1250 Peterson Dr., Wheeling, IL 60090

Company: Shure Inc.
Model Tested: SLX1-G5
Report Number: 13808

FCC Rules and Regulations / Intentional Radiators

Low Power Auxiliary Stations

Part 74, Subpart H, Sections 74.801 - 74.882

Part 74.861 (e) TV Broadcasting

THE FOLLOWING **MEETS** THE ABOVE TEST SPECIFICATION

Formal Name:	SLX1-G5 Wireless Bodypack Transmitter
Frequency Range:	494 MHz – 518 MHz
Kind of Equipment:	Wireless Microphone Transmitter
Test Configuration:	Connects to lavalier microphone or guitar as audio input. (Tested at 3 vdc)
Model Number(s):	SLX1-G5
Model(s) Tested:	SLX1-G5
Serial Number(s):	N/A
Emission Designator:	101KF3E
Date of Tests:	November 5, 6, 13, 16 & 19, 2007 & September 22, 2008
Test Conducted For:	Shure Inc. 5800 W. Touhy Ave. Niles, IL 60714-4608

NOTICE: "This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government". Please see the "Additional Description of Equipment Under Test" page listed inside of this report.

1250 Peterson Dr., Wheeling, IL 60090

SIGNATURE PAGE

Report By:

Arnom C. Rowe
Test Engineer
EMC-001375-NE

Reviewed By:

William Stumpf
OATS Manager

Approved By:

Brian Mattson
General Manager

Company Official: Shure Inc.

1250 Peterson Dr., Wheeling, IL 60090

TABLE OF CONTENTS

1250 Peterson Dr., Wheeling, IL 60090

United States Department of Commerce
National Institute of Standards and Technology

NVLAP®

Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 100276-0

D.L.S. Electronic Systems, Inc.

Wheeling, IL

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

ELECTROMAGNETIC COMPATIBILITY AND TELECOMMUNICATIONS

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated 18 June 2005).

2007-10-01 through 2008-09-30
Effective dates

For the National Institute of Standards and Technology

NVLAP-01C (REV. 2006-09-13)

1250 Peterson Dr., Wheeling, IL 60090

1.0 SUMMARY OF TEST REPORT

It was found that the SLX1-G5 Wireless Bodypack Transmitter, Model Number(s) SLX1-G5, **meets** the radio interference radiated emission requirements of the FCC "Rules and Regulations", Part 74, Subpart H, Section 74.861 (e), for low power auxiliary stations. The AC Power Line conducted emissions test was not required because the SLX1-G5 Wireless Bodypack Transmitter is powered from a D.C. power source. It does not have a line cord to plug into the A.C. power line.

2.0 INTRODUCTION

On November 5, 6, 13, 16 & 19, 2007 & September 22, 2008, a series of radio frequency interference measurements was performed on SLX1-G5 Wireless Bodypack Transmitter, Model Number(s) SLX1-G5, Serial Number: N/A. The tests were performed according to the procedures of the FCC as stated in Part 2 - Frequency Allocations and Radio Treaty Matters: General Rules and Regulations, Subpart J, Equipment Authorization Procedures of the Code of Federal Regulations 47. Tests were performed by personnel of D.L.S. Electronic Systems, Inc. who are responsible to Donald L. Sweeney, Senior EMC Engineer.

D.L.S. Electronic Systems, Inc. is a full service EMC/Safety Testing Laboratory accredited to ISO Guide 17025. NVLAP Certificate and Scope can be viewed at http://www.dlsemc.com/certificate. Our facilities are registered with the FCC, Industry Canada, and VCCI. All immunity tests were performed by personnel of D.L.S. Electronic Systems, Inc. at the following location(s):

Main Test Facility:
D.L.S. Electronic Systems, Inc.
1250 Peterson Drive
Wheeling, Illinois 60090

3.0 OBJECT

The purpose of this series of tests was to determine if the test sample could meet the radio frequency interference requirements of the FCC "Rules and Regulations", Part 74, Subpart H, Section 74.861 (e), for low power auxiliary stations.

4.0 TEST SET-UP

All tests were performed at D.L.S. Electronic Systems, Inc. and set up according to the American National Standards Institute, ANSI C63.4-2003. The conducted tests if required were performed with the test item placed on a non-conductive table (table top equipment), located in the test room. Equipment normally operated on the floor was tested by placing it on the metal ground plane. The ground plane has an electrical isolation layer over its surface approximately 7mm thick. The power line supplied was connected to a dual line impedance stabilization network electrically bonded to the ground plane, located on the floor. The networks were constructed per the requirements of the American National Standards Institute, ANSI C63.4-2003.

All radiated emissions tests were performed with the test item placed on a 80 cm high rotating non-conductive table, located in the test room. Equipment normally operated on the floor was placed on a metal covered turntable, which is flush with the surrounding conducting ground plane. The ground plane has an electrical isolation layer over its surface approximately 7 mm thick. The EUT is separated from the turntable ground plane by a non-conductive layer. The equipment under test was set up according to TIA Standard, TIA-603-C:2004, Section 2.2.12.

1250 Peterson Dr., Wheeling, IL 60090

5.0 TEST EQUIPMENT (Bandwidths and Detector Function)

All preliminary data below 1000 MHz was automatically plotted using the HP Spectrum Analyzer or ESI 26/ESI 40 Fixed Tuned Receiver. The data was taken using Peak, Quasi-Peak or the Average Detector Functions as required. This information was then used to determine the frequencies of maximum emissions. Above 1000 MHz, final data was taken using the Average Detector.

Below 1000 MHz, final data was taken using the HP Spectrum Analyzer and or ESI 26/ESI 40 fixed tuned receiver. These plots were made using the Peak or Quasi-Peak Detector functions, with manual measurements performed on the questionable frequencies using the Quasi-Peak or the Average Detector Function of the Analyzer or ESI 26/ESI 40 Receiver as required. Above 1000 MHz, final data was taken using the Average Detector on the ESI 26/ESI 40 Fixed Tuned Receiver.

The bandwidths shown below are specified by ANSI C63.4-2003.

Frequency Range	Bandwidth (-6 dB)
10 to 150 kHz	200 Hz
150 kHz to 30 MHz	9 kHz
30 MHz to 1 GHz	120 kHz
Above 1 GHz	1 MHz

A list of the equipment used can be found in Table 1. All primary equipment was calibrated against known reference standards with a verified traceable path to NIST.

6.0 AMBIENT MEASUREMENTS

For emissions measurements, broadband antennas and an EMI Test Receiver with a panoramic spectrum display are used. First the frequency range is scanned and displayed on the test receiver display. Next the scanned frequency range is divided into smaller ranges, and then it is manually tuned through to determine the emissions from the EUT. A headset or loudspeaker is connected to the test receiver's AM/FM demodulated output as an aid in detecting ambient signals and finding frequencies of significant emission from the EUT. If there is any doubt as to the source of the emission, it is further investigated by rotating the EUT, or by disconnecting the power from the EUT.

The EUT is set up in its typical configuration and operated in its various modes. For tabletop systems, cables are manipulated within the range of likely configurations. For floor-standing equipment, the cables or are located in the same manner as the user would install them and no further manipulation is made. If the manner of cable installation is not known, or if it changes with each installation, cables or wires for floor-standing equipment shall be manipulated to the extent possible to produce the maximum level of emissions. For each mode of operation, the frequency spectrum is monitored. Variations in antenna height, antenna polarization, EUT azimuth, and cable or wire placement (each variable within bounds specified elsewhere) are explored to produce the emission that has the highest amplitude relative to the limit. These methods are performed to the specifications in ANSI C63.4: 2003.

7.0 AC POWER LINE CONDUCTED EMISSION MEASUREMENTS – Part 15.207

The SLX1-G5 Wireless Bodypack Transmitter is powered from a D.C. power source and will not at any time be directly plugged into the public utility lines, therefore the conducted emissions test was not performed.

1250 Peterson Dr., Wheeling, IL 60090

8.0 DESCRIPTION OF TEST SAMPLE:

8.1 Description:

The Shure Model SLX1-G5 is a microprossesor controlled frequency agile UHF bodypack transmitter operating over the frequency range of 494MHz to 518MHz. The transmitter will operate for a minimum of 8 hours using two "AA" alkaline batteries. The user interface includes Mode and Set buttons, and an LCD that displays battery status, group/channel and transmitter/receiver frequency synchronization. The SLX1-G5 has a plastic enclosure. It utilizes an external flexible wire antenna (Exceltek 95D2426 ¼ Wave Antenna) for optimum range and reliability.

8.2 PHYSICAL DIMENSIONS OF EQUIPMENT UNDER TEST

Length: 109.0mm x Width: 64.0mm x Height: 19.0mm

8.3 LINE FILTER USED:

N/A

8.4 INTERNAL CLOCK FREQUENCIES:

Switching Power Supply Frequencies:

N/A kHz

Clock Frequencies:

16 MHz, 0.32768 MHz

8.5 DESCRIPTION OF ALL CIRCUIT BOARDS:

1. PC Board Assy. PN: 190-10300

1250 Peterson Dr., Wheeling, IL 60090

9.0 ADDITIONAL DESCRIPTION OF TEST SAMPLE:
(See also Paragraph 8.0)

1: There were no additional descriptions noted at the time of test.

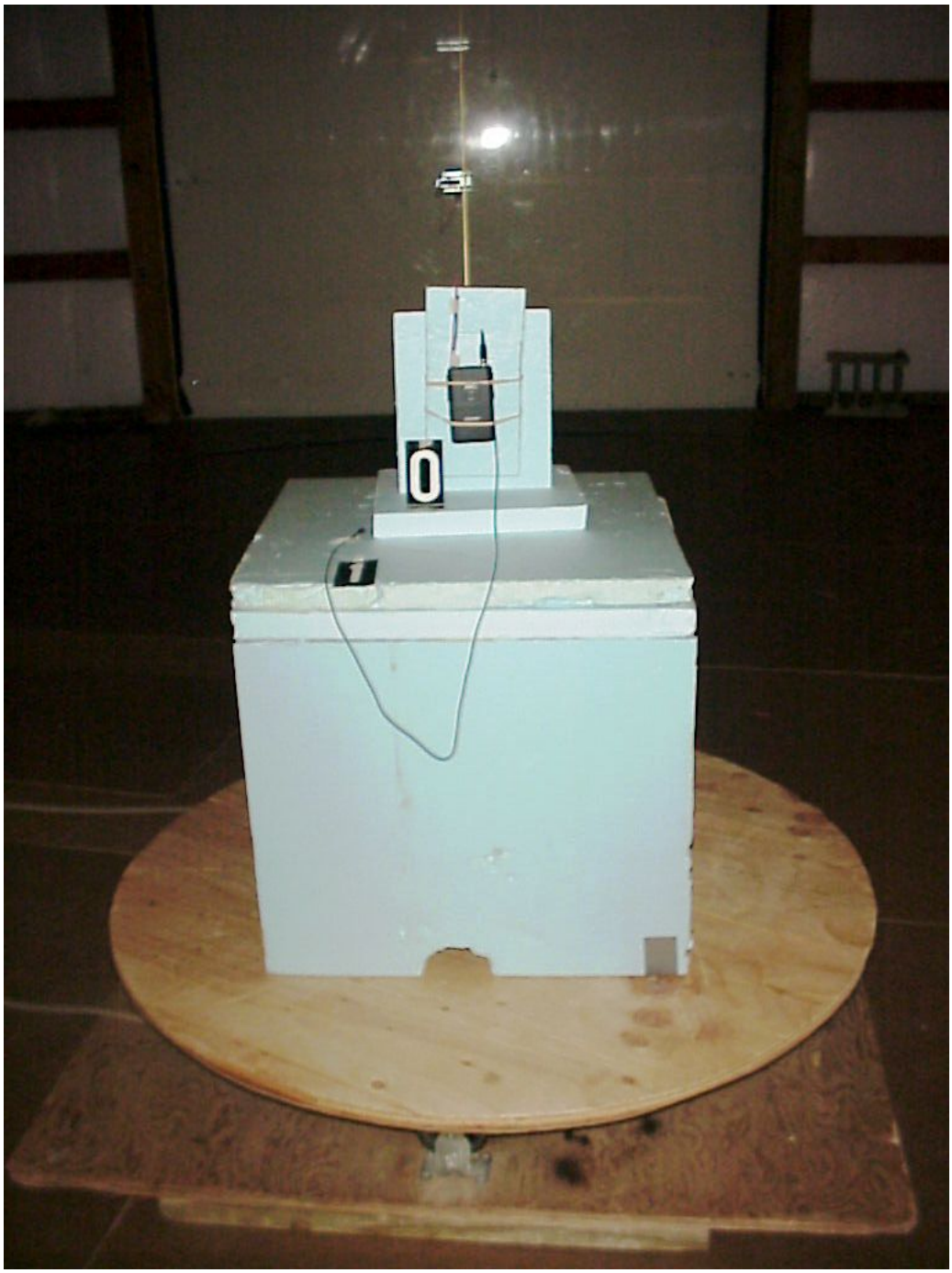
10.0 PHOTO INFORMATION AND TEST SET-UP

Item 0 SLX1-G5 Wireless Bodypack Transmitter
Model Number: SLX1-G5, Serial Number: N/A

Item 1 Shure Microphone Cable

1250 Peterson Dr., Wheeling, IL 60090

11.0 RADIATED PHOTOS TAKEN DURING TESTING



ORIENTATION Y-AXIS

1250 Peterson Dr., Wheeling, IL 60090

11.0 RADIATED PHOTOS TAKEN DURING TESTING

ORIENTATION X-AXIS

1250 Peterson Dr., Wheeling, IL 60090

11.0 RADIATED PHOTOS TAKEN DURING TESTING

ORIENTATION Z-AXIS

1250 Peterson Dr., Wheeling, IL 60090

12.0 RESULTS OF TESTS

The radio interference emission charts can be seen on the pages at the end of this report. Data sheets indicating the test measurements taken during testing can also be found at the end of this report.

