



**RADIO FREQUENCY EMISSIONS TEST REPORT**

**FOR**

**DEACTIVATOR**

**MODEL NUMBER: WGSP58**

**FCC ID: P9I-WGSP58**

**REPORT NUMBER: 05U3266-1**

**ISSUE DATE: MARCH 29, 2005**

*Prepared for*  
**WG SECURITY PRODUCTS, INC.**  
**3031 TISCH WAY STE 602**  
**SAN JOSE, CA 95128**  
**U.S.A.**

*Prepared by*  
**COMPLIANCE CERTIFICATION SERVICES**  
**561F MONTEREY ROAD,**  
**MORGAN HILL, CA 95037, USA**  
**TEL: (408) 463-0885**  
**FAX: (408) 463-0888**

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

Revision History

<u>Rev.</u>	<u>Revisions</u>	<u>Revised By</u>
-------------	------------------	-------------------

## TABLE OF CONTENTS

<b>1. ATTESTATION OF TEST RESULTS.....</b>	<b>4</b>
<b>2. TEST METHODOLOGY .....</b>	<b>5</b>
<b>3. FACILITIES AND ACCREDITATION .....</b>	<b>5</b>
<b>4. CALIBRATION AND UNCERTAINTY.....</b>	<b>5</b>
4.1. MEASURING INSTRUMENT CALIBRATION.....	5
4.2. MEASUREMENT UNCERTAINTY.....	5
<b>5. EQUIPMENT UNDER TEST.....</b>	<b>6</b>
5.1. DESCRIPTION OF EUT .....	6
5.2. DESCRIPTION OF AVAILABLE ANTENNAS .....	6
5.3. SOFTWARE AND FIRMWARE .....	6
5.4. WORST-CASE MODE FOR EMISSIONS TESTS.....	6
5.5. WORST-CASE MODE FOR IMMUNITY TESTS .....	6
<b>6. TEST AND MEASUREMENT EQUIPMENT .....</b>	<b>7</b>
<b>7. APPLICABLE LIMITS AND TEST RESULTS .....</b>	<b>8</b>
7.1. DIGITAL RADIATED EMISSIONS .....	8
7.2. TX RADIATED EMISSIONS BELOW 30 MHZ .....	11
7.3. AC MAINS LINE CONDUCTED EMISSIONS.....	13
<b>8. SETUP PHOTOS .....</b>	<b>17</b>

## 1. ATTESTATION OF TEST RESULTS

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

**EUT DESCRIPTION:** Deactivator

**MODEL:** WGSP58

**SERIAL NUMBER:** C01507

**DATE TESTED:** FEBRUARY 14-23, 2005

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 15 SUBPART B	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

---

GORDON ANDREWS  
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**

The Stealth Pad™ Distance Deactivator provides deactivation of security tags. The Stealth Pad™ Antenna is configured for tabletop operation but can also be set flush mount to the counter top in a mounting tray or vertically mounted against the counter. Tuning is easily accomplished via the handheld IR remote, providing complete control with password protection.

### **5.2. DESCRIPTION OF AVAILABLE ANTENNAS**

The radio utilizes loop antenna of dimensions (165 x 185 x 65) mm.

### **5.3. SOFTWARE AND FIRMWARE**

NOT APPLICABLE.

### **5.4. WORST-CASE MODE FOR EMISSIONS TESTS**

Normal Operation; EUT was transmitting 58 kHz signal.

### **5.5. WORST-CASE MODE FOR IMMUNITY TESTS**

Normal Operation; EUT was transmitting 58 kHz signal.

