MEASUREMENT AND TECHNICAL REPORT

OSI SECURITY DEVICES
1580 Jayken Way
San Diego, CA 91911

DATE: 22 May 2006

This Report Concerns:	Original Grant: X	Class II Change:
Equipment Type:	Portal Gateway, Model PG-B-16, S/N 06191799	
Deferred grant requested per 47 CFR 0.457(d)(1)(ii)?	Yes: **Defer until:**	No: X
Company Name **agrees to notify the Commission by:** **of the intended date of announcement of the product so that the grant can be issued on that date.**	N/A	
Transition Rules Request per 15.37?	Yes:	No: X*

(*) FCC Part 15, Paragraph(s) **15.247(a), 15.247(b), 15.247(c), 15.247(d), 15.107(a), 15.207(a), and 15.209(a)**

Report Prepared by:

TÜV AMERICA, INC
10040 Mesa Rim Road
San Diego, CA 92121-2912
Phone: 858 678 1400
Fax: 858 546 0364

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1.0 GENERAL INFORMATION

1.1 Product Description

Please complete each section. Enter N/A if field is not applicable.							
Applicant							
Company Name & Contact:	OSI Security Devices						
Address (Street):	1580 Jayken Way						
Address (:	City: Chula Vista	State:	California	Country:	USA	Zip:	91911
Person to Receive Report:	Chris McGill			Title	Engineer		
Phone:	(619)628-1000		Fax:	(619)628-1001			
E-mail Address:	cmcgill@omnilock.com						
General Equipment Description:							
EUT Description:	Wireless Access Management System access point.						
EUT Name:	Portal Gateway						
Model No.:	PG-B-16		Serial No.:	06191799			
Product Options:	N/A						
Configurations and modes to be tested:	Typical Operation						

EUT Specifications							
Length:	8 inches	Width:	8 inches	Height:	1.5 inches	Weight:	1.5 pounds

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Power Requirements (*Regulations require testing to be performed at typical power ratings in the countries of intended use. (i.e., European power is typically 230 VAC 50 Hz or 400 VAC 50 Hz, single and three phase, respectively))*

Voltage:	120 Volts	(If battery powered, make sure battery life is sufficient to complete testing.)	
# of Phases:	1 Phase		
Current (Amps/phase(max)):	.5 Amps	Current (Amps/phase(nominal)):	.1 Amps

EUT Power Cable

Permanent	OR	X	Removable
Shielded	OR	X	Unshielded
Not Applicable		X	Length (in meters): 2 M

EUT Interface Ports and Cables

Interface				Shielding								
Type	Analog	Digital	Qty	Yes	No	Type	Termination	Connector Type	Port Termination	Length (in meters)	Removable	Permanent
EXAMPLE: *RS232*	*X*		*2*	X		*Foil over braid*	*Coaxial*	*Metallized 9-pin D-Sub*	*Characteristic Impedance*	*6*	X	
Ethernet			1		X	Cat 5	RJ45	Shrouded RJ45	75 ohms	2	X	

EUT Operating Modes to be Tested -- list the operating modes to be used during test. It is recommended the equipment be tested while operating in a typical operation mode. FCC testing of personal computers and/or peripherals requires that a simple program generate a complete line of upper case H's. Provide a general description of all software, firmware, and PLD algorithms used in the equipment. List all code modules as described above, with the revision level used during testing.

Typical Operation.

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1.2 Related Submittal Grant

None

1.3 Tested System Details

The FCC ID's for all equipment, plus descriptions of all cables used in the tested system are:

None

1.4 Test Methodology

Purpose of Test: To demonstrate compliance with the following tests.

Test Summary					
Test Description	Paragraph Number	Summary of Results			Pass/Fail
		Low Channel	Mid Channel	High Channel	
Band Edge	15.247(a)(1)	No Emissions Detected	--	No Emissions Detected	Pass
Bandwidth	15.247(a)(2)	2.665 MHz	2.690 MHz	2.690 MHz	Pass
RF Output Power	15.247(b)	14.46 dBm	14.82 dBm	14.53 dBm	Pass
RF Conducted Spurious Emissions	15.247(c)	-31 dB	-32 dB	-35 dB	Pass
Radiated Spurious Emissions – Restricted Bands (1GHz to 25GHz)	15.247(c)/ 15.209(a)	-7.15 dB @ 7217.68 MHz	-10.3 dB @ 7335.7 MHz	-12 dB @ 4960.4 MHz	Pass
Power Spectral Density	15.247(d)	-8.0 dB	-8.0 dB	-9.0 dB	Pass
Conducted Emissions	15.107(a)	-19.2 dB @ 0.295 MHz	--	--	Pass
Conducted Emissions	15.207(a)	-19.3 dB @ 0.285 MHz	--	--	Pass
Radiated Emissions (30 to 1000 MHz)	15.209(a)	-6.3 dB @ 660 MHz	--	--	Pass

Testing was performed according to the procedures in FCC/ANSI C63.4 and CSA 108.8-M1983.

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1.5 Test Facility

The open area test site and conducted measurement data were tested by:

TÜV AMERICA, INC
10040 Mesa Rim Road
San Diego, CA 92121-2912
Phone: 858 678 1400
Fax: 858 546 0364

The Test Site Data and performance comply with ANSI C63.4 and are registered with the FCC, 7435 Oakland Mills Road, Columbia Maryland 21046. All Measurement Data is acquired according to the content of FCC Measurement Procedure and ANSI C63.4, unless supplemented with additional requirements as noted in the test report.

2.0 SYSTEM TEST CONFIGURATION

2.1 Justification

The EUT was initially tested for FCC emissions in the following configuration:

See Test Setup Photos Exhibit

2.2 EUT Exercise Software

None

2.3 Special Accessories

None

2.4 Equipment Modifications

None

2.5 Configuration of Test System

See Test Setup Photos Exhibit

3.0 BAND EDGE EQUIPMENT/DATA
BANDWIDTH EQUIPMENT/DATA
RF OUTPUT POWER EQUIPMENT/DATA
RF CONDUCTED SPURIOUS EMISSIONS EQUIPMENT/DATA
RADIATED SPURIOUS EMISSIONS EQUIPMENT/DATA
POWER SPECTRAL DENSITY EQUIPMENT/DATA
CONDUCTED EMISSIONS EQUIPMENT/DATA
RADIATED EMISSIONS EQUIPMENT/DATA

Test Conditions: BAND EDGE: FCC Part 15.247(a)(1)
BANDWIDTH: FCC Part 15.247(a)(2)
RF OUTPUT POWER: FCC Part 15.247(b)
RF CONDUCTED SPURIOUS EMISSIONS: FCC Part 15.247(c)
RADIATED SPURIOUS EMISSIONS: FCC Parts 15.247(c) and 15.209(a)
POWER SPECTRAL DENSITY: FCC Part 15.247(d)
CONDUCTED EMISSIONS: FCC Part 15.107(a) and 15.207(a)
RADIATED EMISSIONS: FCC Part 15.209(a)

The following measurements were performed at the San Diego Testing Facility:

☐ - Test not applicable

■ - TR-2, Test Room
■ - Roof (Small Open Area Test Site)
■ - Canyon #1 (10- and 30-Meter Open Area Test Site), Carroll Canyon, San Diego

Test Equipment Used:

Model No.	Prop. No.	Description	Manufacturer	Serial No.	Date Cal'ed
3146	243	Antenna, Log Periodic Dipole	EMCO	106X	06/05
3115	453	Double Ridge Antenna	EMCO	9412-4364	08/05
3110B	491	Biconical Antenna	EMCO	9508-2134	10/05
E4440A	6814	Spectrum Analyzer	Hewlett Packard	MY42510441	02/06
8493A	--	20 dB Attenuator	Hewlett Packard	05391	Verified
VAT-20	--	20 dB Attenuator	Mini Circuits	--	Verified
LPB 2520/A	739	Antenna, Bilog	Antenna Research	1170	07/05
ESVS 30	6732	EMI Test Receiver	Rhode & Schwarz	833825/003	11/05

Remarks: One year calibration cycle for all test equipment and sites.

