



Company: Shure Incorporated  
Model Tested: UR1M Q9  
Report Number: 14128

1250 Peterson Dr., Wheeling, IL 60090

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: Micro Bodypack Transmitter  
Kind of Equipment: Wireless Microphone Transmitter  
Frequency Range: 740 - 806 MHz  
Test Configuration: Stand Alone (Tested at 3 vdc)  
Model Number(s): UR1M Q9, UR1MLEMO3 Q9  
Model(s) Tested: UR1M Q9  
Serial Number(s): N/A  
Emission Designator: F3E  
Date of Tests: May 6, 7 & 8, 2008  
Test Conducted For: Shure Incorporated  
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.

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Company: Shure Incorporated  
Model Tested: UR1M Q9  
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SIGNATURE PAGE

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William Stumpf  
OATS Manager

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Brian Mattson  
General Manager



Company: Shure Incorporated  
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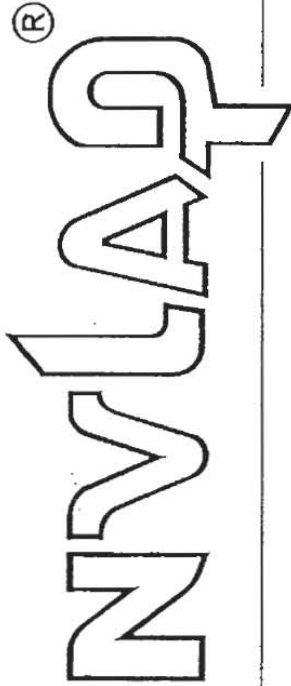


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United States Department of Commerce  
National Institute of Standards and Technology



# 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

*Dolly S. Bruce*

For the National Institute of Standards and Technology



Company: Shure Incorporated  
Model Tested: UR1M Q9  
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## 1.0 SUMMARY OF TEST REPORT

It was found that the Micro Bodypack Transmitter, Model Number(s) UR1M Q9, **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 Micro 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 May 6, 7 & 8, 2008, a series of radio frequency interference measurements was performed on Micro Bodypack Transmitter, Model Number(s) UR1M Q9, 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

**O.A.T.S. Test Facility:**

D.L.S. Electronic Systems, Inc.  
166 S. Carter Street  
Genoa City, Wisconsin 53128

## 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.



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#### 4.0 TEST SET-UP

All tests were performed at D.L.S. Electronic Systems, Inc. and set up according to the FCC and TIA-603C regulations. 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.

#### 5.0 TEST EQUIPMENT (Bandwidths and Detector Function)

All preliminary data below 1000 MHz was automatically plotted using the 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 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.



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## 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 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.

## 7.0 AC POWER LINE CONDUCTED EMISSION MEASUREMENTS – Part 15.207

**The Micro 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.**



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## 8.0 DESCRIPTION OF TEST SAMPLE:

### 8.1 Description:

The UHF-R Wireless Microphone System uses the latest wireless technology, delivers outstanding audio clarity, and is rugged and reliable. It operates over the frequency range of 518 to 865 MHz (in different frequency bands). The products are identical, with the exception of the frequency components needed for each range. The User Interface includes directional buttons, and an LCD that displays battery status, group/channel, and transmitter/receiver frequency synchronization. It is easy to set up and operate with advanced features for professional installations requiring multiple wireless microphone systems.

### 8.2 PHYSICAL DIMENSIONS OF EQUIPMENT UNDER TEST

Length: 49 mm, Width: 60 mm, Height: 17 mm

### 8.3 LINE FILTER USED:

N/A

### 8.4 INTERNAL CLOCK FREQUENCIES:

Switching Power Supply Frequencies:

N/A

Clock Frequencies:

0.025, 0.064, 1.2, 4, 32 MHz

### 8.5 DESCRIPTION OF ALL CIRCUIT BOARDS:

#### 1. Printed Circuit Board

PN: 190-11427





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

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

NOTE:

Continuous Transmit. Low, Mid and High channels. 10 mW and 50 mW power settings.

10.0 PHOTO INFORMATION AND TEST SET-UP

Item 0 Micro Bodypack Transmitter

Model Number: UR1M Q9, Serial Number: N/A

Item 1 Shure Audio Input Cable/Microphone, Model 93.



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## 11.0 RADIATED PHOTOS TAKEN DURING TESTING



FCC RADIATED SPURIOUS X



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## 11.0 RADIATED PHOTOS TAKEN DURING TESTING



FCC RADIATED SPURIOUS Y



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Model Tested: UR1M Q9  
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## 11.0 RADIATED PHOTOS TAKEN DURING TESTING



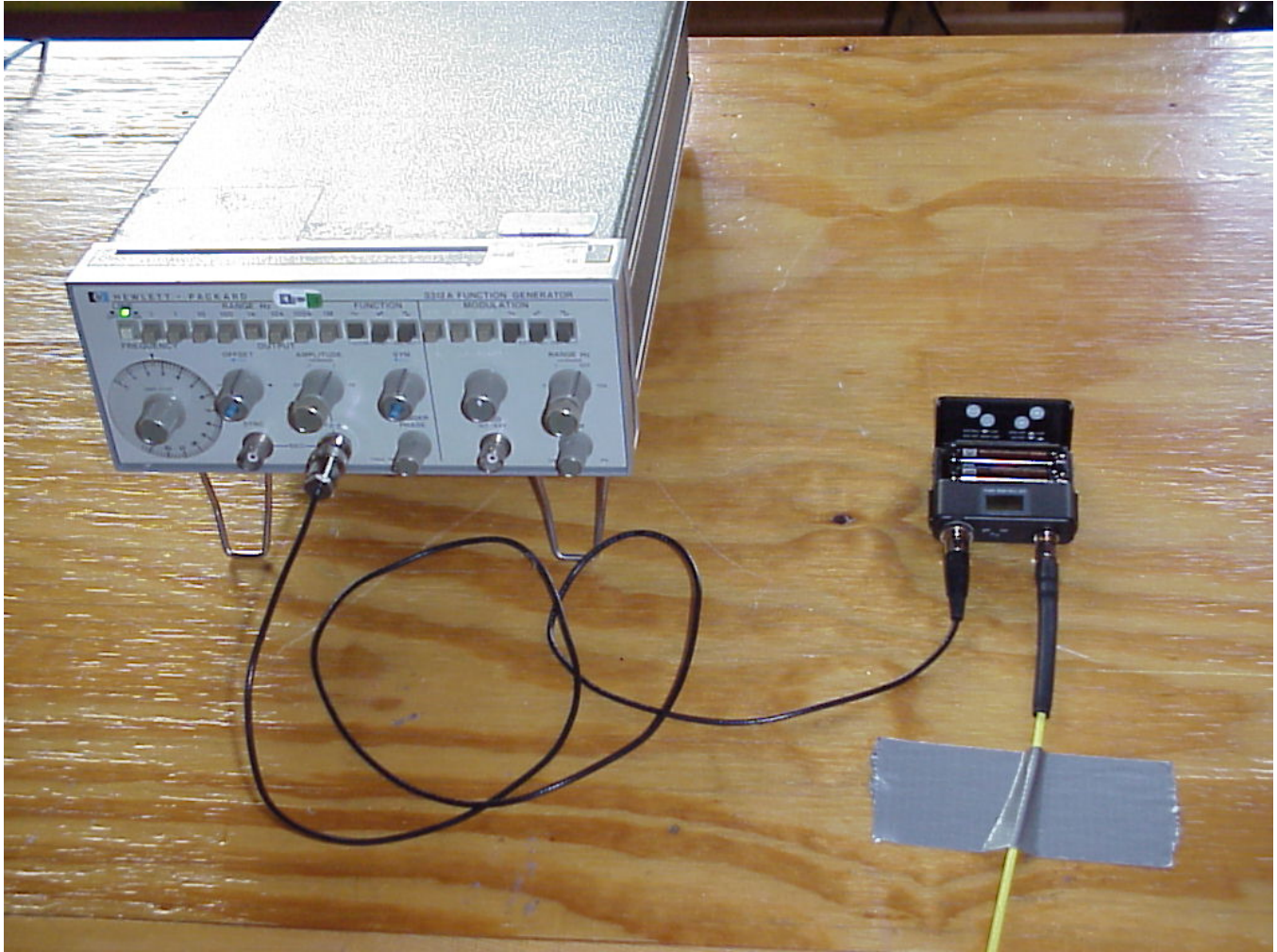
FCC RADIATED SPURIOUS Z



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### 11.0 RF CONDUCTED PHOTOS TAKEN DURING TESTING



RF CONDUCTED



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## 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 Micro Bodypack Transmitter, Model Number(s) UR1M Q9 **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 Micro 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.



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TABLE 1 – EQUIPMENT LIST

<b>Test Equipment</b>	<b>Manufacturer</b>	<b>Model Number</b>	<b>Serial Number</b>	<b>Frequency Range</b>	<b>Cal Due Dates</b>
Receiver	Rohde & Schwarz	ESI 26	837491/010	20 Hz – 26 GHz	12/08
Preamplifier	Miteq	AMF-6D-100200-50	313936	1 GHz-10 GHz	5/09
Antenna	EMCO	3146	97024895	200 MHz – 1 GHz	3/10
Horn Antenna	EMCO	3115	5731	1-18 GHz	6/09
Function Generator	HP	3312A	1432A12543		6/08
Attenuator	Aeroflex Weinschel	75A-20-12	1701	DC – 40GHz	7/1/08

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



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# APPENDIX A

## TEST PROCEDURE

### SUBPART H

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





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## 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 .25 watt(s). The RF output of the Micro Bodypack Transmitter was connected to a Spectrum Analyzer or 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:**

16.33 dBm Measured output of the transmitter

16.33 dBm equals 0.04295 watt(s)

#### **LIMIT:**

Manufacturer's rated output power = 10 mW or 50 mW

#### **MARGIN:**

$.25 - 0.04295 = 0.20705$  watt(s)



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## 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



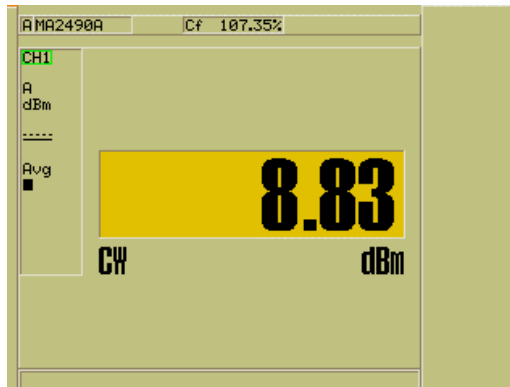
Company: Shure Incorporated  
Model Tested: UR1M Q9  
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### APPENDIX A

Test Date: 05-06-2008  
Company: Shure, Inc.  
EUT: UR1M-Q9  
Test: Peak Power Output - Conducted  
Rule part: FCC Part 74; FCC Part 2.1046  
Operator: Craig B  
Comment: Channel: 740.000 MHz (10 mW)

Peak Output Power = 8.83 dBm = 7.64 mW





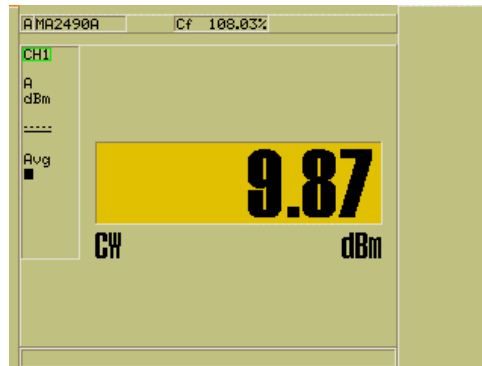
Company: Shure Incorporated  
Model Tested: UR1M Q9  
Report Number: 14128

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### APPENDIX A

Test Date: 05-06-2008  
Company: Shure, Inc.  
EUT: UR1M-Q9  
Test: Peak Power Output - Conducted  
Rule part: FCC Part 74; FCC Part 2.1046  
Operator: Craig B  
Comment: Channel: 773.000 MHz (10 mW)

Peak Output Power = 9.87 dBm = 9.71 mW





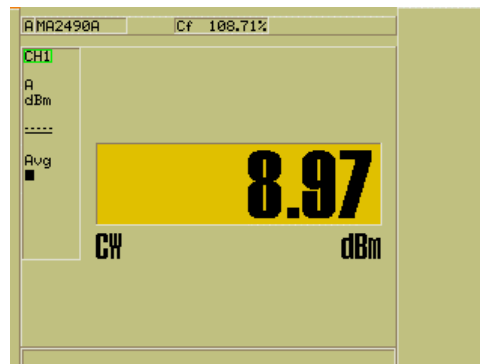
Company: Shure Incorporated  
Model Tested: UR1M Q9  
Report Number: 14128

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### APPENDIX A

Test Date: 05-06-2008  
Company: Shure, Inc.  
EUT: UR1M-Q9  
Test: Peak Power Output - Conducted  
Rule part: FCC Part 74; FCC Part 2.1046  
Operator: Craig B  
Comment: Channel: 805.875 MHz (10 mW)

Peak Output Power = 8.97 dBm = 7.89 mW





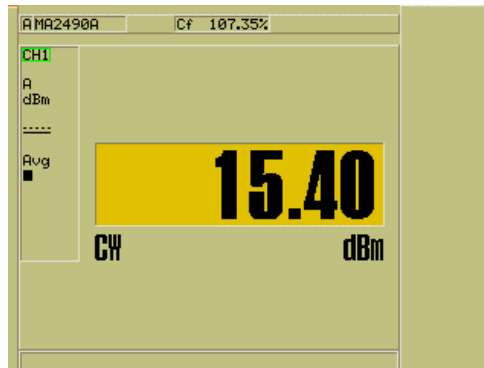
Company: Shure Incorporated  
Model Tested: UR1M Q9  
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### APPENDIX A

