Measurement of RF Emissions from an ADX1M Micro Bodypack Transmitter

For	Shure Incorporated 5800 West Touhy Avenue Niles, IL 60714
P.O. Number	4500381025
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Test Personnel	Mark Longinotti
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REVISION HISTORY

Revision	Date	Description
—	04/04/2018	Initial release

Measurement of RF Emissions from a Micro Bodypack Transmitter, Model No. ADX1M

1. INTRODUCTION

1.1. Scope of Tests

This document represents the results of the series of radio interference measurements performed on a Shure Incorporated Micro Bodypack Transmitter, Model No. ADX1M, (hereinafter referred to as the Equipment Under Test (EUT)). The EUT was manufactured and submitted for testing by Shure Incorporated located in Niles, IL.

The EUT contained a transmitter that was designed to transmit in the following UHF frequency bands using an integral, non-removable antenna:

Band	Frequency (MHz)	Serial No. Used for All Tests	FCC Rule Part	Output Power (mW)
G57	470.125 – 607.875	65	15.236	2,10, 20
G57	470.125 – 607.875	65	74.861	2,10, 20
G57	614.125 – 615.875	65	15.236	2,10, 20
K54	606.000 – 607.875	296	15.236	2,10, 20
K54	606.000 – 607.875	296	74.861	2,10, 20
K54	614.125 – 615.875	296	15.236	2,10, 20
K54	653.000 – 657.000	296	74.861	2,10, 20
K54	657.000 – 662.875	296	15.236	2,10, 20
X55*	941.000 - 960.000	183	74.861	2,10, 20

* - For FCC only

The EUT also contained a digital modulation Zigbee transceiver. The transceiver was designed to transmit and receive in the 2400-2483.5 MHz band using an internal, non-removable antenna.

See Elite Electronic Engineering, Inc. Engineering Test Report No. 1703408-04 for compliance testing on the Zigbee transceiver.

1.2. Purpose

The test series was performed to determine if the EUT would meet selected requirements of FCC Part 74, Subpart H, Section 861, for low power auxiliary station. Testing was performed in accordance with ETSI EN 300 422-1 v1.4.2 and IEEE C63.26-2015.

The test series was performed to determine if the EUT would meet selected requirements of FCC Part 15, Subpart C, Section 236 for wireless microphones. Testing was performed in accordance with ETSI EN 300 422-1 v1.4.2 and IEEE C63.10-2013.

The test series was performed to determine if the EUT would meet selected requirements of ISED RSS-210 Annex G for low power radio apparatus operating in the television bands. Testing was performed in accordance with ETSI EN 300 422-1 v1.4.2 and RSS-Gen.

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

This series of tests was performed by Elite Electronic Engineering Incorporated of Downers Grove, Illinois. The laboratory is accredited by the American Association for Laboratory Accreditation (A2LA), A2LA Lab Code: 1786-01.

1.5. Laboratory Conditions

The temperature at the time of the test was 23°C and the relative humidity was 48%.

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, Subpart H, Section 861, dated 1 October 2016
- Federal Communications Commission "Code of Federal Regulations", Title 47, Part 2, dated 1 October 2016
- Federal Communications Commission "Code of Federal Regulations", Title 47, Part 15, Subpart C, Section 236, dated 1 October 2016
- ETSI EN 300 422-1 V1.4.2 (2011-08) “Electromagnetic compatibility and Radio spectrum Matters (ERM); Wireless microphones in the 25 MHz to 3 GHz frequency range; Part 1: Technical characteristics and methods of measurement "
- IEEE C63.10-2014 “American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices”
- IEEE C63.26-2015 “American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services Accredited by the American National Standards Institute”
- Federal Communications Commission Office of Engineering and Technology Laboratory Division Basis Certification Requirements for Wireless Microphones dated December 13, 2017
- Innovation, Science, and Economic Development Canada, RSS-210, Spectrum Management and Telecommunications, Radio Standards, Specification, License-Exempt Radio Apparatus: Category I Equipment, Issue 9, August 2016
- Innovation, Science, and Economic Development Canada, RSS-Gen, Spectrum Management and Telecommunications, Radio Standards, Specification, General Requirements for Compliance of Radio Apparatus, Issue 4, November 2014

3. EUT SETUP AND OPERATION

3.1. General Description

The EUT is a Shure Incorporated, Micro Bodypack Transmitter, Model No. ADX1M. A block diagram of the EUT setup is shown as Figure 1. A photograph of the EUT is shown as Figure 2.

3.1.1. Power Input

The EUT was powered by 3.7VDC from a removable, rechargeable Li-ion Battery Pack, Shure Model No.: SB910M.

3.1.2. Peripheral Equipment

The following peripheral equipment was submitted with the EUT:

Item	Description
TL48 lavaliere microphone	Connected to the microphone port of the EUT for all radiated emissions tests.

3.1.3. Signal Input/Output Leads

No interconnect cables were submitted with the EUT.

3.1.4. Grounding

The EUT was not grounded.

3.1.5. Frequency of EUT

Per the Federal Communications Commission Office of Engineering and Technology Laboratory Division, Basis Certification Requirements for Wireless Microphones dated December 13, 2017, section III, Additional Specific Guidance for Licensed Wireless Microphones Under Part 74, paragraph (c), spurious emissions shall be investigated up to the 10th harmonic of the fundamental.

Per the Federal Communications Commission Office of Engineering and Technology Laboratory Division, Basis Certification Requirements for Wireless Microphones dated December 13, 2017, section IV, Additional Specific Guidance for Unlicensed (Part 15) Wireless Microphones, paragraph (d), spurious emissions shall be investigated up to the 10th harmonic of the fundamental.

Per RSS-Gen, 6.13(a) spurious emissions shall be investigated up to the 10th harmonic of the fundamental.

3.2. Software

For all tests the EUT had Firmware Version 1.0.11 loaded onto the device to provide correct load characteristics.

3.3. Operational Mode

All emissions tests were performed separately in the following modes:

G57:

FCC Part 15.236:

Tx @ 470.125MHz, 20mW
Tx @ 539.000MHz, 20mW
Tx @ 607.875MHz, 20mW

Tx @ 614.125MHz, 20mW
Tx @ 615.875MHz, 20mW

FCC Part 74.861

Tx @ 539.000MHz, 2mW
Tx @ 539.000MHz, 20mW

K54:

FCC Part 15.236:

Tx @ 606.000MHz, 20mW
Tx @ 607.875MHz, 20mW

Tx @ 614.125MHz, 20mW
Tx @ 615.875MHz, 20mW

Tx @ 657.000MHz, 20mW
Tx @ 662.875MHz, 20mW

FCC Part 74.861:

Tx @ 607.000MHz, 2mW
Tx @ 607.000MHz, 20mW

Tx @ 655.000MHz, 2mW

Tx @ 655.000MHz, 20mW

X55:
FCC Part 74.861:
Tx @ 950.500MHz, 2mW
Tx @ 950.500MHz, 20mW

For intermodulation tests, the unit was programmed to operate in each of the following modes:

G57:
- Transmit at 614.125MHz, 20mW and Zigbee Transmit at 2445MHz (Ch. 19) mid power level

K54:
- Transmit at 606.000MHz, 20mW and Zigbee Transmit at 2445MHz (Ch. 19) mid power level

X55:
- Transmit at 950.500MHz, 20mW and Zigbee Transmit at 2445MHz (Ch. 19) mid power level

3.4. EUT Modifications

The following modifications were performed to the EUT:

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 C63.4-2014 and CISPR 16 for site attenuation.

4.2. Test Instrumentation

The test instrumentation and auxiliary equipment used during the tests are listed in Table 9-1.

4.3. Calibration Traceability

Test equipment is maintained and calibrated on a regular basis with a calibration interval not greater than two years. 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:

Conducted Emissions Measurements		
Combined Standard Uncertainty	1.06	-1.06
Expanded Uncertainty (95% confidence)	2.12	-2.12

Radiated Emissions Measurements		
Combined Standard Uncertainty	2.09	-2.09
Expanded Uncertainty (95% confidence)	4.19	-4.19

5. TEST PROCEDURES

5.1. FCC RF Power Output Measurements

5.1.1. Requirements

5.1.1.1 FCC 15.236

Per 15.236(d)(1), the maximum radiated power shall not exceed the following values:

In the bands allocated and assigned for broadcast television and in the 600MHz service band: 50mW EIRP.

In the 600MHz guard band and the 600MHz duplex gap: 20mW EIRP.

5.1.1.2 FCC 74.861

Per 74.861(a), except as specified in paragraph (e) of 74.861, transmitter power is the power at the transmitter output terminals and delivered to the antenna, antenna transmission line, or any other impedance-matched, radio frequency load. For the purpose of this subpart, the transmitter power is the carrier power.

Per 74.861(d), for low power auxiliary stations operating in the bands other than those allocated for TV broadcasting (except for the 1435MHz – 1525MHz band), the maximum transmitter power which will be authorized is 1 watt.

Per 74.861(e)(1), for low power auxiliary stations operating in the 600MHz duplex gap and bands allocated for TV broadcasting, the power may not exceed the following values:

470MHz – 608MHz: 250mW conducted power

600MHz duplex gap: 20mW EIRP

5.1.2. Procedures

5.1.2.1 EIRP

The EUT was placed on a 1.5 meter high, non-conductive stand and set to transmit. A bilog antenna was placed at a test distance of 3 meters from the EUT. The resolution bandwidth (RBW) of the spectrum analyzer was set to greater than the 6dB bandwidth of the EUT. The EUT was maximized for worst case emissions (or maximum output power) at the measuring antenna. The maximum meter reading was recorded. The average power output was measured.

The equivalent power was determined from the field intensity levels measured at 3 meters using the substitution method. To determine the emission power, a dipole antenna was then set in place of the EUT and connected to a calibrated signal generator. The output of the signal generator was adjusted to match the received level at the spectrum analyzer. The signal level was recorded. The reading was then corrected to compensate for cable loss and antenna gain, as required. The average power output was calculated.

5.1.2.2 Conducted Output Power

The antenna port of the EUT was connected to an Agilent E9304A E-Series Average Power Sensor. The power sensor was connected to an Agilent E4419B EPM Series Power Meter. The output power of each EUT was then measured.

5.1.3. Results

5.1.3.1 FCC 15.236 EIRP

The EIRP data are shown on pages 24 through 28. All EIRP readings from the EUT were below the limits of 15.236(d)(1). Photographs of the test configuration which yielded the highest or worst case EIRP levels are

shown in Figure 3.

5.1.3.2 FCC 74.861 EIRP

The EIRP data are shown on pages 29 and 30. All EIRP readings from the EUT were below the limits of 74.861(e)(1). Photographs of the test configuration which yielded the highest or worst case, EIRP levels are shown in Figure 3.

5.1.3.3 FCC 74.861 Conducted Output Power

The conducted output power data are shown on pages 31 through 33. All conducted output power readings from the EUT were below the limits of 74.861(d) and 74.861(e)(1).

5.2. ISED RF Power Output Measurements

5.2.1.Requirements

Per RSS-210, Annex G, Table G1, the maximum radiated power shall not exceed the following values:

Frequency Bands (MHz)	Transmit e.i.r.p. (average) (mW)
470 - 608	50
614 - 616	20
653 - 657	20
657 - 663	20

Note: Effective May 25, 2018, the Department will no longer accept applications for the certification of new low-power apparatus that operate in the bands 617-652 MHz and 663-698 MHz. Furthermore, as of November 15, 2018, no low power apparatus in the bands 617-652 MHz and 663-698 MHz may be sold, offered for sale, manufactured, imported, distributed or leased on the Canadian market.

Per RSS-Gen, Section 9, E.I.R.P. is defined as the product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna.

5.2.2.Procedures

The output from the antenna port of the EUT was connected to an Agilent E9304A E-Series Average Power Sensor. The power sensor was connected to an Agilent E4419B EPM Series Power Meter. The output power of each EUT was then measured. The E.I.R.P. of the EUT was calculated by adding the measured output power (in dBm) to the nominal antenna gain (in dBi).

5.2.3.Results

The EIRP data are shown on pages 34 and 35. All EIRP readings from the EUT were below the limits of RSS-210, Annex G.

5.3. FCC Frequency Tolerance

5.3.1.Requirements

5.3.1.1 FCC 15.236

Per 15.236(f)(3), the frequency tolerance of the carrier signal shall be maintained within ±0.005% of the operating frequency over a temperature variation of −20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. Battery operated equipment shall be tested using a new battery.

5.3.1.2 FCC 74.861

Per 76.861(e)(4), for low power auxiliary stations operating in the 600MHz duplex gap and the bands allocated for TV broadcasting, the frequency tolerance of the transmitter shall be 0.005 percent. In addition, per 2.1055(d)(2), for hand held battery powered equipment, reduce primary voltage to the battery operating end point which shall be declared by the manufacturer.

5.3.2. Procedures

The EUT was connected to a frequency counter through the antenna output of each transmitter. The EUT was then placed in a temperature chamber.

a) The EUT was programmed to transmit with an unmodulated carrier.

b) The nominal frequency of the transmitter was measured and recorded.

c) The temperature chamber was then set to -30ºC.

d) Once the temperature had reached -30ºC the EUT was allowed to soak for 1 hour.

e) After soaking at -30ºC for 1 hour, the EUT was turned on and the transmit frequency was measured and recorded.

f) Steps (b) through (d) were repeated for each temperature in 10ºC steps from -20ºC to +50ºC.

g) The temperature chamber was set to +20ºC and allowed to soak for 1 hour. The battery was removed from the EUT. The battery leads of the EUT were connected to a DC power supply. The output voltage of the DC power supply was adjusted to the end point voltage and the frequency of the DUT was recorded.

5.3.3. Results

5.3.3.1 FCC 15.236

The frequency tolerance data are shown on pages 36 through 46. All frequency stability measurements from the EUT met the frequency tolerance requirements of +/- 0.005%. Photographs of the test configuration are shown as Figure 5.

5.3.3.2 FCC 74.861

The frequency tolerance data are shown on pages 47 through 50. All frequency stability measurements from the EUT met the frequency tolerance requirements of +/- 0.005%. Photographs of the test configuration are shown on Figure 5.

5.4. ISED Frequency Stability

5.4.1. Requirements

Per RSS-210, Annex G, Table G1, the frequency stability limits are:

Frequency Bands (MHz)	Frequency Stability (ppm)
470 – 608	±50
614 – 698	±50

Per RSS-Gen 6.11, frequency stability shall be measured under the following conditions:

At the temperatures of: -30°C, +20°C, and +50°C.

For a hand-held device that is only capable of operating using internal batteries, frequency stability shall be

tested at the battery's nominal voltage, and again at the battery's operating end-point voltage, which must be specified by the equipment manufacturer. For this test, either a battery or an external power supply can be used.

5.4.2. Procedures

The EUT was connected to a frequency counter through the antenna output of each transmitter. The EUT was then placed in a temperature chamber.

a) The EUT was programmed to transmit with an unmodulated carrier.

b) The nominal frequency of the transmitter was measured and recorded.

c) The temperature chamber was then set to +20ºC.

d) Once the temperature had reached +20ºC the EUT was allowed to soak for 1 hour.

e) After soaking at +20ºC for 1 hour, the EUT was turned on and the transmit frequency was measured and recorded.

f) Steps (b) through (d) were repeated at -30ºC and at +50ºC.

g) The temperature chamber was set to +20ºC and allowed to soak for 1 hour. The battery was removed from the EUT. The battery leads of the EUT were connected to a DC power supply. The output voltage of the DC power supply was adjusted to the end point voltage and the frequency of the DUT was recorded.

5.4.3. Results

The frequency stability data are shown on pages 51 through 55. All frequency stability measurements from the EUT met the frequency stability requirements of +/- 50ppm as required by RSS-210, Annex G, Table G1. Photographs of the test configuration are shown as Figure 5.

5.5. Spurious Radiated Emissions

5.5.1. Requirements

5.5.1.1 FCC 15.236

Per 15.236(g), emissions outside of the band from one megahertz below to one megahertz above the carrier frequency shall comply with the limits specified in section 8.4 of ETSI EN 300 422-1 V1.4.2 (2011-08). Per ETSI EN 300 422-1 v1.4.2 section 8.4, the power of the spurious emissions from an ETSI EN 300 422-1 transmitter shall not exceed the following limits:

State	Frequency		
	47MHz to 74MHz 87.5MHz to 137MHz 174 to 230MHz 470MHz to 862MHz	Other Frequencies below 1000MHz	Frequencies above 100MHz
Operation	4nW or -54dBm	250nW or -36dBm	1uW or -30dBm
Standby	2nW or -57dBm	2nW or -57dBm	20nW or -47dBm

In addition, per the Federal Communications Commission Office of Engineering and Technology Laboratory Division, Basis Certification Requirements for Wireless Microphones dated December 13, 2017, section IV, Additional Specific Guidance for Unlicensed (Part 15) Wireless Microphones, paragraph (d), compliance with the emission limits shall be demonstrated using a QP detector below 1GHz and an average detector above 1GHz.

5.5.1.2 FCC 74.861

Per 74.861(d)(4)(ii), for the 653-657 MHz, 941.5-944 MHz, 944-952 MHz, 952.850-956.250 MHz, 956.45-

959.85 MHz, 1435-1525 MHz, 6875-6900 MHz and 7100-7125 MHz bands and per 74.861(e)(7) the low power auxiliary stations operating in the 600MHz duplex band and the bands allocated for TV broadcasting, digital emissions outside of the band from one megahertz below to one megahertz above the carrier frequency shall comply with the limits specified in section 8.4 of ETSI EN 300 422-1 V1.4.2 (2011-08). Per ETSI EN 300 422-1 v1.4.2 section 8.4, the power of the spurious emissions from an ETSI EN 300 422-1 transmitter shall not exceed the following limits:

State	Frequency		
	47MHz to 74MHz 87.5MHz to 137MHz 174 to 230MHz 470MHz to 862MHz	Other Frequencies below 1000MHz	Frequencies above 100MHz
Operation	4nW or -54dBm	250nW or -36dBm	1uW or -30dBm
Standby	2nW or -57dBm	2nW or -57dBm	20nW or -47dBm

In addition, per the Federal Communications Commission Office of Engineering and Technology Laboratory Division, Basis Certification Requirements for Wireless Microphones dated December 13, 2017, section III, Additional Specific Guidance for Licensed Wireless Microphones Under Part 74, paragraph (c), compliance with the emission limits shall be demonstrated using an average detector.

5.5.1.3 ISED RSS-210

Per RSS-210, Annex G, the transmitter unwanted emissions shall meet the requirements of ETSI EN 300 422-1 V1.4.2 (2011-08). Per ETSI EN 300 422-1 v1.4.2 section 8.4, the power of the spurious emissions from an ETSI EN 300 422-1 transmitter shall not exceed the following limits:

State	Frequency		
	47MHz to 74MHz 87.5MHz to 137MHz 174 to 230MHz 470MHz to 862MHz	Other Frequencies below 1000MHz	Frequencies above 100MHz
Operation	4nW or -54dBm	250nW or -36dBm	1uW or -30dBm
Standby	2nW or -57dBm	2nW or -57dBm	20nW or -47dBm

Compliance with the emission limits shall be demonstrated using a QP detector below 1GHz and an average detector above 1GHz.

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 CISPR 16 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. The EUT was placed on a 1.5 meter high, non-conductive stand and set to transmit. 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 up through the tenth harmonic of the transmit frequency of the EUT. All preliminary tests were performed separately with the EUT operating in the modes listed in paragraph 3.2.

2. All significant broadband and narrowband signals found in the preliminary sweeps were then maximized. For all measurements below 1GHz, a bilog antenna was used as the measurement antenna. A quasi-peak detector was used for FCC 15.236 tests and an average detector was used for FCC 74.861 tests. For all measurements above 1GHz, a horn antenna was used as the measurement antenna. An average detector was used for all tests 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

5.5.3.1 FCC 15.236 and ISED RSS-210

G57 Band:
The plots of the peak preliminary spurious radiated emissions and the final tabular spurious quasi-peak and average radiated emissions results are presented on pages 56 through 86. All spurious radiated emissions measured from the EUT were within the ETSI EN 300 422-1 specification limits.

K54 Band:
The plots of the peak preliminary spurious radiated emissions and the final tabular spurious quasi-peak and average radiated emissions results are presented on pages 87 through 128. All spurious radiated emissions measured from the EUT were within the ETSI EN 300 422-1 specification limits.

5.5.3.2 FCC 74.861

G57 Band:
The plots of the peak preliminary spurious radiated emissions and the final tabular average spurious radiated emissions results are presented on pages 129 through 140. All spurious radiated emissions measured from the EUT were within the ETSI EN 300 422-1 specification limits.

K54 Band:
The plots of the peak preliminary spurious radiated emissions and the final tabular average spurious radiated emissions results are presented on pages 141 through 168. All spurious radiated emissions measured from the EUT were within the ETSI EN 300 422-1 specification limits.

X55 Band:
The plots of the peak preliminary spurious radiated emissions and the final tabular average spurious radiated emissions results are presented on pages 169 through 178. All peak spurious radiated emissions measured from the EUT were within the ETSI EN 300 422-1 specification limits.

Photographs of the test configuration which yielded the highest or worst case, radiated emission levels are shown as Figure 3 and Figure 4.

5.6. Intermodulation – Radiated Emissions

5.6.1.Requirements

Per a response to Inquiry to FCC (tracking number 294618), intermodulation testing must be performed on the EUT with simultaneous transmission of the worst case UHF transmitter and the worst case Part 15 (Zigbee) transmitter. Any intermodulation of the UHF transmitter and the Part 15.247 (Zigbee) transmitter must meet the appropriate requirements of 15.247, the appropriate requirements of 15.236(g), the appropriate requirements of 74.861(d)(4)(ii), and the appropriate requirements of 74.861(e)(7) for spurious emissions. (See Elite Electronic Engineering, Inc. Engineering Test Report No. 1703405-04 for more information on the Zigbee transmitter.)

Per section 15.247(c), the spurious emissions in any 100 kHz BW outside the frequency band must be at least 20dB below the highest 100 kHz BW level measured within the band.

In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must comply with the radiated emission limits specified in §15.209(a).

Paragraph 15.209(a) has the following radiated emission limits:

Frequency MHz	Field Strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	3
30.0-88.0	100	3
88.0-216.0	150	3
216.0-960.0	200	3
Above 960	500	3

Per 15.236(g), 74.861(d)(4)(ii), and 74.861(e)(7) emissions outside of the band from one megahertz below to one megahertz above the carrier frequency shall comply with the limits specified in section 8.4 of ETSI EN 300 422-1 V1.4.2 (2011-08). Per ETSI EN 300 422-1 v1.4.2 section 8.4, the power of the spurious emissions from an ETSI EN 300 422-1 transmitter shall not exceed the following limits:

State	Frequency		
	47MHz to 74MHz 87.5MHz to 137MHz 174 to 230MHz 470MHz to 862MHz	Other Frequencies below 1000MHz	Frequencies above 100MHz
Operation	4nW or -54dBm	250nW or -36dBm	1uW or -30dBm
Standby	2nW or -57dBm	2nW or -57dBm	20nW or -47dBm

5.6.2.Procedures

Radiated measurements were performed in a 32ft. x 20ft. x 14ft. high shielded enclosure. 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 emissions tests were performed to determine the emission characteristics of the EUT. For the preliminary test, a broadband measuring antenna was positioned at a 3 meter distance from the EUT. The entire frequency range from 25MHz to 25GHz was investigated using a peak

detector function.

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 25MHz 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 test item 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.

5.6.3. Results

Preliminary radiated emissions plots with the EUT transmitting at the worst case UHF transmitter frequency and the worst case Part 15 (Zigbee) transmitter frequency simultaneously are shown on pages 179 through 202. As can be seen from the data, the intermodulation product of simultaneous transmissions from the EUT did not generate additional spurious radiated emissions.

6. Other Test Conditions

6.1. Test Personnel and Witnesses

All tests were performed by qualified personnel from Elite Electronic Engineering Incorporated.

6.2. Disposition of the EUT

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

7. Conclusions

The Shure Incorporated Micro Bodypack Transmitter, Model No. ADX1M, did fully meet the output power, frequency tolerance, and spurious radiated emissions requirements of the FCC "Code of Federal Regulations" Title 47, Part 15, Subpart C, Section 15.236 and Part 74, Subpart H, Section 74.861 when tested per ETSI EN 300 422-1 V1.4.2 (2011-08) and IEEE C63.26-2015.

The Shure Incorporated Micro Bodypack Transmitter, Model No. ADX1M, did fully meet the output power, frequency stability, and spurious emissions requirements of the ISED RSS-210, Annex G when tested per ETSI EN 300 422-1 V1.4.2 (2011-08), IEEE C63.10-2014, and RSS-Gen.

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 specifications.

The data presented in this test report pertains 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.

This report must not be used to claim product certification, approval, or endorsement by A2LA, NIST or any agency of the Federal Government.

9. EQUIPMENT LIST

Table 9-1 Equipment List

Eq ID	Equipment Description	Manufacturer	Model No.	Serial No.	Frequency Range	Cal Date	Due Date
CDX8	COMPUTER	ELITE	WORKSTATION			N/A	
EMCE02	TEMPERATURE CHAMBER	THERMOTRON	S-8	15461	-70C TO 150C	7/3/2017	7/3/2018
GRE2	SIGNAL GENERATOR	AGILENT	E4438C	MY42081749	250KHZ-6GHZ	3/6/2018	3/6/2019
GSE0	SIGNAL GENERATOR (40GHZ)	ROHDE & SCHWARZ	SMB100A	175137	100KHZ-40GHZ	8/17/2017	8/17/2018
MDB8	MULTIMETER (M. LONGINOTTI)	FLUKE CORPORATION	177	81240019	I,VAC,VDC,R	8/17/2017	8/17/2018
MFC0	MICROWAVE FREQ. COUNTER	HEWLETT PACKARD	5343A	2133A00591	10HZ-26GHZ	8/15/2017	8/15/2018
MPE3	DUAL POWER METER	AGILENT	E4419B	GB39511117	0.1MHZ-50GHZ	2/14/2018	2/14/2019
MPI1	POWER SENSOR	AGILIENT	E9304A	MY41496041	9KHZ-6GHZ	6/21/2016	6/21/2018
NDQ0	TUNED DIPOLE ANTENNA	EMCO	3121C-DB4	311	400-1000MHZ	4/19/2016	4/19/2018
NTA3	BILOG ANTENNA	TESEQ	6112D	32853	25-1000MHz	9/11/2017	9/11/2018
NTA4	BILOG ANTENNA	TESEQ	6112D	46660	20-2000GHZ	8/18/2017	8/18/2018
NWQ0	DOUBLE RIDGED WAVEGUIDE ANTENNA	ETS LINDGREN	3117	66657	1GHZ-18GHZ	5/18/2016	5/18/2018
NWQ2	DOUBLE RIDGED WAVEGUIDE ANTENNA	ETS LINDGREN	3117	66659	1GHZ-18GHZ	3/22/2018	3/22/2020
RBG2	EMI ANALYZER	ROHDE & SCHWARZ	ESW44	101591	2HZ-44GHZ	2/23/2018	2/23/2019
RBG3	EMI ANALYZER	ROHDE & SCHWARZ	ESW44	101592	2HZ-44GHZ	2/20/2018	2/20/2019
SDL3	POWER SUPPLY	HEWLETT PACKARD	3425A	254	0-20VDC; 0-10A	NOTE 1	

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.

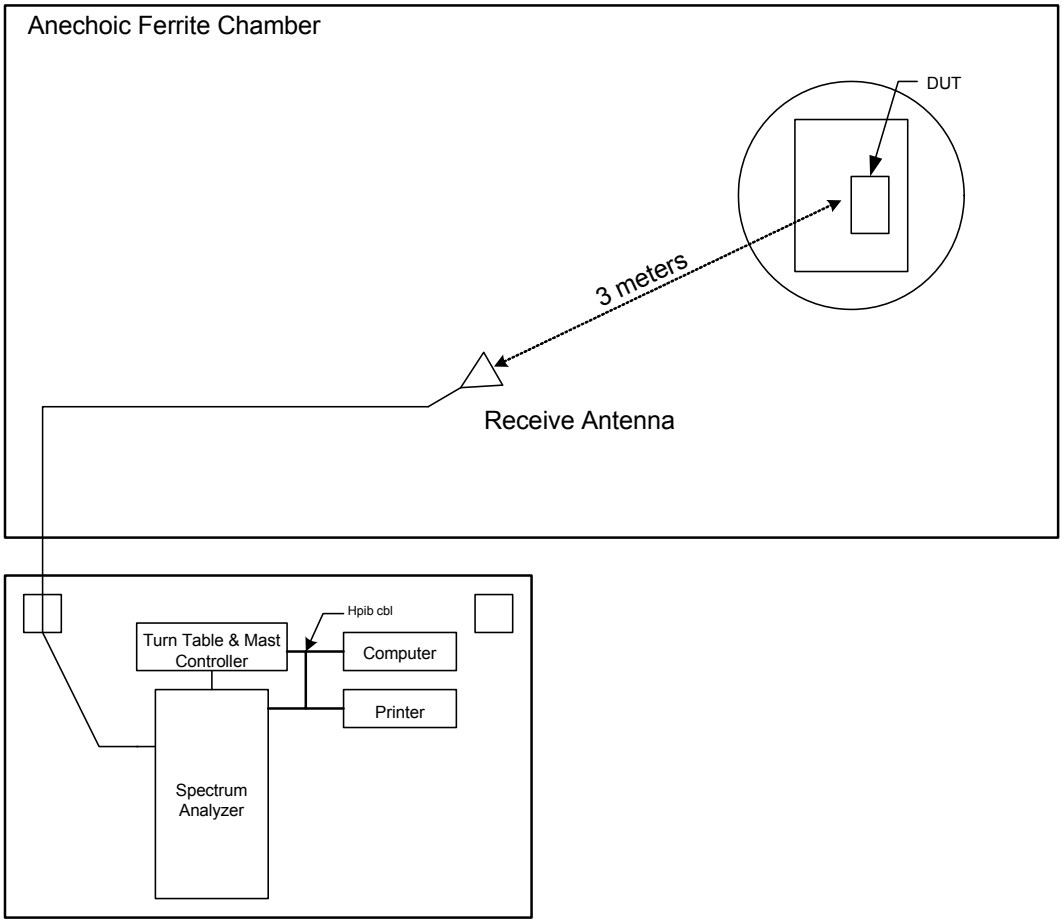


FIGURE 1 BLOCKDIAGRAM OF TEST SETUP

Figure 2

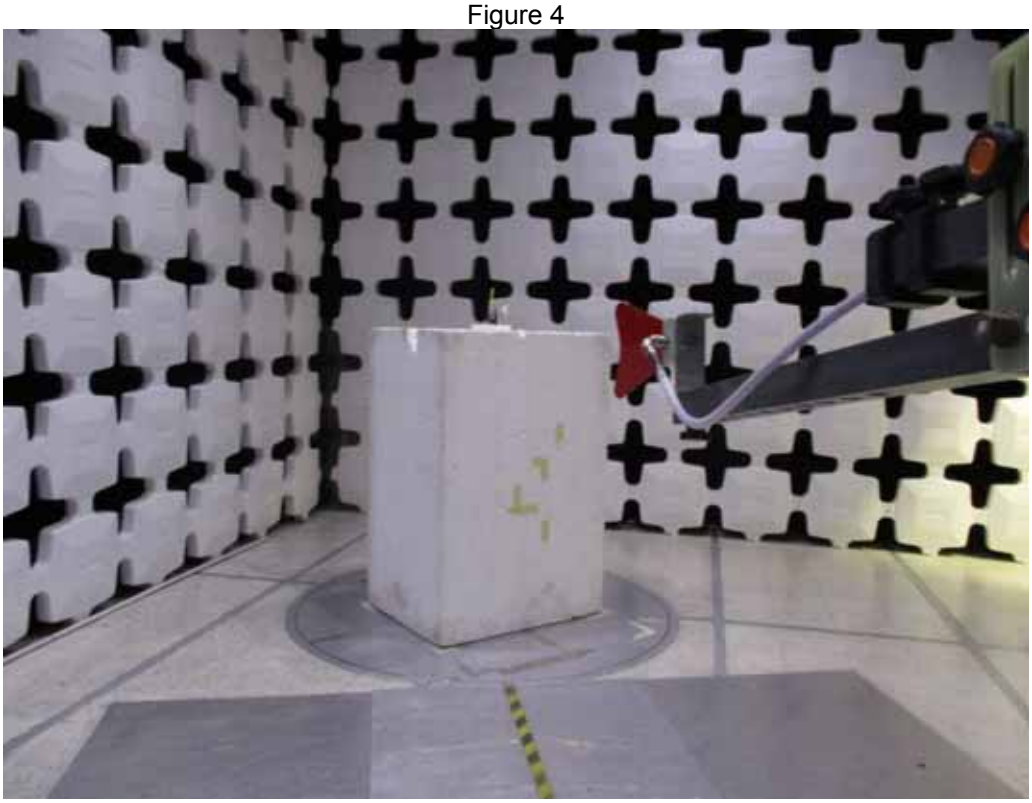
Photograph of the EUT

Figure 3

Test Setup for Radiated Emissions, 25MHz to 1GHz – Horizontal Polarization

Test Setup for Radiated Emissions, 25MHz to 1GHz – Vertical Polarization

Figure 4

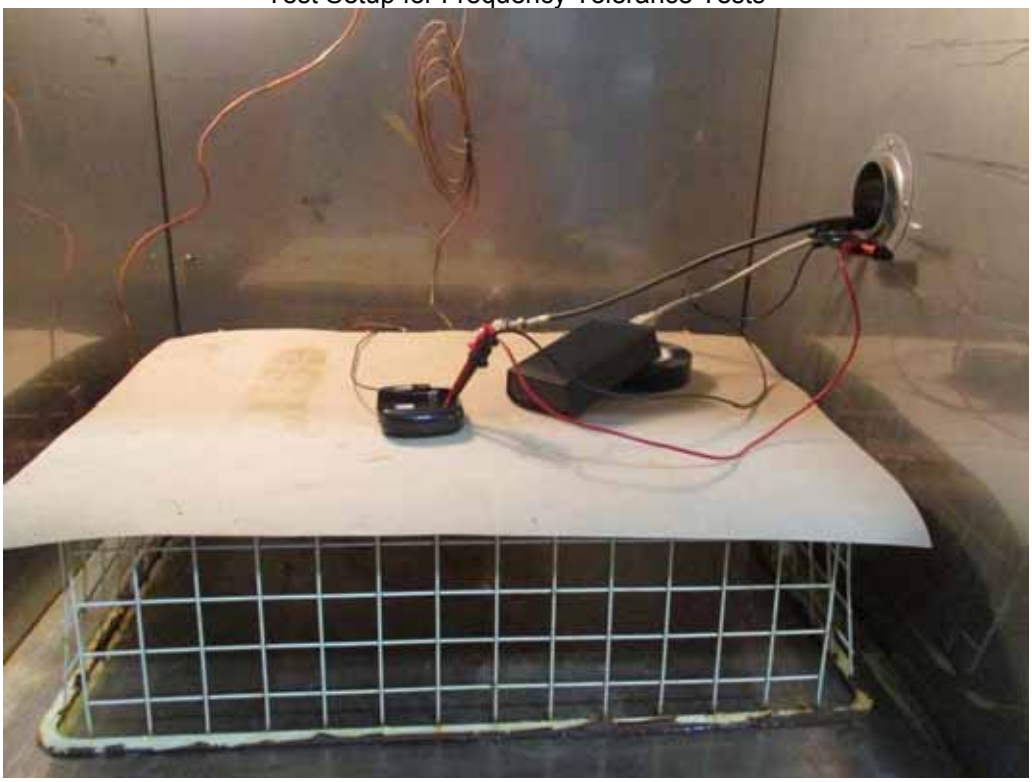


Test Setup for Radiated Emissions above 1GHz – Horizontal Polarization

Test Setup for Radiated Emissions above 1GHz – Vertical Polarization

Figure 5

Test Setup for Frequency Tolerance Tests



Test Setup for Frequency Tolerance Tests

MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 65
SPECIFICATION : FCC 15.236(d) EIRP
DATE : December 18, 2017
MODE : See Below
UNIT : G57
EQUIPMENT USED : NTA4,RBG3,NDQ0,GRE2
NOTES : 20mW nominal power

Frequency MHz	Ant Pol	Meter Reading (dBuV)	Ambient	Matched Signal Generator Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	EIRP Total (dBm)	EIRP Total (mW)	EIRP Limit (mW)
470.125	H	77.2		3.0	2.15	1.5	3.7	2.34	50.00
470.125	V	70.2		-2.0	2.15	1.5	-1.3	0.73	50.00
539.000	H	80.1		6.8	2.15	1.6	7.35	5.53	50.00
539.000	V	76.0		5.4	2.15	1.6	5.95	3.94	50.00
607.875	H	80.2		8.0	2.15	1.7	8.45	7.00	50.00
607.875	V	59.4		-10.5	2.15	1.7	-10.05	0.10	50.00

EIRP (dBm) = Matched Sig. Gen.Reading (dBm) + Equivalent Antenna Gain (dB) – Cable Loss (dB)

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti

MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 65
SPECIFICATION : FCC 15.236(d) EIRP
DATE : December 18, 2017
MODE : See Below
UNIT : G57
EQUIPMENT USED : NTA4,RBG3,NDQ0,GRE2
NOTES : 20mW nominal power

Frequency MHz	Ant Pol	Meter Reading (dBuV)	Ambient	Matched Signal Generator Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	EIRP Total (dBm)	EIRP Total (mW)	EIRP Limit (mW)
614.125	H	80.8		8.6	2.15	1.7	9.05	8.04	20.00
614.125	V	75.6		5.5	2.15	1.7	5.95	3.94	20.00
615.875	H	80.4		8.5	2.15	1.7	8.95	7.85	20.00
615.875	V	74.4		4.6	2.15	1.7	5.05	3.20	20.00

EIRP (dBm) = Matched Sig. Gen.Reading (dBm) + Equivalent Antenna Gain (dB) – Cable Loss (dB)

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti

MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 296
SPECIFICATION : FCC 15.236(d) EIRP
DATE : January 2, 2018
MODE : See Below
UNIT : K54
EQUIPMENT USED : NTA3,RBG2,NDQ0,GRE2
NOTES : 20mW nominal power

Frequency MHz	Ant Pol	Meter Reading (dBuV)	Ambient	Matched Signal Generator Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	EIRP Total (dBm)	EIRP Total (mW)	EIRP Limit (mW)
606.000	H	84.5		9.4	2.15	1.7	9.85	9.66	50.00
606.000	V	77.8		3.8	2.15	1.7	4.25	2.66	50.00
607.875	H	80.1		4.6	2.15	1.7	5.05	3.20	50.00
607.875	V	75.7		1.6	2.15	1.7	2.05	1.60	50.00

EIRP (dBm) = Matched Sig. Gen.Reading (dBm) + Equivalent Antenna Gain (dB) – Cable Loss (dB)

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti

MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 296
SPECIFICATION : FCC 15.236(d) EIRP
DATE : January 2, 2018
MODE : See Below
UNIT : K54
EQUIPMENT USED : NTA3,RBG2,NDQ0,GRE2
NOTES : 20mW nominal power

Frequency MHz	Ant Pol	Meter Reading (dBuV)	Ambient	Matched Signal Generator Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	EIRP Total (dBm)	EIRP Total (mW)	EIRP Limit (mW)
614.125	H	81.0		5.0	2.15	1.7	5.45	3.51	20.00
614.125	V	76.8		2.6	2.15	1.7	3.05	2.02	20.00
615.875	H	80.4		4.2	2.15	1.7	4.65	2.92	20.00
615.875	V	76.3		2.0	2.15	1.7	2.45	1.78	20.00

EIRP (dBm) = Matched Sig. Gen.Reading (dBm) + Equivalent Antenna Gain (dB) – Cable Loss (dB)

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti

MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 296
SPECIFICATION : FCC 15.236(d) EIRP
DATE : December 19, 2017
MODE : See Below
UNIT : K54
EQUIPMENT USED : NTA3,RBG2,NDQ0,GRE2
NOTES : 20mW nominal power

Frequency MHz	Ant Pol	Meter Reading (dBuV)	Ambient	Matched Signal Generator Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	EIRP Total (dBm)	EIRP Total (mW)	EIRP Limit (mW)
657.000	H	76.7		5.5	2.15	1.7	5.95	3.94	20.00
657.000	V	70.0		0.8	2.15	1.7	1.25	1.33	20.00
662.875	H	80.4		4.8	2.15	1.8	5.15	3.27	20.00
662.875	V	74.0		0.8	2.15	1.8	1.15	1.30	20.00

EIRP (dBm) = Matched Sig. Gen.Reading (dBm) + Equivalent Antenna Gain (dB) – Cable Loss (dB)

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti

MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 296
SPECIFICATION : FCC 74.861(e) EIRP
DATE : December 14, 2017
MODE : See Below
UNIT : K54
EQUIPMENT USED : NTA3,RBG2,NDQ0,GRE2
NOTES : 2mW nominal power

Frequency MHz	Ant Pol	Meter Reading (dBuV)	Ambient	Matched Signal Generator Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	EIRP Total (dBm)	EIRP Total (mW)	EIRP Limit (mW)
655.000	H	66.3		-4.8	2.15	1.7	-4.35	0.37	20.00
655.000	V	58.6		-10.7	2.15	1.7	-10.25	0.09	20.00

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti

MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 296
SPECIFICATION : FCC 74.861(e) EIRP
DATE : December 14, 2017
MODE : See Below
UNIT : K54
EQUIPMENT USED : NTA3,RBG2,NDQ0,GRE2
NOTES : 20mW nominal power

Frequency MHz	Ant Pol	Meter Reading (dBuV)	Ambient	Matched Signal Generator Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	EIRP Total (dBm)	EIRP Total (mW)	EIRP Limit (mW)
655.000	H	74.6		3.6	2.15	1.7	4.05	2.54	20.00
655.000	V	69.4		0.1	2.15	1.7	0.55	1.14	20.00

EIRP (dBm) = Matched Sig. Gen.Reading (dBm) + Equivalent Antenna Gain (dB) – Cable Loss (dB)

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti

MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 65
SPECIFICATION : FCC 74.861(e) Conducted Output Power
DATE : January 4, 2018
MODE : See Below
UNIT : G57
EQUIPMENT USED : MPE3, MPI1
NOTES :

Frequency MHz	Nominal Power mW	Measured Average Power dBm	Measured Average Power mW	FCC Part 74H Limit mW
539.000	2.0	2.63	1.83	250
539.000	20.0	12.75	18.84	250

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti

MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 296
SPECIFICATION : FCC 74.861(e) Conducted Output Power
DATE : January 4, 2018
MODE : See Below
UNIT : K54
EQUIPMENT USED : MPE3, MPI1
NOTES :

Frequency MHz	Nominal Power mW	Measured Average Power dBm	Measured Average Power mW	FCC Part 74H Limit mW
607.000	2.0	1.45	1.40	250
607.000	20.0	12.50	17.78	250

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti

MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 183
SPECIFICATION : FCC 74.861(d) Conducted Output Power
DATE : January 4, 2018
MODE : See Below
UNIT : X55
EQUIPMENT USED : MPE3, MPI1
NOTES :

Frequency MHz	Nominal Power mW	Measured Average Power dBm	Measured Average Power mW	FCC Part 74H Limit mW
950.000	2.0	3.20	2.09	250
950.000	20.0	13.04	20.14	250

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti

MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 65
SPECIFICATION : RSS-210 EIRP
DATE : January 4, 2018
MODE : See Below
UNIT : G55
EQUIPMENT USED : MPE3, MPI1
NOTES : 20mW nominal power

Frequency MHz	Nominal Power mW	Measured Average Power dBm	EUT Antenna Gain dBi	Measured EIRP dBm	Measured EIRP mW	RSS-210 Limit mW
470.125	20.0	12.80	-7.8	5.00	3.16	50
539.000	20.0	12.76	-7.8	4.96	3.13	50
607.875	20.0	12.81	-7.8	5.01	3.17	50
614.125	20.0	12.77	-7.8	4.97	3.14	20
615.875	20.0	12.76	-7.8	4.96	3.13	20

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti

MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 296
SPECIFICATION : RSS-210 EIRP
DATE : January 4, 2018
MODE : See Below
UNIT : K53
EQUIPMENT USED : MPE3, MPI1
NOTES : 20mW nominal power

Frequency MHz	Nominal Power mW	Measured Average Power dBm	EUT Antenna Gain dBi	Measured EIRP dBm	Measured EIRP mW	RSS-210 Limit mW
606.000	20	12.68	-5.3	7.38	5.47	40
607.875	20	12.57	-5.3	7.27	5.33	40
614.125	20	12.56	-5.3	7.26	5.32	20
615.875	20	12.56	-5.3	7.26	5.32	20
657.000	20	12.67	-5.3	7.37	5.46	20
662.875	20	12.67	-5.3	7.37	5.46	20

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti

MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 65
SPECIFICATION : FCC 15.236(f)(3) Frequency Tolerance
DATE : January 9, 2018 and January 10, 2018
MODE : Transmit at 470.125MHz
UNIT : G57
EQUIPMENT USED : EMCE02, MFC0, SDL3, MDB8
NOTES :

Temperature °C	Input Voltage	Nominal Frequency Hz	Measured Frequency Hz	Frequency Variation in %			Pass/Fail
				Lower Limit %	Measured Variation %	Upper Limit %	
-30	3.7	470,125,000	470,124,448	-0.005000000	-0.000117416	0.005000000	Pass
-20	3.7	470,125,000	470,124,799	-0.005000000	-0.000042755	0.005000000	Pass
-10	3.7	470,125,000	470,124,786	-0.005000000	-0.000045520	0.005000000	Pass
0	3.7	470,125,000	470,125,026	-0.005000000	0.000005530	0.005000000	Pass
+10	3.7	470,125,000	470,124,994	-0.005000000	-0.000001276	0.005000000	Pass
+20	3.7	470,125,000	470,124,867	-0.005000000	-0.000028290	0.005000000	Pass
+30	3.7	470,125,000	470,124,771	-0.005000000	-0.000048710	0.005000000	Pass
+40	3.7	470,125,000	470,124,792	-0.005000000	-0.000044244	0.005000000	Pass
+50	3.7	470,125,000	470,124,891	-0.005000000	-0.000023185	0.005000000	Pass
+20	3.2	470,125,000	470,124,836	-0.005000000	-0.000034884	0.005000000	Pass

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti

MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 65
SPECIFICATION : FCC 15.236(f)(3) Frequency Tolerance
DATE : January 9, 2018 and January 10, 2018
MODE : Transmit at 539.000MHz
UNIT : G57
EQUIPMENT USED : EMCE02, MFC0, SDL3, MDB8
NOTES :

Temperature °C	Input Voltage	Nominal Frequency Hz	Measured Frequency Hz	Frequency Variation in %			Pass/Fail
				Lower Limit %	Measured Variation %	Upper Limit %	
-30	3.7	539,000,000	538,999,430	-0.005000000	-0.000105751	0.005000000	Pass
-20	3.7	539,000,000	538,999,775	-0.005000000	-0.000041744	0.005000000	Pass
-10	3.7	539,000,000	538,999,781	-0.005000000	-0.000040631	0.005000000	Pass
0	3.7	539,000,000	539,000,026	-0.005000000	0.000004824	0.005000000	Pass
+10	3.7	539,000,000	538,999,967	-0.005000000	-0.000006122	0.005000000	Pass
+20	3.7	539,000,000	538,999,812	-0.005000000	-0.000034879	0.005000000	Pass
+30	3.7	539,000,000	538,999,758	-0.005000000	-0.000044898	0.005000000	Pass
+40	3.7	539,000,000	538,999,785	-0.005000000	-0.000039889	0.005000000	Pass
+50	3.7	539,000,000	538,999,885	-0.005000000	-0.000021336	0.005000000	Pass
+20	3.2	539,000,000	538,999,833	-0.005000000	-0.000030983	0.005000000	Pass

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti

MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 65
SPECIFICATION : FCC 15.236(f)(3) Frequency Tolerance
DATE : January 9, 2018 and January 10, 2018
MODE : Transmit at 607.875MHz
UNIT : G57
EQUIPMENT USED : EMCE02, MFC0, SDL3, MDB8
NOTES :

Temperature °C	Input Voltage	Nominal Frequency Hz	Measured Frequency Hz	Frequency Variation in % Lower Limit %	Measured Variation %	Upper Limit %	Pass/Fail
-30	3.7	607,875,000	607,874,334	-0.005000000	-0.000109562	0.005000000	Pass
-20	3.7	607,875,000	607,874,753	-0.005000000	-0.000040633	0.005000000	Pass
-10	3.7	607,875,000	607,874,788	-0.005000000	-0.000034876	0.005000000	Pass
0	3.7	607,875,000	607,875,000	-0.005000000	0.000000000	0.005000000	Pass
+10	3.7	607,875,000	607,874,974	-0.005000000	-0.000004277	0.005000000	Pass
+20	3.7	607,875,000	607,874,785	-0.005000000	-0.000035369	0.005000000	Pass
+30	3.7	607,875,000	607,874,747	-0.005000000	-0.000041620	0.005000000	Pass
+40	3.7	607,875,000	607,874,780	-0.005000000	-0.000036192	0.005000000	Pass
+50	3.7	607,875,000	607,874,866	-0.005000000	-0.000022044	0.005000000	Pass
+20	3.2	607,875,000	607,874,766	-0.005000000	-0.000038495	0.005000000	Pass

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti

MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 65
SPECIFICATION : FCC 15.236(f)(3) Frequency Tolerance
DATE : January 9, 2018 and January 10, 2018
MODE : Transmit at 614.125MHz
UNIT : G57
EQUIPMENT USED : EMCE02, MFC0, SDL3, MDB8
NOTES :

Temperature °C	Input Voltage	Nominal Frequency Hz	Measured Frequency Hz	Frequency Variation in %			Pass/Fail
				Lower Limit %	Measured Variation %	Upper Limit %	
-30	3.7	614,125,000	614,124,310	-0.005000000	-0.000112355	0.005000000	Pass
-20	3.7	614,125,000	614,124,619	-0.005000000	-0.000062039	0.005000000	Pass
-10	3.7	614,125,000	614,124,786	-0.005000000	-0.000034846	0.005000000	Pass
0	3.7	614,125,000	614,125,022	-0.005000000	0.000003582	0.005000000	Pass
+10	3.7	614,125,000	614,124,960	-0.005000000	-0.000006513	0.005000000	Pass
+20	3.7	614,125,000	614,124,755	-0.005000000	-0.000039894	0.005000000	Pass
+30	3.7	614,125,000	614,124,724	-0.005000000	-0.000044942	0.005000000	Pass
+40	3.7	614,125,000	614,124,776	-0.005000000	-0.000036475	0.005000000	Pass
+50	3.7	614,125,000	614,124,860	-0.005000000	-0.000022797	0.005000000	Pass
+20	3.2	614,125,000	614,124,739	-0.005000000	-0.000042499	0.005000000	Pass

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti

MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 65
SPECIFICATION : FCC 15.236(f)(3) Frequency Tolerance
DATE : January 9, 2018 and January 10, 2018
MODE : Transmit at 615.875MHz
UNIT : G57
EQUIPMENT USED : EMCE02, MFC0, SDL3, MDB8
NOTES :

Temperature °C	Input Voltage	Nominal Frequency Hz	Measured Frequency Hz	Frequency Variation in %			Pass/Fail
				Lower Limit %	Measured Variation %	Upper Limit %	
-30	3.7	615,875,000	615,874,376	-0.005000000	-0.000101319	0.005000000	Pass
-20	3.7	615,875,000	615,874,761	-0.005000000	-0.000038807	0.005000000	Pass
-10	3.7	615,875,000	615,874,834	-0.005000000	-0.000026954	0.005000000	Pass
0	3.7	615,875,000	615,875,012	-0.005000000	0.000001948	0.005000000	Pass
+10	3.7	615,875,000	615,874,960	-0.005000000	-0.000006495	0.005000000	Pass
+20	3.7	615,875,000	615,874,765	-0.005000000	-0.000038157	0.005000000	Pass
+30	3.7	615,875,000	615,874,720	-0.005000000	-0.000045464	0.005000000	Pass
+40	3.7	615,875,000	615,874,775	-0.005000000	-0.000036533	0.005000000	Pass
+50	3.7	615,875,000	615,874,855	-0.005000000	-0.000023544	0.005000000	Pass
+20	3.2	615,875,000	615,874,814	-0.005000000	-0.000030201	0.005000000	Pass

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti

MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 296
SPECIFICATION : FCC 15.236(f)(3) Frequency Tolerance
DATE : January 8, 2018 and January 9, 2018
MODE : Transmit at 606.000MHz
UNIT : K54
EQUIPMENT USED : EMCE02, MFC0, SDL3, MDB8
NOTES :

Temperature °C	Input Voltage	Nominal Frequency Hz	Measured Frequency Hz	Frequency Variation in % Lower Limit %	Measured Variation %	Upper Limit %	Pass/Fail
-30	3.7	606,000,000	605,999,651	-0.005000000	-0.000057591	0.005000000	Pass
-20	3.7	606,000,000	605,999,565	-0.005000000	-0.000071782	0.005000000	Pass
-10	3.7	606,000,000	605,999,839	-0.005000000	-0.000026568	0.005000000	Pass
0	3.7	606,000,000	605,999,893	-0.005000000	-0.000017657	0.005000000	Pass
+10	3.7	606,000,000	605,999,897	-0.005000000	-0.000016997	0.005000000	Pass
+20	3.7	606,000,000	605,999,766	-0.005000000	-0.000038614	0.005000000	Pass
+30	3.7	606,000,000	605,999,811	-0.005000000	-0.000031188	0.005000000	Pass
+40	3.7	606,000,000	605,999,788	-0.005000000	-0.000034983	0.005000000	Pass
+50	3.7	606,000,000	605,999,781	-0.005000000	-0.000036139	0.005000000	Pass
+20	3.2	606,000,000	605,999,805	-0.005000000	-0.000032178	0.005000000	Pass

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Mark E. Longinotti

MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 296
SPECIFICATION : FCC 15.236(f)(3) Frequency Tolerance
DATE : January 8, 2018 and January 9, 2018
MODE : Transmit at 607.875MHz
UNIT : K54
EQUIPMENT USED : EMCE02, MFC0, SDL3, MDB8
NOTES :

Temperature °C	Input Voltage	Nominal Frequency Hz	Measured Frequency Hz	Frequency Variation in %			Pass/Fail
				Lower Limit %	Measured Variation %	Upper Limit %	
-30	3.7	607,875,000	607,874,631	-0.005000000	-0.000060703	0.005000000	Pass
-20	3.7	607,875,000	607,874,579	-0.005000000	-0.000069258	0.005000000	Pass
-10	3.7	607,875,000	607,874,854	-0.005000000	-0.000024018	0.005000000	Pass
0	3.7	607,875,000	607,874,897	-0.005000000	-0.000016944	0.005000000	Pass
+10	3.7	607,875,000	607,874,872	-0.005000000	-0.000021057	0.005000000	Pass
+20	3.7	607,875,000	607,874,797	-0.005000000	-0.000033395	0.005000000	Pass
+30	3.7	607,875,000	607,874,813	-0.005000000	-0.000030763	0.005000000	Pass
+40	3.7	607,875,000	607,874,829	-0.005000000	-0.000028131	0.005000000	Pass
+50	3.7	607,875,000	607,874,779	-0.005000000	-0.000036356	0.005000000	Pass
+20	3.2	607,875,000	607,874,795	-0.005000000	-0.000033724	0.005000000	Pass

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti

MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 296
SPECIFICATION : FCC 15.236(f)(3) Frequency Tolerance
DATE : January 8, 2018 and January 9, 2018
MODE : Transmit at 614.125MHz
UNIT : K54
EQUIPMENT USED : EMCE02, MFC0, SDL3, MDB8
NOTES :

Temperature °C	Input Voltage	Nominal Frequency Hz	Measured Frequency Hz	Frequency Variation in %			Pass/Fail
				Lower Limit %	Measured Variation %	Upper Limit %	
-30	3.7	614,125,000	614,124,390	-0.005000000	-0.000099328	0.005000000	Pass
-20	3.7	614,125,000	614,124,579	-0.005000000	-0.000068553	0.005000000	Pass
-10	3.7	614,125,000	614,124,855	-0.005000000	-0.000023611	0.005000000	Pass
0	3.7	614,125,000	614,124,925	-0.005000000	-0.000012212	0.005000000	Pass
+10	3.7	614,125,000	614,124,894	-0.005000000	-0.000017260	0.005000000	Pass
+20	3.7	614,125,000	614,124,793	-0.005000000	-0.000033706	0.005000000	Pass
+30	3.7	614,125,000	614,124,805	-0.005000000	-0.000031752	0.005000000	Pass
+40	3.7	614,125,000	614,124,801	-0.005000000	-0.000032404	0.005000000	Pass
+50	3.7	614,125,000	614,124,790	-0.005000000	-0.000034195	0.005000000	Pass
+20	3.2	614,125,000	614,124,790	-0.005000000	-0.000034195	0.005000000	Pass

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MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 296
SPECIFICATION : FCC 15.236(f)(3) Frequency Tolerance
DATE : January 8, 2018 and January 9, 2018
MODE : Transmit at 615.875MHz
UNIT : K54
EQUIPMENT USED : EMCE02, MFC0, SDL3, MDB8
NOTES :

Temperature °C	Input Voltage	Nominal Frequency Hz	Measured Frequency Hz	Frequency Variation in % Lower Limit %	Measured Variation %	Upper Limit %	Pass/Fail
-30	3.7	615,875,000	615,874,435	-0.005000000	-0.000091739	0.005000000	Pass
-20	3.7	615,875,000	615,874,621	-0.005000000	-0.000061538	0.005000000	Pass
-10	3.7	615,875,000	615,874,855	-0.005000000	-0.000023544	0.005000000	Pass
0	3.7	615,875,000	615,874,913	-0.005000000	-0.000014126	0.005000000	Pass
+10	3.7	615,875,000	615,874,896	-0.005000000	-0.000016887	0.005000000	Pass
+20	3.7	615,875,000	615,874,788	-0.005000000	-0.000034423	0.005000000	Pass
+30	3.7	615,875,000	615,874,770	-0.005000000	-0.000037345	0.005000000	Pass
+40	3.7	615,875,000	615,874,806	-0.005000000	-0.000031500	0.005000000	Pass
+50	3.7	615,875,000	615,874,791	-0.005000000	-0.000033935	0.005000000	Pass
+21	3.2	615,875,000	615,874,786	-0.005000000	-0.000034747	0.005000000	Pass

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MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 296
SPECIFICATION : FCC 15.236(f)(3) Frequency Tolerance
DATE : January 8, 2018
MODE : Transmit at 657.000MHz
UNIT : K54
EQUIPMENT USED : EMCE02, MFC0, SDL3, MDB8
NOTES :

Temperature °C	Input Voltage	Nominal Frequency Hz	Measured Frequency Hz	Frequency Variation in %			Pass/Fail
				Lower Limit %	Measured Variation %	Upper Limit %	
-30	3.7	657,000,000	656,999,303	-0.005000000	-0.000106088	0.005000000	Pass
-20	3.7	657,000,000	656,999,606	-0.005000000	-0.000059970	0.005000000	Pass
-10	3.7	657,000,000	656,999,841	-0.005000000	-0.000024201	0.005000000	Pass
0	3.7	657,000,000	656,999,917	-0.005000000	-0.000012633	0.005000000	Pass
+10	3.7	657,000,000	656,999,856	-0.005000000	-0.000021918	0.005000000	Pass
+20	3.7	657,000,000	656,999,756	-0.005000000	-0.000037139	0.005000000	Pass
+30	3.7	657,000,000	656,999,735	-0.005000000	-0.000040335	0.005000000	Pass
+40	3.7	657,000,000	656,999,792	-0.005000000	-0.000031659	0.005000000	Pass
+50	3.7	657,000,000	656,999,770	-0.005000000	-0.000035008	0.005000000	Pass
+20	3.2	657,000,000	656,999,764	-0.005000000	-0.000035921	0.005000000	Pass

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MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 296
SPECIFICATION : FCC 15.236(f)(3) Frequency Tolerance
DATE : January 8, 2018
MODE : Transmit at 662.875MHz
UNIT : K54
EQUIPMENT USED : EMCE02, MFC0, SDL3, MDB8
NOTES :

Temperature °C	Input Voltage	Nominal Frequency Hz	Measured Frequency Hz	Frequency Variation in %			Pass/Fail
				Lower Limit %	Measured Variation %	Upper Limit %	
-30	3.7	662,875,000	662,874,326	-0.005000000	-0.000101678	0.005000000	Pass
-20	3.7	662,875,000	662,874,588	-0.005000000	-0.000062153	0.005000000	Pass
-10	3.7	662,875,000	662,874,840	-0.005000000	-0.000024137	0.005000000	Pass
0	3.7	662,875,000	662,874,910	-0.005000000	-0.000013577	0.005000000	Pass
+10	3.7	662,875,000	662,874,851	-0.005000000	-0.000022478	0.005000000	Pass
+20	3.7	662,875,000	662,874,858	-0.005000000	-0.000021422	0.005000000	Pass
+30	3.7	662,875,000	662,874,775	-0.005000000	-0.000033943	0.005000000	Pass
+40	3.7	662,875,000	662,874,771	-0.005000000	-0.000034546	0.005000000	Pass
+50	3.7	662,875,000	662,874,772	-0.005000000	-0.000034396	0.005000000	Pass
+20	3.2	662,875,000	662,874,757	-0.005000000	-0.000036658	0.005000000	Pass

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MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 66
SPECIFICATION : FCC 76.861(e)(4) Frequency Tolerance
DATE : January 9, 2018 and Januar 10, 2018
MODE : Transmit at 539.000MHz
UNIT : G57
EQUIPMENT USED : EMCE02, MFC0, SDL3, MDB8
NOTES :

Temperature °C	Input Voltage	Nominal Frequency Hz	Measured Frequency Hz	Frequency Variation in %			Pass/Fail
				Lower Limit %	Measured Variation %	Upper Limit %	
-30	3.7	539,000,000	538,999,430	-0.005000000	-0.000105751	0.005000000	Pass
-20	3.7	539,000,000	538,999,775	-0.005000000	-0.000041744	0.005000000	Pass
-10	3.7	539,000,000	538,999,781	-0.005000000	-0.000040631	0.005000000	Pass
0	3.7	539,000,000	539,000,026	-0.005000000	0.000004824	0.005000000	Pass
+10	3.7	539,000,000	538,999,967	-0.005000000	-0.000006122	0.005000000	Pass
+20	3.7	539,000,000	538,999,812	-0.005000000	-0.000034879	0.005000000	Pass
+30	3.7	539,000,000	538,999,758	-0.005000000	-0.000044898	0.005000000	Pass
+40	3.7	539,000,000	538,999,785	-0.005000000	-0.000039889	0.005000000	Pass
+50	3.7	539,000,000	538,999,885	-0.005000000	-0.000021336	0.005000000	Pass
+20	3.2	539,000,000	538,999,833	-0.005000000	-0.000030983	0.005000000	Pass

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti

MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 296
SPECIFICATION : FCC 76.861(e)(4) Frequency Tolerance
DATE : January 8, 2018
MODE : Transmit at 607.000MHz
UNIT : K54
EQUIPMENT USED : EMCE02, MFC0, SDL3, MDB8
NOTES :

Temperature °C	Input Voltage	Nominal Frequency Hz	Measured Frequency Hz	Frequency Variation in %			Pass/Fail
				Lower Limit %	Measured Variation %	Upper Limit %	
-30	3.7	607,000,000	606,999,348	-0.005000000	-0.000107414	0.005000000	Pass
-20	3.7	607,000,000	606,999,605	-0.005000000	-0.000065074	0.005000000	Pass
-10	3.7	607,000,000	606,999,852	-0.005000000	-0.000024382	0.005000000	Pass
0	3.7	607,000,000	606,999,920	-0.005000000	-0.000013180	0.005000000	Pass
+10	3.7	607,000,000	606,999,882	-0.005000000	-0.000019440	0.005000000	Pass
+20	3.7	607,000,000	606,999,798	-0.005000000	-0.000033278	0.005000000	Pass
+30	3.7	607,000,000	606,999,774	-0.005000000	-0.000037232	0.005000000	Pass
+40	3.7	607,000,000	606,999,797	-0.005000000	-0.000033443	0.005000000	Pass
+50	3.7	607,000,000	606,999,776	-0.005000000	-0.000036903	0.005000000	Pass
+20	3.2	607,000,000	606,999,795	-0.005000000	-0.000033773	0.005000000	Pass

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MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 296
SPECIFICATION : FCC 76.861(e)(4) Frequency Tolerance
DATE : January 8, 2018
MODE : Transmit at 655.000MHz
UNIT : K54
EQUIPMENT USED : EMCE02, MFC0, SDL3, MDB8
NOTES :