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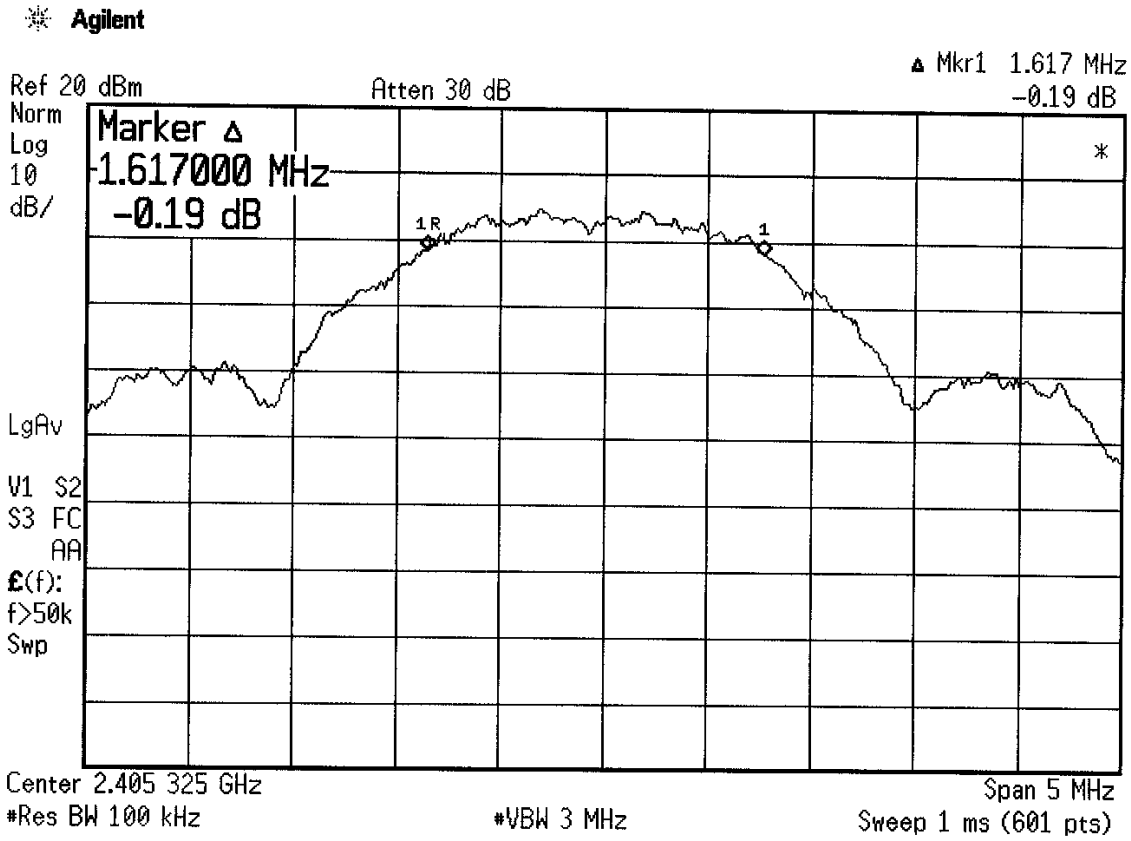
BANDWIDTH: FCC Part 15.247(a)(2) - Low



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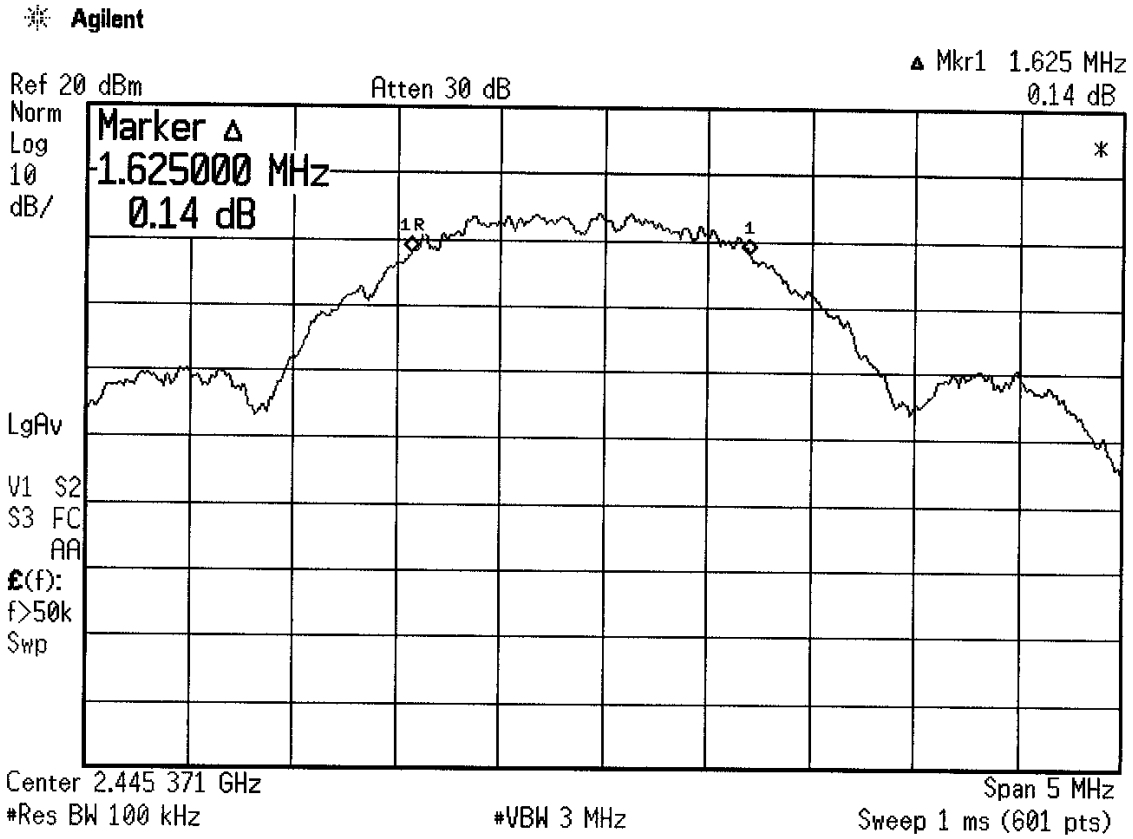
BANDWIDTH: FCC Part 15.247(a)(2) - Mid



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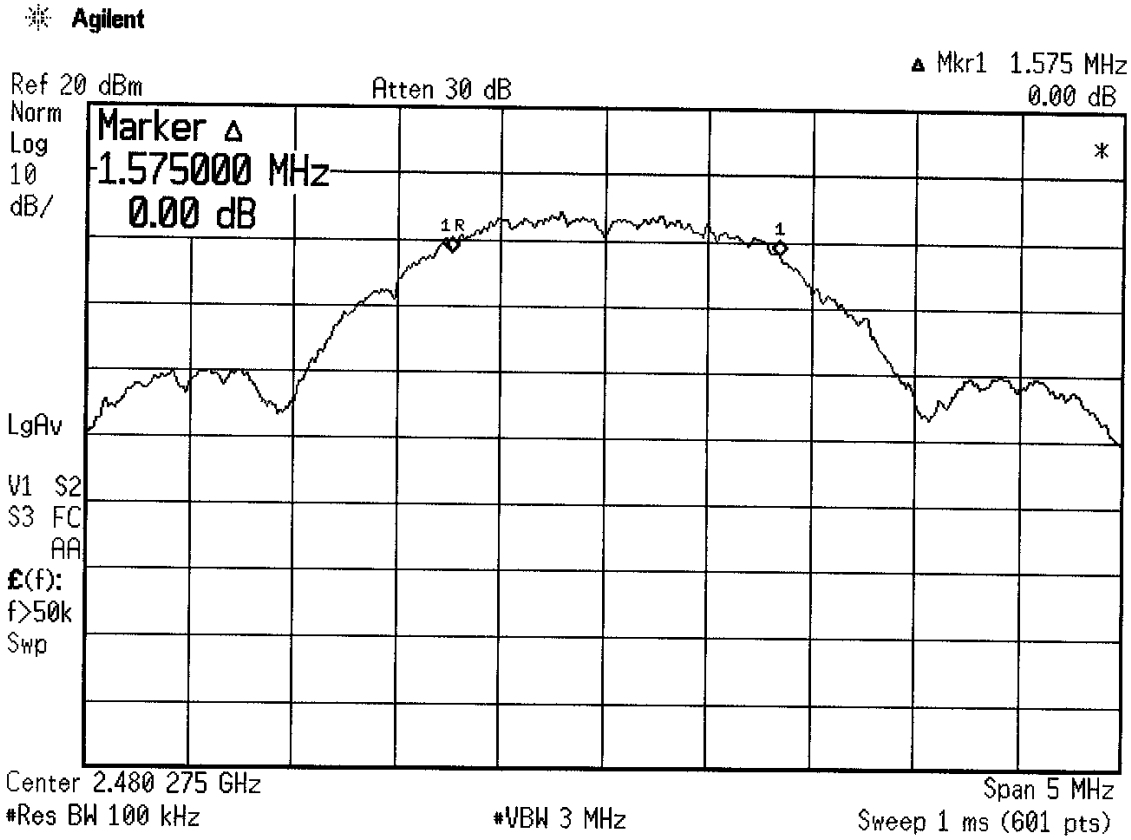
BANDWIDTH: FCC Part 15.247(a)(2) - High



