



Electromagnetic Compatibility Tests on a Plug-On Transmitter, Model No. UR3

For : Shure Incorporated
5800 West Touhy Avenue
Niles, IL 60714

P.O. No. : 4500201046 and 4500206044
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Specification : FCC "Code of Federal Regulations" Title 47 Part 74
Industry Canada RSS-123
Industry Canada RSS-Gen

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



REPORT REVISION HISTORY

Revision	Date	Description
--	2 November 2011	Initial release
A	21 November 2011	Updated Group name from X to P on band X1, DEC



Electromagnetic Compatibility Tests on Plug-On Transmitter, Model No. UR3

1. INTRODUCTION

1.1 Scope of Tests

This document presents the results of a series of electromagnetic compatibility (EMC) tests performed on a Plug-On Transmitter, Model No. UR3, (hereinafter referred to as the EUT). The EUT is designed to be compatible with any wired XLR microphone. The microphone is also used as the antenna for the transmitter of the EUT. The following table lists the frequency bands in which the EUT is designed to transmit and the antenna/microphone that was plugged onto the EUT during testing:

Group	Frequency (MHz)	Band	Output Power (mW)	Microphone /Antenna Used
A	470 – 530	G1	10, 50	VP89L
B	518 – 578	H4	10, 50	VP89M
C	578 – 638	J5	10, 50	VP89M
E	638 – 698	L3	10, 50	VP89L
P*	944 – 952	X1	10, 50	VP89L

* - Group X for FCC Part 74 testing only

The EUT was manufactured and submitted for testing by Shure Incorporated located in Niles, IL.

1.2 Purpose

The test series was performed to determine if the EUT would meet selected requirements of the Code of Federal Regulations, Title 47, Part 74 for low power auxiliary station bands and Industry Canada RSS-123 Licensed Low-Power Radio Apparatus.

1.3 Deviations, Additions, and Exclusions

There were no deviations, additions to, or exclusions from the test specification during this test series.

1.4 EMC Laboratory Identification

The electromagnetic compatibility tests were performed by Elite Electronic Engineering Incorporated of Downers Grove, Illinois.

1.5 Laboratory Conditions

The temperature at the time of the test was 22°C and the relative humidity was 29%.

2. 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 2010
- Federal Communications Commission "Code of Federal Regulations", Title 47, Part 2, dated 1 October 2010



- RSS-123, "Spectrum Management and Telecommunications Radio Standards Specification Licensed Low Power Radio Apparatus" Issue 2, February 2011
- RSS-Gen, "Spectrum Management and Telecommunications Radio Standards Specification General Requirements and Information for the Certification of Radiocommunication Equipment
- TIA-603-C-2004, "Land Mobile FM or PM Communications Equipment Measurement and Performance Standard"

3. EUT SETUP AND OPERATION

3.1 General Description

The EUT is a Plug-On Transmitter, Model No. UR3. A block diagram of the EUT setup is shown as Figure 1.

3.1.1 Power Input

The EUT was powered with 3VDC from 2 each internal "AA" batteries.

3.1.2 Peripheral Equipment

The EUT was submitted for testing with no peripheral equipment.

3.1.3 Signal Input/Output Leads

The EUT was submitted for testing with no signal input/output leads.

3.1.4 Grounding

The EUT was not grounded during testing.

3.1.5 Frequency of EUT

Per CFR Title 47, Section 2, part 1057, for spurious radiated emissions measurements, the frequency spectrum shall be investigated up to at least the tenth harmonic of the highest fundamental frequency.

3.2 Operational Mode

All emissions tests were performed separately in the following modes:

Group A, Band G1

Tx @ 470.125MHz, 10mW; Tx @ 470.125MHz, 50mW

Tx @ 500MHz, 10mW; Tx @ 500MHz, 50mW

Tx @ 529.875MHz, 10mW; Tx @ 529.875MHz, 50mW

Group B, Band H4

Tx @ 518MHz, 10mW; Tx @ 518MHz, 50mW

Tx @ 548MHz, 10mW; Tx @ 548MHz, 50mW

Tx @ 578MHz, 10mW; Tx @ 578MHz, 50mW

Group C, Band J5

Tx @ 578MHz, 10mW; Tx @ 578MHz, 50mW

Tx @ 607.875MHz, 10mW; Tx @ 607.875MHz, 50mW



Tx @ 638MHz, 10mW; Tx @ 638MHz, 50mW

Group E, Band L3

Tx @ 638MHz, 8.5mW; Tx @ 638MHz, 47.9mW

Tx @ 668MHz, 8.5mW; Tx @ 668MHz, 47.9mW

Tx @ 697.875MHz, 8.5mW; Tx @ 697.875MHz, 47.9mW

Group P, Band X1

Tx @ 948MHz, 10mW; Tx @ 694.125MHz, 50mW

3.3 EUT Modifications

No modifications were required for compliance.

4. TEST FACILITY AND TEST INSTRUMENTATION

4.1 Shielded Enclosure

All tests were performed in a 32ft. x 20ft. x 18ft. hybrid ferrite-tile/anechoic absorber lined test chamber. With the exception of the floor, the reflective surfaces of the shielded chamber are lined with ferrite tiles on the walls and ceiling. 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.

4.2 Test Instrumentation

The test instrumentation and auxiliary equipment used during the tests are listed in Table 10-1.

4.3 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).

4.4 Measurement Uncertainty

All measurements are an estimate of their true value. The measurement uncertainty characterizes, with a specified confidence level, the spread of values which may be possible for a given measurement system.

The measurement uncertainty for these tests is presented below:

Radiated Emission Measurements		
Combined Standard Uncertainty	2.26	-2.18
Expanded Uncertainty (95% confidence)	4.5	-4.4

5. TEST PROCEDURES

5.1 RF POWER OUTPUT MEASUREMENTS

5.1.1 Requirements

In accordance with paragraph 74.861(e)(1)(ii), for low power auxiliary stations operating in the bands allocated for TV broadcasting, the power of the measured unmodulated carrier power at the output of the transmitter power amplifier (antenna input power) may not exceed 250 milliwatts in the 470-608 and



614-806MHz bands. In accordance with paragraph 74.861(d)(1), for low power auxiliary stations operating in the bands other than those allocated for TV broadcasting, the maximum transmitter power which will be authorized is 1 watt.

For certification to paragraph 6.2 of the Industry Canada's RSS-123 requirement, the RF power output must not exceed 1 watt average power as listed in Table 1.

5.1.2 Procedures

The output from the antenna port of the EUT was connected to a spectrum analyzer through 40dB of attenuation. The output power of the EUT was then measured.

5.1.3 Results

The output power measurements are presented on pages 17 through 21. As can be seen from the data, the power output of each transmitter is within the requirements of Part 74.861 and RSS-123.

5.2 MODULATION CHARACTERISTICS

5.2.1 Requirements

In accordance with paragraph 74.861(e)(3) and paragraph 5.2 of RSS-123, for low power auxiliary stations operating in the bands allocated for TV broadcasting, any form of modulation may be used. A maximum deviation of $\pm 75\text{kHz}$ is permitted when frequency modulation is employed.

5.2.2 Procedures

The output of the antenna port of the EUT was connected to a modulation analyzer. An audio signal generator was connected to the audio input port of the EUT.

- a) The EUT was modulated with a 1000 Hz modulating signal at 60% of the EUTs rated frequency deviation.
- b) With input level held constant the audio signal generator was varied from 20 Hz to 20 kHz.
- c) The positive and negative peak deviations were recorded and plotted.

The output of the antenna port of the EUT was connected to a modulation analyzer. An audio signal generator was connected to the audio input port of the EUT.

- a) The modulation response was measured separately for each of nine frequencies (63Hz, 125Hz, 250Hz, 500Hz, 1000Hz, 2000Hz, 4000Hz, 8000Hz, and 16000Hz).
- b) The input voltage of the audio signal generator was varied and frequency deviation was observed on the modulation analyzer.
- c) The frequency deviations were recorded and plotted.

5.2.3 Results

The plots of the modulation characteristics are presented on pages 22 through 25.

5.3 FREQUENCY STABILITY

5.3.1 Requirements

In accordance with paragraph 74.861(e)(4) and paragraph 7 of RSS-123 Table 1, for low power

auxiliary stations operating in the bands allocated for TV broadcasting, the frequency tolerance of the transmitter shall be 0.005 percent.

5.3.2 Procedures

The microphone port of each of the EUTs was connected to a VP89X microphone. The EUTs were then placed in a temperature chamber. A stub antenna was also placed in the temperature chamber in close proximity to the EUTs. The stub antenna was connected to an EMI receiver. EUT was operated in the Transmit at 470.125MHz, 50mW output power mode.

- a) The nominal frequency of the transmitter was measured and recorded.
- b) The temperature chamber was then set to -30°C.
- c) Once the temperature had reached -30°C the EUT was allowed to soak for 30 minutes.
- d) After soaking at -30°C for thirty minutes the EUT was turned on and the transmit frequency was measured and recorded.
- e) Steps (b) through (d) were repeated for each temperature in 10°C steps from -20°C to +50°C.
- f) Steps (a) through (e) were repeated with the EUT transmitting in the remaining modes listed in section 3.2 (50mW power only).

5.3.3 Results

The frequency stability measurements are presented on pages 26 through 30. As can be seen from the data the test frequency deviation was within the 0.005 percent limit. A photograph of the test setup is shown in Figure 2.

5.4 OCCUPIED BANDWIDTH MEASUREMENTS

5.4.1 Requirements

In accordance with paragraph 74.861(e)(5) and (6), for low power auxiliary stations operating in the bands allocated for TV broadcasting, the following technical requirements apply:

- a) The operating bandwidth shall not exceed 200 kHz.
- b) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with the following schedule:
 - i. 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;
 - ii. 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;
 - iii. 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.

For certification to the RSS-123 paragraph 6.3.1, the power of unwanted emissions shall be attenuated below the mean transmitter power in accordance with the following schedule:

- a) On any frequency removed from the carrier frequency by more than 50% up to and including 100% of the authorized bandwidth: at least 25 dB.
- b) On any frequency removed from the carrier frequency by more than 100% up to and including 250% of the authorized bandwidth: at least 35 dB.

- c) On any frequency removed from the carrier frequency by more than 250% of the authorized bandwidth: at least $55 + 10 \log (P)$ dB.

5.4.2 Procedures

- a) The EUT was connected to a spectrum analyzer through 40 dB of attenuation. The unmodulated carrier signal level was measured and recorded.
- b) The EUT 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.
- c) Steps (a) through (b) were repeated separately for each of the remaining transmitters. The bandwidth of the spectrum analyzer was set to 2kHz (1% of Authorized BW).

5.4.3 Results

The plots of the occupied bandwidth measured are presented on pages 31 through 56. The limits, shown on the plots, are referenced to the power measured from the un-modulated carrier, the power when modulated with a 2500 Hz sine wave at an input 16dB greater than that necessary to produce 50% of the rated deviation.

The operating bandwidth was determined using Carson's rule:

$B_n = 2M + 2DK$ where B_n = bandwidth, M = Maximum modulating frequency and D = Peak Deviation. With $K = 1$, $M = 20\text{kHz}$ and $D = 55\text{kHz}$ resulting in an operating bandwidth of 150kHz.

The maximum Industry Canada 99% bandwidth measurement was 123kHz.

As can be seen from the data, the EUTs met all occupied bandwidth requirements. . A photograph of the test setup is shown in Figure 2.

5.5 FIELD STRENGTH OF SPURIOUS EMISSIONS

5.5.1 Requirements

In accordance with paragraph 74.861 of CFR 47, the power of any emission on any frequency removed from the operating frequency by more than 250 percent of the authorized bandwidth shall be attenuated by at least $43 + 10 \log (P)$ dB.

In accordance with RSS-123 paragraph 6.3.1, the power of any emission on any frequency removed from the carrier frequency by more than 250% of the authorized bandwidth shall be attenuated by at least $55 + 10 \log (P)$ dB.

5.5.2 Procedures

All 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 powerlines and signal lines entering the enclosure pass through filters on the enclosure wall. The powerline filters prevent extraneous signals from entering the enclosure on these leads.

1. Preliminary radiated measurements were performed to determine the frequencies where the significant emissions might be found. With the EUT at one set position and the measurement

antenna at a set height (i.e. without maximizing), the radiated emissions were measured using a peak detector and automatically plotted. The broadband measuring antenna was positioned at a 3 meter distance from the EUT. This data was then automatically plotted. All preliminary tests were performed separately with the EUT operating in the modes listed in Para. 3.2.

2. All significant broadband and narrowband signals found in the preliminary sweeps were then measured using a peak detector at a test distance of 3 meters. The measurements were made with a bilog antenna over the frequency range of 30MHz to 1GHz, and a double ridged waveguide antenna was used for frequencies above 1GHz.
3. To ensure that maximum emission levels were measured, the following steps were taken:
 - a. The EUT was rotated so that all of its sides were exposed to the receiving antenna.
 - b. Since the measuring antennas are linearly polarized, both horizontal and vertical field components were measured.
 - c. The measuring antenna was raised and lowered from 1 to 4 meters for each antenna polarization to maximize the readings.

The equivalent power was determined from the field intensity levels measured at 3 meters using the substitution method. To determine the emission power, another antenna was set in place of the EUT and connected to a calibrated signal generator. (A tuned dipole was used for all measurements below 1GHz and a double ridged waveguide antenna was used for all measurements above 1GHz.) 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 for frequencies above 1GHz, increased by the gain of the waveguide.

5.5.3 Results

The preliminary plots peak levels are presented on pages 57 through 160. 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 using the substitution method.

The final radiated levels are presented on pages 161 through 197. The radiated emissions were measured through the 10th harmonic. All emissions measured from the EUT were within the specification limits. . Photographs of the test setup are shown in Figure 3 and Figure 4.

6. OTHER TEST CONDITIONS

6.1 Test Personnel and Witnesses

All EMC tests were performed by qualified personnel from Elite Electronic Engineering Incorporated. The test series was partially witnessed by Shure Incorporated personnel.

6.2 Disposition of the EUT

The EUT and all associated equipment were returned to Shure Incorporated upon completion of the tests.

7. CONCLUSION

It was found that the Shure Incorporated, model UR3 Plug-On Transmitter, did comply with the RF power output, the occupied bandwidth, the frequency stability, the spurious emissions at antenna terminal, and the field strength of spurious emissions requirements of FCC Part 74 for low power auxiliary station bands and Industry Canada RSS-123 Low Power Licensed Radio communication Devices.



8. 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 EUT at the test date. Any electrical or mechanical modification made to the EUT subsequent to the specified test date will serve to invalidate the data and void this certification.

9. ENDORSEMENT DISCLAIMER

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



10. EQUIPMENT LIST

Table 10-1

Eq ID	Equipment Description	Manufacturer	Model No.	Serial No.	Frequency Range	Cal Date	Due Date
CMA1	Controllers	EMCO	2090	9701-1213	---	N/A	
ETH1	TEMPERATURE HUMIDITY CHAMBER	THERMOTRON	SE-600-10-10	36099	460-3-60	2/7/2011	2/7/2012
GWH5	DDS FUNCTION GENERATOR	WAVETEK	29	083773	.0001HZ-10MHZ	5/23/2011	5/23/2012
GXA1	MXG MW ANALOG SIGNAL GENERATOR	AGILENT TECHNOLOGIES	N5183A	MY47420353	250KHz-40GHz	3/11/2011	3/11/2012
NDQ1	TUNED DIPOLE ANTENNA	EMCO	3121C-DB4	313	400-1000MHZ	4/20/2011	4/20/2012
NTA2	BILOG ANTENNA	TESEQ	6112D	28040	25-1000MHz	6/29/2011	6/29/2012
NWF0	RIDGED WAVE GUIDE	EMCO	3105	2035	1-12.4GHZ	1/29/2011	1/29/2012
NWH0	RIDGED WAVE GUIDE	SENSOR	4105	2081	1-12.4GHZ	8/31/2010	10/31/2011
RBA0	EMI TEST RECEIVER	ROHDE & SCHWARZ	ESIB26	100145	20HZ-26.5GHZ	3/9/2011	3/9/2012
RBB0	EMI TEST RECEIVER 20HZ TO 40 GHZ.	ROHDE & SCHWARZ	ESIB40	100250	20 HZ TO 40GHZ	3/24/2011	3/24/2012
RBE1	EMI TEST RECEIVER	ROHDE & SCHWARZ	ESU26	100096	20Hz-26GHz	3/23/2011	3/23/2012
RYE0	MODULATION ANALYZER	HEWLETT PACKARD	8901B	3104A03410	0.15-1300MHZ	8/31/2011	8/31/2012
T2D7	20DB, 25W ATTENUATOR	WEINSCHTEL	46-20-43	AY9246	DC-18GHZ	8/4/2011	8/4/2012
T2D8	20DB, 25W ATTENUATOR	WEINSCHTEL	46-20-43	AY9247	DC-18GHZ	1/3/2011	1/3/2012
T2DL	20DB, 25W ATTENUATOR	WEINSCHTEL	46-20-34	BS0910	DC-18GHZ	8/4/2011	8/4/2012
T2DM	20DB, 25W ATTENUATOR	WEINSCHTEL	46-20-34	BS2141	DC-18GHZ	8/4/2011	8/4/2012

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.

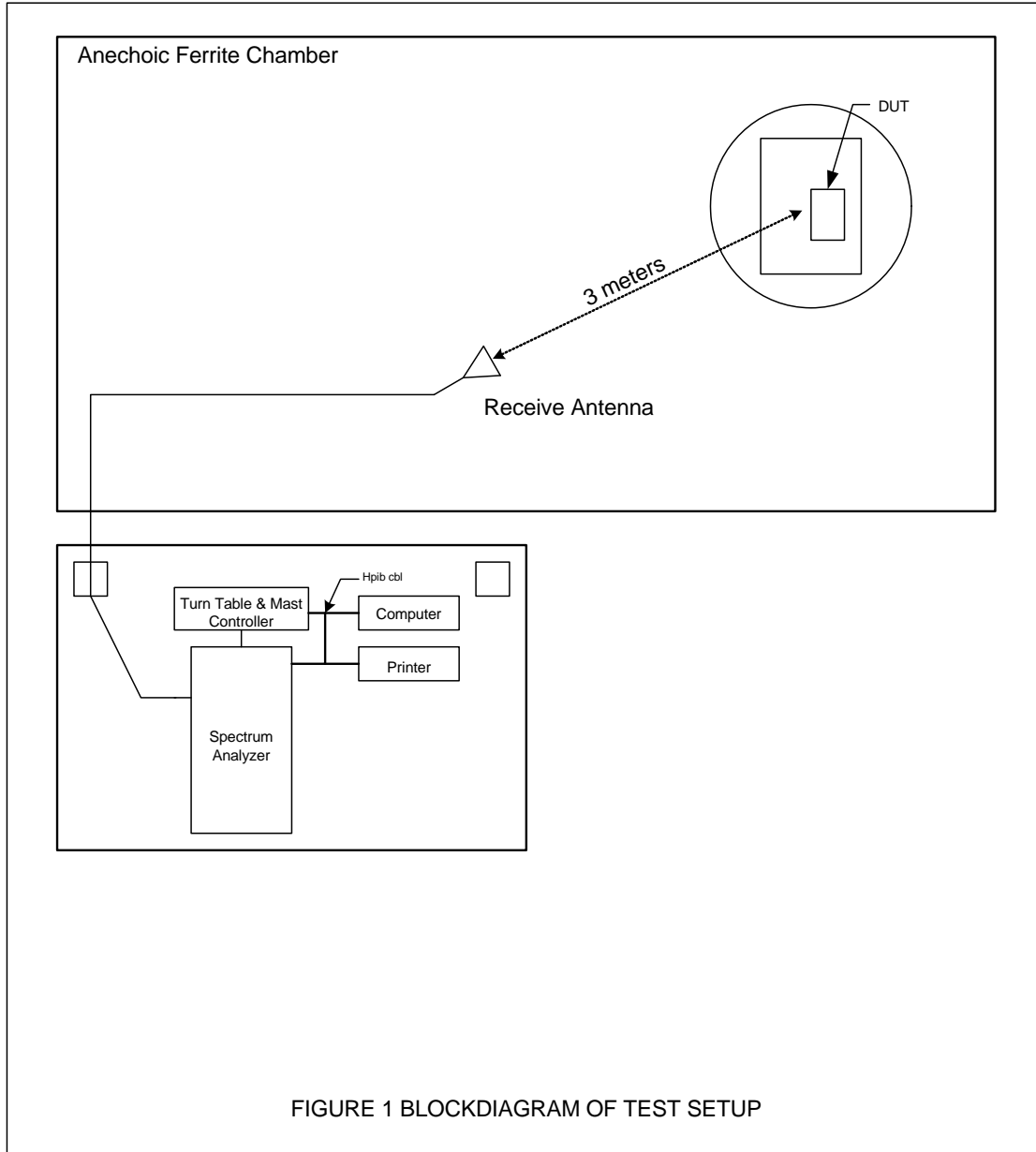


FIGURE 1 BLOCKDIAGRAM OF TEST SETUP

Figure 2

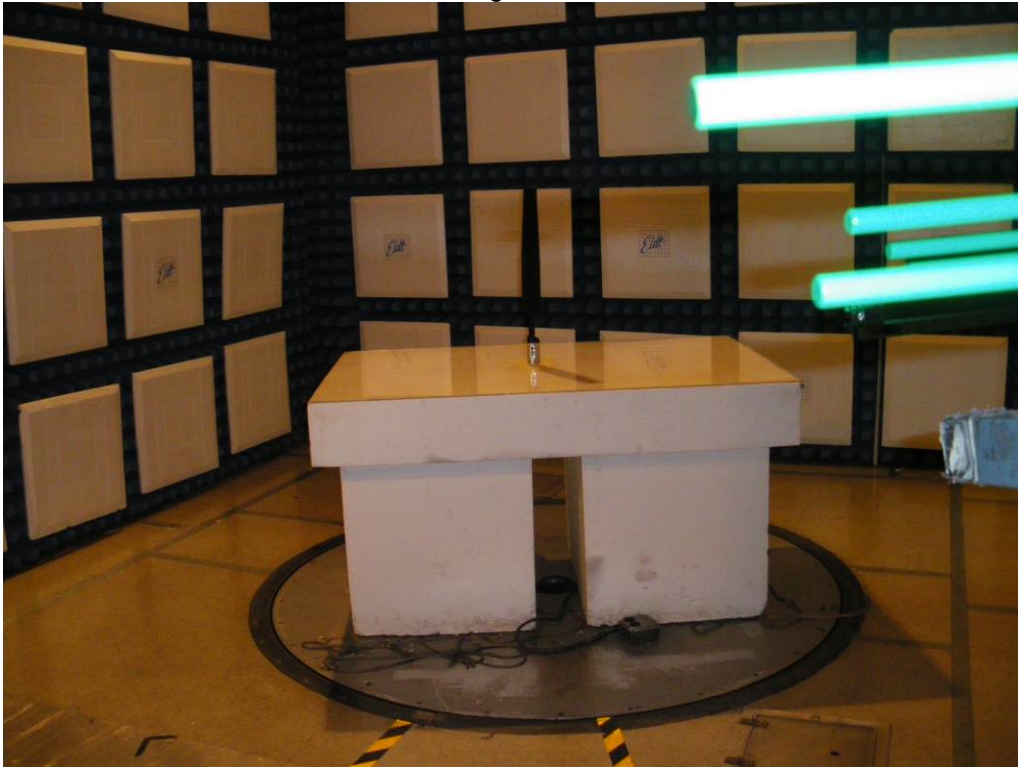


Test Setup for Frequency Stability Test

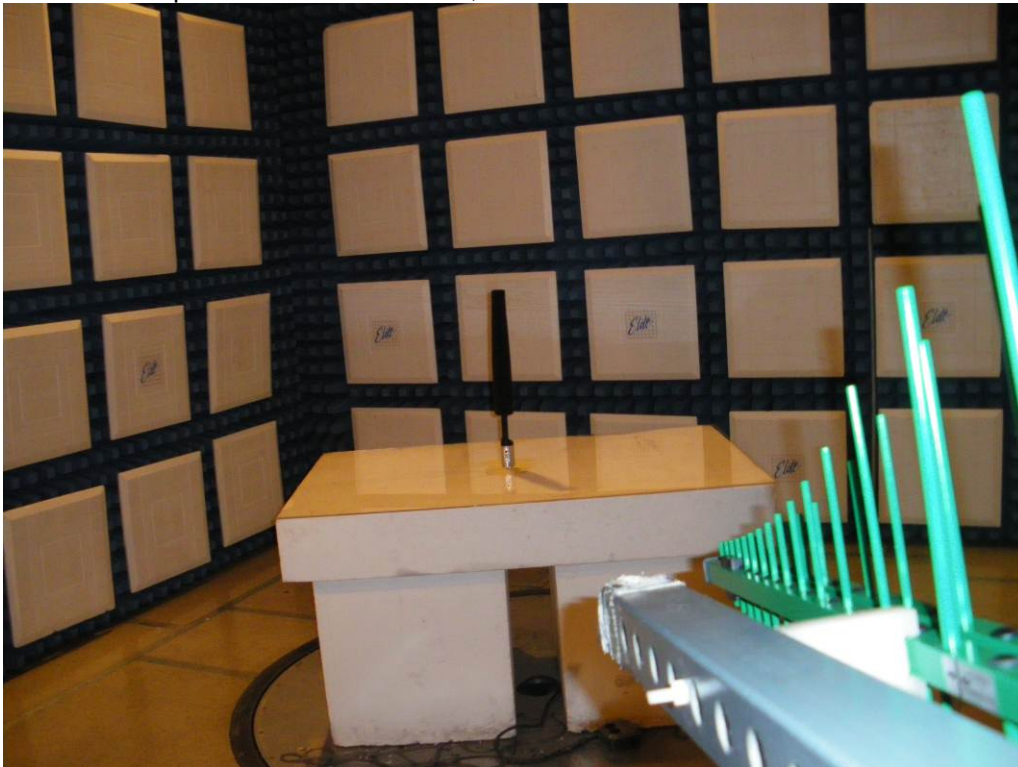


Test Setup for Occupied Bandwidth Test

Figure 3



Test Setup for Radiated Emissions, 30MHz to 1GHz – Horizontal Polarization



Test Setup for Radiated Emissions, 30MHz to 1GHz – Vertical Polarization

Figure 4



Test Setup for Radiated Emissions, Above 1GHz – Horizontal Polarization



Test Setup for Radiated Emissions, Above 1GHz – Vertical Polarization



MANUFACTURER : Shure Incorporated
MODEL : UR3 Plug-On Transmitter
SERIAL NO. : None Assigned
SPECIFICATION : FCC-74 and RSS-123 RF Power Output – Antenna Conducted
DATE : September 28, 2011
MODE : See Below
UNIT : Group A
BAND : G1
EQUIPMENT USED : RBE1, T2D7, T2D8

Frequency MHz	Nominal Power mW	Measured Power mW	FCC-74 Limit mW	RSS-123 Limit mW
470.125	10	11.3	250	1000
470.125	50	43.4	250	1000
500.000	10	10.9	250	1000
500.000	50	46.0	250	1000
529.875	10	8.3	250	1000
529.875	50	31.6	250	1000

Checked By: *MARK E. LONGINOTTI*
Mark E. Longinotti



MANUFACTURER : Shure Incorporated
MODEL : UR3 Plug-On Transmitter
SERIAL NO. : None Assigned
SPECIFICATION : FCC-74 and RSS-123 RF Power Output – Antenna Conducted
DATE : September 28, 2011
MODE : See Below
UNIT : Group B
BAND : H4
EQUIPMENT USED : RBE1, T2D7, T2D8

Frequency MHz	Nominal Power mW	Measured Power mW	FCC-74 Limit mW	RSS-123 Limit mW
518.000	10	6.8	250	1000
518.000	50	38.9	250	1000
548.000	10	14.5	250	1000
548.000	50	66.1	250	1000
578.000	10	13.8	250	1000
578.000	50	57.5	250	1000

Checked By: *MARK E. LONGINOTTI*
Mark E. Longinotti



MANUFACTURER : Shure Incorporated
MODEL : UR3 Plug-On Transmitter
SERIAL NO. : None Assigned
SPECIFICATION : FCC-74 and RSS-123 RF Power Output – Antenna Conducted
DATE : September 28, 2011
MODE : See Below
UNIT : Group C
BAND : J5
EQUIPMENT USED : RBE1, T2D7, T2D8

Frequency MHz	Nominal Power mW	Measured Power mW	FCC-74 Limit mW	RSS-123 Limit mW
578.000	10	9.7	250	1000
578.000	50	52.4	250	1000
607.875	10	9.0	250	1000
607.875	50	47.4	250	1000
638.000	10	8.0	250	1000
638.000	50	37.9	250	1000

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MANUFACTURER : Shure Incorporated
MODEL : UR3 Plug-On Transmitter
SERIAL NO. : None Assigned
SPECIFICATION : FCC-74 and RSS-123 RF Power Output – Antenna Conducted
DATE : September 28, 2011
MODE : See Below
UNIT : Group E
BAND : L3
EQUIPMENT USED : RBE1, T2D7, T2D8

Frequency MHz	Nominal Power mW	Measured Power mW	FCC-74 Limit mW	RSS-123 Limit mW
638.000	10	8.2	250	1000
638.000	50	48.5	250	1000
668.000	10	8.1	250	1000
668.000	50	49.7	250	1000
697.875	10	7.3	250	1000
697.875	50	43.5	250	1000

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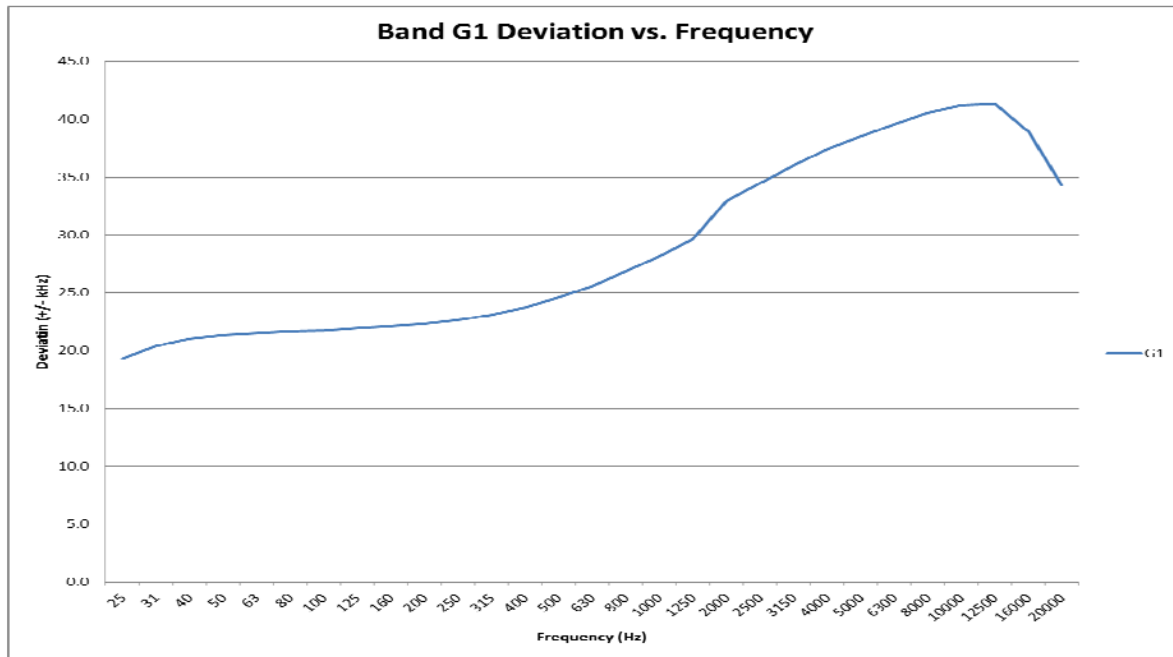
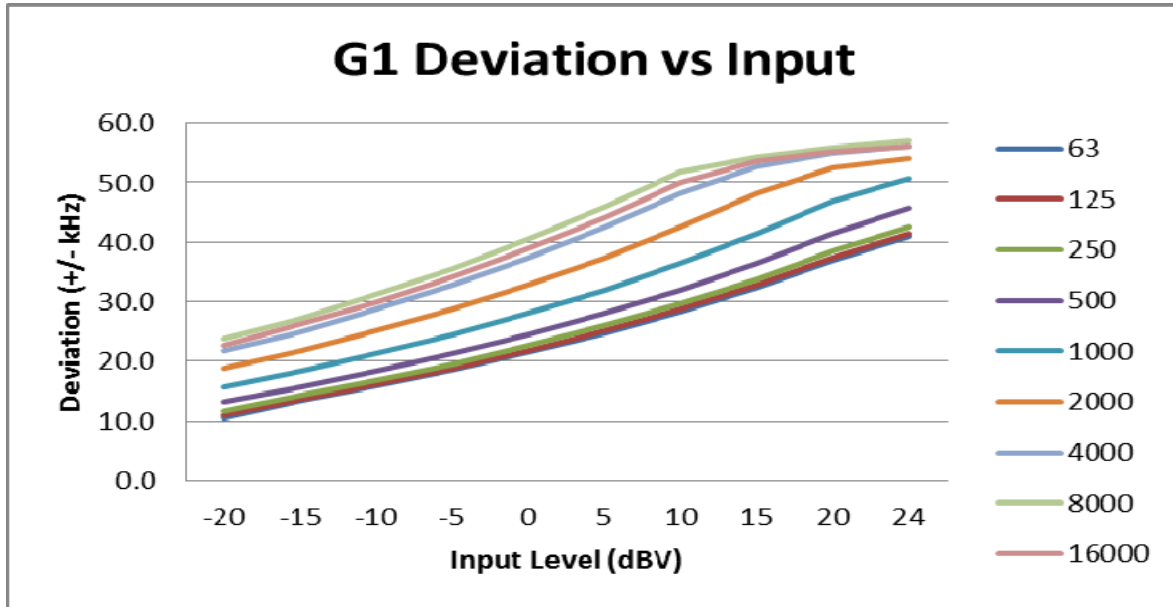
MANUFACTURER : Shure Incorporated
MODEL : UR3 Plug-On Transmitter
SERIAL NO. : None Assigned
SPECIFICATION : FCC-74 and RSS-123 RF Power Output – Antenna Conducted
DATE : September 28, 2011
MODE : See Below
UNIT : Group P
BAND : X1
EQUIPMENT USED : RBE1, T2D7, T2D8

Frequency MHz	Nominal Power mW	Measured Power mW	FCC-74 Limit mW
948	10	6.9	1000
948	50	38.0	1000

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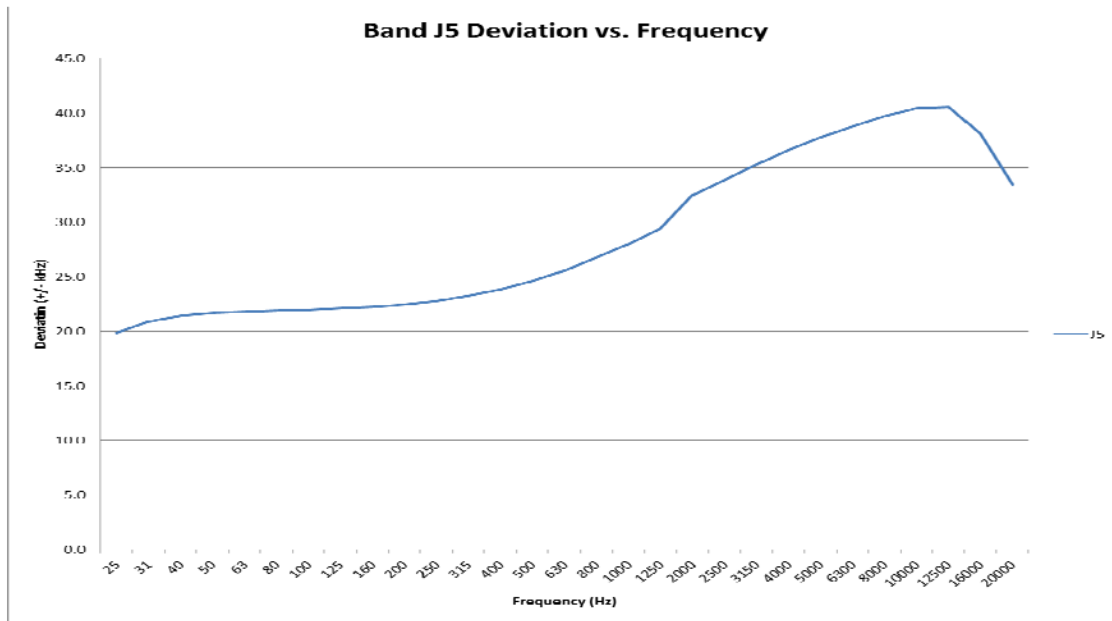
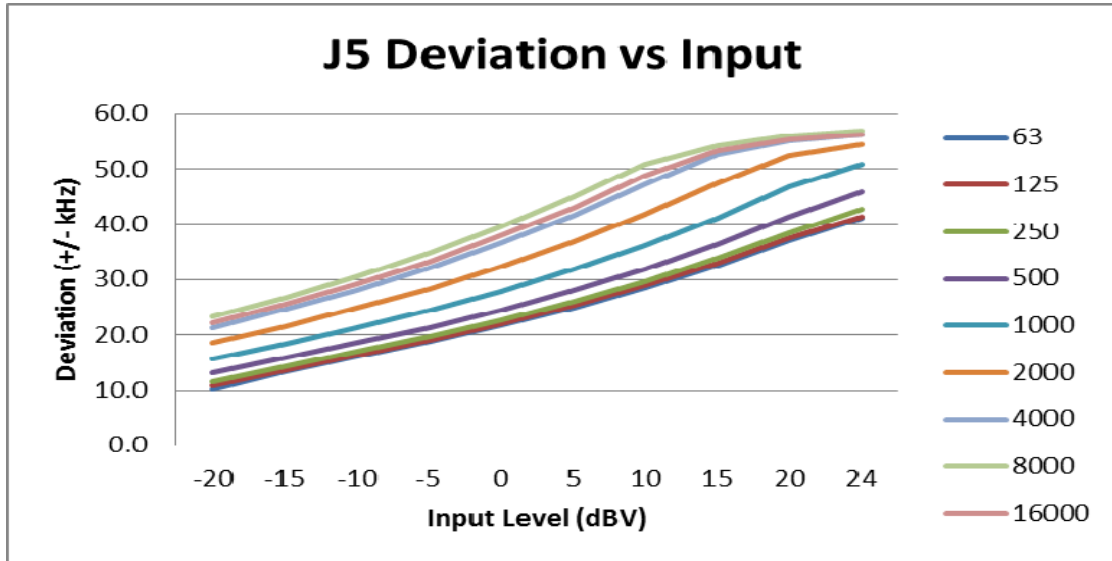


MANUFACTURER : Shure Incorporated
MODEL : UR3 Plug-On Transmitter
SERIAL NO. : None Assigned
SPECIFICATION : FCC-74 and RSS-123 Modulation Characteristics
DATE : July 7, 2011
MODE : Transmit at 500MHz, 50mW
UNIT : Group A
BAND : Band G1
EQUIPMENT USED : RYE0, GWH5, T2DL, T2DM



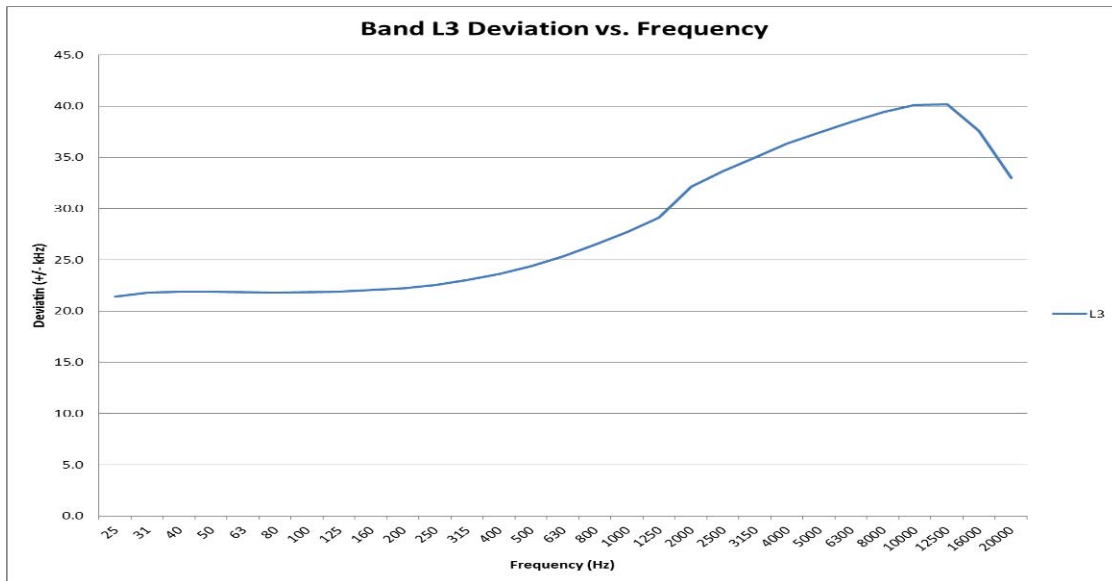
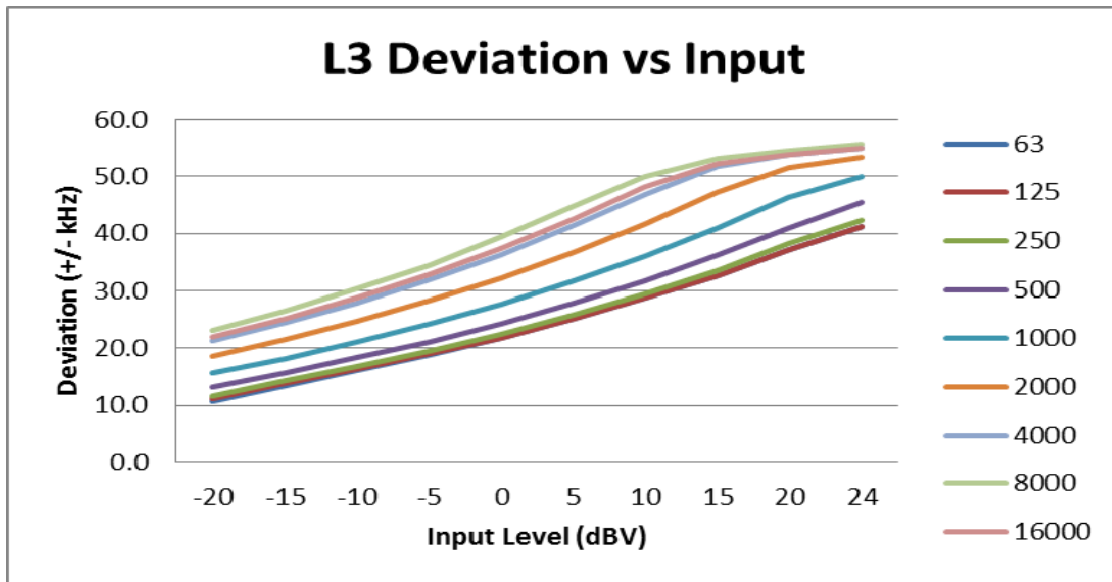


MANUFACTURER : Shure Incorporated
MODEL : UR3 Plug-On Transmitter
SERIAL NO. : None Assigned
SPECIFICATION : FCC-74 and RSS-123 Modulation Characteristics
DATE : July 7, 2011
MODE : Transmit at 606MHz, 50mW
UNIT : Group C
BAND : Band J5
EQUIPMENT USED : RYE0, GWH5, T2DL, T2DM



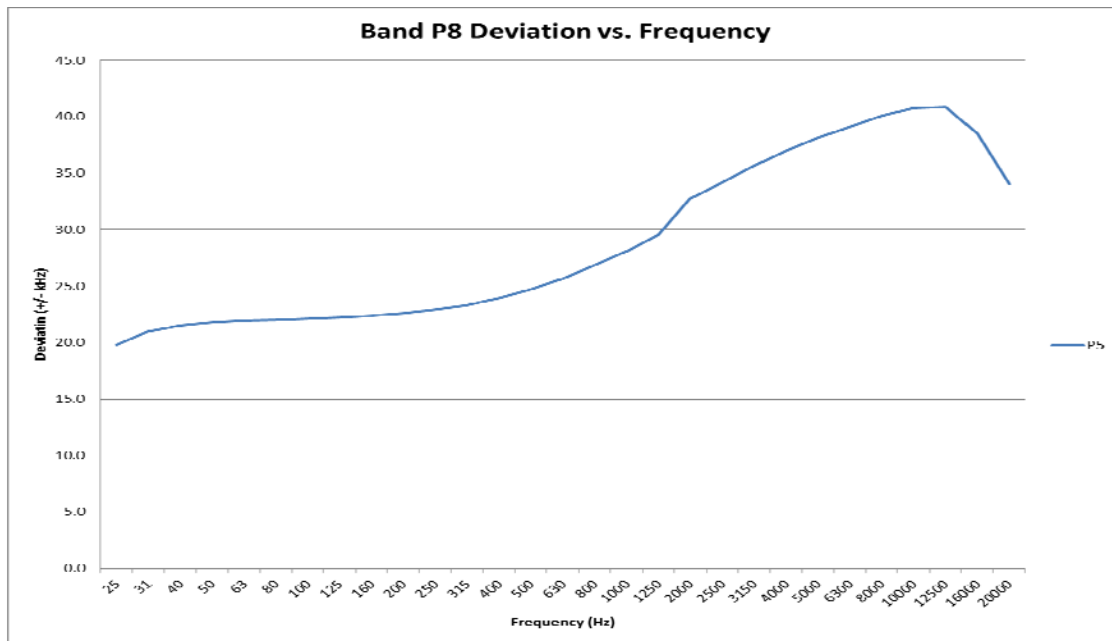
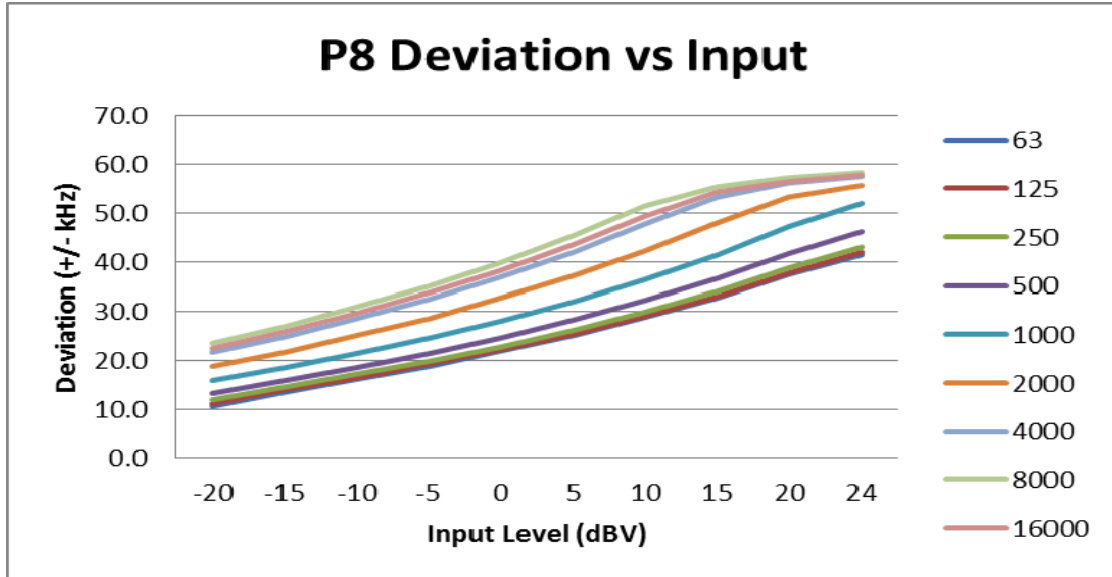


MANUFACTURER : Shure Incorporated
MODEL : UR3 Plug-On Transmitter
SERIAL NO. : None Assigned
SPECIFICATION : FCC-74 and RSS-123 Modulation Characteristics
DATE : July 7, 2011
MODE : Transmit at 668MHz, 50mW
UNIT : E
BAND : L3
EQUIPMENT USED : RYE0, GWH5, T2DL, T2DM





MANUFACTURER : Shure Incorporated
MODEL : UR3 Plug-On Transmitter
SERIAL NO. : None Assigned
SPECIFICATION : FCC-74 and RSS-123 Modulation Characteristics
DATE : July 7, 2011
MODE : Transmit at 668MHz, 50mW
UNIT : P
BAND : X1
EQUIPMENT USED : RYE0, GWH5, T2DL, T2DM





MANUFACTURER : Shure Incorporated
 MODEL : UR3
 SPECIFICATION : FCC-74 and RSS-123 RF Frequency Stability over temp range
 DATE : June 20, 2011
 MODE : Transmit, 50mW
 UNIT : Group A
 BAND : G1
 EQUIPMENT USED : ETH1, RBA0

Temp °C	Nominal Frequency	Measured Frequency	Deviation (%)	Frequency Stability (%)	Deviation (Hz)	Frequency Stability (Hz)	Pass Or Fail
-30	470.125000	470.124636	-0.000774	0.005	-364.000000	23506.25	PASS
-20	470.125000	470.124652	-0.000740	0.005	-348.000000	23506.25	PASS
-10	470.125000	470.124626	-0.000796	0.005	-374.000000	23506.25	PASS
0	470.125000	470.124573	-0.000908	0.005	-427.000000	23506.25	PASS
10	470.125000	470.124532	-0.000995	0.005	-468.000000	23506.25	PASS
20	470.125000	470.124511	-0.001040	0.005	-489.000000	23506.25	PASS
30	470.125000	470.124508	-0.001047	0.005	-492.000000	23506.25	PASS
40	470.125000	470.124615	-0.000819	0.005	-385.000000	23506.25	PASS
50	470.125000	470.124511	-0.001040	0.005	-489.000000	23506.25	PASS

Temp °C	Nominal Frequency	Measured Frequency	Deviation (%)	Frequency Stability (%)	Deviation (Hz)	Frequency Stability (Hz)	Pass Or Fail
-30	500.000000	499.999417	-0.001166	0.005	-583.000000	25000	PASS
-20	500.000000	499.999377	-0.001246	0.005	-623.000000	25000	PASS
-10	500.000000	499.99942	-0.001160	0.005	-580.000000	25000	PASS
0	500.000000	499.99956	-0.000880	0.005	-440.000000	25000	PASS
10	500.000000	499.999681	-0.000638	0.005	-319.000000	25000	PASS
20	500.000000	499.999755	-0.000490	0.005	-245.000000	25000	PASS
30	500.000000	499.999661	-0.000678	0.005	-339.000000	25000	PASS
40	500.000000	499.999591	-0.000818	0.005	-409.000000	25000	PASS
50	500.000000	499.999511	-0.000978	0.005	-489.000000	25000	PASS

Temp °C	Nominal Frequency	Measured Frequency	Deviation (%)	Frequency Stability (%)	Deviation (Hz)	Frequency Stability (Hz)	Pass Or Fail
-30	529.875000	529.874393	-0.001146	0.005	-607.000000	26493.75	PASS
-20	529.875000	529.874359	-0.001210	0.005	-641.000000	26493.75	PASS
-10	529.875000	529.874371	-0.001187	0.005	-629.000000	26493.75	PASS
0	529.875000	529.874565	-0.000821	0.005	-435.000000	26493.75	PASS
10	529.875000	529.87469	-0.000585	0.005	-310.000000	26493.75	PASS
20	529.875000	529.874731	-0.000508	0.005	-269.000000	26493.75	PASS
30	529.875000	529.874642	-0.000676	0.005	-358.000000	26493.75	PASS
40	529.875000	529.874586	-0.000781	0.005	-414.000000	26493.75	PASS
50	529.875000	529.874483	-0.000976	0.005	-517.000000	26493.75	PASS

Checked By: 
 Craig M. Dinsmore



MANUFACTURER : Shure Incorporated
 MODEL : UR3
 SPECIFICATION : FCC-74 and RSS-123 RF Frequency Stability over temp range
 DATE : June 20, 2011
 MODE : Transmit, High Power only
 UNIT : Group B
 EQUIPMENT USED : ETH1, RBA0

Temp °C	Nominal Frequency	Measured Frequency	Deviation (%)	Frequency Stability (%)	Deviation (Hz)	Frequency Stability (Hz)	Pass Or Fail
-30	518.000000	517.999486	-0.0000992	0.005	-514.0000	25900	PASS
-20	518.000000	517.999473	-0.0001017	0.005	-527.0000	25900	PASS
-10	518.000000	517.999637	-0.0000701	0.005	-363.0000	25900	PASS
0	518.000000	517.999597	-0.0000778	0.005	-403.0000	25900	PASS
10	518.000000	517.999642	-0.0000691	0.005	-358.0000	25900	PASS
20	518.000000	517.999678	-0.0000622	0.005	-322.0000	25900	PASS
30	518.000000	517.999596	-0.0000780	0.005	-404.0000	25900	PASS
40	518.000000	517.999515	-0.0000936	0.005	-485.0000	25900	PASS
50	518.000000	517.999512	-0.0000942	0.005	-488.0000	25900	PASS

Temp °C	Nominal Frequency	Measured Frequency	Deviation (%)	Frequency Stability (%)	Deviation (Hz)	Frequency Stability (Hz)	Pass Or Fail
-30	538.000000	537.999209	-0.0001470	0.005	-791.000000	26900	PASS
-20	538.000000	537.99931	-0.0001283	0.005	-690.000000	26900	PASS
-10	538.000000	537.999272	-0.0001353	0.005	-728.000000	26900	PASS
0	538.000000	537.9992	-0.0001487	0.005	-800.000000	26900	PASS
10	538.000000	537.99946	-0.0001004	0.005	-540.000000	26900	PASS
20	538.000000	537.999505	-0.0000920	0.005	-495.000000	26900	PASS
30	538.000000	537.999694	-0.0000569	0.005	-306.000000	26900	PASS
40	538.000000	537.999628	-0.0000691	0.005	-372.000000	26900	PASS
50	538.000000	537.999524	-0.0000885	0.005	-476.000000	26900	PASS

Temp °C	Nominal Frequency	Measured Frequency	Deviation (%)	Frequency Stability (%)	Deviation (Hz)	Frequency Stability (Hz)	Pass Or Fail
-30	578.000000	577.999167	-0.0001441	0.005	-833.000000	28900	PASS
-20	578.000000	577.999319	-0.0001178	0.005	-681.000000	28900	PASS
-10	578.000000	577.999177	-0.0001424	0.005	-823.000000	28900	PASS
0	578.000000	577.999182	-0.0001415	0.005	-818.000000	28900	PASS
10	578.000000	577.999442	-0.0000965	0.005	-558.000000	28900	PASS
20	578.000000	577.999451	-0.0000950	0.005	-549.000000	28900	PASS
30	578.000000	577.999642	-0.0000619	0.005	-358.000000	28900	PASS
40	578.000000	577.999638	-0.0000626	0.005	-362.000000	28900	PASS
50	578.000000	577.999487	-0.0000888	0.005	-513.000000	28900	PASS

Checked By: 



MANUFACTURER : Shure Incorporated
 MODEL : UR3
 SPECIFICATION : FCC-74 and RSS-123 RF Frequency Stability over temp range
 DATE : June 20, 2011
 MODE : Transmit, 50mW
 UNIT : Group C
 BAND : J5
 EQUIPMENT USED : ETH1, RBA0

Temp °C	Nominal Frequency	Measured Frequency	Deviation (%)	Frequency Stability (%)	Deviation (Hz)	Frequency Stability (Hz)	Pass Or Fail
-30	578.000000	577.999625	-0.000649	0.005	-375.000000	28900	PASS
-20	578.000000	577.999625	-0.000649	0.005	-375.000000	28900	PASS
-10	578.000000	577.999596	-0.000699	0.005	-404.000000	28900	PASS
0	578.000000	577.999607	-0.000680	0.005	-393.000000	28900	PASS
10	578.000000	577.999743	-0.000445	0.005	-257.000000	28900	PASS
20	578.000000	577.999795	-0.000355	0.005	-205.000000	28900	PASS
30	578.000000	577.999681	-0.000552	0.005	-319.000000	28900	PASS
40	578.000000	577.999851	-0.000258	0.005	-149.000000	28900	PASS
50	578.000000	577.999678	-0.000557	0.005	-322.000000	28900	PASS

Temp °C	Nominal Frequency	Measured Frequency	Deviation (%)	Frequency Stability (%)	Deviation (Hz)	Frequency Stability (Hz)	Pass Or Fail
-30	607.000000	606.999552	-0.000738	0.005	-448.0000	30350	PASS
-20	607.000000	606.999552	-0.000738	0.005	-448.0000	30350	PASS
-10	607.000000	606.999559	-0.000727	0.005	-441.0000	30350	PASS
0	607.000000	606.999733	-0.000440	0.005	-267.0000	30350	PASS
10	607.000000	606.999703	-0.000489	0.005	-297.0000	30350	PASS
20	607.000000	606.999777	-0.000367	0.005	-223.0000	30350	PASS
30	607.000000	606.999851	-0.000245	0.005	-149.0000	30350	PASS
40	607.000000	606.999677	-0.000532	0.005	-323.0000	30350	PASS
50	607.000000	606.999752	-0.000409	0.005	-248.0000	30350	PASS

Temp °C	Nominal Frequency	Measured Frequency	Deviation (%)	Frequency Stability (%)	Deviation (Hz)	Frequency Stability (Hz)	Pass Or Fail
-30	638.000000	637.999467	-0.000835	0.005	-533.0000	31900	PASS
-20	638.000000	637.999463	-0.000842	0.005	-537.0000	31900	PASS
-10	638.000000	637.999545	-0.000713	0.005	-455.0000	31900	PASS
0	638.000000	637.999711	-0.000453	0.005	-289.0000	31900	PASS
10	638.000000	637.999756	-0.000382	0.005	-244.0000	31900	PASS
20	638.000000	637.999768	-0.000364	0.005	-232.0000	31900	PASS
30	638.000000	637.999841	-0.000249	0.005	-159.0000	31900	PASS
40	638.000000	637.999671	-0.000516	0.005	-329.0000	31900	PASS
50	638.000000	637.99962	-0.000596	0.005	-380.0000	31900	PASS

Checked By: 
 Craig M. Dinsmore



MANUFACTURER : Shure Incorporated
 MODEL : UR3
 SPECIFICATION : FCC-74 and RSS-123 RF Frequency Stability over temp range
 DATE : June 20, 2011
 MODE : Transmit, 50mW
 UNIT : Group E
 BAND : L3
 EQUIPMENT USED : ETH1, RBA0

Temp °C	Nominal Frequency	Measured Frequency	Deviation (%)	Frequency Stability (%)	Deviation (Hz)	Frequency Stability (Hz)	Pass Or Fail
-30	638.000000	637.999523	-0.000748	0.005	-477.000000	31900	PASS
-20	638.000000	637.999306	-0.001088	0.005	-694.000000	31900	PASS
-10	638.000000	637.999283	-0.001124	0.005	-717.000000	31900	PASS
0	638.000000	637.999548	-0.000708	0.005	-452.000000	31900	PASS
10	638.000000	637.999544	-0.000715	0.005	-456.000000	31900	PASS
20	638.000000	637.99969	-0.000486	0.005	-310.000000	31900	PASS
30	638.000000	637.999642	-0.000561	0.005	-358.000000	31900	PASS
40	638.000000	637.999552	-0.000702	0.005	-448.000000	31900	PASS
50	638.000000	637.99946	-0.000846	0.005	-540.000000	31900	PASS

Temp °C	Nominal Frequency	Measured Frequency	Deviation (%)	Frequency Stability (%)	Deviation (Hz)	Frequency Stability (Hz)	Pass Or Fail
-30	668.000000	667.999208	-0.001186	0.005	-792.000000	33400	PASS
-20	668.000000	667.999222	-0.001165	0.005	-778.000000	33400	PASS
-10	668.000000	667.999272	-0.001090	0.005	-728.000000	33400	PASS
0	668.000000	667.999452	-0.000820	0.005	-548.000000	33400	PASS
10	668.000000	667.999578	-0.000632	0.005	-422.000000	33400	PASS
20	668.000000	667.999672	-0.000491	0.005	-328.000000	33400	PASS
30	668.000000	667.999618	-0.000572	0.005	-382.000000	33400	PASS
40	668.000000	667.999532	-0.000701	0.005	-468.000000	33400	PASS
50	668.000000	667.999438	-0.000841	0.005	-562.000000	33400	PASS

Temp °C	Nominal Frequency	Measured Frequency	Deviation (%)	Frequency Stability (%)	Deviation (Hz)	Frequency Stability (Hz)	Pass Or Fail
-30	697.875000	697.874222	-0.001115	0.005	-778.000000	34893.75	PASS
-20	697.875000	697.874177	-0.001179	0.005	-823.000000	34893.75	PASS
-10	697.875000	697.87427	-0.001046	0.005	-730.000000	34893.75	PASS
0	697.875000	697.874283	-0.001027	0.005	-717.000000	34893.75	PASS
10	697.875000	697.874601	-0.000572	0.005	-399.000000	34893.75	PASS
20	697.875000	697.874651	-0.000500	0.005	-349.000000	34893.75	PASS
30	697.875000	697.874596	-0.000579	0.005	-404.000000	34893.75	PASS
40	697.875000	697.874516	-0.000694	0.005	-484.000000	34893.75	PASS
50	697.875000	697.874415	-0.000838	0.005	-585.000000	34893.75	PASS

Checked By: 
 Craig M. Dinsmore



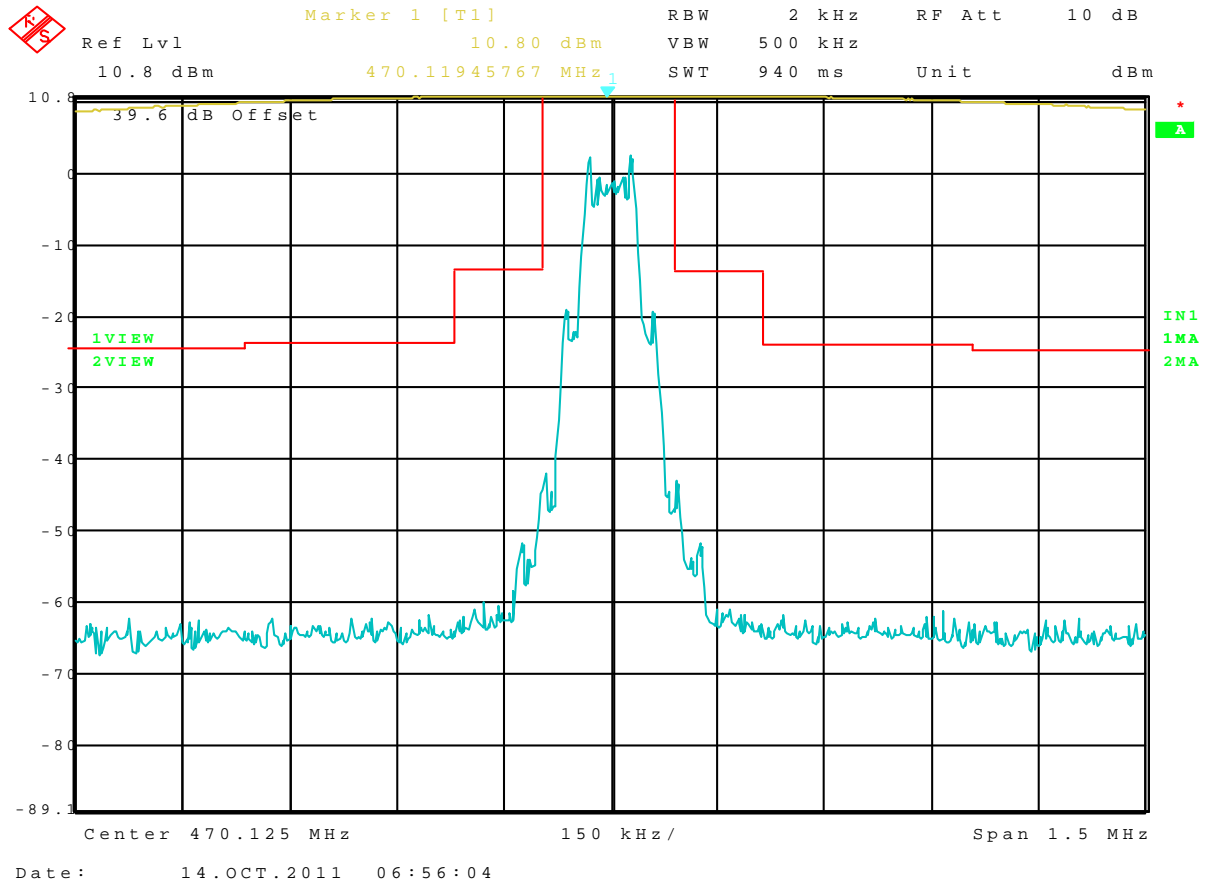
MANUFACTURER : Shure Incorporated
 MODEL : UR3
 SPECIFICATION : FCC-74 and RSS-123 RF Frequency Stability over temp range
 DATE : June 20, 2011
 MODE : Transmit, 50mW
 UNIT : Group P
 BAND : X1
 EQUIPMENT USED : ETH1, RBA0

Temp °C	Nominal Frequency	Measured Frequency	Deviation (%)	Frequency Stability (%)	Deviation (Hz)	Frequency Stability (Hz)	Pass Or Fail
-30	944.125000	944.124385	-0.0000651	0.005	-615.0000	47206.25	PASS
-20	944.125000	944.124202	-0.0000845	0.005	-798.0000	47206.25	PASS
-10	944.125000	944.124262	-0.0000782	0.005	-738.0000	47206.25	PASS
0	944.125000	944.124526	-0.0000502	0.005	-474.0000	47206.25	PASS
10	944.125000	944.124604	-0.0000419	0.005	-396.0000	47206.25	PASS
20	944.125000	944.124844	-0.0000165	0.005	-156.0000	47206.25	PASS
30	944.125000	944.124805	-0.0000207	0.005	-195.0000	47206.25	PASS
40	944.125000	944.124715	-0.0000302	0.005	-285.0000	47206.25	PASS
50	944.125000	944.124557	-0.0000469	0.005	-443.0000	47206.25	PASS

Temp °C	Nominal Frequency	Measured Frequency	Deviation (%)	Frequency Stability (%)	Deviation (Hz)	Frequency Stability (Hz)	Pass Or Fail
-30	948.000000	947.999187	-0.0000858	0.005	-813.0000	47400	PASS
-20	948.000000	947.999124	-0.0000924	0.005	-876.0000	47400	PASS
-10	948.000000	947.999375	-0.0000659	0.005	-625.0000	47400	PASS
0	948.000000	947.999427	-0.0000604	0.005	-573.0000	47400	PASS
10	948.000000	947.999692	-0.0000325	0.005	-308.0000	47400	PASS
20	948.000000	947.999831	-0.0000178	0.005	-169.0000	47400	PASS
30	948.000000	947.999807	-0.0000204	0.005	-193.0000	47400	PASS
40	948.000000	947.999717	-0.0000299	0.005	-283.0000	47400	PASS
50	948.000000	947.999558	-0.0000466	0.005	-442.0000	47400	PASS

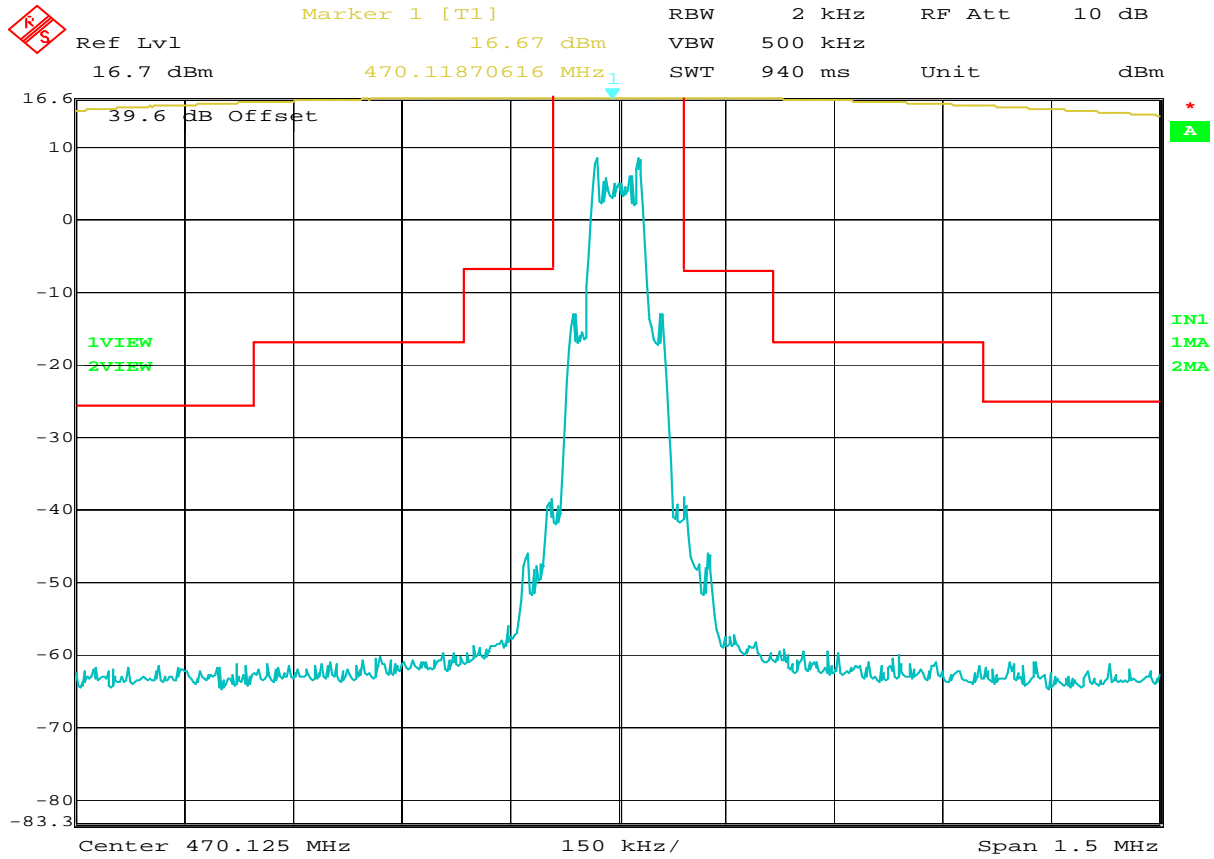
Temp °C	Nominal Frequency	Measured Frequency	Deviation (%)	Frequency Stability (%)	Deviation (Hz)	Frequency Stability (Hz)	Pass Or Fail
-30	951.875000	951.874184	-0.0000857	0.005	-816.0000	47593.75	PASS
-20	951.875000	951.87412	-0.0000924	0.005	-880.0000	47593.75	PASS
-10	951.875000	951.874488	-0.0000538	0.005	-512.0000	47593.75	PASS
0	951.875000	951.874284	-0.0000752	0.005	-716.0000	47593.75	PASS
10	951.875000	951.874761	-0.0000251	0.005	-239.0000	47593.75	PASS
20	951.875000	951.8748	-0.0000210	0.005	-200.0000	47593.75	PASS
30	951.875000	951.874803	-0.0000207	0.005	-197.0000	47593.75	PASS
40	951.875000	951.874714	-0.0000300	0.005	-286.0000	47593.75	PASS
50	951.875000	951.874556	-0.0000466	0.005	-444.0000	47593.75	PASS

Checked By: 
 Craig M. Dinsmore



FCC/IC Occupied Bandwidth

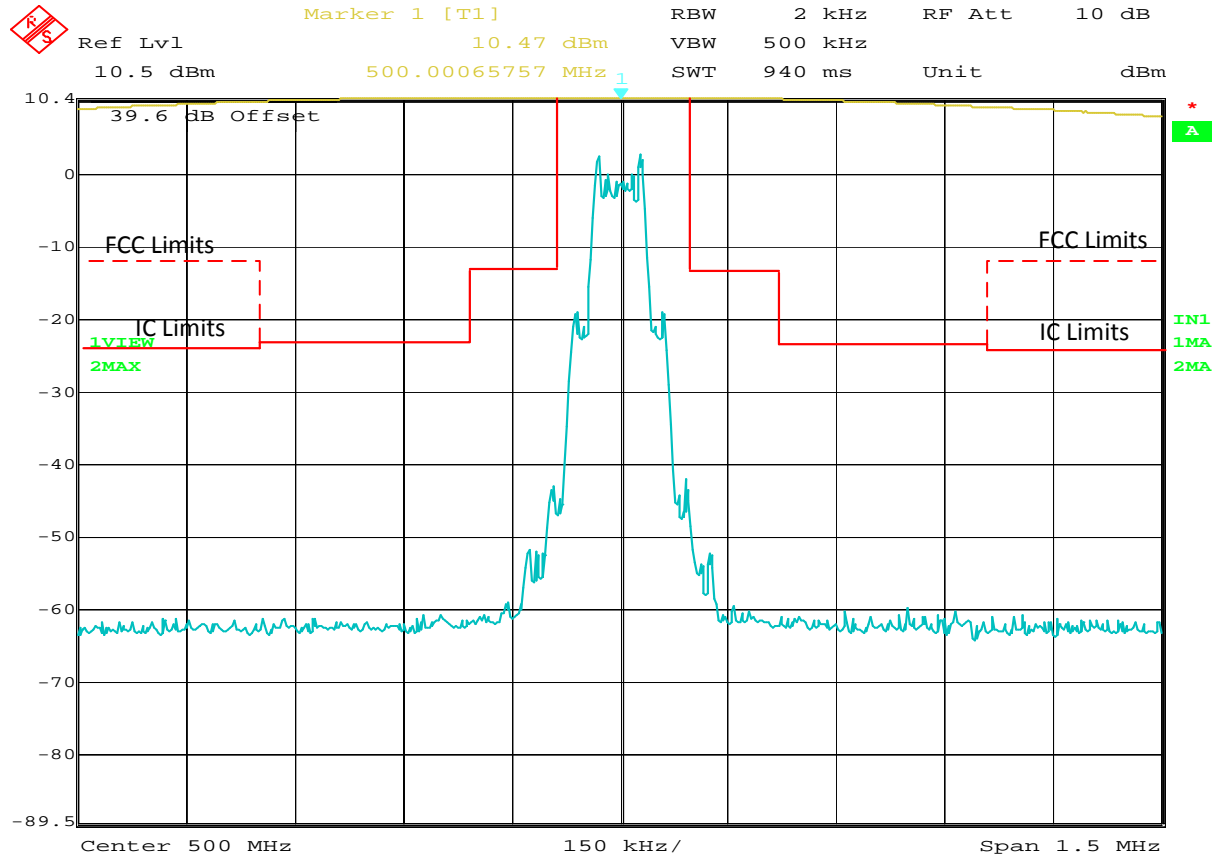
MANUFACTURER : Shure, Inc.
 MODEL NUMBER : UR3
 SERIAL NUMBER : None Assigned
 TEST MODE : Tx @ 470.125MHz, 10mW
 NOTES : Group A
 TEST DATE : October 14, 2011
 TEST PARAMETERS : Occupied Bandwidth
 NOTES : Modulation at 2.5kHz at 16dB over 50%
 EQUIPMENT USED : RBA0, T2D7, T2D8



Date: 14.OCT.2011 07:01:48

FCC/IC Occupied Bandwidth

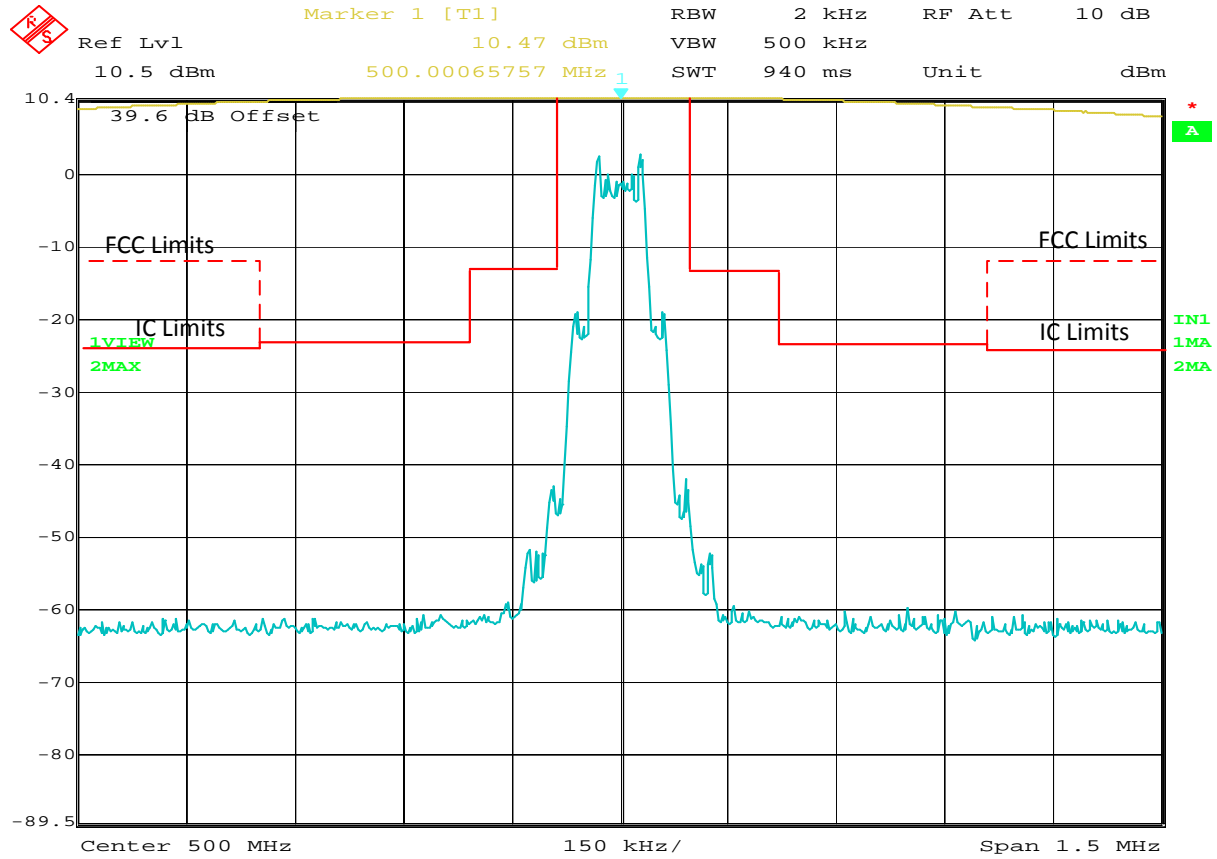
MANUFACTURER : Shure, Inc.
 MODEL NUMBER : UR3
 SERIAL NUMBER : None Assigned
 TEST MODE : Tx @ 470.125MHz, 50mW
 NOTES : Group A
 TEST DATE : October 14, 2011
 TEST PARAMETERS : Occupied Bandwidth
 NOTES : Modulation at 2.5kHz at 16dB over 50%
 EQUIPMENT USED : RBA0, T2D7, T2D8



Date: 14.OCT.2011 07:12:41

FCC/IC Occupied Bandwidth

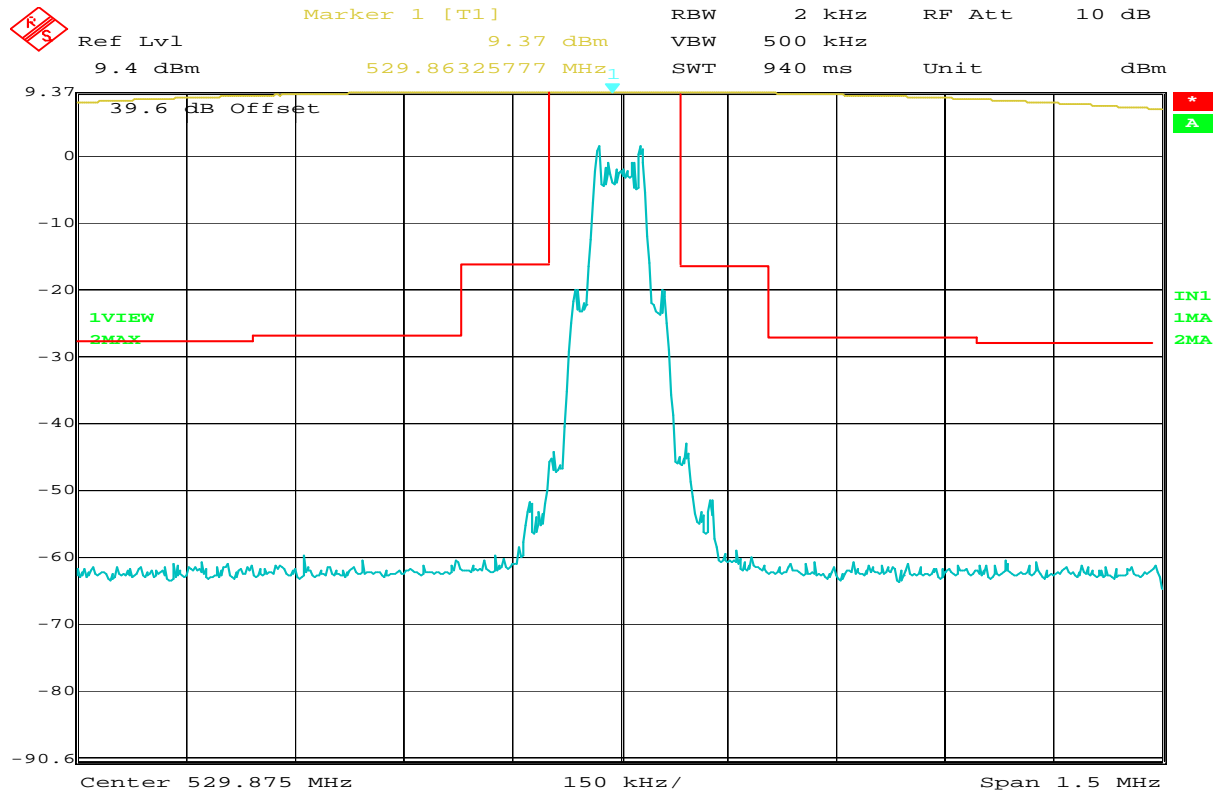
MANUFACTURER : Shure, Inc.
 MODEL NUMBER : UR3
 SERIAL NUMBER : None Assigned
 TEST MODE : Tx @ 500MHz, 10mW
 NOTES : Group A
 TEST DATE : October 14, 2011
 TEST PARAMETERS : Occupied Bandwidth
 NOTES : Modulation at 2.5kHz at 16dB over 50%
 EQUIPMENT USED : RBA0, T2D7, T2D8



Date: 14.OCT.2011 07:12:41

FCC/IC Occupied Bandwidth

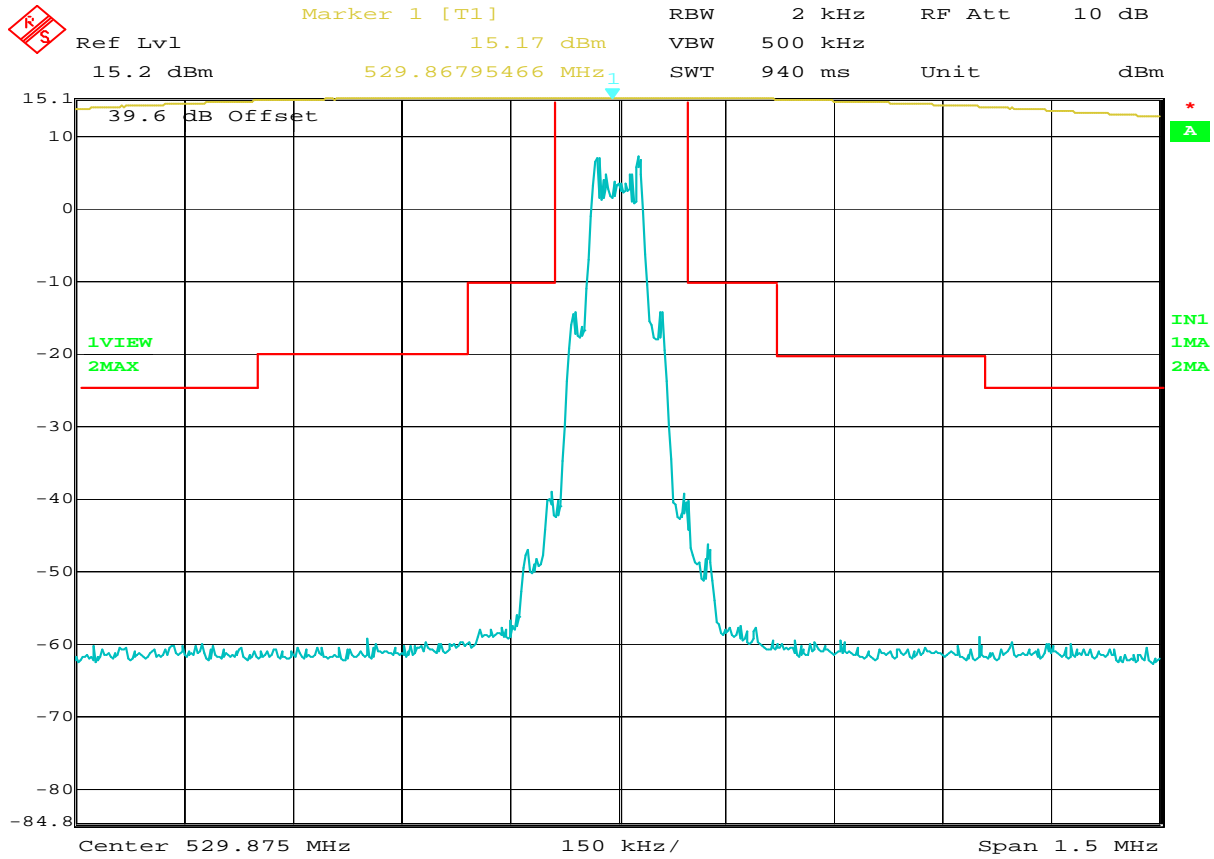
MANUFACTURER : Shure, Inc.
 MODEL NUMBER : UR3
 SERIAL NUMBER : None Assigned
 TEST MODE : Tx @ 500MHz, 50mW
 NOTES : Group A
 TEST DATE : October 14, 2011
 TEST PARAMETERS : Occupied Bandwidth
 NOTES : Modulation at 2.5kHz at 16dB over 50%
 EQUIPMENT USED : RBA0, T2D7, T2D8



Date: 14.OCT.2011 07:17:40

FCC/IC Occupied Bandwidth

MANUFACTURER : Shure, Inc.
 MODEL NUMBER : UR3
 SERIAL NUMBER : None Assigned
 TEST MODE : Tx @ 529.875MHz, 10mW
 NOTES : Group A
 TEST DATE : October 14, 2011
 TEST PARAMETERS : Occupied Bandwidth
 NOTES : Modulation at 2.5kHz at 16dB over 50%
 EQUIPMENT USED : RBA0, T2D7, T2D8



Date: 14.OCT.2011 07:23:26

FCC/IC Occupied Bandwidth

MANUFACTURER : Shure, Inc.