## 6. TEST AND MEASUREMENT EQUIPMENT

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

TEST EQUIPMENT LIST				
Description	Manufacturer	Model	Serial Number	Cal Due
RF Filter Section	HP	85420E	3705A00256	11/21/2005
EMI Receiver, 9 kHz ~ 2.9 GHz	HP	8542E	3942A00286	11/21/2005
Antenna, Bilog 30MHz ~ 2Ghz	Sunol Sciences	JB1	A121003	9/22/2005
EMI Test Receiver	Rohde &	ESHS20	827129/006	10/22/2005
LISN, 10 kHz ~ 30 MHz	Fisher	50/250-25-2	114	10/21/2005
LISN, 10 kHz ~ 30 MHz	Solar	8012-50-R-24-BNC	2593	10/21/2005
Active Loop Antenna	EMCO	6502	9202-2722	9/7/2006

## 7. APPLICABLE LIMITS AND TEST RESULTS

### 7.1. DIGITAL RADIATED EMISSIONS

#### TEST PROCEDURE

ANSI C63.4

#### LIMIT

§15.109 (b) The field strength of radiated emissions from a Class A digital device, as determined at a distance of 10 meters, shall not exceed the following:

Limits for radiated disturbance of Class A ITE at measuring distance of 10 m	
Frequency range (MHz)	Quasi-peak limits (dB $\mu$ V/m)
30 to 88	39
88 to 216	43.5
216 to 960	46.4
Above 960 MHz	49.5
Note: The lower limit shall apply at the transition frequency.	

#### RESULTS

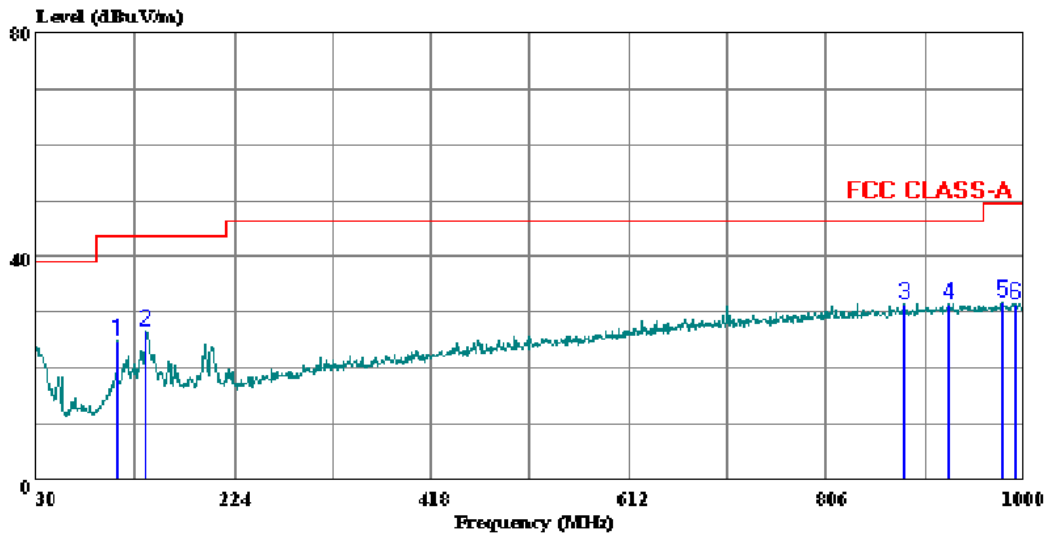
**SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION)**

HORIZONTAL PLOT



7F #8 Ln120 Neihu Rd Sec1,  
Taipei, Taiwan R.O.C.  
Tel:02-26594900  
Fax:02-26594833

Data#: 12 File#: rad021105.EMI Date: 02-11-2005 Time: 18:28:01



(Audix ATC)

Trace: 11

Ref Trace:

Condition: FCC CLASS-A HORIZONTAL  
Test Operator: : Frank Ibrahim  
Project #: : 05U3266-2  
Company: : WG Security Products  
EUT: : 58 kHz Deactivator  
Model No: : StealthPad WGSP58-1  
Configuration: : Deactivator Unit, Control Box  
Target of Test: : FCC CLASS A  
Mode of Operation: Standby mode, no tag in the field

