



**FCC CFR47 PART 15 SUBPART C  
ATTESTATION TEST REPORT**

***FOR***

**EAS SYSTEM**

**MODEL NUMBER: WPGTR58-1**

**FCC ID: P9I-WGPPTR58**

**REPORT NUMBER: 05U3485-11, Revision B**

**ISSUE DATE: JULY 5, 2007**

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**NVLAP<sup>®</sup>**  
**LAB CODE:200065-0**

Revision History

Rev.	Issue Date	Revisions	Revised By
A	10/03/05	Initial Issue	Thu
B	07/05/07	Editorial changes for FCC Review.	S. Radecki

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## 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** WG SECURITY PRODUCTS, INC.  
3031 TISCH WAY, STE 602  
SAN JOSE, CA 95128  
U.S.A.

**EUT DESCRIPTION:** EAS System

**MODEL:** WPGGTR58-1

**SERIAL NUMBER (TRANSFORMER):** CS 01545  
**SERIAL NUMBER (CONTROLLER):** CS 01546  
**SERIAL NUMBER (ANTENNA):** CS 01547

**DATE TESTED:** JUNE 12, 2005  
SEPTEMBER 14 - 22, 2005

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 15 SUBPART C	NO NON-COMPLIANCE NOTED

Compliance Certification Services, Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

**Note:** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by Compliance Certification Services and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by Compliance Certification Services will constitute fraud and shall nullify the document. No part of this report may be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any government agency.

Approved & Released For CCS By:

Tested By:



THU CHAN  
EMC SUPERVISOR  
COMPLIANCE CERTIFICATION SERVICES

FRANK IBRAHIM  
EMC ENGINEER  
COMPLIANCE CERTIFICATION SERVICES

## 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4-2003.

## 3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 561F Monterey Road, Morgan Hill, California, USA. The sites are constructed in conformance with the requirements of ANSI C63.4, ANSI C63.7 and CISPR Publication 22. All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

CCS is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at <http://www.ccsemc.com>.

## 4. CALIBRATION AND UNCERTAINTY

### 4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

### 4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Radiated Emission, 30 to 200 MHz	+/- 3.3 dB
Radiated Emission, 200 to 1000 MHz	+4.5 / -2.9 dB
Radiated Emission, 1000 to 2000 MHz	+4.5 / -2.9 dB
Power Line Conducted Emission	+/- 2.9 dB

Uncertainty figures are valid to a confidence level of 95%.

## 5. EQUIPMENT UNDER TEST

### 5.1. DESCRIPTION OF EUT

EUT is an electronic article surveillance system, the principle of operation is as follows:  
Receiver software will send control signal to transmitter to send out 1.6mS Tx burst periodically in random sequence, and read in the received signal, which is processed to decide whether it's a tag signal or noise, then receiver software will compare tag signal sequence with transmitting sequence, if they are matched software will trigger alarm to activate visual and audio alarm.

#### GENERAL INFORMATION

CHASSIS/ ENCLOSURE MATERIAL	PLASTIC
POWER REQUIREMENTS	100-120VAC, 230-240VAC, 50-60 Hz
POWERLINE FILTER MANUFACTURER AND MODEL	Built-In
LIST OF ALL OSCILLATOR FREQUENCIES GREATER THAN OR EQUAL TO 9 kHz	11.6MHz, 20MHz

### 5.2. TEST CONFIGURATION

The following configuration was investigated during testing:

EUT Configuration	Description
Typical Configuration	Antenna assembly was connected to control box by two cables, both control box and antenna assembly were powered by 24 VAC transformer. No tag was placed inside the field of the antenna assembly.

### 5.3. MODE(S) OF OPERATION

Mode	Description
Normal Mode	EUT was transmitting a burst signal continuously.

## 5.4. SOFTWARE AND FIRMWARE

Not Applicable.

## 5.5. MODIFICATIONS

No modifications were made during testing.

## 5.6. DETAILS OF TESTED SYSTEM

### SUPPORT EQUIPMENT

N/A; no support equipment were used for the operation of the EUT.