13.0 CONCLUSION

It was found that the SLX1-G5 Wireless Bodypack Transmitter, Model Number(s) SLX1-G5 **meets** the radio interference radiated emission requirements of the FCC "Rules and Regulations", Part 74, Subpart H, Section 74.861 (e), for low power auxiliary stations.The AC Power Line conducted emissions test was not required because the SLX1-G5 Wireless Bodypack Transmitter is powered from a D.C. power source. It does not have a line cord to plug into the A.C. power line.

TABLE 1 – EQUIPMENT LIST

Test Equipment	Manufacturer	Model Number	Serial Number	Frequency Range	Cal Due Dates
Receiver	Rohde & Schwarz	ESI 40	837808/006	20 Hz – 40 GHz	3/09
Preamplifier	Rohde & Schwarz	TS-PR10	032001/004	9 kHz – 1 GHz	1/09
Preamp	Ciao	CA118-4010	101	1 GHz-18 GHz	1/09
Signal Generator	Marconi	2022A	119026	10 kHz – 1 GHz	7/09
Oscilloscope	Yukogawa	DL1720	R047912	1 Hz – 500 MHz	10/09
Antenna	Electrometrics	3146	1205	200 MHz – 1 GHz	4/10
Dipole Antenna	Com-Power	AD-100	40140	400 MHz – 1 GHz	N/A
Horn Antenna	EMCO	3115	4451	1-18 GHz	5/09
Power Meter	Anritsu	ML2487A	6K00002069	100 kHz – 65 GHz	10/09
High Pass Filter	Mini-Circuits	NHP-600	10521	600 MHz	10/08
High Pass Filter	Q-Microwave	100460	001	1.1 GHz	5/09
Attenuator-20dB Fixed	Aeroflex Weinschel	75A-20-12	1071	DC – 40GHz	7/09
Power Sensor	Anritsu	MA2490A	031563	50 MHz – 8 GHz	10/09

All primary equipment is calibrated against known reference standards with a verified traceable path to NIST.

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

TEST PROCEDURE

SUBPART H

LOW POWER AUXILIARY STATIONS OPERATING IN THE BANDS ALLOCATED FOR TV BROADCASTING

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

1.0 TEST SET-UP

All radiated emission tests were performed at D.L.S. Electronic Systems, Inc. The radiated tests were made with the test item placed on a non-conductive turntable located in the Test Room with the receive antenna placed three or one meter(s) from the device under test.

2.0 RF-POWER OUTPUT – PART 2.1046 and EIA /TIA-603-C:2004, SECTION 2.2.17

As stated in PART 74.861 (e)(1)(ii), the RF output power should not exceed 0.25 watt(s). The RF output of the SLX1-G5 Wireless Bodypack Transmitter was connected to a Power Meter through suitable attenuation. All cables, connectors, and attenuators were calibrated prior to testing. The RF output power was measured using the following test method:

Actual Measurements Taken:

14.16 dBm Measured output of the transmitter

14.16 dBm equals 0.02606 watt(s)

LIMIT:

Manufacturer's rated output power = 14 dBm ± 2 dB

MARGIN:

0.25 - 0.02606 = 0.223939 watt(s)

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

DATA TAKEN OF THE RF POWER

OUTPUT MEASUREMENT

EIA /TIA-603-C:2004, SECTION 2.2.17

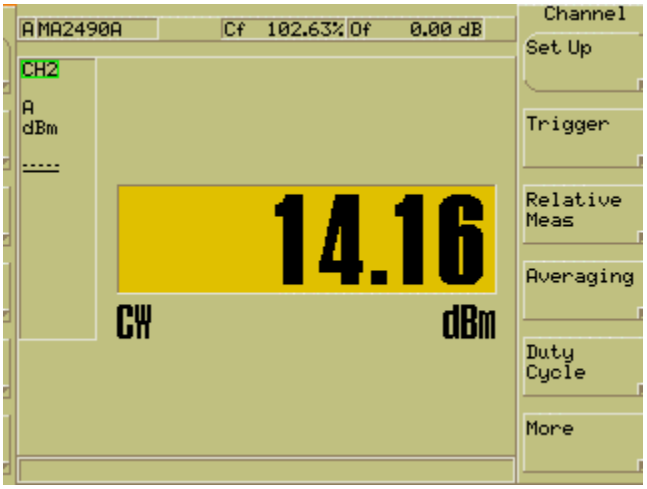
FCC Part 74.861(e)(1) & PART 2.1046

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 11-13-2007
Company: Shure, Inc.
EUT: SLX1-G5
Test: Peak Power Output - Conducted
Rule part: FCC Part 74; FCC Part 2.1046
Operator: Craig B
Comment: Channel: 494.125 MHz

Peak Output Power = 14.16 dBm = 26.06 mW

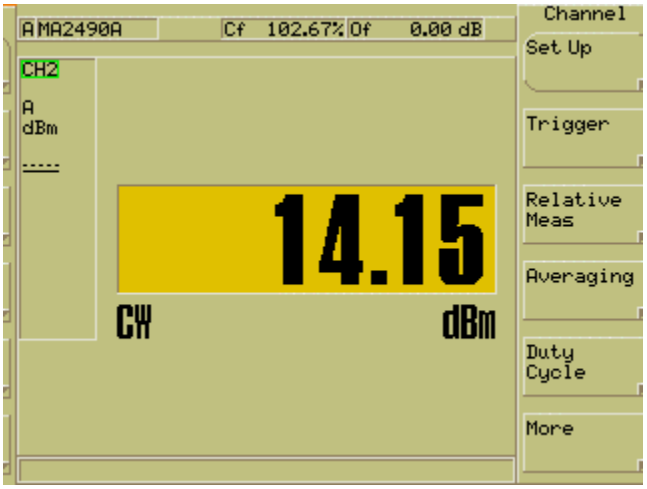


1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 11-13-2007
Company: Shure, Inc.
EUT: SLX1-G5
Test: Peak Power Output - Conducted
Rule part: FCC Part 74; FCC Part 2.1046
Operator: Craig B
Comment: Channel: 506.000 MHz

Peak Output Power = 14.15 dBm = 26.00 mW

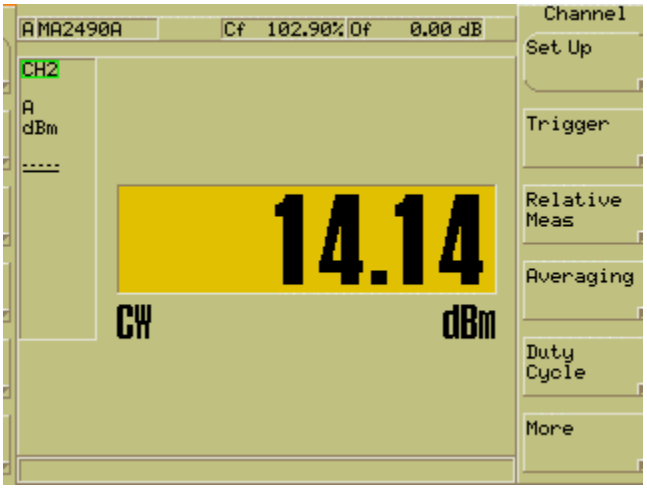


1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 11-13-2007
Company: Shure, Inc.
EUT: SLX1-G5
Test: Peak Power Output - Conducted
Rule part: FCC Part 74; FCC Part 2.1046
Operator: Craig B
Comment: Channel: 517.875 MHz

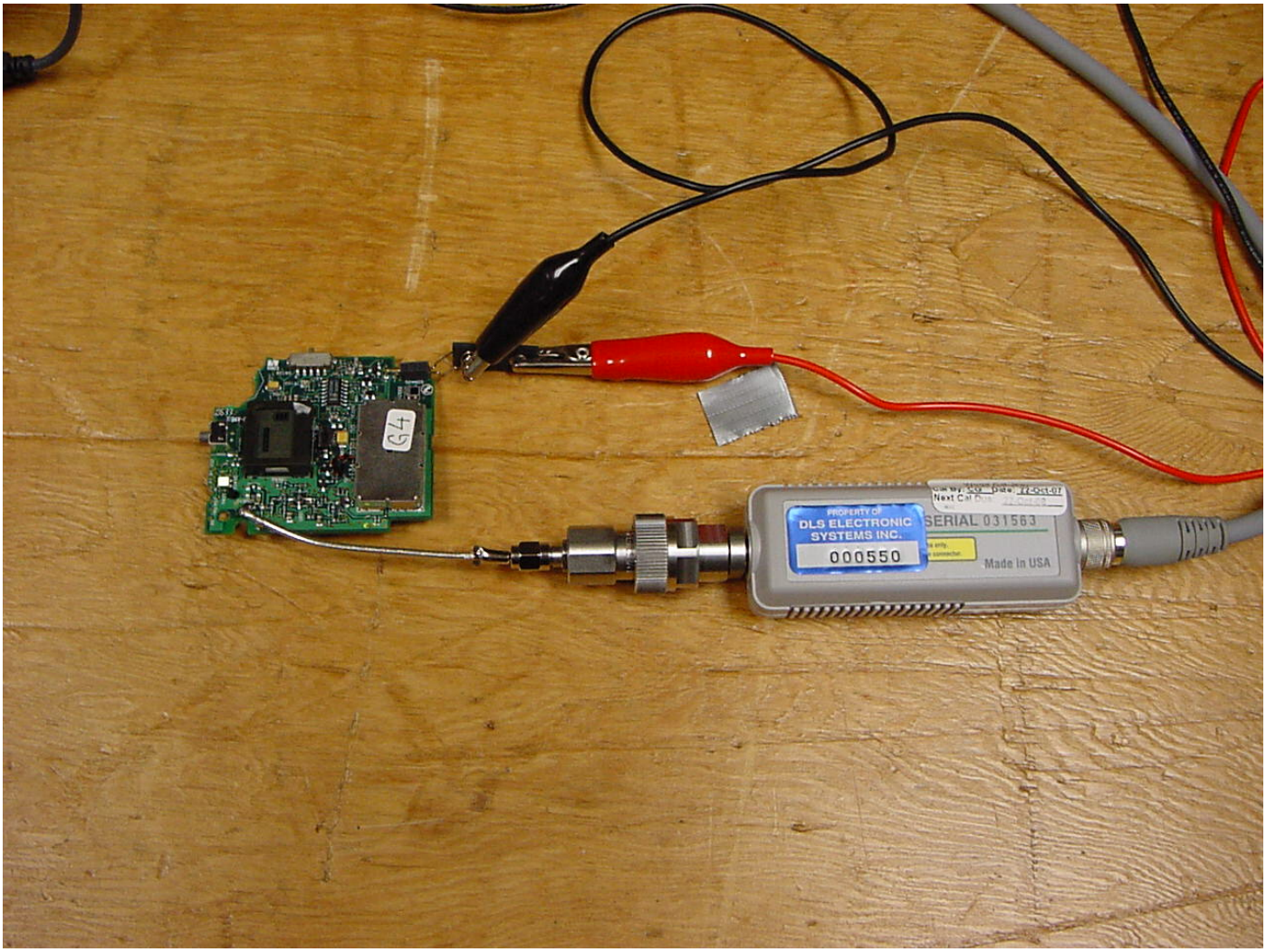
Peak Output Power = 14.14 dBm = 25.94 mW



1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

3.0 RF POWER OUTPUT PHOTOS TAKEN DURING TESTING



1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

4.0 MODULATION CHARACTERISTICS – PART 2.1047 and EIA /TIA-603-C:2004, SECTION 2.2.3

a. Voice modulated communication equipment

A curve showing the frequency response of the audio modulating circuit over a range of 45 Hz to 15 kHz Hz is submitted with this report.

b. Equipment which employs modulation limiting

A family of curves showing the percentage of modulation versus the modulation input voltage with sufficient information showing the modulation limiting capability throughout the range of modulating frequencies and input modulating signal levels employed.