Page: 1

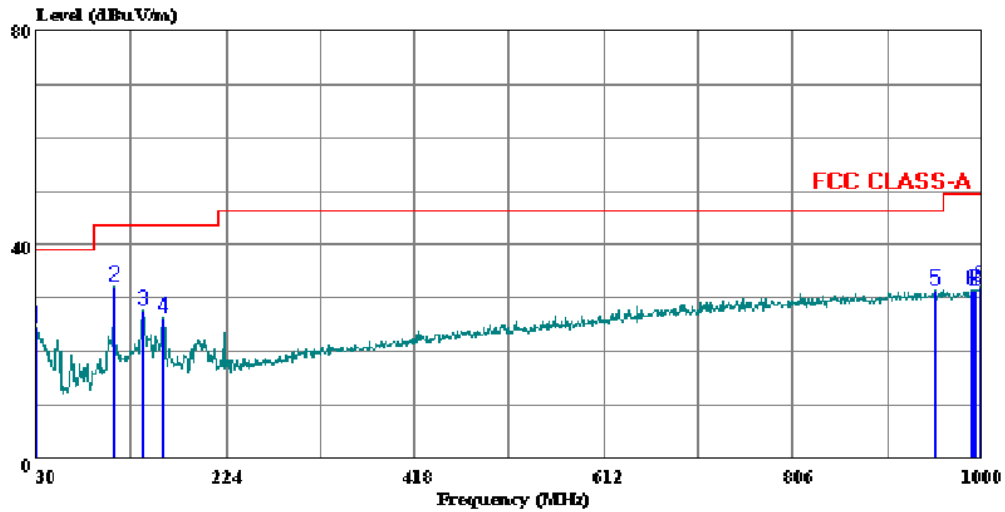
	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1	109.540	24.82	0.00	24.82	43.50	-18.69	Peak
2	137.670	26.60	0.00	26.60	43.50	-16.90	Peak
3	881.660	31.64	0.00	31.64	46.40	-14.76	Peak
4	927.250	31.60	0.00	31.60	46.40	-14.80	Peak
5	979.630	31.80	0.00	31.80	49.50	-17.70	Peak
6	991.270	31.59	0.00	31.59	49.50	-17.91	Peak

# VERTICAL DATA



7F #8 Ln120 Neihu Rd Sec1,  
Taipei, Taiwan R.O.C.  
Tel:02-26594900  
Fax:02-26594833

Data#: 14 File#: rad021105.EMI Date: 02-11-2005 Time: 18:34:48



(Auxiliary ATC)

Trace: 13

Ref Trace:

Condition: FCC CLASS-A VERTICAL  
Test Operator: : Frank Ibrahim  
Project #: : 05U3266-2  
Company: : WG Security Products  
EUT: : 58 kHz Deactivator  
Model No: : StealthPad WGSP58-1  
Configuration: : Deactivator Unit, Control Box  
Target of Test: : FCC CLASS A  
Mode of Operation: Standby mode, no tag in the field

Page: 1

	Freq	Read		Limit	Over	
	MHz	Level	Factor	Level	Line	Limit Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB
1	30.000	24.50	0.00	24.50	39.00	-14.50 Peak
2	109.540	32.12	0.00	32.12	43.50	-11.39 Peak
3	138.640	27.57	0.00	27.57	43.50	-15.93 Peak
4	159.010	26.40	0.00	26.40	43.50	-17.10 Peak
5	951.500	31.54	0.00	31.54	46.40	-14.86 Peak
6	990.300	31.59	0.00	31.59	49.50	-17.92 Peak
7	992.240	31.60	0.00	31.60	49.50	-17.90 Peak
8	994.180	31.68	0.00	31.68	49.50	-17.82 Peak
9	998.060	32.07	0.00	32.07	49.50	-17.43 Peak

## 7.2. TX RADIATED EMISSIONS BELOW 30 MHZ

### TEST PROCEDURE

ANSI C63.4

### LIMIT

The field strength of radiated emissions from an intentional radiator shall not exceed the following, for frequencies below 30 MHz:

Frequency range (MHz)	Limits ( $\mu$ V/m)	Measurement Distance (meters)
0.009 – 0.490	2400 / F (kHz)	300
0.490 – 1.705	24000 / F (kHz)	30
1.705 – 30.0	30	30
Note: The lower limit shall apply at the transition frequency.		