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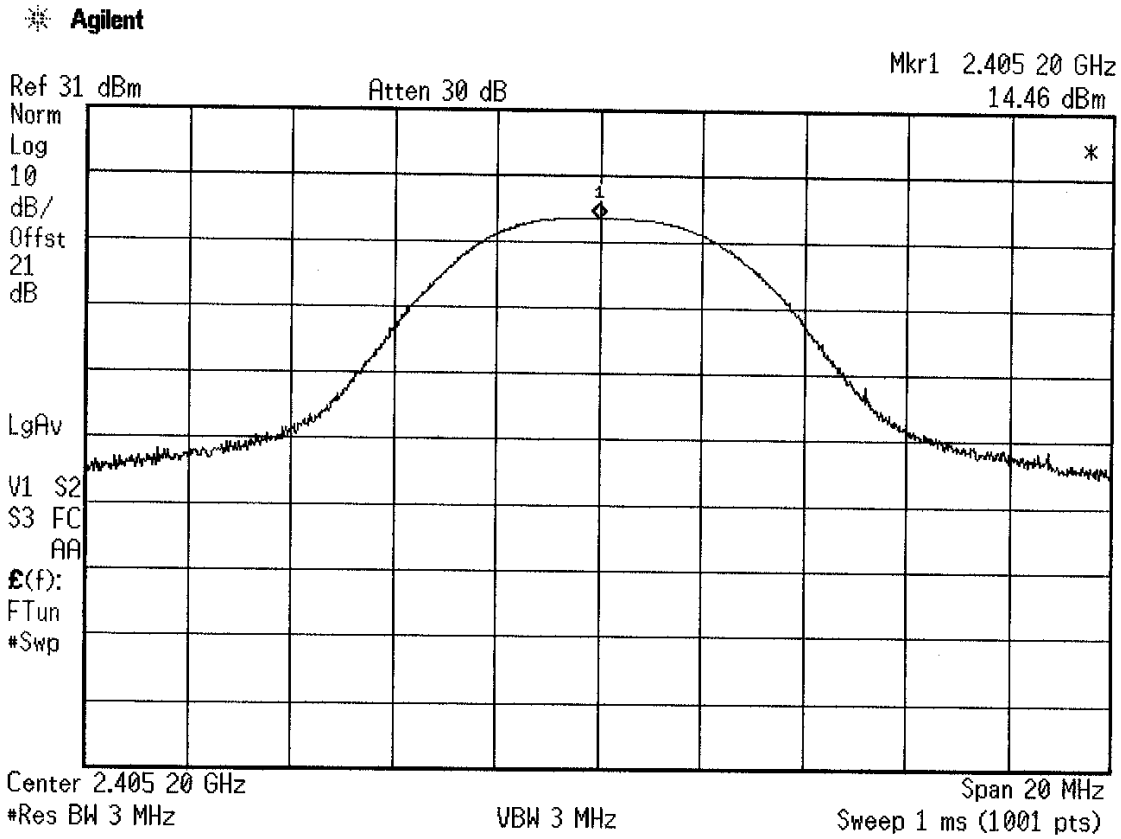
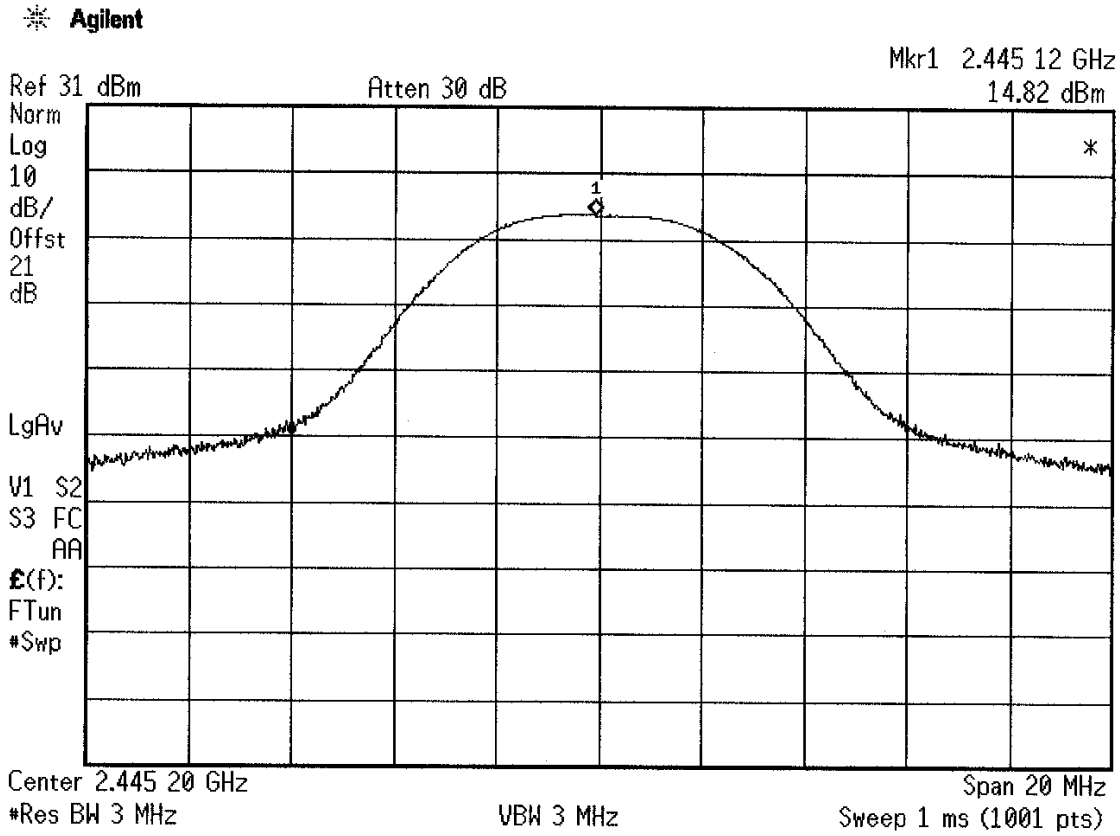
RF OUTPUT POWER: FCC Part 15.247(b) - Low



RF OUTPUT POWER: FCC Part 15.247(b) - Mid



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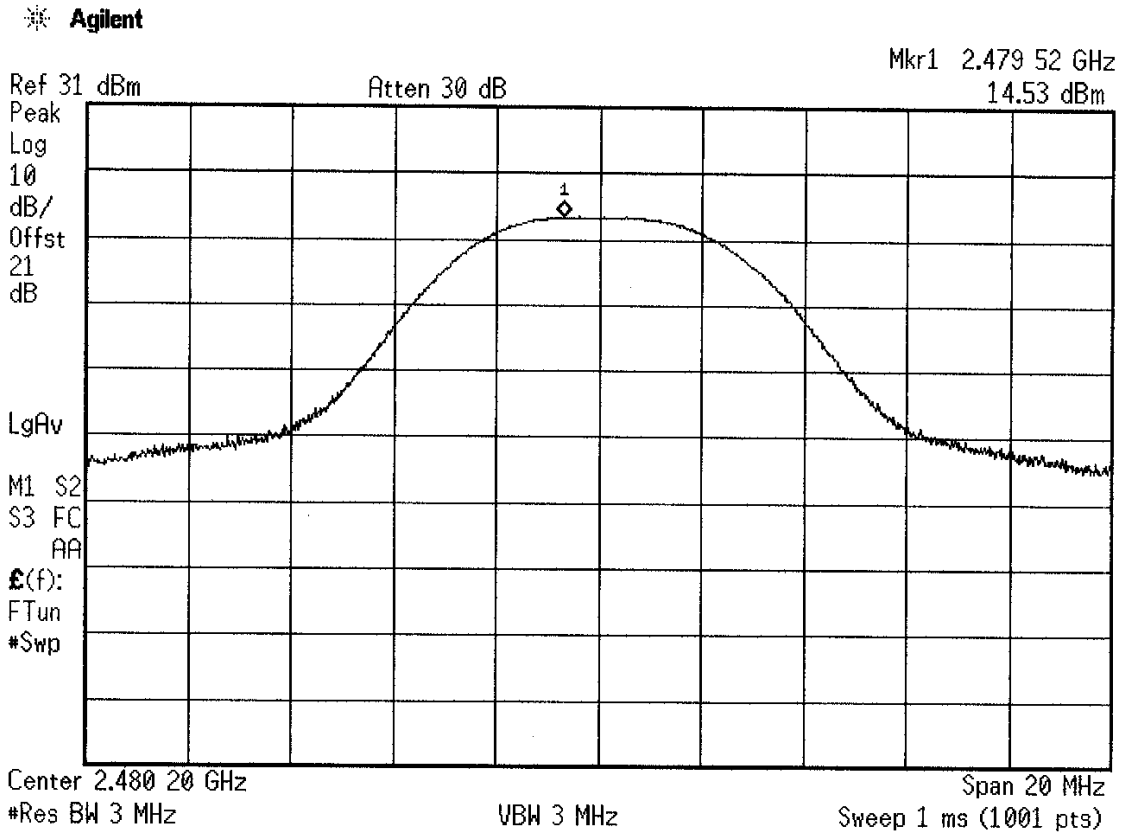
RF OUTPUT POWER: FCC Part 15.247(b) - High