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

GRAPH(S) TAKEN SHOWING THE FREQUENCY RESPONSE OF THE AUDIO MODULATING CIRCUIT

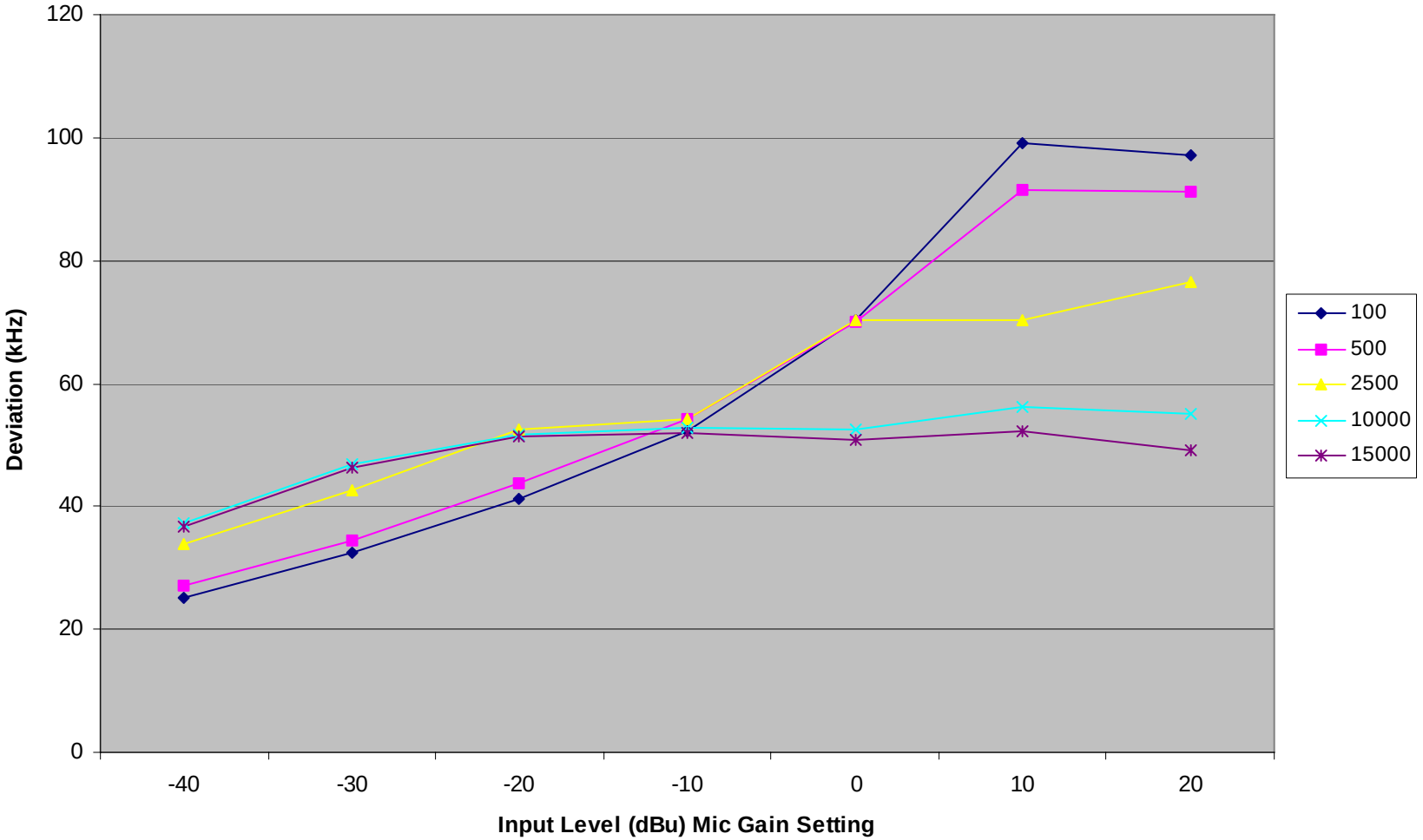
EIA /TIA-603-C:2004, SECTION 2.2.3

PART 2.1047

1250 Peterson Dr., Wheeling, IL 60090

Company: Shure Inc.
Model Tested: SLX1-G5
Report Number: 13808

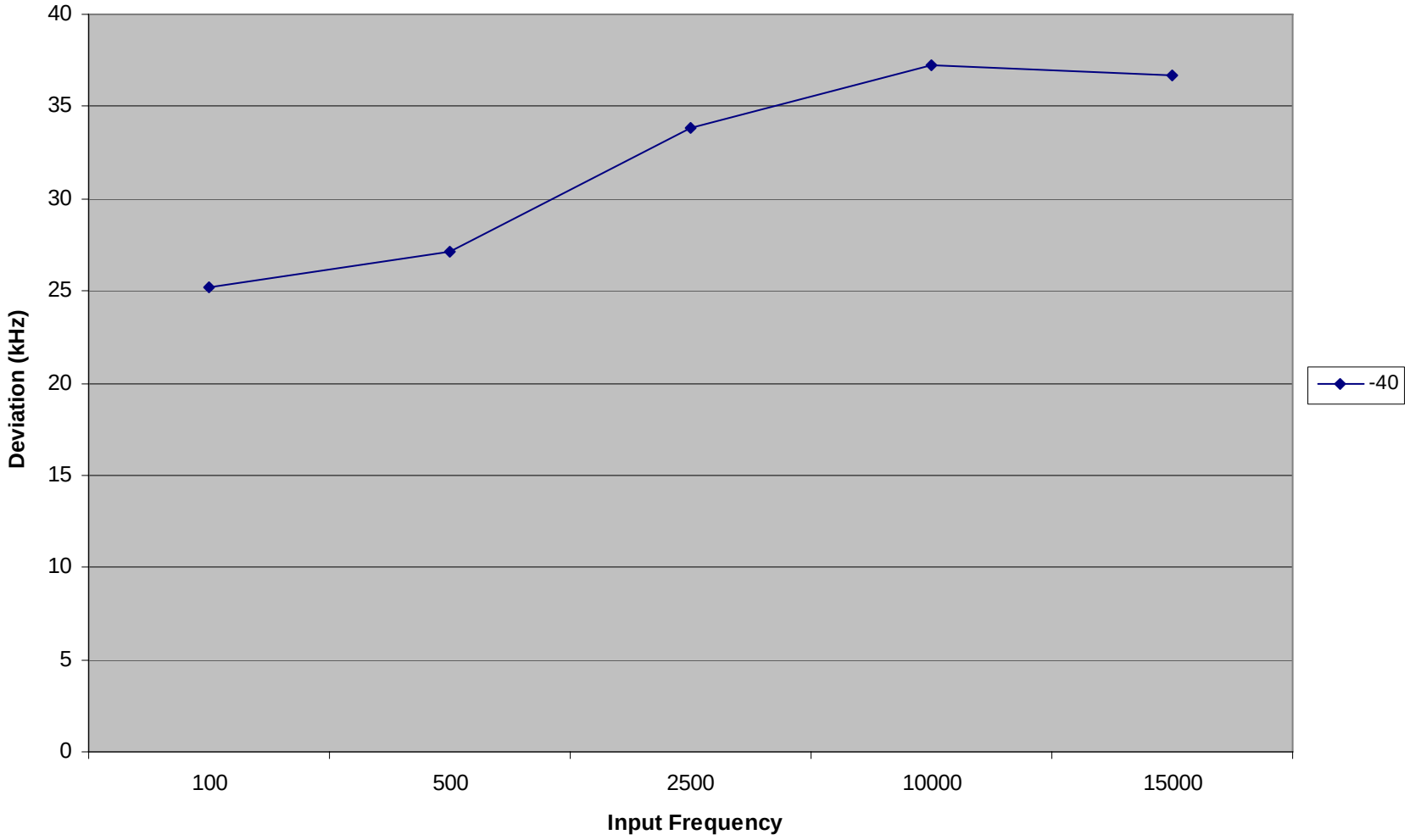
SLX1 G5 Deviation Vs. Input Level for Different Input Frequencies



1250 Peterson Dr., Wheeling, IL 60090

Company: Shure Inc.
Model Tested: SLX1-G5
Report Number: 13808

SLX1 G5 Deviation vs. Input Frequency -40 dBu Input 0dB Gain Setting



1250 Peterson Dr., Wheeling, IL 60090

		SLX1 G5					
		100	500	2500	10000	15000	(Hz)
	-40	25.2	27.1	33.8	37.2	36.7	
	-30	32.4	34.5	42.7	46.9	46.3	
(dBu)	-20	41.1	43.9	52.4	51.8	51.4	
	-10	52.2	54.3	54.3	52.7	52	
	0	70.2	69.9	70.4	52.6	50.9	
	10	99.1	91.5	70.4	56.3	52.3	
	20	97.2	91.3	76.6	55	49.1	

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

5.0 OCCUPIED BANDWIDTH - PART 2.1049

The occupied bandwidth is that between the lower and upper limits of the signal where the mean power is 99.0% of the total mean power and measured under the following conditions:

For low power auxiliary stations operating in the bands other than those allocated for TV broadcasting, the occupied bandwidth shall not be greater than that necessary for satisfactory transmission and emissions appearing on any discrete frequency outside the authorize band shall be attenuated $43+10\ \log^{10}$ (mean output power, in watts) dB below the mean output power of the transmitting unit (device under test).

For low power auxiliary stations operating in the bands allocated for TV broadcasting, any form of modulation may be used. A maximum of ±75 kHz is permitted when frequency modulation is used.

Carson's Rule:

Section 2.202 (g)

Bn = 2M+2DK, K=1 Bn = Bandwidth

M = 15 kHz, M = Maximum Modulating Frequency

D = 50 kHz, D = Peak Deviation

Bn = 2(15) + 2(50)(1) = 130 kHz

NOTE:

The modulation will not exceed 75 kHz as describes in the Operation Description.

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

DATA AND GRAPH(S) TAKEN OF THE

99% OCCUPIED BANDWIDTH

Part 74.861(e)(5) & PART 2.1049

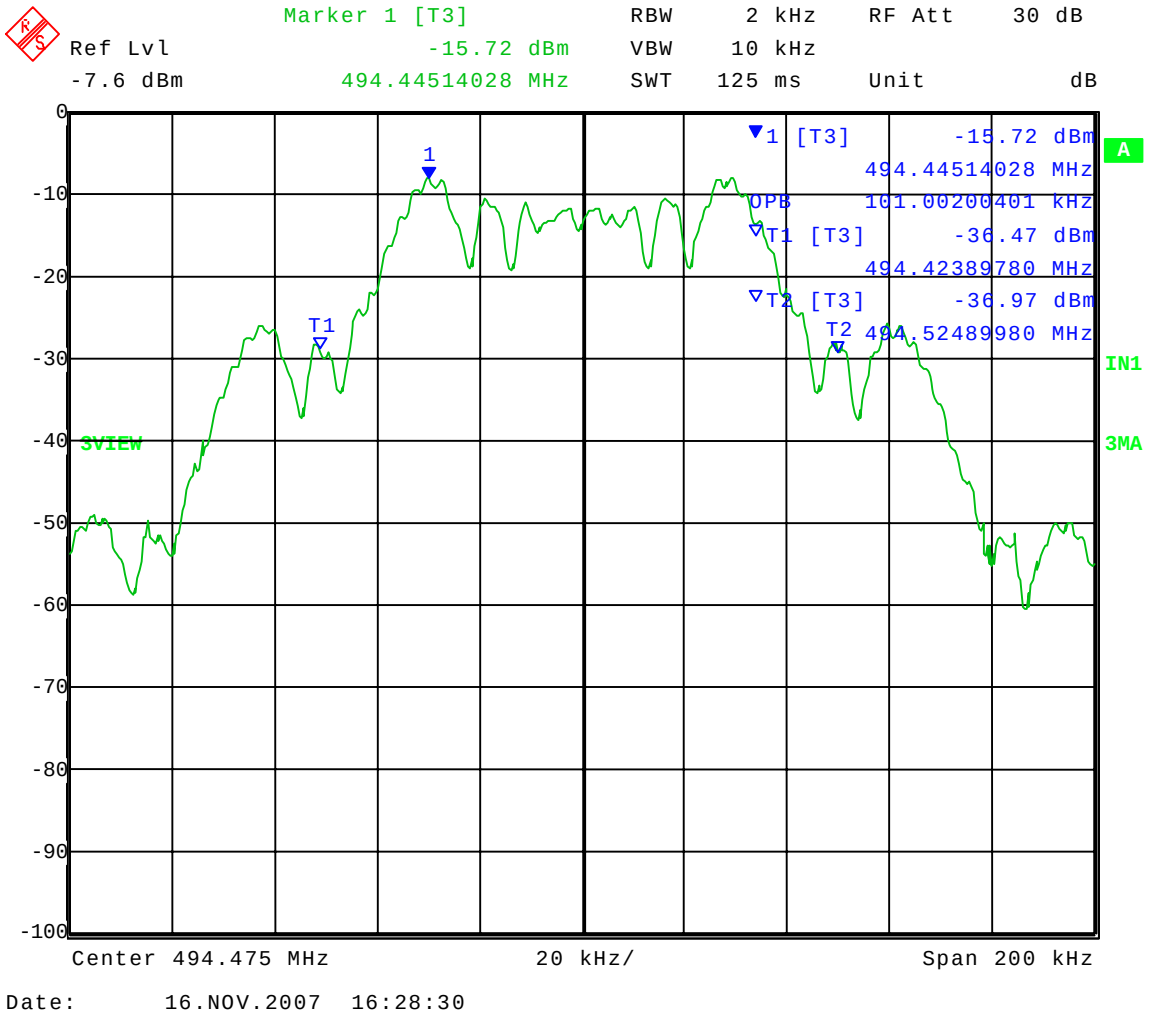
1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 11-16-2007
Company: Shure, Inc.
EUT: SLX1-G5
Test: Occupied Bandwidth; 99% bandwidth
Rule part: FCC Part 74; FCC Part 2.1049
Operator: Craig B

Frequency: 494.475 MHz

99% power bandwidth = 101.00 kHz



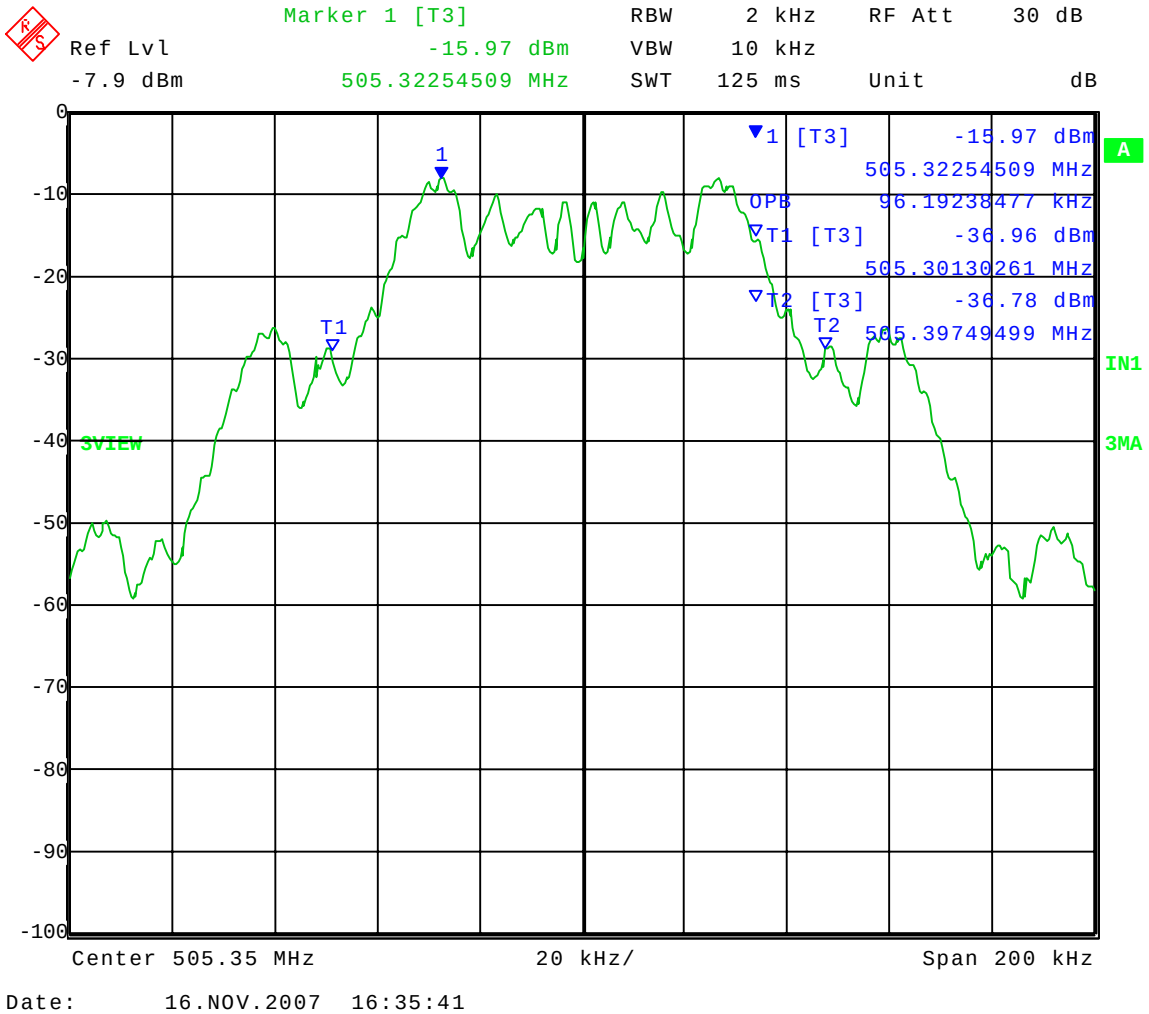
1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 11-16-2007
Company: Shure, Inc.
EUT: SLX1-G5
Test: Occupied Bandwidth; 99% bandwidth
Rule part: FCC Part 74; FCC Part 2.1049
Operator: Craig B

