak	QP	
921.300	91.0	90.2	928.000	37.00	N/A	>20 dB	>20 dB	Compliant



6 Measurement Data (continued)

6.5 Spurious Radiated Emissions, 30 MHz to 1 GHz (15.249, Section (d), IC RSS210)

Requirement: Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.

6.5.1 Spurious Radiated Emissions, 30 MHz to 1 GHz Test Setup

6.5.1.1. Regulatory Limit: FCC Part 209, Quasi-Peak

Frequency Range (MHz)	Distance (Meters)	Limit (dBµV/m)
30 to 88	3	40.0
88 to 216	3	43.5
216 to 960	3	46.0
960 to 1000	3	54.0

6.5.1.2 Measurement Equipment Used to Perform Test

Device	Manufacturer	Model No.	Serial No.	Cal Due
EMI Receiver	Hewlett Packard	8546A	3650A00360	1/5/2007
Biconilog Antenna	Com-Power	AC220	25509	1/31/2007

6.5.1.3 Measurement & Equipment Setup

Test Date: 10/12/2006
 Test Engineer: Robert J. McCall
 Site Temperature (°C): 21.4
 Relative Humidity (%RH): 32
 Frequency Range: 30 MHz to 1 GHz
 Measurement Distance: 3 Meters
 EMI Receiver IF Bandwidth: 120 kHz
 EMI Receiver Avg Bandwidth: 300 kHz
 Detector Functions: Peak and Quasi-Peak.
 Antenna Height: 1 to 4 meters

6.5.1.4 Test Procedure

Test measurements were made in accordance with ANSI C63.4-2003, Standard Methods of Measurement of Radio Noise Emissions from Low-Voltage Electrical and Electronics Equipment in the Range of 9 kHz to 40 GHz.

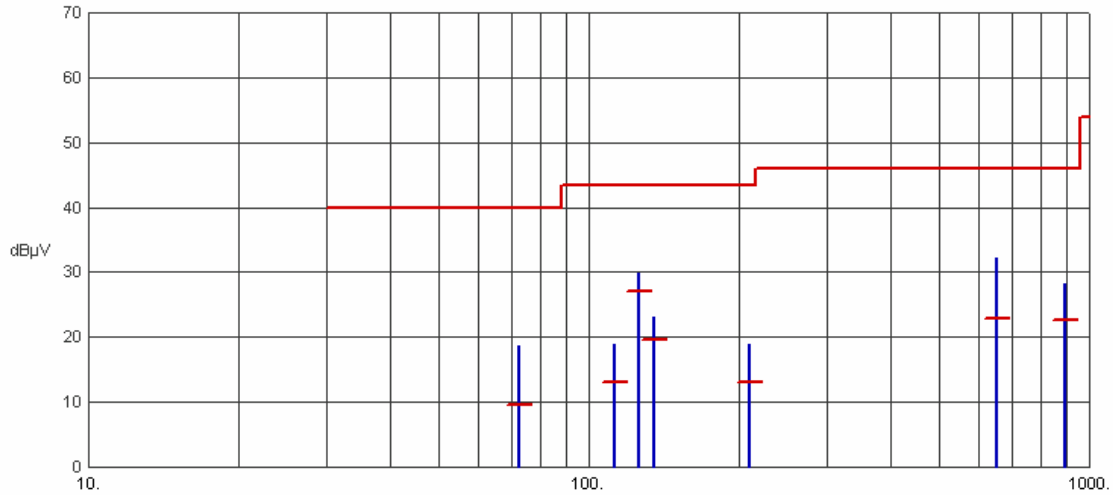
6 Measurement Data (continued)

6.5 Spurious Radiated Emissions (30 MHz to 1 GHz) Test Results (continued)

6.5.2 Horizontal Polarity

Test No.: 275-06, Radiated Emissions - Horizontal Polarity

FCC, Class B



Frequency (MHz)	Pk Amp (dBµV/m)	QP Amp (dBµV/m)	QP Limit (dBµV/m)	Margin (dB)	Ant Ht (cm)	Table (Deg)	Comments
72.4770	18.65	9.62	40.00	-30.38	N/A	N/A	
112.5082	18.87	13.06	43.50	-30.44	N/A	N/A	
125.6630	29.87	27.10	43.50	-16.40	N/A	N/A	
135.1678	23.03	19.55	43.50	-23.95	N/A	N/A	
208.8798	18.88	13.06	43.50	-30.44	N/A	N/A	
654.2823	32.23	22.77	46.00	-23.23	N/A	N/A	
891.8348	28.15	22.65	46.00	-23.35	N/A	N/A	