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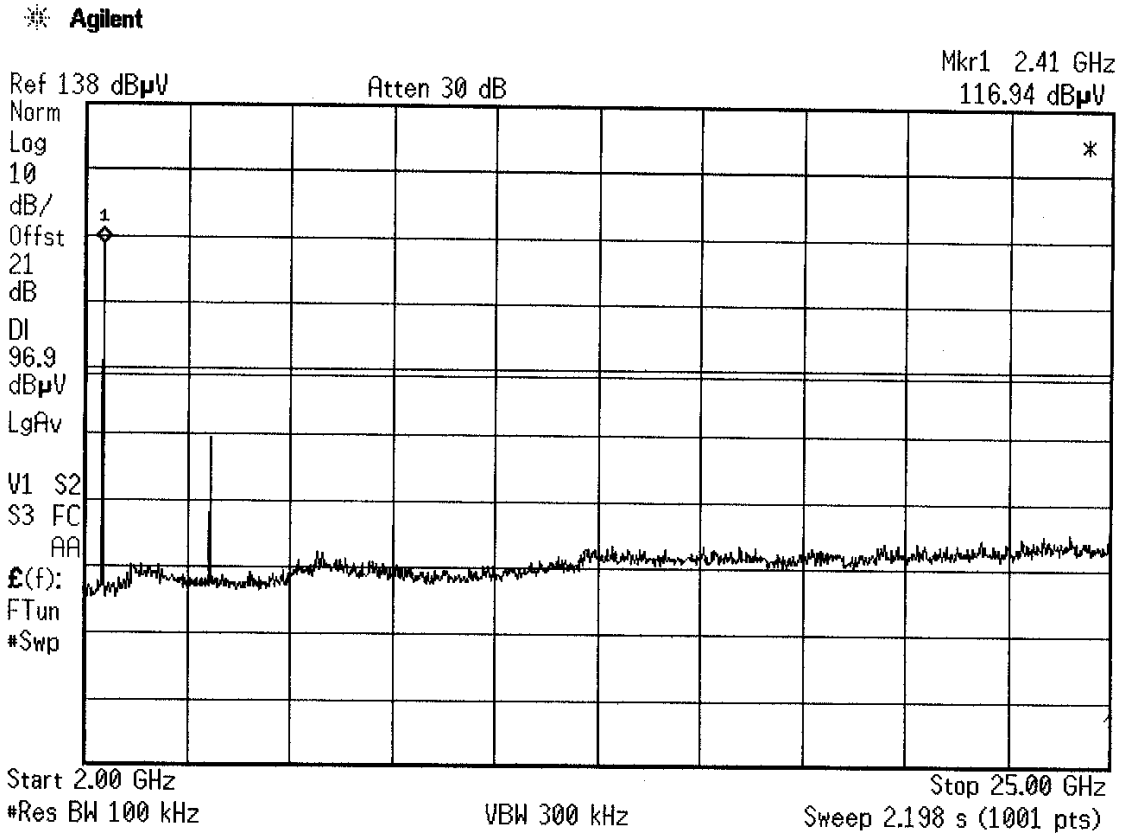
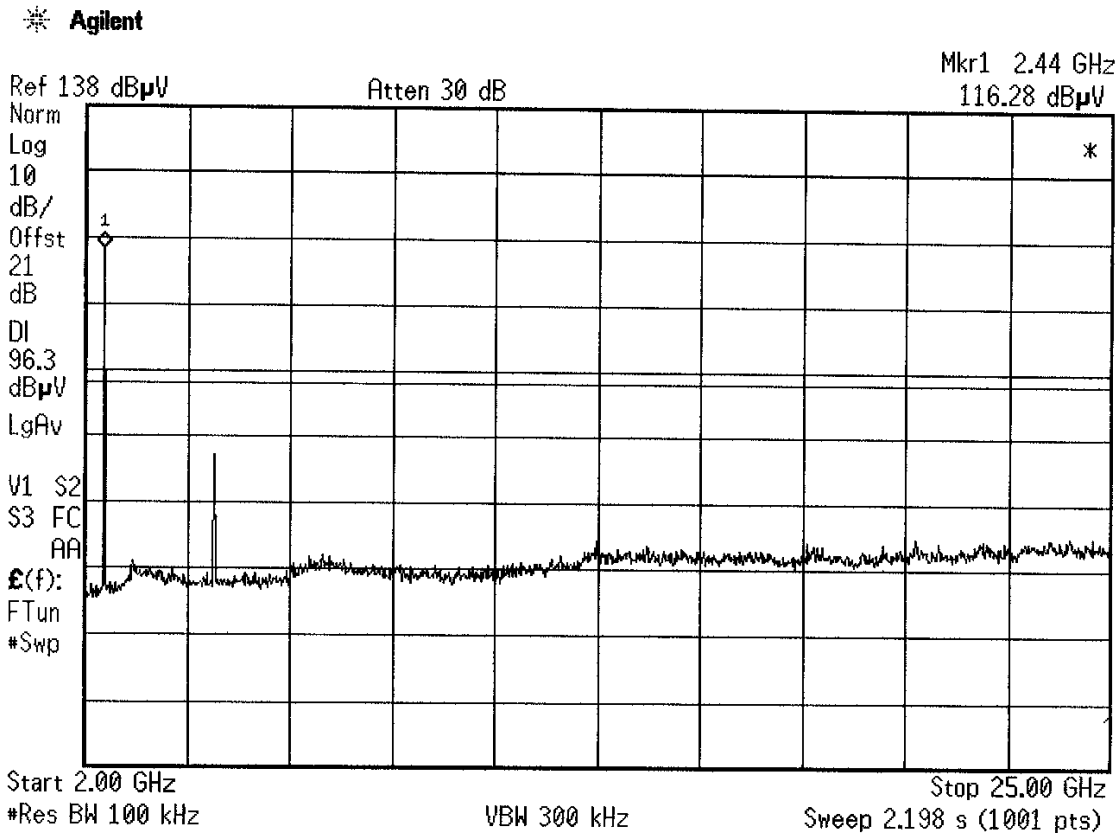
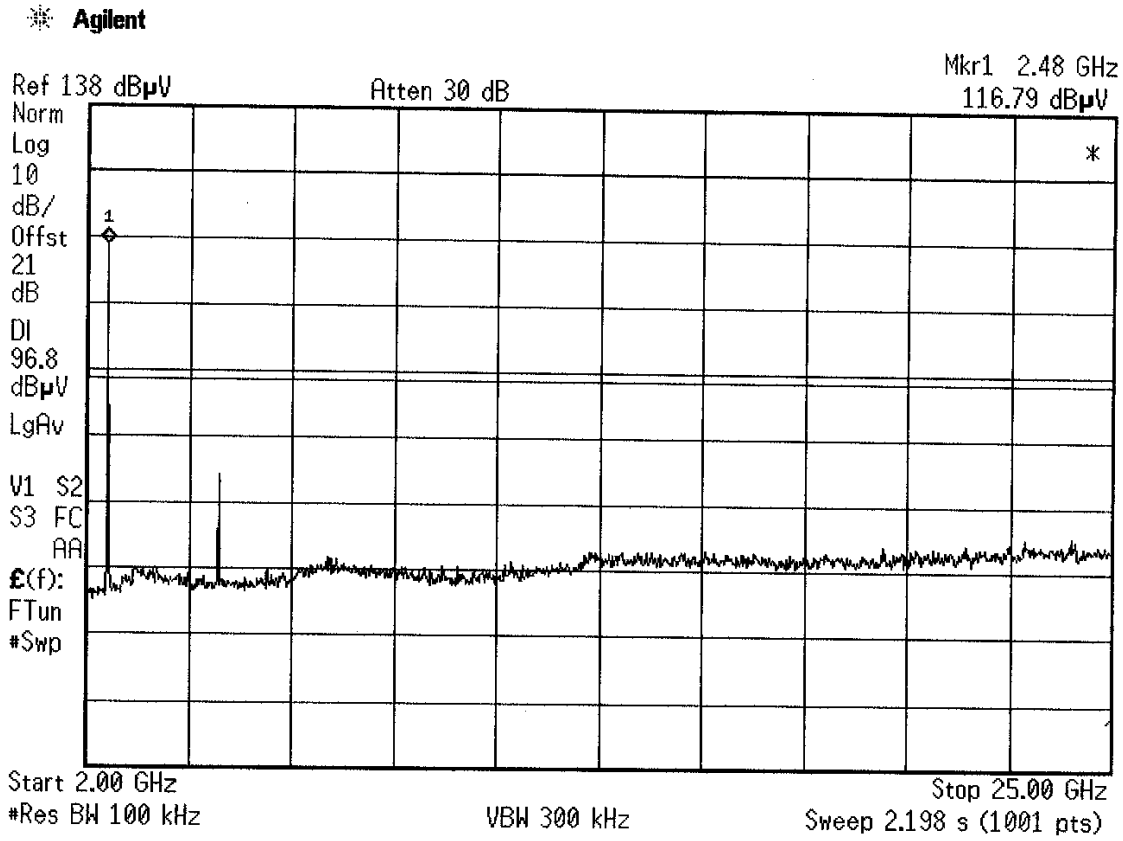
RF CONDUCTED SPURIOUS EMISSIONS: FCC Part 15.247(c) - Low