Temperature °C	Input Voltage	Nominal Frequency Hz	Measured Frequency Hz	Frequency Variation in %			Pass/Fail
				Lower Limit %	Measured Variation %	Upper Limit %	
-30	3.7	655,000,000	654,999,296	-0.005000000	-0.000107481	0.005000000	Pass
-20	3.7	655,000,000	654,999,596	-0.005000000	-0.000061679	0.005000000	Pass
-10	3.7	655,000,000	654,999,841	-0.005000000	-0.000024275	0.005000000	Pass
0	3.7	655,000,000	654,999,908	-0.005000000	-0.000014046	0.005000000	Pass
+10	3.7	655,000,000	654,999,849	-0.005000000	-0.000023053	0.005000000	Pass
+20	3.7	655,000,000	654,999,776	-0.005000000	-0.000034198	0.005000000	Pass
+30	3.7	655,000,000	654,999,783	-0.005000000	-0.000033130	0.005000000	Pass
+40	3.7	655,000,000	654,999,769	-0.005000000	-0.000035267	0.005000000	Pass
+50	3.7	655,000,000	654,999,759	-0.005000000	-0.000036794	0.005000000	Pass
+20	3.2	655,000,000	654,999,775	-0.005000000	-0.000034351	0.005000000	Pass

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MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 183
SPECIFICATION : FCC 76.861(e)(4) Frequency Tolerance
DATE : January 10, 2018 and January 11, 2018
MODE : Transmit at 950.500MHz
UNIT : X55
EQUIPMENT USED : EMCE02, MFC0, SDL3, MDB8
NOTES :

Temperature °C	Input Voltage	Nominal Frequency Hz	Measured Frequency Hz	Frequency Variation in %			Pass/Fail
				Lower Limit %	Measured Variation %	Upper Limit %	
-30	3.7	950,500,000	950,499,047	-0.005000000	-0.000100263	0.005000000	Pass
-20	3.7	950,500,000	950,499,375	-0.005000000	-0.000065755	0.005000000	Pass
-10	3.7	950,500,000	950,499,666	-0.005000000	-0.000035139	0.005000000	Pass
0	3.7	950,500,000	950,499,752	-0.005000000	-0.000026092	0.005000000	Pass
+10	3.7	950,500,000	950,499,757	-0.005000000	-0.000025565	0.005000000	Pass
+20	3.7	950,500,000	950,499,839	-0.005000000	-0.000016938	0.005000000	Pass
+30	3.7	950,500,000	950,499,737	-0.005000000	-0.000027670	0.005000000	Pass
+40	3.7	950,500,000	950,499,665	-0.005000000	-0.000035245	0.005000000	Pass
+50	3.7	950,500,000	950,499,666	-0.005000000	-0.000035139	0.005000000	Pass
+20	3.2	950,500,000	950,499,758	-0.005000000	-0.000025460	0.005000000	Pass

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MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 65
SPECIFICATION : RSS-210, Annex G, Frequency Stability
DATE : Januray 9, 2018
MODE : See Below
UNIT : G55
EQUIPMENT USED : EMCE02, MFC0, SDL3, MDB8
NOTES :

Temperature °C	Input Voltage	Nominal Frequency Hz	Measured Frequency Hz	Frequency Variation in ppm Lower Limit ppm	Measured Variation ppm	Upper Limit ppm	Pass/Fail
-30	3.7	470,125,000	470,124,473	-50.0000000	-1.120978	50.0000000	Pass
+20	3.7	470,125,000	470,124,838	-50.0000000	-0.344589	50.0000000	Pass
+50	3.7	470,125,000	470,124,895	-50.0000000	-0.223345	50.0000000	Pass
+20	3.2	470,125,000	470,124,831	-50.0000000	-0.359479	50.0000000	Pass

Temperature °C	Input Voltage	Nominal Frequency Hz	Measured Frequency Hz	Frequency Variation in ppm Lower Limit ppm	Measured Variation ppm	Upper Limit ppm	Pass/Fail
-30	3.7	539,000,000	538,999,422	-50.0000000	-1.072356	50.0000000	Pass
+20	3.7	539,000,000	538,999,798	-50.0000000	-0.374768	50.0000000	Pass
+50	3.7	539,000,000	538,999,873	-50.0000000	-0.235622	50.0000000	Pass
+20	3.2	539,000,000	538,999,795	-50.0000000	-0.380334	50.0000000	Pass

Temperature °C	Input Voltage	Nominal Frequency Hz	Measured Frequency Hz	Frequency Variation in ppm Lower Limit ppm	Measured Variation ppm	Upper Limit ppm	Pass/Fail
-30	3.7	607,875,000	607,874,374	-50.0000000	-1.029817	50.0000000	Pass
+20	3.7	607,875,000	607,874,797	-50.0000000	-0.333950	50.0000000	Pass
+50	3.7	607,875,000	607,874,861	-50.0000000	-0.228665	50.0000000	Pass
+20	3.2	607,875,000	607,874,792	-50.0000000	-0.342176	50.0000000	Pass

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti

MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 65
SPECIFICATION : RSS-210, Annex G, Frequency Stability
DATE : January 9, 2018
MODE : See Below
UNIT : G55
EQUIPMENT USED : EMCE02, MFC0, SDL3, MDB8
NOTES :

Temperature °C	Input Voltage	Nominal Frequency Hz	Measured Frequency Hz	Frequency Variation in ppm			Pass/Fail
				Lower Limit ppm	Measured Variation ppm	Upper Limit ppm	
-30	3.7	614,125,000	614,124,976	-50.0000000	-0.039080	50.0000000	Pass
+20	3.7	614,125,000	614,124,779	-50.0000000	-0.359862	50.0000000	Pass
+50	3.7	614,125,000	614,124,843	-50.0000000	-0.255648	50.0000000	Pass
+20	3.2	614,125,000	614,124,777	-50.0000000	-0.363118	50.0000000	Pass

Temperature °C	Input Voltage	Nominal Frequency Hz	Measured Frequency Hz	Frequency Variation in ppm			Pass/Fail
				Lower Limit ppm	Measured Variation ppm	Upper Limit ppm	
-30	3.7	615,875,000	615,874,376	-50.0000000	-1.013193	50.0000000	Pass
+20	3.7	615,875,000	615,874,765	-50.0000000	-0.381571	50.0000000	Pass
+50	3.7	615,875,000	615,874,855	-50.0000000	-0.235437	50.0000000	Pass
+20	3.2	615,875,000	615,874,814	-50.0000000	-0.302009	50.0000000	Pass

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti

MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 296
SPECIFICATION : RSS-210, Annex G, Frequency Stability
DATE : January 8, 2018
MODE : See Below
UNIT : K53
EQUIPMENT USED : EMCE02, MFC0, SDL3, MDB8
NOTES :

Temperature °C	Input Voltage	Nominal Frequency Hz	Measured Frequency Hz	Frequency Variation in ppm			Pass/Fail
				Lower Limit ppm	Measured Variation ppm	Upper Limit ppm	
-30	3.7	606,000,000	605,999,364	-50.0000000	-1.049505	50.0000000	Pass
+20	3.7	606,000,000	605,999,782	-50.0000000	-0.359736	50.0000000	Pass
+50	3.7	606,000,000	605,999,783	-50.0000000	-0.358086	50.0000000	Pass
+20	3.2	606,000,000	605,999,781	-50.0000000	-0.361386	50.0000000	Pass

Temperature °C	Input Voltage	Nominal Frequency Hz	Measured Frequency Hz	Frequency Variation in ppm			Pass/Fail
				Lower Limit ppm	Measured Variation ppm	Upper Limit ppm	
-30	3.7	607,875,000	607,874,299	-50.0000000	-1.153198	50.0000000	Pass
+20	3.7	607,875,000	607,874,779	-50.0000000	-0.363562	50.0000000	Pass
+50	3.7	607,875,000	607,874,775	-50.0000000	-0.370142	50.0000000	Pass
+20	3.2	607,875,000	607,874,780	-50.0000000	-0.361917	50.0000000	Pass

Checked By: MARK E. LONGINOTTI
Mark E. Longinotti

MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 296
SPECIFICATION : RSS-210, Annex G, Frequency Stability
DATE : January 8, 2018 and January 9, 2018
MODE : See Below
UNIT : K53
EQUIPMENT USED : EMCE01, MFC0, SHA0, MDB8
NOTES :

Temperature °C	Input Voltage	Nominal Frequency Hz	Measured Frequency Hz	Frequency Variation in ppm			Pass/Fail
				Lower Limit ppm	Measured Variation ppm	Upper Limit ppm	
-30	3.7	614,125,000	614,124,299	-50.0000000	-1.141461	50.0000000	Pass
+20	3.7	614,125,000	614,124,777	-50.0000000	-0.363118	50.0000000	Pass
+50	3.7	614,125,000	614,124,795	-50.0000000	-0.333808	50.0000000	Pass
+20	3.2	614,125,000	614,124,777	-50.0000000	-0.363118	50.0000000	Pass

Temperature °C	Input Voltage	Nominal Frequency Hz	Measured Frequency Hz	Frequency Variation in ppm			Pass/Fail
				Lower Limit ppm	Measured Variation ppm	Upper Limit ppm	
-30	3.7	615,875,000	615,874,435	-50.0000000	-0.917394	50.0000000	Pass
+20	3.7	615,875,000	615,874,788	-50.0000000	-0.344226	50.0000000	Pass
+50	3.7	615,875,000	615,874,791	-50.0000000	-0.339355	50.0000000	Pass
+20	3.2	615,875,000	615,874,786	-50.0000000	-0.347473	50.0000000	Pass

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti

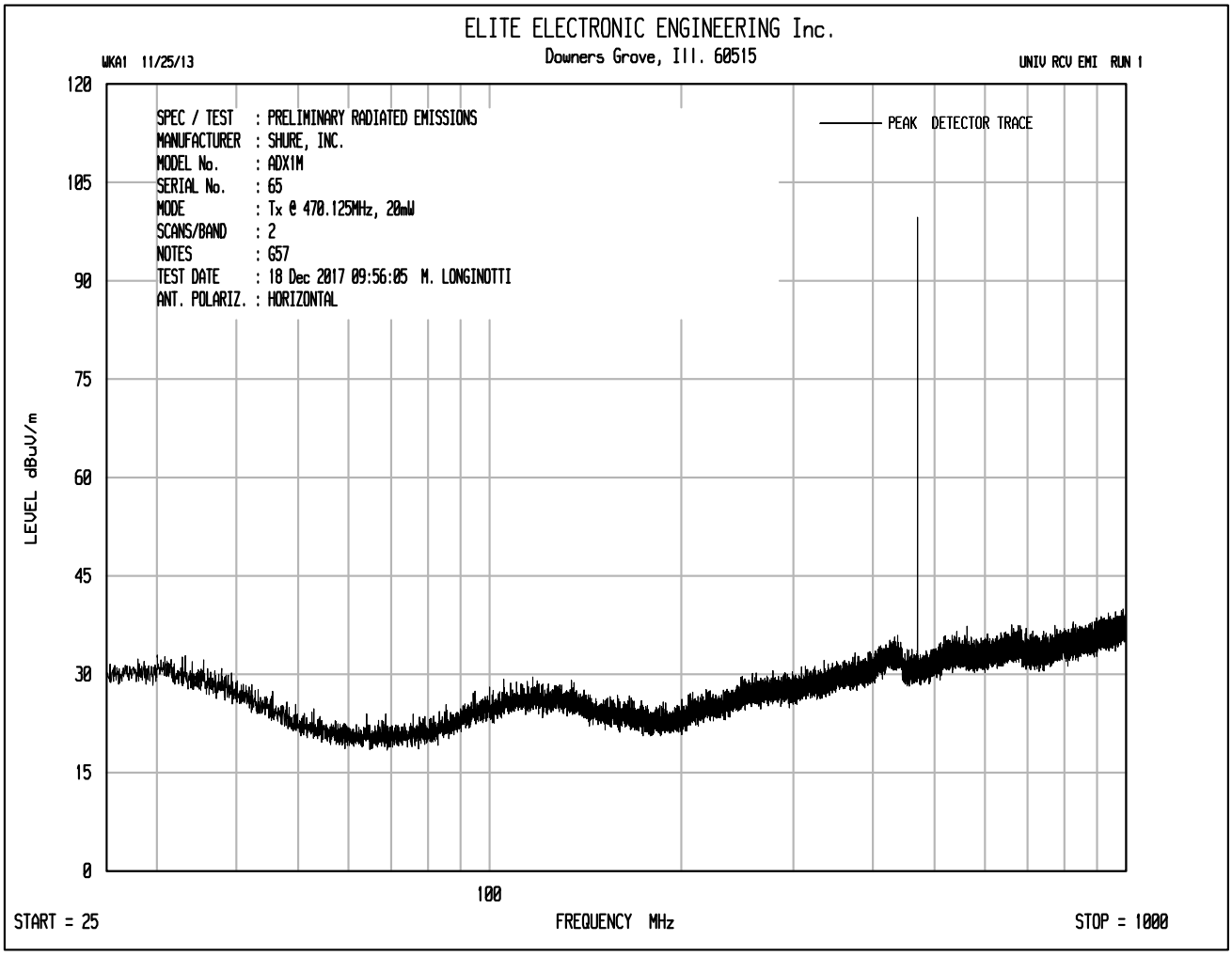
MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 296
SPECIFICATION : RSS-210, Annex G, Frequency Stability
DATE : January 8, 2018 and January 9, 2018
MODE : See Below
UNIT : K53
EQUIPMENT USED : EMCE01, MFC0, SHA0, MDB8
NOTES :

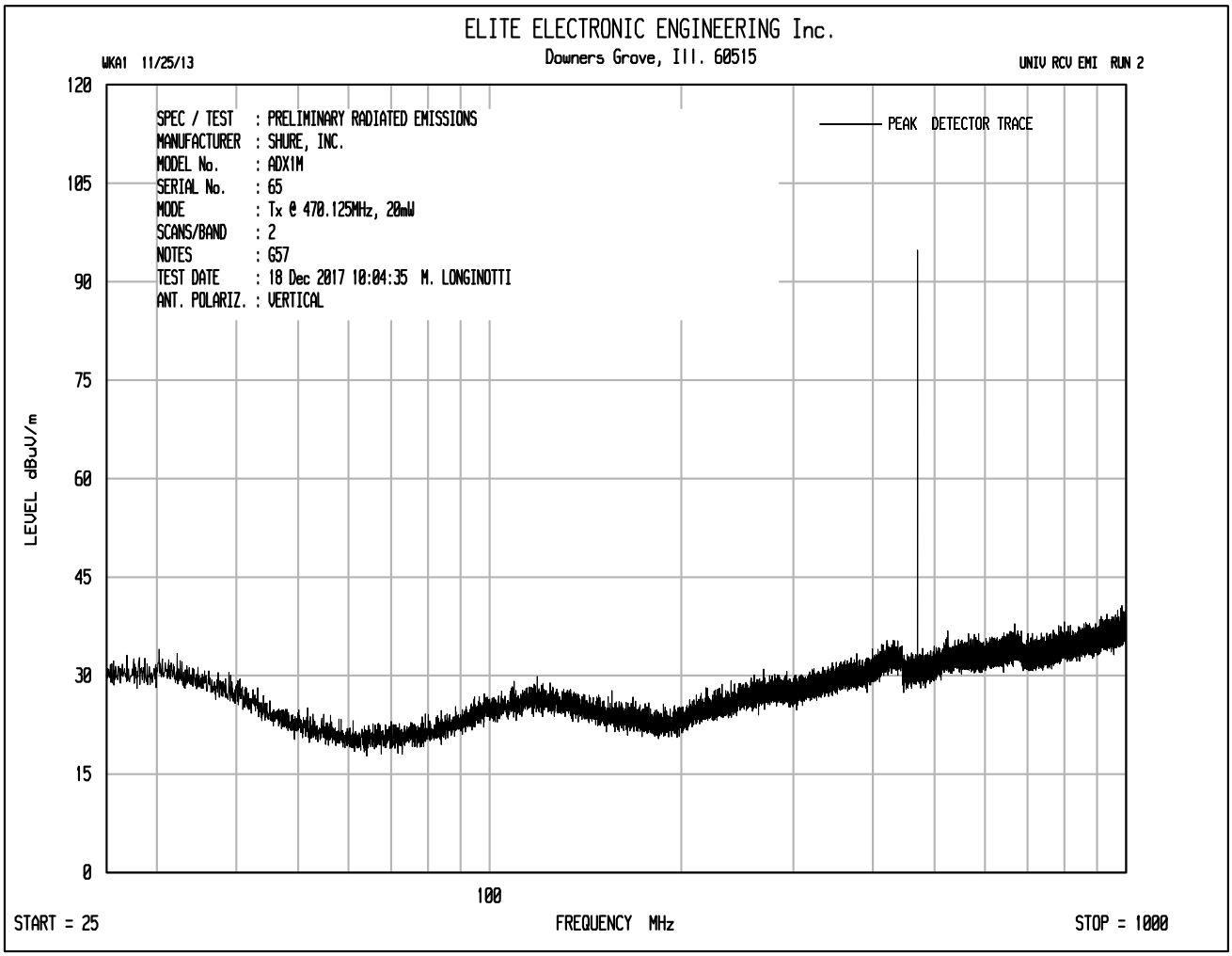
Temperature °C	Input Voltage	Nominal Frequency Hz	Measured Frequency Hz	Frequency Variation in ppm			Pass/Fail
				Lower Limit ppm	Measured Variation ppm	Upper Limit ppm	
-30	3.7	657,000,000	656,999,303	-50.0000000	-1.060883	50.0000000	Pass
+20	3.7	657,000,000	656,999,756	-50.0000000	-0.371385	50.0000000	Pass
+50	3.7	657,000,000	656,999,770	-50.0000000	-0.350076	50.0000000	Pass
+20	3.2	657,000,000	656,999,764	-50.0000000	-0.359209	50.0000000	Pass

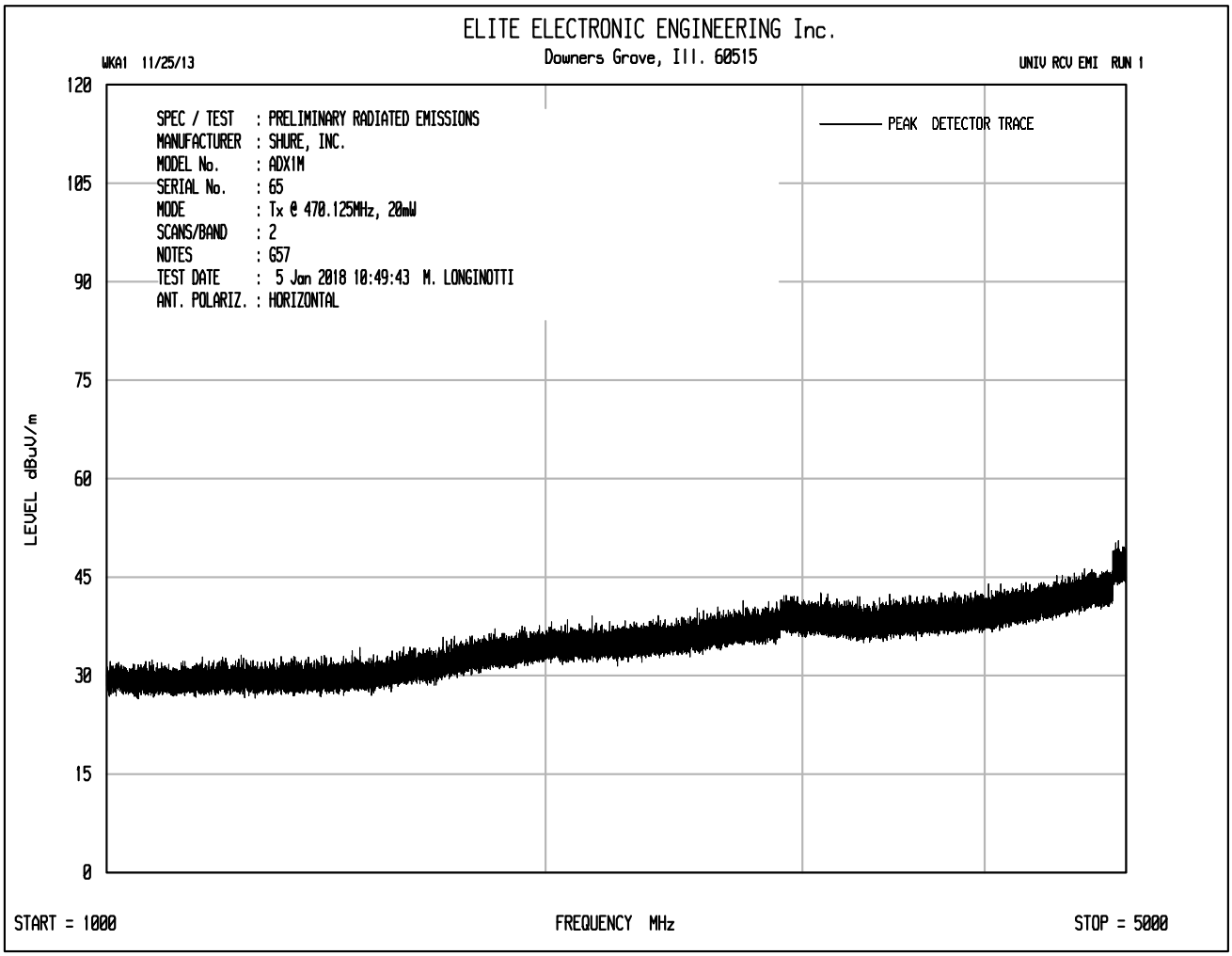
Temperature °C	Input Voltage	Nominal Frequency Hz	Measured Frequency Hz	Frequency Variation in ppm			Pass/Fail
				Lower Limit ppm	Measured Variation ppm	Upper Limit ppm	
-30	3.7	662,875,000	662,874,326	-50.0000000	-1.016783	50.0000000	Pass
+20	3.7	662,875,000	662,874,858	-50.0000000	-0.214218	50.0000000	Pass
+50	3.7	662,875,000	662,874,772	-50.0000000	-0.343956	50.0000000	Pass
+21	3.2	662,875,000	662,874,757	-50.0000000	-0.366585	50.0000000	Pass

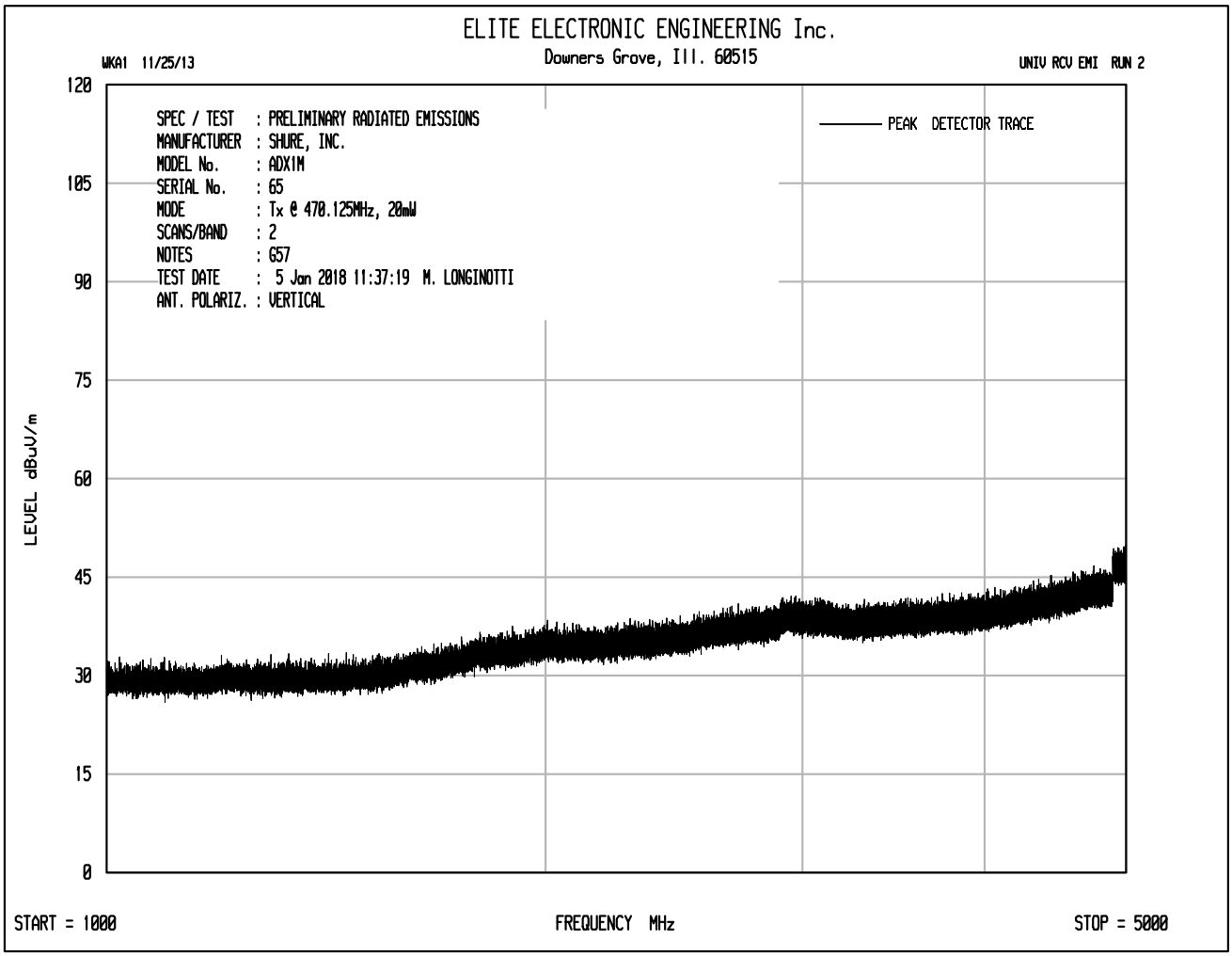
Checked By: MARK E. LONGINOTTI

Mark E. Longinotti


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 1
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 470.125MHz, 20mW
SCANS/BAND : 2
NOTES : G57
TEST DATE : 18 Dec 2017 09:56:05 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 25
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 2
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 470.125MHz, 20mW
SCANS/BAND : 2
NOTES : G57
TEST DATE : 18 Dec 2017 10:04:35 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 25
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 1
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 470.125MHz, 20mW
SCANS/BAND : 2
NOTES : G57
TEST DATE : 5 Jan 2018 10:49:43 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 5000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 2
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 470.125MHz, 20mW
SCANS/BAND : 2
NOTES : G57
TEST DATE : 5 Jan 2018 11:37:19 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 5000

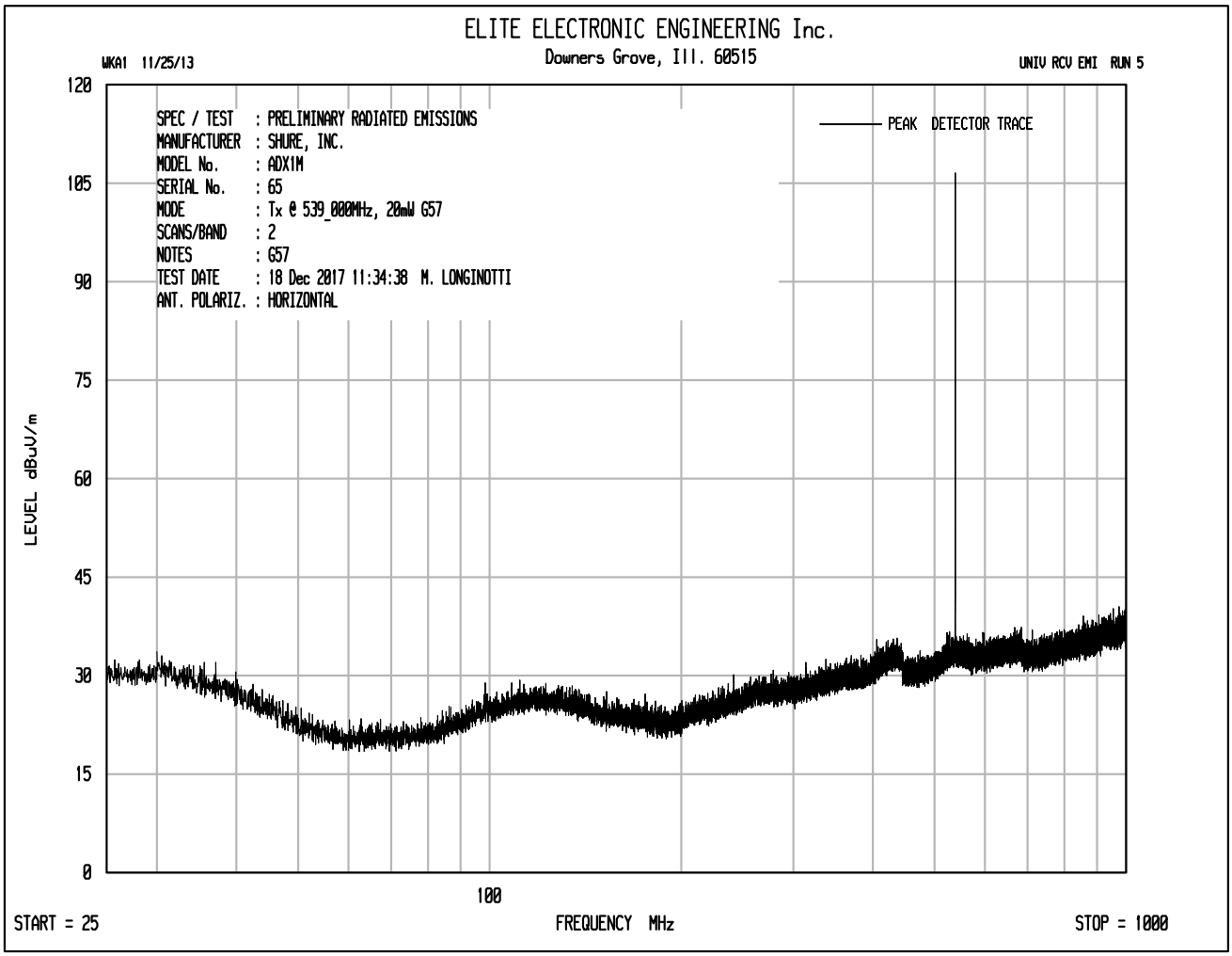
MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 65
SPECIFICATION : FCC 15.236(g) Spurious Radiated Emissions
DATE : December 18, 2017 through January 5, 2018
MODE : Transmit at 470.125MHz
UNIT : G57
EQUIPMENT USED : NTA4,RBG2,NDQ0,GRE2,NWQ0, NWQ2, CDX8
NOTES : 20mW nominal power

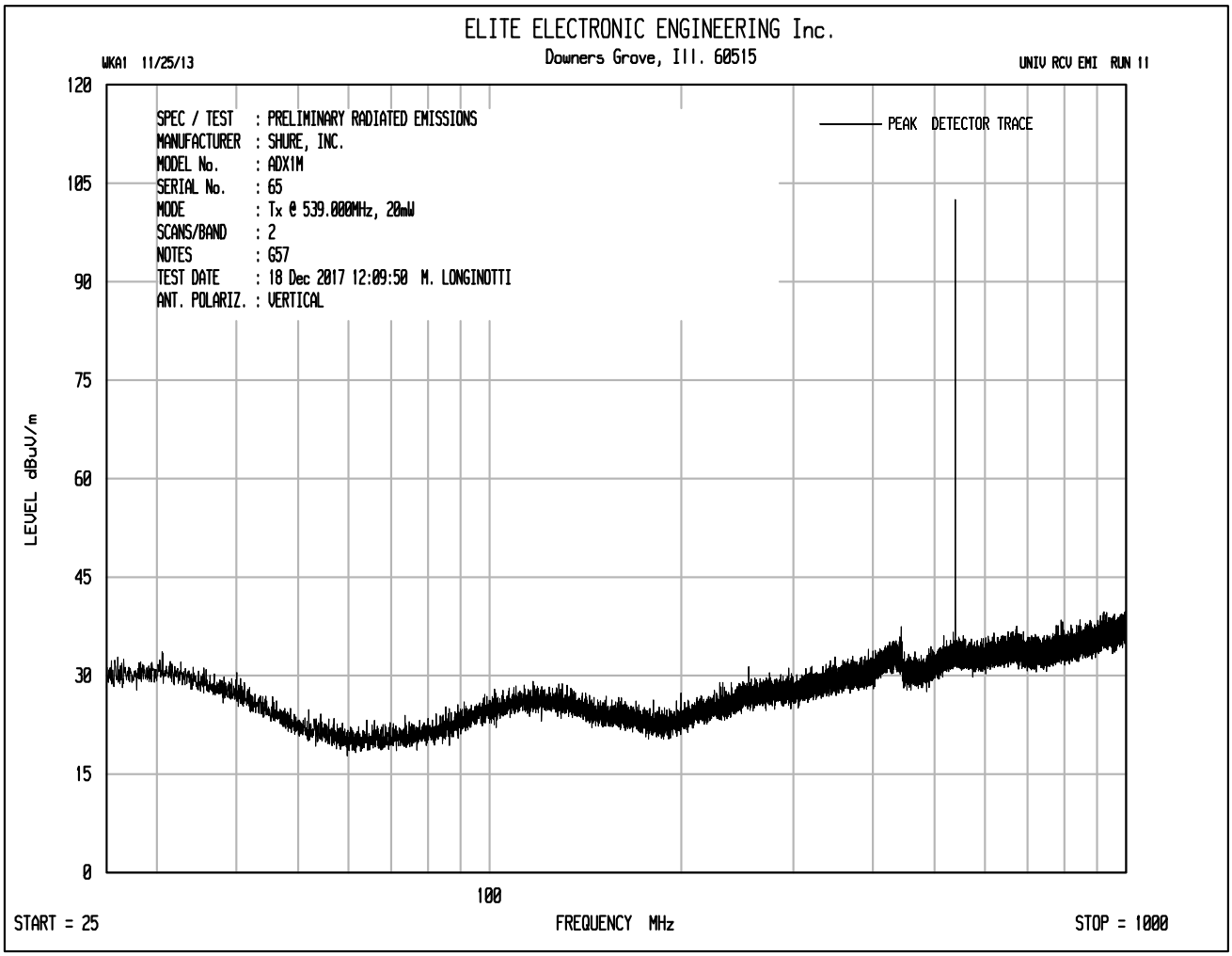
Freq. MHz	Ant Pol	Meter Reading (dBuV)	Ambient	Matched Sig. Gen. Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	ERP (dBm)	Limit dBm	Margin dB
940.25	H	1.4		-68.4	0.0	2.1	-70.5	-36.0	-34.5
940.25	V	1.6		-67.0	0.0	2.1	-69.1	-36.0	-33.1
1410.38	H	0.6		-69.2	5.1	2.6	-66.7	-30.0	-36.7
1410.38	V	-0.5	Ambient	-66.3	5.1	2.6	-63.8	-30.0	-33.8
1880.50	H	0.4	Ambient	-65.7	4.7	3.0	-64.0	-30.0	-34.0
1880.50	V	0.4	Ambient	-64.1	4.7	3.0	-62.4	-30.0	-32.4
2350.63	H	0.8	Ambient	-65.3	5.7	3.4	-62.9	-30.0	-32.9
2350.63	V	0.8	Ambient	-63.9	5.7	3.4	-61.5	-30.0	-31.5
2820.75	H	1.3	Ambient	-63.8	6.6	3.8	-61.0	-30.0	-31.0
2820.75	V	1.4	Ambient	-62.8	6.6	3.8	-60.0	-30.0	-30.0
3290.88	H	1.9	Ambient	-63.8	7.4	4.1	-60.4	-30.0	-30.4
3290.88	V	1.9	Ambient	-62.5	7.4	4.1	-59.1	-30.0	-29.1
3761.00	H	2.2	Ambient	-61.5	8.5	4.3	-57.3	-30.0	-27.3
3761.00	V	2.2	Ambient	-61.1	8.5	4.3	-56.9	-30.0	-26.9
4231.13	H	2.6	Ambient	-60.0	9.1	4.6	-55.5	-30.0	-25.5
4231.13	V	2.6	Ambient	-59.6	9.1	4.6	-55.1	-30.0	-25.1
4701.25	H	3.2	Ambient	-56.7	9.6	4.8	-51.9	-30.0	-21.9
4701.25	V	3.2	Ambient	-57.9	9.6	4.8	-53.1	-30.0	-23.1

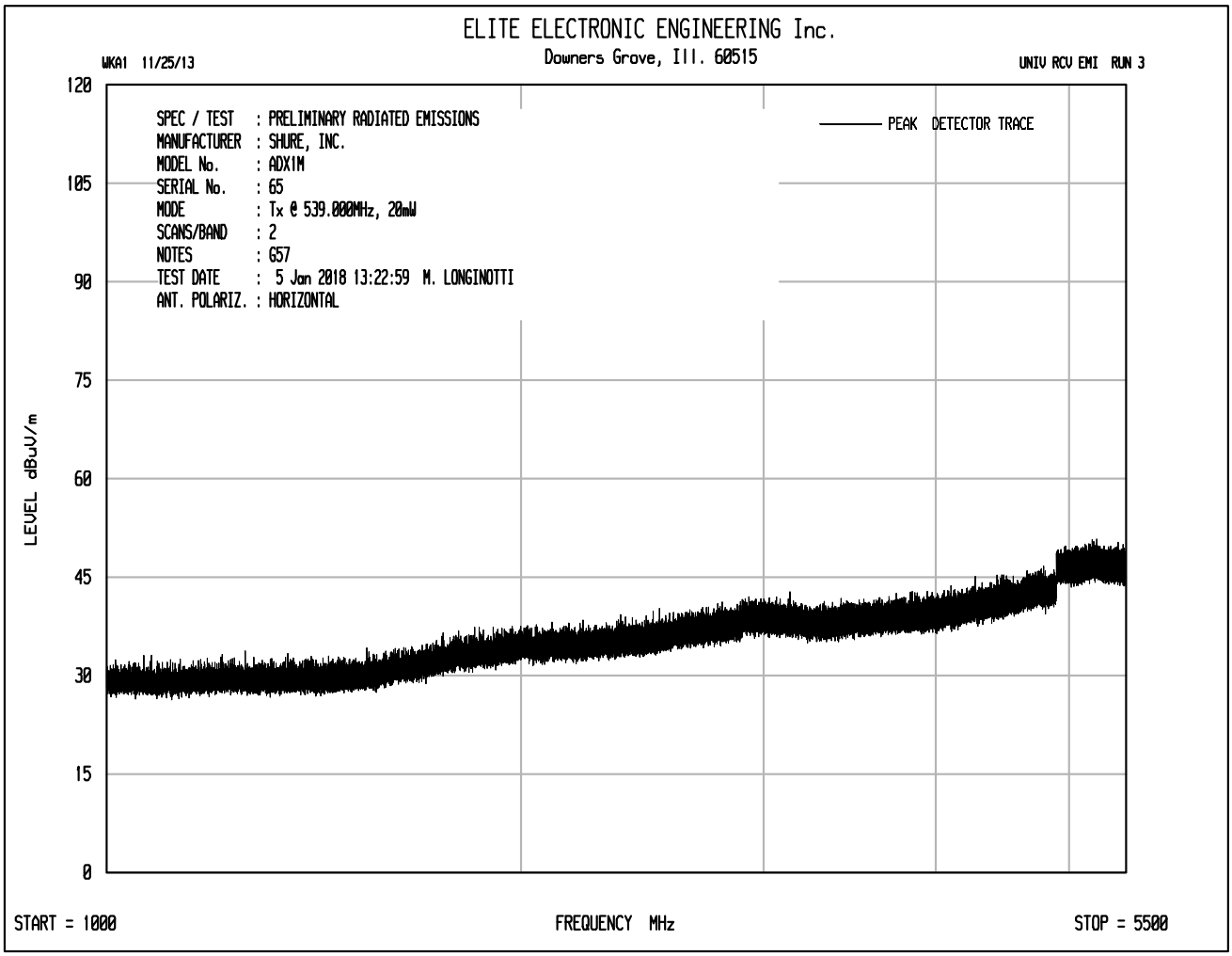
ERP (dBm) = Matched Sig. Gen.Reading (dBm) + Equivalent Antenna Gain (dB) – Cable Loss (dB)

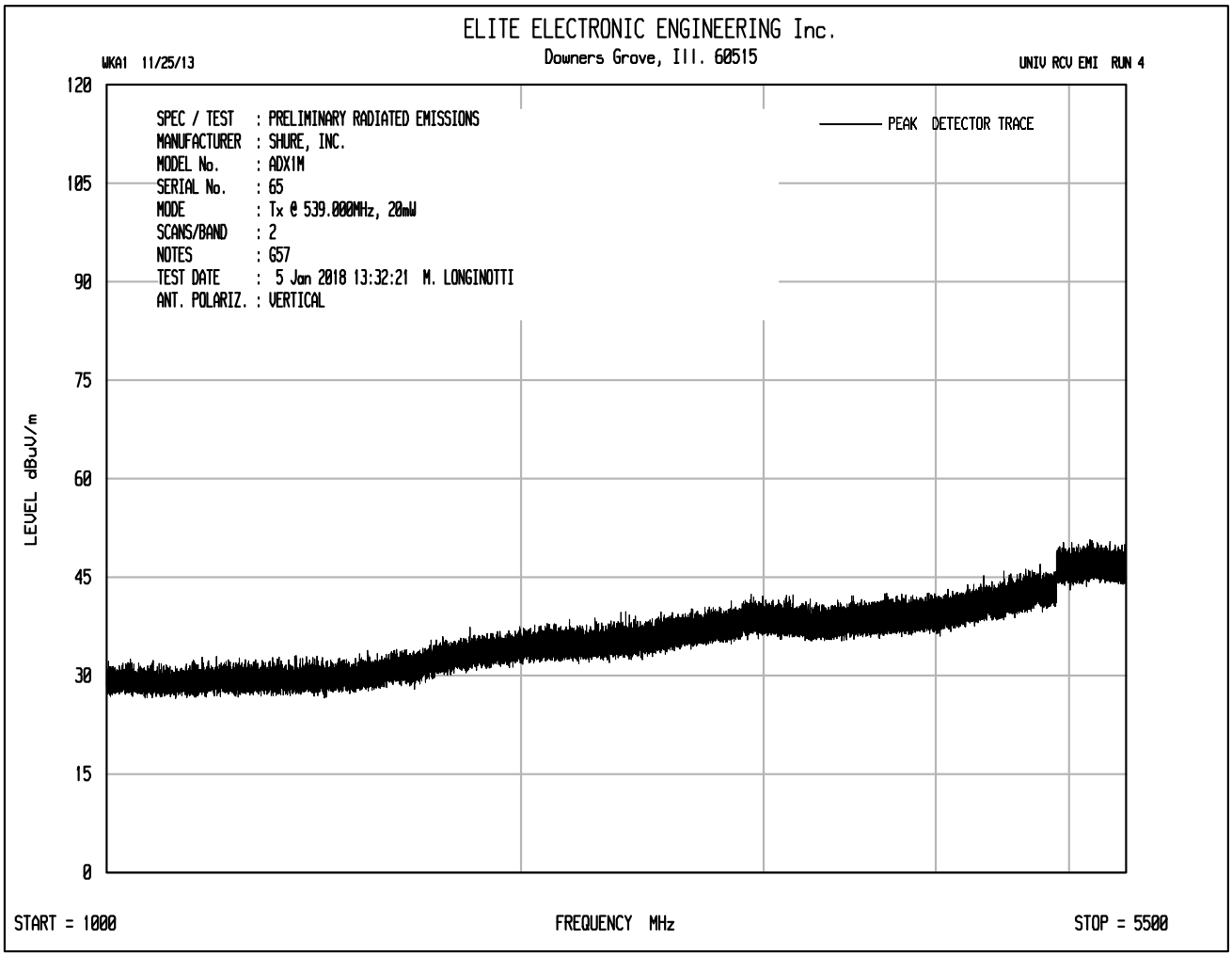
Checked By: MARK E. LONGINOTTI

Mark E. Longinotti


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 5
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 539_000MHz, 20mW G57
SCANS/BAND : 2
NOTES : G57
TEST DATE : 18 Dec 2017 11:34:38 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 25
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 11
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 539.000MHz, 20mW
SCANS/BAND : 2
NOTES : G57
TEST DATE : 18 Dec 2017 12:09:50 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 25
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 3
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 539.000MHz, 20mW
SCANS/BAND : 2
NOTES : G57
TEST DATE : 5 Jan 2018 13:22:59 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 5500


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 4
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 539.000MHz, 20mW
SCANS/BAND : 2
NOTES : G57
TEST DATE : 5 Jan 2018 13:32:21 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 5500

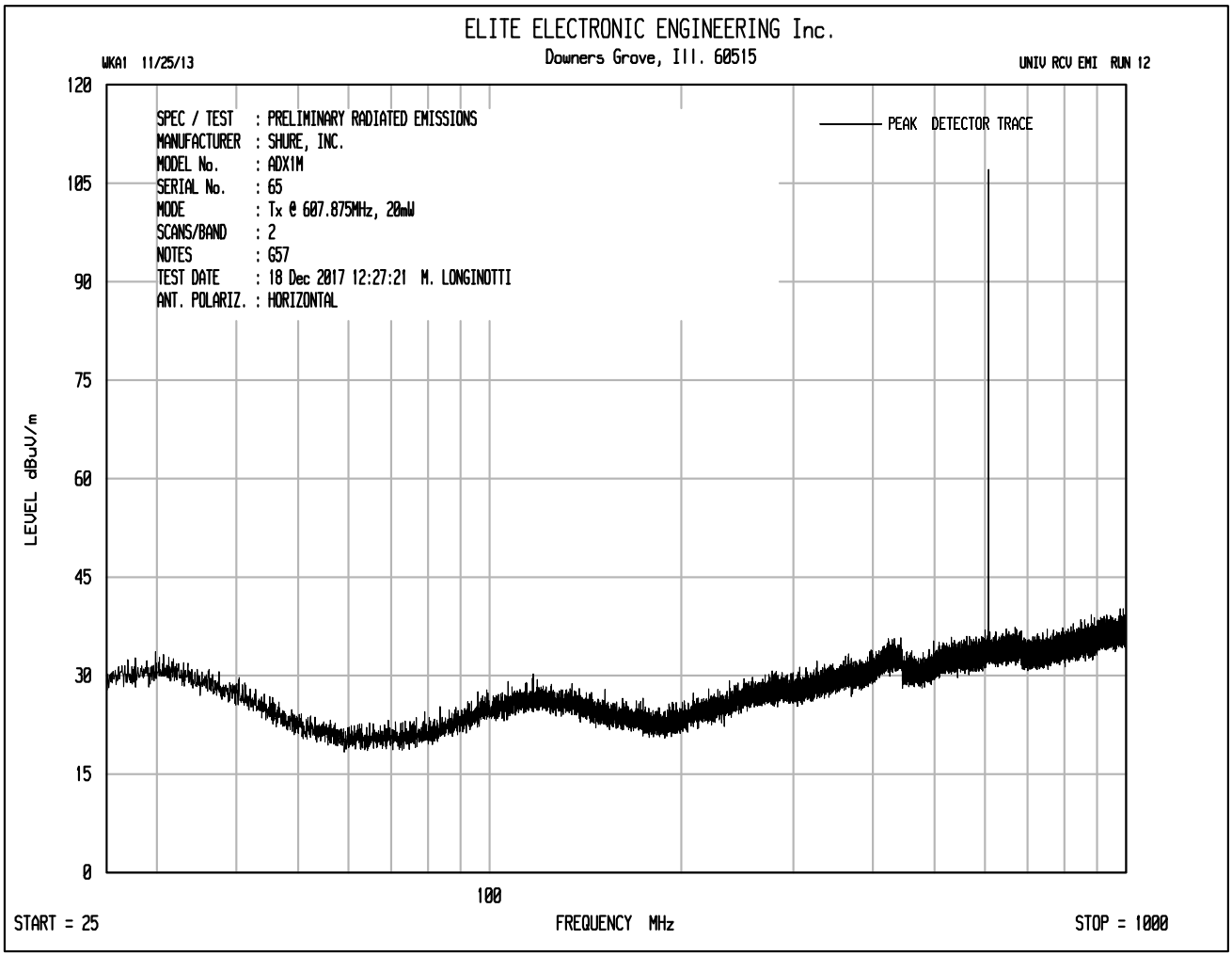
MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 65
SPECIFICATION : FCC 15.236(g) Spurious Radiated Emissions
DATE : December 18, 2017 through January 5, 2018
MODE : Transmit at 539.000MHz
UNIT : G57
EQUIPMENT USED : NTA4,RBG2,GRE2,NWQ0, NWQ2, CDX8
NOTES : 20mW nominal power

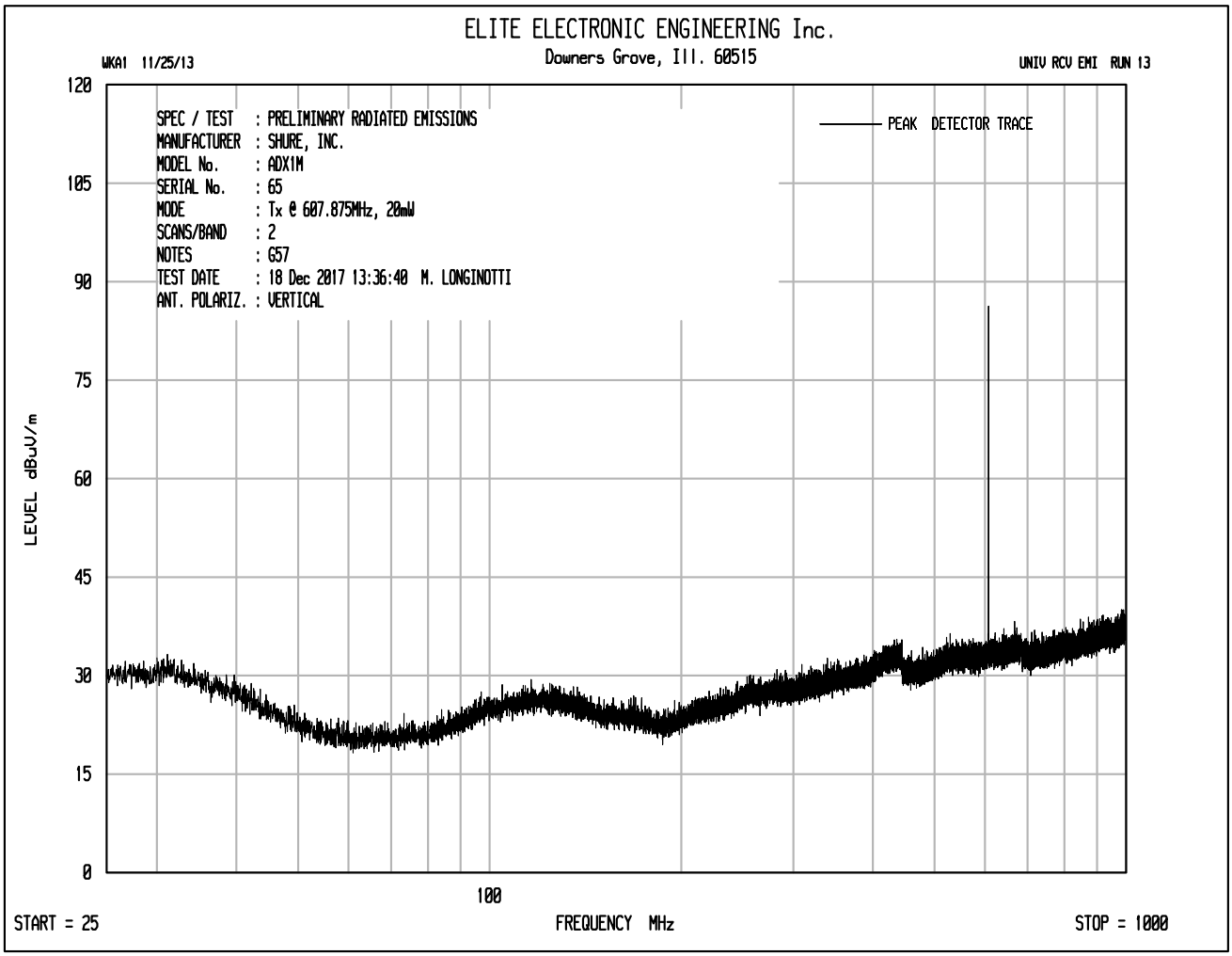
Freq. MHz	Ant Pol	Meter Reading (dBuV)	Ambient	Matched Sig. Gen. Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	ERP (dBm)	Limit dBm	Margin dB
1078.00	H	0.0	Ambient	-70.3	2.4	2.2	-70.1	-30.0	-40.1
1078.00	V	-0.1	Ambient	-67.7	2.4	2.2	-67.5	-30.0	-37.5
1617.00	H	2.7		-67.3	5.6	2.8	-64.5	-30.0	-34.5
1617.00	V	1.1		-67.3	5.6	2.8	-64.5	-30.0	-34.5
2156.00	H	0.6	Ambient	-65.4	5.1	3.2	-63.5	-30.0	-33.5
2156.00	V	0.6	Ambient	-62.8	5.1	3.2	-60.9	-30.0	-30.9
2695.00	H	1.3	Ambient	-63.6	6.3	3.7	-60.9	-30.0	-30.9
2695.00	V	1.3	Ambient	-63.2	6.3	3.7	-60.5	-30.0	-30.5
3234.00	H	1.8	Ambient	-63.3	7.3	4.0	-60.0	-30.0	-30.0
3234.00	V	1.8	Ambient	-62.0	7.3	4.0	-58.7	-30.0	-28.7
3773.00	H	2.1	Ambient	-61.7	8.5	4.3	-57.5	-30.0	-27.5
3773.00	V	2.1	Ambient	-61.1	8.5	4.3	-56.9	-30.0	-26.9
4312.00	H	2.6	Ambient	-59.9	9.2	4.6	-55.4	-30.0	-25.4
4312.00	V	2.6	Ambient	-60.0	9.2	4.6	-55.5	-30.0	-25.5
4851.00	H	3.5	Ambient	-57.6	9.8	4.9	-52.6	-30.0	-22.6
4851.00	V	3.5	Ambient	-57.3	9.8	4.9	-52.3	-30.0	-22.3
5390.00	H	6.5	Ambient	-52.8	10.1	5.1	-47.8	-30.0	-17.8
5390.00	V	6.5	Ambient	-54.1	10.1	5.1	-49.1	-30.0	-19.1

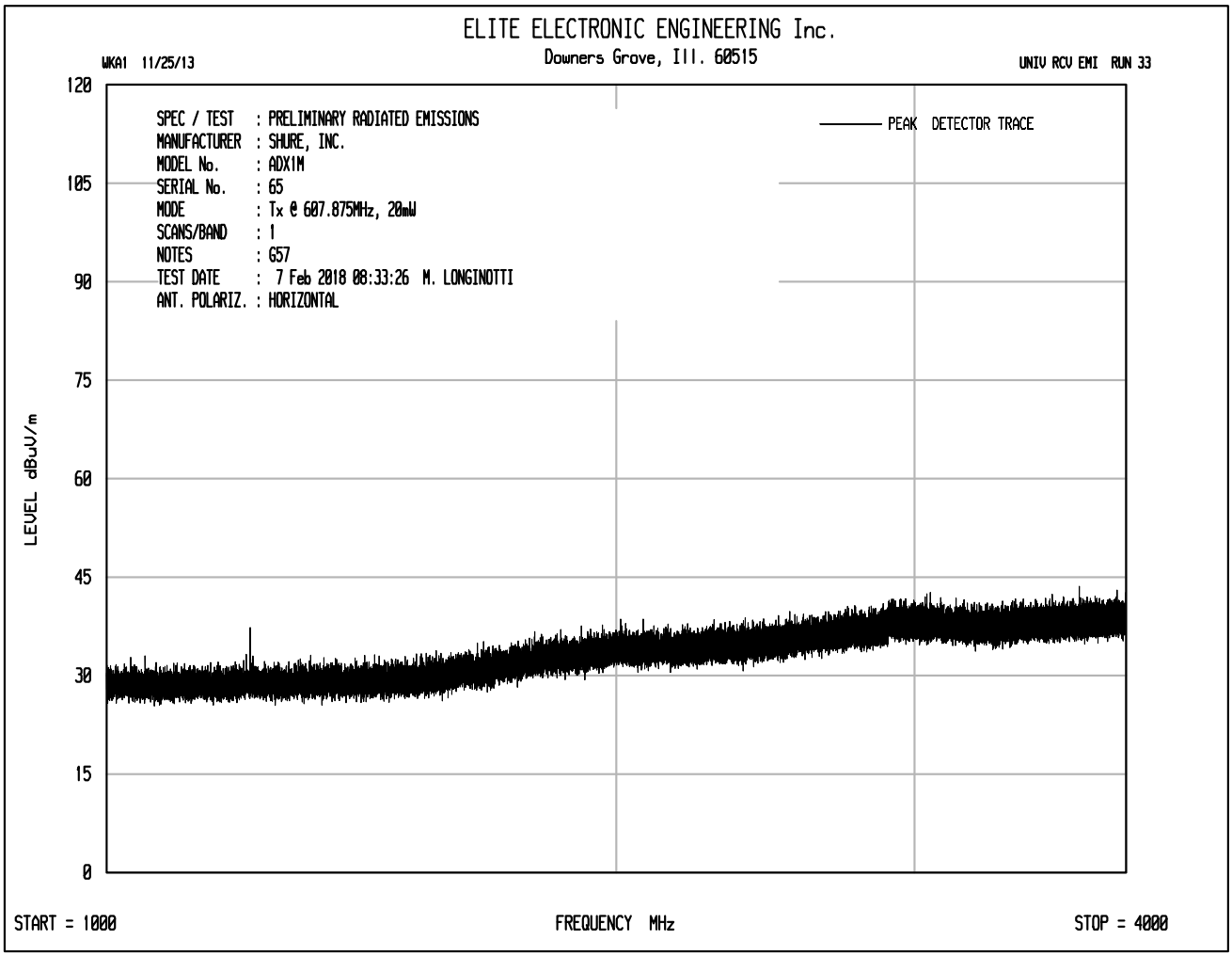
ERP (dBm) = Matched Sig. Gen.Reading (dBm) + Equivalent Antenna Gain (dB) – Cable Loss (dB)

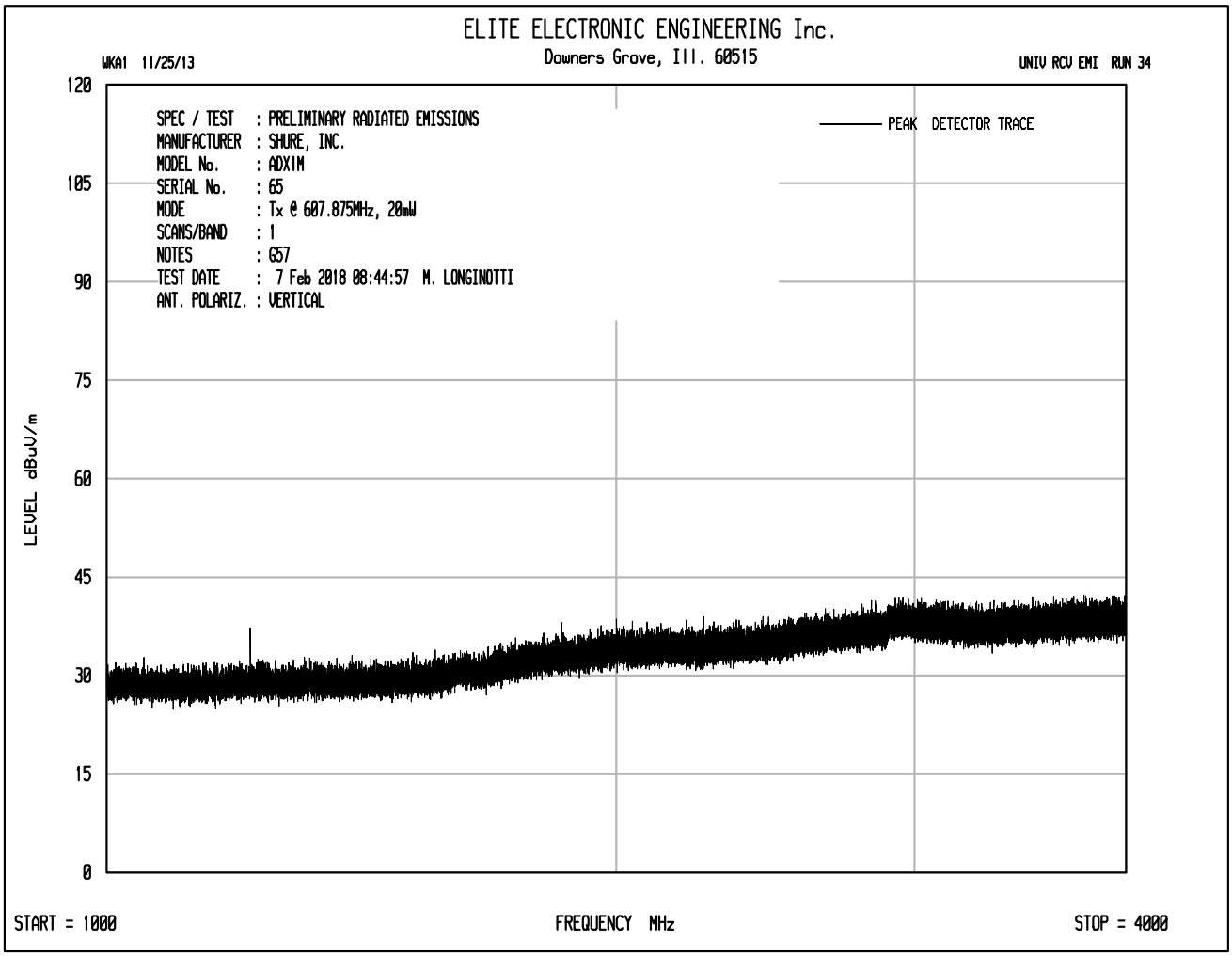
Checked By: MARK E. LONGINOTTI

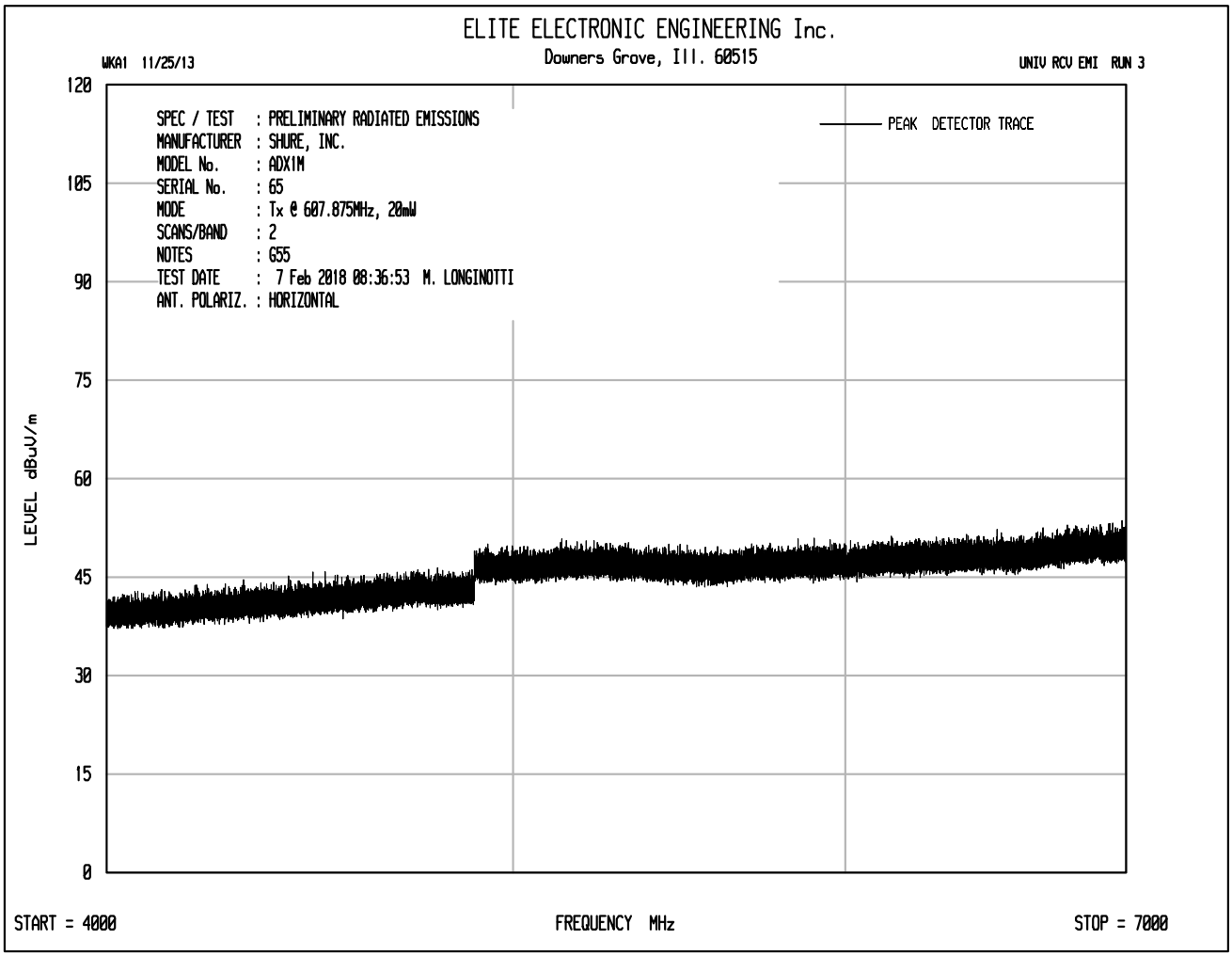
Mark E. Longinotti

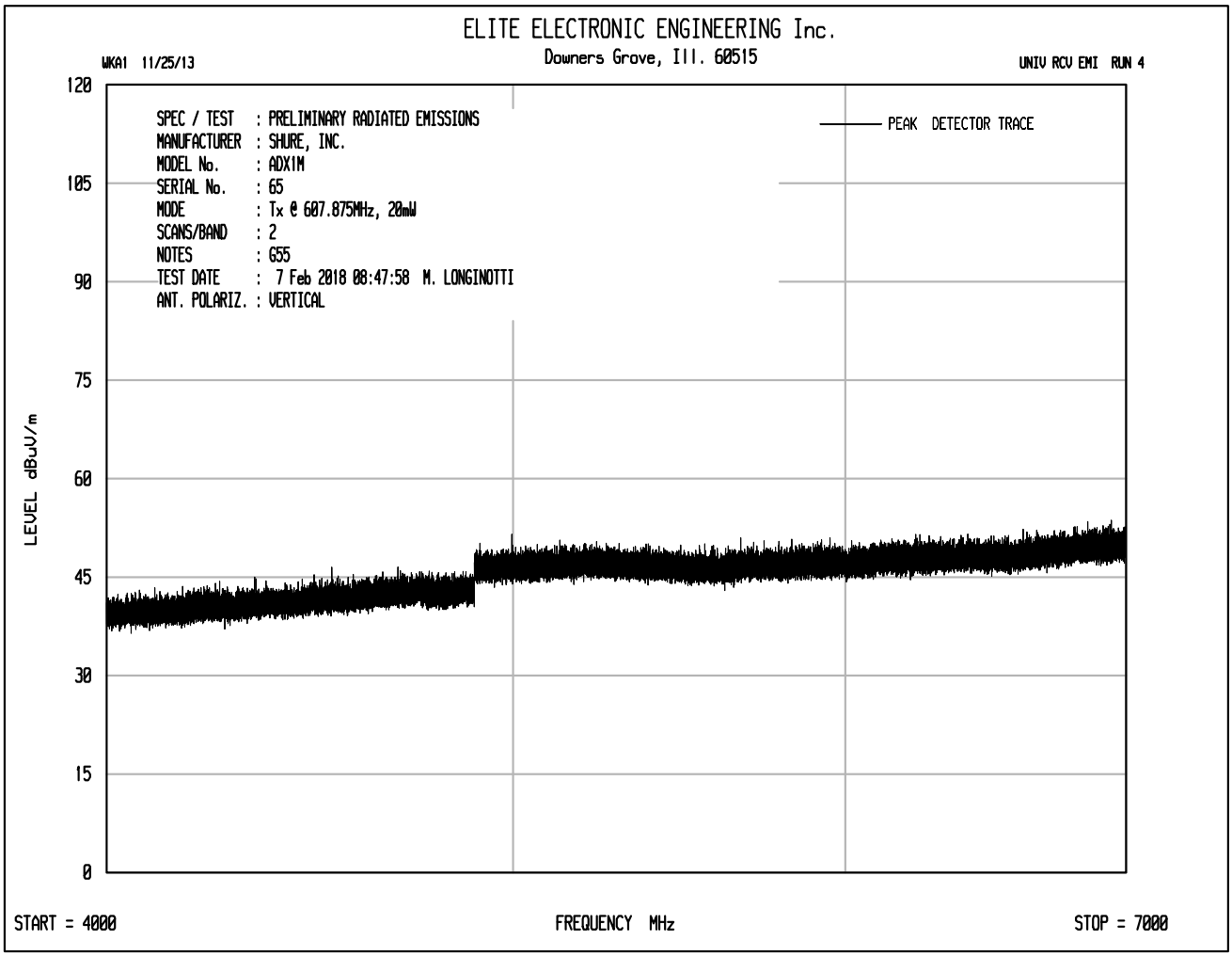

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 12
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 607.875MHz, 20mW
SCANS/BAND : 2
NOTES : G57
TEST DATE : 18 Dec 2017 12:27:21 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 25
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 13
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 607.875MHz, 20mW
SCANS/BAND : 2
NOTES : G57
TEST DATE : 18 Dec 2017 13:36:40 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 25
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 33
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 607.875MHz, 20mW
SCANS/BAND : 1
NOTES : G57
TEST DATE : 7 Feb 2018 08:33:26 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 4000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 34
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 607.875MHz, 20mW
SCANS/BAND : 1
NOTES : G57
TEST DATE : 7 Feb 2018 08:44:57 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 4000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 3
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 607.875MHz, 20mW
SCANS/BAND : 2
NOTES : G55
TEST DATE : 7 Feb 2018 08:36:53 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 4000
FREQUENCY MHz
STOP = 7000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 4
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 607.875MHz, 20mW
SCANS/BAND : 2
NOTES : G55
TEST DATE : 7 Feb 2018 08:47:58 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 4000
FREQUENCY MHz
STOP = 7000