MODEL NUMBER : UR3

SERIAL NUMBER : None Assigned

TEST MODE : Tx @ 529.875MHz, 50mW

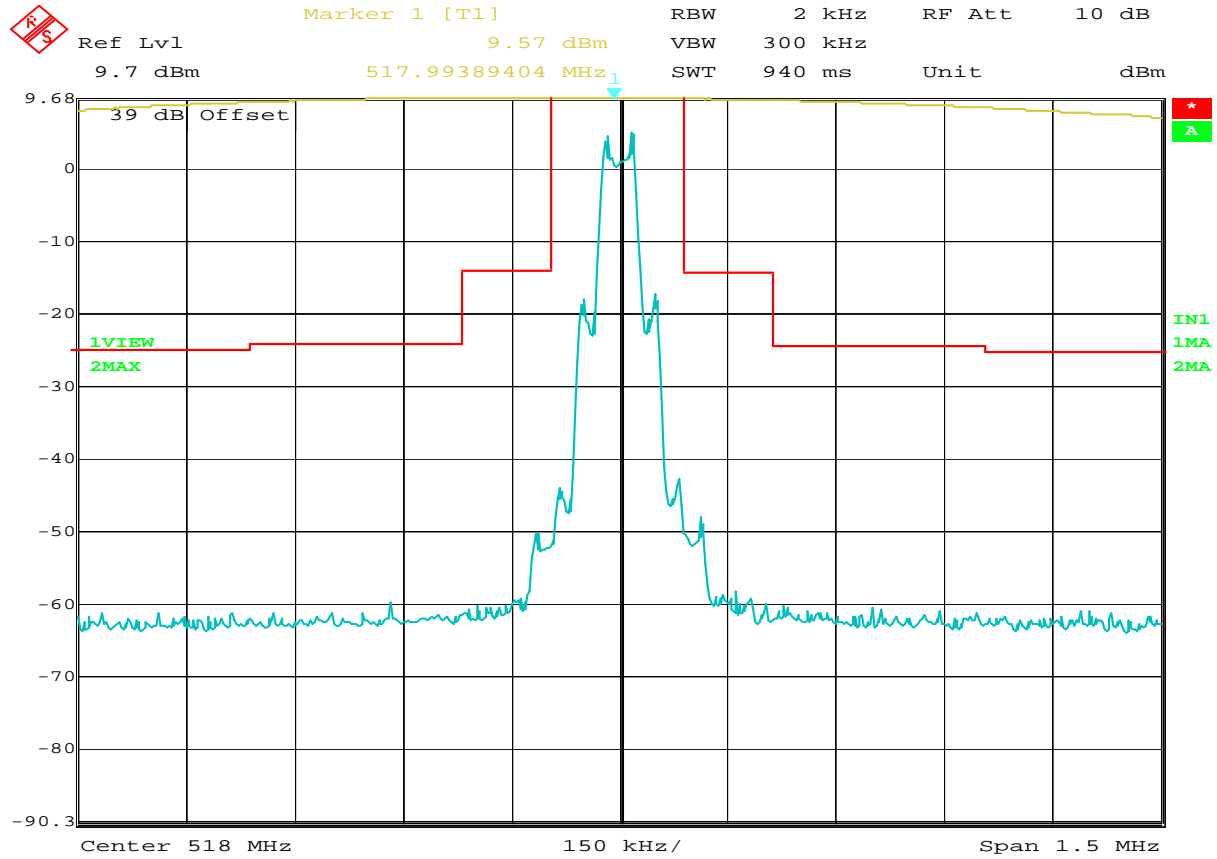
NOTES : Group A

TEST DATE : October 14, 2011

TEST PARAMETERS : Occupied Bandwidth

NOTES : Modulation at 2.5kHz at 16dB over 50%

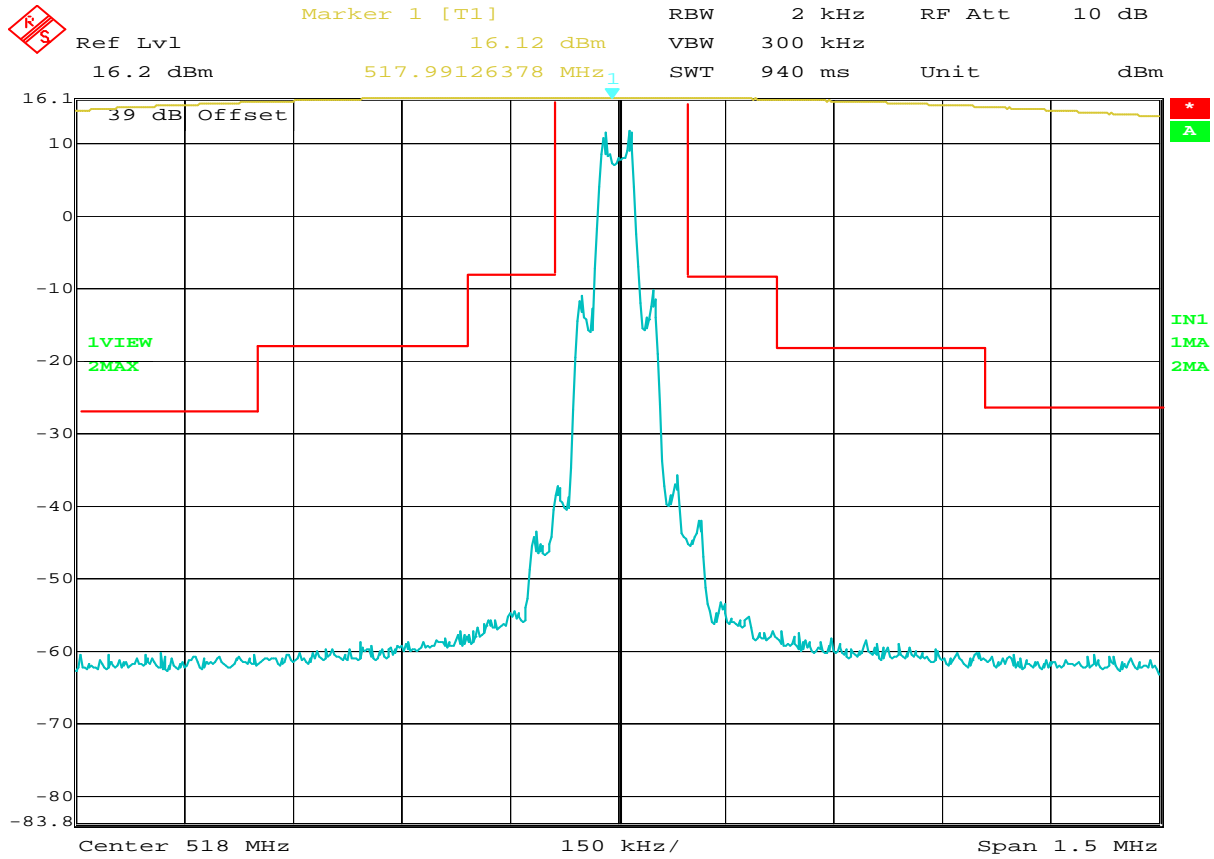
EQUIPMENT USED : RBA0, T2D7, T2D8



Date: 14.OCT.2011 08:54:29

FCC/IC Occupied Bandwidth

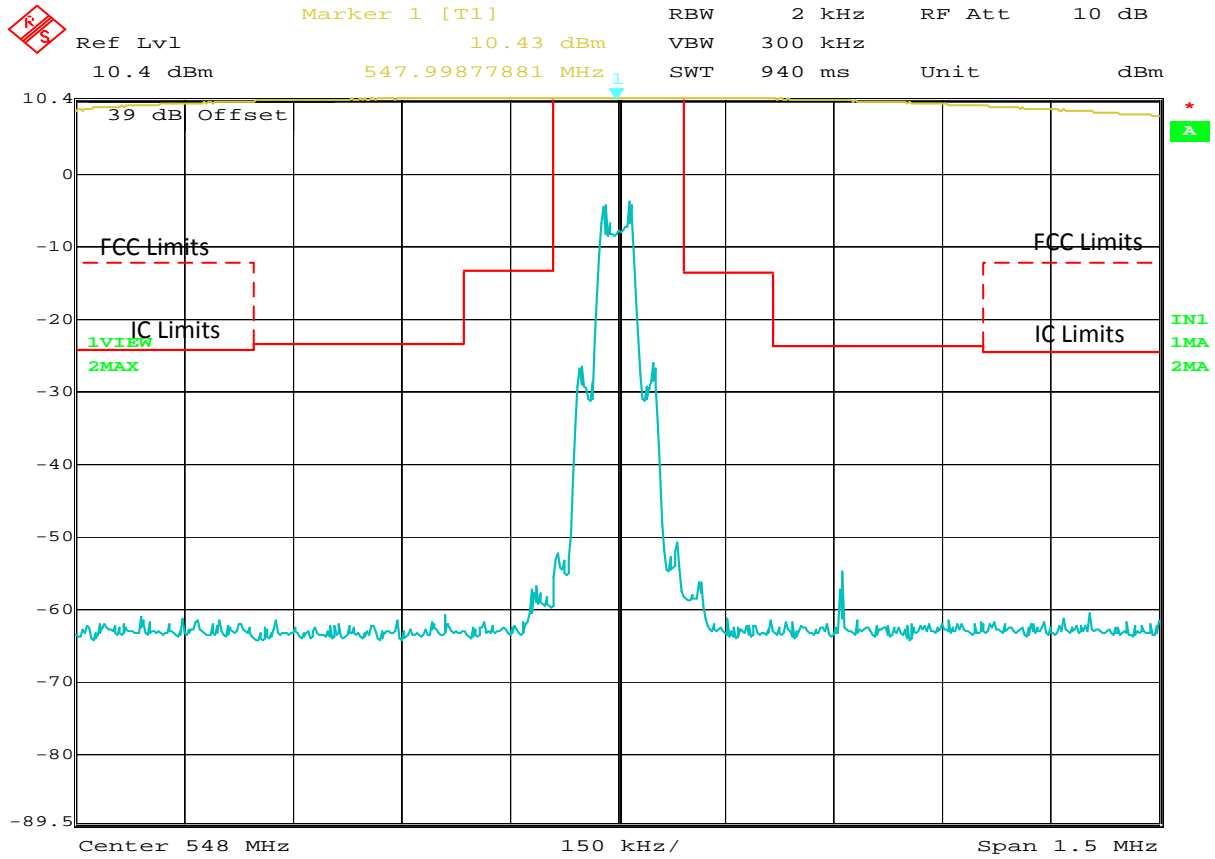
MANUFACTURER : Shure, Inc.
 MODEL NUMBER : UR3
 SERIAL NUMBER : None Assigned
 TEST MODE : Tx @ 518MHz, 10mW
 NOTES : Group B
 TEST DATE : October 14, 2011
 TEST PARAMETERS : Occupied Bandwidth
 NOTES : Modulation at 2.5kHz at 16dB over 50%
 EQUIPMENT USED : RBA0, T2D7, T2D8



Date: 14.OCT.2011 09:02:36

FCC/IC Occupied Bandwidth

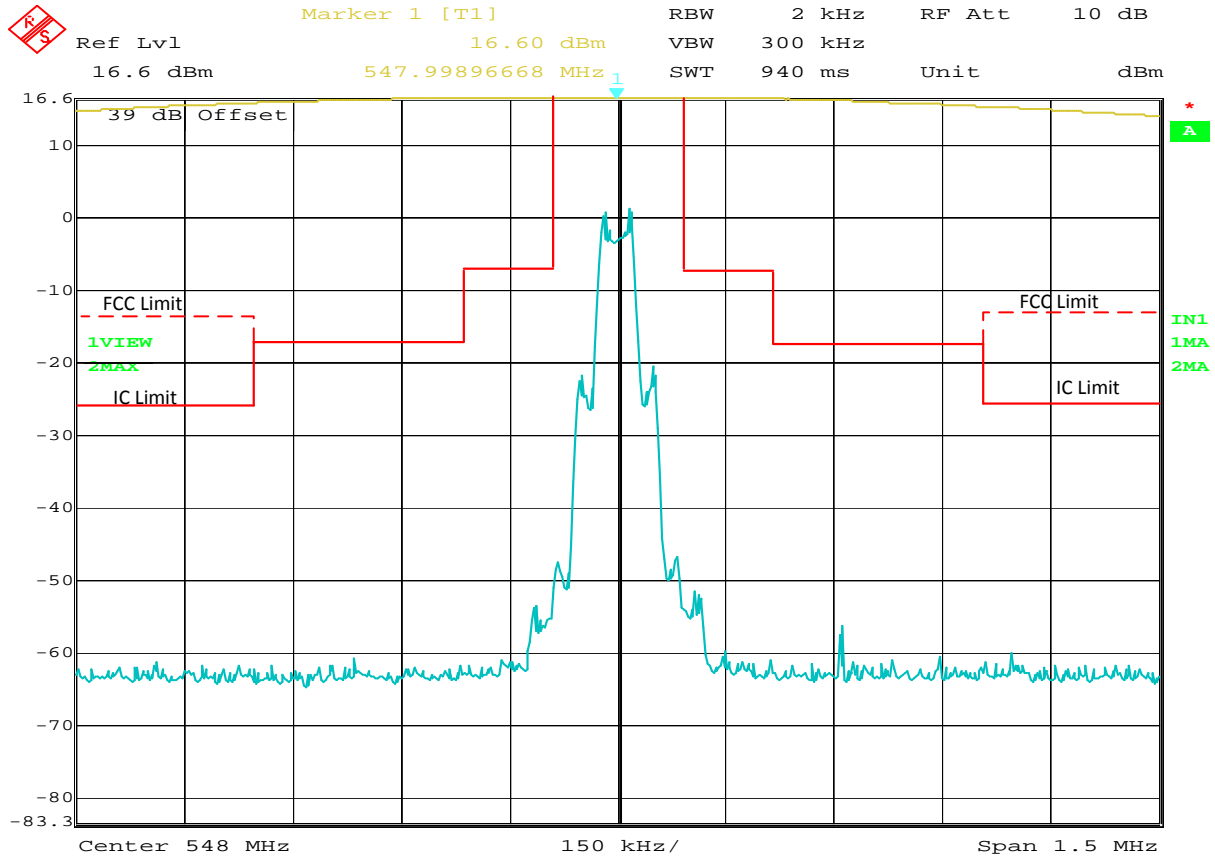
MANUFACTURER : Shure, Inc.
 MODEL NUMBER : UR3
 SERIAL NUMBER : None Assigned
 TEST MODE : Tx @ 518MHz, 50mW
 NOTES : Group B
 TEST DATE : October 14, 2011
 TEST PARAMETERS : Occupied Bandwidth
 NOTES : Modulation at 2.5kHz at 16dB over 50%
 EQUIPMENT USED : RBA0, T2D7, T2D8



Date: 14.OCT.2011 09:27:27

FCC/IC Occupied Bandwidth

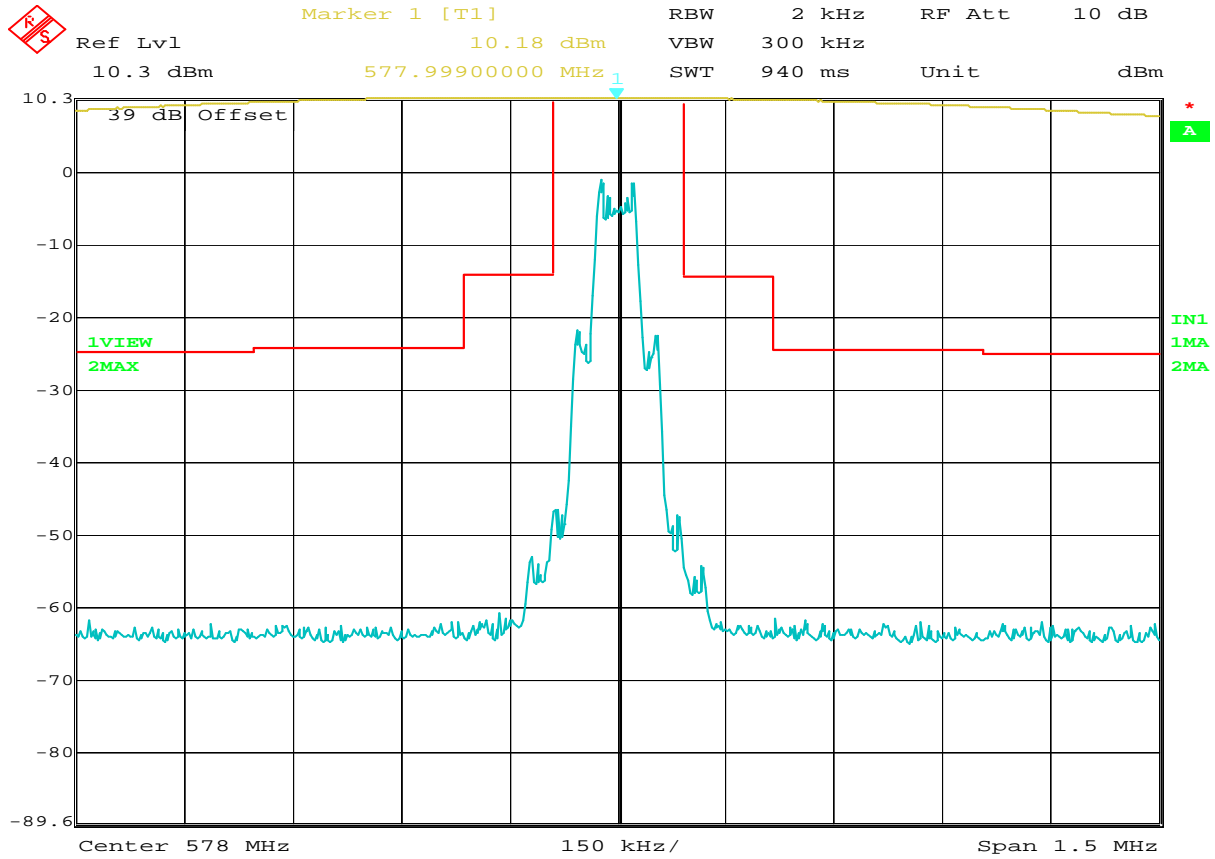
MANUFACTURER : Shure, Inc.
 MODEL NUMBER : UR3
 SERIAL NUMBER : None Assigned
 TEST MODE : Tx @ 548MHz, 10mW
 NOTES : Group B
 TEST DATE : October 14, 2011
 TEST PARAMETERS : Occupied Bandwidth
 NOTES : Modulation at 2.5kHz at 16dB over 50%
 EQUIPMENT USED : RBA0, T2D7, T2D8



Date: 14.OCT.2011 09:09:59

FCC/IC Occupied Bandwidth

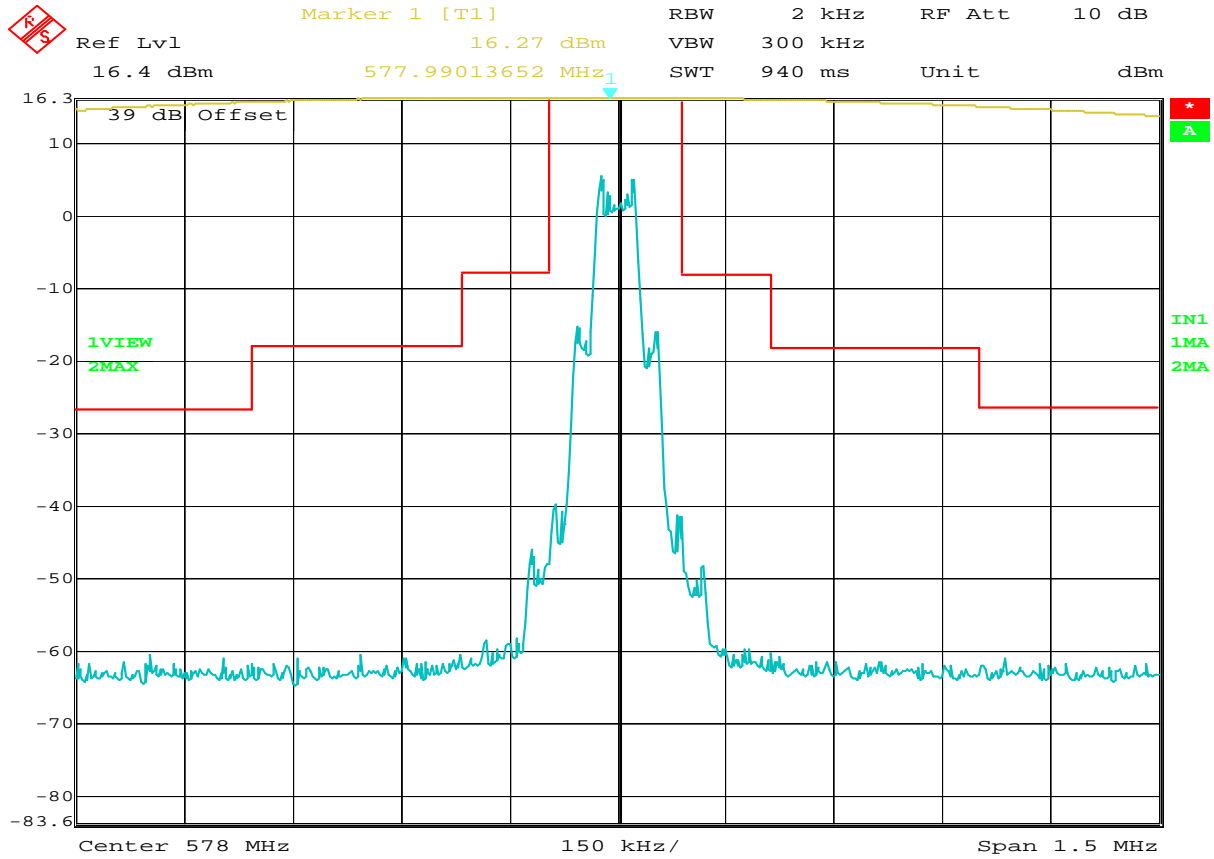
MANUFACTURER : Shure, Inc.
 MODEL NUMBER : UR3
 SERIAL NUMBER : None Assigned
 TEST MODE : Tx @ 548MHz, 50mW
 NOTES : Group B
 TEST DATE : October 14, 2011
 TEST PARAMETERS : Occupied Bandwidth
 NOTES : Modulation at 2.5kHz at 16dB over 50%
 EQUIPMENT USED : RBA0, T2D7, T2D8



Date: 14.OCT.2011 09:36:03

FCC/IC Occupied Bandwidth

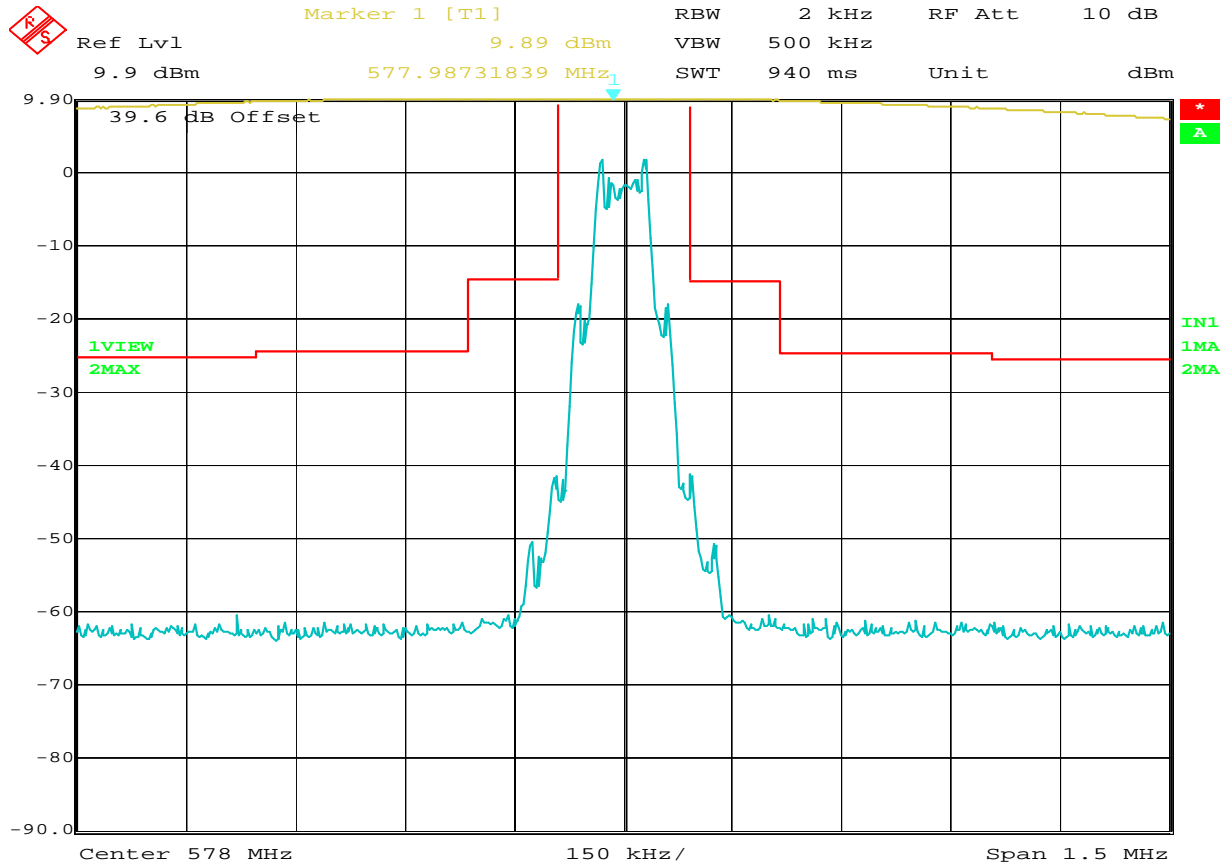
MANUFACTURER : Shure, Inc.
 MODEL NUMBER : UR3
 SERIAL NUMBER : None Assigned
 TEST MODE : Tx @ 578MHz, 10mW
 NOTES : Group B
 TEST DATE : October 14, 2011
 TEST PARAMETERS : Occupied Bandwidth
 NOTES : Modulation at 2.5kHz at 16dB over 50%
 EQUIPMENT USED : RBA0, T2D7, T2D8



Date: 14.OCT.2011 09:41:15

FCC/IC Occupied Bandwidth

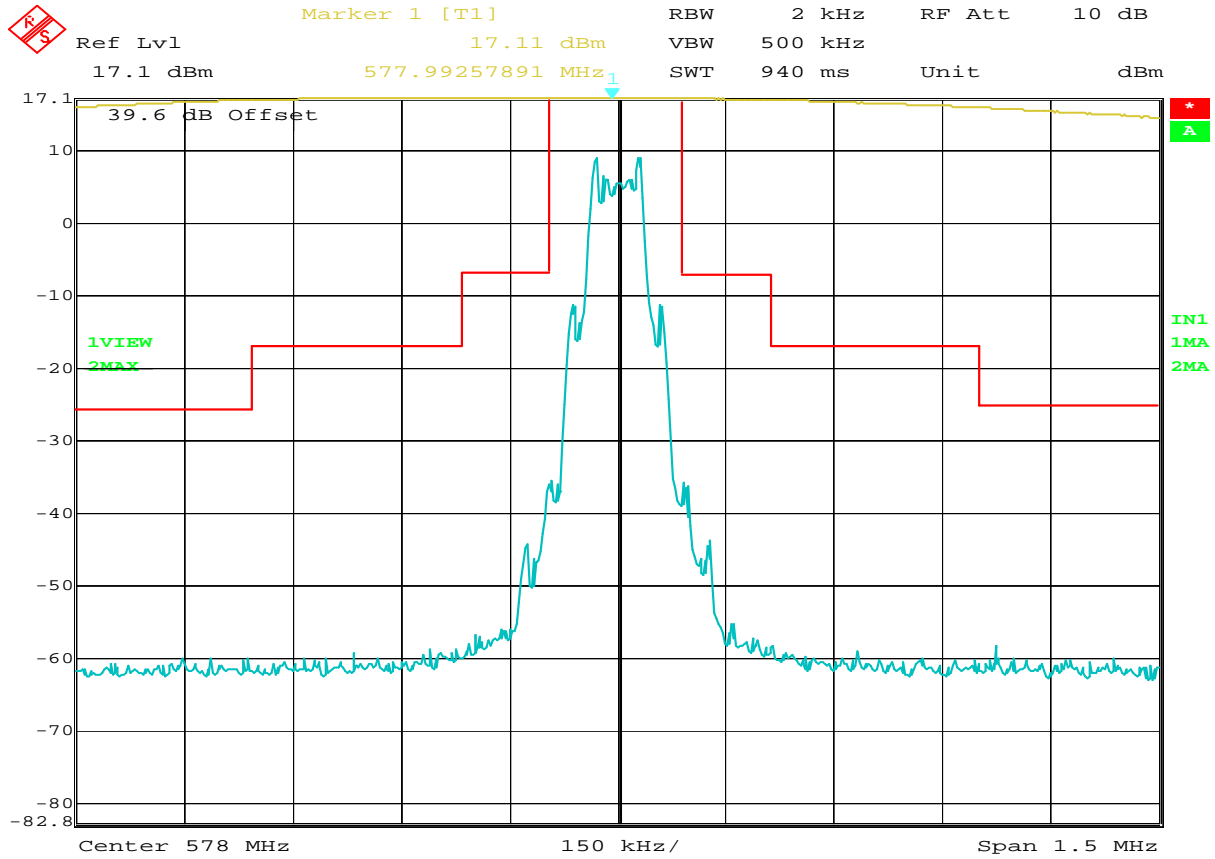
MANUFACTURER : Shure, Inc.
 MODEL NUMBER : UR3
 SERIAL NUMBER : None Assigned
 TEST MODE : Tx @ 578MHz, 50mW
 NOTES : Group B
 TEST DATE : October 14, 2011
 TEST PARAMETERS : Occupied Bandwidth
 NOTES : Modulation at 2.5kHz at 16dB over 50%
 EQUIPMENT USED : RBA0, T2D7, T2D8



Date: 13.OCT.2011 14:53:50

FCC/IC Occupied Bandwidth

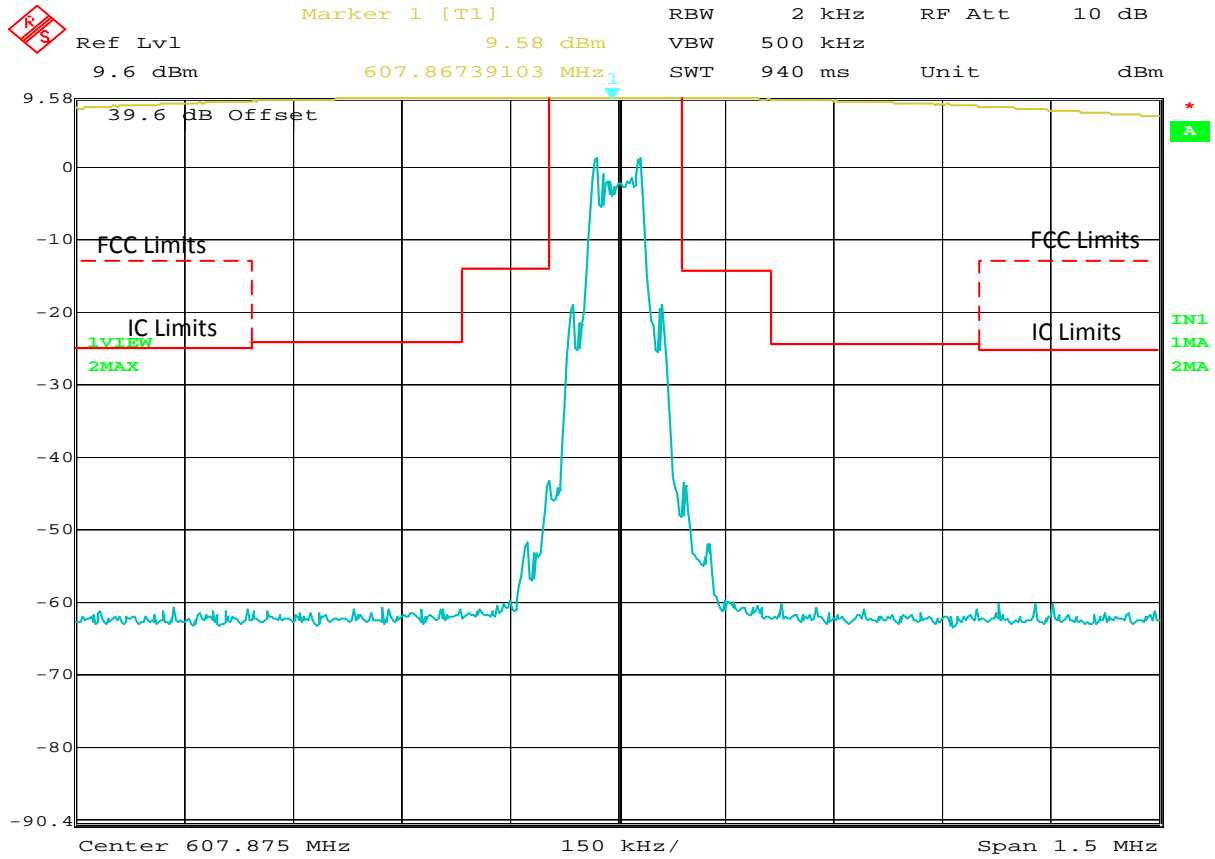
MANUFACTURER : Shure, Inc.
 MODEL NUMBER : UR3
 SERIAL NUMBER : None Assigned
 TEST MODE : Tx @ 578MHz, 10mW
 NOTES : Group C
 TEST DATE : October 13, 2011
 TEST PARAMETERS : Occupied Bandwidth
 NOTES : Modulation at 2.5kHz at 16dB over 50%
 EQUIPMENT USED : RBA0, T2D7, T2D8



Date: 13.OCT.2011 14:57:30

FCC/IC Occupied Bandwidth

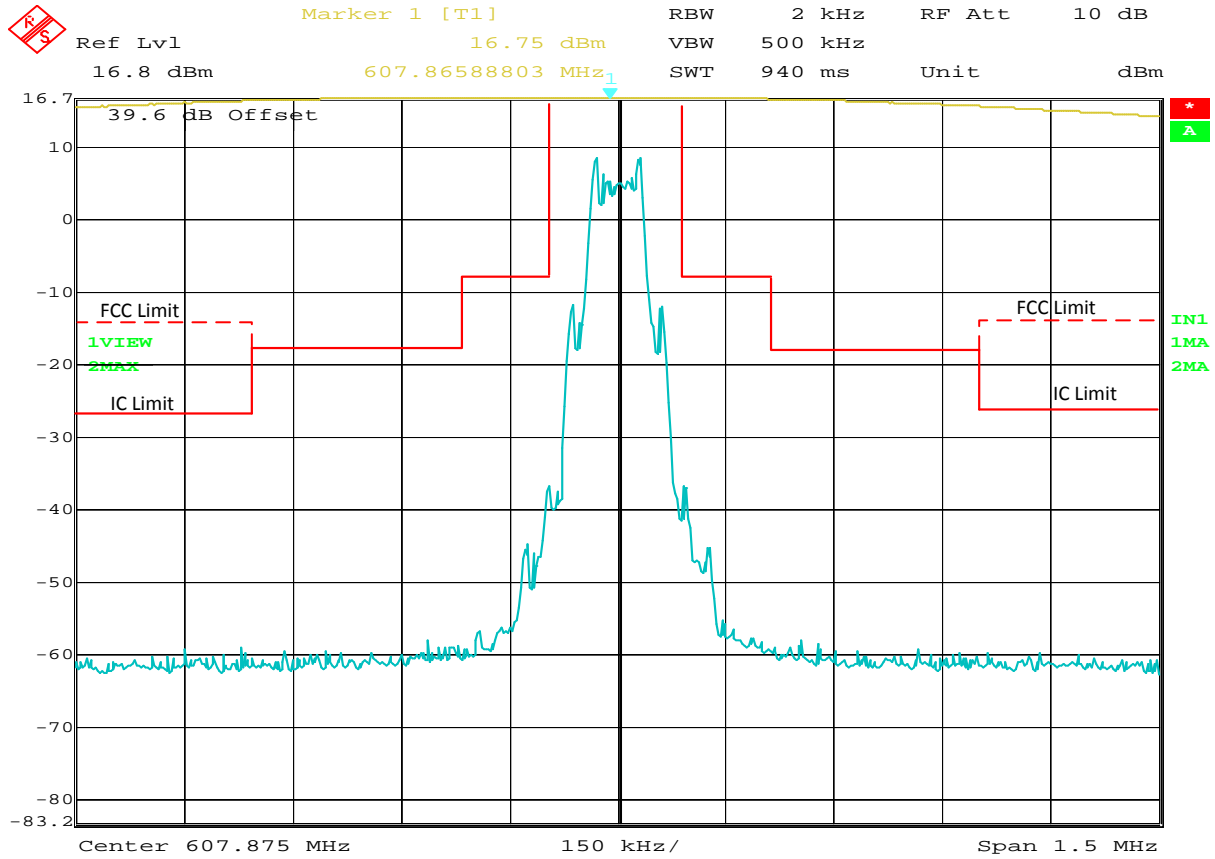
MANUFACTURER : Shure, Inc.
 MODEL NUMBER : UR3
 SERIAL NUMBER : None Assigned
 TEST MODE : Tx @ 578MHz, 50mW
 NOTES : Group C
 TEST DATE : October 13, 2011
 TEST PARAMETERS : Occupied Bandwidth
 NOTES : Modulation at 2.5kHz at 16dB over 50%
 EQUIPMENT USED : RBA0, T2D7, T2D8



Date: 13.OCT.2011 14:50:09

FCC/IC Occupied Bandwidth

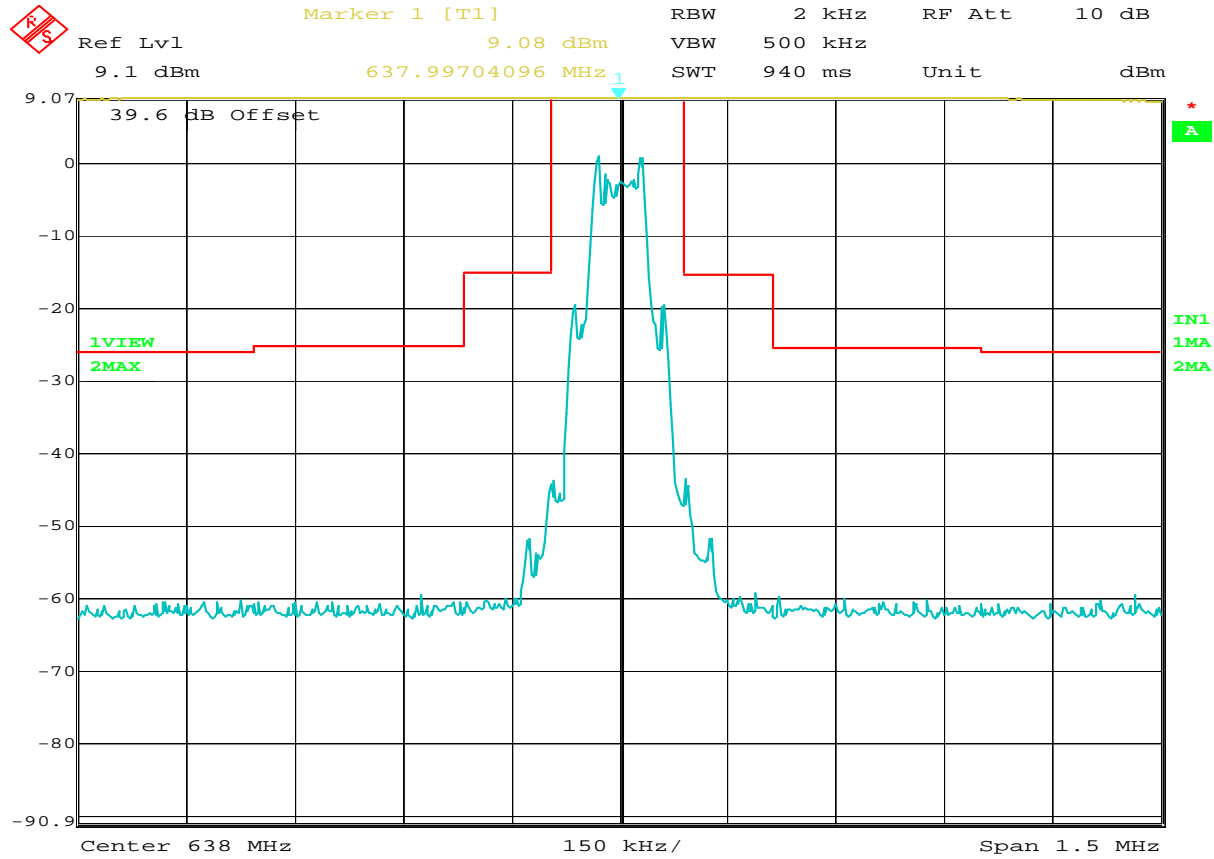
MANUFACTURER : Shure, Inc.
 MODEL NUMBER : UR3
 SERIAL NUMBER : None Assigned
 TEST MODE : Tx @ 607.875MHz, 10mW
 NOTES : Group C
 TEST DATE : October 13, 2011
 TEST PARAMETERS : Occupied Bandwidth
 NOTES : Modulation at 2.5kHz at 16dB over 50%
 EQUIPMENT USED : RBA0, T2D7, T2D8



Date: 13.OCT.2011 14:43:38

FCC/IC Occupied Bandwidth

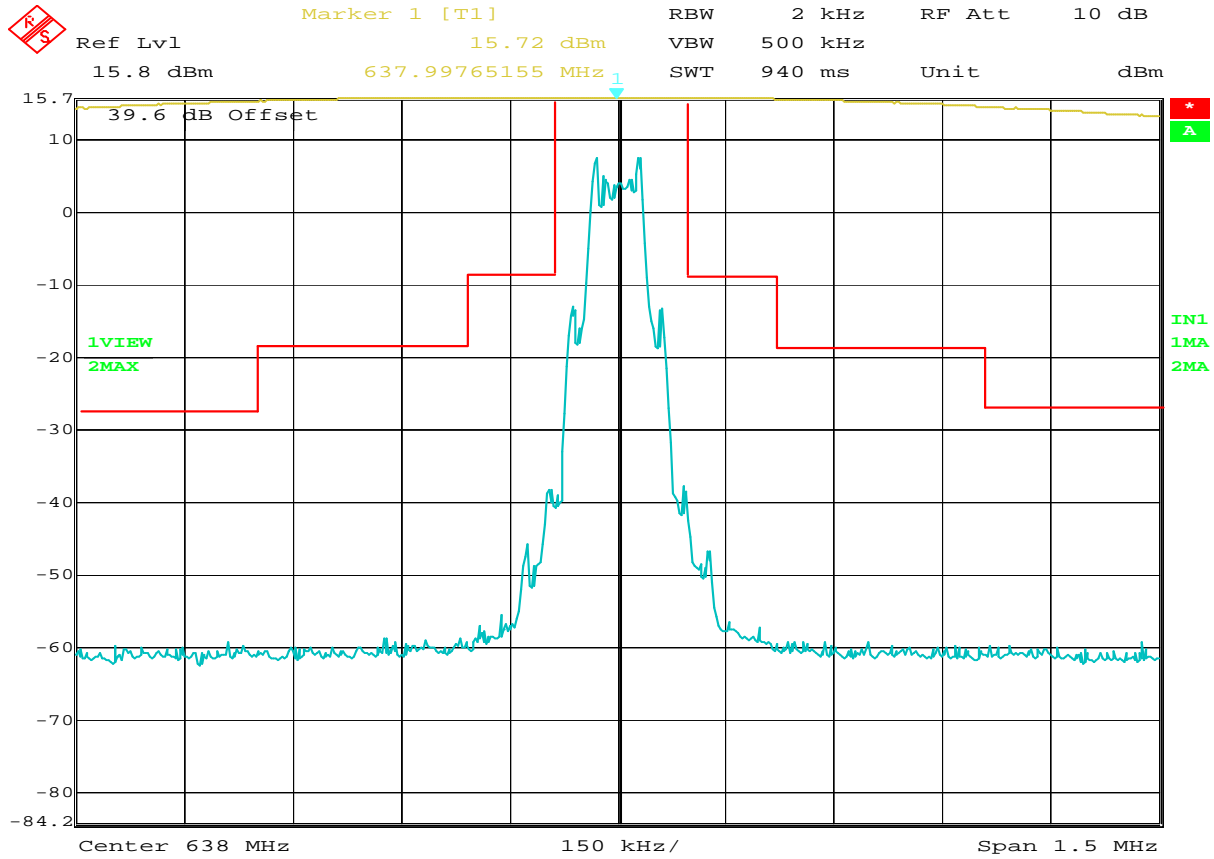
MANUFACTURER : Shure, Inc.
 MODEL NUMBER : UR3
 SERIAL NUMBER : None Assigned
 TEST MODE : Tx @ 607.875MHz, 50mW
 NOTES : Group C
 TEST DATE : October 13, 2011
 TEST PARAMETERS : Occupied Bandwidth
 NOTES : Modulation at 2.5kHz at 16dB over 50%
 EQUIPMENT USED : RBA0, T2D7, T2D8



Date: 13.OCT.2011 14:29:14

FCC/IC Occupied Bandwidth

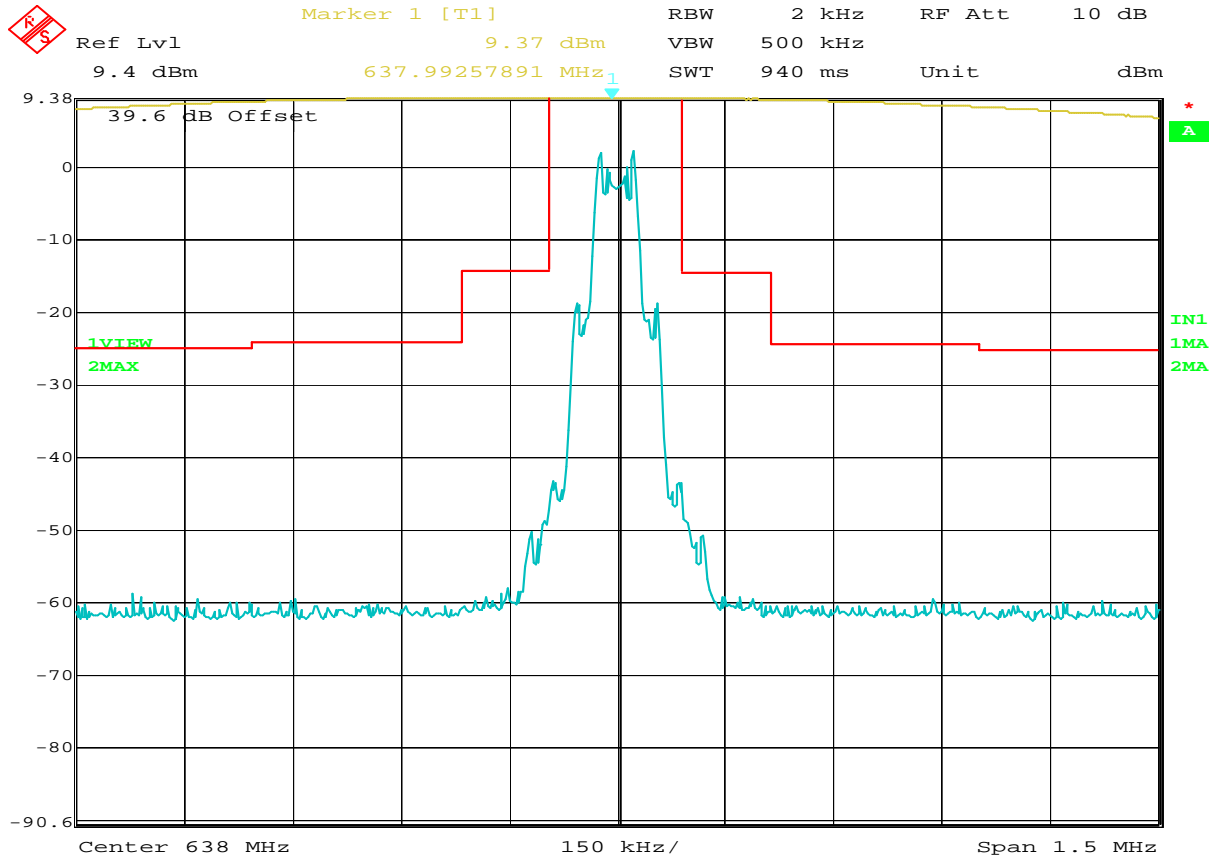
MANUFACTURER : Shure, Inc.
 MODEL NUMBER : UR3
 SERIAL NUMBER : None Assigned
 TEST MODE : Tx @ 638MHz, 10mW
 NOTES : Group C
 TEST DATE : October 13, 2011
 TEST PARAMETERS : Occupied Bandwidth
 NOTES : Modulation at 2.5kHz at 16dB over 50%
 EQUIPMENT USED : RBA0, T2D7, T2D8



Date: 13.OCT.2011 14:34:01

FCC/IC Occupied Bandwidth

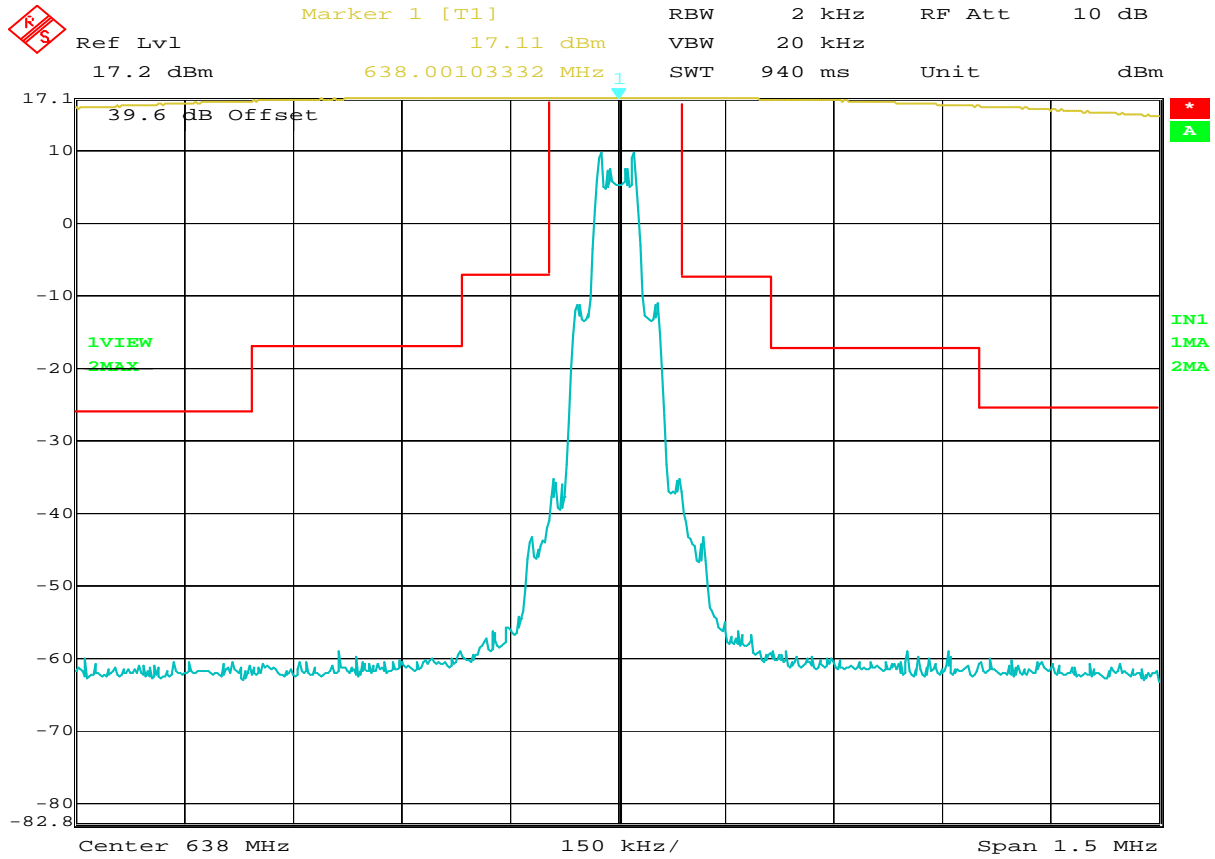
MANUFACTURER : Shure, Inc.
 MODEL NUMBER : UR3
 SERIAL NUMBER : None Assigned
 TEST MODE : Tx @ 638MHz, 50mW
 NOTES : Group C
 TEST DATE : October 13, 2011
 TEST PARAMETERS : Occupied Bandwidth
 NOTES : Modulation at 2.5kHz at 16dB over 50%
 EQUIPMENT USED : RBA0, T2D7, T2D8



Date: 13.OCT.2011 14:00:23

FCC/IC Occupied Bandwidth

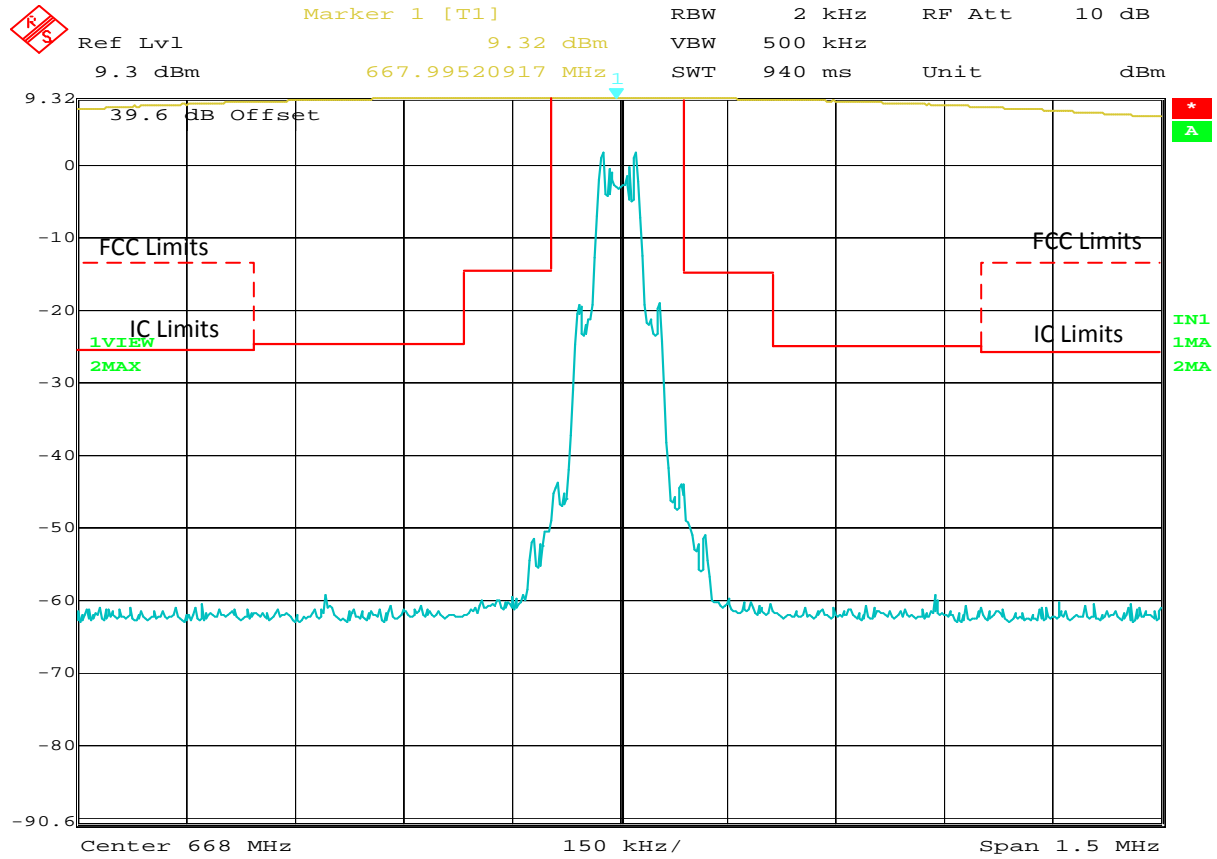
MANUFACTURER : Shure, Inc.
 MODEL NUMBER : UR3
 SERIAL NUMBER : None Assigned
 TEST MODE : Tx @ 638MHz, 10mW
 NOTES : Group E
 TEST DATE : October 13, 2011
 TEST PARAMETERS : Occupied Bandwidth
 NOTES : Modulation at 2.5kHz at 16dB over 50%
 EQUIPMENT USED : RBA0, T2D7, T2D8



Date: 13.OCT.2011 13:50:59

FCC/IC Occupied Bandwidth

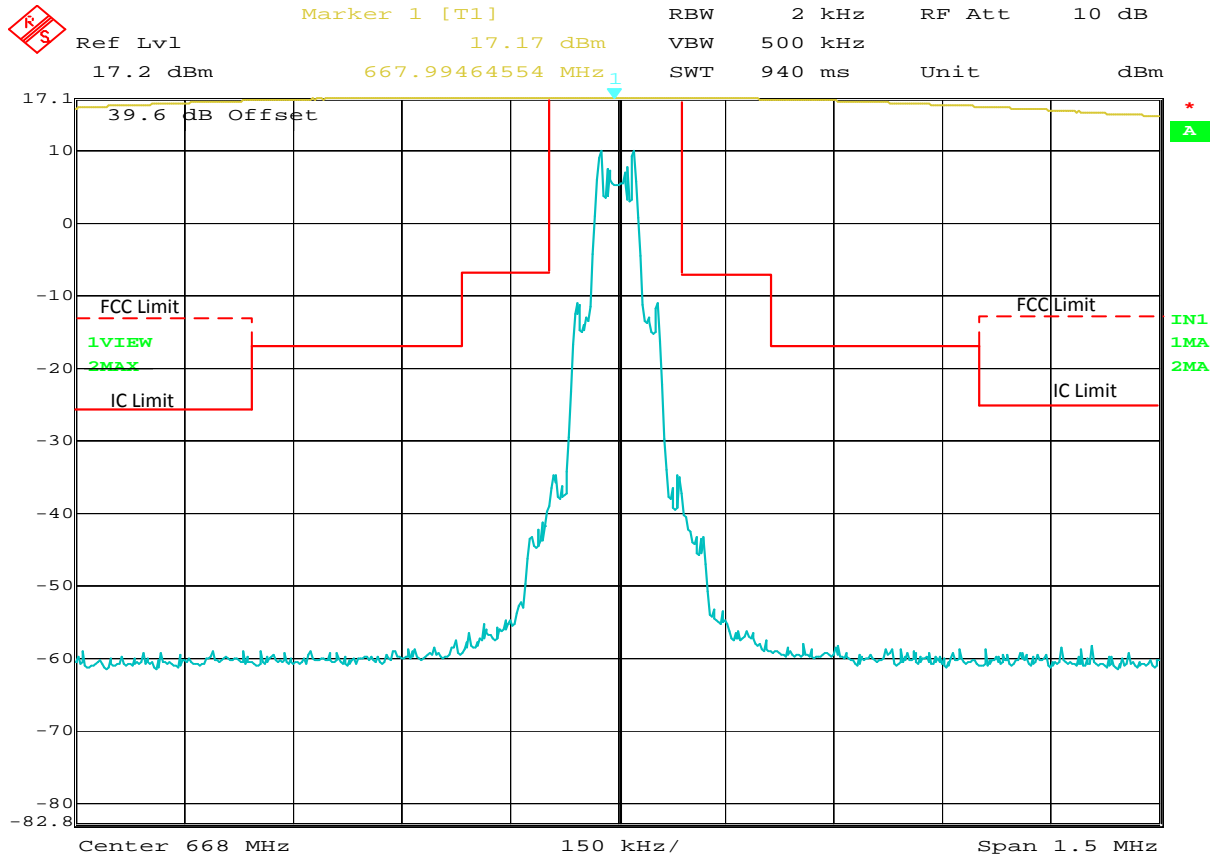
MANUFACTURER : Shure, Inc.
 MODEL NUMBER : UR3
 SERIAL NUMBER : None Assigned
 TEST MODE : Tx @ 638MHz, 50mW
 NOTES : Group E
 TEST DATE : October 13, 2011
 TEST PARAMETERS : Occupied Bandwidth
 NOTES : Modulation at 2.5kHz at 16dB over 50%
 EQUIPMENT USED : RBA0, T2D7, T2D8



Date: 13.OCT.2011 14:05:32

FCC/IC Occupied Bandwidth

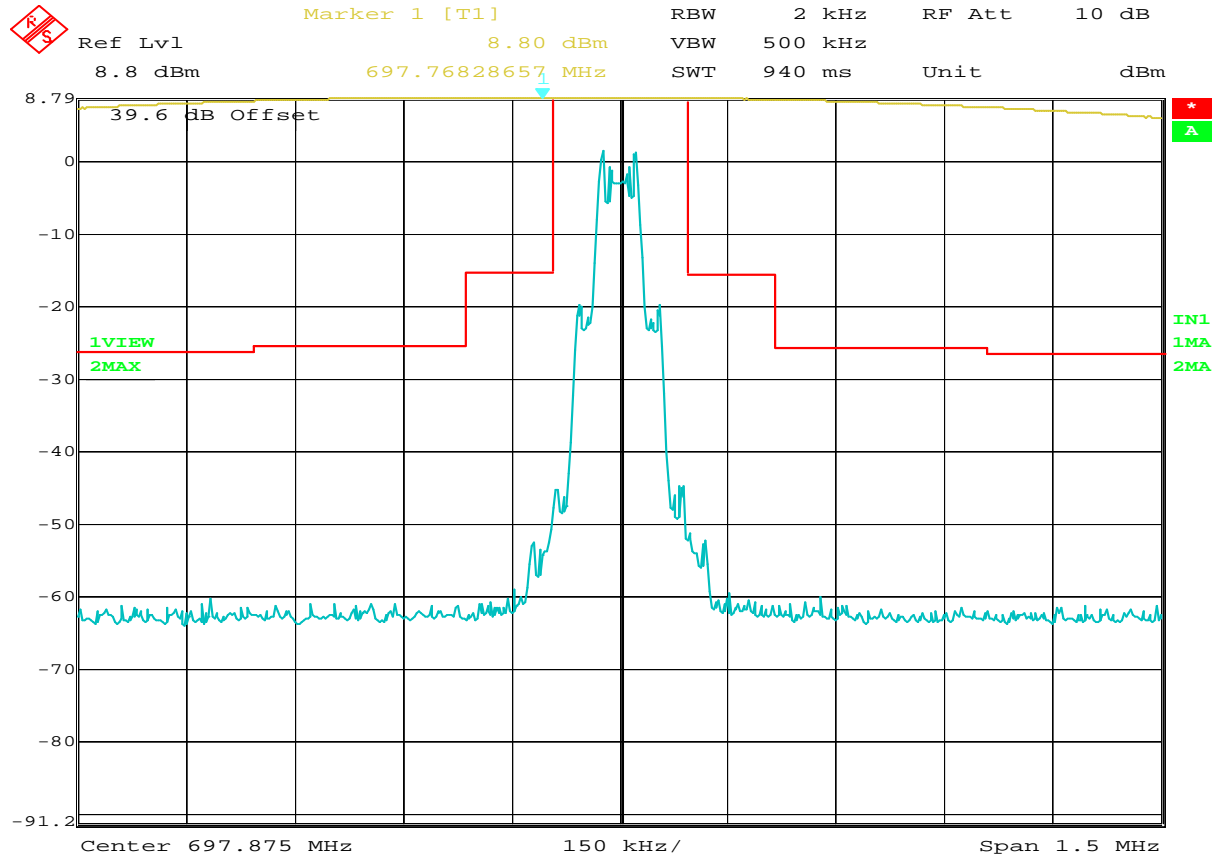
MANUFACTURER : Shure, Inc.
 MODEL NUMBER : UR3
 SERIAL NUMBER : None Assigned
 TEST MODE : Tx @ 668MHz, 10mW
 NOTES : Group E
 TEST DATE : October 13, 2011
 TEST PARAMETERS : Occupied Bandwidth
 NOTES : Modulation at 2.5kHz at 16dB over 50%
 EQUIPMENT USED : RBA0, T2D7, T2D8



Date: 13.OCT.2011 14:11:54

FCC/IC Occupied Bandwidth

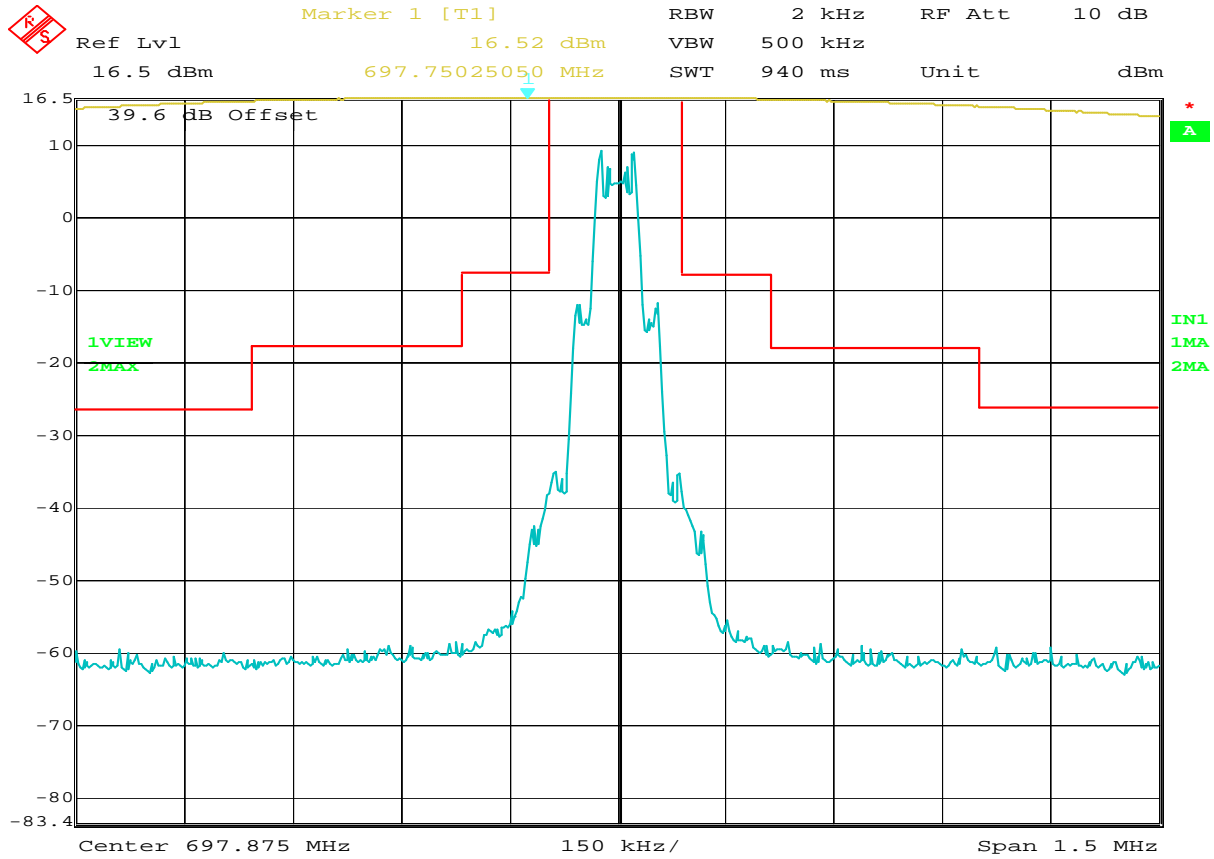
MANUFACTURER : Shure, Inc.
 MODEL NUMBER : UR3
 SERIAL NUMBER : None Assigned
 TEST MODE : Tx @ 668MHz, 50mW
 NOTES : Group E
 TEST DATE : October 13, 2011
 TEST PARAMETERS : Occupied Bandwidth
 NOTES : Modulation at 2.5kHz at 16dB over 50%
 EQUIPMENT USED : RBA0, T2D7, T2D8



Date: 13.OCT.2011 14:20:31

FCC/IC Occupied Bandwidth

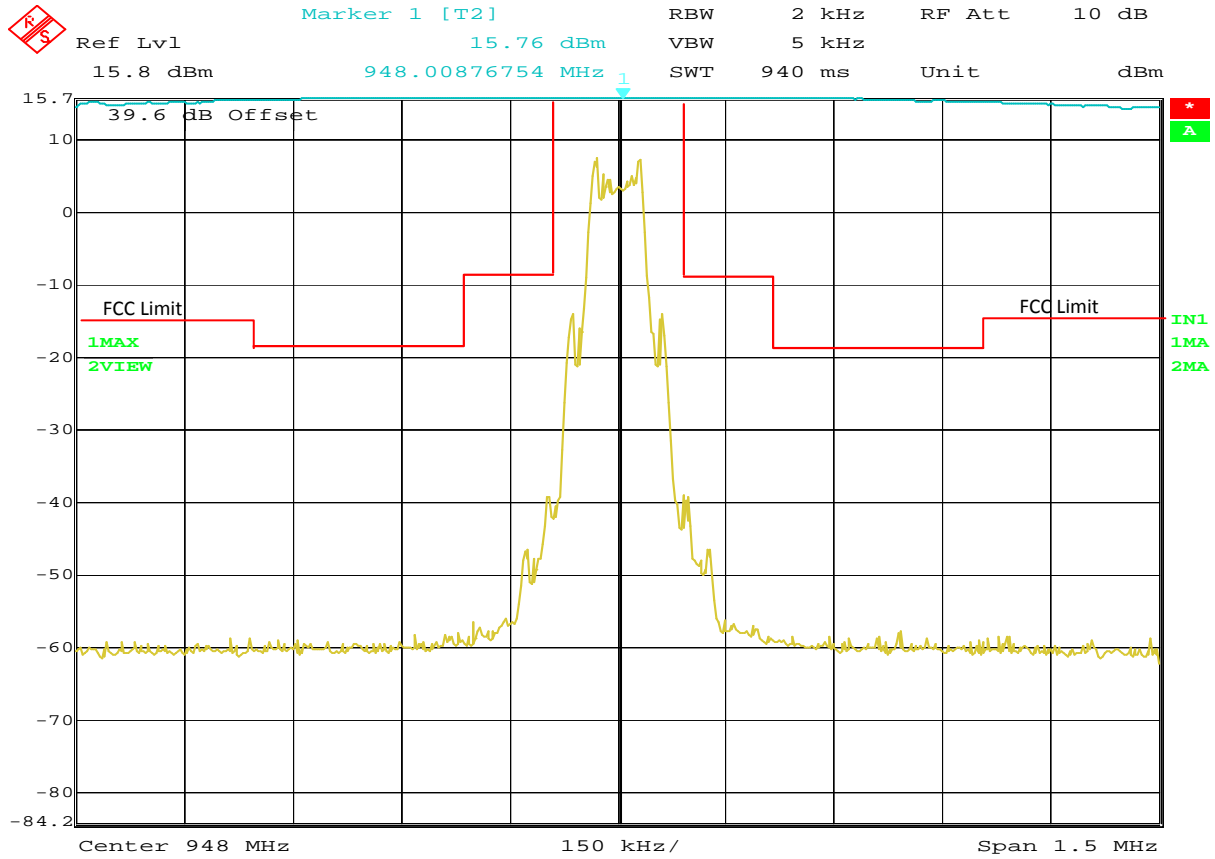
MANUFACTURER : Shure, Inc.
 MODEL NUMBER : UR3
 SERIAL NUMBER : None Assigned
 TEST MODE : Tx @ 697.875MHz, 10mW
 NOTES : Group E
 TEST DATE : October 13, 2011
 TEST PARAMETERS : Occupied Bandwidth
 NOTES : Modulation at 2.5kHz at 16dB over 50%
 EQUIPMENT USED : RBA0, T2D7, T2D8