Test Date: 05-06-2008  
Company: Shure, Inc.  
EUT: UR1M-Q9  
Test: Peak Power Output - Conducted  
Rule part: FCC Part 74; FCC Part 2.1046  
Operator: Craig B  
Comment: Channel: 740.000 MHz (50 mW)

Peak Output Power = 15.40 dBm = 34.67 mW





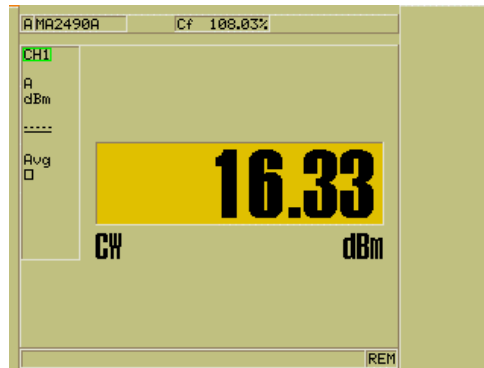
Company: Shure Incorporated  
Model Tested: UR1M Q9  
Report Number: 14128

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### APPENDIX A

Test Date: 05-06-2008  
Company: Shure, Inc.  
EUT: UR1M-Q9  
Test: Peak Power Output - Conducted  
Rule part: FCC Part 74; FCC Part 2.1046  
Operator: Craig B  
Comment: Channel: 773.000 MHz (50 mW)

Peak Output Power = 16.33 dBm = 42.95 mW





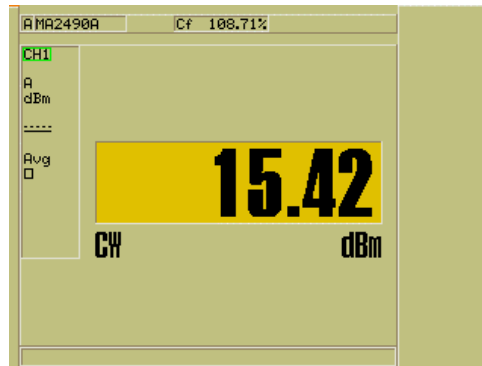
Company: Shure Incorporated  
Model Tested: UR1M Q9  
Report Number: 14128

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## APPENDIX A

Test Date: 05-06-2008  
Company: Shure, Inc.  
EUT: UR1M-Q9  
Test: Peak Power Output - Conducted  
Rule part: FCC Part 74; FCC Part 2.1046  
Operator: Craig B  
Comment: Channel: 805.875 MHz (50 mW)

Peak Output Power = 15.42 dBm = 34.83 mW







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## APPENDIX A

### 3.0 RF POWER OUTPUT PHOTOS TAKEN DURING TESTING



CONDUCTED OUTPUT POWER



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## 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 50 Hz to 15 kHz -3.0 to 0 dB 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.

#### **NOTE:**



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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

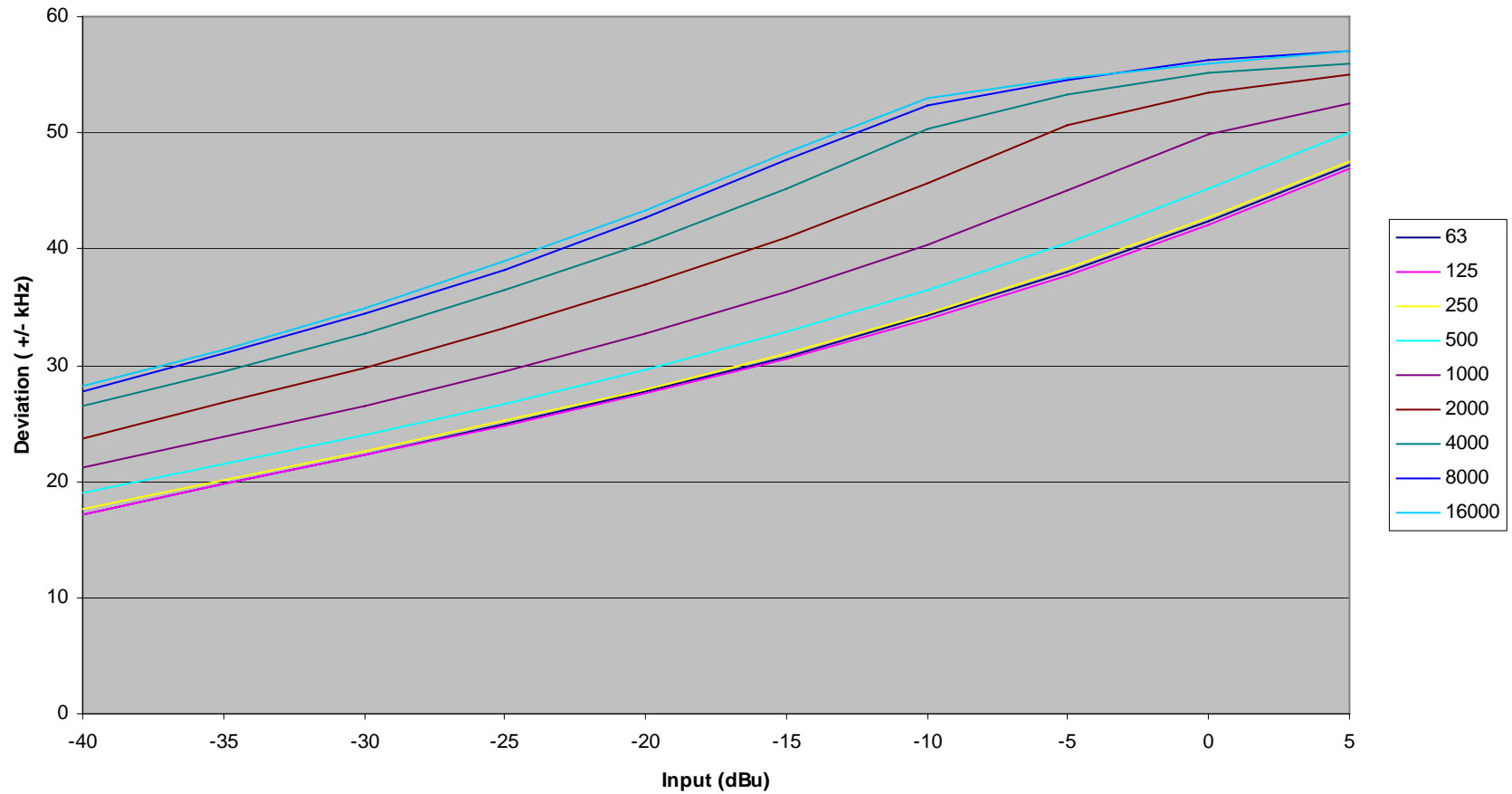


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### APPENDIX A

Deviation vs. Input (13 units averaged)



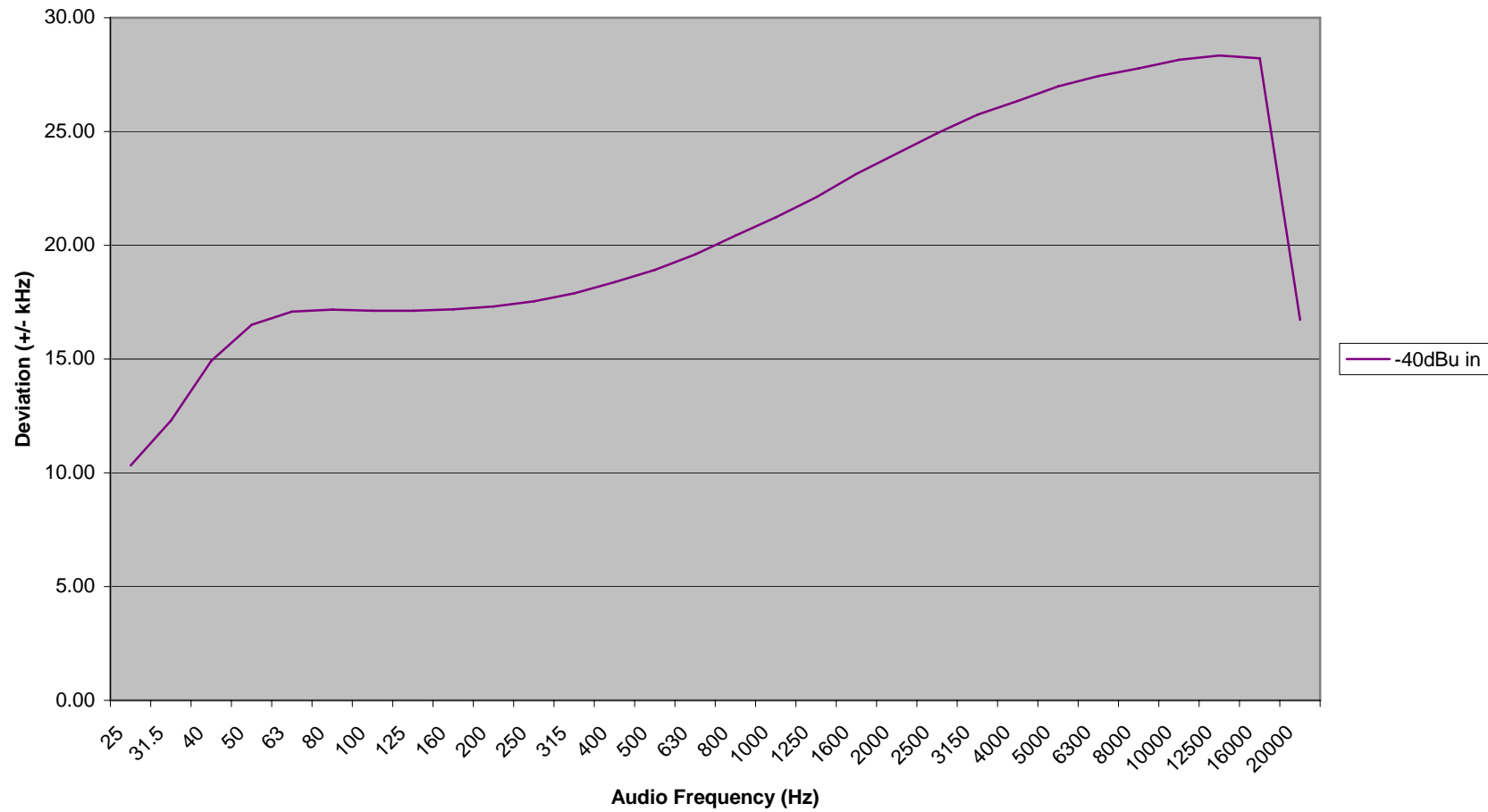


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### APPENDIX A

Deviation vs. Frequency (13 units averaged)





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APPENDIX A

dBu in

Q9 (7812)	63	125	250	500	1000	2000	4000	8000	16000
-40	17.50	17.50	17.90	19.30	21.60	24.50	27.10	28.50	28.90
-35	20.20	20.10	20.40	21.70	24.10	27.30	30.00	31.70	32.20
-30	22.70	22.50	22.90	24.20	26.80	30.30	33.40	35.20	35.80
-25	25.30	25.00	25.30	26.80	29.70	33.60	37.10	39.10	39.80
-20	28.10	27.80	28.20	29.80	33.00	37.30	40.90	43.50	44.20
-15	31.20	30.80	31.20	33.00	36.60	41.50	45.90	48.40	49.30
-10	34.60	34.10	34.60	36.60	40.70	46.20	51.00	53.00	53.70
-5	38.40	37.90	38.40	40.60	45.20	51.20	54.40	55.60	55.80
0	42.70	42.10	42.70	45.20	50.10	53.90	55.80	56.80	57.00
5	47.50	46.80	47.40	50.00	52.80	55.50	56.80	57.90	58.00

settings: 0dB gain and 0dB sensitivity



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## 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  $\pm 75$  kHz is permitted when frequency modulation is used. The operating bandwidth shall not exceed 200 kHz.