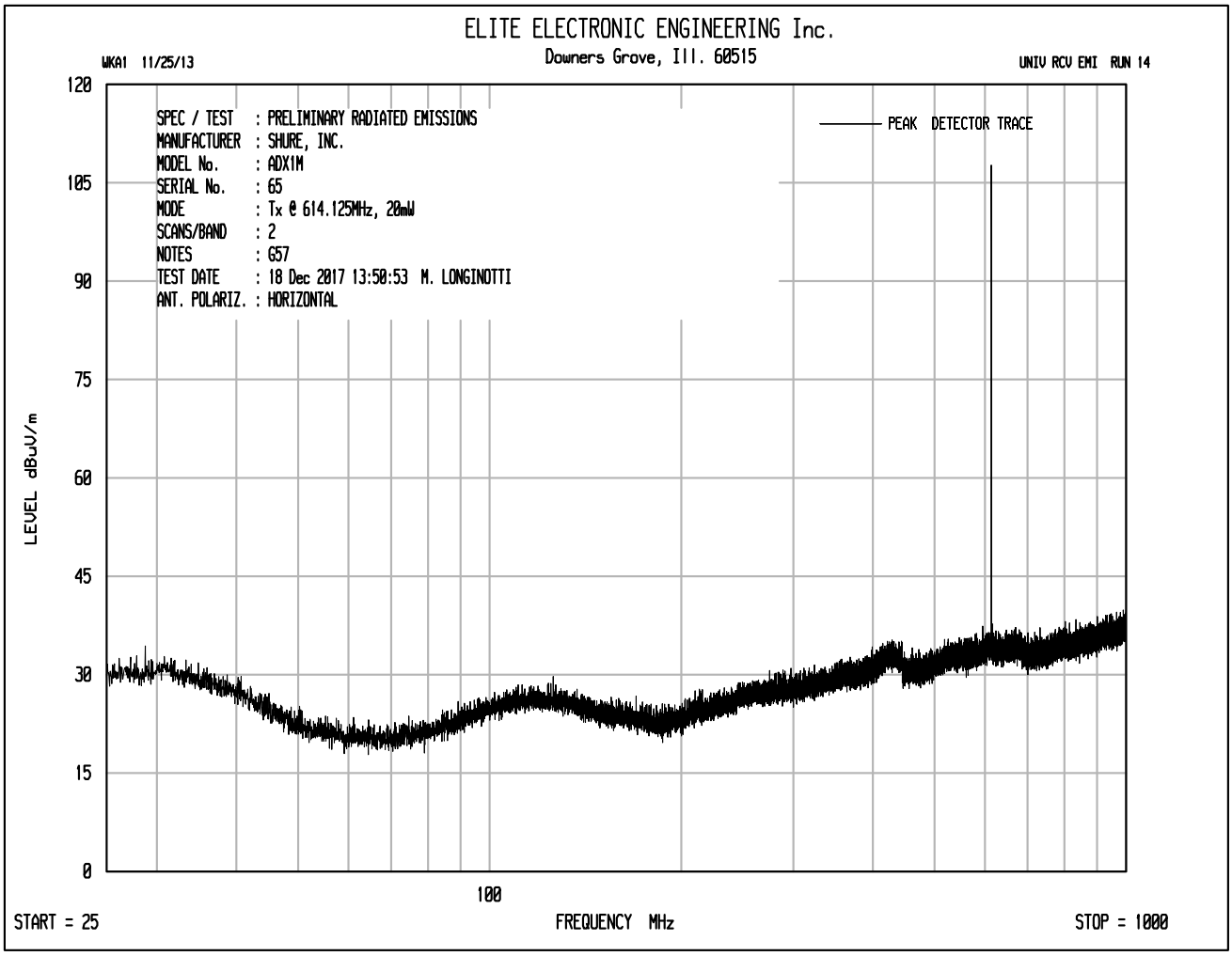
MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 65
SPECIFICATION : FCC 15.236(g) Spurious Radiated Emissions
DATE : December 18, 2017 through February 7, 2018
MODE : Transmit at 607.875MHz
UNIT : G57
EQUIPMENT USED : NTA4,RBG2,GRE2, NWQ0, NWQ2, GRE2, GSE0
NOTES : 20mW nominal power

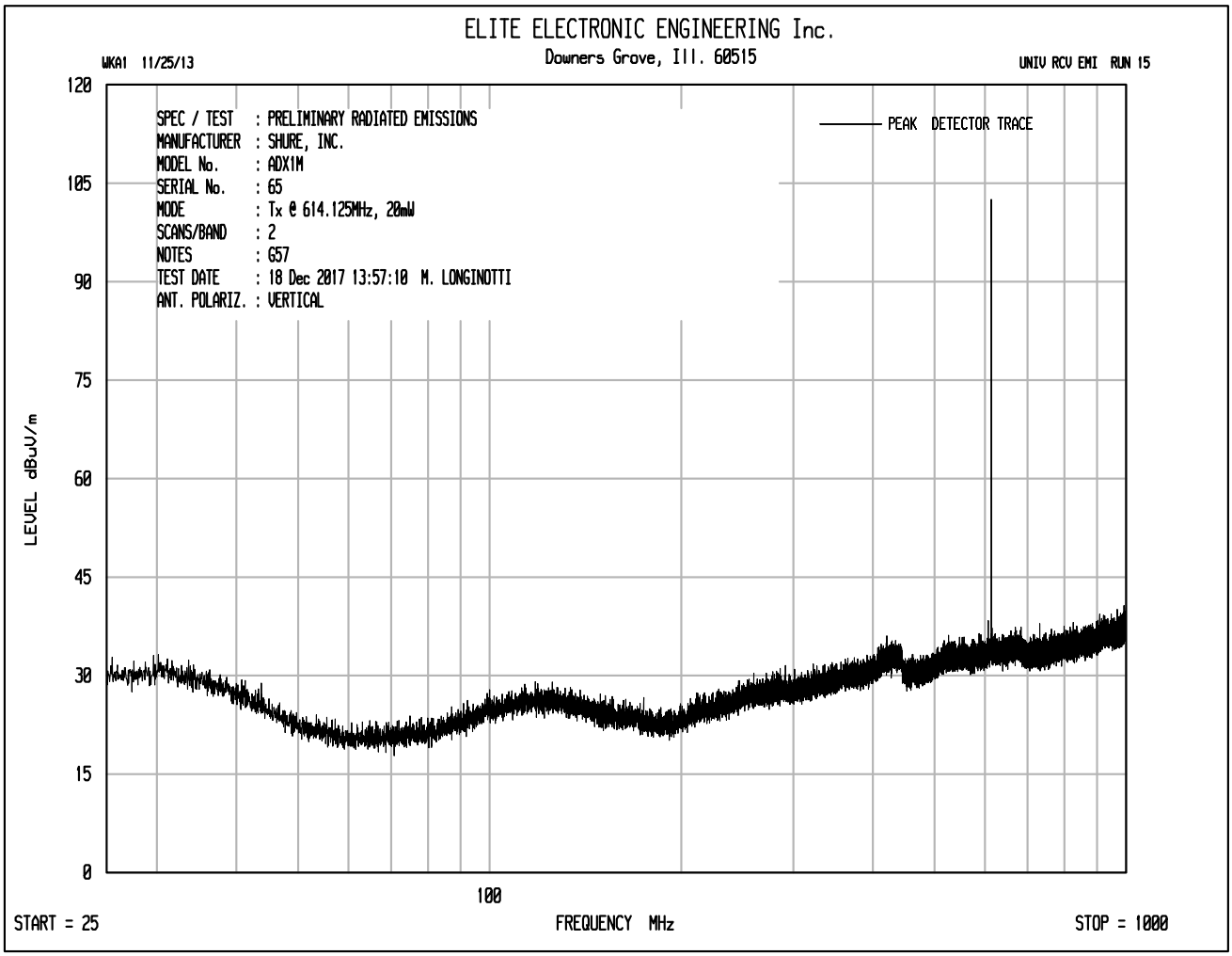
Freq. MHz	Ant Pol	Meter Reading (dBuV)	Ambient	Matched Sig. Gen. Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	ERP (dBm)	Limit dBm	Margin dB
1215.75	H	3.3		-65.8	3.1	2.4	-65.1	-30.0	-35.1
1215.75	V	3.9		-62.5	3.1	2.4	-61.8	-30.0	-31.8
1823.63	H	0.6	Ambient	-67.0	4.8	2.9	-65.1	-30.0	-35.1
1823.63	V	0.5	Ambient	-63.6	4.8	2.9	-61.7	-30.0	-31.7
2431.50	H	0.7	Ambient	-66.0	5.8	3.5	-63.6	-30.0	-33.6
2431.50	V	0.7	Ambient	-63.5	5.8	3.5	-61.1	-30.0	-31.1
3039.38	H	1.9	Ambient	-64.1	7.1	3.9	-60.9	-30.0	-30.9
3039.38	V	1.9	Ambient	-63.1	7.1	3.9	-59.9	-30.0	-29.9
3647.25	H	2.0	Ambient	-62.9	8.3	4.3	-58.9	-30.0	-28.9
3647.25	V	2.0	Ambient	-61.6	8.3	4.3	-57.6	-30.0	-27.6
4255.13	H	2.5	Ambient	-60.0	9.1	4.6	-55.5	-30.0	-25.5
4255.13	V	2.5	Ambient	-60.2	9.1	4.6	-55.7	-30.0	-25.7
4863.00	H	3.6	Ambient	-57.9	9.8	4.9	-52.9	-30.0	-22.9
4863.00	V	3.6	Ambient	-57.3	9.8	4.9	-52.3	-30.0	-22.3
5470.88	H	6.5	Ambient	-52.6	10.2	5.2	-47.6	-30.0	-17.6
5470.88	V	6.5	Ambient	-54.4	10.2	5.2	-49.4	-30.0	-19.4
6078.75	H	6.4	Ambient	-52.1	10.9	5.5	-46.7	-30.0	-16.7
6078.75	V	6.4	Ambient	-52.8	10.9	5.5	-47.4	-30.0	-17.4

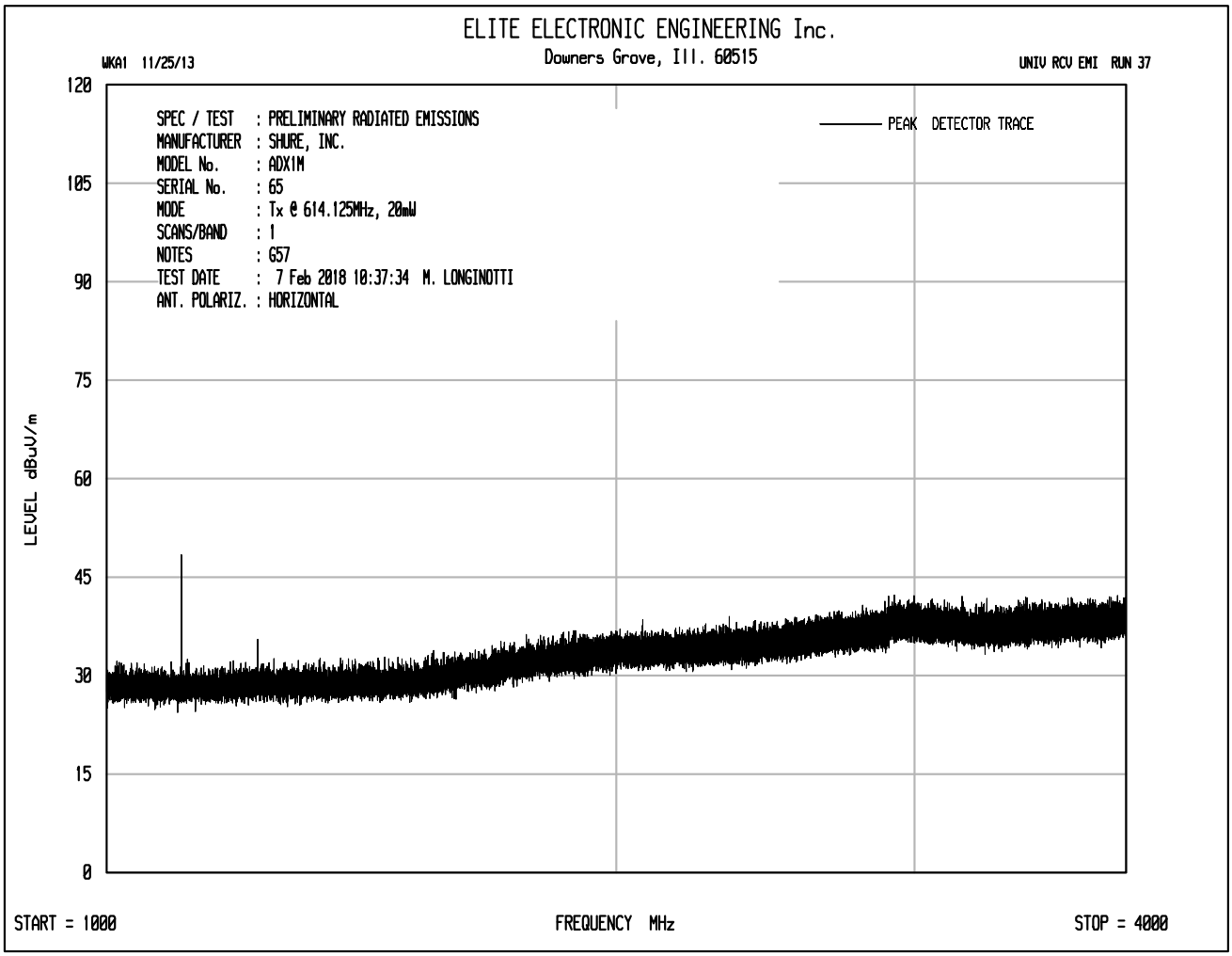
ERP (dBm) = Matched Sig. Gen.Reading (dBm) + Equivalent Antenna Gain (dB) – Cable Loss (dB)

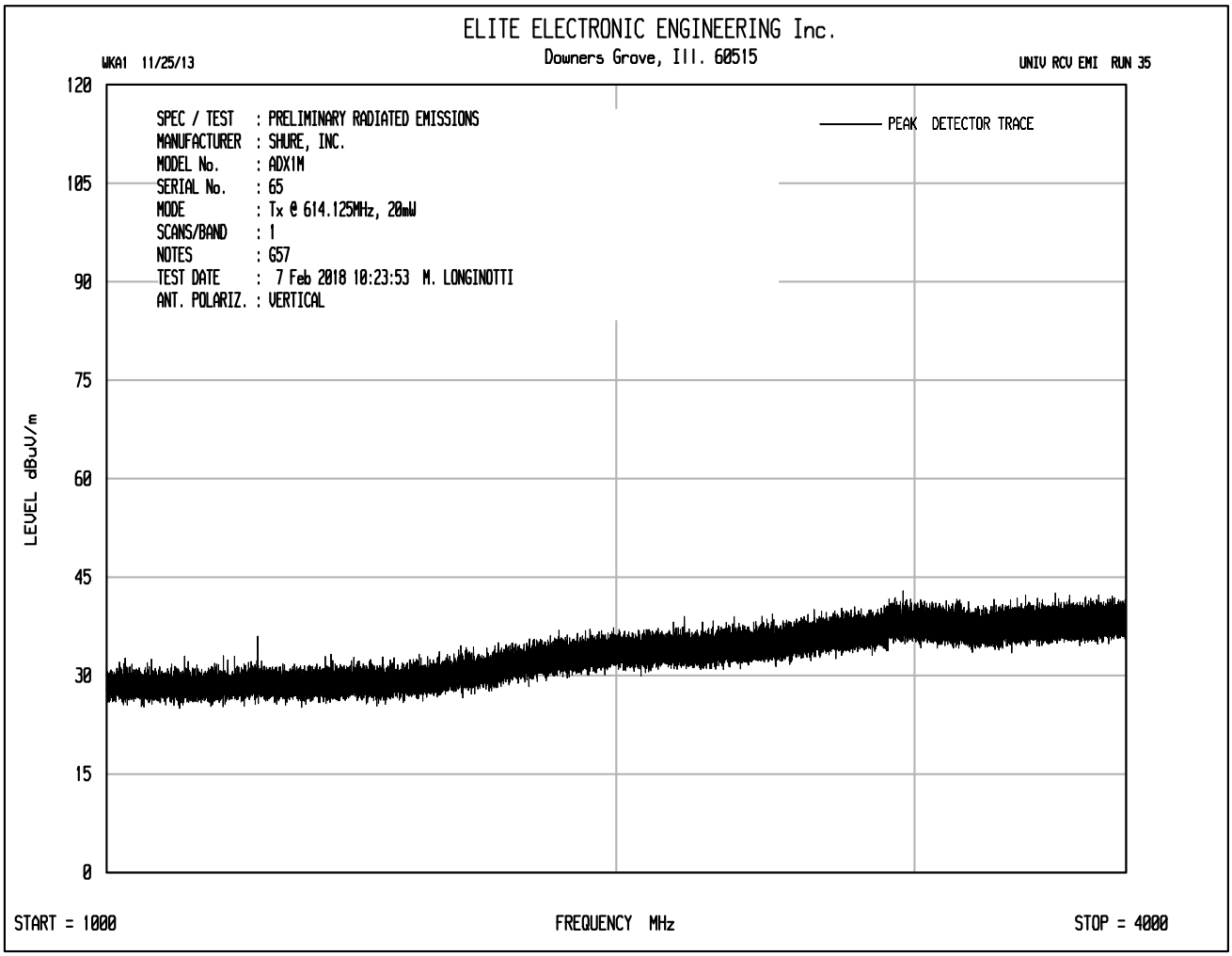
Checked By: MARK E. LONGINOTTI

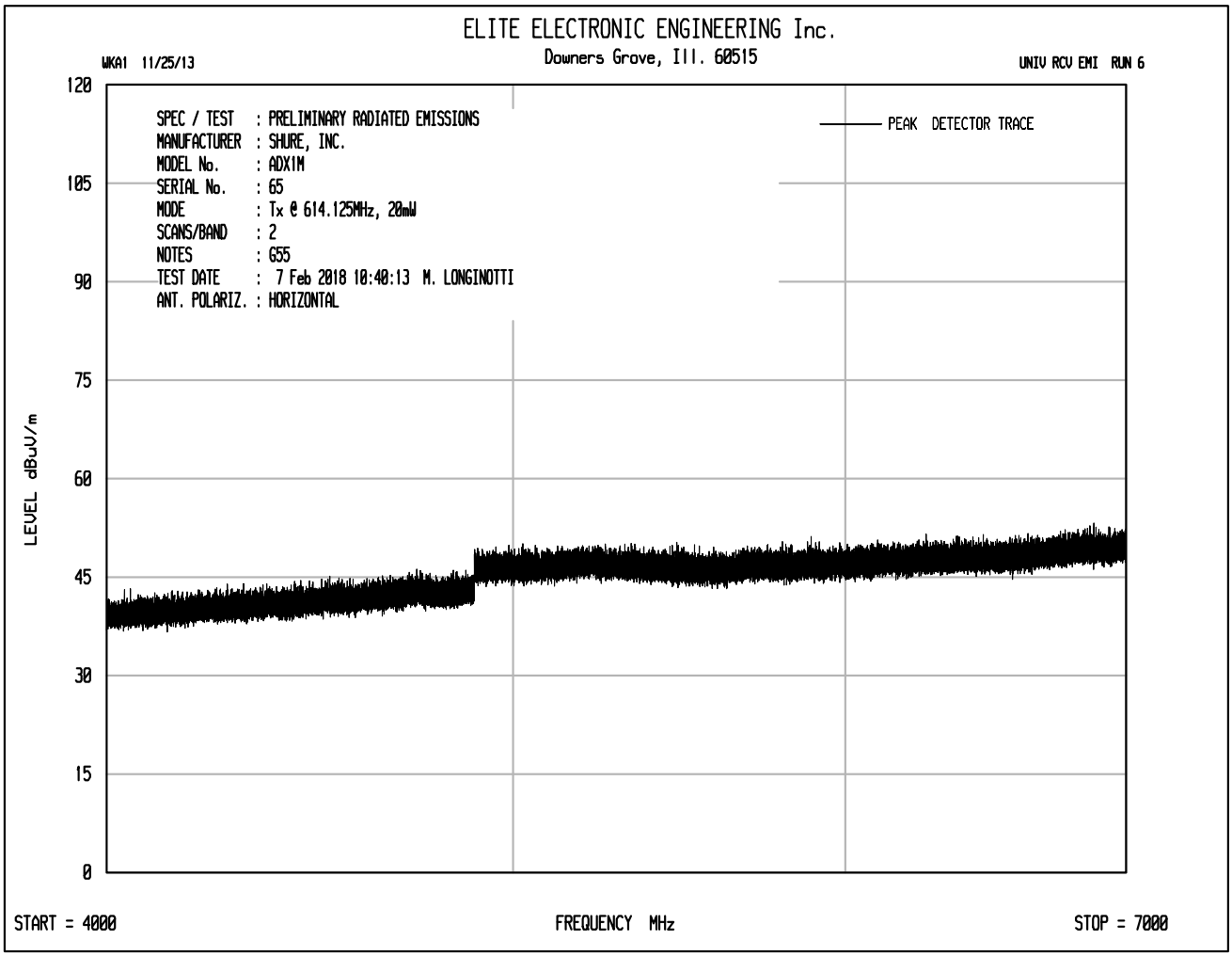
Mark E. Longinotti

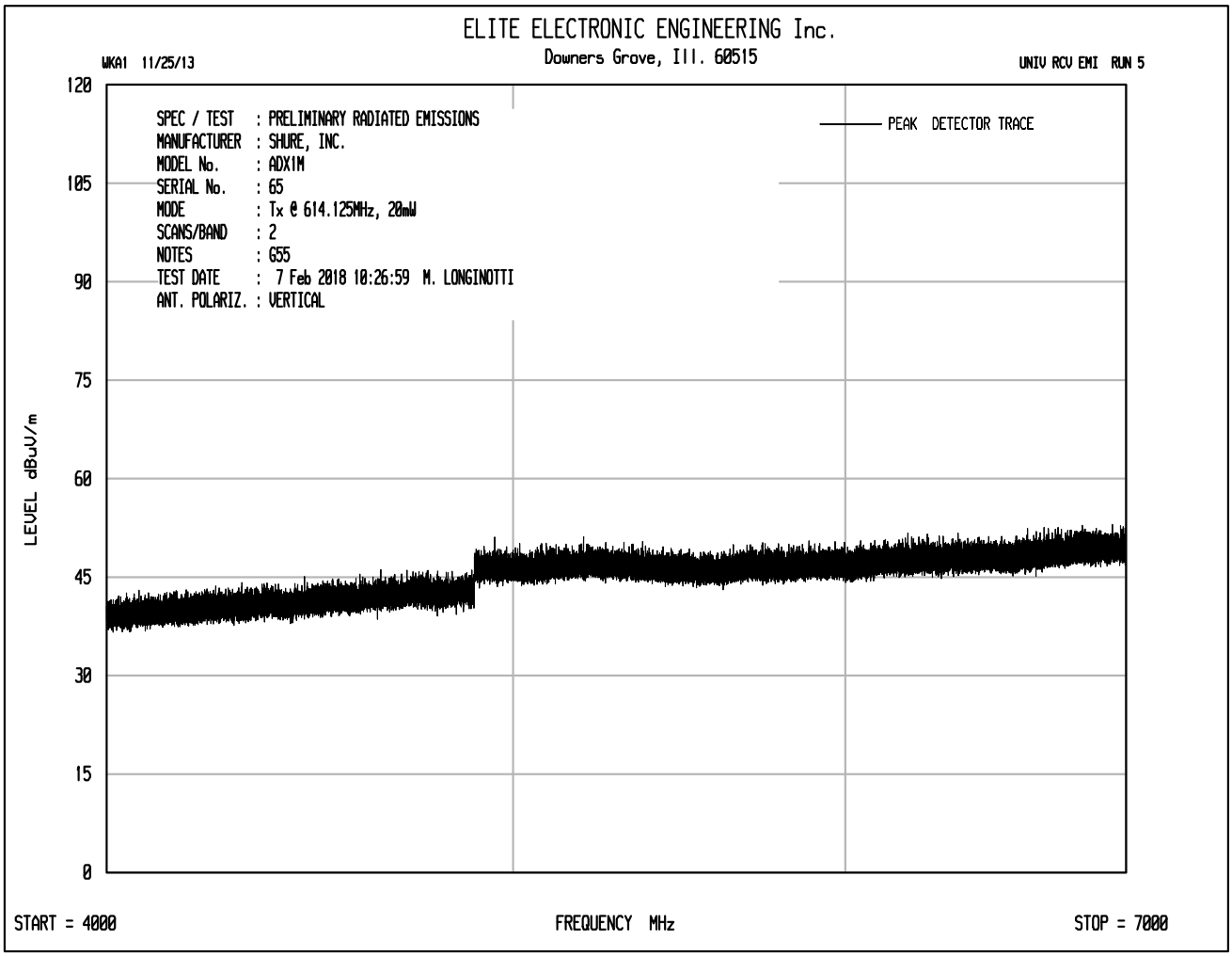

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 14
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 614.125MHz, 20mW
SCANS/BAND : 2
NOTES : G57
TEST DATE : 18 Dec 2017 13:50:53 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 25
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 15
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 614.125MHz, 20mW
SCANS/BAND : 2
NOTES : G57
TEST DATE : 18 Dec 2017 13:57:10 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 25
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 37
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 614.125MHz, 20mW
SCANS/BAND : 1
NOTES : G57
TEST DATE : 7 Feb 2018 10:37:34 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 4000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 35
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 614.125MHz, 20mW
SCANS/BAND : 1
NOTES : G57
TEST DATE : 7 Feb 2018 10:23:53 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 4000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 6
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 614.125MHz, 20mW
SCANS/BAND : 2
NOTES : G55
TEST DATE : 7 Feb 2018 10:40:13 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 4000
FREQUENCY MHz
STOP = 7000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 5
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 614.125MHz, 20mW
SCANS/BAND : 2
NOTES : G55
TEST DATE : 7 Feb 2018 10:26:59 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 4000
FREQUENCY MHz
STOP = 7000

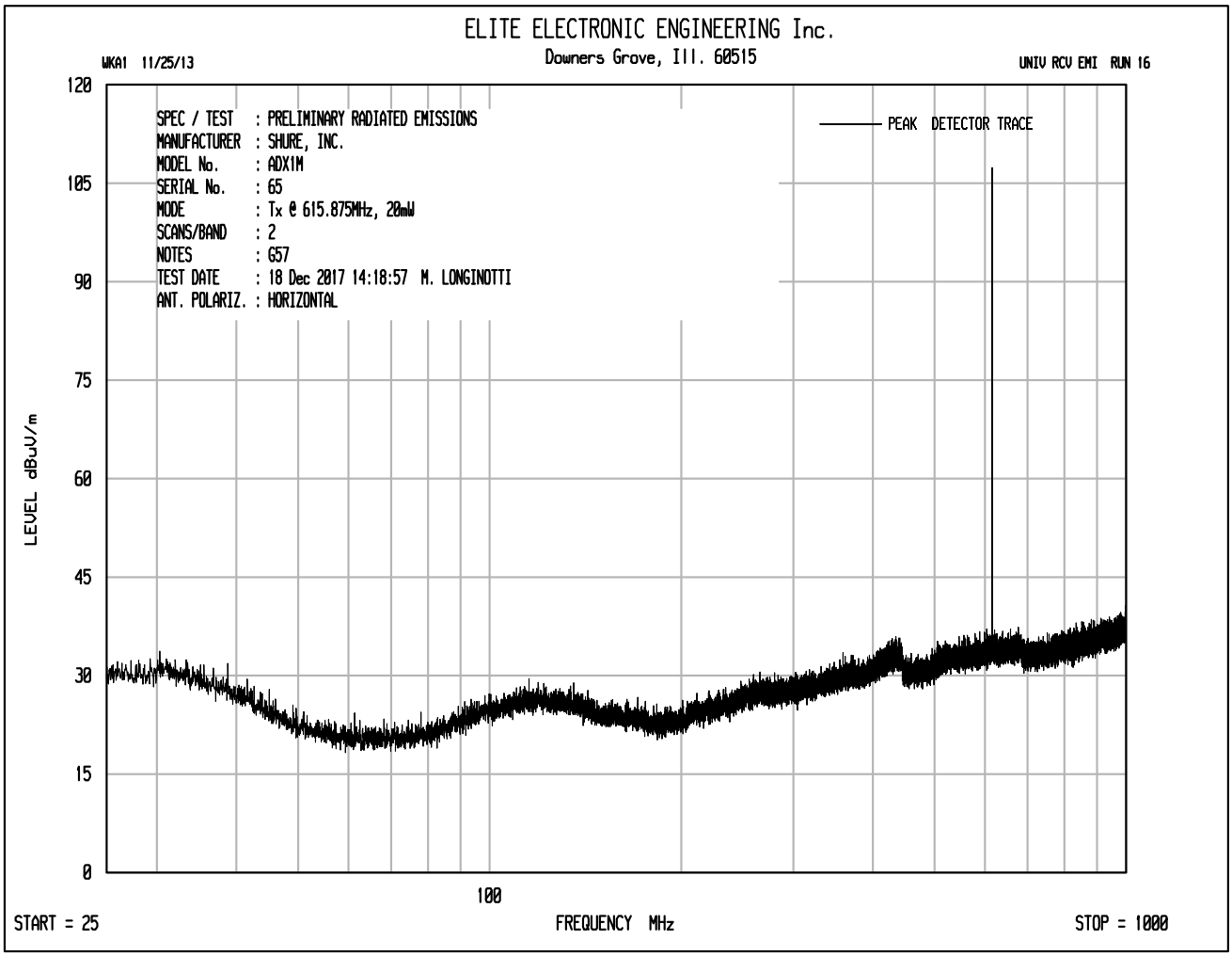
MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 65
SPECIFICATION : FCC 15.236(g) Spurious Radiated Emissions
DATE : December 18, 2017 through February 21, 2018
MODE : Transmit at 614.125MHz
UNIT : G57
EQUIPMENT USED : NTA4,RBG2,GRE2, NWQ0, NWQ2, GRE2, GSE0
NOTES : 20mW nominal power

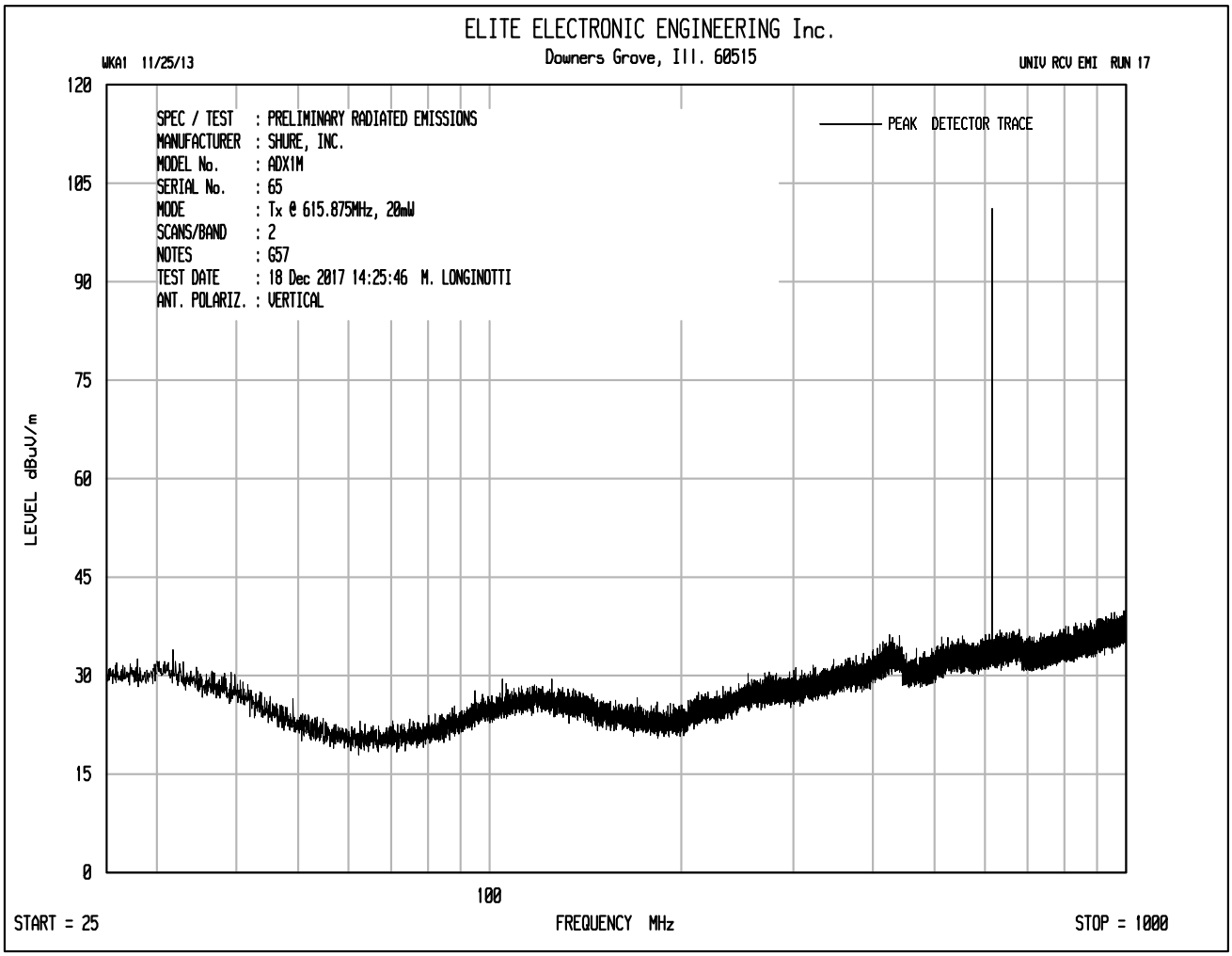
Freq. MHz	Ant Pol	Meter Reading (dBuV)	Ambient	Matched Sig. Gen. Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	ERP (dBm)	Limit dBm	Margin dB
1228.25	H	1.7		-66.8	3.2	2.4	-66.1	-30.0	-36.1
1228.25	V	2.6		-63.9	3.2	2.4	-63.2	-30.0	-33.2
1842.38	H	0.7	Ambient	-65.8	4.8	3.0	-64.0	-30.0	-34.0
1842.38	V	0.7	Ambient	-64.1	4.8	3.0	-62.3	-30.0	-32.3
2456.50	H	0.7	Ambient	-65.1	5.9	3.5	-62.7	-30.0	-32.7
2456.50	V	0.8	Ambient	-63.7	5.9	3.5	-61.3	-30.0	-31.3
3070.63	H	1.8	Ambient	-63.3	7.1	3.9	-60.1	-30.0	-30.1
3070.63	V	1.8	Ambient	-62.9	7.1	3.9	-59.7	-30.0	-29.7
3684.75	H	2.0	Ambient	-62.0	8.4	4.3	-57.9	-30.0	-27.9
3684.75	V	2.0	Ambient	-61.1	8.4	4.3	-57.0	-30.0	-27.0
4298.88	H	2.4	Ambient	-60.0	9.1	4.6	-55.5	-30.0	-25.5
4298.88	V	2.4	Ambient	-60.3	9.1	4.6	-55.8	-30.0	-25.8
4913.00	H	7.2	Ambient	-53.9	9.9	4.9	-48.9	-30.0	-18.9
4913.00	V	7.2	Ambient	-53.1	9.9	4.9	-48.1	-30.0	-18.1
5527.13	H	6.4	Ambient	-52.2	10.2	5.2	-47.2	-30.0	-17.2
5527.13	V	6.4	Ambient	-54.1	10.2	5.2	-49.1	-30.0	-19.1
6141.25	H	6.7	Ambient	-52.0	10.9	5.5	-46.6	-30.0	-16.6
6141.25	V	6.7	Ambient	-52.2	10.9	5.5	-46.8	-30.0	-16.8

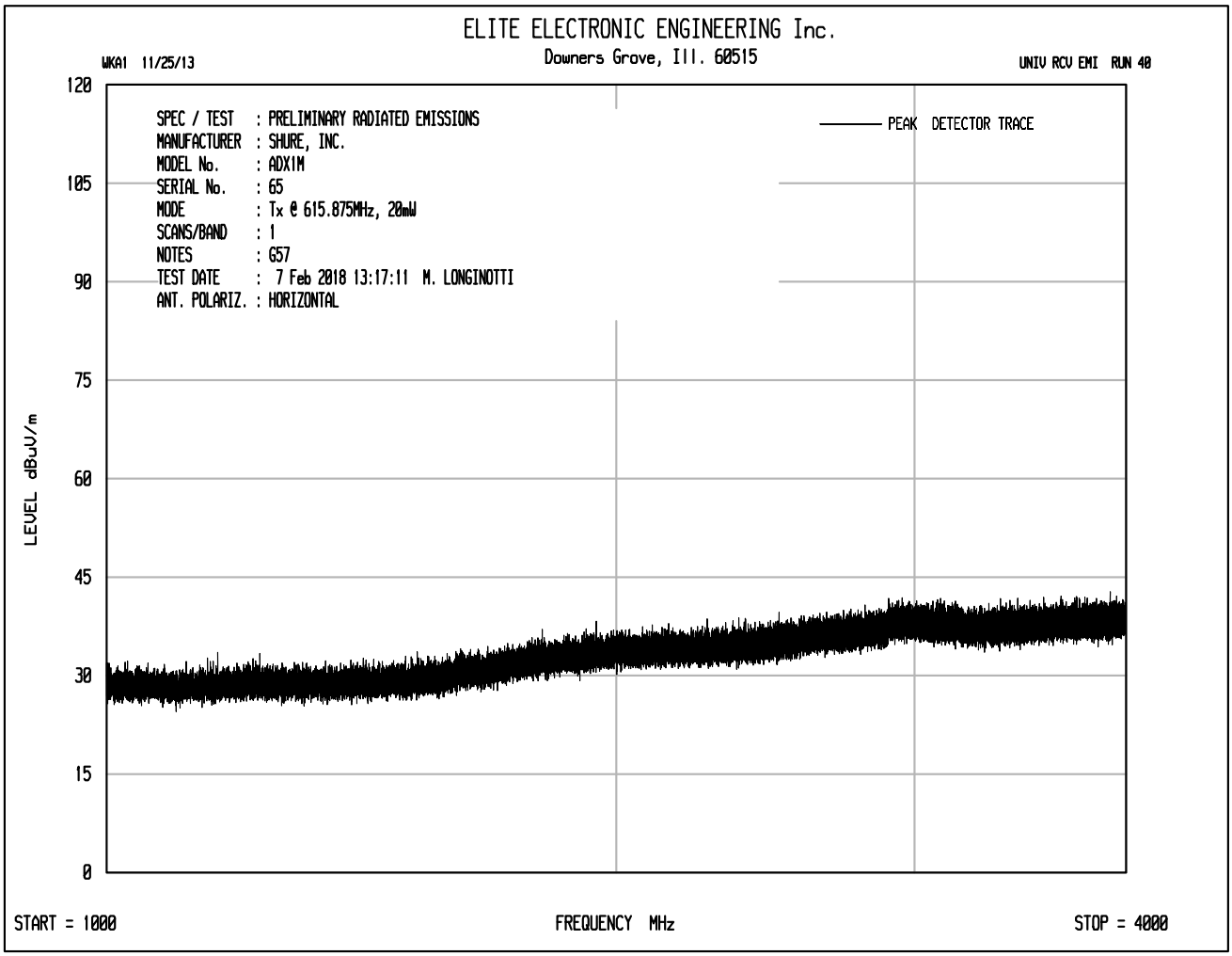
ERP (dBm) = Matched Sig. Gen.Reading (dBm) + Equivalent Antenna Gain (dB) – Cable Loss (dB)

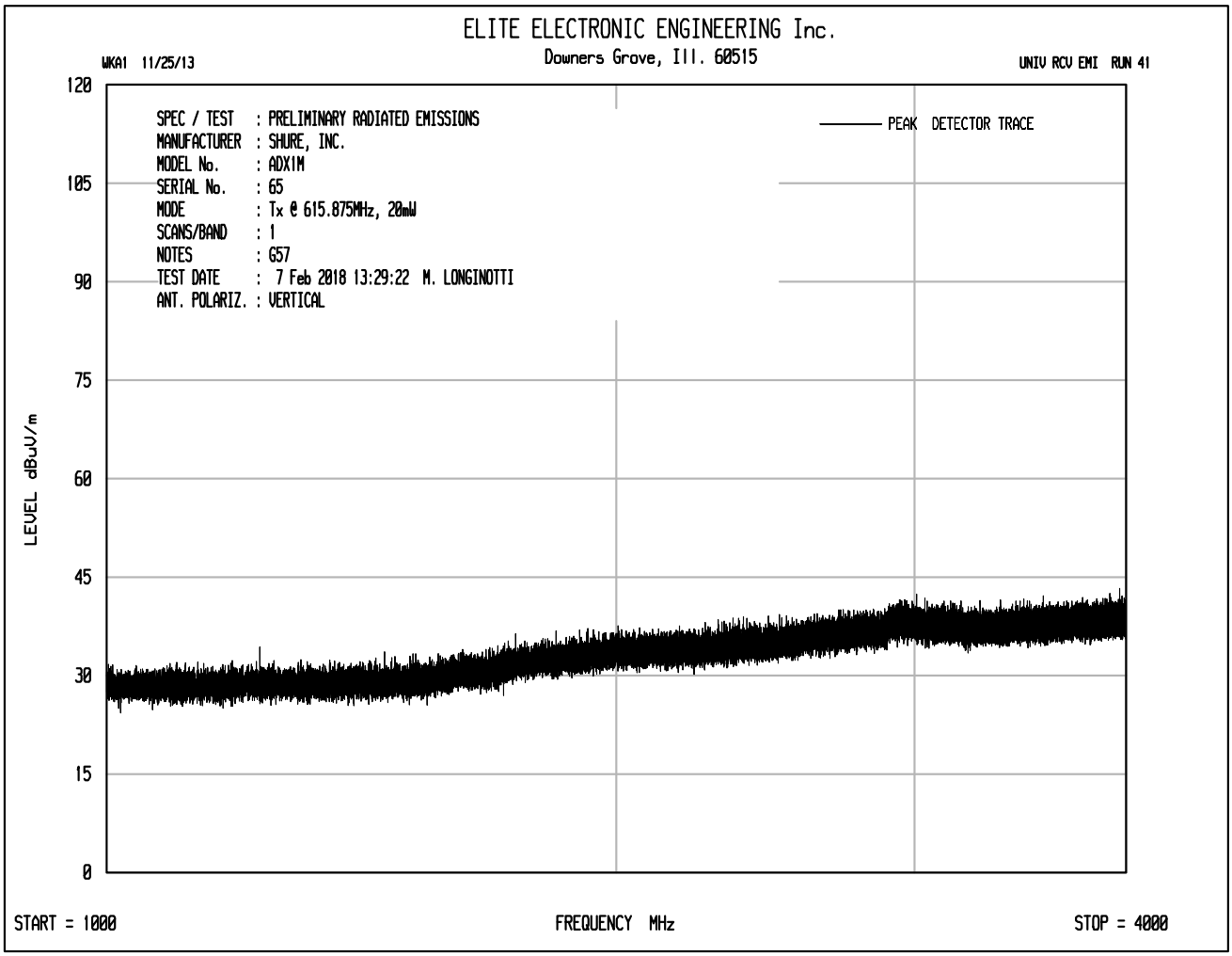
Checked By: MARK E. LONGINOTTI

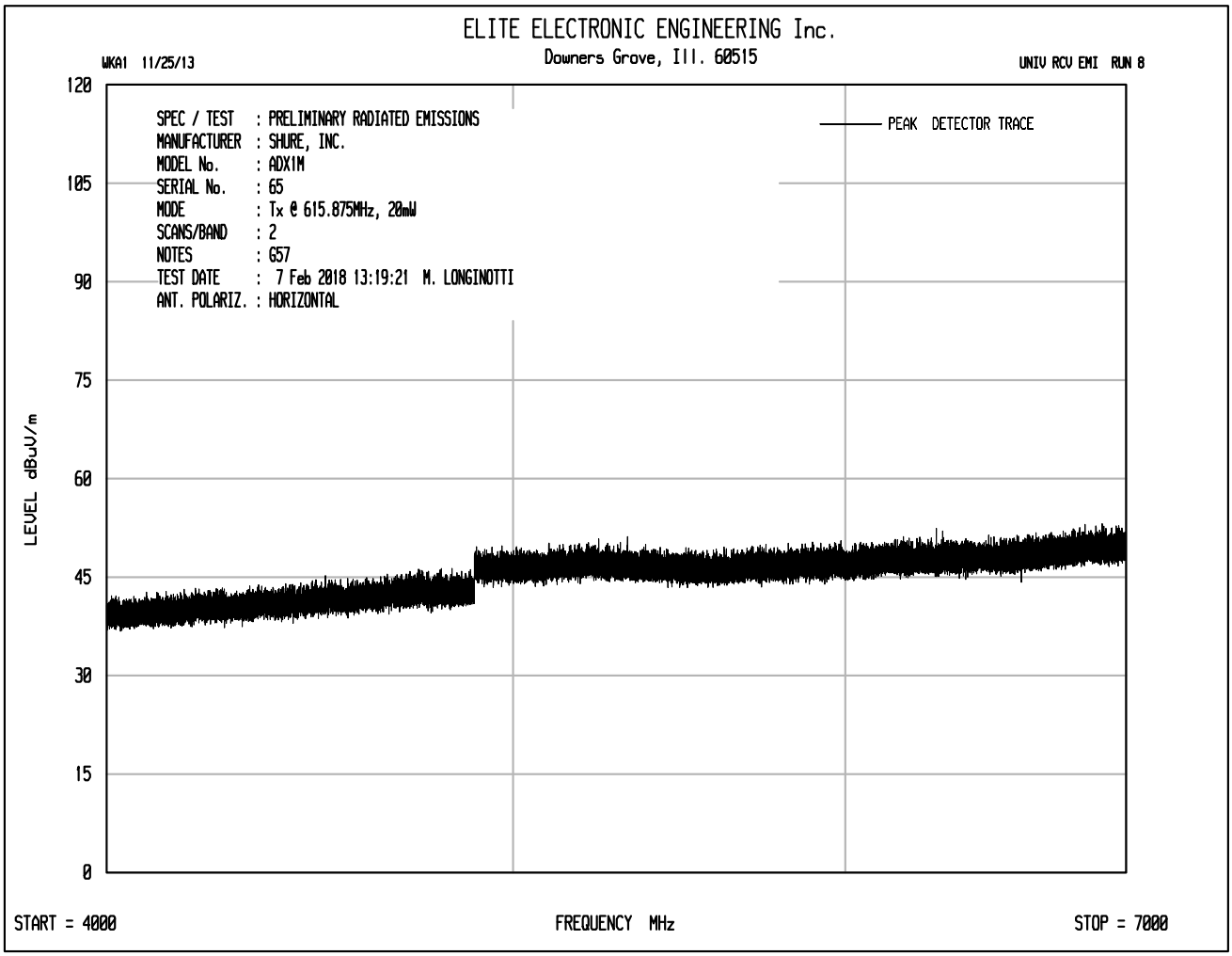
Mark E. Longinotti

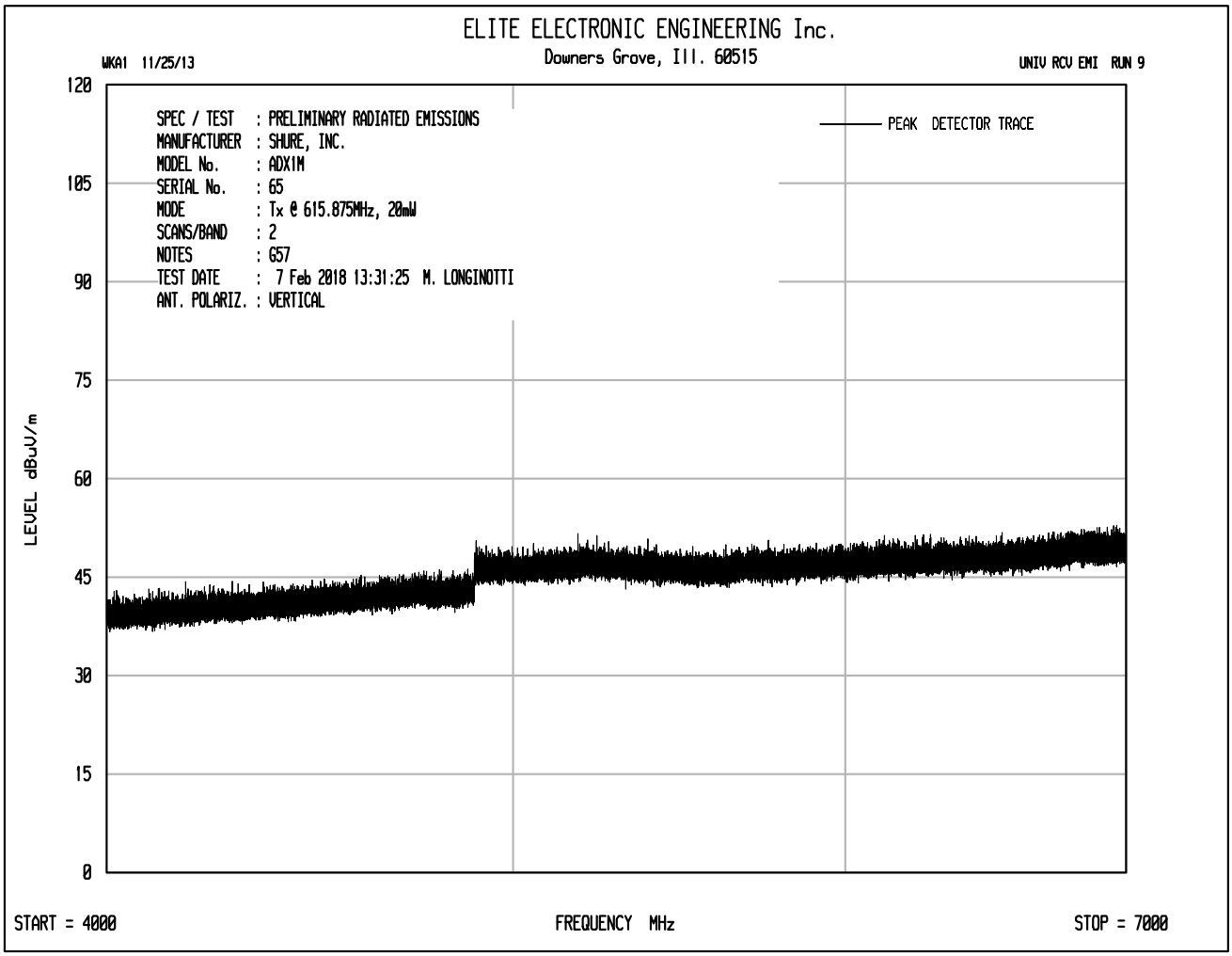

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 16
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 615.875MHz, 20mW
SCANS/BAND : 2
NOTES : G57
TEST DATE : 18 Dec 2017 14:18:57 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 25
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 17
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 615.875MHz, 20mW
SCANS/BAND : 2
NOTES : G57
TEST DATE : 18 Dec 2017 14:25:46 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 25
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 40
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 615.875MHz, 20mW
SCANS/BAND : 1
NOTES : G57
TEST DATE : 7 Feb 2018 13:17:11 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 4000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 41
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 615.875MHz, 20mW
SCANS/BAND : 1
NOTES : G57
TEST DATE : 7 Feb 2018 13:29:22 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 4000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 8
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 615.875MHz, 20mW
SCANS/BAND : 2
NOTES : G57
TEST DATE : 7 Feb 2018 13:19:21 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 4000
FREQUENCY MHz
STOP = 7000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 9
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 615.875MHz, 20mW
SCANS/BAND : 2
NOTES : G57
TEST DATE : 7 Feb 2018 13:31:25 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 4000
FREQUENCY MHz
STOP = 7000

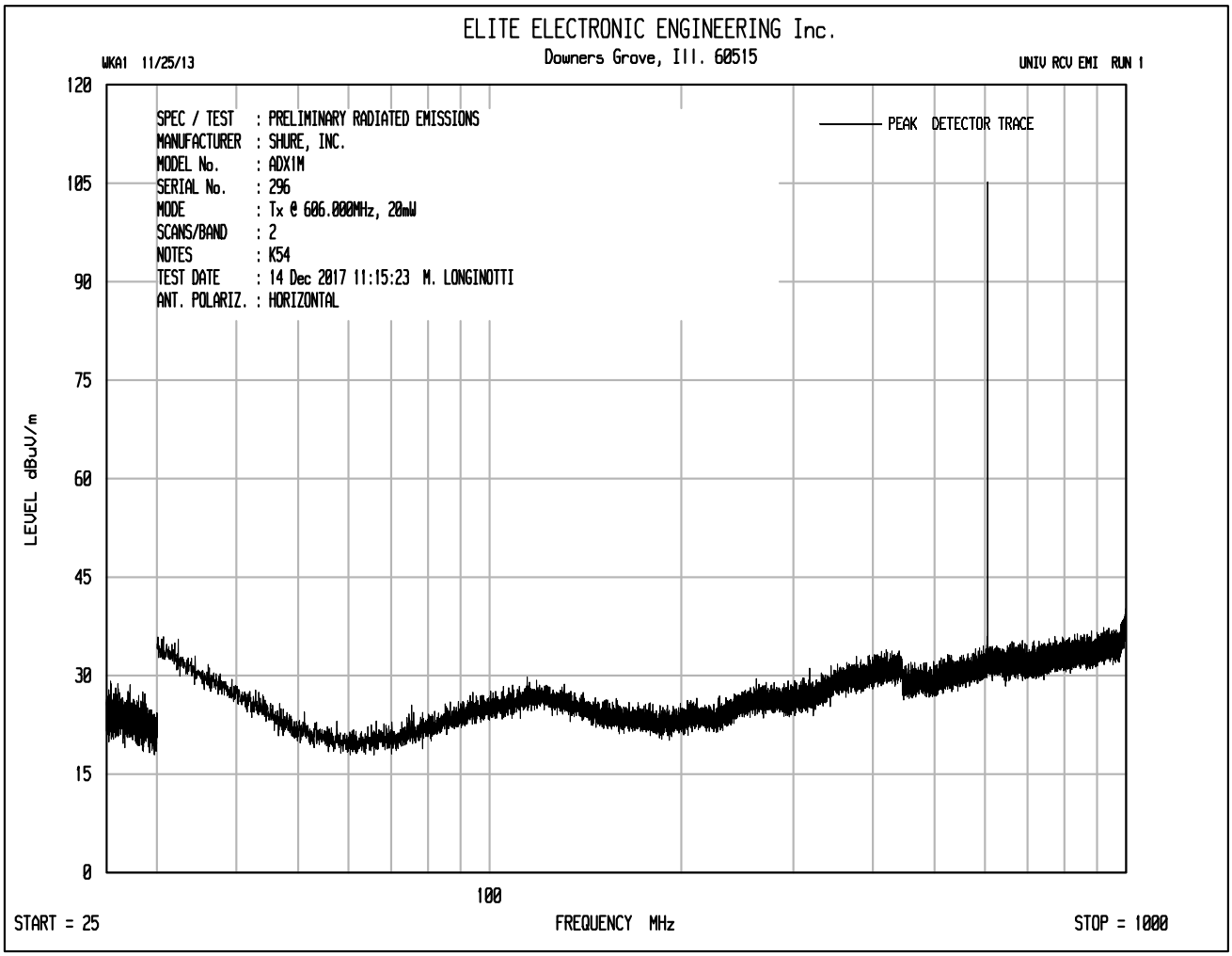
MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 65
SPECIFICATION : FCC 15.236(g) Spurious Radiated Emissions
DATE : December 18, 2017 through February 21, 2018
MODE : Transmit at 615.875MHz
UNIT : G57
EQUIPMENT USED : NTA4,RBG2,GRE2, NWQ0, NWQ2, GRE2, GSE0
NOTES : 20mW nominal power

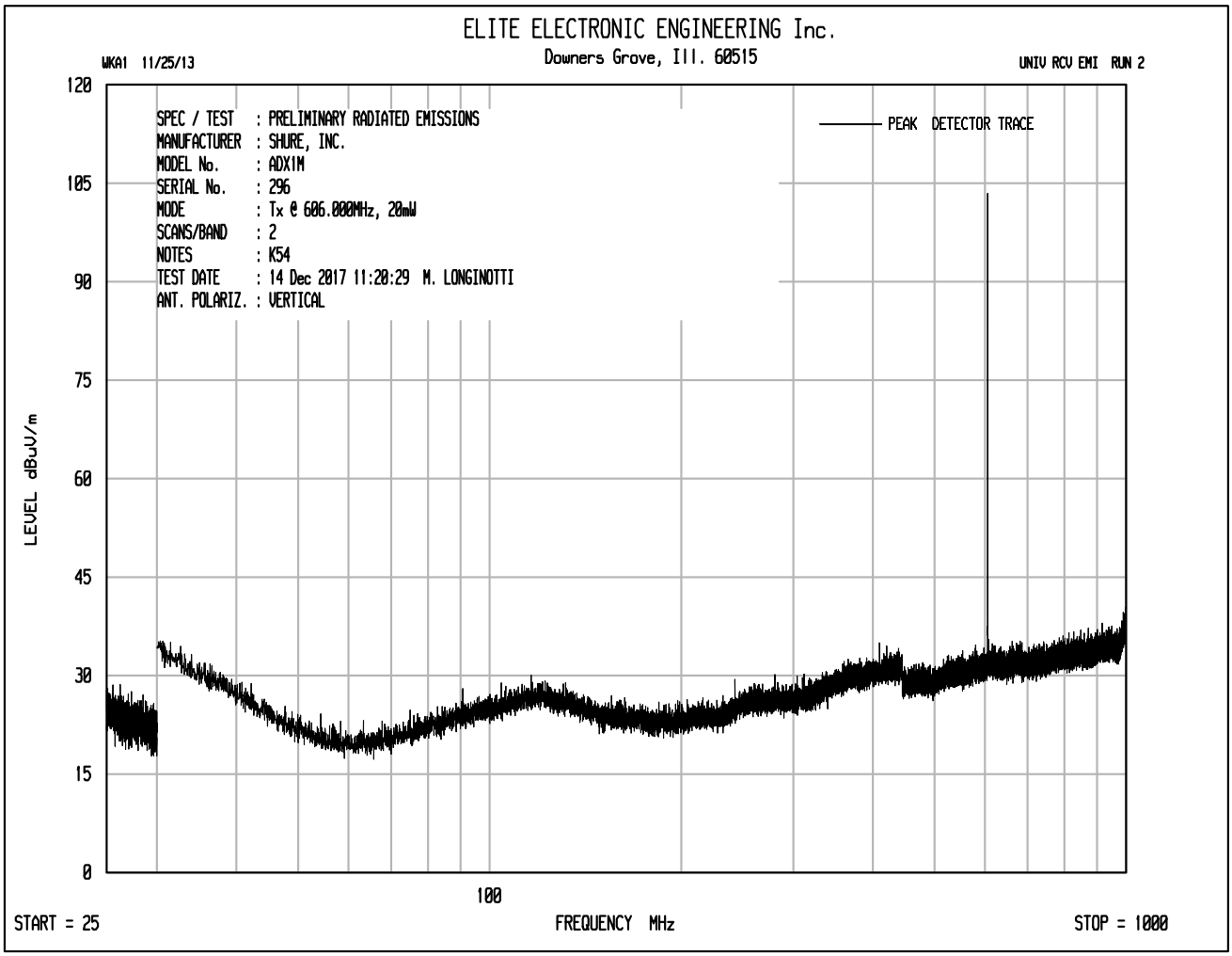
Freq. MHz	Ant Pol	Meter Reading (dBuV)	Ambient	Matched Sig. Gen. Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	ERP (dBm)	Limit dBm	Margin dB
1231.75	H	1.0		-67.8	3.2	2.4	-67.0	-30.0	-37.0
1231.75	V	2.5		-63.9	3.2	2.4	-63.1	-30.0	-33.1
1847.63	H	0.5	Ambient	-67.1	4.8	3.0	-65.3	-30.0	-35.3
1847.63	V	0.5	Ambient	-63.9	4.8	3.0	-62.1	-30.0	-32.1
2463.50	H	0.7	Ambient	-65.1	5.9	3.5	-62.7	-30.0	-32.7
2463.50	V	0.7	Ambient	-63.6	5.9	3.5	-61.2	-30.0	-31.2
3079.38	H	1.8	Ambient	-64.0	7.1	3.9	-60.8	-30.0	-30.8
3079.38	V	1.8	Ambient	-62.4	7.1	3.9	-59.2	-30.0	-29.2
3695.25	H	2.0	Ambient	-62.0	8.4	4.3	-57.9	-30.0	-27.9
3695.25	V	2.0	Ambient	-61.3	8.4	4.3	-57.2	-30.0	-27.2
4311.13	H	2.4	Ambient	-60.1	9.2	4.6	-55.6	-30.0	-25.6
4311.13	V	2.4	Ambient	-59.7	9.2	4.6	-55.2	-30.0	-25.2
4927.00	H	7.0	Ambient	-53.8	9.9	4.9	-48.8	-30.0	-18.8
4927.00	V	7.0	Ambient	-52.8	9.9	4.9	-47.8	-30.0	-17.8
5542.88	H	6.3	Ambient	-52.8	10.2	5.2	-47.8	-30.0	-17.8
5542.88	V	6.3	Ambient	-53.8	10.2	5.2	-48.8	-30.0	-18.8
6158.75	H	6.6	Ambient	-52.5	11.0	5.5	-47.1	-30.0	-17.1
6158.75	V	6.6	Ambient	-52.9	11.0	5.5	-47.5	-30.0	-17.5