Frequency: 505.350 MHz

99% power bandwidth = 96.19 kHz



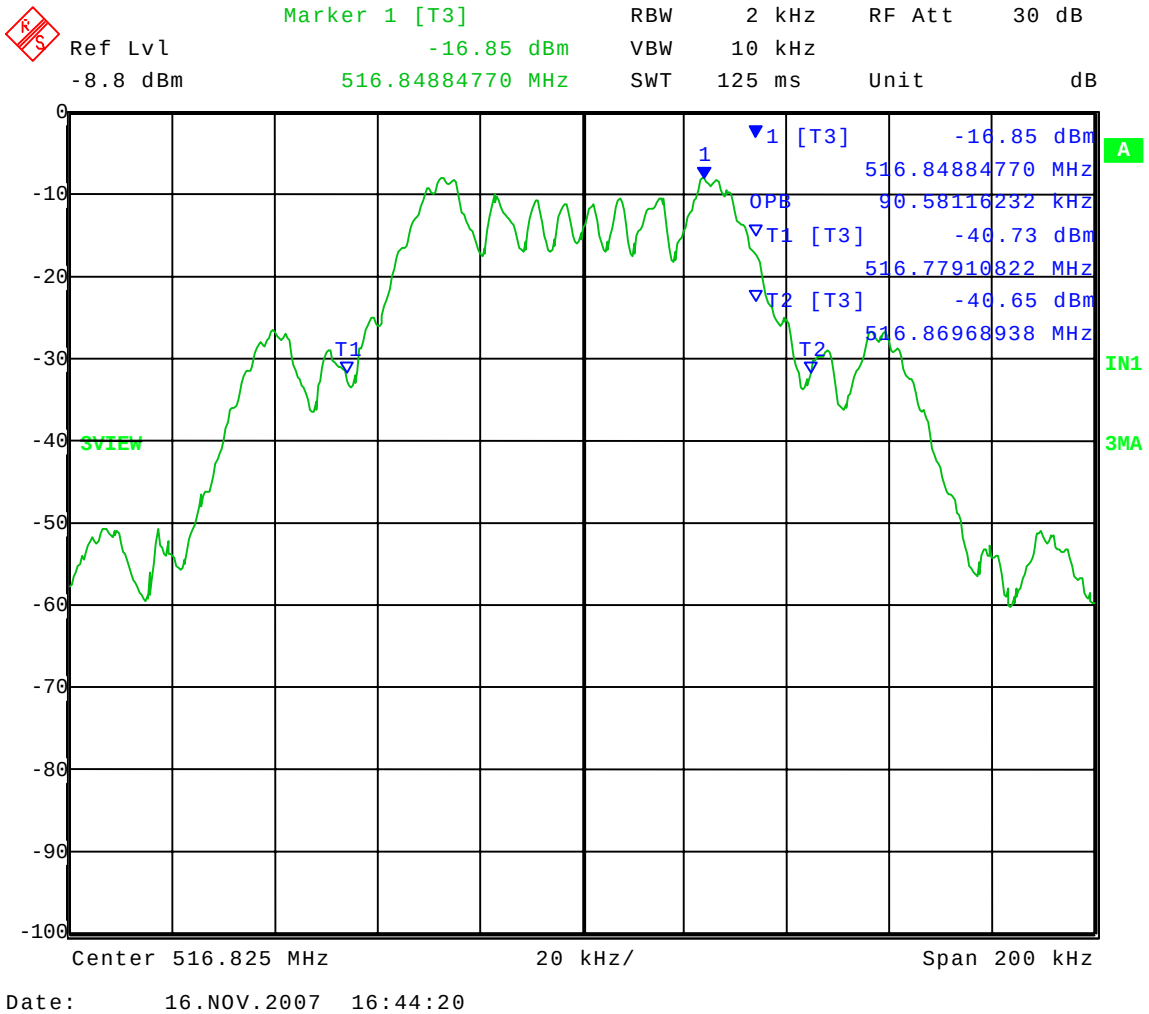
1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 11-16-2007
Company: Shure, Inc.
EUT: SLX1-G5
Test: Occupied Bandwidth; 99% bandwidth
Rule part: FCC Part 74; FCC Part 2.1049
Operator: Craig B

Frequency: 516.825 MHz

99% power bandwidth = 90.58 kHz



1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

DATA AND GRAPH(S) TAKEN OF THE

EMISSION MASK

Part 74.861(e)(6) & PART 2.1049

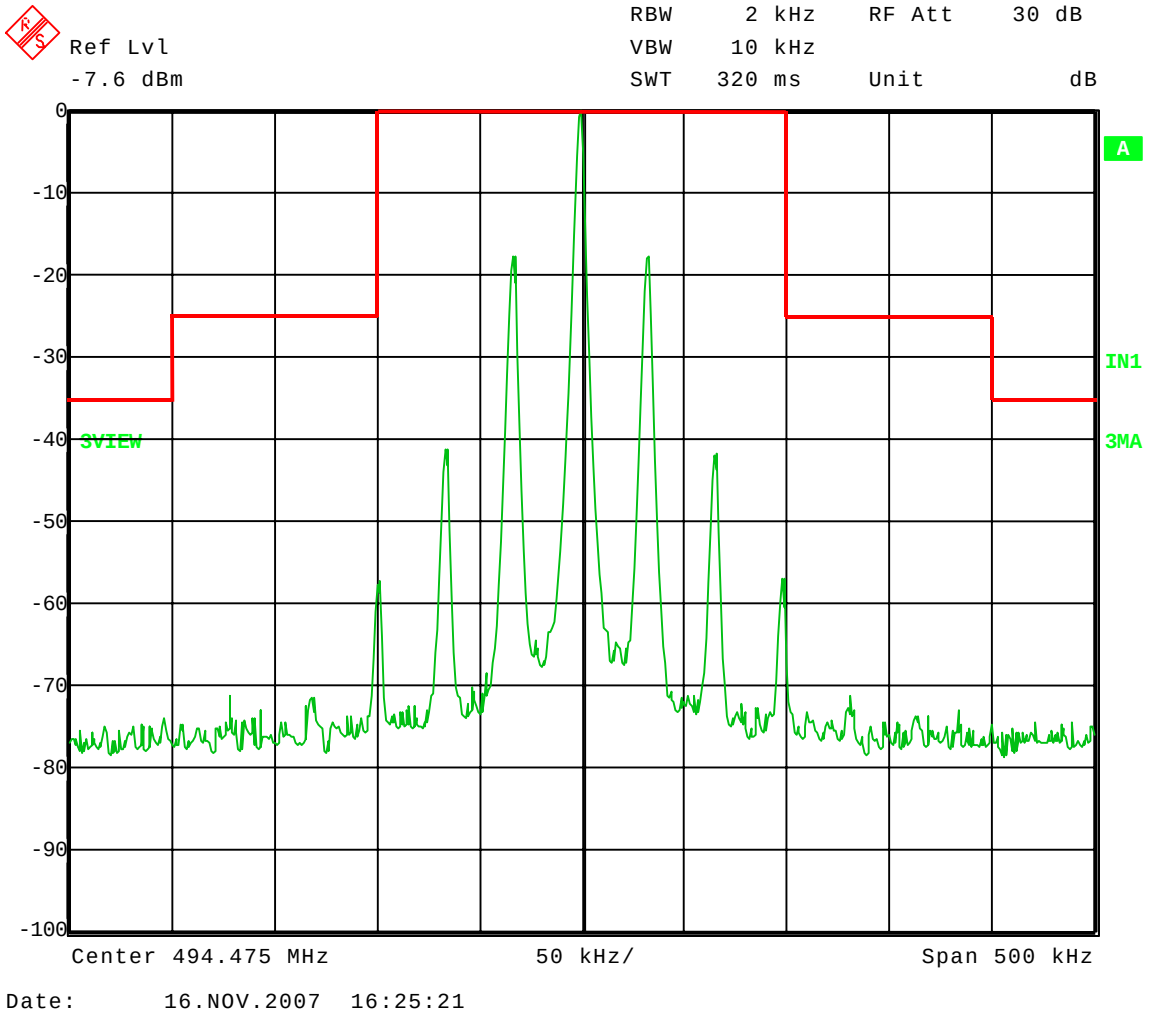
2500 Hz 16 dB > 50% Modulated

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 11-16-2007
Company: Shure, Inc.
EUT: SLX1-G5
Test: Occupied Bandwidth
Operator: Craig B

Nominal Frequency: 494.475 MHz
Unmodulated

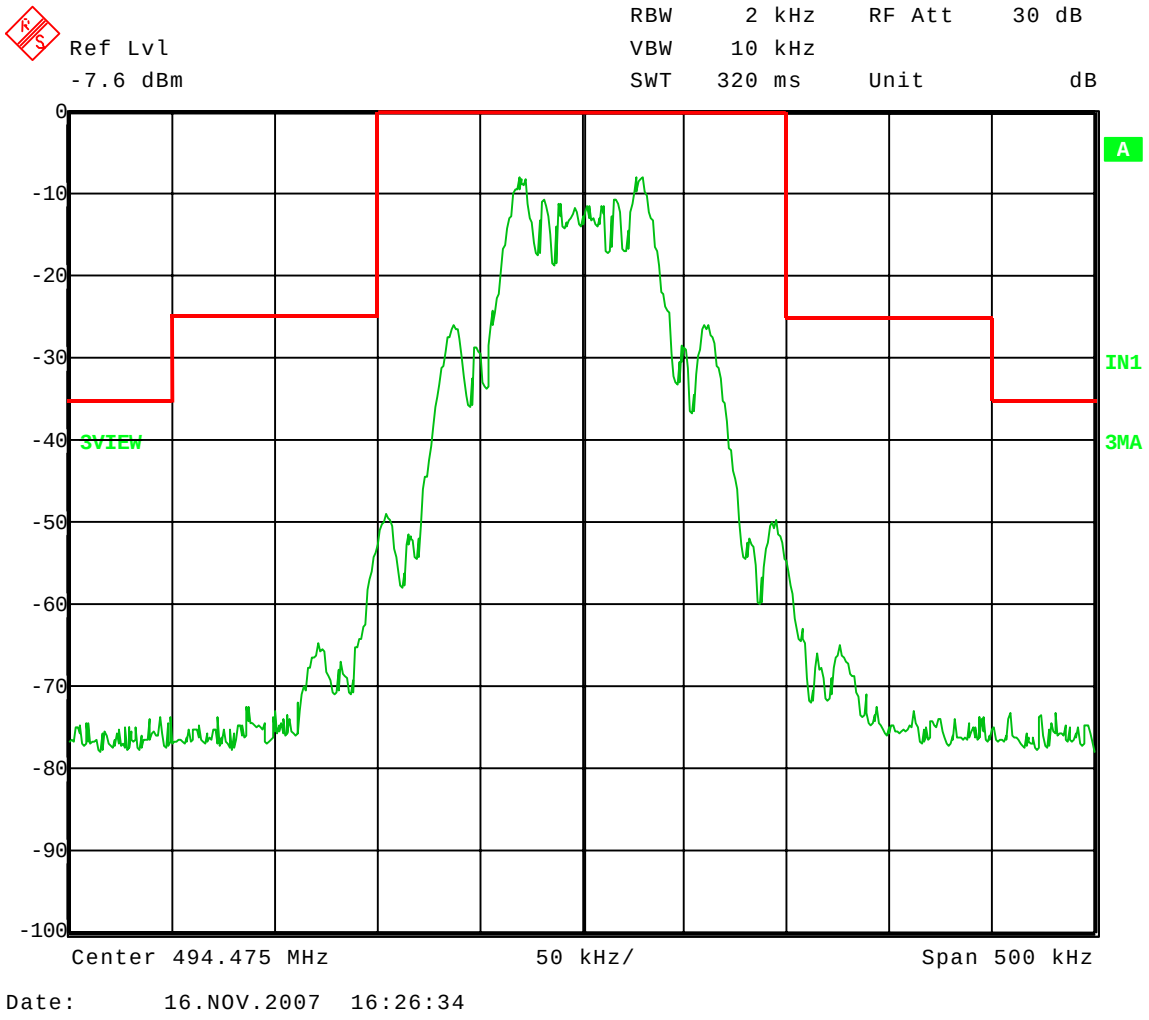


1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 11-16-2007
Company: Shure, Inc.
EUT: SLX1-G5
Test: Occupied Bandwidth
Operator: Craig B