Carson's Rule:

Section 2.202 (g)

$$B_n = 2M + 2DK, \quad K=1$$

$B_n$  = Bandwidth

$$M = 15 \text{ kHz,}$$

$M$  = Maximum Modulating Frequency

$$D = 45 \text{ kHz,}$$

$D$  = Peak Deviation

$$B_n = 2(15) + 2(45)(1) = 120 \text{ kHz}$$



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APPENDIX A

DATA AND GRAPH(S) TAKEN OF THE

99% OCCUPIED BANDWIDTH

Part 74.861 (e)(5) & PART 2.1049





Company: Shure Incorporated  
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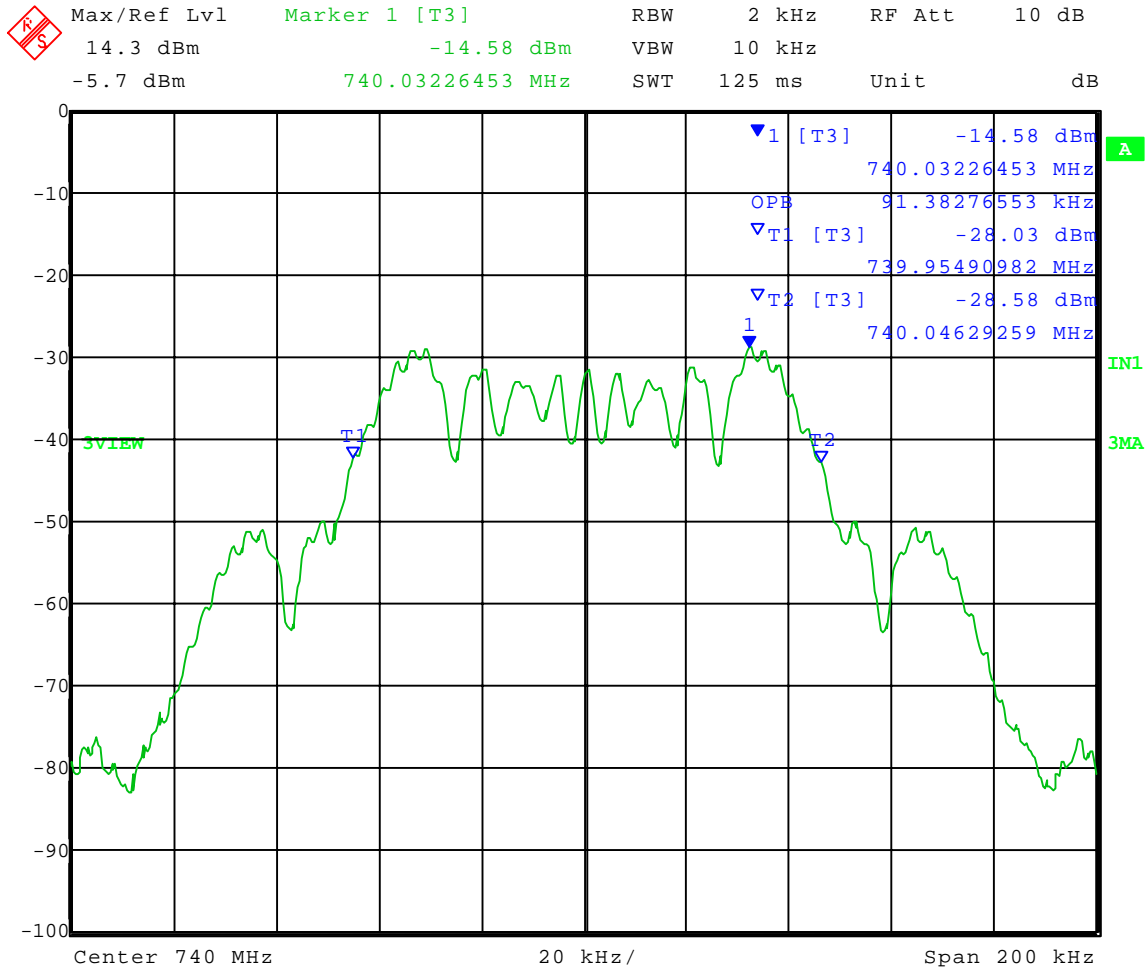
1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 05-07-2008  
 Company: Shure, Inc.  
 EUT: UR1M-Q9  
 Test: Occupied Bandwidth; 99% bandwidth  
 Rule part: FCC Part 74; FCC Part 2.1049  
 Operator: Craig B

Frequency: 740.000 MHz

99% power bandwidth = 91.38 kHz



Date: 7.MAY.2008 14:00:58



Company: Shure Incorporated  
Model Tested: UR1M Q9  
Report Number: 14128

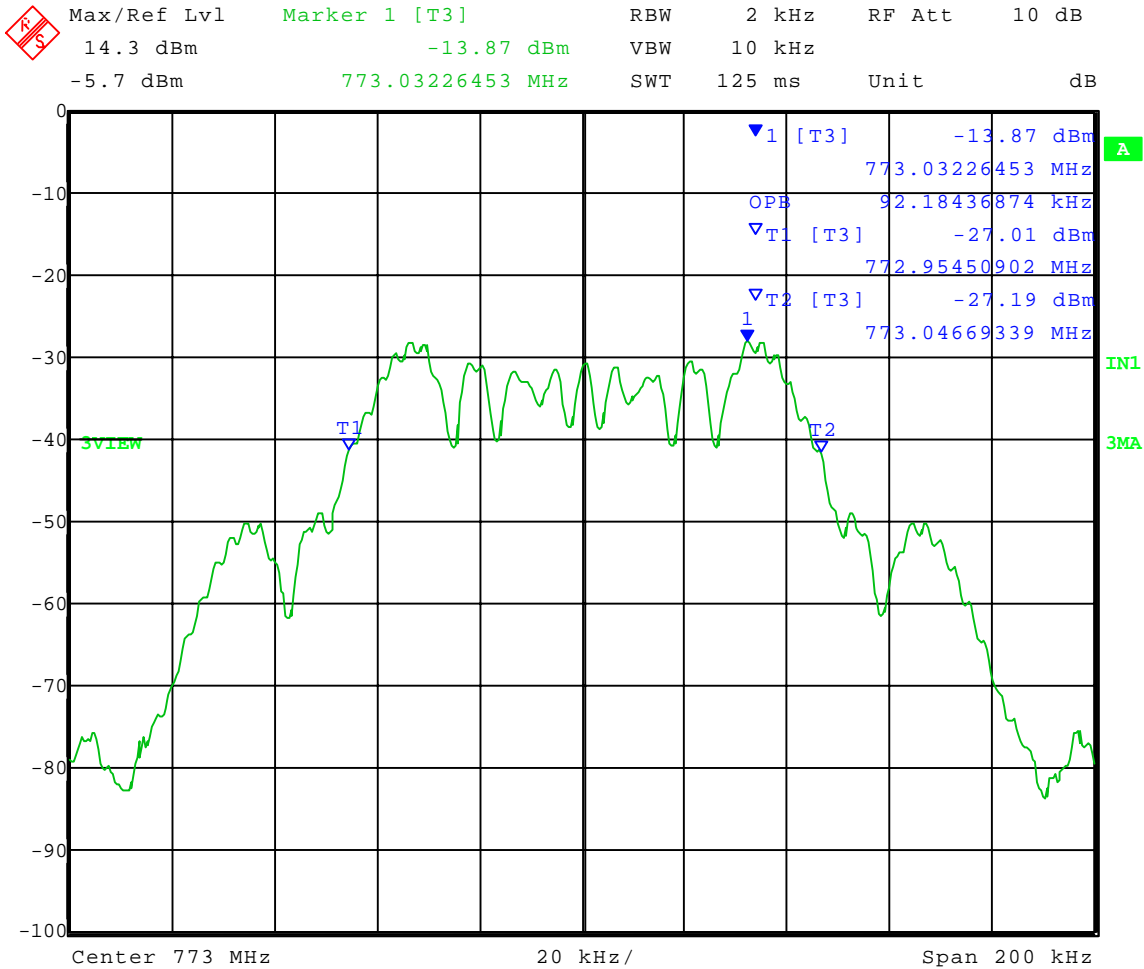
1250 Peterson Dr., Wheeling, IL 60090

### APPENDIX A

Test Date: 05-07-2008  
Company: Shure, Inc.  
EUT: UR1M-Q9  
Test: Occupied Bandwidth; 99% bandwidth  
Rule part: FCC Part 74; FCC Part 2.1049  
Operator: Craig B

Frequency: **773.000 MHz**

99% power bandwidth = 92.18 kHz



Date: 7.MAY.2008 14:03:16



Company: Shure Incorporated  
 Model Tested: UR1M Q9  
 Report Number: 14128

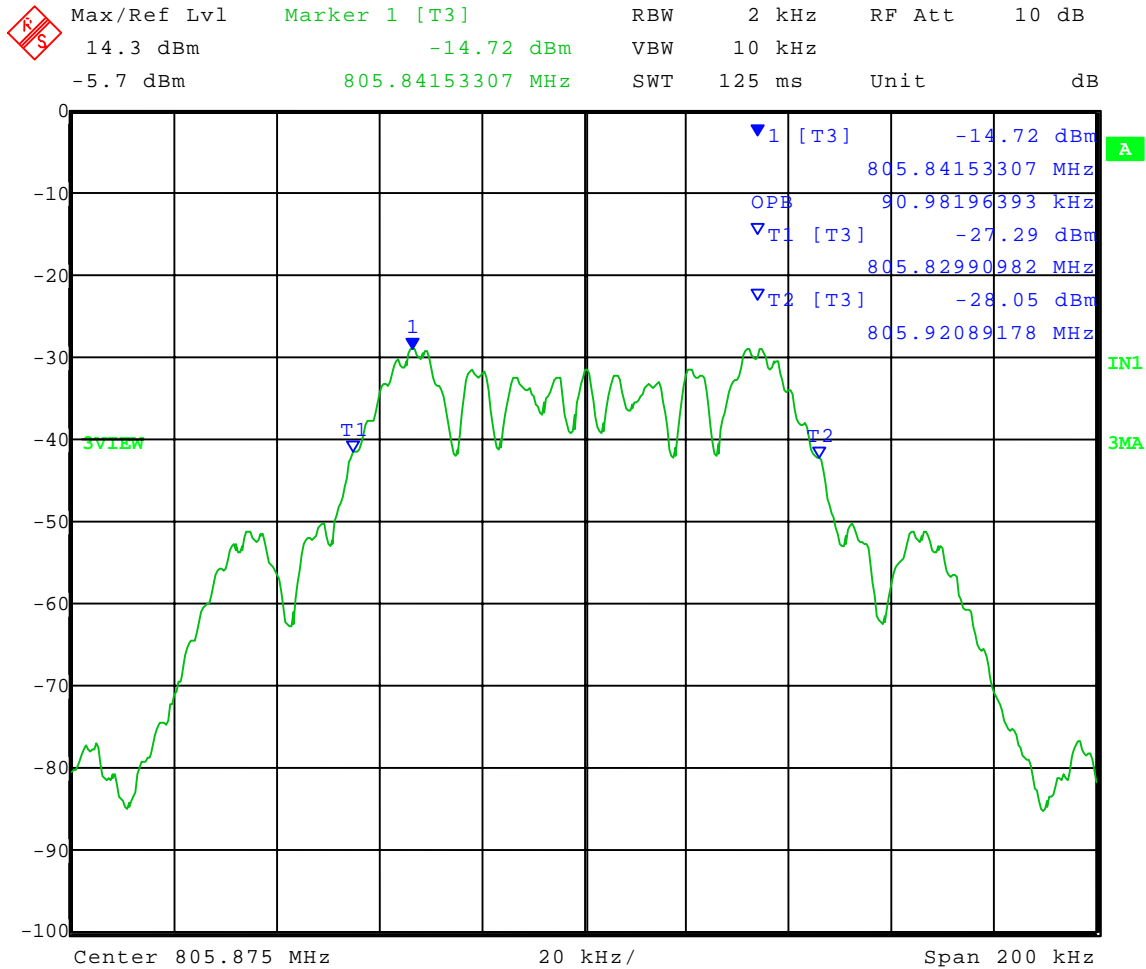
1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 05-07-2008  
 Company: Shure, Inc.  
 EUT: UR1M-Q9  
 Test: Occupied Bandwidth; 99% bandwidth  
 Rule part: FCC Part 74; FCC Part 2.1049  
 Operator: Craig B

Frequency: **805.875 MHz**

99% power bandwidth = 90.98 kHz



Date: 7.MAY.2008 14:22:24



1250 Peterson Dr., Wheeling, IL 60090

Company: Shure Incorporated  
Model Tested: UR1M Q9  
Report Number: 14128

## APPENDIX A

# DATA AND GRAPH(S) TAKEN OF THE EMISSION MASK

Part 74.861(d)(3) (e)(6) & PART 2.1049



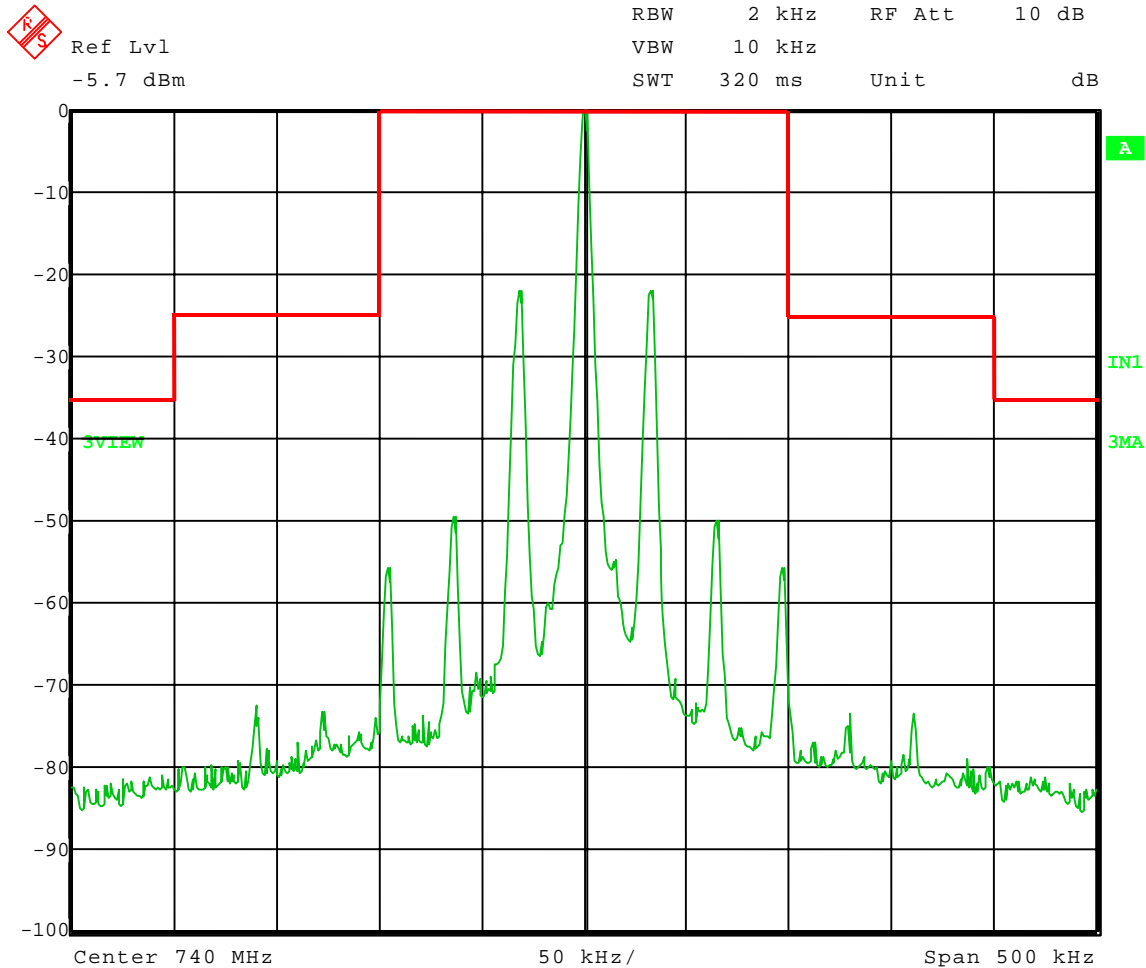
Company: Shure Incorporated  
Model Tested: UR1M Q9  
Report Number: 14128