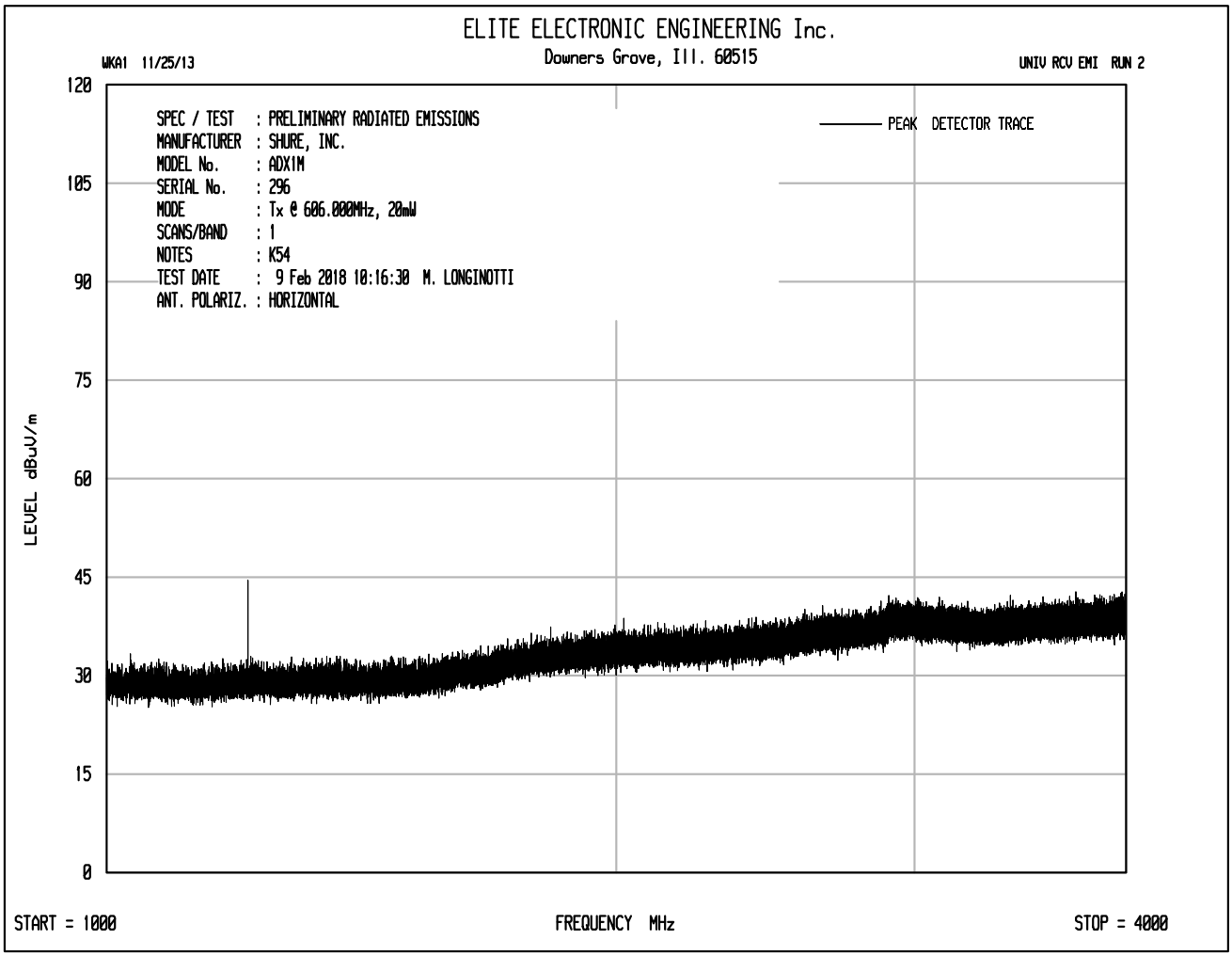
ERP (dBm) = Matched Sig. Gen.Reading (dBm) + Equivalent Antenna Gain (dB) – Cable Loss (dB)

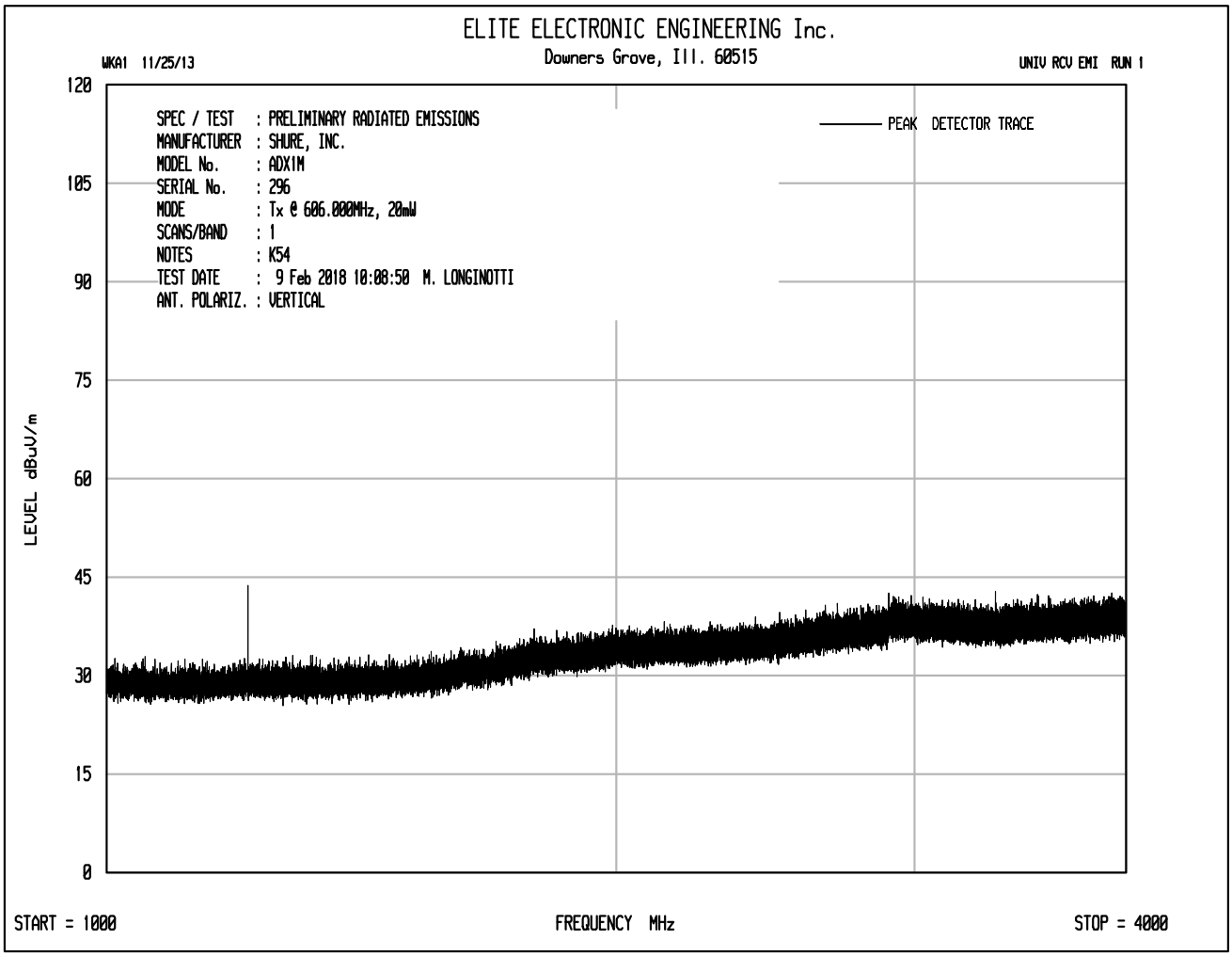
Checked By: MARK E. LONGINOTTI

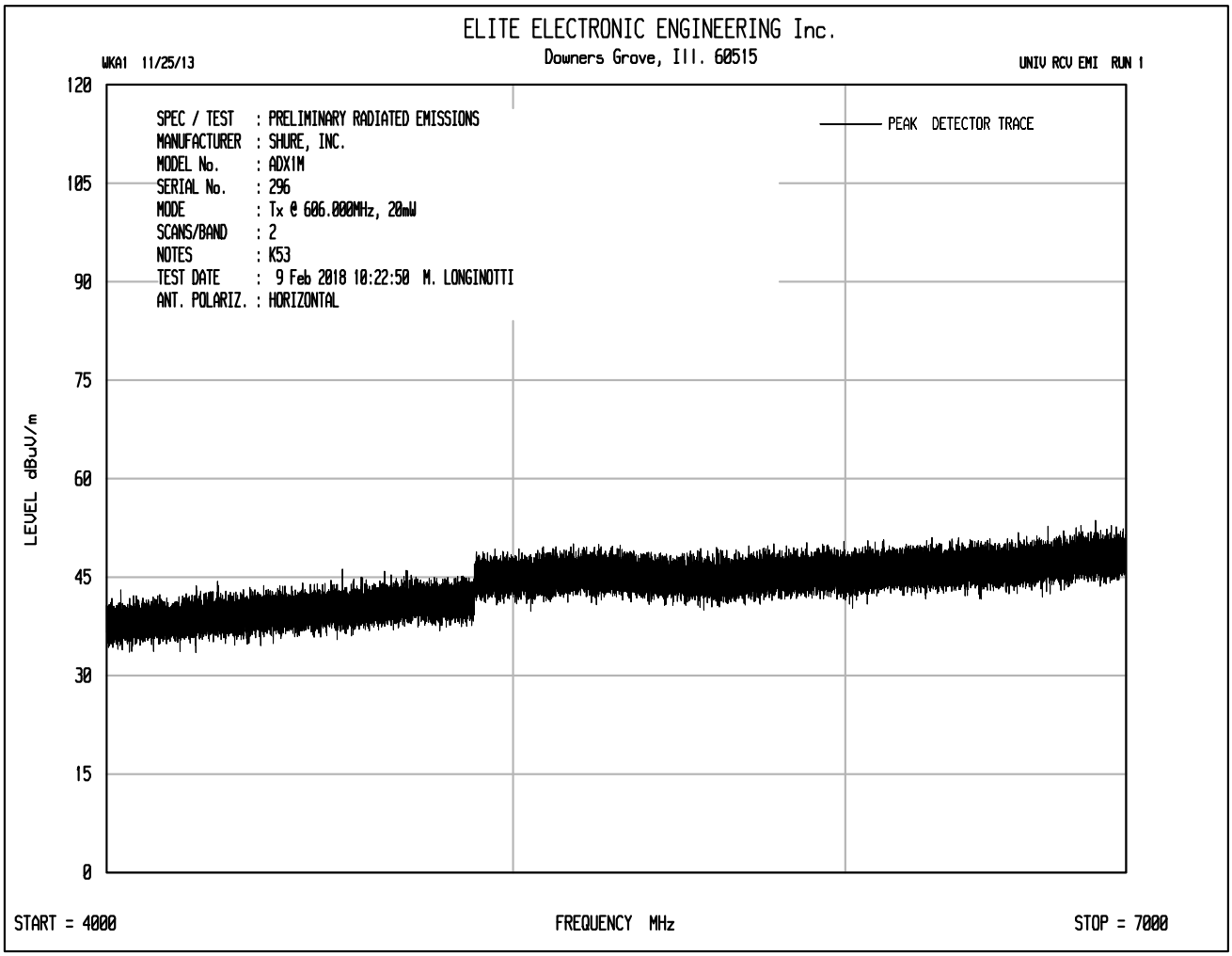
Mark E. Longinotti

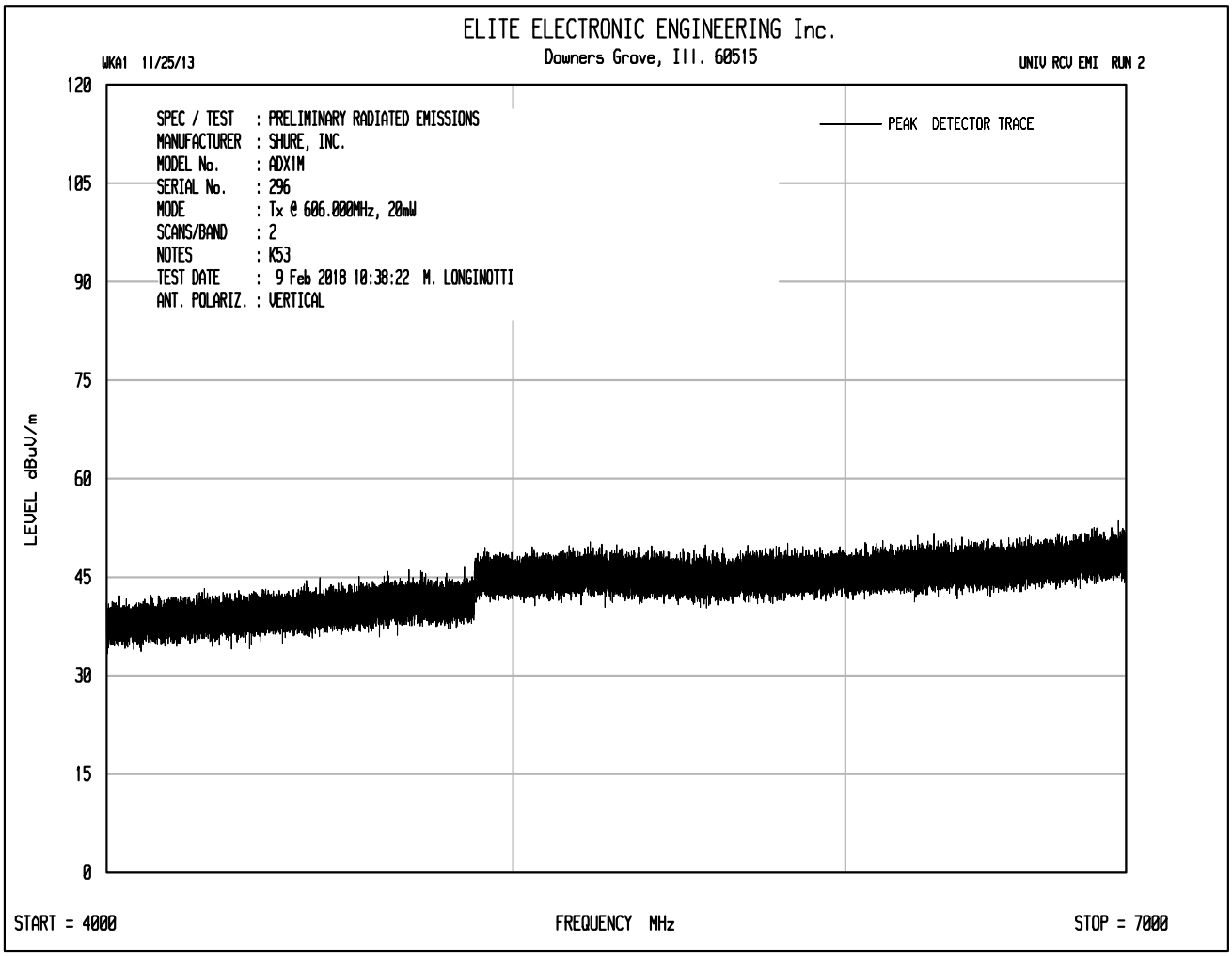

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 1
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 606.000MHz, 20mW
SCANS/BAND : 2
NOTES : K54
TEST DATE : 14 Dec 2017 11:15:23 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 25
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 2
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 606.000MHz, 20mW
SCANS/BAND : 2
NOTES : K54
TEST DATE : 14 Dec 2017 11:20:29 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 25
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 2
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 606.000MHz, 20mW
SCANS/BAND : 1
NOTES : K54
TEST DATE : 9 Feb 2018 10:16:30 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 4000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 1
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 606.000MHz, 20mW
SCANS/BAND : 1
NOTES : K54
TEST DATE : 9 Feb 2018 10:08:50 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 4000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 1
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 606.000MHz, 20mW
SCANS/BAND : 2
NOTES : K53
TEST DATE : 9 Feb 2018 10:22:50 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 4000
FREQUENCY MHz
STOP = 7000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 2
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 606.000MHz, 20mW
SCANS/BAND : 2
NOTES : K53
TEST DATE : 9 Feb 2018 10:38:22 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 4000
FREQUENCY MHz
STOP = 7000

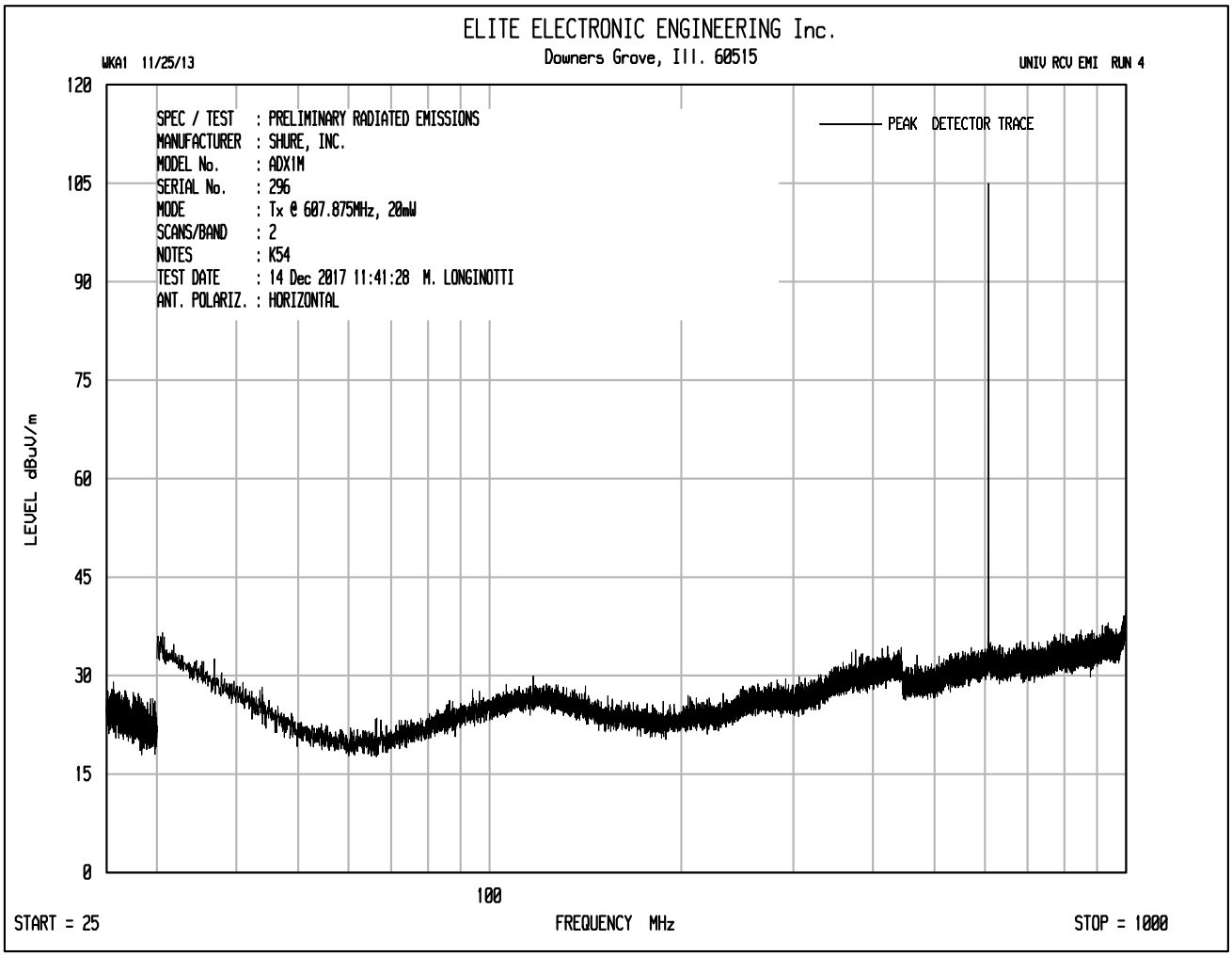
MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 296
SPECIFICATION : FCC 15.236(g) Spurious Radiated Emissions
DATE : December 14, 2017 through February 9, 2018
MODE : Transmit at 606.000MHz
UNIT : K54
EQUIPMENT USED : NTA4,RBG2,GRE2, NWQ0, NWQ2, GRE2, GSE0
NOTES : 20mW nominal power

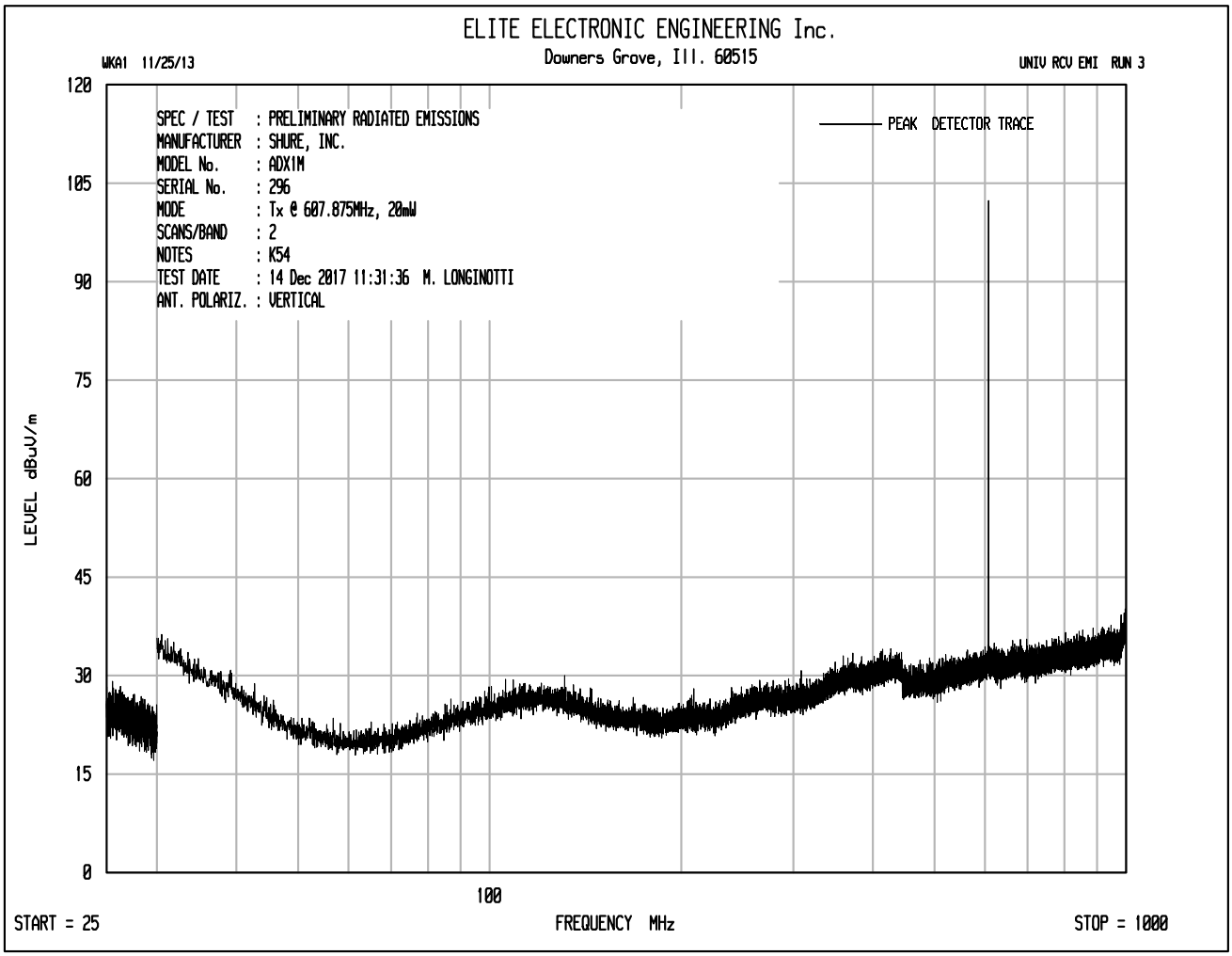
Freq. MHz	Ant Pol	Meter Reading (dBuV)	Ambient	Matched Sig. Gen. Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	ERP (dBm)	Limit dBm	Margin dB
1212.00	H	10.8		-58.2	3.1	2.4	-57.5	-30.0	-27.5
1212.00	V	10.0		-56.7	3.1	2.4	-56.0	-30.0	-26.0
1818.00	H	0.5	Ambient	-66.6	4.9	2.9	-64.7	-30.0	-34.7
1818.00	V	0.5	Ambient	-64.2	4.9	2.9	-62.3	-30.0	-32.3
2424.00	H	0.7	Ambient	-65.5	5.8	3.5	-63.1	-30.0	-33.1
2424.00	V	0.7	Ambient	-64.2	5.8	3.5	-61.8	-30.0	-31.8
3030.00	H	2.0	Ambient	-64.0	7.1	3.9	-60.8	-30.0	-30.8
3030.00	V	2.0	Ambient	-62.7	7.1	3.9	-59.5	-30.0	-29.5
3636.00	H	2.1	Ambient	-62.2	8.3	4.3	-58.2	-30.0	-28.2
3636.00	V	2.1	Ambient	-61.4	8.3	4.3	-57.4	-30.0	-27.4
4242.00	H	2.5	Ambient	-60.1	9.1	4.6	-55.6	-30.0	-25.6
4242.00	V	2.5	Ambient	-60.5	9.1	4.6	-56.0	-30.0	-26.0
4848.00	H	3.5	Ambient	-57.7	9.8	4.9	-52.7	-30.0	-22.7
4848.00	V	3.4	Ambient	-56.9	9.8	4.9	-51.9	-30.0	-21.9
5454.00	H	6.5	Ambient	-53.0	10.2	5.2	-48.0	-30.0	-18.0
5454.00	V	6.5	Ambient	-54.2	10.2	5.2	-49.2	-30.0	-19.2
6060.00	H	6.5	Ambient	-52.3	10.8	5.5	-46.9	-30.0	-16.9
6060.00	V	6.5	Ambient	-53.4	10.8	5.5	-48.0	-30.0	-18.0

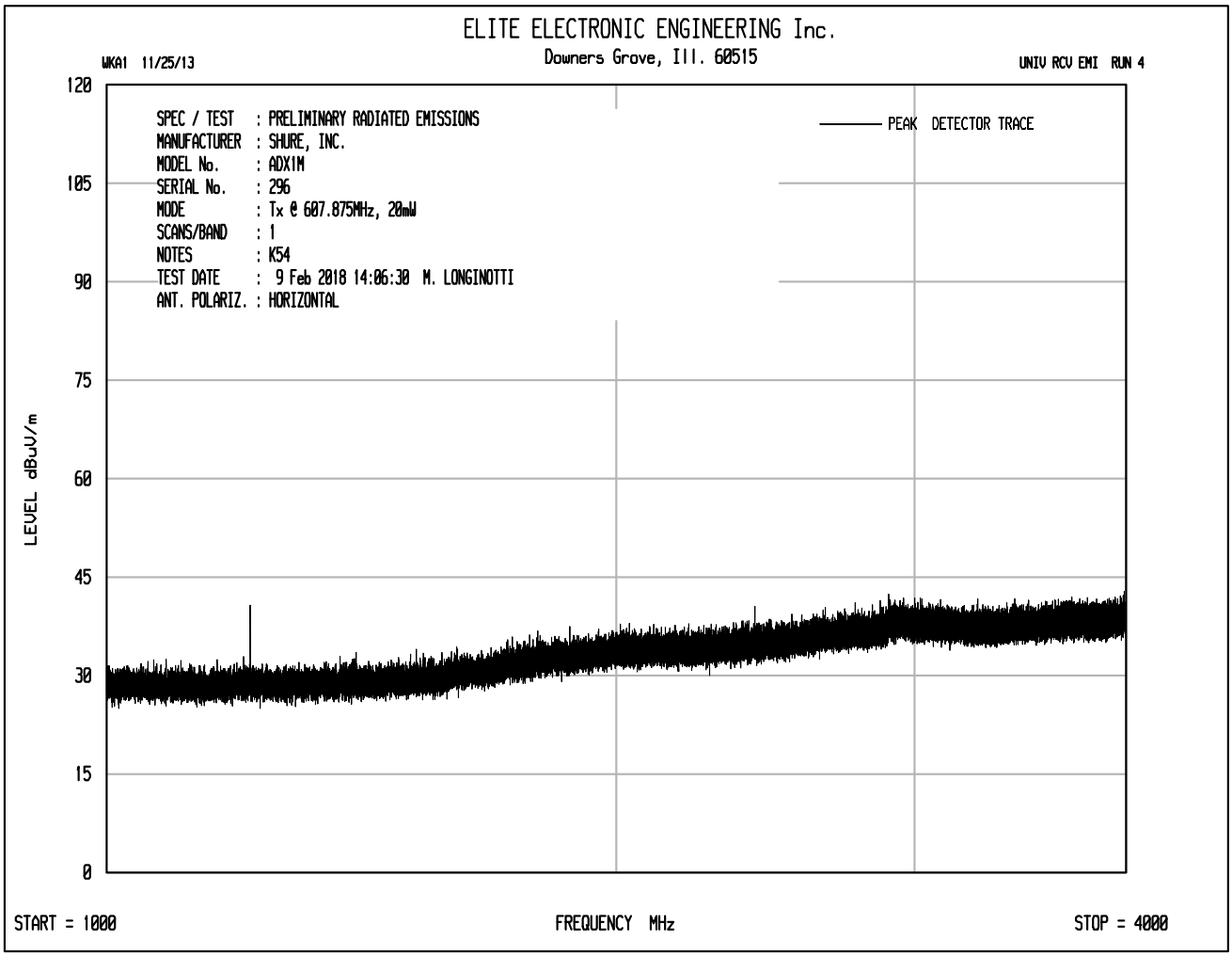
ERP (dBm) = Matched Sig. Gen.Reading (dBm) + Equivalent Antenna Gain (dB) – Cable Loss (dB)

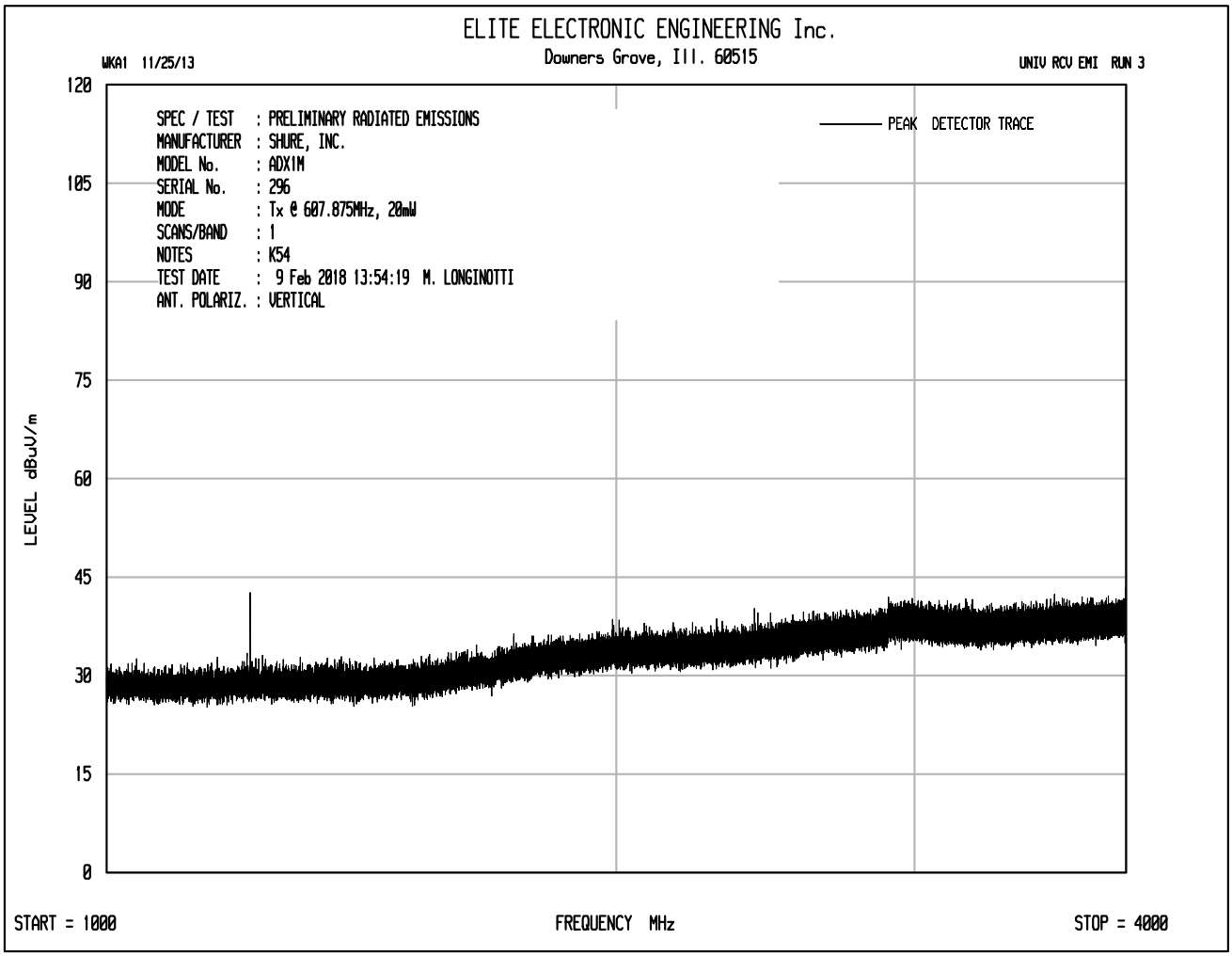
Checked By: MARK E. LONGINOTTI

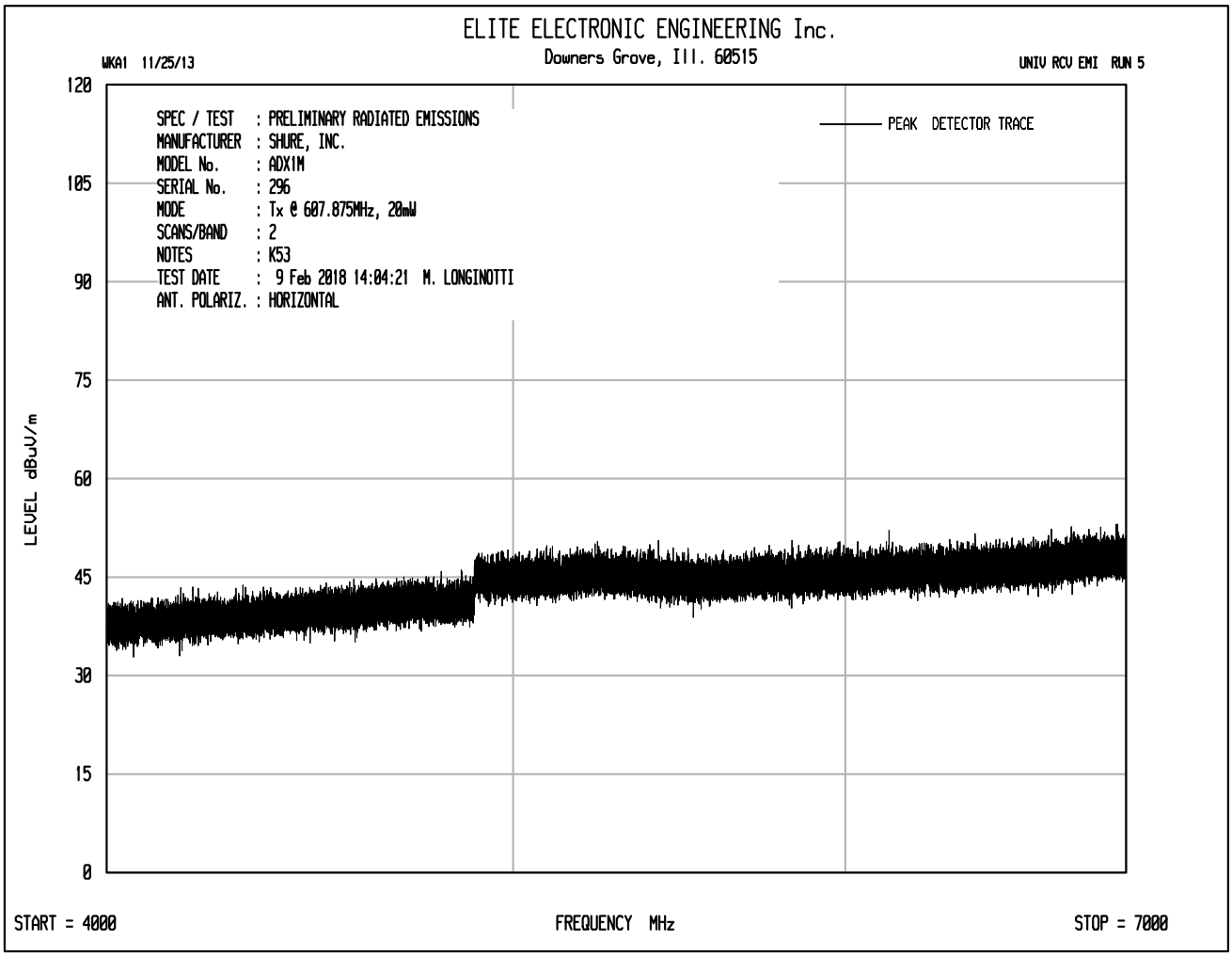
Mark E. Longinotti

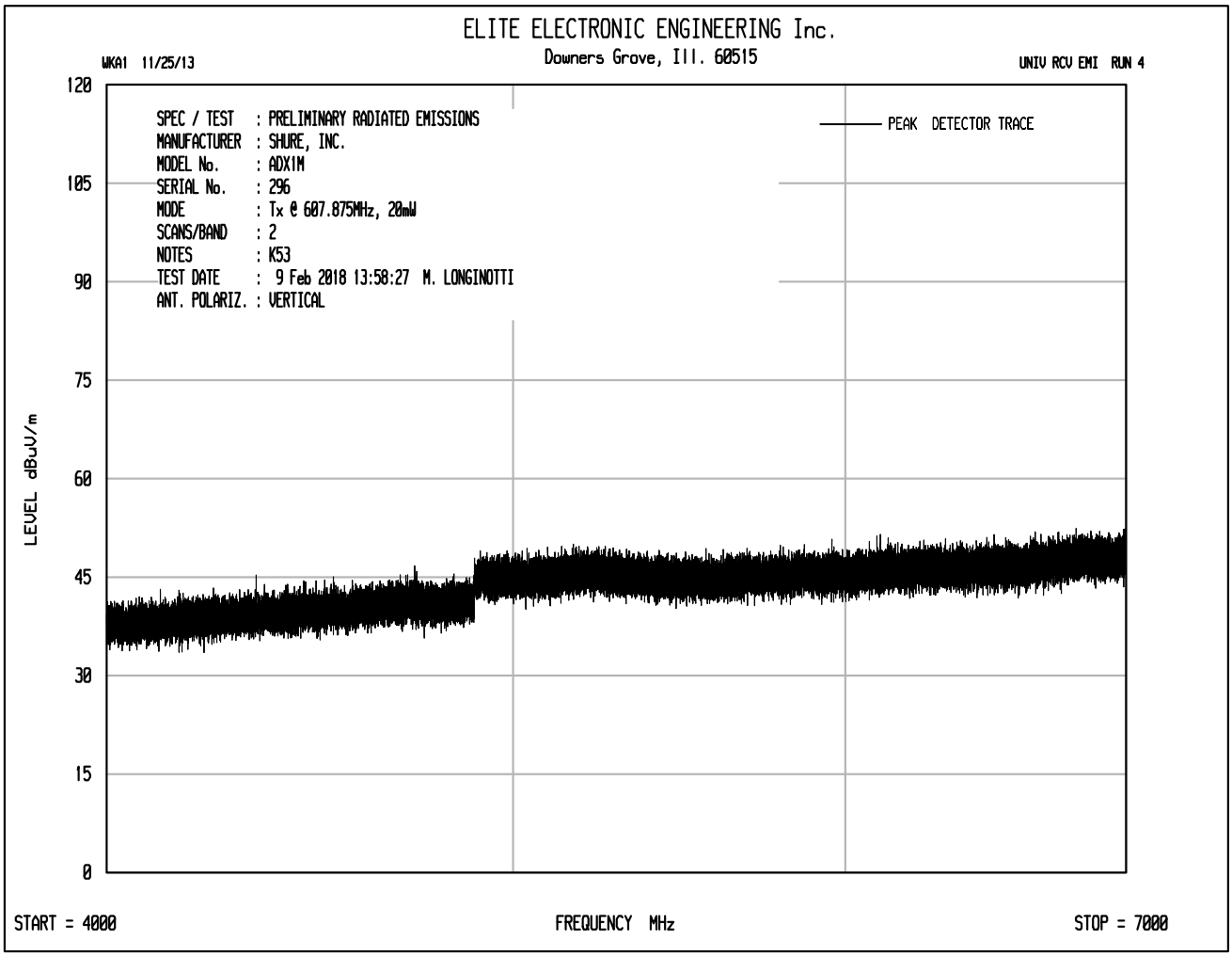

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 4
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 607.875MHz, 20mW
SCANS/BAND : 2
NOTES : K54
TEST DATE : 14 Dec 2017 11:41:28 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 25
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 3
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 607.875MHz, 20mW
SCANS/BAND : 2
NOTES : K54
TEST DATE : 14 Dec 2017 11:31:36 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 25
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 4
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 607.875MHz, 20mW
SCANS/BAND : 1
NOTES : K54
TEST DATE : 9 Feb 2018 14:06:30 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 4000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 3
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 607.875MHz, 20mW
SCANS/BAND : 1
NOTES : K54
TEST DATE : 9 Feb 2018 13:54:19 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 4000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 5
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 607.875MHz, 20mW
SCANS/BAND : 2
NOTES : K53
TEST DATE : 9 Feb 2018 14:04:21 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 4000
FREQUENCY MHz
STOP = 7000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 4
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 607.875MHz, 20mW
SCANS/BAND : 2
NOTES : K53
TEST DATE : 9 Feb 2018 13:58:27 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 4000
FREQUENCY MHz
STOP = 7000

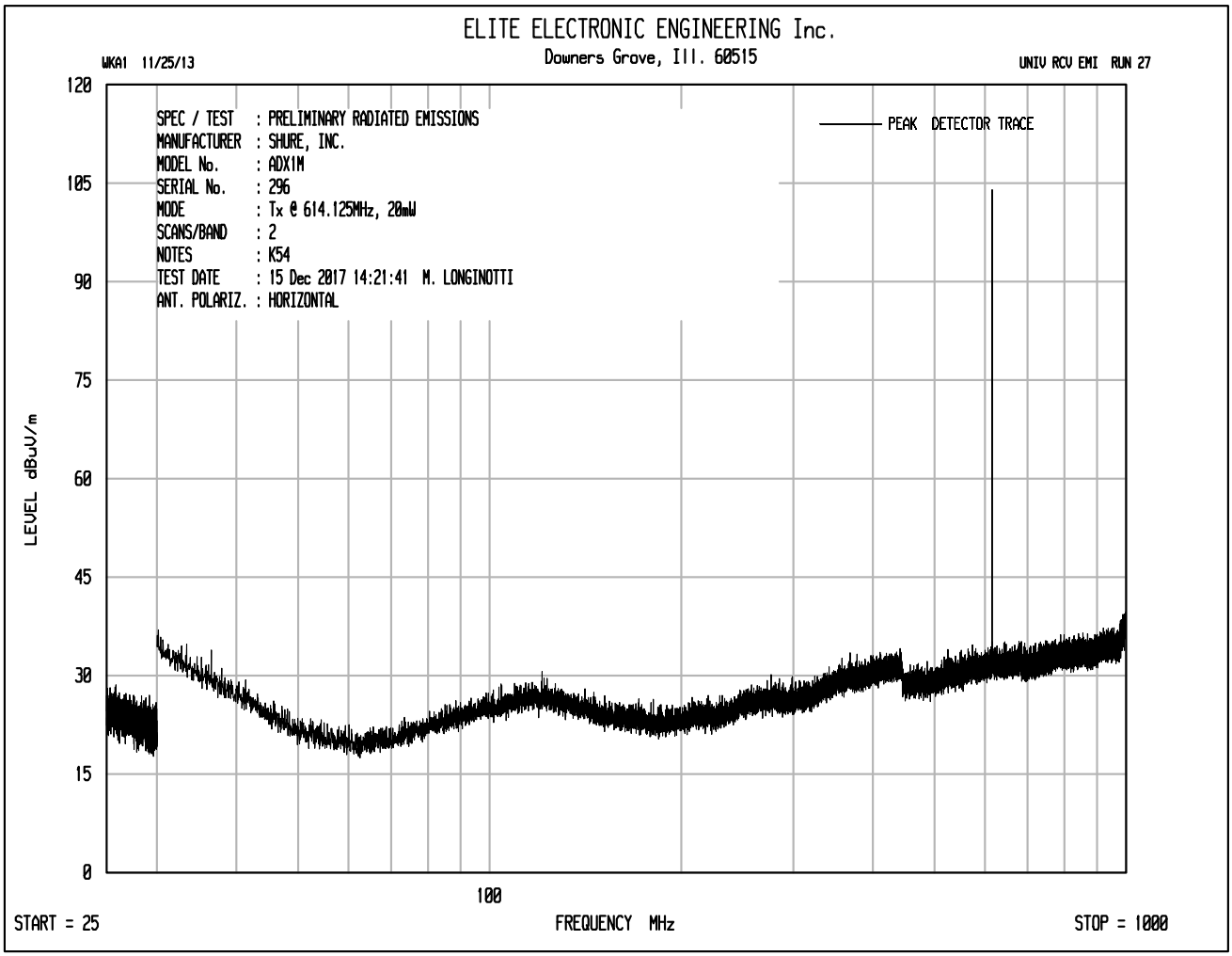
MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 296
SPECIFICATION : FCC 15.236(g) Spurious Radiated Emissions
DATE : December 14, 2017 through February 21, 2018
MODE : Transmit at 607.875MHz
UNIT : K54
EQUIPMENT USED : NTA4,RBG2,GRE2, NWQ0, NWQ2, GRE2, GSE0
NOTES : 20mW nominal power

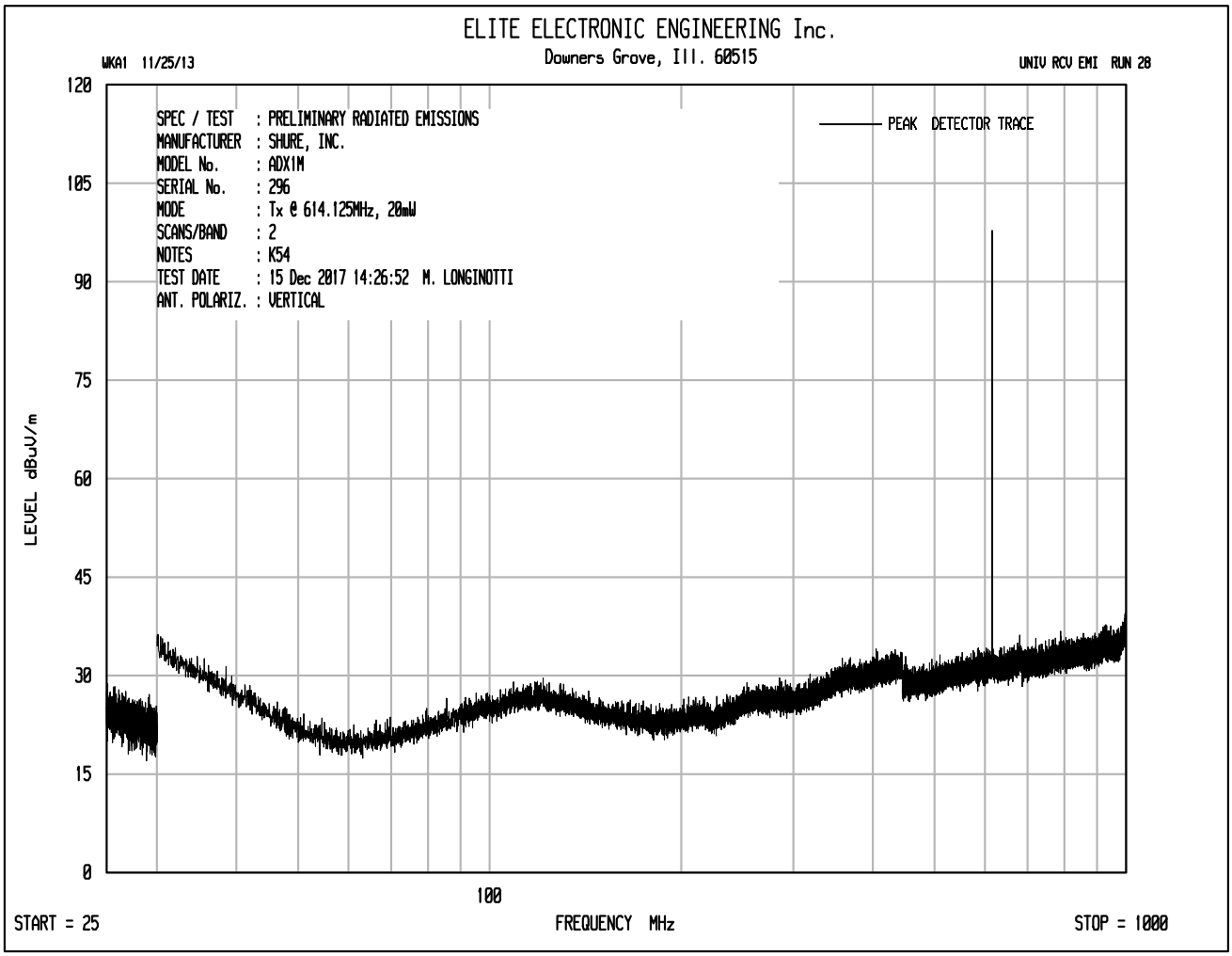
Freq. MHz	Ant Pol	Meter Reading (dBuV)	Ambient	Matched Sig. Gen. Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	ERP (dBm)	Limit dBm	Margin dB
1215.75	H	7.6		-59.4	3.1	2.4	-58.7	-30.0	-28.7
1215.75	V	9.8		-56.0	3.1	2.4	-55.3	-30.0	-25.3
1823.63	H	0.4	Ambient	-66.1	4.8	2.9	-64.2	-30.0	-34.2
1823.63	V	1.0	Ambient	-63.3	4.8	2.9	-61.4	-30.0	-31.4
2431.50	H	0.6	Ambient	-65.4	5.8	3.5	-63.0	-30.0	-33.0
2431.50	V	0.6	Ambient	-64.1	5.8	3.5	-61.7	-30.0	-31.7
3039.38	H	1.8	Ambient	-63.4	7.1	3.9	-60.2	-30.0	-30.2
3039.38	V	1.8	Ambient	-63.0	7.1	3.9	-59.8	-30.0	-29.8
3647.25	H	1.9	Ambient	-61.7	8.3	4.3	-57.7	-30.0	-27.7
3647.25	V	1.9	Ambient	-61.5	8.3	4.3	-57.5	-30.0	-27.5
4255.13	H	2.4	Ambient	-59.9	9.1	4.6	-55.4	-30.0	-25.4
4255.13	V	2.4	Ambient	-60.7	9.1	4.6	-56.2	-30.0	-26.2
4863.00	H	3.4	Ambient	-58.0	9.8	4.9	-53.0	-30.0	-23.0
4863.00	V	3.4	Ambient	-56.7	9.8	4.9	-51.7	-30.0	-21.7
5470.88	H	6.4	Ambient	-52.5	10.2	5.2	-47.5	-30.0	-17.5
5470.88	V	6.4	Ambient	-54.5	10.2	5.2	-49.5	-30.0	-19.5
6078.75	H	6.3	Ambient	-52.1	10.9	5.5	-46.7	-30.0	-16.7
6078.75	V	6.3	Ambient	-53.0	10.9	5.5	-47.6	-30.0	-17.6

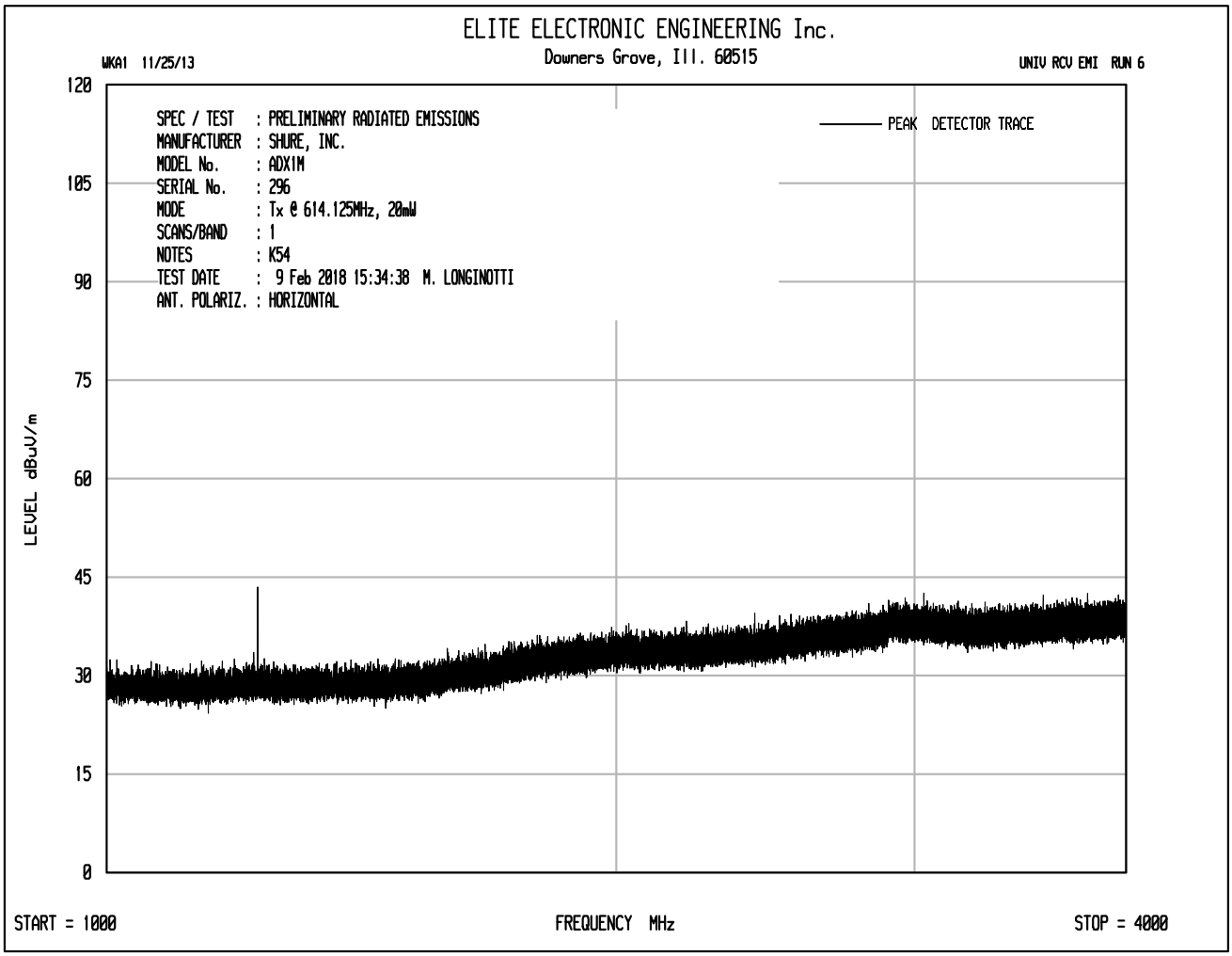
ERP (dBm) = Matched Sig. Gen.Reading (dBm) + Equivalent Antenna Gain (dB) – Cable Loss (dB)

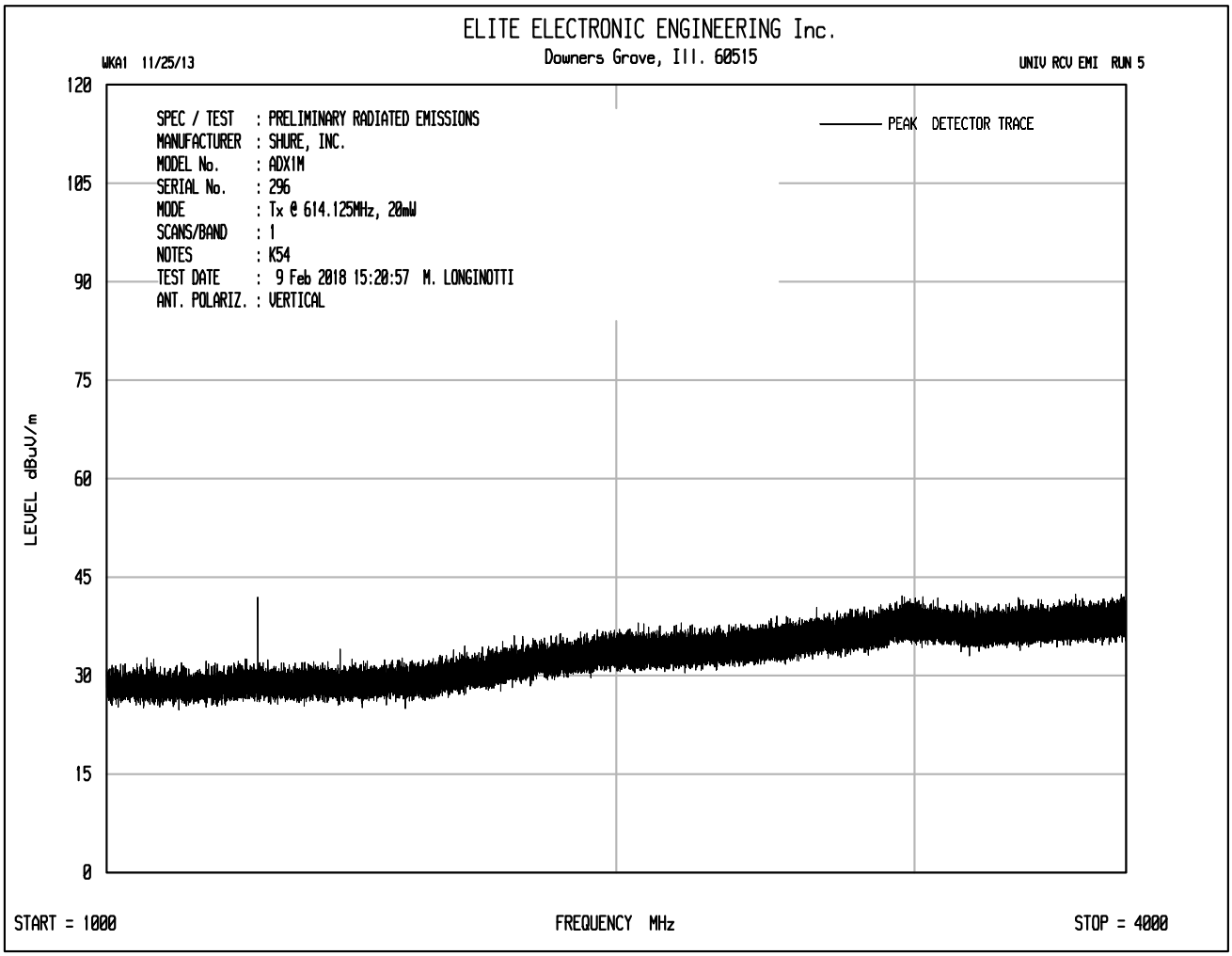
Checked By: MARK E. LONGINOTTI

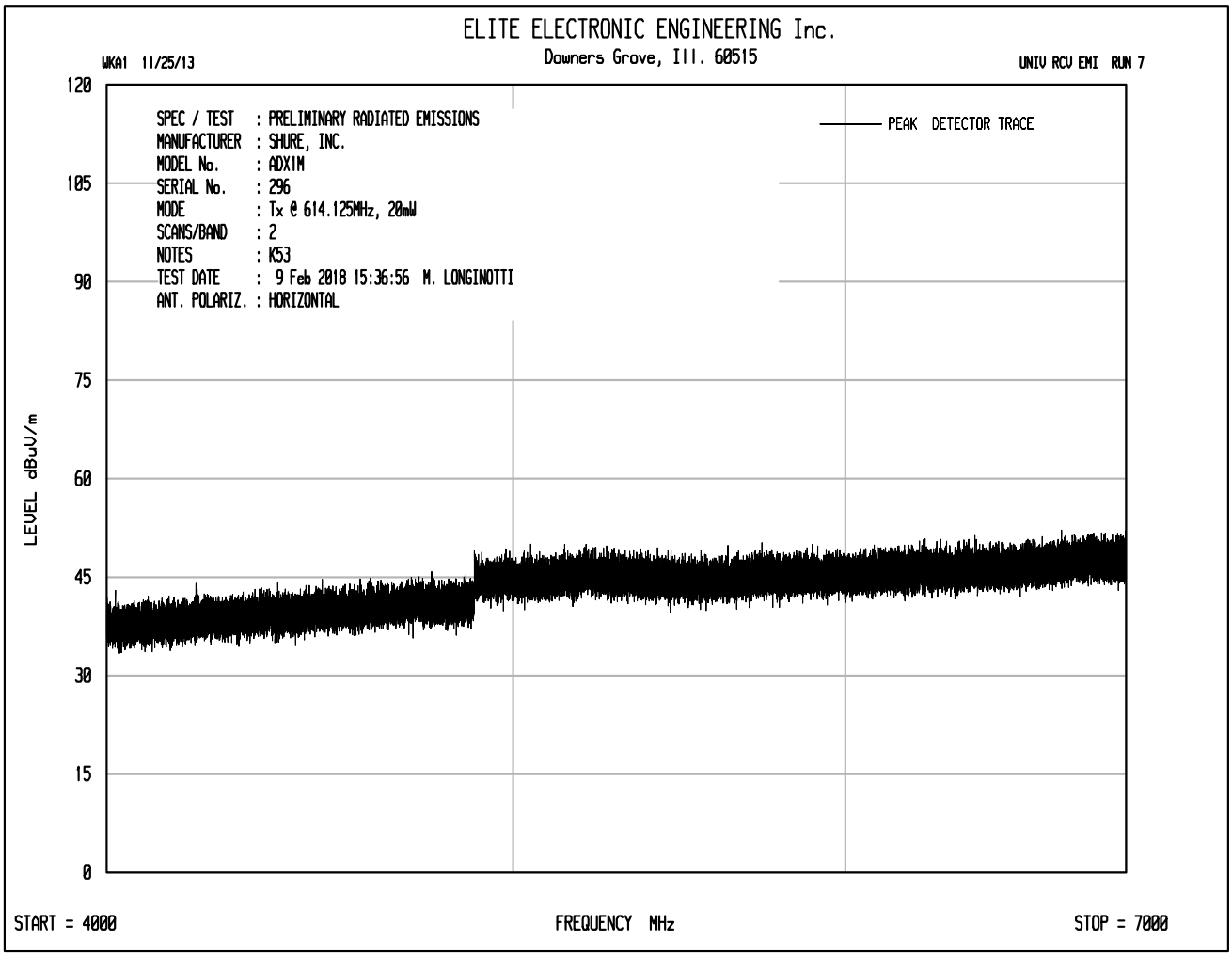
Mark E. Longinotti

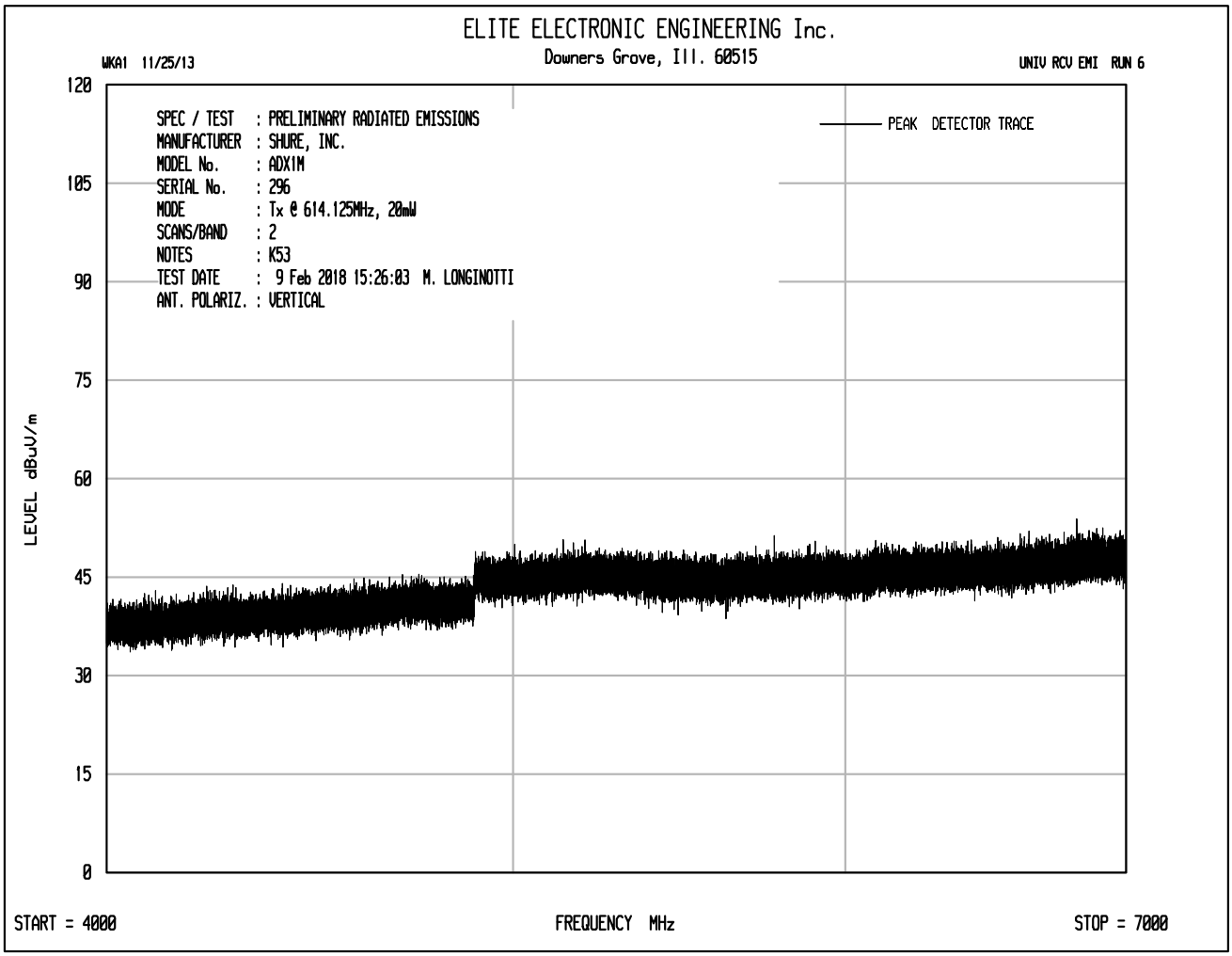

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 27
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 614.125MHz, 20mW
SCANS/BAND : 2
NOTES : K54
TEST DATE : 15 Dec 2017 14:21:41 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 25
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 28
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 614.125MHz, 20mW
SCANS/BAND : 2
NOTES : K54
TEST DATE : 15 Dec 2017 14:26:52 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 25
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 6
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 614.125MHz, 20mW
SCANS/BAND : 1
NOTES : K54
TEST DATE : 9 Feb 2018 15:34:38 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 4000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 5
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 614.125MHz, 20mW
SCANS/BAND : 1
NOTES : K54
TEST DATE : 9 Feb 2018 15:20:57 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 4000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 7
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 614.125MHz, 20mW
SCANS/BAND : 2
NOTES : K53
TEST DATE : 9 Feb 2018 15:36:56 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 4000
FREQUENCY MHz
STOP = 7000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 6
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 614.125MHz, 20mW
SCANS/BAND : 2
NOTES : K53
TEST DATE : 9 Feb 2018 15:26:03 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 4000
FREQUENCY MHz
STOP = 7000