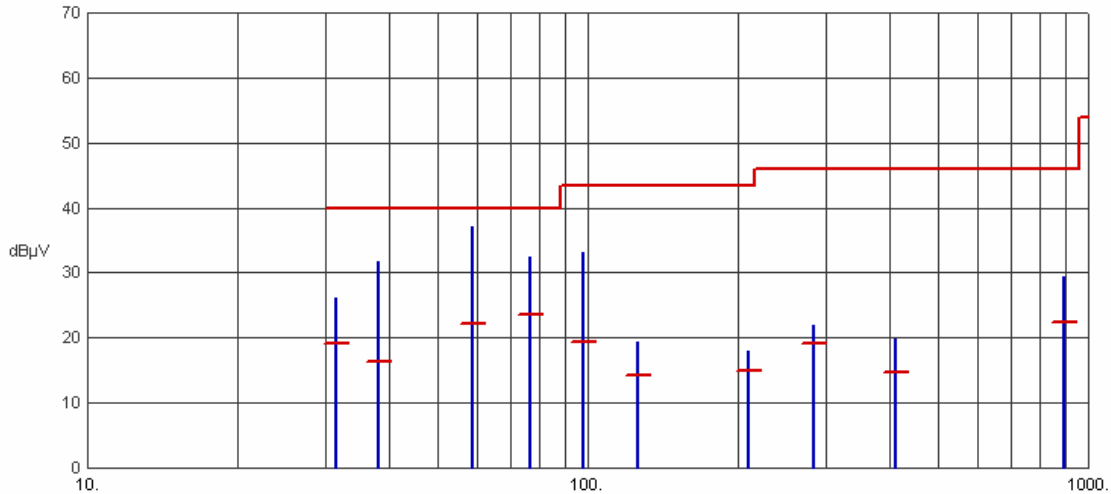
6 Measurement Data (continued)

6.5 Spurious Radiated Emissions (30 MHz to 1 GHz) Test Results (continued)

6.5.3 Vertical Polarity

Test No.: 275-06, Radiated Emissions - Vertical Polarity

FCC, Class B



Frequency (MHz)	Pk Amp (dBµV/m)	QP Amp (dBµV/m)	QP Limit (dBµV/m)	Margin (dB)	Ant Ht (cm)	Table (Deg)	Comments
31.4102	26.11	19.25	40.00	-20.75	N/A	N/A	
38.2982	31.78	16.27	40.00	-23.73	N/A	N/A	
58.6722	37.08	22.25	40.00	-17.75	N/A	N/A	
76.6108	32.44	23.59	40.00	-16.41	N/A	N/A	
98.1533	33.04	19.45	43.50	-24.05	N/A	N/A	
125.6676	19.38	14.13	43.50	-29.37	N/A	N/A	
208.8966	17.97	14.84	43.50	-28.66	N/A	N/A	
282.6097	21.89	19.22	46.00	-26.78	N/A	N/A	
411.0102	19.75	14.61	46.00	-31.39	N/A	N/A	
896.5771	29.44	22.36	46.00	-23.64	N/A	N/A	

6.6 Spurious Radiated Emissions (1 – 9.2 GHz) Test Results

There were no spurious emissions above 1 GHz other than the harmonics previously reported.

6. Measurement Data (continued)

6.7 Power Line Conducted Emissions (15.207)

Requirement: For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal.

6.7.1 Power Line Conducted Emissions Test Setup

6.7.1.1 Regulatory Limit: (15.207) (FCC Part 15, Class B)

Frequency Range (MHz)	Limits (dB μ V)	
	Quasi-Peak	Average
0.15 to 0.50	66 to 56*	56 to 46*
0.50 to 5.0	56	46
5.0 to 30.0	60	50

* Decreases with the logarithm of the frequency.