Date: 13.OCT.2011 14:17:31

FCC/IC Occupied Bandwidth

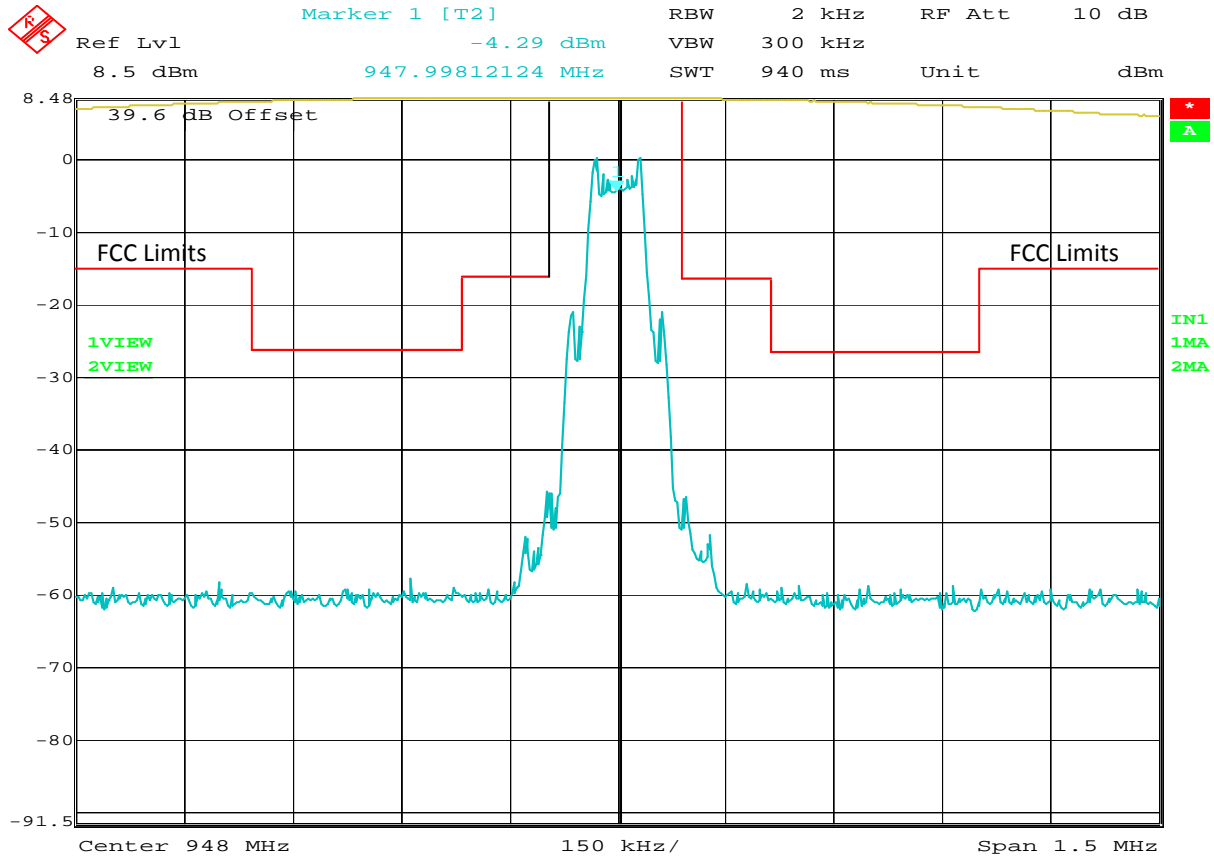
MANUFACTURER : Shure, Inc.
 MODEL NUMBER : UR3
 SERIAL NUMBER : None Assigned
 TEST MODE : Tx @ 697.875MHz, 50mW
 NOTES : Group E
 TEST DATE : October 13, 2011
 TEST PARAMETERS : Occupied Bandwidth
 NOTES : Modulation at 2.5kHz at 16dB over 50%
 EQUIPMENT USED : RBA0, T2D7, T2D8



Date: 13.OCT.2011 12:16:57

FCC Occupied Bandwidth

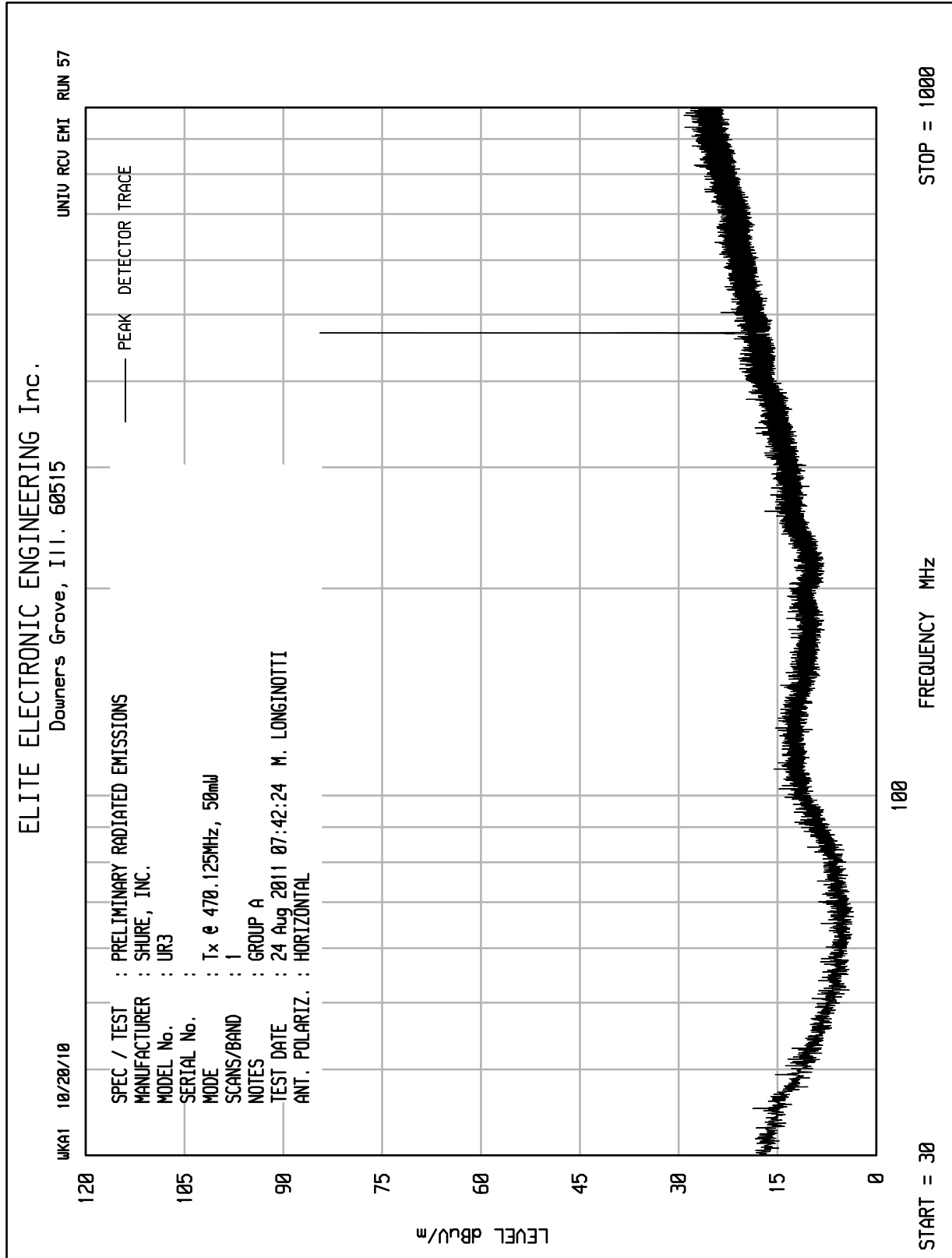
MANUFACTURER : Shure, Inc.
 MODEL NUMBER : UR3
 SERIAL NUMBER : None Assigned
 TEST MODE : Tx @ 948MHz, 50mW
 NOTES : Group P
 TEST DATE : October 13, 2011
 TEST PARAMETERS : Occupied Bandwidth
 NOTES : Modulation at 2.5kHz at 16dB over 50%
 EQUIPMENT USED : RBA0, T2D7, T2D8

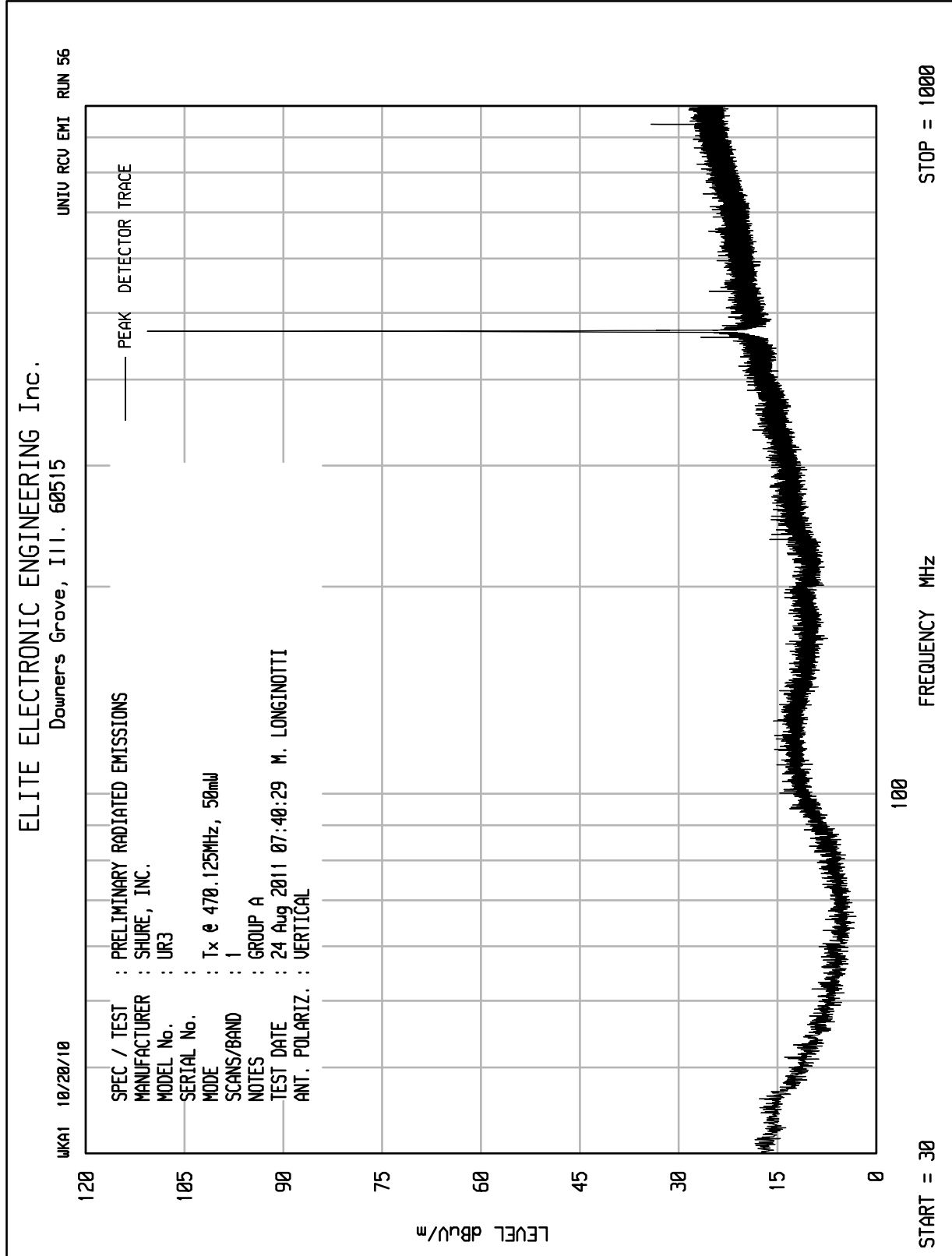


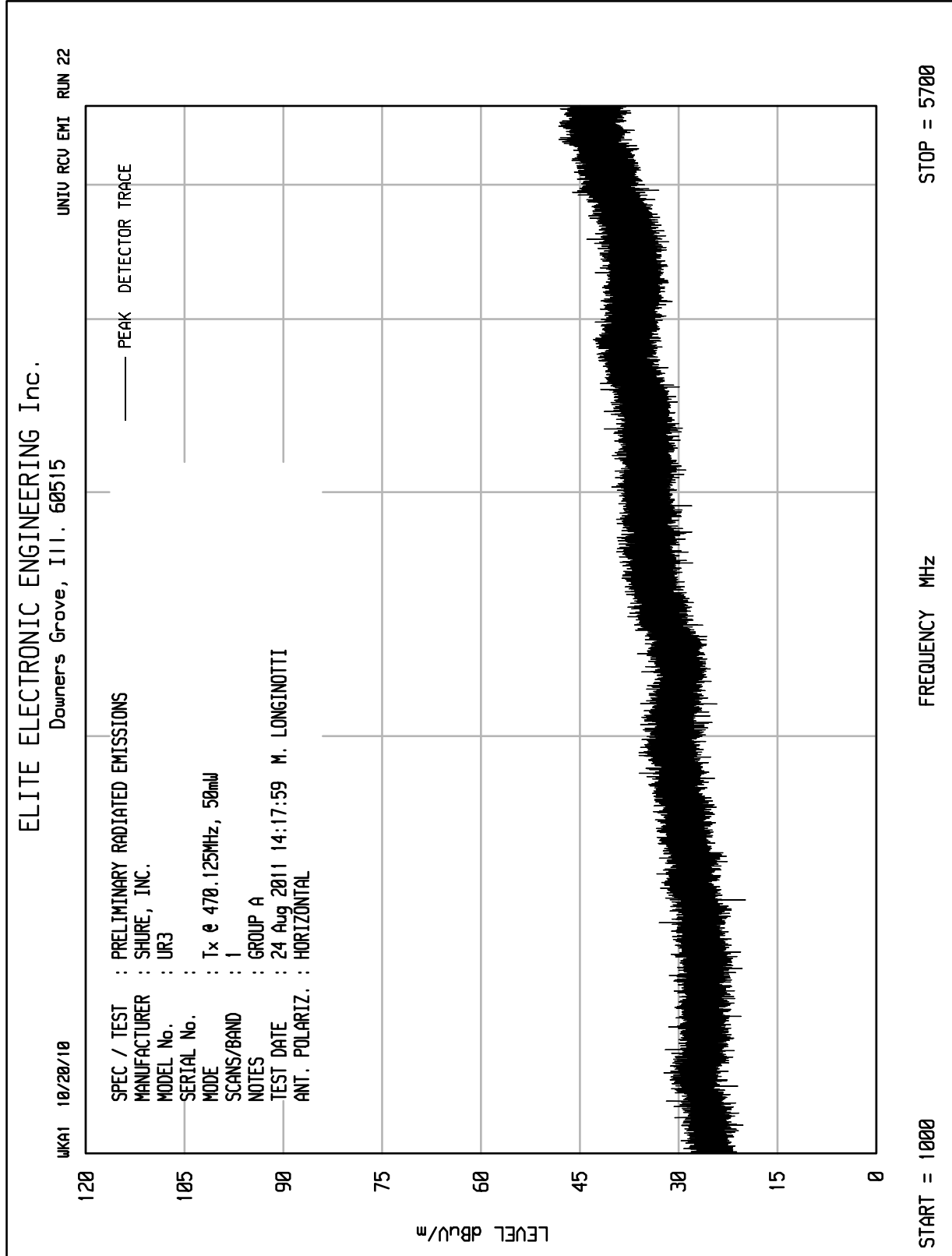
Date: 13.OCT.2011 12:56:14

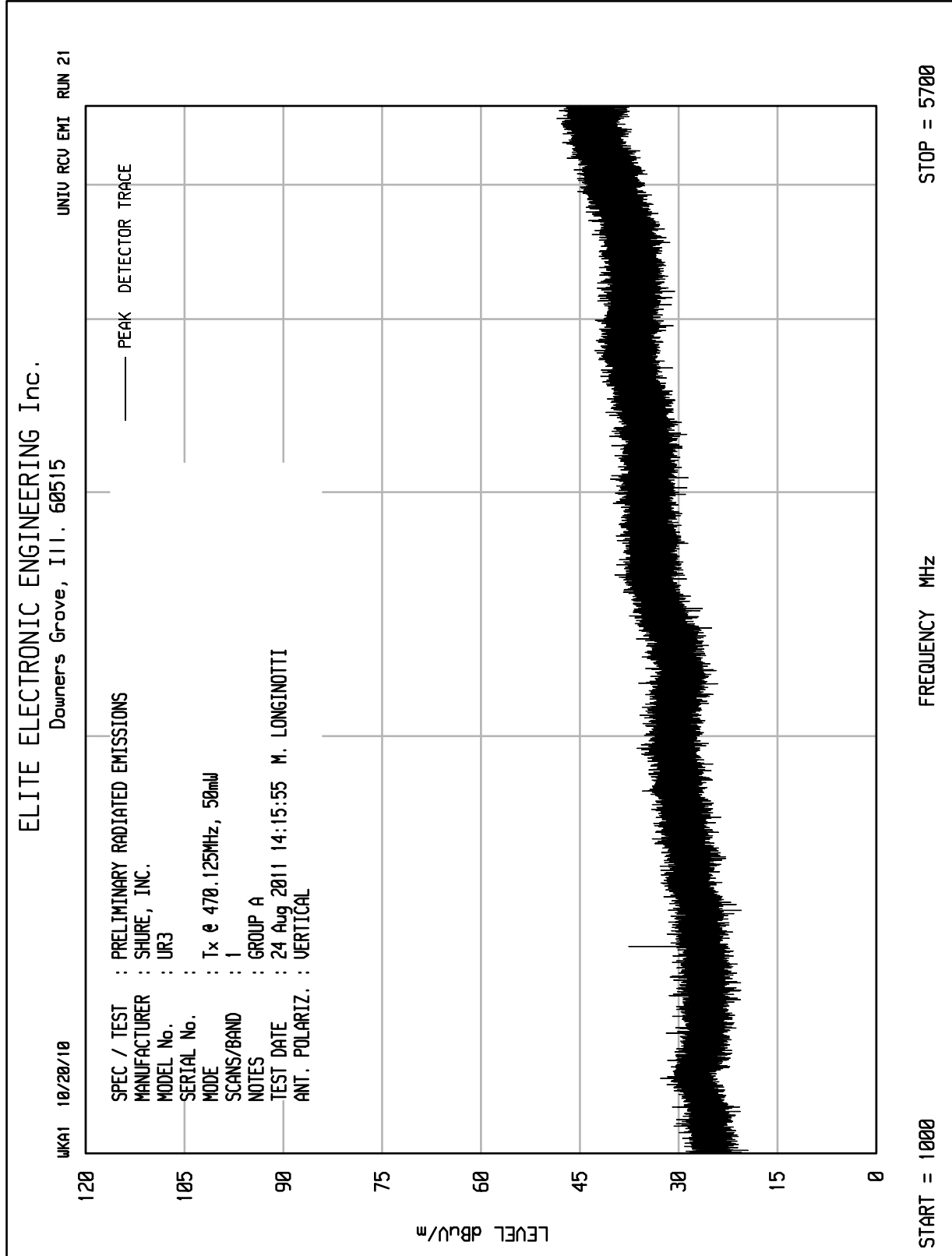
FCC Occupied Bandwidth

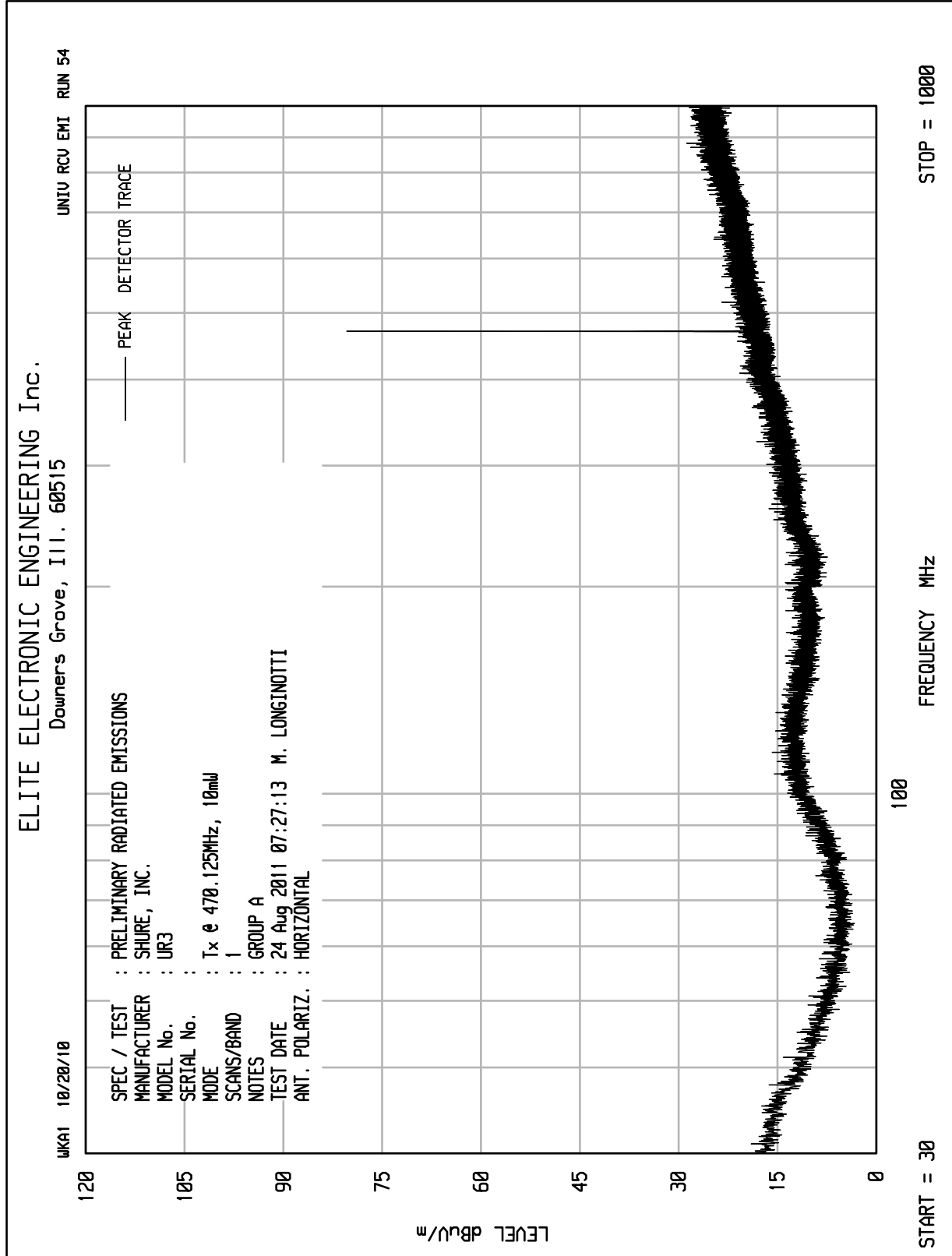
MANUFACTURER : Shure, Inc.
 MODEL NUMBER : UR3
 SERIAL NUMBER : None Assigned
 TEST MODE : Tx @ 948MHz, 10mW
 NOTES : Group P
 TEST DATE : October 13, 2011
 TEST PARAMETERS : Occupied Bandwidth
 NOTES : Modulation at 2.5kHz at 16dB over 50%
 EQUIPMENT USED : RBA0, T2D7, T2D8