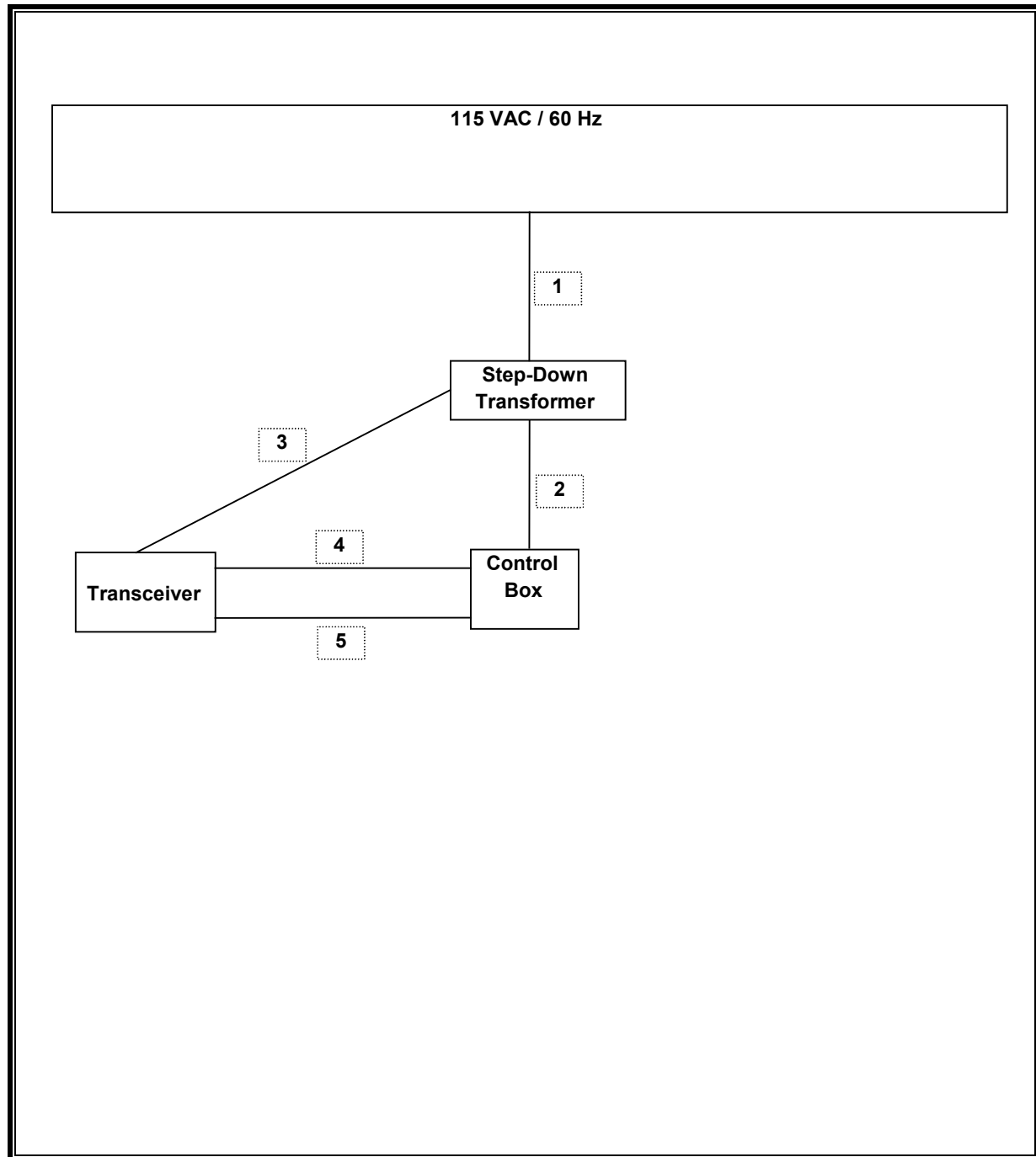
### I/O CABLES

I/O CABLE LIST						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	AC power	1	AC power	Unshielded	1.8 m	N/A
2	AC power	1	Terminal Block	Unshielded	0.5 m	N/A
3	AC power	1	Terminal Block	Unshielded	3 m	N/A
4	TX	1	Terminal Block	Shielded	3 m	N/A
5	RX	1	Terminal Block	Shielded	3 m	N/A

### TEST SETUP

The EUT consists of step-down transformer, control box and an antenna.