1250 Peterson Dr., Wheeling, IL 60090

### APPENDIX A

Test Date: 05-07-2008  
Company: Shure, Inc.  
EUT: UR1M-Q9  
Test: Occupied Bandwidth  
Operator: Craig B

Nominal Frequency: 740.000 MHz  
Reference, Unmodulated



Date: 7.MAY.2008 13:35:08



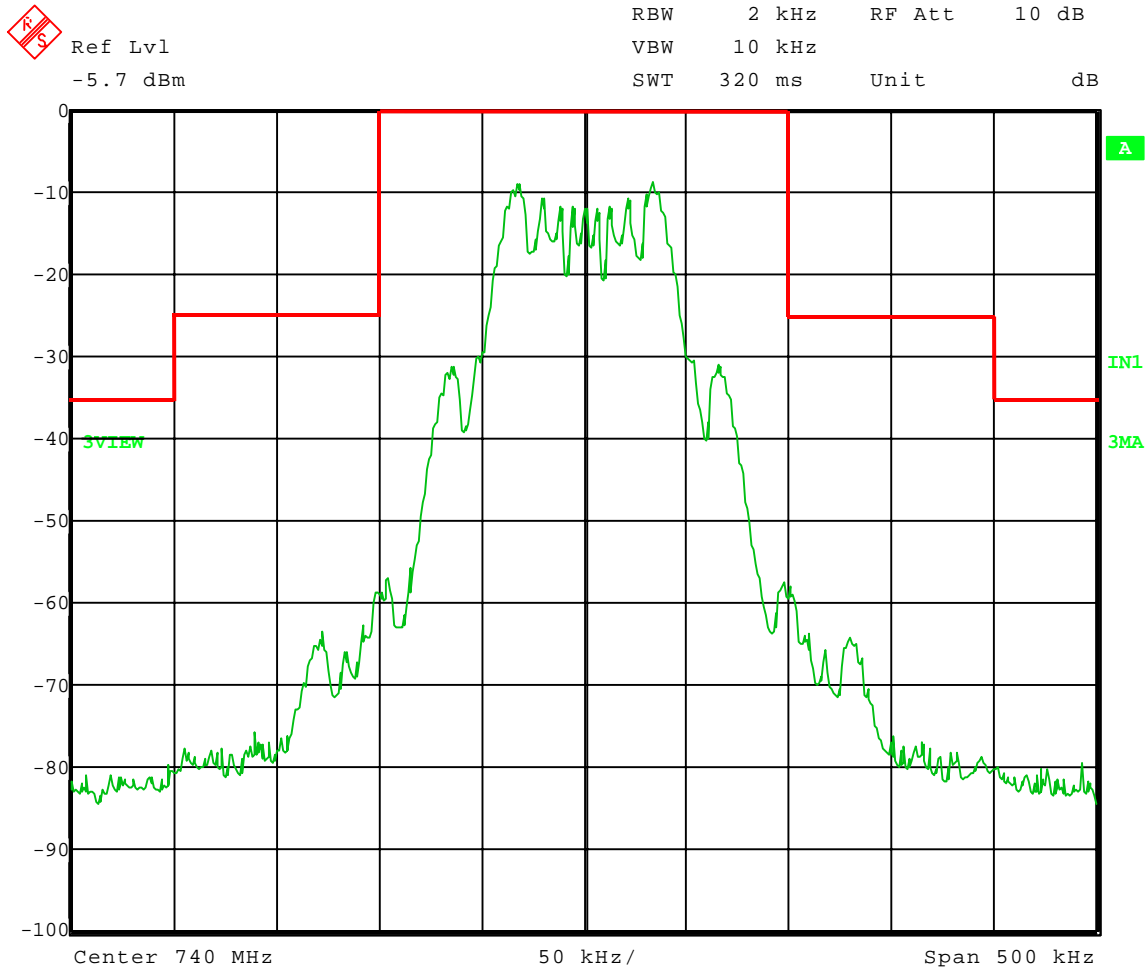
Company: Shure Incorporated  
Model Tested: UR1M Q9  
Report Number: 14128

1250 Peterson Dr., Wheeling, IL 60090

### APPENDIX A

Test Date: 05-07-2008  
Company: Shure, Inc.  
EUT: UR1M-Q9  
Test: Occupied Bandwidth  
Operator: Craig B

Nominal Frequency: 740.000 MHz  
2500 Hz 16 dB > 50% modulated



Date: 7.MAY.2008 13:36:29



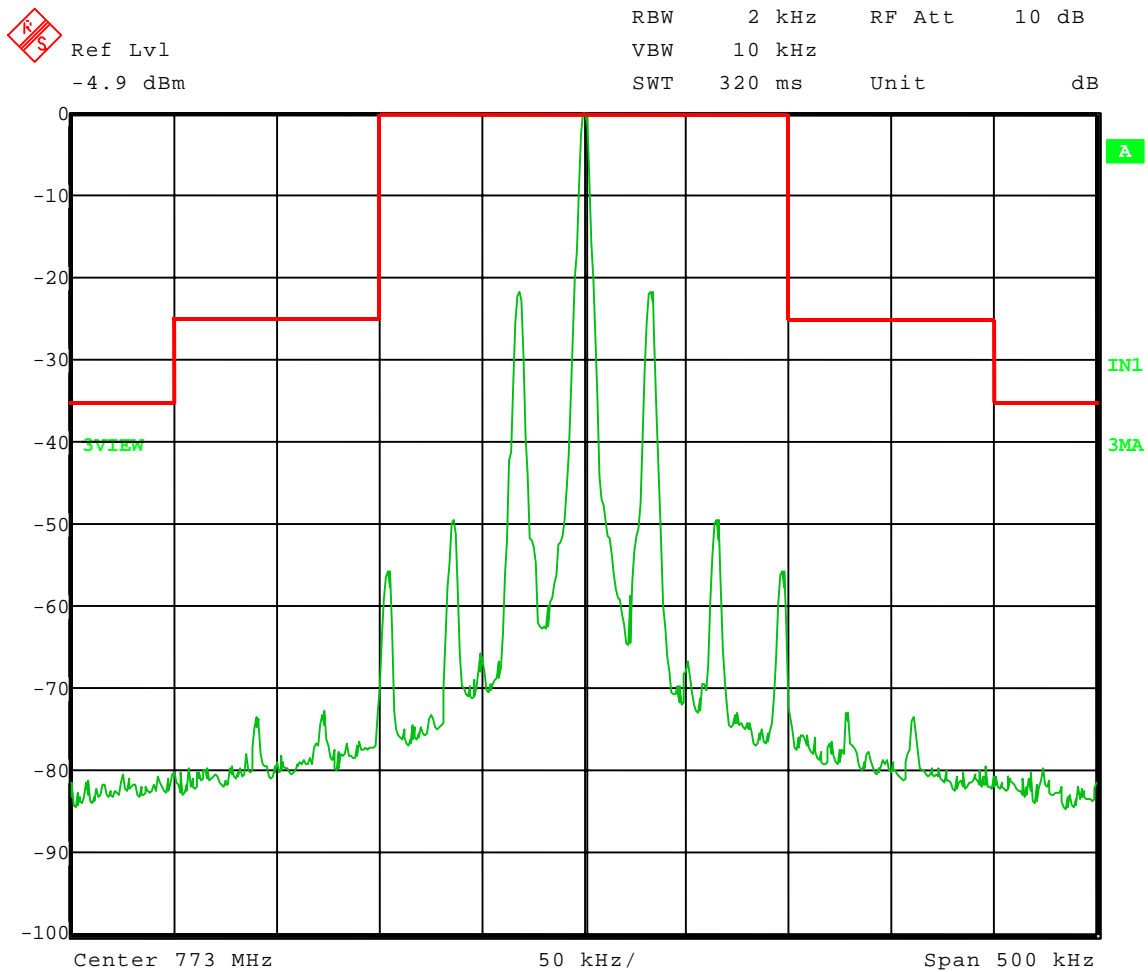
Company: Shure Incorporated  
Model Tested: UR1M Q9  
Report Number: 14128

1250 Peterson Dr., Wheeling, IL 60090

### APPENDIX A

Test Date: 05-07-2008  
Company: Shure, Inc.  
EUT: UR1M-Q9  
Test: Occupied Bandwidth  
Operator: Craig B

Nominal Frequency: 773.000 MHz  
Reference, Unmodulated



Date: 7.MAY.2008 13:38:40



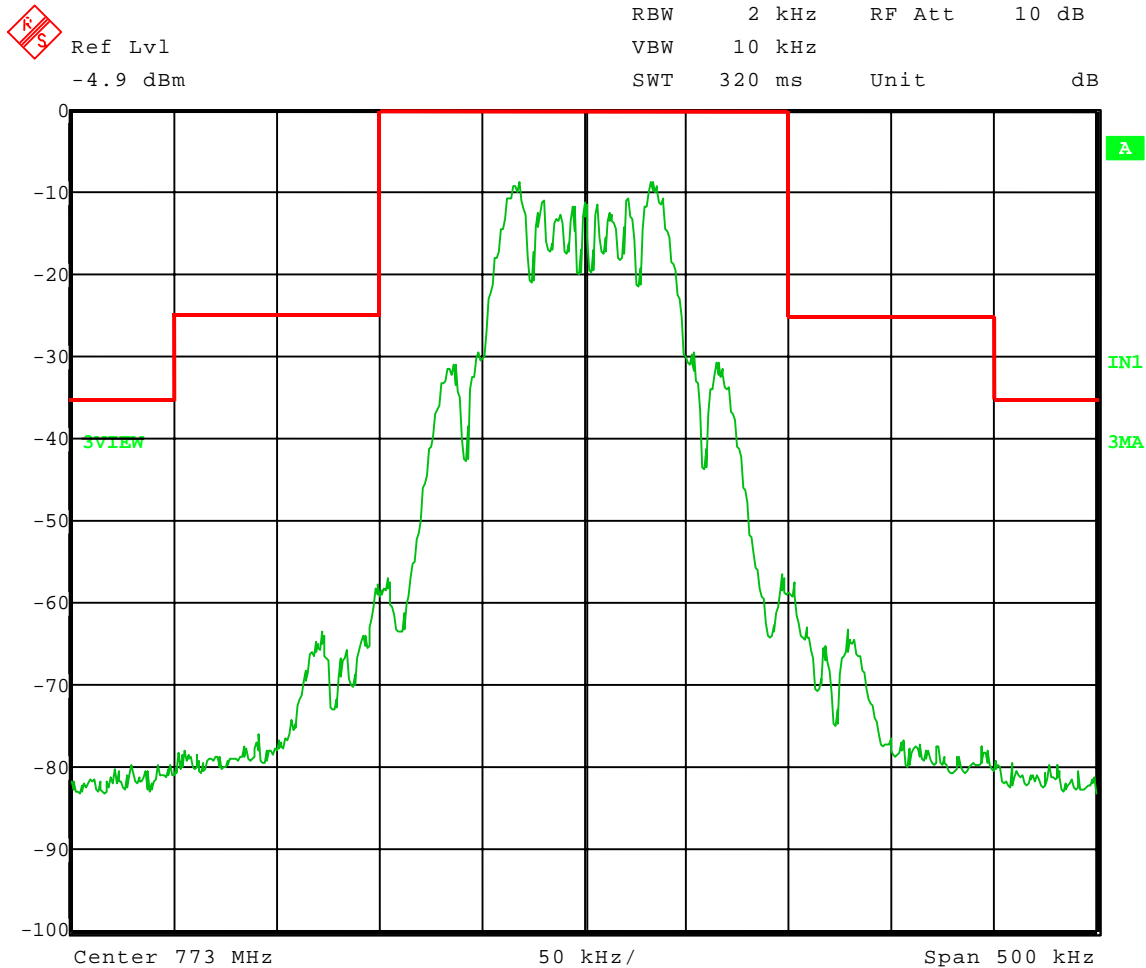
Company: Shure Incorporated  
Model Tested: UR1M Q9  
Report Number: 14128

1250 Peterson Dr., Wheeling, IL 60090

### APPENDIX A

Test Date: 05-07-2008  
Company: Shure, Inc.  
EUT: UR1M-Q9  
Test: Occupied Bandwidth  
Operator: Craig B