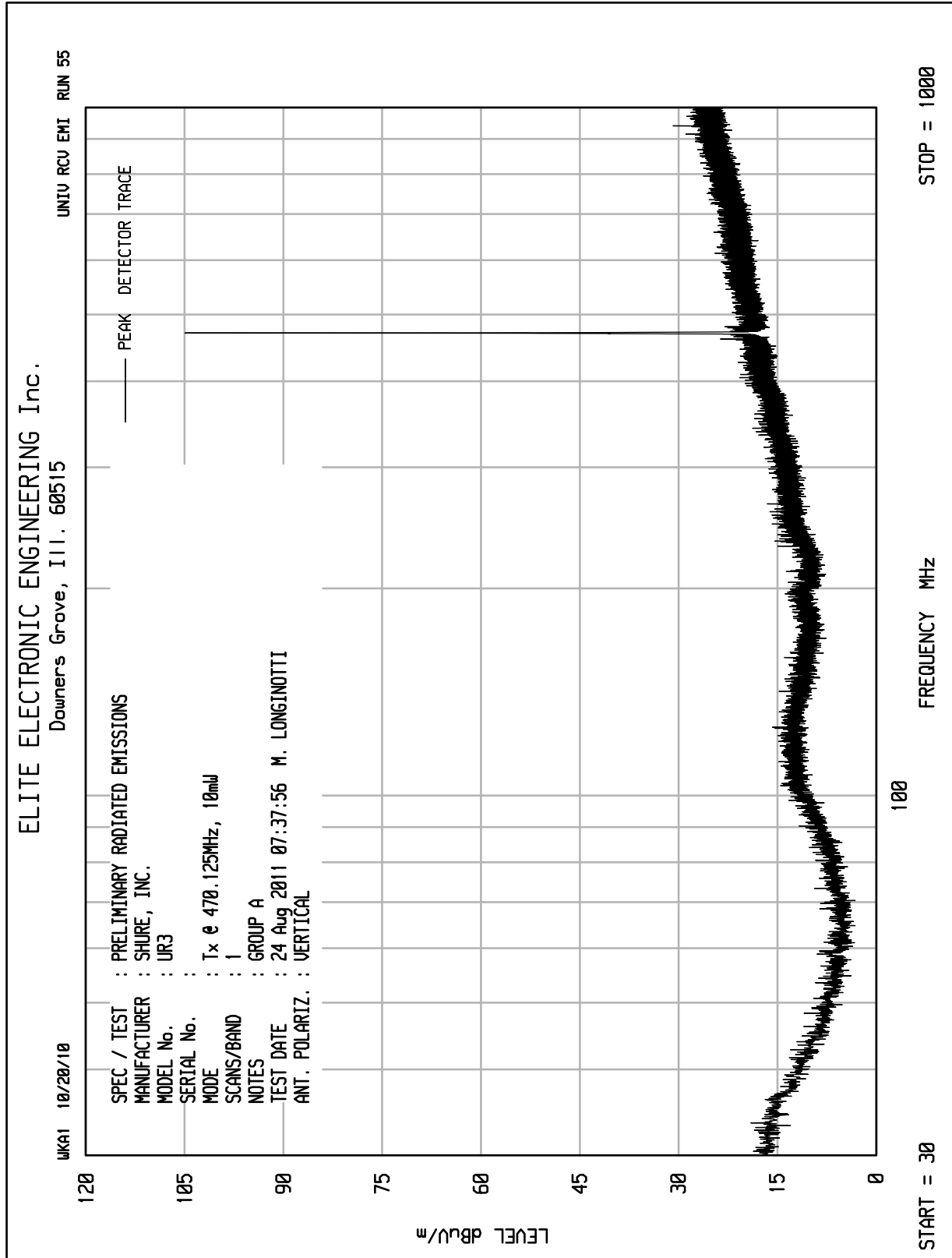


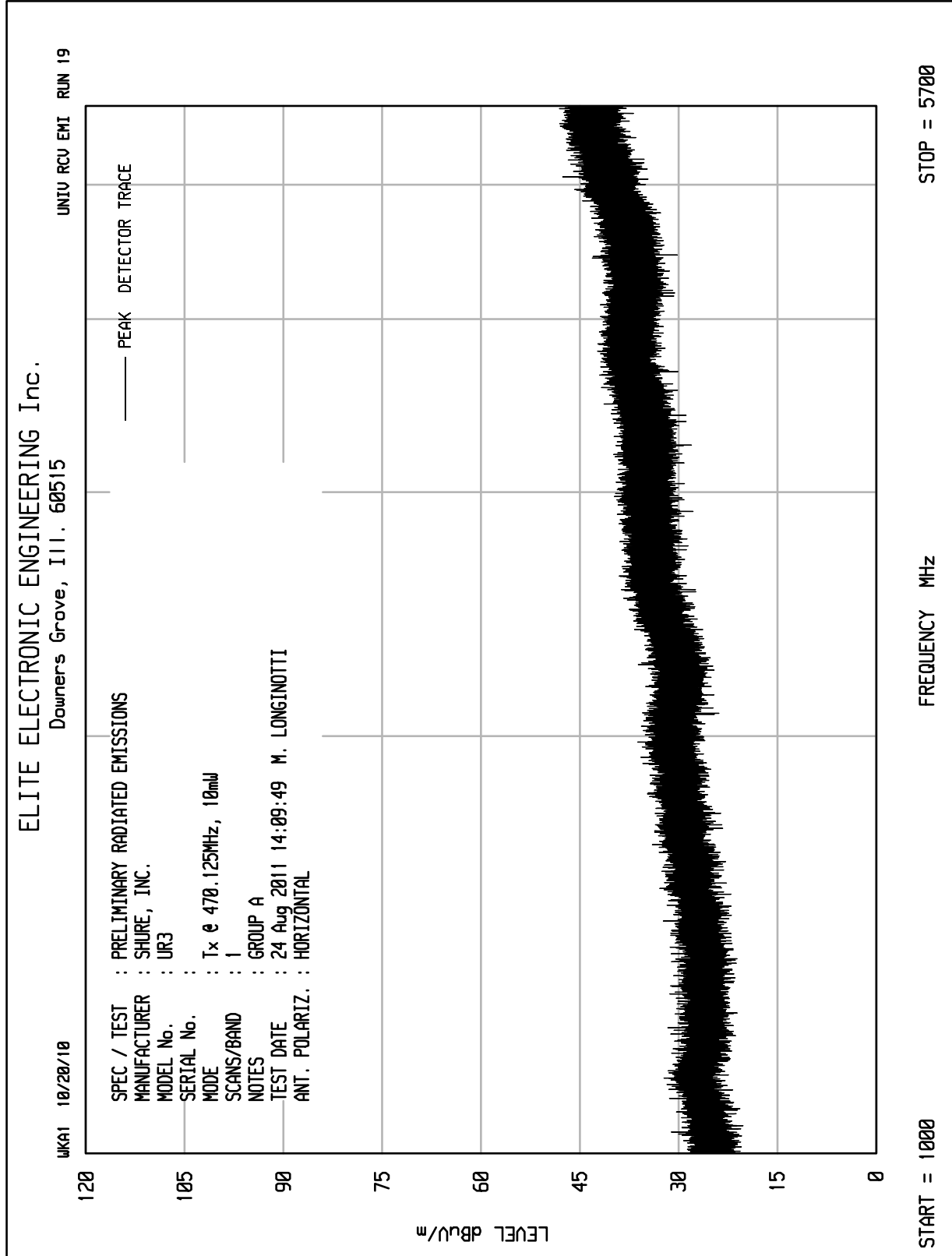


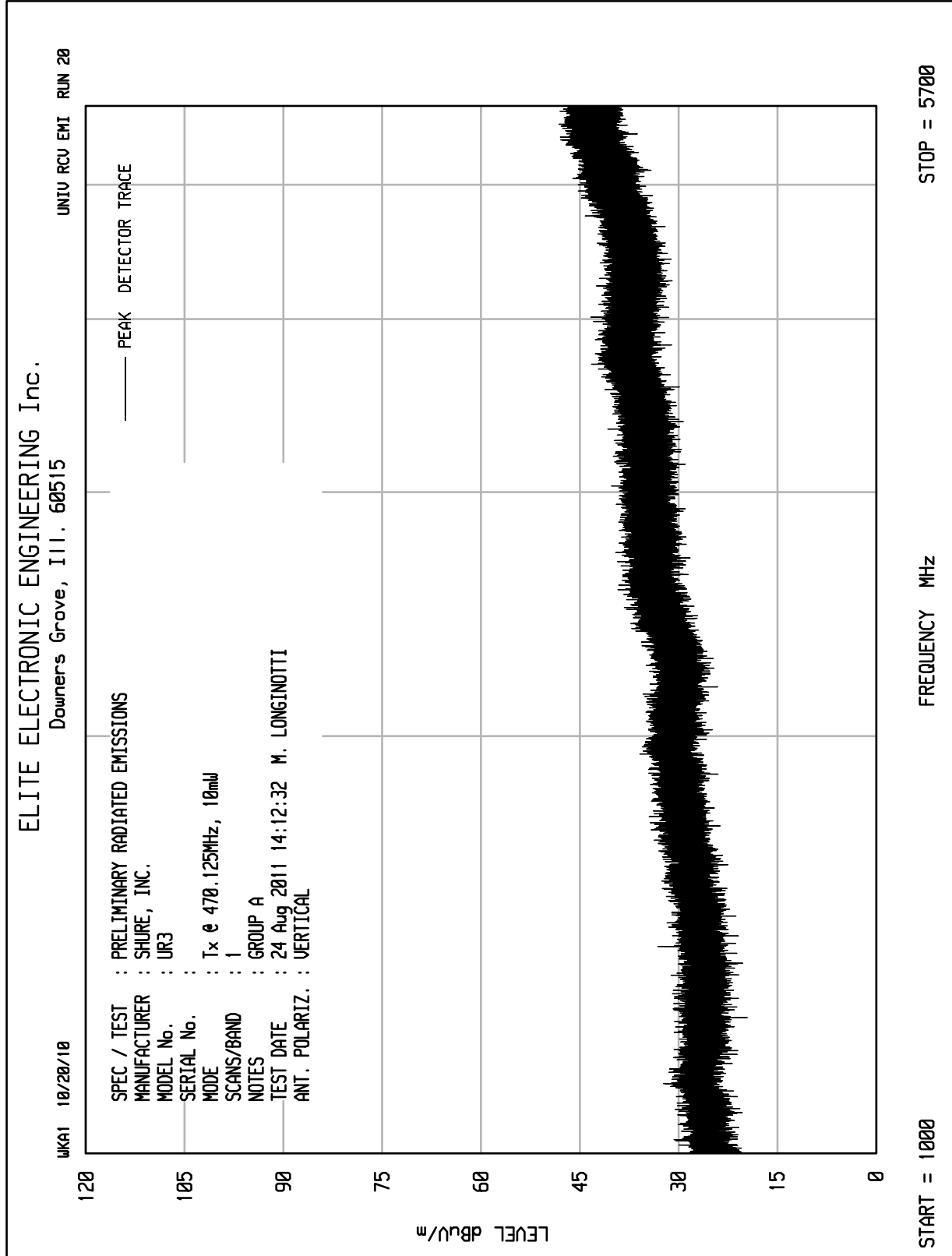


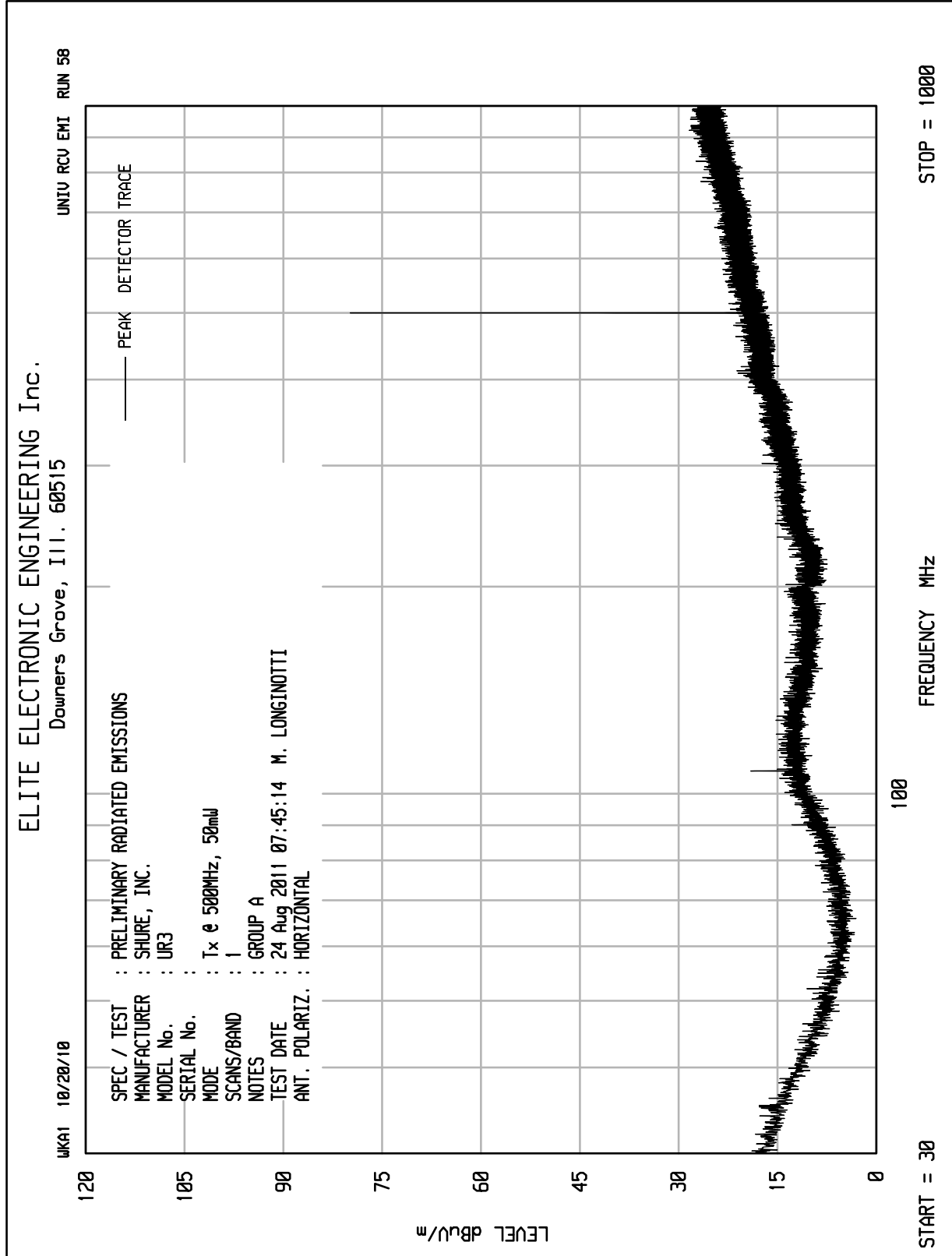


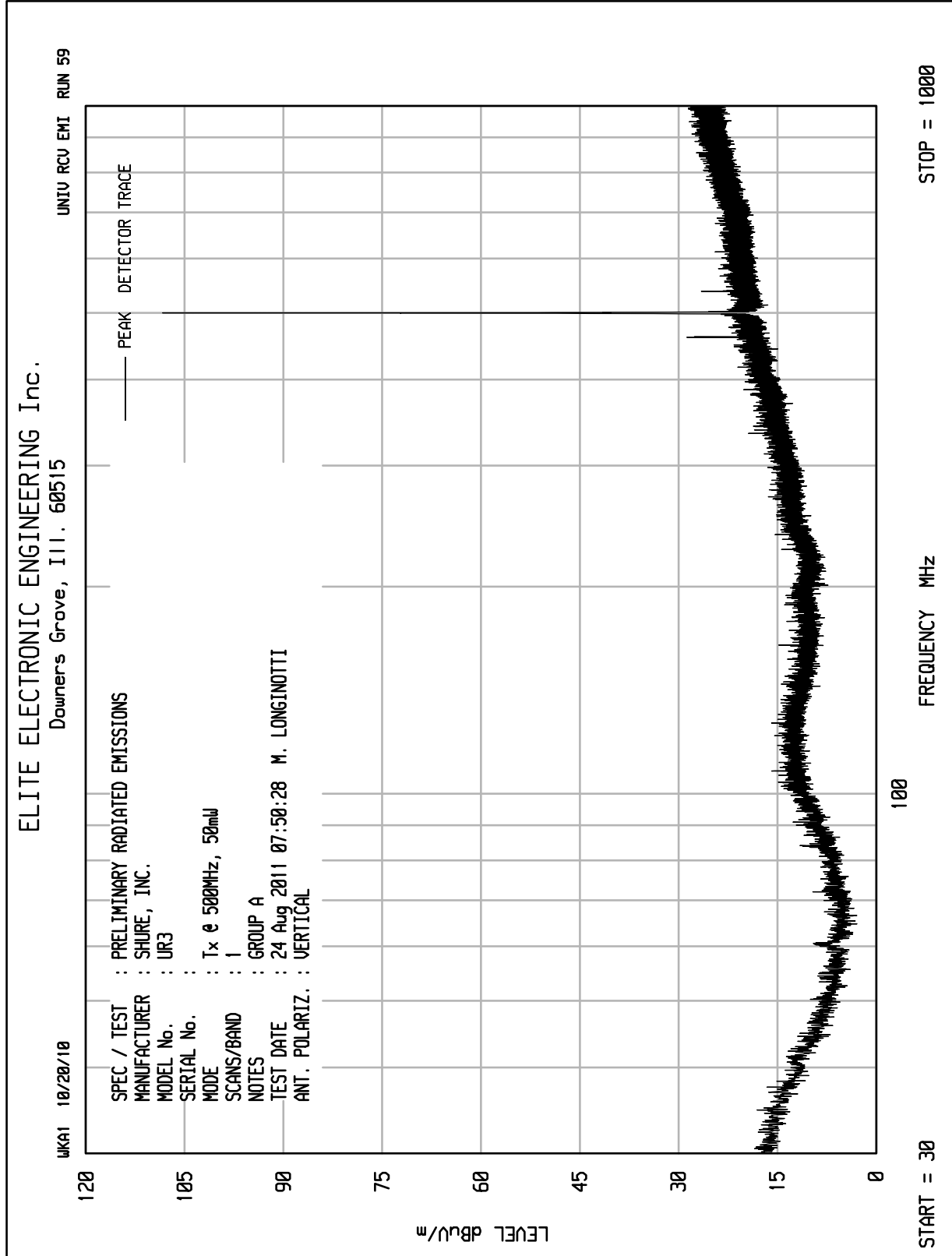


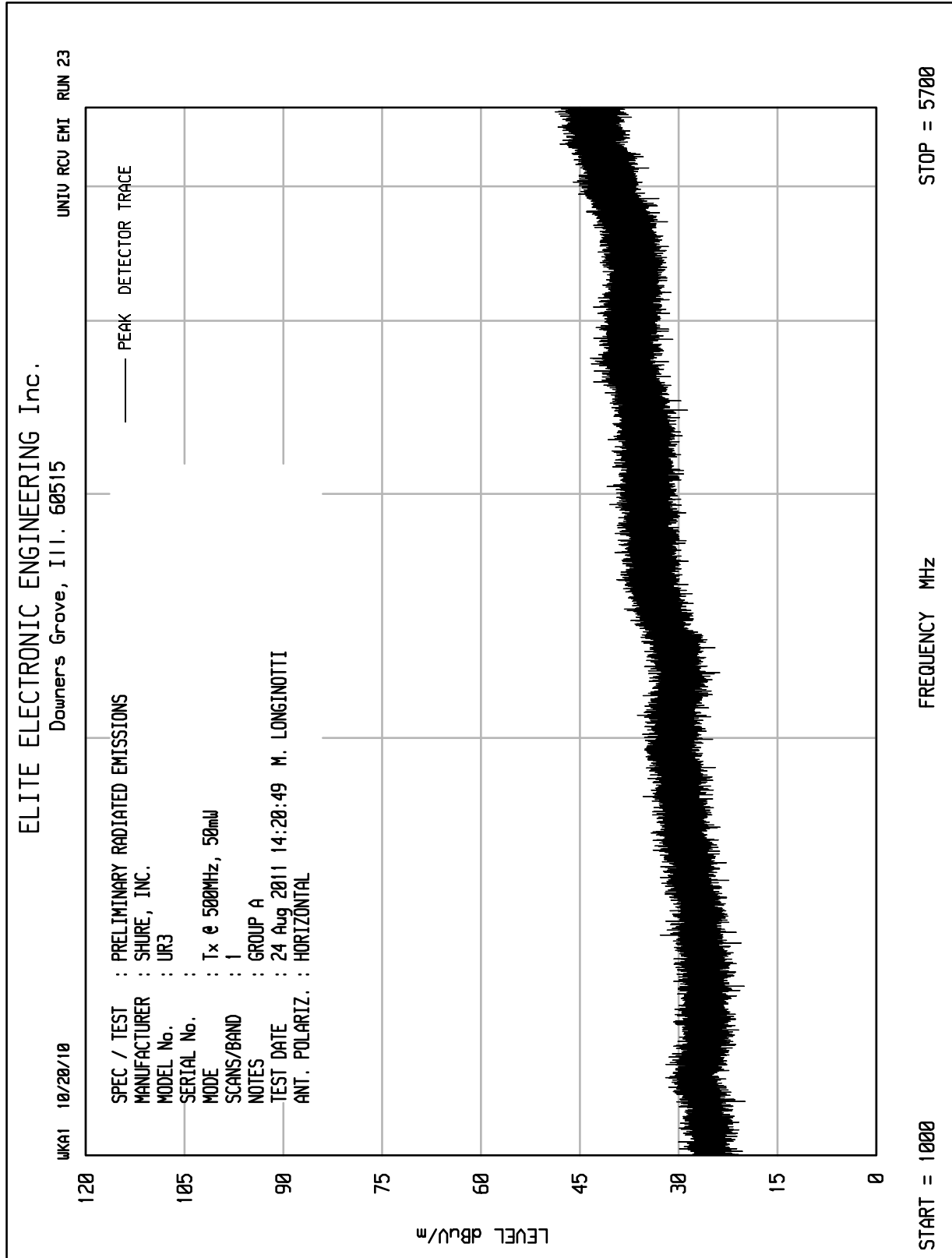


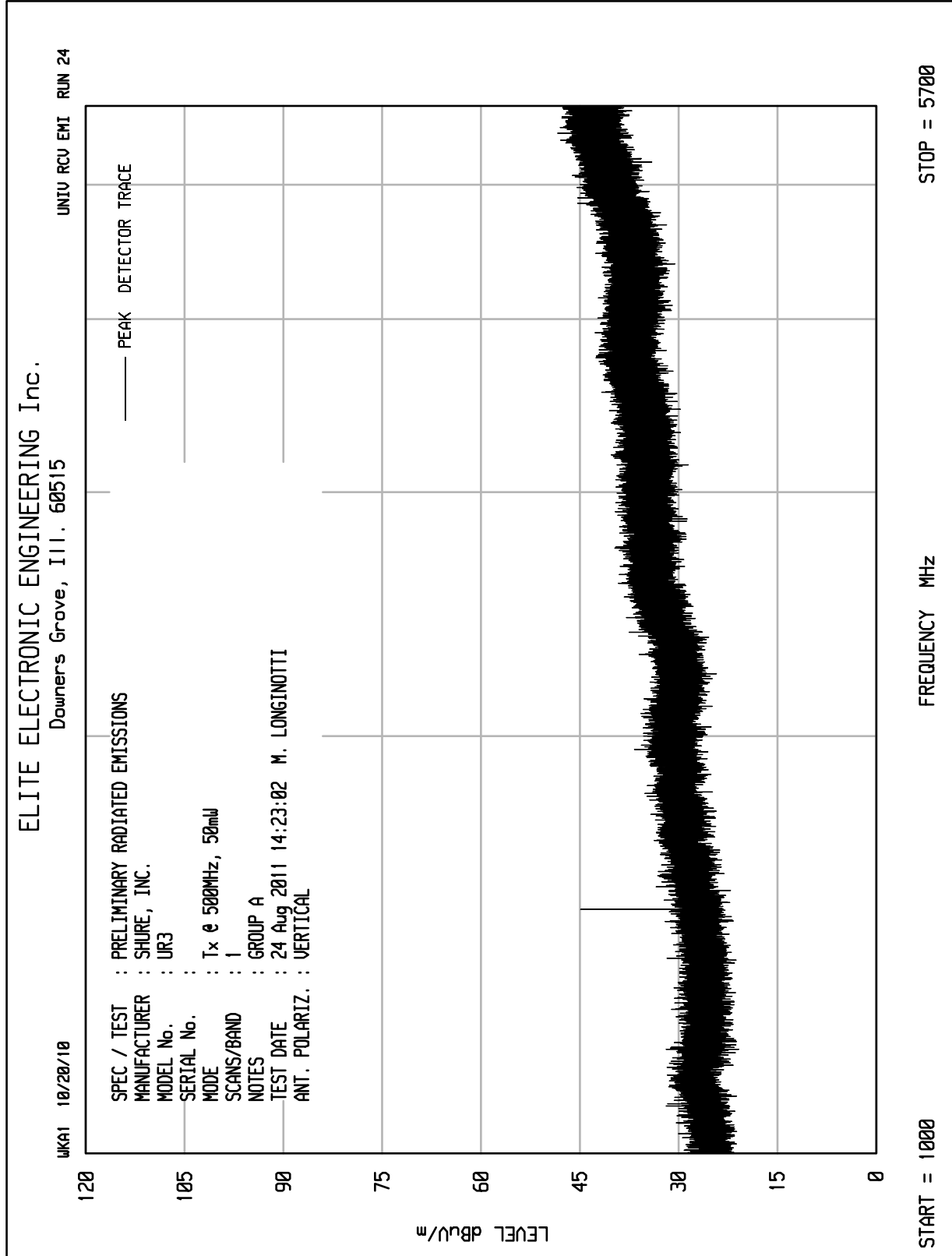


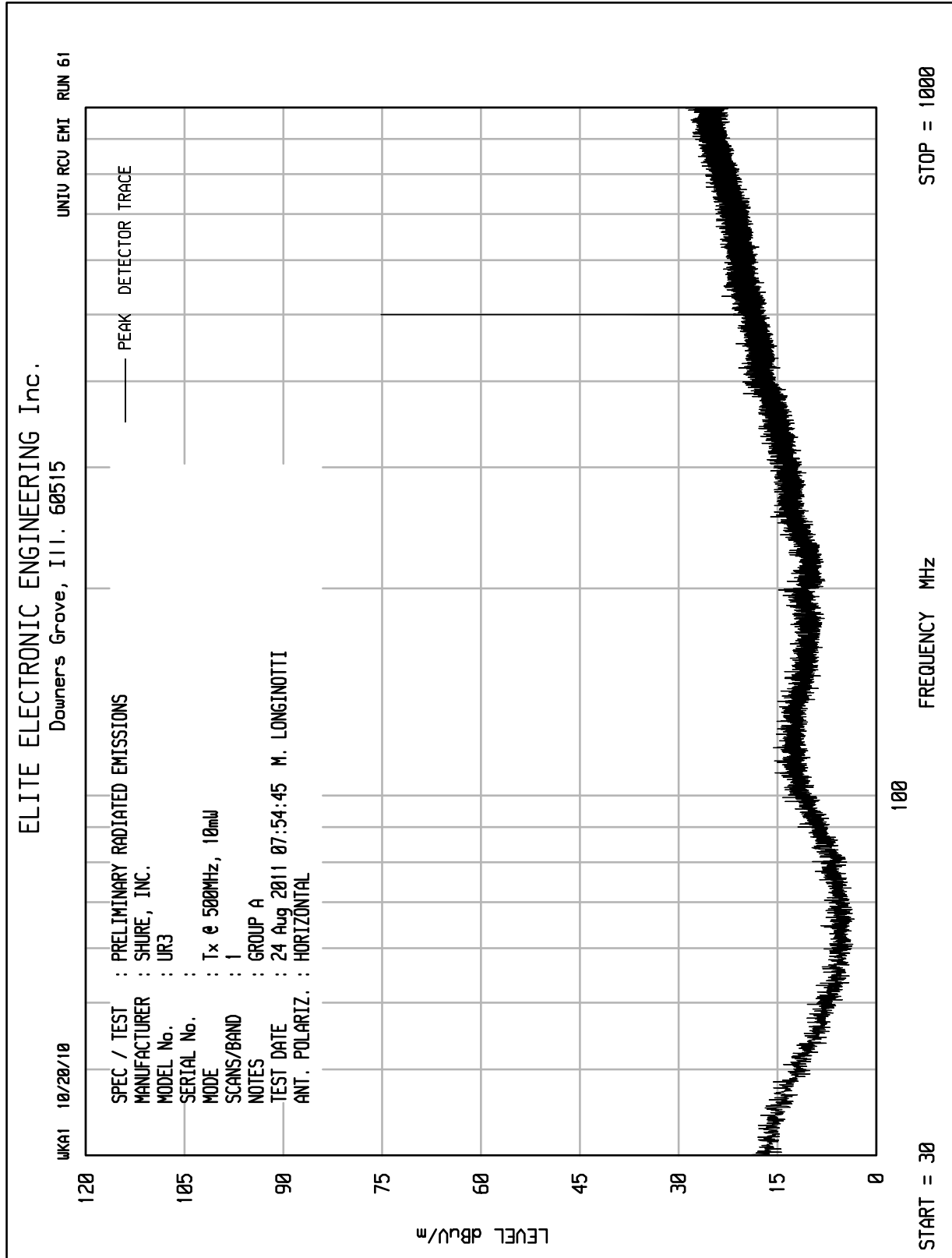


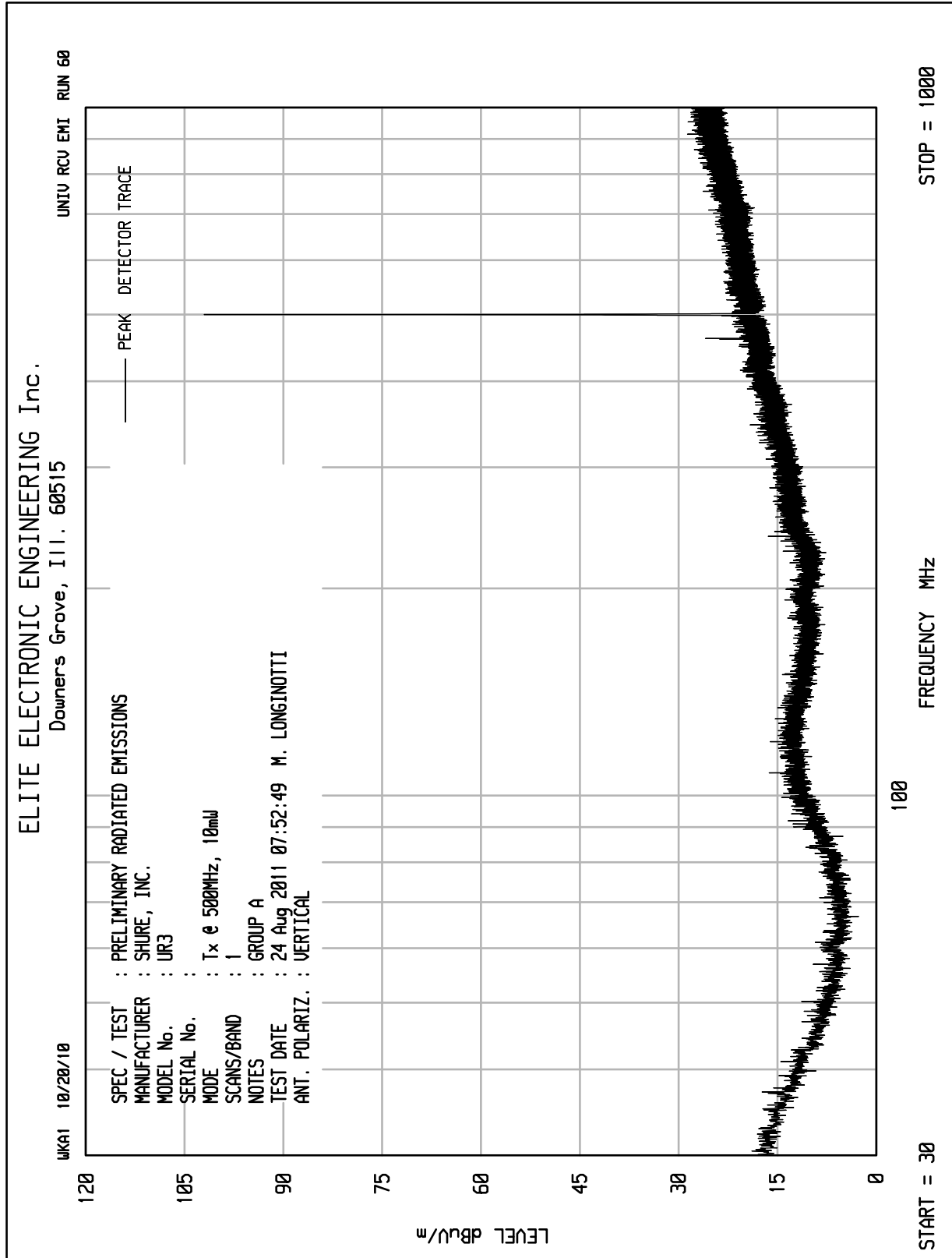


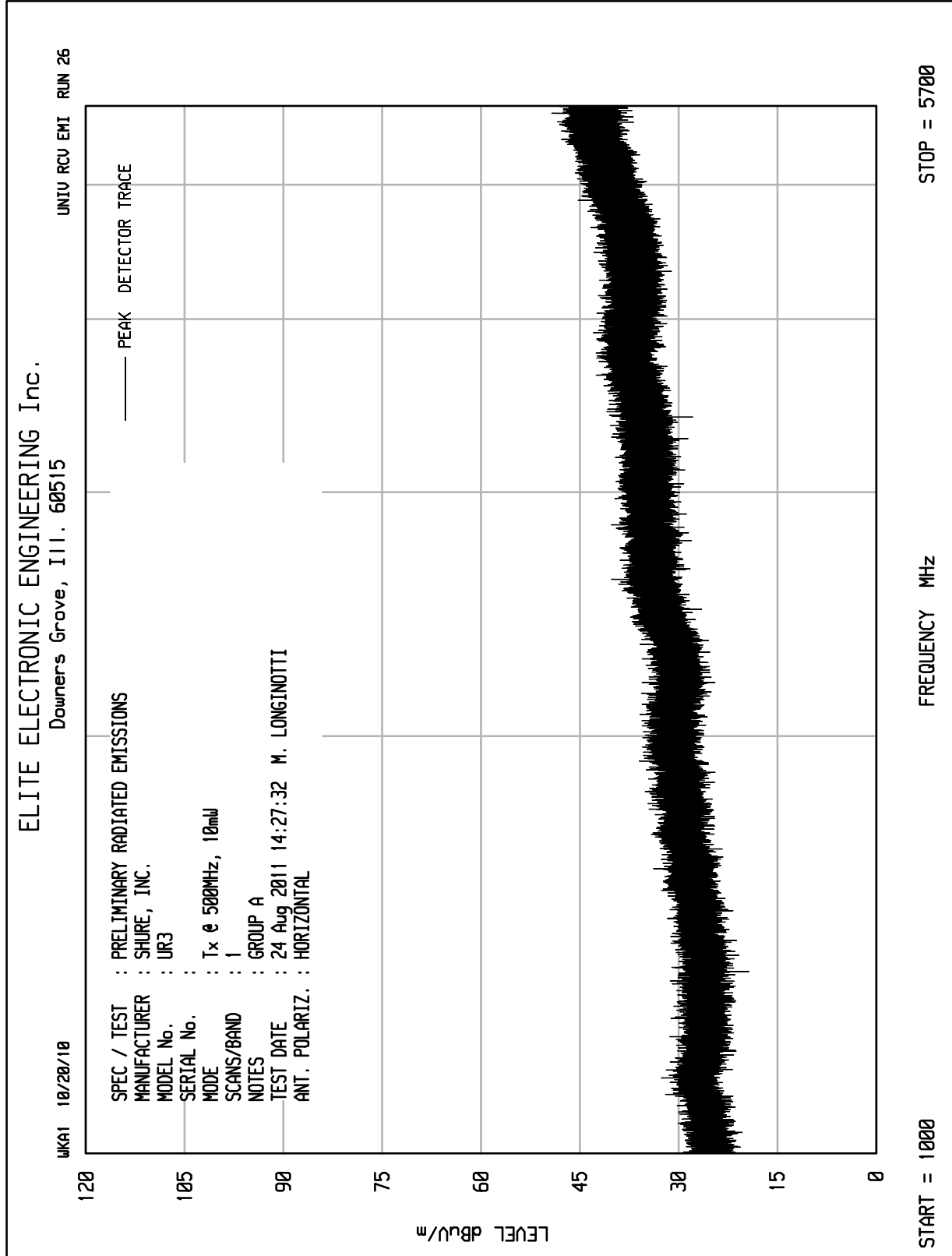


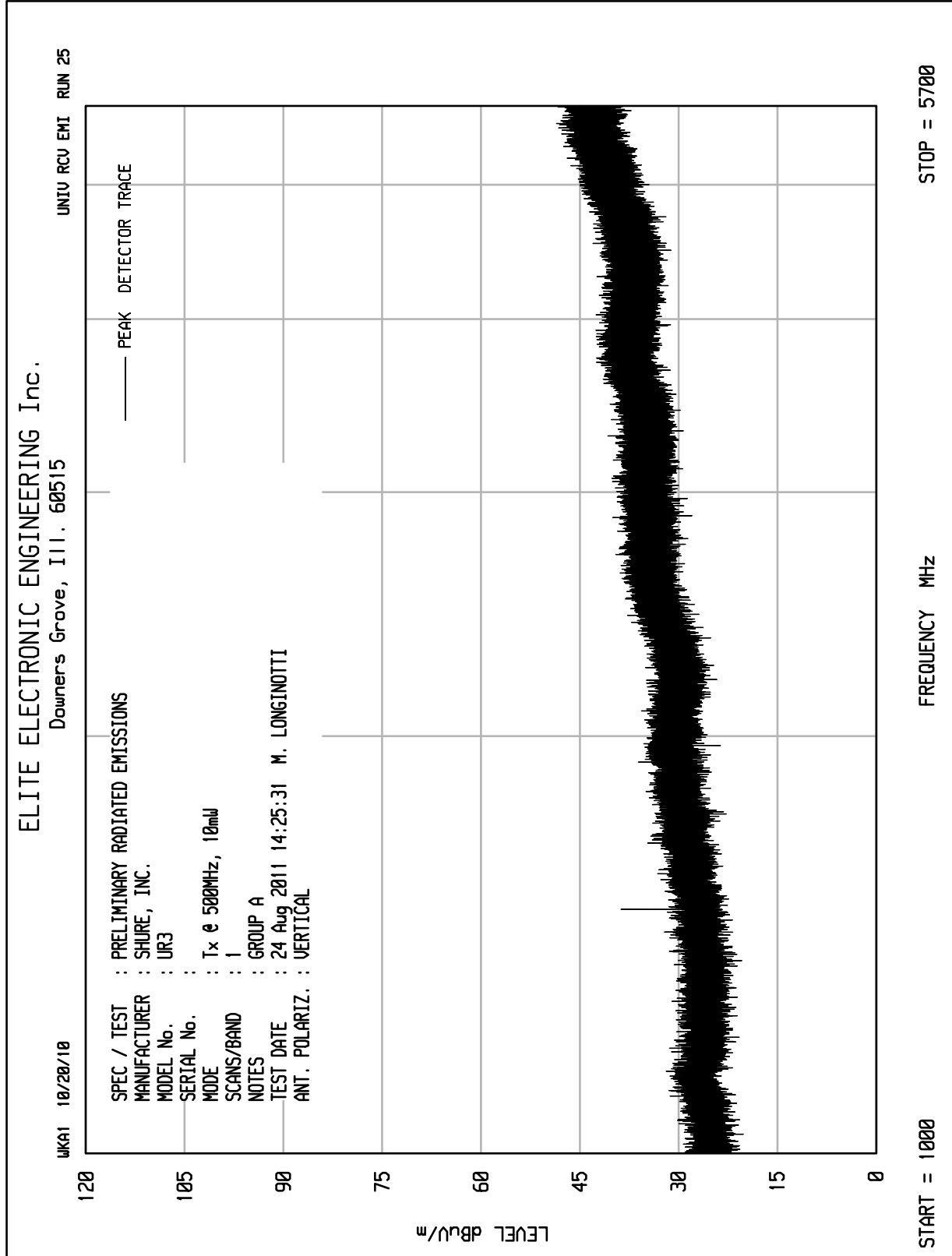


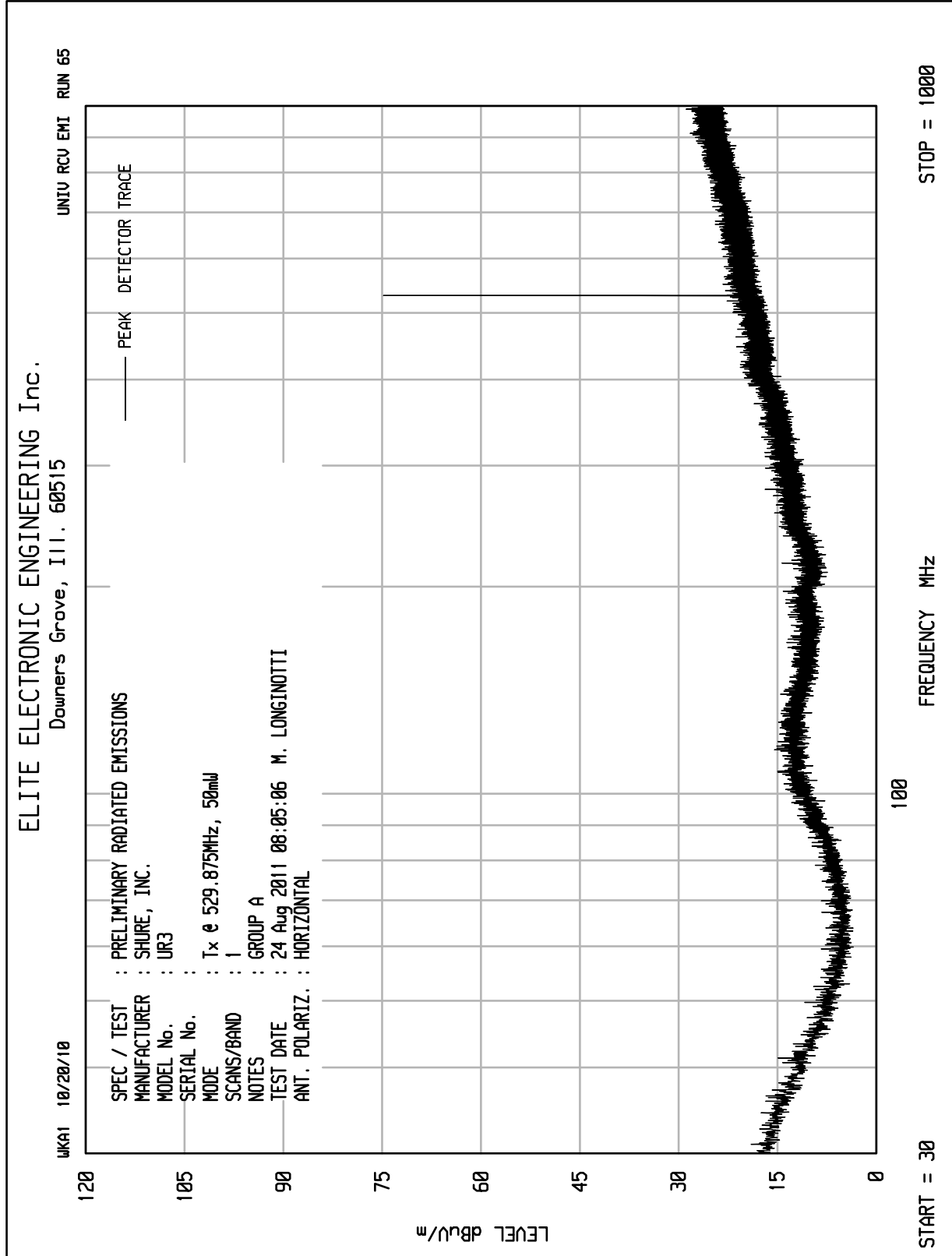


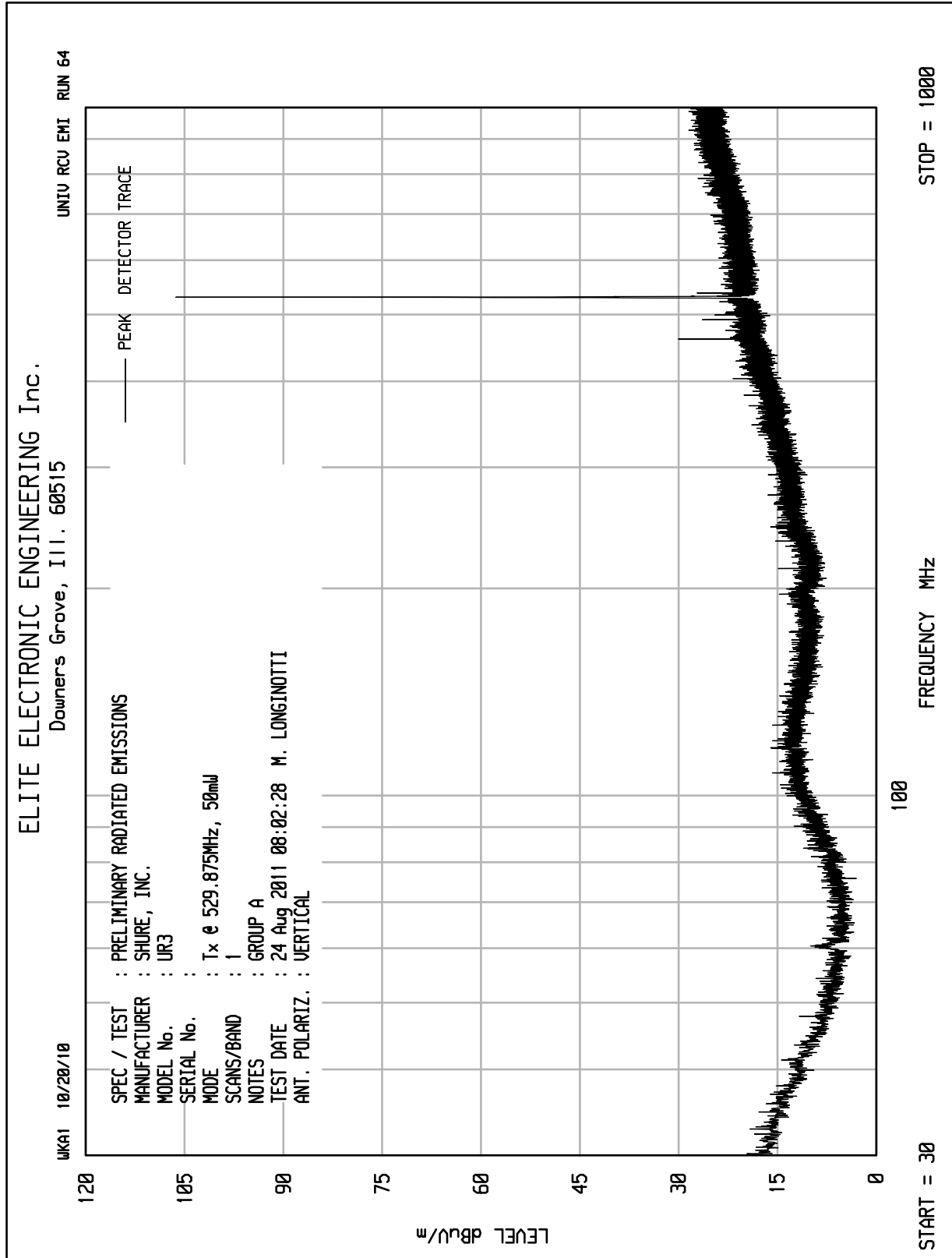


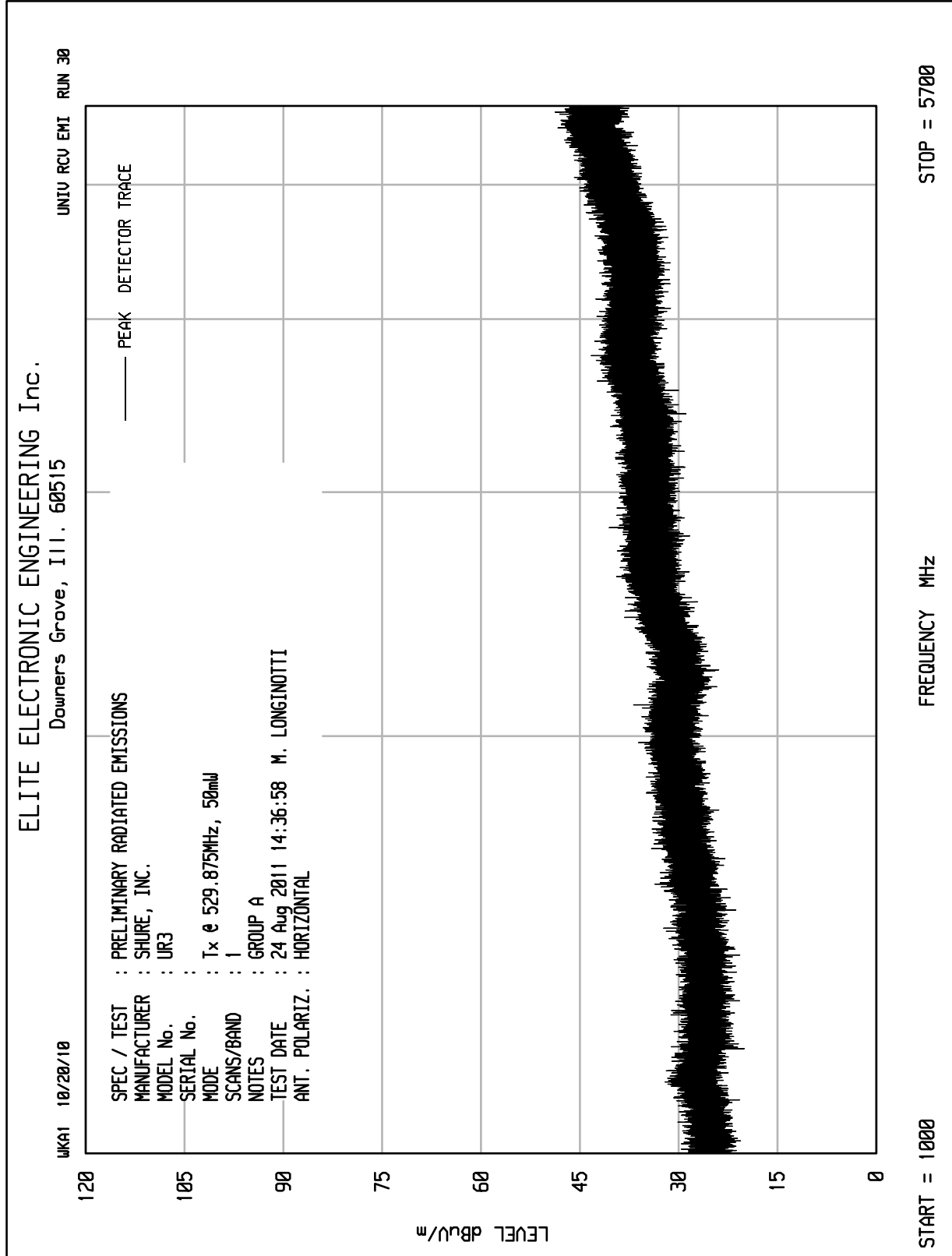


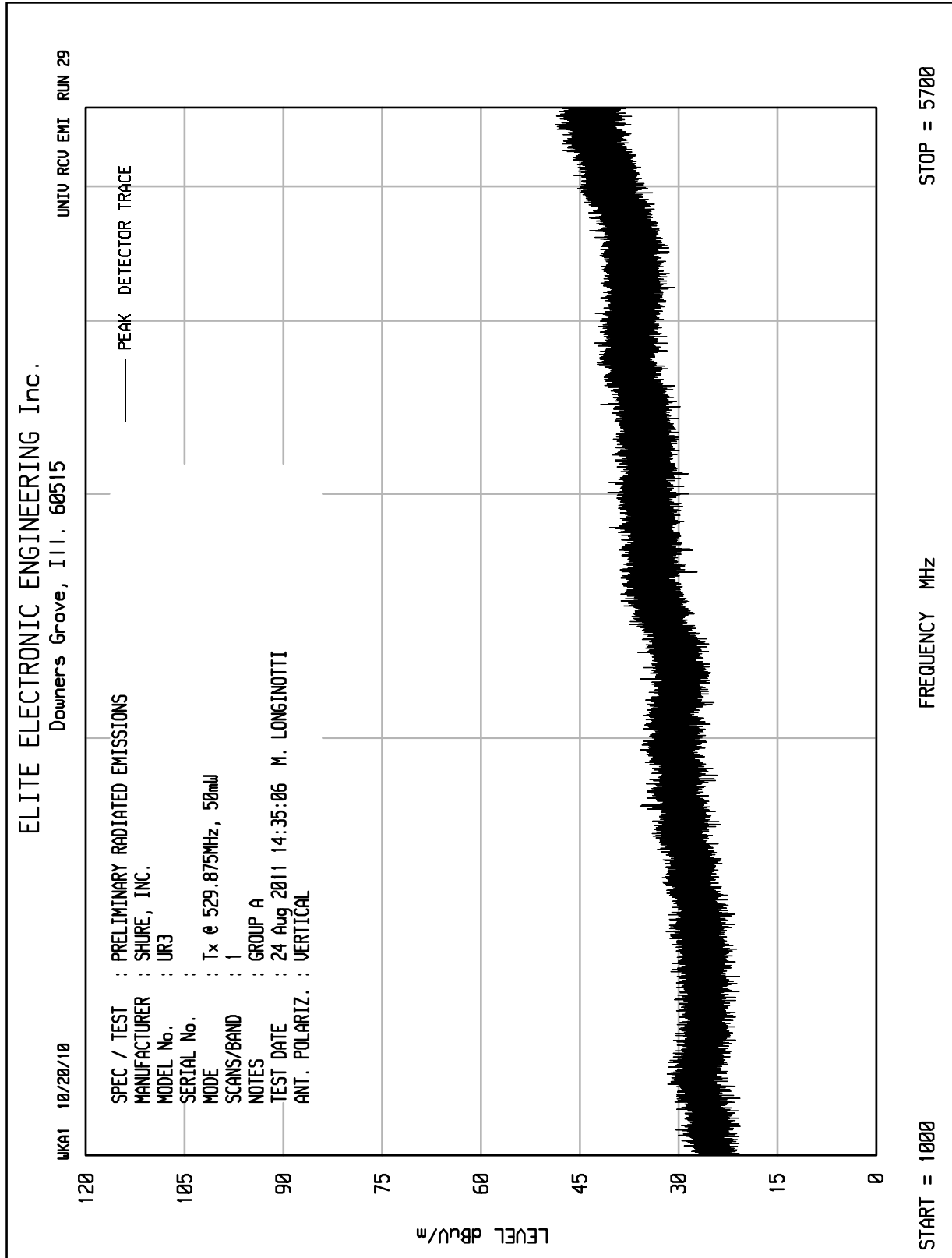


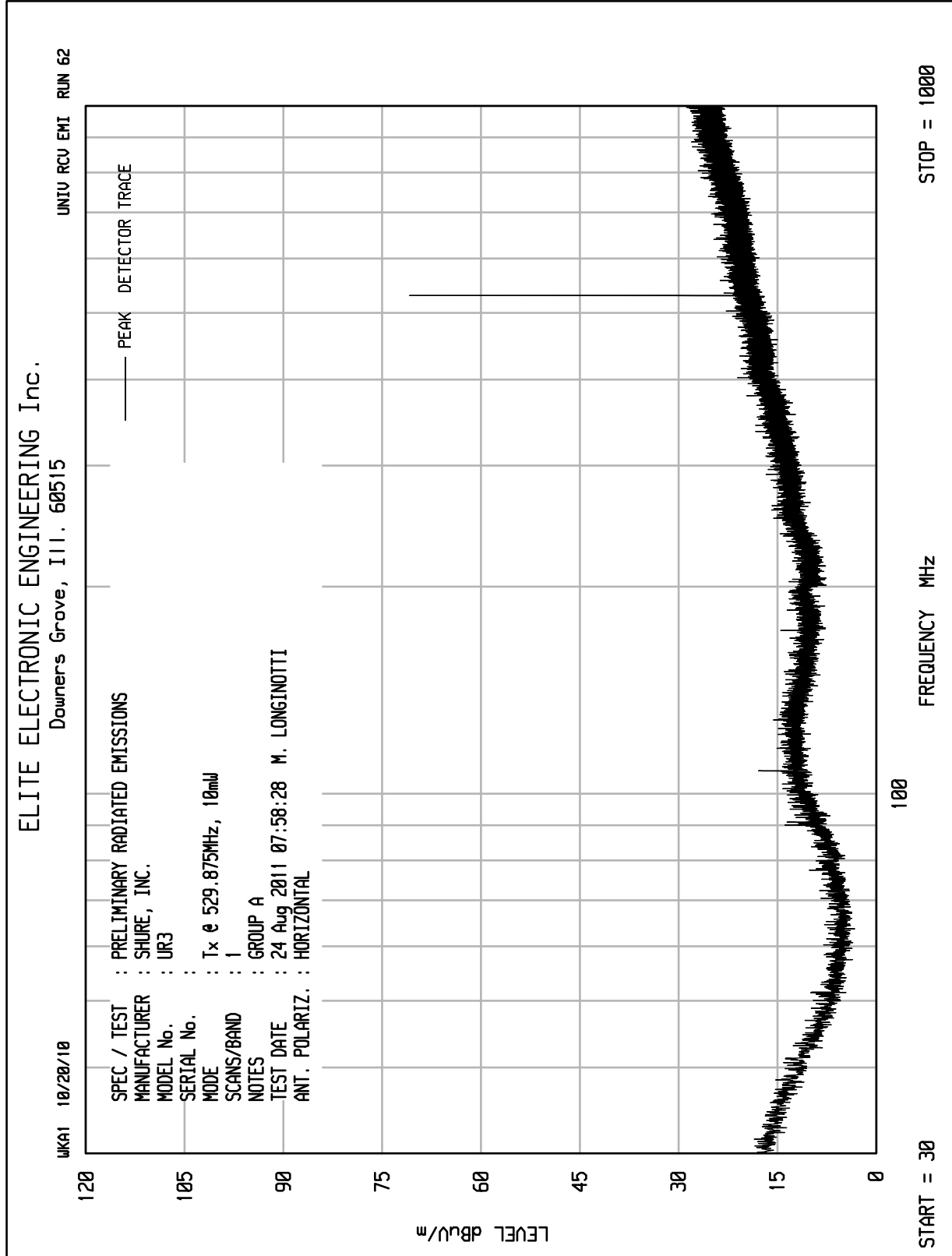


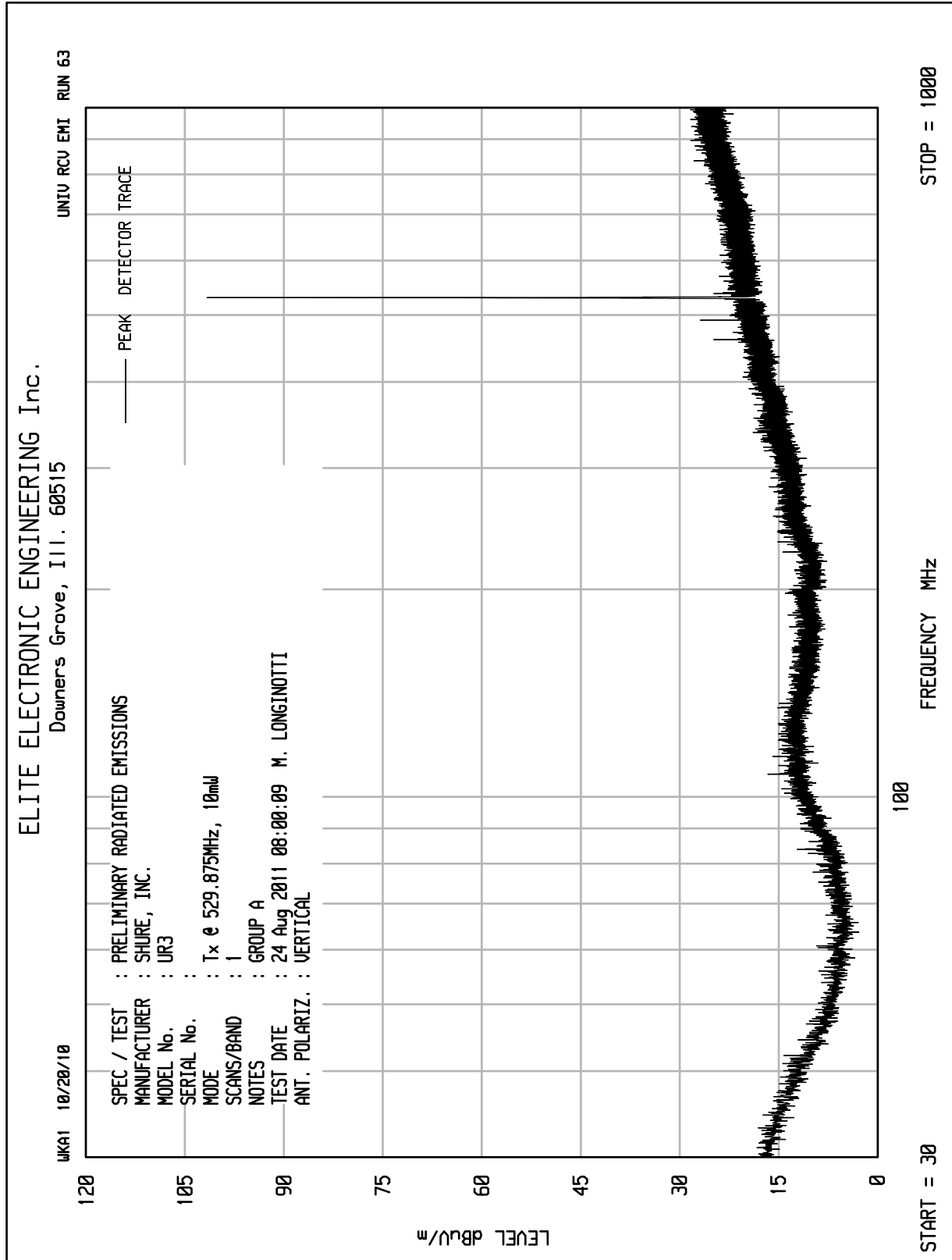


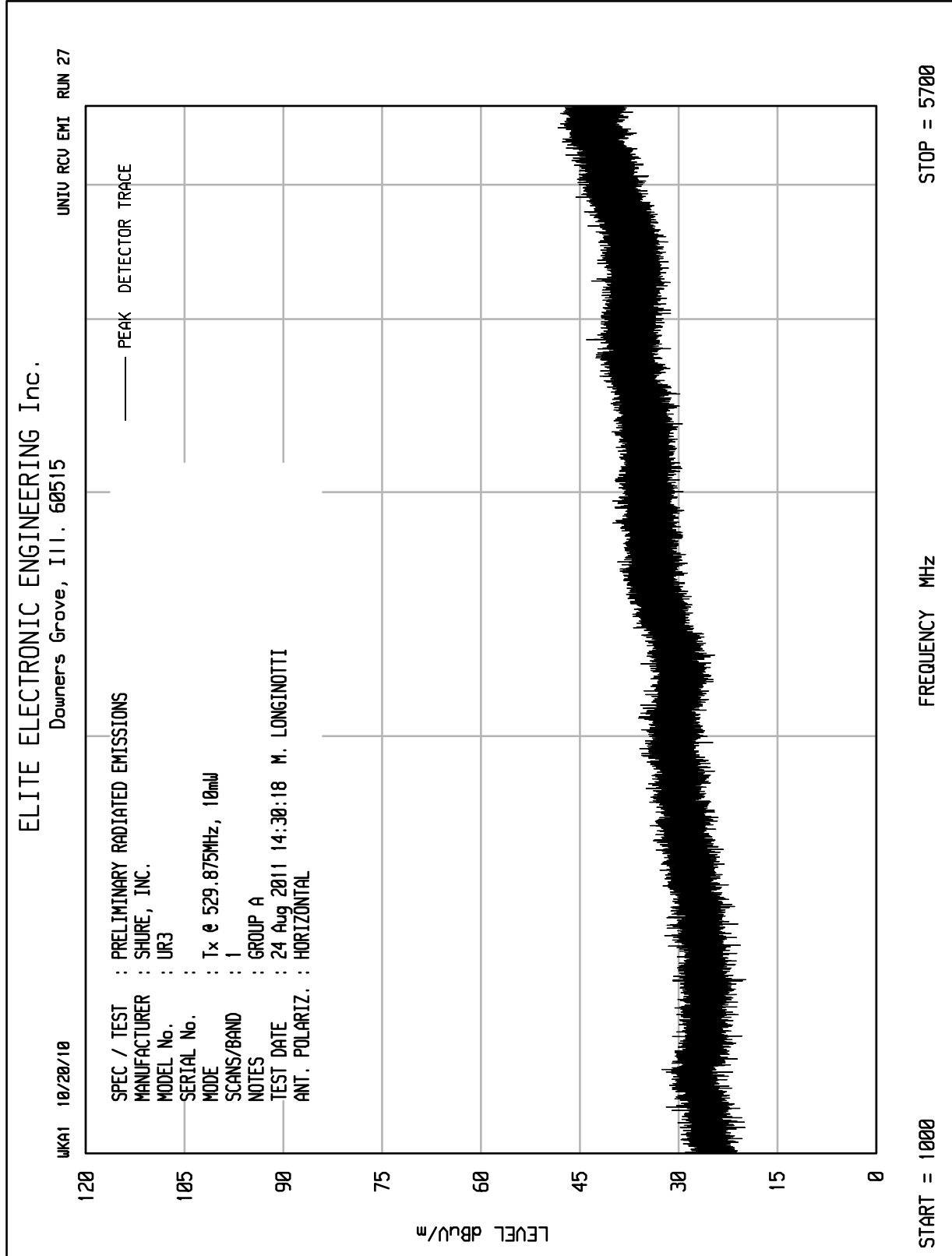


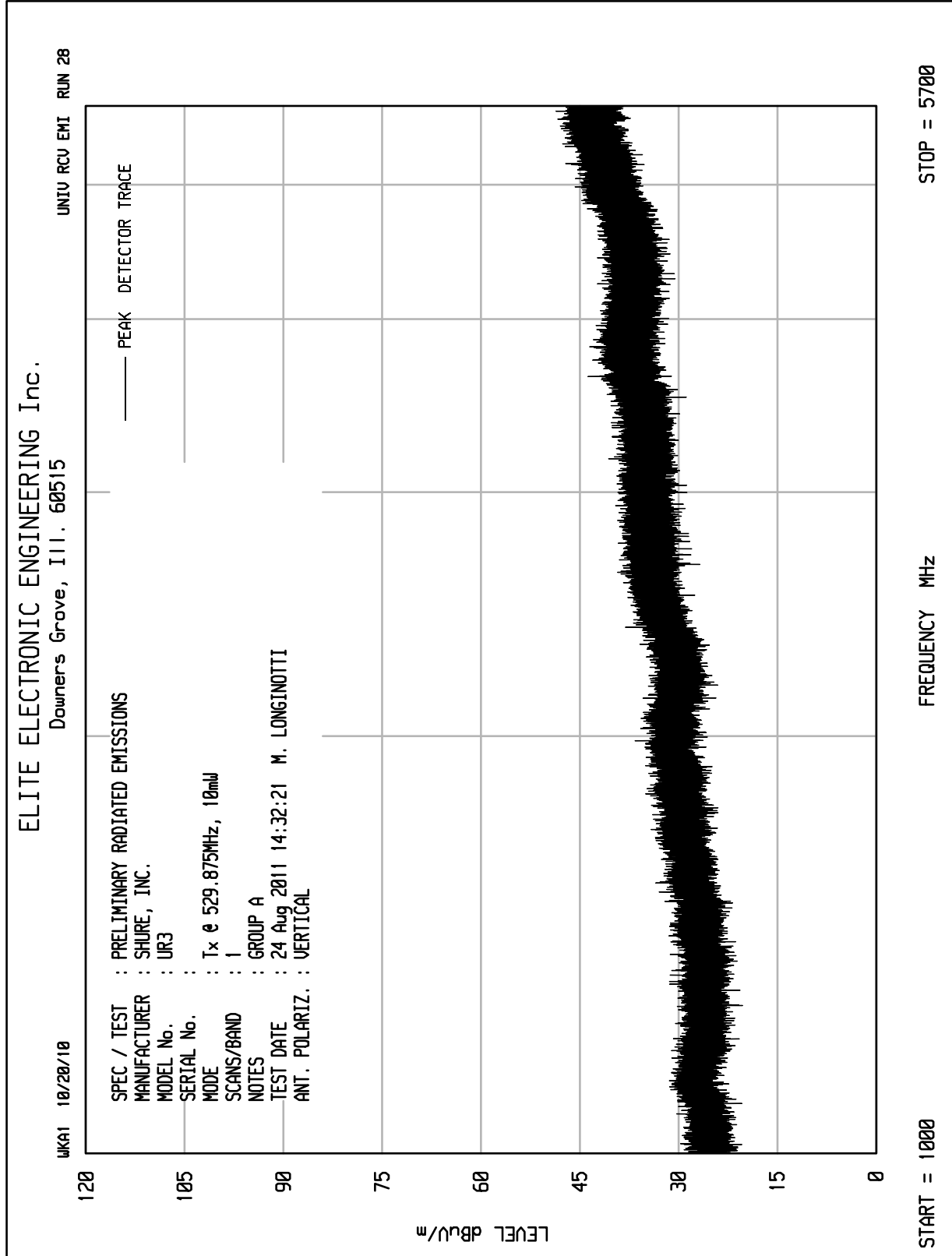


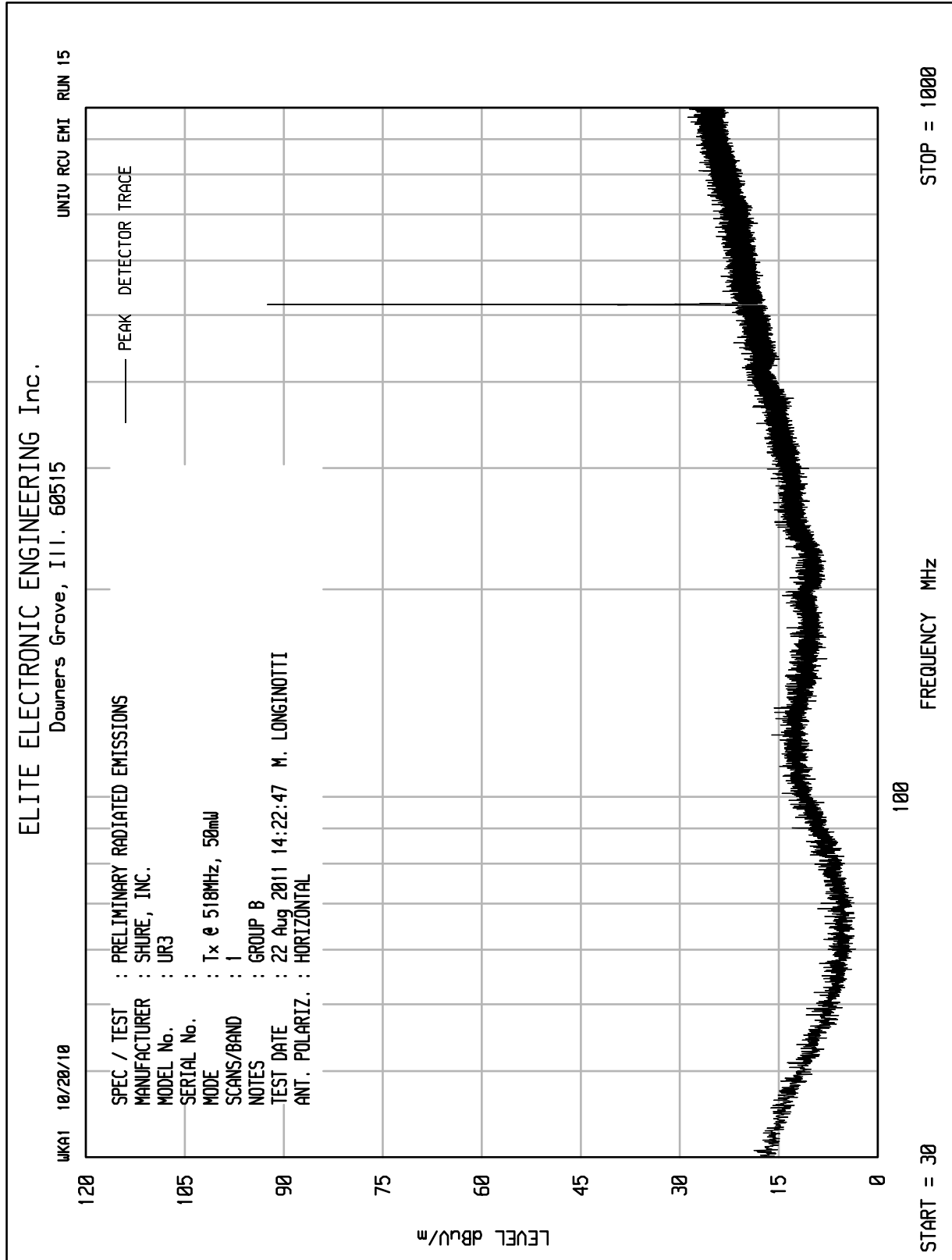


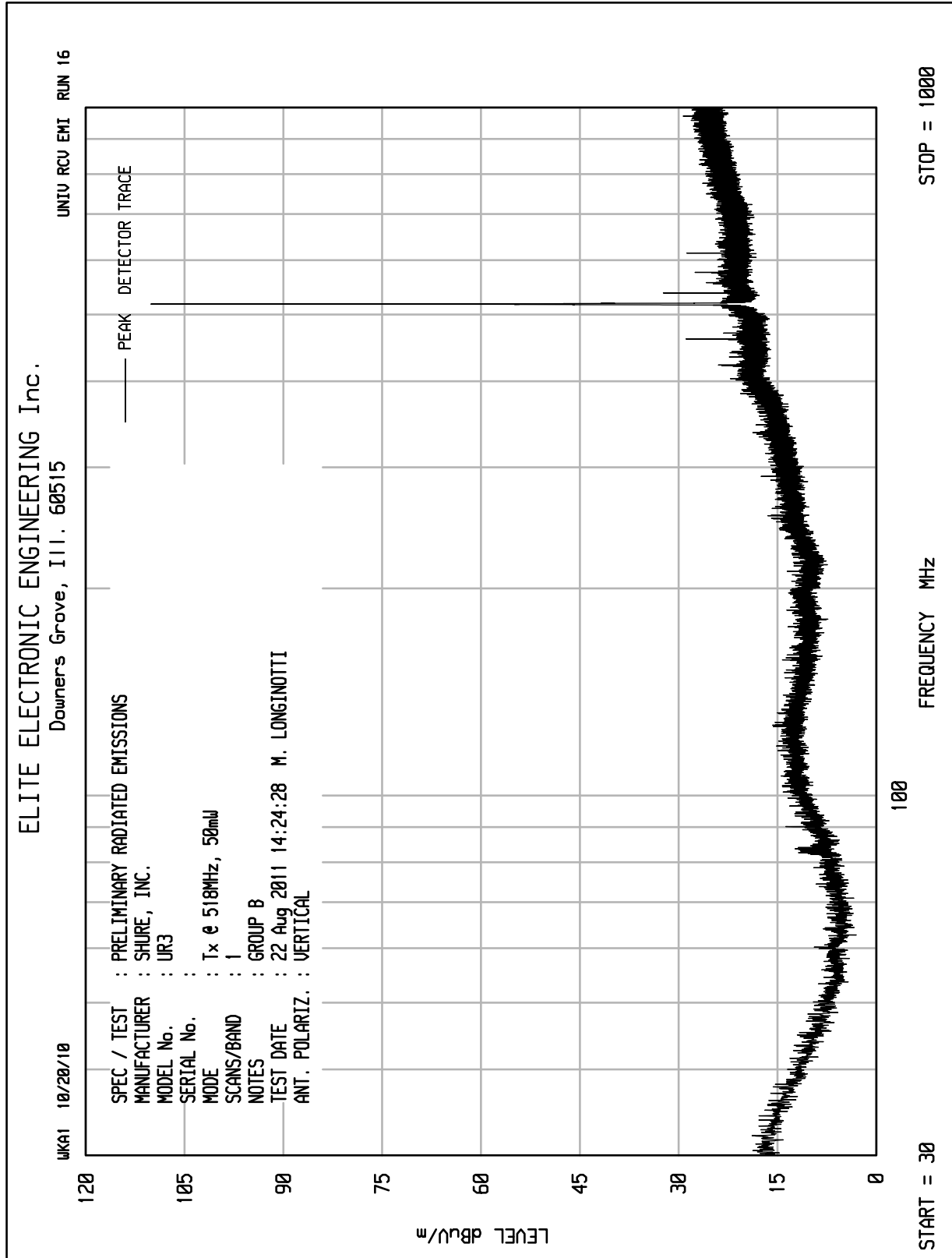


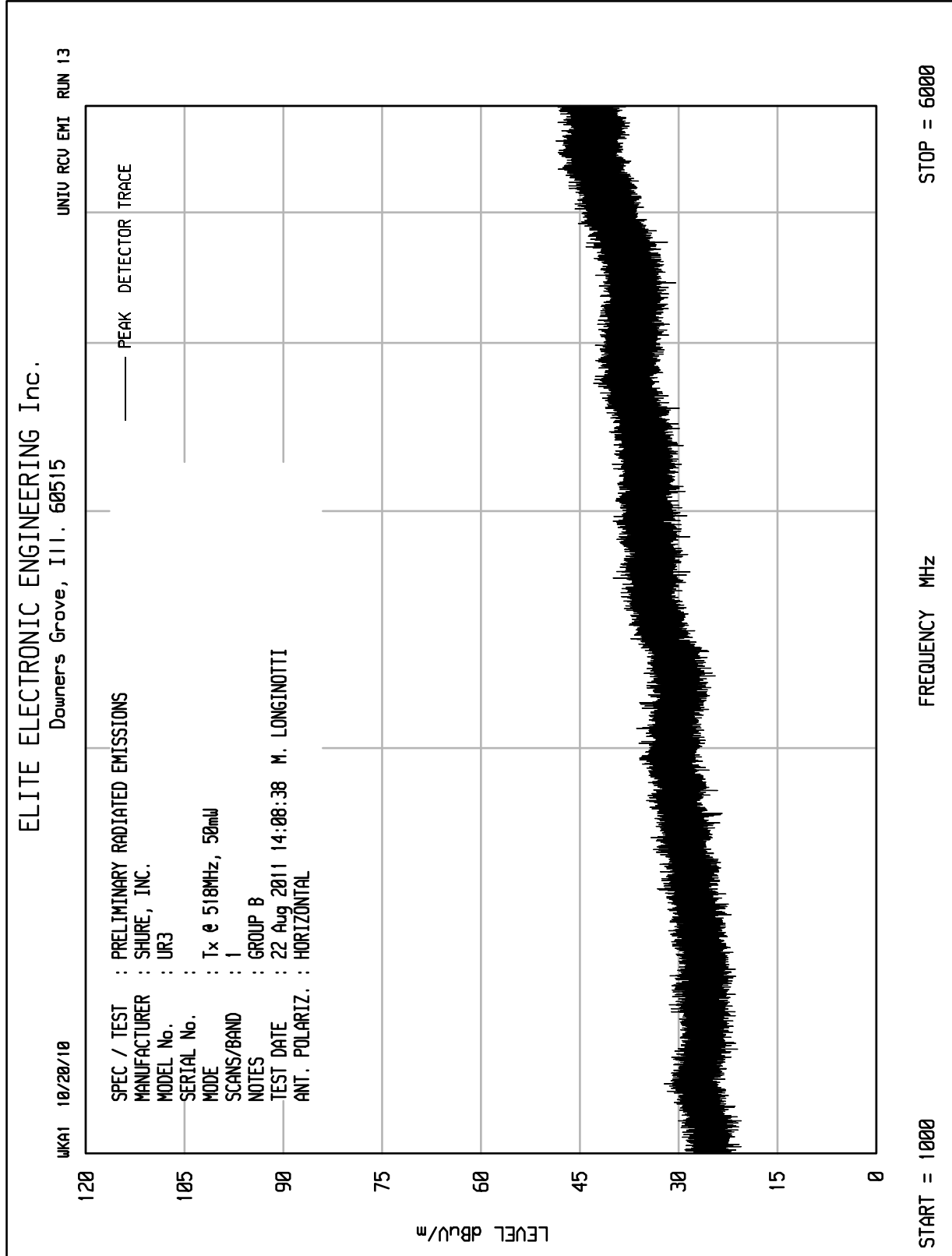


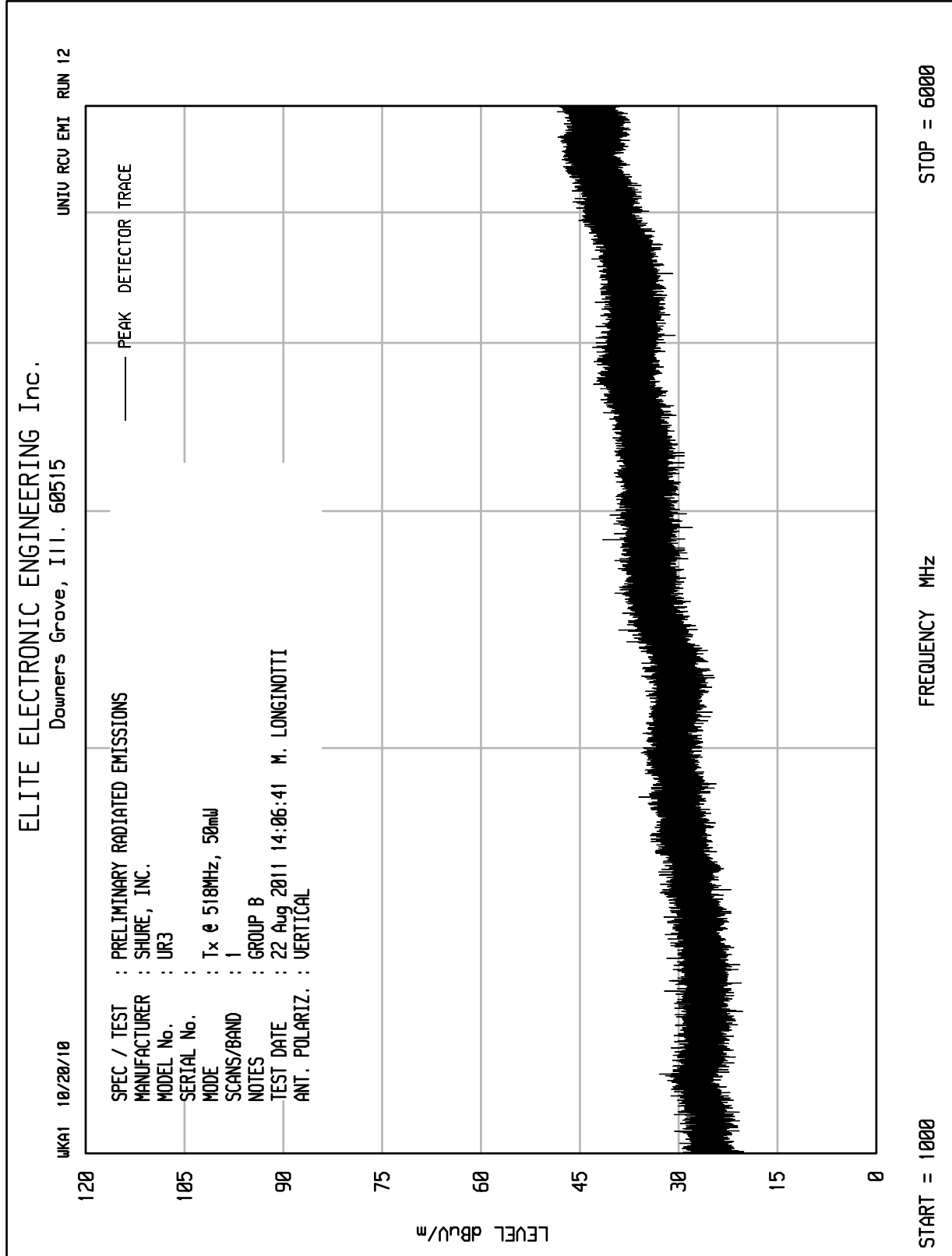


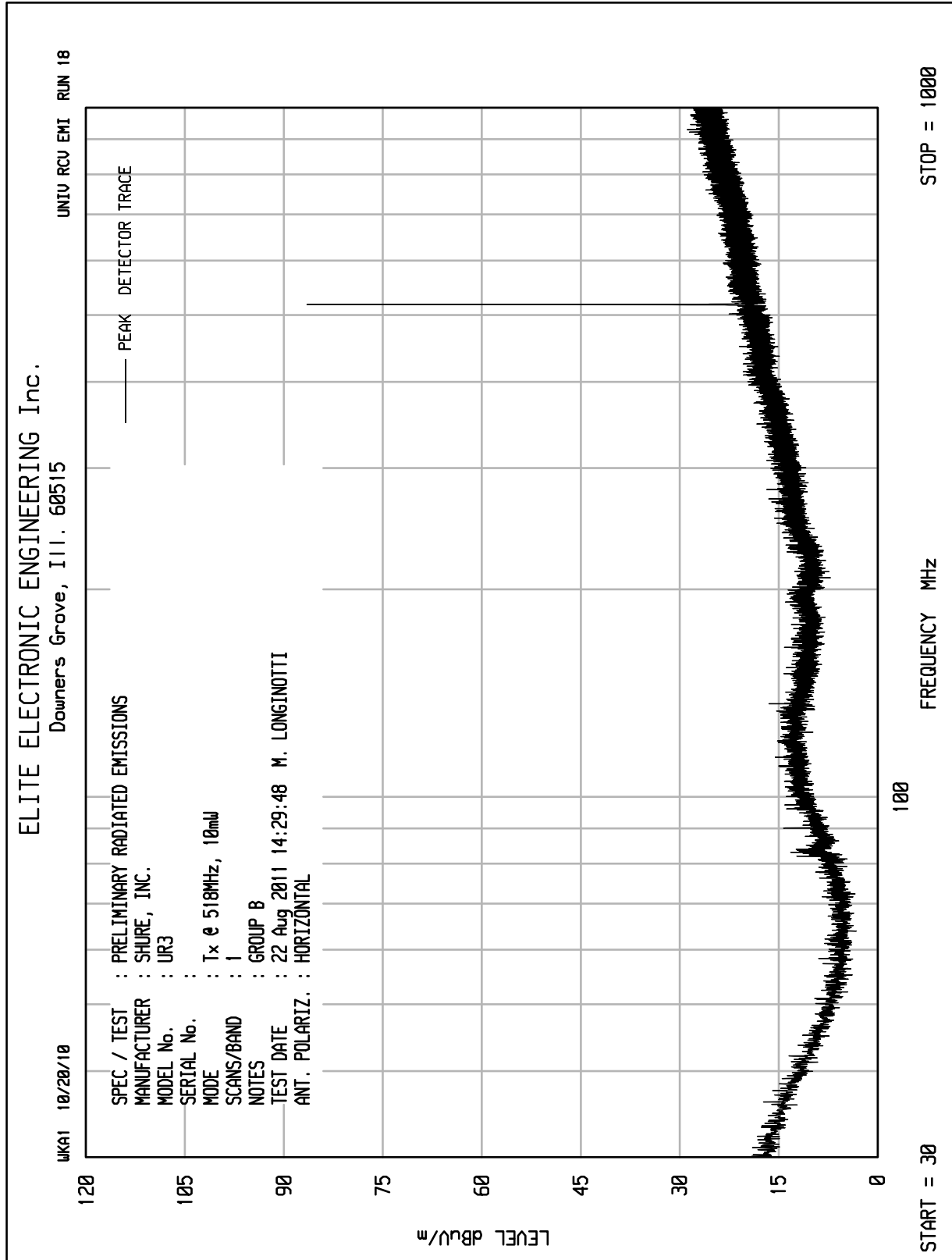


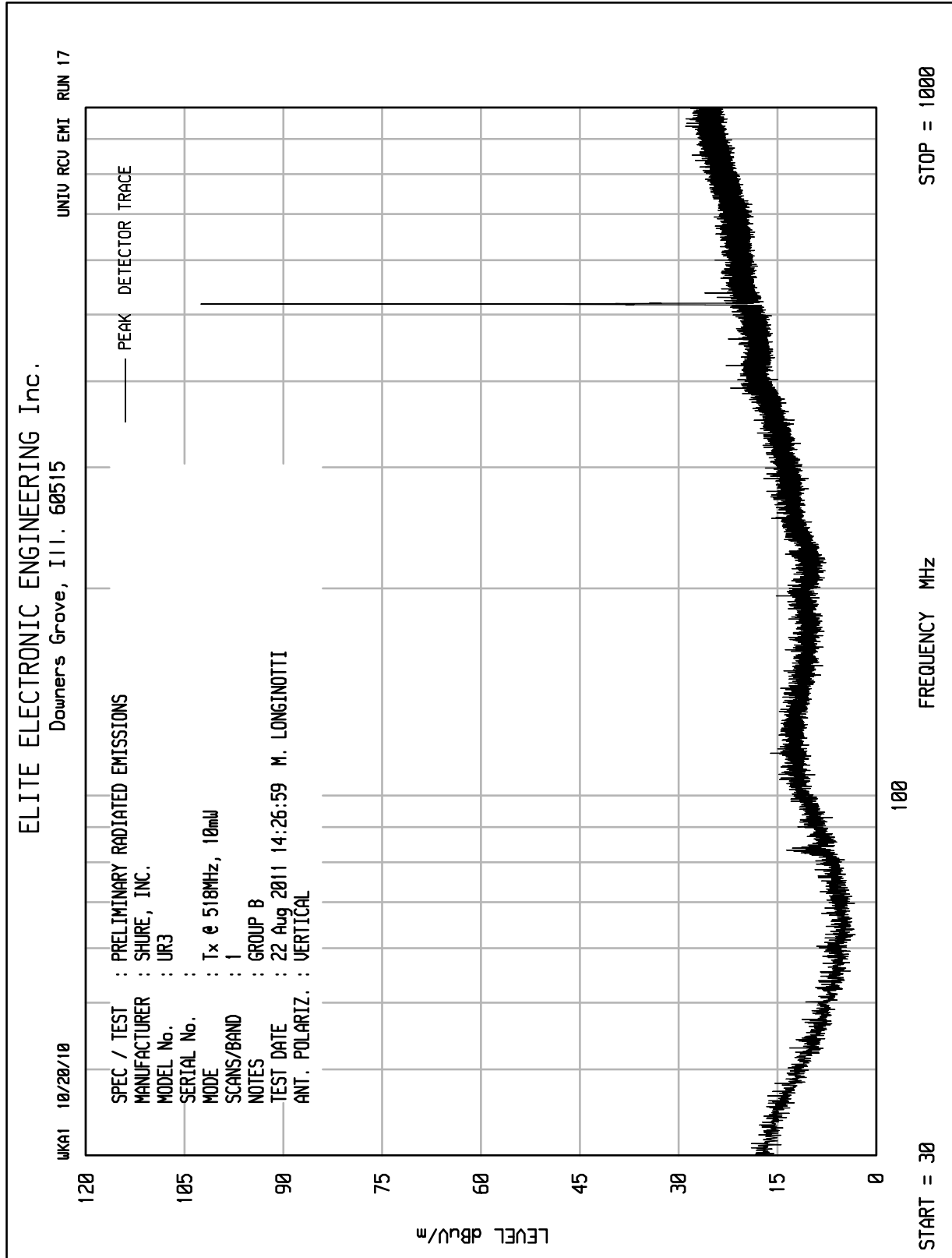










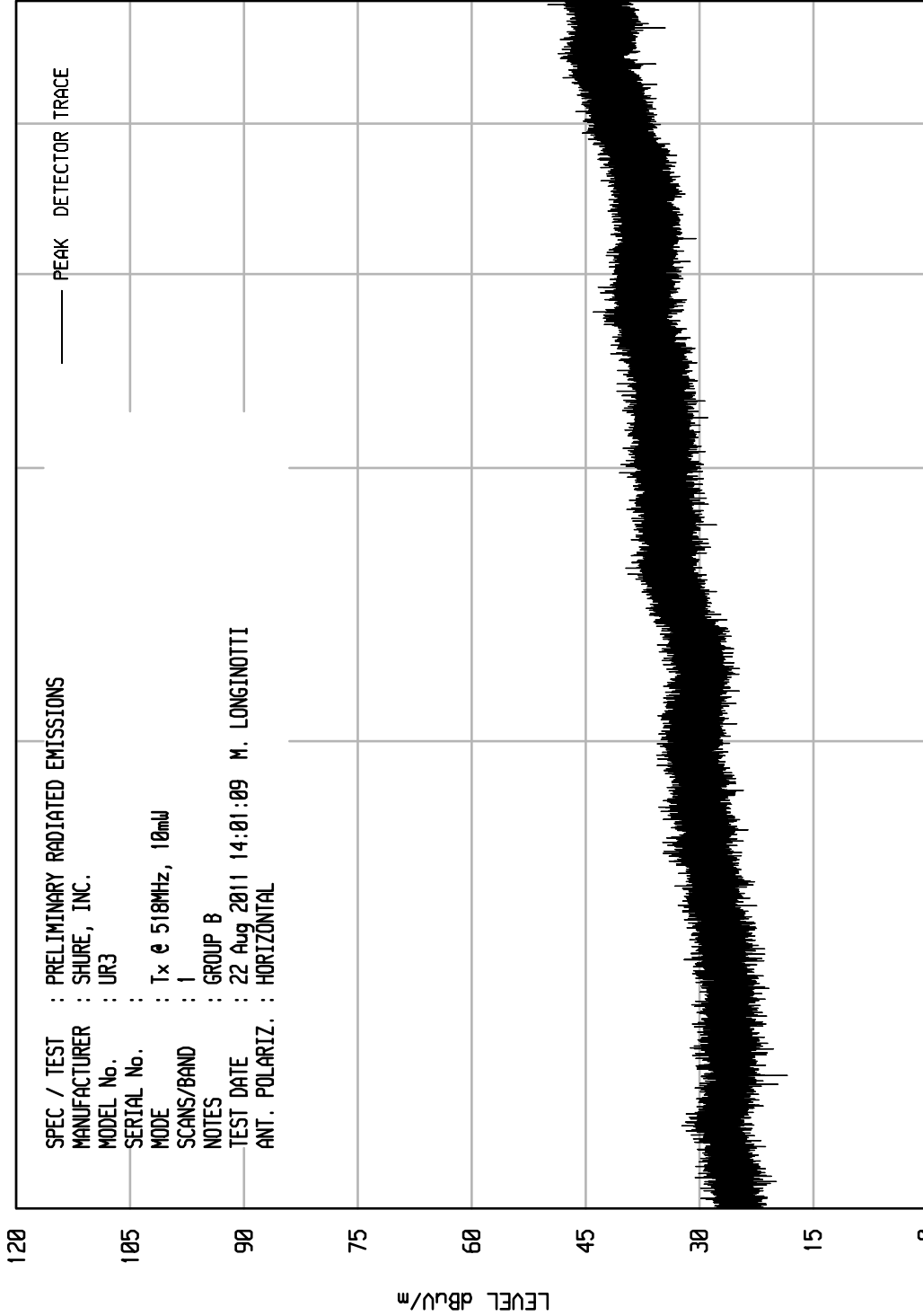




ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515

UNIU RCU EMI RUN 10

UKAI 10/20/10



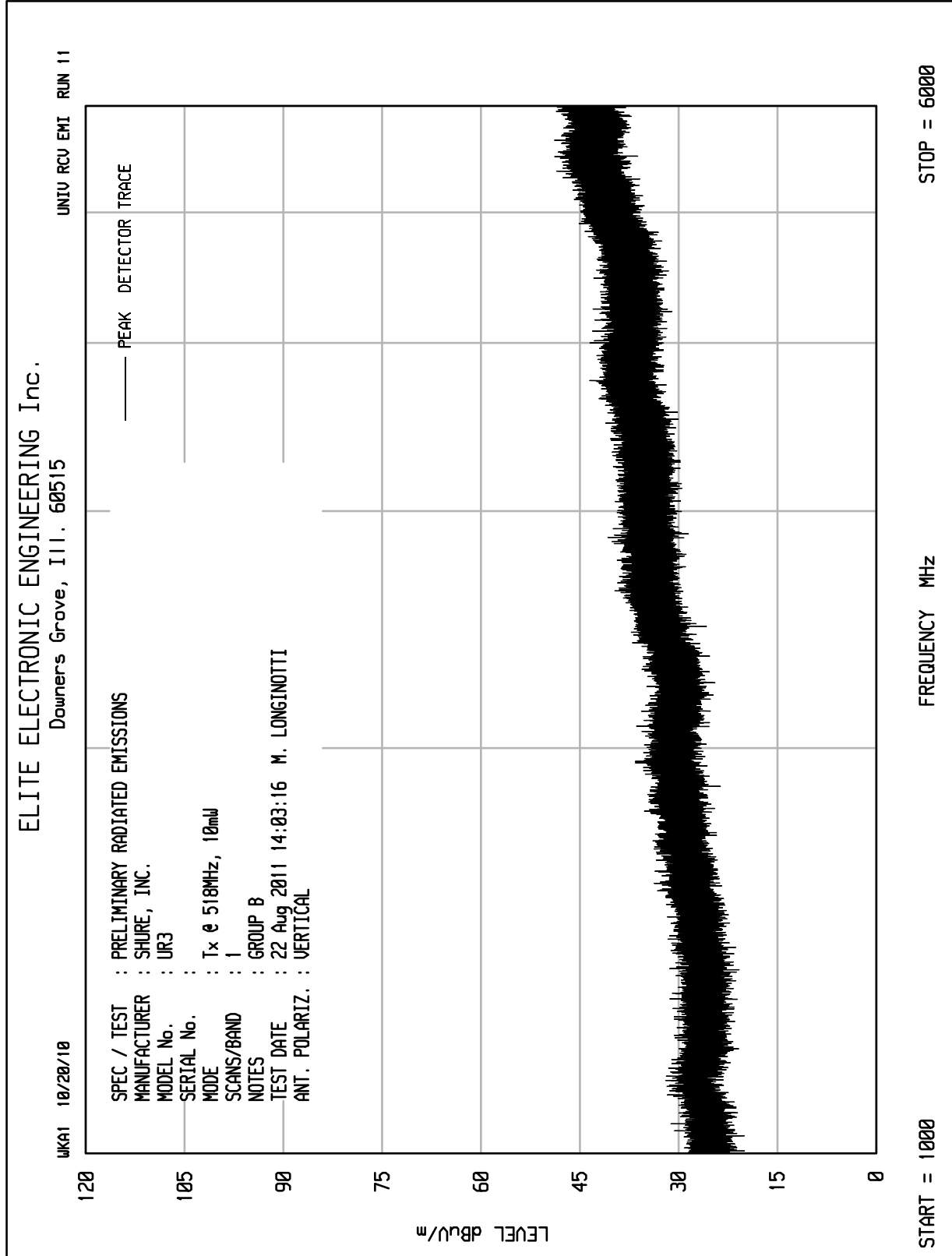
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
 MANUFACTURER : SHURE, INC.
 MODEL No. : UR3
 SERIAL No. :
 MODE : Tx @ 518MHz, 10mW
 SCANS/BAND : 1
 NOTES : GROUP B
 TEST DATE : 22 Aug 2011 14:01:09 M. LONGINOTTI
 ANT. POLARIZ. : HORIZONTAL

