



Transmitter Tests
For a
UR1A Wireless Microphone

For : Shure Inc.
Niles, IL

P.O. No. : 4500120223
Date Received : June 11, 2007
Dates Tested : June 11 - 26, 2007
Test Personnel : Richard E. King, EMC Engineer
Specification : FCC Part 74

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of Illinois - 44894



TABLE OF CONTENTS

| PARAGRAPH | DESCRIPTION OF CONTENTS | PAGE NO. |
|-----------|--|----------|
| 1.0 | INTRODUCTION..... | 5 |
| 1.1 | DESCRIPTION OF TEST ITEM..... | 5 |
| 1.2 | PURPOSE | 5 |
| 1.3 | DEVIATIONS, ADDITIONS AND EXCLUSIONS..... | 5 |
| 1.4 | APPLICABLE DOCUMENTS | 5 |
| 1.5 | SUBCONTRACTOR IDENTIFICATION..... | 5 |
| 1.6 | LABORATORY CONDITIONS..... | 6 |
| 2.0 | TEST ITEM SET-UP AND OPERATION..... | 6 |
| 2.1 | POWER INPUT..... | 6 |
| 2.2 | GROUNDING..... | 6 |
| 2.3 | PERIPHERAL EQUIPMENT | 6 |
| 3.0 | TEST EQUIPMENT | 6 |
| 3.1 | TEST EQUIPMENT LIST | 6 |
| 3.2 | CALIBRATION TRACEABILITY | 6 |
| 4.0 | REQUIREMENTS, PROCEDURES AND RESULTS | 6 |
| 4.1 | RF POWER OUTPUT MEASUREMENTS..... | 6 |
| 4.1.1 | REQUIREMENTS | 6 |
| 4.1.2 | PROCEDURES..... | 6 |
| 4.1.3 | RESULTS | 6 |
| 4.4 | OCCUPIED BANDWIDTH MEASUREMENTS | 6 |
| 4.4.1 | REQUIREMENTS | 6 |
| 4.4.2 | PROCEDURES..... | 7 |
| 4.4.3 | RESULTS | 7 |
| 4.5 | SPURIOUS EMISSIONS AT ANTENNA TERMINAL | 7 |
| 4.5.1 | REQUIREMENTS | 7 |
| 4.5.2 | PROCEDURES..... | 7 |
| 4.5.3 | RESULTS | 8 |
| 4.6 | FIELD STRENGTH OF SPURIOUS EMISSIONS..... | 10 |
| 4.6.1 | PRELIMINARY RADIATED MEASUREMENTS..... | 10 |
| 4.6.1.1 | REQUIREMENTS..... | 10 |
| 4.6.1.2 | PROCEDURES | 10 |
| 4.6.1.3 | RESULTS..... | 11 |
| 4.6.2 | FINAL RADIATED EMISSIONS..... | 11 |
| 4.6.2.1 | REQUIREMENTS..... | 11 |
| 4.6.2.2 | PROCEDURES | 11 |
| 4.6.2.3 | RESULTS OF OPEN FIELD RADIATED TEST..... | 12 |
| 5.0 | CONCLUSION | 12 |

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6.0 CERTIFICATION..... 12
7.0 ENDORSEMENT DISCLAIMER..... 12
TABLE I - EQUIPMENT LIST..... 13

THIS REPORT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF ELITE ELECTRONIC ENGINEERING INCORPORATED.



REPORT REVISION HISTORY

| Revision | Date | Description |
|----------|----------|-----------------|
| -- | 06/29/07 | Initial release |
| | | |



Transmitter Tests for a Wireless Microphone

1.0 INTRODUCTION:

1.1 DESCRIPTION OF TEST ITEM: This report presents the results of a series of transmitter tests were performed on a Shure Inc. Wireless Microphone, (hereinafter referred to as the test item). Serial number B was assigned to the test item. The tests were performed for Shure Inc. of Niles, IL.

The test item is a Wireless Microphone that operates in low power auxiliary station bands, 944 to 952MHz.

One transmitter with two power settings was submitted for testing.

| Model No. | Serial Nos. | Rated Power (Watts) | Frequency (MHz) |
|-----------|-------------|---------------------|-----------------|
| UR1A | B | .010 | 948 MHz |
| UR1A | B | .100 | 948 MHz |

1.2 PURPOSE: The test series was performed to determine if the test item meets the technical requirements of FCC Part 74 for low power auxiliary station bands 944MHz to 952MHz.

1.3 DEVIATIONS, ADDITIONS AND EXCLUSIONS: There were no deviations, additions to, or exclusions from the test specification during this test series.

1.4 APPLICABLE DOCUMENTS: The following documents of the exact issue designated form part of this document to the extent specified herein:

- Federal Communications Commission "Code of Federal Regulations", Title 47, Part 74, dated 1 October 2006
- Federal Communications Commission "Code of Federal Regulations", Title 47, Part 2, dated 1 October 2006
- ANSI C63.4-2003, "American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz"

1.5 SUBCONTRACTOR IDENTIFICATION: This series of tests was performed by Elite Electronic Engineering Incorporated, of Downers Grove, Illinois. The laboratory is accredited by the National Institute of Standards and Technology (NIST) under the National Voluntary Laboratory Accreditation Program (NVLAP). NVLAP Lab Code:



100278-0.

1.6 LABORATORY CONDITIONS: The temperature at the time of the test was 22.8°C and the relative humidity was 43%.

2.0 TEST ITEM SET-UP AND OPERATION:

2.1 POWER INPUT: The test item obtained 3.0 VDC from two 1.5VDC batteries.

2.2 GROUNDING: The test item was ungrounded during the tests.

2.3 PERIPHERAL EQUIPMENT: No peripheral equipment was submitted with the test item.

3.0 TEST EQUIPMENT:

3.1 TEST EQUIPMENT LIST: A list of the test equipment used can be found on Table I. All equipment was calibrated per the instruction manuals supplied by the manufacturer.

3.2 CALIBRATION TRACEABILITY: Test equipment is maintained and calibrated on a regular basis. All calibrations are traceable to the National Institute of Standards and Technology (NIST).

4.0 REQUIREMENTS, PROCEDURES AND RESULTS:

4.1 RF POWER OUTPUT MEASUREMENTS:

4.1.1 REQUIREMENTS: In accordance with paragraph 74.861(d)(1), the maximum transmitter power which will be authorized is 1 watt.

4.1.2 PROCEDURES: The output from the antenna port of the test item was connected to spectrum analyzer through 40 dB of attenuation. The output of the each test item was then measured.

4.1.3 RESULTS: The output power measurements are presented on page 16. As can be seen from the data, the power output of each transmitter is within the 1 watt requirement of Part 74.861(d)(1).

4.4 OCCUPIED BANDWIDTH MEASUREMENTS:

4.4.1 REQUIREMENTS: In accordance with paragraph 74.861(d)(3), 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, in any event, an emissions appearing on any discrete frequency outside the authorized band shall be attenuated, at least, $43 + 10 \log(P)$ dB

below the mean output power of the transmitting unit.

4.4.2 PROCEDURES:

- (a) The test item was connected to a spectrum analyzer through 40 dB of attenuation. The unmodulated carrier signal level was measured and recorded.
- (b) The test item was modulated with a 15 kHz sine wave at an input level necessary to produce 85% of the rated system deviation.
- (c) Steps (a) and (b) were repeated separately for each of the remaining 3 transmitters. The bandwidth of the spectrum analyzer was set to 5kHz (1% of the span).

4.4.3 RESULTS: The plots of the occupied bandwidth measured are presented on pages 17 through 24.

As can be seen from the data, the test items met all occupied bandwidth requirements.

4.5 SPURIOUS EMISSIONS AT ANTENNA TERMINAL:

4.5.1 REQUIREMENTS: This test determines whether the test item produces excessive spurious emissions.

In accordance with paragraph 74.861(d)(3), 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, in any event, an emissions appearing on any discrete frequency outside the authorized band shall be attenuated, at least, $43 + 10 \log(P)$ dB below the mean output power of the transmitting unit.

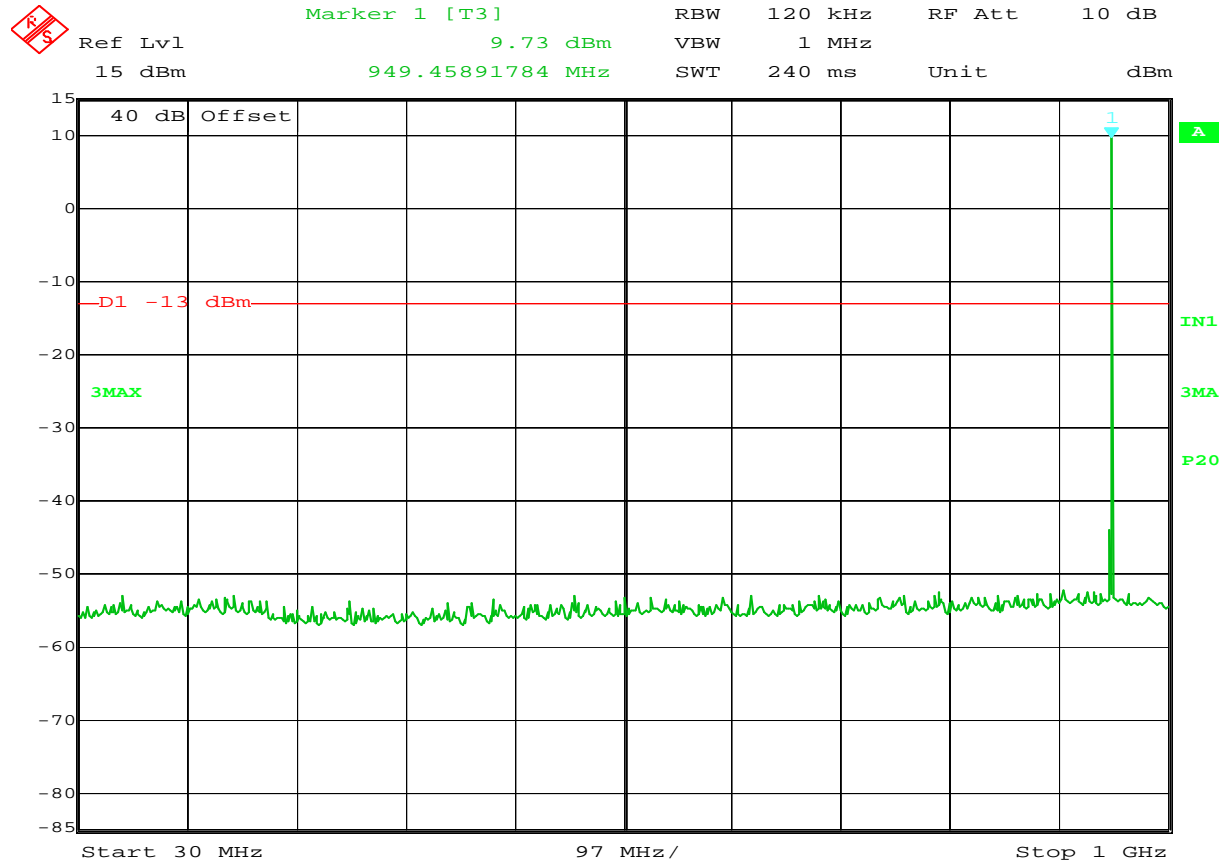
4.5.2 PROCEDURES: In general, this test will measure spurious emissions at the antenna terminals.

