

MEASUREMENT AND TECHNICAL REPORT

BOSCH SECURITY SYSTEMS
130 Perington Parkway
Fairport, NY 14450

DATE: 08 March 2006

This Report Concerns:	Original Grant: X	Class II Change:
Equipment Type:	ISC-PDL1-W18G PIR and Microwave Commercial Detector	
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) 15.203 and 15.245 (*) Canadian Standard(s) RSS-210, Annex 7 and RSS-Gen 4.4.1		
<p>Report Prepared by:</p> <p>TÜV AMERICA, INC 10040 Mesa Rim Road San Diego, CA 92121-2912 Phone: 858 678 1400 Fax: 858 546 0364</p>		

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1.0 GENERAL INFORMATION

1.1 Product Description

General Equipment Description:

EUT Description:	PIR and Microwave Commercial Detector		
EUT Name:	ISC-PDL1-W18G		
Model No.:	Same	Serial No.:	--
Product Options:	--		
Configurations and modes to be tested:	Alarm, Standby for FCC, IC & CE compliance.		

EUT Specifications

Length:	136 mm	Width:	69 mm	Height:	58 mm	Weight:	--
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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:	9-15 VDC	(If battery powered, make sure battery life is sufficient to complete testing.)
# of Phases:	N/A	
Current (Amps/phase(max)):	< 20 mA	Current (Amps/phase(nominal)):
		<= 13 mA

EUT Power Cable

Permanent OR ☒ Removable
 Shielded OR Unshielded
 Not Applicable Length (in meters):

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: <i>RS232</i>	X		2	X		<i>Foil over braid</i>	<i>Coaxial</i>	<i>Metallized 9-pin D-Sub</i>	<i>Characteristic Impedance</i>	6	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.

Standby, Alarm

EUT System Components -- List and describe all EUT components . For FCC testing a minimum configuration is required. (i.e. Mouse, Printer, Monitor, External Disk Drive, Motherboard, etc.)

Description	Model #	Serial #	FCC ID #
--			

Support Equipment -- List and describe all EUT support equipment. (i.e. peripherals, simulators, etc)

Description	Model #	Serial #	FCC ID #
--			

Oscillator Frequencies

Frequency	Derived Frequency	Component # / Location	Description of Use
--			

Power Supply

Manufacturer	Model #	Serial #	Type
DC Powered			Switched-mode: (Frequency)
			Linear: Other:

Power Line Filters

Manufacturer	Model #	Location in EUT
--		

Critical EMI Components (Capacitors, ferrites, etc.)

Description	Manufacturer	Part # or Value	Qty	Component # / Location
--				

EMC Critical Detail -- Describe other EMC Design details used to reduce high frequency noise.

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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	
Antenna Requirement	15.203	--	Permanently attached	--	Pass
Field Strength	15.245 / RSS-210, Annex 7	--	-8.76 @ 52625 MHz	--	Pass
Bandwidth	15.245(b) / RSS-Gen 4.4.1	--	750 kHz	--	Pass
Radiated Emissions	15.245(b)	--	No Emissions Detected	--	Pass

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

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 FIELD STRENGTH EQUIPMENT/DATA
BANDWIDTH AND BANDEDGE EQUIPMENT/DATA
RADIATED EMISSIONS EQUIPMENT/DATA**

Test Conditions: FIELD STRENGTH: FCC Part 15.245 and RSS-210, Annex 7
BANDWIDTH: FCC Part 15.245(b) and RSS-Gen 4.4.1
RADIATED EMISSIONS: FCC Part 15.245(b)

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

☐ - Test not applicable

■ - Roof (Small Open Area Test Site)