Nominal Frequency: 773.000 MHz  
2500 Hz 16 dB > 50% modulated



Date: 7.MAY.2008 13:39:57





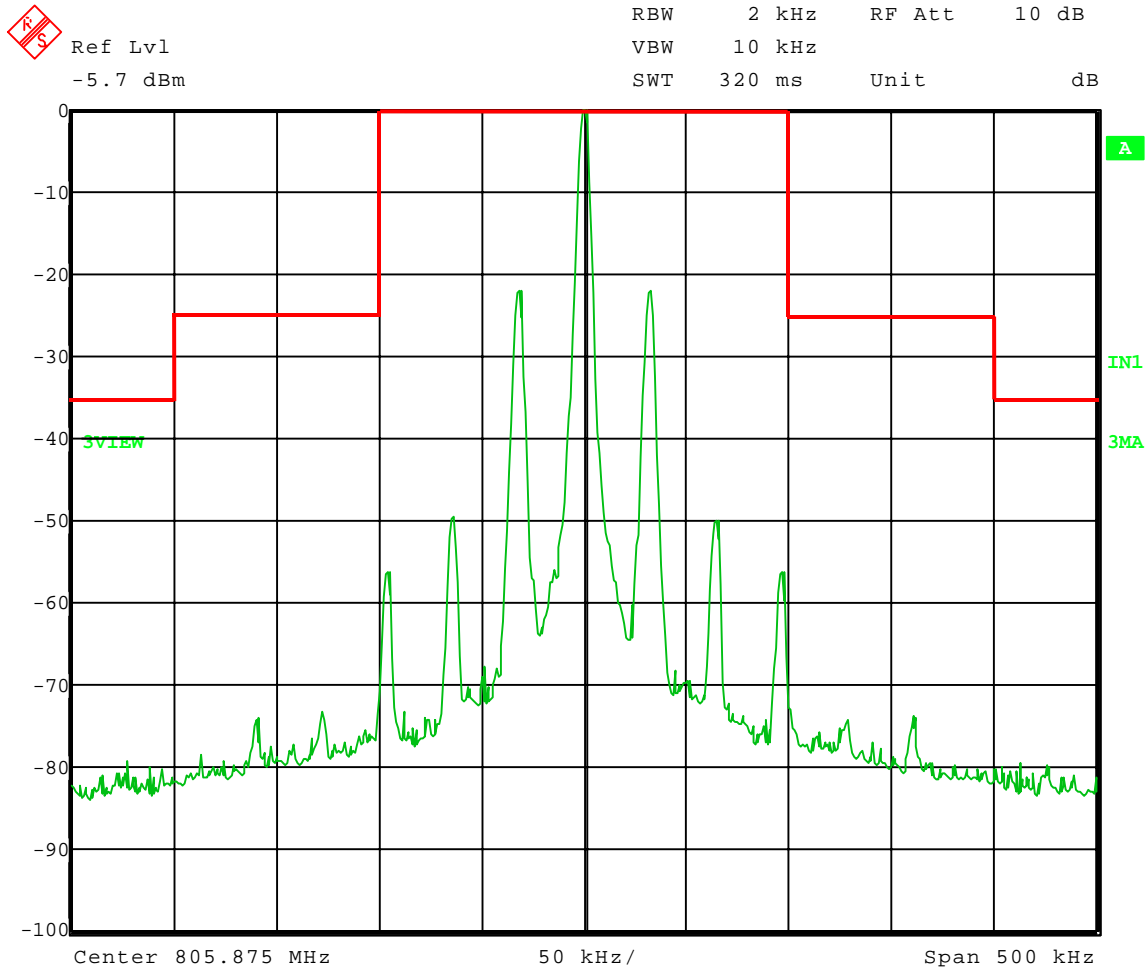
Company: Shure Incorporated  
Model Tested: UR1M Q9  
Report Number: 14128

1250 Peterson Dr., Wheeling, IL 60090

### APPENDIX A

Test Date: 05-07-2008  
Company: Shure, Inc.  
EUT: UR1M-Q9  
Test: Occupied Bandwidth  
Operator: Craig B

Nominal Frequency: **805.875 MHz**  
Reference, Unmodulated



Date: 7.MAY.2008 14:17:59



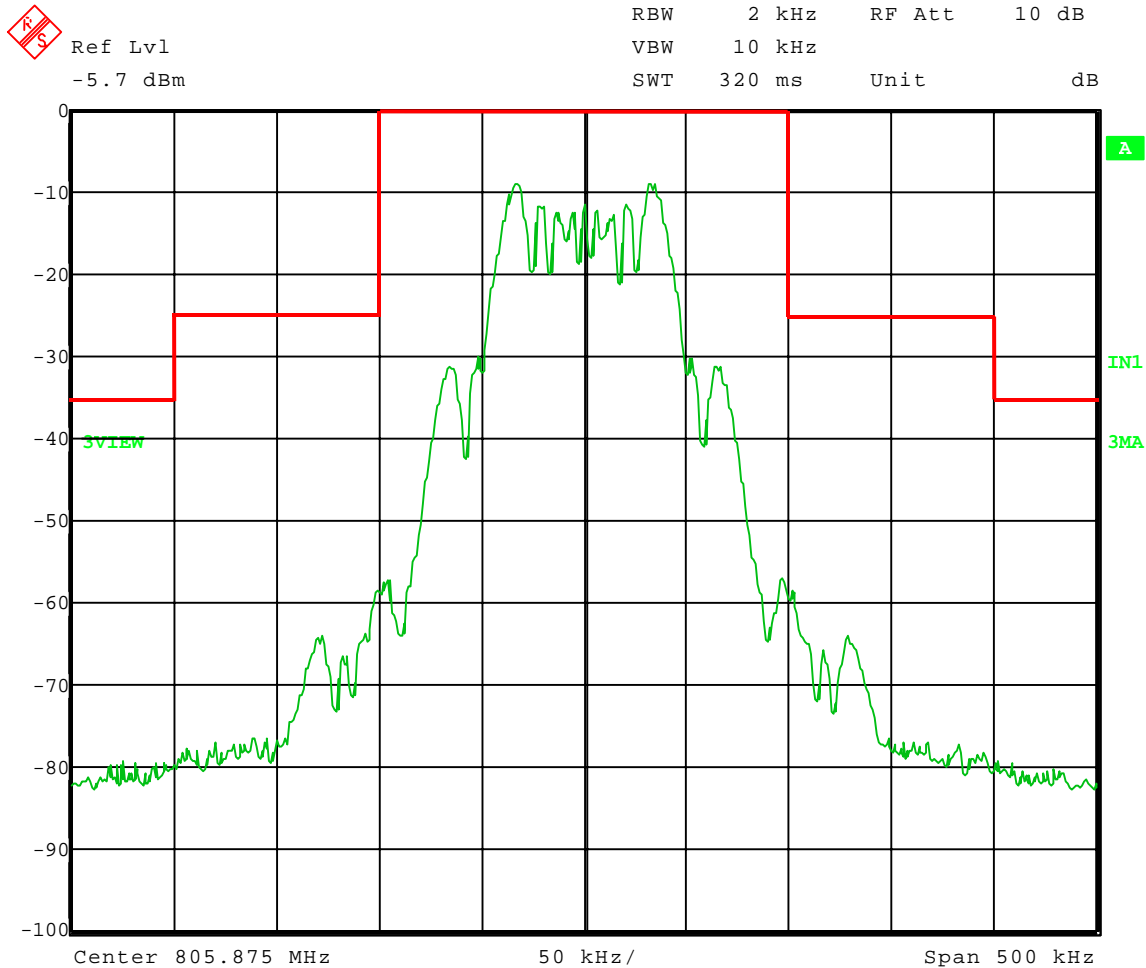
Company: Shure Incorporated  
Model Tested: UR1M Q9  
Report Number: 14128

1250 Peterson Dr., Wheeling, IL 60090

### APPENDIX A

Test Date: 05-07-2008  
Company: Shure, Inc.  
EUT: UR1M-Q9  
Test: Occupied Bandwidth  
Operator: Craig B

Nominal Frequency: **805.875 MHz**  
2500 Hz 16 dB > 50% modulated



Date: 7.MAY.2008 14:19:36



1250 Peterson Dr., Wheeling, IL 60090

Company: Shure Incorporated  
Model Tested: UR1M Q9  
Report Number: 14128

## APPENDIX A

# GRAPH(S) TAKEN SHOWING THE BAND-EDGE FREQUENCY

## PART 2.1051



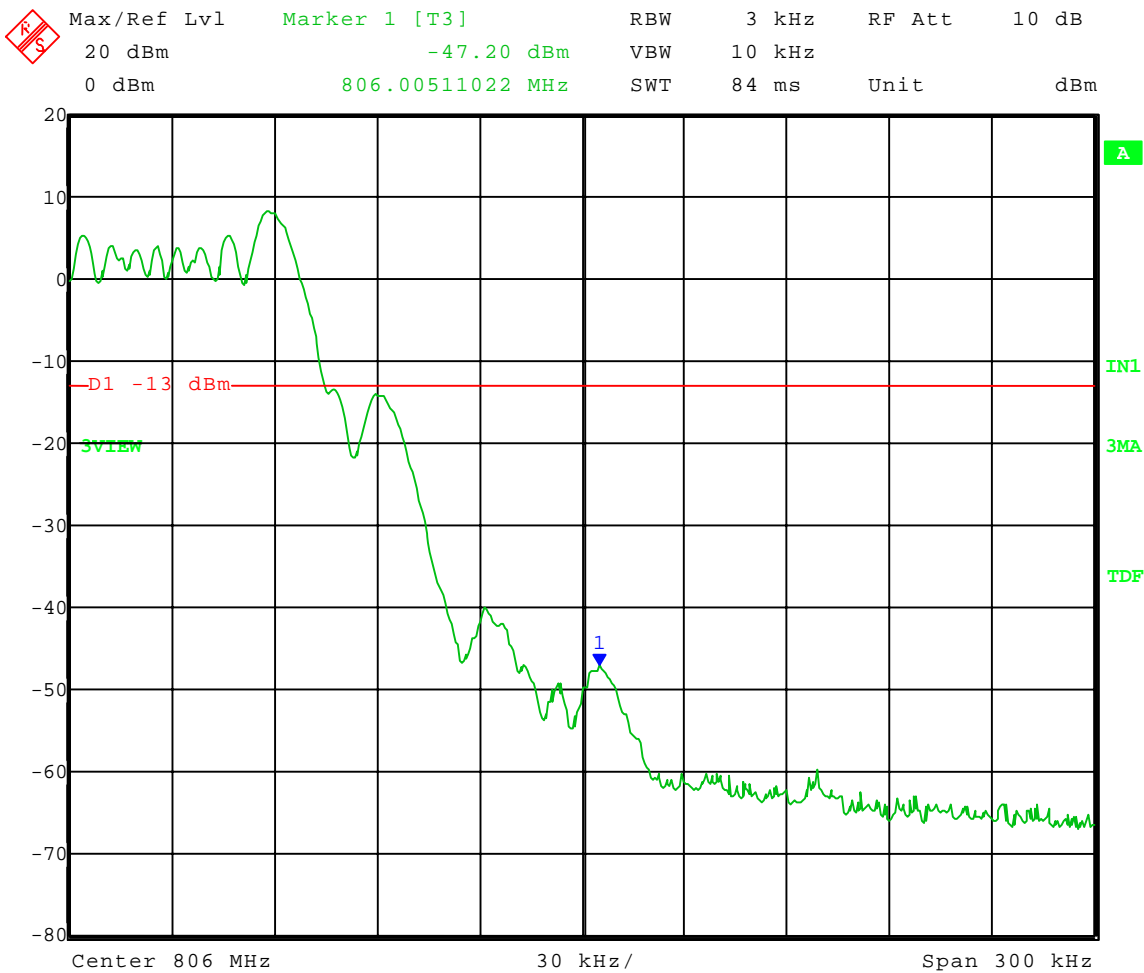
Company: Shure Incorporated  
 Model Tested: UR1M Q9  
 Report Number: 14128

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 05-07-2008  
 Company: Shure, Inc.  
 EUT: UR1M-Q9  
 Test: Band-Edge Compliance - Conducted  
 Rule part: FCC Part 74; FCC Part 2.1051  
 Operator: Craig B  
 Comment: Channel; 805.875 MHz  
 Power set to 50 mW

Band-Edge Frequency = 806 MHz  
 Band-Edge limit = -13 dBm



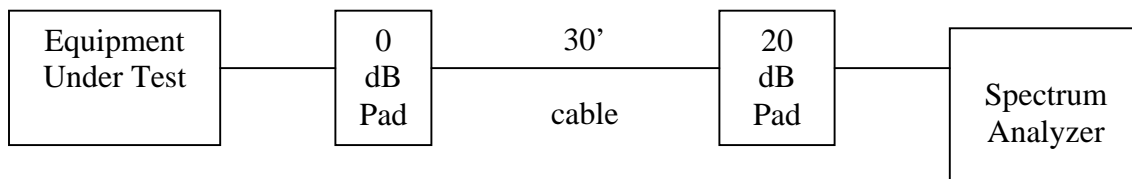
Date: 7.MAY.2008 14:11:55



## APPENDIX A

### 6.0 SPURIOUS EMISSIONS AT ANTENNA TERMINALS – PART 2.1051 and EIA /TIA-603-C:2004, SECTION 2.2.13

Spurious conducted emissions were measured at the antenna terminals using an artificial load. Plots were made showing the amplitude of each harmonic emission with the equipment operated as specified in 2.989. Measurements were made up to the 10<sup>th</sup> harmonic of the fundamental. The following setup was used showing placement of the attenuators:



The allowed emissions for transmitters operating in the 614 MHz - 806 MHz bands for Micro Bodypack Transmitter equipment are found under Part 74, Section 74.861, Paragraph e-6 for Low Power Auxiliary Stations. This paragraph states 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  $43 + 10 \log_{10}$  (mean output power in watts) dB.