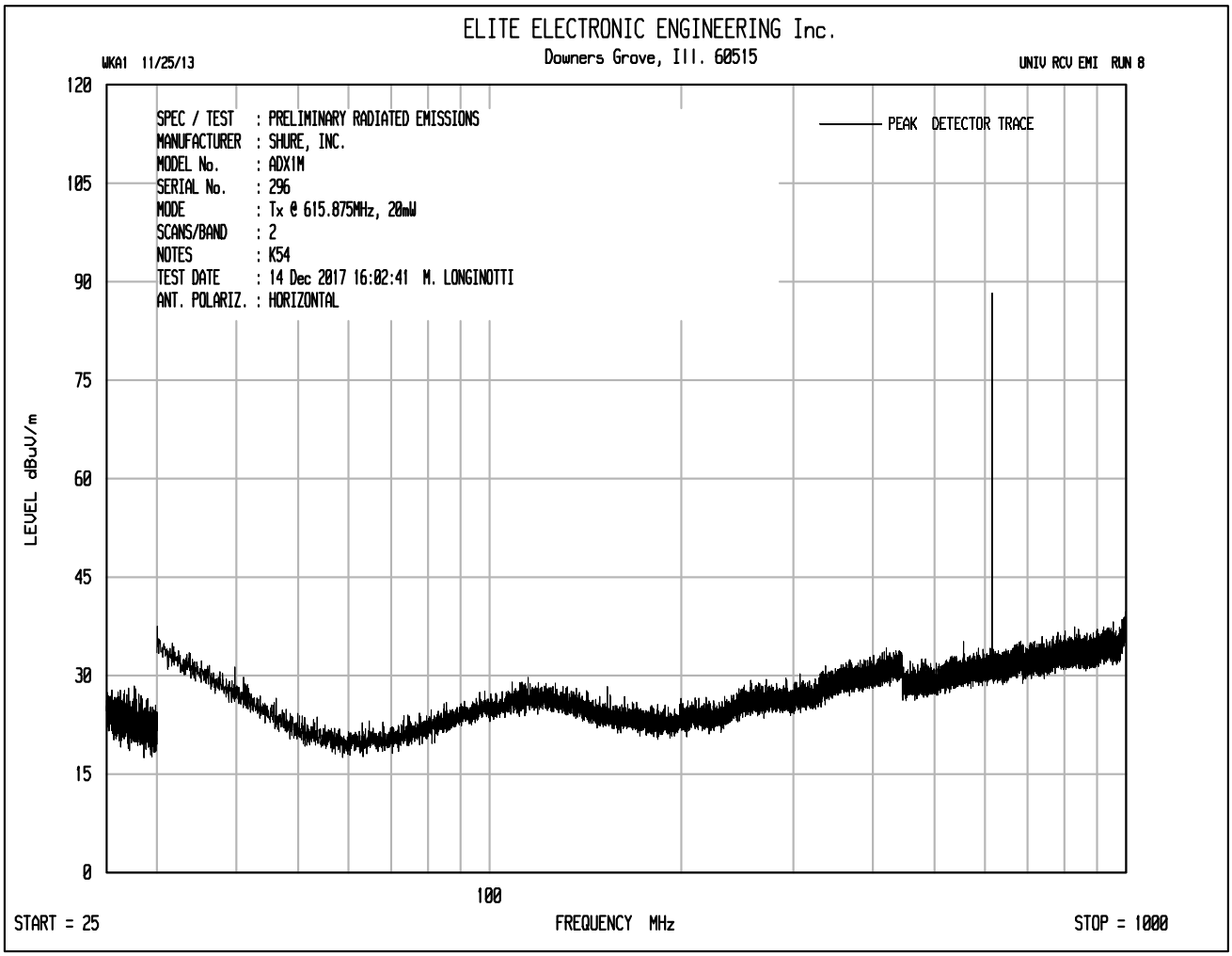
MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 296
SPECIFICATION : FCC 15.236(g) Spurious Radiated Emissions
DATE : December 15, 2017 through February 9,2018
MODE : Transmit at 614.125MHz
UNIT : K54
EQUIPMENT USED : NTA4,RBG2,GRE2, NWQ0, NWQ2, GRE2, GSE0
NOTES : 20mW nominal power

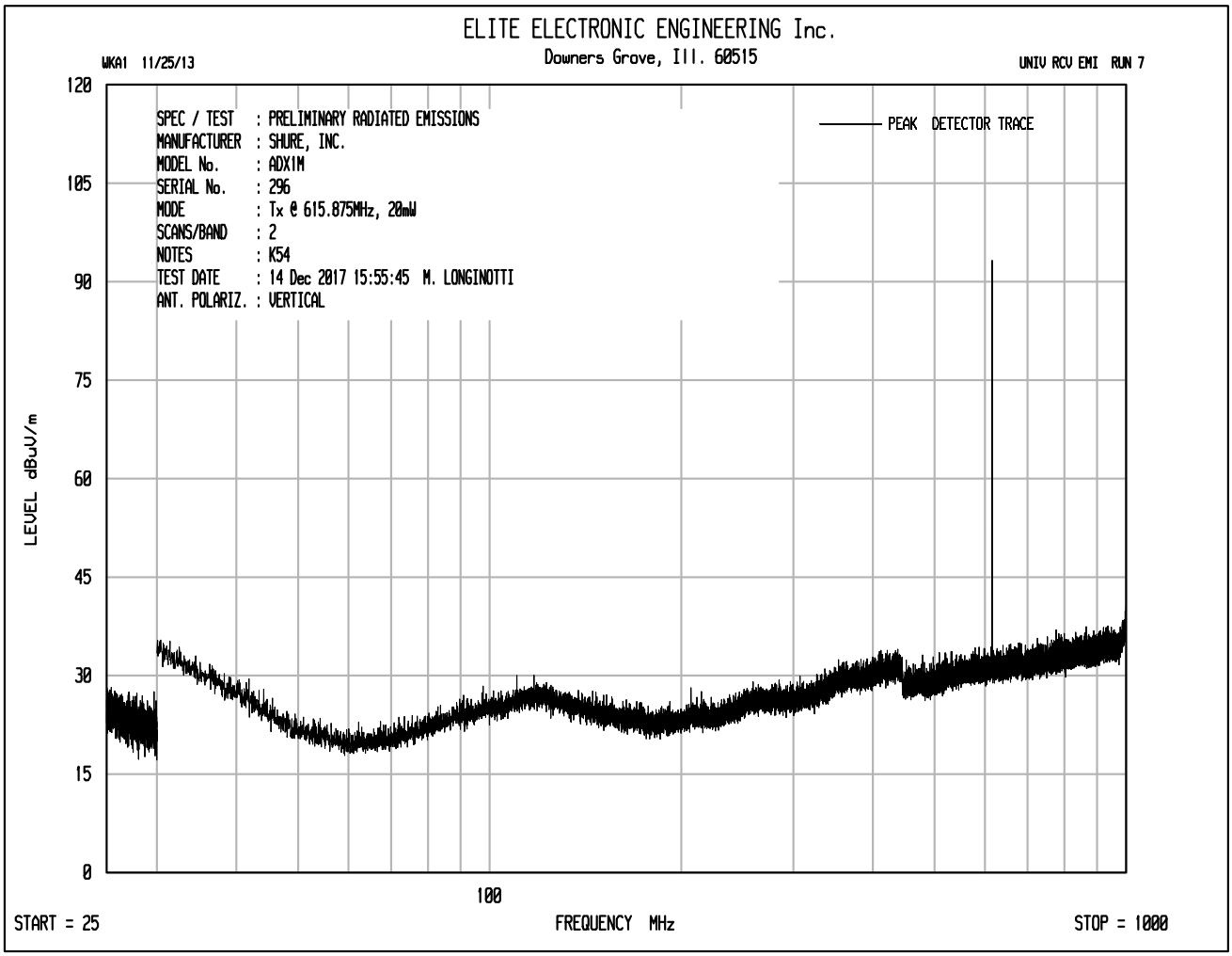
Freq. MHz	Ant Pol	Meter Reading (dBuV)	Ambient	Matched Sig. Gen. Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	ERP (dBm)	Limit dBm	Margin dB
1228.25	H	10.4		-57.6	3.2	2.4	-56.9	-30.0	-26.9
1228.25	V	9.3		-57.0	3.2	2.4	-56.3	-30.0	-26.3
1842.38	H	0.5	Ambient	-66.0	4.8	3.0	-64.2	-30.0	-34.2
1842.38	V	0.9	Ambient	-63.8	4.8	3.0	-62.0	-30.0	-32.0
2456.50	H	0.6	Ambient	-65.1	5.9	3.5	-62.7	-30.0	-32.7
2456.50	V	0.6	Ambient	-62.6	5.9	3.5	-60.2	-30.0	-30.2
3070.63	H	1.8	Ambient	-62.8	7.1	3.9	-59.6	-30.0	-29.6
3070.63	V	1.8	Ambient	-62.6	7.1	3.9	-59.4	-30.0	-29.4
3684.75	H	2.0	Ambient	-61.9	8.4	4.3	-57.8	-30.0	-27.8
3684.75	V	2.0	Ambient	-60.7	8.4	4.3	-56.6	-30.0	-26.6
4298.88	H	2.6	Ambient	-59.9	9.1	4.6	-55.4	-30.0	-25.4
4298.88	V	2.6	Ambient	-59.7	9.1	4.6	-55.2	-30.0	-25.2
4913.00	H	7.2	Ambient	-53.5	9.9	4.9	-48.5	-30.0	-18.5
4913.00	V	7.1	Ambient	-52.3	9.9	4.9	-47.3	-30.0	-17.3
5527.13	H	6.5	Ambient	-53.5	10.2	5.2	-48.5	-30.0	-18.5
5527.13	V	6.5	Ambient	-53.9	10.2	5.2	-48.9	-30.0	-18.9
6141.25	H	6.8	Ambient	-52.1	10.9	5.5	-46.7	-30.0	-16.7
6141.25	V	6.8	Ambient	-51.8	10.9	5.5	-46.4	-30.0	-16.4

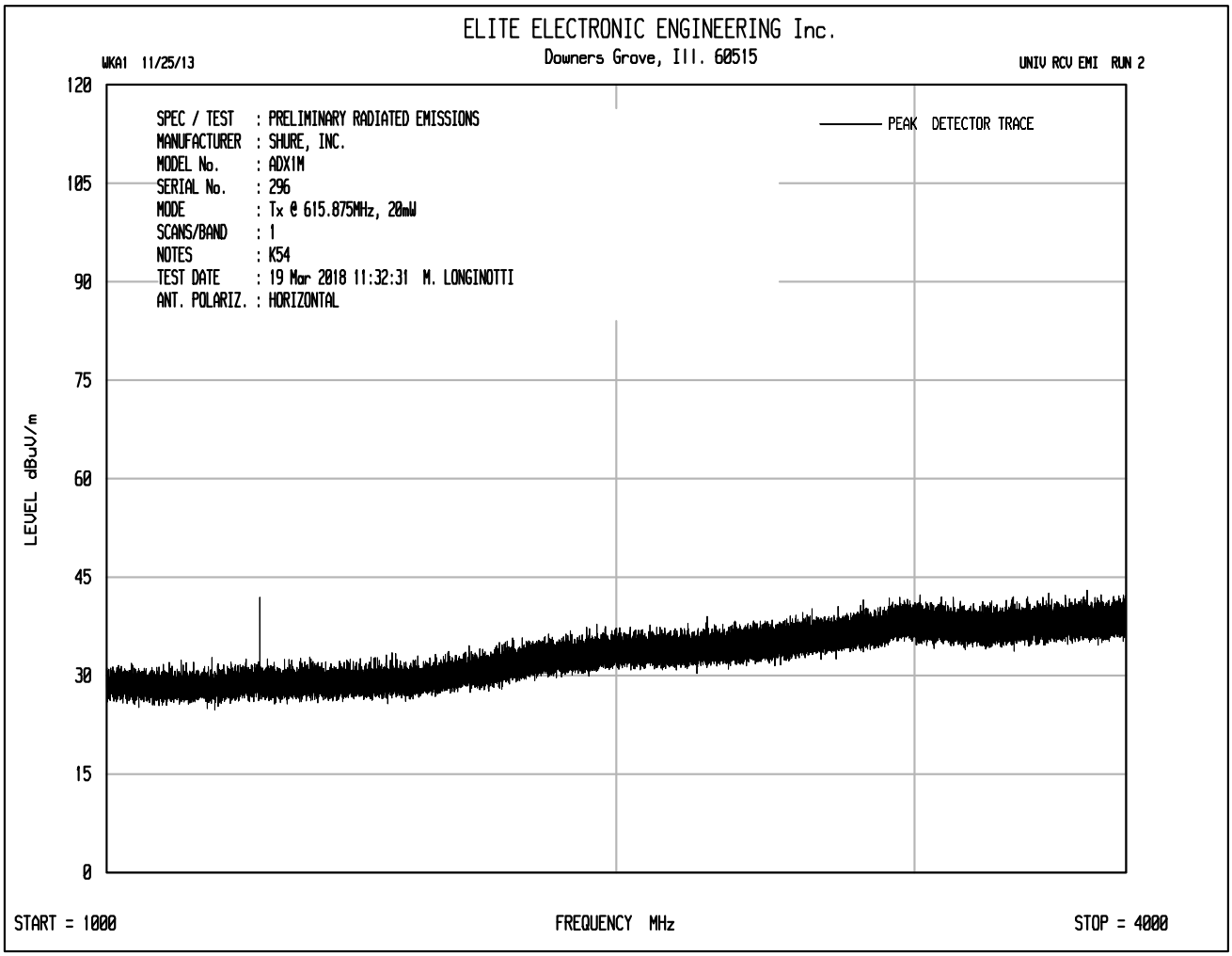
ERP (dBm) = Matched Sig. Gen.Reading (dBm) + Equivalent Antenna Gain (dB) – Cable Loss (dB)

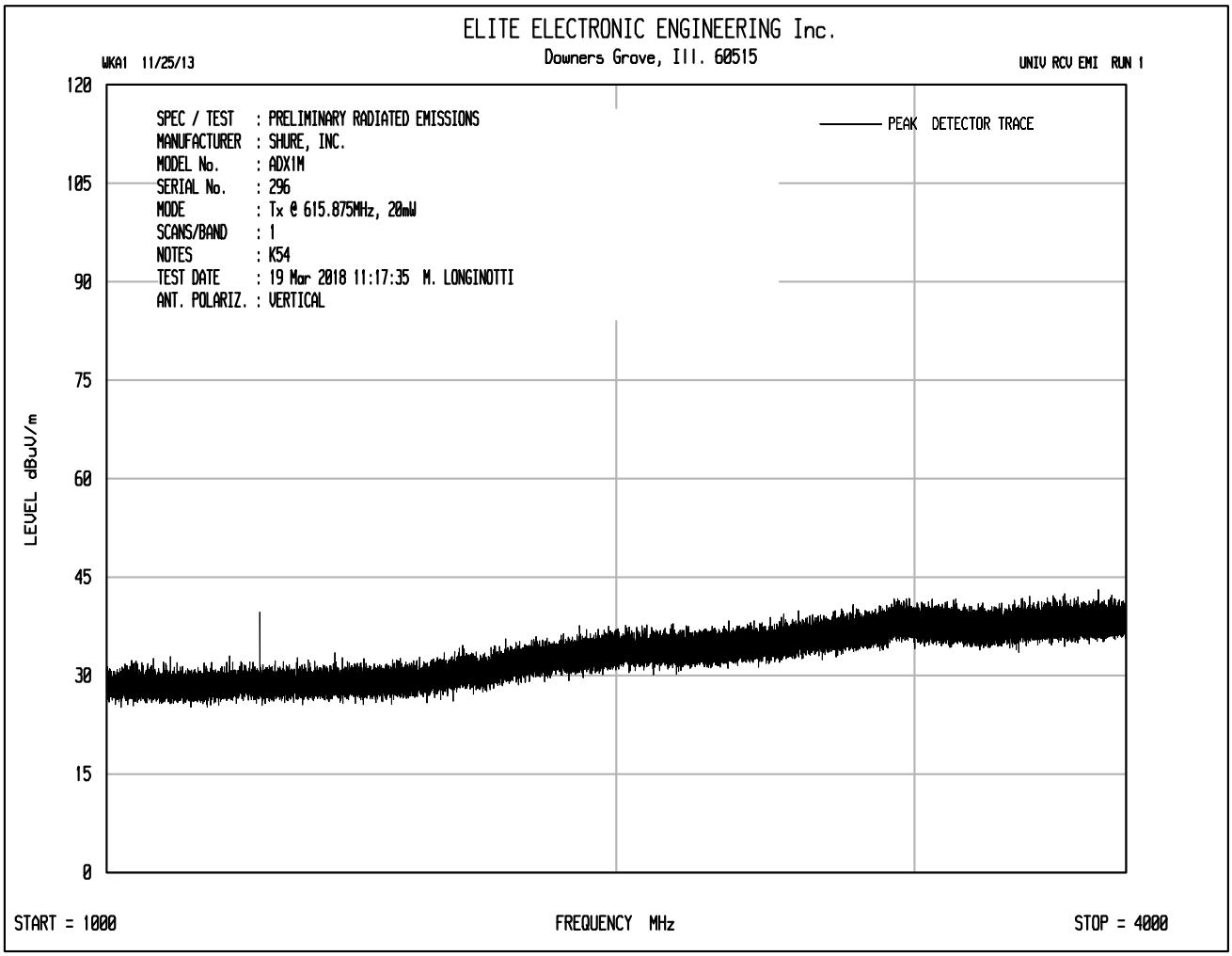
Checked By: MARK E. LONGINOTTI

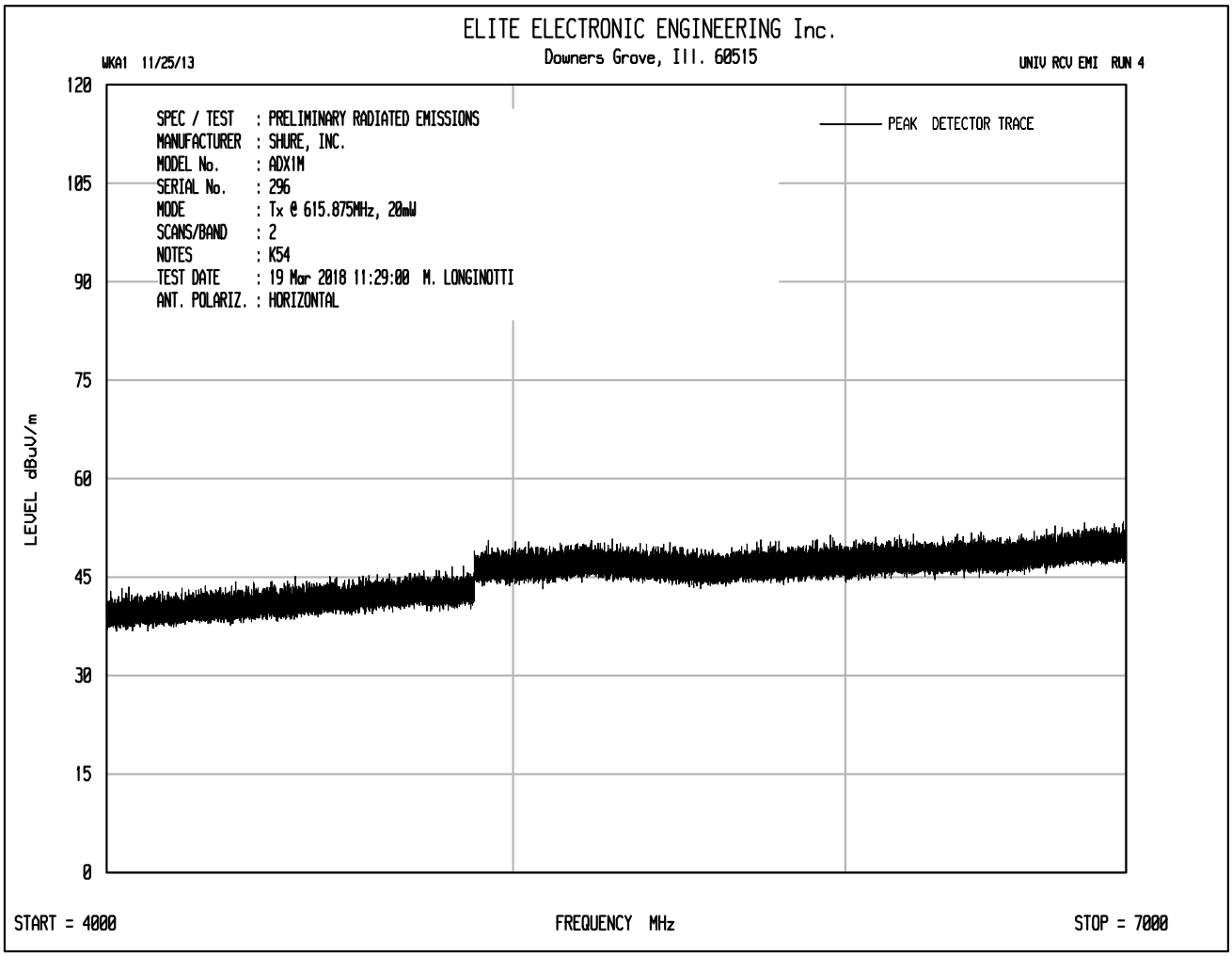
Mark E. Longinotti

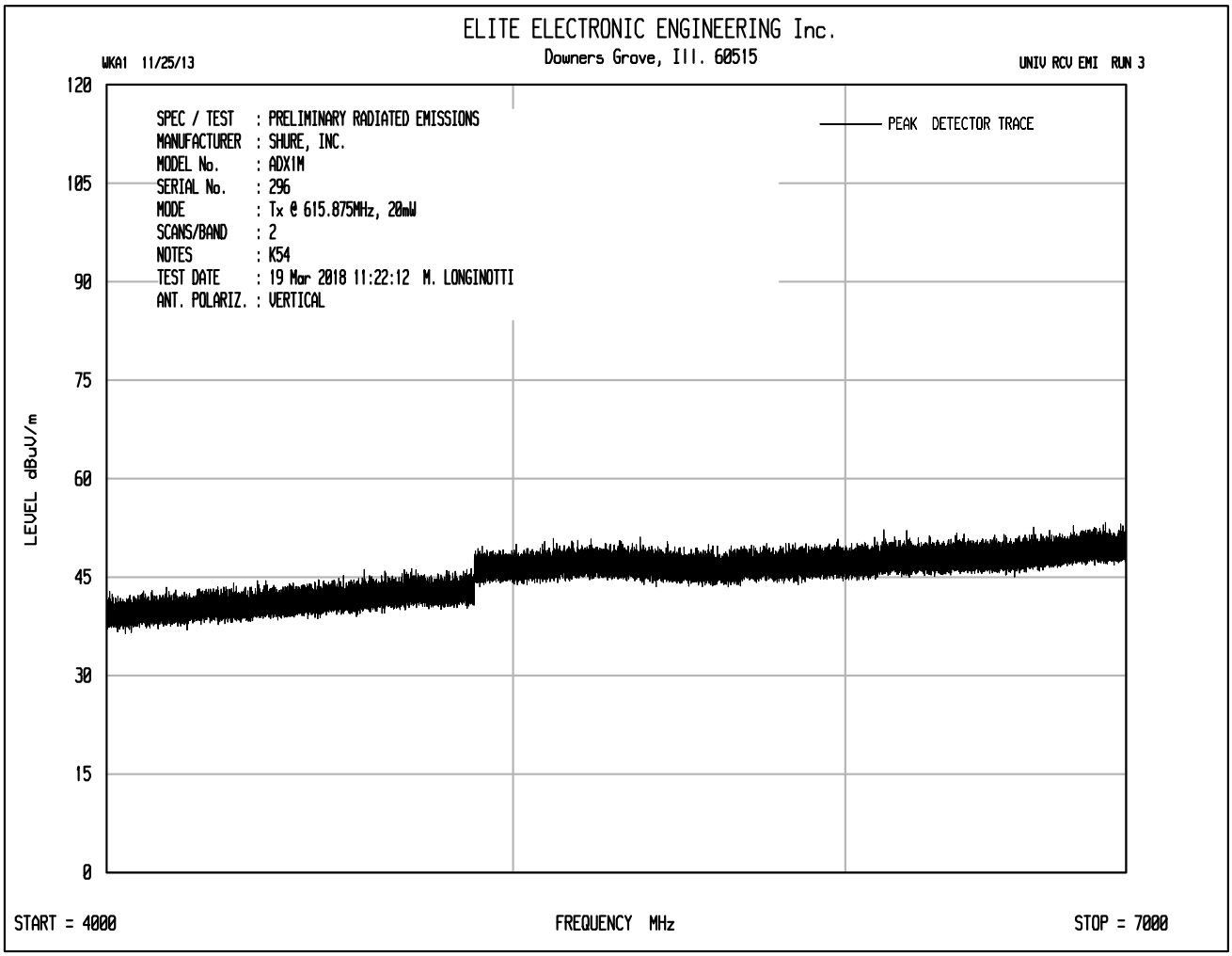

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 8
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 615.875MHz, 20mW
SCANS/BAND : 2
NOTES : K54
TEST DATE : 14 Dec 2017 16:02:41 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 25
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 7
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 615.875MHz, 20mW
SCANS/BAND : 2
NOTES : K54
TEST DATE : 14 Dec 2017 15:55:45 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 25
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 2
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 615.875MHz, 20mW
SCANS/BAND : 1
NOTES : K54
TEST DATE : 19 Mar 2018 11:32:31 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 4000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 1
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 615.875MHz, 20mW
SCANS/BAND : 1
NOTES : K54
TEST DATE : 19 Mar 2018 11:17:35 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 4000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 4
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 615.875MHz, 20mW
SCANS/BAND : 2
NOTES : K54
TEST DATE : 19 Mar 2018 11:29:00 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 4000
FREQUENCY MHz
STOP = 7000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 3
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 615.875MHz, 20mW
SCANS/BAND : 2
NOTES : K54
TEST DATE : 19 Mar 2018 11:22:12 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 4000
FREQUENCY MHz
STOP = 7000

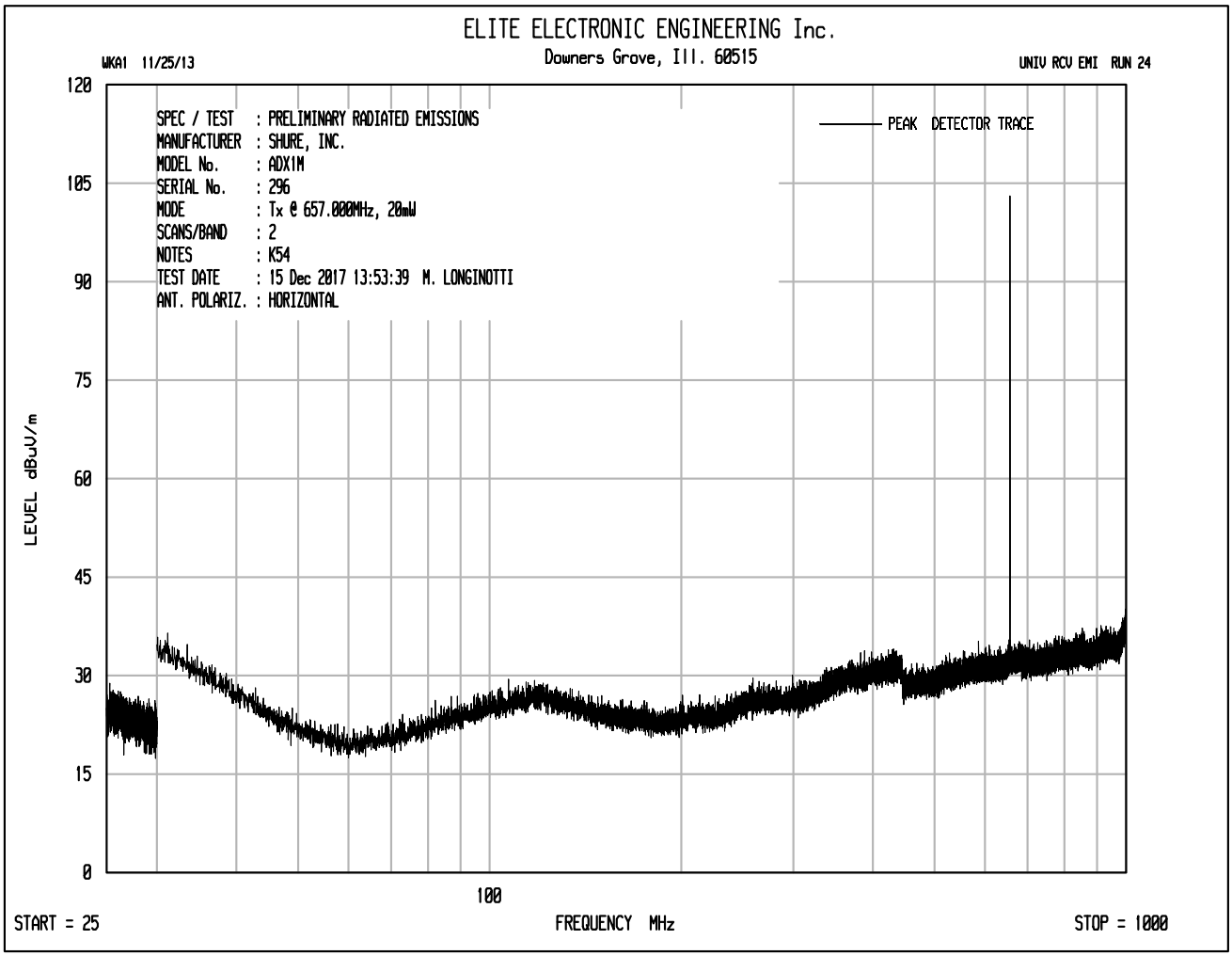
MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 296
SPECIFICATION : FCC 15.236(g) Spurious Radiated Emissions
DATE : December 14,2017 through March 23, 2018
MODE : Transmit at 615.875MHz
UNIT : K54
EQUIPMENT USED : NTA3,RBG2,GRE2, GSE0,NWQ0, NWQ1, CDX8
NOTES : 20mW nominal power

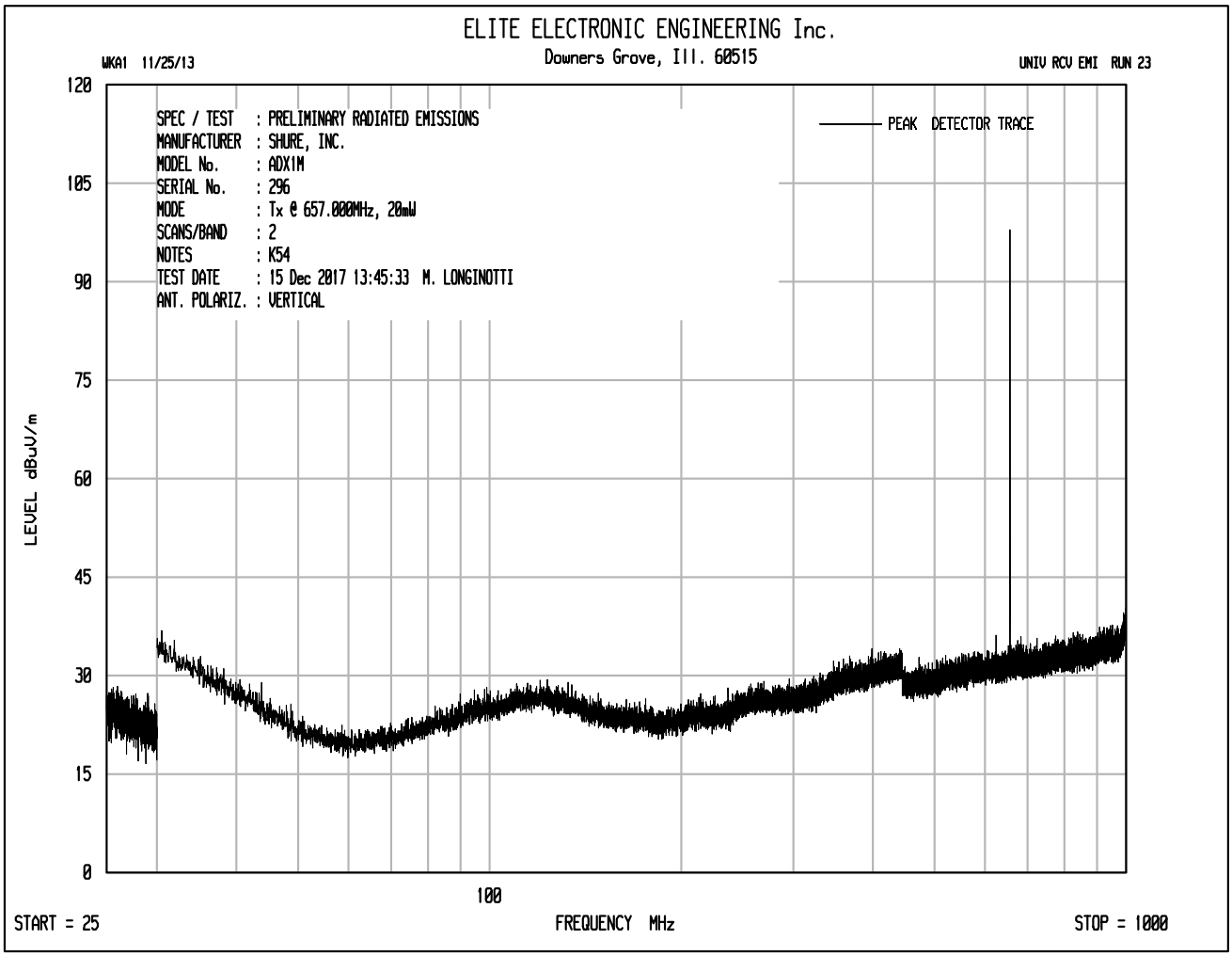
Freq. MHz	Ant Pol	Meter Reading (dBuV)	Ambient	Matched Sig. Gen. Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	ERP (dBm)	Limit dBm	Margin dB
1231.75	H	9.1		-59.3	3.0	2.4	-58.8	-30.0	-28.8
1231.75	V	6.6		-59.2	3.0	2.4	-58.7	-30.0	-28.7
1847.63	H	0.6	Ambient	-66.9	5.0	3.0	-64.9	-30.0	-34.9
1847.63	V	0.9	Ambient	-62.8	5.0	3.0	-60.8	-30.0	-30.8
2463.50	H	0.8	Ambient	-65.9	5.9	3.5	-63.5	-30.0	-33.5
2463.50	V	0.8	Ambient	-63.6	5.9	3.5	-61.2	-30.0	-31.2
3079.38	H	2.0	Ambient	-63.0	7.1	3.9	-59.8	-30.0	-29.8
3079.38	V	2.0	Ambient	-60.5	7.1	3.9	-57.3	-30.0	-27.3
3695.25	H	2.1	Ambient	-61.9	8.5	4.3	-57.7	-30.0	-27.7
3695.25	V	2.1	Ambient	-61.1	8.5	4.3	-56.9	-30.0	-26.9
4311.13	H	2.6	Ambient	-60.0	9.3	4.6	-55.3	-30.0	-25.3
4311.13	V	2.6	Ambient	-59.6	9.3	4.6	-54.9	-30.0	-24.9
4927.00	H	7.2	Ambient	-54.0	9.5	4.9	-49.4	-30.0	-19.4
4927.00	V	7.2	Ambient	-52.4	9.5	4.9	-47.8	-30.0	-17.8
5542.88	H	6.5	Ambient	-53.6	10.3	5.2	-48.5	-30.0	-18.5
5542.88	V	6.5	Ambient	-53.7	10.3	5.2	-48.6	-30.0	-18.6
6158.75	H	6.8	Ambient	-52.1	10.5	5.5	-47.1	-30.0	-17.1
6158.75	V	6.8	Ambient	-52.3	10.5	5.5	-47.3	-30.0	-17.3

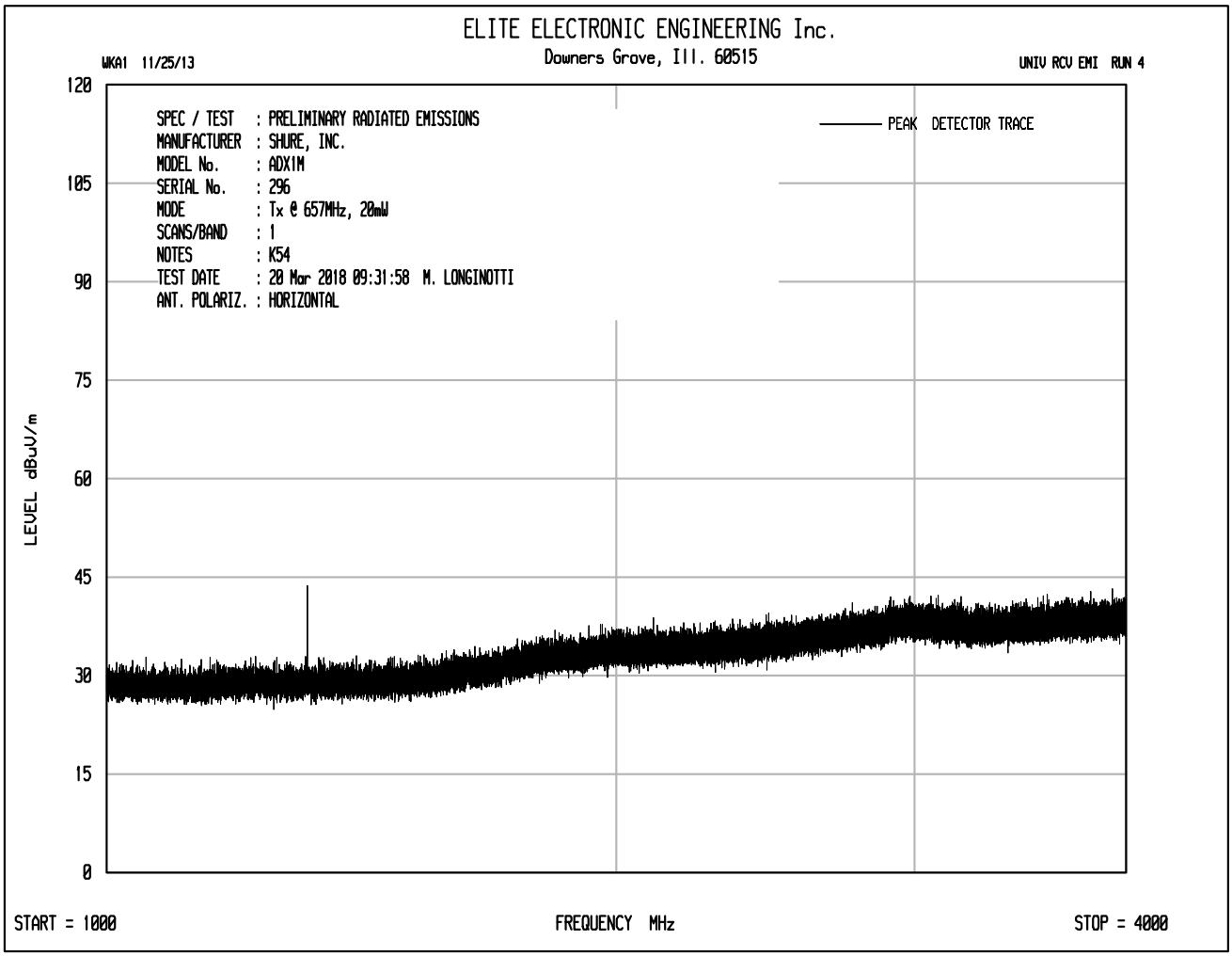
ERP (dBm) = Matched Sig. Gen.Reading (dBm) + Equivalent Antenna Gain (dB) – Cable Loss (dB)

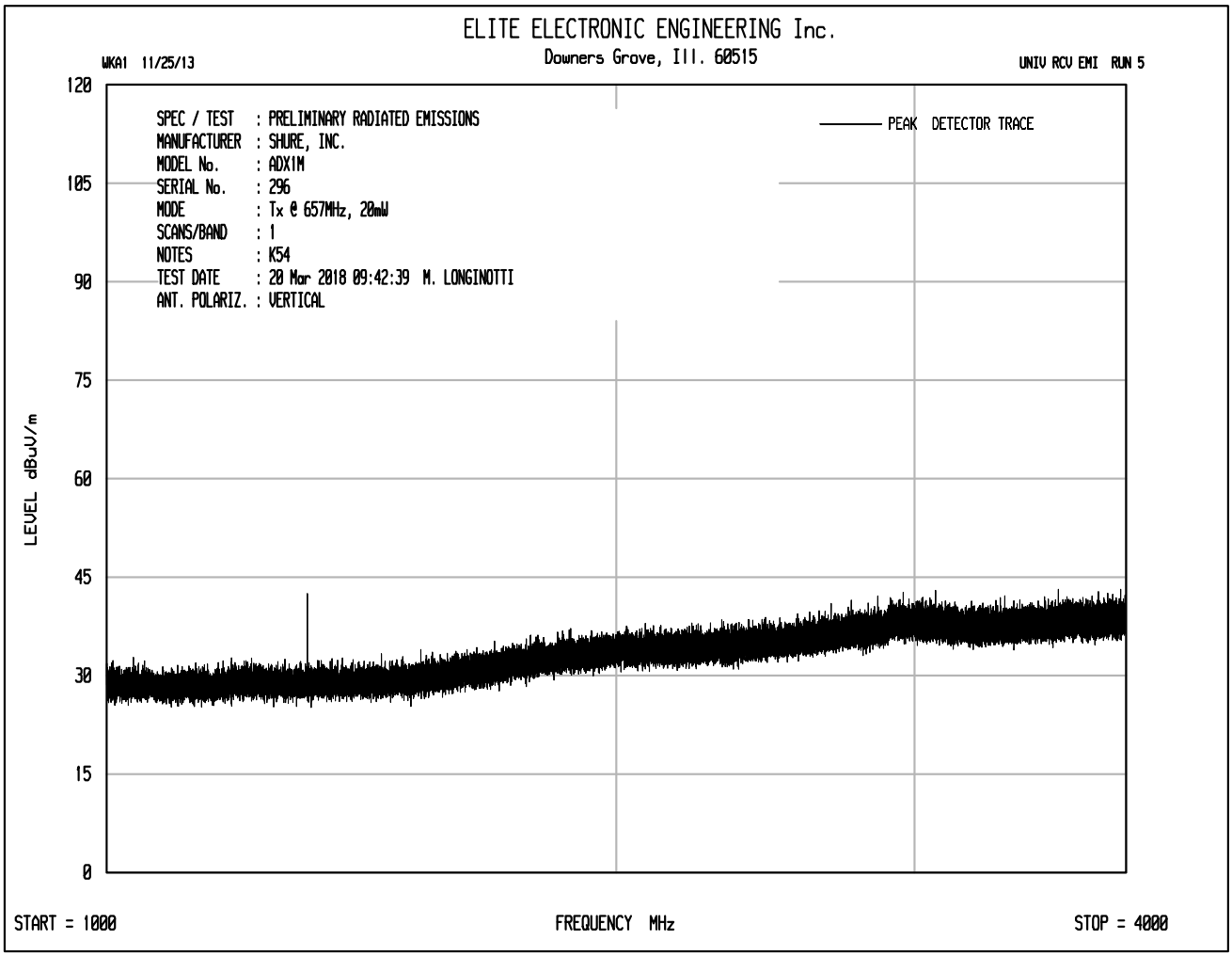
Checked By: MARK E. LONGINOTTI

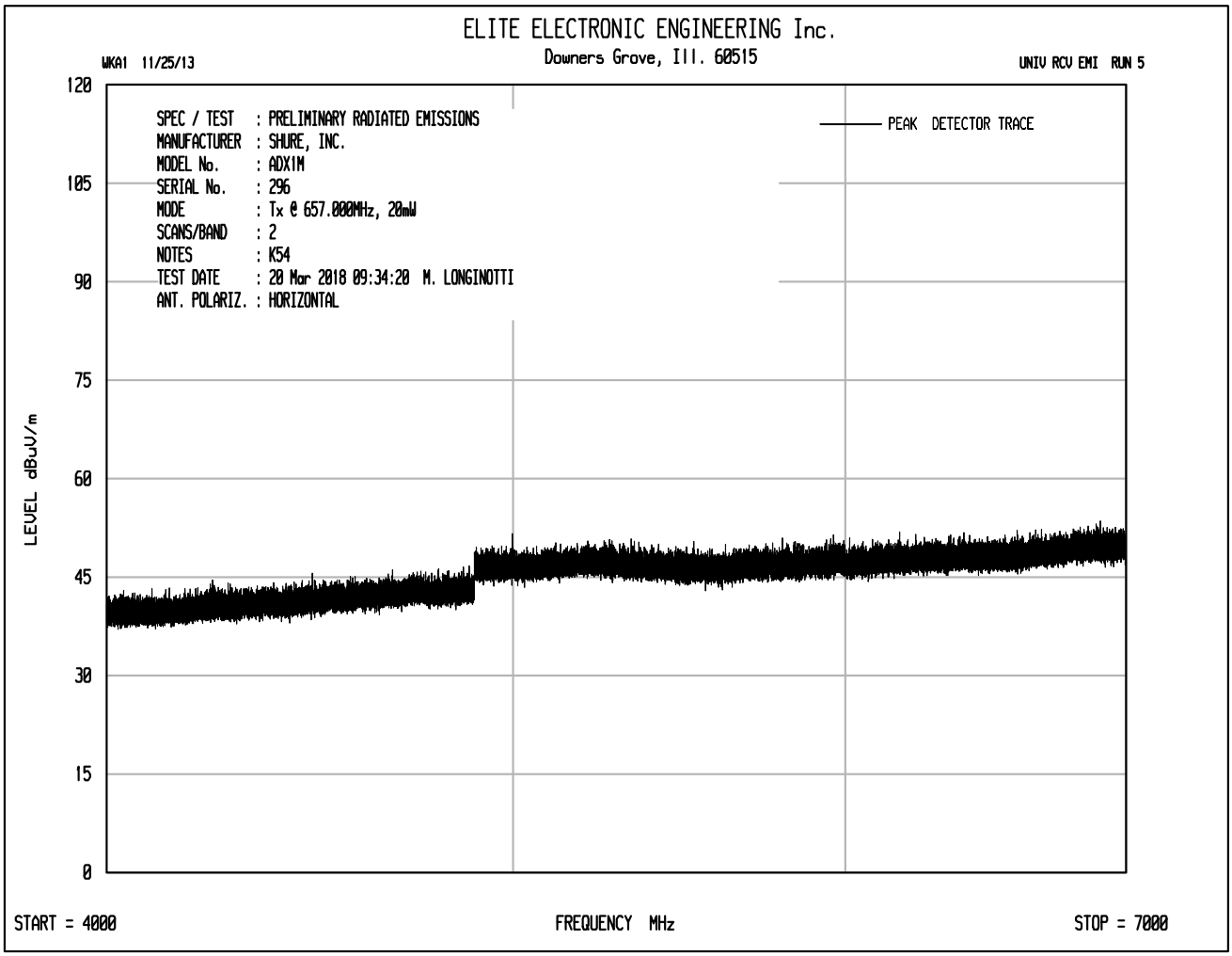
Mark E. Longinotti

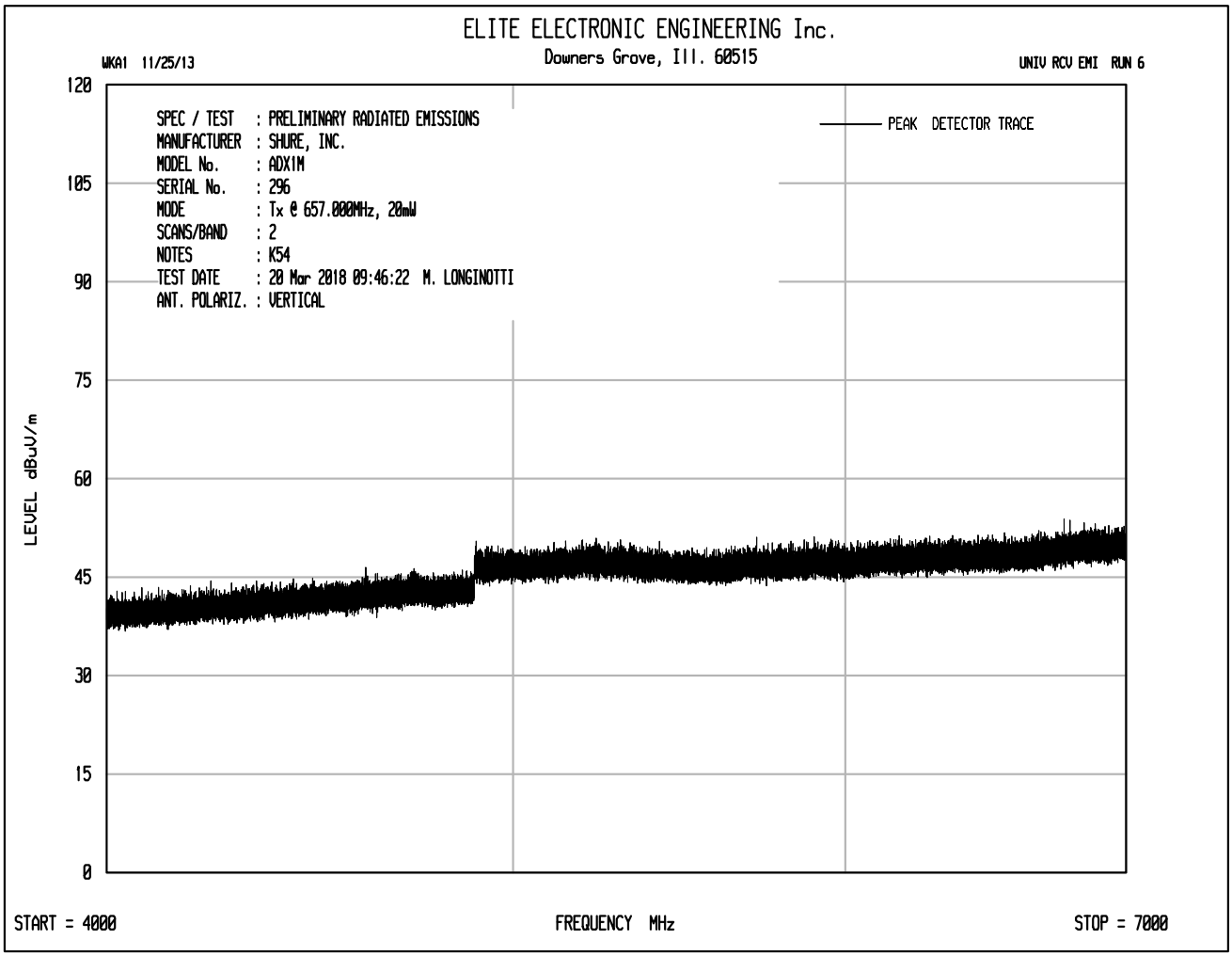

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 24
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 657.000MHz, 20mW
SCANS/BAND : 2
NOTES : K54
TEST DATE : 15 Dec 2017 13:53:39 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 25
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 23
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 657.000MHz, 20mW
SCANS/BAND : 2
NOTES : K54
TEST DATE : 15 Dec 2017 13:45:33 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 25
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 4
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 657MHz, 20mW
SCANS/BAND : 1
NOTES : K54
TEST DATE : 20 Mar 2018 09:31:58 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 4000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 5
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 657MHz, 20mW
SCANS/BAND : 1
NOTES : K54
TEST DATE : 20 Mar 2018 09:42:39 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 4000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 5
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 657.000MHz, 20mW
SCANS/BAND : 2
NOTES : K54
TEST DATE : 20 Mar 2018 09:34:20 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 4000
FREQUENCY MHz
STOP = 7000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 6
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 657.000MHz, 20mW
SCANS/BAND : 2
NOTES : K54
TEST DATE : 20 Mar 2018 09:46:22 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 4000
FREQUENCY MHz
STOP = 7000

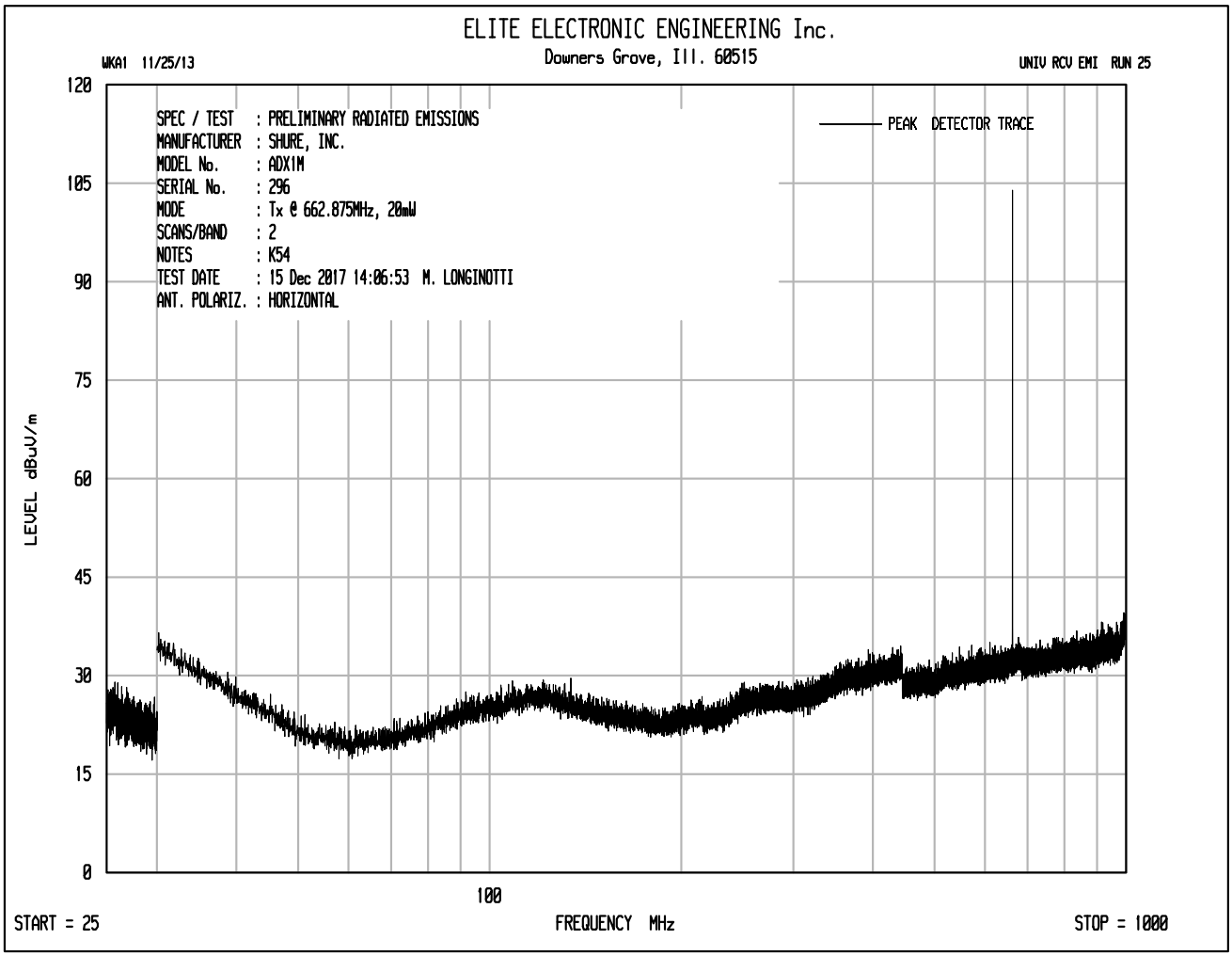
MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 296
SPECIFICATION : FCC 15.236(g) Spurious Radiated Emissions
DATE : December 15, 2017 through March 23, 2018
MODE : Transmit at 657.000MHz
UNIT : K54
EQUIPMENT USED : NTA3,RBG2,GRE2, GSE0,NWQ0, NWQ1,CDX8
NOTES : 20mW nominal power

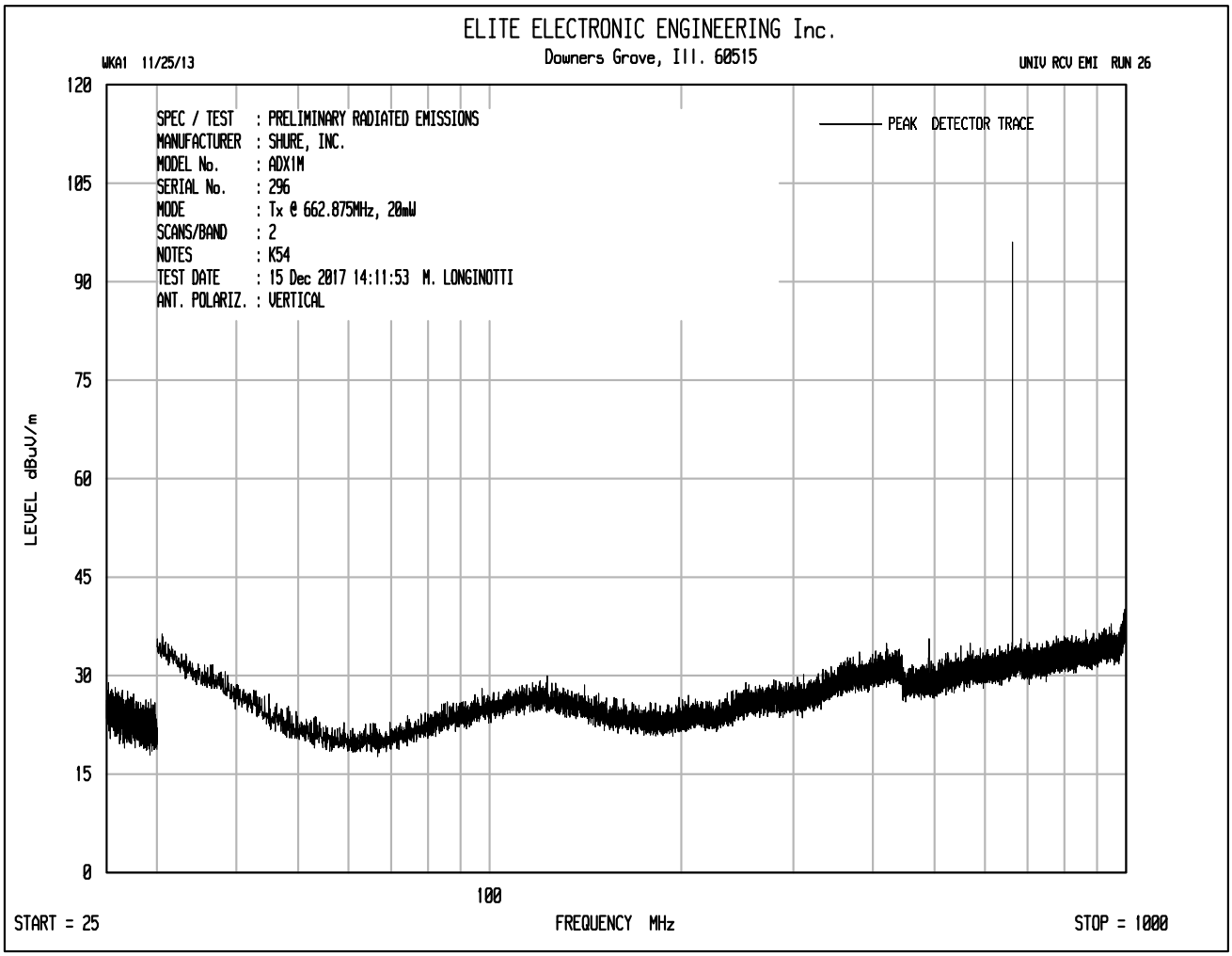
Freq. MHz	Ant Pol	Meter Reading (dBuV)	Ambient	Matched Sig. Gen. Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	ERP (dBm)	Limit dBm	Margin dB
1314.00	H	10.9		-56.3	3.9	2.5	-54.9	-30.0	-24.9
1314.00	V	9.4		-55.6	3.9	2.5	-54.2	-30.0	-24.2
1971.00	H	0.8	Ambient	-65.4	4.5	3.0	-63.9	-30.0	-33.9
1971.00	V	0.8	Ambient	-62.0	4.5	3.0	-60.5	-30.0	-30.5
2628.00	H	1.3	Ambient	-64.4	6.2	3.6	-61.8	-30.0	-31.8
2628.00	V	1.4	Ambient	-62.0	6.2	3.6	-59.4	-30.0	-29.4
3285.00	H	1.9	Ambient	-64.0	7.5	4.1	-60.6	-30.0	-30.6
3285.00	V	1.9	Ambient	-61.5	7.5	4.1	-58.1	-30.0	-28.1
3942.00	H	2.2	Ambient	-61.1	8.8	4.4	-56.7	-30.0	-26.7
3942.00	V	2.2	Ambient	-60.3	8.8	4.4	-55.9	-30.0	-25.9
4599.00	H	3.2	Ambient	-58.4	9.2	4.8	-53.9	-30.0	-23.9
4599.00	V	3.2	Ambient	-56.9	9.2	4.8	-52.4	-30.0	-22.4
5256.00	H	6.5	Ambient	-54.3	9.6	5.1	-49.7	-30.0	-19.7
5256.00	V	6.4	Ambient	-53.0	9.6	5.1	-48.4	-30.0	-18.4
5913.00	H	6.4	Ambient	-51.7	10.4	5.4	-46.7	-30.0	-16.7
5913.00	V	6.4	Ambient	-53.0	10.4	5.4	-48.0	-30.0	-18.0
6570.00	H	6.9	Ambient	-52.8	11.0	5.8	-47.6	-30.0	-17.6
6570.00	V	6.9	Ambient	-52.7	11.0	5.8	-47.5	-30.0	-17.5