- (a) A spectrum analyzer was connected to the output of the test item. The out of band emissions were measured.
- (b) The spectrum analyzer was adjusted accordingly.
 - (1) For the FCC measurements, the resolution bandwidth was set to 100 kHz for spurious emissions below 1GHz and 1MHz for spurious emissions above 1GHz.
- (c) The test item was modulated with a 2500 Hz sine wave at an input level 16 dB greater than that necessary to produce 50% of the rated system deviation.



(d) The plots of the spectrum analyzer screens were recorded.

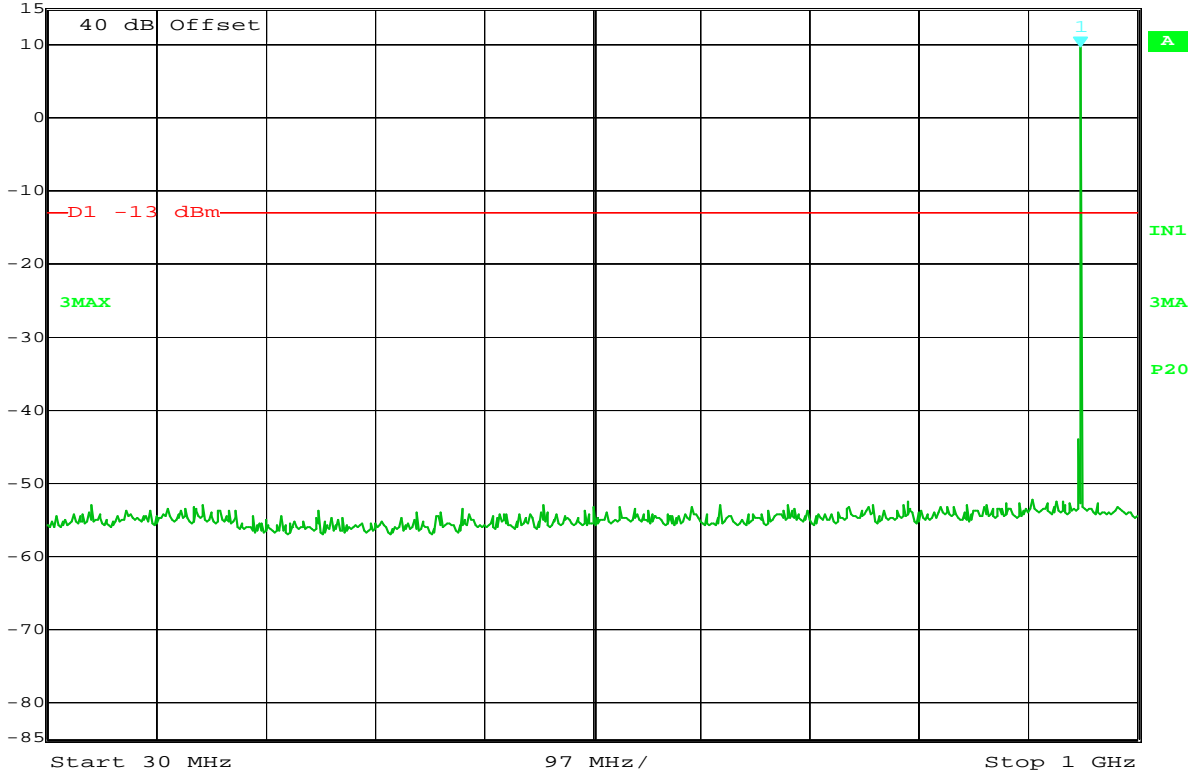
4.5.3 RESULTS: The plots of the antenna conducted output measurements are presented on pages



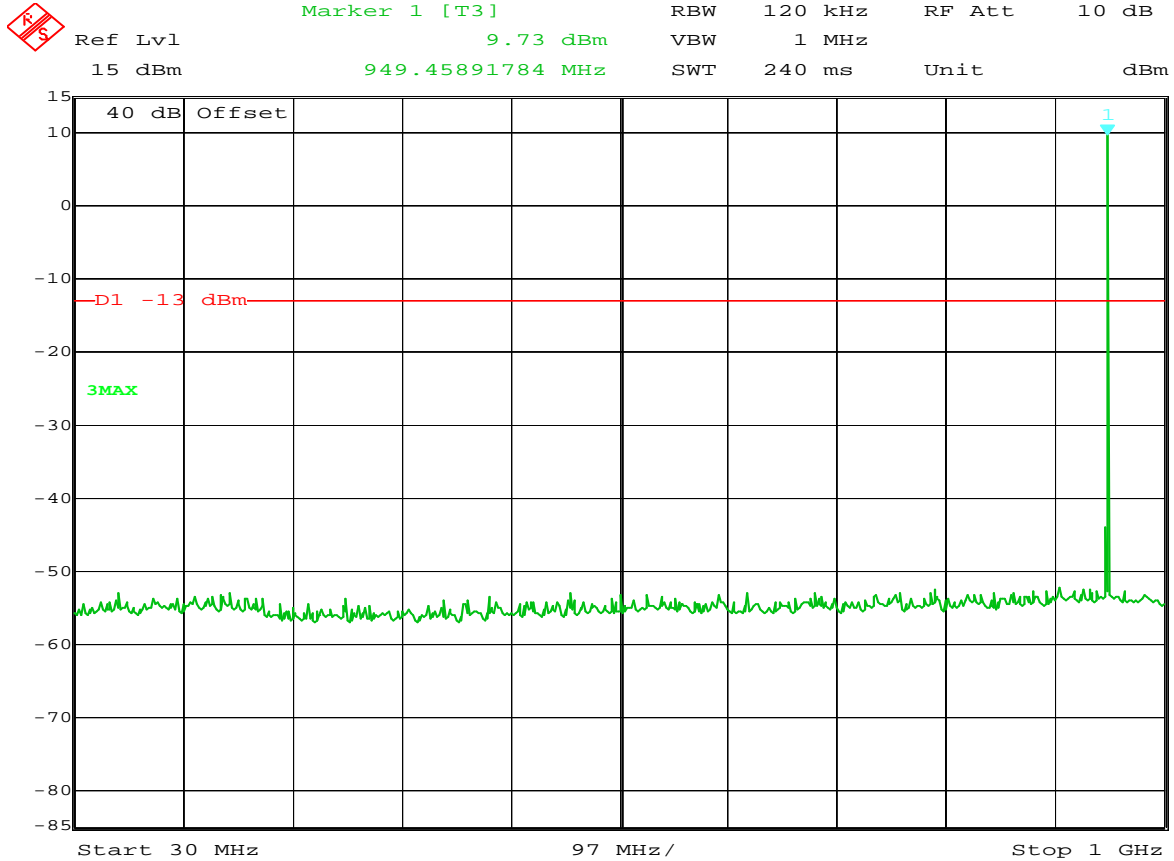
Date: 11.JUN.2007 18:08:31



Ref Lvl 15 dBm
Marker 1 [T3] 9.73 dBm
RBW 120 kHz RF Att 10 dB
VBW 1 MHz
SWT 240 ms Unit dBm



Date: 11.JUN.2007 18:08:31



Date: 11.JUN.2007 18:08:31

21 through 24. As can be seen from the data, the test item did not produce spurious emissions in excess of the limit.

4.6 FIELD STRENGTH OF SPURIOUS EMISSIONS:

4.6.1 PRELIMINARY RADIATED MEASUREMENTS:

4.6.1.1 REQUIREMENTS: Because emission levels in the open field may be masked by interference from sources other than the test item, preliminary radiated measurements are first performed in the low ambient environment of a shielded enclosure. The radiated emissions from the test item were first measured using peak detection. This data was then automatically plotted

4.6.1.2 PROCEDURES: All preliminary tests were performed in a 32ft. x 20ft. x 18ft. hybrid ferrite-tile/anechoic absorber lined test chamber. The walls and ceiling of the shielded chamber are lined with ferrite tiles. Anechoic absorber material is installed over the ferrite tile. The floor of the chamber is used as the ground plane. The chamber complies with ANSI C63.4 2003 for site attenuation.

The shielded enclosure prevents emissions from other sources, such as radio and TV

stations from interfering with the measurements. All power lines and signal lines entering the enclosure pass through filters on the enclosure wall. The power line filters prevent extraneous signals from entering the enclosure on these leads.

The test was performed on each transmitter separately.

The preliminary measurements were performed with each test item operating with the input signal unmodulated. The broadband measuring antennas were positioned at a 3 meter distance from the test item. The frequency range from 30MHz to 10th harmonic was investigated. The readings were taken with a peak detector function and recorded.

4.6.1.3 RESULTS: The preliminary plots are presented on pages 25 through 32. Factors for the antennas and cables were added to the data before it was plotted.

This data is only presented for a reference, and is not used as official data. All significant radiated emissions were subsequently measured at an open field test site.

4.6.2 FINAL RADIATED EMISSIONS:

4.6.2.1 REQUIREMENTS: The field strength of any emission on any frequency remove from the operating frequency by more than 250 percent of the authorized bandwidth: shall be attenuated by at least $43 + 10 \log (P)$ dB.

4.6.2.2 PROCEDURES: Final open field measurements were performed in a 32ft. x 20ft. x 18ft. hybrid ferrite-tile/anechoic absorber lined test chamber. The walls and ceiling of the shielded chamber are lined with ferrite tiles. Anechoic absorber material is installed over the ferrite tile. The floor of the chamber is used as the ground plane. The chamber complies with ANSI C63.4 2003 for site attenuation.

The final open field emission test procedure is as follows:

- a) The test item was placed on a 0.8 meter high non-conductive stand at a 3 meter test distance from the receive antenna.
- b) The antenna output of the test item was terminated in 50 ohms for the tests.
- c) A double ridged waveguide antenna was placed on an adjustable height antenna mast 3 meters from the test item for emission measurements.
- d) Detected emissions were maximized at each frequency by rotating the test item and adjusting the receive antenna height and polarization.
- e) The maximum meter reading was recorded.
- f) Measurements were performed with the input signal unmodulated.



- g) Measurements were performed separately at each frequency used during the preliminary measurements.

The equivalent power into a dipole antenna was determined from the field intensity levels measured at 3 meters using the substitution method. To determine the emission power another tuned dipole antenna or double ridged waveguide antenna was set in place of the test item and connected to a calibrated signal generator. The output of the signal generator was adjusted to match the received level at the spectrum analyzer. The signal level was recorded. The reading was corrected to compensate for cable loss, as required, and when the ridged waveguide antenna was used increased by the difference in gain between the dipole and the waveguide antenna.