**TEST SETUP DIAGRAM**





## 6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

TEST AND MEASUREMENT EQUIPMENT LIST				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due Date
Antenna, Loop 9 kHz ~ 30 MHz	EMCO	6502	9202-2722	9/7/2006
SA Display Section 3	HP	85662A	2314A04793	1/15/2006
SA RF Section, 1.5 GHz	HP	85680A	2314A02604	1/15/2006
Quasi-Peak Adaptor	HP	85650A	2521A01038	1/15/2006
EMI Receiver, 9 kHz ~ 2.9 GHz	HP	8542E	3942A00286	3/29/2006
RF Filter Section	HP	85420E	3705A00256	3/29/2006
Antenna, Bilog 30MHz ~ 2GHz	Sunol Sciences	JB1	A121003	3/3/2006
EMI Test Receiver	Rohde & Schwarz	ESHS20	827129/006	10/22/05
LISN, 10 kHz ~ 30 MHz	Fisher	50/250-25-2	114	10/21/05
LISN, 10 kHz ~ 30 MHz	Solar	8012-50-R-24-BNC	837990	10/21/05

## 7. APPLICABLE LIMITS AND TEST RESULTS

### 7.1. RADIATED EMISSIONS

#### TEST PROCEDURE

ANSI C63.4

The highest clock frequency generated or used in the EUT is 20 MHz, therefore the frequency range was investigated from 9 kHz to 1000 MHz.

#### LIMIT

§15.209 (a) Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Limits for radiated disturbance of an intentional radiator		
Frequency range (MHz)	Limits (µV/m)	Measurement Distance (m)
0.009 – 0.490	2400 / F (kHz)	300
0.490 – 1.705	24000 / F (kHz)	30
1.705 – 30.0	30	30
30 – 88	100**	3
88 – 216	150**	3
216 – 960	200**	3
Above 960	500	3

\*\* Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g. §§ 15.231 and 15.241.

§15.209 (b) In the emission table above, the tighter limit applies at the band edges.

In addition:

§15.209 (d) The emission limits shown the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emissions limits in these three bands are based on measurements employing an average detector.

§15.209 (d) The provisions in §§ 15.31, 15.33, and 15.35 for measuring emissions at distances other than the distances specified in the above table, determining the frequency range over which radiated emissions are to be measured, and limiting peak emissions apply to all devices operated under this part.

#### RESULTS

No non-compliance noted:

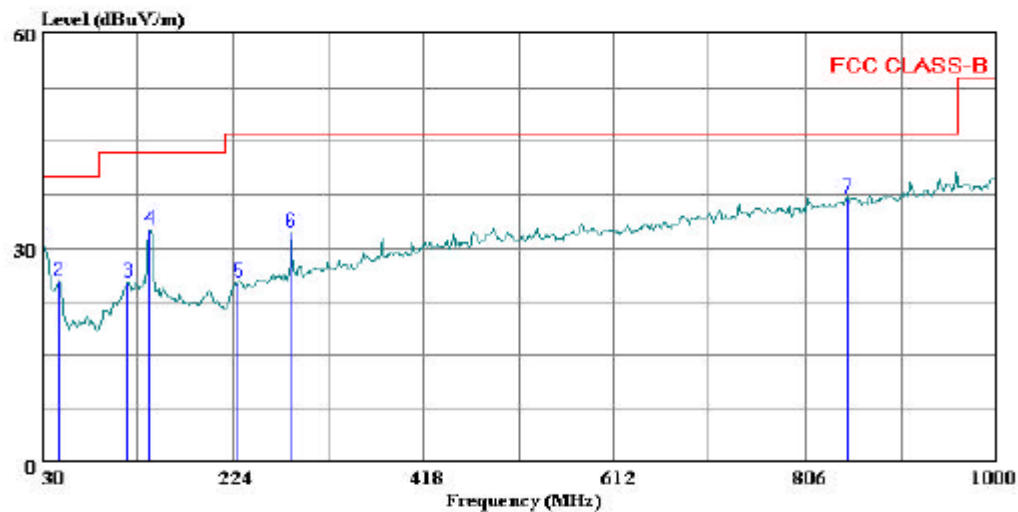
**SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)**

HORIZONTAL PLOT



561F Monterey Road  
Morgan Hill, CA 95037  
Tel: (408) 463-0888  
Fax: (408) 463-0885

Data#: 14 File#: rad 0922.EMI Date: 09-22-2005 Time: 20:29:40



(Auxiliary)

Trace: 13

Ref Trace:

Condition: FCC CLASS-B HORIZONTAL  
Test Operator: : Frank Ibrahim  
Project #: : 05U3485  
Company: : WG Security Products  
EUT: : EAS SYSTEM  
Model No. : Premier Guard  
Configuration : Transformer, Controller, and Antenna  
Target of Test : FCC Class B  
Mode of Operation: TX ON (no tag in the field) - worst case