Testing was done at a distance of 10m, and an extrapolation factor of 40 dB / decade was applied to readings.

### RESULTS

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

Company: WG Security

Project #: 05U3266-1

Model #: WGFP58-1,2

Tester: Gordon Andrews

Date: 02/16/05

Frequency (MHz)	PK (dBuV)	QP (dBuV)	AV (dBuV)	AF dB/m	Distance Correction (dB)	PK Corrected Reading (dBuV/m)	AV Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	PK Margin (dB)	AV Margin (dB)	Notes
Loop Antenna Face On: 0.058	63.5			11.06	-59.08	15.48	15.48	52.34	32.34	-36.9	-16.9	10m distance
*												
Loop Antenna Face Off:												
0.058	58.2			11.06	-59.08	10.18	10.18	52.34	32.34	-42.2	-22.2	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

### 7.3. AC MAINS LINE CONDUCTED EMISSIONS

#### **TEST PROCEDURE**

ANSI C63.4

#### **LIMIT**

§15.109 (a) Except for Class A digital devices, for equipment 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 band edges.

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
Notes: 1. The lower limit shall apply at the transition frequencies 2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.		

#### **RESULTS**

# **6 WORST EMISSIONS**

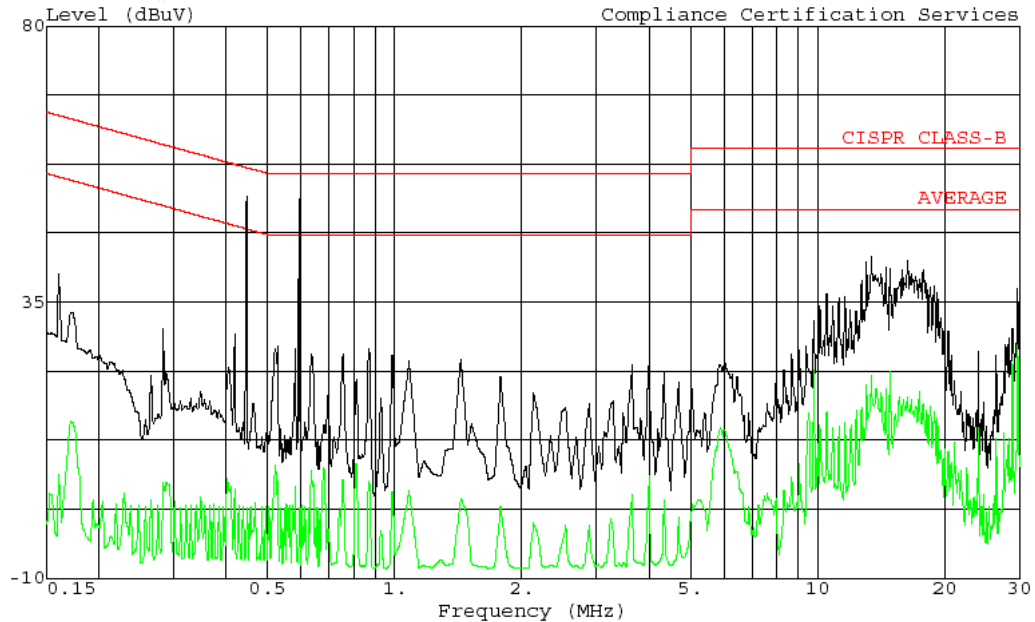
CONDUCTED EMISSIONS DATA (115VAC 60Hz)									
Freq.	Reading			Closs	Limit	FCC_B	Margin		Remark
(MHz)	PK (dBuV)	QP (dBuV)	AV (dBuV)	(dB)	QP	AV	QP (dB)	AV (dB)	L1 / L2
0.45	52.28	--	-1.89	0.00	56.93	46.93	-4.65	-48.82	L1
0.60	51.82	--	-2.53	0.00	56.00	46.00	-4.18	-48.53	L1
13.41	42.42	--	22.99	0.00	60.00	50.00	-17.58	-27.01	L1
0.65	49.60	--	-4.62	0.00	56.00	46.00	-6.40	-50.62	L2
13.41	43.70	--	23.10	0.00	60.00	50.00	-16.30	-26.90	L2
14.52	42.58	--	22.21	0.00	60.00	50.00	-17.42	-27.79	L2
6 Worst Data									