4.6.2.3 RESULTS OF OPEN FIELD RADIATED TEST: The final open field radiated levels are presented on pages 33 through 34. The radiated emissions were measured through the 10th harmonic. All emissions measured from the test item were within the specification limits.

5.0 CONCLUSION:

It was found that the Shure Inc., model UR1A Wireless Microphone, did comply with the RF Power Output, the Occupied Bandwidth, the Spurious Emissions at Antenna Terminal, and the Field Strength of Spurious Emissions requirements of FCC Part 74 for low power auxiliary station bands 944MHz to 952MHz.

6.0 CERTIFICATION:

Elite Electronic Engineering Incorporated certifies that the information contained in this report was obtained under conditions which meet or exceed those specified in the test specification.

The data presented in this test report pertains only to the test item at the test date as operated by Shure Incorporated personnel. Any electrical or mechanical modification made to the test item subsequent to the specified test date will serve to invalidate the data and void this certification.

7.0 ENDORSEMENT DISCLAIMER:

This report must not be used to claim product endorsement by NVLAP or any agency of the US Government.



TABLE I: TEST EQUIPMENT LIST

ELITE ELECTRONIC ENG. INC.

Page:

| Eq ID | Equipment Description | Manufacturer | Model No. | Serial No. | Frequency Range | Cal Date | Cal Inv | Due Date |
|--|----------------------------|-----------------|--------------|------------|-----------------|----------|---------|----------|
| Equipment Type: ACCESSORIES, MISCELLANEOUS | | | | | | | | |
| XZG3 | ATTENUATOR/SWITCH DRIVER | HEWLETT PACKARD | 11713A | 2421A03059 | --- | | | N/A |
| Equipment Type: AMPLIFIERS | | | | | | | | |
| APK3 | PREAMPLIFIER | AGILENT TECHNOL | 8449B | 3008A01593 | 1-26.5GHZ | 06/17/07 | | 12 |
| Equipment Type: ANTENNAS | | | | | | | | |
| NTA0 | BILOG ANTENNA | CHASE EMC LTD. | BILOG CBL611 | 2057 | 0.03-2GHZ | 08/21/06 | | 12 |
| NWH0 | RIDGED WAVE GUIDE | TENSOR | 4105 | 2081 | 1-12.4GHZ | 10/09/06 | | 12 |
| NWP0 | DOUBLE RIDGED WAVEGUIDE AN | EATON | 3115 | 2099 | 1GHZ-18GHZ | 10/09/06 | | 12 |
| Equipment Type: ATTENUATORS | | | | | | | | |
| T1EA | 10DB, 25W ATTENUATOR | WEINSCHTEL | 46-10-34 | BN2316 | DC-18GHZ | 03/22/07 | | 12 |
| T2D5 | 20DB, 25W ATTENUATOR | WEINSCHTEL | 46-20-43 | AY9244 | DC-18GHZ | 02/22/07 | | 12 |
| T2D7 | 20DB, 25W ATTENUATOR | WEINSCHTEL | 46-20-43 | AY9246 | DC-18GHZ | 10/04/06 | | 12 |
| Equipment Type: CONTROLLERS | | | | | | | | |
| CDS2 | COMPUTER | GATEWAY | MFATXPNT NMZ | 0028483108 | 1.8GHZ | | | N/A |
| CMA0 | MULTI-DEVICE CONTROLLER | EMCO | 2090 | 9701-1213 | --- | | | N/A |
| Equipment Type: METERS | | | | | | | | |
| MFC0 | MICROWAVE FREQ. COUNTER | HEWLETT PACKARD | 5343A | 2133A00591 | 10HZ-26GHZ | 05/30/07 | | 12 |
| Equipment Type: PROBES; CLAMP-ON & LISNS | | | | | | | | |
| PLL2 | 50UH LISN 462D | ELITE | 462D/70A | 003 | 0.01-400MHZ | 02/12/07 | | 12 |
| PLLA | 50UH LISN 462D | ELITE | 462D/70A | 011 | 0.01-400MHZ | 03/08/07 | | 12 |
| Equipment Type: POWER SUPPLIES | | | | | | | | |
| SBA4 | DC POWER SUPPLY | APLAB | ZS3205 | 99071028 | 0-32V;0-5A | | | NOTE 1 |
| Equipment Type: PRINTERS AND PLOTTERS | | | | | | | | |
| HRE1 | LASER JET 5P | HEWLETT PACKARD | C3150A | USHB061052 | --- | | | N/A |
| Equipment Type: RECEIVERS | | | | | | | | |
| RAC2 | SPECTRUM ANALYZER | HEWLETT PACKARD | 85660B | 2504A01234 | 100HZ-22GHZ | 08/24/06 | | 12 |
| RACD | RF PRESELECTOR | HEWLETT PACKARD | 85685A | 3010A01205 | 20HZ-2GHZ | 02/16/07 | | 12 |
| RAF6 | QUASISPEAK ADAPTER | HEWLETT PACKARD | 85650A | 2412A00403 | 0.01-1000MHZ | 08/17/06 | | 12 |
| RAKG | RF SECTION | HEWLETT PACKARD | 85462A | 3549A00284 | 0.009-6500MHZ | 11/27/06 | | 12 |
| RAKH | RF FILTER SECTION | HEWLETT PACKARD | 85460A | 3448A00324 | --- | 11/27/06 | | 12 |
| RBB0 | EMI TEST RECEIVER 20HZ TO | ROHDE & SCHWARZ | ESIB40 | 100250 | 20 HZ TO 40GHZ | 09/29/06 | | 12 |
| RYE0 | MODULATION ANALYZER | HEWLETT PACKARD | 8901B | 3104A03410 | 0.15-1300MHZ | 05/04/07 | | 12 |
| Equipment Type: SIGNAL GENERATORS | | | | | | | | |
| GRD0 | SIGNAL GENERATOR | HEWLETT PACKARD | E4432B | US38080222 | 250KHZ-3.0GHZ | 08/28/06 | | 12 |
| GW11 | DDS FUNCTION GENERATOR | WAVETEK | 29 | 071747 | 0.0001HZ-10MHZ | 03/15/07 | | 13 |



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==
Cal. Interval: Listed in Months I/O: Initial Only N/A: Not Applicable
Note 1: For the purpose of this test, the equipment was calibrated over the specified frequency range, pulse rate, or modulation prior to the test or monitored by a calibrated instrument.



Output Power Test Set-up



Occupied Bandwidth Test Set-up



Antenna Conducted Emissions Test Set-up



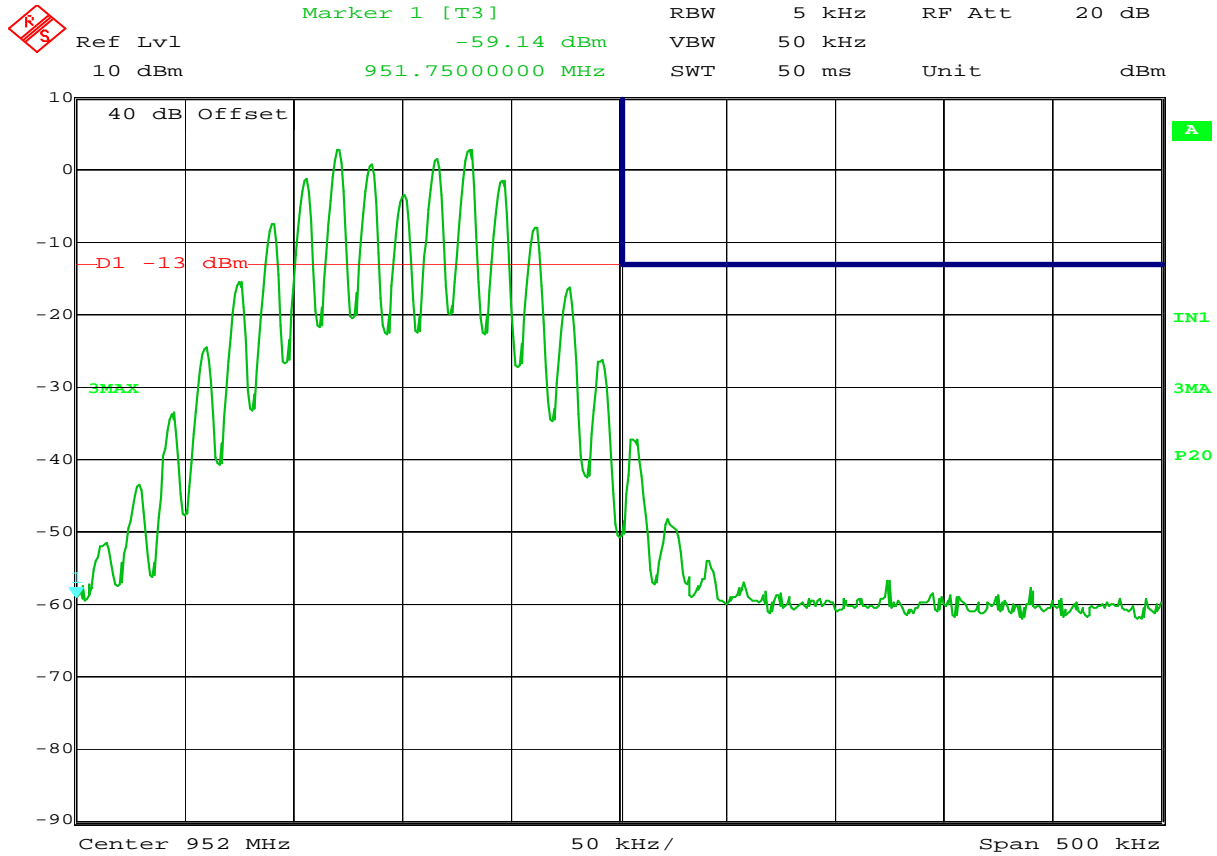
Data Page

MANUFACTURER : Shure Inc.
MODEL NO. : All Transmitters
SERIAL NO. : None assigned
SPECIFICATION : FCC-74
TEST PERFORMED : RF Output Power
DATE : June 11, 2007
NOTES :

| Unit | Rated Power (Watts) | Frequency (MHz) | Meter Reading (dBm) | Attenuation (dB) | Total (dBm) | Limit (dBm) | Total (Watts) | Limit (Watts) |
|------|---------------------|-----------------|---------------------|------------------|-------------|-------------|---------------|---------------|
| UR1A | .010 | 948.0 | -30.12 | 40.0 | 9.88 | 30.0 | 0.010 | 1.000 |
| UR1A | .100 | 948.0 | -20.72 | 40.0 | 19.28 | 30.0 | 0.081 | 1.000 |