HORIZONTAL DATA

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1	31.940	9.72	19.94	29.66	40.00	-10.34	Peak
2	47.460	14.51	10.79	25.30	40.00	-14.70	Peak
3	117.300	10.27	14.84	25.11	43.50	-18.39	Peak
4	139.610	17.72	14.83	32.55	43.50	-10.95	Peak
5	229.820	12.13	13.05	25.18	46.00	-20.82	Peak
6	284.140	17.12	15.08	32.20	46.00	-13.80	Peak
7	847.710	11.66	25.20	36.86	46.00	-9.14	Peak

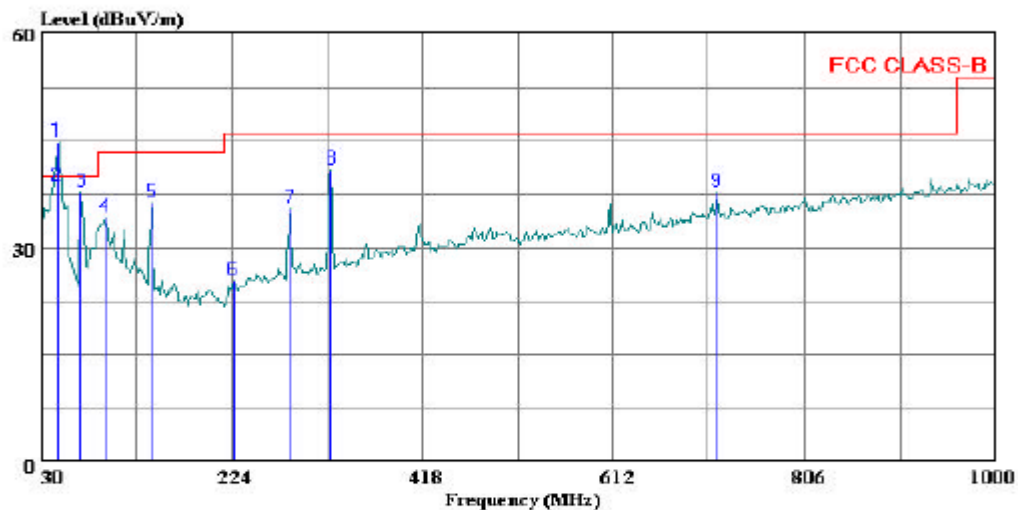
**SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)**

VERTICAL PLOT



561F Monterey Road  
Morgan Hill, CA 95037  
Tel: (408) 463-0888  
Fax: (408) 463-0885

Data#: 16 File#: rad 0922.EMI Date: 09-22-2005 Time: 20:36:17



(Auxiliary ATC)  
Trace: 15

Ref Trace:

Condition: FCC CLASS-B VERTICAL  
Test Operator: : Frank Ibrahim  
Project #: : 05U3485  
Company: : WG Security Products  
EUT: : EAS SYSTEM  
Model No.: : Premier Guard  
Configuration: : Transformer, Controller, and Antenna  
Target of Test: : FCC Class B  
Mode of Operation: TX ON (no tag in the field) - worst case

VERTICAL DATA

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1 *	45.880	33.14	11.79	44.93	40.00	4.93	Peak
2	45.880	26.80	11.79	38.59	40.00	-1.41	QP
3	70.740	28.45	9.34	37.79	40.00	-2.21	Peak
4	94.990	24.22	10.12	34.34	43.50	-9.16	Peak
5	143.490	21.67	14.63	36.30	43.50	-7.21	Peak
6	225.940	12.35	12.91	25.26	46.00	-20.74	Peak
7	284.140	20.37	15.08	35.45	46.00	-10.55	Peak
8	324.880	24.62	16.28	40.90	46.00	-5.10	Peak
9	717.730	14.47	23.39	37.86	46.00	-8.14	Peak

**SPURIOUS EMISSIONS 0.058 TO 30 MHz (WORST-CASE CONFIGURATION)**

**FCC Part 15, Subpart B & C      10 Meter Distance Measurement At Open Field**

**Company:** WG Security Product Inc.  
**Project #:** 05U3485-4  
**Model #:** EAS System, WG Premier Guard  
**Tester:** Frank Ibrahim  
**Date:** 09-14-2005