**LINE 1 RESULT**

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

Data#: 28 File#: WG230VAC.EMI

Date: 02-15-2005 Time: 16:54:49



Trace: 26

Ref Trace:

Project No. : 05U3266  
Test Engr : WILLIAM ZHUANG  
Company : WG SECURITY PRODUCTS, INC.  
EUT : 58 kHz EAS  
Model No. : STEALTH PAD WGSP58-1  
Test Config.: EUT ONLY  
Type of Test: EN55022 CLASS B  
Mode of Op. : TRANSMIT ONLY ( WORST CASE)  
AC Mains : 115 VAC, 60 Hz  
: L1: Peak (Black); Average (Green)

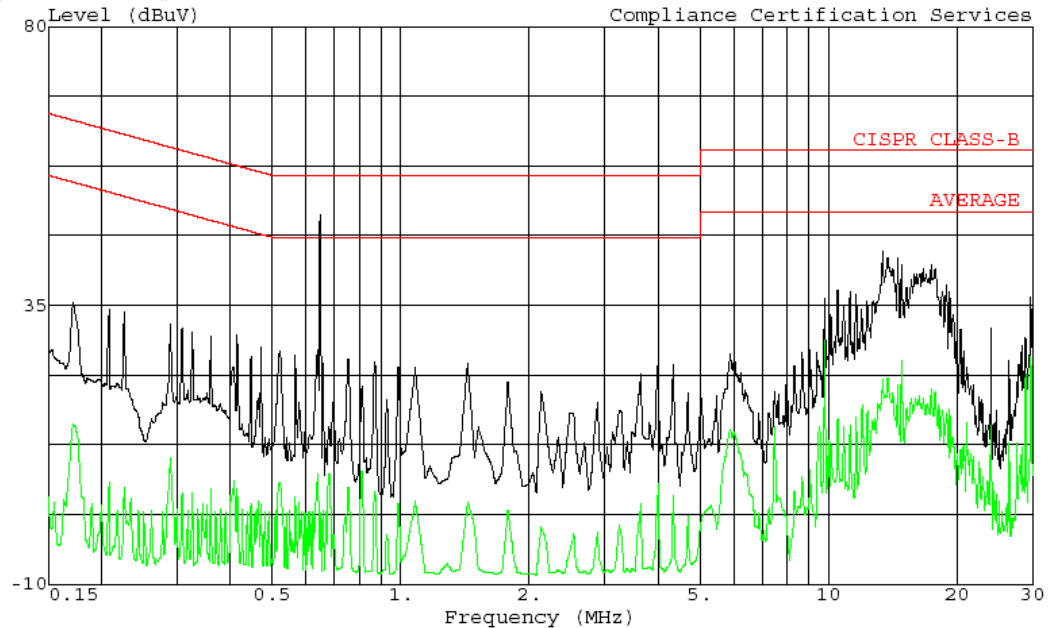