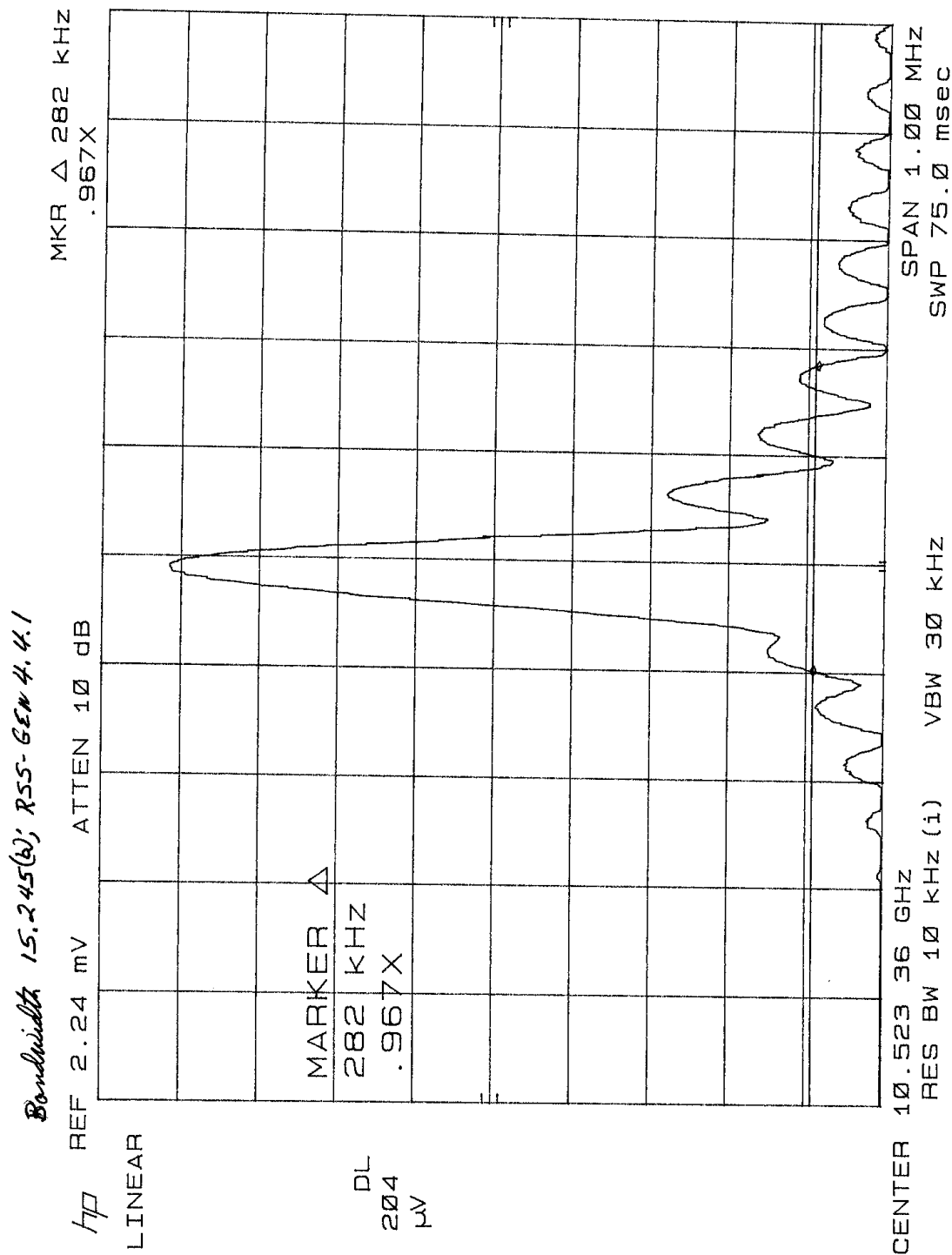
Test Equipment Used:

Model No.	Prop. No.	Description	Manufacturer	Serial No.	Date Cal'ed
12A-18-115300	6377	Horn Antenna	MI Technologies	21554MB	Verified
E4446A	6823	Spectrum Analyzer	Agilent	US44300486	04/05
3115	6475	Double Ridged Waveguide Antenna	EMCO	9908-5927	06/05
12A-26	6373	Horn Antenna	Scientific Atlanta	490	Verified
LPB 2520/A	739	Antenna, Bilog	Antenna Research	1170	07/05
ESVS 30	6723	EMI Test Receiver	Rhode & Schwarz	830350/006	03/05

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

[illegible]