RF CONDUCTED SPURIOUS EMISSIONS: FCC Part 15.247(c) - Mid



RF CONDUCTED SPURIOUS EMISSIONS: FCC Part 15.247(c) - High



RADIATED SPURIOUS EMISSIONS: FCC Parts 15.247(c) and 15.209(a)

REPORT No: SC602037 TESTER: Chuck Rickard SPEC: FCC Part 15 para 15.209(a)

CUSTOMER: OSI Security Devices TEST DIST: 3 Meters

E U T: Portal Gateway TEST SITE: Roof

EUT MODE: Transmit BICONICAL: 491

DATE: April 24, 2006 LOG: 243

NOTES: OTHER: 453

above 1GHz: RBW & VBW 1 MHz for Pk; RBW 1MHz and VBW 10Hz for AVG

below 1GHz: RBW & VBW 100 kHz for Pk; RBW 100kHz and VBW 10Hz for AVG

CF = Antenna Factor + Cable Loss - Preamplifier Gain + Preselector Loss

v.beta1

FREQ (MHz)	VERTICAL (dBuv) pk	av	HORIZONTAL (dBuv) pk	av	CF (dB/m)	MAX LEVEL (dBuV/m) pk	av	SPEC LIMIT (dBuV/m) pk	av	MARGIN (dB) pk	av	EUT Rotation
2405.3	75.2	73	65.2	62.8	34.297	**109.5**	**107**	145.2	125.2	-35.7	-17.9	48
4810.6	44.3	37.1	43.7	35.2	-0.947	**43.35**	**36.2**	74	54	-30.6	-17.8	34
7217.68	48.9	39.4	38	27.8	7.44829	**56.35**	**46.8**	74	54	-17.7	-7.15	17
2445.25	78.8	76.7	69.3	67.1	34.4248	**113.2**	**111**	145.2	125.2	-32	-14.1	310
4890.5	53.5	42.5	36.1	25.1	-0.5475	**52.95**	**42**	74	54	-21	-12	195
7335.7	46.2	36.1	41	27.7	7.63712	**53.84**	**43.7**	74	54	-20.2	-10.3	26
2480.2	74.4	72.2	65	62.7	34.5366	**108.9**	**107**	145.2	125.2	-36.3	-18.5	181
4960.4	51.5	42.2	37	27.4	-0.198	**51.3**	**42**	74	54	-22.7	-12	142
7440.6	46.1	33.8	43.9	33.3	7.80496	**53.9**	**41.6**	74	54	-20.1	-12.4	42

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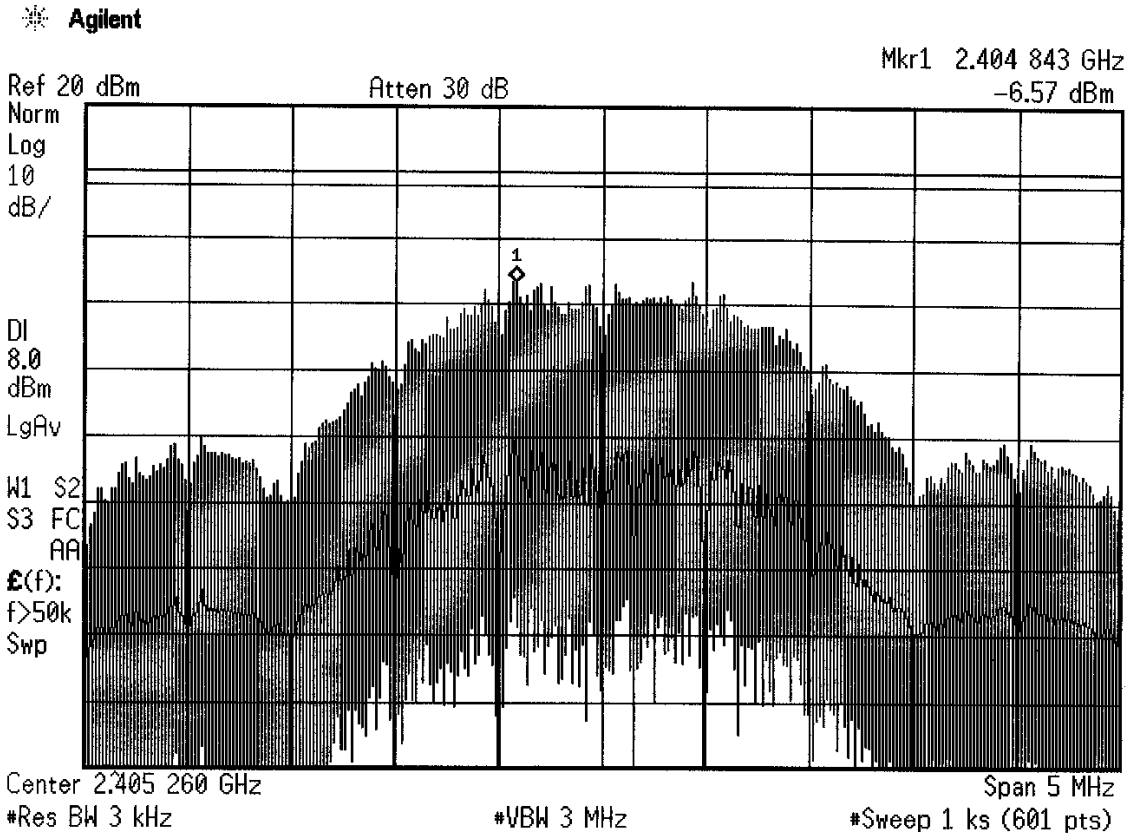
POWER SPECTRAL DENSITY: FCC Part 15.247(d) - Low



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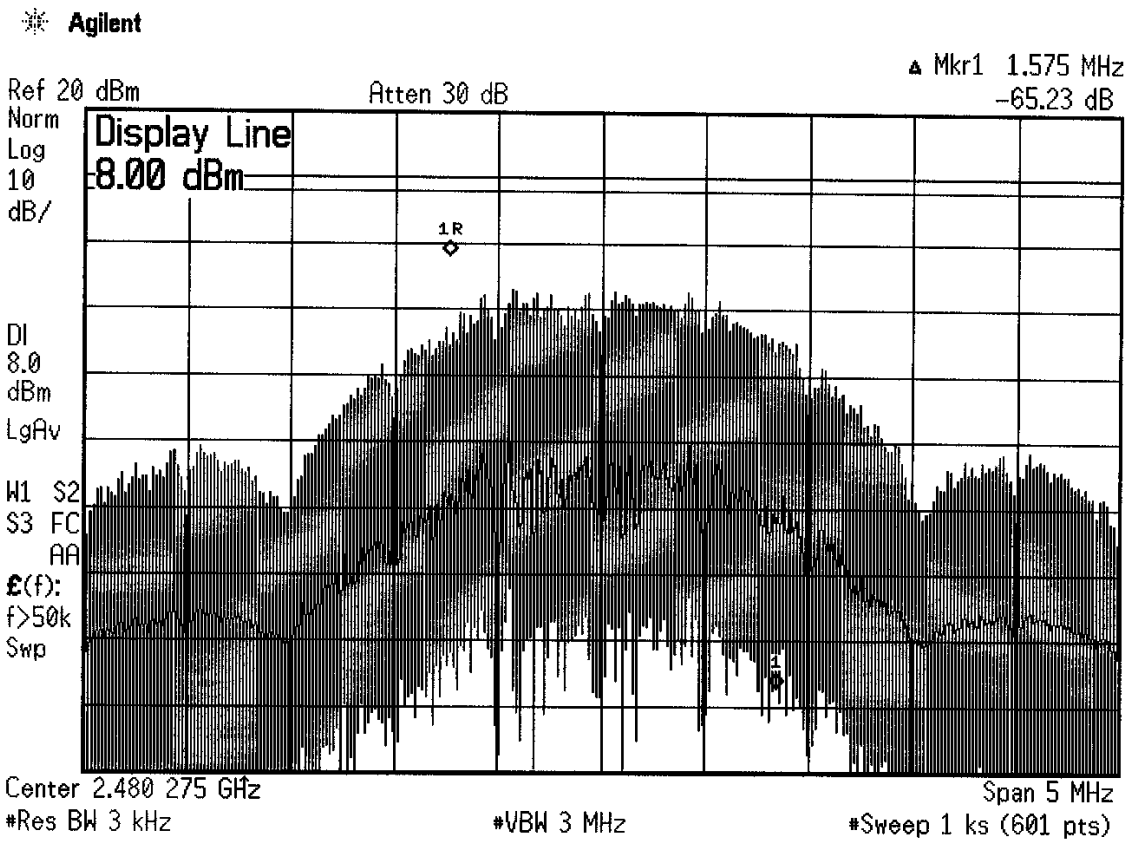
POWER SPECTRAL DENSITY: FCC Part 15.247(d) - Mid