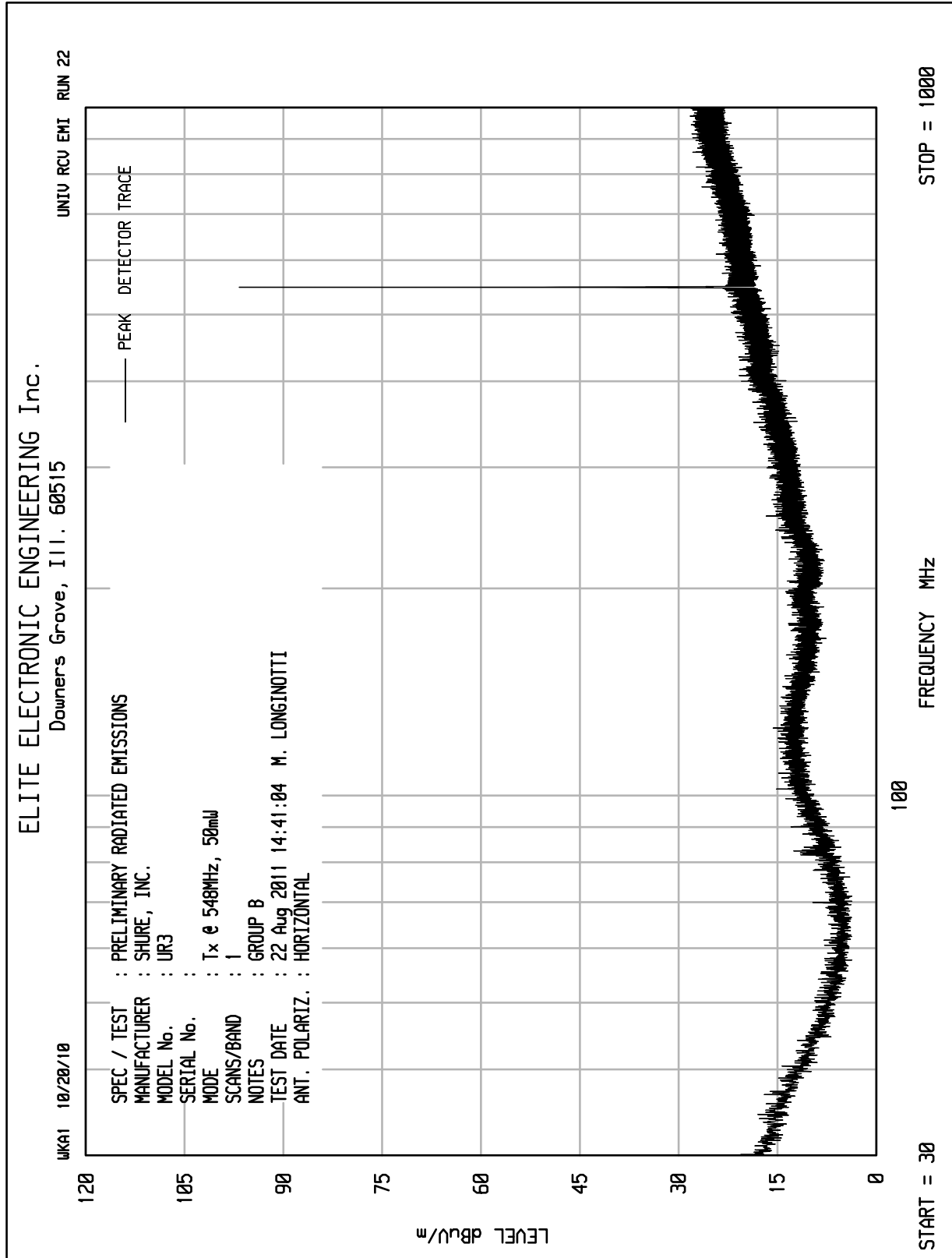
STOP = 6000

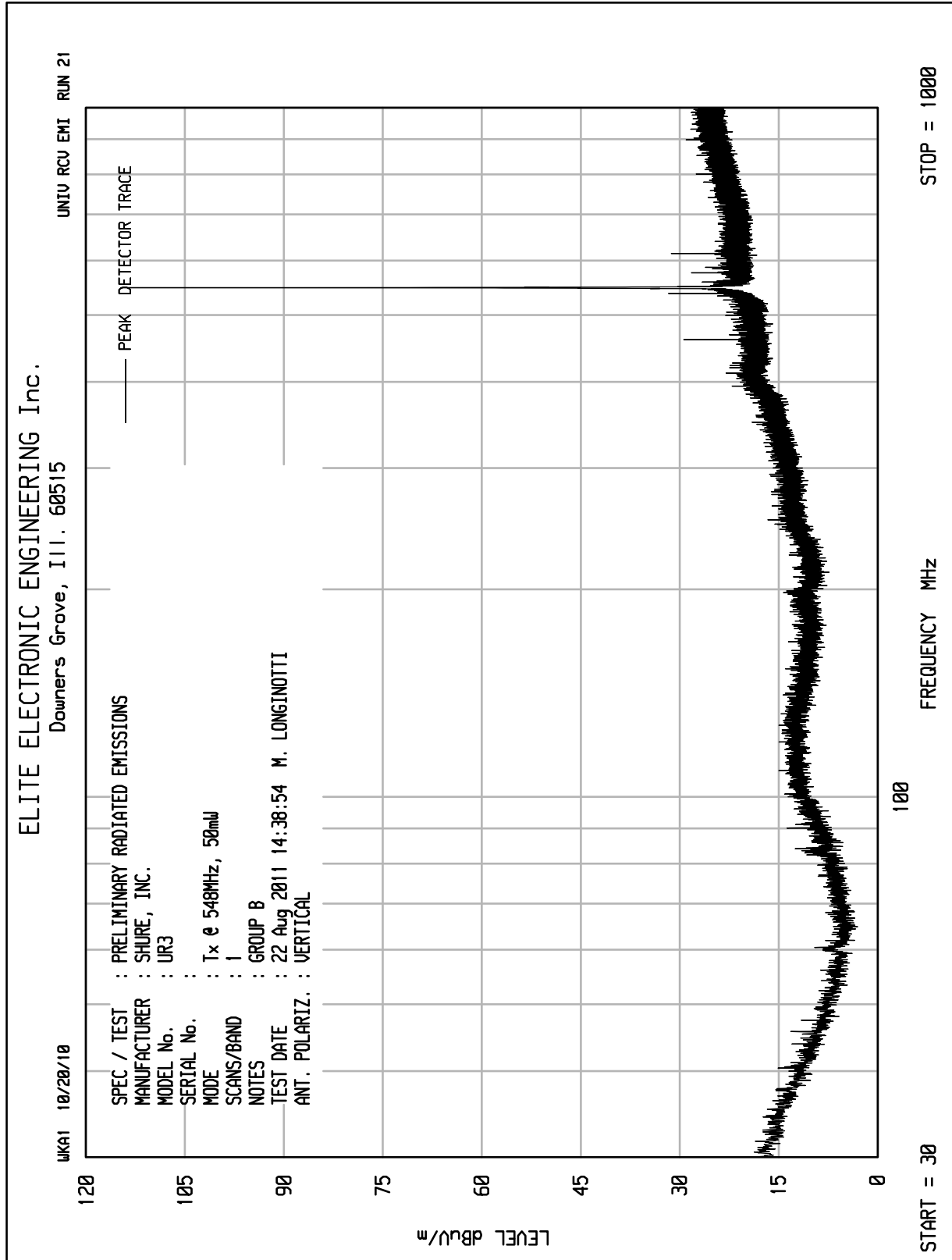
START = 1000

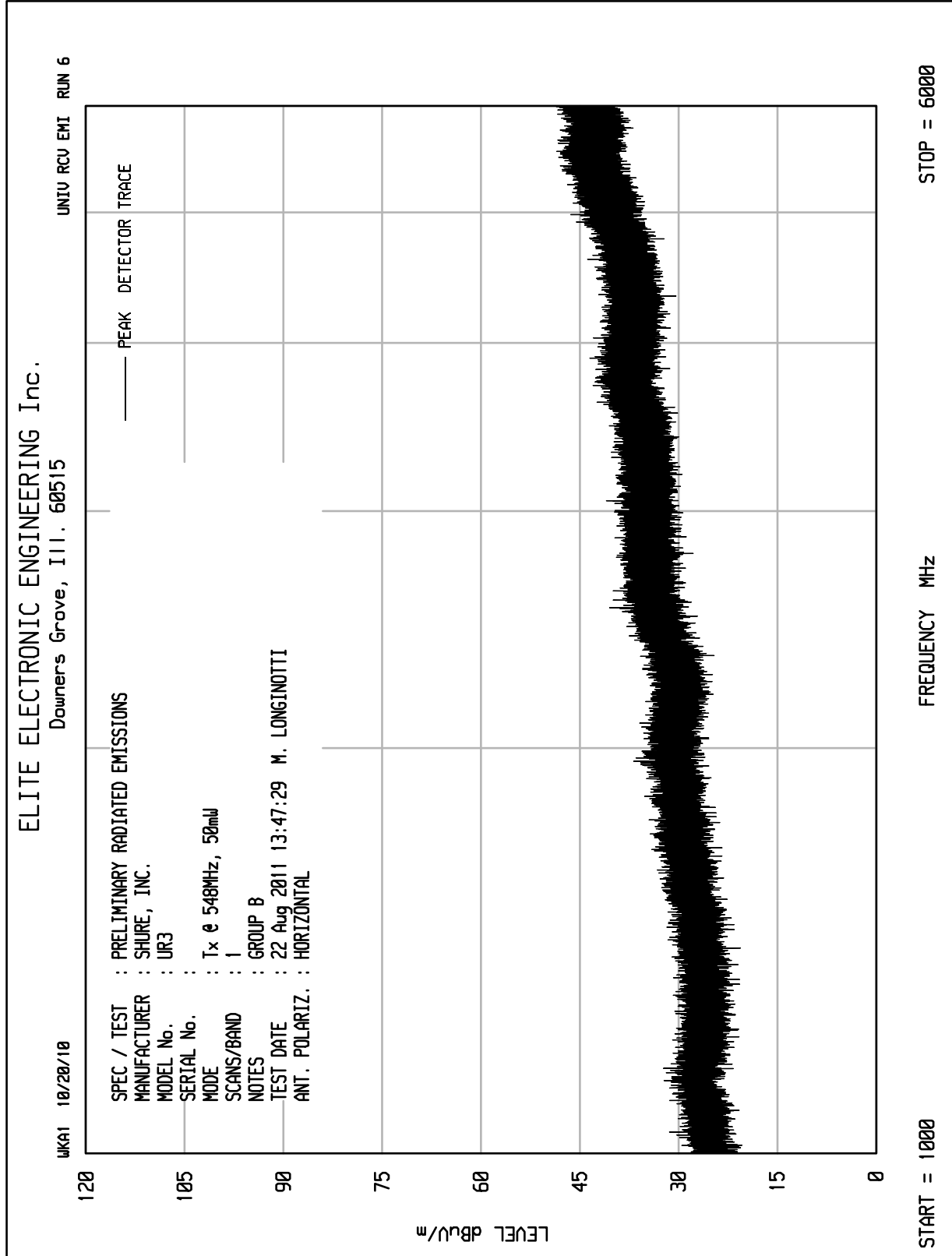
FREQUENCY MHz

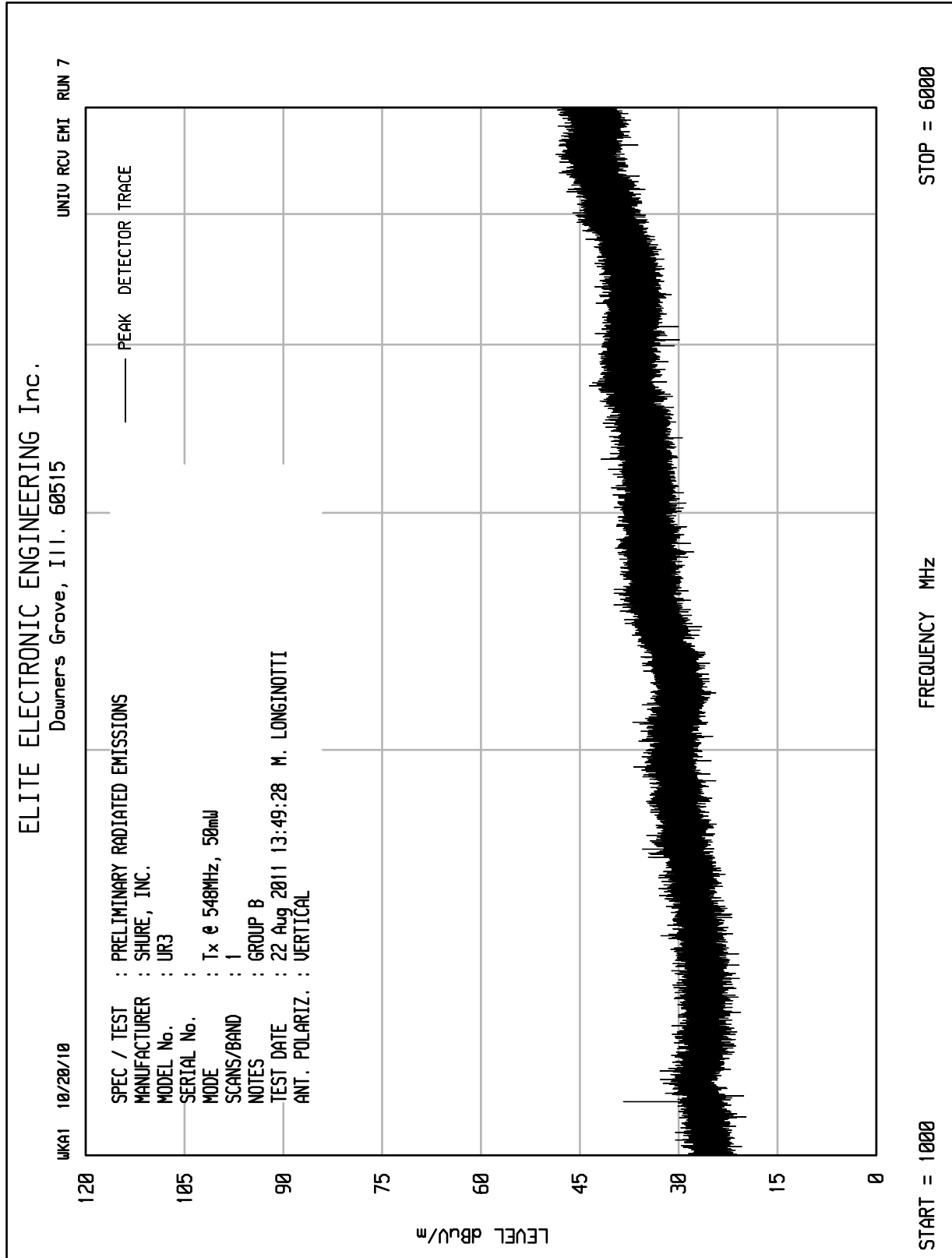
LEVEL dBu/m

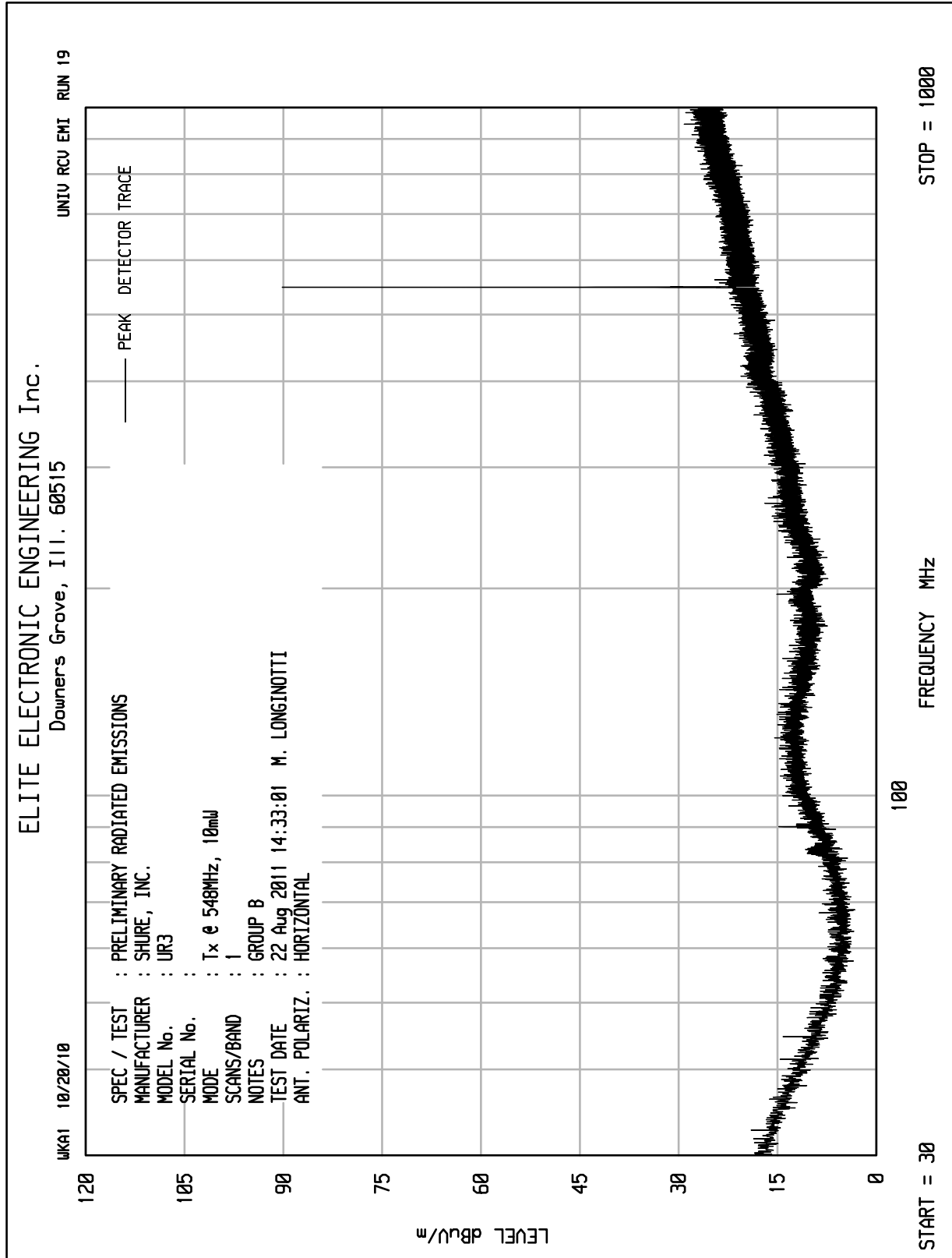


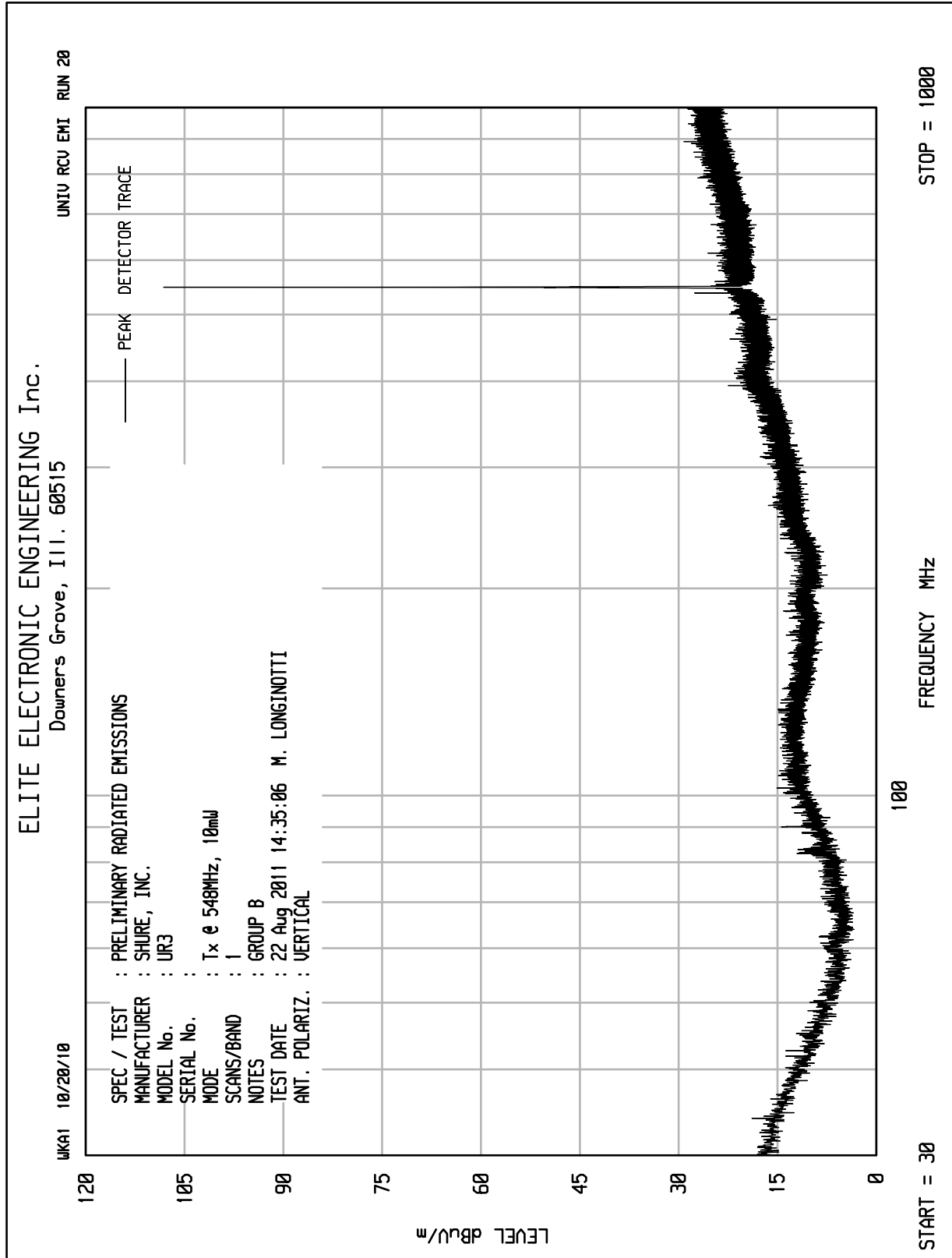


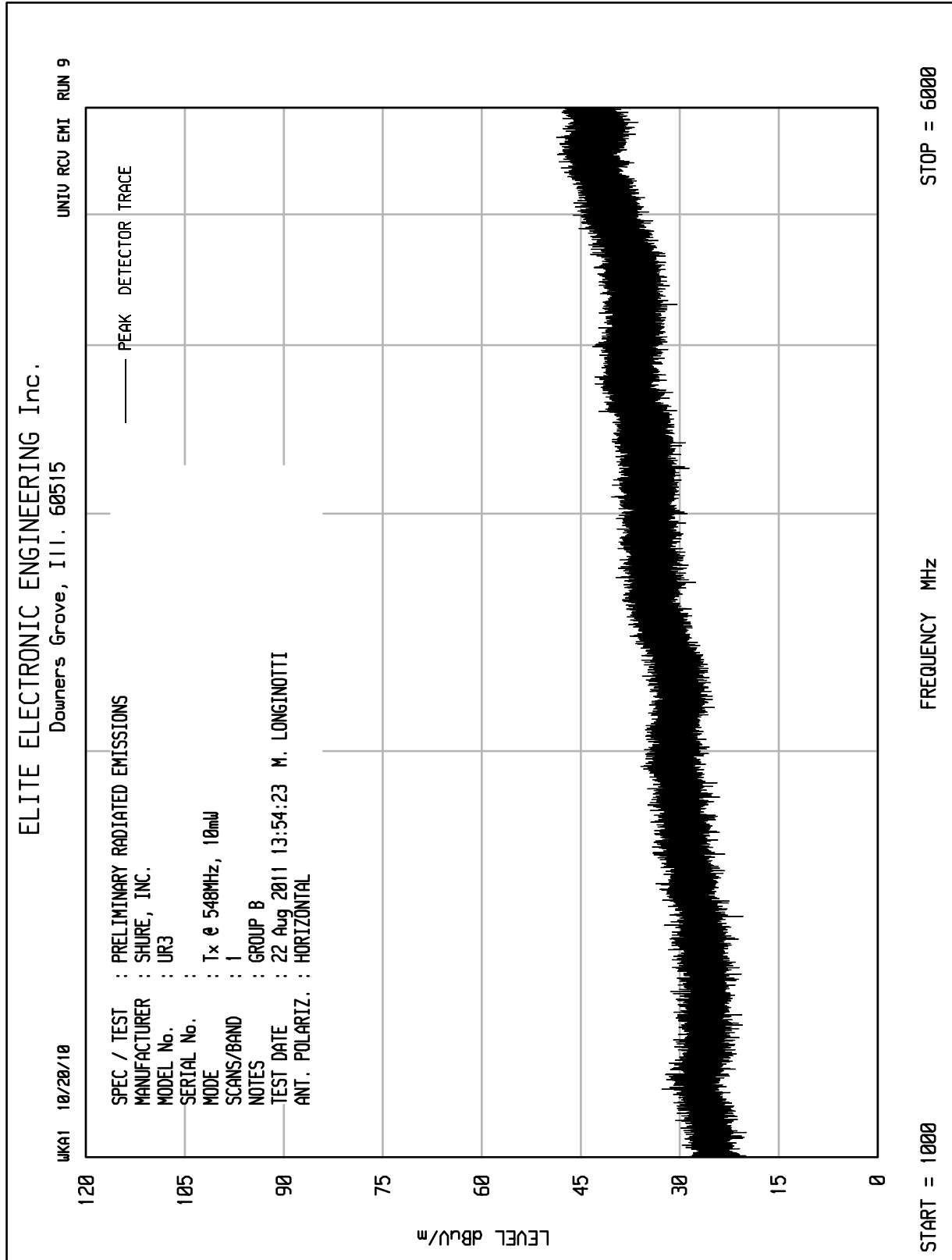


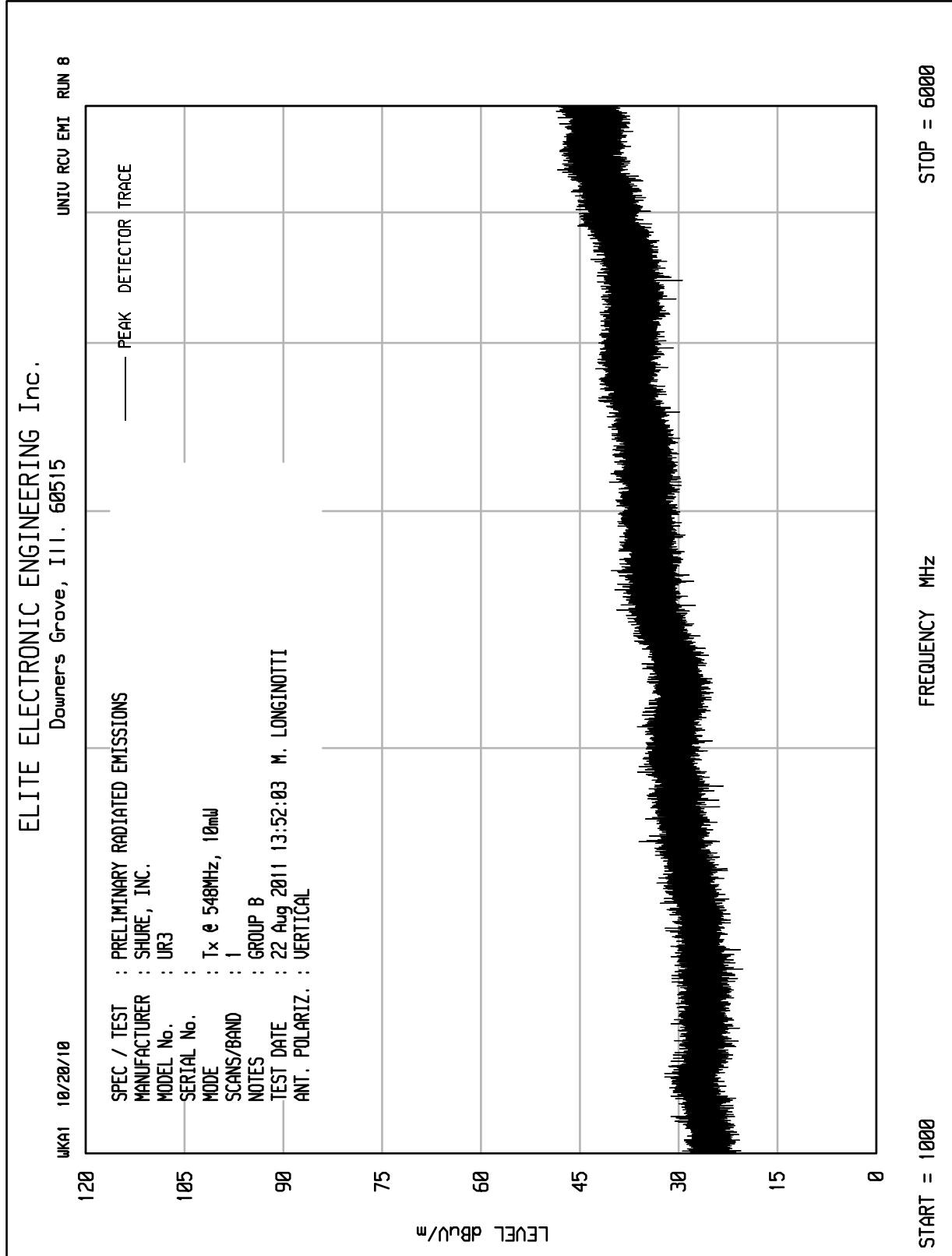


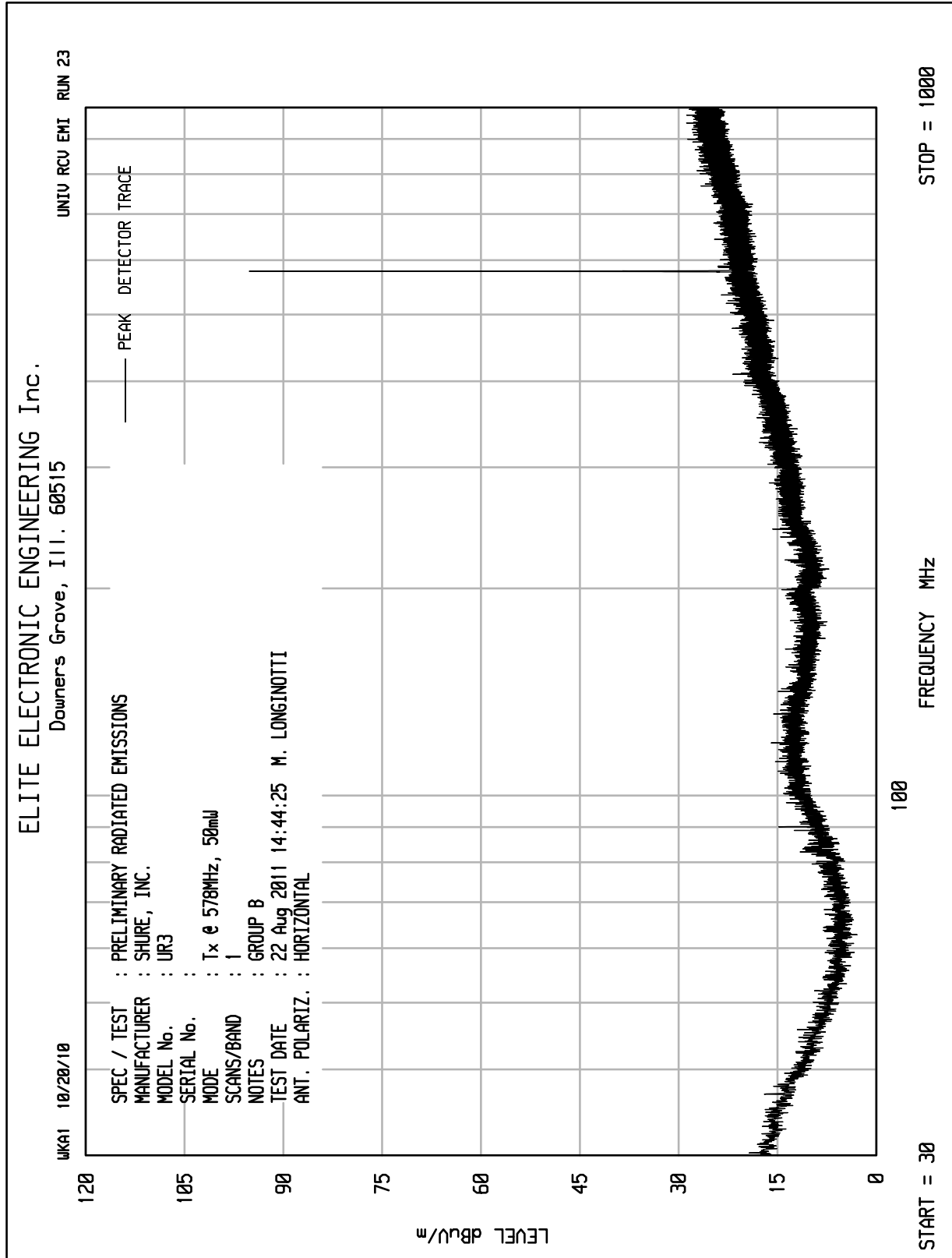


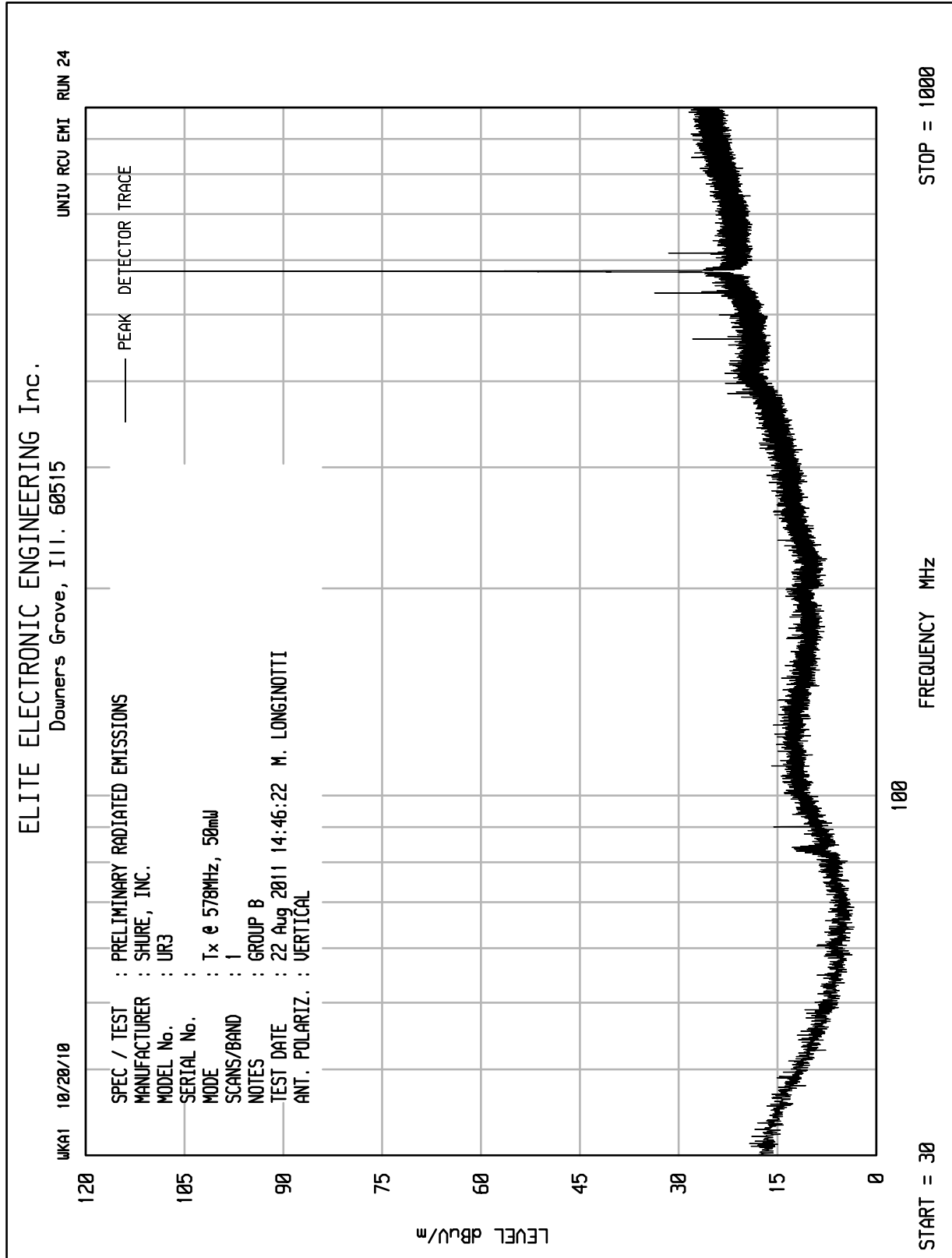


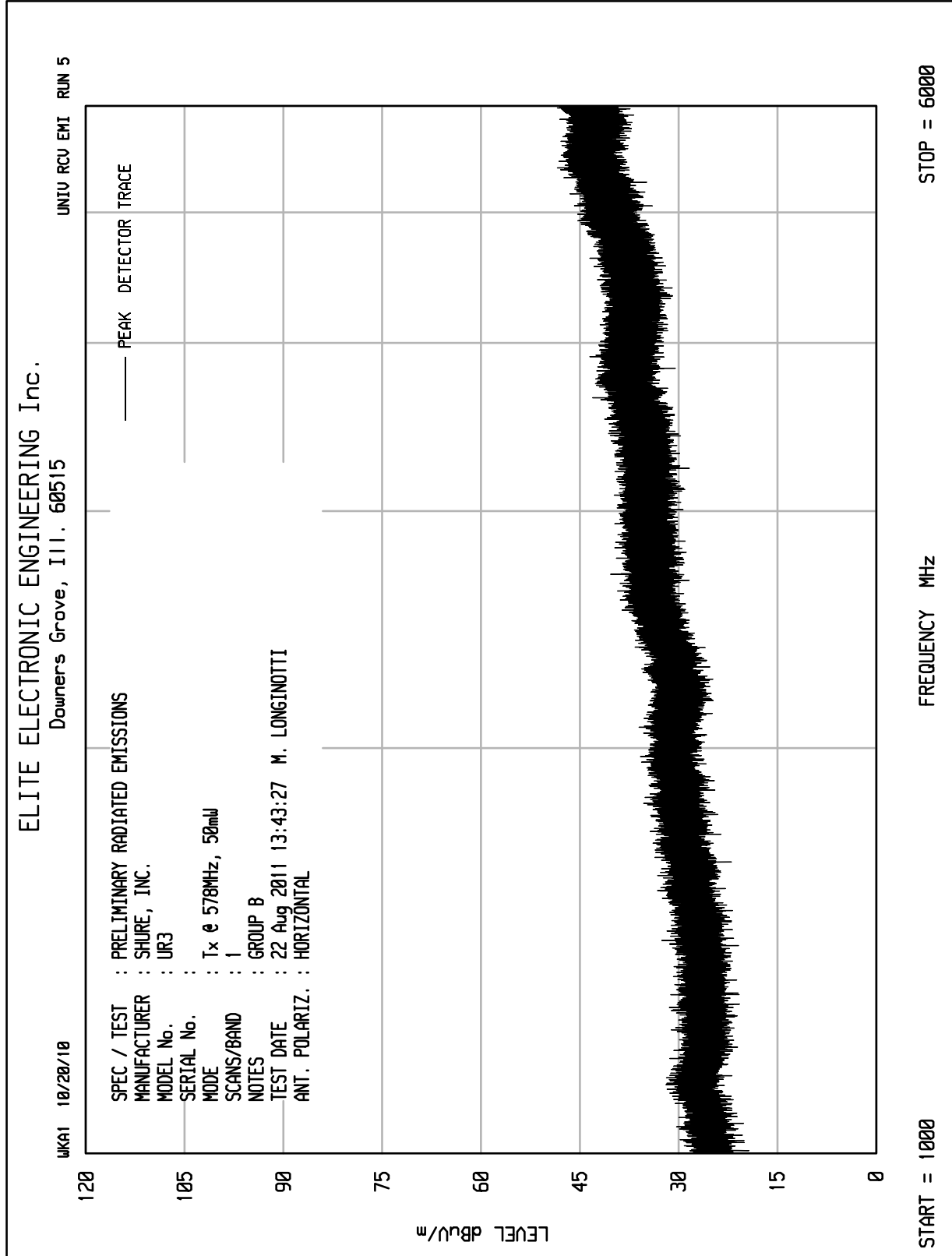


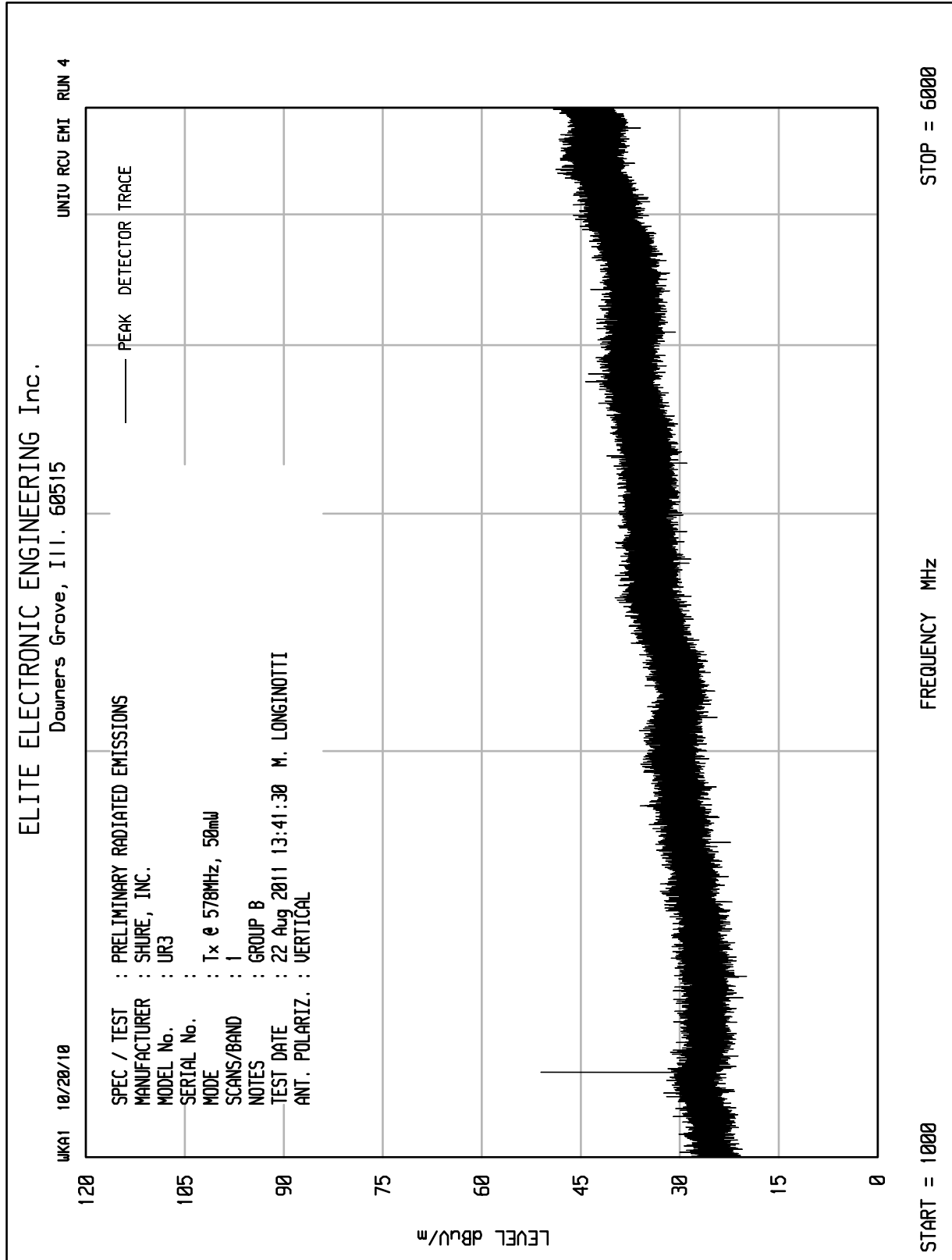


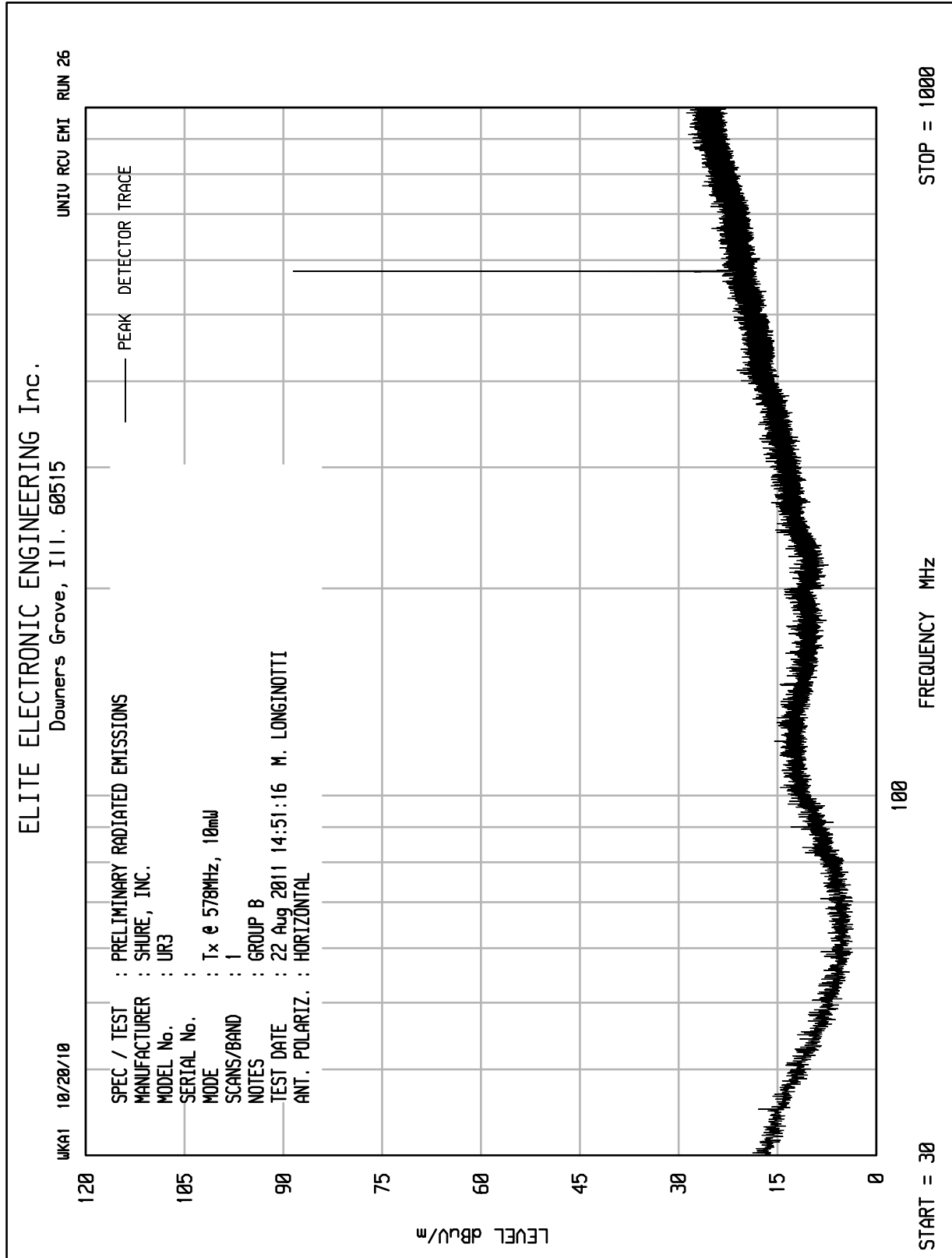


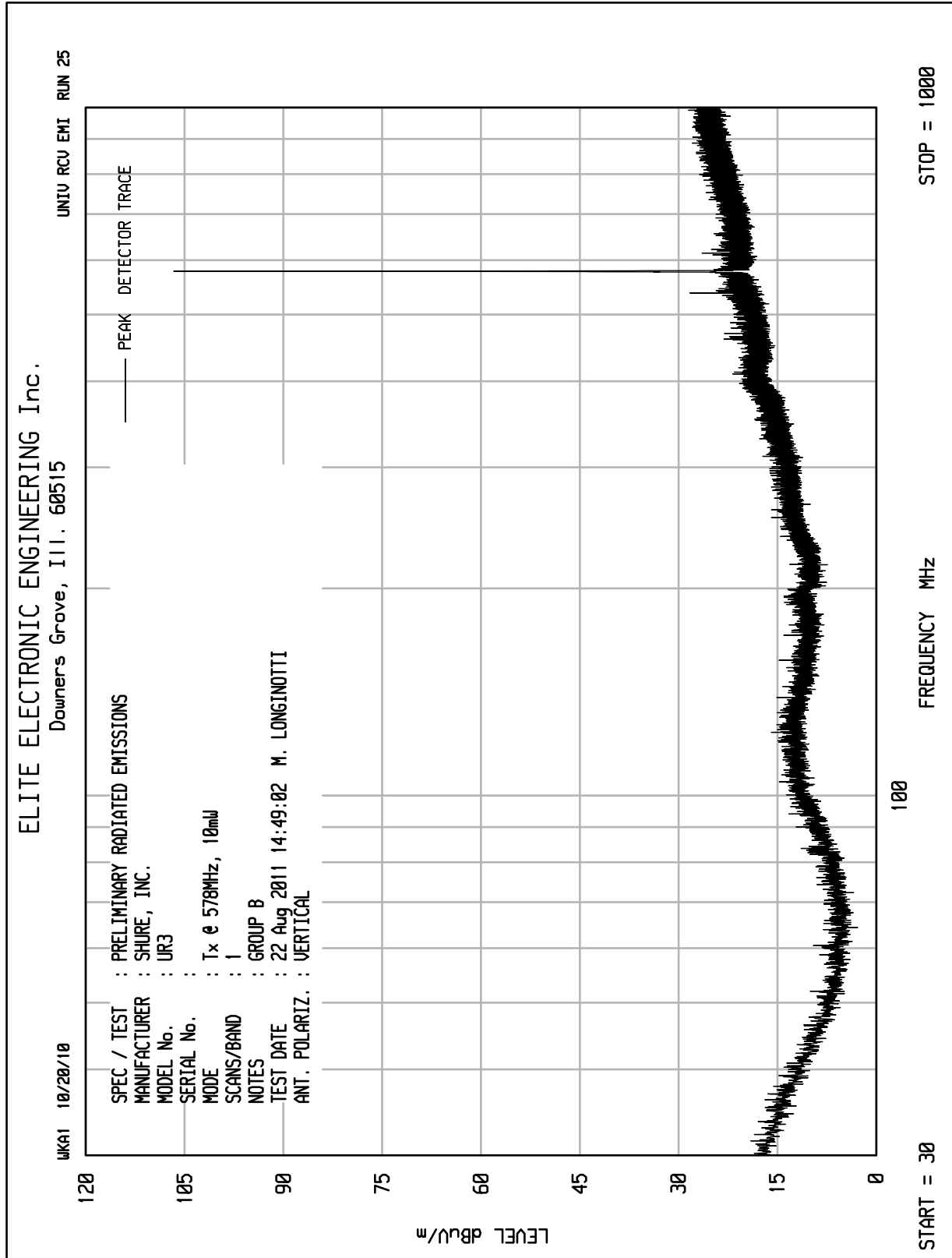


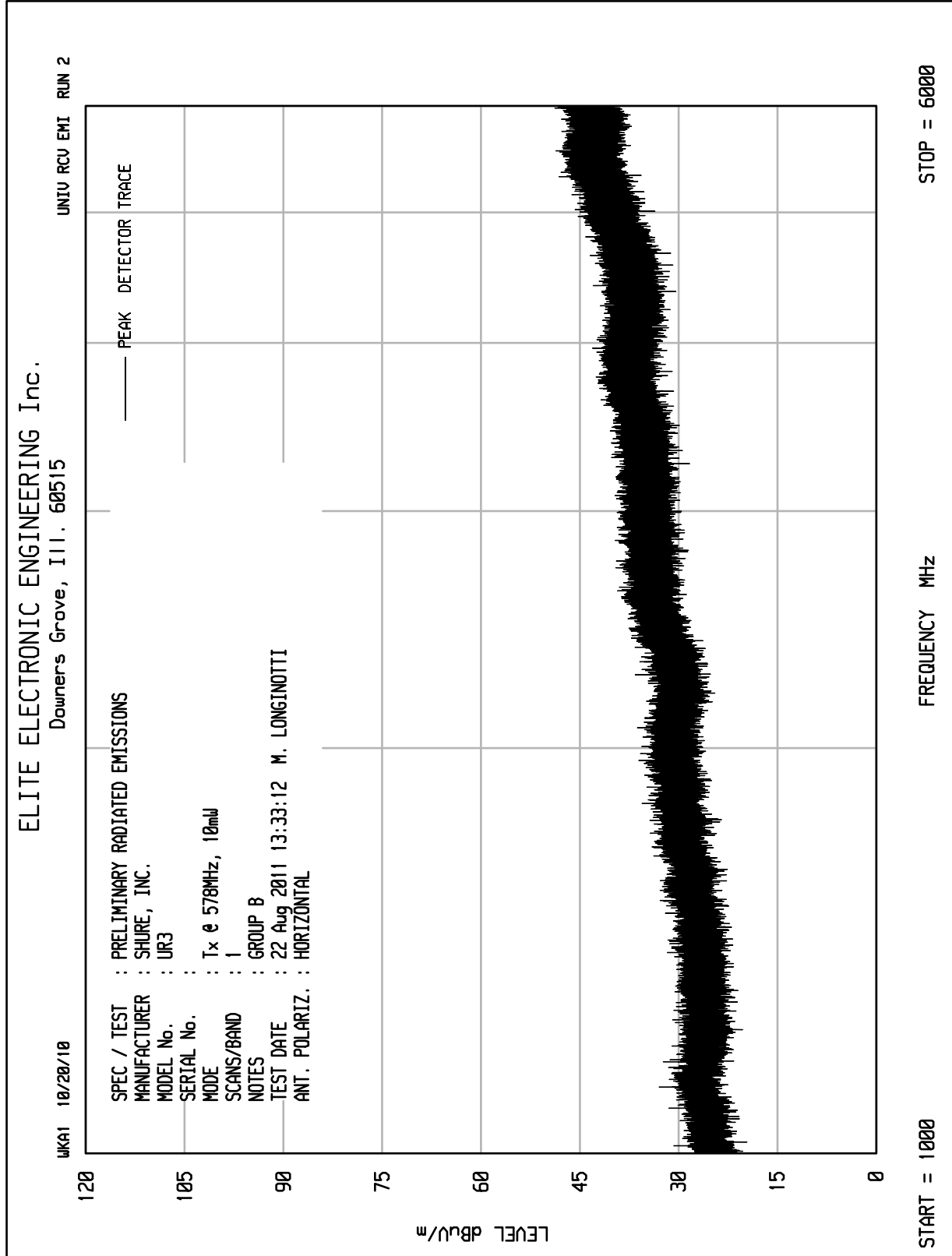


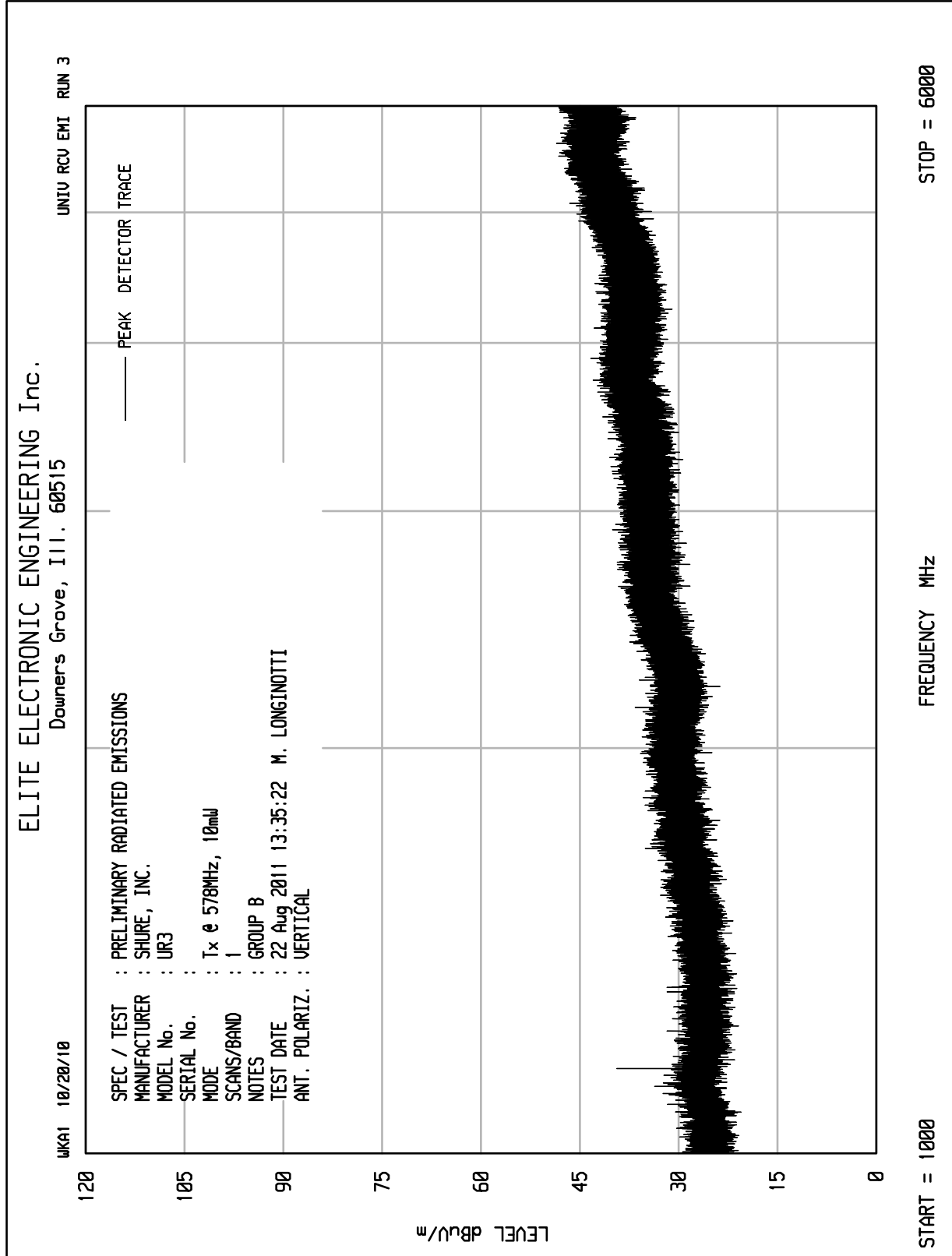


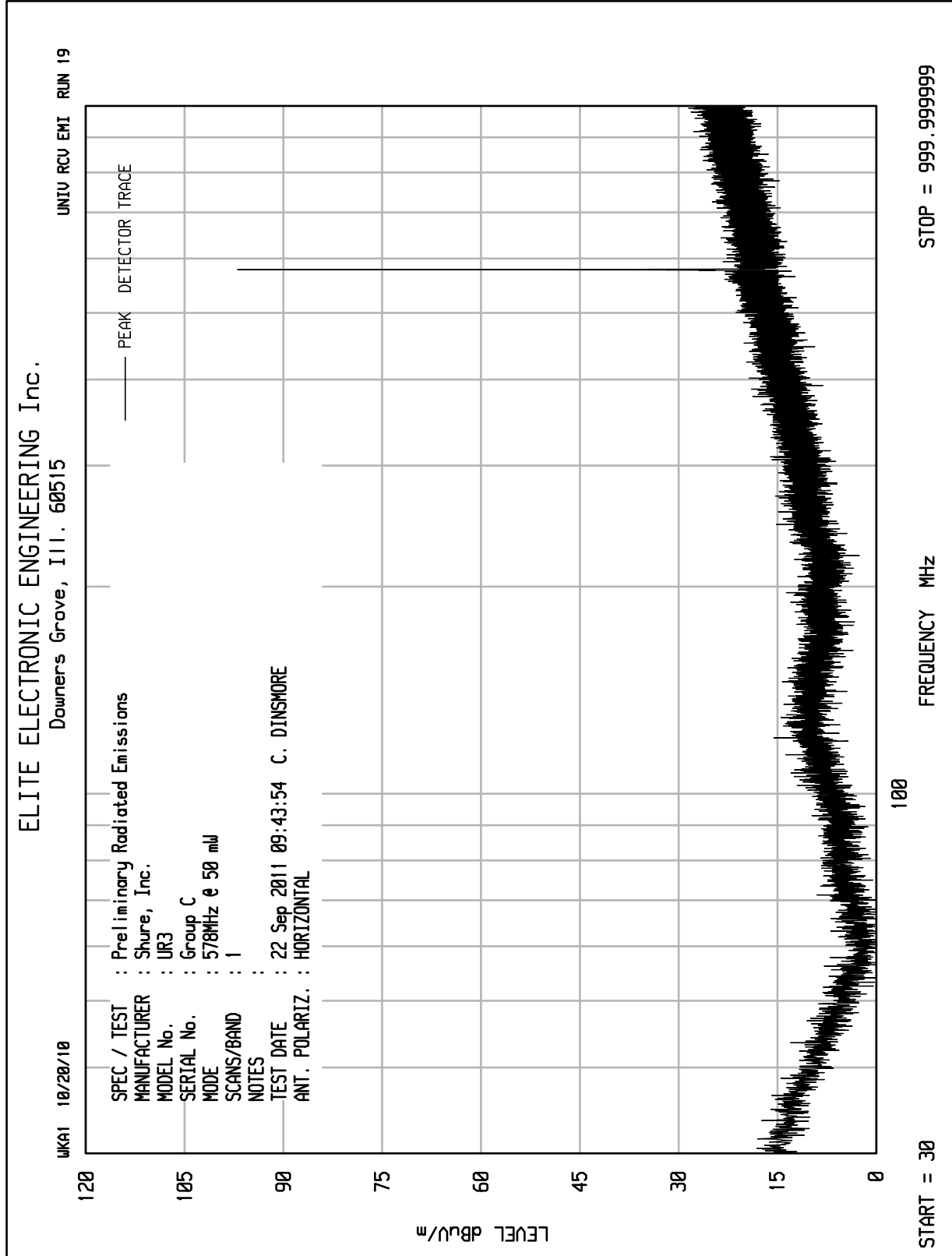


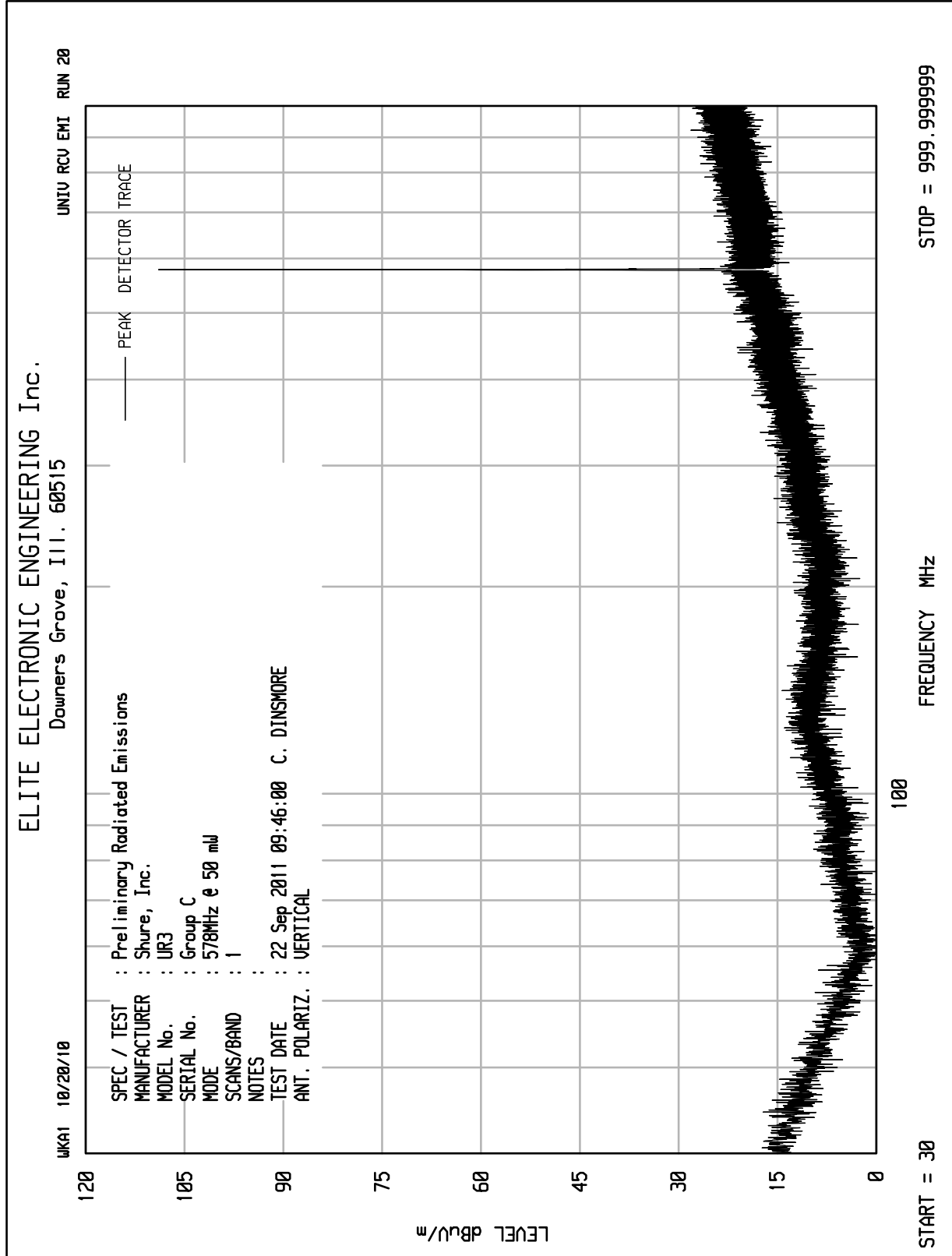


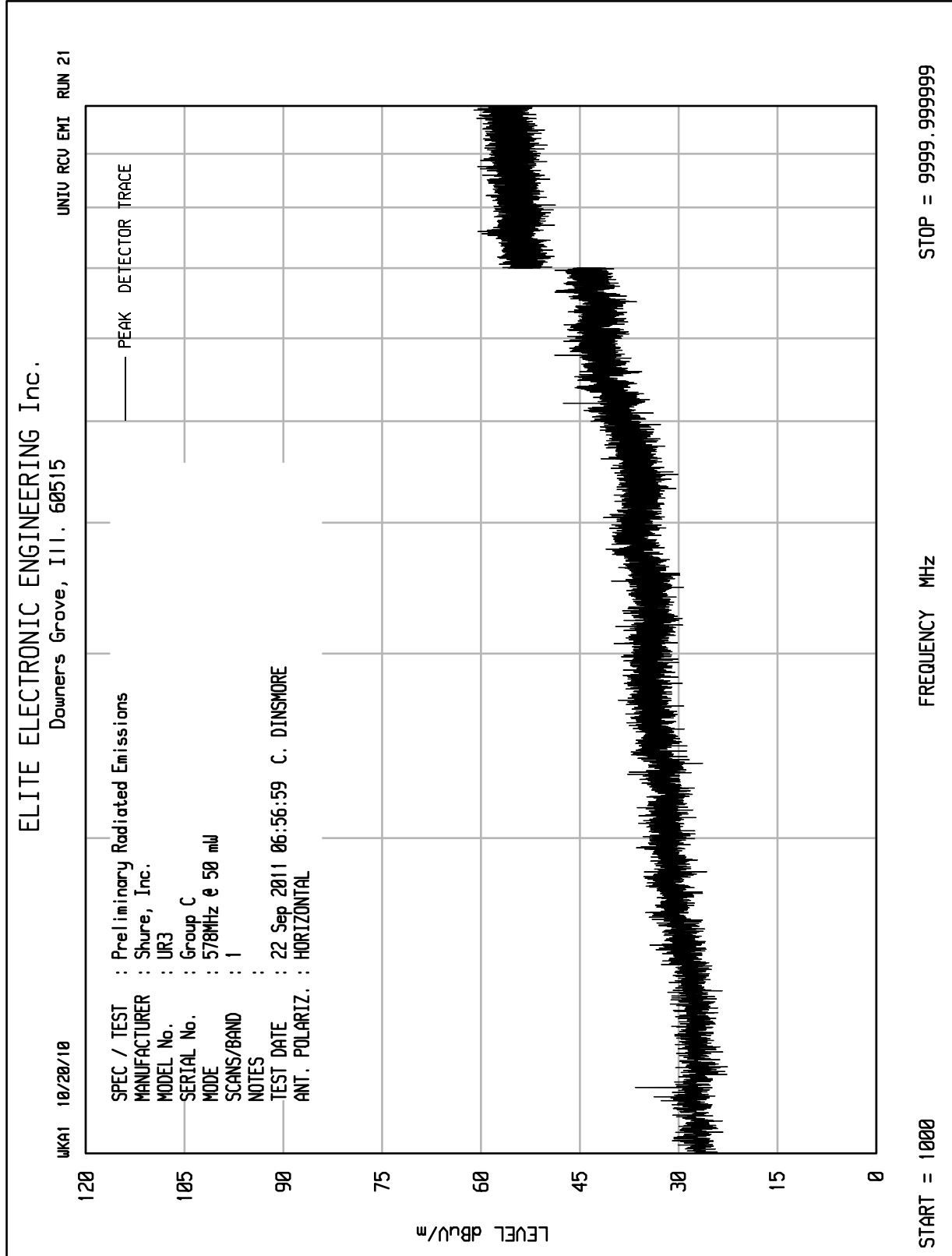


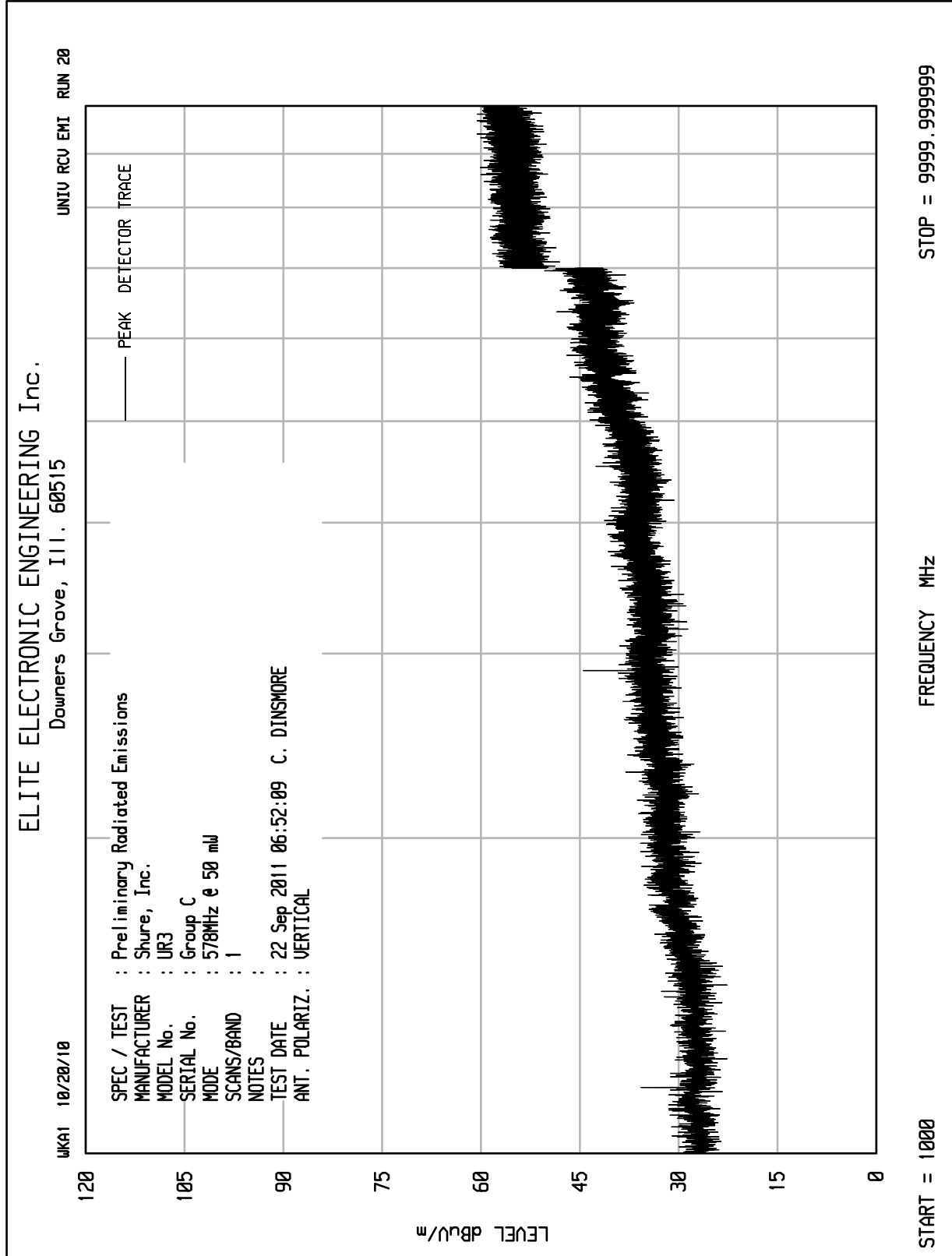


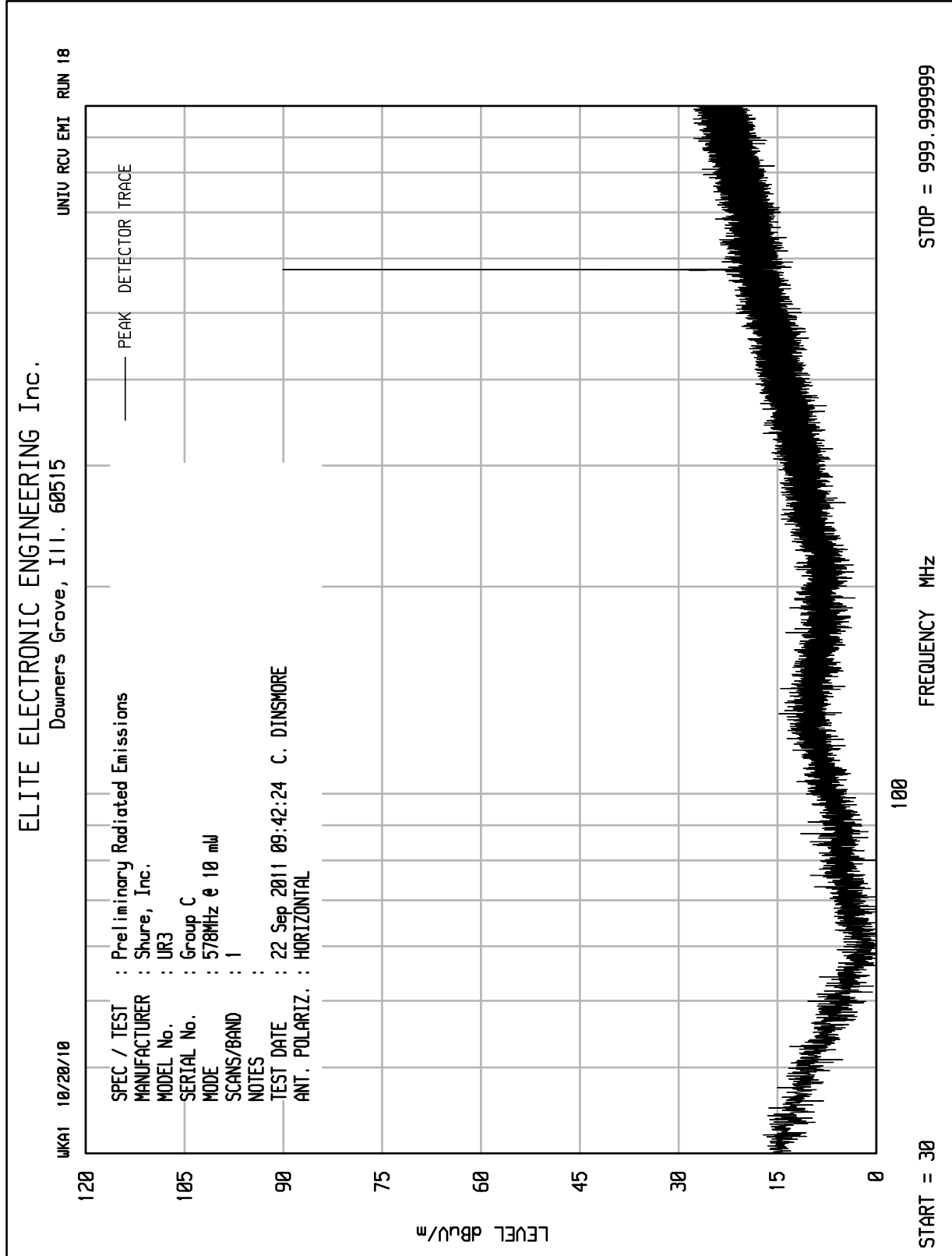


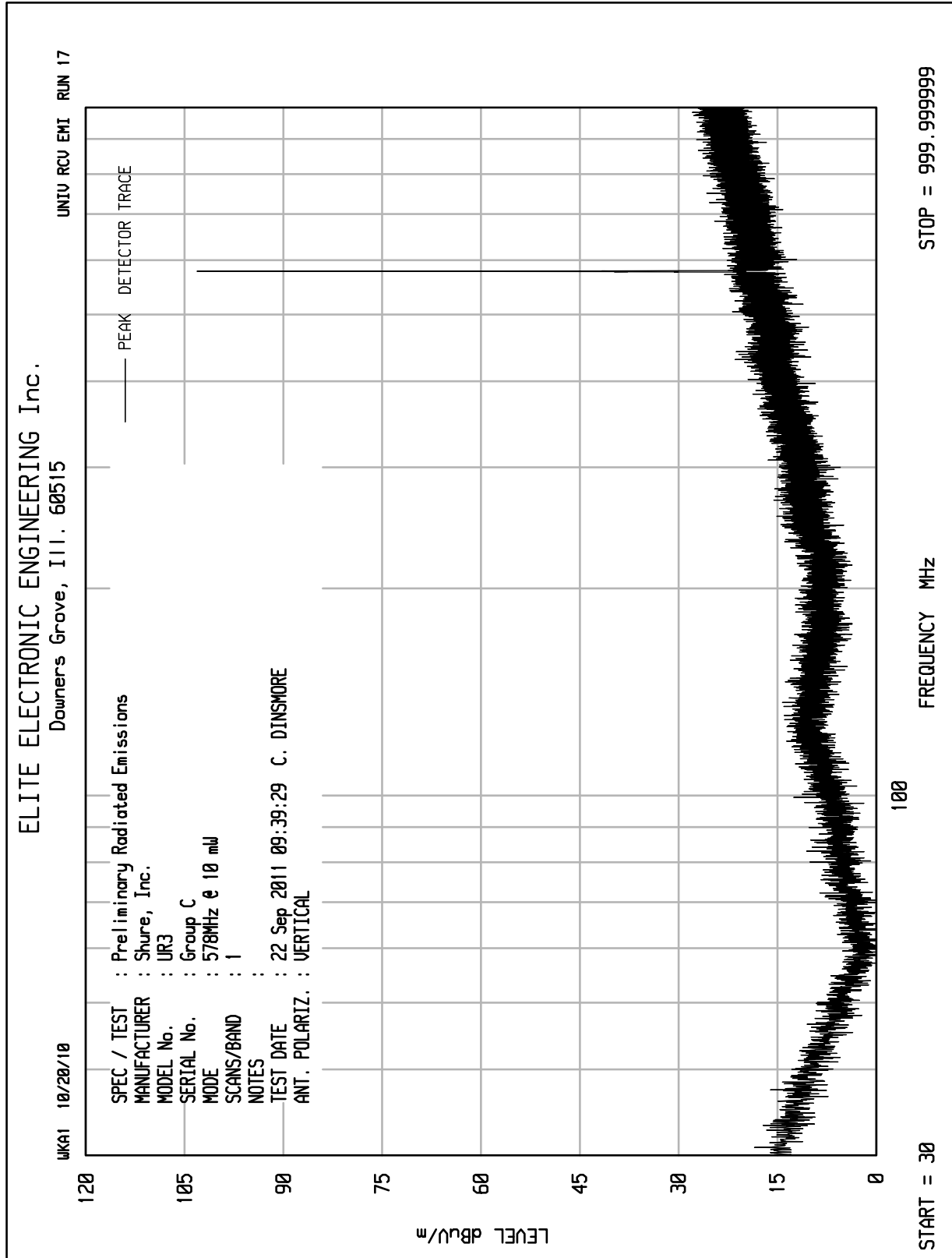


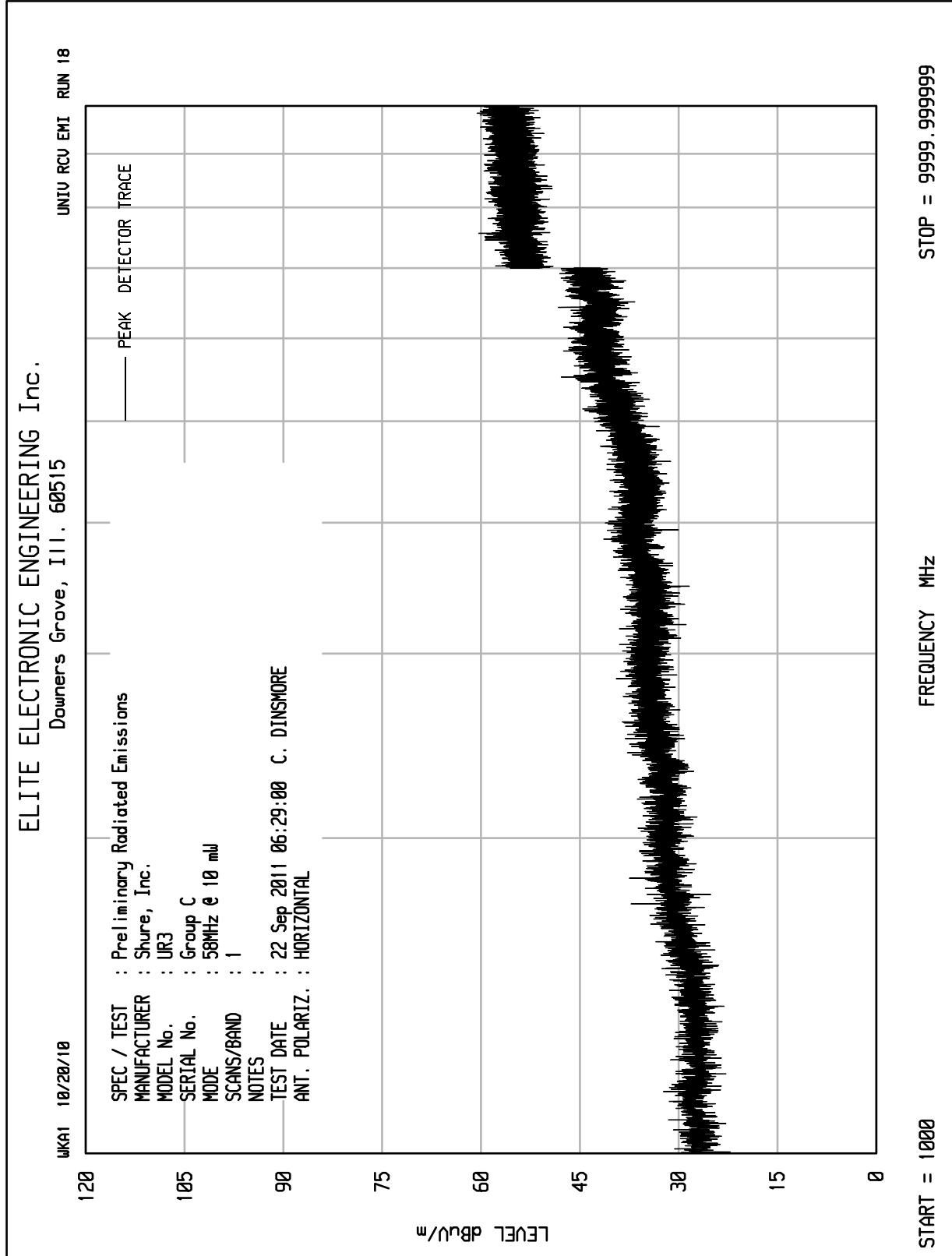


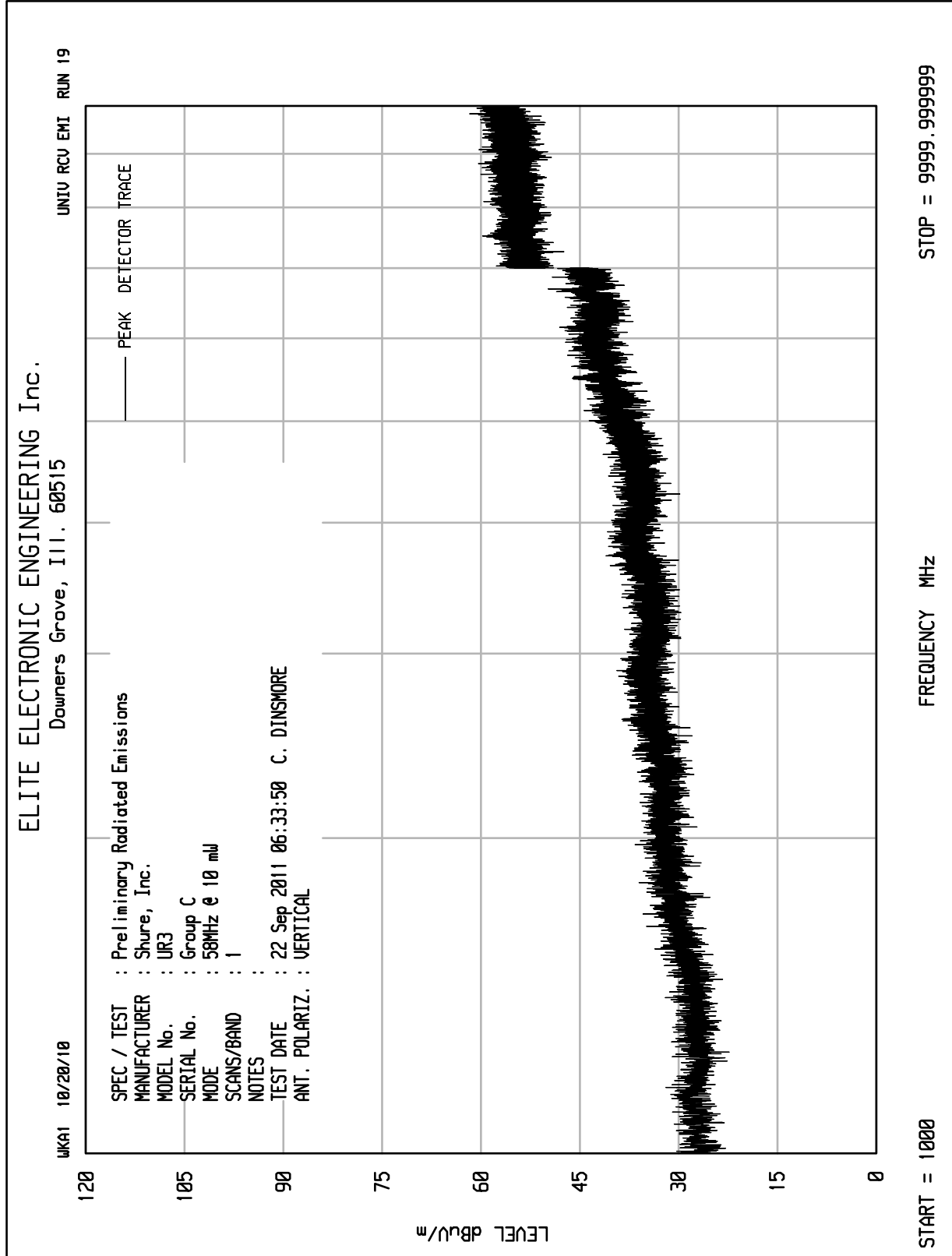


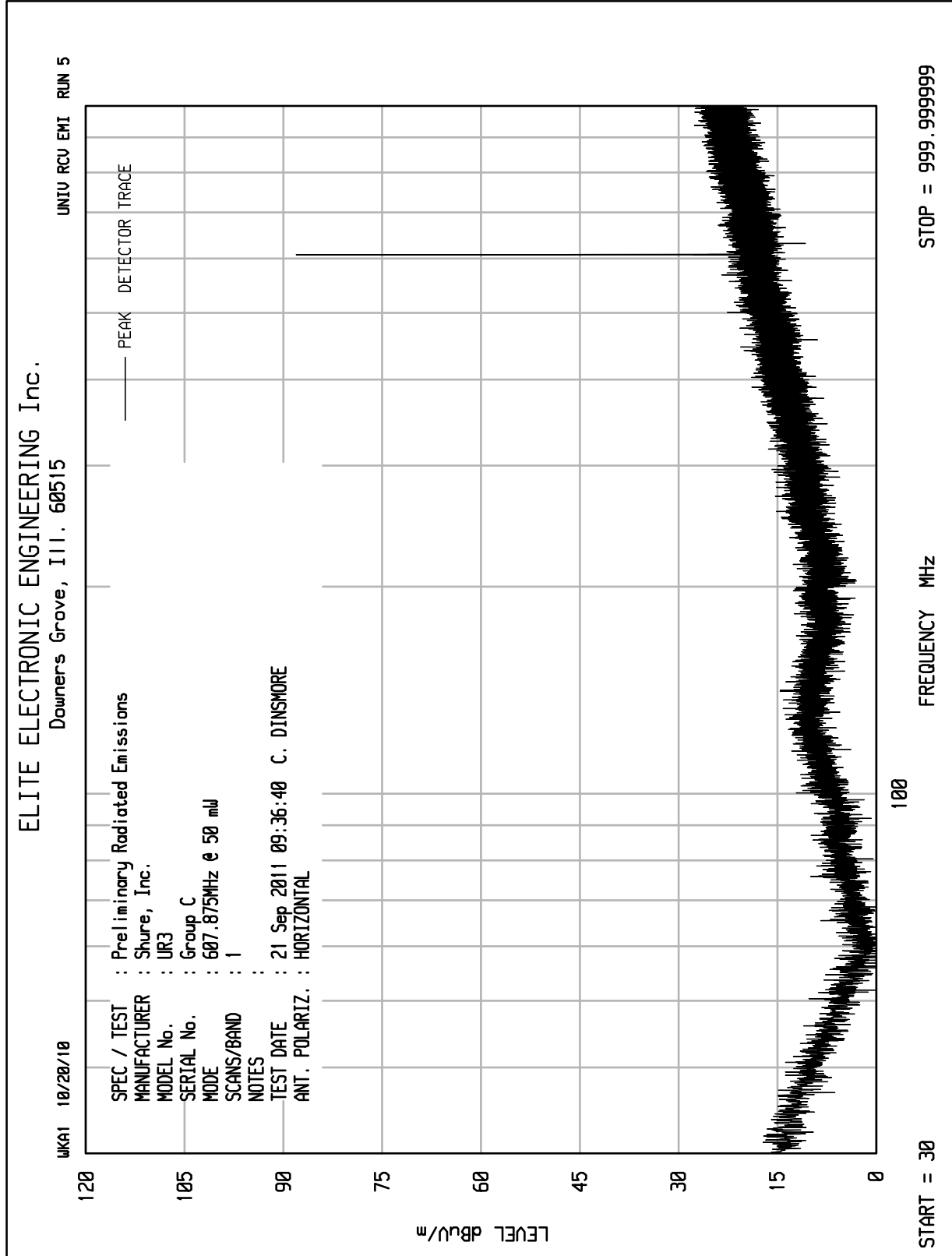


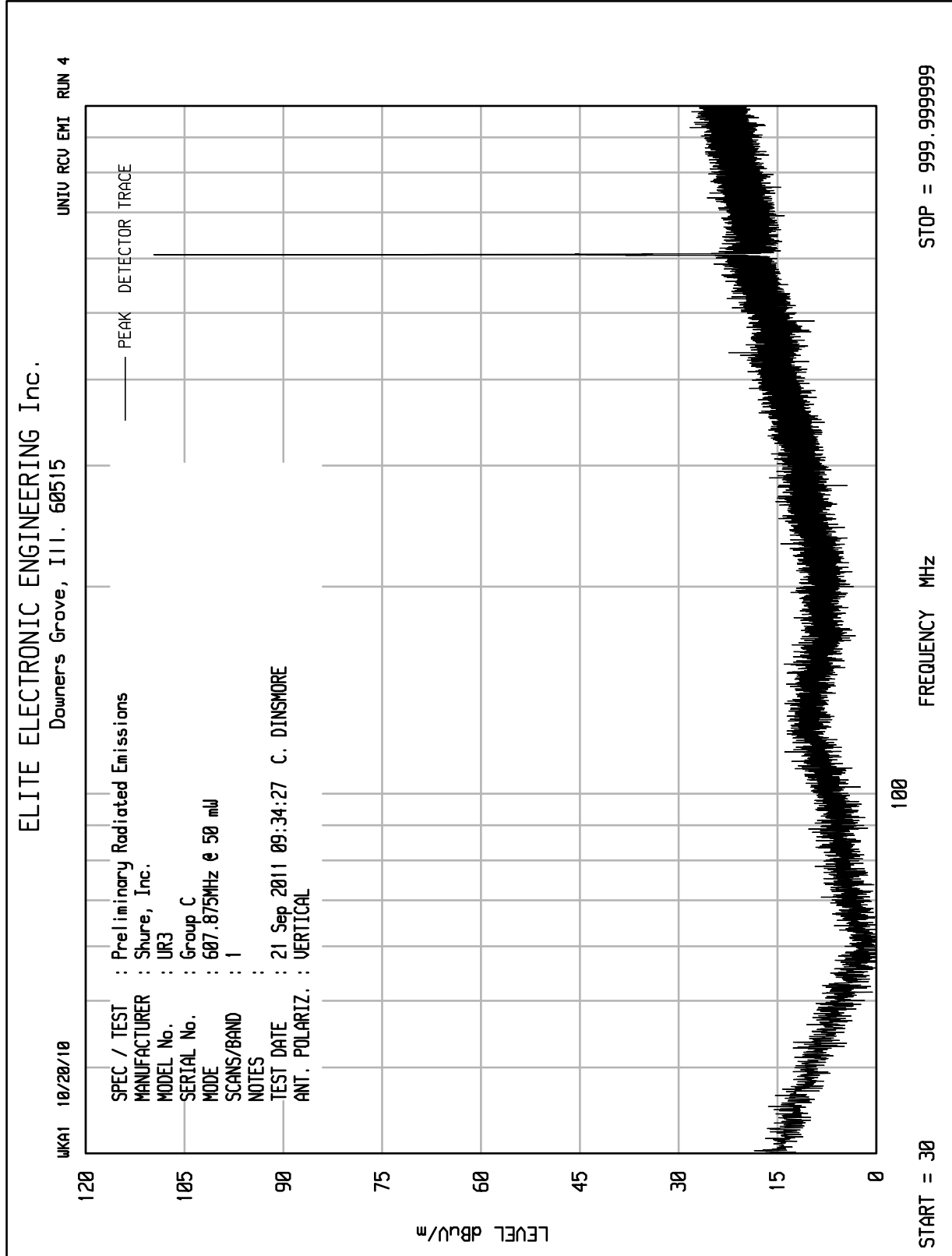


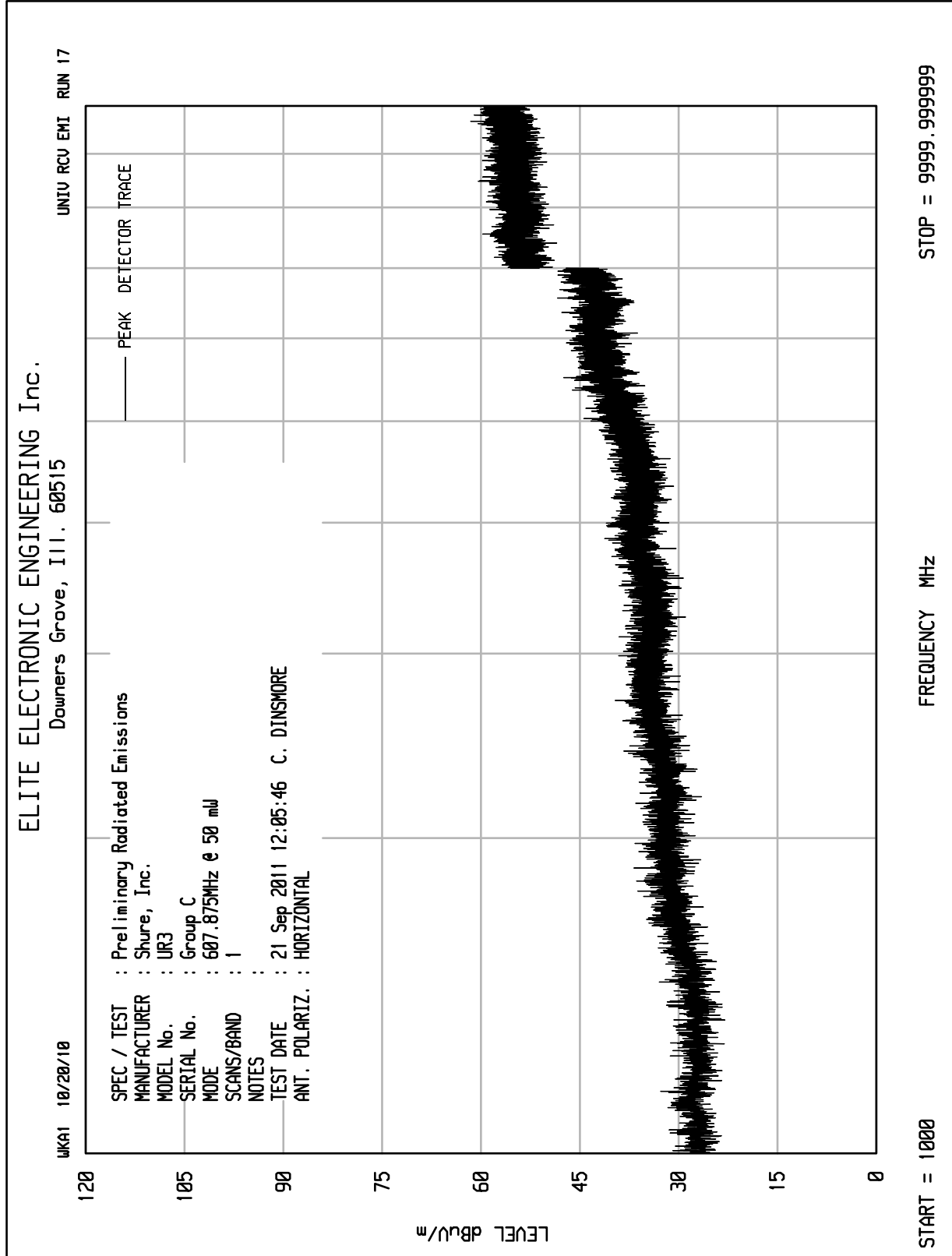


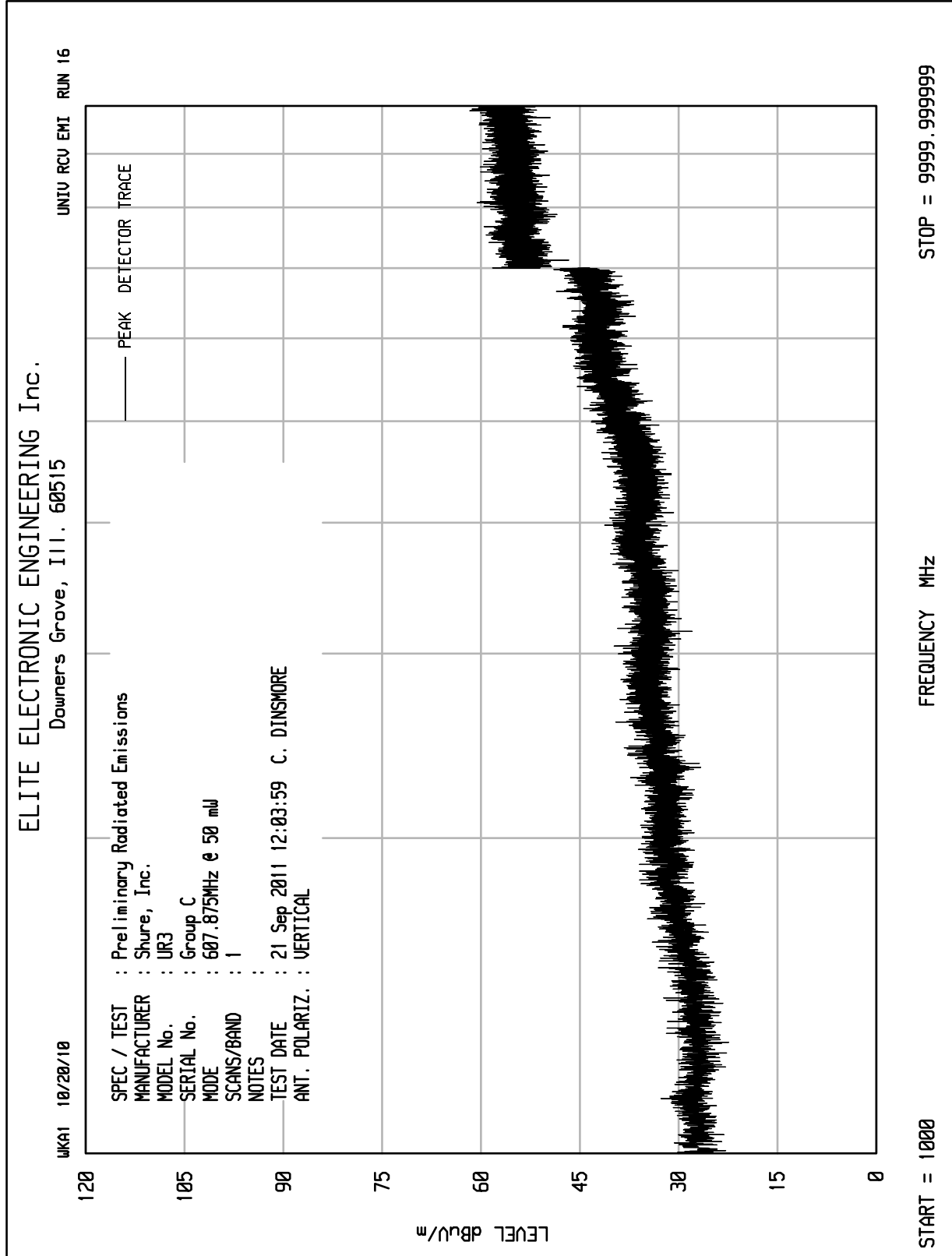


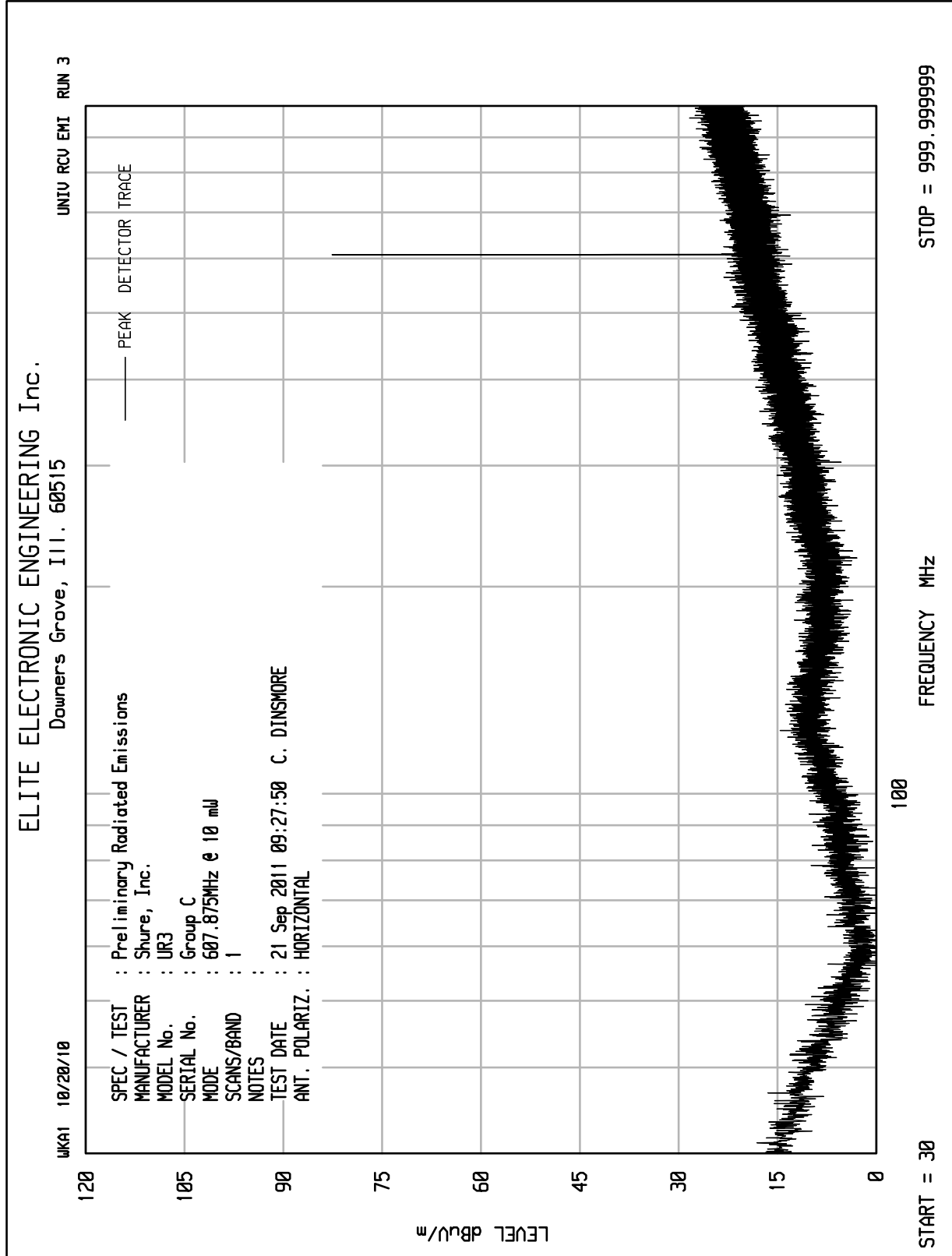