Checked BY : *RICHARD E. KING*

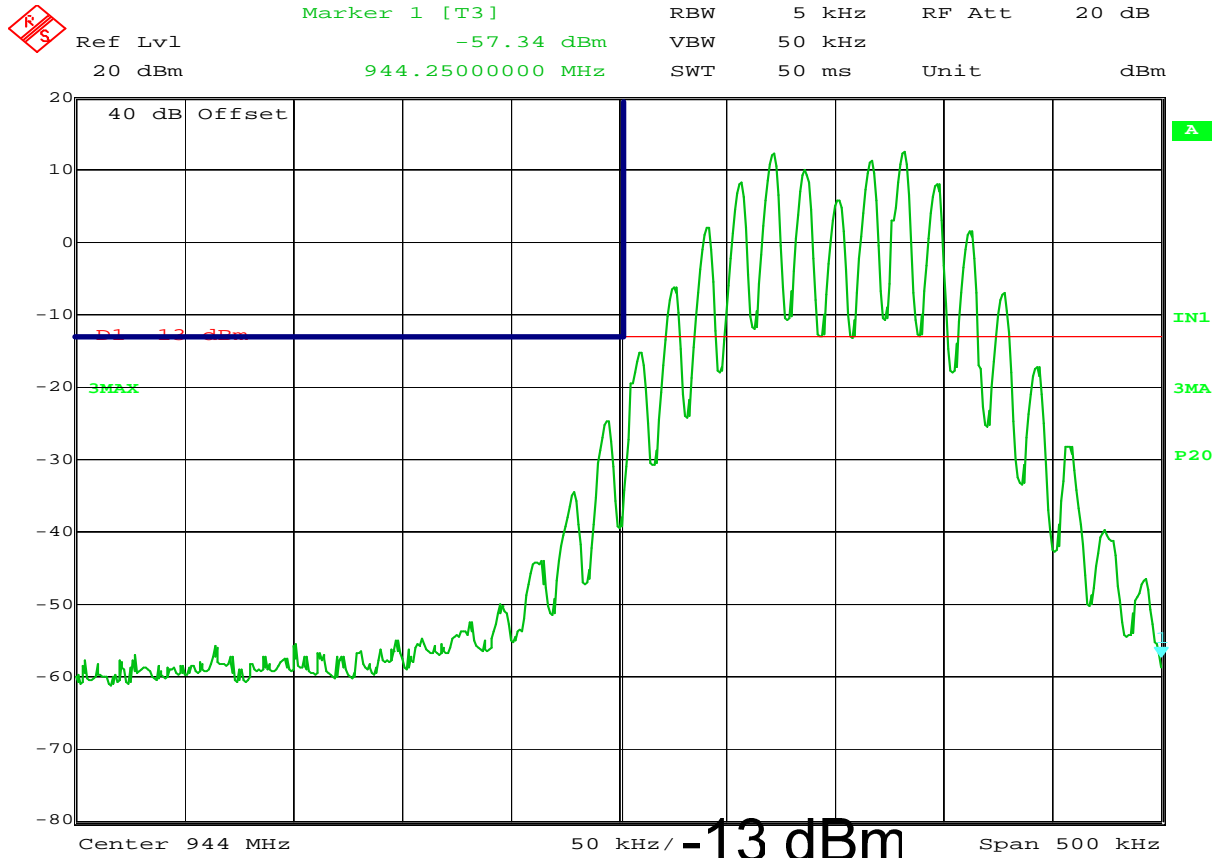
Richard E. King



Date: 26.JUN.2007 15:46:53

CFR 47 Part 74

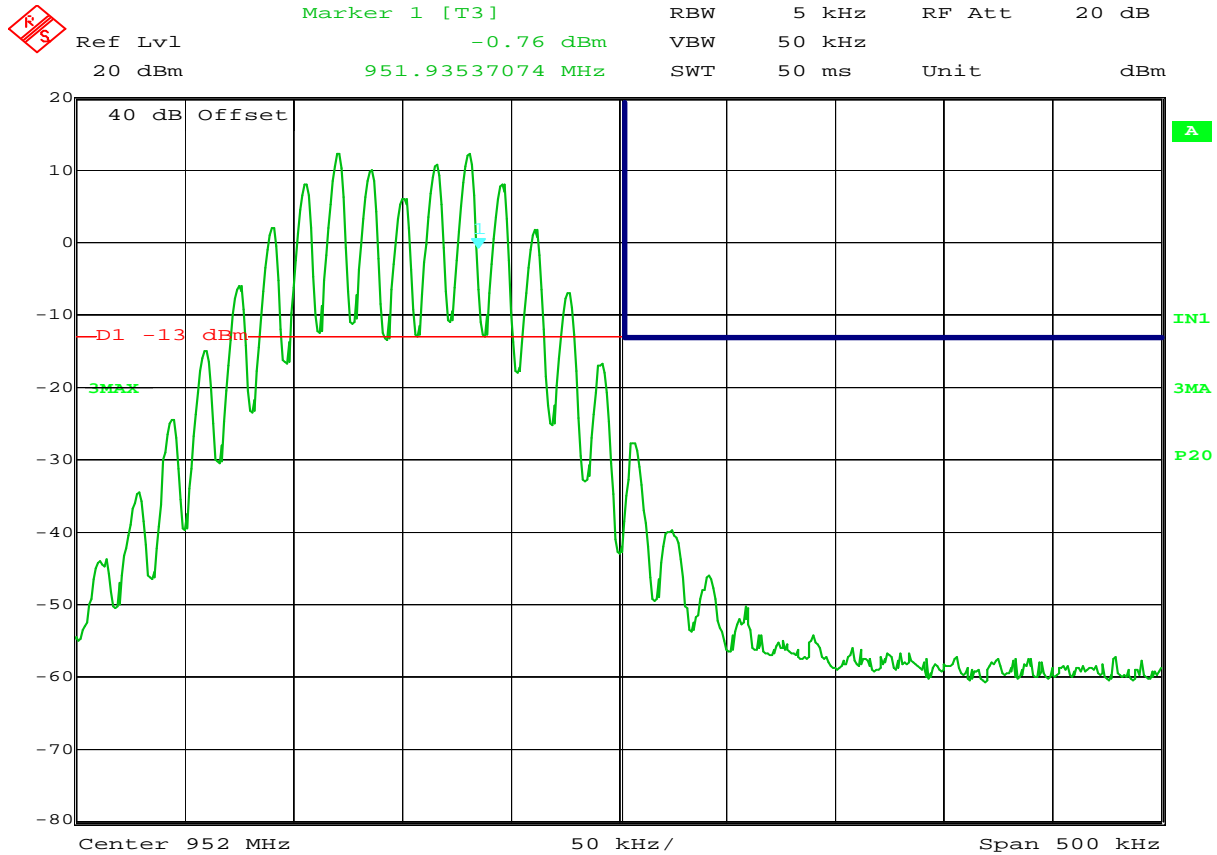
MANUFACTURER : Shure Inc.
MODEL NUMBER : UR1A
SERIAL NUMBER : B
TEST MODE : Tx 10mW @ 951.900 MHz
TEST PARAMETERS : 15kHz @ 85% modulation



Date: 26.JUN.2007 15:41:14

CFR 47 Part 74

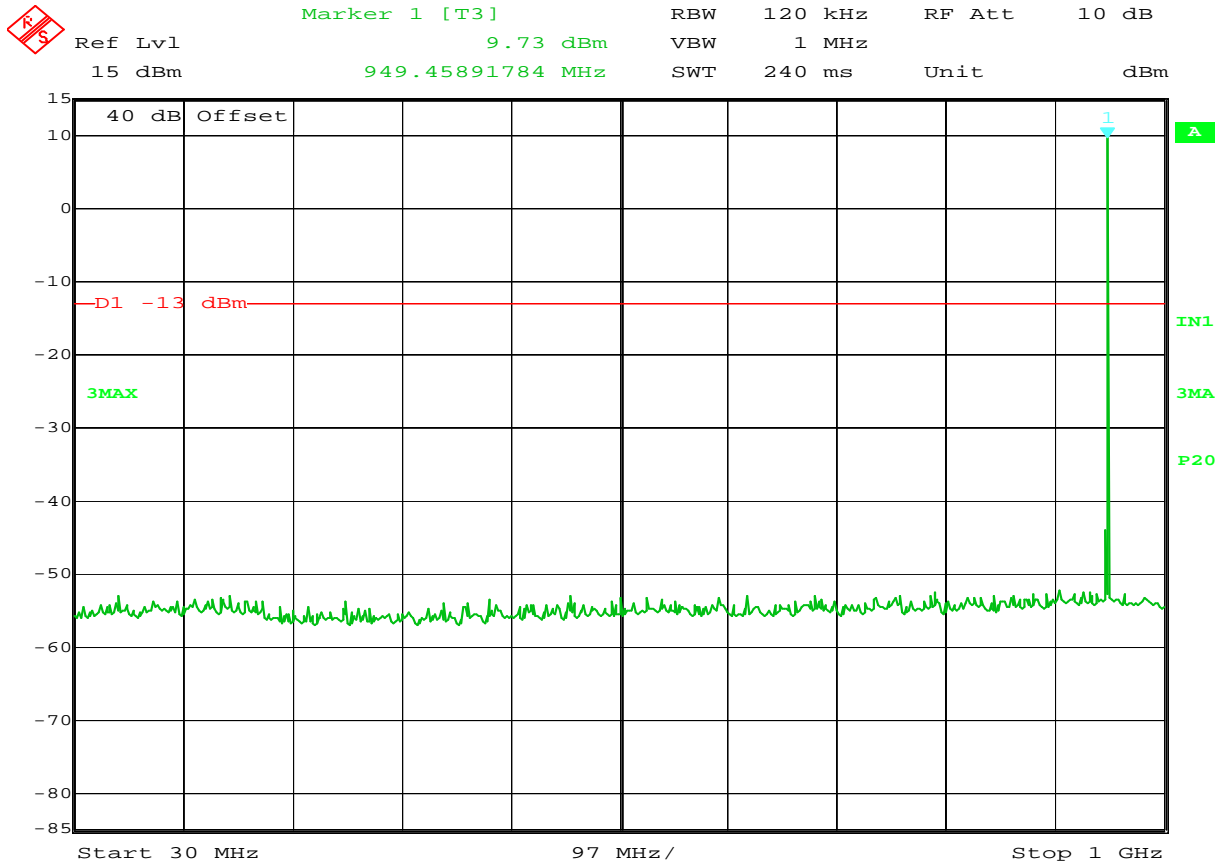
MANUFACTURER : Shure Inc.
 MODEL NUMBER : UR1A
 SERIAL NUMBER : B
 TEST MODE : Tx 100mW @ 944.100 MHz
 TEST PARAMETERS : 15kHz @ 85% modulation



Date: 26.JUN.2007 15:35:55

CFR 47 Part 74

MANUFACTURER : Shure Inc.
MODEL NUMBER : UR1A
SERIAL NUMBER : B
TEST MODE : Tx 10mW @ 951.900 MHz
TEST PARAMETERS : 15kHz @ 85% modulation