Frequency (MHz)	PK (dBuV)	QP (dBuV)	AV (dBuV)	AF dB/m	Distance Correction (dB)	PK Corrected Reading (dBuV/m)	AV Corrected Reading (dBuV/m)	PK Limit (dBuV/m)	AV Limit (dBuV/m)	PK Margin (dB)	AV Margin (dB)	Notes
Loop Antenna Face On:												
0.058	18		-23.6	11.06	0.00	29.06	-12.54	52.34	32.34	-23.3	-44.9	Extrapolated to 300m
0.116	48.1		31.7	10.49	-59.08	-0.50	-16.90	46.32	26.32	-46.8	-43.2	10m distance
0.174	55		38.7	10.44	-59.08	6.36	-9.94	42.79	22.79	-36.4	-32.7	10m distance
0.232	47.9		36.3	10.4	-59.08	-0.78	-12.38	40.29	20.29	-41.1	-32.7	10m distance, NF
0.29	47.9		35.9	10.36	-59.08	-0.83	-12.83	38.36	18.36	-39.2	-31.2	10m distance

\* No more emissions were found up to 30MHz

Note: The emission limits are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 10000Mhz. Radiated emission limits in these three bands are based on measurements employing an average detector.

P.K. = Peak  
Q.P. = Quasi Peak Readings  
A.F. = Antenna factor

## 7.2. AC MAINS LINE CONDUCTED EMISSIONS

### TEST PROCEDURE

ANSI C63.4

### LIMIT

§15.207 (a) Except as shown in paragraphs (b) and (c) of this section, 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  $\mu$ 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. The lower limit applies at the boundary between the frequency ranges.

Frequency range (MHz)	Limits (dB $\mu$ V)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56*	56 to 46*
0.50 to 5	56	46
5 to 30	60	50

\* Decreases with the logarithm of the frequency.

### RESULTS

No non-compliance noted:

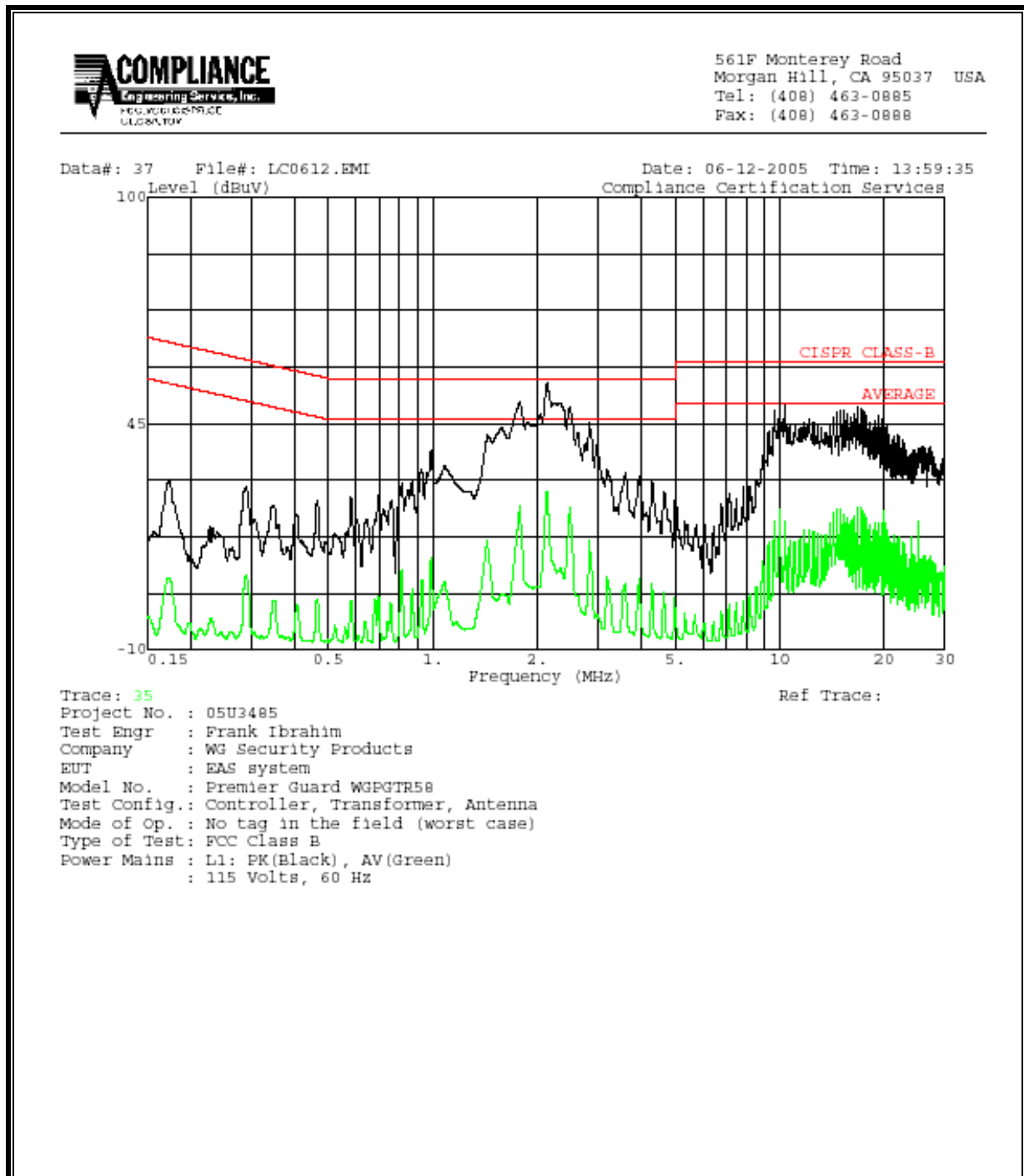


# **6 WORST EMISSIONS**

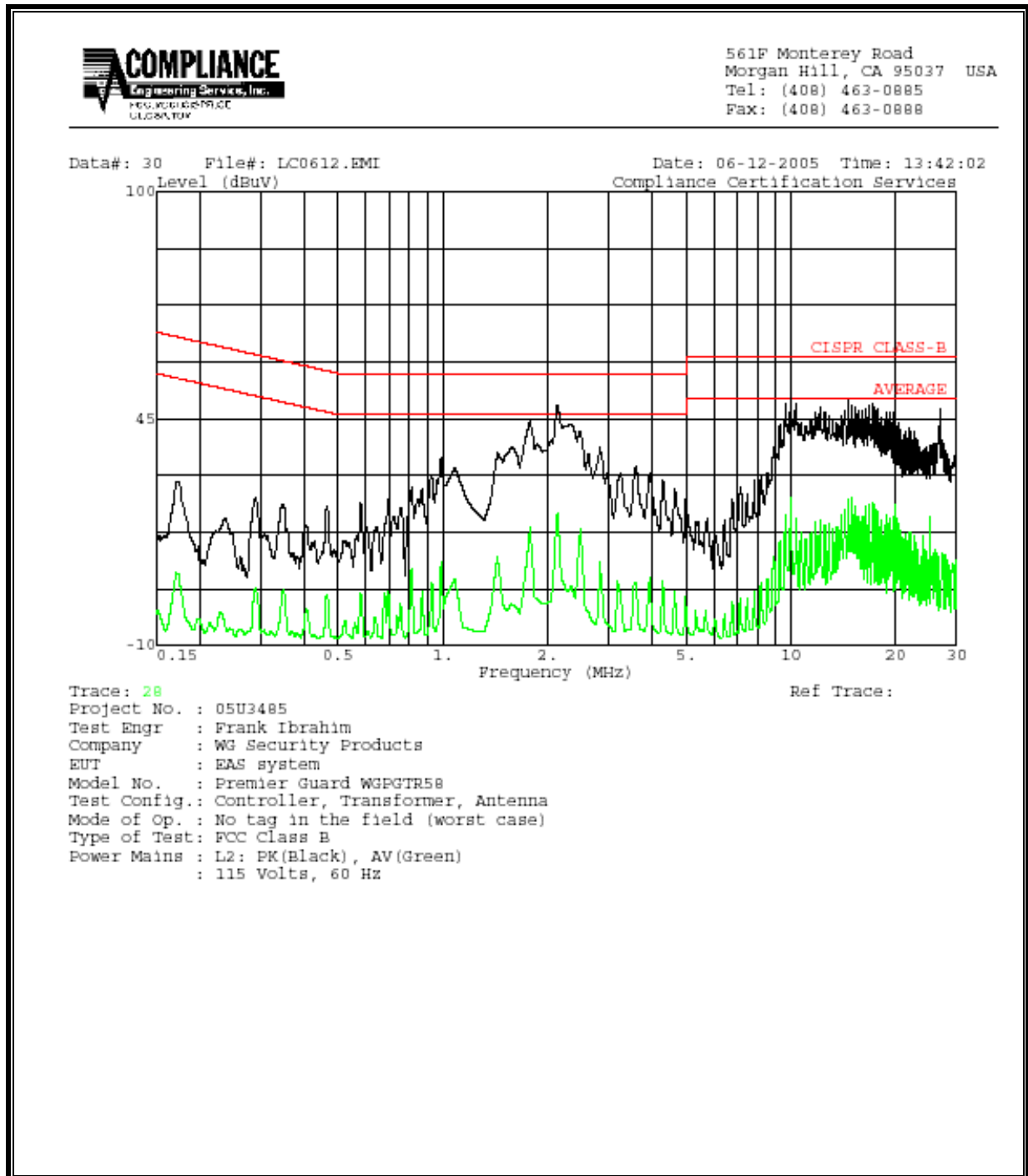
CONDUCTED EMISSIONS DATA (115VAC 60Hz)									
Freq.	Reading			Closs	Limit	EN B	Margin		Remark
(MHz)	PK (dBuV)	QP (dBuV)	AV (dBuV)	(dB)	QP	AV	QP (dB)	AV (dB)	L1 / L2
1.78	50.48	--	25.10	0.00	56.00	46.00	-5.52	-20.90	L1
2.13	54.82	--	28.65	0.00	56.00	46.00	-1.18	-17.35	L1
10.02	51.50	--	24.25	0.00	60.00	50.00	-8.50	-25.75	L1
2.13	48.26	--	21.99	0.00	56.00	46.00	-7.74	-24.01	L2
10.02	51.82	--	26.12	0.00	60.00	50.00	-8.18	-23.88	L2
14.67	49.30	--	25.43	0.00	60.00	50.00	-10.70	-24.57	L2
6 Worst Data									