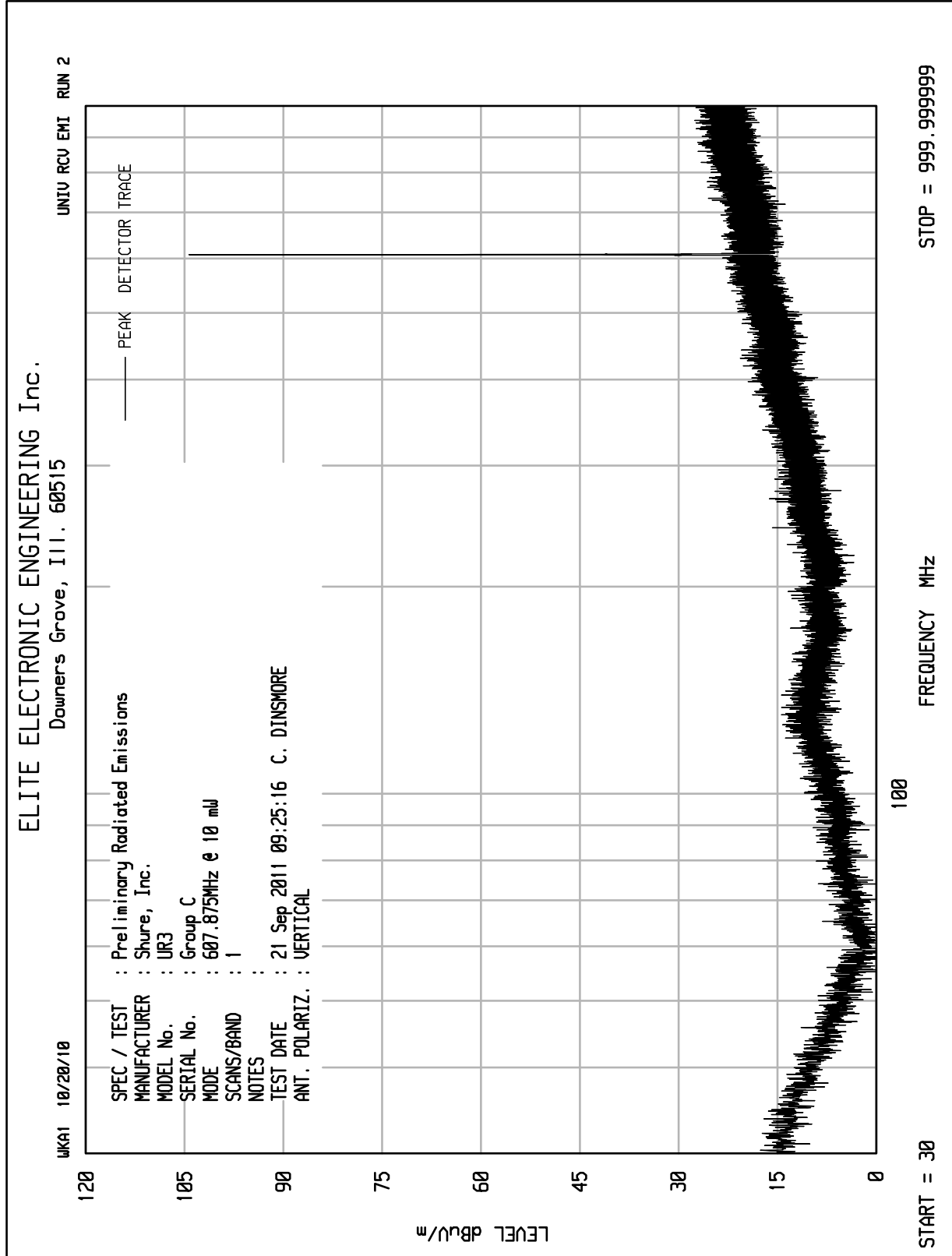


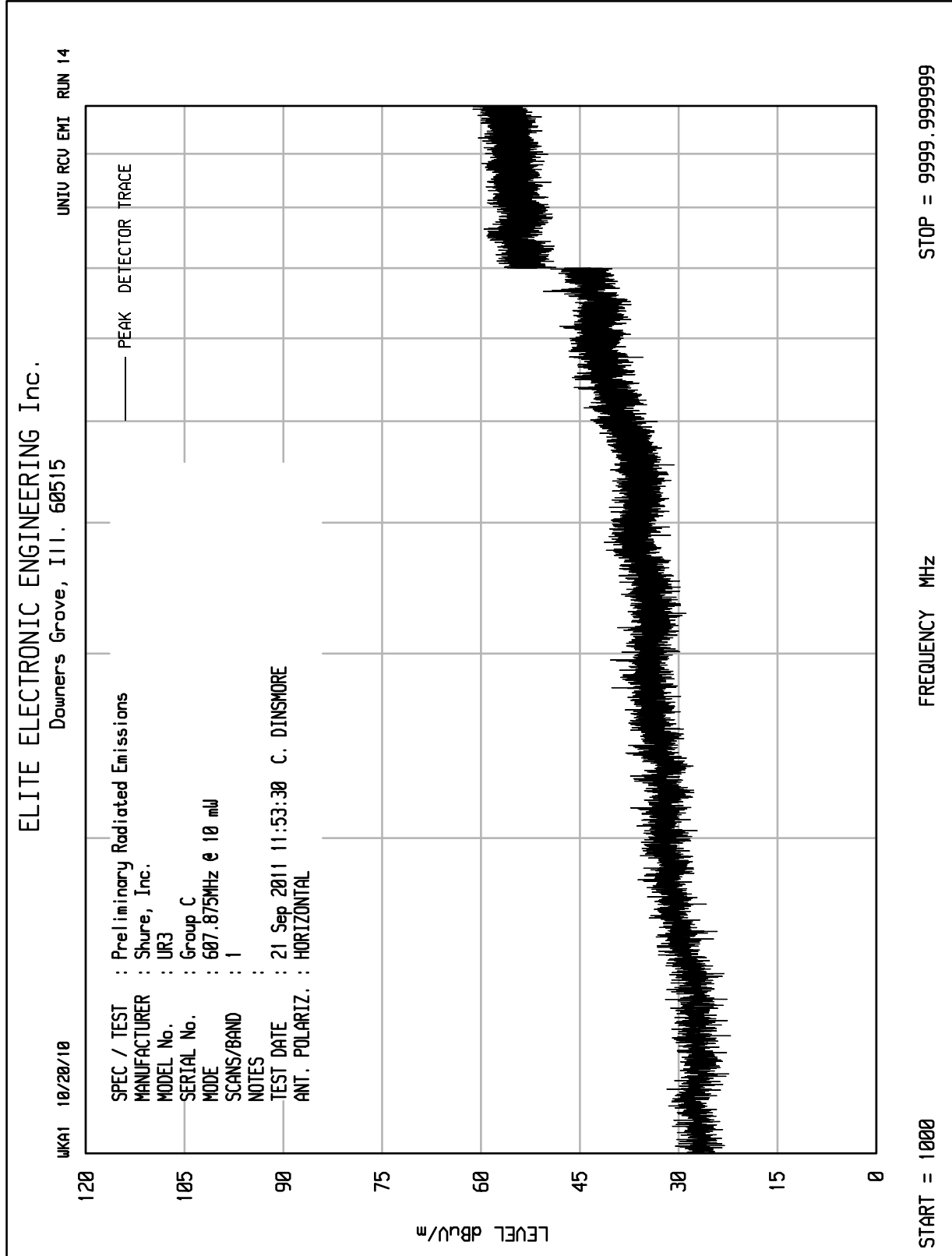


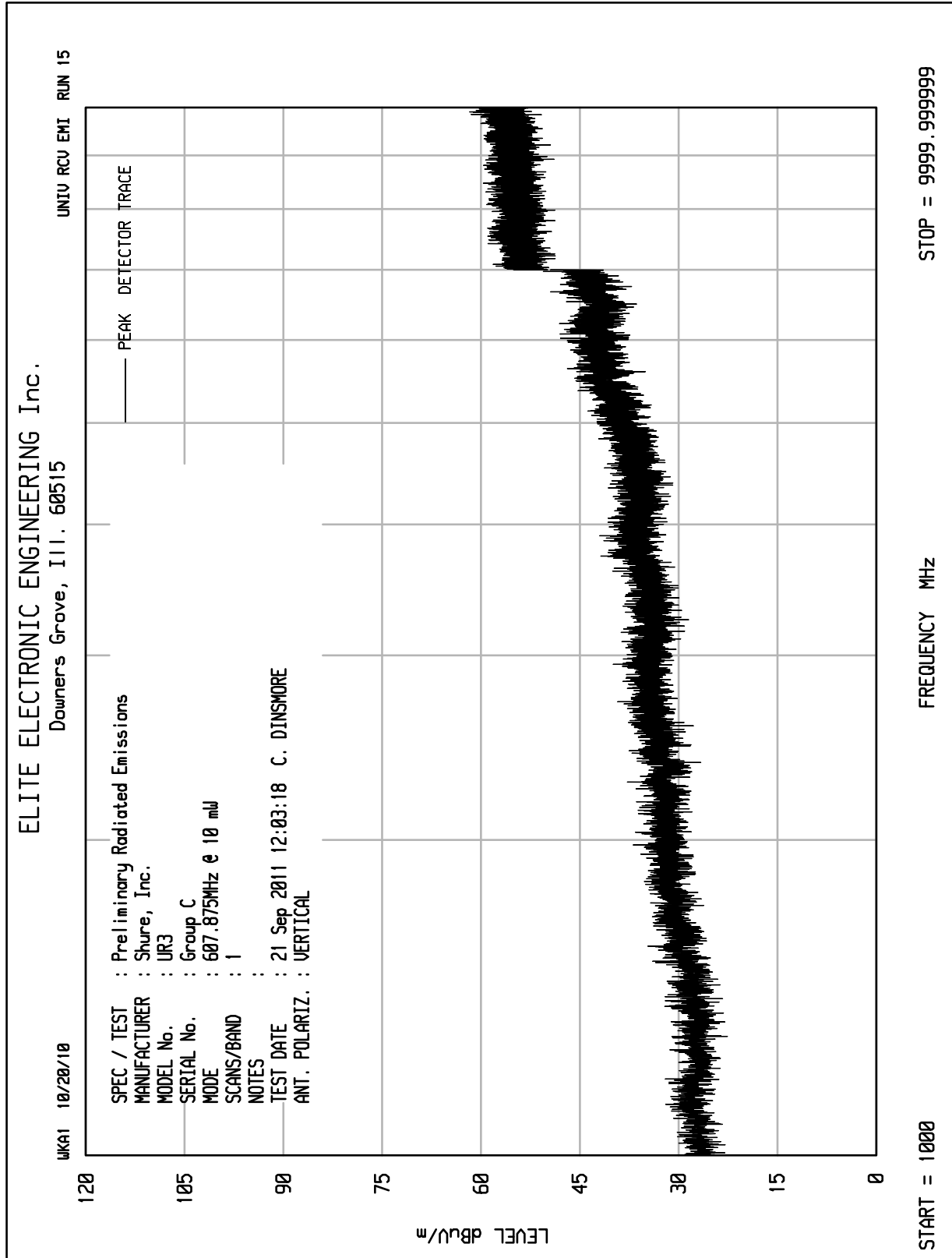


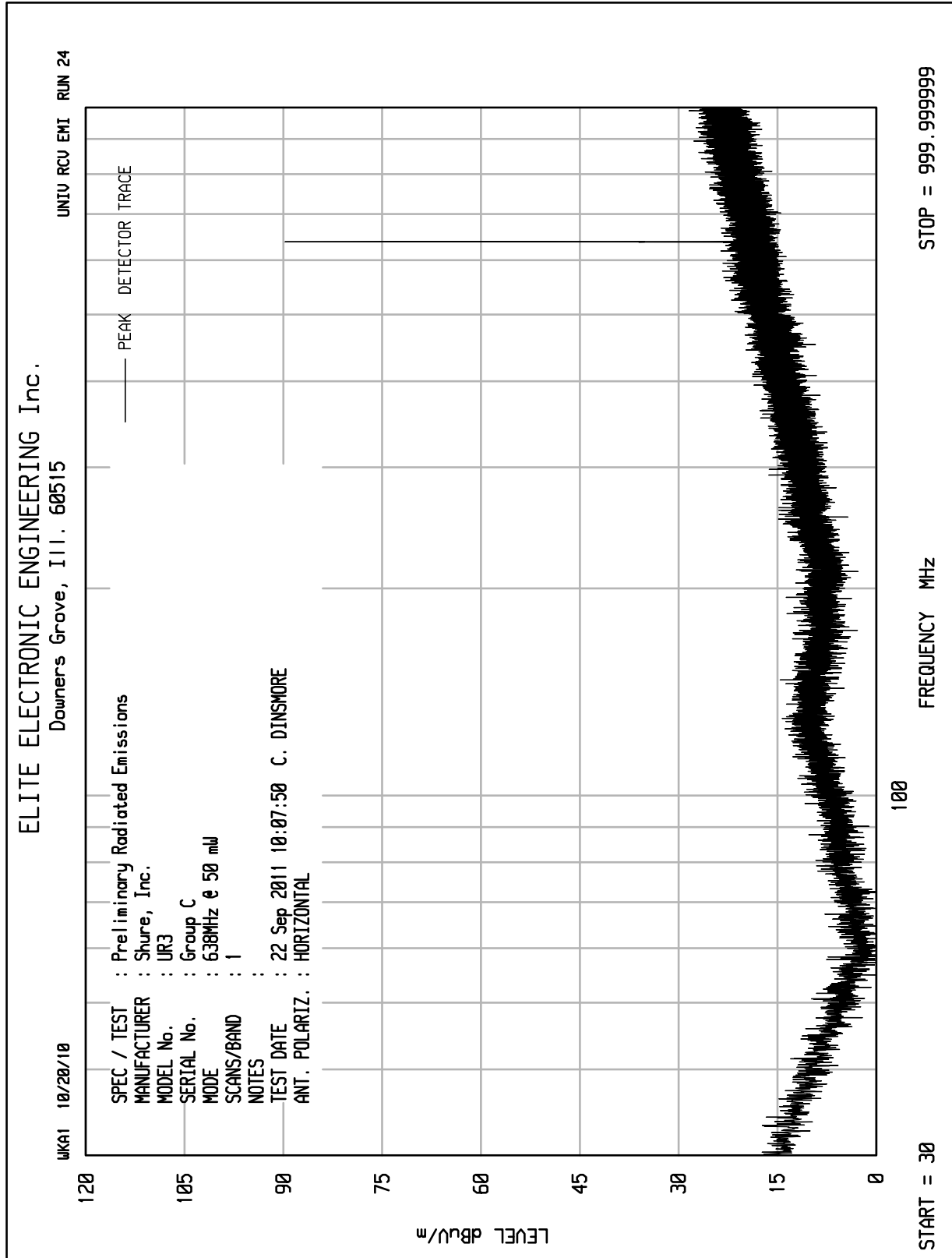


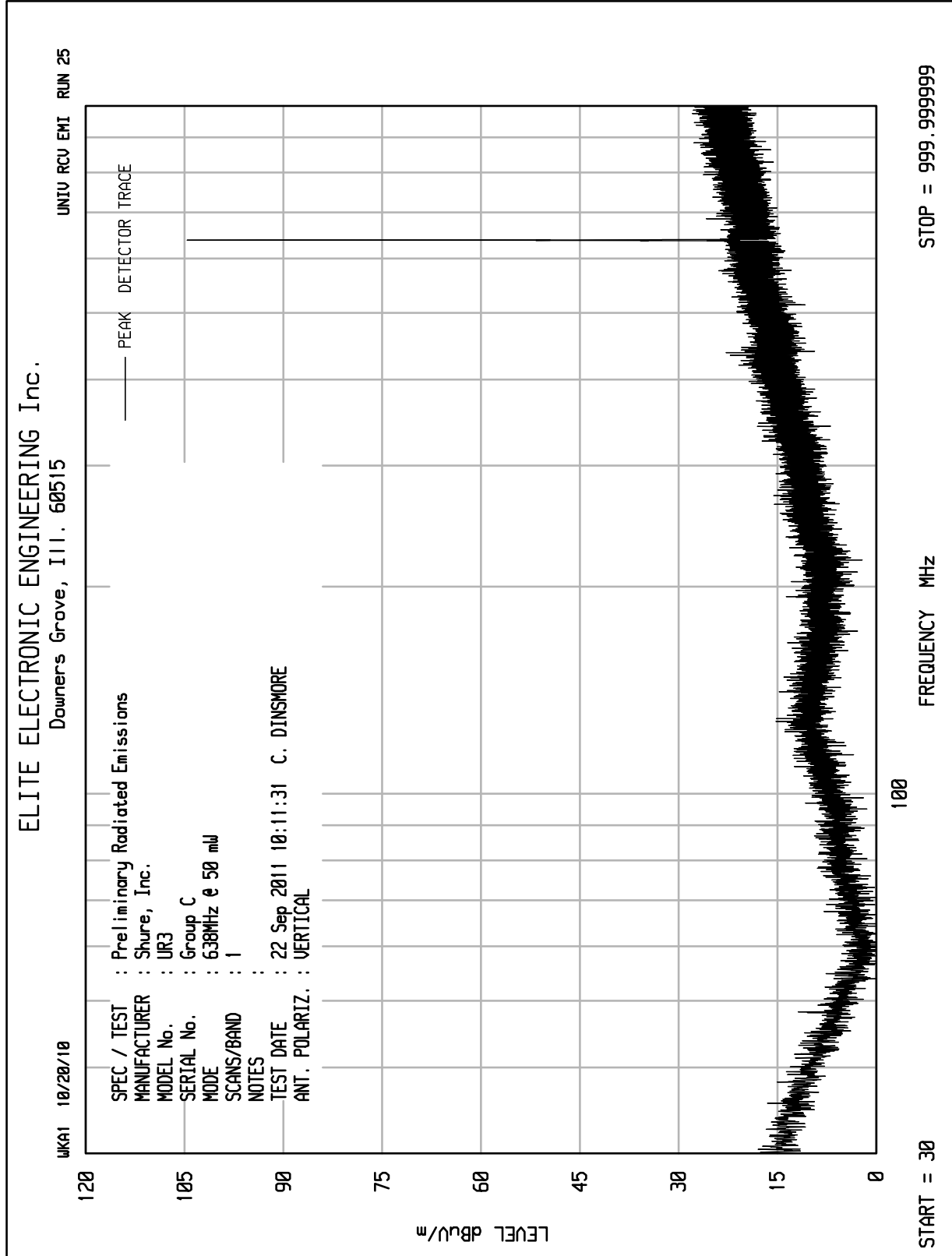


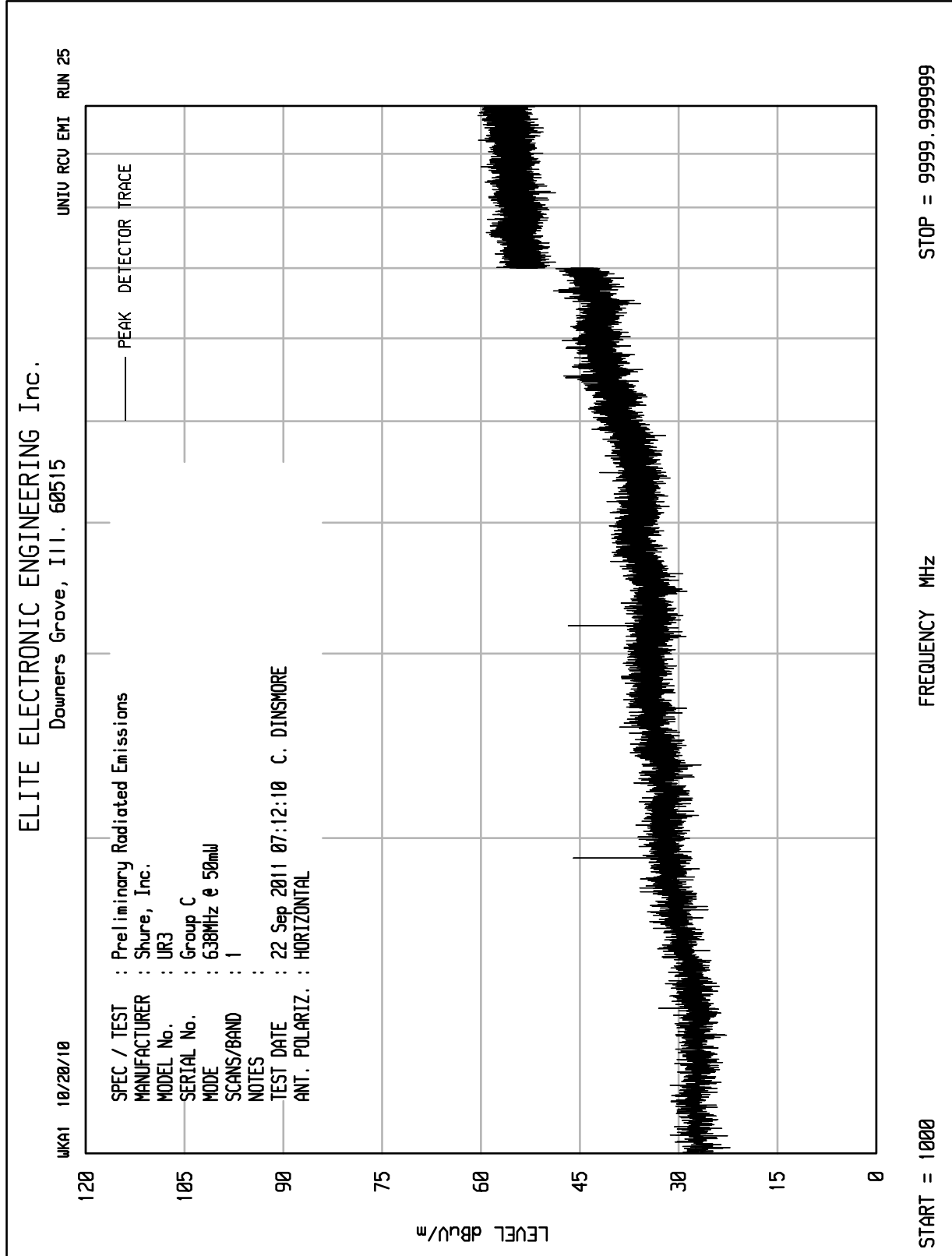


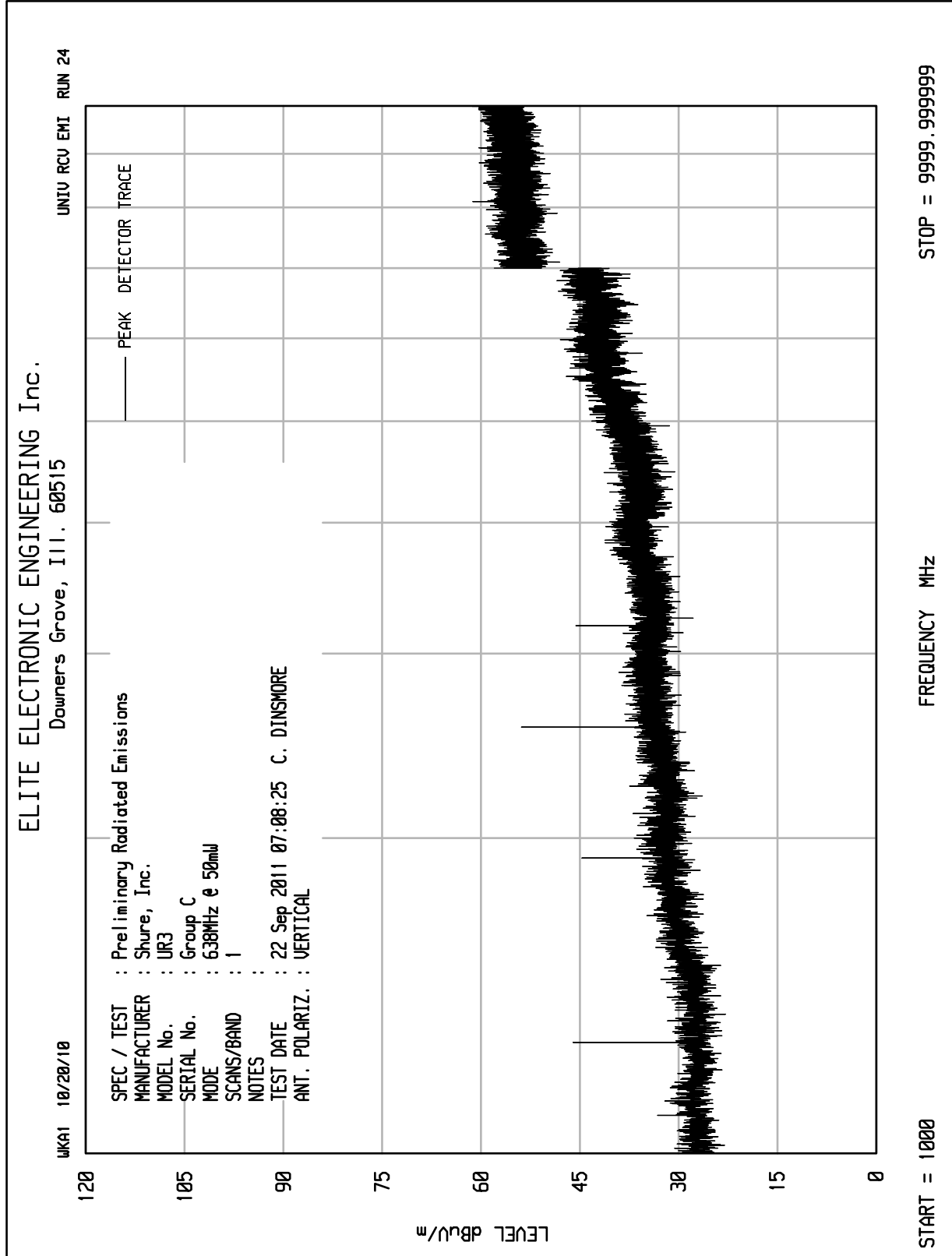


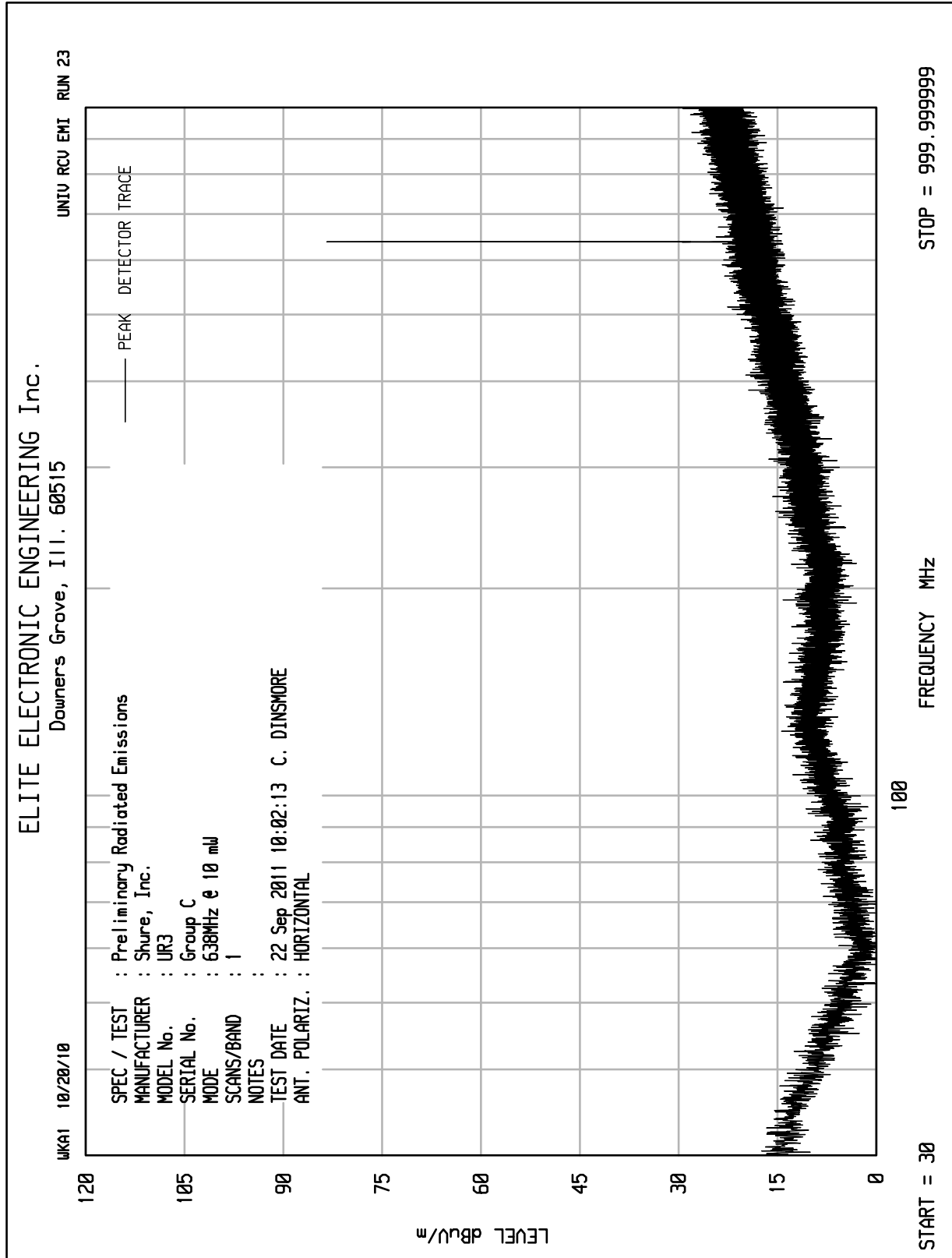


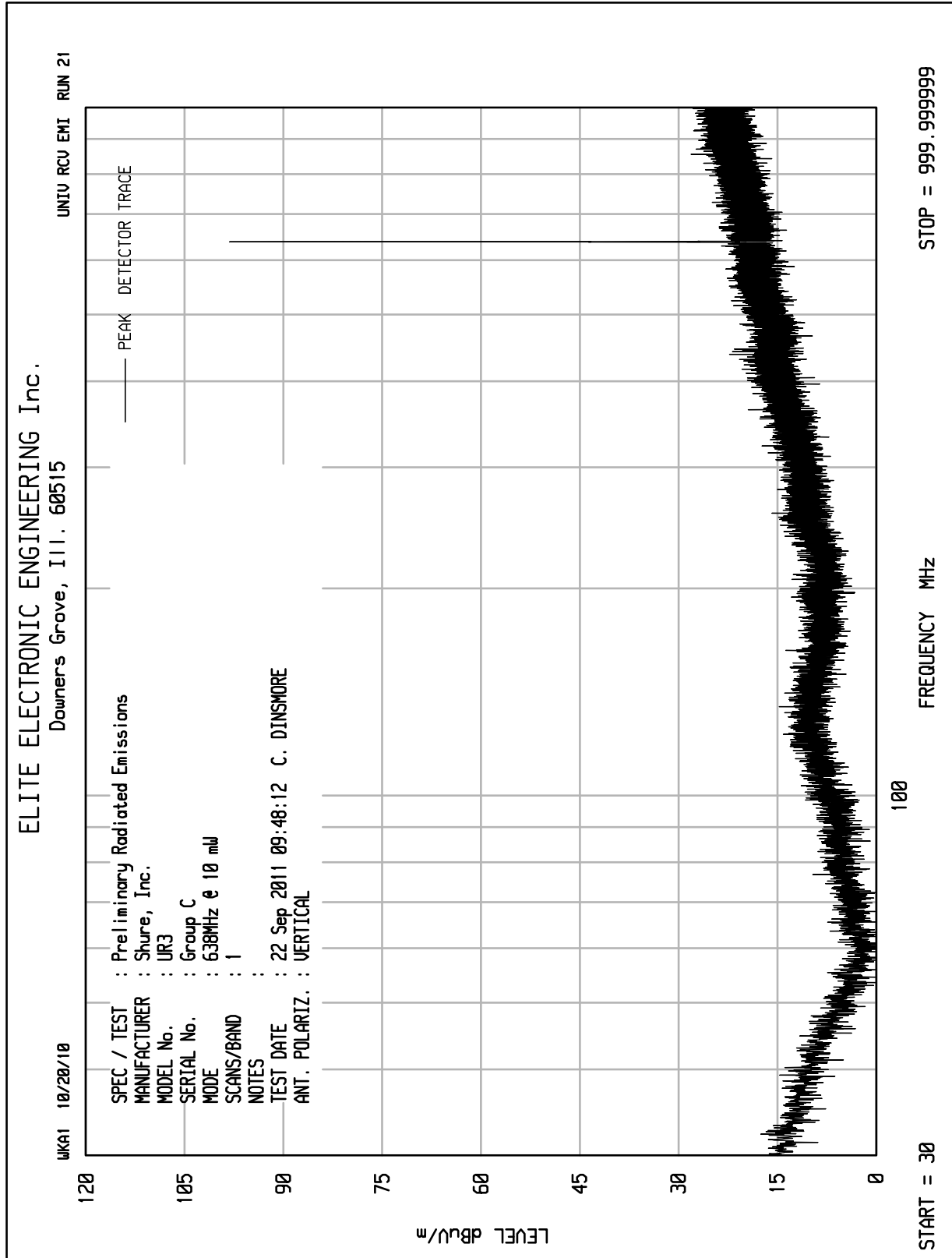


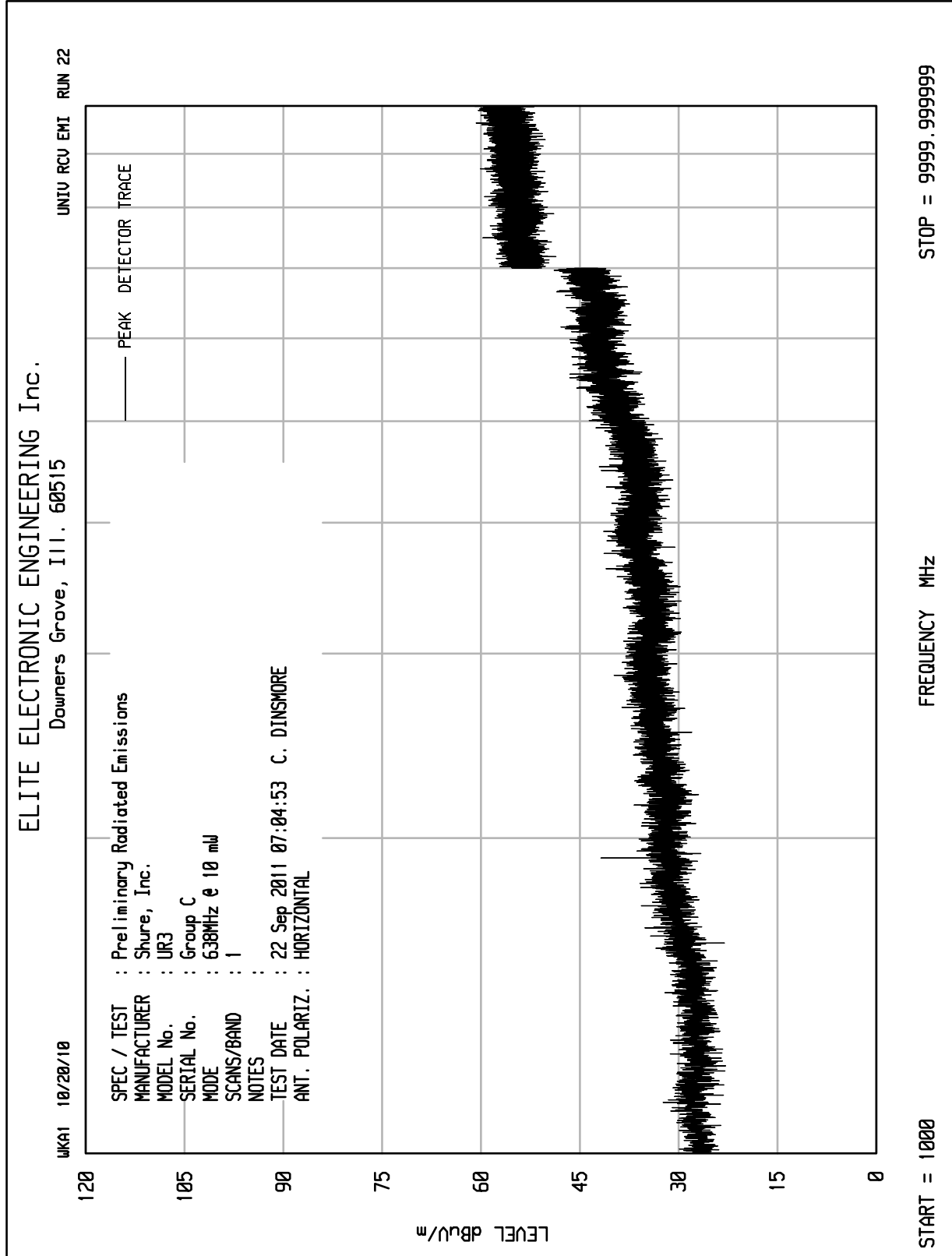


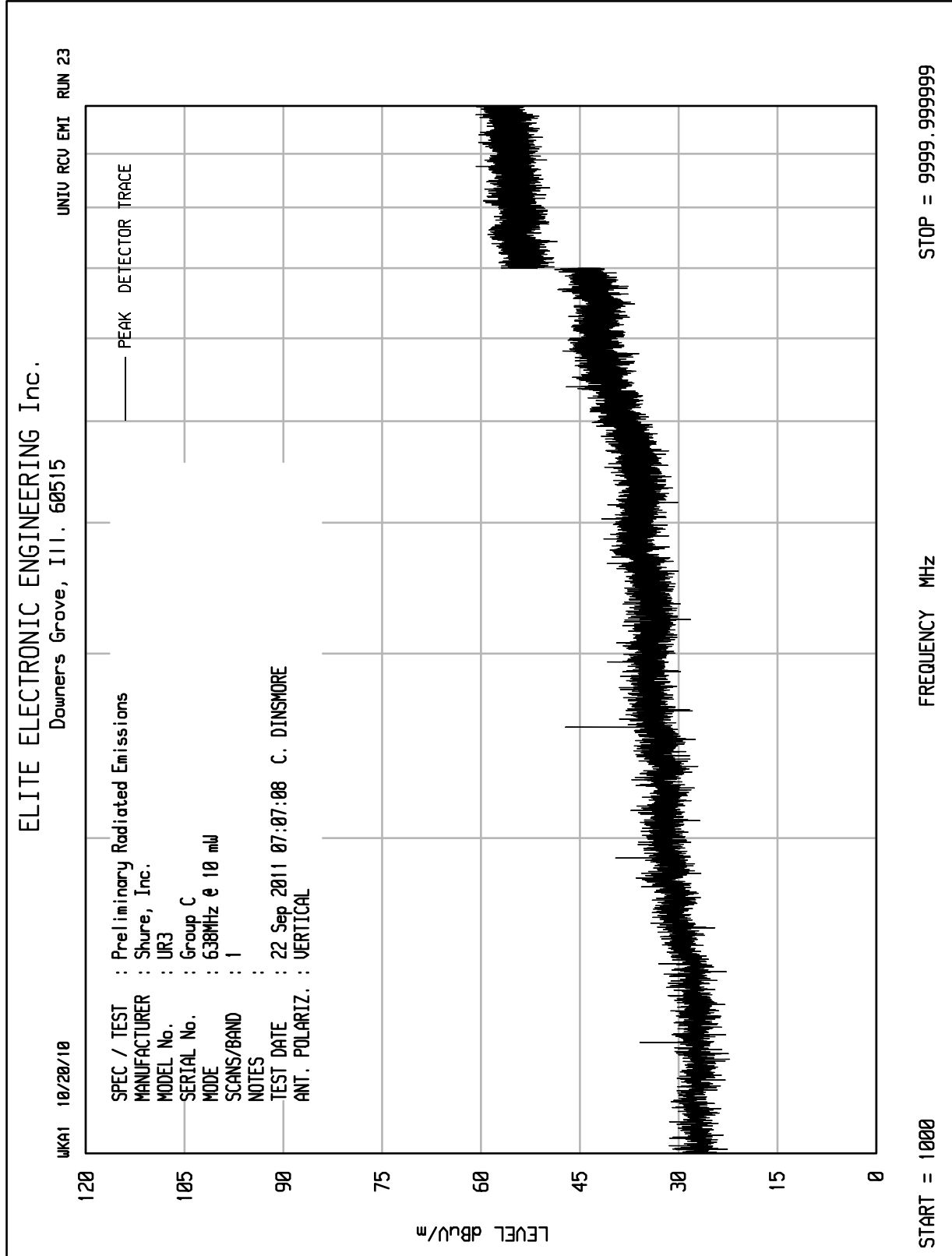


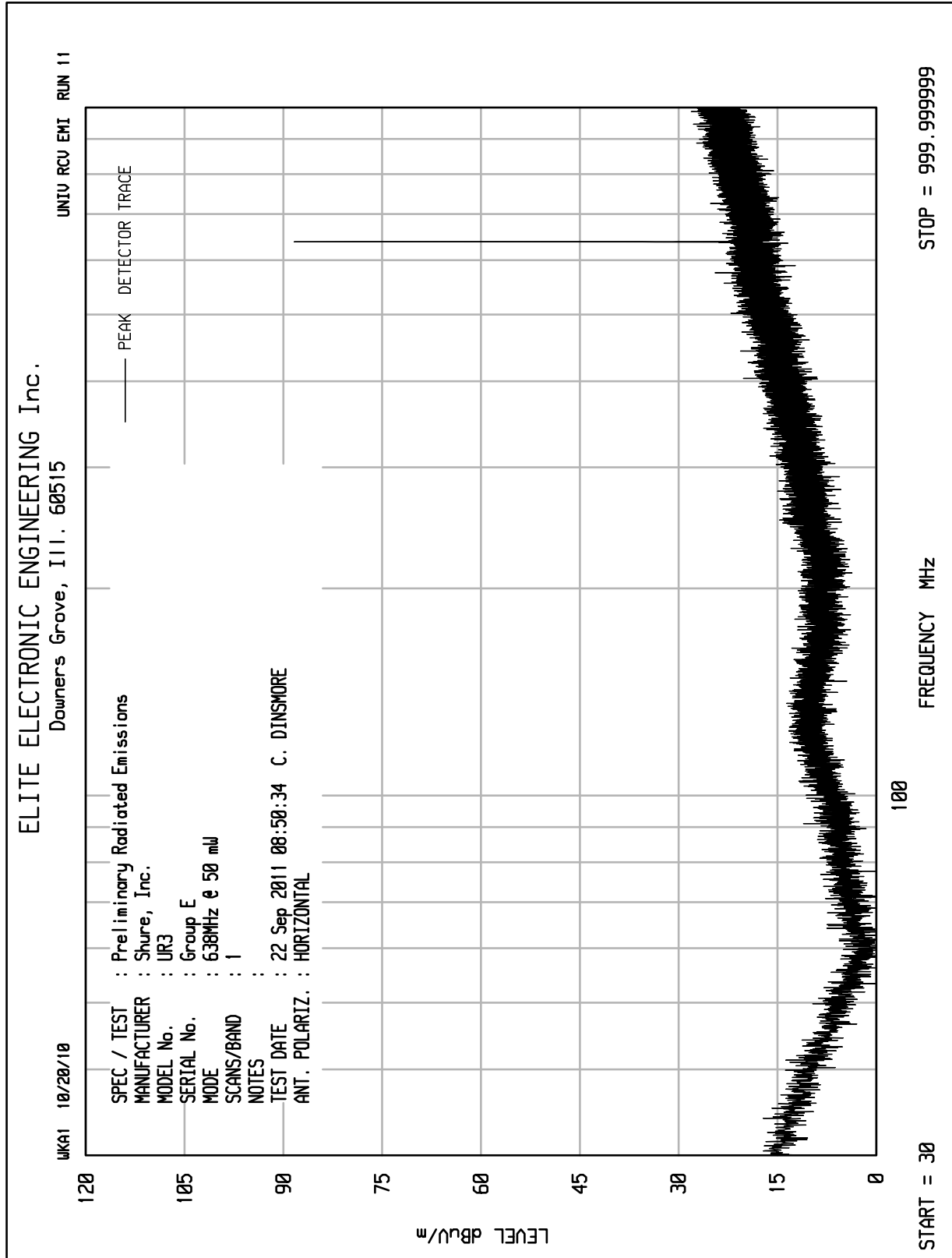














ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515

UNTV RCU EMI RUN 12

WKAI 10/20/10

SPEC / TEST : Preliminary Radiated Emissions

MANUFACTURER : Shure, Inc.

MODEL No. : UR3

SERIAL No. : Group E

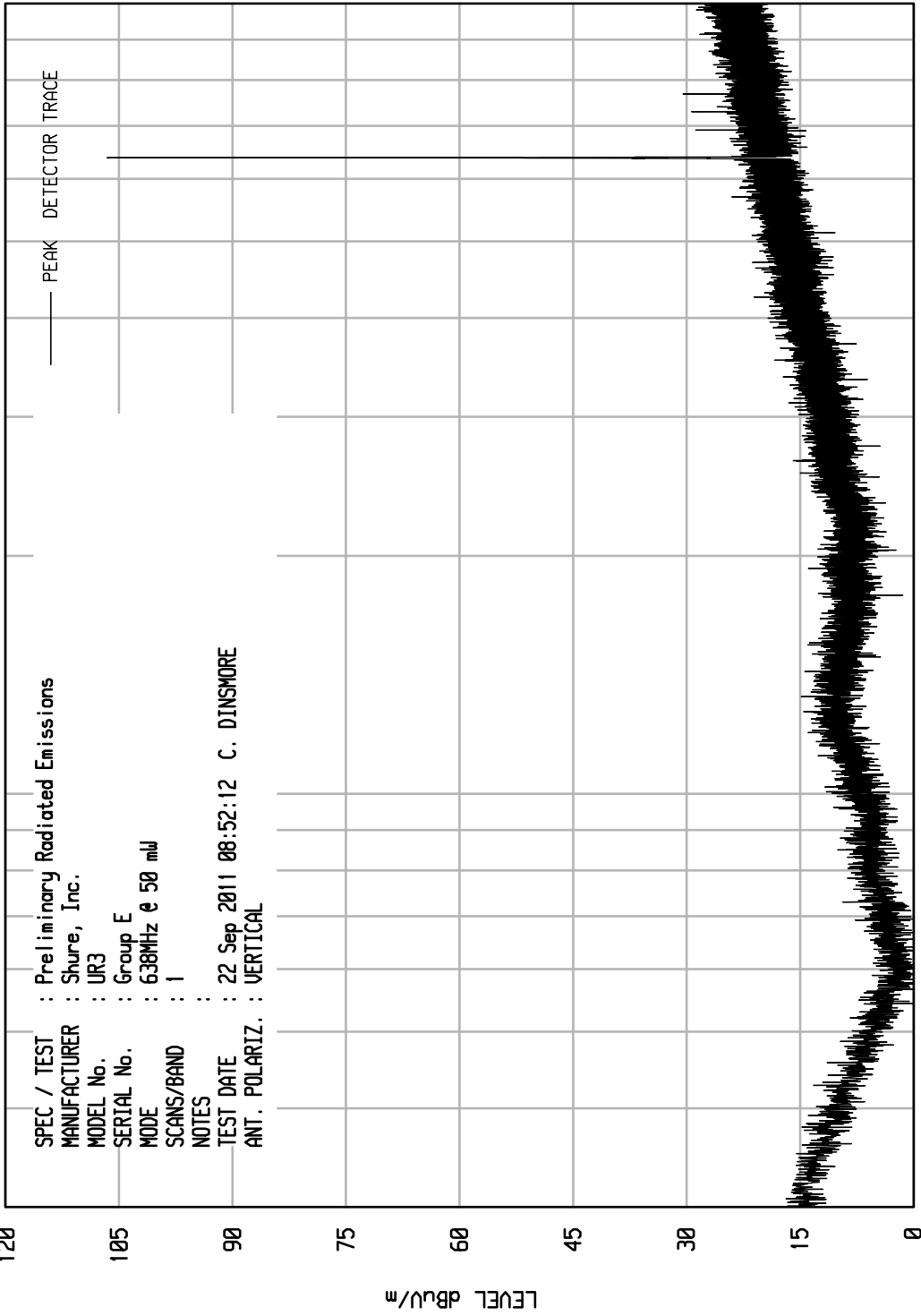
MODE : 638MHz @ 50 mW

SCANS/BAND : 1

NOTES :

TEST DATE : 22 Sep 2011 08:52:12 C. DINSMORE

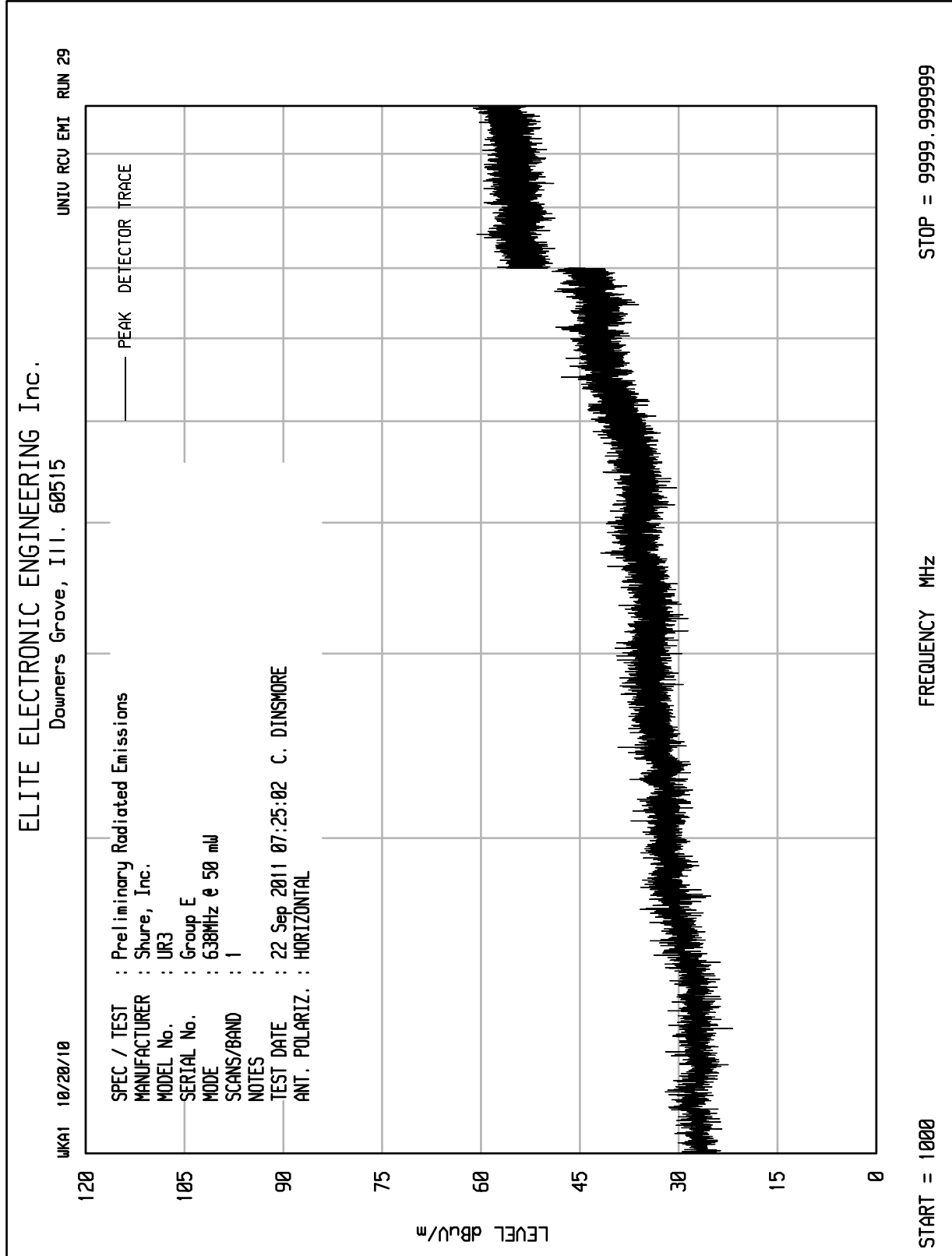
ANT. POLARIZ. : VERTICAL

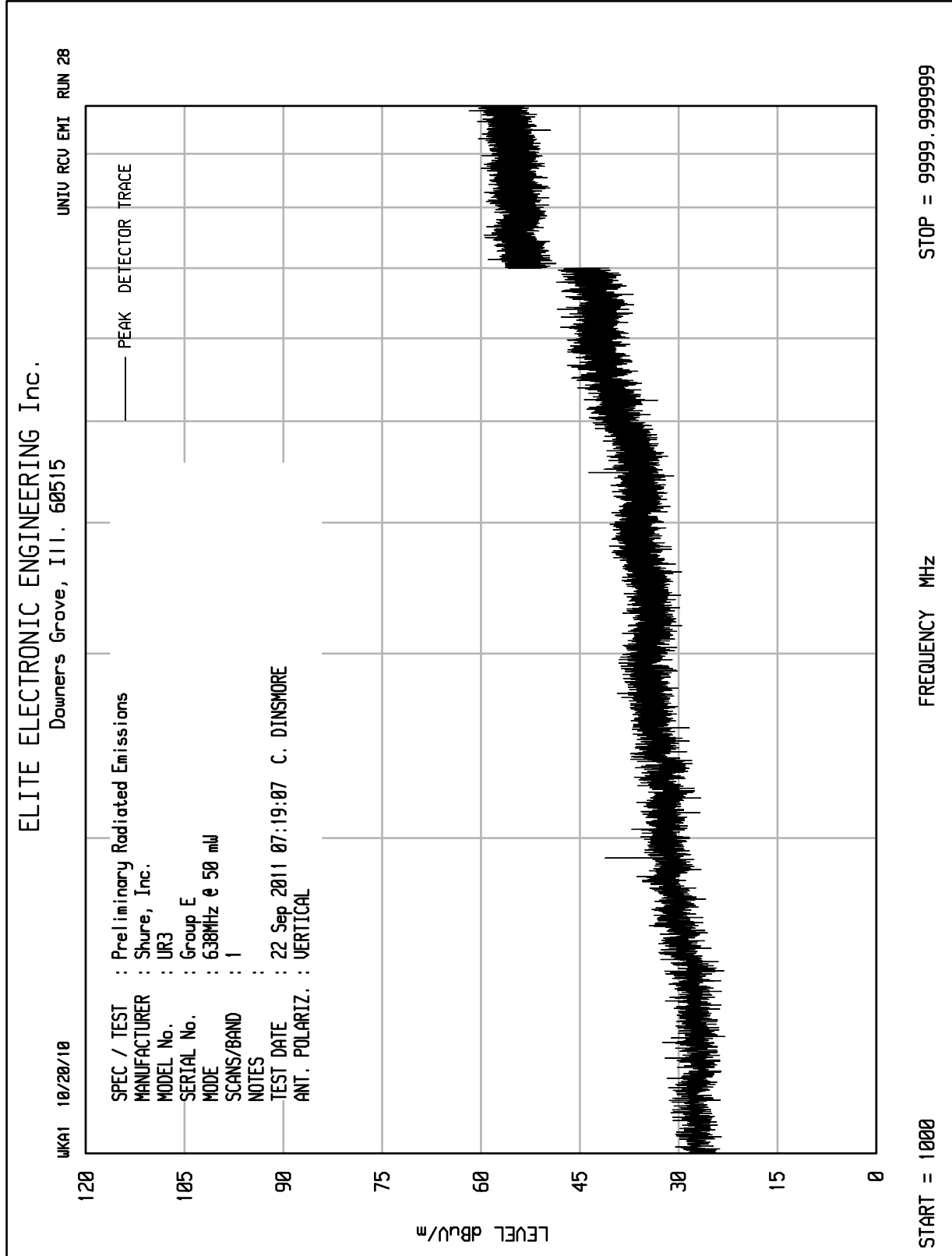


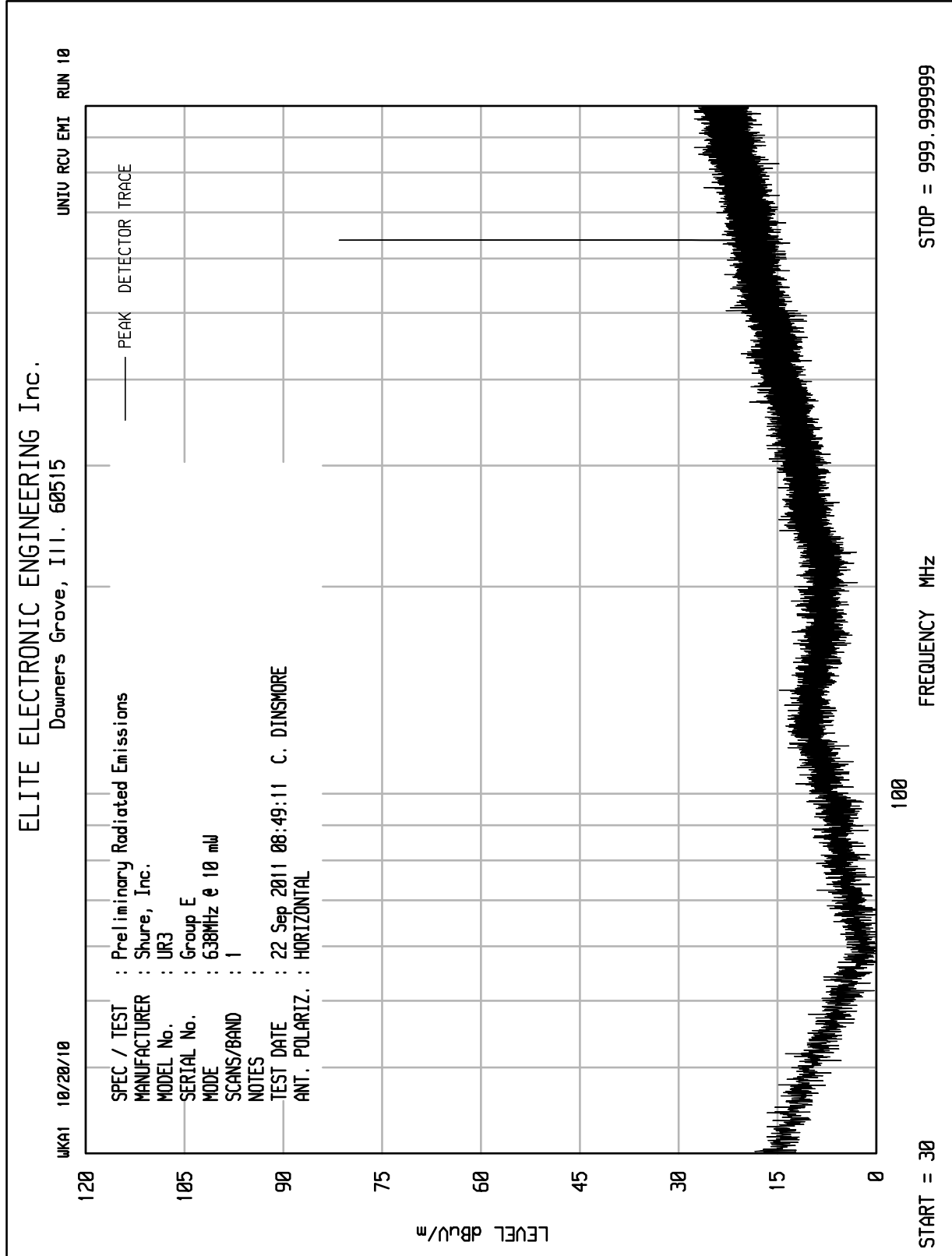
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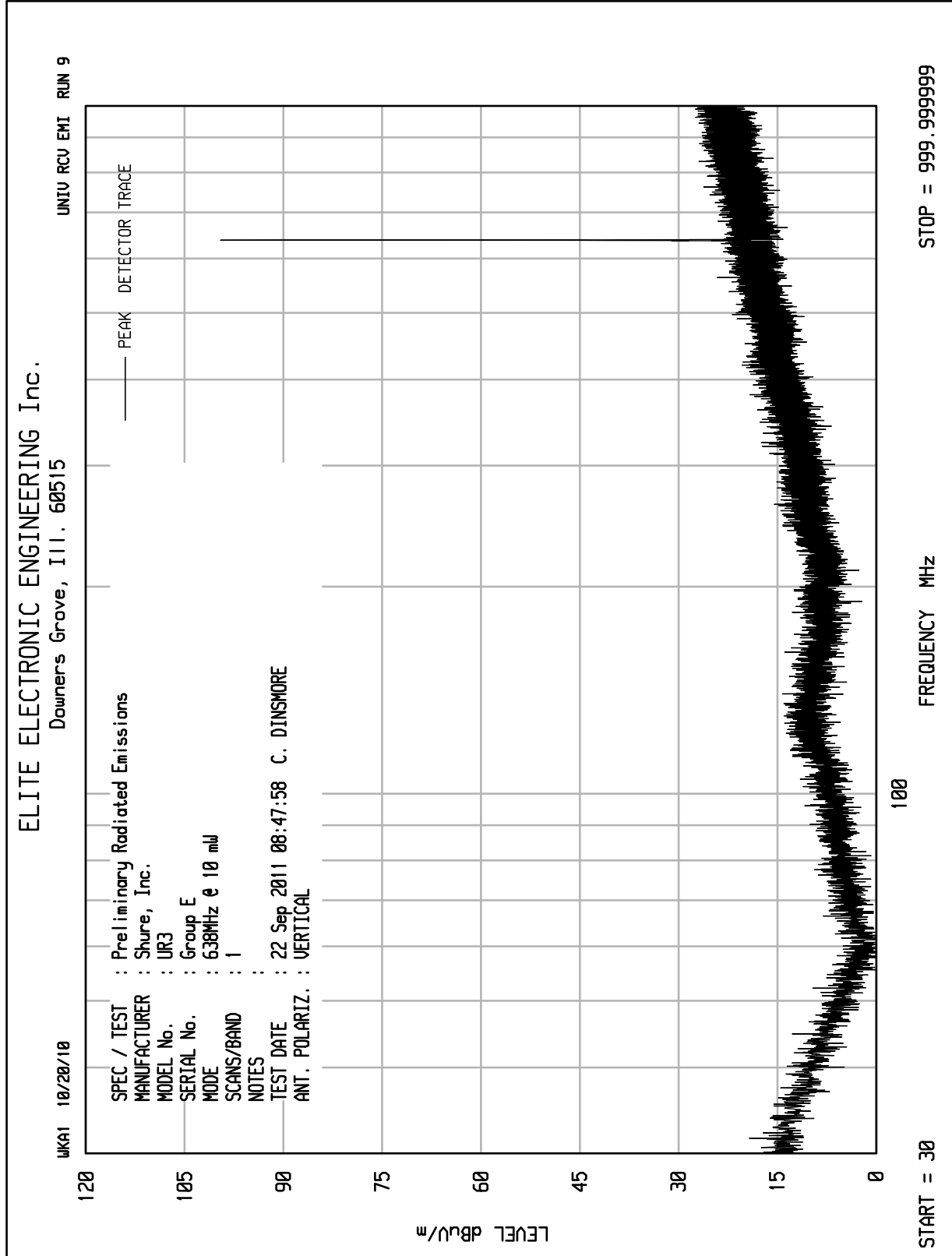
FREQUENCY MHz

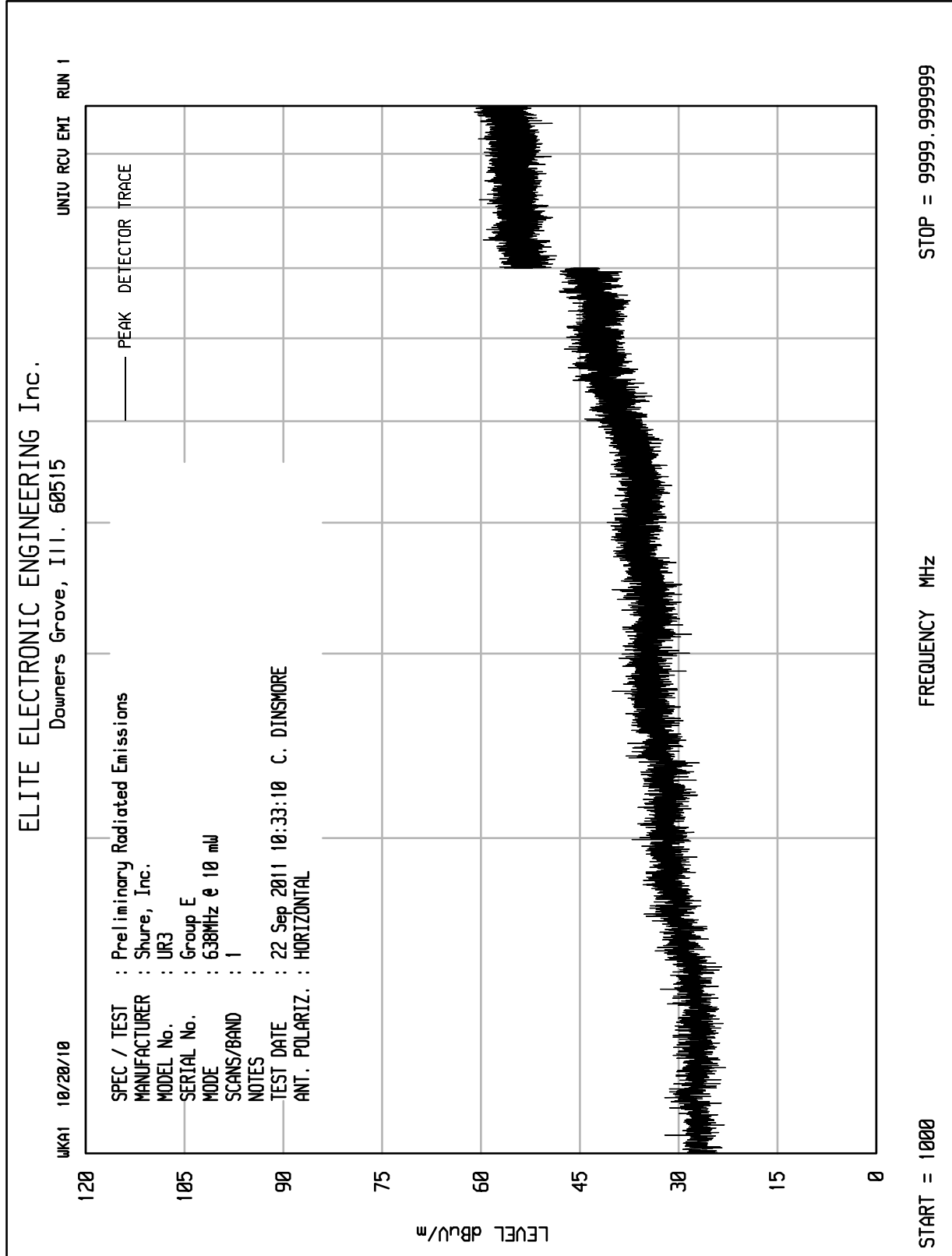
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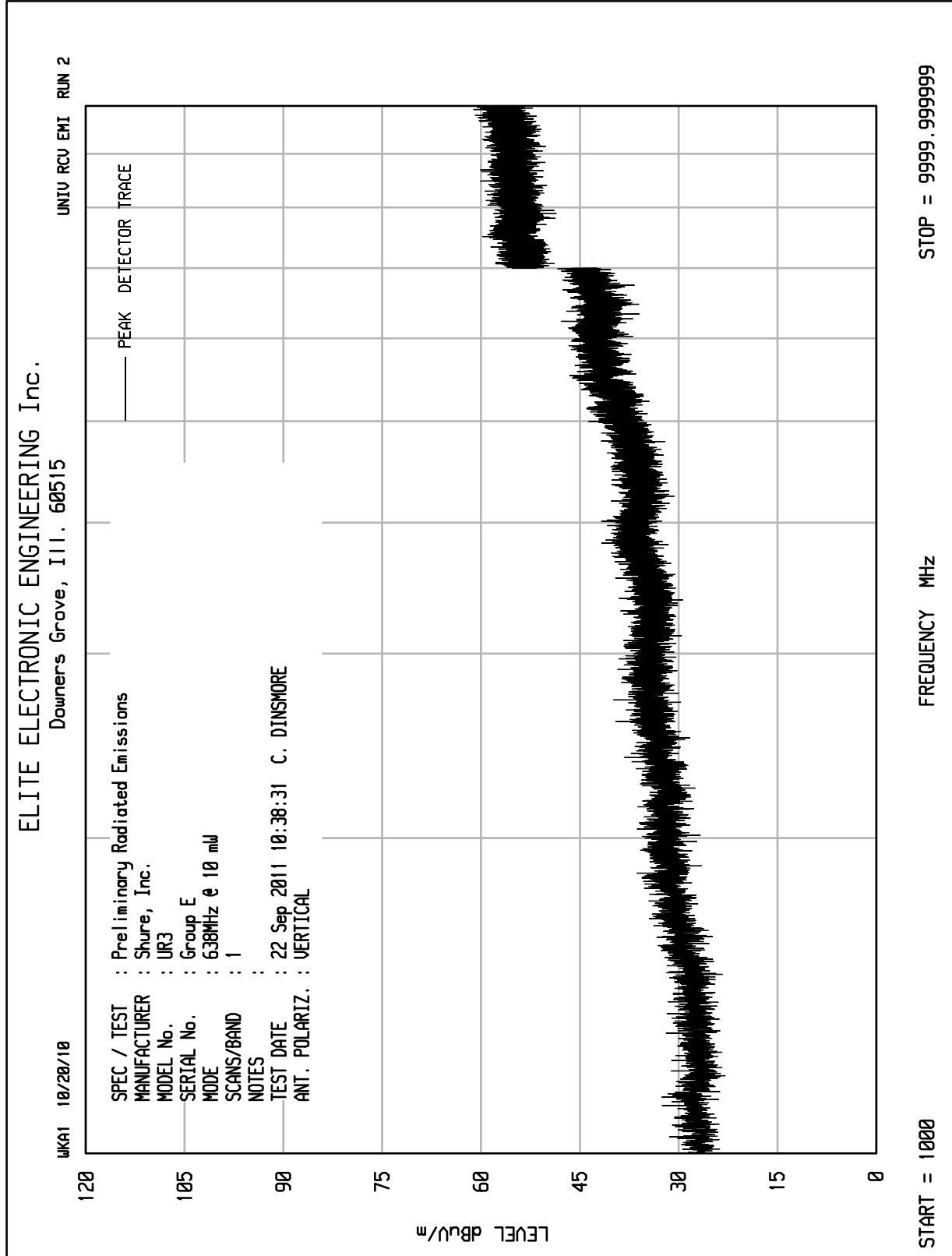