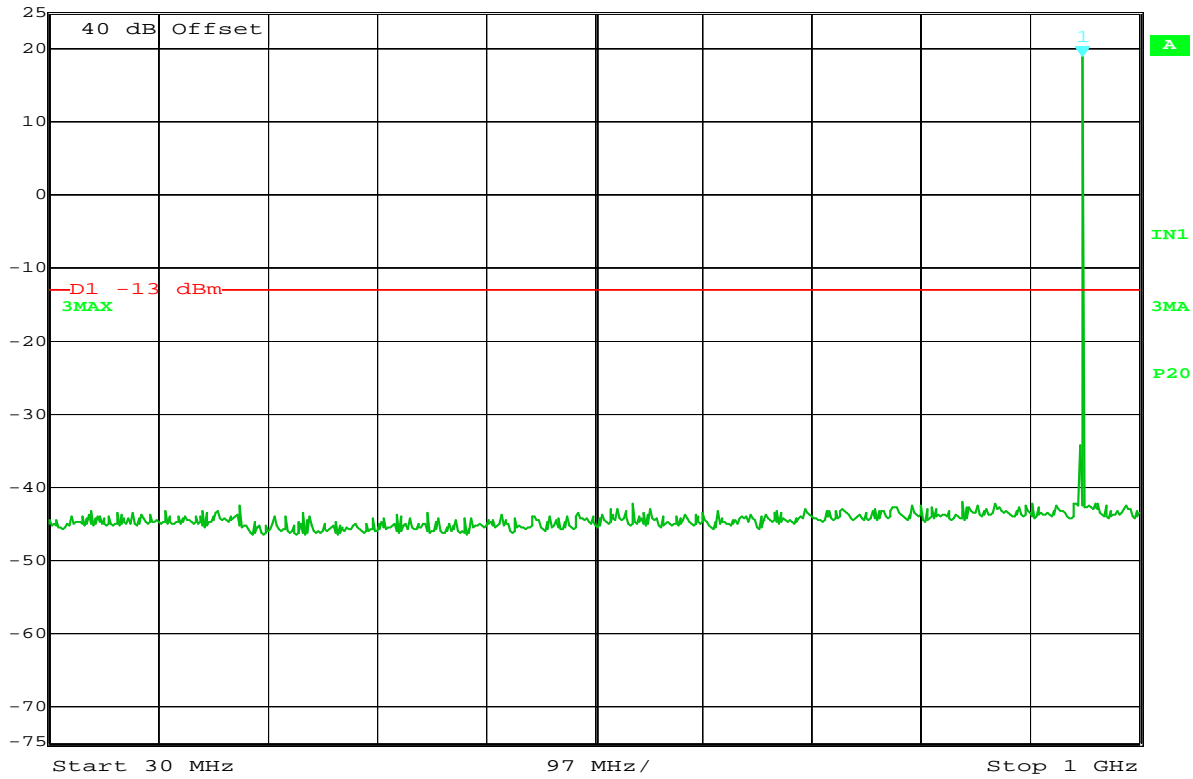
Date: 11.JUN.2007 18:08:31

CFR 47 Part 74 Antenna Conducted Emissions

MANUFACTURER : Shure Inc.
MODEL NUMBER : UR1A
SERIAL NUMBER : B
TEST MODE : Tx 100mW @ 948 MHz
NOTES :



Marker 1 [T3] RBW 120 kHz RF Att 20 dB
 Ref Lvl 18.89 dBm VBW 1 MHz
 25 dBm 949.45891784 MHz SWT 240 ms Unit dBm



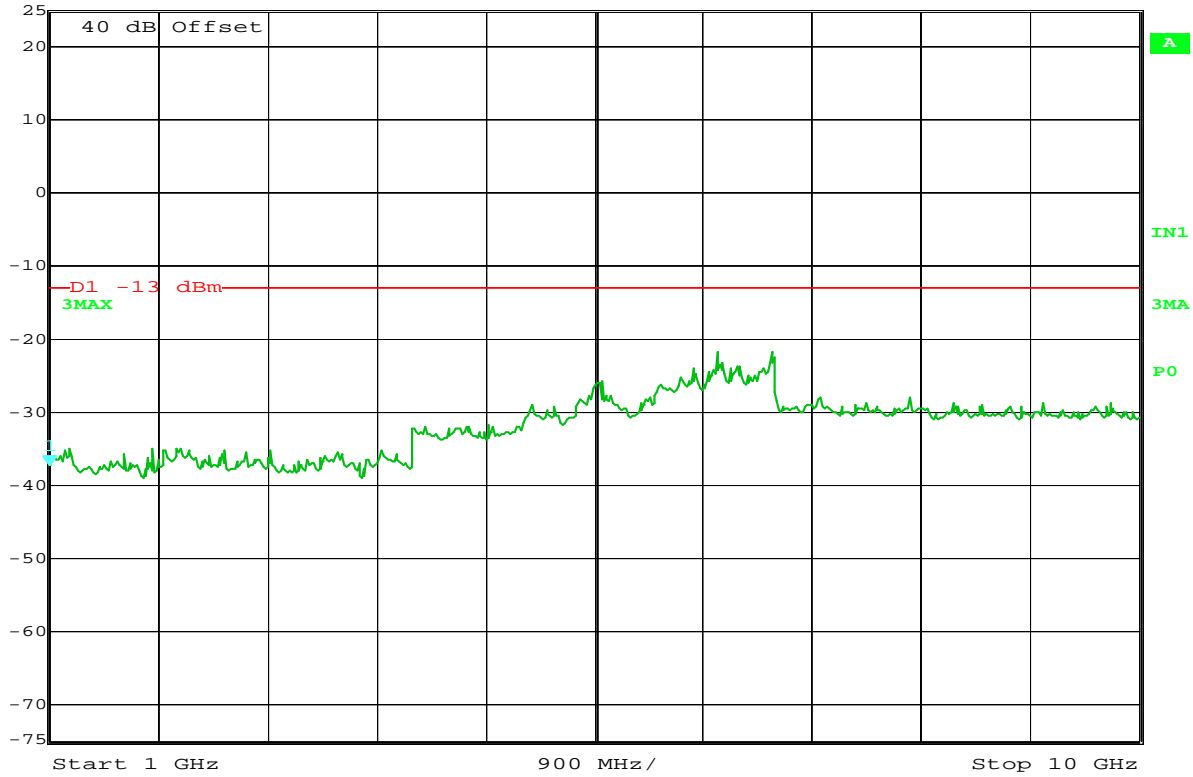
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CFR 47 Part 74 Antenna Conducted Emissions

MANUFACTURER : Shure Inc.
 MODEL NUMBER : UR1A
 SERIAL NUMBER : B
 TEST MODE : Tx 100mW @ 948 MHz
 NOTES :



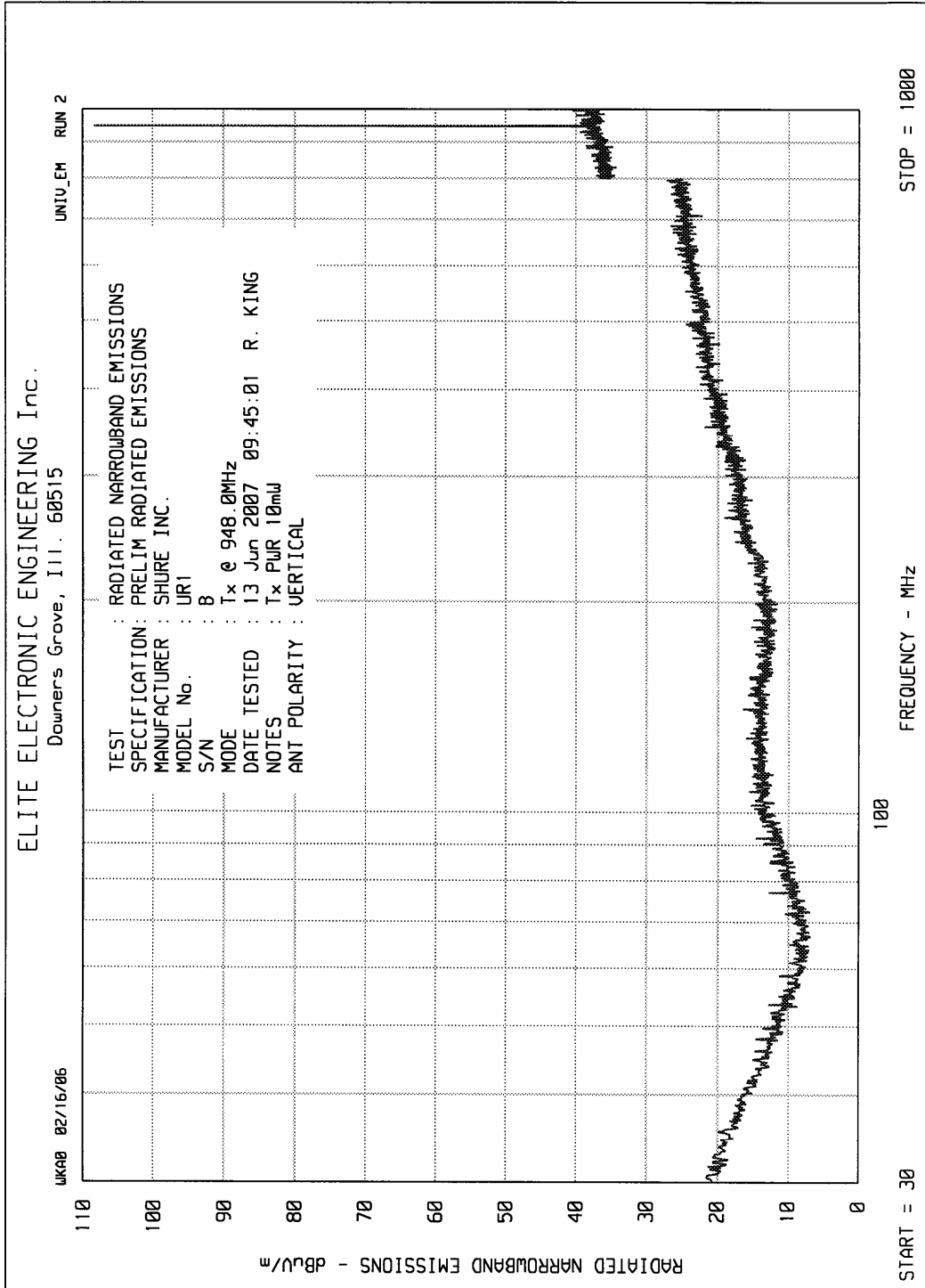
Marker 1 [T3] RBW 1 MHz RF Att 10 dB
 Ref Lvl -37.26 dBm VBW 10 MHz
 25 dBm 1.00000000 GHz SWT 90 ms Unit dBm