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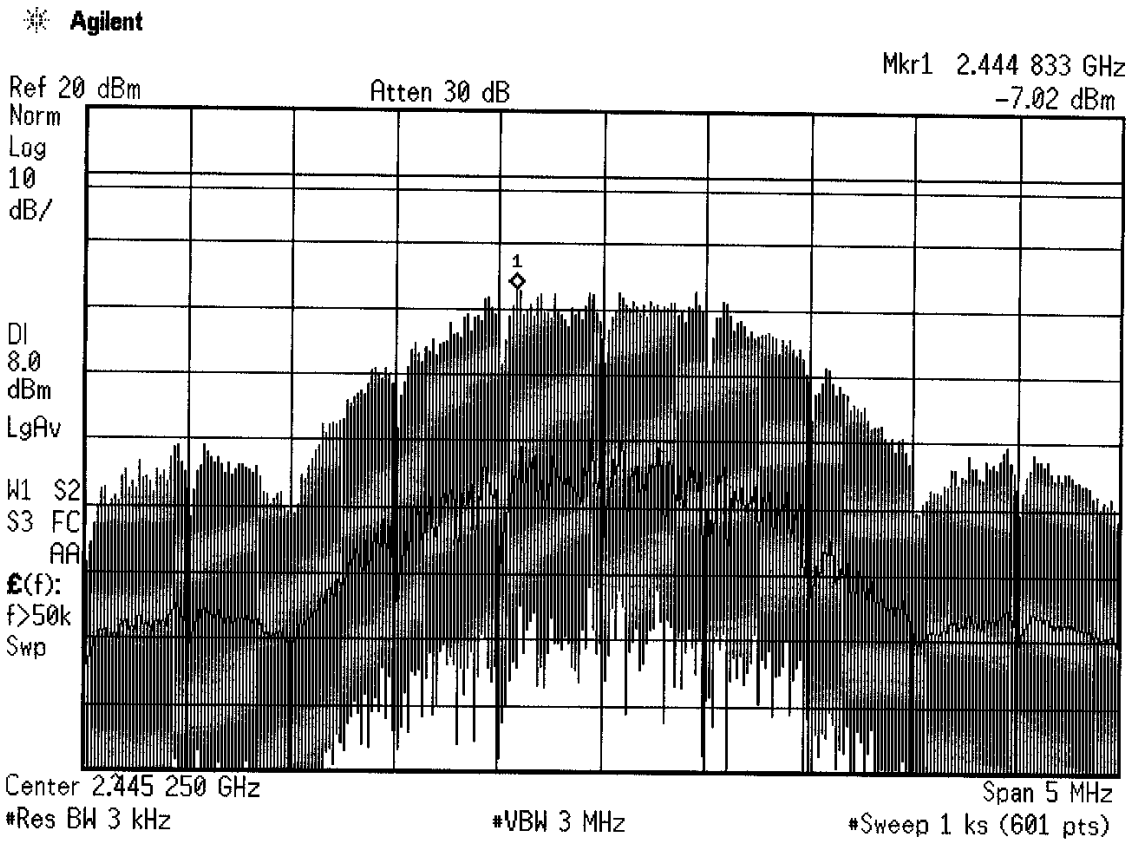
POWER SPECTRAL DENSITY: FCC Part 15.247(d) - High



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CONDUCTED EMISSIONS: FCC Part 15.107(a)

TUV America
Conducted Emissions

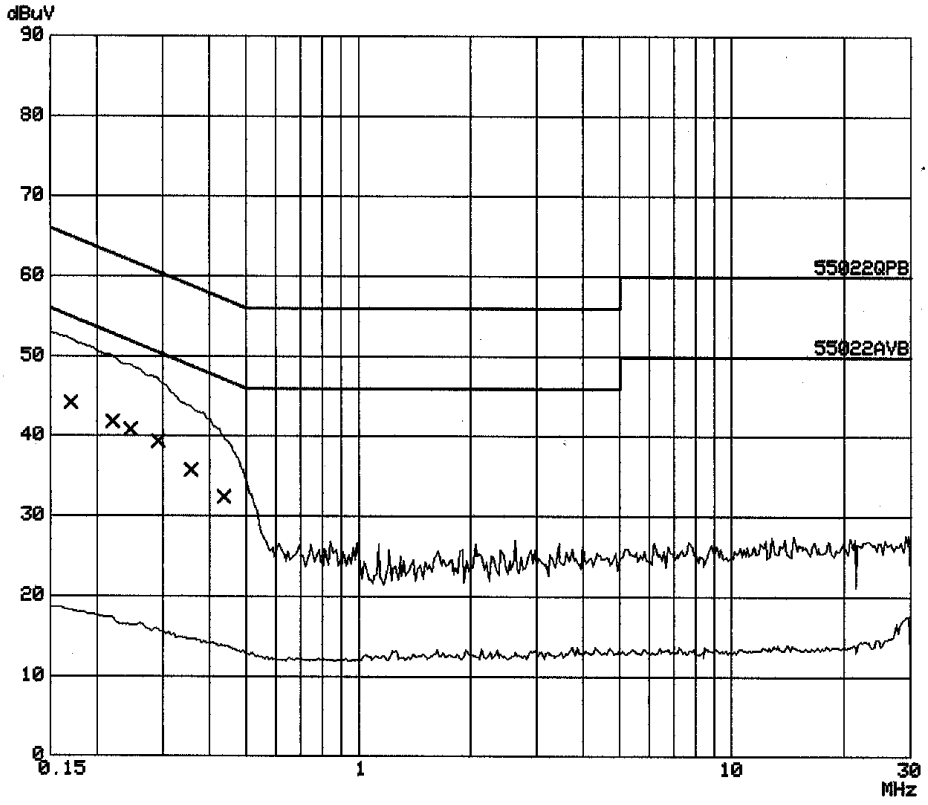
EUT:	Access Control Product / Portal Gateway
Manuf:	OSI Security Devices
Op Cond:	Standby Mode
Operator:	Chuck Rickard
Test Spec:	FCC 15.107 Class B
Comment:	115 VAC 60Hz Line 1
	SC602037
Date:	10. Apr 06 08:39

Scan Settings (2 Ranges)

Frequencies			Receiver Settings					
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
150k	1M	5k	10k	PK+AV	100ms	AUTO	LN OFF	60dB
1M	30M	5k	10k	PK+AV	2ms	AUTO	LN OFF	60dB

Transducer No.	Start	Stop	Name
6	10k	30M	20dBLISN

Final Measurement: x QP / + AV
Meas Time: 1 s
Subranges: 25
Acc Margin: 20dB



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CONDUCTED EMISSIONS: FCC Part 15.107(a)

TUV America
Conducted Emissions

EUT: Access Control Product / Portal Gateway
Manuf: OSI Security Devices
Op Cond: Standby Mode
Operator: Chuck Rickard
Test Spec: FCC 15.107 Class B
Comment: 115 VAC 60Hz Line 1
SC602037
Date: 10. Apr 06 08:39

Final Measurement Results:

Frequency MHz	QP Level dBuV	QP Limit dBuV	
0.17000	44.3	65.0	-20.7
0.22000	41.8	62.9	-21.1
0.24500	40.8	61.9	-21.1
0.29000	39.3	60.6	-21.3
0.35500	35.8	58.8	-23
0.43500	32.5	57.2	-24.7

Frequency MHz	AV Level dBuV	AV Limit dBuV

no Results

* limit exceeded

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CONDUCTED EMISSIONS: FCC Part 15.107(a)