6.7.1.2 Measurement Equipment Used to Perform Test

Device	Manufacturer	Model No.	Serial No.	Last Cal	Cal Due
EMI Receiver	Hewlett Packard	8546A	3650A00360	1/5/2006	1/5/2007
LISN	EMCO	EM3825/2	9109-1860	12/15/2005	12/15/2006

6.7.1.3 Measurement & Equipment Setup

Test Date: 10/12/2006
 Test Engineer: Robert J. McCall
 Site Temperature (°C): 21.6
 Relative Humidity (%RH): 32
 Frequency Range: 0.15 MHz to 30 MHz
 EMI Receiver IF Bandwidth: 9 kHz
 EMI Receiver Avg Bandwidth: 30 kHz
 Detector Functions: Peak, Quasi-Peak. & Average

6. Measurement Data (continued)

6.7 Power Line Conducted Emissions (15.207) (continued)

6.7.1.4 Test Procedure

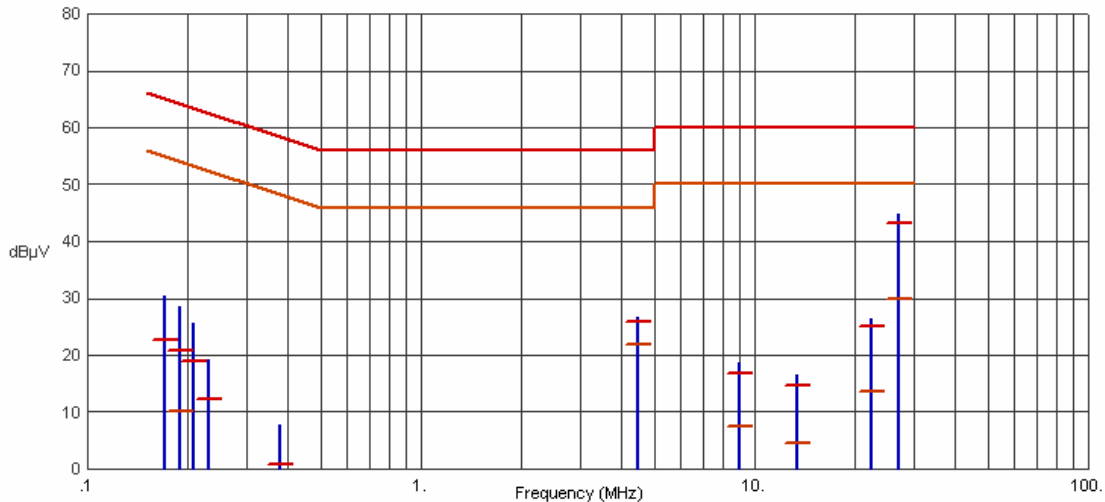
Test measurements were made in accordance with ANSI C63.4-2003, Standard Methods of Measurement of Radio Noise Emissions from Low-Voltage Electrical and Electronics Equipment in the Range of 9 kHz to 40 GHz.

6.7.2 Conducted Emissions Test Data

6.7.2.1 120 Volts, 60 Hz Phase

Test No.: 275-06, 120 Volts, 60 Hz Phase

FCC, Class B



Frequency (MHz)	Pk Amp (dBµV)	QP Amp (dBµV)	QP Limit (dBµV)	QP Margin (dB)	Avg Amp (dBµV)	Avg Limit (dBµV)	Avg Margin (dB)	Comments
.1708	30.44	22.59	64.92	-42.33	-1.79	54.92	-56.71	
.1901	28.58	20.69	64.03	-43.34	10.16	54.03	-43.87	
.2087	25.67	18.82	63.26	-44.44	-6.22	53.26	-59.48	
.2307	19.09	12.34	62.42	-50.08	-7.38	52.42	-59.80	
.3777	7.78	.90	58.33	-57.43	-7.95	48.33	-56.28	
4.4853	26.79	25.85	56.00	-30.15	21.78	46.00	-24.22	
8.9685	18.79	16.92	60.00	-43.08	7.58	50.00	-42.42	
13.4541	16.55	14.67	60.00	-45.33	4.61	50.00	-45.39	
22.4325	26.51	25.10	60.00	-34.90	13.64	50.00	-36.36	
26.9231	44.75	43.28	60.00	-16.72	29.96	50.00	-20.04	