Nominal Frequency: 494.475 MHz
2500 Hz 16 dB > 50% modulated

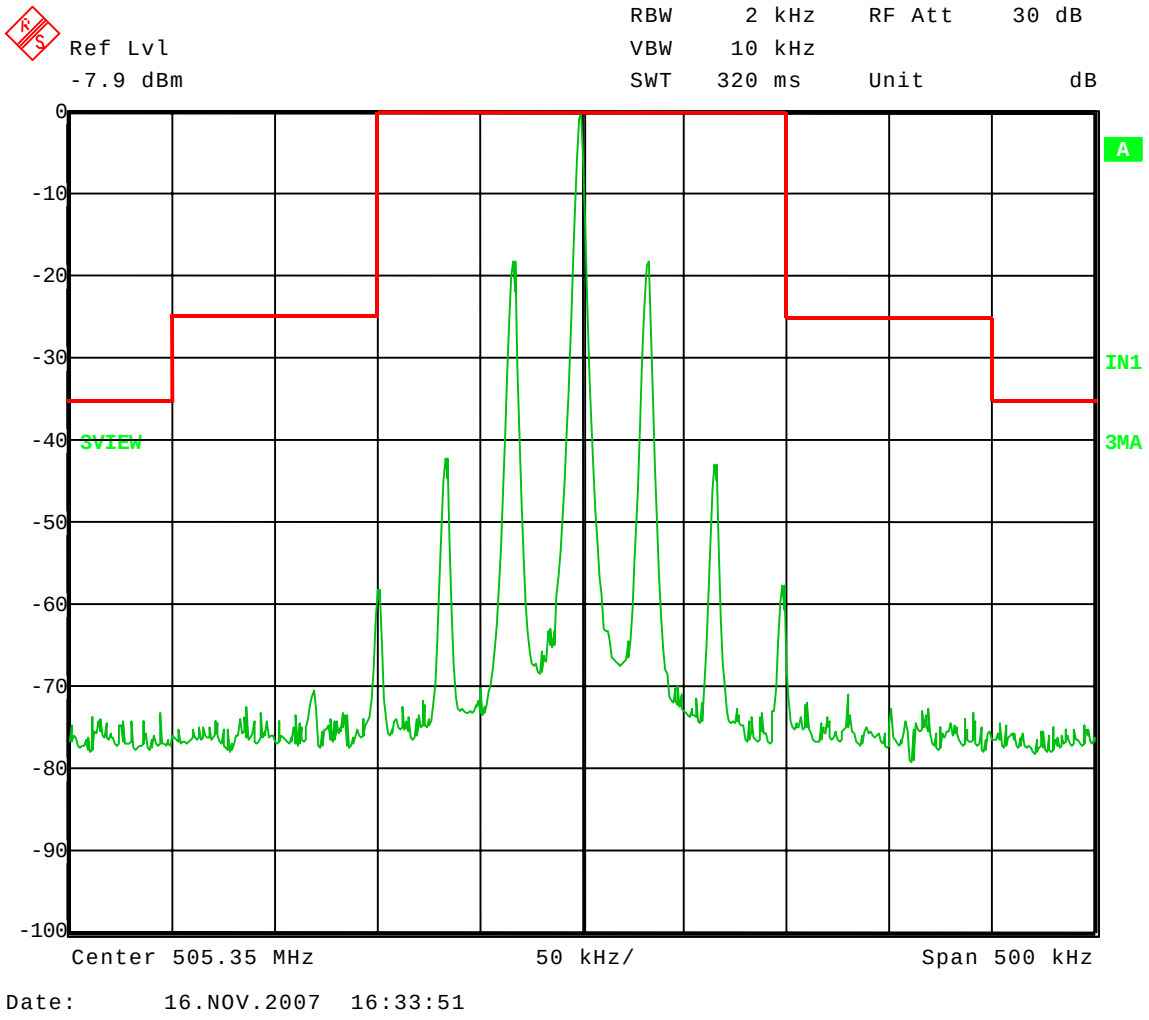


1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 11-16-2007
Company: Shure, Inc.
EUT: SLX1-G5
Test: Occupied Bandwidth
Operator: Craig B

Nominal Frequency: 505.350 MHz
Unmodulated

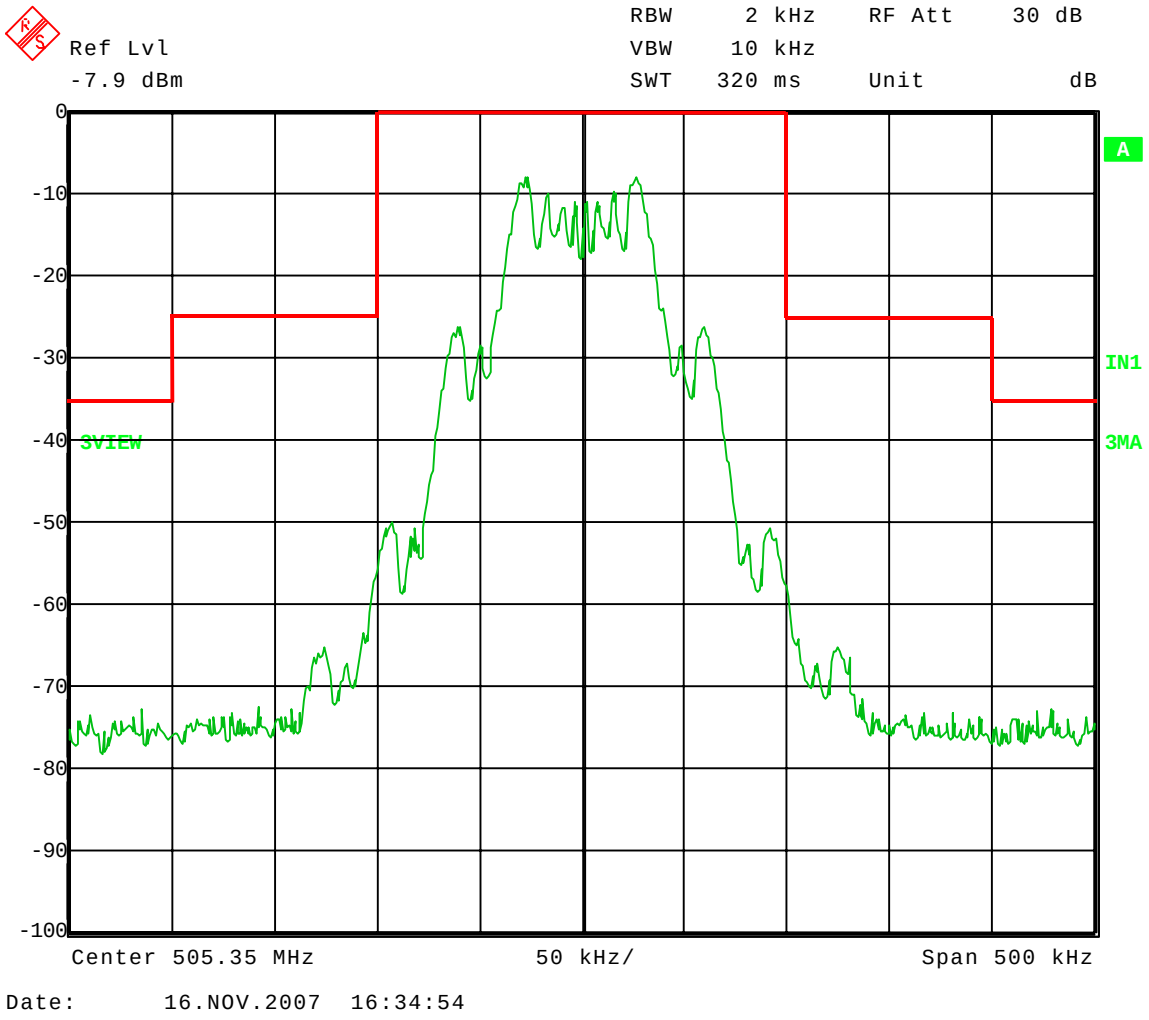


1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 11-16-2007
Company: Shure, Inc.
EUT: SLX1-G5
Test: Occupied Bandwidth
Operator: Craig B

Nominal Frequency: 505.350 MHz
2500 Hz 16 dB > 50% modulated

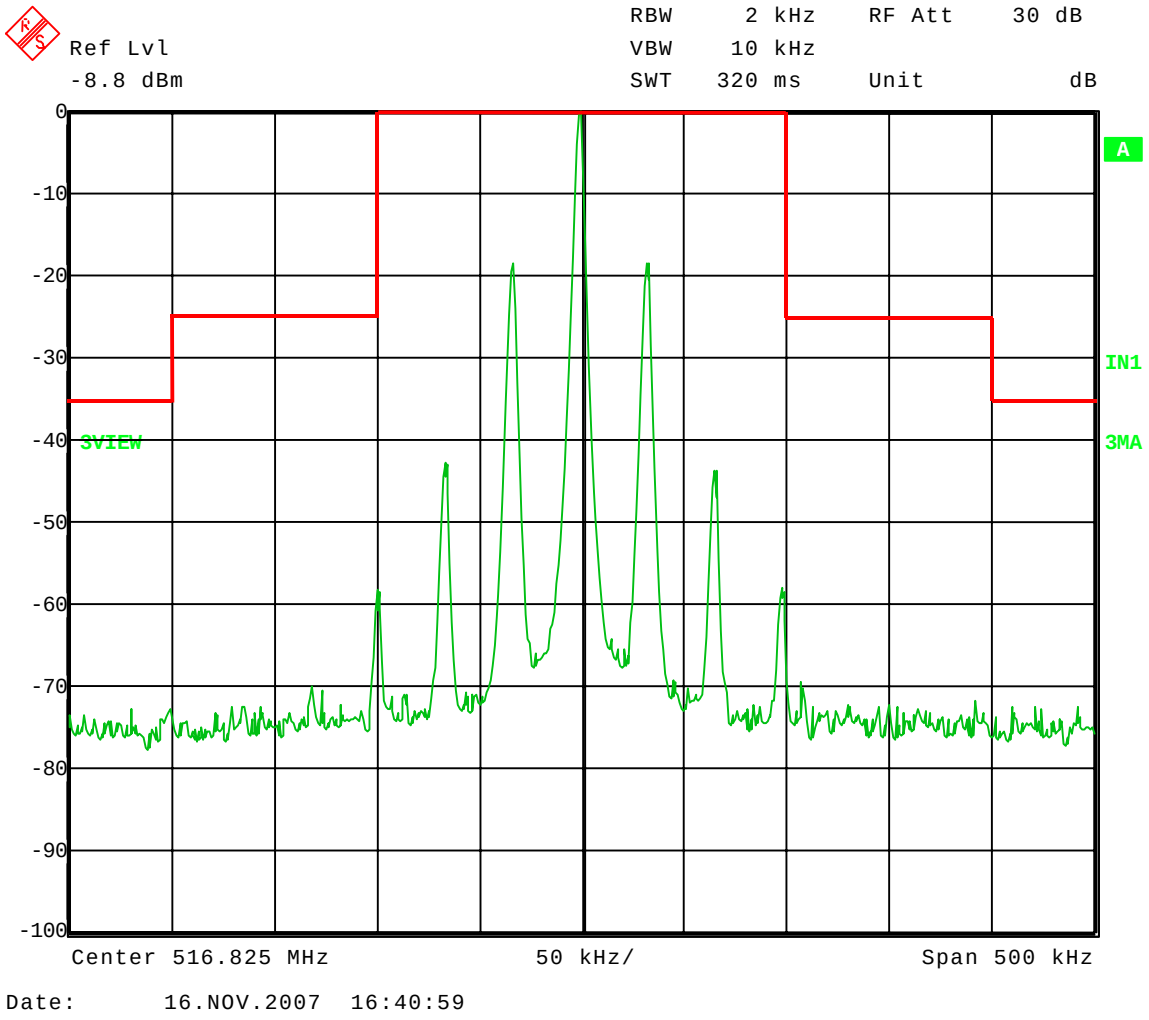


1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 11-16-2007
Company: Shure, Inc.
EUT: SLX1-G5
Test: Occupied Bandwidth
Operator: Craig B

Nominal Frequency: 516.825 MHz
Unmodulated

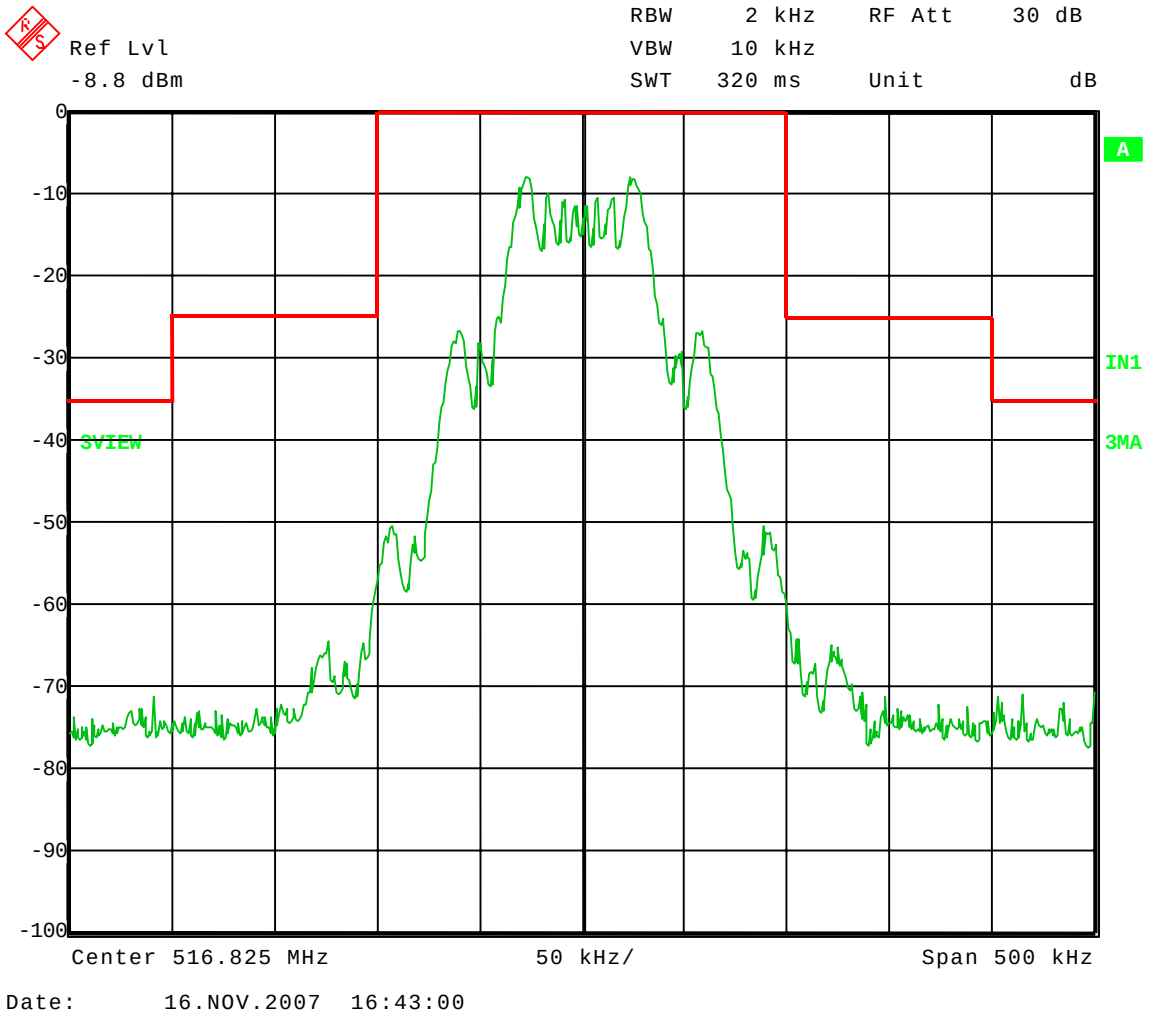


1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 11-16-2007
Company: Shure, Inc.
EUT: SLX1-G5
Test: Occupied Bandwidth
Operator: Craig B