TUV America
Conducted Emissions

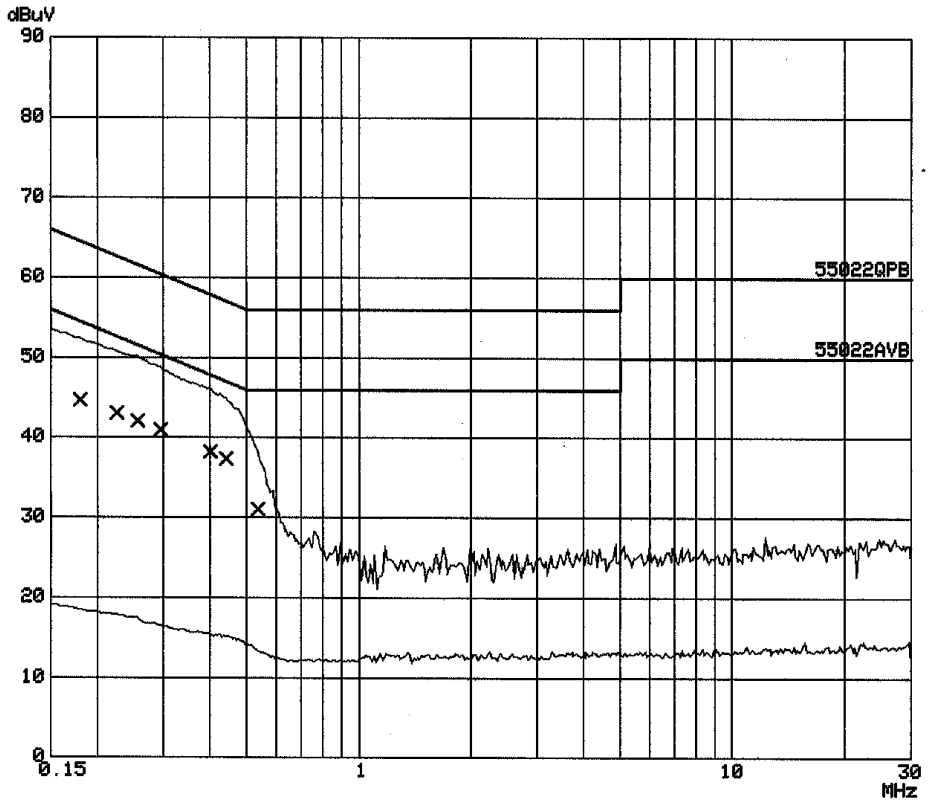
EUT:	Access Control Product / Portal Gateway
Manuf:	OSI Security Devices
Op Cond:	Standby Mode
Operator:	Chuck Rickard
Test Spec:	FCC 15.107 Class B
Comment:	115 VAC 60Hz Line 2
	SC602037
Date:	10. Apr 06 08:32

Scan Settings (2 Ranges)

Frequencies			Receiver Settings				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
150k	1M	5k	10k	PK+AV	100ms	AUTO	LN OFF	60dB
1M	30M	5k	10k	PK+AV	2ms	AUTO	LN OFF	60dB

Transducer No.	Start	Stop	Name
6	10k	30M	20dBLISN

Final Measurement: x QP / + AV
Meas Time: 1 s
Subranges: 25
Acc Margin: 20dB



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CONDUCTED EMISSIONS: FCC Part 15.107(a)

TUV America
Conducted Emissions

EUT:	Access Control Product / Portal Gateway
Manuf:	OSI Security Devices
Op Cond:	Standby Mode
Operator:	Chuck Rickard
Test Spec:	FCC 15.107 Class B
Comment:	115 VAC 60Hz Line 2
	SC602037
Date:	10. Apr 06 08:32

Final Measurement Results:

Frequency MHz	QP Level dBuV	QP Limit dBuV	
0.18000	44.7	64.5	-19.8
0.22500	43.1	62.7	-19.6
0.25500	42.1	61.6	-19.5
0.29500	41.1	60.3	-19.2
0.40000	38.3	57.8	-19.5
0.44000	37.4	57.0	-19.6
0.53500	31.1	56.0	-24.9

Frequency MHz	AV Level dBuV	AV Limit dBuV

no Results

* limit exceeded

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CONDUCTED EMISSIONS: FCC Part 15.207(a)

TUV America
Conducted Emissions

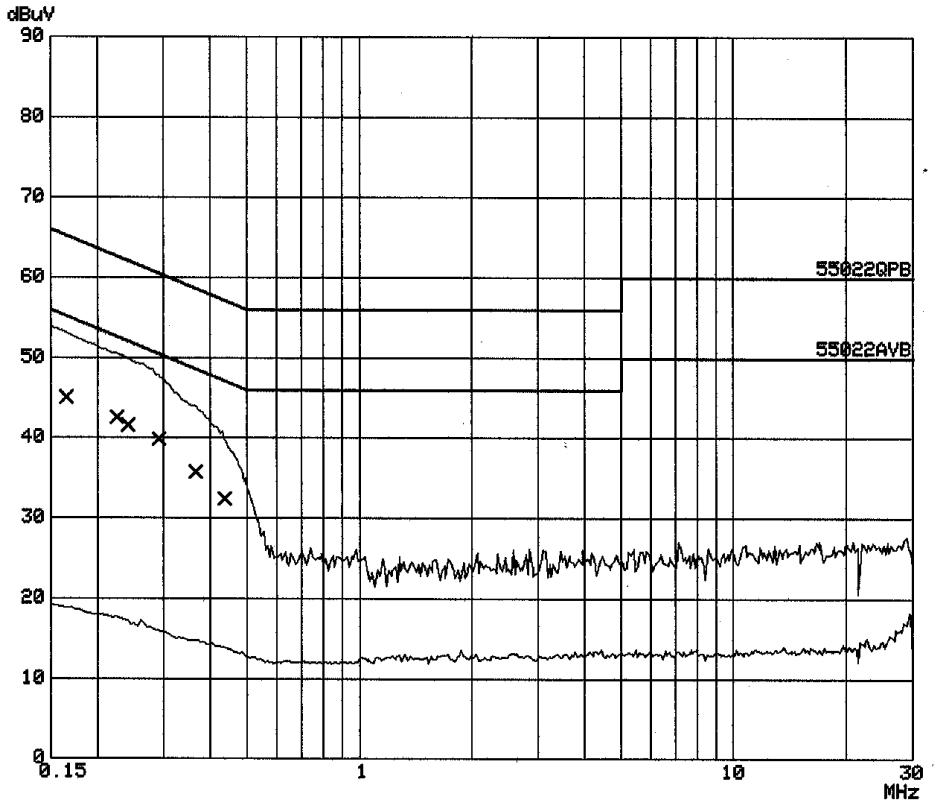
EUT: Access Control Product / Portal Gateway
Manuf: OSI Security Devices
Op Cond: Standby Mode
Operator: Chuck Rickard
Test Spec: FCC 15.207
Comment: 115 VAC 60Hz Line 1
SC602037
Date: 10. Apr 06 08:48

Scan Settings (2 Ranges)

Frequencies			Receiver Settings					
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
150k	1M	5k	10k	PK+AV	100ms	AUTO	LN OFF	60dB
1M	30M	5k	10k	PK+AV	2ms	AUTO	LN OFF	60dB

Transducer No.	Start	Stop	Name
6	10k	30M	20dBLISN

Final Measurement: x QP / + AV
Meas Time: 1 s
Subranges: 25
Acc Margin: 20dB



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CONDUCTED EMISSIONS: FCC Part 15.207(a)

TUV America
Conducted Emissions

EUT:	Access Control Product / Portal Gateway
Manuf:	OSI Security Devices
Op Cond:	Standby Mode
Operator:	Chuck Rickard
Test Spec:	FCC 15.207
Comment:	115 VAC 60Hz Line 1
	SC602037
Date:	10. Apr 06 08:48

Final Measurement Results:

Frequency MHz	QP Level dBuV	QP Limit dBuV	
0.16500	45.1	65.2	-20.1
0.22500	42.6	62.7	-20.1
0.24000	41.6	62.1	-20.5
0.29000	39.8	60.6	-20.8
0.36500	35.8	58.6	-22.8
0.43500	32.5	57.2	-24.7

Frequency MHz	AV Level dBuV	AV Limit dBuV

no Results

* limit exceeded

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CONDUCTED EMISSIONS: FCC Part 15.207(a)

TUV America
Conducted Emissions

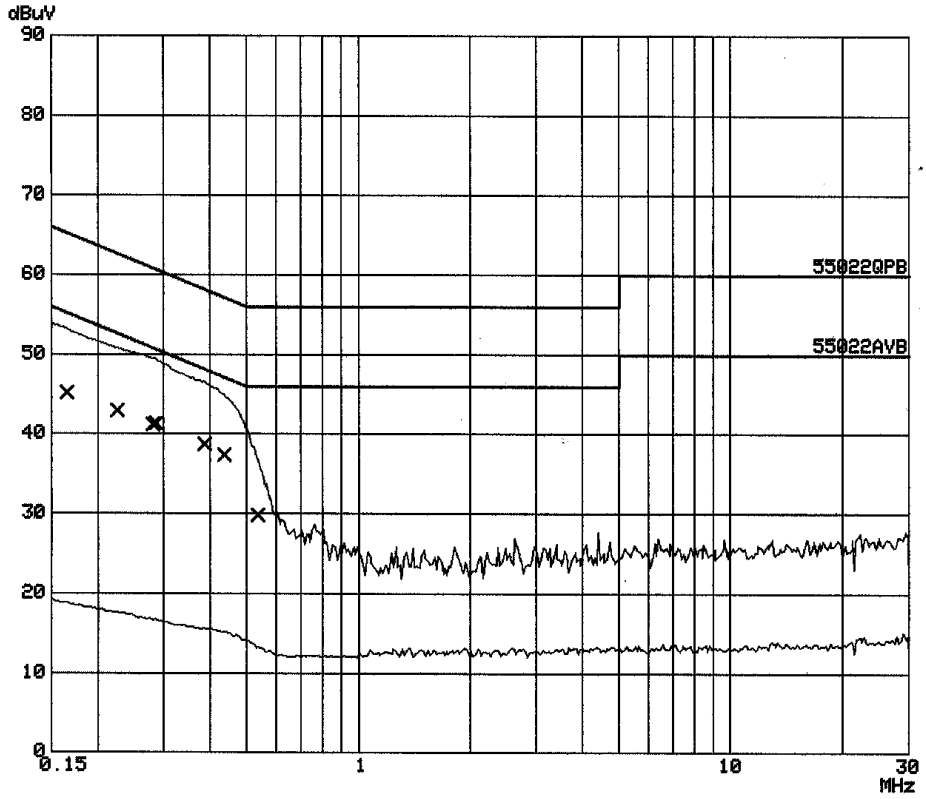
EUT: Access Control Product / Portal Gateway
Manuf: OSI Security Devices
Op Cond: Standby Mode
Operator: Chuck Rickard
Test Spec: FCC 15.207
Comment: 115 VAC 60Hz Line 2
SC602037
Date: 10. Apr 06 08:54