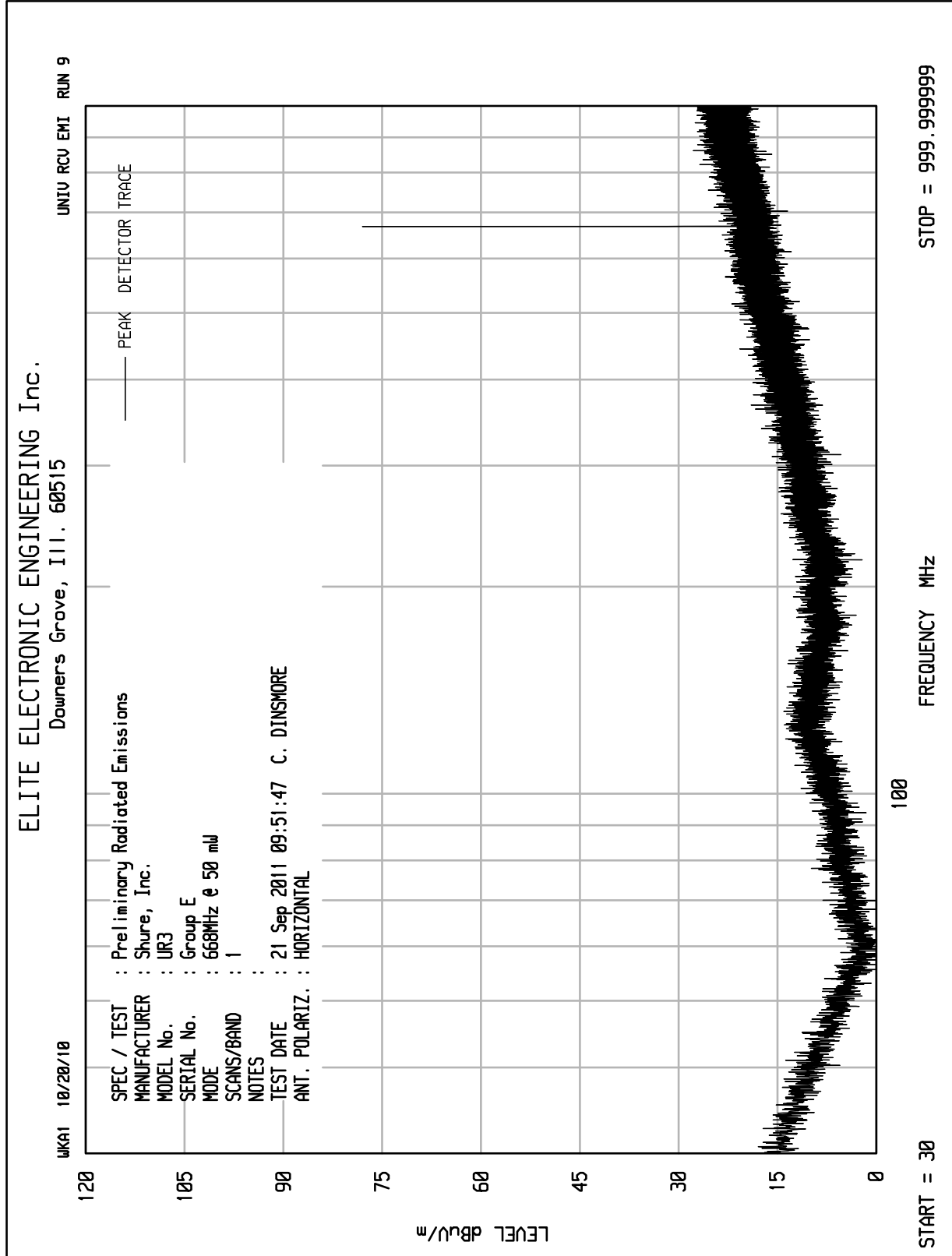


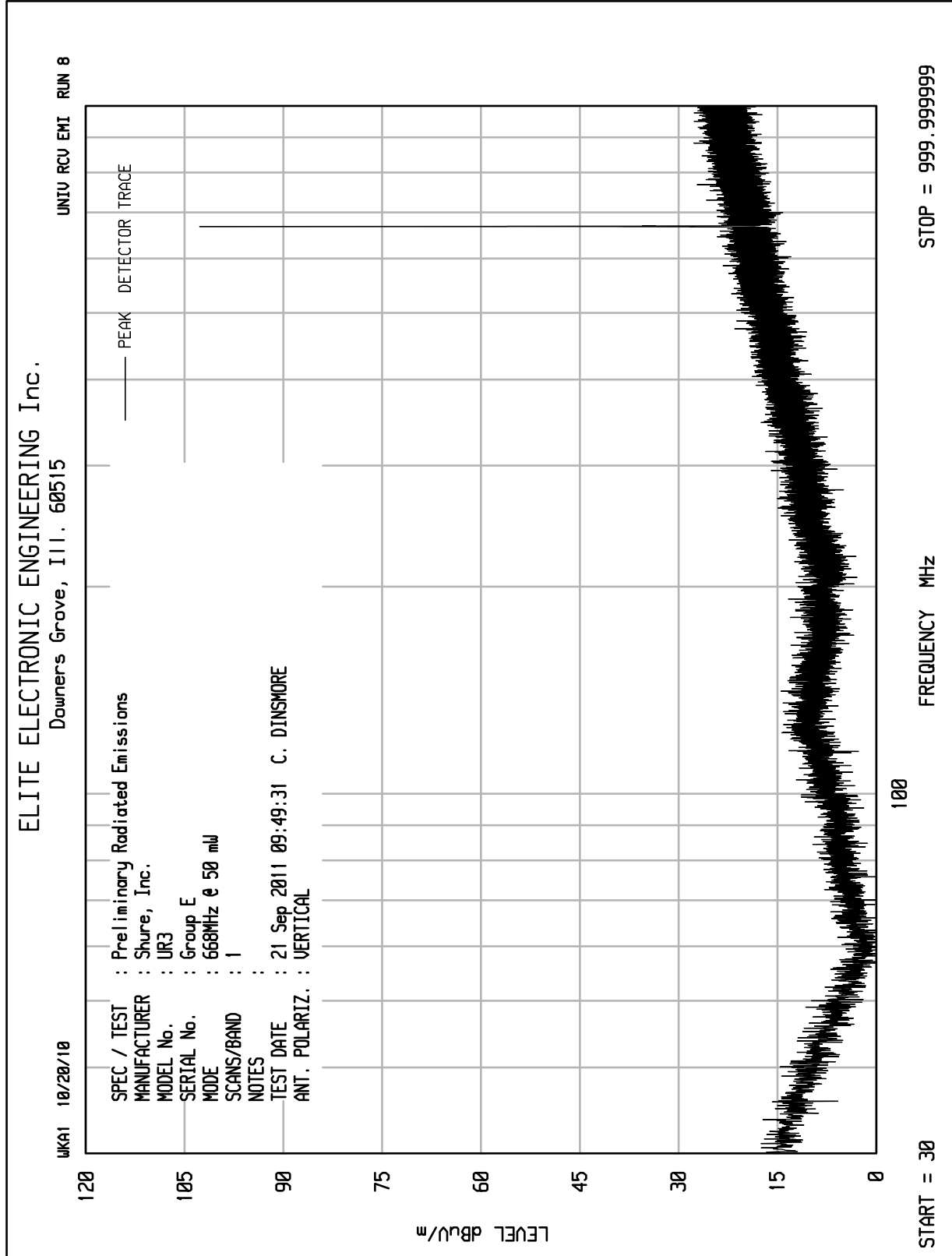


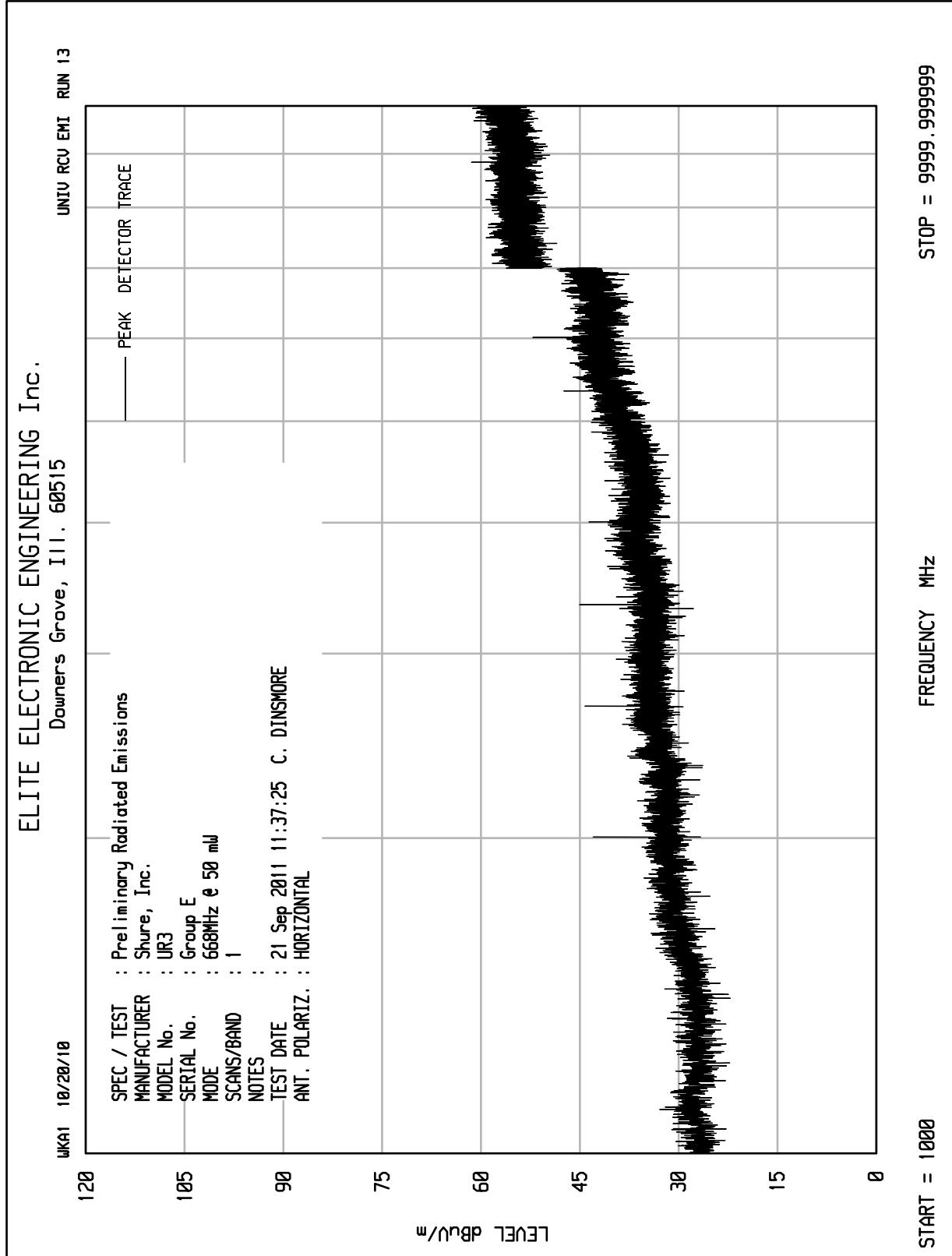


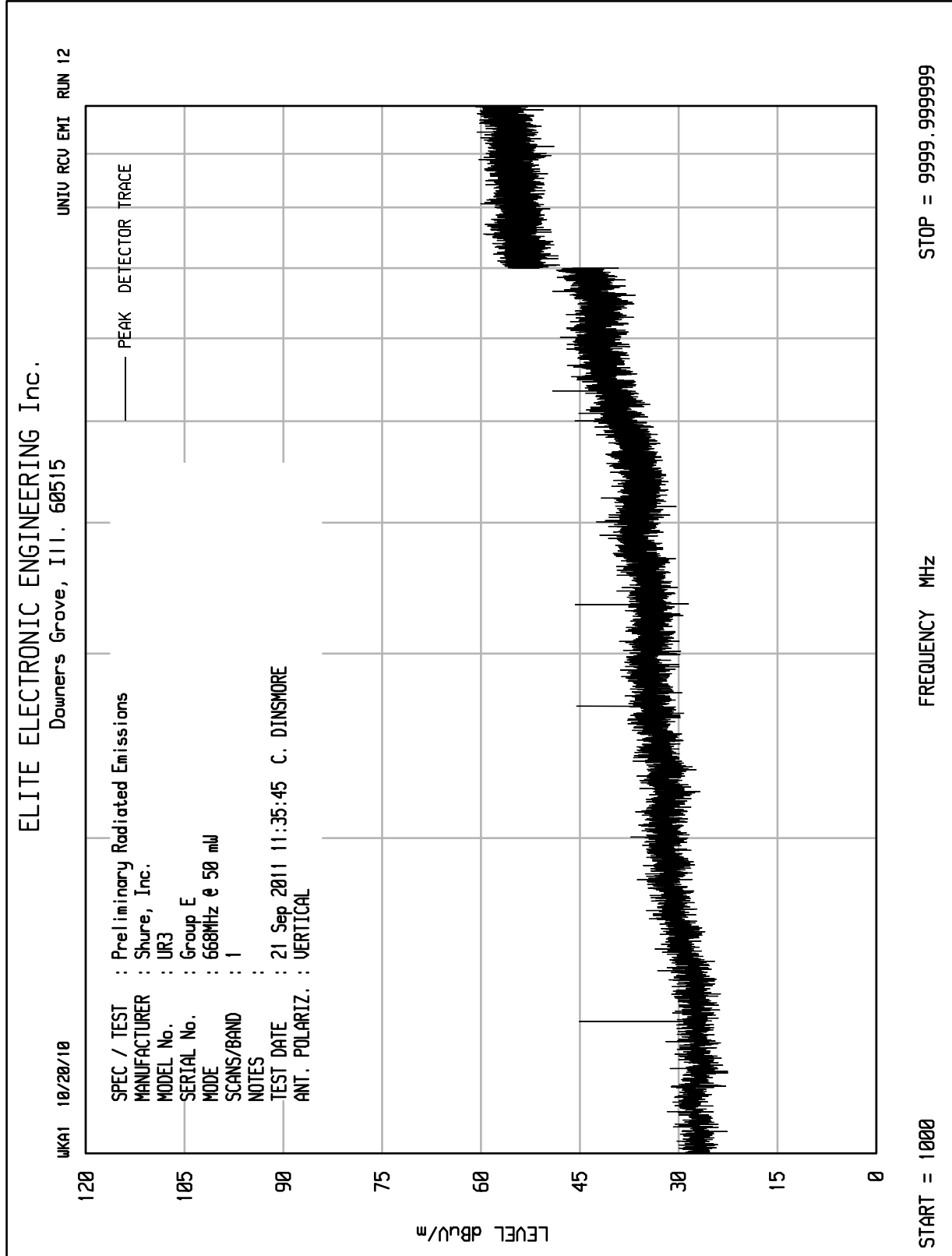


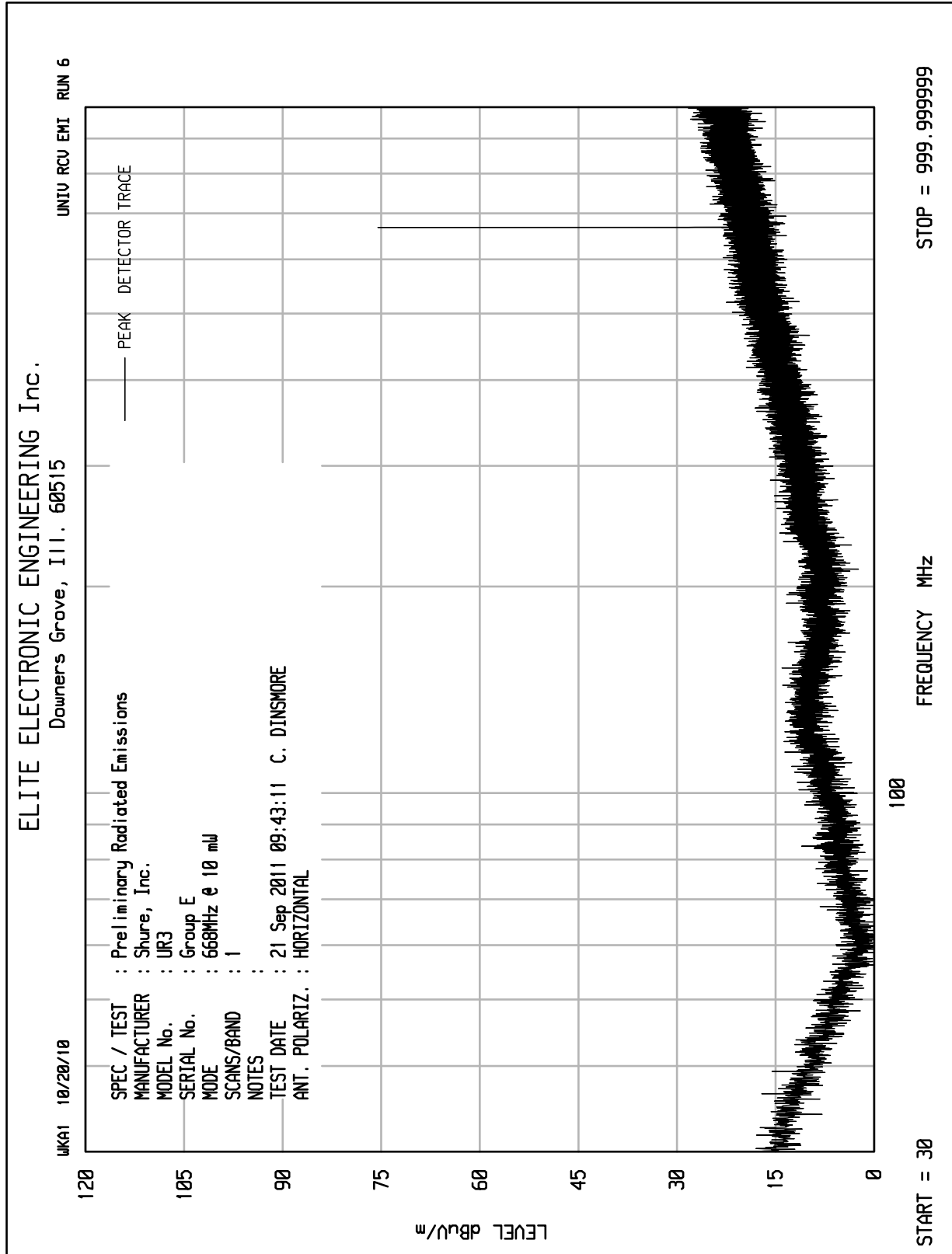


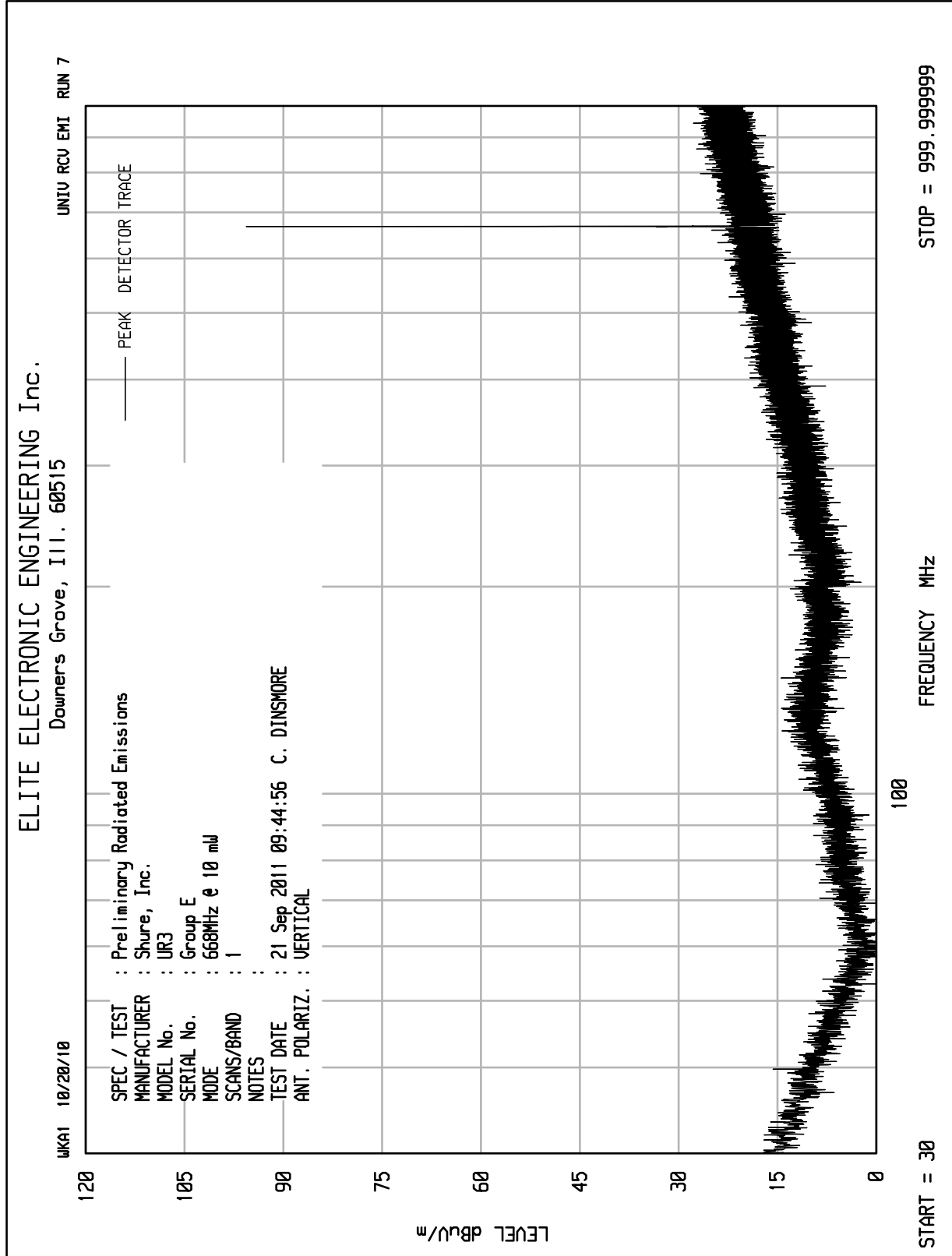


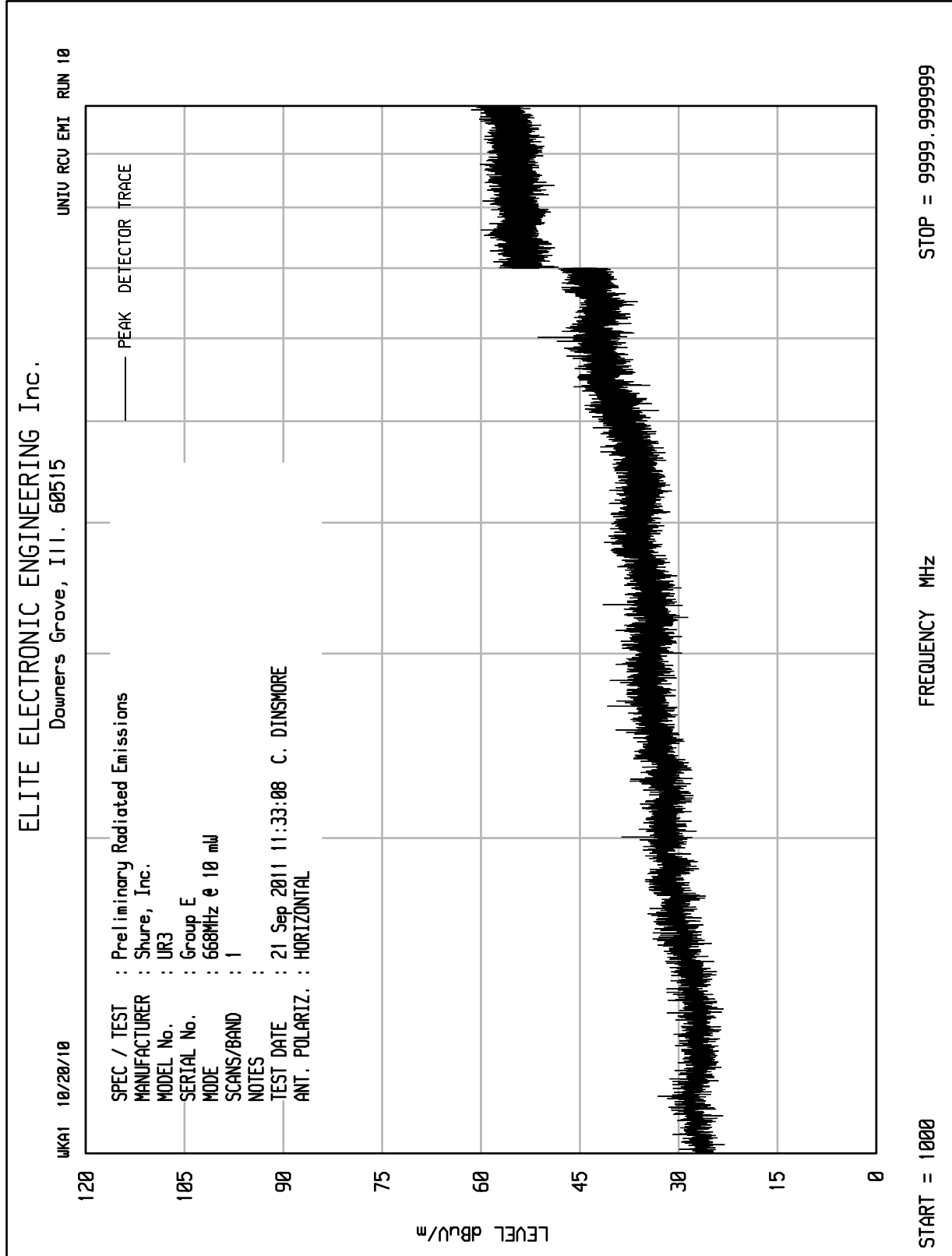


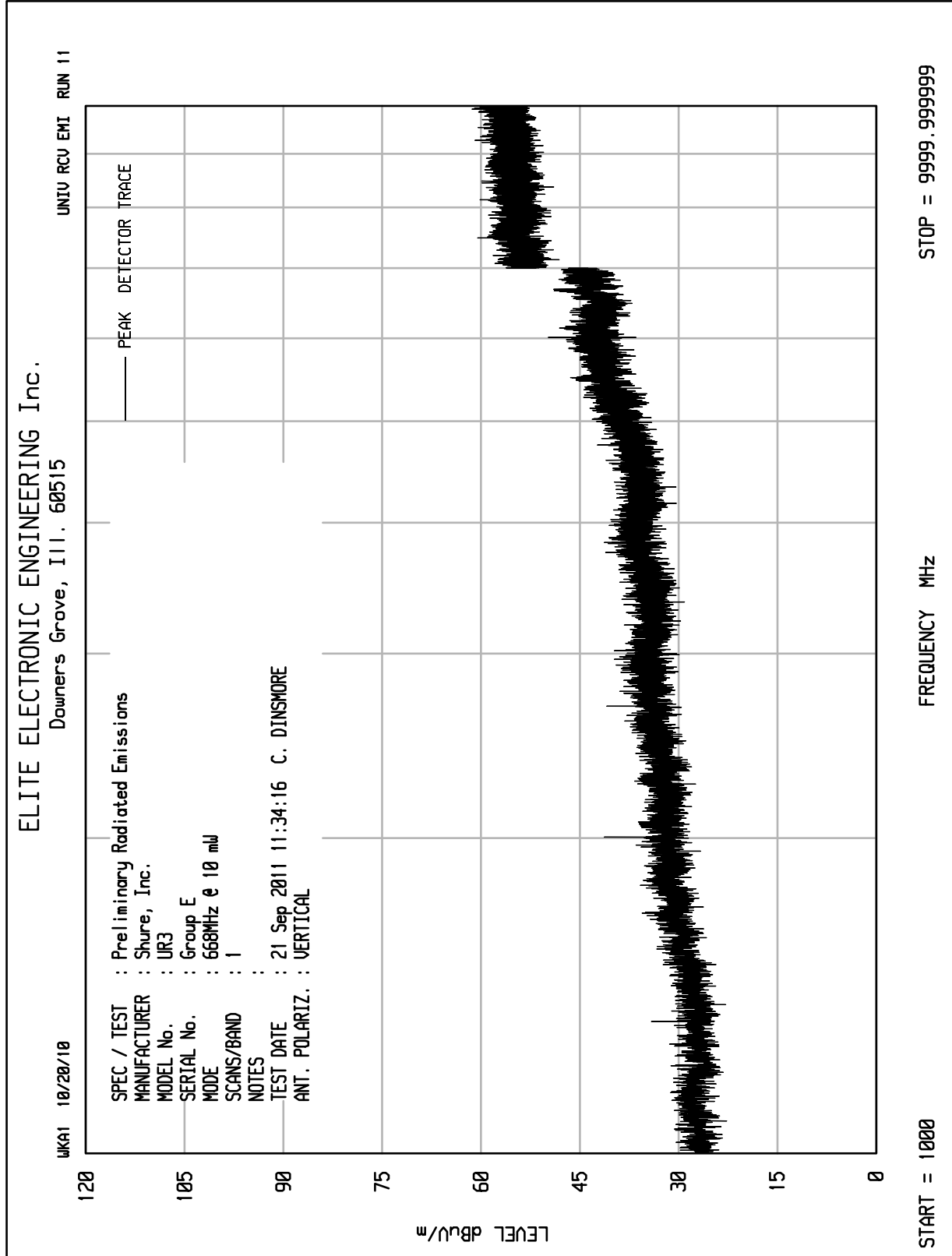


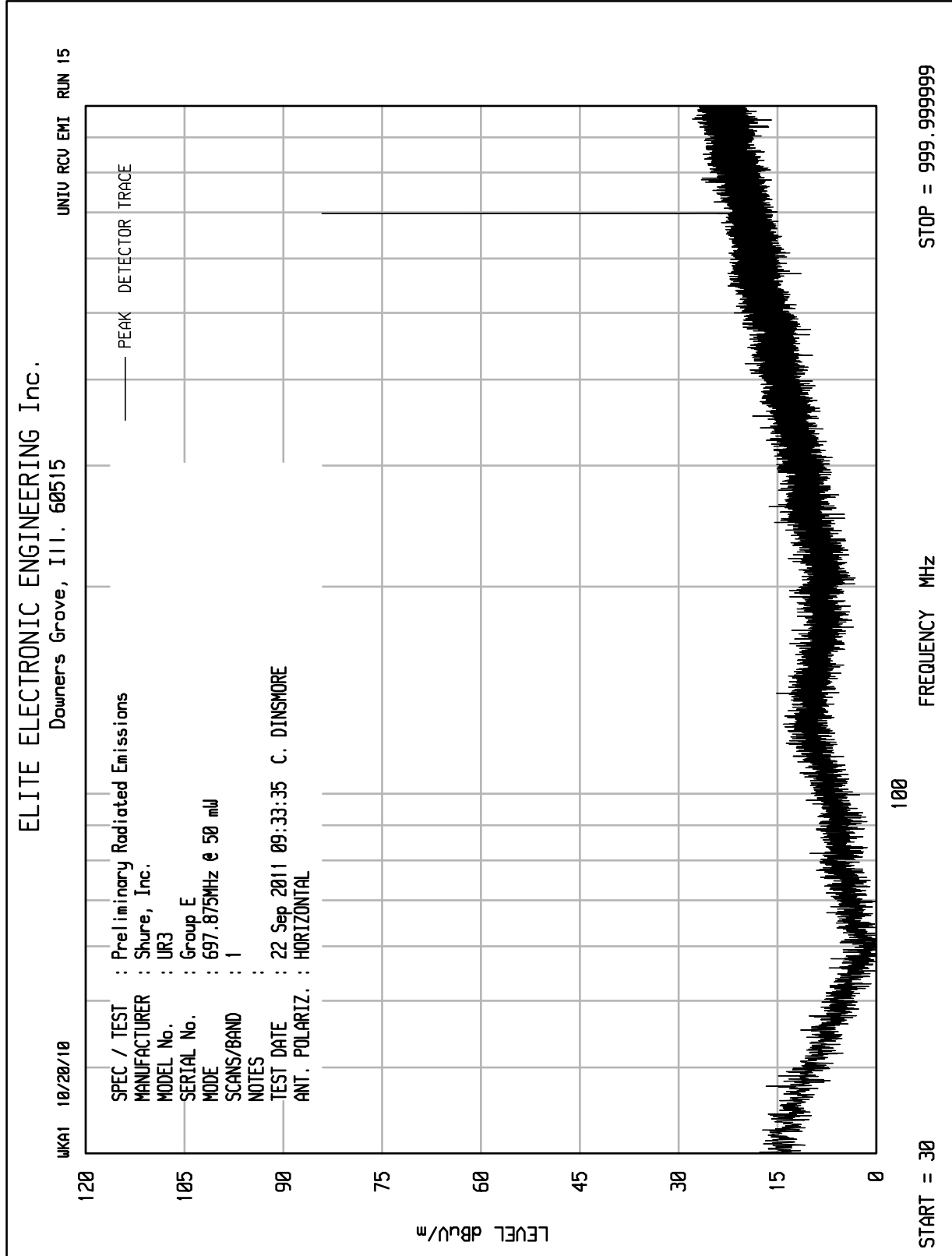


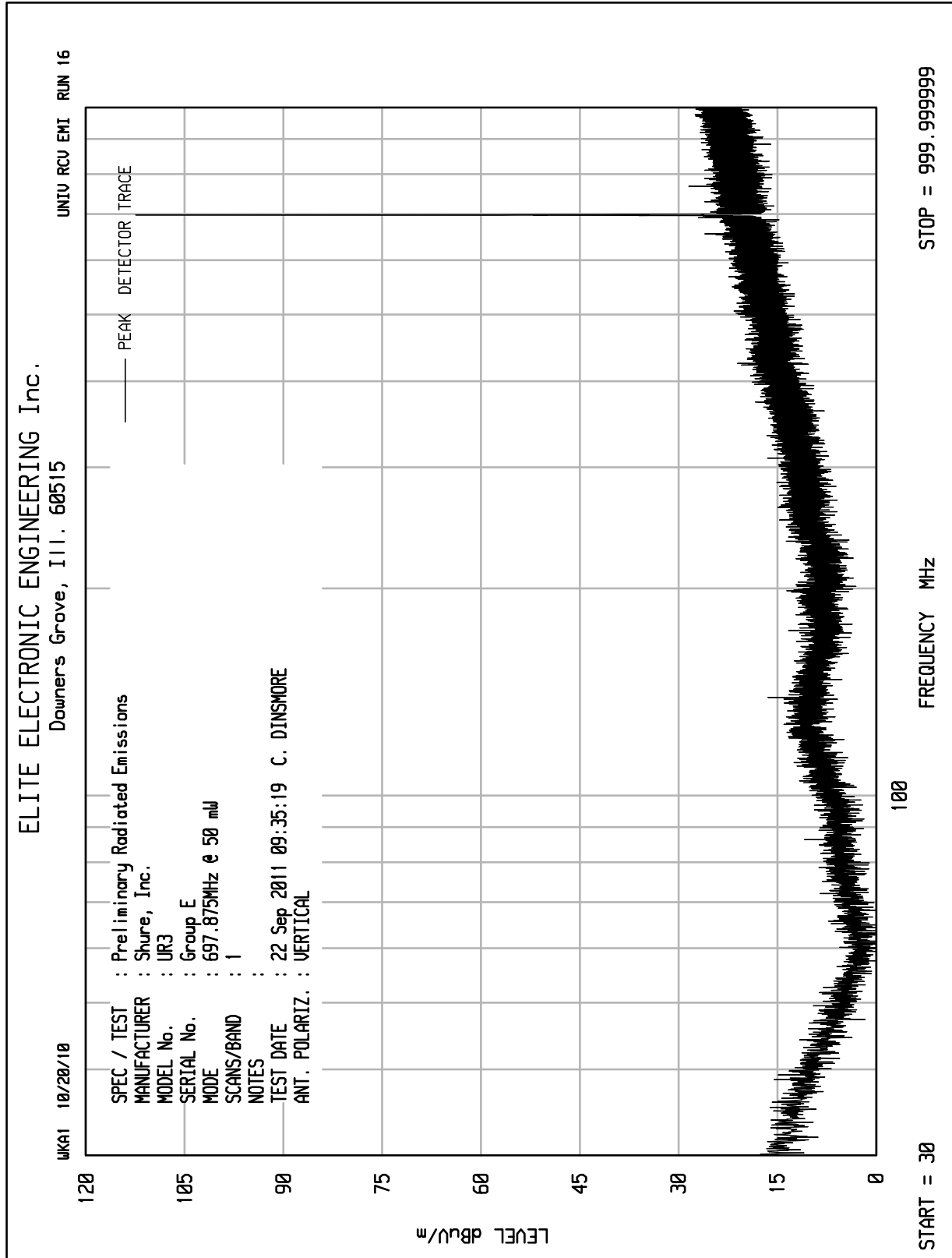


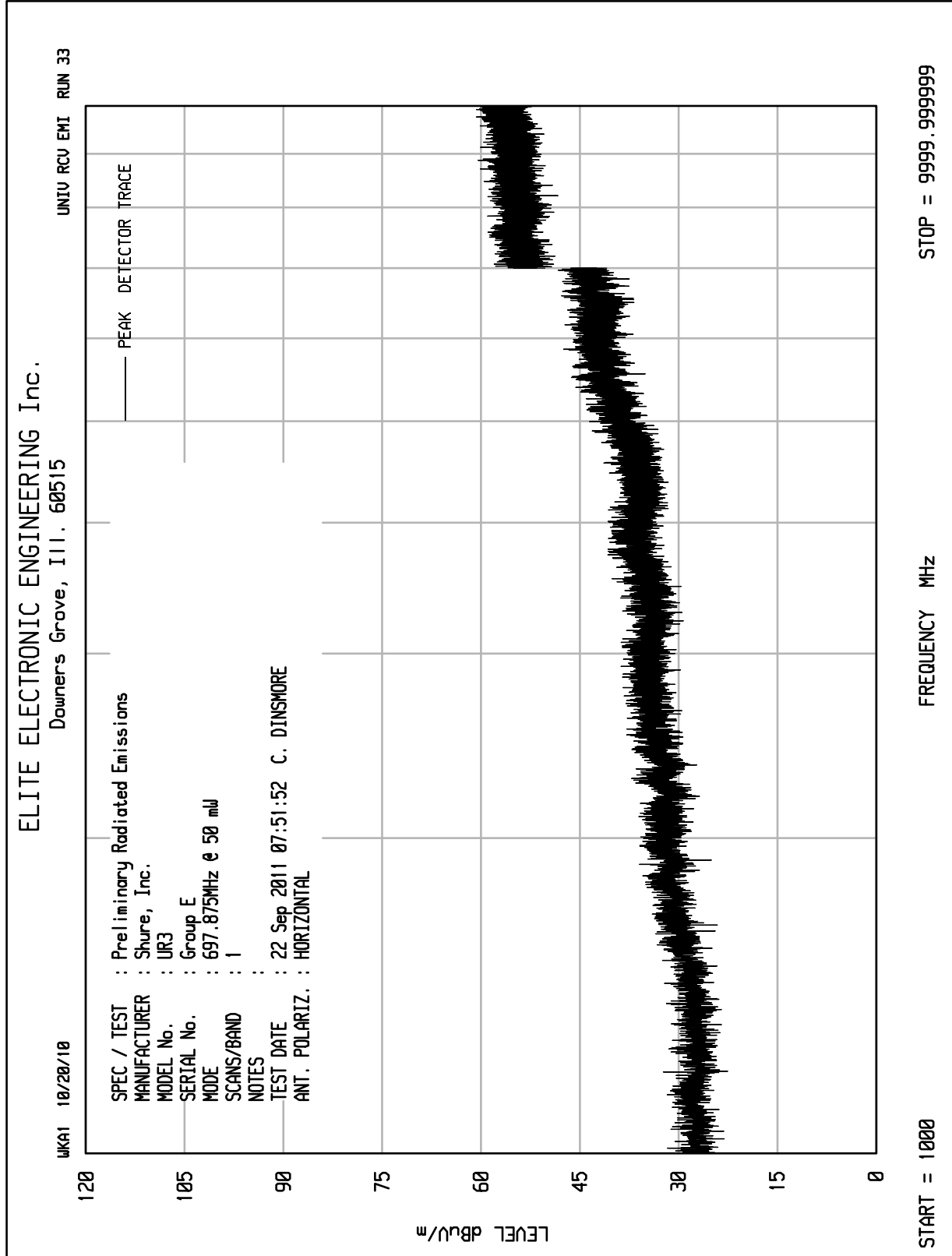


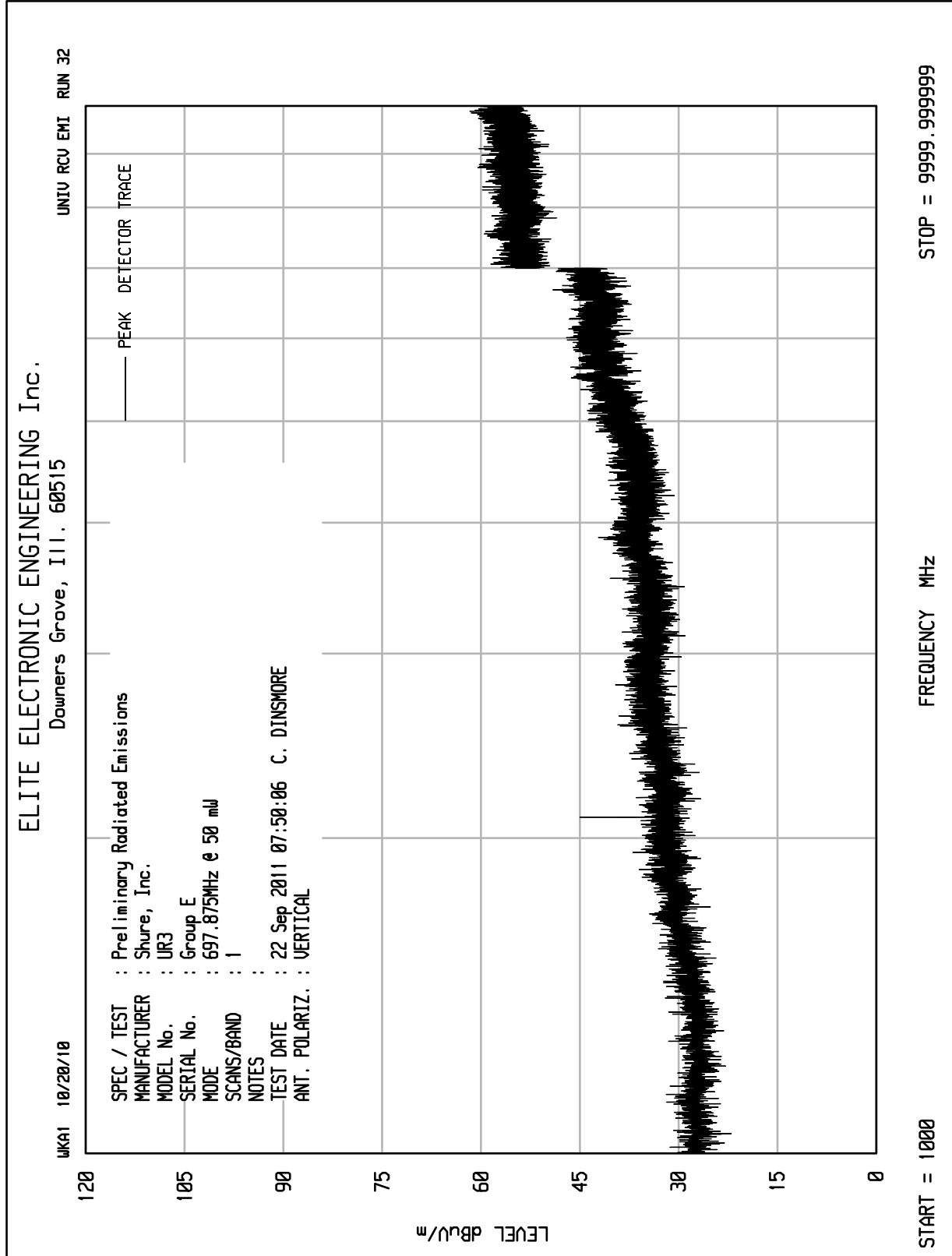


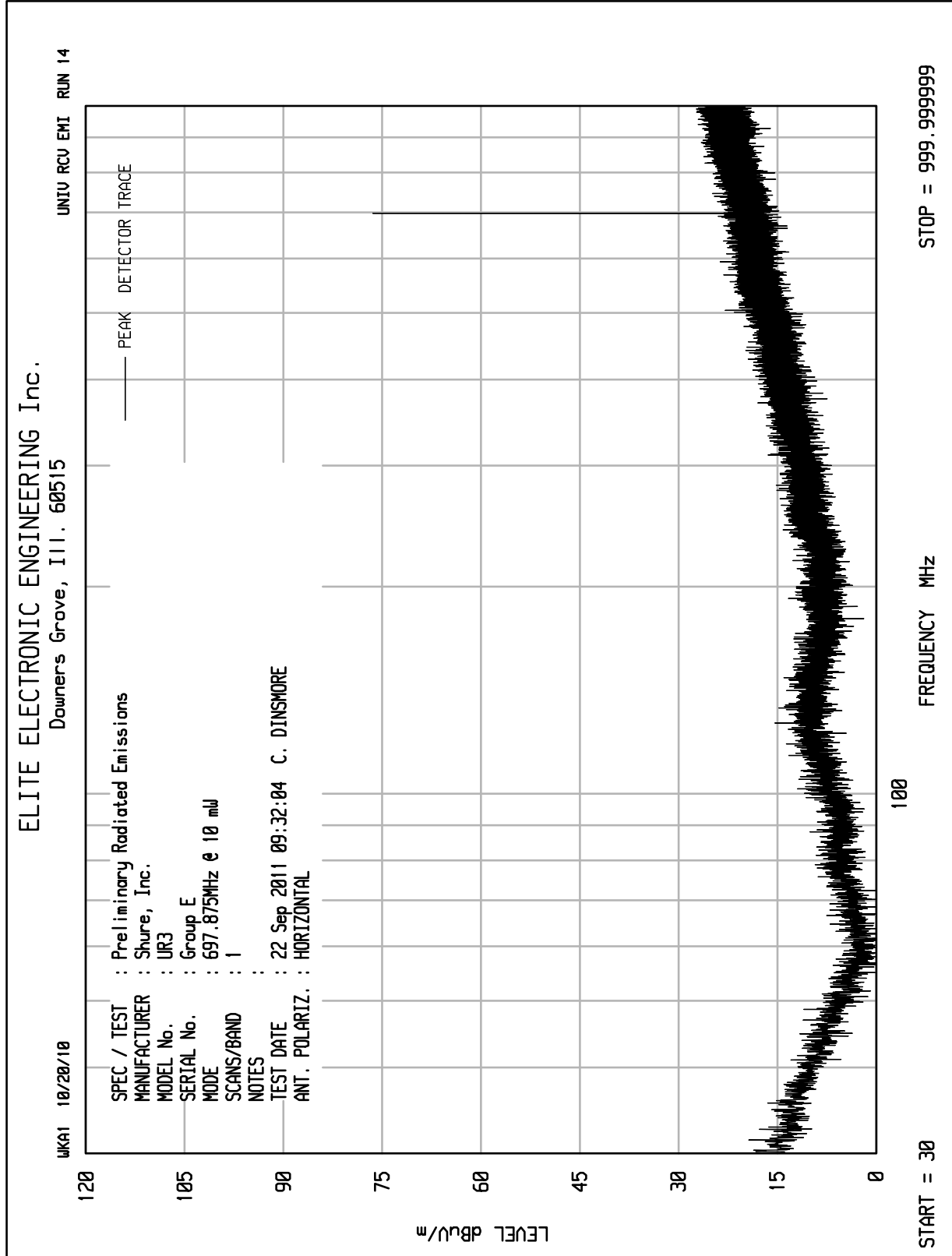


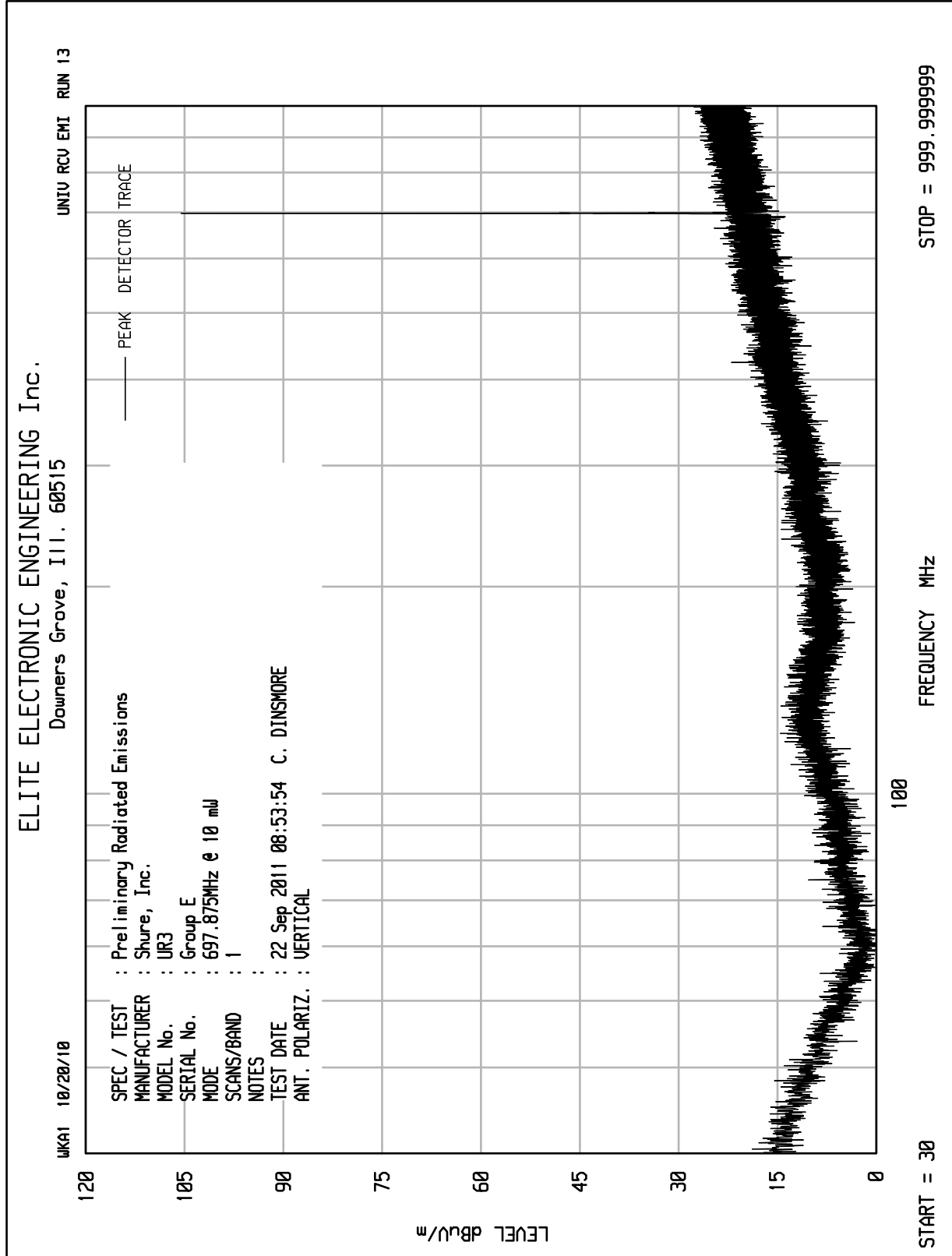


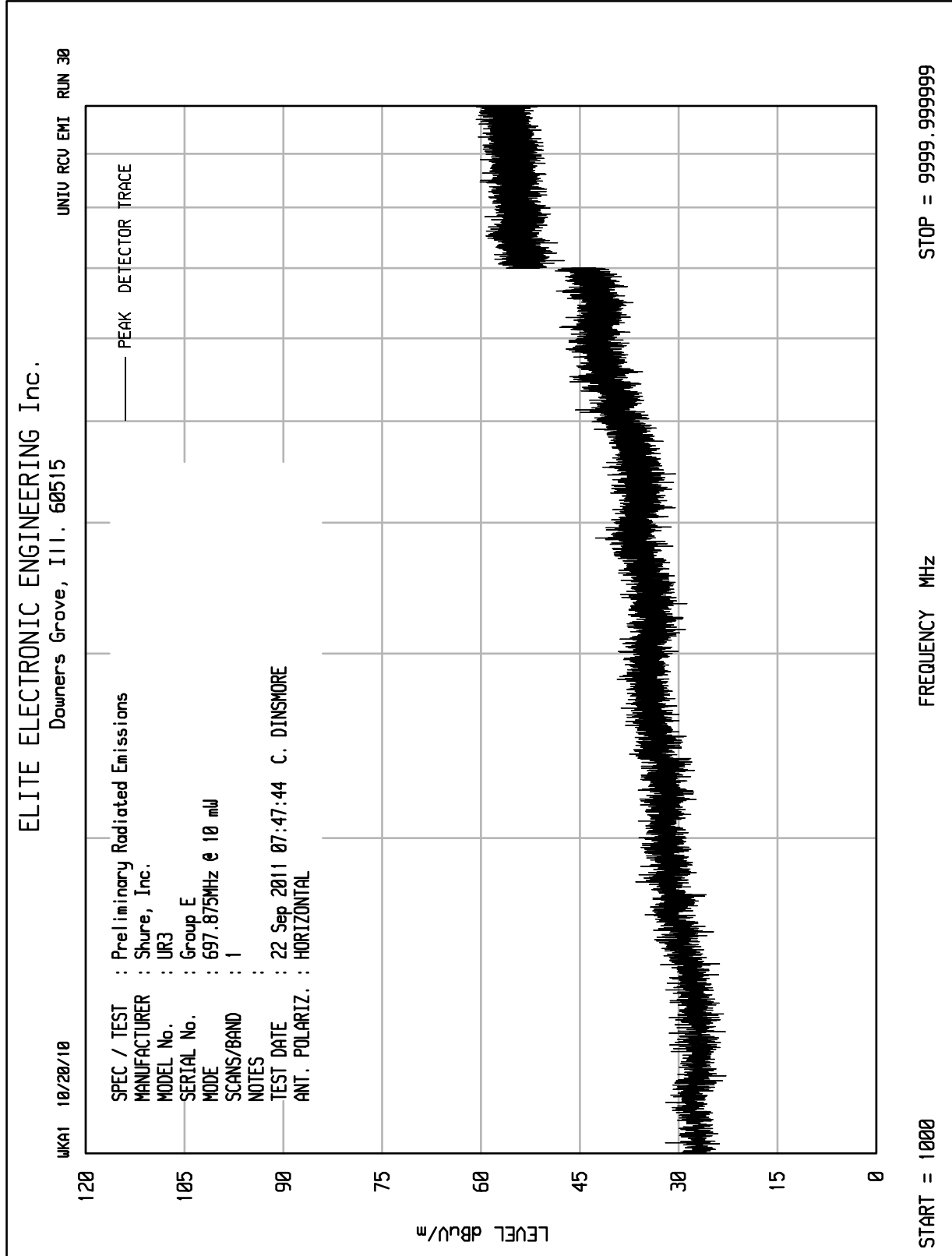


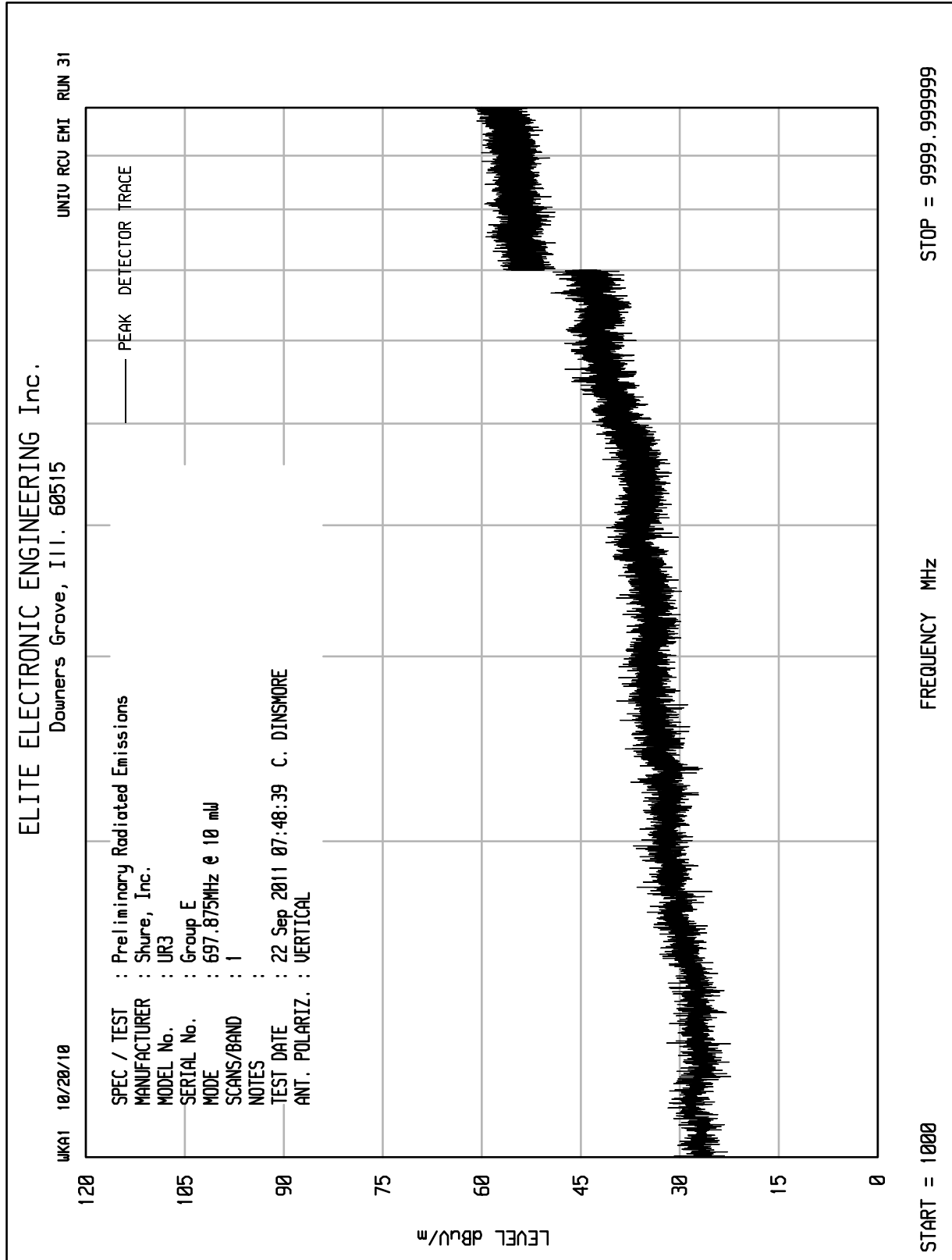


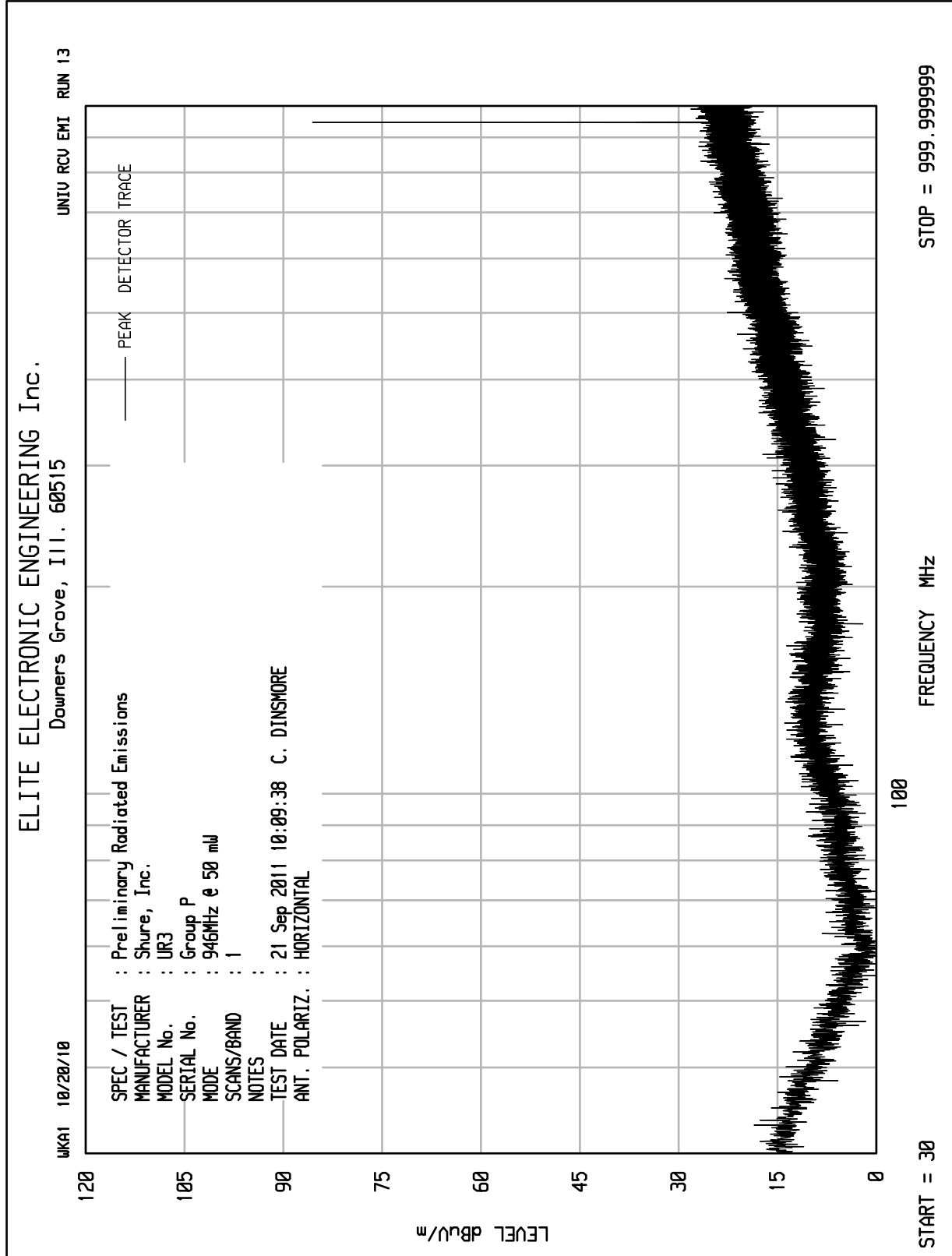


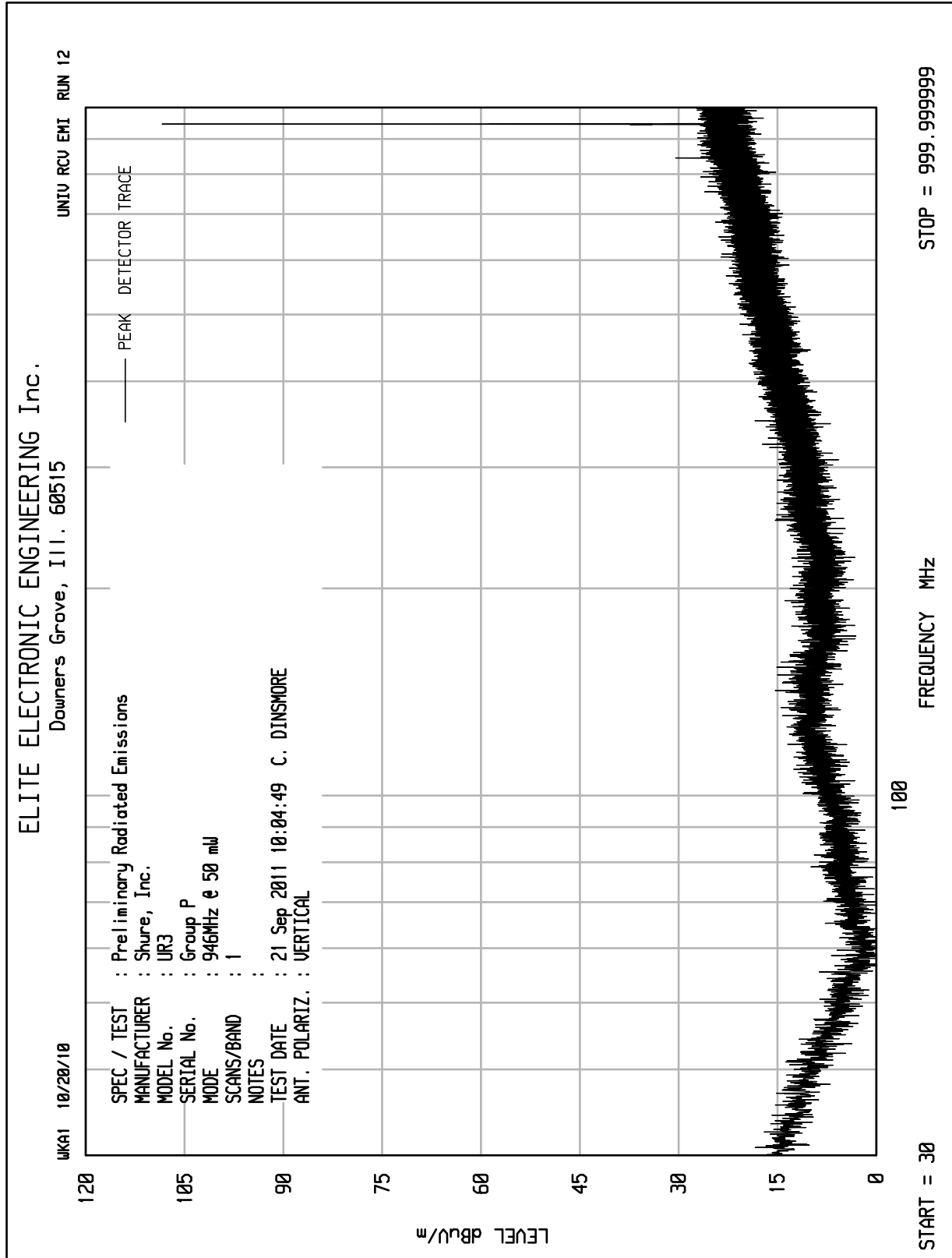


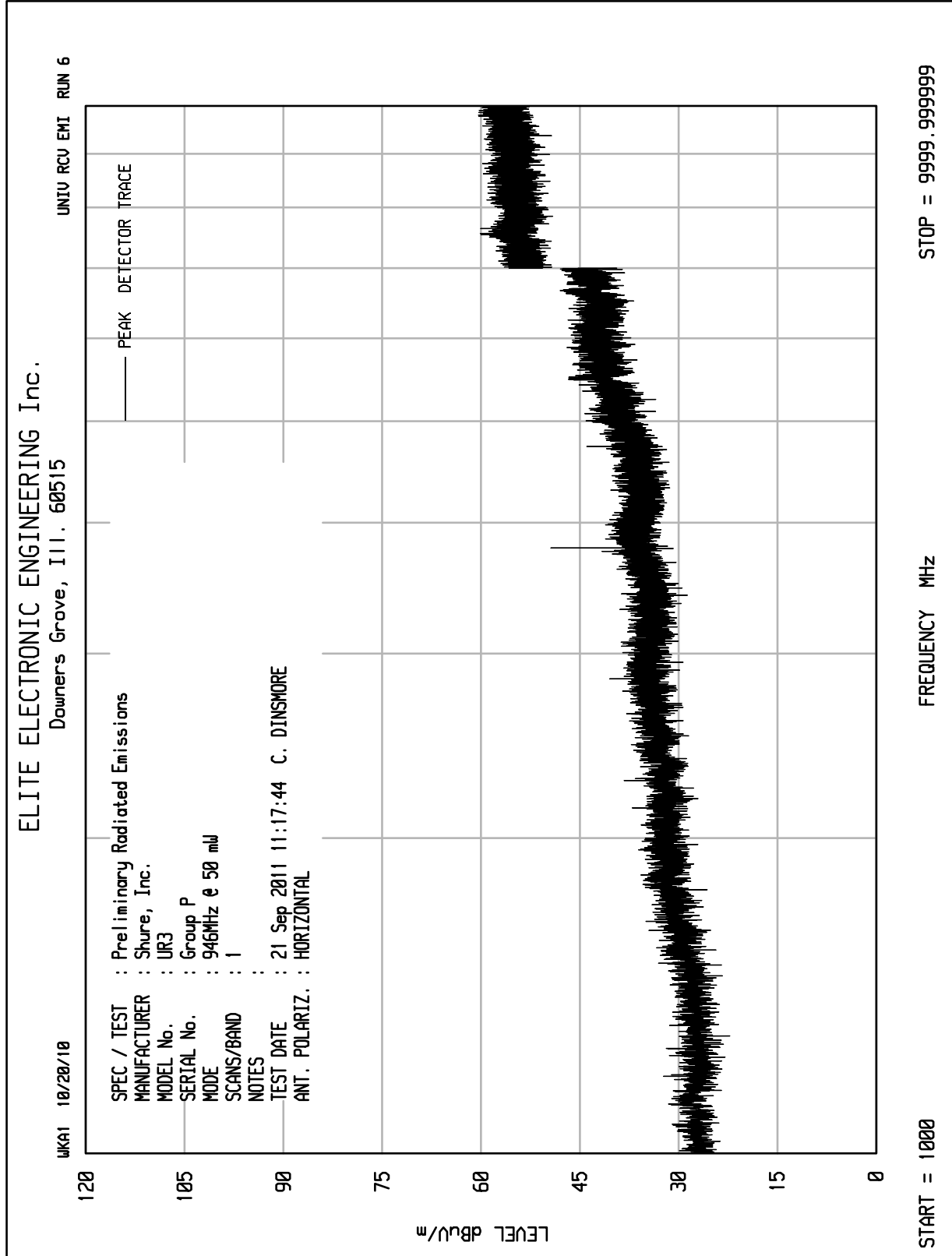


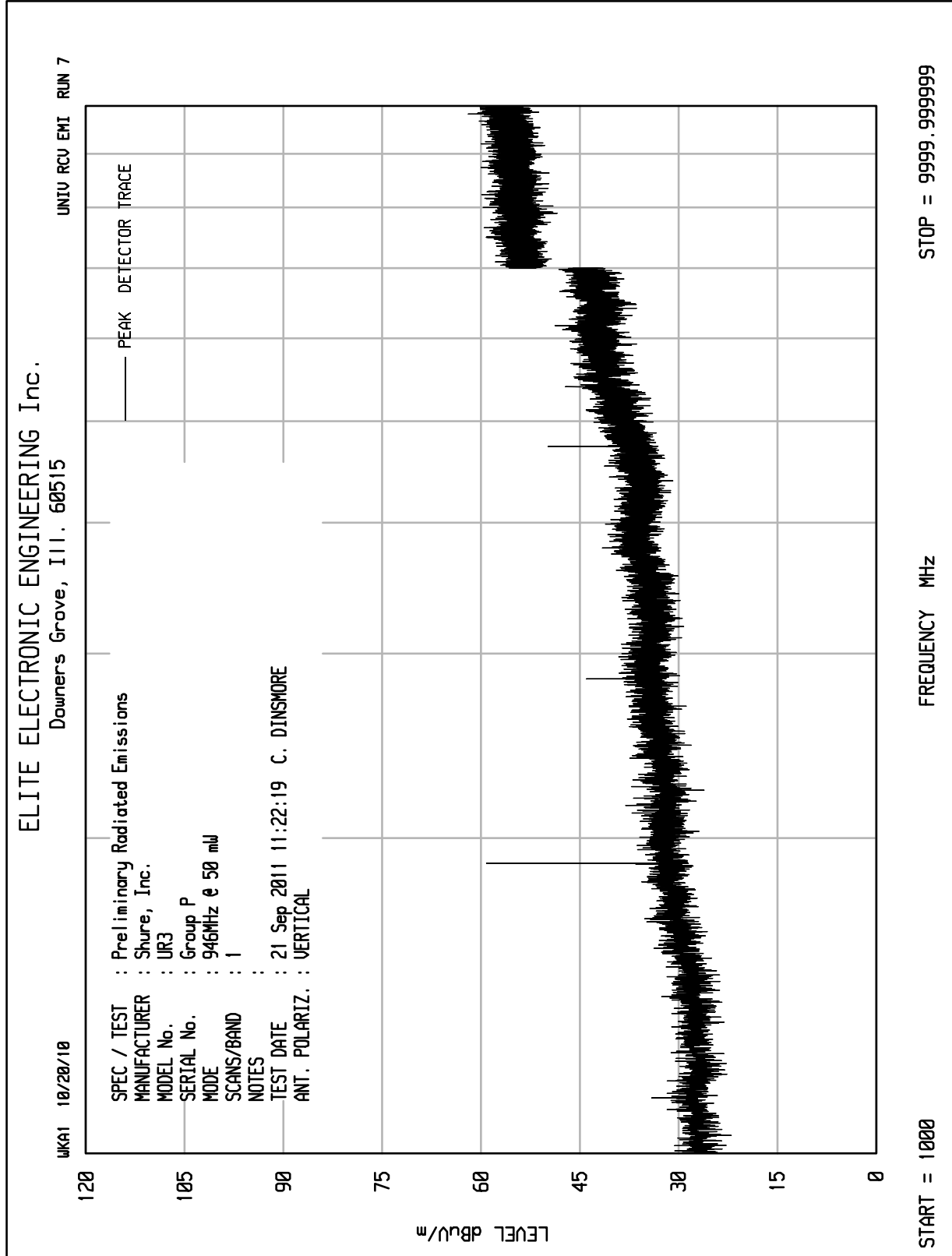


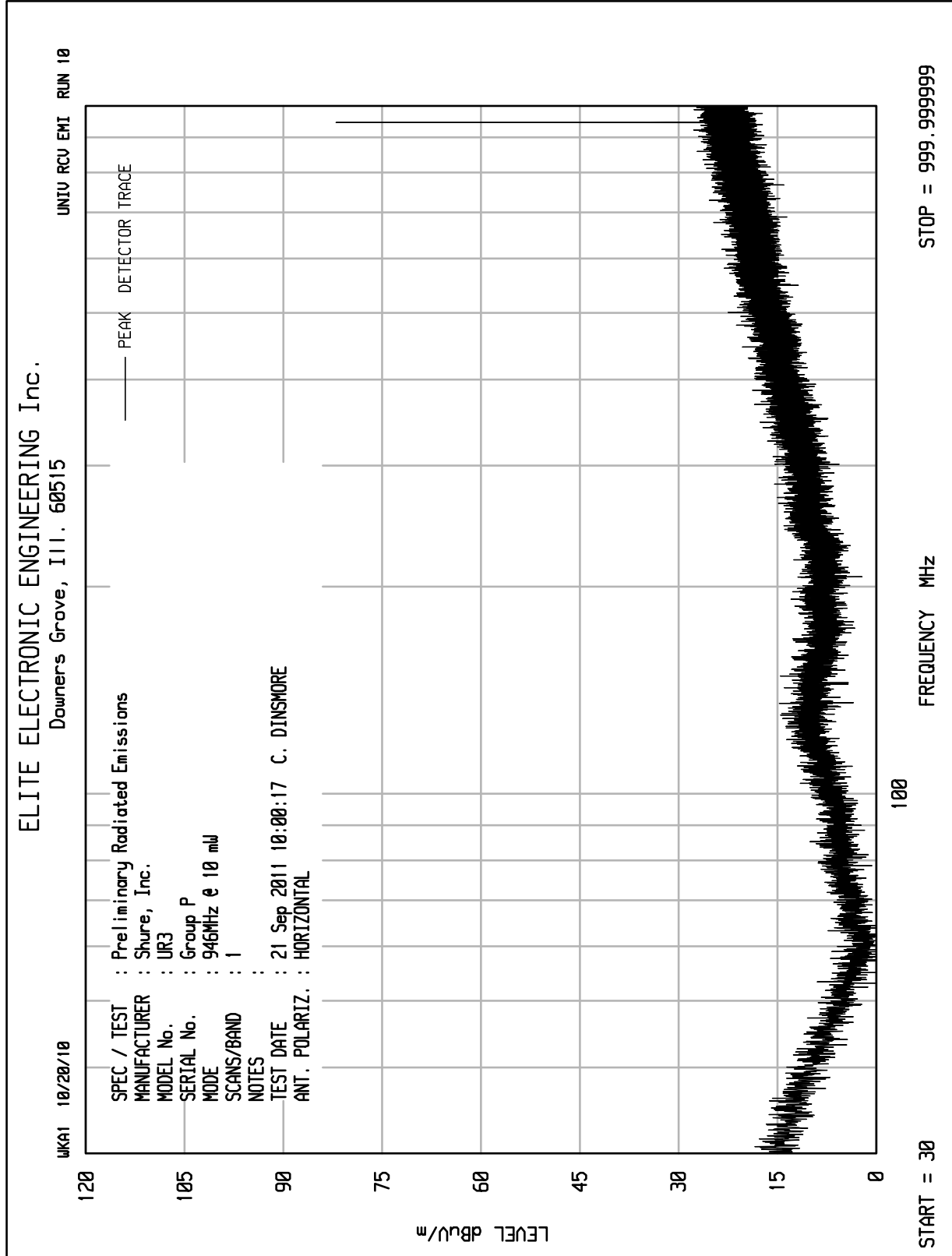


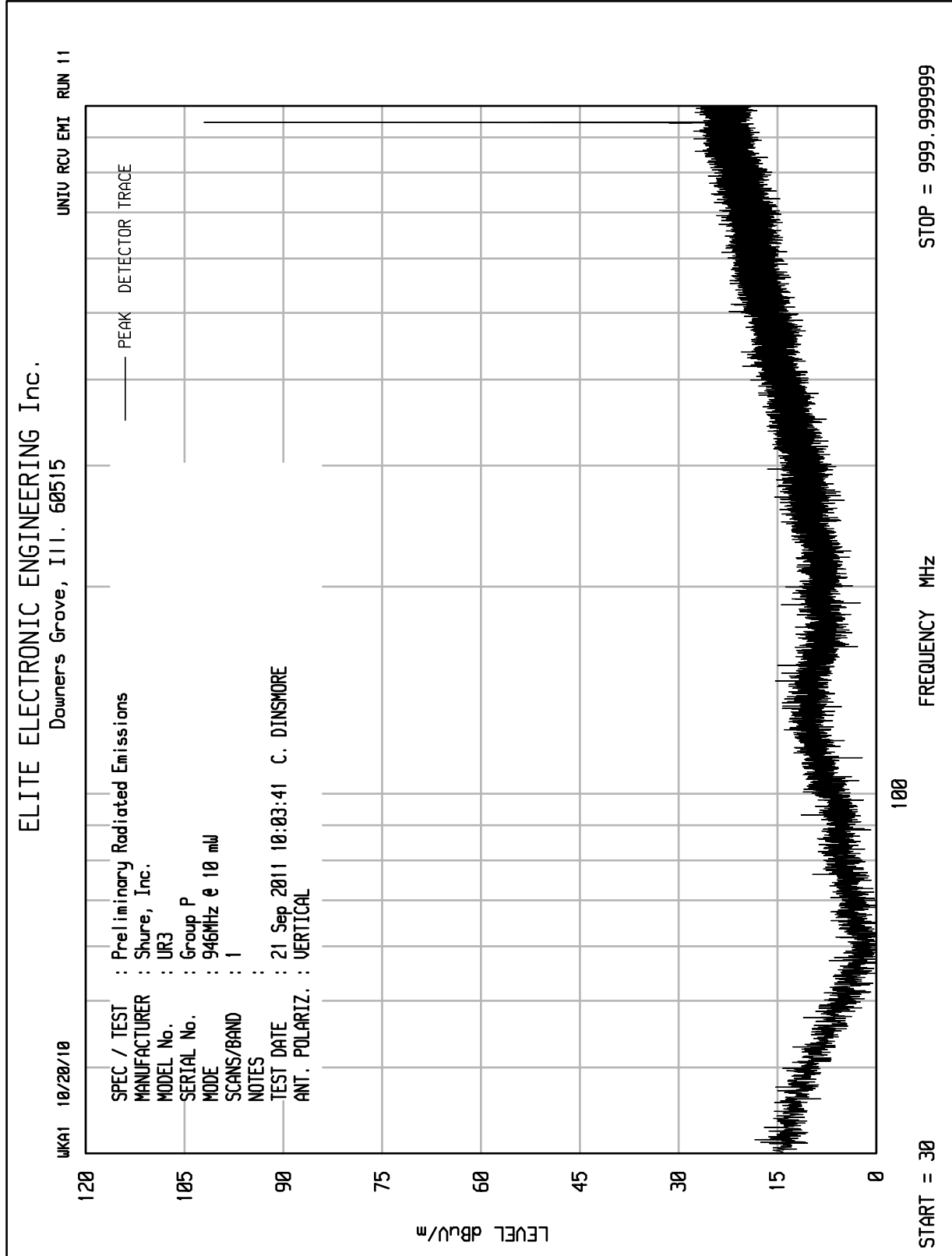


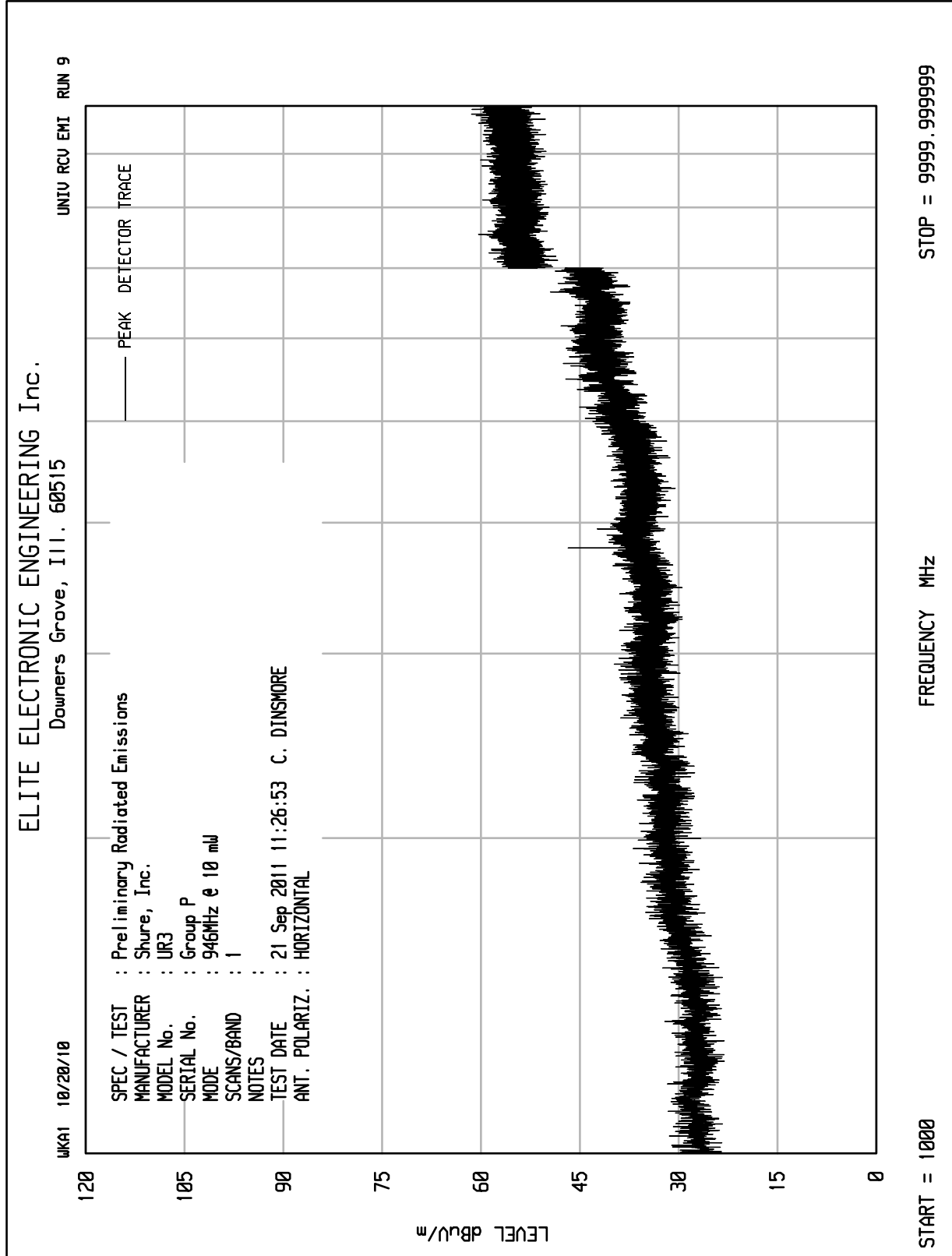


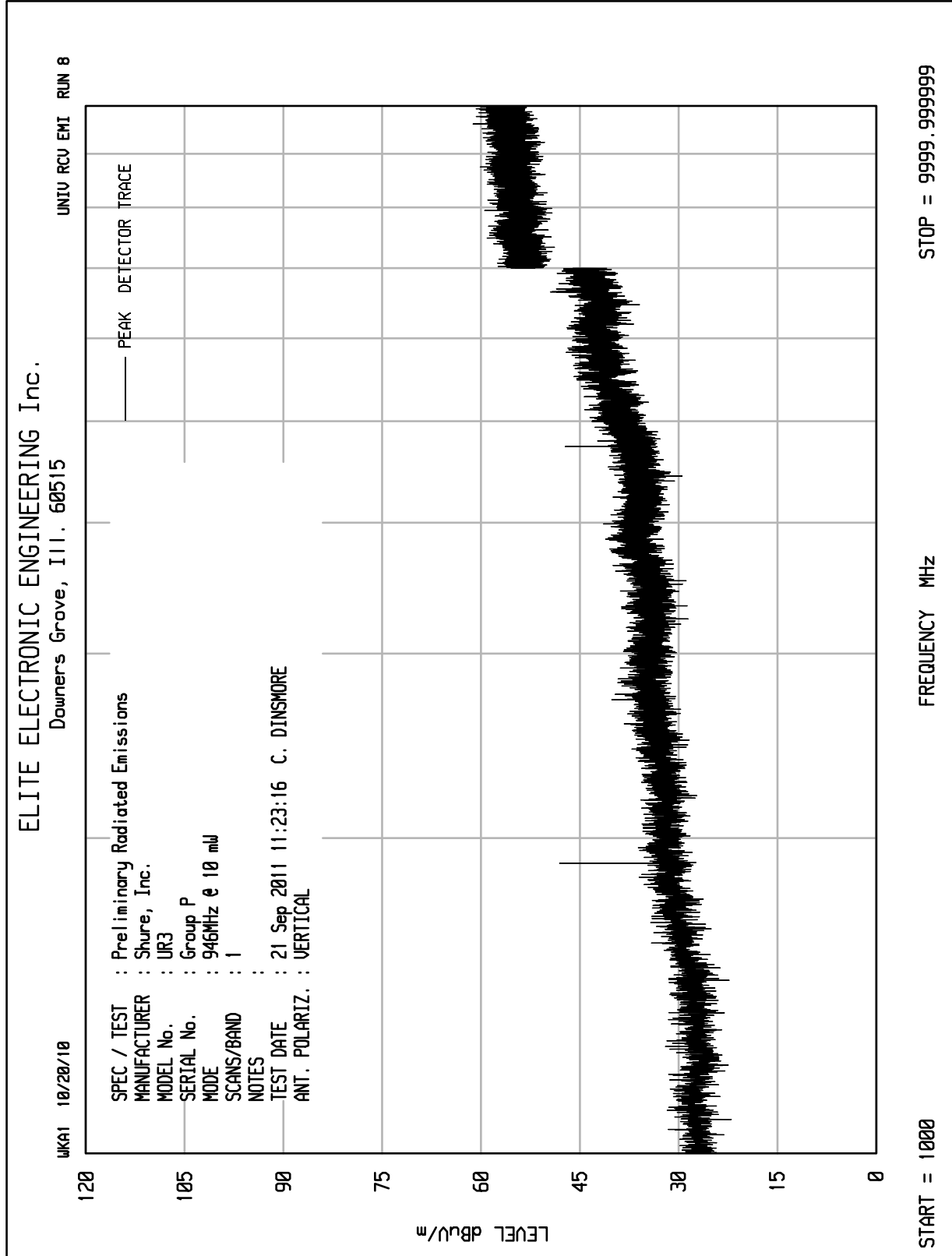














MANUFACTURER : Shure Incorporated
 MODEL : UR3 Plug-On Transmitter
 SERIAL NO. : None Assigned
 SPECIFICATION : RSS-123 Spurious Radiated Emissions
 DATE : August 24, 2011
 MODE : Transmit at 470.125MHz, 10mW (10dBm)
 UNIT : Group A
 BAND : G1
 EQUIPMENT USED : RBB0, CMA1, NTA2, NWH0, NWF0, NDQ1, GXA1

Freq. MHz	Ant Pol	Meter Reading dBuV	Amb	Matched Sig Gen dBm	Antenna Gain dB	Cable Factor dB	ERP Total dBm	Atten dB	RSS-123 Min. Attn. dB
940.25	H	19.1	*	-56.2	0.0	2.0	-58.2	68.2	35
940.25	V	18.8	*	-54.3	0.0	2.0	-56.3	66.3	35
1410.38	H	10.2	*	-66.5	4.5	2.4	-64.3	74.3	35
1410.38	V	12.3		-64.2	4.5	2.4	-62.0	72.0	35
1880.50	H	10.5	*	-63.9	5.0	2.7	-61.6	71.6	35
1880.50	V	10.6	*	-63.0	5.0	2.7	-60.7	70.7	35
2350.63	H	10.6	*	-62.2	5.7	3.2	-59.7	69.7	35
2350.63	V	10.4	*	-60.4	5.7	3.2	-57.9	67.9	35
2820.75	H	10.3	*	-60.9	6.0	3.6	-58.5	68.5	35
2820.75	V	10.6	*	-58.2	6.0	3.6	-55.8	65.8	35
3290.88	H	10.1	*	-59.7	6.5	3.9	-57.0	67.0	35
3290.88	V	9.9	*	-58.0	6.5	3.9	-55.4	65.4	35
3761.00	H	10.6	*	-56.7	6.9	4.2	-54.0	64.0	35
3761.00	V	10.4	*	-55.9	6.9	4.2	-53.2	63.2	35
4231.13	H	10.4	*	-55.2	7.6	4.4	-52.0	62.0	35
4231.13	V	10.3	*	-55.2	7.6	4.4	-52.0	62.0	35
4701.25	H	10.7	*	-53.5	8.2	4.7	-50.0	60.0	35
4701.25	V	10.2	*	-54.3	8.2	4.7	-50.8	60.8	35

* - Ambient

ERP Total (dBm) = Matched Sig Gen (dBm) + Antenna Gain (dB) – Cable Factor (dB)

Atten. (dB) = Output Power (dBm) – ERP (dBm)

Checked By: MARK E. LONGINOTTI
 Mark E. Longinotti



MANUFACTURER : Shure Incorporated
 MODEL : UR3 Plug-On Transmitter
 SERIAL NO. : None Assigned
 SPECIFICATION : RSS-123 Spurious Radiated Emissions
 DATE : August 24, 2011
 MODE : Transmit at 470MHz, 50mW (17dBm)
 UNIT : Group A
 BAND : G1
 EQUIPMENT USED : RBB0, CMA1, NTA2, NWH0, NWF0, NDQ1, GX1

Freq. MHz	Ant Pol	Meter Reading dBuV	Amb	Matched Sig Gen dBm	Antenna Gain dB	Cable Factor dB	ERP Total dBm	Atten dB	RSS-123 Min. Attn. dB
940.25	H	16.5	*	-59.0	0.0	2.0	-61.0	78.0	42
940.25	V	16.8	*	-56.5	0.0	2.0	-58.5	75.5	42
1410.38	H	10.6	*	-66.1	4.5	2.4	-63.9	80.9	42
1410.38	V	12.3		-64.2	4.5	2.4	-62.0	79.0	42
1880.50	H	10.3	*	-64.1	5.0	2.7	-61.8	78.7	42
1880.50	V	10.4	*	-63.2	5.0	2.7	-60.9	77.9	42
2350.63	H	10.6	*	-62.2	5.7	3.2	-59.7	76.7	42
2350.63	V	10.4	*	-60.4	5.7	3.2	-57.9	74.9	42
2820.75	H	10.3	*	-60.9	6.0	3.6	-58.5	75.5	42
2820.75	V	10.4	*	-58.4	6.0	3.6	-56.0	73.0	42
3290.88	H	10.8	*	-59.0	6.5	3.9	-56.3	73.3	42
3290.88	V	10.4	*	-57.5	6.5	3.9	-54.9	71.9	42
3761.00	H	10.8	*	-56.5	6.9	4.2	-53.8	70.8	42
3761.00	V	10.6	*	-55.7	6.9	4.2	-53.0	70.0	42
4231.13	H	10.5	*	-55.1	7.6	4.4	-51.9	68.9	42
4231.13	V	10.6	*	-54.9	7.6	4.4	-51.7	68.7	42
4701.25	H	10.3	*	-53.9	8.2	4.7	-50.4	67.4	42
4701.25	V	10.1	*	-54.4	8.2	4.7	-50.9	67.9	42

* - Ambient

$$\text{ERP Total (dBm)} = \text{Matched Sig Gen (dBm)} + \text{Antenna Gain (dB)} - \text{Cable Loss (dB)}$$

$$\text{Atten. (dB)} = \text{Output Power (dBm)} - \text{ERP (dBm)}$$

Checked By: MARK E. LONGINOTTI
 Mark E. Longinotti



MANUFACTURER : Shure Incorporated
 MODEL : UR3 Plug-On Transmitter
 SERIAL NO. : None Assigned
 SPECIFICATION : RSS-123 Spurious Radiated Emissions
 DATE : August 23, 2011
 MODE : Transmit at 500MHz, 10mW (10dBm)
 UNIT : A
 BAND : G1
 EQUIPMENT USED : RBB0, CMA1, NTA2, NWH0, NWF0, NDQ1, GX1

Freq. MHz	Ant Pol	Meter Reading dBuV	Amb	Matched Sig Gen dBm	Antenna Gain dB	Cable Factor dB	ERP Total dBm	Atten dB	RSS-123 Min. Attn. dB
1000.00	H	10.6	*	-64.7	0.0	2.0	-66.7	76.7	35
1000.00	V	10.5	*	-65.8	0.0	2.0	-67.8	77.8	35
1500.00	H	11.7	*	-65.0	4.9	2.5	-62.6	72.6	35
1500.00	V	11.8	*	-64.9	4.9	2.5	-62.5	72.5	35
2000.00	H	10.0	*	-63.9	5.1	2.8	-61.6	71.6	35
2000.00	V	10.1	*	-62.9	5.1	2.8	-60.6	70.6	35
2500.00	H	10.6	*	-61.8	5.9	3.3	-59.2	69.2	35
2500.00	V	11.0	*	-59.0	5.9	3.3	-56.4	66.4	35
3000.00	H	10.4	*	-60.2	6.0	3.7	-57.9	67.9	35
3000.00	V	10.3	*	-57.9	6.0	3.7	-55.6	65.6	35
3500.00	H	10.0	*	-59.2	6.8	4.0	-56.4	66.4	35
3500.00	V	10.3	*	-57.4	6.8	4.0	-54.6	64.6	35
4000.00	H	10.6	*	-55.1	6.9	4.3	-52.5	62.5	35
4000.00	V	10.4	*	-54.7	6.9	4.3	-52.1	62.1	35
4500.00	H	10.4	*	-55.0	8.3	4.6	-51.2	61.2	35
4500.00	V	10.3	*	-55.6	8.3	4.6	-51.8	61.8	35
5000.00	H	10.2	*	-52.3	7.9	4.8	-49.2	59.2	35
5000.00	V	10.5	*	-52.1	7.9	4.8	-49.0	59.0	35