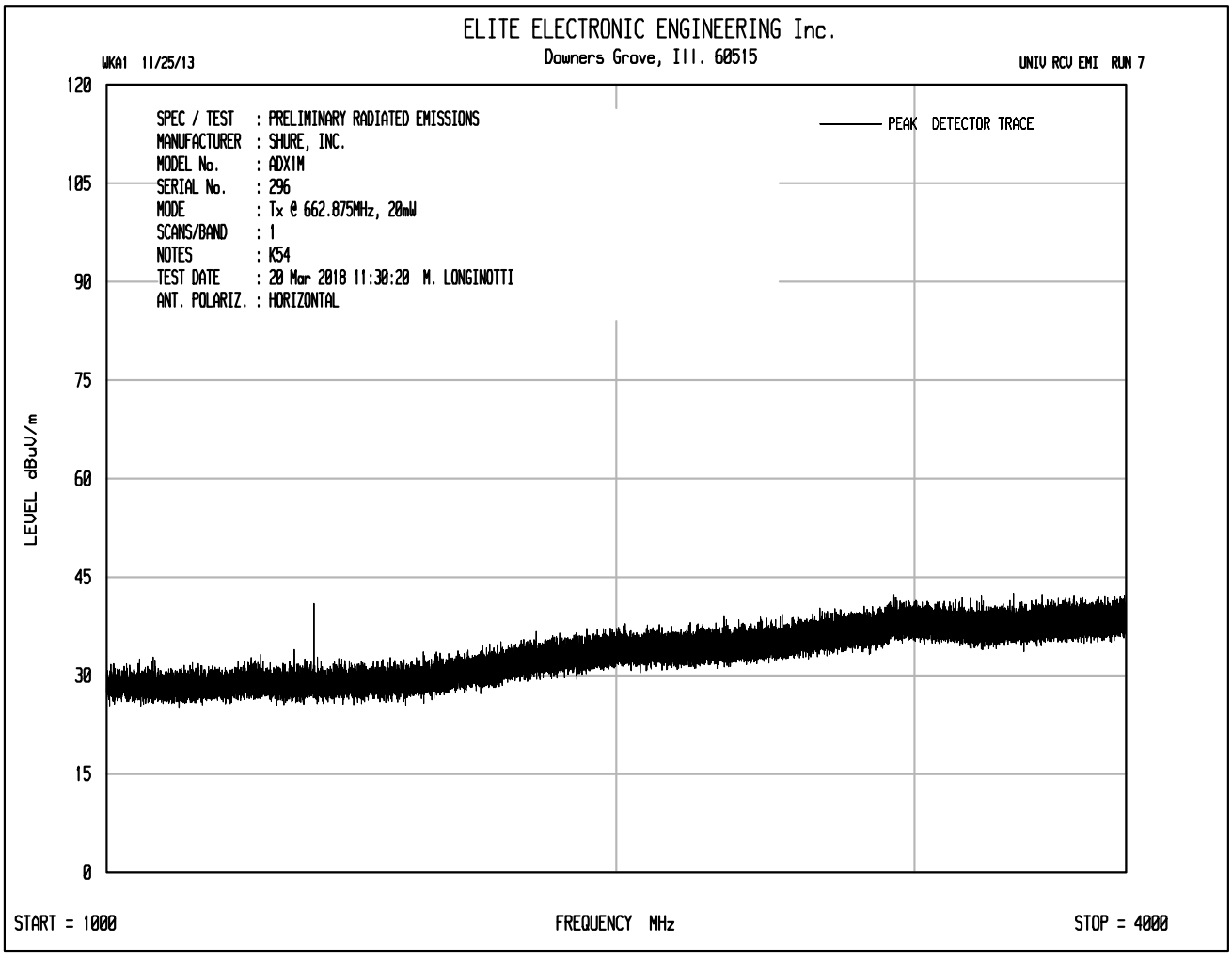
ERP (dBm) = Matched Sig. Gen.Reading (dBm) + Equivalent Antenna Gain (dB) – Cable Loss (dB)

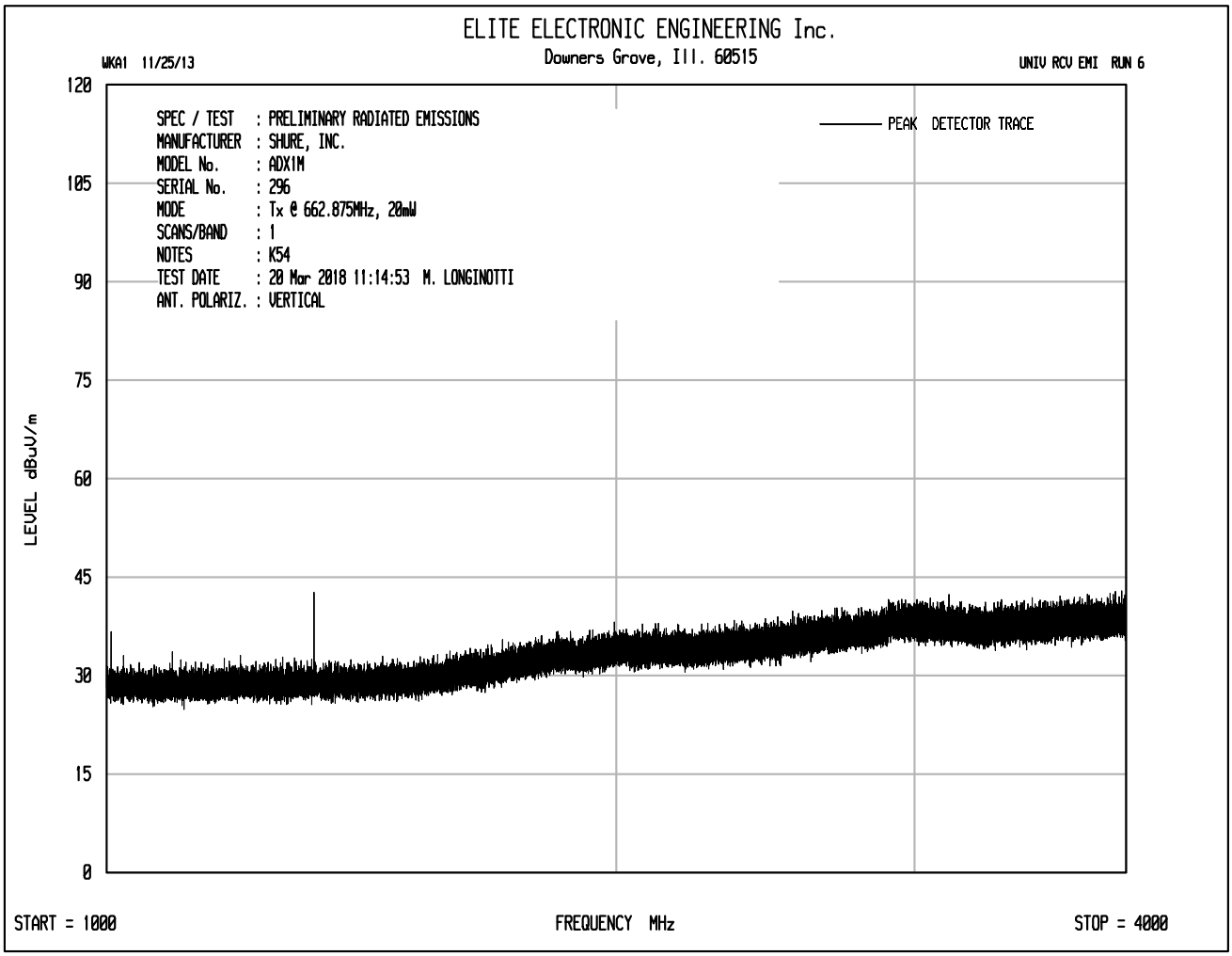
Checked By: MARK E. LONGINOTTI

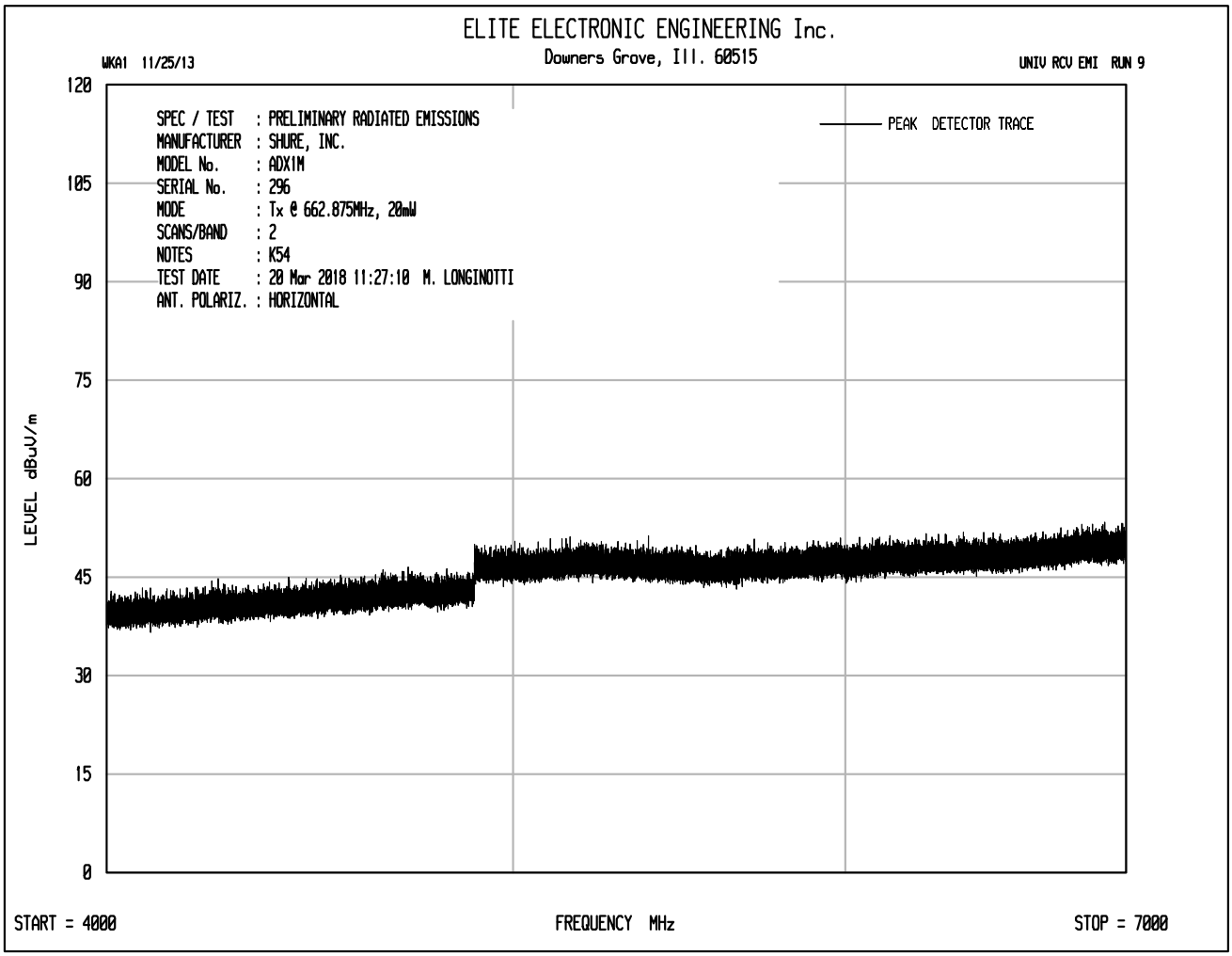
Mark E. Longinotti

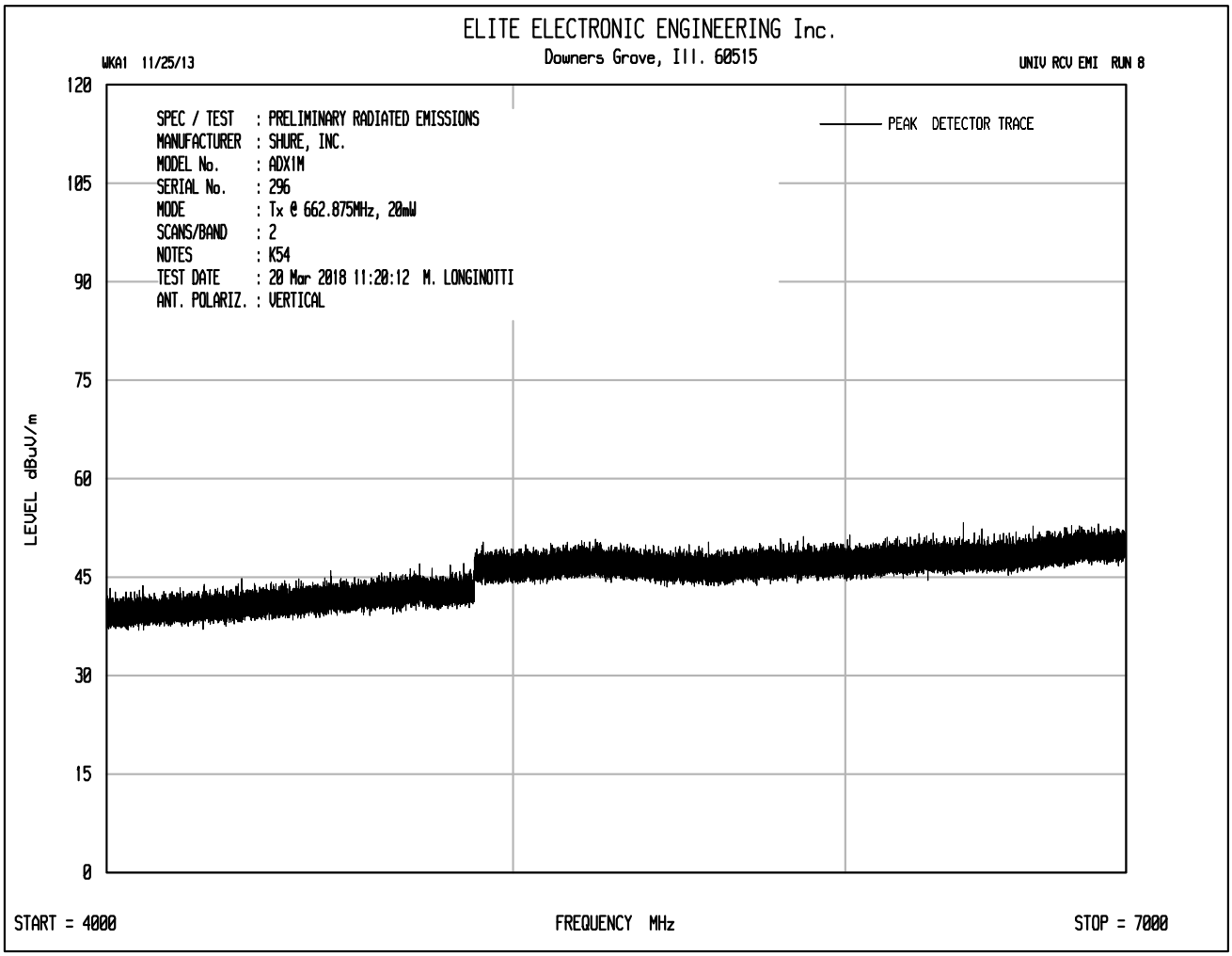

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 25
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 662.875MHz, 20mW
SCANS/BAND : 2
NOTES : K54
TEST DATE : 15 Dec 2017 14:06:53 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 25
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 26
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 662.875MHz, 20mW
SCANS/BAND : 2
NOTES : K54
TEST DATE : 15 Dec 2017 14:11:53 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 25
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 7
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 662.875MHz, 20mW
SCANS/BAND : 1
NOTES : K54
TEST DATE : 20 Mar 2018 11:30:20 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 4000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 6
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 662.875MHz, 20mW
SCANS/BAND : 1
NOTES : K54
TEST DATE : 20 Mar 2018 11:14:53 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 4000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 9
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 662.875MHz, 20mW
SCANS/BAND : 2
NOTES : K54
TEST DATE : 20 Mar 2018 11:27:10 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 4000
FREQUENCY MHz
STOP = 7000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 8
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 662.875MHz, 20mW
SCANS/BAND : 2
NOTES : K54
TEST DATE : 20 Mar 2018 11:20:12 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 4000
FREQUENCY MHz
STOP = 7000

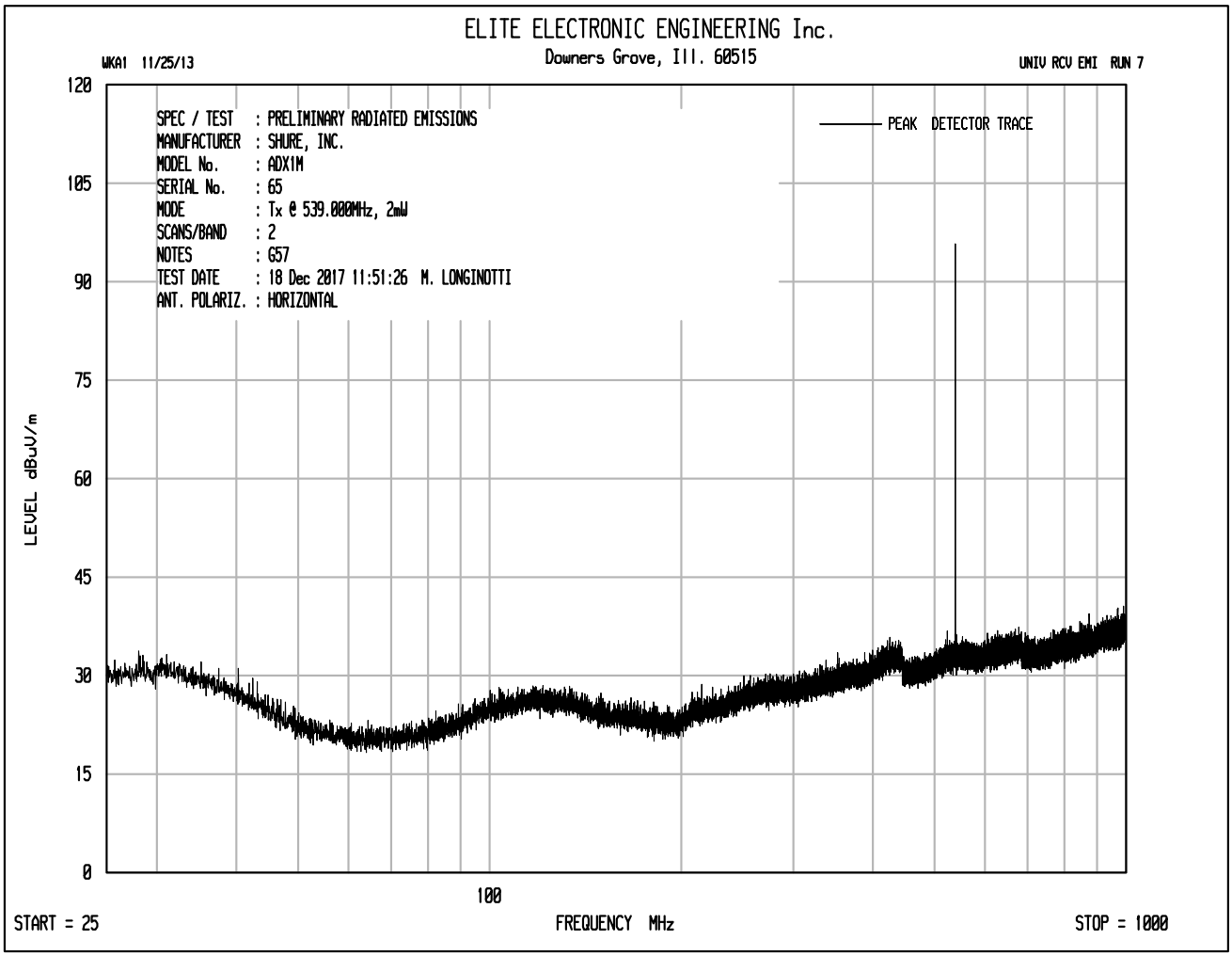
MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 296
SPECIFICATION : FCC 15.236(g) Spurious Radiated Emissions
DATE : December 15, 2017 through March 23, 2018
MODE : Transmit at 662.875MHz
UNIT : K54
EQUIPMENT USED : NTA3,RBG2,GRE2, GSE0,NWQ0, NWQ1, CDX8
NOTES : 20mW nominal power

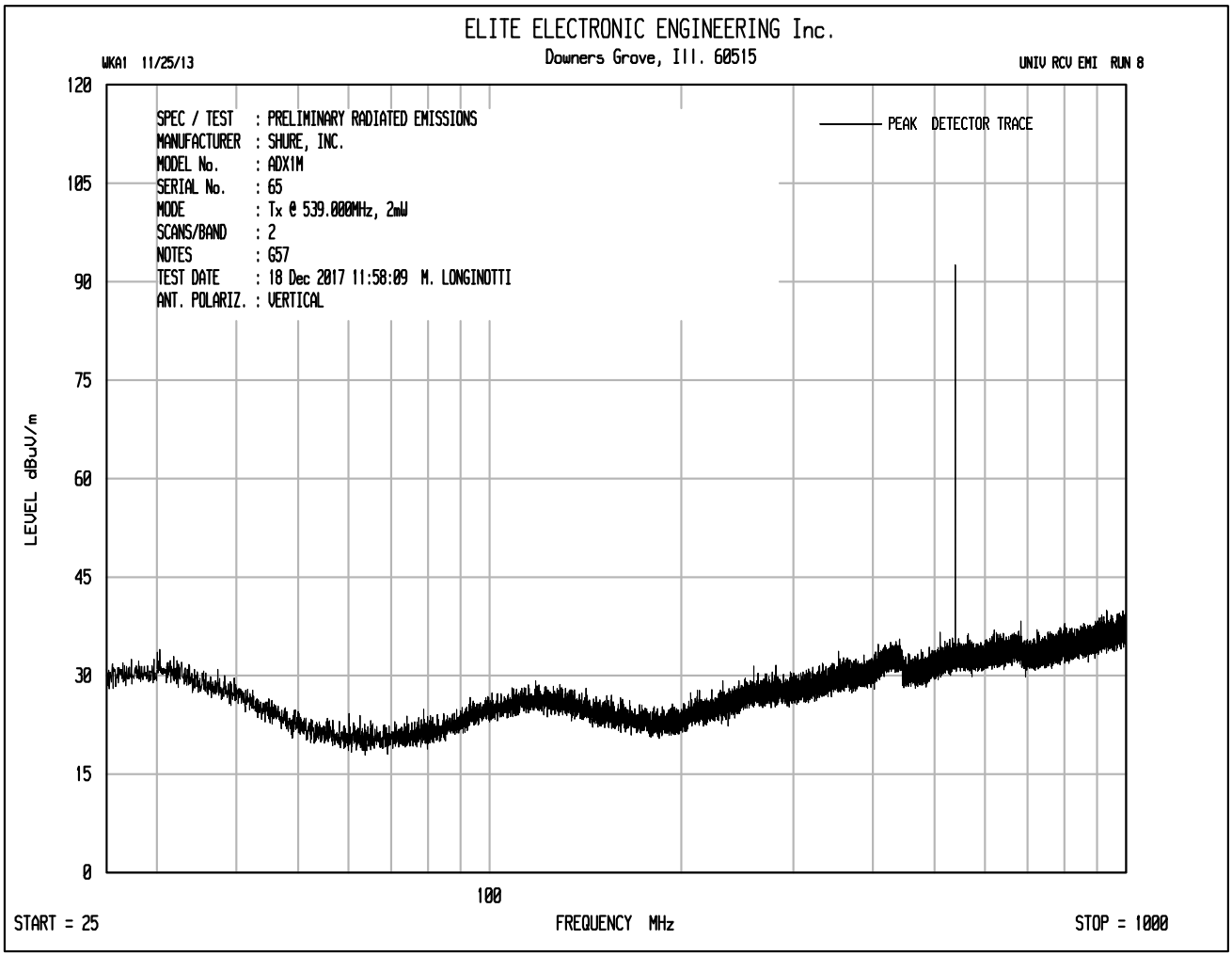
Freq. MHz	Ant Pol	Meter Reading (dBuV)	Ambient	Matched Sig. Gen. Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	ERP (dBm)	Limit dBm	Margin dB
1325.75	H	8.7		-59.5	4.0	2.5	-58.0	-30.0	-28.0
1325.75	V	9.5		-55.9	4.0	2.5	-54.4	-30.0	-24.4
1988.63	H	0.7	Ambient	-65.6	4.5	3.1	-64.2	-30.0	-34.2
1988.63	V	0.8	Ambient	-62.8	4.5	3.1	-61.4	-30.0	-31.4
2651.50	H	1.4	Ambient	-64.5	6.3	3.6	-61.8	-30.0	-31.8
2651.50	V	1.4	Ambient	-63.0	6.3	3.6	-60.3	-30.0	-30.3
3314.38	H	1.9	Ambient	-62.8	7.6	4.1	-59.3	-30.0	-29.3
3314.38	V	1.9	Ambient	-61.7	7.6	4.1	-58.2	-30.0	-28.2
3977.25	H	2.3	Ambient	-60.7	8.8	4.5	-56.3	-30.0	-26.3
3977.25	V	2.3	Ambient	-60.5	8.8	4.5	-56.1	-30.0	-26.1
4640.13	H	3.2	Ambient	-57.8	9.2	4.8	-53.4	-30.0	-23.4
4640.13	V	3.2	Ambient	-57.5	9.2	4.8	-53.1	-30.0	-23.1
5303.00	H	6.6	Ambient	-54.0	9.7	5.1	-49.3	-30.0	-19.3
5303.00	V	6.6	Ambient	-53.0	9.7	5.1	-48.3	-30.0	-18.3
5965.88	H	6.7	Ambient	-51.2	10.4	5.4	-46.2	-30.0	-16.2
5965.88	V	6.7	Ambient	-53.3	10.4	5.4	-48.3	-30.0	-18.3
6628.75	H	7.2	Ambient	-52.3	11.0	5.8	-47.1	-30.0	-17.1
6628.75	V	7.2	Ambient	-52.3	11.0	5.8	-47.1	-30.0	-17.1

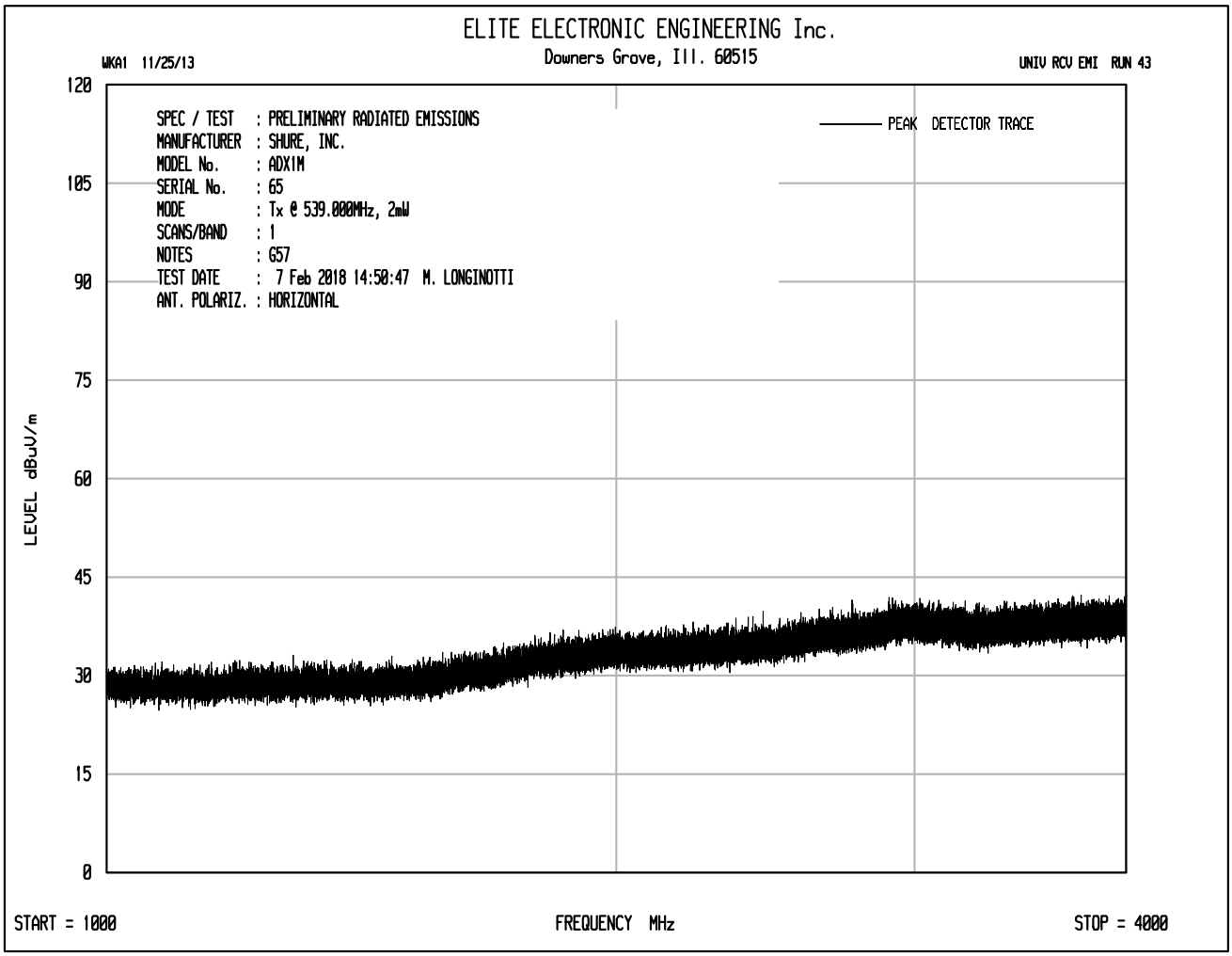
ERP (dBm) = Matched Sig. Gen.Reading (dBm) + Equivalent Antenna Gain (dB) – Cable Loss (dB)

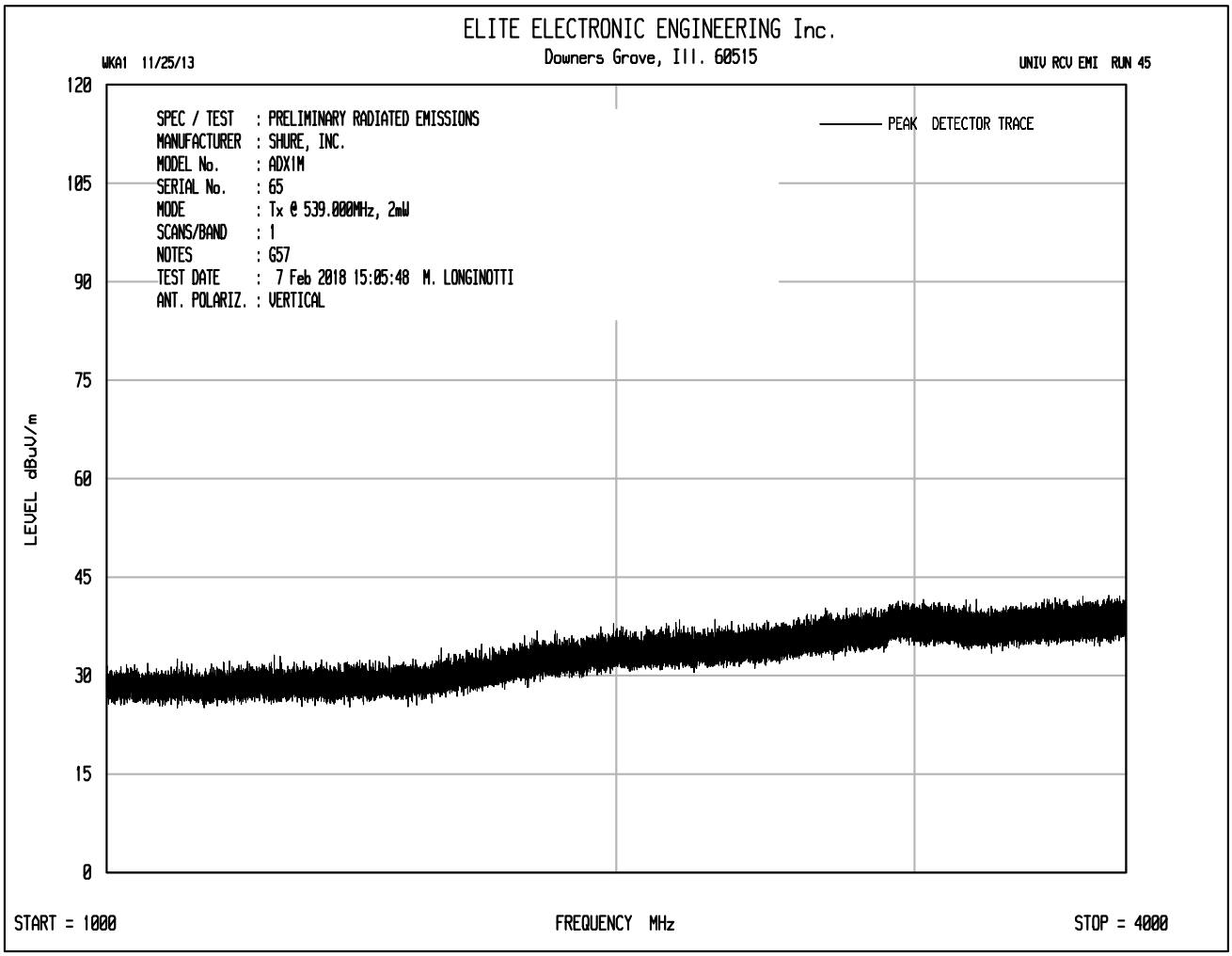
Checked By: MARK E. LONGINOTTI

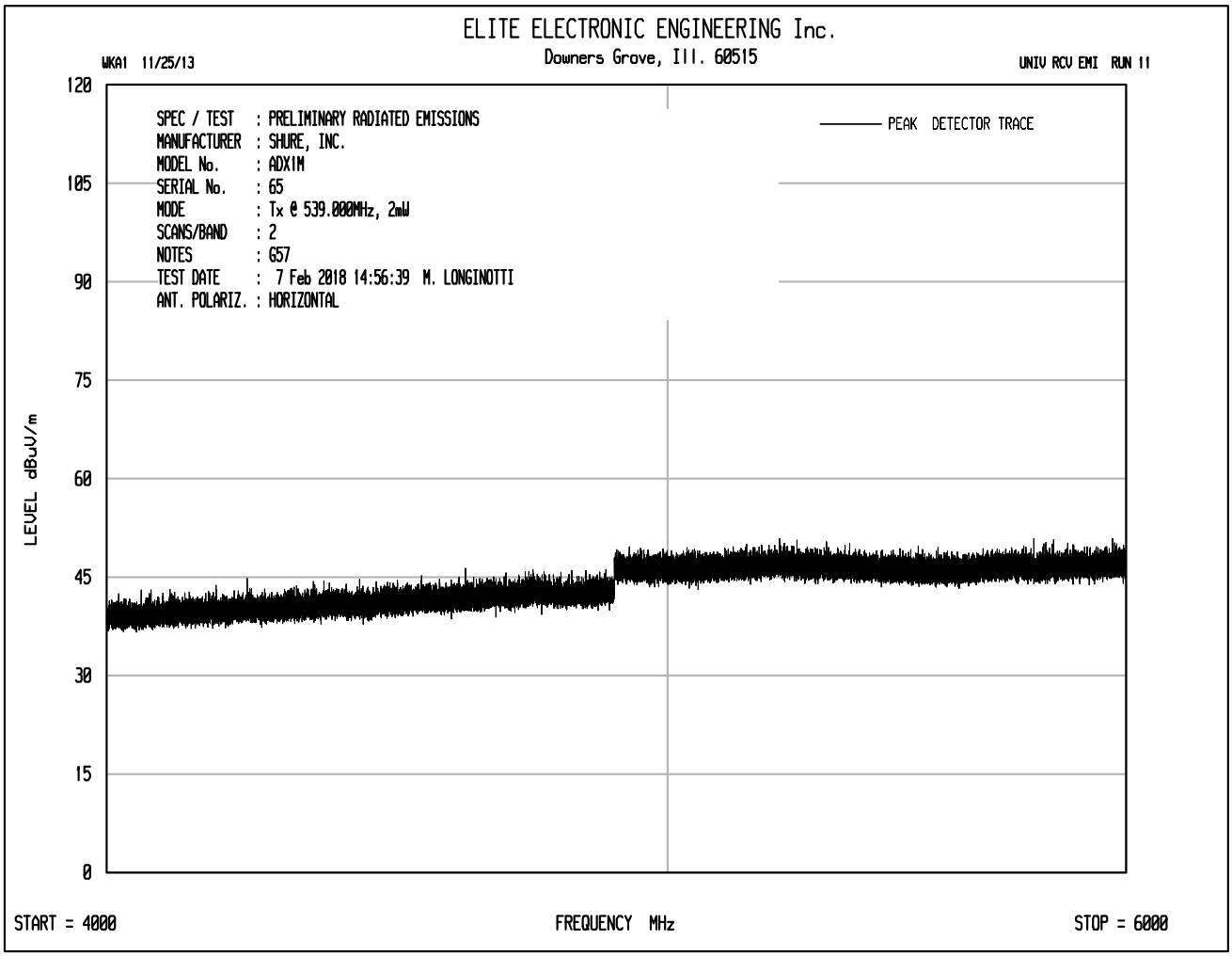
Mark E. Longinotti

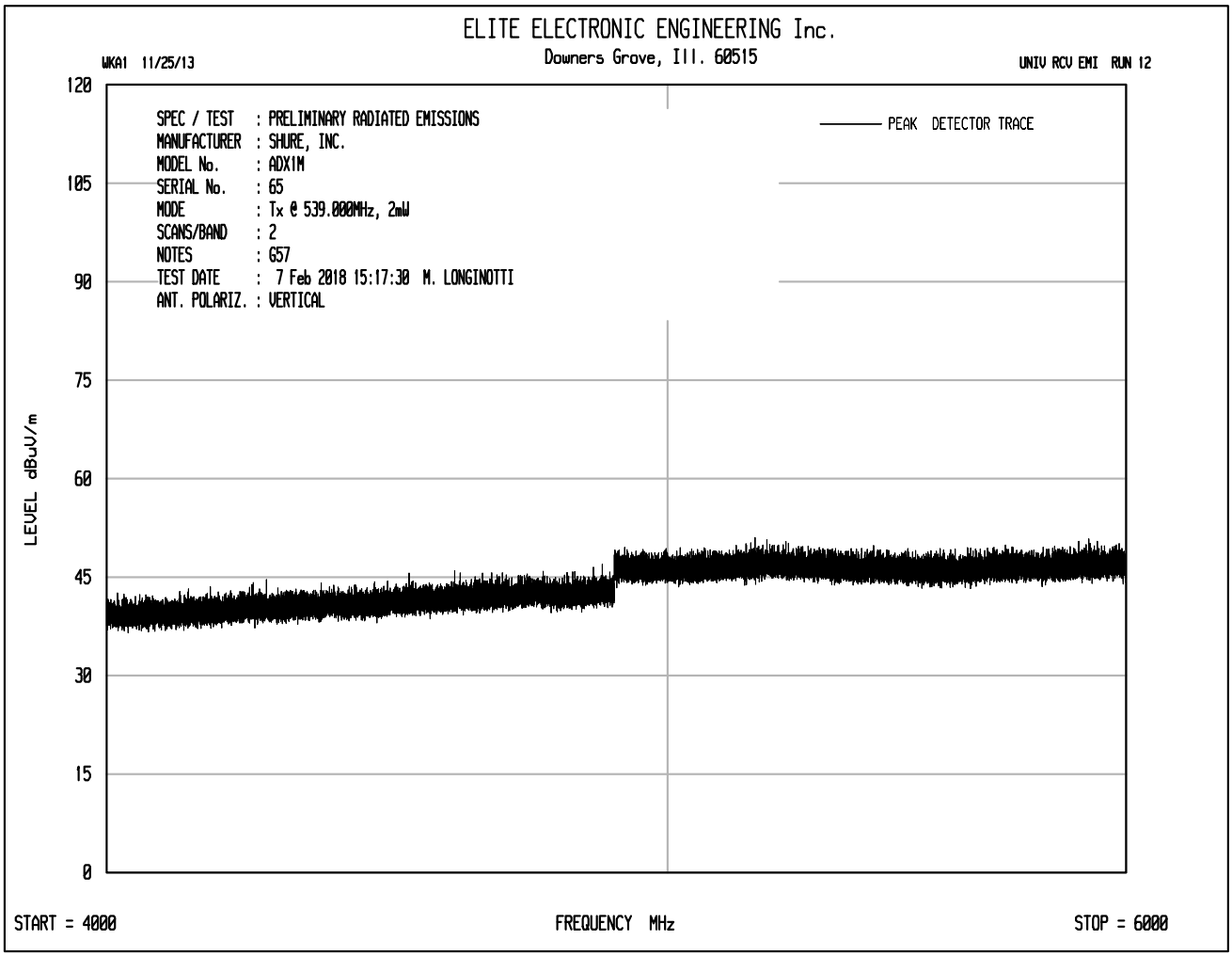

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 7
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 539.000MHz, 2mW
SCANS/BAND : 2
NOTES : G57
TEST DATE : 18 Dec 2017 11:51:26 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 25
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 8
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 539.000MHz, 2mW
SCANS/BAND : 2
NOTES : G57
TEST DATE : 18 Dec 2017 11:58:09 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 25
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 43
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : G5
MODE : Tx @ 539.000MHz, 2mW
SCANS/BAND : 1
NOTES : G57
TEST DATE : 7 Feb 2018 14:50:47 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 4000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 45
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 539.000MHz, 2mW
SCANS/BAND : 1
NOTES : G57
TEST DATE : 7 Feb 2018 15:05:48 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 4000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 11
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 539.000MHz, 2mW
SCANS/BAND : 2
NOTES : G57
TEST DATE : 7 Feb 2018 14:56:39 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 4000
FREQUENCY MHz
STOP = 6000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 12
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 539.000MHz, 2mW
SCANS/BAND : 2
NOTES : G57
TEST DATE : 7 Feb 2018 15:17:30 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 4000
FREQUENCY MHz
STOP = 6000

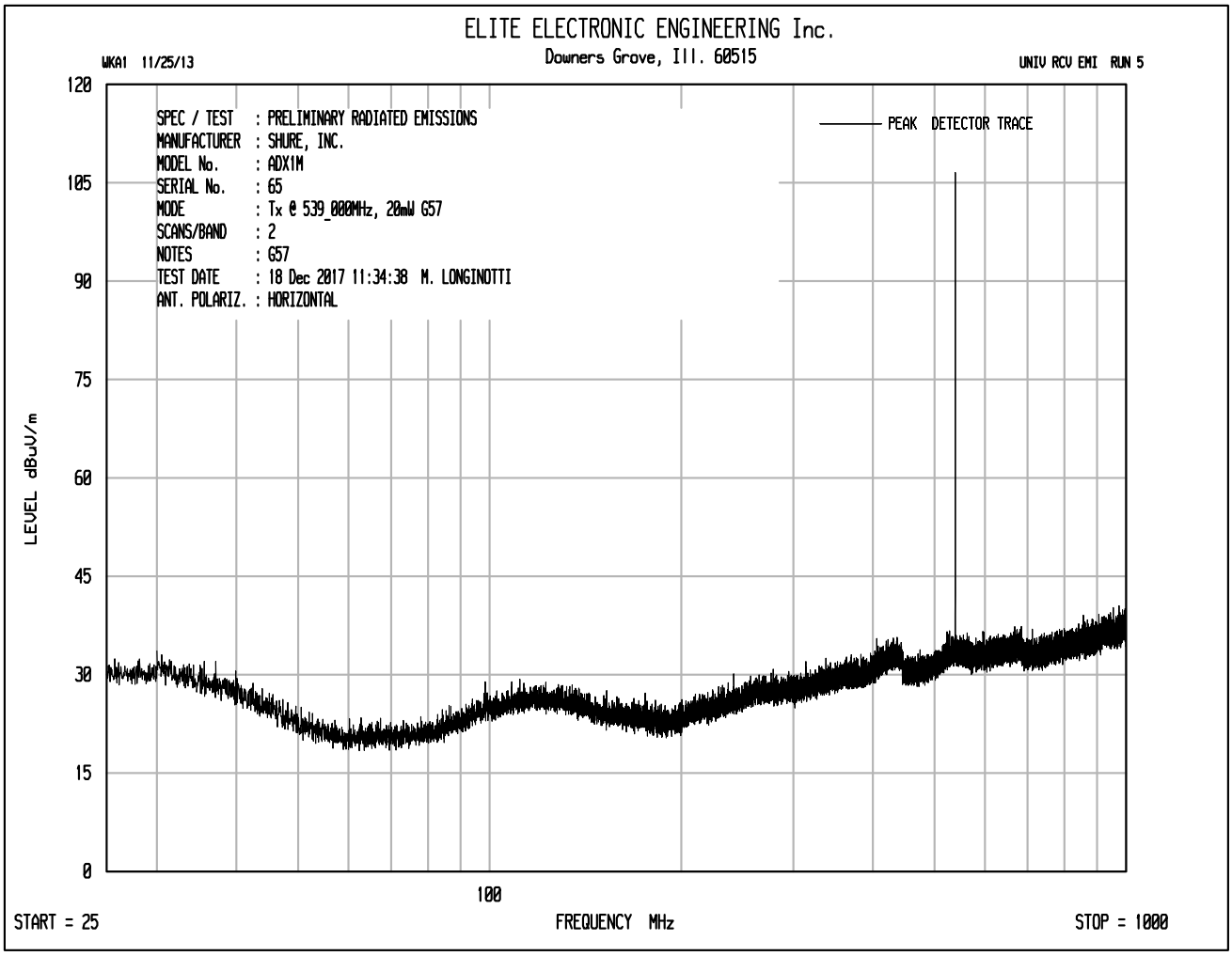
MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 65
SPECIFICATION : FCC 74.861(e)(7) Spurious Radiated Emissions
DATE : December 18, 2017 through February 7, 2018
MODE : Transmit at 539.000MHz
UNIT : G57
EQUIPMENT USED : NTA4,RBG2,GRE2, NWQ0, NWQ2, CDX8
NOTES : 2mW nominal power

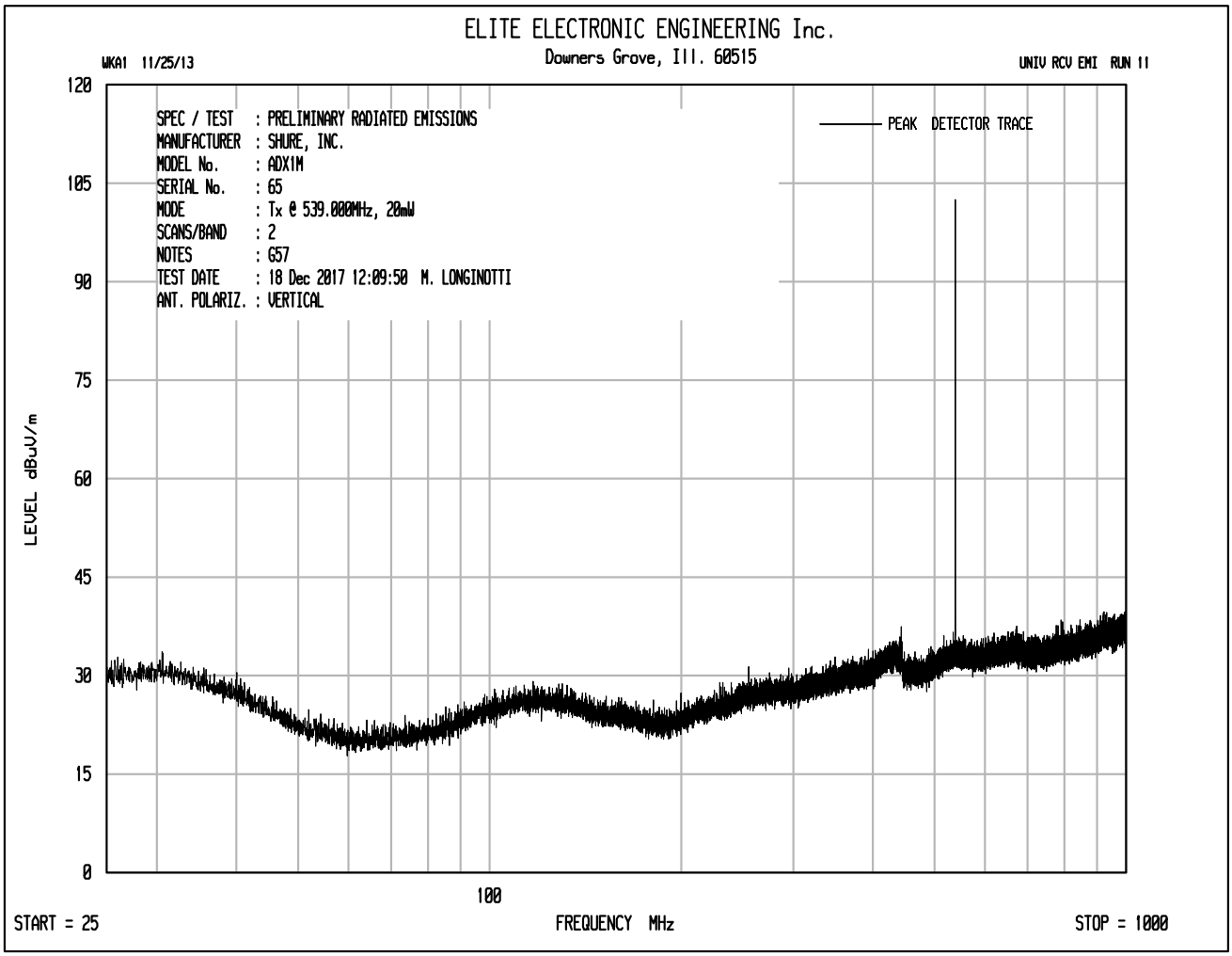
Freq. MHz	Ant Pol	Meter Reading (dBuV)	Ambient	Matched Sig. Gen. Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	ERP (dBm)	Limit dBm	Margin dB
1078.00	H	-0.7	Ambient	-71.0	2.4	2.2	-70.8	-30.0	-40.8
1078.00	V	-0.7	Ambient	-68.5	2.4	2.2	-68.3	-30.0	-38.3
1617.00	H	-0.3	Ambient	-70.3	5.6	2.8	-67.5	-30.0	-37.5
1617.00	V	-0.3	Ambient	-68.8	5.6	2.8	-66.0	-30.0	-36.0
2156.00	H	0.5	Ambient	-61.0	5.1	3.2	-59.1	-30.0	-29.1
2156.00	V	0.7	Ambient	-62.7	5.1	3.2	-60.8	-30.0	-30.8
2695.00	H	1.3	Ambient	-63.6	6.3	3.7	-60.9	-30.0	-30.9
2695.00	V	1.3	Ambient	-63.2	6.3	3.7	-60.5	-30.0	-30.5
3234.00	H	1.8	Ambient	-63.3	7.3	4.0	-60.0	-30.0	-30.0
3234.00	V	1.8	Ambient	-62.0	7.3	4.0	-58.7	-30.0	-28.7
3773.00	H	2.0	Ambient	-61.8	8.5	4.3	-57.6	-30.0	-27.6
3773.00	V	2.1	Ambient	-61.1	8.5	4.3	-56.9	-30.0	-26.9
4312.00	H	2.5	Ambient	-60.0	9.2	4.6	-55.5	-30.0	-25.5
4312.00	V	2.5	Ambient	-60.1	9.2	4.6	-55.6	-30.0	-25.6
4851.00	H	3.4	Ambient	-57.7	9.8	4.9	-52.7	-30.0	-22.7
4851.00	V	3.4	Ambient	-57.4	9.8	4.9	-52.4	-30.0	-22.4
5390.00	H	6.4	Ambient	-52.9	10.1	5.1	-47.9	-30.0	-17.9
5390.00	V	6.4	Ambient	-54.2	10.1	5.1	-49.2	-30.0	-19.2

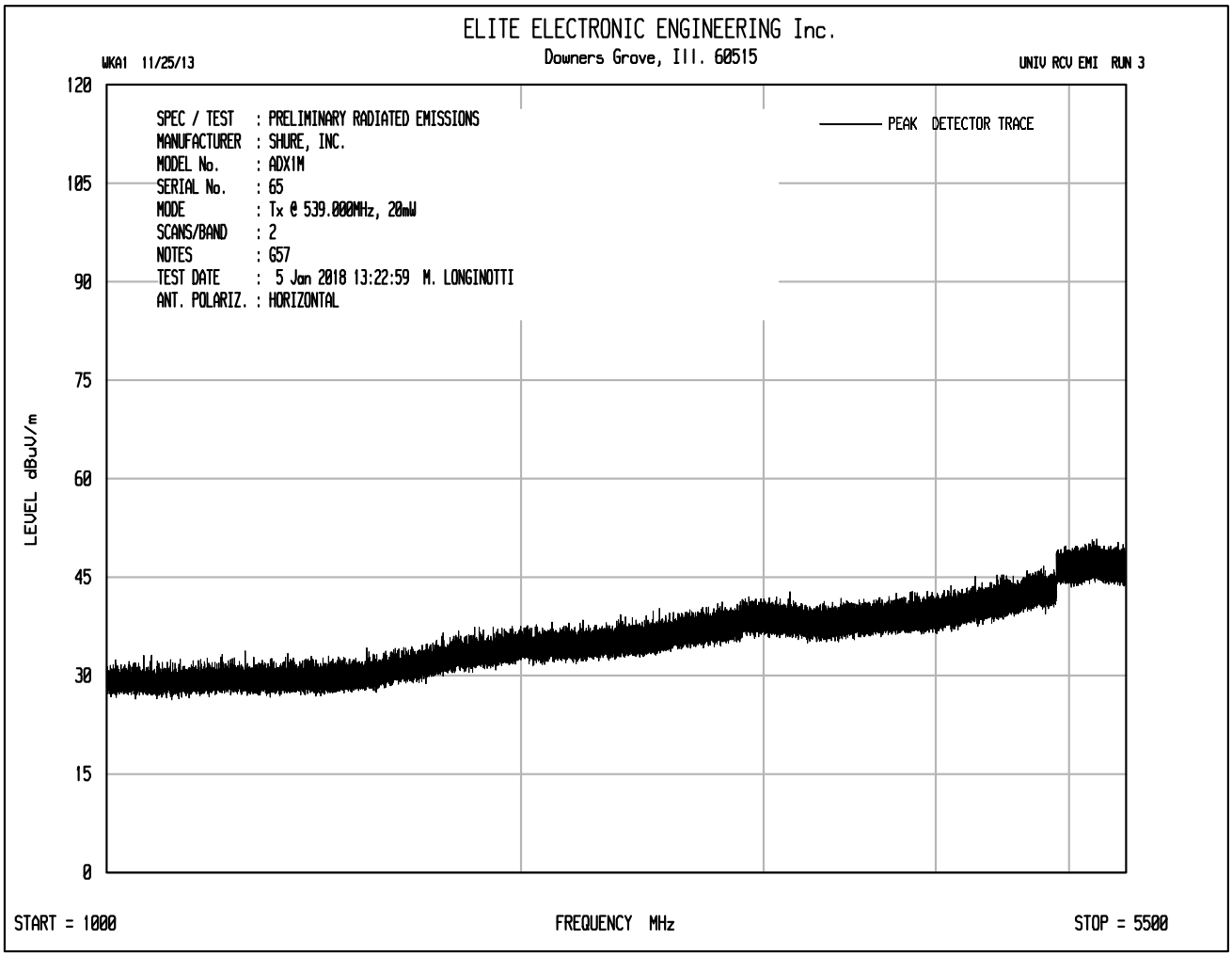
ERP (dBm) = Matched Sig. Gen.Reading (dBm) + Equivalent Antenna Gain (dB) – Cable Loss (dB)

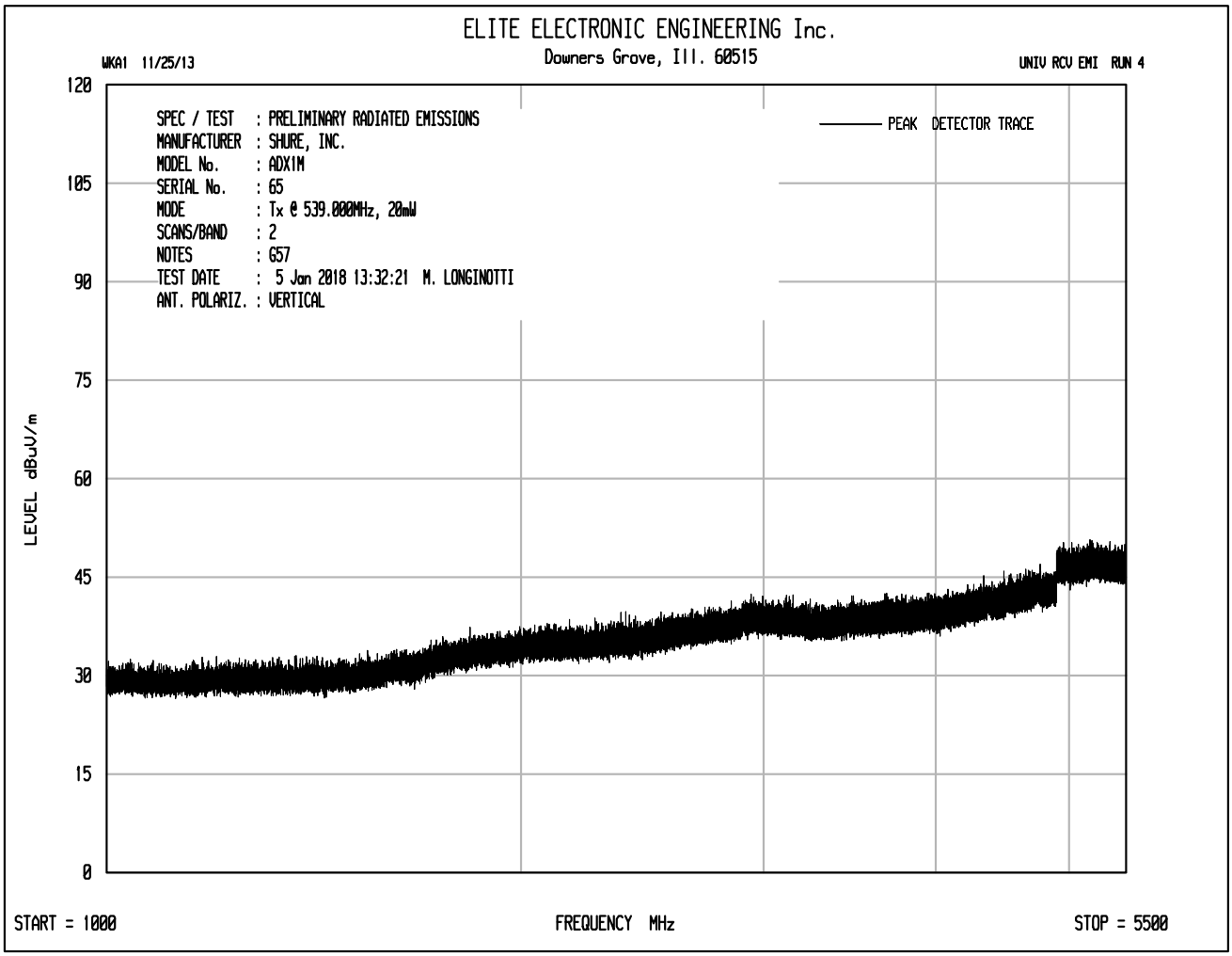
Checked By: MARK E. LONGINOTTI

Mark E. Longinotti


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 5
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : G5
MODE : Tx @ 539_000MHz, 20mW G57
SCANS/BAND : 2
NOTES : G57
TEST DATE : 18 Dec 2017 11:34:38 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 25
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 11
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 539.000MHz, 20mW
SCANS/BAND : 2
NOTES : G57
TEST DATE : 18 Dec 2017 12:09:50 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 25
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 3
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 539.000MHz, 20mW
SCANS/BAND : 2
NOTES : G57
TEST DATE : 5 Jan 2018 13:22:59 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 5500


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 4
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 539.000MHz, 20mW
SCANS/BAND : 2
NOTES : G57
TEST DATE : 5 Jan 2018 13:32:21 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 5500

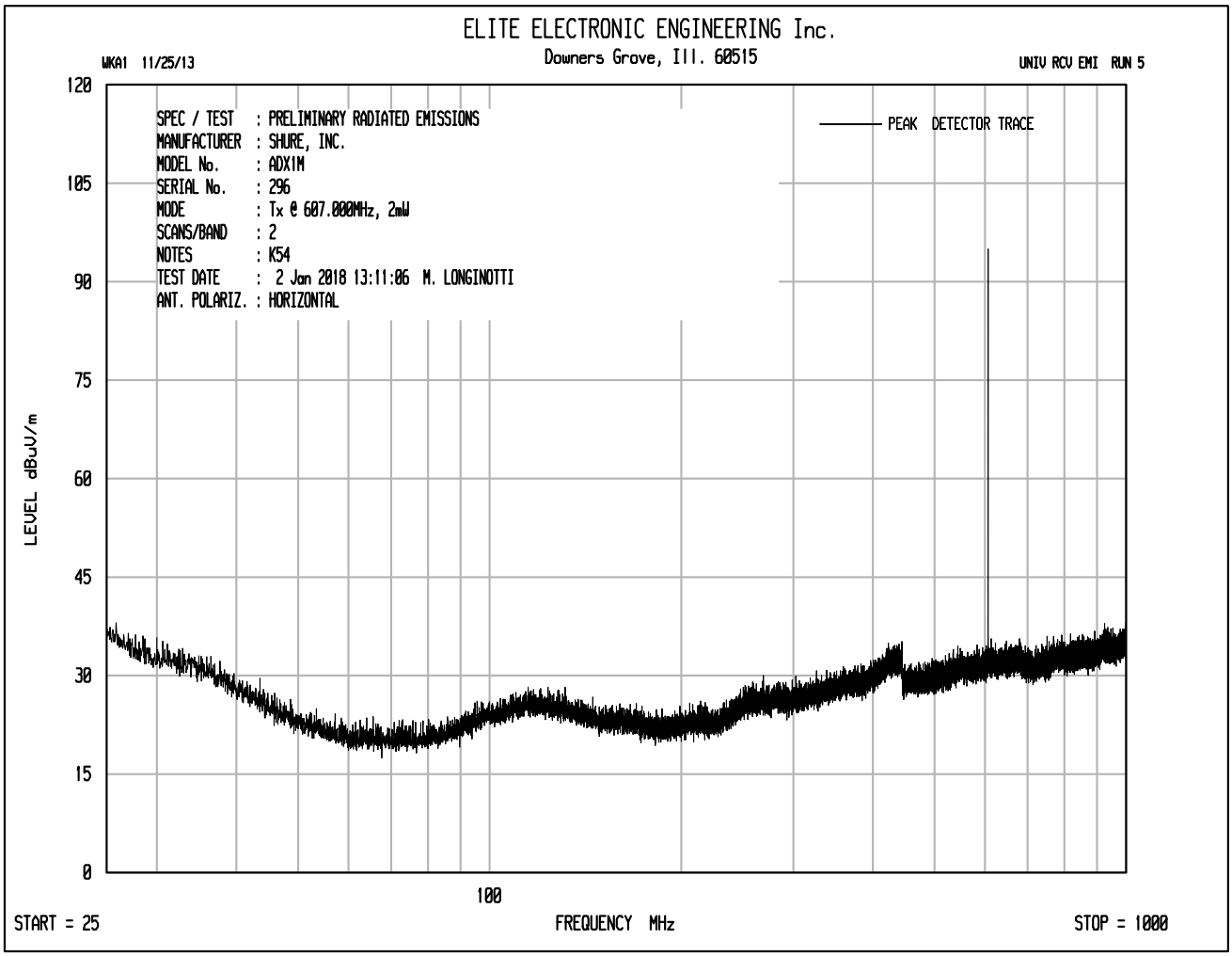
MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 65
SPECIFICATION : FCC 74.861(e)(7) Spurious Radiated Emissions
DATE : December 18, 2017 through January 5, 2018
MODE : Transmit at 539.000MHz
UNIT : G57
EQUIPMENT USED : NTA4,RBG2,GRE2, NWQ0, NWQ2, CDX8
NOTES : 20mW nominal power