Nominal Frequency: 516.825 MHz
2500 Hz 16 dB > 50% modulated



1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

DATA AND GRAPH(S) TAKEN OF THE

EMISSION MASK

Part 74.861(e)(6) & PART 2.1049

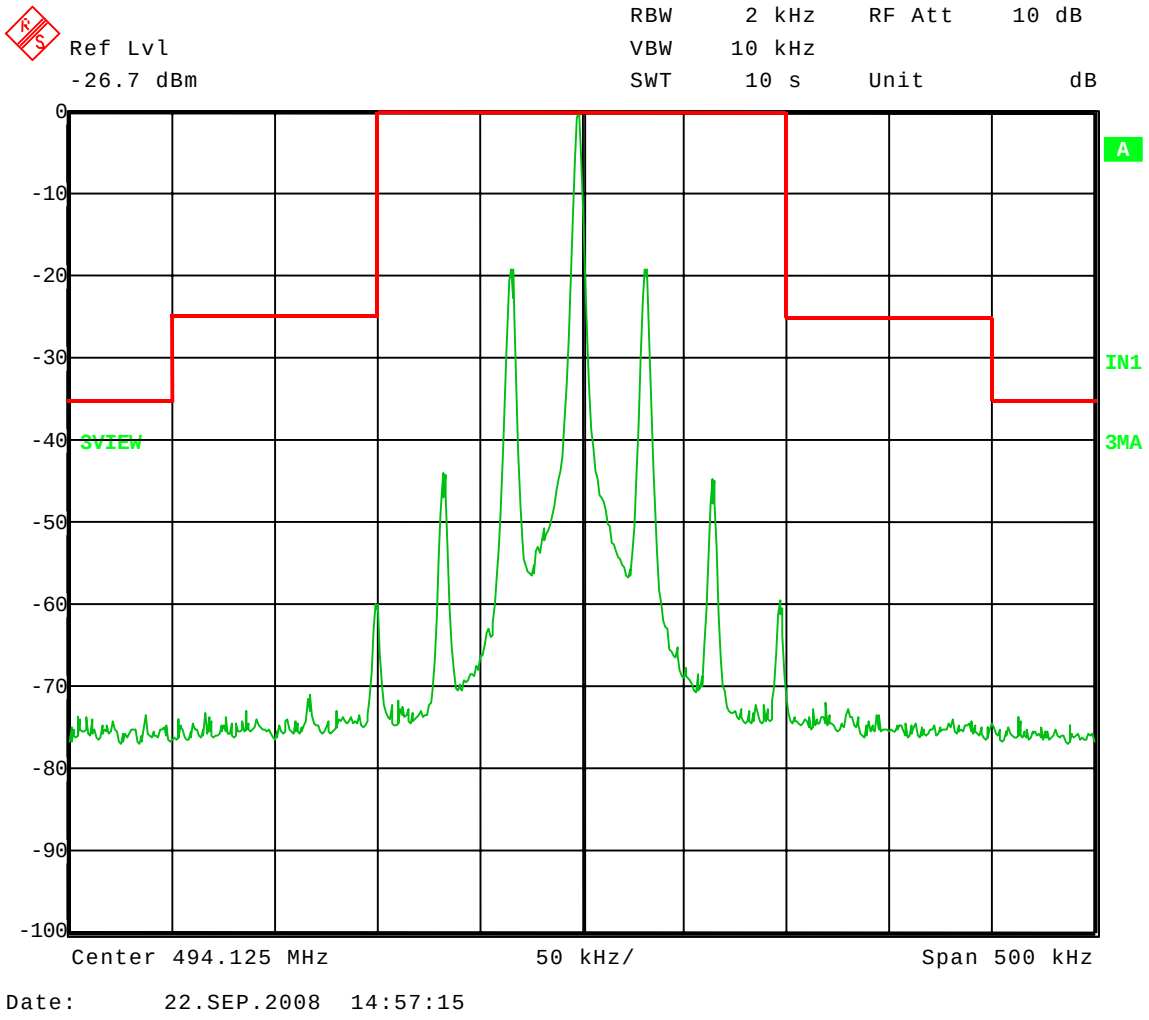
15 kHz Modulation

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 09-22-2008
Company: Shure, Inc.
EUT: SLX1-G5
Test: Occupied Bandwidth
Operator: Craig B

Nominal Frequency: 494.125 MHz
Unmodulated

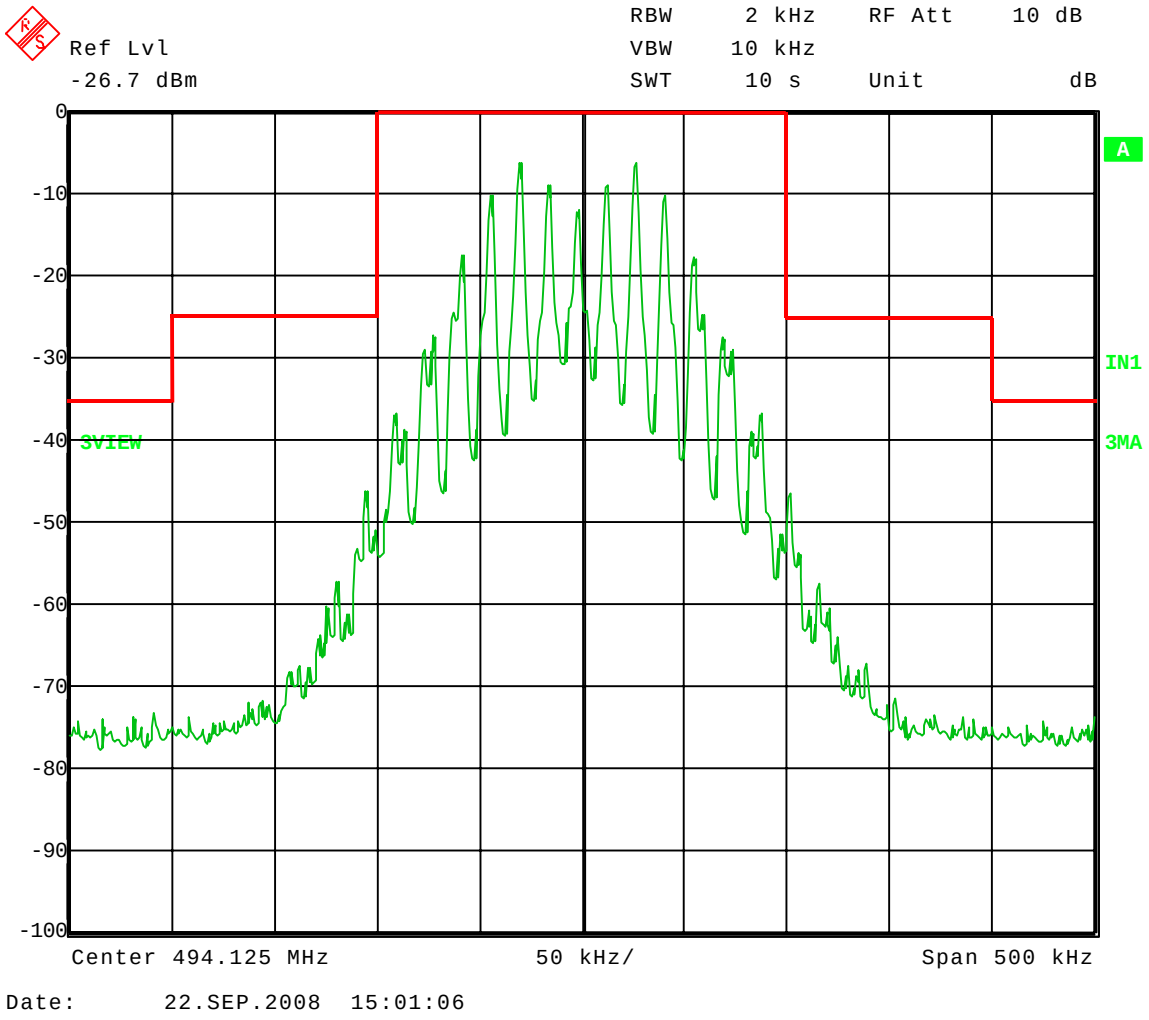


1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 09-22-2008
Company: Shure, Inc.
EUT: SLX1-G5
Test: Occupied Bandwidth
Operator: Craig B

Nominal Frequency: 494.125 MHz
15 kHz modulation

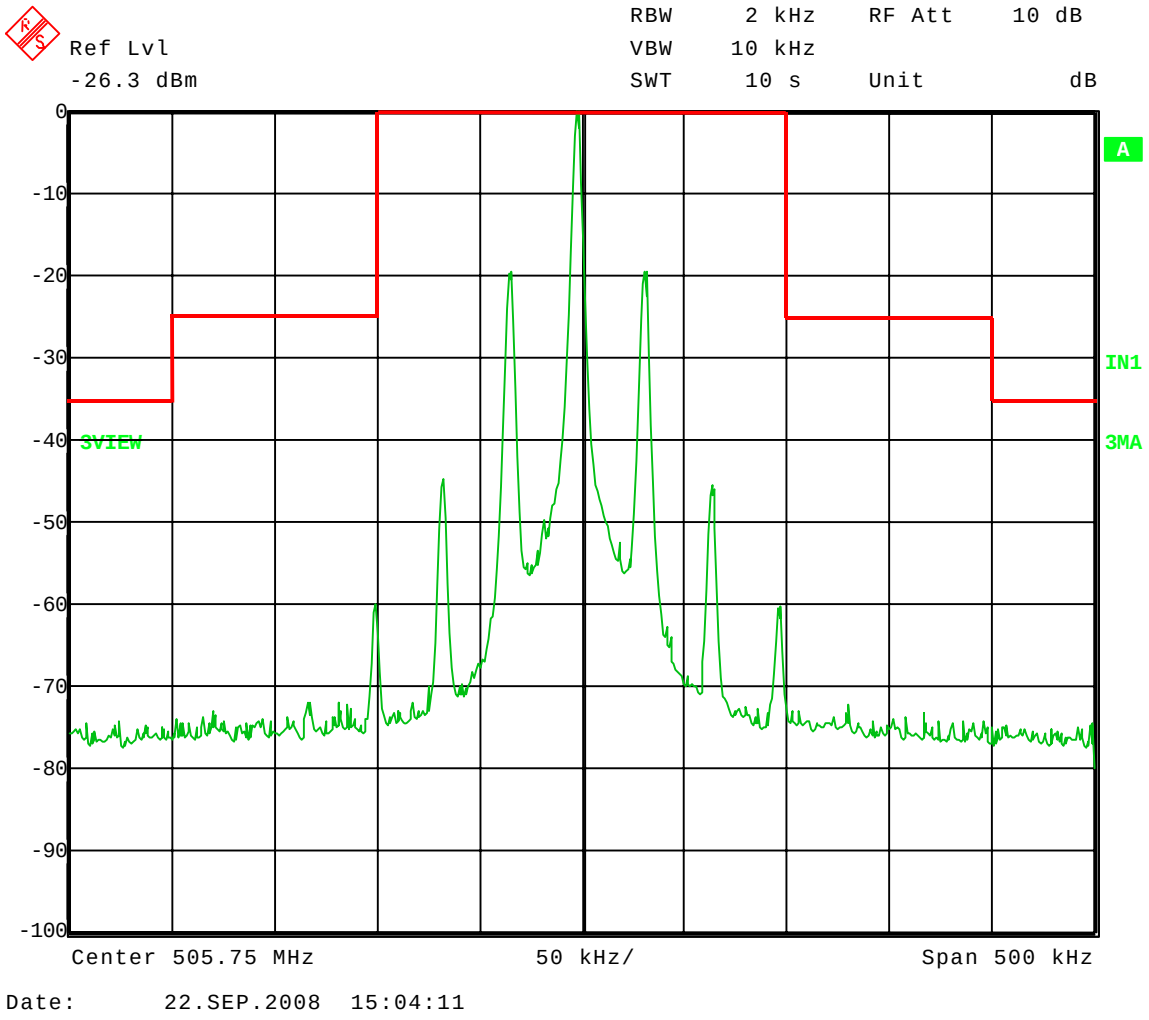


1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 09-22-2008
Company: Shure, Inc.
EUT: SLX1-G5
Test: Occupied Bandwidth
Operator: Craig B