BANDWIDTH: FCC Part 15.245(b) and RSS-Gen 4.4.1

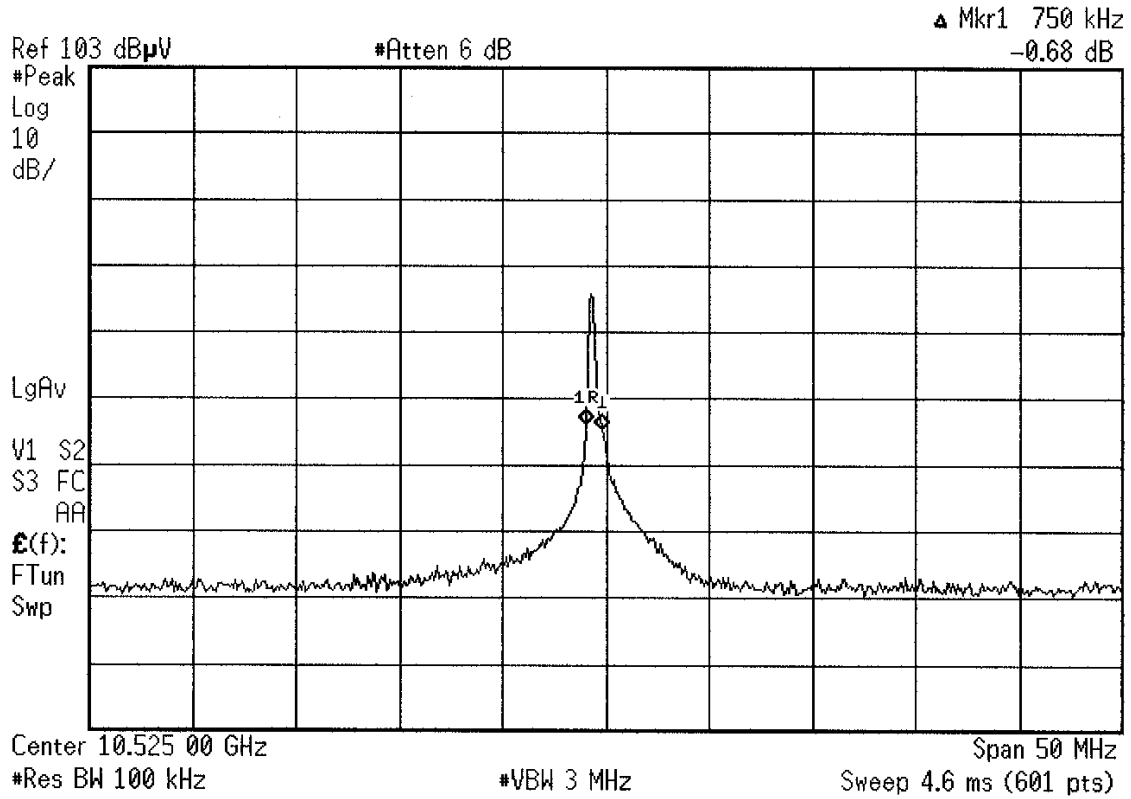


BANDWIDTH: FCC Part 15.245(b) and RSS-Gen 4.4.1

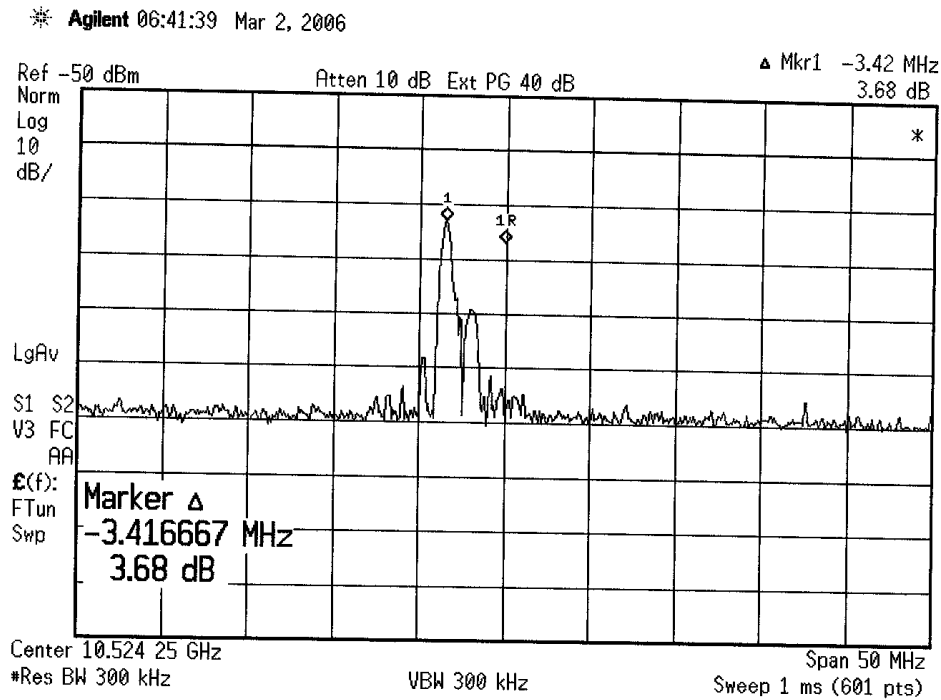