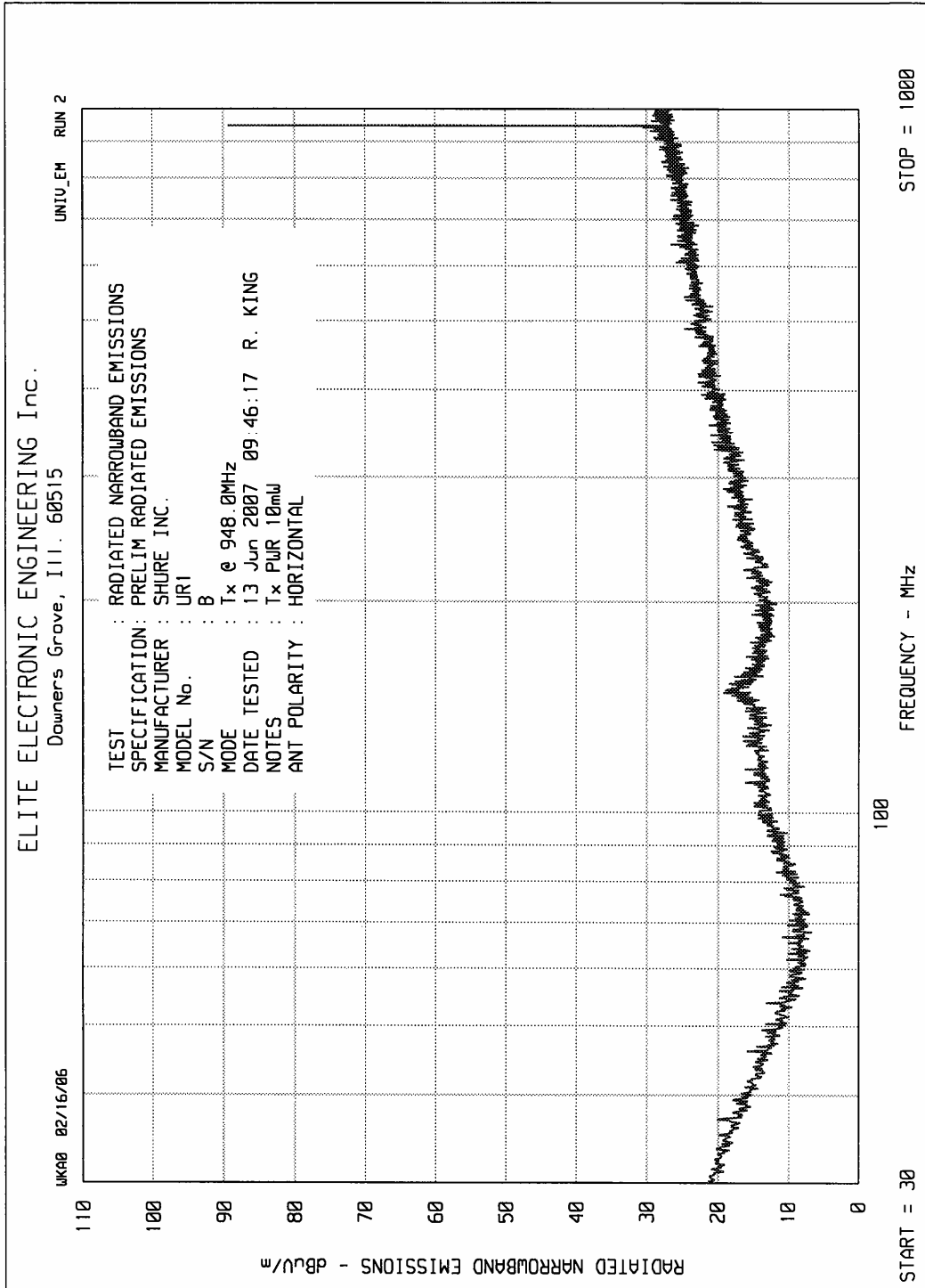


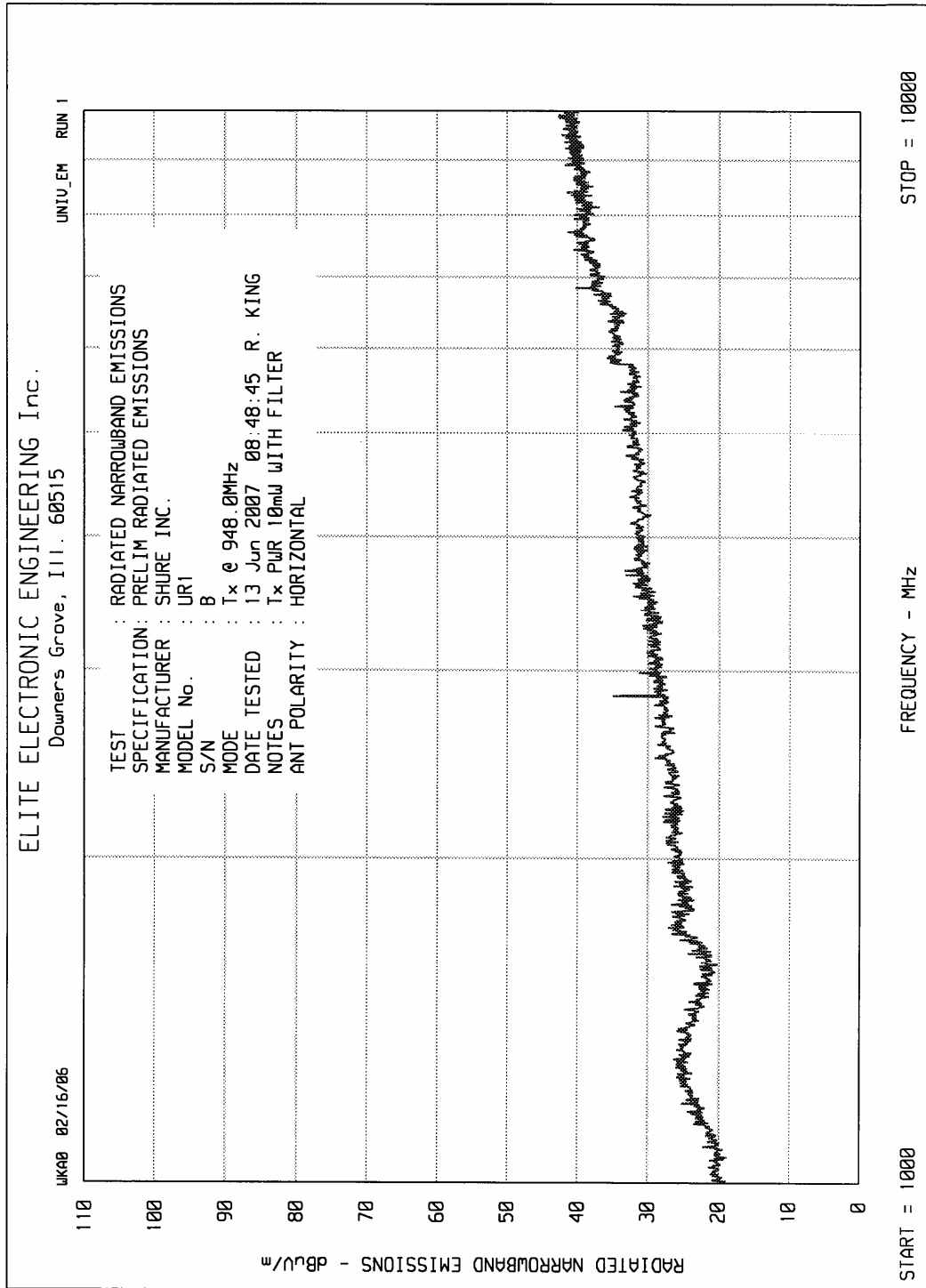
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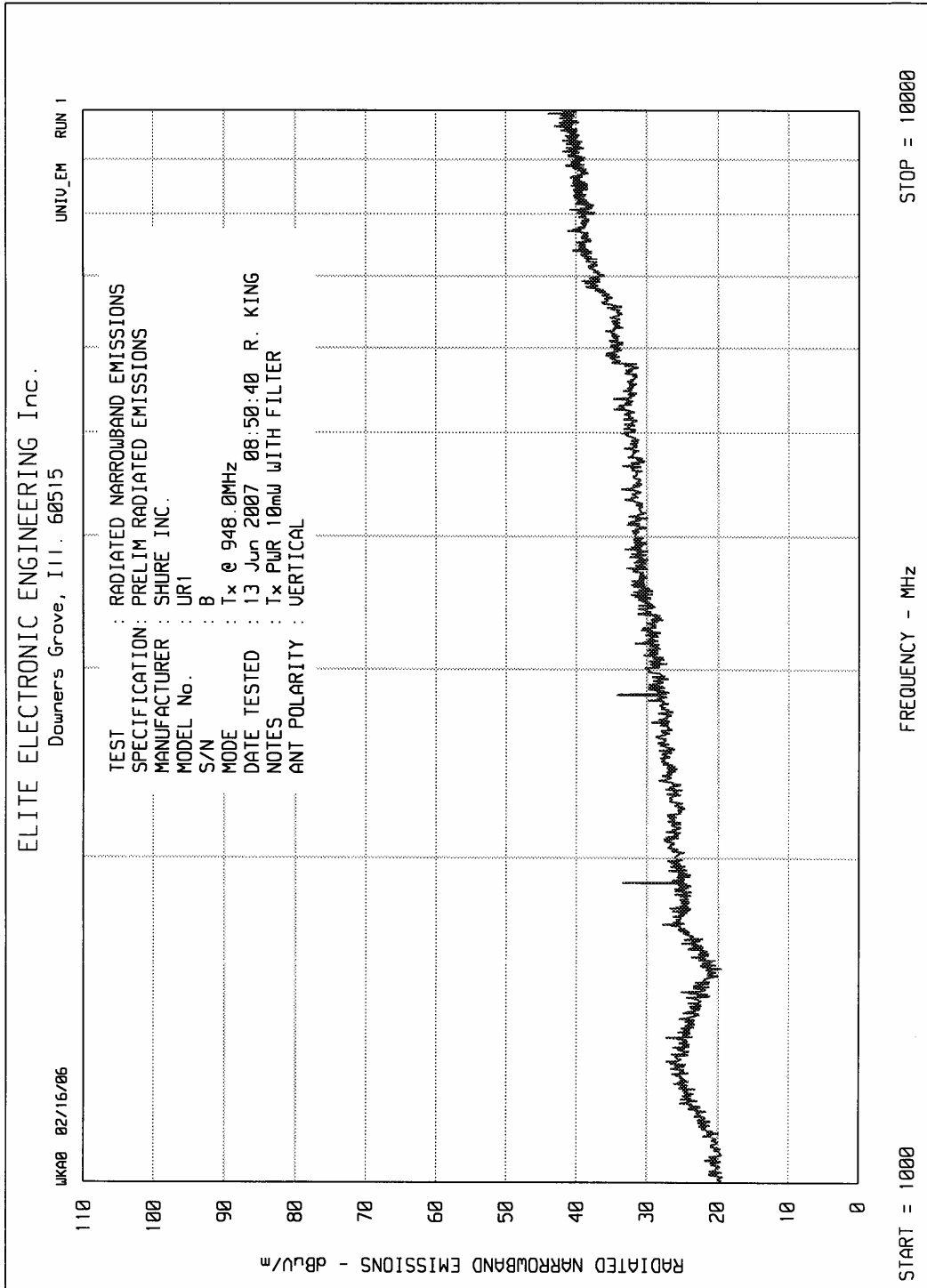
CFR 47 Part 74 Antenna Conducted Emissions