Nominal Frequency: 505.750 MHz
Unmodulated

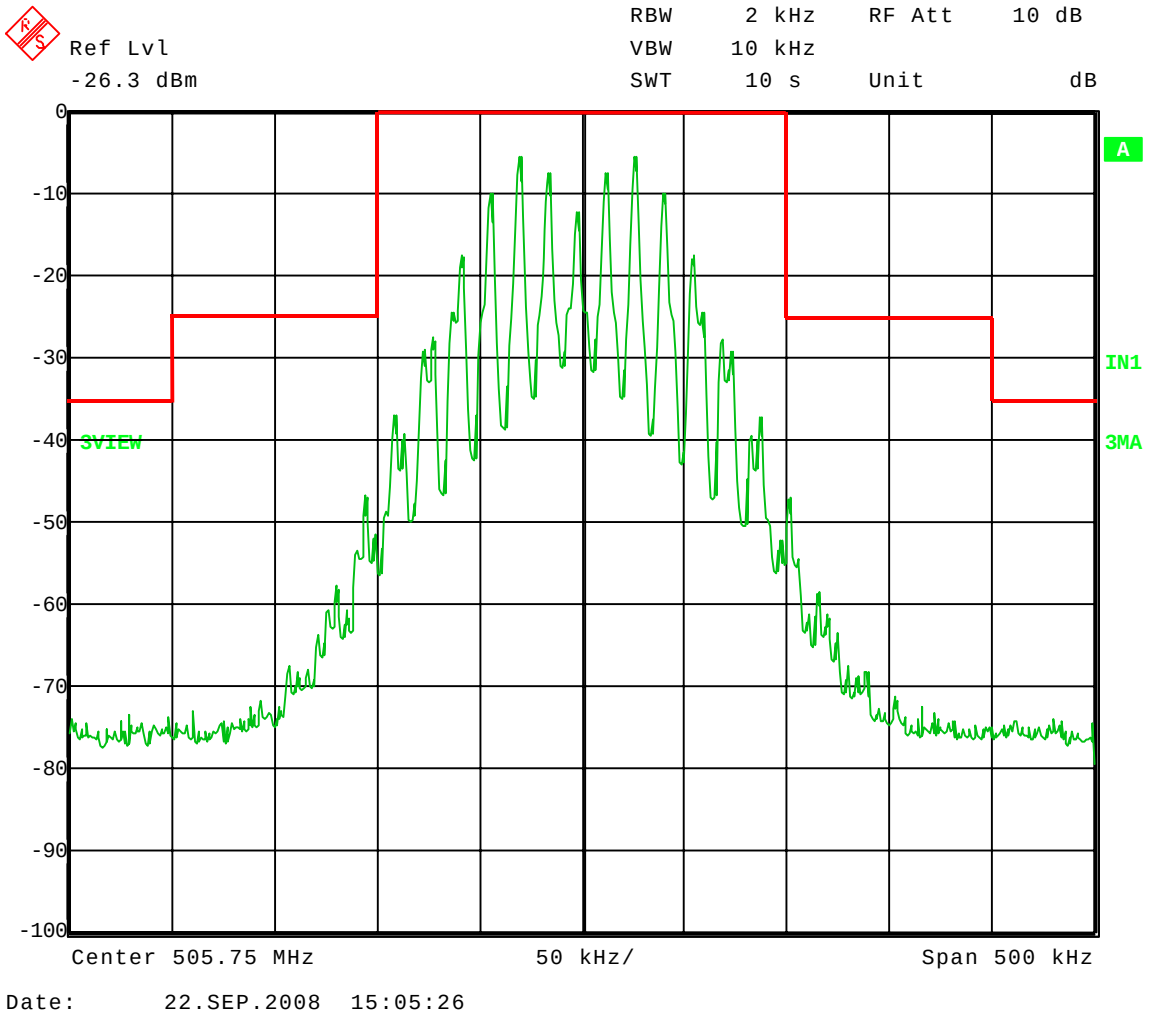


1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 09-22-2008
Company: Shure, Inc.
EUT: SLX1-G5
Test: Occupied Bandwidth
Operator: Craig B

Nominal Frequency: 505.750 MHz
15 kHz modulation

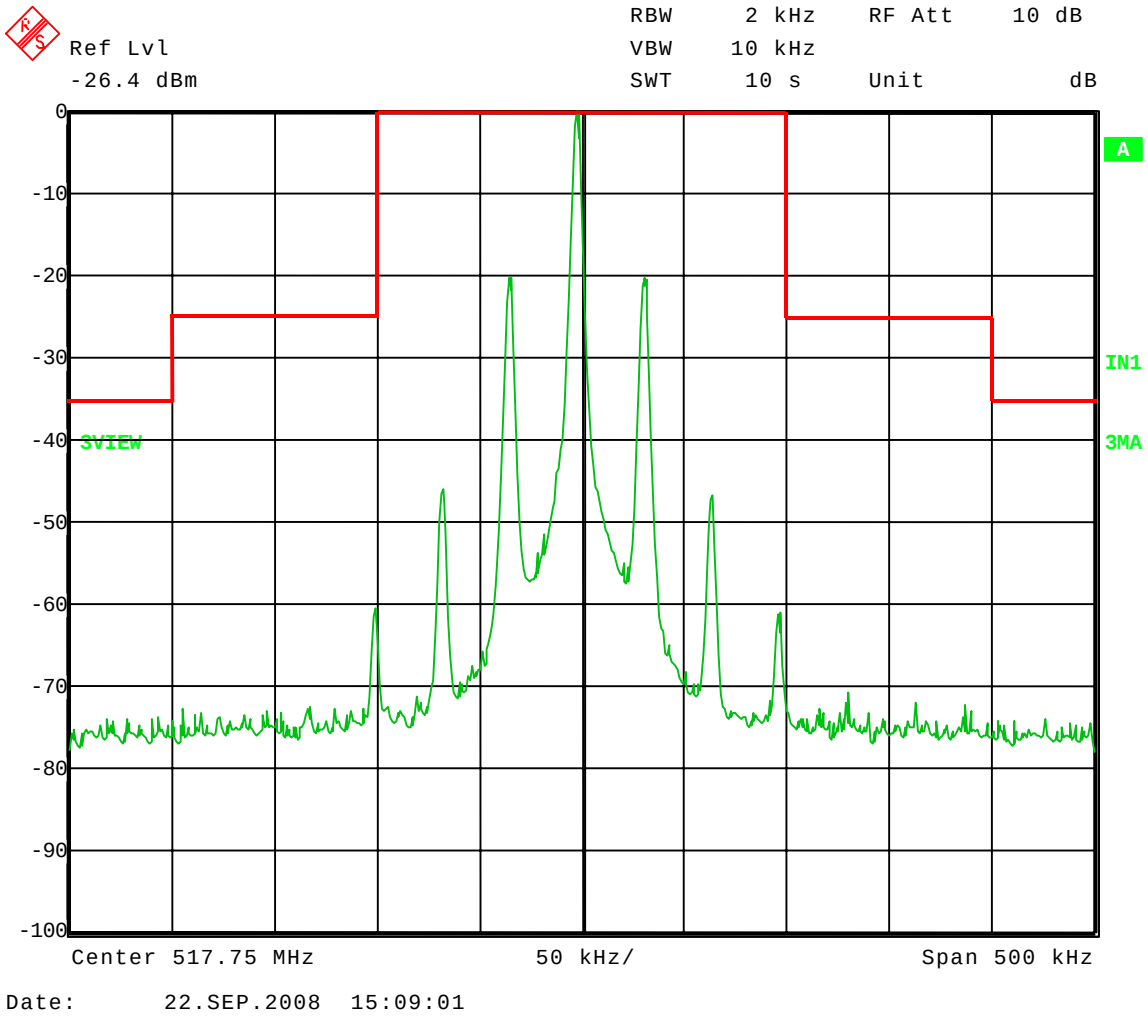


1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 09-22-2008
Company: Shure, Inc.
EUT: SLX1-G5
Test: Occupied Bandwidth
Operator: Craig B

Nominal Frequency: 517.75 MHz
Unmodulated

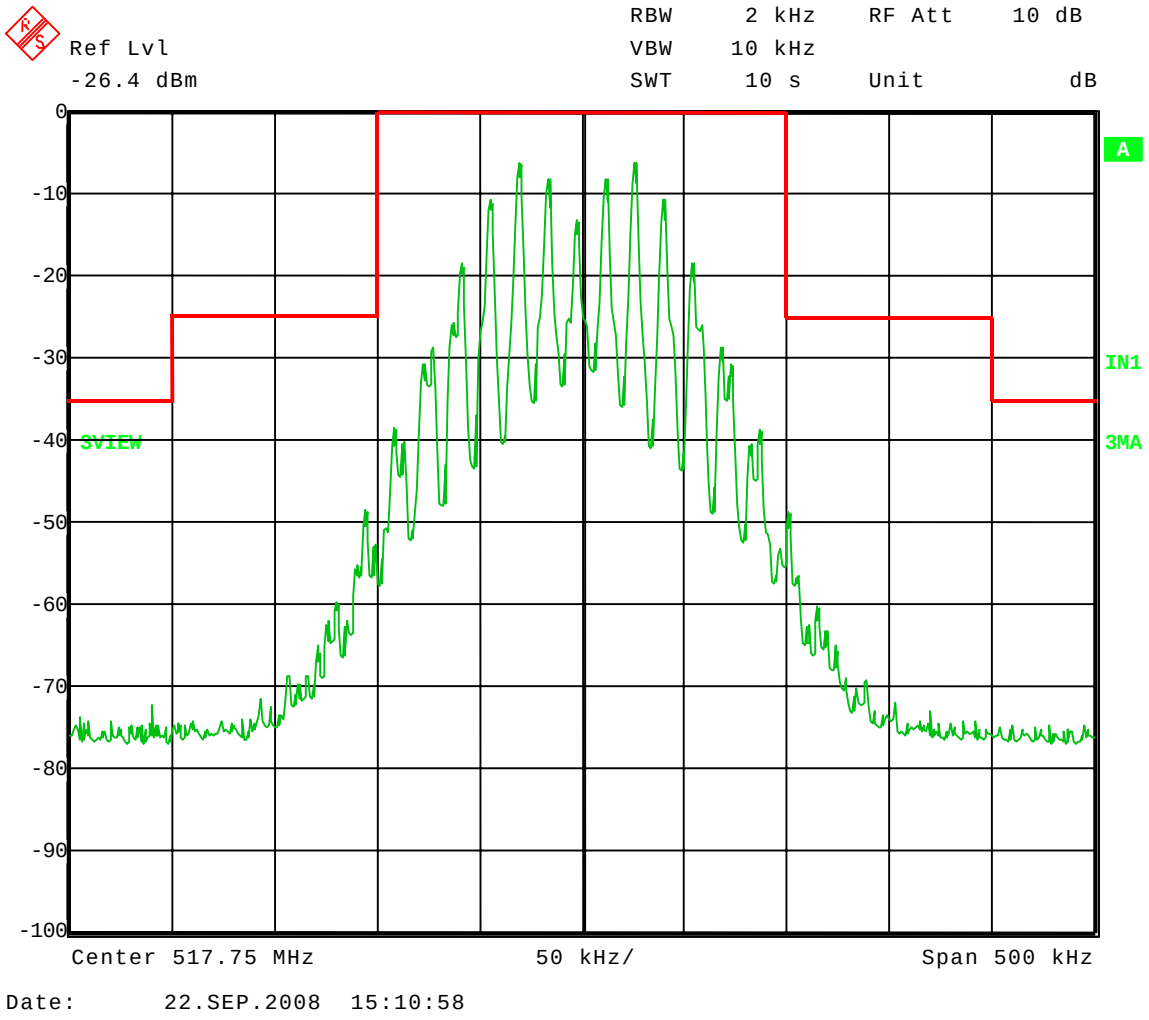


1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 09-22-2008
Company: Shure, Inc.
EUT: SLX1-G5
Test: Occupied Bandwidth
Operator: Craig B

Nominal Frequency: 517.75 MHz
15 kHz modulation



1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

7.0 FIELD STRENGTH OF SPURIOUS EMISSION MEASUREMENTS – PART 2.1053 and EIA /TIA-603-C:2004, SECTION 2.2.12

Radiated measurements were performed scanning the frequency range from 200 MHz to at least the 10th harmonic of the fundamental frequency.

For the SLX1-G5 Wireless Bodypack Transmitter, the highest fundamental frequency is 517.875 MHz so the scans were made up to 5500 MHz, to cover the tenth harmonic.

All signals in the frequency range of 30 MHz to 200 MHz were measured with a Biconical Antenna and from 200 MHz to 1000 MHz a Log Periodic Antenna was used as the pickup devices. From 1000 MHz to 10000 MHz, a Double Ridge Horn Antenna was used. The cables and equipment were placed and moved within the range of positions likely to find their maximum emissions. Tests were made in both the horizontal and vertical planes of polarization.

The allowed emissions for transmitters operating in the 494 MHz - 518 MHzbands for SLX1-G5 Wireless Bodypack Transmitter are found under Part 74, Section 74.861, Paragraph e-6 for Low Power Auxiliary Stations. This paragraph states that the mean power of the emissions shall be attenuated below the mean output power of the transmitter in accordance with the following schedule:

(1) On any frequency removed from the operating frequency by more than 50 percent up to and including 100 percent of the authorized bandwidth: at least 25 dB.

(2) On any frequency removed from the operating frequency by more than 100 percent up to and including 250 percent of the authorized bandwidth: at least 35 dB.

(3) On any frequency removed from the operating frequency by more than 250 percent of the authorized bandwidth: at least 43+10Log10 (mean output power in watts) dB.

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

7.0 FIELD STRENGTH OF SPURIOUS EMISSION MEASUREMENTS (CON'T) – PART 2.1053

On any frequency removed from the operating frequency by more than 250 percent of the authorized bandwidth, he mean power of emissions shall be attenuated below the mean output power of the transmitter at least $43+10\log_{10}$ (mean output power in watts) dB.