Premier Guard

## LINE 1 RESULTS

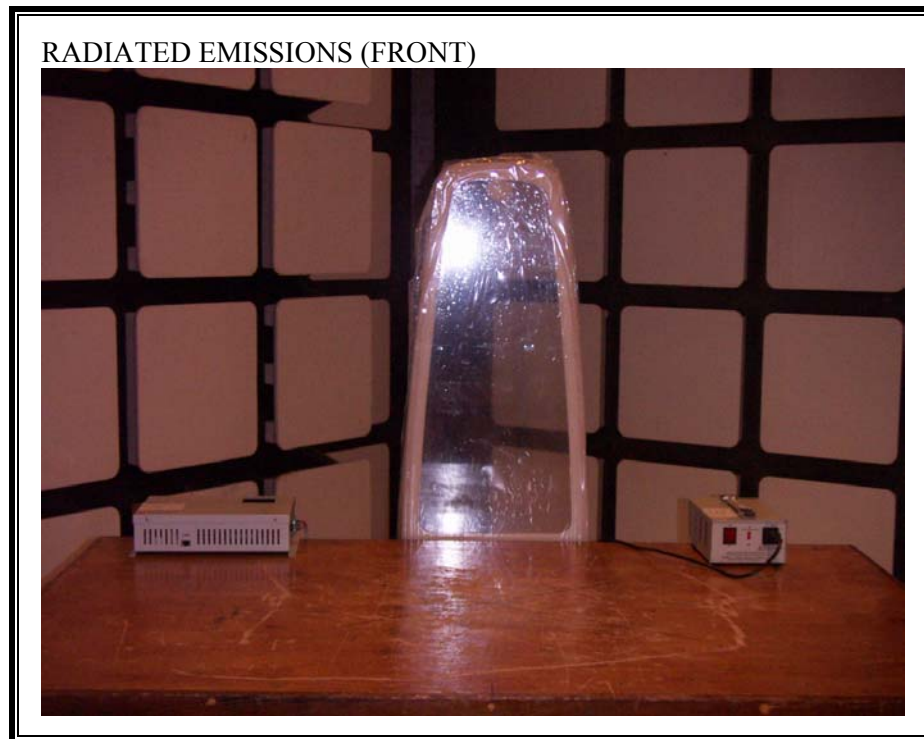


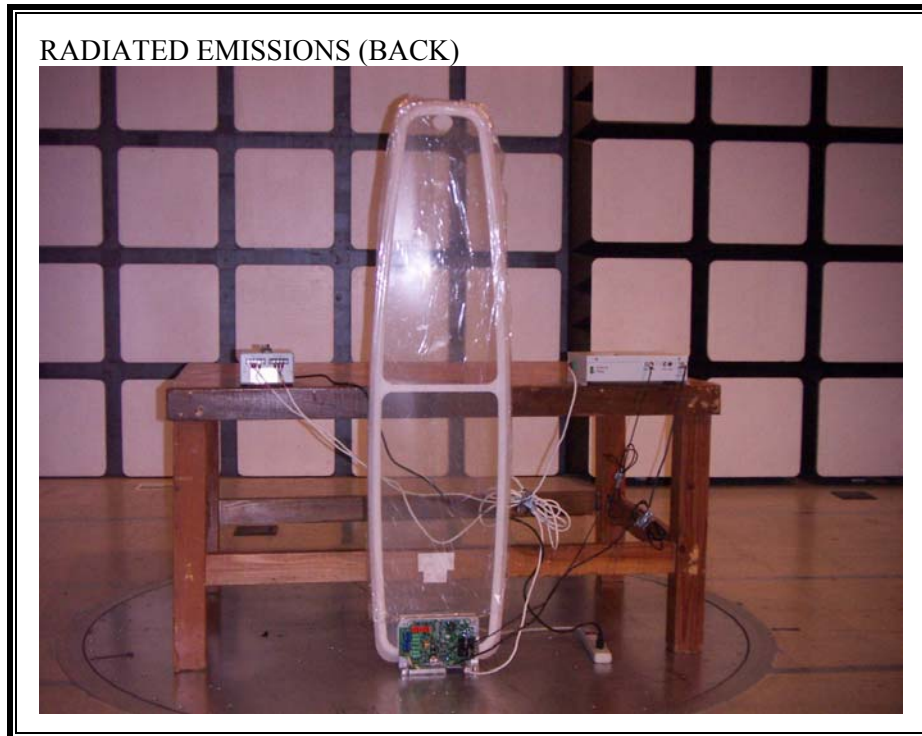
## LINE 2 RESULTS



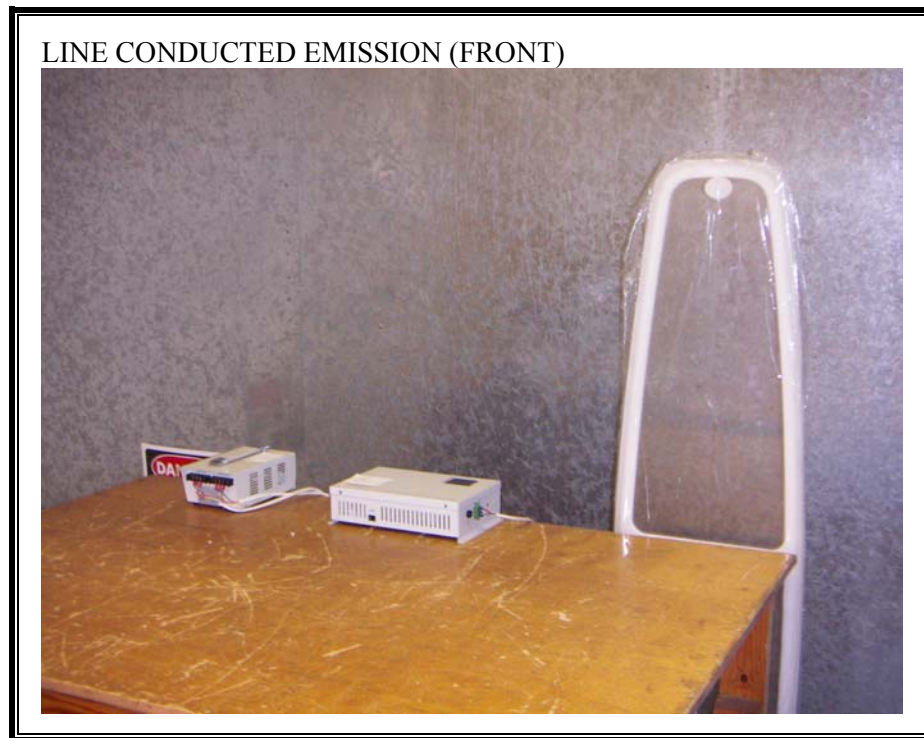
## 8. SETUP PHOTOS

### RADIATED EMISSION (30-1000 MHz)





**AC MAINS LINE CONDUCTED EMISSION (0.15-30 MHz)**



LINE CONDUCTED EMISSION (BACK)





**RADIATED EMISSIONS (0.009-30 MHz)**



**END OF REPORT**