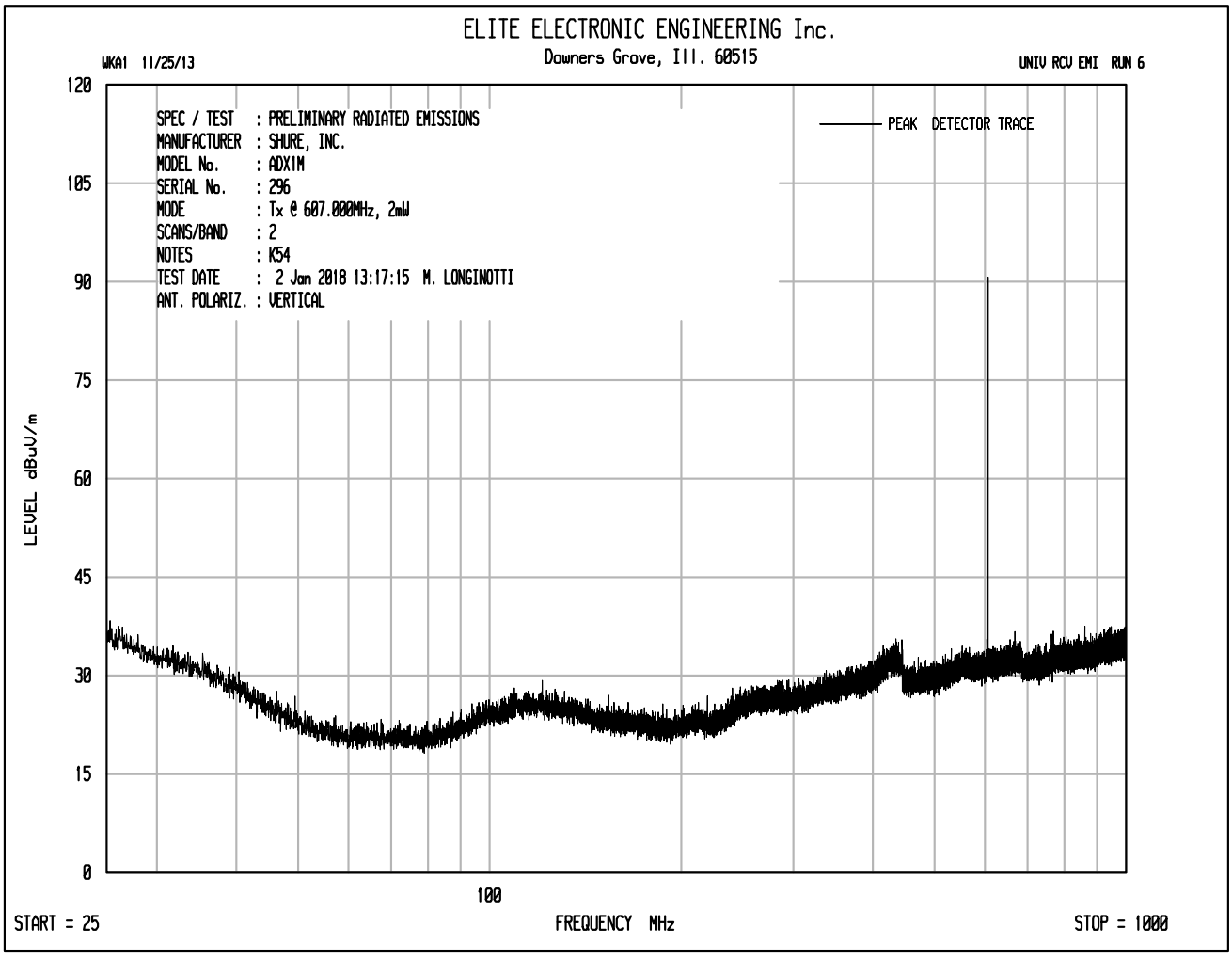
Freq. MHz	Ant Pol	Meter Reading (dBuV)	Ambient	Matched Sig. Gen. Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	ERP (dBm)	Limit dBm	Margin dB
1078.00	H	0.0	Ambient	-70.3	2.4	2.2	-70.1	-30.0	-40.1
1078.00	V	-0.1	Ambient	-67.7	2.4	2.2	-67.5	-30.0	-37.5
1617.00	H	2.7		-67.3	5.6	2.8	-64.5	-30.0	-34.5
1617.00	V	1.1		-67.3	5.6	2.8	-64.5	-30.0	-34.5
2156.00	H	0.6	Ambient	-65.4	5.1	3.2	-63.5	-30.0	-33.5
2156.00	V	0.6	Ambient	-62.8	5.1	3.2	-60.9	-30.0	-30.9
2695.00	H	1.3	Ambient	-63.6	6.3	3.7	-60.9	-30.0	-30.9
2695.00	V	1.3	Ambient	-63.2	6.3	3.7	-60.5	-30.0	-30.5
3234.00	H	1.8	Ambient	-63.3	7.3	4.0	-60.0	-30.0	-30.0
3234.00	V	1.8	Ambient	-62.0	7.3	4.0	-58.7	-30.0	-28.7
3773.00	H	2.1	Ambient	-61.7	8.5	4.3	-57.5	-30.0	-27.5
3773.00	V	2.1	Ambient	-61.1	8.5	4.3	-56.9	-30.0	-26.9
4312.00	H	2.6	Ambient	-59.9	9.2	4.6	-55.4	-30.0	-25.4
4312.00	V	2.6	Ambient	-60.0	9.2	4.6	-55.5	-30.0	-25.5
4851.00	H	3.5	Ambient	-57.6	9.8	4.9	-52.6	-30.0	-22.6
4851.00	V	3.5	Ambient	-57.3	9.8	4.9	-52.3	-30.0	-22.3
5390.00	H	6.5	Ambient	-52.8	10.1	5.1	-47.8	-30.0	-17.8
5390.00	V	6.5	Ambient	-54.1	10.1	5.1	-49.1	-30.0	-19.1

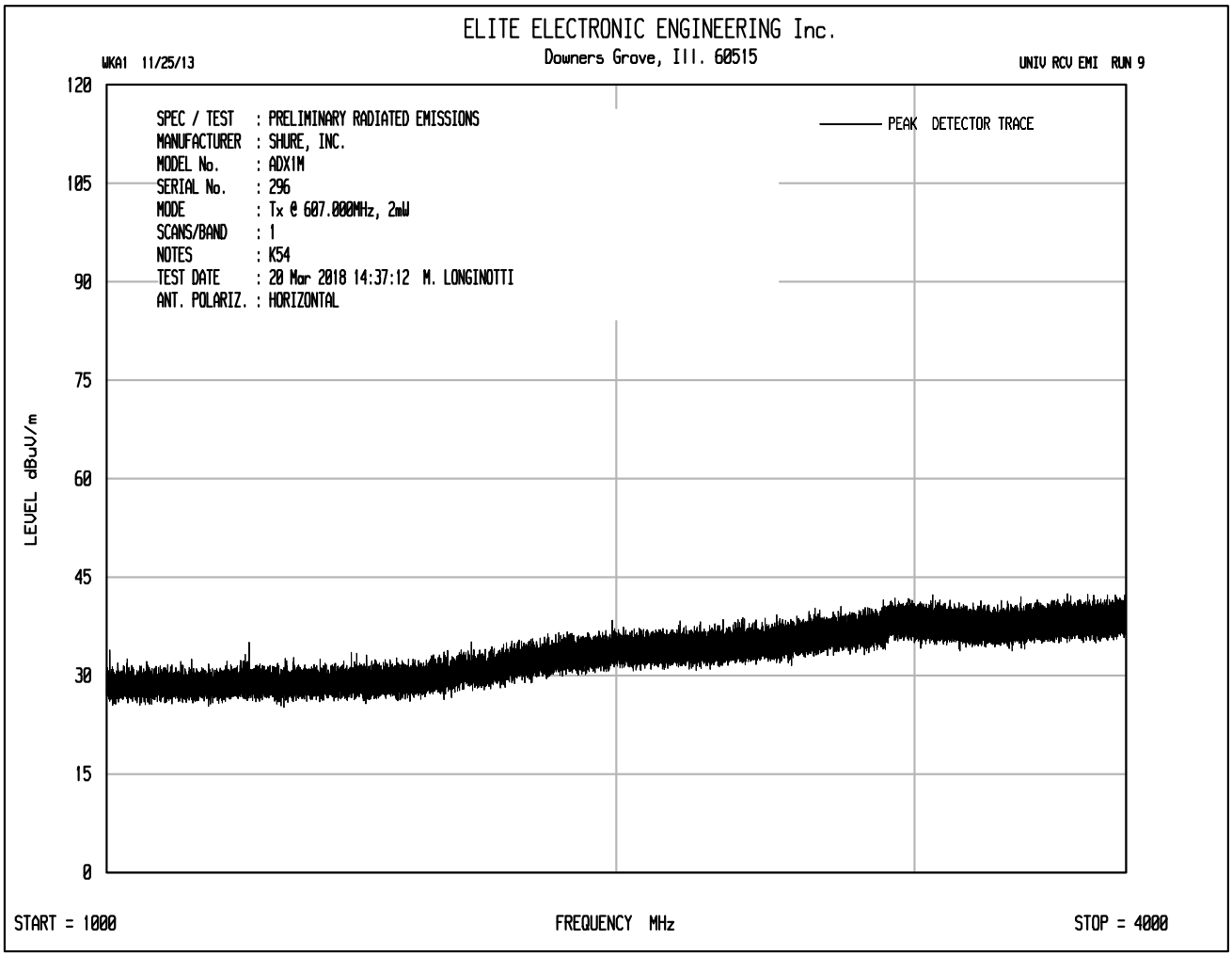
ERP (dBm) = Matched Sig. Gen.Reading (dBm) + Equivalent Antenna Gain (dB) – Cable Loss (dB)

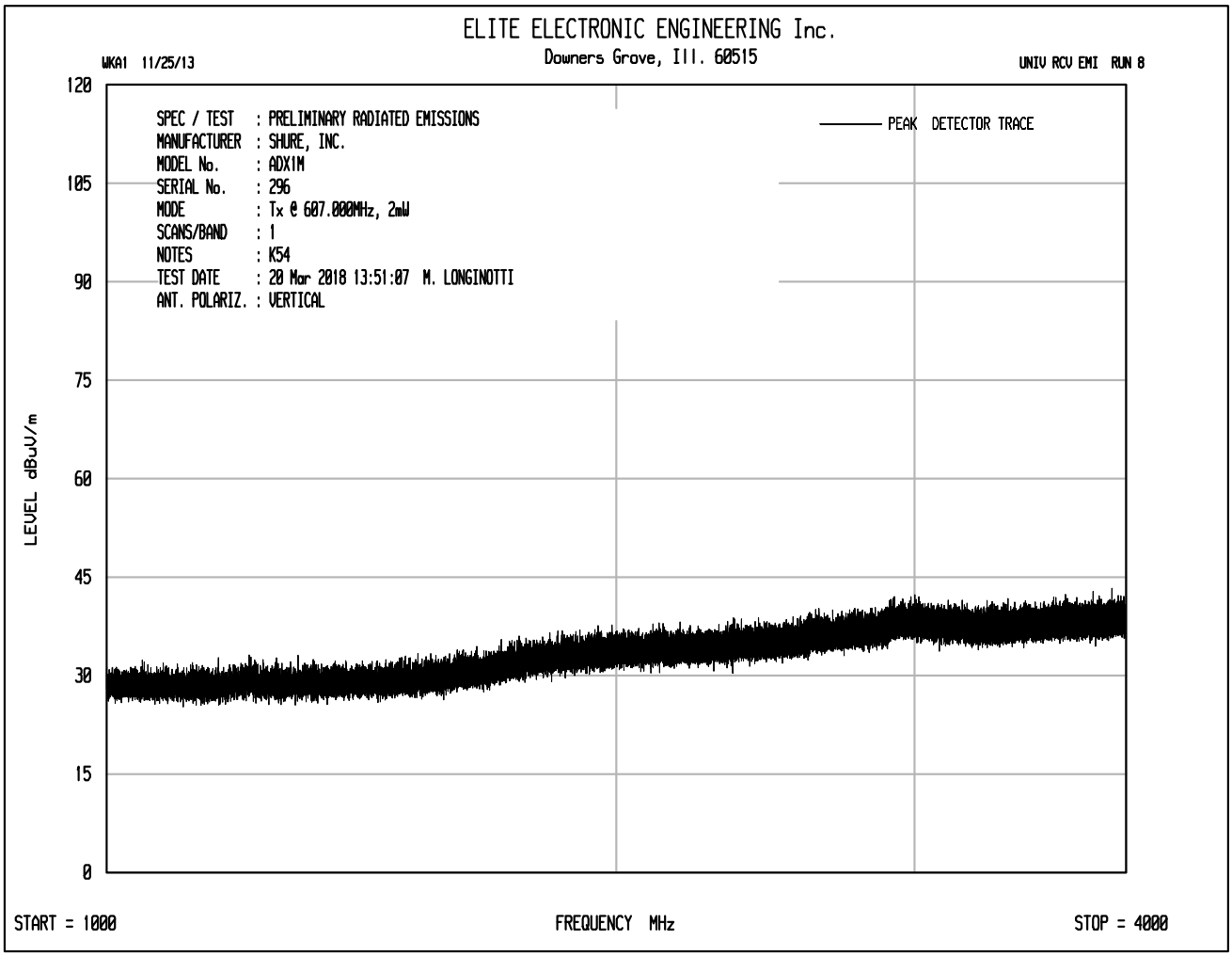
Checked By: MARK E. LONGINOTTI

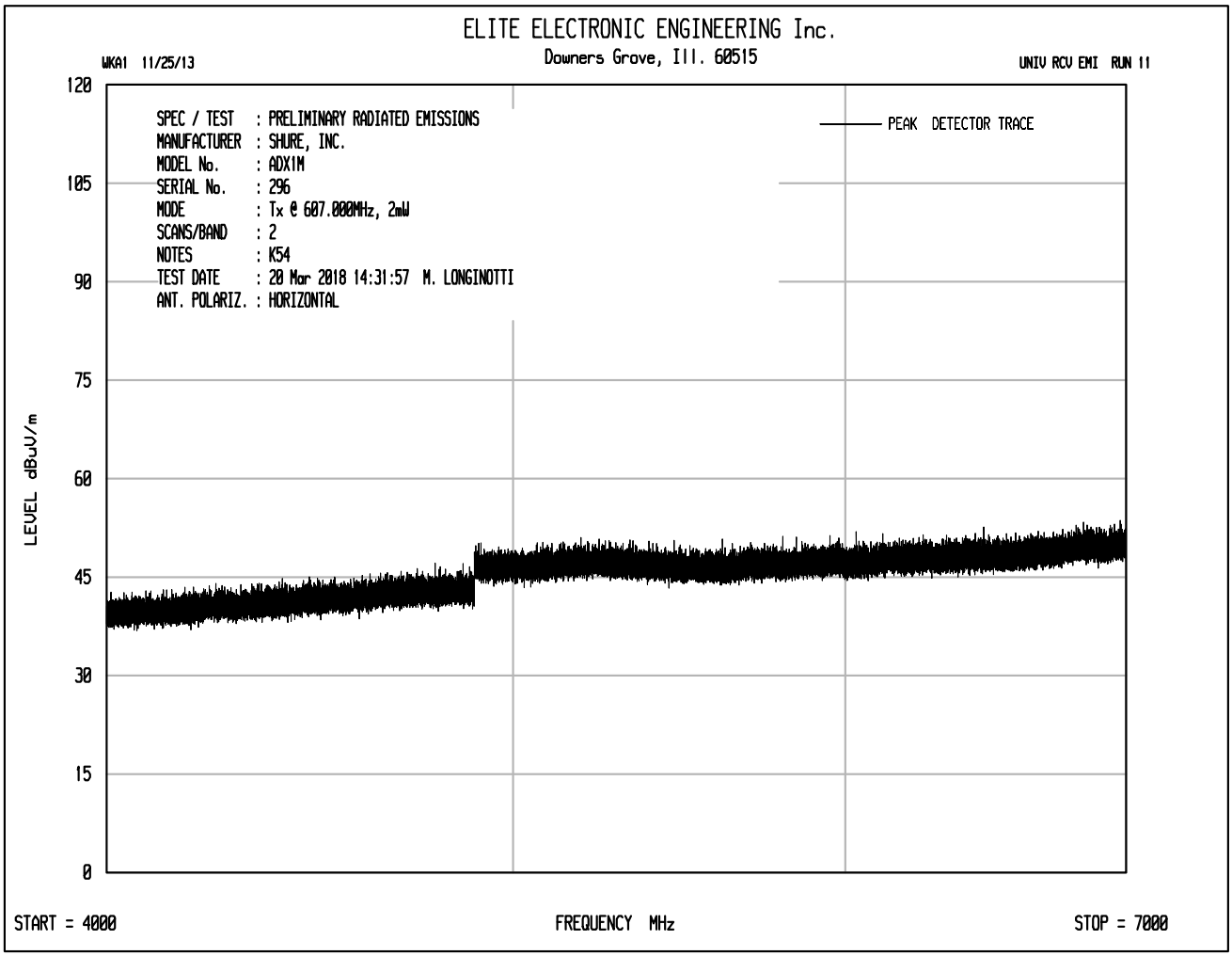
Mark E. Longinotti

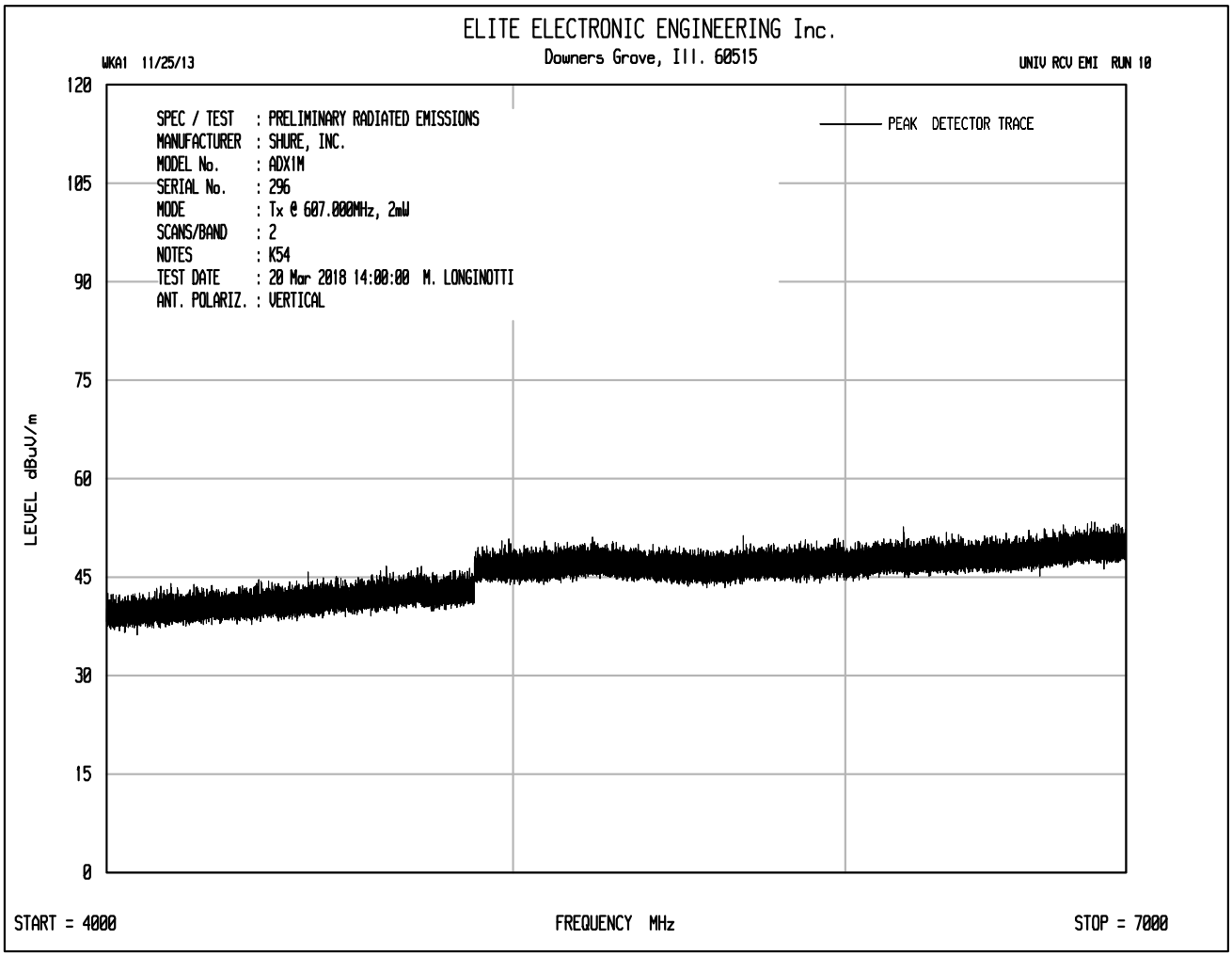

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 5
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 607.000MHz, 2mW
SCANS/BAND : 2
NOTES : K54
TEST DATE : 2 Jan 2018 13:11:06 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 25
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 6
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 607.000MHz, 2mW
SCANS/BAND : 2
NOTES : K54
TEST DATE : 2 Jan 2018 13:17:15 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 25
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 9
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 607.000MHz, 2mW
SCANS/BAND : 1
NOTES : K54
TEST DATE : 20 Mar 2018 14:37:12 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 4000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 8
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 607.000MHz, 2mW
SCANS/BAND : 1
NOTES : K54
TEST DATE : 20 Mar 2018 13:51:07 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 4000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 11
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 607.000MHz, 2mW
SCANS/BAND : 2
NOTES : K54
TEST DATE : 20 Mar 2018 14:31:57 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 4000
FREQUENCY MHz
STOP = 7000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 607.000MHz, 2mW
SCANS/BAND : 2
NOTES : K54
TEST DATE : 20 Mar 2018 14:00:00 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 4000
FREQUENCY MHz
STOP = 7000

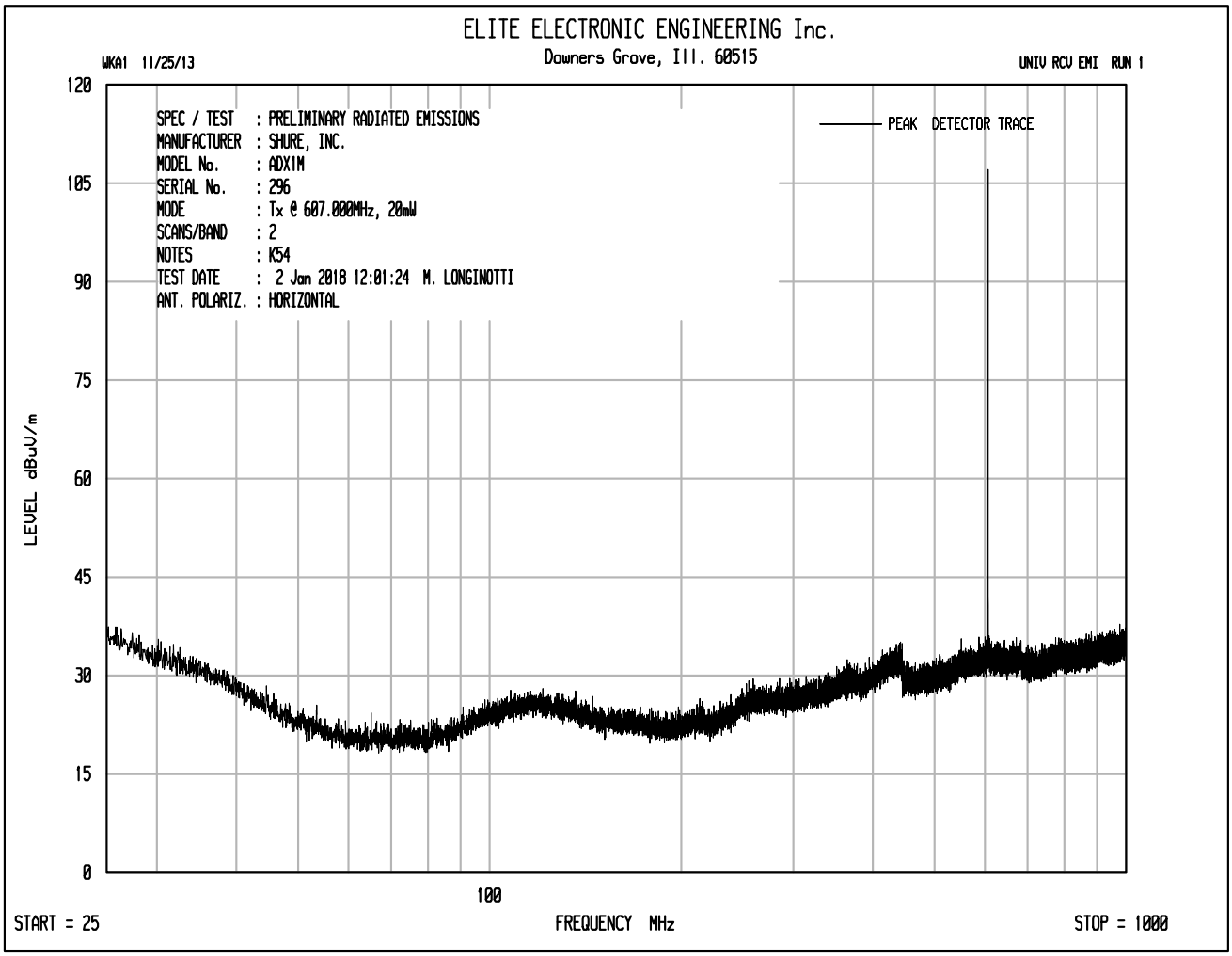
MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 296
SPECIFICATION : FCC 74.861(e)(7) Spurious Radiated Emissions
DATE : January 2,2018 through March 23, 2018
MODE : Transmit at 607.000MHz
UNIT : K54
EQUIPMENT USED : NTA3,RBG2,GRE2, GSE0,NWQ0, NWQ1, CDX8
NOTES : 2mW nominal power

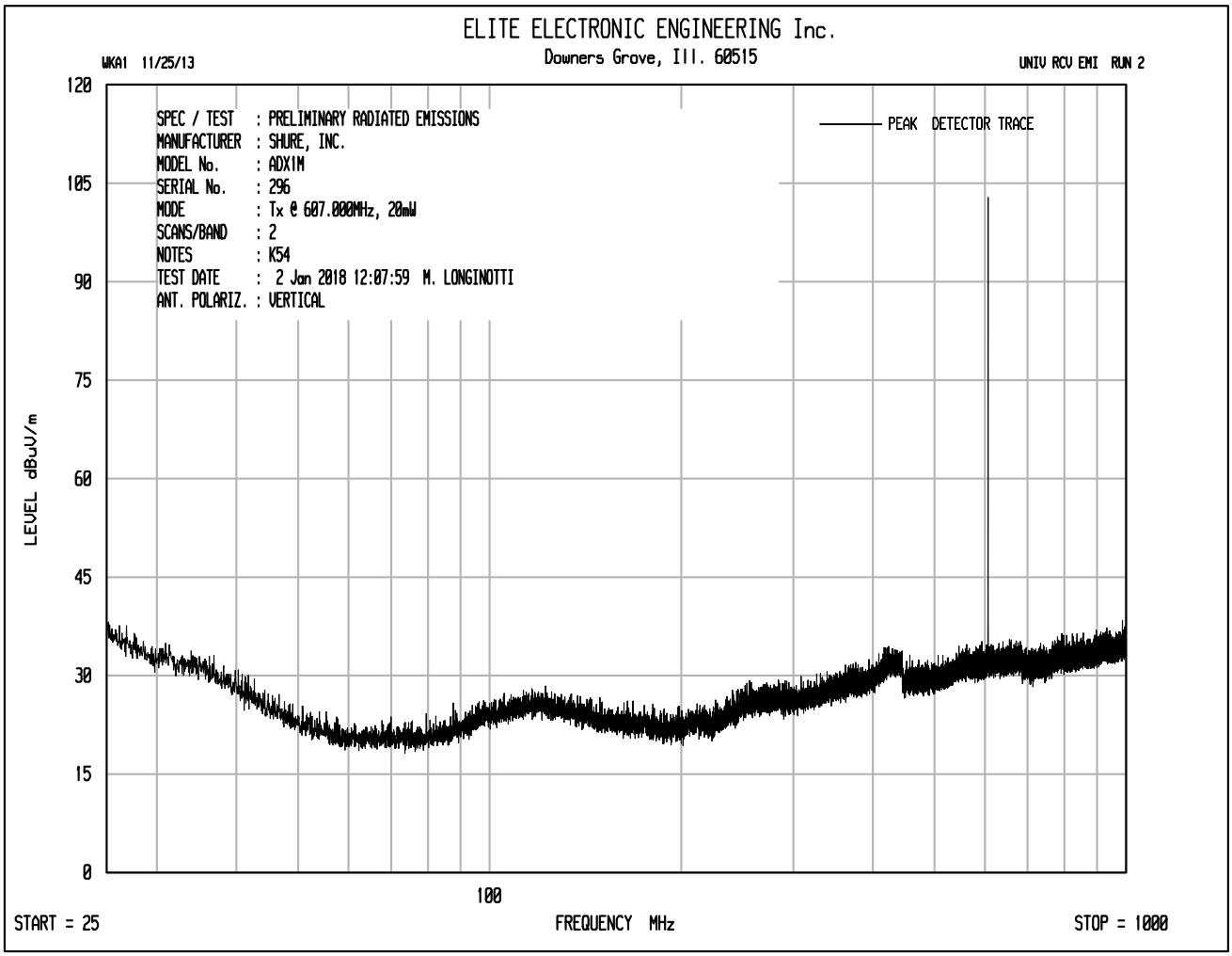
Freq. MHz	Ant Pol	Meter Reading (dBuV)	Ambient	Matched Sig. Gen. Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	ERP (dBm)	Limit dBm	Margin dB
1214.00	H	1.7		-67.3	2.9	2.4	-66.8	-30.0	-36.8
1214.00	V	1.0		-64.2	2.9	2.4	-63.7	-30.0	-33.7
1821.00	H	0.5	Ambient	-67.1	5.1	2.9	-64.9	-30.0	-34.9
1821.00	V	0.5	Ambient	-64.0	5.1	2.9	-61.8	-30.0	-31.8
2428.00	H	0.8	Ambient	-65.3	5.9	3.5	-62.9	-30.0	-32.9
2428.00	V	0.9	Ambient	-63.6	5.9	3.5	-61.2	-30.0	-31.2
3035.00	H	2.1	Ambient	-63.6	7.1	3.9	-60.4	-30.0	-30.4
3035.00	V	2.1	Ambient	-61.7	7.1	3.9	-58.5	-30.0	-28.5
3642.00	H	2.1	Ambient	-61.7	8.4	4.3	-57.6	-30.0	-27.6
3642.00	V	2.1	Ambient	-60.6	8.4	4.3	-56.5	-30.0	-26.5
4249.00	H	2.6	Ambient	-59.6	9.3	4.6	-54.9	-30.0	-24.9
4249.00	V	2.6	Ambient	-59.8	9.3	4.6	-55.1	-30.0	-25.1
4856.00	H	3.7	Ambient	-57.1	9.4	4.9	-52.6	-30.0	-22.6
4856.00	V	3.7	Ambient	-56.2	9.4	4.9	-51.7	-30.0	-21.7
5463.00	H	6.7	Ambient	-53.7	10.1	5.2	-48.7	-30.0	-18.7
5463.00	V	6.7	Ambient	-53.7	10.1	5.2	-48.7	-30.0	-18.7
6070.00	H	6.6	Ambient	-51.7	10.4	5.5	-46.7	-30.0	-16.7
6070.00	V	6.6	Ambient	-52.7	10.4	5.5	-47.7	-30.0	-17.7

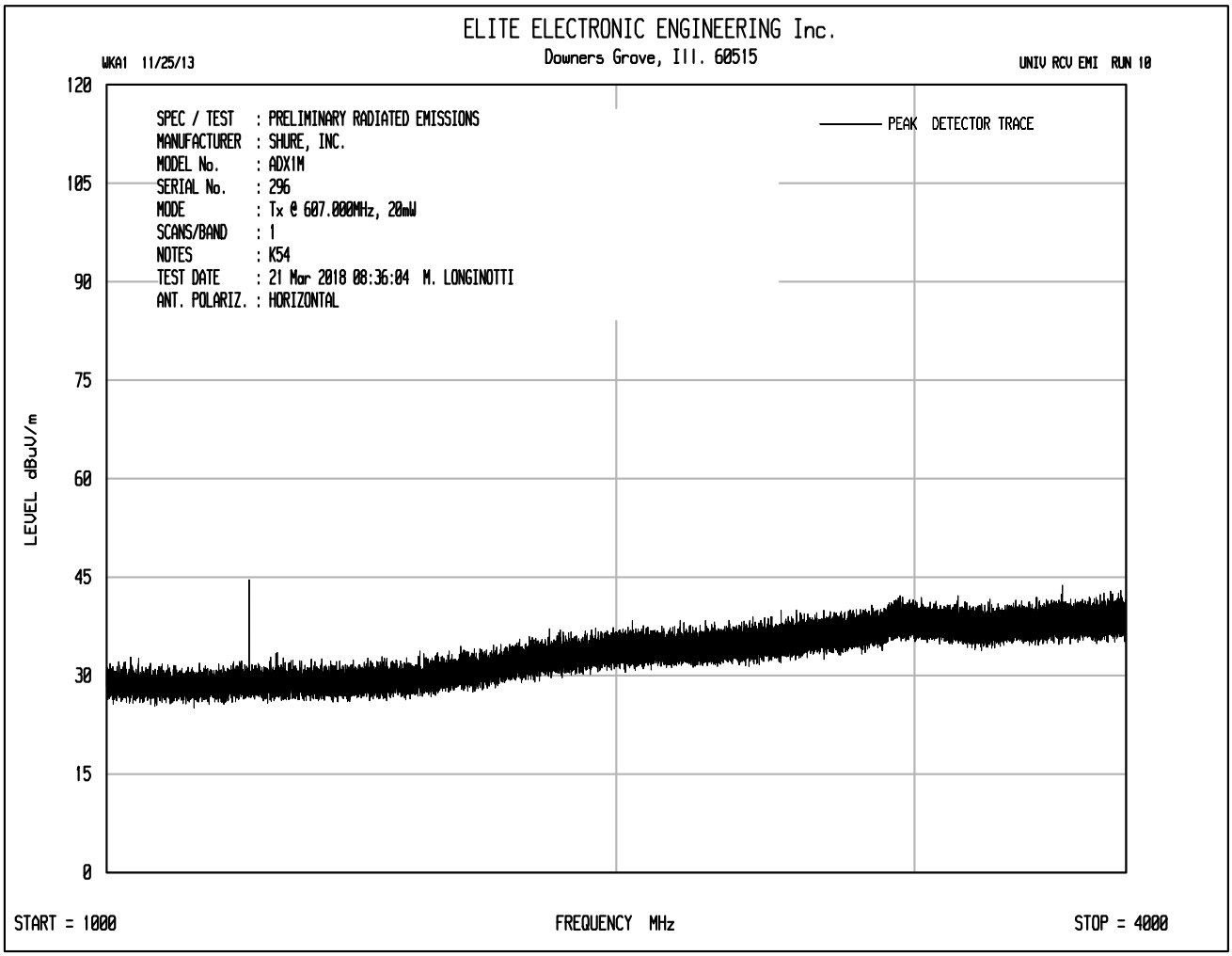
ERP (dBm) = Matched Sig. Gen.Reading (dBm) + Equivalent Antenna Gain (dB) – Cable Loss (dB)

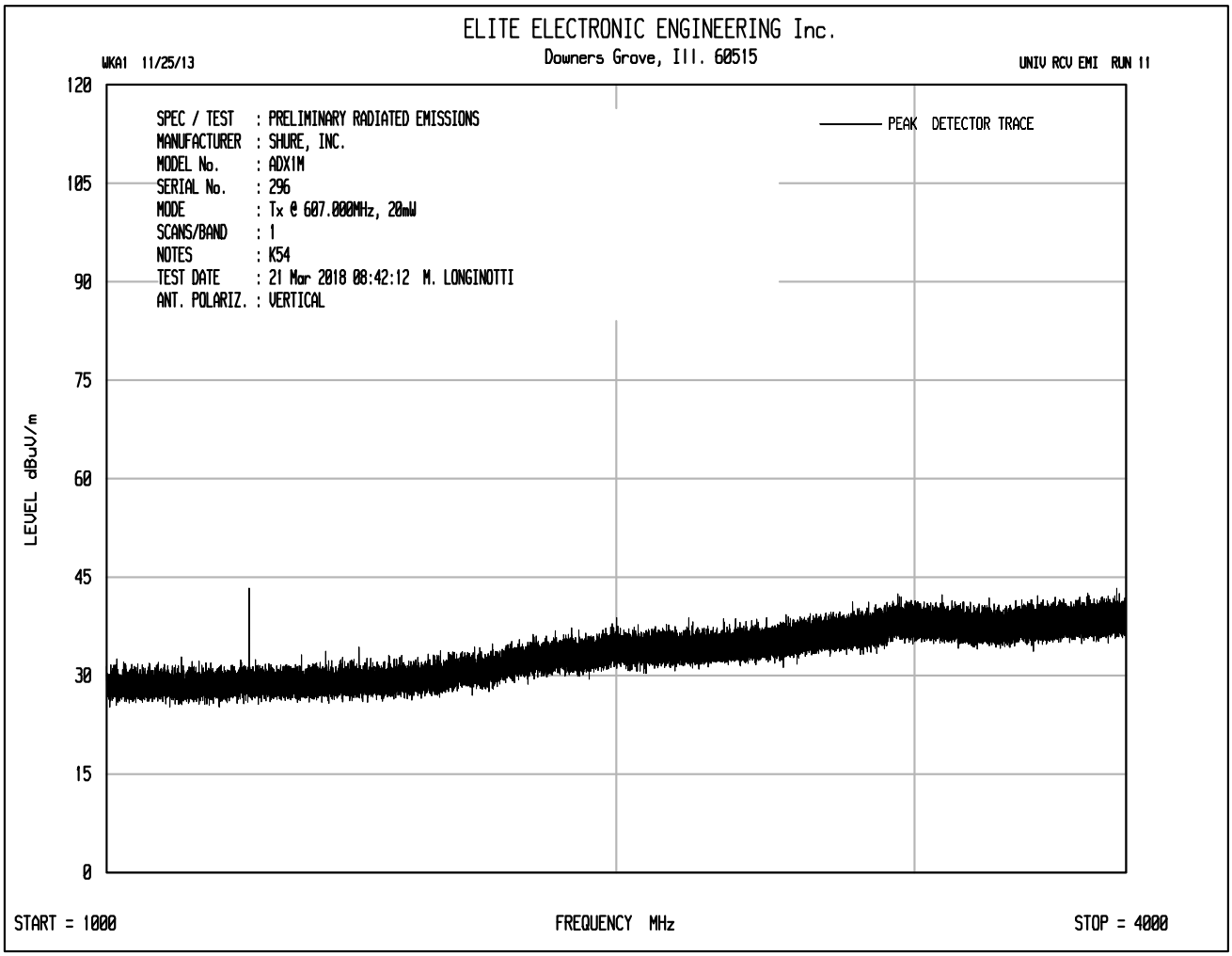
Checked By: MARK E. LONGINOTTI

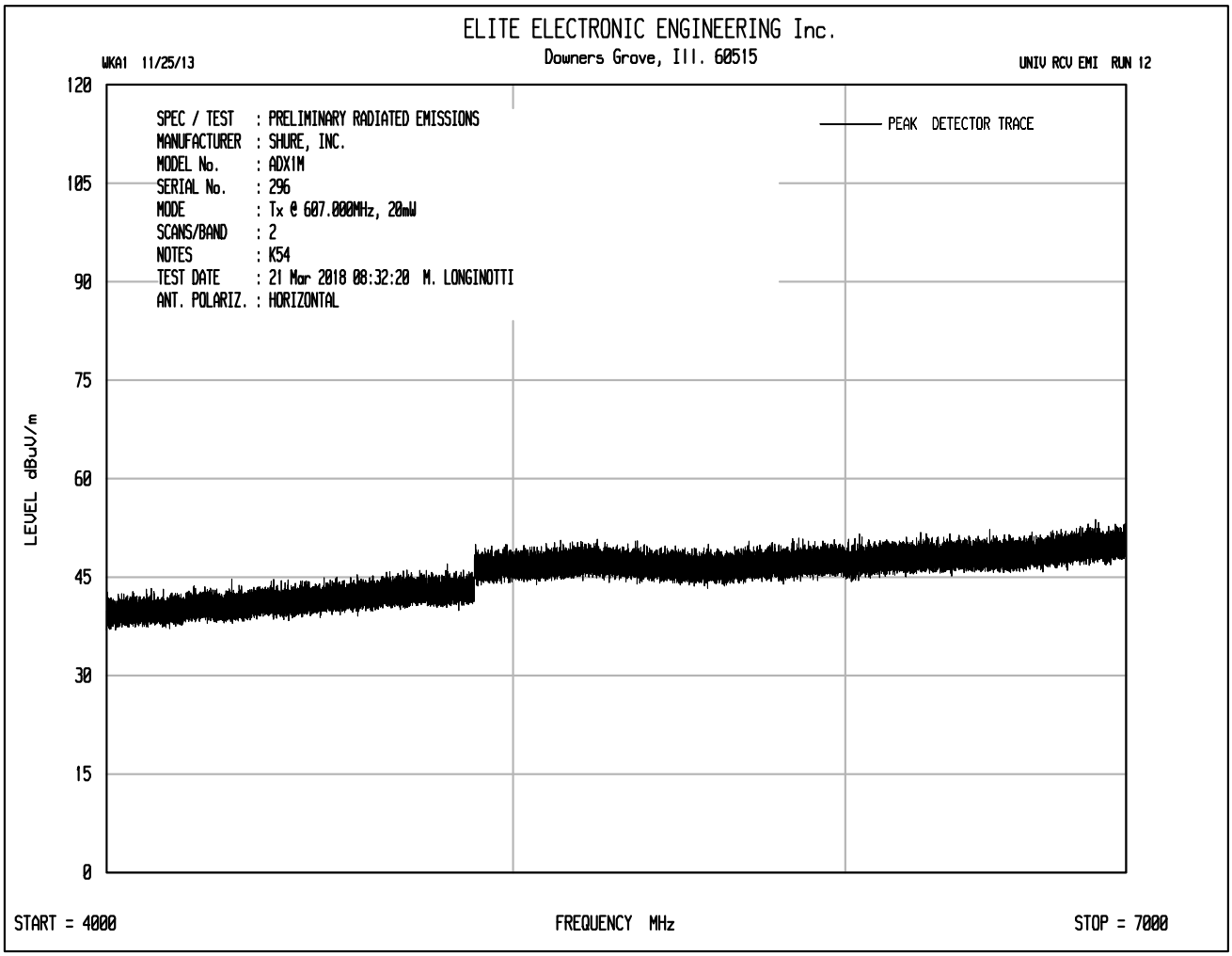
Mark E. Longinotti

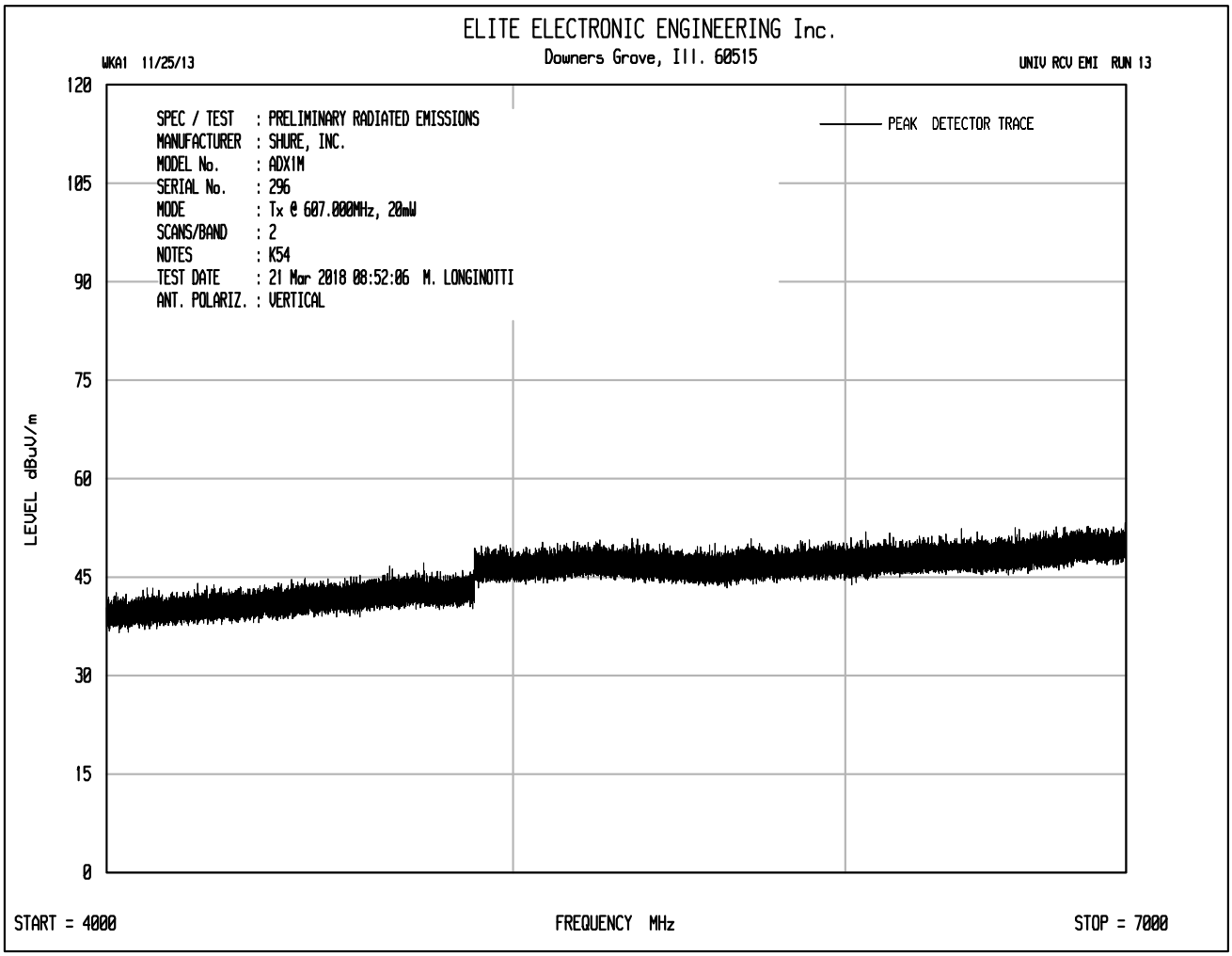

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 1
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 607.000MHz, 20mW
SCANS/BAND : 2
NOTES : K54
TEST DATE : 2 Jan 2018 12:01:24 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 25
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 2
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 607.000MHz, 20mW
SCANS/BAND : 2
NOTES : K54
TEST DATE : 2 Jan 2018 12:07:59 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 25
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 607.000MHz, 20mW
SCANS/BAND : 1
NOTES : K54
TEST DATE : 21 Mar 2018 08:36:04 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 4000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 11
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 607.000MHz, 20mW
SCANS/BAND : 1
NOTES : K54
TEST DATE : 21 Mar 2018 08:42:12 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 4000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 12
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 607.000MHz, 20mW
SCANS/BAND : 2
NOTES : K54
TEST DATE : 21 Mar 2018 08:32:20 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 4000
FREQUENCY MHz
STOP = 7000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 13
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 607.000MHz, 20mW
SCANS/BAND : 2
NOTES : K54
TEST DATE : 21 Mar 2018 08:52:06 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 4000
FREQUENCY MHz
STOP = 7000

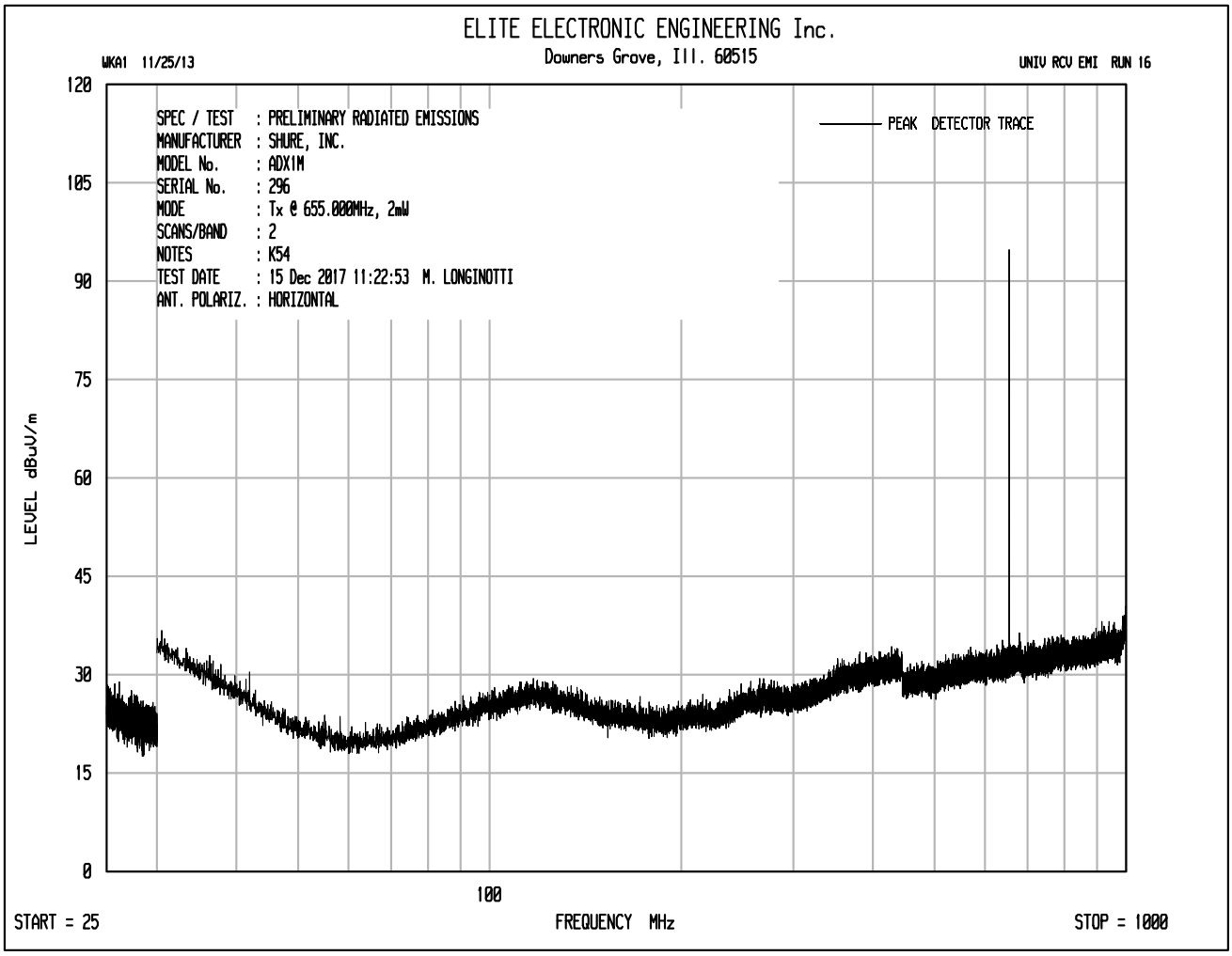
MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 296
SPECIFICATION : FCC 74.861(e)(7) Spurious Radiated Emissions
DATE : January 2,2018 through March 23, 2018
MODE : Transmit at 607.000MHz
UNIT : K54
EQUIPMENT USED : NTA3,RBG2,GRE2, GSE0,NWQ0, NWQ1, CDX8
NOTES : 20mW nominal power

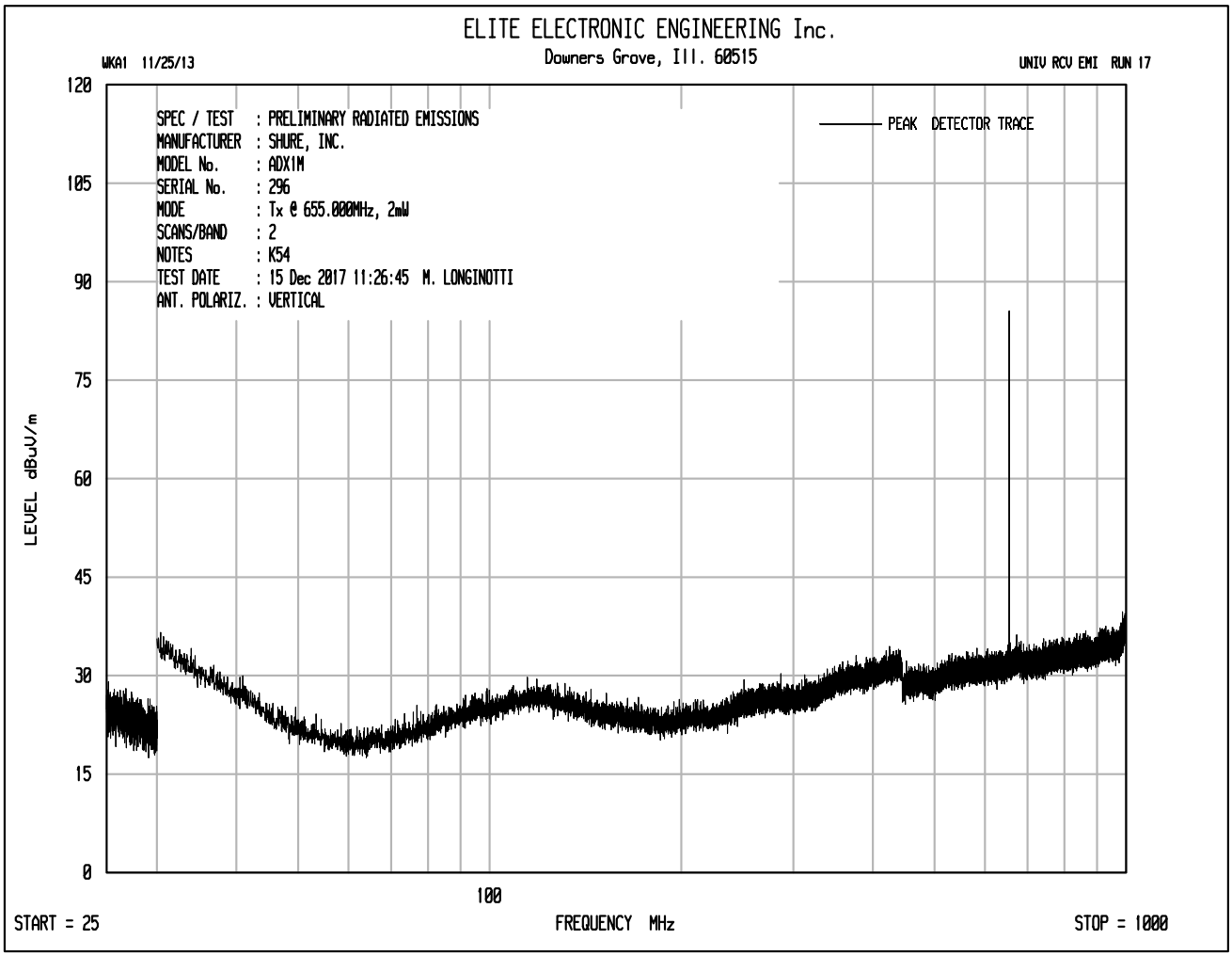
Freq. MHz	Ant Pol	Meter Reading (dBuV)	Ambient	Matched Sig. Gen. Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	ERP (dBm)	Limit dBm	Margin dB
1214.00	H	12.1		-56.8	2.9	2.4	-56.3	-30.0	-26.3
1214.00	V	10.7		-54.5	2.9	2.4	-54.0	-30.0	-24.0
1821.00	H	0.4	Ambient	-67.2	5.1	2.9	-65.0	-30.0	-35.0
1821.00	V	1.1		-63.4	5.1	2.9	-61.2	-30.0	-31.2
2428.00	H	0.7	Ambient	-65.4	5.9	3.5	-63.0	-30.0	-33.0
2428.00	V	0.7	Ambient	-63.7	5.9	3.5	-61.3	-30.0	-31.3
3035.00	H	2.0	Ambient	-63.5	7.1	3.9	-60.3	-30.0	-30.3
3035.00	V	2.0	Ambient	-61.8	7.1	3.9	-58.6	-30.0	-28.6
3642.00	H	2.0	Ambient	-61.8	8.4	4.3	-57.7	-30.0	-27.7
3642.00	V	2.1	Ambient	-60.6	8.4	4.3	-56.5	-30.0	-26.5
4249.00	H	2.5	Ambient	-59.7	9.3	4.6	-55.0	-30.0	-25.0
4249.00	V	2.5	Ambient	-59.9	9.3	4.6	-55.2	-30.0	-25.2
4856.00	H	3.6	Ambient	-57.2	9.4	4.9	-52.7	-30.0	-22.7
4856.00	V	3.6	Ambient	-56.3	9.4	4.9	-51.8	-30.0	-21.8
5463.00	H	6.6	Ambient	-53.7	10.1	5.2	-48.7	-30.0	-18.7
5463.00	V	6.5	Ambient	-53.9	10.1	5.2	-48.9	-30.0	-18.9
6070.00	H	6.5	Ambient	-51.7	10.4	5.5	-46.7	-30.0	-16.7
6070.00	V	6.5	Ambient	-52.8	10.4	5.5	-47.8	-30.0	-17.8

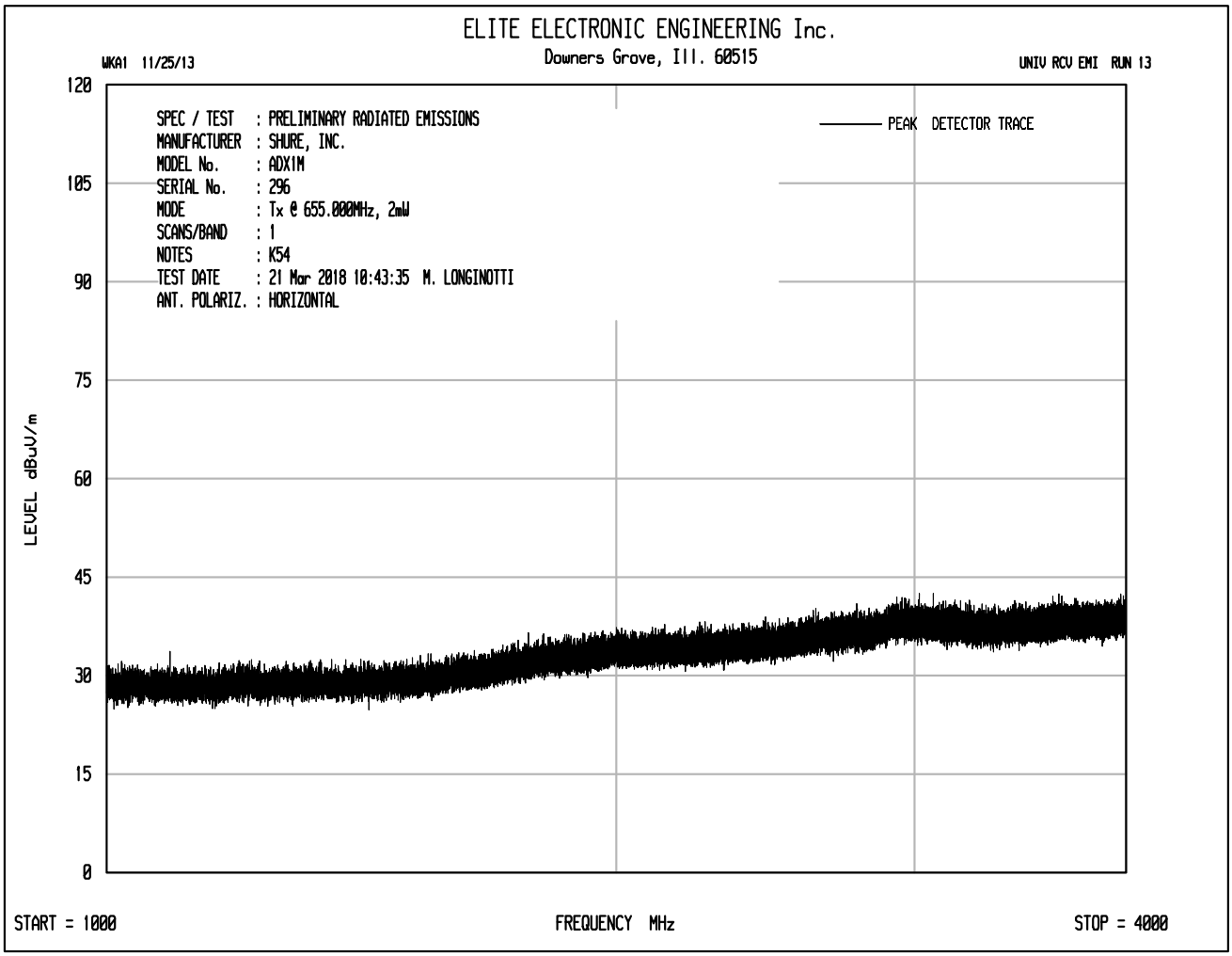
ERP (dBm) = Matched Sig. Gen.Reading (dBm) + Equivalent Antenna Gain (dB) – Cable Loss (dB)