#### NOTE:

The Micro Bodypack Transmitter uses the Whip Antenna. See the following pages for the data and graphs of the actual measurements made:



1250 Peterson Dr., Wheeling, IL 60090

Company: Shure Incorporated  
Model Tested: UR1M Q9  
Report Number: 14128

APPENDIX A

CONDUCTED EMISSION DATA & CHARTS  
TAKEN FOR  
SPURIOUS EMISSION MEASUREMENTS MADE  
AT THE ANTENNA TERMINALS  
EIA /TIA-603-C:2004, SECTION 2.2.13  
PART 2.1051

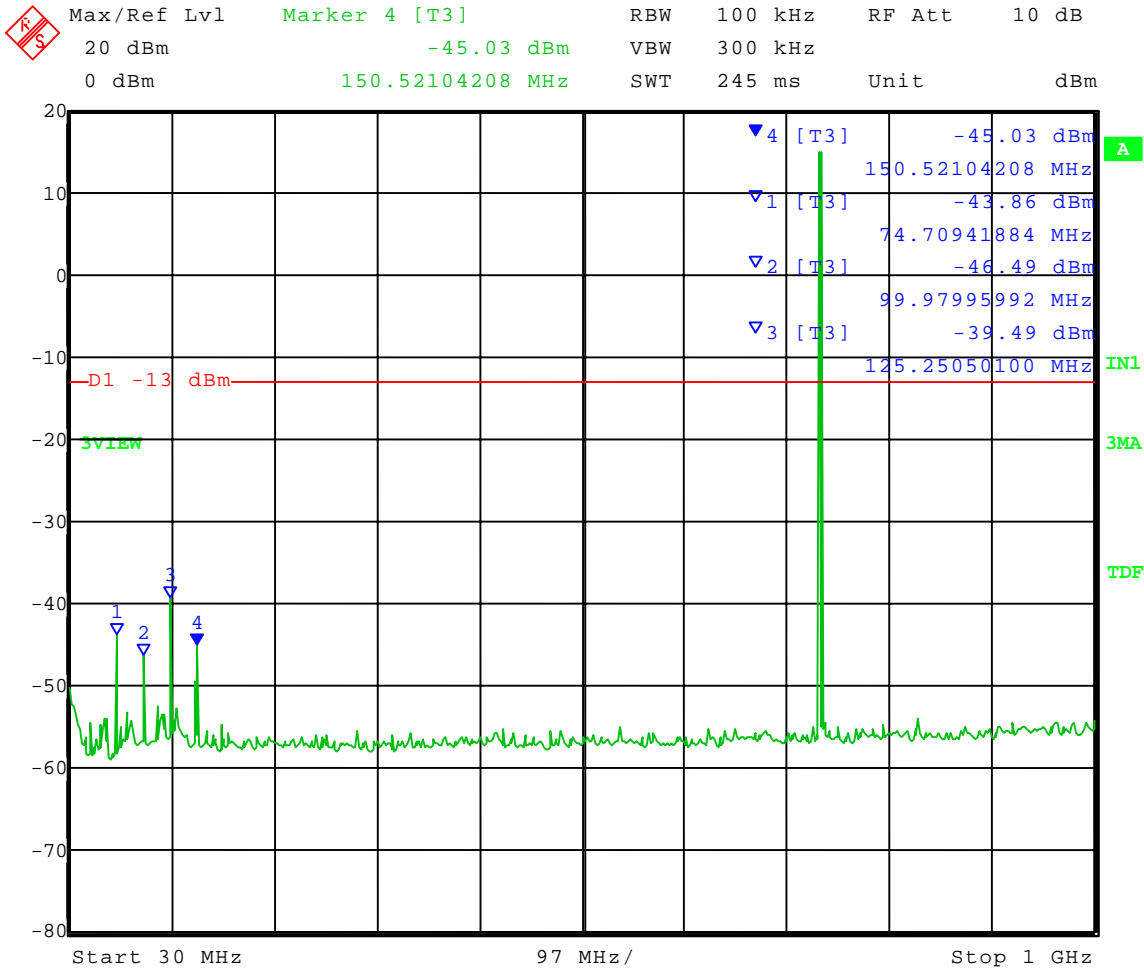


Company: Shure Incorporated  
 Model Tested: UR1M Q9  
 Report Number: 14128

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 05-07-2008  
 Company: Shure, Inc.  
 EUT: UR1M-Q9  
 Test: Spurious Emissions - Conducted  
 Rule part: FCC Part 74; FCC Part 2.1051  
 Operator: Craig B  
 Comment: Channel: 740.000 MHz  
 Power set to 50 mW  
 Frequency Range: 30 to 1000 MHz  
 Limit = -13 dBm



Date: 7.MAY.2008 15:03:19

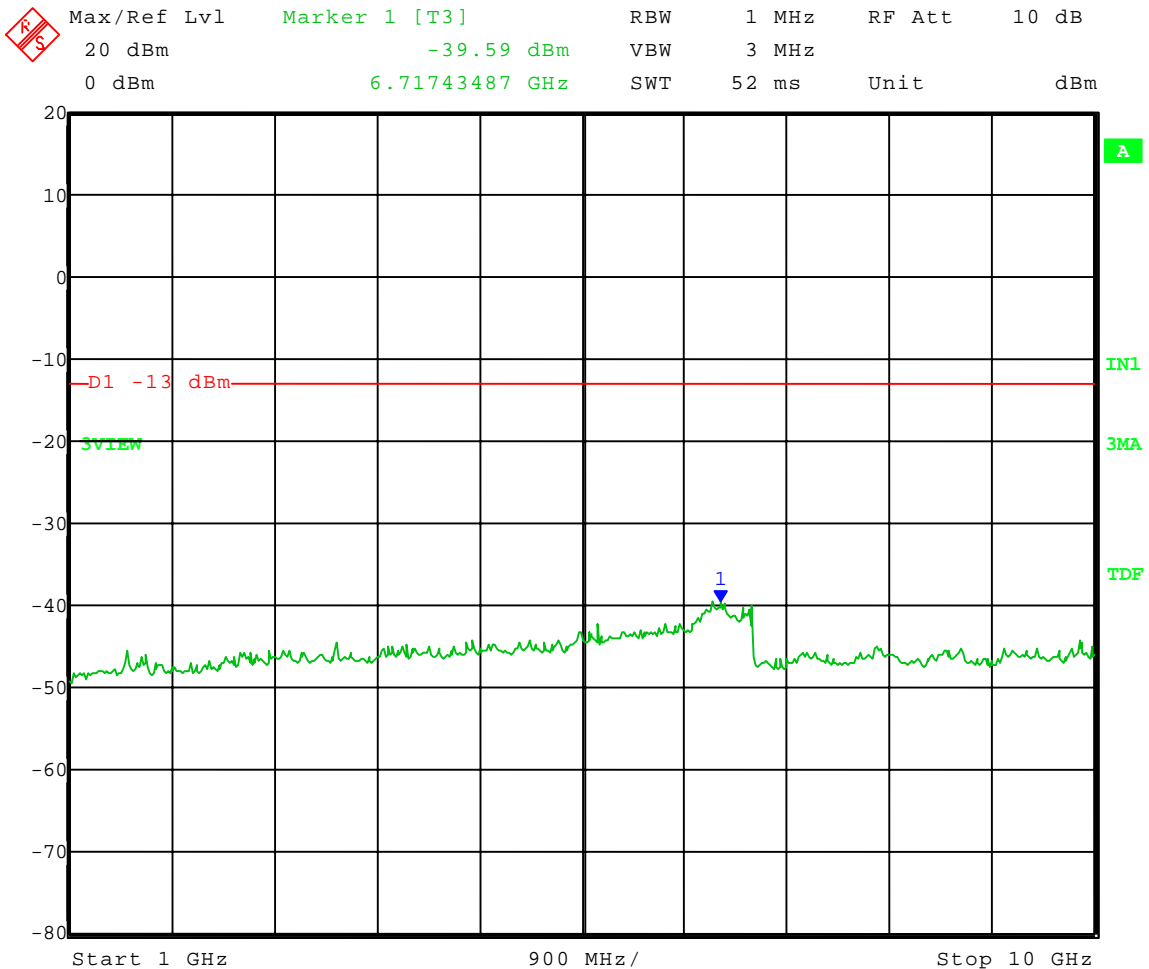


Company: Shure Incorporated  
 Model Tested: UR1M Q9  
 Report Number: 14128

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 05-07-2008  
 Company: Shure, Inc.  
 EUT: UR1M-Q9  
 Test: Spurious Emissions - Conducted  
 Rule part: FCC Part 74; FCC Part 2.1051  
 Operator: Craig B  
 Comment: Channel: 740.000 MHz  
 Power set to 50 mW  
 Frequency Range: 1 to 10 GHz  
 Limit = -13 dBm



Date: 7.MAY.2008 15:01:02



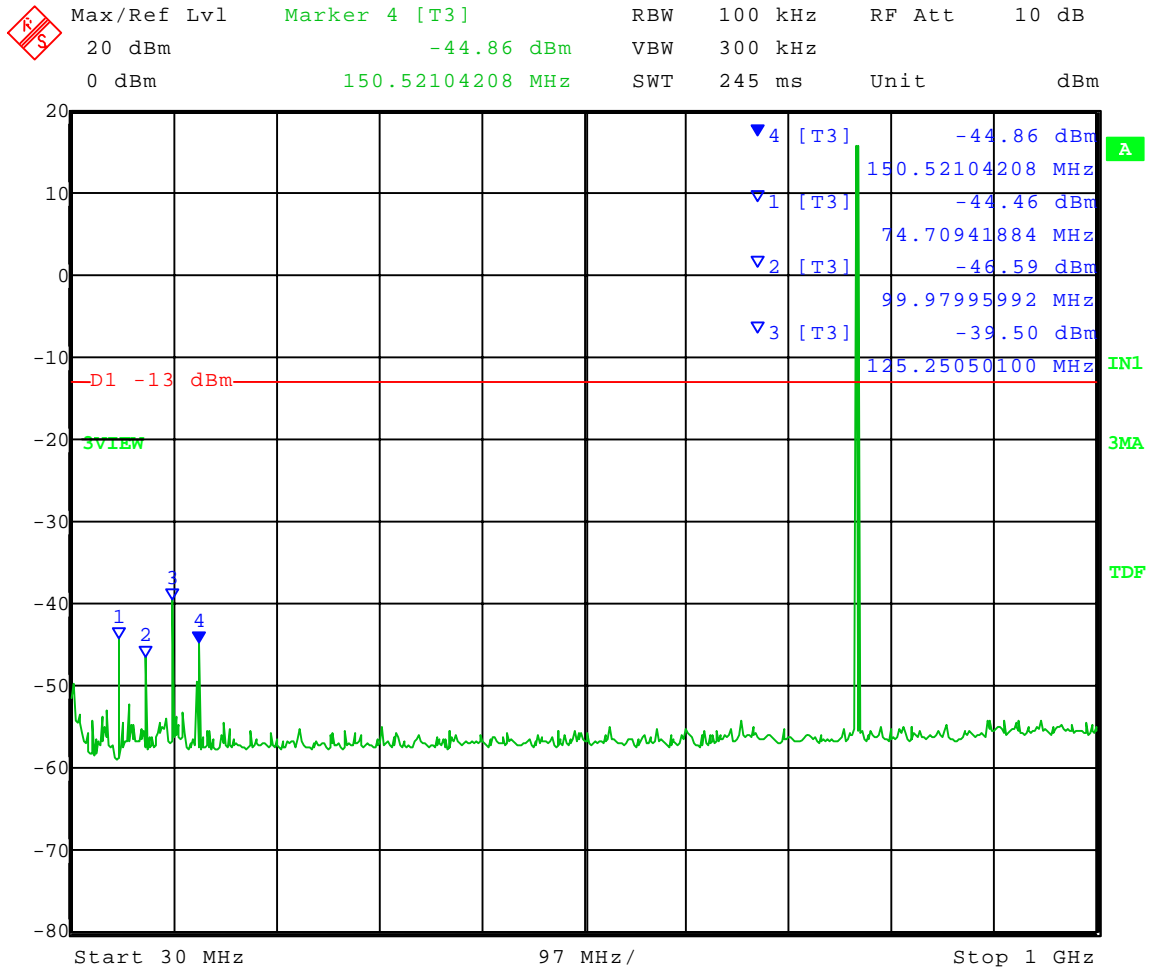


Company: Shure Incorporated  
 Model Tested: UR1M Q9  
 Report Number: 14128

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 05-07-2008  
 Company: Shure, Inc.  
 EUT: UR1M-Q9  
 Test: Spurious Emissions - Conducted  
 Rule part: FCC Part 74; FCC Part 2.1051  
 Operator: Craig B  
 Comment: Channel: 773.000 MHz  
 Power set to 50 mW  
 Frequency Range: 30 to 1000 MHz  
 Limit = -13 dBm