RSS-Gen, 4.4.1 OCCUPIED BANDWIDTH

SC 601036

* Agilent 16:33:29 Feb 22, 2006



BANDEDGE

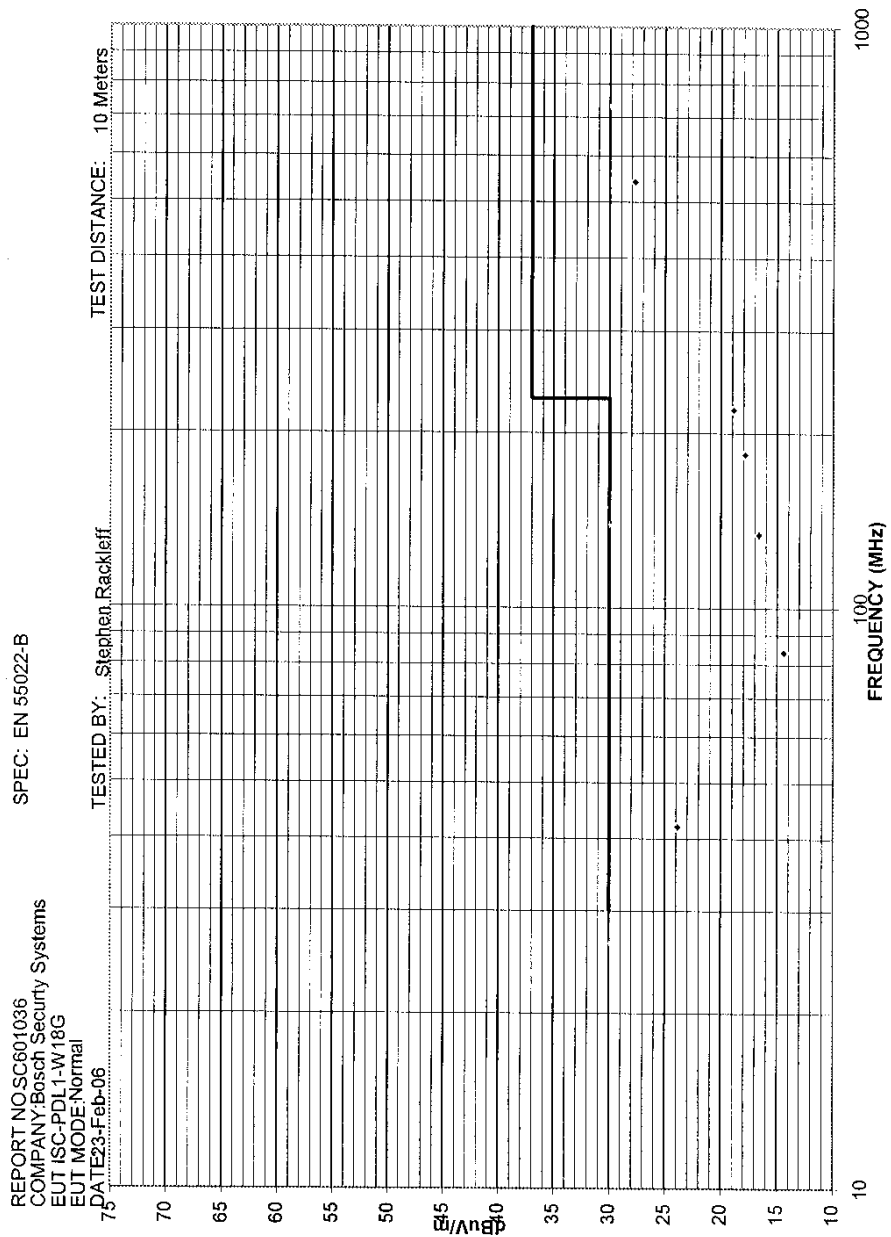


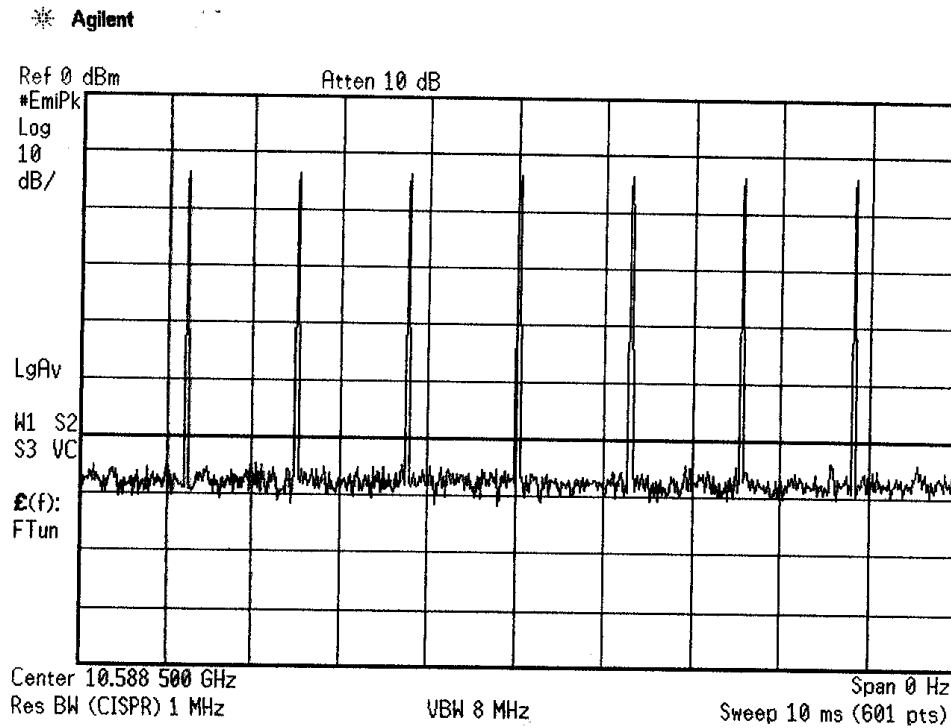
Frequency Range of operation:

10.52089 GHz → 10.52535 GHz
4.46 MHz

23°C Return
Cycle

Plot 5



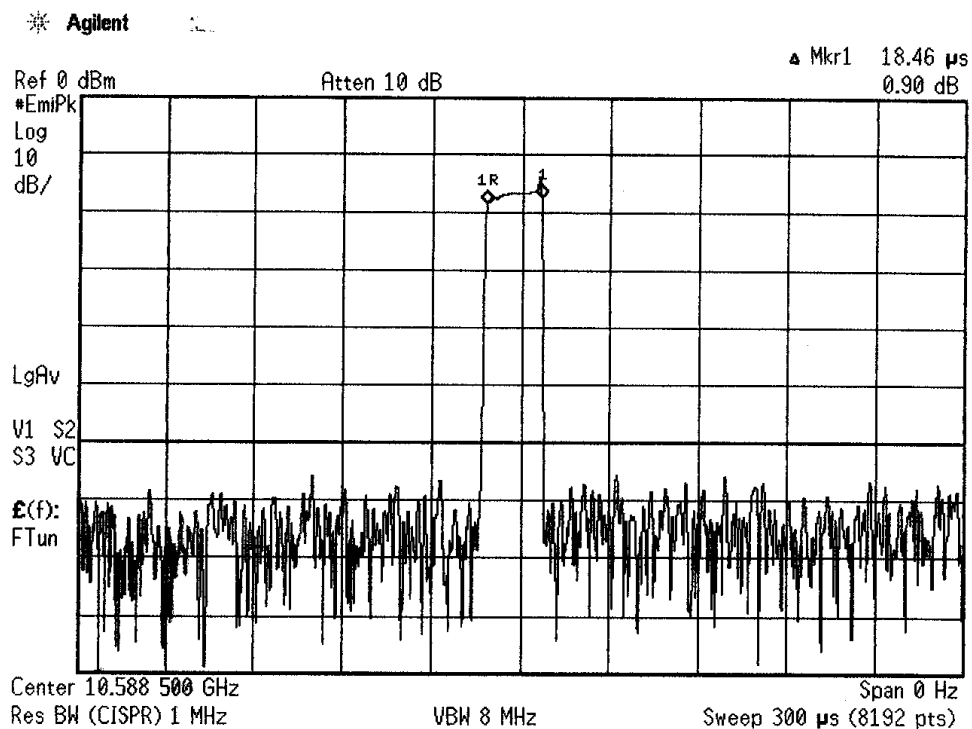


$$\frac{1 \text{ MHz BW} \times 18 \mu\text{s} \times 7}{10 \text{ ms}} = 0.0126 \text{ Duty Cycle}$$

Duty Cycle Correction per FCC 15.35

$$10 \log \left(\frac{0.0126}{10} \right) = -37.99$$

20 dB max allowance



4.0 ATTESTATION STATEMENT

GENERAL REMARKS:

SUMMARY:

All tests were performed per: CFR 47, Part(s) 15.203 and 15.245
Canadian Standard(s) RSS-210, Annex 7 and RSS-Gen 4.4.1

■ - Performed

The Equipment Under Test

■ - **Fulfills** the requirements of: CFR 47, Part(s) 15.203 and 15.245
Canadian Standard(s) RSS-210, Annex 7 and RSS-Gen 4.4.1

Testing Start Date: 22 February 2006

Testing End Date: 23 February 2006

- TÜV AMERICA, INC. -

Reviewing Engineer:



Chuck Rickard
(EMC Engineer)

Test Engineer:



David Gray
(EMC Engineer-In-Charge)