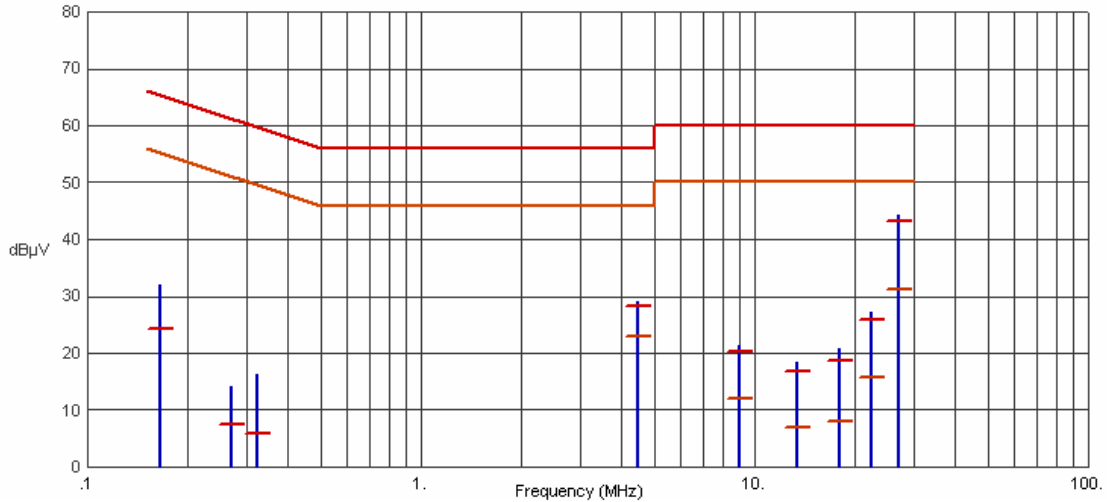
6. Measurement Data (continued)
6.7 Power Line Conducted Emissions (15.207) (continued)

6.7.2 Conducted Emissions Test Data (continued)

6.7.2.2 120 Volts, 60 Hz Neutral

Test No.: 275-06, 120 Volts, 60 Hz Neutral

FCC, Class B



Frequency (MHz)	Pk Amp (dBµV)	QP Amp (dBµV)	QP Limit (dBµV)	QP Margin (dB)	Avg Amp (dBµV)	Avg Limit (dBµV)	Avg Margin (dB)	Comments
.1658	32.12	24.14	65.17	-41.03	-6.83	55.17	-62.00	
.2706	14.04	7.35	61.10	-53.75	-9.51	51.10	-60.61	
.3240	16.33	5.97	59.60	-53.63	-8.10	49.60	-57.70	
4.4843	29.19	28.25	56.00	-27.75	23.00	46.00	-23.00	
8.9698	21.30	20.14	60.00	-39.86	11.87	50.00	-38.13	
13.4546	18.35	16.87	60.00	-43.13	6.96	50.00	-43.04	
17.9393	20.73	18.57	60.00	-41.43	7.95	50.00	-42.05	
22.4267	27.07	25.91	60.00	-34.09	15.68	50.00	-34.32	
26.9110	44.29	43.08	60.00	-16.92	31.26	50.00	-18.74	

7. Test Site Description

Compliance Worldwide is located at 357 Main Street in Sandown, New Hampshire. The test sites at Compliance Worldwide are used for conducted and radiated emissions testing in accordance with Federal Communications Commission (FCC) and Industry Canada standards. A description of the test sites is on file with the FCC (registration number **96392**) and Industry Canada (file number **IC 3023**).

The radiated emissions test site is a 3 and 10 meter enclosed open area test site (OATS). Personnel, support equipment and test equipment are located in the basement beneath the OATS ground plane.

The conducted emissions site is part of a 16' x 20' x 12' ferrite tile chamber and uses one of the walls for the vertical ground plane required by EN 55022.

Both sites are designed to test products or systems 1.5 meter W x 1.5 meter L x 2.0 meter H, floor standing or table top.