Date: 7.MAY.2008 15:06:09

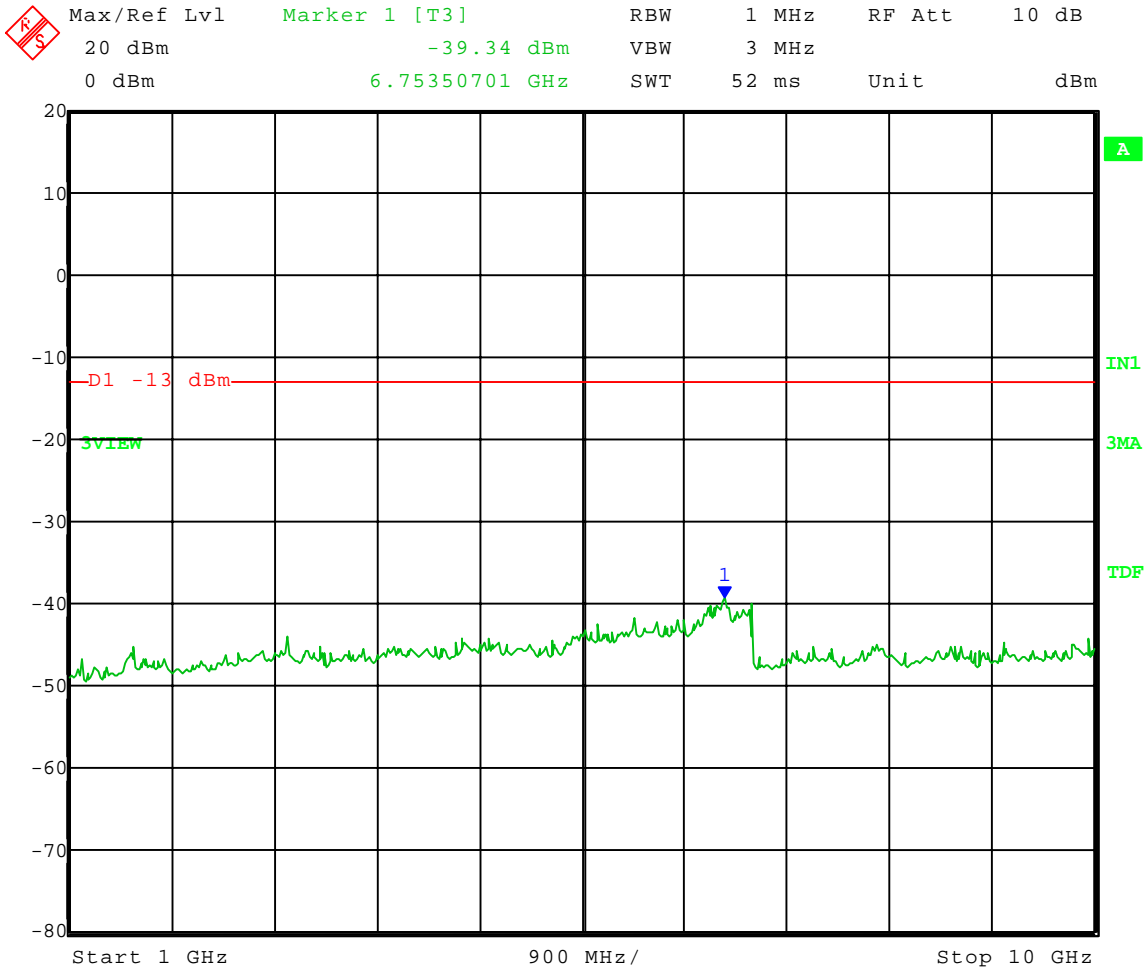


Company: Shure Incorporated  
Model Tested: UR1M Q9  
Report Number: 14128

1250 Peterson Dr., Wheeling, IL 60090

### APPENDIX A

Test Date: 05-07-2008  
Company: Shure, Inc.  
EUT: UR1M-Q9  
Test: Spurious Emissions - Conducted  
Rule part: FCC Part 74; FCC Part 2.1051  
Operator: Craig B  
Comment: Channel: 773.000 MHz  
Power set to 50 mW  
Frequency Range: 1 to 10 GHz  
Limit = -13 dBm



Date: 7.MAY.2008 14:59:10

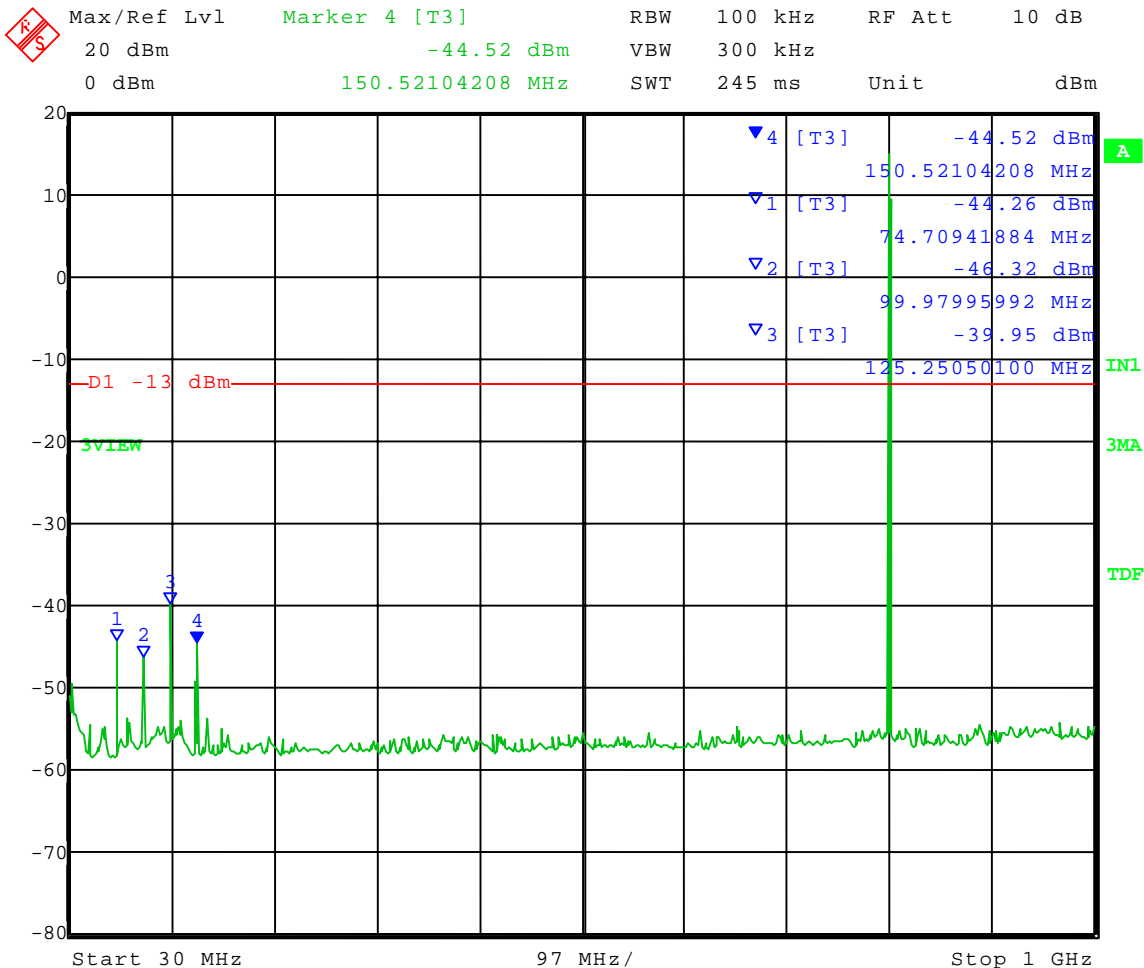


Company: Shure Incorporated  
 Model Tested: UR1M Q9  
 Report Number: 14128

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 05-07-2008  
 Company: Shure, Inc.  
 EUT: UR1M-Q9  
 Test: Spurious Emissions - Conducted  
 Rule part: FCC Part 74; FCC Part 2.1051  
 Operator: Craig B  
 Comment: Channel: 805.875 MHz  
 Power set to 50 mW  
 Frequency Range: 30 to 1000 MHz  
 Limit = -13 dBm



Date: 7.MAY.2008 14:39:22

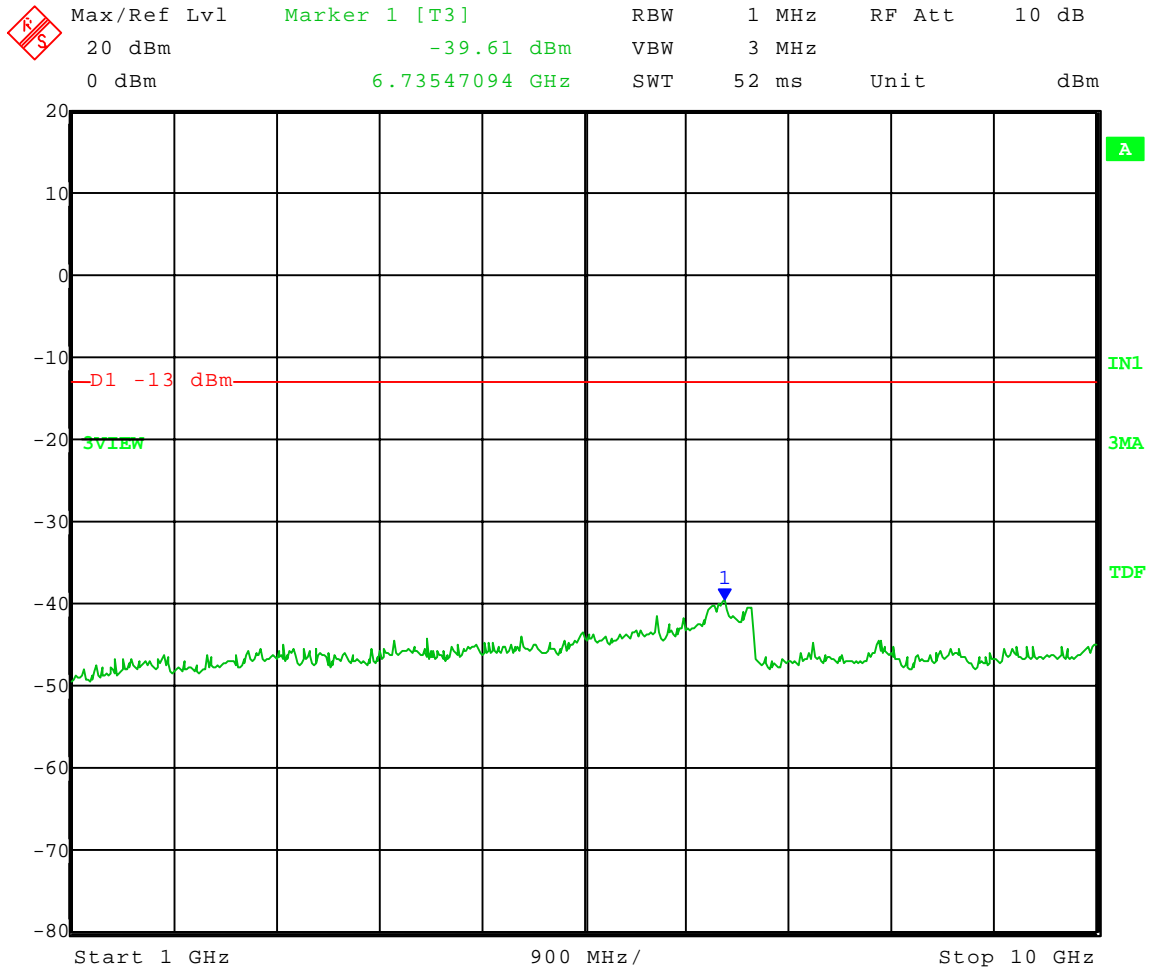


Company: Shure Incorporated  
 Model Tested: UR1M Q9  
 Report Number: 14128

1250 Peterson Dr., Wheeling, IL 60090

### APPENDIX A

Test Date: 05-07-2008  
 Company: Shure, Inc.  
 EUT: UR1M-Q9  
 Test: Spurious Emissions - Conducted  
 Rule part: FCC Part 74; FCC Part 2.1051  
 Operator: Craig B  
 Comment: Channel: 805.875 MHz  
 Power set to 50 mW  
 Frequency Range: 1 to 10 GHz  
 Limit = -13 dBm



Date: 7.MAY.2008 14:36:13



1250 Peterson Dr., Wheeling, IL 60090

Company: Shure Incorporated  
Model Tested: UR1M Q9  
Report Number: 14128

## 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 10<sup>th</sup> harmonic of the fundamental frequency.

For the Micro Bodypack Transmitter, the highest fundamental frequency is 740 - 806 so the scans were made up to 10000 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 614 MHz - 806 MHz bands for Micro 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  $43 + 10 \log_{10}$  (mean output power in watts) dB.



1250 Peterson Dr., Wheeling, IL 60090

Company: Shure Incorporated  
Model Tested: UR1M Q9  
Report Number: 14128

APPENDIX A

RADIATED EMISSION DATA & CHARTS TAKEN  
FOR FUNDAMENTAL EMISSIONS

USING THE SUBSTITUTION METHOD

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



1250 Peterson Dr., Wheeling, IL 60090

Company: Shure Incorporated  
 Model Tested: UR1M Q9  
 Report Number: 14128

APPENDIX A

DLS Electronic Systems, Inc.

Company: Shure, Inc.  
 Operator: Craig B  
 Date of test: 05-06-2008  
 Temperature: 70 deg. F  
 Humidity: 37% R.H.

Output Power - ERP - Substitution Method

Model: UR1M-Q9 Power set to 10 mW = 10 dBm								
Channel: Low; 740.000 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)
740.000 vertical	111.1	19.9	6.14	2.15	13.8	24	10.2	23.8
740.000 horizontal	109.7	14.2	6.14	2.15	8.1	24	15.9	6.4

EIRP = Signal generator output - cable loss + antenna gain

ERP<sub>(ref. to 1/2λ dipole)</sub> = Signal generator output - cable loss + antenna gain - 2.15



1250 Peterson Dr., Wheeling, IL 60090

Company: Shure Incorporated  
 Model Tested: UR1M Q9  
 Report Number: 14128

## APPENDIX A

DLS Electronic Systems, Inc.

Company: Shure, Inc.  
 Operator: Craig B  
 Date of test: 05-06-2008  
 Temperature: 70 deg. F  
 Humidity: 37% R.H.