**LINE 2 RESULT**

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

Data#: 35 File#: WG230VAC.EMI

Date: 02-15-2005 Time: 17:03:14

Compliance Certification Services

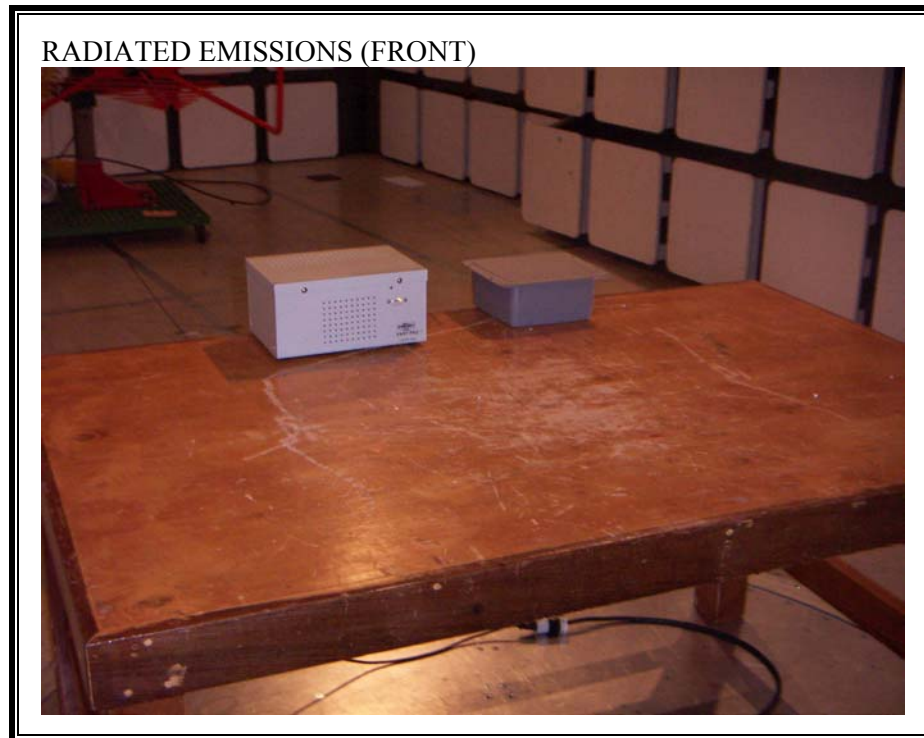


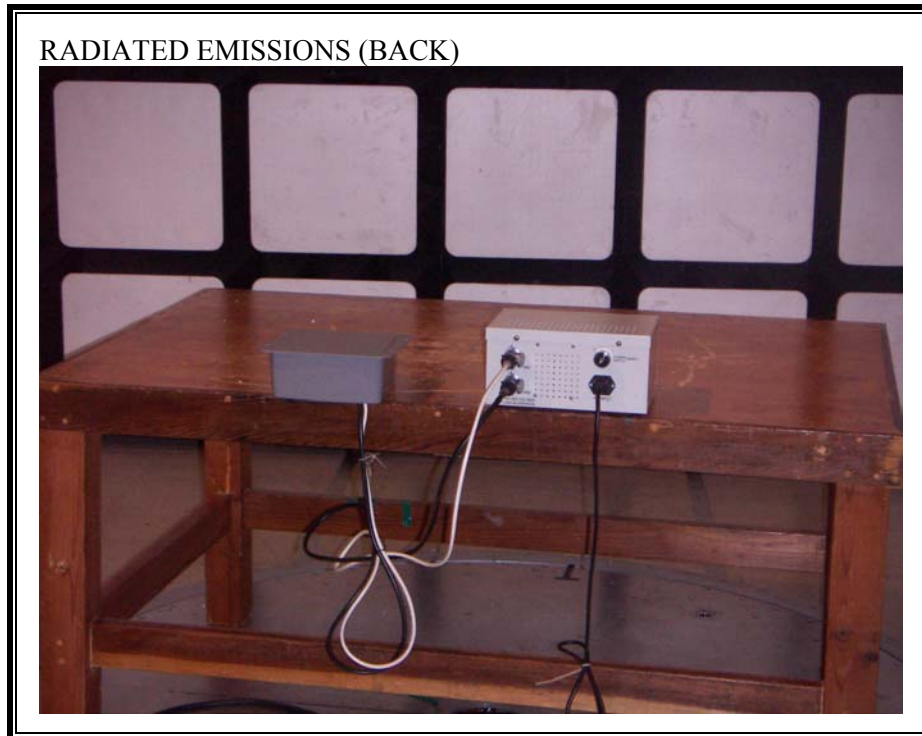
Trace: 33  
Project No. : 05U3266  
Test Engr : WILLIAM ZHUANG  
Company : WG SECURITY PRODUCTS, INC.  
EUT : 58 kHz EAS  
Model No. : STEALTH PAD WGSP58-1  
Test Config.: EUT ONLY  
Type of Test: EN55022 CLASS B  
Mode of Op. : TRANSMIT ONLY ( WORST CASE)  
AC Mains : 115 VAC, 60 Hz  
L2: Peak (Black); Average (Green)