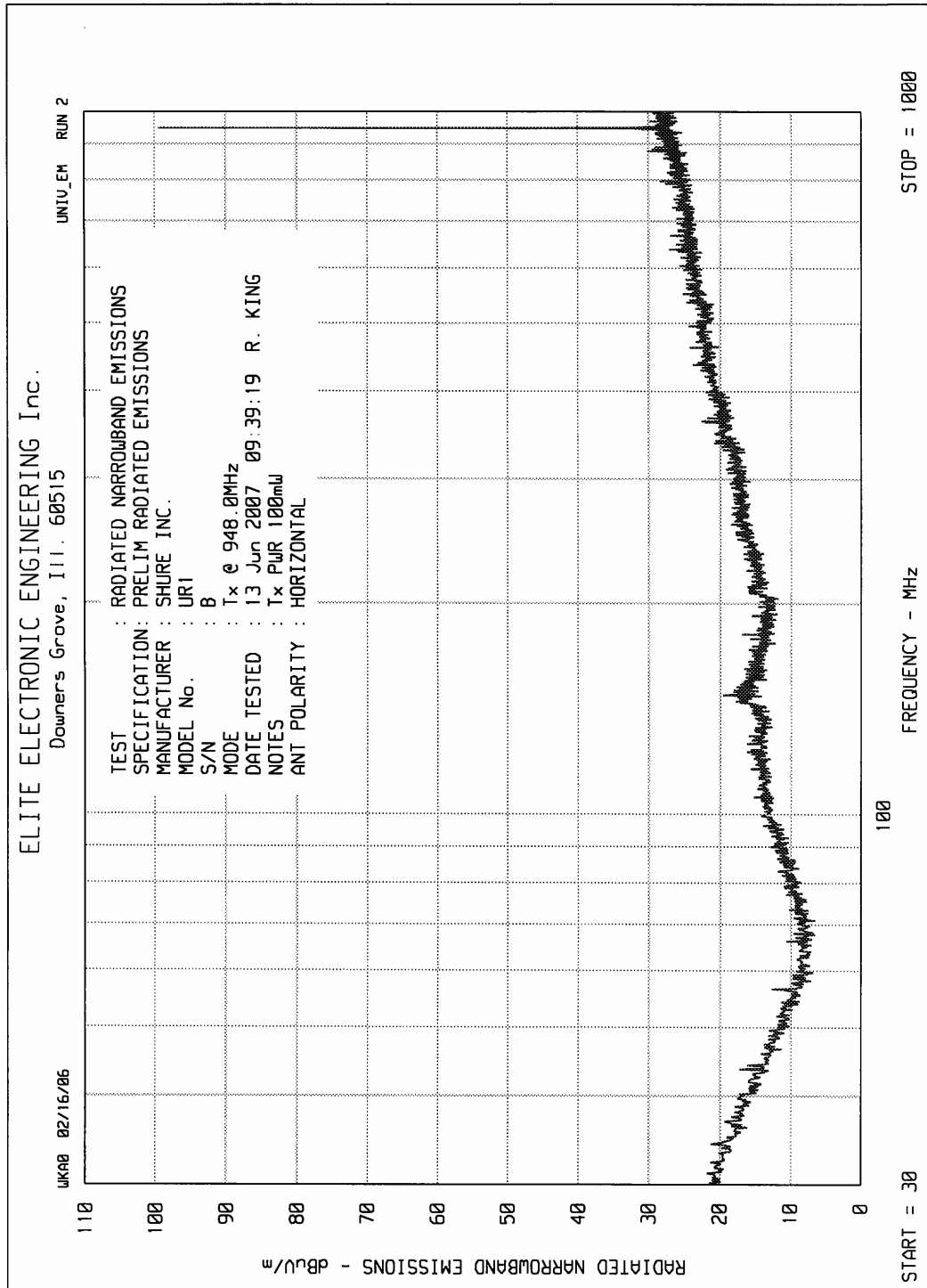
MANUFACTURER : Shure Inc.
 MODEL NUMBER : UR1A
 SERIAL NUMBER : B
 TEST MODE : Tx 100mW @ 948 MHz
 NOTES :