* - Ambient

ERP Total (dBm) = Matched Sig Gen (dBm) + Antenna Gain (dB) – Cable Loss (dB)

Atten. (dB) = Output Power (dBm) – ERP (dBm)

Checked By: MARK E. LONGINOTTI
 Mark E. Longinotti



MANUFACTURER : Shure Incorporated
 MODEL : UR3 Plug-On Transmitter
 SERIAL NO. : None Assigned
 SPECIFICATION : RSS-123 Spurious Radiated Emissions
 DATE : August 23, 2011
 MODE : Transmit at 500MHz, 50mW (17dBm)
 UNIT : Group A
 BAND : G1
 EQUIPMENT USED : RBB0, CMA1, NTA2, NWH0, NWF0, NDQ1, GX1

Freq. MHz	Ant Pol	Meter Reading dBuV	Amb	Matched Sig Gen dBm	Antenna Gain dB	Cable Factor dB	ERP Total dBm	Atten dB	RSS-123 Min. Attn. dB
1000.00	H	10.7	*	-64.6	0.0	2.0	-66.6	83.6	42
1000.00	V	10.8	*	-65.5	0.0	2.0	-67.5	84.5	42
1500.00	H	13.0		-63.7	4.9	2.5	-61.3	78.3	42
1500.00	V	16.8		-59.9	4.9	2.5	-57.5	74.5	42
2000.00	H	10.2	*	-63.7	5.1	2.8	-61.4	78.4	42
2000.00	V	10.5	*	-62.5	5.1	2.8	-60.2	77.2	42
2500.00	H	11.0	*	-61.4	5.9	3.3	-58.8	75.8	42
2500.00	V	10.8	*	-59.2	5.9	3.3	-56.6	73.6	42
3000.00	H	10.5	*	-60.1	6.0	3.7	-57.8	74.8	42
3000.00	V	10.6	*	-57.6	6.0	3.7	-55.3	72.3	42
3500.00	H	10.8	*	-58.4	6.8	4.0	-55.6	72.6	42
3500.00	V	10.2	*	-57.5	6.8	4.0	-54.7	71.7	42
4000.00	H	10.5	*	-55.2	6.9	4.3	-52.6	69.6	42
4000.00	V	10.8	*	-54.3	6.9	4.3	-51.7	68.7	42
4500.00	H	10.2	*	-55.2	8.3	4.6	-51.4	68.4	42
4500.00	V	10.3	*	-55.6	8.3	4.6	-51.8	68.8	42
5000.00	H	10.1	*	-52.4	7.9	4.8	-49.3	66.3	42
5000.00	V	10.3	*	-52.3	7.9	4.8	-49.2	66.2	42

* - Ambient

$$\text{ERP Total (dBm)} = \text{Matched Sig Gen (dBm)} + \text{Antenna Gain (dB)} - \text{Cable Loss (dB)}$$

$$\text{Atten. (dB)} = \text{Output Power (dBm)} - \text{ERP (dBm)}$$

Checked By: MARK E. LONGINOTTI
 Mark E. Longinotti



MANUFACTURER : Shure Incorporated
 MODEL : UR3 Plug-On Transmitter
 SERIAL NO. : None Assigned
 SPECIFICATION : RSS-123 Spurious Radiated Emissions
 DATE : August 24, 2011
 MODE : Transmit at 529.875MHz, 10mW (10dBm)
 UNIT : Group A
 BAND : G1
 EQUIPMENT USED : RBB0, CMA1, NTA2, NWH0, NWF0, NDQ1, GX A1

Freq. MHz	Ant Pol	Meter Reading dBuV	Amb	Matched Sig Gen dBm	Antenna Gain dB	Cable Factor dB	ERP Total dBm	Atten dB	RSS-123 Min. Attn. dB
1059.75	H	11.0	*	-64.7	0.0	2.1	-66.8	76.8	35
1059.75	V	11.1	*	-65.1	0.0	2.1	-67.1	77.1	35
1589.63	H	11.1	*	-65.0	4.9	2.5	-62.6	72.6	35
1589.63	V	11.3	*	-64.5	4.9	2.5	-62.2	72.2	35
2119.50	H	10.6	*	-62.9	5.3	2.9	-60.5	70.5	35
2119.50	V	10.5	*	-61.7	5.3	2.9	-59.3	69.3	35
2649.38	H	11.5	*	-60.3	5.9	3.4	-57.8	67.8	35
2649.38	V	11.2	*	-58.2	5.9	3.4	-55.7	65.7	35
3179.25	H	11.0	*	-59.1	6.3	3.8	-56.6	66.6	35
3179.25	V	11.2	*	-56.8	6.3	3.8	-54.3	64.3	35
3709.13	H	10.9	*	-56.8	6.9	4.1	-54.1	64.1	35
3709.13	V	11.0	*	-55.6	6.9	4.1	-52.9	62.9	35
4239.00	H	10.8	*	-54.8	7.6	4.4	-51.6	61.6	35
4239.00	V	10.5	*	-55.0	7.6	4.4	-51.8	61.8	35
4768.88	H	10.5	*	-53.3	8.1	4.7	-49.9	59.9	35
4768.88	V	10.8	*	-53.3	8.1	4.7	-49.9	59.9	35
5298.75	H	11.2	*	-50.9	7.4	4.9	-48.5	58.5	35
5298.75	V	10.0	*	-52.4	7.4	4.9	-49.9	59.9	35

* - Ambient

ERP Total (dBm) = Matched Sig Gen (dBm) + Antenna Gain (dB) – Cable Loss (dB)

Atten. (dB) = Output Power (dBm) – ERP (dBm)

Checked By: MARK E. LONGINOTTI
 Mark E. Longinotti



MANUFACTURER : Shure Incorporated
 MODEL : UR3 Plug-On Transmitter
 SERIAL NO. : None Assigned
 SPECIFICATION : RSS-123 Spurious Radiated Emissions
 DATE : August 24, 2011
 MODE : Transmit at 529.875MHz, 50mW (17dBm)
 UNIT : Group A
 BAND : G1
 EQUIPMENT USED : RBB0, CMA1, NTA2, NWH0, NWF0, NDQ1, GX1

Freq. MHz	Ant Pol	Meter Reading dBuV	Amb	Matched Sig Gen dBm	Antenna Gain dB	Cable Factor dB	ERP Total dBm	Atten dB	RSS-123 Min. Attn. dB
1059.75	H	11.4	*	-64.3	0.0	2.1	-66.4	83.4	42
1059.75	V	11.3	*	-64.9	0.0	2.1	-66.9	83.9	42
1589.63	H	10.8	*	-65.3	4.9	2.5	-62.9	79.9	42
1589.63	V	11.0	*	-64.8	4.9	2.5	-62.5	79.4	42
2119.50	H	11.1	*	-62.4	5.3	2.9	-60.0	77.0	42
2119.50	V	10.8	*	-61.4	5.3	2.9	-59.0	76.0	42
2649.38	H	11.2	*	-60.6	5.9	3.4	-58.1	75.1	42
2649.38	V	11.0	*	-58.4	5.9	3.4	-55.9	72.9	42
3179.25	H	11.0	*	-59.1	6.3	3.8	-56.6	73.6	42
3179.25	V	11.1	*	-56.9	6.3	3.8	-54.4	71.4	42
3709.13	H	11.3	*	-56.4	6.9	4.1	-53.7	70.6	42
3709.13	V	11.5	*	-55.1	6.9	4.1	-52.4	69.3	42
4239.00	H	10.8	*	-54.8	7.6	4.4	-51.6	68.6	42
4239.00	V	10.5	*	-55.0	7.6	4.4	-51.8	68.8	42
4768.88	H	9.8	*	-54.0	8.1	4.7	-50.6	67.6	42
4768.88	V	10.3	*	-53.8	8.1	4.7	-50.4	67.4	42
5298.75	H	10.6	*	-51.5	7.4	4.9	-49.1	66.0	42
5298.75	V	10.0	*	-52.4	7.4	4.9	-49.9	66.9	42

* - Ambient

ERP Total (dBm) = Matched Sig Gen (dBm) + Antenna Gain (dB) – Cable Loss (dB)

Atten. (dB) = Output Power (dBm) – ERP (dBm)

Checked By: MARK E. LONGINOTTI
 Mark E. Longinotti



MANUFACTURER : Shure Incorporated
 MODEL : UR3 Plug-On Transmitter
 SERIAL NO. : None Assigned
 SPECIFICATION : FCC-74 Spurious Radiated Emissions
 DATE : August 24, 2011
 MODE : Transmit at 500MHz, 10mW (10dBm)
 UNIT : Group A
 BAND : G1
 EQUIPMENT USED : RBB0, CMA1, NTA2, NWH0, NWF0, NDQ1, GXA1

Freq. MHz	Ant Pol	Meter Reading dBuV	Amb	Matched Sig Gen dBm	Antenna Gain dB	Cable Factor dB	ERP Total dBm	Atten dB	Part 74 Min. Attn. dB
1000.00	H	25.6	*	-49.3	4.1	2.0	-47.2	57.2	23
1000.00	V	25.5	*	-51.4	4.1	2.0	-49.3	59.3	23
1500.00	H	26.7	*	-46.2	5.8	2.6	-43.0	53.0	23
1500.00	V	26.8	*	-48.5	5.8	2.6	-45.3	55.3	23
2000.00	H	25.0	*	-46.7	6.7	3.0	-43.0	53.0	23
2000.00	V	25.1	*	-47.1	6.7	3.0	-43.4	53.4	23
2500.00	H	25.6	*	-46.1	7.1	3.5	-42.5	52.5	23
2500.00	V	26.0	*	-46.8	7.1	3.5	-43.2	53.2	23
3000.00	H	25.4	*	-44.4	7.6	3.9	-40.7	50.7	23
3000.00	V	25.3	*	-42.5	7.6	3.9	-38.8	48.8	23
3500.00	H	25.6	*	-42.2	7.3	4.2	-39.1	49.1	23
3500.00	V	25.4	*	-40.2	7.3	4.2	-37.1	47.1	23
4000.00	H	25.4	*	-40.3	7.1	4.5	-37.7	47.7	23
4000.00	V	25.3	*	-38.6	7.1	4.5	-36.0	46.0	23
4500.00	H	25.2	*	-40.4	8.1	4.8	-37.0	47.0	23
4500.00	V	25.3	*	-39.6	8.1	4.8	-36.2	46.2	23
5000.00	H	25.2	*	-37.3	7.9	5.0	-34.4	44.4	23
5000.00	V	25.5	*	-37.7	7.9	5.0	-34.8	44.8	23

* - Ambient

ERP Total (dBm) = Matched Sig Gen (dBm) + Antenna Gain (dB) – Cable Loss (dB)

Atten. (dB) = Output Power (dBm) – ERP (dBm)

Checked By: MARK E. LONGINOTTI
 Mark E. Longinotti



MANUFACTURER : Shure Incorporated
 MODEL : UR3 Plug-On Transmitter
 SERIAL NO. : None Assigned
 SPECIFICATION : FCC-74 Spurious Radiated Emissions
 DATE : August 24, 2011
 MODE : Transmit at 500MHz, 50mW (17dBm)
 UNIT : Group A
 EQUIPMENT USED : RBB0, CMA1, NTA2, NWH0, NWF0, NDQ1, GX1

Freq. MHz	Ant Pol	Meter Reading dBuV	Amb	Matched Sig Gen dBm	Antenna Gain dB	Cable Factor dB	ERP Total dBm	Atten dB	Part 74 Min. Attn. dB
1000.00	H	25.7	*	-49.4	4.1	2.0	-47.3	64.3	30
1000.00	V	25.8	*	-51.1	4.1	2.0	-49.0	66.0	30
1500.00	H	28.0	*	-44.8	5.8	2.6	-41.6	58.6	30
1500.00	V	31.8	*	-43.2	5.8	2.6	-40.0	57.0	30
2000.00	H	25.2	*	-46.5	6.7	3.0	-42.8	59.8	30
2000.00	V	25.5	*	-46.1	6.7	3.0	-42.4	59.4	30
2500.00	H	26.0	*	-45.4	7.1	3.5	-41.8	58.8	30
2500.00	V	25.8	*	-44.0	7.1	3.5	-40.4	57.4	30
3000.00	H	25.5	*	-44.3	7.6	3.9	-40.6	57.6	30
3000.00	V	25.6	*	-42.0	7.6	3.9	-38.3	55.3	30
3500.00	H	25.8	*	-42.0	7.3	4.2	-38.9	55.9	30
3500.00	V	25.2	*	-40.4	7.3	4.2	-37.3	54.3	30
4000.00	H	25.5	*	-40.1	7.1	4.5	-37.5	54.5	30
4000.00	V	25.8	*	-38.1	7.1	4.5	-35.5	52.5	30
4500.00	H	25.2	*	-40.4	8.1	4.8	-37.0	54.0	30
4500.00	V	25.3	*	-39.6	8.1	4.8	-36.2	53.2	30
5000.00	H	25.1	*	-37.4	7.9	5.0	-34.5	51.5	30
5000.00	V	25.3	*	-37.9	7.9	5.0	-35.0	52.0	30

* - Ambient

ERP Total (dBm) = Matched Sig Gen (dBm) + Antenna Gain (dB) – Cable Loss (dB)

Atten. (dB) = Output Power (dBm) – ERP (dBm)

Checked By: MARK E. LONGINOTTI
 Mark E. Longinotti



MANUFACTURER : Shure Incorporated
 MODEL : UR3 Plug-On Transmitter
 SERIAL NO. : None Assigned
 SPECIFICATION : RSS-123 Spurious Radiated Emissions
 DATE : August 22, 2011
 MODE : Transmit at 518MHz, 10mW (10dBm)
 UNIT : Group B
 BAND : H4
 EQUIPMENT USED : RBB0, CMA1, NTA2, NWH0, NWF0, NDQ1, GXA1

Freq. MHz	Ant Pol	Meter Reading dBuV	Amb	Matched Sig Gen dBm	Antenna Gain dB	Cable Factor dB	ERP Total dBm	Atten dB	RSS-123 Min. Attn. dB
1036.00	H	10.1	*	-65.5	0.0	2.0	-67.5	77.5	35
1036.00	V	12.4	*	-63.8	0.0	2.0	-65.9	75.9	35
1554.00	H	9.8	*	-66.5	4.9	2.5	-64.1	74.1	35
1554.00	V	10.1	*	-66.1	4.9	2.5	-63.7	73.7	35
2072.00	H	11.8	*	-61.9	5.2	2.9	-59.5	69.5	35
2072.00	V	12.5	*	-60.0	5.2	2.9	-57.7	67.7	35
2590.00	H	10.1	*	-62.0	5.9	3.4	-59.4	69.4	35
2590.00	V	10.3	*	-59.4	5.9	3.4	-56.8	66.8	35
3108.00	H	9.2	*	-61.1	6.2	3.8	-58.6	68.6	35
3108.00	V	9.2	*	-58.9	6.2	3.8	-56.5	66.5	35
3626.00	H	10.7	*	-57.6	6.9	4.1	-54.8	64.8	35
3626.00	V	10.7	*	-56.3	6.9	4.1	-53.6	63.6	35
4144.00	H	8.5	*	-57.1	7.3	4.4	-54.2	64.2	35
4144.00	V	9.2	*	-56.1	7.3	4.4	-53.2	63.2	35
4662.00	H	8.5	*	-55.9	8.2	4.6	-52.4	62.4	35
4662.00	V	9.0	*	-55.8	8.2	4.6	-52.2	62.2	35
5180.00	H	13.6	*	-48.7	7.6	4.9	-45.9	55.9	35
5180.00	V	13.8	*	-48.7	7.6	4.9	-45.9	55.9	35

* - Ambient

ERP Total (dBm) = Matched Sig Gen (dBm) + Antenna Gain (dB) – Cable Loss (dB)

Atten. (dB) = Output Power (dBm) – ERP (dBm)

Checked By: MARK E. LONGINOTTI
 Mark E. Longinotti



MANUFACTURER : Shure Incorporated
 MODEL : UR3 Plug-On Transmitter
 SERIAL NO. : None Assigned
 SPECIFICATION : RSS-123 Spurious Radiated Emissions
 DATE : August 22, 2011
 MODE : Transmit at 518MHz, 50mW (17dBm)
 UNIT : Group B
 BAND : H4
 EQUIPMENT USED : RBB0, CMA1, NTA2, NWH0, NWF0, NDQ1, GXA1

Freq. MHz	Ant Pol	Meter Reading dBuV	Amb	Matched Sig Gen dBm	Antenna Gain dB	Cable Factor dB	ERP Total dBm	Atten dB	RSS-123 Min. Attn. dB
1036.00	H	11.1	*	-64.5	0.0	2.0	-66.5	83.5	42
1036.00	V	15.2	*	-61.0	0.0	2.0	-63.1	80.1	42
1554.00	H	10.3	*	-66.0	4.9	2.5	-63.6	80.6	42
1554.00	V	10.4	*	-65.8	4.9	2.5	-63.4	80.4	42
2072.00	H	11.8	*	-61.9	5.2	2.9	-59.5	76.5	42
2072.00	V	12.4	*	-60.1	5.2	2.9	-57.8	74.8	42
2590.00	H	9.5	*	-62.6	5.9	3.4	-60.0	77.0	42
2590.00	V	10.8	*	-58.9	5.9	3.4	-56.3	73.3	42
3108.00	H	8.8	*	-61.5	6.2	3.8	-59.0	76.0	42
3108.00	V	8.7	*	-59.4	6.2	3.8	-57.0	73.9	42
3626.00	H	11.0	*	-57.3	6.9	4.1	-54.5	71.5	42
3626.00	V	10.3	*	-56.7	6.9	4.1	-54.0	70.9	42
4144.00	H	8.9	*	-56.7	7.3	4.4	-53.8	70.8	42
4144.00	V	9.0	*	-56.3	7.3	4.4	-53.4	70.4	42
4662.00	H	9.2	*	-55.2	8.2	4.6	-51.7	68.7	42
4662.00	V	9.4	*	-55.4	8.2	4.6	-51.8	68.8	42
5180.00	H	14.3	*	-48.0	7.6	4.9	-45.2	62.2	42
5180.00	V	14.2	*	-48.3	7.6	4.9	-45.5	62.5	42

* - Ambient

ERP Total (dBm) = Matched Sig Gen (dBm) + Antenna Gain (dB) – Cable Loss (dB)

Atten. (dB) = Output Power (dBm) – ERP (dBm)

Checked By: MARK E. LONGINOTTI
 Mark E. Longinotti



MANUFACTURER : Shure Incorporated
 MODEL : UR3 Plug-On Transmitter
 SERIAL NO. : None Assigned
 SPECIFICATION : RSS-123 Spurious Radiated Emissions
 DATE : August 22, 2011
 MODE : Transmit at 548MHz, 10mW (10dBm)
 UNIT : Group B
 BAND : H4
 EQUIPMENT USED : RBB0, CMA1, NTA2, NWH0, NWF0, NDQ1, GXA1

Freq. MHz	Ant Pol	Meter Reading dBuV	Amb	Matched Sig Gen dBm	Antenna Gain dB	Cable Factor dB	ERP Total dBm	Atten dB	RSS-123 Min. Attn. dB
1096.00	H	11.1	*	-64.9	0.0	2.1	-67.0	77.0	35
1096.00	V	12.7	*	-63.4	0.0	2.1	-65.5	75.5	35
1644.00	H	10.1	*	-65.6	4.9	2.6	-63.2	73.2	35
1644.00	V	10.6	*	-64.7	4.9	2.6	-62.4	72.4	35
2192.00	H	11.7	*	-61.6	5.4	3.0	-59.2	69.2	35
2192.00	V	12.3	*	-59.5	5.4	3.0	-57.0	67.0	35
2740.00	H	10.0	*	-61.5	6.0	3.5	-59.0	69.0	35
2740.00	V	10.2	*	-58.9	6.0	3.5	-56.4	66.4	35
3288.00	H	10.5	*	-59.3	6.5	3.9	-56.7	66.7	35
3288.00	V	10.4	*	-57.5	6.5	3.9	-54.9	64.9	35
3836.00	H	11.2	*	-55.6	6.9	4.2	-52.9	62.9	35
3836.00	V	10.3	*	-55.6	6.9	4.2	-53.0	63.0	35
4384.00	H	8.7	*	-56.8	8.0	4.5	-53.3	63.3	35
4384.00	V	9.8	*	-55.9	8.0	4.5	-52.4	62.4	35
4932.00	H	11.0	*	-51.9	8.0	4.8	-48.7	58.7	35
4932.00	V	11.4	*	-51.6	8.0	4.8	-48.4	58.4	35
5480.00	H	16.2	*	-45.7	7.1	5.0	-43.6	53.6	35
5480.00	V	16.4	*	-45.8	7.1	5.0	-43.7	53.7	35

* - Ambient

ERP Total (dBm) = Matched Sig Gen (dBm) + Antenna Gain (dB) – Cable Loss (dB)

Atten. (dB) = Output Power (dBm) – ERP (dBm)

Checked By: MARK E. LONGINOTTI
 Mark E. Longinotti



MANUFACTURER : Shure Incorporated
 MODEL : UR3 Plug-On Transmitter
 SERIAL NO. : None Assigned
 SPECIFICATION : RSS-123 Spurious Radiated Emissions
 DATE : August 17, 2011
 MODE : Transmit at 548MHz, 50mW (17dBm)
 UNIT : Group B
 BAND : H4
 EQUIPMENT USED : RBB0, CMA1, NTA2, NWH0, NWF0, NDQ1, GXA1

Freq. MHz	Ant Pol	Meter Reading dBuV	Amb	Matched Sig Gen dBm	Antenna Gain dB	Cable Factor dB	ERP Total dBm	Atten dB	RSS-123 Min. Attn. dB
1096.00	H	11.8	*	-64.2	0.0	2.1	-66.3	83.2	42
1096.00	V	18.9	*	-57.2	0.0	2.1	-59.3	76.3	42
1644.00	H	9.8	*	-65.9	4.9	2.6	-63.5	80.5	42
1644.00	V	11.2	*	-64.1	4.9	2.6	-61.8	78.8	42
2192.00	H	11.2	*	-62.1	5.4	3.0	-59.7	76.6	42
2192.00	V	11.9	*	-59.9	5.4	3.0	-57.4	74.4	42
2740.00	H	11.7	*	-59.8	6.0	3.5	-57.3	74.3	42
2740.00	V	11.2	*	-57.9	6.0	3.5	-55.4	72.4	42
3288.00	H	12.5	*	-57.3	6.5	3.9	-54.7	71.6	42
3288.00	V	12.5	*	-55.4	6.5	3.9	-52.8	69.8	42
3836.00	H	11.1	*	-55.7	6.9	4.2	-53.0	70.0	42
3836.00	V	10.3	*	-55.6	6.9	4.2	-53.0	69.9	42
4384.00	H	10.8	*	-54.7	8.0	4.5	-51.2	68.2	42
4384.00	V	11.0	*	-54.7	8.0	4.5	-51.2	68.2	42
4932.00	H	11.9	*	-51.0	8.0	4.8	-47.8	64.7	42
4932.00	V	12.6	*	-50.4	8.0	4.8	-47.2	64.2	42
5480.00	H	17.1	*	-44.8	7.1	5.0	-42.7	59.7	42
5480.00	V	17.3	*	-44.9	7.1	5.0	-42.8	59.8	42

* - Ambient

ERP Total (dBm) = Matched Sig Gen (dBm) + Antenna Gain (dB) – Cable Loss (dB)

Atten. (dB) = Output Power (dBm) – ERP (dBm)

Checked By: MARK E. LONGINOTTI
 Mark E. Longinotti



MANUFACTURER : Shure Incorporated
 MODEL : UR3 Plug-On Transmitter
 SERIAL NO. : None Assigned
 SPECIFICATION : RSS-123 Spurious Radiated Emissions
 DATE : August 22, 2011
 MODE : Transmit at 578MHz, 10mW (10dBm)
 UNIT : Group B
 EQUIPMENT USED : RBB0, CMA1, NTA2, NWH0, NWF0, NDQ1, GX1

Freq. MHz	Ant Pol	Meter Reading dBuV	Amb	Matched Sig Gen dBm	Antenna Gain dB	Cable Factor dB	ERP Total dBm	Atten dB	RSS-123 Min. Attn. dB
1156.00	H	10.7	*	-65.6	0.0	2.2	-67.8	77.8	35
1156.00	V	13.6	*	-62.4	0.0	2.2	-64.5	74.5	35
1734.00	H	9.3	*	-65.8	5.0	2.6	-63.5	73.5	35
1734.00	V	9.8	*	-64.8	5.0	2.6	-62.4	72.4	35
2312.00	H	10.6	*	-62.3	5.6	3.1	-59.8	69.8	35
2312.00	V	10.3	*	-60.8	5.6	3.1	-58.2	68.2	35
2890.00	H	9.2	*	-61.8	6.0	3.6	-59.4	69.4	35
2890.00	V	8.7	*	-59.9	6.0	3.6	-57.5	67.5	35
3468.00	H	10.6	*	-58.7	6.8	4.0	-55.9	65.9	35
3468.00	V	10.0	*	-57.7	6.8	4.0	-54.9	64.9	35
4046.00	H	9.8	*	-55.9	7.0	4.3	-53.2	63.2	35
4046.00	V	9.4	*	-55.8	7.0	4.3	-53.1	63.1	35
4624.00	H	9.0	*	-55.7	8.2	4.6	-52.1	62.1	35
4624.00	V	8.6	*	-56.4	8.2	4.6	-52.9	62.9	35
5202.00	H	13.9	*	-48.4	7.6	4.9	-45.7	55.7	35
5202.00	V	13.2	*	-49.2	7.6	4.9	-46.5	56.5	35
5780.00	H	14.0	*	-47.8	7.7	5.1	-45.2	55.2	35
5780.00	V	14.3	*	-47.8	7.7	5.1	-45.2	55.2	35

* - Ambient

ERP Total (dBm) = Matched Sig Gen (dBm) + Antenna Gain (dB) – Cable Loss (dB)

Atten. (dB) = Output Power (dBm) – ERP (dBm)

Checked By: MARK E. LONGINOTTI
 Mark E. Longinotti



MANUFACTURER : Shure Incorporated
 MODEL : UR3 Plug-On Transmitter
 SERIAL NO. : None Assigned
 SPECIFICATION : RSS-123 Spurious Radiated Emissions
 DATE : August 22, 2011
 MODE : Transmit at 578MHz, 50mW (17dBm)
 UNIT : Group B
 BAND : H4
 EQUIPMENT USED : RBB0, CMA1, NTA2, NWH0, NWF0, NDQ1, GX1

Freq. MHz	Ant Pol	Meter Reading dBuV	Amb	Matched Sig Gen dBm	Antenna Gain dB	Cable Factor dB	ERP Total dBm	Atten dB	RSS-123 Min. Attn. dB
1156.00	H	10.8	*	-65.5	0.0	2.2	-67.7	84.7	42
1156.00	V	23.0	*	-53.0	0.0	2.2	-55.1	72.1	42
1734.00	H	9.9	*	-65.2	5.0	2.6	-62.9	79.9	42
1734.00	V	10.1	*	-64.5	5.0	2.6	-62.1	79.1	42
2312.00	H	10.1	*	-62.8	5.6	3.1	-60.3	77.3	42
2312.00	V	10.3	*	-60.8	5.6	3.1	-58.2	75.2	42
2890.00	H	8.4	*	-62.6	6.0	3.6	-60.2	77.2	42
2890.00	V	9.1	*	-59.5	6.0	3.6	-57.1	74.1	42
3468.00	H	9.8	*	-59.5	6.8	4.0	-56.7	73.7	42
3468.00	V	9.5	*	-58.2	6.8	4.0	-55.4	72.4	42
4046.00	H	9.7	*	-56.0	7.0	4.3	-53.3	70.3	42
4046.00	V	9.5	*	-55.7	7.0	4.3	-53.0	70.0	42
4624.00	H	4.0	*	-60.7	8.2	4.6	-57.1	74.0	42
4624.00	V	9.1	*	-55.9	8.2	4.6	-52.4	69.3	42
5202.00	H	13.1	*	-49.2	7.6	4.9	-46.5	63.5	42
5202.00	V	13.1	*	-49.3	7.6	4.9	-46.6	63.6	42
5780.00	H	13.6	*	-48.2	7.7	5.1	-45.6	62.6	42
5780.00	V	13.2	*	-48.9	7.7	5.1	-46.3	63.3	42

* - Ambient

ERP Total (dBm) = Matched Sig Gen (dBm) + Antenna Gain (dB) – Cable Loss (dB)

Atten. (dB) = Output Power (dBm) – ERP (dBm)

Checked By: MARK E. LONGINOTTI
 Mark E. Longinotti



MANUFACTURER : Shure Incorporated
 MODEL : UR3 Plug-On Transmitter
 SERIAL NO. : None Assigned
 SPECIFICATION : FCC-74 Spurious Radiated Emissions
 DATE : August 22, 2011
 MODE : Transmit at 548MHz, 10mW (10dBm)
 UNIT : Group B
 BAND : H4
 EQUIPMENT USED : RBB0, CMA1, NTA2, NWH0, NWF0, NDQ1, GXA1

Freq. MHz	Ant Pol	Meter Reading dBuV	Amb	Matched Sig Gen dBm	Antenna Gain dB	Cable Factor dB	ERP Total dBm	Atten dB	Part 74 Min. Attn. dB
1096.00	H	26.8	*	-50.1	4.4	2.1	-47.8	57.8	23
1096.00	V	27.0	*	-48.6	4.4	2.1	-46.3	56.3	23
1644.00	H	25.4	*	-44.5	6.1	2.6	-41.0	51.0	23
1644.00	V	26.0	*	-46.7	6.1	2.6	-43.2	53.2	23
2192.00	H	27.9	*	-46.1	6.9	3.0	-42.2	52.2	23
2192.00	V	27.2	*	-45.2	6.9	3.0	-41.3	51.3	23
2740.00	H	25.7	*	-45.6	7.4	3.5	-41.7	51.7	23
2740.00	V	24.3	*	-45.0	7.4	3.5	-41.1	51.1	23
3288.00	H	25.4	*	-43.4	7.4	3.9	-39.8	49.8	23
3288.00	V	25.5	*	-40.4	7.4	3.9	-36.8	46.8	23
3836.00	H	25.8	*	-41.1	7.2	4.2	-38.1	48.1	23
3836.00	V	25.7	*	-40.1	7.2	4.2	-37.1	47.1	23
4384.00	H	24.3	*	-42.4	7.9	4.5	-39.0	49.0	23
4384.00	V	24.9	*	-40.1	7.9	4.5	-36.7	46.7	23
4932.00	H	26.7	*	-35.9	8.0	4.8	-32.7	42.7	23
4932.00	V	27.1	*	-36.3	8.0	4.8	-33.1	43.1	23
5480.00	H	31.8	*	-29.6	8.3	5.0	-26.3	36.3	23
5480.00	V	32.0	*	-29.4	8.3	5.0	-26.1	36.1	23

* - Ambient

$$\text{ERP Total (dBm)} = \text{Matched Sig Gen (dBm)} + \text{Antenna Gain (dB)} - \text{Cable Loss (dB)}$$

$$\text{Atten. (dB)} = \text{Output Power (dBm)} - \text{ERP (dBm)}$$

Checked By: MARK E. LONGINOTTI
 Mark E. Longinotti



MANUFACTURER : Shure Incorporated
 MODEL : UR3 Plug-On Transmitter
 SERIAL NO. : None Assigned
 SPECIFICATION : FCC-74 Spurious Radiated Emissions
 DATE : August 22, 2011
 MODE : Transmit at 548MHz, 50mW (17dBm)
 UNIT : Group B
 BAND : H4
 EQUIPMENT USED : RBB0, CMA1, NTA2, NWH0, NWF0, NDQ1, GXA1

Freq. MHz	Ant Pol	Meter Reading dBuV	Amb	Matched Sig Gen dBm	Antenna Gain dB	Cable Factor dB	ERP Total dBm	Atten dB	Part 74 Min. Attn. dB
1096.00	H	27.7	*	-49.2	4.4	2.1	-46.9	63.8	30
1096.00	V	28.1	*	-47.5	4.4	2.1	-45.2	62.1	30
1644.00	H	25.4	*	-44.5	6.1	2.6	-41.0	58.0	30
1644.00	V	25.8	*	-47.3	6.1	2.6	-43.8	60.8	30
2192.00	H	27.8	*	-46.2	6.9	3.0	-42.3	59.3	30
2192.00	V	27.8	*	-44.3	6.9	3.0	-40.4	57.4	30
2740.00	H	26.6	*	-44.6	7.4	3.5	-40.7	57.7	30
2740.00	V	27.4	*	-41.5	7.4	3.5	-37.6	54.6	30
3288.00	H	27.2	*	-41.3	7.4	3.9	-37.7	54.7	30
3288.00	V	27.4	*	-38.6	7.4	3.9	-35.0	52.0	30
3836.00	H	26.6	*	-40.0	7.2	4.2	-37.0	54.0	30
3836.00	V	27.0	*	-37.5	7.2	4.2	-34.5	51.5	30
4384.00	H	25.5	*	-40.4	7.9	4.5	-37.0	54.0	30
4384.00	V	25.3	*	-40.6	7.9	4.5	-37.2	54.2	30
4932.00	H	28.3	*	-33.8	8.0	4.8	-30.6	47.6	30
4932.00	V	28.2	*	-34.9	8.0	4.8	-31.7	48.7	30
5480.00	H	33.7	*	-27.4	8.3	5.0	-24.1	41.1	30
5480.00	V	33.3	*	-28.3	8.3	5.0	-25.0	42.0	30

* - Ambient

$$\text{ERP Total (dBm)} = \text{Matched Sig Gen (dBm)} + \text{Antenna Gain (dB)} - \text{Cable Loss (dB)}$$

$$\text{Atten. (dB)} = \text{Output Power (dBm)} - \text{ERP (dBm)}$$

Checked By: MARK E. LONGINOTTI
 Mark E. Longinotti



MANUFACTURER : Shure Incorporated
 MODEL : UR3 Plug-On Transmitter
 SERIAL NO. : None Assigned
 SPECIFICATION : RSS-123 Spurious Radiated Emissions
 DATE : September 23, 2011
 MODE : Transmit at 578MHz, 10mW (10dBm)
 UNIT : Group C
 BAND : J5
 EQUIPMENT USED : RBB0, CMA1, NTA2, NWH0, NWF0, NDQ1, GXA1

Freq. MHz	Ant Pol	Meter Reading dBuV	Amb	Matched Sig Gen dBm	Antenna Gain dB	Cable Factor dB	ERP Total dBm	Atten dB	RSS-123 Min. Attn. dB
1156.0	H	0.2		-76.1	3.4	2.2	-74.9	84.9	35
1156.0	V	10.1		-65.9	3.4	2.2	-64.7	74.7	35
1734.0	H	0.3		-74.8	5.0	2.6	-72.5	82.5	35
1734.0	V	1.9		-72.7	5.0	2.6	-70.3	80.3	35
2312.0	H	-2.0	*	-74.9	5.6	3.1	-72.4	82.4	35
2312.0	V	-0.8		-71.9	5.6	3.1	-69.3	79.3	35
2890.0	H	0.0		-71.0	6.0	3.6	-68.6	78.6	35
2890.0	V	-1.0	*	-69.6	6.0	3.6	-67.2	77.2	35
3468.0	H	-3.6	*	-72.9	6.8	4.0	-70.1	80.1	35
3468.0	V	-3.4	*	-71.1	6.8	4.0	-68.3	78.3	35
4046.0	H	-3.1	*	-68.8	7.0	4.3	-66.1	76.1	35
4046.0	V	-3.5	*	-68.7	7.0	4.3	-66.0	76.0	35
4624.0	H	-1.9	*	-66.6	8.2	4.6	-63.0	73.0	35
4624.0	V	-1.5	*	-66.5	8.2	4.6	-63.0	73.0	35
5202.0	H	-3.0	*	-65.3	7.6	4.9	-62.6	72.6	35
5202.0	V	-3.2	*	-65.6	7.6	4.9	-62.9	72.9	35
5780.0	H	-3.4	*	-65.2	7.7	5.1	-62.6	72.6	35
5780.0	V	-3.0	*	-65.1	7.7	5.1	-62.5	72.5	35

* - Ambient

ERP Total (dBm) = Matched Sig Gen (dBm) + Antenna Gain (dB) – Cable Loss (dB)

Atten. (dB) = Output Power (dBm) – ERP (dBm)

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti



MANUFACTURER : Shure Incorporated
 MODEL : UR3 Plug-On Transmitter
 SERIAL NO. : None Assigned
 SPECIFICATION : RSS-123 Spurious Radiated Emissions
 DATE : September 23, 2011
 MODE : Transmit at 578MHz, 50mW (17dBm)
 UNIT : Group C
 BAND : J5
 EQUIPMENT USED : RBB0, CMA1, NTA2, NWH0, NWF0, NDQ1, GXA1

Freq. MHz	Ant Pol	Meter Reading dBuV	Amb	Matched Sig Gen dBm	Antenna Gain dB	Cable Factor dB	ERP Total dBm	Atten dB	RSS-123 Min. Attn. dB
1156.0	H	4.7		-71.6	3.4	2.2	-70.4	87.4	42
1156.0	V	26.1		-49.9	3.4	2.2	-48.7	65.6	42
1734.0	H	7.9		-67.2	5.0	2.6	-64.9	81.9	42
1734.0	V	9.6		-65.0	5.0	2.6	-62.6	79.6	42
2312.0	H	2.0	*	-70.9	5.6	3.1	-68.4	85.4	42
2312.0	V	3.3	*	-67.8	5.6	3.1	-65.2	82.2	42
2890.0	H	4.4	*	-66.6	6.0	3.6	-64.2	81.2	42
2890.0	V	7.5		-61.1	6.0	3.6	-58.7	75.7	42
3468.0	H	2.7	*	-66.6	6.8	4.0	-63.8	80.8	42
3468.0	V	4.3	*	-63.4	6.8	4.0	-60.6	77.6	42
4046.0	H	9.3		-56.4	7.0	4.3	-53.7	70.7	42
4046.0	V	2.6	*	-62.6	7.0	4.3	-59.9	76.9	42
4624.0	H	5.7		-59.0	8.2	4.6	-55.4	72.3	42
4624.0	V	3.8	*	-61.2	8.2	4.6	-57.7	74.6	42
5202.0	H	1.1	*	-61.2	7.6	4.9	-58.5	75.5	42
5202.0	V	4.2		-58.2	7.6	4.9	-55.5	72.5	42
5780.0	H	9.7		-52.1	7.7	5.1	-49.5	66.5	42
5780.0	V	6.7	*	-55.4	7.7	5.1	-52.8	69.8	42

* - Ambient

ERP Total (dBm) = Matched Sig Gen (dBm) + Antenna Gain (dB) – Cable Loss (dB)

Atten. (dB) = Output Power (dBm) – ERP (dBm)

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti



MANUFACTURER : Shure Incorporated
 MODEL : UR3 Plug-On Transmitter
 SERIAL NO. : None Assigned
 SPECIFICATION : RSS-123 Spurious Radiated Emissions
 DATE : September 24, 2011
 MODE : Transmit at 607.875MHz, 10mW (10dBm)
 UNIT : Group C
 BAND : J5
 EQUIPMENT USED : RBB0, CMA1, NTA2, NWH0, NWF0, NDQ1, GXA1

Freq. MHz	Ant Pol	Meter Reading dBuV	Amb	Matched Sig Gen dBm	Antenna Gain dB	Cable Factor dB	ERP Total dBm	Atten dB	RSS-123 Min. Attn. dB
1215.8	H	1.4	*	-75.2	3.7	2.2	-73.8	83.8	35
1215.8	V	13.0		-62.9	3.7	2.2	-61.5	71.5	35
1823.6	H	2.3	*	-72.3	5.0	2.7	-70.0	80.0	35
1823.6	V	3.4	*	-70.5	5.0	2.7	-68.2	78.2	35
2431.5	H	1.0	*	-71.6	5.8	3.2	-69.0	79.0	35
2431.5	V	3.0	*	-67.4	5.8	3.2	-64.8	74.8	35
3039.4	H	8.0		-62.5	6.1	3.7	-60.1	70.1	35
3039.4	V	9.2		-59.0	6.1	3.7	-56.6	66.6	35
3647.3	H	0.3	*	-67.8	6.9	4.1	-65.1	75.1	35
3647.3	V	0.3	*	-66.6	6.9	4.1	-63.8	73.8	35
4255.1	H	0.8	*	-64.7	7.6	4.4	-61.5	71.5	35
4255.1	V	-0.5	*	-66.0	7.6	4.4	-62.8	72.8	35
4863.0	H	1.1	*	-62.2	8.0	4.7	-58.9	68.9	35
4863.0	V	1.5	*	-62.0	8.0	4.7	-58.7	68.7	35
5470.9	H	1.8	*	-60.1	7.1	5.0	-58.0	68.0	35
5470.9	V	2.0	*	-60.2	7.1	5.0	-58.1	68.1	35
6078.8	H	6.1	*	-55.5	8.4	5.3	-52.4	62.4	35
6078.8	V	3.1	*	-58.9	8.4	5.3	-55.8	65.8	35

* - Ambient

ERP Total (dBm) = Matched Sig Gen (dBm) + Antenna Gain (dB) – Cable Loss (dB)

Atten. (dB) = Output Power (dBm) – ERP (dBm)

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti



MANUFACTURER : Shure Incorporated
 MODEL : UR3 Plug-On Transmitter
 SERIAL NO. : None Assigned
 SPECIFICATION : RSS-123 Spurious Radiated Emissions
 DATE : September 24, 2011
 MODE : Transmit at 607.875MHz, 50mW (17dBm)
 UNIT : Group C
 BAND : J5
 EQUIPMENT USED : RBB0, CMA1, NTA2, NWH0, NWF0, NDQ1, GXA1

Freq. MHz	Ant Pol	Meter Reading dBuV	Amb	Matched Sig Gen dBm	Antenna Gain dB	Cable Factor dB	ERP Total dBm	Atten dB	RSS-123 Min. Attn. dB
1215.8	H	4.9		-71.7	3.7	2.2	-70.3	87.2	42
1215.8	V	24.4		-51.5	3.7	2.2	-50.1	67.1	42
1823.6	H	7.7		-66.9	5.0	2.7	-64.6	81.6	42
1823.6	V	8.9		-65.0	5.0	2.7	-62.7	79.6	42
2431.5	H	-0.8	*	-73.4	5.8	3.2	-70.8	87.8	42
2431.5	V	3.0	*	-67.4	5.8	3.2	-64.8	81.8	42
3039.4	H	6.2		-64.3	6.1	3.7	-61.9	78.9	42
3039.4	V	7.2		-61.0	6.1	3.7	-58.6	75.6	42
3647.3	H	4.0	*	-64.1	6.9	4.1	-61.4	78.4	42
3647.3	V	1.9	*	-65.0	6.9	4.1	-62.2	79.2	42
4255.1	H	8.2		-57.3	7.6	4.4	-54.1	71.1	42
4255.1	V	2.4	*	-63.1	7.6	4.4	-59.9	76.9	42
4863.0	H	1.0	*	-62.3	8.0	4.7	-59.0	76.0	42
4863.0	V	1.1	*	-62.4	8.0	4.7	-59.1	76.1	42
5470.9	H	7.2		-54.7	7.1	5.0	-52.6	69.6	42
5470.9	V	0.0	*	-62.2	7.1	5.0	-60.1	77.1	42
6078.8	H	3.1	*	-58.5	8.4	5.3	-55.4	72.4	42
6078.8	V	2.8	*	-59.2	8.4	5.3	-56.1	73.1	42

* - Ambient

ERP Total (dBm) = Matched Sig Gen (dBm) + Antenna Gain (dB) – Cable Loss (dB)

Atten. (dB) = Output Power (dBm) – ERP (dBm)

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti



MANUFACTURER : Shure Incorporated
 MODEL : UR3 Plug-On Transmitter
 SERIAL NO. : None Assigned
 SPECIFICATION : RSS-123 Spurious Radiated Emissions
 DATE : September 24, 2011
 MODE : Transmit at 638MHz, 10mW (10dBm)
 UNIT : Group C
 BAND : J5
 EQUIPMENT USED : RBB0, CMA1, NTA2, NWH0, NWF0, NDQ1, GXA1

Freq. MHz	Ant Pol	Meter Reading dBuV	Amb	Matched Sig Gen dBm	Antenna Gain dB	Cable Factor dB	ERP Total dBm	Atten dB	RSS-123 Min. Attn. dB
1276.0	H	0.0	*	-76.6	4.0	2.3	-75.0	85.0	35
1276.0	V	3.0	*	-73.1	4.0	2.3	-71.4	81.4	35
1914.0	H	11.7		-62.5	5.1	2.7	-60.2	70.2	35
1914.0	V	15.6		-57.8	5.1	2.7	-55.5	65.5	35
2552.0	H	5.2		-67.0	5.9	3.3	-64.4	74.4	35
2552.0	V	9.5		-60.3	5.9	3.3	-57.7	67.7	35
3190.0	H	-1.2	*	-71.2	6.3	3.8	-68.7	78.7	35
3190.0	V	-0.2	*	-68.2	6.3	3.8	-65.7	75.7	35
3828.0	H	0.0	*	-66.9	6.9	4.2	-64.2	74.2	35
3828.0	V	0.2	*	-65.8	6.9	4.2	-63.1	73.1	35
4466.0	H	2.0	*	-63.4	8.2	4.6	-59.7	69.7	35
4466.0	V	2.2	*	-63.6	8.2	4.6	-60.0	70.0	35
5104.0	H	1.0	*	-61.4	7.8	4.8	-58.5	68.5	35
5104.0	V	0.8	*	-61.7	7.8	4.8	-58.8	68.8	35
5742.0	H	0.2	*	-61.6	7.6	5.1	-59.1	69.1	35
5742.0	V	0.4	*	-61.7	7.6	5.1	-59.2	69.2	35
6380.0	H	0.3	*	-60.8	9.3	5.7	-57.2	67.2	35
6380.0	V	0.4	*	-61.5	9.3	5.7	-57.8	67.8	35

* - Ambient

ERP Total (dBm) = Matched Sig Gen (dBm) + Antenna Gain (dB) – Cable Loss (dB)

Atten. (dB) = Output Power (dBm) – ERP (dBm)

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti



MANUFACTURER : Shure Incorporated
 MODEL : UR3 Plug-On Transmitter
 SERIAL NO. : None Assigned
 SPECIFICATION : RSS-123 Spurious Radiated Emissions
 DATE : September 24, 2011
 MODE : Transmit at 638MHz, 50mW (17dBm)
 UNIT : Group C
 BAND : J5
 EQUIPMENT USED : RBB0, CMA1, NTA2, NWH0, NWF0, NDQ1, GXA1

Freq. MHz	Ant Pol	Meter Reading dBuV	Amb	Matched Sig Gen dBm	Antenna Gain dB	Cable Factor dB	ERP Total dBm	Atten dB	RSS-123 Min. Attn. dB
1276.0	H	3.1	*	-73.5	4.0	2.3	-71.9	88.8	42
1276.0	V	12.3		-63.8	4.0	2.3	-62.1	79.1	42
1914.0	H	14.6		-59.6	5.1	2.7	-57.3	74.3	42
1914.0	V	21.3		-52.1	5.1	2.7	-49.8	66.8	42
2552.0	H	6.0		-66.2	5.9	3.3	-63.6	80.6	42
2552.0	V	15.3		-54.5	5.9	3.3	-51.9	68.9	42
3190.0	H	6.7		-63.3	6.3	3.8	-60.8	77.8	42
3190.0	V	7.7		-60.3	6.3	3.8	-57.8	74.8	42
3828.0	H	2.0	*	-64.9	6.9	4.2	-62.2	79.2	42
3828.0	V	1.9	*	-64.1	6.9	4.2	-61.4	78.4	42
4466.0	H	4.1		-61.3	8.2	4.6	-57.6	74.6	42
4466.0	V	6.2		-59.6	8.2	4.6	-56.0	73.0	42
5104.0	H	1.9	*	-60.5	7.8	4.8	-57.6	74.6	42
5104.0	V	1.1	*	-61.4	7.8	4.8	-58.5	75.5	42
5742.0	H	1.2	*	-60.6	7.6	5.1	-58.1	75.1	42
5742.0	V	1.3	*	-60.8	7.6	5.1	-58.3	75.3	42
6380.0	H	0.8	*	-60.3	9.3	5.7	-56.7	73.7	42
6380.0	V	1.0	*	-60.9	9.3	5.7	-57.2	74.2	42

* - Ambient

ERP Total (dBm) = Matched Sig Gen (dBm) + Antenna Gain (dB) – Cable Loss (dB)

Atten. (dB) = Output Power (dBm) – ERP (dBm)

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti



MANUFACTURER : Shure Incorporated
 MODEL : UR3 Plug-On Transmitter
 SERIAL NO. : None Assigned
 SPECIFICATION : FCC-74 Spurious Radiated Emissions
 DATE : September 24, 2011
 MODE : Transmit at 607.875MHz, 10mW (10dBm)
 UNIT : Group C
 BAND : J5
 EQUIPMENT USED : RBB0, CMA1, NTA2, NWH0, NWF0, NDQ1, GXA1

Freq. MHz	Ant Pol	Meter Reading dBuV	Amb	Matched Sig Gen dBm	Antenna Gain dB	Cable Factor dB	ERP Total dBm	Atten. dB	Part 74 Min. Attn. dB
1215.8	H	14.3	*	-61.3	3.7	2.2	-59.8	69.8	23
1215.8	V	17.8		-55.8	3.7	2.2	-54.3	64.3	23
1823.6	H	14.5	*	-60.1	5.0	2.7	-57.8	67.8	23
1823.6	V	14.6	*	-58.2	5.0	2.7	-55.9	65.9	23
2431.5	H	14.3	*	-58.0	5.8	3.2	-55.4	65.4	23
2431.5	V	14.5	*	-54.6	5.8	3.2	-52.0	62.0	23
3039.4	H	15.4	*	-55.1	6.1	3.7	-52.7	62.7	23
3039.4	V	16.6	*	-51.6	6.1	3.7	-49.2	59.2	23
3647.3	H	16.0	*	-52.1	6.9	4.1	-49.4	59.4	23
3647.3	V	15.9	*	-51.0	6.9	4.1	-48.2	58.2	23
4255.1	H	15.4	*	-50.1	7.6	4.4	-46.9	56.9	23
4255.1	V	15.2	*	-50.3	7.6	4.4	-47.1	57.1	23
4863.0	H	15.3	*	-48.0	8.0	4.7	-44.7	54.7	23
4863.0	V	15.2	*	-48.3	8.0	4.7	-45.0	55.0	23
5470.9	H	14.9	*	-47.0	7.1	5.0	-44.9	54.9	23
5470.9	V	15.2	*	-47.0	7.1	5.0	-44.9	54.9	23
6078.8	H	15.3	*	-46.3	8.4	5.3	-43.2	53.2	23



6078. 8	V	14.8	*	-47.2	8.4	5.3	-44.1	54.1	23
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* - Ambient

ERP Total (dBm) = Matched Sig Gen (dBm) + Antenna Gain (dB) – Cable Loss (dB)

Atten. (dB) = Output Power (dBm) – ERP (dBm)

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti

MANUFACTURER : Shure Incorporated
 MODEL : UR3 Plug-On Transmitter
 SERIAL NO. : None Assigned
 SPECIFICATION : FCC-74 Spurious Radiated Emissions
 DATE : September 24, 2011
 MODE : Transmit at 607.875MHz, 50mW (17dBm)
 UNIT : Group C
 BAND : J5
 EQUIPMENT USED : RBB0, CMA1, NTA2, NWH0, NWF0, NDQ1, GXA1

Freq. MHz	Ant Pol	Meter Reading dBuV	Amb	Matched Sig Gen dBm	Antenna Gain dB	Cable Factor dB	ERP Total dBm	Atten. dB	Part 74 Min. Attn. dB
1215. 8	H	14.5	*	-62.5	3.7	2.2	-61.0	78.0	30
1215. 8	V	25.5		-48.3	3.7	2.2	-46.8	63.8	30
1823. 6	H	16.6	*	-58.0	5.0	2.7	-55.7	72.7	30
1823. 6	V	16.5	*	-56.3	5.0	2.7	-54.0	71.0	30
2431. 5	H	16.0	*	-56.0	5.8	3.2	-53.4	70.4	30
2431. 5	V	15.8	*	-53.4	5.8	3.2	-50.8	67.8	30
3039. 4	H	16.0	*	-54.5	6.1	3.7	-52.1	69.1	30



3039. 4	V	16.1	*	-52.1	6.1	3.7	-49.7	66.7	30
3647. 3	H	15.3	*	-52.8	6.9	4.1	-50.1	67.1	30
3647. 3	V	15.7	*	-51.2	6.9	4.1	-48.4	65.4	30
4255. 1	H	15.4	*	-50.1	7.6	4.4	-46.9	63.9	30
4255. 1	V	16.0	*	-49.5	7.6	4.4	-46.3	63.3	30
4863. 0	H	15.6	*	-47.7	8.0	4.7	-44.4	61.4	30
4863. 0	V	15.8	*	-47.7	8.0	4.7	-44.4	61.4	30
5470. 9	H	16.1	*	-45.8	7.1	5.0	-43.7	60.7	30
5470. 9	V	15.6	*	-46.6	7.1	5.0	-44.5	61.5	30
6078. 8	H	15.8	*	-45.8	8.4	5.3	-42.7	59.7	30
6078. 8	V	15.4	*	-46.6	8.4	5.3	-43.5	60.5	30

* - Ambient

ERP Total (dBm) = Matched Sig Gen (dBm) + Antenna Gain (dB) – Cable Loss (dB)

Atten. (dB) = Output Power (dBm) – ERP (dBm)

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti



MANUFACTURER : Shure Incorporated
 MODEL : UR3 Plug-On Transmitter
 SERIAL NO. : None Assigned
 SPECIFICATION : RSS-123 Spurious Radiated Emissions
 DATE : September 24, 2011
 MODE : Transmit at 638MHz, 10mW (10dBm)
 UNIT : Group E
 BAND : L3
 EQUIPMENT USED : RBB0, CMA1, NTA2, NWH0, NWF0, NDQ1, GXA1

Freq. MHz	Ant Pol	Meter Reading dBuV	Amb	Matched Sig Gen dBm	Antenna Gain dB	Cable Factor dB	ERP Total dBm	Atten dB	RSS-123 Min. Attn. dB
1276.0	H	1.1	*	-75.5	4.0	2.3	-73.9	83.9	35
1276.0	V	4.2	*	-71.9	4.0	2.3	-70.2	80.2	35
1914.0	H	2.7	*	-71.5	5.1	2.7	-69.2	79.2	35
1914.0	V	1.0	*	-72.4	5.1	2.7	-70.1	80.1	35
2552.0	H	0.4	*	-71.8	5.9	3.3	-69.2	79.2	35
2552.0	V	0.2	*	-69.6	5.9	3.3	-67.0	77.0	35
3190.0	H	0.2	*	-69.8	6.3	3.8	-67.3	77.3	35
3190.0	V	0.3	*	-67.7	6.3	3.8	-65.2	75.2	35
3828.0	H	-0.8	*	-67.7	6.9	4.2	-65.0	75.0	35
3828.0	V	-4.0	*	-70.0	6.9	4.2	-67.3	77.3	35
4466.0	H	0.5	*	-64.9	8.2	4.6	-61.2	71.2	35
4466.0	V	0.8	*	-65.0	8.2	4.6	-61.4	71.4	35
5104.0	H	2.5	*	-59.9	7.8	4.8	-57.0	67.0	35
5104.0	V	3.3	*	-59.2	7.8	4.8	-56.3	66.3	35
5742.0	H	2.7	*	-59.1	7.6	5.1	-56.6	66.6	35
5742.0	V	6.2		-55.9	7.6	5.1	-53.4	63.4	35
6380.0	H	2.1	*	-59.0	9.3	5.7	-55.4	65.4	35
6380.0	V	2.5	*	-59.4	9.3	5.7	-55.7	65.7	35

* - Ambient

$$\text{ERP Total (dBm)} = \text{Matched Sig Gen (dBm)} + \text{Antenna Gain (dB)} - \text{Cable Loss (dB)}$$

$$\text{Atten. (dB)} = \text{Output Power (dBm)} - \text{ERP (dBm)}$$

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti



MANUFACTURER : Shure Incorporated
 MODEL : UR3 Plug-On Transmitter
 SERIAL NO. : None Assigned
 SPECIFICATION : RSS-123 Spurious Radiated Emissions
 DATE : September 24, 2011
 MODE : Transmit at 638MHz, 50mW (17dBm)
 UNIT : Group E
 BAND : L3
 EQUIPMENT USED : RBB0, CMA1, NTA2, NWH0, NWF0, NDQ1, GX1

Freq. MHz	Ant Pol	Meter Reading dBuV	Amb	Matched Sig Gen dBm	Antenna Gain dB	Cable Factor dB	ERP Total dBm	Atten dB	RSS-123 Min. Attn. dB
1276.0	H	2.2	*	-74.4	4.0	2.3	-72.8	89.7	42
1276.0	V	9.5		-66.6	4.0	2.3	-64.9	81.9	42
1914.0	H	5.5		-68.7	5.1	2.7	-66.4	83.4	42
1914.0	V	10.8		-62.6	5.1	2.7	-60.3	77.3	42
2552.0	H	0.1	*	-72.1	5.9	3.3	-69.5	86.5	42
2552.0	V	1.9	*	-67.9	5.9	3.3	-65.3	82.3	42
3190.0	H	1.0	*	-69.0	6.3	3.8	-66.5	83.5	42
3190.0	V	1.2	*	-66.8	6.3	3.8	-64.3	81.3	42
3828.0	H	1.0	*	-65.9	6.9	4.2	-63.2	80.2	42
3828.0	V	2.0	*	-64.0	6.9	4.2	-61.3	78.3	42
4466.0	H	6.6		-58.8	8.2	4.6	-55.1	72.1	42
4466.0	V	6.5		-59.3	8.2	4.6	-55.7	72.7	42
5104.0	H	0.5	*	-61.9	7.8	4.8	-59.0	76.0	42
5104.0	V	0.1	*	-62.4	7.8	4.8	-59.5	76.5	42
5742.0	H	6.3		-55.5	7.6	5.1	-53.0	70.0	42
5742.0	V	6.4		-55.7	7.6	5.1	-53.2	70.2	42
6380.0	H	4.1	*	-57.0	9.3	5.7	-53.4	70.4	42
6380.0	V	2.0	*	-59.9	9.3	5.7	-56.2	73.2	42

* - Ambient

ERP Total (dBm) = Matched Sig Gen (dBm) + Antenna Gain (dB) – Cable Loss (dB)

Atten. (dB) = Output Power (dBm) – ERP (dBm)

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti



MANUFACTURER : Shure Incorporated
 MODEL : UR3 Plug-On Transmitter
 SERIAL NO. : None Assigned
 SPECIFICATION : RSS-123 Spurious Radiated Emissions
 DATE : September 24, 2011
 MODE : Transmit at 668MHz, 10mW (10dBm)
 UNIT : Group E
 BAND : L3
 EQUIPMENT USED : RBB0, CMA1, NTA2, NWH0, NWF0, NDQ1, GXA1

Freq. MHz	Ant Pol	Meter Reading dBuV	Amb	Matched Sig Gen dBm	Antenna Gain dB	Cable Factor dB	ERP Total dBm	Atten dB	RSS-123 Min. Attn. dB
1336.0	H	-0.9	*	-77.5	4.2	2.3	-75.7	85.7	35
1336.0	V	4.2	*	-72.1	4.2	2.3	-70.2	80.2	35
2004.0	H	8.4		-65.5	5.1	2.8	-63.2	73.2	35
2004.0	V	10.5		-62.5	5.1	2.8	-60.2	70.2	35
2672.0	H	8.5		-63.2	5.9	3.4	-60.7	70.7	35
2672.0	V	11.1		-58.2	5.9	3.4	-55.7	65.7	35
3340.0	H	3.3	*	-66.3	6.6	3.9	-63.7	73.7	35
3340.0	V	6.5		-61.4	6.6	3.9	-58.7	68.7	35
4008.0	H	1.0	*	-64.7	6.9	4.3	-62.1	72.1	35
4008.0	V	0.9	*	-64.2	6.9	4.3	-61.6	71.6	35
4676.0	H	3.5	*	-60.8	8.2	4.7	-57.3	67.3	35
4676.0	V	3.4	*	-61.3	8.2	4.7	-57.8	67.8	35
5344.0	H	4.0	*	-58.1	7.3	4.9	-55.7	65.7	35
5344.0	V	6.2		-56.1	7.3	4.9	-53.7	63.7	35
6012.0	H	10.5		-51.2	8.2	5.2	-48.2	58.2	35
6012.0	V	10.1		-51.9	8.2	5.2	-49.0	59.0	35
6680.0	H	3.4	*	-57.3	9.2	6.0	-54.1	64.1	35
6680.0	V	3.2	*	-58.6	9.2	6.0	-55.4	65.4	35

* - Ambient

ERP Total (dBm) = Matched Sig Gen (dBm) + Antenna Gain (dB) – Cable Loss (dB)

Atten. (dB) = Output Power (dBm) – ERP (dBm)

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti



MANUFACTURER : Shure Incorporated
 MODEL : UR3 Plug-On Transmitter
 SERIAL NO. : None Assigned
 SPECIFICATION : RSS-123 Spurious Radiated Emissions
 DATE : September 24, 2011
 MODE : Transmit at 668MHz, 50mW (17dBm)
 UNIT : Group E
 BAND : L3
 EQUIPMENT USED : RBB0, CMA1, NTA2, NWH0, NWF0, NDQ1, GXA1

Freq. MHz	Ant Pol	Meter Reading dBuV	Amb	Matched Sig Gen dBm	Antenna Gain dB	Cable Factor dB	ERP Total dBm	Atten dB	RSS-123 Min. Attn. dB
1336.0	H	0.1	*	-76.5	4.2	2.3	-74.7	91.7	42
1336.0	V	13.8		-62.5	4.2	2.3	-60.6	77.6	42
2004.0	H	11.3		-62.6	5.1	2.8	-60.3	77.3	42
2004.0	V	13.8		-59.2	5.1	2.8	-56.9	73.9	42
2672.0	H	12.4		-59.3	5.9	3.4	-56.8	73.8	42
2672.0	V	17.3		-52.0	5.9	3.4	-49.5	66.5	42
3340.0	H	9.3		-60.3	6.6	3.9	-57.7	74.6	42
3340.0	V	11.1		-56.8	6.6	3.9	-54.1	71.1	42
4008.0	H	6.4		-59.3	6.9	4.3	-56.7	73.7	42
4008.0	V	3.3	*	-61.8	6.9	4.3	-59.2	76.2	42
4676.0	H	4.6	*	-59.7	8.2	4.7	-56.2	73.2	42
4676.0	V	4.1	*	-60.6	8.2	4.7	-57.1	74.1	42
5344.0	H	7.1		-55.0	7.3	4.9	-52.6	69.6	42
5344.0	V	11.3		-51.0	7.3	4.9	-48.6	65.6	42
6012.0	H	12.2		-49.5	8.2	5.2	-46.5	63.5	42
6012.0	V	8.4		-53.6	8.2	5.2	-50.7	67.6	42
6680.0	H	1.0	*	-59.7	9.2	6.0	-56.5	73.5	42
6680.0	V	2.5	*	-59.3	9.2	6.0	-56.1	73.1	42

* - Ambient

$$\text{ERP Total (dBm)} = \text{Matched Sig Gen (dBm)} + \text{Antenna Gain (dB)} - \text{Cable Loss (dB)}$$

$$\text{Atten. (dB)} = \text{Output Power (dBm)} - \text{ERP (dBm)}$$

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti



MANUFACTURER : Shure Incorporated
 MODEL : UR3 Plug-On Transmitter
 SERIAL NO. : None Assigned
 SPECIFICATION : RSS-123 Spurious Radiated Emissions
 DATE : September 24, 2011
 MODE : Transmit at 698MHz, 10mW (10dBm)
 UNIT : Group E
 BAND : L3
 EQUIPMENT USED : RBB0, CMA1, NTA2, NWH0, NWF0, NDQ1, GXA1

Freq. MHz	Ant Pol	Meter Reading dBuV	Amb	Matched Sig Gen dBm	Antenna Gain dB	Cable Factor dB	ERP Total dBm	Atten dB	RSS-123 Min. Attn. dB
1395.8	H	-2.0	*	-78.7	4.5	2.4	-76.6	86.6	35
1395.8	V	13.1		-63.3	4.5	2.4	-61.3	71.3	35
2093.6	H	2.3	*	-71.3	5.3	2.9	-68.9	78.9	35
2093.6	V	3.3	*	-69.1	5.3	2.9	-66.7	76.7	35
2791.5	H	0.2	*	-71.1	6.0	3.5	-68.7	78.7	35
2791.5	V	1.1	*	-67.8	6.0	3.5	-65.4	75.4	35
3489.4	H	3.7	*	-65.5	6.8	4.0	-62.7	72.7	35
3489.4	V	1.6	*	-66.1	6.8	4.0	-63.3	73.3	35
4187.3	H	-0.5	*	-66.1	7.5	4.4	-63.0	73.0	35
4187.3	V	-0.1	*	-65.5	7.5	4.4	-62.5	72.5	35
4885.1	H	3.5	*	-59.6	8.0	4.7	-56.4	66.4	35
4885.1	V	5.3	*	-58.0	8.0	4.7	-54.8	64.8	35
5583.0	H	6.9		-55.0	7.2	5.0	-52.8	62.8	35
5583.0	V	7.9		-54.3	7.2	5.0	-52.1	62.1	35
6280.9	H	6.7		-54.6	9.0	5.6	-51.1	61.1	35
6280.9	V	5.2	*	-56.7	9.0	5.6	-53.3	63.3	35
6978.8	H	2.1	*	-58.1	8.3	6.0	-55.8	65.8	35
6978.8	V	3.2	*	-58.5	8.3	6.0	-56.2	66.2	35

* - Ambient

ERP Total (dBm) = Matched Sig Gen (dBm) + Antenna Gain (dB) – Cable Loss (dB)

Atten. (dB) = Output Power (dBm) – ERP (dBm)

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti



MANUFACTURER : Shure Incorporated
 MODEL : UR3 Plug-On Transmitter
 SERIAL NO. : None Assigned
 SPECIFICATION : RSS-123 Spurious Radiated Emissions
 DATE : September 24, 2011
 MODE : Transmit at 698MHz, 50mW (17dBm)
 UNIT : Group E
 BAND : L3
 EQUIPMENT USED : RBB0, CMA1, NTA2, NWH0, NWF0, NDQ1, GXA1

Freq. MHz	Ant Pol	Meter Reading dBuV	Amb	Matched Sig Gen dBm	Antenna Gain dB	Cable Factor dB	ERP Total dBm	Atten dB	RSS-123 Min. Attn. dB
1395.8	H	1.0	*	-75.7	4.5	2.4	-73.6	90.6	42
1395.8	V	26.7		-49.7	4.5	2.4	-47.7	64.6	42
2093.6	H	3.3	*	-70.3	5.3	2.9	-67.9	84.9	42
2093.6	V	20.1		-52.3	5.3	2.9	-49.9	66.9	42
2791.5	H	2.5	*	-68.8	6.0	3.5	-66.4	83.4	42
2791.5	V	5.9		-63.0	6.0	3.5	-60.6	77.6	42
3489.4	H	7.1		-62.1	6.8	4.0	-59.3	76.3	42
3489.4	V	2.3	*	-65.4	6.8	4.0	-62.6	79.6	42
4187.3	H	1.4	*	-64.2	7.5	4.4	-61.1	78.1	42
4187.3	V	1.6	*	-63.8	7.5	4.4	-60.8	77.8	42
4885.1	H	5.2		-57.9	8.0	4.7	-54.7	71.7	42
4885.1	V	3.9	*	-59.4	8.0	4.7	-56.2	73.1	42
5583.0	H	6.5		-55.4	7.2	5.0	-53.2	70.1	42
5583.0	V	5.2	*	-57.0	7.2	5.0	-54.8	71.7	42
6280.9	H	6.4	*	-54.9	9.0	5.6	-51.4	68.4	42
6280.9	V	5.1	*	-56.8	9.0	5.6	-53.4	70.3	42
6978.8	H	3.2	*	-57.0	8.3	6.0	-54.7	71.7	42
6978.8	V	2.5	*	-59.2	8.3	6.0	-56.9	73.9	42

* - Ambient

ERP Total (dBm) = Matched Sig Gen (dBm) + Antenna Gain (dB) – Cable Loss (dB)

Atten. (dB) = Output Power (dBm) – ERP (dBm)

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti



MANUFACTURER : Shure Incorporated
 MODEL : UR3 Plug-On Transmitter
 SERIAL NO. : None Assigned
 SPECIFICATION : FCC-74 Spurious Radiated Emissions
 DATE : September 24, 2011
 MODE : Transmit at 668MHz, 10mW (10dBm)
 UNIT : Group E
 BAND : L3
 EQUIPMENT USED : RBB0, CMA1, NTA2, NWH0, NWF0, NDQ1, GXA1

Freq. MHz	Ant Pol	Meter Reading dBuV	Amb	Matched Sig Gen dBm	Antenna Gain dB	Cable Factor dB	ERP Total dBm	Atten. dB	Part 74 Min. Attn. dB
1336.0	H	15.7	*	-60.8	4.2	2.3	-58.9	68.9	23
1336.0	V	15.6	*	-58.8	4.2	2.3	-56.9	66.9	23
2004.0	H	15.4	*	-57.2	5.1	2.8	-54.9	64.9	23
2004.0	V	16.5	*	-54.3	5.1	2.8	-52.0	62.0	23
2672.0	H	16.5	*	-55.2	5.9	3.4	-52.7	62.7	23
2672.0	V	17.8	*	-51.5	5.9	3.4	-49.0	59.0	23
3340.0	H	15.0	*	-54.6	6.6	3.9	-52.0	62.0	23
3340.0	V	16.1	*	-51.8	6.6	3.9	-49.1	59.1	23
4008.0	H	15.1	*	-50.6	6.9	4.3	-48.0	58.0	23
4008.0	V	14.9	*	-50.2	6.9	4.3	-47.6	57.6	23
4676.0	H	15.0	*	-49.3	8.2	4.7	-45.8	55.8	23
4676.0	V	15.1	*	-49.6	8.2	4.7	-46.1	56.1	23
5344.0	H	16.3	*	-45.8	7.3	4.9	-43.4	53.4	23
5344.0	V	13.4	*	-48.9	7.3	4.9	-46.5	56.5	23
6012.0	H	18.1	*	-43.6	8.2	5.2	-40.6	50.6	23
6012.0	V	18.0	*	-44.0	8.2	5.2	-41.1	51.1	23
6680.0	H	17.8	*	-42.9	9.2	6.0	-39.7	49.7	23
6680.0	V	18.0	*	-43.8	9.2	6.0	-40.6	50.6	23



* - Ambient

ERP Total (dBm) = Matched Sig Gen (dBm) + Antenna Gain (dB) – Cable Loss (dB)

Atten. (dB) = Output Power (dBm) – ERP (dBm)

Checked By: MARK E. LONGINOTTI
Mark E. Longinotti



MANUFACTURER : Shure Incorporated
 MODEL : UR3 Plug-On Transmitter
 SERIAL NO. : None Assigned
 SPECIFICATION : FCC-74 Spurious Radiated Emissions
 DATE : September 24, 2011
 MODE : Transmit at 668MHz, 50mW (17dBm)
 UNIT : Group E
 BAND : L3
 EQUIPMENT USED : RBB0, CMA1, NTA2, NWH0, NWF0, NDQ1, GXA1

Freq. MHz	Ant Pol	Meter Reading dBuV	Amb	Matched Sig Gen dBm	Antenna Gain dB	Cable Factor dB	ERP Total dBm	Atten. dB	Part 74 Min. Attn. dB
1336.0	H	13.5	*	-63.1	4.2	2.3	-61.2	78.2	30
1336.0	V	18.9		-56.4	4.2	2.3	-54.5	71.5	30
2004.0	H	17.6	*	-56.4	5.1	2.8	-54.1	71.1	30
2004.0	V	19.2		-52.2	5.1	2.8	-49.9	66.9	30
2672.0	H	18.5		-53.2	5.9	3.4	-50.7	67.7	30
2672.0	V	20.6	*	-48.3	5.9	3.4	-45.8	62.8	30
3340.0	H	17.2	*	-52.4	6.6	3.9	-49.8	66.7	30
3340.0	V	17.5	*	-50.4	6.6	3.9	-47.7	64.7	30
4008.0	H	14.8	*	-50.9	6.9	4.3	-48.3	65.3	30
4008.0	V	15.2	*	-49.9	6.9	4.3	-47.3	64.3	30
4676.0	H	16.1	*	-48.2	8.2	4.7	-44.7	61.7	30
4676.0	V	15.9	*	-48.8	8.2	4.7	-45.3	62.3	30
5344.0	H	16.9	*	-45.2	7.3	4.9	-42.8	59.8	30
5344.0	V	18.6	*	-43.7	7.3	4.9	-41.3	58.3	30
6012.0	H	21.2	*	-40.5	8.2	5.2	-37.5	54.5	30
6012.0	V	19.3	*	-42.7	8.2	5.2	-39.8	56.7	30
6680.0	H	19.5	*	-41.2	9.2	6.0	-38.0	55.0	30
6680.0	V	19.7	*	-42.1	9.2	6.0	-38.9	55.9	30



* - Ambient

ERP Total (dBm) = Matched Sig Gen (dBm) + Antenna Gain (dB) – Cable Loss (dB)

Atten. (dB) = Output Power (dBm) – ERP (dBm)

Checked By: MARK E. LONGINOTTI
Mark E. Longinotti



MANUFACTURER : Shure Incorporated
 MODEL : UR3 Plug-On Transmitter
 SERIAL NO. : None Assigned
 SPECIFICATION : FCC-74 Spurious Radiated Emissions
 DATE : September 24, 2011
 MODE : Transmit at 948MHz, 10mW (10dBm)
 UNIT : Group J
 BAND : X1
 EQUIPMENT USED : RBB0, CMA1, NTA2, NWH0, NWF0, NDQ1, GXA1

Freq. MHz	Ant Pol	Meter Reading dBuV	Amb	Matched Sig Gen dBm	Antenna Gain dB	Cable Factor dB	ERP Total dBm	Atten. dB	Part 74 Min. Attn. dB
1896.00	H	23.1	*	-50.2	0.0	2.7	-52.9	62.9	23
1896.00	V	22.1	*	-49.5	0.0	2.7	-52.2	62.2	23
2844.00	H	24.2	*	-45.8	6.0	3.6	-43.4	53.4	23
2844.00	V	24.6	*	-43.5	6.0	3.6	-41.1	51.1	23
3792.00	H	25.0	*	-41.2	6.9	4.2	-38.5	48.5	23
3792.00	V	26.1	*	-38.6	6.9	4.2	-35.9	45.9	23
4740.00	H	23.9	*	-40.0	8.1	4.7	-36.6	46.6	23
4740.00	V	23.5	*	-40.8	8.1	4.7	-37.3	47.3	23
5688.00	H	27.2	*	-34.7	7.5	5.1	-32.3	42.3	23
5688.00	V	26.5	*	-35.7	7.5	5.1	-33.3	43.3	23
6636.00	H	31.0	*	-29.7	9.3	6.0	-26.4	36.4	23
6636.00	V	31.0	*	-30.8	9.3	6.0	-27.5	37.5	23
7584.00	H	30.7	*	-28.0	8.0	6.1	-26.1	36.1	23
7584.00	V	28.7	*	-30.8	8.0	6.1	-28.9	38.9	23
8532.00	H	28.7	*	-29.1	8.7	6.8	-27.3	37.3	23
8532.00	V	28.5	*	-30.2	8.7	6.8	-28.3	38.3	23
9480.00	H	28.2	*	-28.8	9.2	7.0	-26.6	36.6	23
9480.00	V	28.1	*	-29.7	9.2	7.0	-27.5	37.5	23

* - Ambient

ERP Total (dBm) = Matched Sig Gen (dBm) + Antenna Gain (dB) – Cable Loss (dB)

Atten. (dB) = Output Power (dBm) – ERP (dBm)

Checked By: MARK E. LONGINOTTI
 Mark E. Longinotti



MANUFACTURER : Shure Incorporated
 MODEL : UR3 Plug-On Transmitter
 SERIAL NO. : None Assigned
 SPECIFICATION : FCC-74 Spurious Radiated Emissions
 DATE : September 24, 2011
 MODE : Transmit at 948MHz, 50mW (17dBm)
 UNIT : Group J
 BAND : X1
 EQUIPMENT USED : RBB0, CMA1, NTA2, NWH0, NWF0, NDQ1, GXA1

Freq. MHz	Ant Pol	Meter Reading dBuV	Amb	Matched Sig Gen dBm	Antenna Gain dB	Cable Factor dB	ERP Total dBm	Atten. dB	Part 74 Min. Attn. dB
1896.00	H	23.7	*	-50.2	0.0	2.7	-52.9	69.9	30
1896.00	V	22.8	*	-48.2	0.0	2.7	-50.9	67.9	30
2844.00	H	23.8	*	-47.2	6.0	3.6	-44.8	61.8	30
2844.00	V	24.0	*	-43.6	6.0	3.6	-41.2	58.2	30
3792.00	H	24.1	*	-42.2	6.9	4.2	-39.5	56.5	30
3792.00	V	25.6	*	-38.4	6.9	4.2	-35.7	52.7	30
4740.00	H	24.2	*	-39.8	8.1	4.7	-36.3	53.3	30
4740.00	V	24.1	*	-40.2	8.1	4.7	-36.7	53.7	30
5688.00	H	27.1	*	-34.7	7.5	5.1	-32.3	49.3	30
5688.00	V	27.8	*	-34.3	7.5	5.1	-31.9	48.9	30
6636.00	H	30.4	*	-30.3	9.3	6.0	-27.0	44.0	30
6636.00	V	29.8	*	-32.0	9.3	6.0	-28.7	45.6	30
7584.00	H	30.3	*	-28.3	8.0	6.1	-26.4	43.4	30
7584.00	V	28.7	*	-30.8	8.0	6.1	-28.9	45.9	30
8532.00	H	28.4	*	-29.4	8.7	6.8	-27.6	44.6	30
8532.00	V	29.2	*	-29.5	8.7	6.8	-27.6	44.6	30
9480.00	H	28.1	*	-28.8	9.2	7.0	-26.6	43.6	30
9480.00	V	30.1	*	-27.8	9.2	7.0	-25.6	42.6	30

* - Ambient

ERP Total (dBm) = Matched Sig Gen (dBm) + Antenna Gain (dB) – Cable Loss (dB)

Atten. (dB) = Output Power (dBm) – ERP (dBm)

Checked By: MARK E. LONGINOTTI
 Mark E. Longinotti