To determine the **LIMIT** for Spurious Emissions the following method was used:

Measured output power = 14.16 dBm = 0.02606 Watts

The emissions must be reduced by:

$43 + 10\log_{10}$ (0.02606 Watts) = 27.16 dB

Therefore, the **LIMIT** at three/ten meters equals:

Limit = 14.16 dBm – 27.16 dB = -13 dBm

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

RADIATED EMISSION DATA & CHARTS

TAKEN FOR

FUNDAMENTAL EMISSION MEASUREMENTS

USING THE SUBSTITUTION METHOD

EIA /TIA-603-C: 2004, SECTION 2.2.12

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

DLS Electronic Systems, Inc.

Company: Shure, Inc.
Operator: Craig B
Date of test: 11-05-2007
Temperature: 68 deg. F
Humidity: 34% R.H.

Rated Power = 35 mW = 15.44 dBm

Output Power - ERP - Substitution Method

Model: **SLX1-G5**

Channel: **494.125 MHz**

Frequency and Polarization (MHz)	Max. Field Strength of EUT @ 3 meters (dBuV/m)	Output of Signal Generator when field strength equals that of EUT (dBm)	Correction factor for cable between Signal Gen. and subst. antenna (dB)	Gain of subst. antenna (dBi)	Strength of emission [ERP] (dBm)	Limit (dBm)	Margin (dB)	Strength of emission [ERP] (mW)
494.125 vertical	112.51	22.31	7.67	2.15	14.64	24	9.36	29.11
494.125 horizontal	111.88	22.08	7.67	2.15	14.41	24	9.59	27.61

EIRP = Signal generator output - cable loss + antenna gain

$ERP_{(ref.\ to\ \frac{1}{2}\lambda\ dipole)}$ = Signal generator output - cable loss + antenna gain - 2.15

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

DLS Electronic Systems, Inc.

Company: Shure, Inc.
Operator: Craig B
Date of test: 11-05-2007
Temperature: 68 deg. F
Humidity: 34% R.H.

Rated Power = 35 mW = 15.44 dBm

Output Power - ERP - Substitution Method

Model: **SLX1-G5**

Channel: **506.000 MHz**

Frequency and Polarization (MHz)	Max. Field Strength of EUT @ 3 meters (dBuV/m)	Output of Signal Generator when field strength equals that of EUT (dBm)	Correction factor for cable between Signal Gen. and subst. antenna (dB)	Gain of subst. antenna (dBi)	Strength of emission [ERP] (dBm)	Limit (dBm)	Margin (dB)	Strength of emission [ERP] (mW)
506.000 vertical	111.35	21.76	7.97	2.15	13.79	24	10.21	23.93
506.000 horizontal	110.32	21.30	7.97	2.15	13.33	24	10.67	21.53

EIRP = Signal generator output - cable loss + antenna gain

$ERP_{(ref.\ to\ \frac{1}{2}\lambda\ dipole)}$ = Signal generator output - cable loss + antenna gain - 2.15

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

DLS Electronic Systems, Inc.

Company: Shure, Inc.
Operator: Craig B
Date of test: 11-05-2007
Temperature: 68 deg. F
Humidity: 34% R.H.

Rated Power = 35 mW = 15.44 dBm

Output Power - ERP - Substitution Method

Model: **SLX1-G5**

Channel: **517.875 MHz**

Frequency and Polarization (MHz)	Max. Field Strength of EUT @ 3 meters (dBuV/m)	Output of Signal Generator when field strength equals that of EUT (dBm)	Correction factor for cable between Signal Gen. and subst. antenna (dB)	Gain of subst. antenna (dBi)	Strength of emission [ERP] (dBm)	Limit (dBm)	Margin (dB)	Strength of emission [ERP] (mW)
517.875 vertical	111.35	21.10	8.08	2.15	13.02	24	10.98	20.04
517.875 horizontal	111.64	21.62	8.08	2.15	13.54	24	10.46	22.59

EIRP = Signal generator output - cable loss + antenna gain

$ERP_{(ref.\ to\ \frac{1}{2}\lambda\ dipole)}$ = Signal generator output - cable loss + antenna gain - 2.15

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

RADIATED EMISSION DATA AND GRAPH(S)

TAKEN FOR

SPURIOUS EMISSION MEASUREMENTS

USING THE SUBSTITUTION METHOD

EIA /TIA-603-C:2004, SECTION 2.2.12

PART 2.1053

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

DLS Electronic Systems, Inc.

Company: Shure, Inc.
Operator: Craig B
Date of test: 11-06-2007
Temperature: 67 deg. F.
Humidity: 31% R.H.

Radiated Spurious Emissions (e.r.p. substitution method) FCC Part 74; FCC Part 2.1053								
Model: **SLX1-G5** Transmit Frequency: **494.125 MHz**								
Frequency GHz	Field Strength Level dBuV/m	Factor to Convert to dBm	Power ERP dBm	Limit dBm	Margin dB	Receive Antenna Polarization	EUT Antenna Orientation	Receive Antenna Height (m)
0.98825	64.0	95.7	-31.7	-13	18.7	Horizontal	180	1.1
1.48238	60.7	99.4	-38.7	-13	25.7	Horizontal	40	2.2
1.97650	56.3	99.9	-43.6	-13	30.6	Horizontal	10	1.1
2.47063	59.5	100.4	-40.9	-13	27.9	Horizontal	45	1.1
2.96475	58.8	100.1	-41.3	-13	28.3	Horizontal	30	1.1
3.45888	56.0	100.5	-44.5	-13	31.5	Horizontal	350	1.5
3.95300	60.2	99.9	-39.7	-13	26.7	Horizontal	0	1.5
4.44713	63.2	98.2	-35.0	-13	22.0	Horizontal	0	1.4
4.94125	62.9	98.5	-35.6	-13	22.6	Horizontal	50	1.0
0.98825	65.0	96.2	-31.2	-13	18.2	Vertical	270	1.5
1.48238	60.4	101.0	-40.6	-13	27.6	Vertical	340	1.4
1.97650	56.7	99.4	-42.7	-13	29.7	Vertical	0	1.0
2.47063	58.0	98.3	-40.3	-13	27.3	Vertical	0	1.1
2.96475	54.3	99.1	-44.8	-13	31.8	Vertical	80	1.0
3.45888	55.5	99.1	-43.6	-13	30.6	Vertical	0	1.1
3.95300	58.3	98.8	-40.5	-13	27.5	Vertical	0	1.0
4.44713	62.8	99.1	-36.3	-13	23.3	Vertical	0	1.1
4.94125	61.5	99.5	-38.0	-13	25.0	Vertical	0	1.2

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

DLS Electronic Systems, Inc.

Company: Shure, Inc.
Operator: Craig B
Date of test: 11-06-2007
Temperature: 67 deg. F.
Humidity: 31% R.H.

Radiated Spurious Emissions (e.r.p. substitution method) FCC Part 74; FCC Part 2.1053									
Model: **SLX1-G5** Transmit Frequency: **506.000 MHz**									
Frequency GHz	Field Strength Level dBuV/m	Factor to Convert to dBm	Power ERP dBm	Limit dBm	Margin dB	Receive Antenna Polarization		EUT Antenna Orientation	Receive Antenna Height (m)
1.01200	61.8	100.0	-38.2	-13	25.2	Horizontal		30	2.4
1.51800	61.7	99.9	-38.2	-13	25.2	Horizontal		315	1.1
2.02400	59.5	100.3	-40.8	-13	27.8	Horizontal		0	1.1
2.53000	55.1	100.0	-44.9	-13	31.9	Horizontal		35	1.0
3.03600	57.6	100.5	-42.9	-13	29.9	Horizontal		65	1.1
3.54200	56.6	100.3	-43.7	-13	30.7	Horizontal		0	1.2
4.04800	57.2	100.1	-42.9	-13	29.9	Horizontal		0	1.2
4.55400	65.9	97.9	-32.0	-13	19.0	Horizontal		0	1.1
5.06000	65.5	98.3	-32.8	-13	19.8	Horizontal		50	1.5
1.01200	64.6	101.7	-37.1	-13	24.1	Vertical		300	1.6
1.51800	59.1	101.2	-42.1	-13	29.1	Vertical		190	1.6
2.02400	57.6	99.6	-42.0	-13	29.0	Vertical		290	1.0
2.53000	51.5	98.4	-46.9	-13	33.9	Vertical		90	1.1
3.03600	54.9	98.9	-44.0	-13	31.0	Vertical		70	1.0
3.54200	54.9	99.4	-44.5	-13	31.5	Vertical		0	1.1
4.04800	59.6	99.8	-40.2	-13	27.2	Vertical		0	1.0
4.55400	67.3	99.4	-32.1	-13	19.1	Vertical		10	1.3
5.06000	65.0	99.8	-34.8	-13	21.8	Vertical		20	1.0

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

DLS Electronic Systems, Inc.

Company: Shure, Inc.
Operator: Craig B
Date of test: 11-06-2007
Temperature: 67 deg. F.
Humidity: 31% R.H.

Radiated Spurious Emissions (e.r.p. substitution method) FCC Part 74; FCC Part 2.1053								
Model: **SLX1-G5** Transmit Frequency: **517.875 MHz**								
Frequency GHz	Field Strength Level dBuV/m	Factor to Convert to dBm	Power ERP dBm	Limit dBm	Margin dB	Receive Antenna Polarization	EUT Antenna Orientation	Receive Antenna Height (m)
1.03575	59.6	99.5	-39.9	-13	26.9	Horizontal	40	1.1
1.55363	61.9	99.9	-38.0	-13	25.0	Horizontal	315	1.1
2.07150	60.2	101.0	-40.8	-13	27.8	Horizontal	0	1.0
2.58938	51.3	100.0	-48.7	-13	35.7	Horizontal	0	1.0
3.10725	53.8	99.9	-46.1	-13	33.1	Horizontal	45	1.1
3.62513	52.6	100.5	-47.9	-13	34.9	Horizontal	35	1.4
4.14300	61.3	99.9	-38.6	-13	25.6	Horizontal	40	1.0
4.66088	67.5	98.3	-30.8	-13	17.8	Horizontal	20	1.0
5.17875	66.5	98.1	-31.6	-13	18.6	Horizontal	300	1.0
1.03575	61.9	101.5	-39.6	-13	26.6	Vertical	290	1.5
1.55363	60.6	101.1	-40.5	-13	27.5	Vertical	340	1.3
2.07150	58.6	99.9	-41.3	-13	28.3	Vertical	0	1.1
2.58938	48.3	98.7	-50.4	-13	37.4	Vertical	300	1.1
3.10725	52.5	98.3	-45.8	-13	32.8	Vertical	0	1.2
3.62513	46.9	99.6	-52.7	-13	39.7	Vertical	280	1.2
4.14300	59.9	100.4	-40.5	-13	27.5	Vertical	0	1.4
4.66088	67.7	99.2	-31.5	-13	18.5	Vertical	0	1.0
5.17875	64.9	99.5	-34.6	-13	21.6	Vertical	0	1.4

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

8.0 FREQUENCY STABILITY (TEMPERATURE)– PART 2.1055(a1)

The frequency stability was measured from -30° to +50° centigrade at intervals of 10° centigrade throughout the range. With power to the transmitter removed, the equipment was left alone for a sufficient period of time (approximately 30 minutes or more) to allow the temperature inside the transmitter to stabilize. Power was then applied to the unit. Prior to each frequency measurement, the unit was operated for a period of time sufficient to stabilize all of the components of the oscillator circuit.

See the following page for the data taken during testing.

9.0 FREQUENCY STABILITY (VOLTAGE VARIATION)– PART 2.1055(d2)

The frequency stability of Wireless Boundary Microphone was measured by reducing the primary supply voltage to the battery end point specified by the manufacturer**.**

See the following page for the data taken during testing.

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

DATA TAKEN FOR FREQUENCY

STABILITY WHEN VARYING THE TEMPERATURE

AND

PRIMARY SUPPLY VOLTAGE VARIATION

PART 2.1055a(1) & PART 2.1055d(d2)

1250 Peterson Dr., Wheeling, IL 60090

Company: Shure Inc.
Model Tested: SLX1-G5
Report Number: 13808

APPENDIX A

DLS Electronic Systems, Inc.

Company: Shure, Inc.
Operator: Craig B
Date of test: 11-19-2007

Limit = 24.7 kHz (0.005% of 494 MHz)

Frequency Stability FCC Part 74; FCC Part 2.1055

Model	Nominal Frequency (MHz)	Measured Frequency									
		+50 deg. C	Error (kHz)	+40 deg. C	Error (kHz)	+30 deg. C	Error (kHz)	+20 deg. C	Error (kHz)	+10 deg. C	Error (kHz)
SLX1-G5	494.475	494.472174	**-2.826**	494.472816	**-2.184**	494.473778	**-1.222**	494.474780	**-0.220**	494.476222	**1.222**
SLX1-G5	505.350	505.347094	**-2.906**	505.347655	**-2.345**	505.348697	**-1.303**	505.349539	**-0.461**	505.351182	**1.182**
SLX1-G5	516.825	516.822054	**-2.946**	516.822535	**-2.465**	516.823617	**-1.383**	516.824379	**-0.621**	516.826182	**1.182**

Frequency Stability FCC Part 74; FCC Part 2.1055

Model	Nominal Frequency (MHz)	Measured Frequency									
		0 deg. C	Error (kHz)	-10 deg. C	Error (kHz)	-20 deg. C	Error (kHz)	-30 deg. C	Error (kHz)	2.1 Volts	Error (kHz)
SLX1-G5	494.475	494.476663	**1.663**	494.476703	**1.703**	494.476263	**1.263**	494.475140	**0.140**	494.474259	**-0.741**
SLX1-G5	505.350	505.351703	**1.703**	505.351703	**1.703**	505.351182	**1.182**	505.350100	**0.100**	505.349259	**-0.741**
SLX1-G5	516.825	516.826784	**1.784**	516.826784	**1.784**	516.826182	**1.182**	516.824579	**-0.421**	516.824299	**-0.701**

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

10.0 FREQUENCY STABILITY PHOTOS TAKEN DURING TESTING