### Output Power - ERP - Substitution Method

Model: UR1M-Q9 Power set to 10 mW = 10 dBm								
Channel: Mid; 773.000 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)
773.000 vertical	111.5	17.8	6.30	2.15	11.5	24	12.5	14.1
773.000 horizontal	110.7	14.4	6.30	2.15	8.1	24	15.9	6.5

EIRP = Signal generator output - cable loss + antenna gain

ERP<sub>(ref. to 1/2λ dipole)</sub> = Signal generator output - cable loss + antenna gain - 2.15





1250 Peterson Dr., Wheeling, IL 60090

Company: Shure Incorporated  
 Model Tested: UR1M Q9  
 Report Number: 14128

## APPENDIX A

DLS Electronic Systems, Inc.

Company: Shure, Inc.  
 Operator: Craig B  
 Date of test: 05-06-2008  
 Temperature: 70 deg. F  
 Humidity: 37% R.H.

### Output Power - ERP - Substitution Method

Model: UR1M-Q9 Power set to 10 mW = 10 dBm								
Channel: High; 805.875 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)
805.875 vertical	108.7	17.1	6.46	2.15	10.6	24	13.4	11.6
805.875 horizontal	108.7	13.9	6.46	2.15	7.4	24	16.6	5.5

EIRP = Signal generator output - cable loss + antenna gain

ERP<sub>(ref. to 1/2λ dipole)</sub> = Signal generator output - cable loss + antenna gain - 2.15



1250 Peterson Dr., Wheeling, IL 60090

Company: Shure Incorporated  
 Model Tested: UR1M Q9  
 Report Number: 14128

## APPENDIX A

DLS Electronic Systems, Inc.

Company: Shure, Inc.  
 Operator: Craig B  
 Date of test: 05-06-2008  
 Temperature: 70 deg. F  
 Humidity: 37% R.H.

### Output Power - ERP - Substitution Method

Model: UR1M-Q9 Power set to 50 mW = 17 dBm								
Channel: Low; 740.000 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)
740.000 vertical	117.3	26.0	6.14	2.15	19.9	24	4.1	96.8
740.000 horizontal	116.4	20.9	6.14	2.15	14.8	24	9.2	29.9

EIRP = Signal generator output - cable loss + antenna gain

ERP<sub>(ref. to 1/2λ dipole)</sub> = Signal generator output - cable loss + antenna gain - 2.15



1250 Peterson Dr., Wheeling, IL 60090

Company: Shure Incorporated  
 Model Tested: UR1M Q9  
 Report Number: 14128

APPENDIX A

DLS Electronic Systems, Inc.

Company: Shure, Inc.  
 Operator: Craig B  
 Date of test: 05-06-2008  
 Temperature: 70 deg. F  
 Humidity: 37% R.H.

Output Power - ERP - Substitution Method

Model: UR1M-Q9 Power set to 50 mW = 17 dBm								
Channel: Mid; 773.000 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)
773.000 vertical	118.1	24.3	6.30	2.15	18.0	24	6.0	63.1
773.000 horizontal	117.1	20.8	6.30	2.15	14.5	24	9.5	28.2

EIRP = Signal generator output - cable loss + antenna gain

ERP<sub>(ref. to 1/2λ dipole)</sub> = Signal generator output - cable loss + antenna gain - 2.15



1250 Peterson Dr., Wheeling, IL 60090

Company: Shure Incorporated  
 Model Tested: UR1M Q9  
 Report Number: 14128

## APPENDIX A

DLS Electronic Systems, Inc.

Company: Shure, Inc.  
 Operator: Craig B  
 Date of test: 05-06-2008  
 Temperature: 70 deg. F  
 Humidity: 37% R.H.

### Output Power - ERP - Substitution Method

Model: UR1M-Q9 Power set to 50 mW = 17 dBm								
Channel: High; 805.875 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)
805.875 vertical	115.2	23.5	6.46	2.15	17.0	24	7.0	50.6
805.875 horizontal	115.1	20.3	6.46	2.15	13.8	24	10.2	24.2

EIRP = Signal generator output - cable loss + antenna gain

ERP<sub>(ref. to 1/2λ dipole)</sub> = Signal generator output - cable loss + antenna gain - 2.15



1250 Peterson Dr., Wheeling, IL 60090

Company: Shure Incorporated  
Model Tested: UR1M Q9  
Report Number: 14128

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



Company: Shure Incorporated  
 Model Tested: UR1M Q9  
 Report Number: 14128

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

DLS Electronic Systems, Inc.

Company: Shure, Inc.  
 Operator: Craig B  
 Date of test: 05-06-2008  
 Temperature: 70 deg. F.  
 Humidity: 37% R.H.

Radiated Spurious Emissions (e.r.p. substitution method) FCC Part 74; FCC Part 2.1053								
Model: UR1M-Q9 Transmit Frequency: 740.000 MHz Power set to 50 mW								
Frequency MHz	Field Strength Level dBuV/m	Factor to Convert to dBm	Power ERP dBm	Limit dBm	Margin dB	Receive Antenna Polarization	EUT Orientation (degrees)	Receive Antenna Height (m)
1480	43.3	100.4	-57.1	-13	44.1	Horizontal	350	1.1
2220	39.4	102.1	-62.8	-13	49.8	Horizontal	45	1.5
2960	36.4	101.5	-65.1	-13	52.1	Horizontal	40	1.5
3700	34.7	101.2	-66.5	-13	53.5	Horizontal	45	1.0
4440	49.6	99.5	-49.9	-13	36.9	Horizontal	0	1.1
5180	51.8	100.1	-48.3	-13	35.3	Horizontal	30	1.2
5920	39.1	100.0	-60.9	-13	47.9	Horizontal	180	1.2
6660	41.9	99.4	-57.5	-13	44.5	Horizontal	0	1.1
7400	40.2	99.2	-59.0	-13	46.0	Horizontal	170	1.3
1480	44.0	101.1	-57.2	-13	44.2	Vertical	0	1.4
2220	37.2	100.4	-63.2	-13	50.2	Vertical	40	1.3
2960	38.7	100.3	-61.6	-13	48.6	Vertical	290	1.1
3700	37.4	100.0	-62.6	-13	49.6	Vertical	270	1.3
4440	51.2	100.0	-48.8	-13	35.8	Vertical	300	1.0
5180	52.2	100.4	-48.2	-13	35.2	Vertical	340	1.1
5920	39.2	100.2	-61.0	-13	48.0	Vertical	340	1.0
6660	41.3	100.0	-58.7	-13	45.7	Vertical	10	1.4
7400	41.7	100.4	-58.7	-13	45.7	Vertical	20	1.3



Company: Shure Incorporated  
 Model Tested: UR1M Q9  
 Report Number: 14128

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

DLS Electronic Systems, Inc.

Company: Shure, Inc.  
 Operator: Craig B  
 Date of test: 05-07-2008  
 Temperature: 70 deg. F.  
 Humidity: 44% R.H.

Radiated Spurious Emissions (e.r.p. substitution method) FCC Part 74; FCC Part 2.1053								
Model: UR1M-Q9 Transmit Frequency: 773.000 MHz Power set to 50 mW								
Frequency MHz	Field Strength Level dBuV/m	Factor to Convert to dBm	Power ERP dBm	Limit dBm	Margin dB	Receive Antenna Polarization	EUT Orientation (degrees)	Receive Antenna Height (m)
1546	39.2	100.8	-61.6	-13	48.6	Horizontal	340	1.5
2319	36.9	101.1	-64.2	-13	51.2	Horizontal	280	1.4
3092	34.4	100.9	-66.5	-13	53.5	Horizontal	45	1.5
3865	36.1	99.9	-63.8	-13	50.8	Horizontal	180	1.2
4638	53.8	100.0	-46.2	-13	33.2	Horizontal	0	1.2
5411	52.2	100.0	-47.8	-13	34.8	Horizontal	0	1.0
6184	42.9	99.2	-56.3	-13	43.3	Horizontal	225	1.0
6957	41.2	99.4	-58.2	-13	45.2	Horizontal	0	1.1
7730	43.3	100.5	-57.2	-13	44.2	Horizontal	330	1.1
1546	37.8	100.8	-63.0	-13	50.0	Vertical	330	1.7
2319	34.3	100.4	-66.1	-13	53.1	Vertical	10	1.4
3092	34.0	99.4	-65.4	-13	52.4	Vertical	315	1.1
3865	39.9	100.2	-60.3	-13	47.3	Vertical	290	1.1
4638	54.2	101.0	-46.8	-13	33.8	Vertical	60	1.4
5411	52.0	100.7	-48.7	-13	35.7	Vertical	280	1.1
6184	42.1	99.5	-57.4	-13	44.4	Vertical	90	1.3
6957	41.2	100.2	-59.0	-13	46.0	Vertical	135	1.3
7730	42.1	102.2	-60.1	-13	47.1	Vertical	270	1.1



Company: Shure Incorporated  
 Model Tested: UR1M Q9  
 Report Number: 14128

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

DLS Electronic Systems, Inc.

Company: Shure, Inc.  
 Operator: Craig B  
 Date of test: 05-07-2008  
 Temperature: 70 deg. F.  
 Humidity: 44% R.H.

Radiated Spurious Emissions (e.r.p. substitution method) FCC Part 74; FCC Part 2.1053								
Model: UR1M-Q9 Transmit Frequency: 805.875 MHz Power set to 50 mW								
Frequency MHz	Field Strength Level dBuV/m	Factor to Convert to dBm	Power ERP dBm	Limit dBm	Margin dB	Receive Antenna Polarization	EUT Orientation (degrees)	Receive Antenna Height (m)
1611.750	38.0	101.3	-63.4	-13	50.4	Horizontal	350	1.4
2417.625	40.0	100.9	-60.9	-13	47.9	Horizontal	270	1.1
3223.500	37.1	101.3	-64.2	-13	51.2	Horizontal	315	1.1
4029.375	43.4	101.3	-58.0	-13	45.0	Horizontal	0	1.1
4835.250	53.8	99.9	-46.1	-13	33.1	Horizontal	225	1.0
5641.125	46.9	100.7	-53.8	-13	40.8	Horizontal	280	1.0
6447.000	47.3	99.8	-52.5	-13	39.5	Horizontal	210	1.2
7252.875	41.2	98.6	-57.4	-13	44.4	Horizontal	315	1.0
8058.750	42.2	100.2	-58.0	-13	45.0	Horizontal	190	1.1
1611.750	38.0	100.6	-62.6	-13	49.6	Vertical	340	1.1
2417.625	37.1	99.6	-62.5	-13	49.5	Vertical	20	1.1
3223.500	36.6	99.3	-62.7	-13	49.7	Vertical	315	1.3
4029.375	41.2	100.9	-59.8	-13	46.8	Vertical	180	1.0
4835.250	54.5	100.3	-45.8	-13	32.8	Vertical	315	1.2
5641.125	46.3	101.0	-54.7	-13	41.7	Vertical	180	1.2
6447.000	45.2	100.1	-54.9	-13	41.9	Vertical	0	1.5
7252.875	41.6	99.9	-58.3	-13	45.3	Vertical	20	1.4
8058.750	41.6	101.9	-60.3	-13	47.3	Vertical	225	1.0





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Company: Shure Incorporated  
Model Tested: UR1M Q9  
Report Number: 14128

## APPENDIX A

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

The frequency stability was measured from  $-30^{\circ}$  to  $+50^{\circ}$  centigrade at intervals of  $10^{\circ}$  centigrade throughout the range. Prior to each frequency measurement, the equipment was left alone for a sufficient period of time (approximately 30 minutes or more) to allow the components of the Wireless Boundary Microphone oscillator circuitry to stabilize.

See the following page for the data taken during testing.

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

The frequency stability of Micro Bodypack Transmitter 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.



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Company: Shure Incorporated  
Model Tested: UR1M Q9  
Report Number: 14128

APPENDIX A

DATA TAKEN FOR FREQUENCY

STABILITY WHEN VARYING THE TEMPERATURE

AND

PRIMARY SUPPLY VOLTAGE VARIATION

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



Company: Shure Incorporated  
 Model Tested: UR1M Q9  
 Report Number: 14128

1250 Peterson Dr., Wheeling, IL 60090

DLS Electronic Systems, Inc.

Company: Shure, Inc.  
 Operator: Craig B  
 Date of test: 05-08-2008

Limit = 37 kHz (0.005% of 740 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)
UR1M-Q9	740.000	739.998287	<b>-1.713</b>	739.998287	<b>-1.713</b>	739.999128	<b>-0.872</b>	740.000150	<b>0.150</b>	740.000872	<b>0.872</b>
UR1M-Q9	773.000	772.998226	<b>-1.774</b>	772.998226	<b>-1.774</b>	772.999008	<b>-0.992</b>	773.000030	<b>0.030</b>	773.000872	<b>0.872</b>
UR1M-Q9	805.875	805.873106	<b>-1.894</b>	805.873106	<b>-1.894</b>	805.874068	<b>-0.932</b>	805.874910	<b>-0.090</b>	805.875992	<b>0.992</b>

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)	1.5 Volts	Error (kHz)
UR1M-Q9	740.000	740.000872	<b>0.872</b>	740.000090	<b>0.090</b>	739.998347	<b>-1.653</b>	739.995160	<b>-4.840</b>	739.999790	<b>-0.210</b>
UR1M-Q9	773.000	773.000932	<b>0.932</b>	773.000391	<b>0.391</b>	772.998888	<b>-1.112</b>	772.996723	<b>-3.277</b>	772.999729	<b>-0.271</b>
UR1M-Q9	805.875	805.875812	<b>0.812</b>	805.874429	<b>-0.571</b>	805.871543	<b>-3.457</b>	805.867094	<b>-7.906</b>	805.874790	<b>-0.210</b>



Company: Shure Incorporated  
Model Tested: UR1M Q9  
Report Number: 14128

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## 10.0 FREQUENCY STABILITY PHOTOS TAKEN DURING TESTING