Ref Trace:

## 8. SETUP PHOTOS

### RADIATED EMISSION ABOVE 30 MHZ

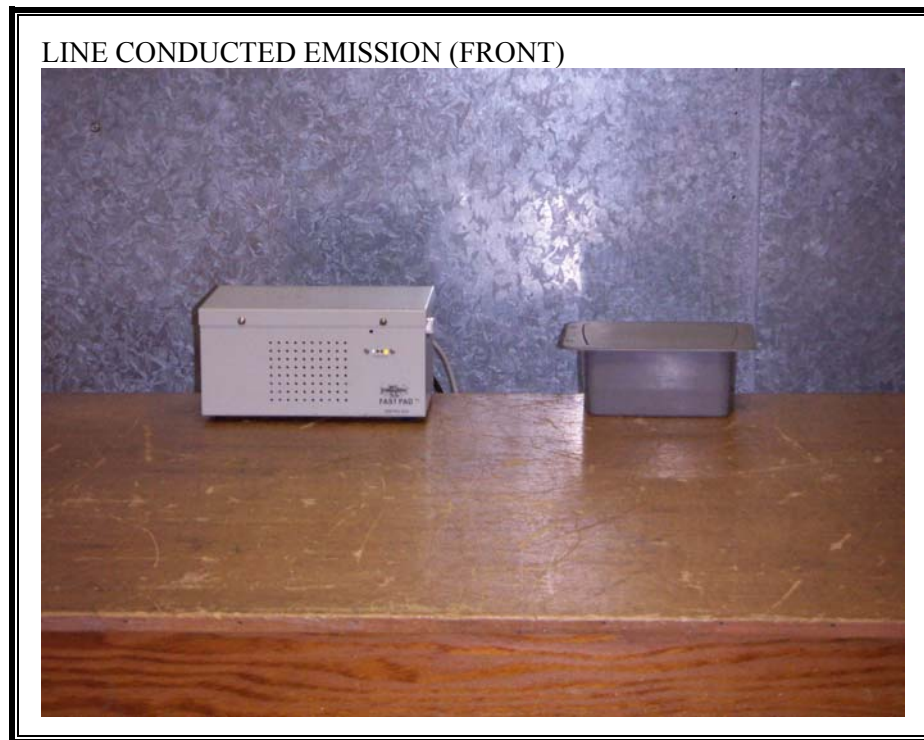




**RADIATED EMISSIONS BELOW 30 MHZ**



**AC MAINS LINE CONDUCTED EMISSION**



LINE CONDUCTED EMISSION (BACK)



**END OF REPORT**