Scan Settings (2 Ranges)

Frequencies			Receiver Settings					
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
150k	1M	5k	10k	PK+AV	100ms	AUTO	LN OFF	60dB
1M	30M	5k	10k	PK+AV	2ms	AUTO	LN OFF	60dB

Transducer No.	Start	Stop	Name
6	10k	30M	20dBLISN

Final Measurement: x QP / + AV
Meas Time: 1 s
Subranges: 25
Acc Margin: 20dB



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CONDUCTED EMISSIONS: FCC Part 15.207(a)

TUV America
Conducted Emissions

EUT:	Access Control Product / Portal Gateway
Manuf:	OSI Security Devices
Op Cond:	Standby Mode
Operator:	Chuck Rickard
Test Spec:	FCC 15.207
Comment:	115 VAC 60Hz Line 2
	SC602037
Date:	10. Apr 06 08:54

Final Measurement Results:

Frequency MHz	QP Level dBuV	QP Limit dBuV
0.16500	45.2	65.2 -20
0.22500	43.0	62.7 -19.7
0.28000	41.3	60.8 -19.5
0.28500	41.4	60.7 -19.3
0.38500	38.7	58.1 -19.4
0.43500	37.5	57.2 -19.7
0.53500	29.9	56.0 -26.1

Frequency MHz	AV Level dBuV	AV Limit dBuV

no Results

* limit exceeded

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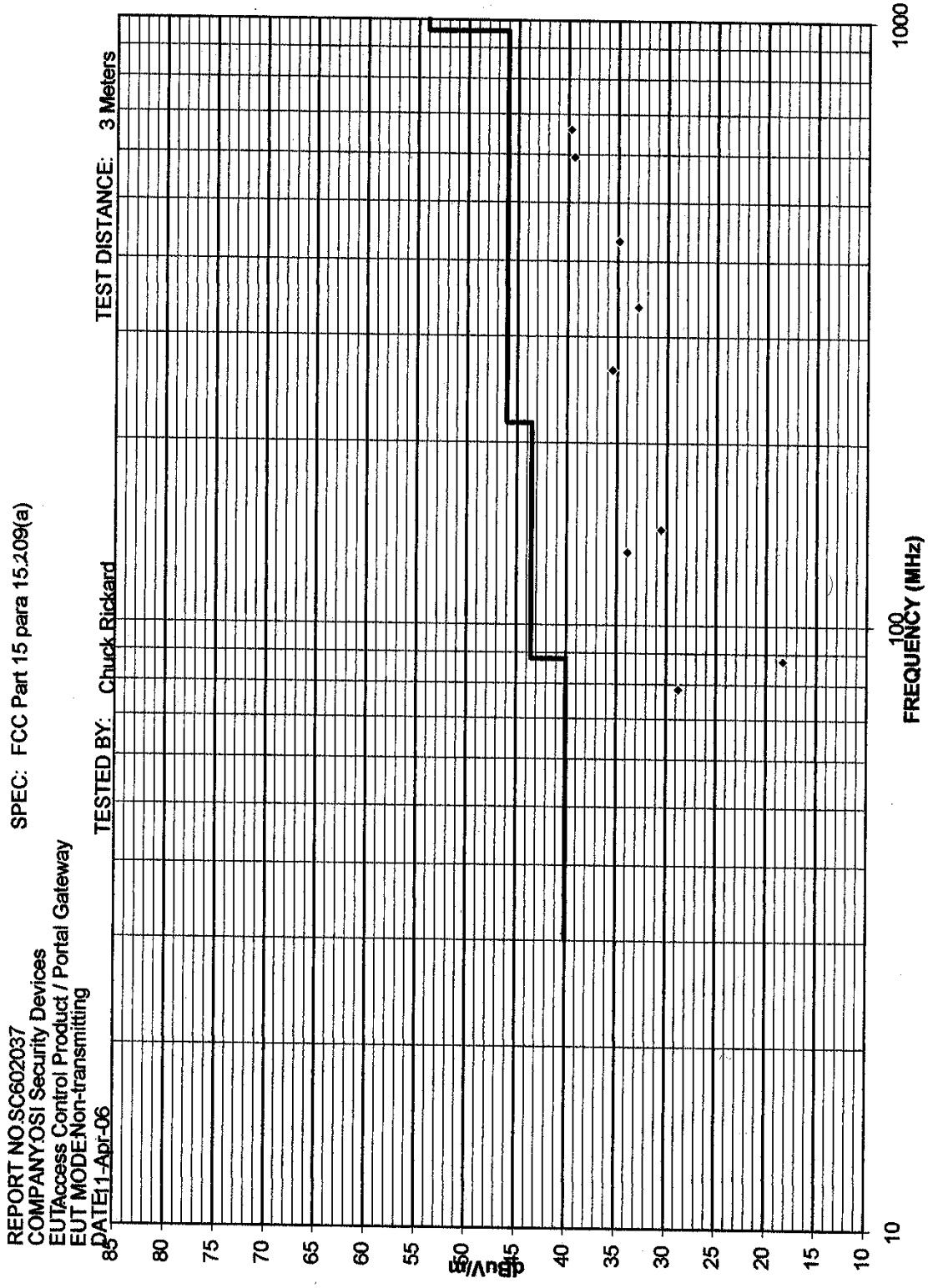
TÜV AMERICA INC 10040 Mesa Rim Road San Diego, CA 92121-2912 Phone 858 678 1400 FAX 858 546 0364

RADIATED EMISSIONS: FCC Part 15.209(a)



TÜV AMERICA

RADIATED EMISSIONS: FCC Part 15.209(a)

REPORT No: SC602037 SPEC: FCC Part 15 para 15.209(a)

CUSTOMER: OSI Security Devices TEST DIST: 3 Meters

E U T: Access Control Product / Portal Gateway TEST SITE: 1

EUT MODE: Non-transmitting BICONICAL: 739

DATE: 11-Apr-06 TESTED BY: Chuck Rickard LOG PERIODIC: 739

NOTES: Quasi-Peak with 120 KHz measurement bandwidth. RCVR: 6732

Temperature: 19 Relative Humidity: 53%

EUT MARGIN -6.3 dB at 660 MHz

ver 1.8b

FREQUENCY (MHz)	VERTICAL measured (dBuv)	HORIZONTAL measured (dBuV)	CORRECTION FACTOR (dB/m)	MAXIMUM CORRECTED (dBuV/m)	SPECIFIED LIMIT (dBuV/m)	EUT MARGIN (dB)	EUT ROTATION (degrees)	ANTENNA HEIGHT (meters)
78.40	19.5	9.1	9.3	**28.8**	40	-11.2	0	1
87.50	7.7	7.7	10.6	**18.3**	40	-21.7	0	1
132.00	14.1	20.4	13.5	**33.9**	43.5	-9.6	300	1
144.00	18.7	14.9	11.9	**30.6**	43.5	-12.9	0	1
264.00	18.8	16.4	16.7	**35.5**	46	-10.5	124	3.7
336.00	14.2	13.9	18.7	**32.9**	46	-13.1	108	1.2
432.00	13.4	10.2	21.5	**34.9**	46	-11.1	102	1
594.00	13.7	10.2	25.7	**39.4**	46	-6.6	0	1
660.00	13	10.2	26.7	**39.7**	46	-6.3	39	1

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4.0 ATTESTATION STATEMENT

GENERAL REMARKS:

SUMMARY:

All tests were performed per CFR 47, Part(s) 15.247(a), 15.247(b), 15.247(c), 15.247(d), 15.107(a), 15.207(a), and 15.209(a)

■ - Performed

The Equipment Under Test

■ - **Fulfills** the requirements of CFR 47, Part(s) 15.247(a), 15.247(b), 15.247(c), 15.247(d), 15.107(a), 15.207(a), and 15.209(a)

Testing Start Date: 10 April 2006

Testing End Date: 24 April 2006

- TÜV AMERICA, INC. -

Reviewing Engineer:

David Gray
(EMC Engineer In Charge)

Test Engineer:

Chuck Rickard
(EMC Engineer)

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