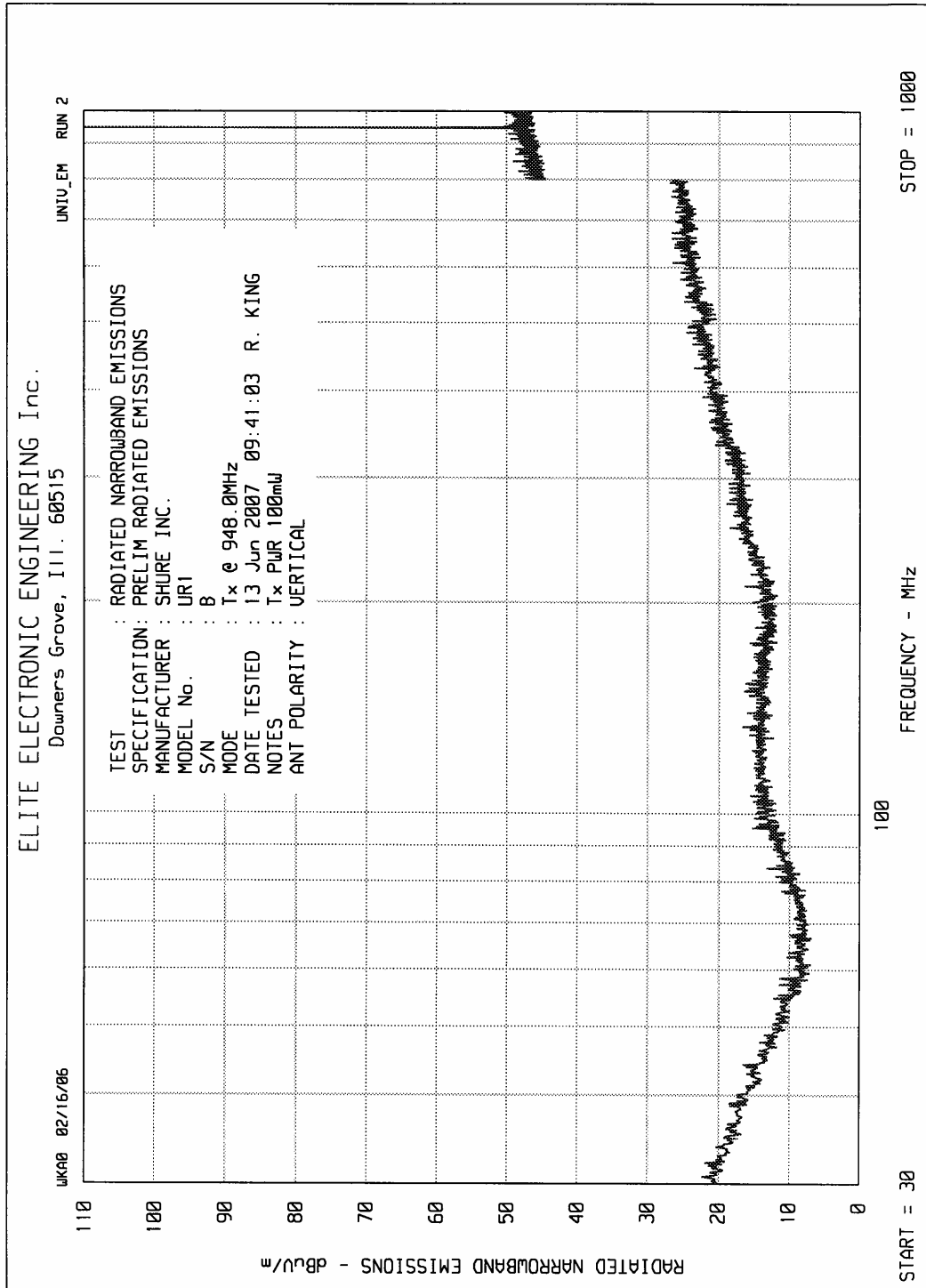


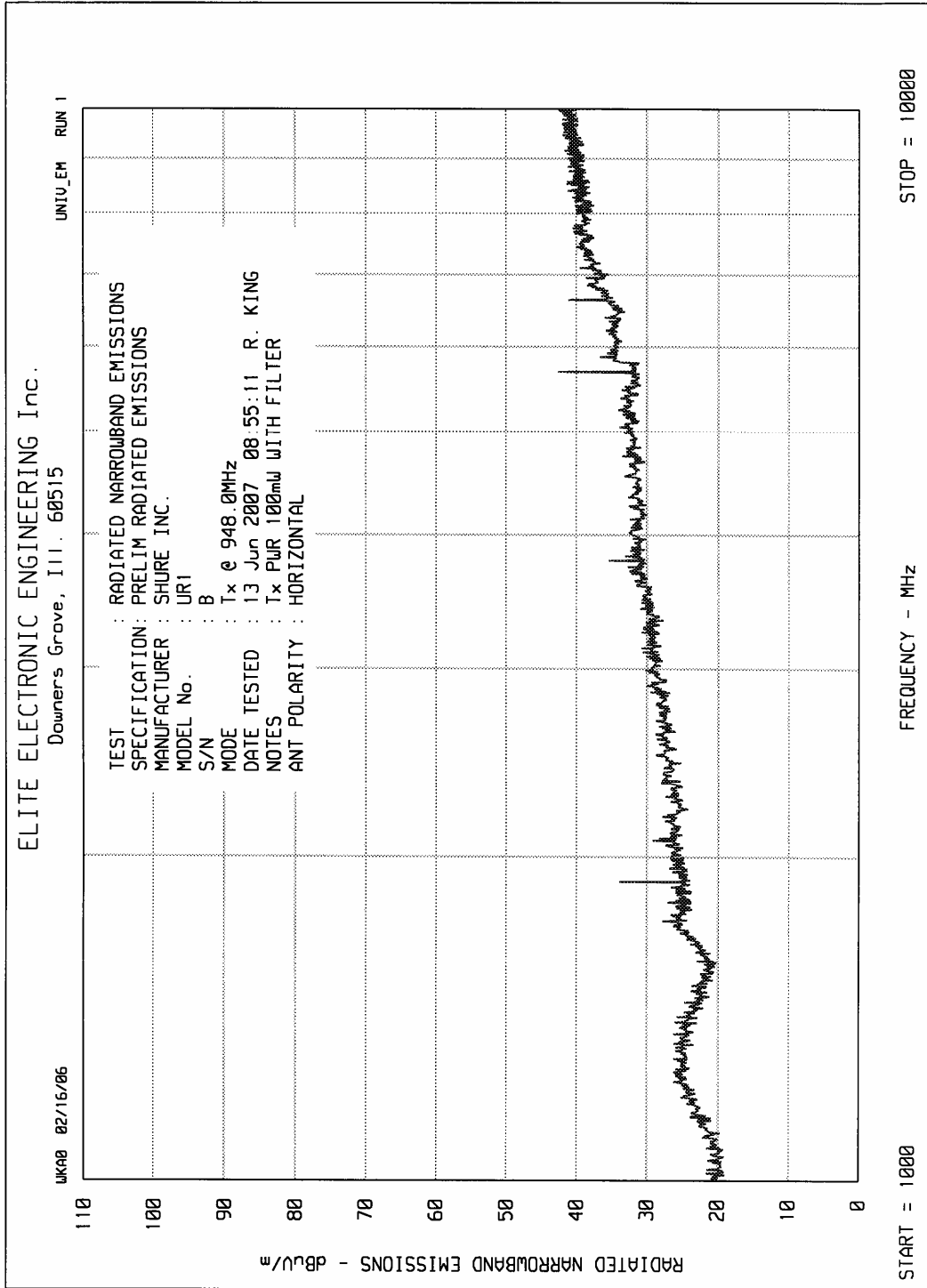


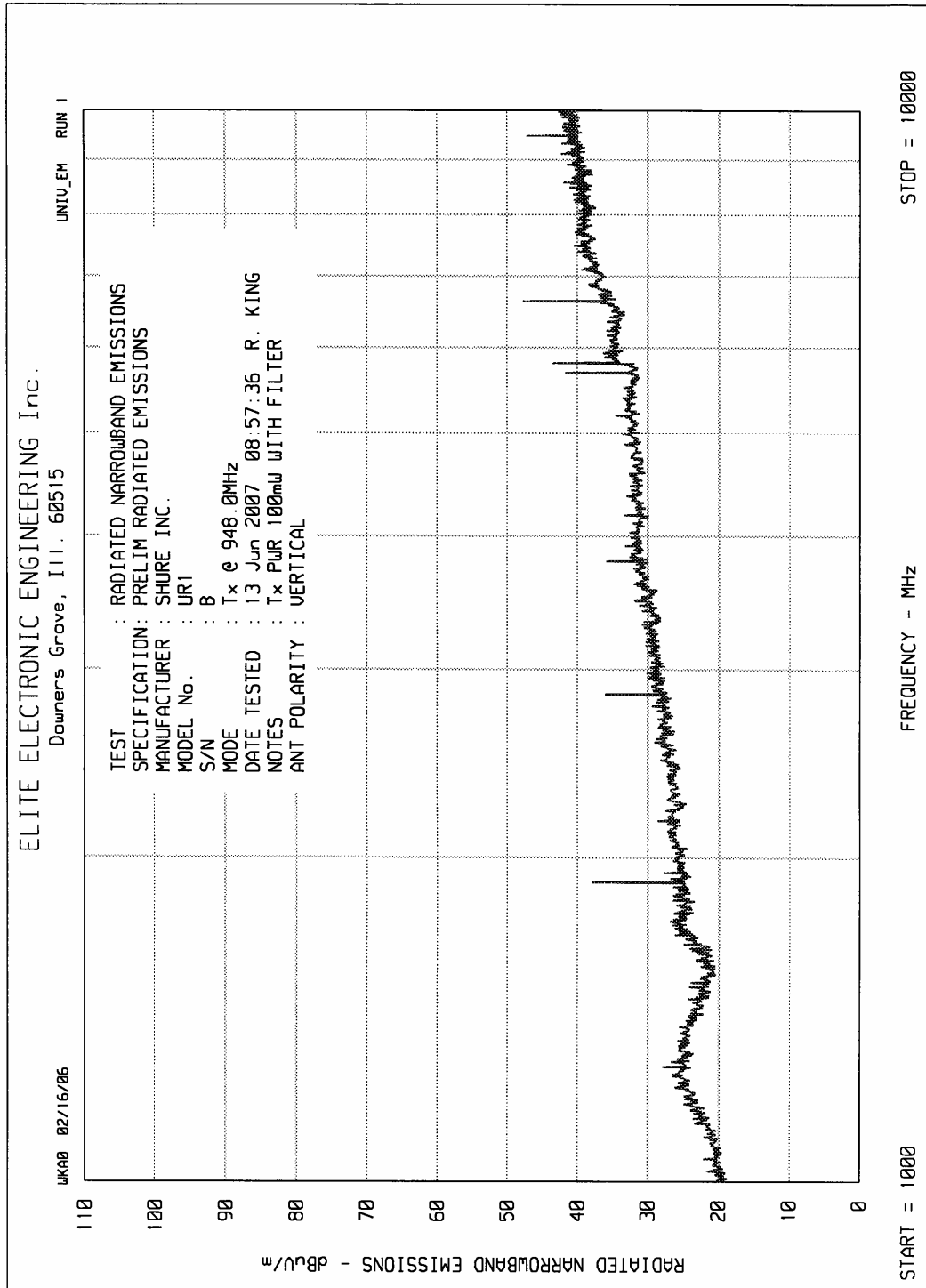














Data Page

MANUFACTURER : Shure Inc.
MODEL NO. : UR1A 10 mW
SERIAL NO. : None assigned
SPECIFICATION : FCC-74 Spurious Radiated Emissions
DATE : June 14, 2007
NOTES : Test Distance is 3 Meters

| Freq. (MHz) | Ant Pol | Meter | Matched | Antenna | Cable | ERP | Min. | | |
|----------------|------------|-----------------------|---------|------------------|--------------|----------------|----------------|----------------|----------------|
| | | Readin g (dBuV) | Amb. | Sig Gen (dBm) | Gain (dB) | Factor (dB) | Total (dBm) | Atten. (dB) | Atten. (dB) |
| 1896.0 | H | 46.6 | | -56.7 | 5.2 | 3.8 | -55.3 | 65.3 | 23.0 |
| 1896.0 | V | 50.1 | | -48.8 | 5.2 | 5.1 | -48.7 | 58.7 | 23.0 |
| 2844.0 | H | 47.5 | | -48.9 | 5.3 | 5.1 | -48.7 | 58.7 | 23.0 |
| 2844.0 | V | 47.3 | | -50.1 | 5.3 | 6.0 | -50.8 | 60.8 | 23.0 |
| 3792.0 | H | 39.1 | * | -52.4 | 6.9 | 6.0 | -51.5 | 61.5 | 23.0 |
| 3792.0 | V | 40.0 | * | -60.3 | 6.9 | 7.1 | -60.5 | 70.5 | 23.0 |
| 4740.0 | H | 38.1 | * | -60.6 | 8.1 | 7.1 | -59.6 | 69.6 | 23.0 |
| 4740.0 | V | 38.2 | * | -52.2 | 8.1 | 8.0 | -52.1 | 62.1 | 23.0 |
| 5688.0 | H | 36.8 | * | -57.6 | 7.5 | 8.0 | -58.1 | 68.1 | 23.0 |
| 5688.0 | V | 36.5 | * | -54.8 | 7.5 | 9.1 | -56.4 | 66.4 | 23.0 |
| 6636.0 | H | 41.8 | * | -51.6 | 8.0 | 9.1 | -52.7 | 62.7 | 23.0 |
| 6636.0 | V | 41.2 | * | -59.9 | 8.0 | 10.3 | -62.1 | 72.1 | 23.0 |
| 7584.0 | H | 40.4 | * | -54.2 | 7.6 | 10.3 | -56.9 | 66.9 | 23.0 |
| 7584.0 | V | 40.0 | * | -52.2 | 7.6 | 11.6 | -56.2 | 66.2 | 23.0 |
| 8532.0 | H | 40.3 | * | -55.2 | 8.8 | 11.6 | -58.1 | 68.1 | 23.0 |
| 8532.0 | V | 40.5 | * | -55.2 | 8.8 | 12.5 | -58.9 | 68.9 | 23.0 |
| 9480.0 | H | 42.1 | * | -60.8 | 9.2 | 12.5 | -64.1 | 74.1 | 23.0 |
| 9480.0 | V | 40.7 | * | -60.8 | 9.2 | 12.5 | -64.1 | 74.1 | 23.0 |



Checked BY : RICHARD E. KING

Richard E. King



Data Page

MANUFACTURER : Shure Inc.
MODEL NO. : UR1A 100mW
SERIAL NO. : None assigned
SPECIFICATION : FCC-74 Spurious Radiated Emissions
DATE : June 14, 2007
NOTES : Test Distance is 3 Meters

| Freq. (MHz) | Ant Pol | Meter | | Matched Sig Gen (dBm) | Antenna Gain (dB) | Cable Factor (dB) | ERP | | Min. Atten. (dB) |
|----------------|------------|-------------------|---------|-----------------------------|-------------------------|-------------------------|----------------|----------------|------------------------|
| | | Reading (dBuV) | Ambient | | | | Total (dBm) | Atten. (dB) | |
| 1896.0 | H | 44.8 | | -61.3 | 5.2 | 3.8 | -59.9 | 79.9 | 33.0 |
| 1896.0 | V | 50.2 | | -48.8 | 5.2 | 5.1 | -48.7 | 68.7 | 33.0 |
| 2844.0 | H | 46.2 | | -51.7 | 5.3 | 5.1 | -51.5 | 71.5 | 33.0 |
| 2844.0 | V | 44.1 | | -54.2 | 5.3 | 6.0 | -54.9 | 74.9 | 33.0 |
| 3792.0 | H | 40.5 | | -60.9 | 6.9 | 6.0 | -60.0 | 80.0 | 33.0 |
| 3792.0 | V | 39.9 | | -56.2 | 6.9 | 7.1 | -56.4 | 76.4 | 33.0 |
| 4740.0 | H | 42.0 | | -47.0 | 8.1 | 7.1 | -46.0 | 66.0 | 33.0 |
| 4740.0 | V | 42.5 | | -55.9 | 8.1 | 8.0 | -55.8 | 75.8 | 33.0 |
| 5688.0 | H | 42.4 | | -47.0 | 7.5 | 8.0 | -47.5 | 67.5 | 33.0 |
| 5688.0 | V | 41.5 | | -55.9 | 7.5 | 9.1 | -57.5 | 77.5 | 33.0 |
| 6636.0 | H | 48.6 | | -39.7 | 8.0 | 9.1 | -40.8 | 60.8 | 33.0 |
| 6636.0 | V | 50.0 | | -37.7 | 8.0 | 10.3 | -39.9 | 59.9 | 33.0 |
| 7584.0 | H | 40.1 | * | -54.2 | 7.6 | 10.3 | -56.9 | 76.9 | 33.0 |
| 7584.0 | V | 40.5 | * | -52.2 | 7.6 | 11.6 | -56.2 | 76.2 | 33.0 |
| 8532.0 | H | 41.8 | | -40.8 | 8.8 | 11.6 | -43.7 | 63.7 | 33.0 |
| 8532.0 | V | 43.0 | | -46.7 | 8.8 | 12.5 | -50.4 | 70.4 | 33.0 |
| 9480.0 | H | 44.1 | | -42.4 | 9.2 | 12.5 | -45.7 | 65.7 | 33.0 |
| 9480.0 | V | 43.7 | | -48.7 | 9.2 | 12.5 | -52.0 | 72.0 | 33.0 |

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