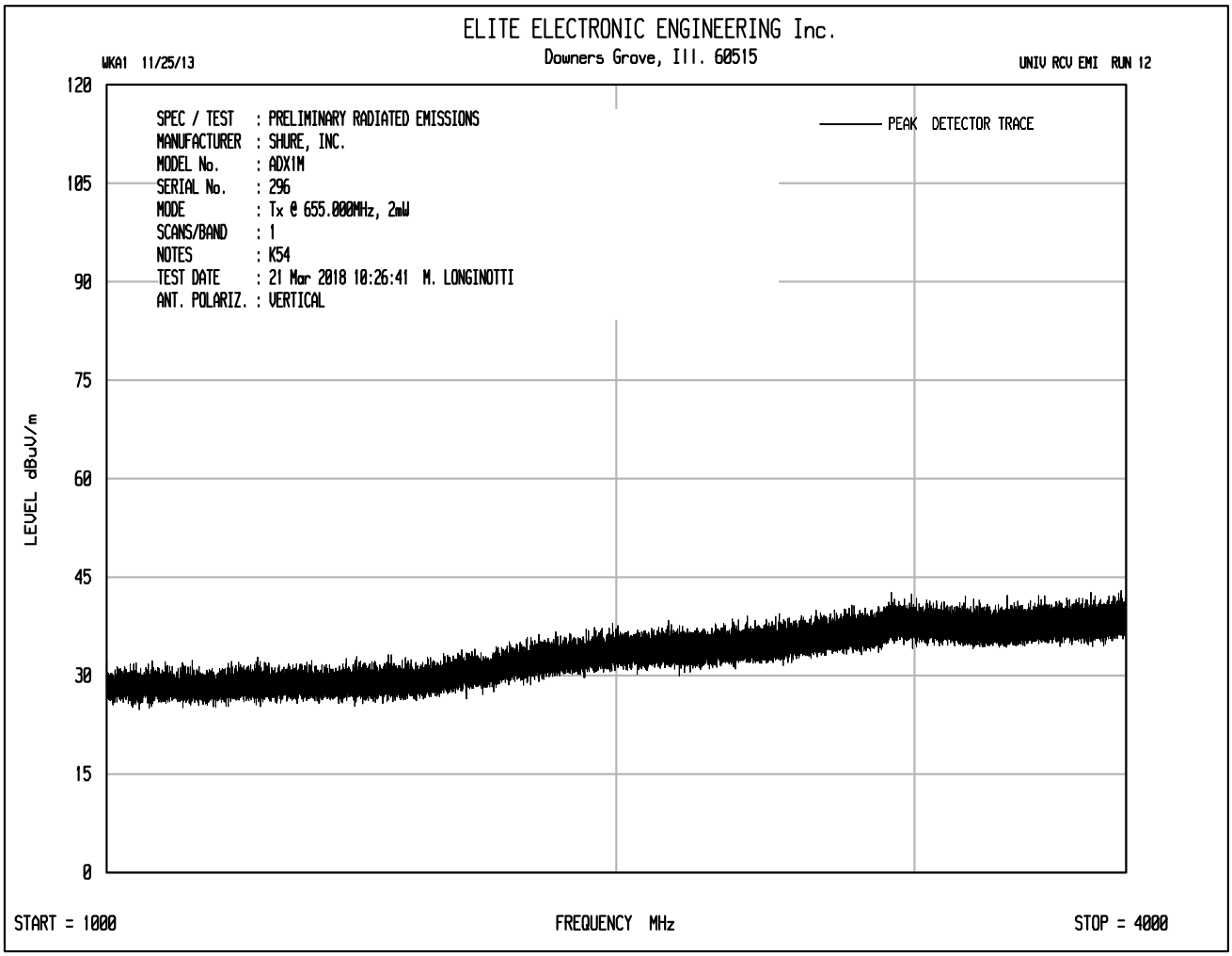
Checked By: MARK E. LONGINOTTI

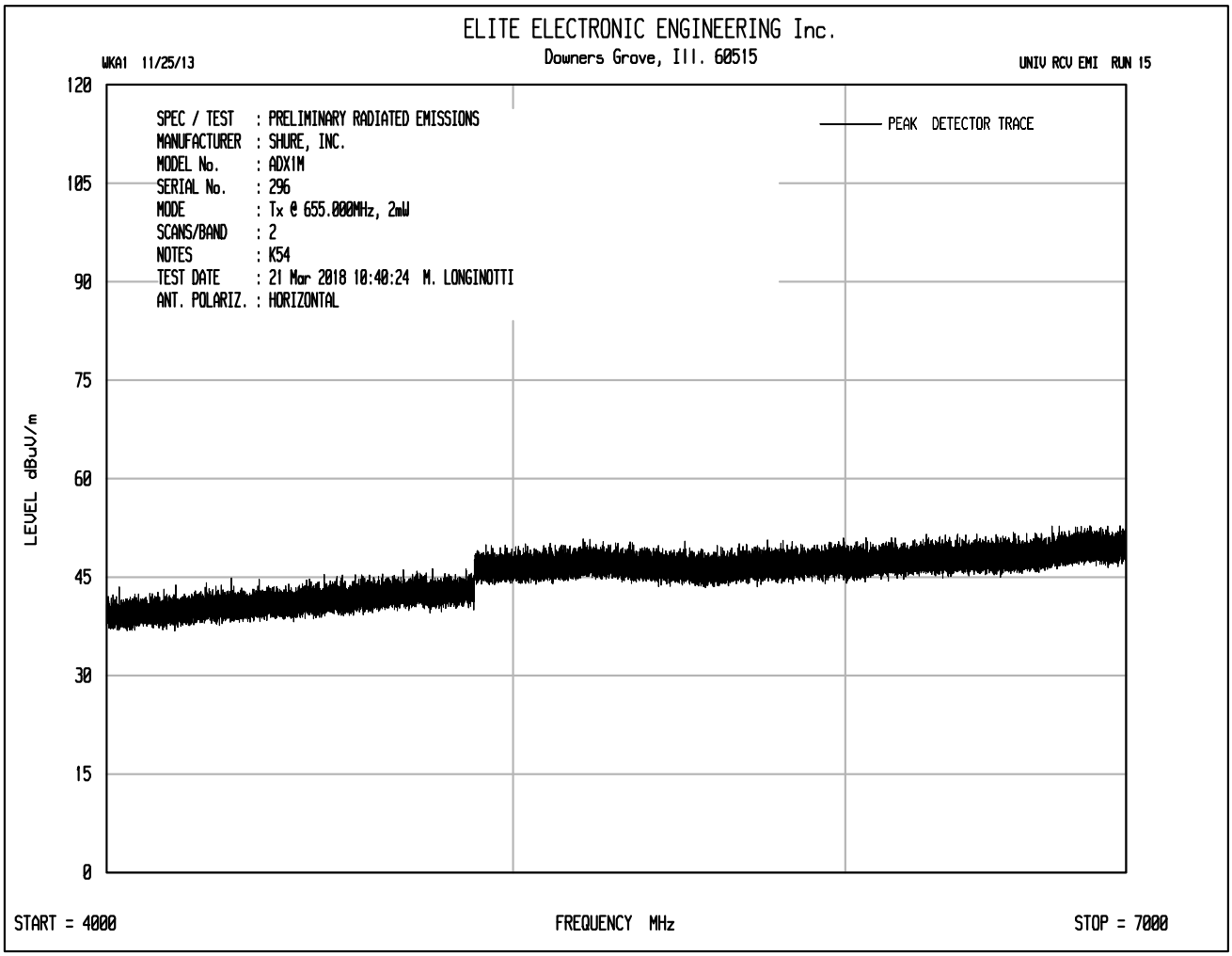
Mark E. Longinotti

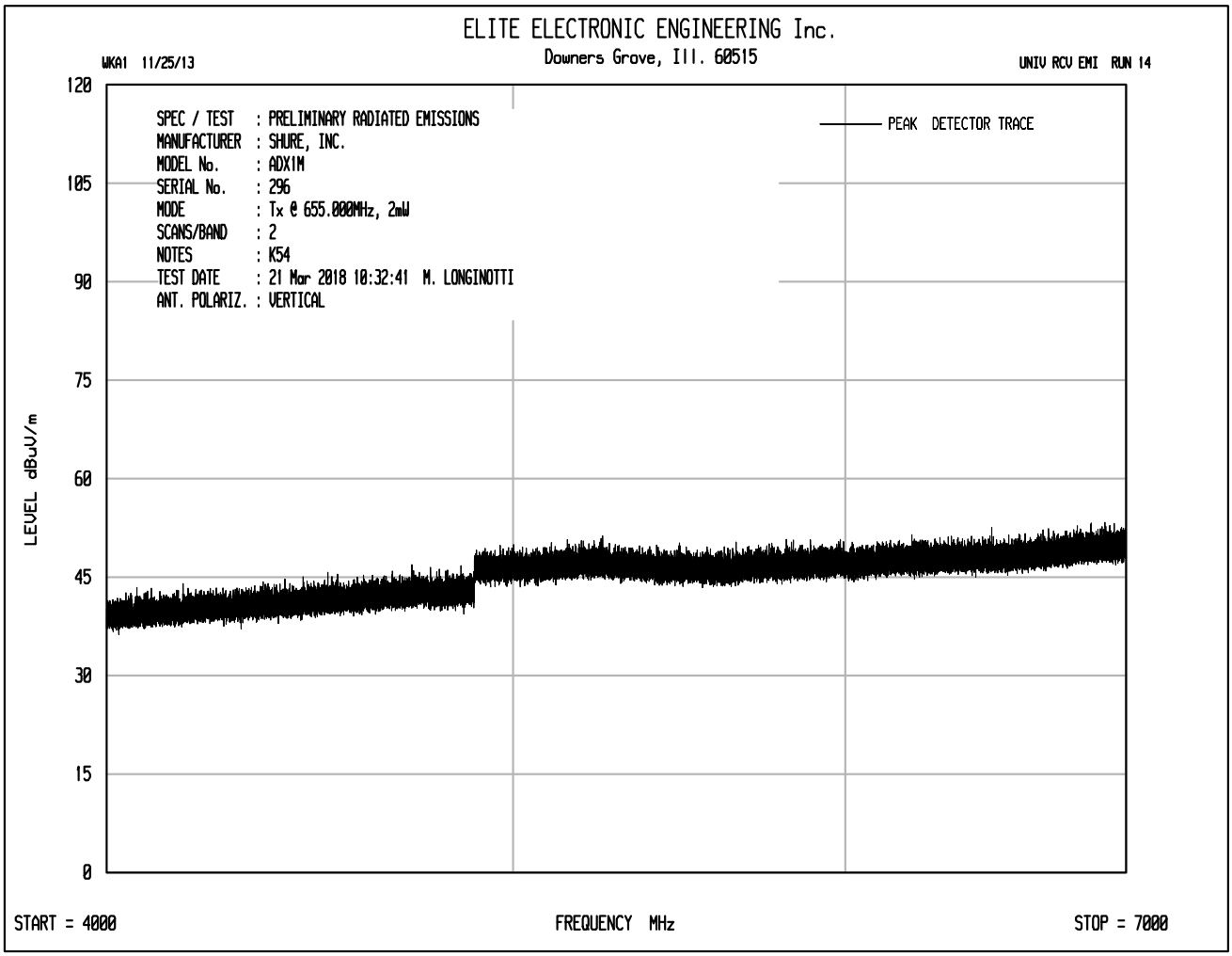

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 16
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 655.000MHz, 2mW
SCANS/BAND : 2
NOTES : K54
TEST DATE : 15 Dec 2017 11:22:53 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 25
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 17
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 655.000MHz, 2mW
SCANS/BAND : 2
NOTES : K54
TEST DATE : 15 Dec 2017 11:26:45 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 25
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 13
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 655.000MHz, 2mW
SCANS/BAND : 1
NOTES : K54
TEST DATE : 21 Mar 2018 10:43:35 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 4000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 12
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 655.000MHz, 2mW
SCANS/BAND : 1
NOTES : K54
TEST DATE : 21 Mar 2018 10:26:41 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 4000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 15
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 655.000MHz, 2mW
SCANS/BAND : 2
NOTES : K54
TEST DATE : 21 Mar 2018 10:40:24 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 4000
FREQUENCY MHz
STOP = 7000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 14
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 655.000MHz, 2mW
SCANS/BAND : 2
NOTES : K54
TEST DATE : 21 Mar 2018 10:32:41 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 4000
FREQUENCY MHz
STOP = 7000

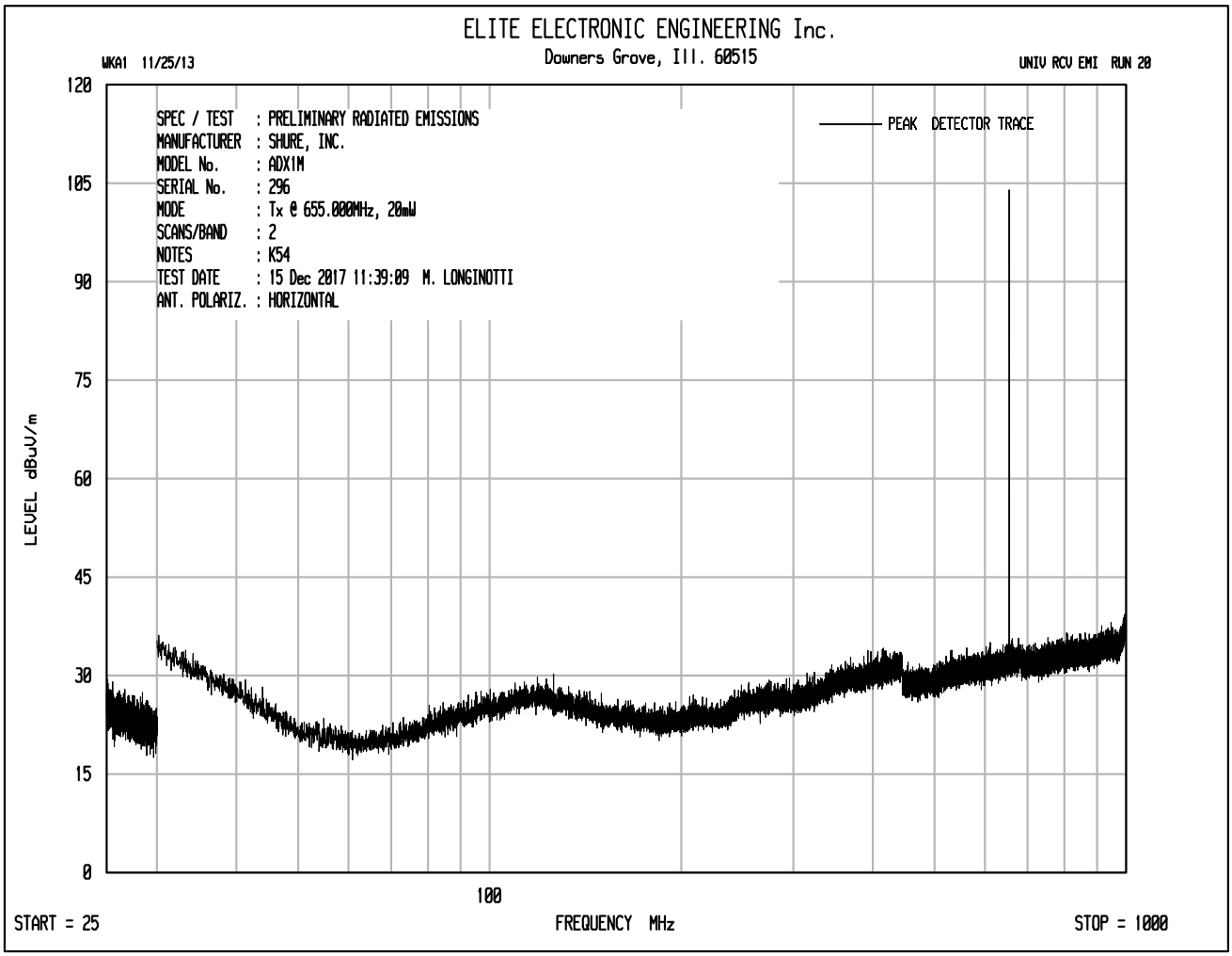
MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 296
SPECIFICATION : FCC 74.861(e)(7) Spurious Radiated Emissions
DATE : December 15, 2017 through March 23, 2018
MODE : Transmit at 655.000MHz
UNIT : K54
EQUIPMENT USED : NTA3,RBG2,GRE2,GSE0, NWQ0, NWQ1, CDX8
NOTES : 2mW nominal power

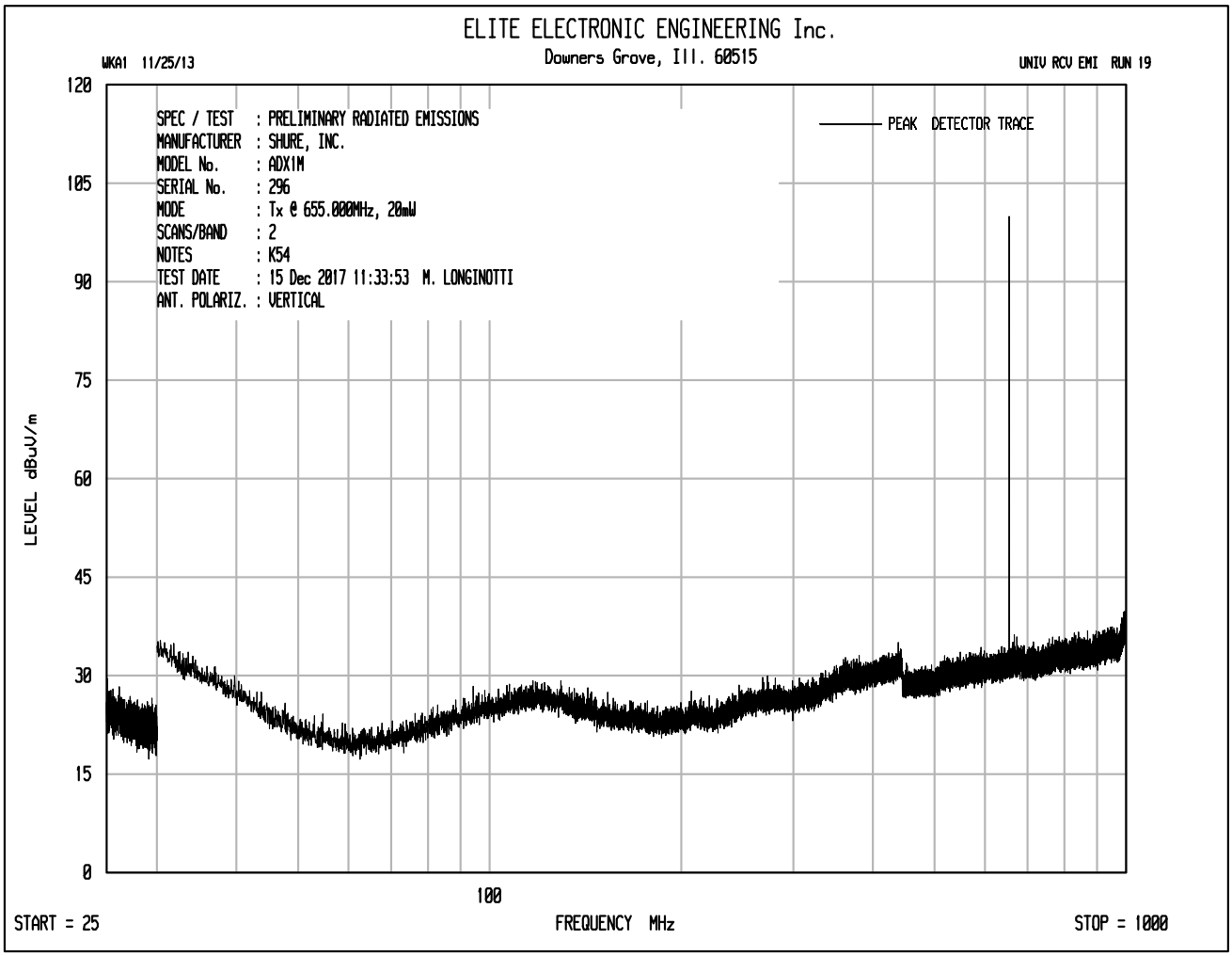
Freq. MHz	Ant Pol	Meter Reading (dBuV)	Ambient	Matched Sig. Gen. Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	ERP (dBm)	Limit dBm	Margin dB
1310.00	H	-0.3	Ambient	-67.7	3.8	2.5	-66.4	-30.0	-36.4
1310.00	V	-0.4	Ambient	-65.3	3.8	2.5	-64.0	-30.0	-34.0
1965.00	H	0.4	Ambient	-65.2	4.6	3.0	-63.7	-30.0	-33.7
1965.00	V	0.4	Ambient	-63.1	4.6	3.0	-61.6	-30.0	-31.6
2620.00	H	1.2	Ambient	-64.1	6.2	3.6	-61.5	-30.0	-31.5
2620.00	V	1.2	Ambient	-63.2	6.2	3.6	-60.6	-30.0	-30.6
3275.00	H	1.8	Ambient	-63.5	7.4	4.1	-60.1	-30.0	-30.1
3275.00	V	1.8	Ambient	-61.9	7.4	4.1	-58.5	-30.0	-28.5
3930.00	H	2.1	Ambient	-60.4	8.8	4.4	-56.1	-30.0	-26.1
3930.00	V	2.1	Ambient	-60.6	8.8	4.4	-56.3	-30.0	-26.3
4585.00	H	2.9	Ambient	-58.2	9.2	4.7	-53.7	-30.0	-23.7
4585.00	V	3.0	Ambient	-58.1	9.2	4.7	-53.6	-30.0	-23.6
5240.00	H	6.5	Ambient	-54.5	9.6	5.1	-49.9	-30.0	-19.9
5240.00	V	6.5	Ambient	-53.4	9.6	5.1	-48.8	-30.0	-18.8
5895.00	H	6.5	Ambient	-51.7	10.4	5.4	-46.7	-30.0	-16.7
5895.00	V	6.5	Ambient	-53.6	10.4	5.4	-48.6	-30.0	-18.6
6550.00	H	6.8	Ambient	-52.5	11.0	5.8	-47.3	-30.0	-17.3
6550.00	V	6.8	Ambient	-52.6	11.0	5.8	-47.4	-30.0	-17.4

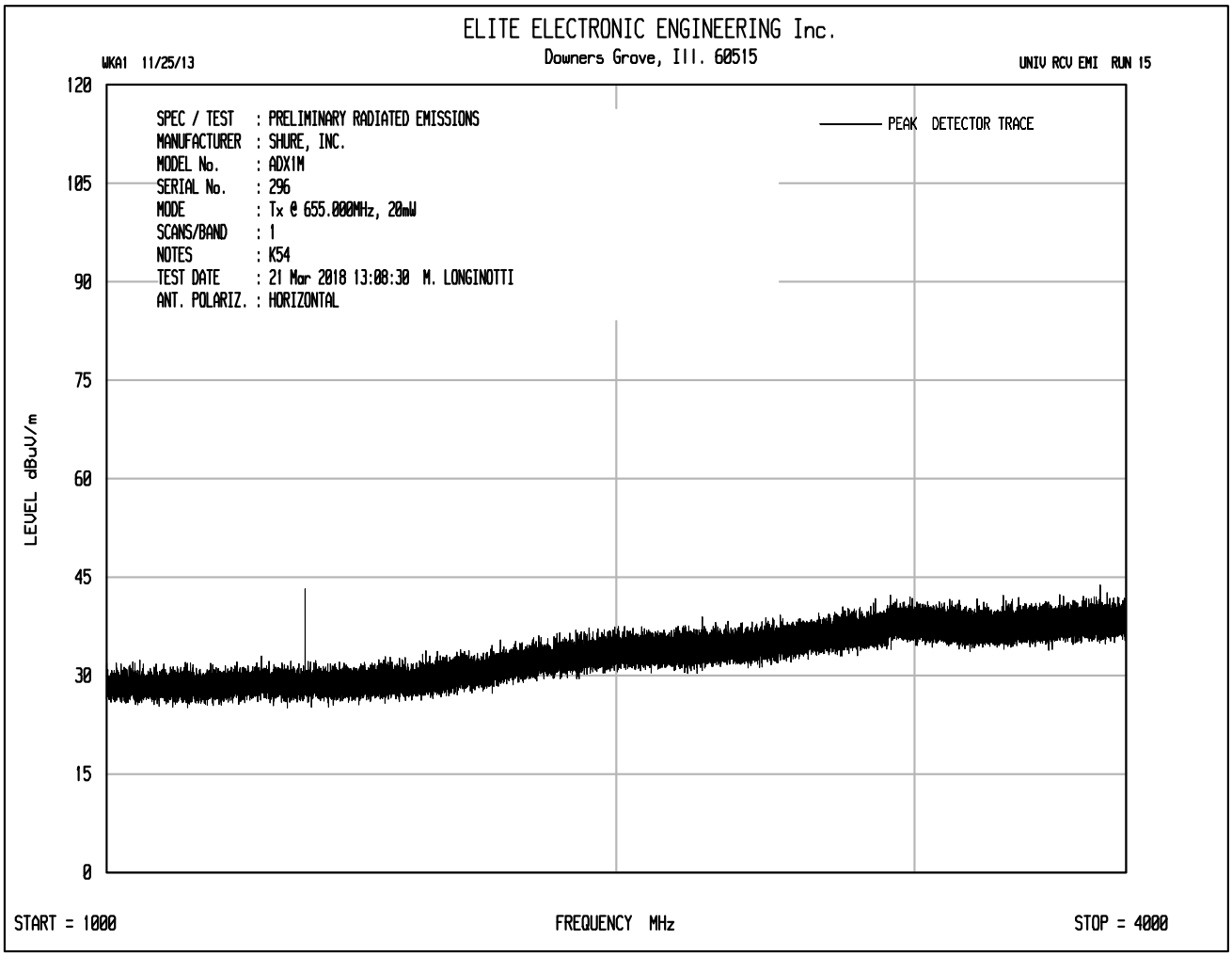
ERP (dBm) = Matched Sig. Gen.Reading (dBm) + Equivalent Antenna Gain (dB) – Cable Loss (dB)

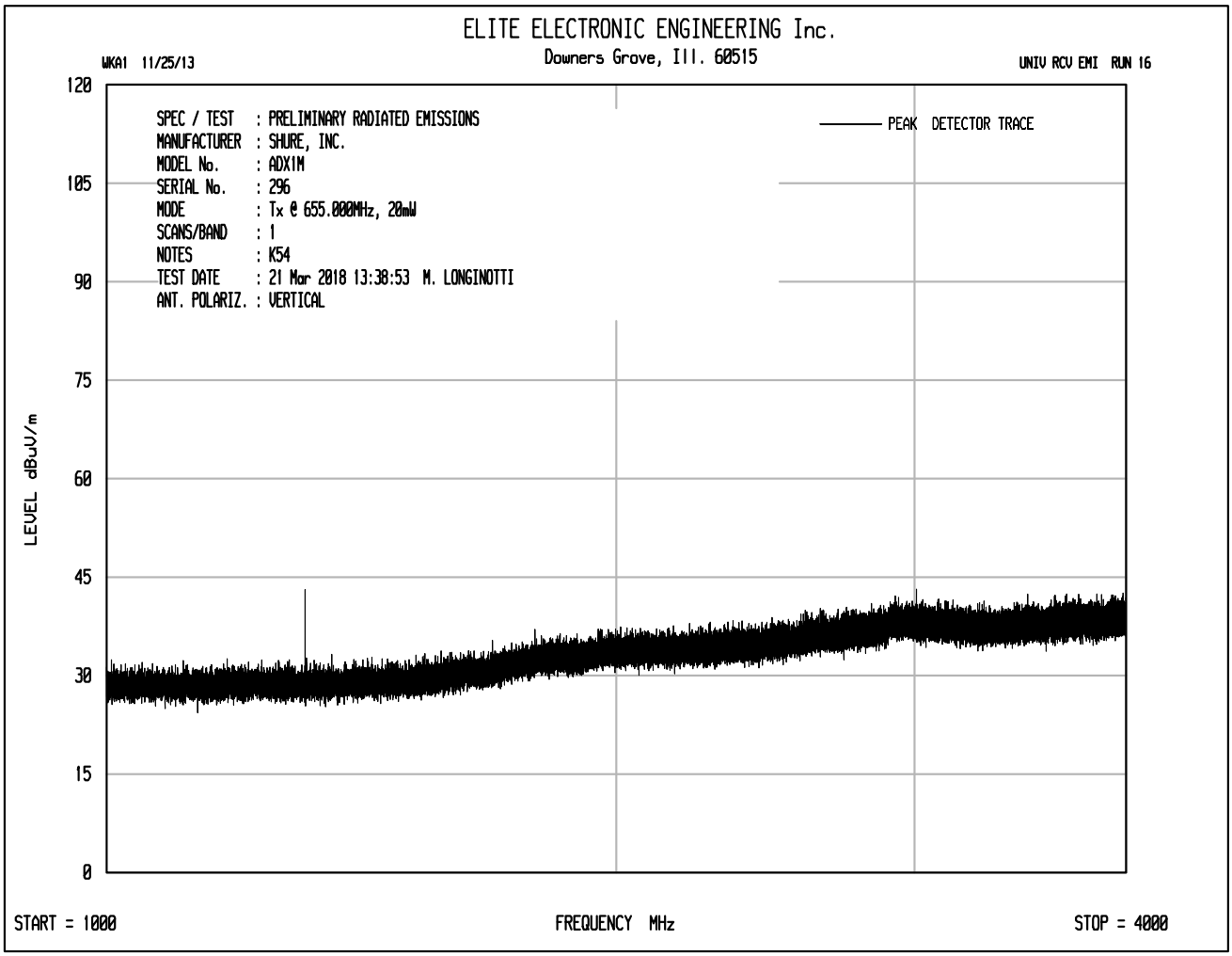
Checked By: MARK E. LONGINOTTI

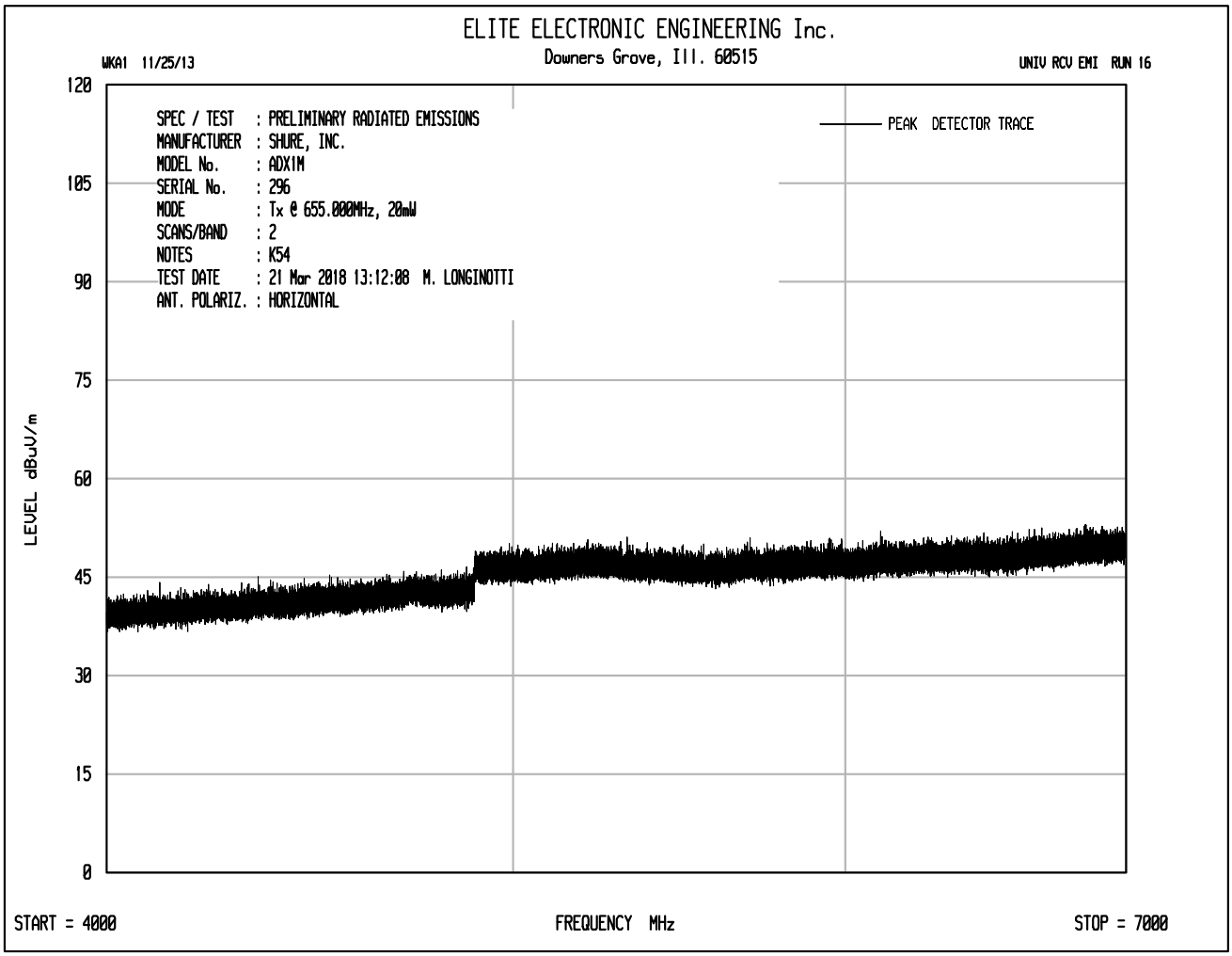
Mark E. Longinotti

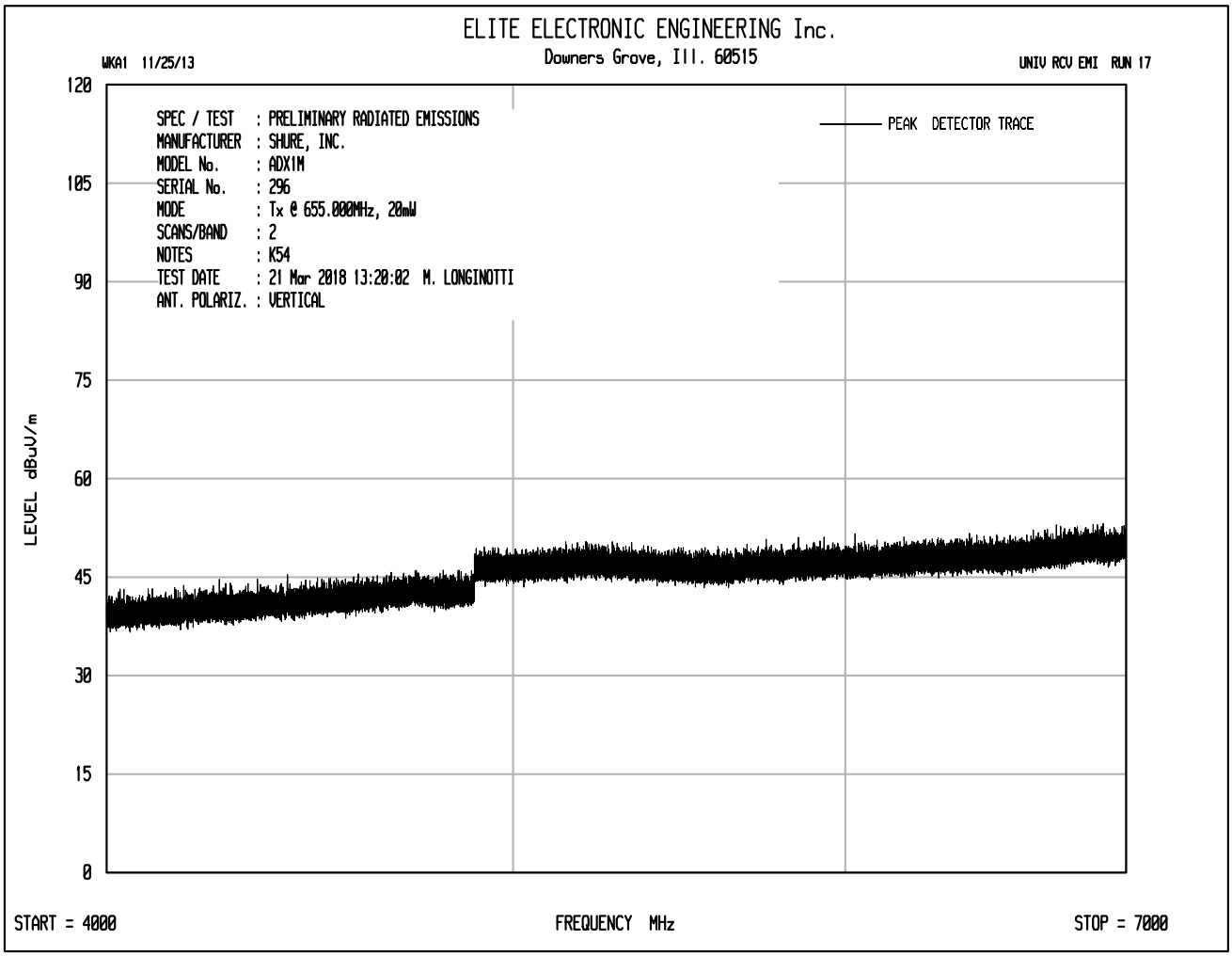

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 20
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 655.000MHz, 20mW
SCANS/BAND : 2
NOTES : K54
TEST DATE : 15 Dec 2017 11:39:09 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 25
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 19
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 655.000MHz, 20mW
SCANS/BAND : 2
NOTES : K54
TEST DATE : 15 Dec 2017 11:33:53 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 25
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 15
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 655.000MHz, 20mW
SCANS/BAND : 1
NOTES : K54
TEST DATE : 21 Mar 2018 13:08:30 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 4000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 16
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 655.000MHz, 20mW
SCANS/BAND : 1
NOTES : K54
TEST DATE : 21 Mar 2018 13:38:53 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 4000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 16
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 655.000MHz, 20mW
SCANS/BAND : 2
NOTES : K54
TEST DATE : 21 Mar 2018 13:12:08 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 4000
FREQUENCY MHz
STOP = 7000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 17
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 655.000MHz, 20mW
SCANS/BAND : 2
NOTES : K54
TEST DATE : 21 Mar 2018 13:20:02 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 4000
FREQUENCY MHz
STOP = 7000

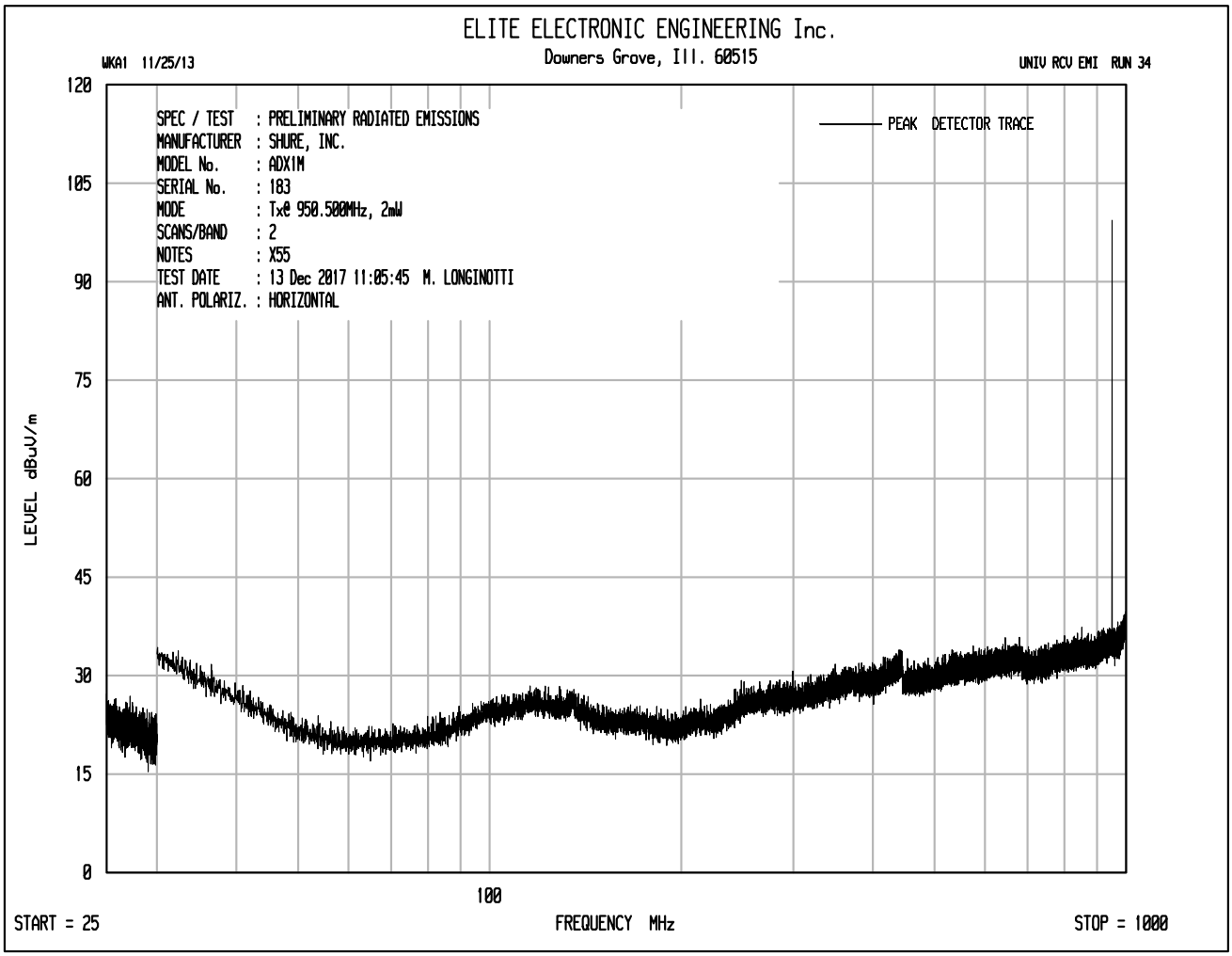
MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 296
SPECIFICATION : FCC 74.861(e)(6)(iii) (Transitional) Spurious Radiated Emissions
DATE : December 15, 2017 through March 23, 2018
MODE : Transmit at 655.000MHz
UNIT : K54
EQUIPMENT USED : NTA3,RBG2,GRE2,GSE0, NWQ0, NWQ1, CDX8
NOTES : 20mW nominal power

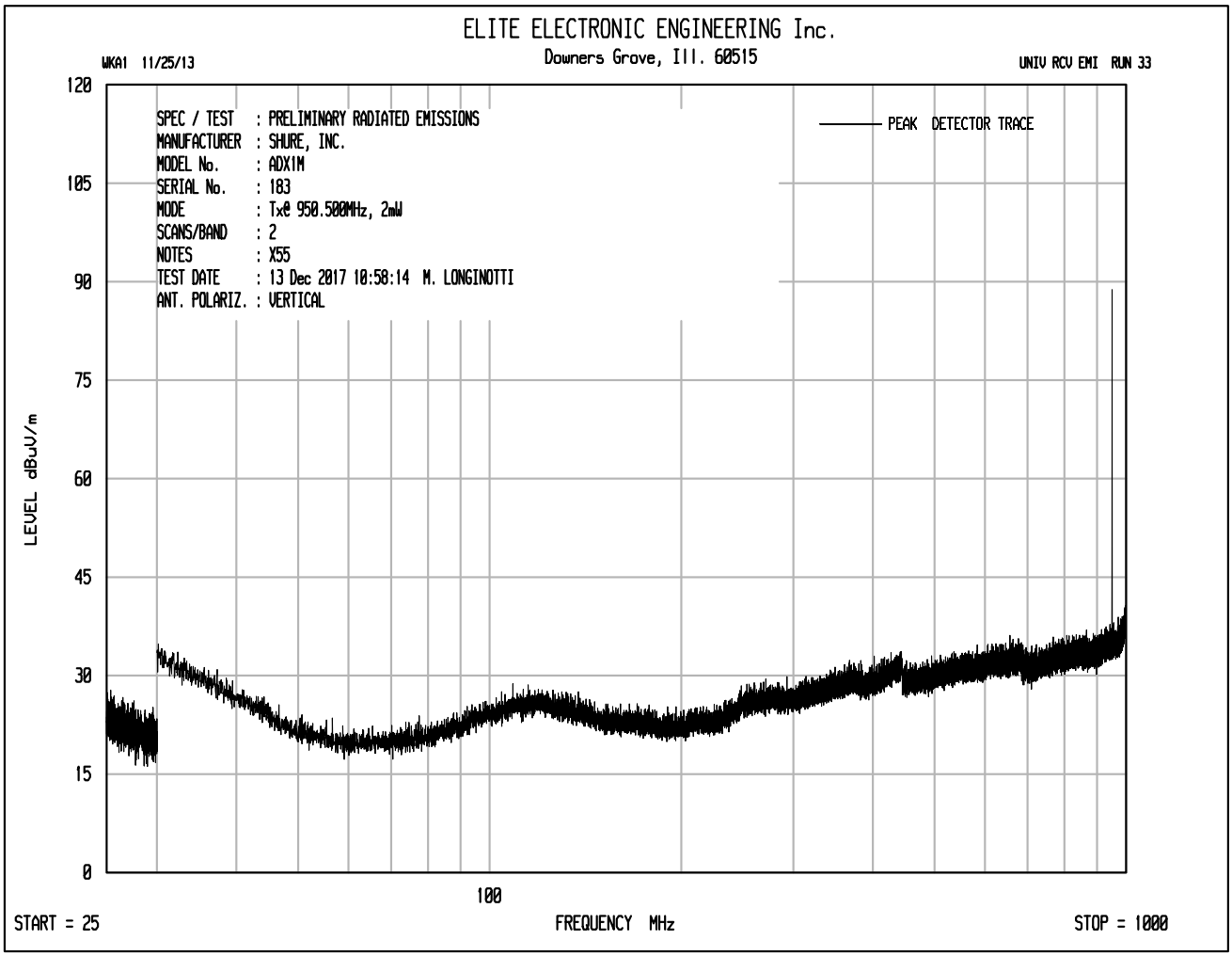
Freq. MHz	Ant Pol	Meter Reading (dBuV)	Ambient	Matched Sig. Gen. Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	ERP (dBm)	Limit dBm	Margin dB
1310.00	H	10.7		-56.8	3.8	2.5	-55.5	-30.0	-25.5
1310.00	V	9.9		-55.0	3.8	2.5	-53.7	-30.0	-23.7
1965.00	H	0.6		-64.9	4.6	3.0	-63.4	-30.0	-33.4
1965.00	V	0.8		-62.6	4.6	3.0	-61.1	-30.0	-31.1
2620.00	H	1.2	Ambient	-64.1	6.2	3.6	-61.5	-30.0	-31.5
2620.00	V	1.3	Ambient	-63.1	6.2	3.6	-60.5	-30.0	-30.5
3275.00	H	1.8	Ambient	-63.5	7.4	4.1	-60.1	-30.0	-30.1
3275.00	V	1.8	Ambient	-61.9	7.4	4.1	-58.5	-30.0	-28.5
3930.00	H	2.1	Ambient	-60.4	8.8	4.4	-56.1	-30.0	-26.1
3930.00	V	2.1	Ambient	-60.6	8.8	4.4	-56.3	-30.0	-26.3
4585.00	H	3.0	Ambient	-58.1	9.2	4.7	-53.6	-30.0	-23.6
4585.00	V	3.0	Ambient	-58.1	9.2	4.7	-53.6	-30.0	-23.6
5240.00	H	6.5	Ambient	-54.5	9.6	5.1	-49.9	-30.0	-19.9
5240.00	V	6.5	Ambient	-53.4	9.6	5.1	-48.8	-30.0	-18.8
5895.00	H	6.5	Ambient	-51.7	10.4	5.4	-46.7	-30.0	-16.7
5895.00	V	6.5	Ambient	-53.6	10.4	5.4	-48.6	-30.0	-18.6
6550.00	H	6.8	Ambient	-52.8	11.0	5.8	-47.6	-30.0	-17.6
6550.00	V	6.8	Ambient	-52.6	11.0	5.8	-47.4	-30.0	-17.4

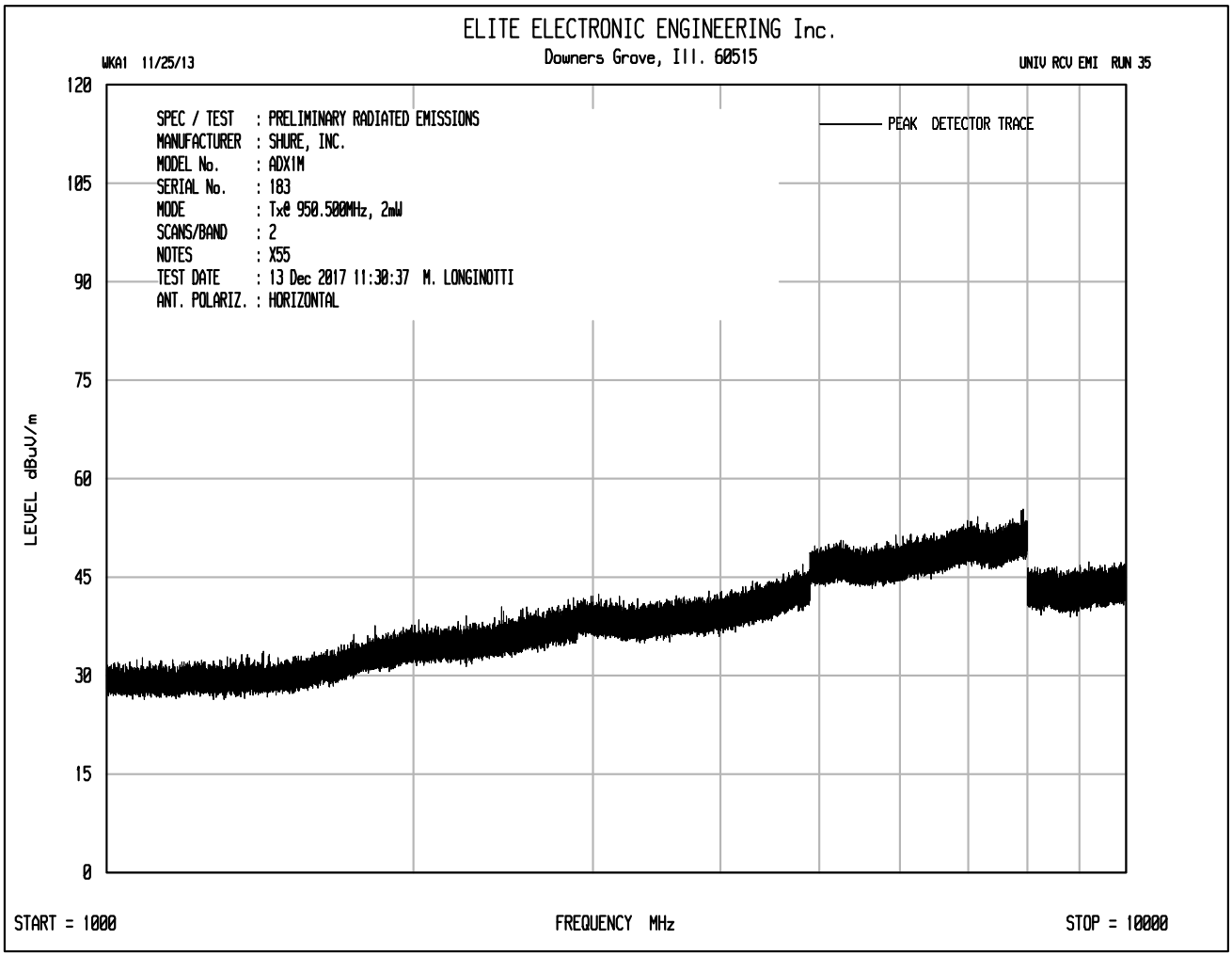
ERP (dBm) = Matched Sig. Gen.Reading (dBm) + Equivalent Antenna Gain (dB) – Cable Loss (dB)

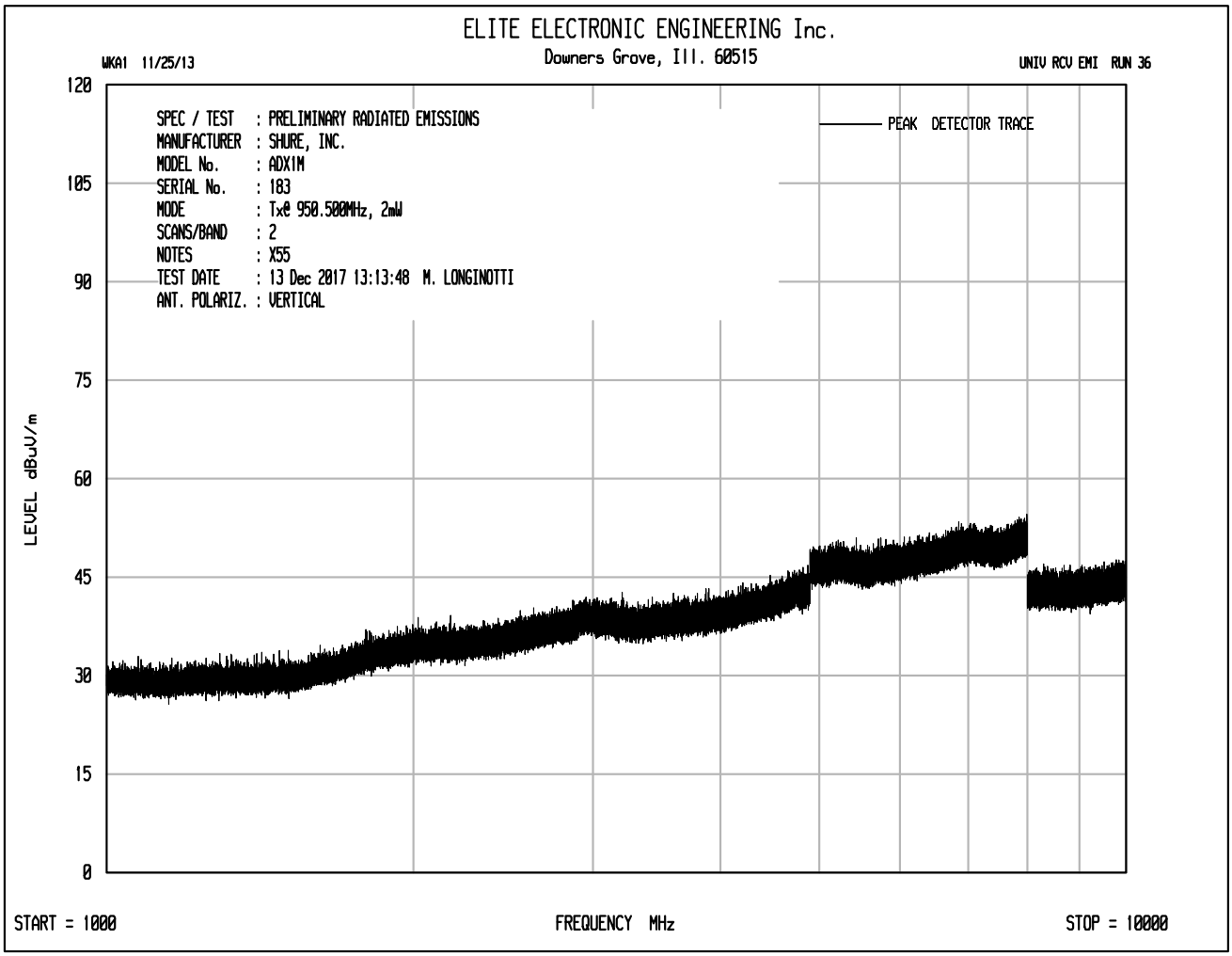
Checked By: MARK E. LONGINOTTI

Mark E. Longinotti


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 34
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 183
MODE : Tx@ 950.500MHz, 2mW
SCANS/BAND : 2
NOTES : X55
TEST DATE : 13 Dec 2017 11:05:45 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 25
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 33
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 183
MODE : Tx@ 950.500MHz, 2mW
SCANS/BAND : 2
NOTES : X55
TEST DATE : 13 Dec 2017 10:58:14 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 25
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 35
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 183
MODE : Tx@ 950.500MHz, 2mW
SCANS/BAND : 2
NOTES : X55
TEST DATE : 13 Dec 2017 11:30:37 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 10000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 36
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 183
MODE : Tx@ 950.500MHz, 2mW
SCANS/BAND : 2
NOTES : X55
TEST DATE : 13 Dec 2017 13:13:48 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 10000

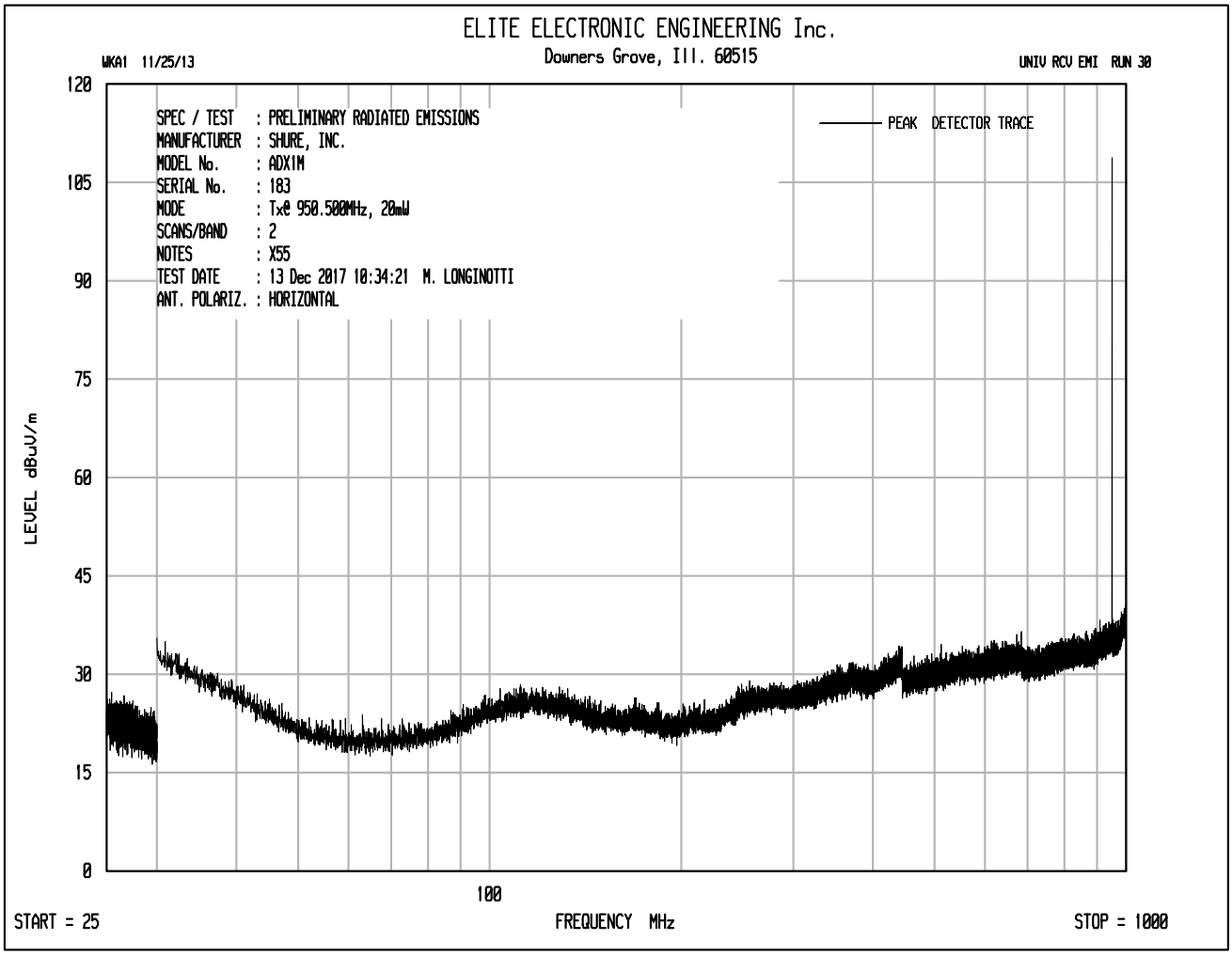
MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 183
SPECIFICATION : FCC 74.861(d)(4)(ii) Spurious Radiated Emissions
DATE : December 13, 2017
MODE : Transmit at 950.500MHz
UNIT : X55
EQUIPMENT USED : NTA3,RBG2,GRE2, GSE0,NWQ0, NWQ2, CDX8
NOTES : 2mW nominal power

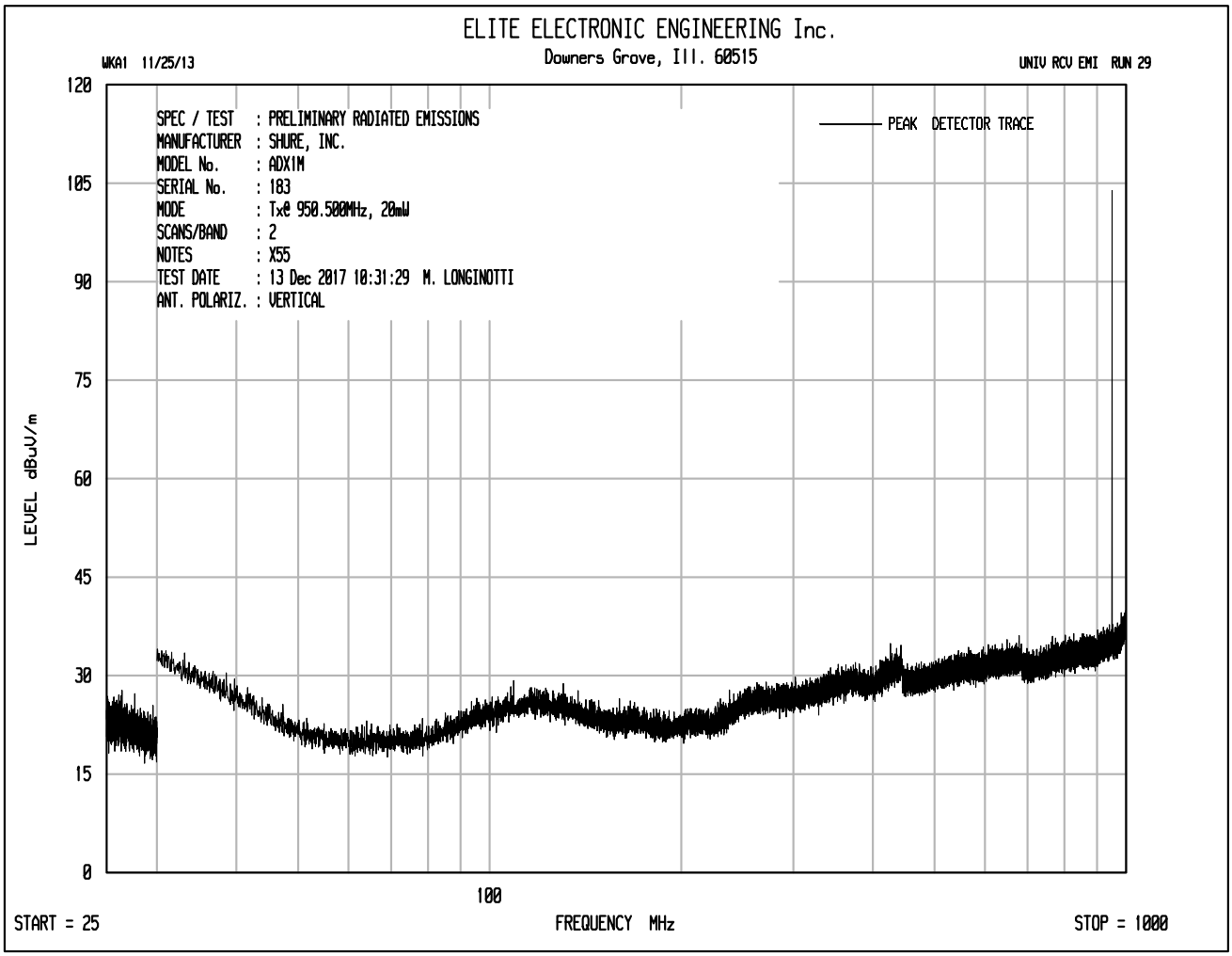
Freq. MHz	Ant Pol	Meter Reading (dBuV)	Ambient	Matched Sig. Gen. Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	ERP (dBm)	Limit dBm	Margin dB
1901.00	H	0.9		-65.3	4.6	3.0	-63.7	-30.0	-33.7
1901.00	V	0.4	Ambient	-63.5	4.6	3.0	-61.9	-30.0	-31.9
2851.50	H	1.6	Ambient	-63.6	6.7	3.8	-60.7	-30.0	-30.7
2851.50	V	1.4	Ambient	-62.2	6.7	3.8	-59.3	-30.0	-29.3
3802.00	H	2.6		-61.3	8.6	4.4	-57.1	-30.0	-27.1
3802.00	V	3.6		-59.7	8.6	4.4	-55.5	-30.0	-25.5
4752.50	H	3.4	Ambient	-57.8	9.7	4.8	-52.9	-30.0	-22.9
4752.50	V	3.4	Ambient	-56.8	9.7	4.8	-51.9	-30.0	-21.9
5703.00	H	6.4	Ambient	-52.2	10.3	5.3	-47.1	-30.0	-17.1
5703.00	V	6.4	Ambient	-53.7	10.3	5.3	-48.6	-30.0	-18.6
6653.50	H	7.0	Ambient	-52.1	11.1	5.8	-46.8	-30.0	-16.8
6653.50	V	7.0	Ambient	-52.1	11.1	5.8	-46.8	-30.0	-16.8
7604.00	H	7.6	Ambient	-50.4	11.9	6.3	-44.8	-30.0	-14.8
7604.00	V	7.6	Ambient	-51.3	11.9	6.3	-45.7	-30.0	-15.7
8554.50	H	0.3	Ambient	-52.1	12.5	6.5	-46.1	-30.0	-16.1
8554.50	V	0.3	Ambient	-56.9	12.5	6.5	-50.9	-30.0	-20.9
9505.00	H	-0.1	Ambient	-52.1	13.0	6.8	-45.9	-30.0	-15.9
9505.00	V	-0.2	Ambient	-57.0	13.0	6.8	-50.8	-30.0	-20.8

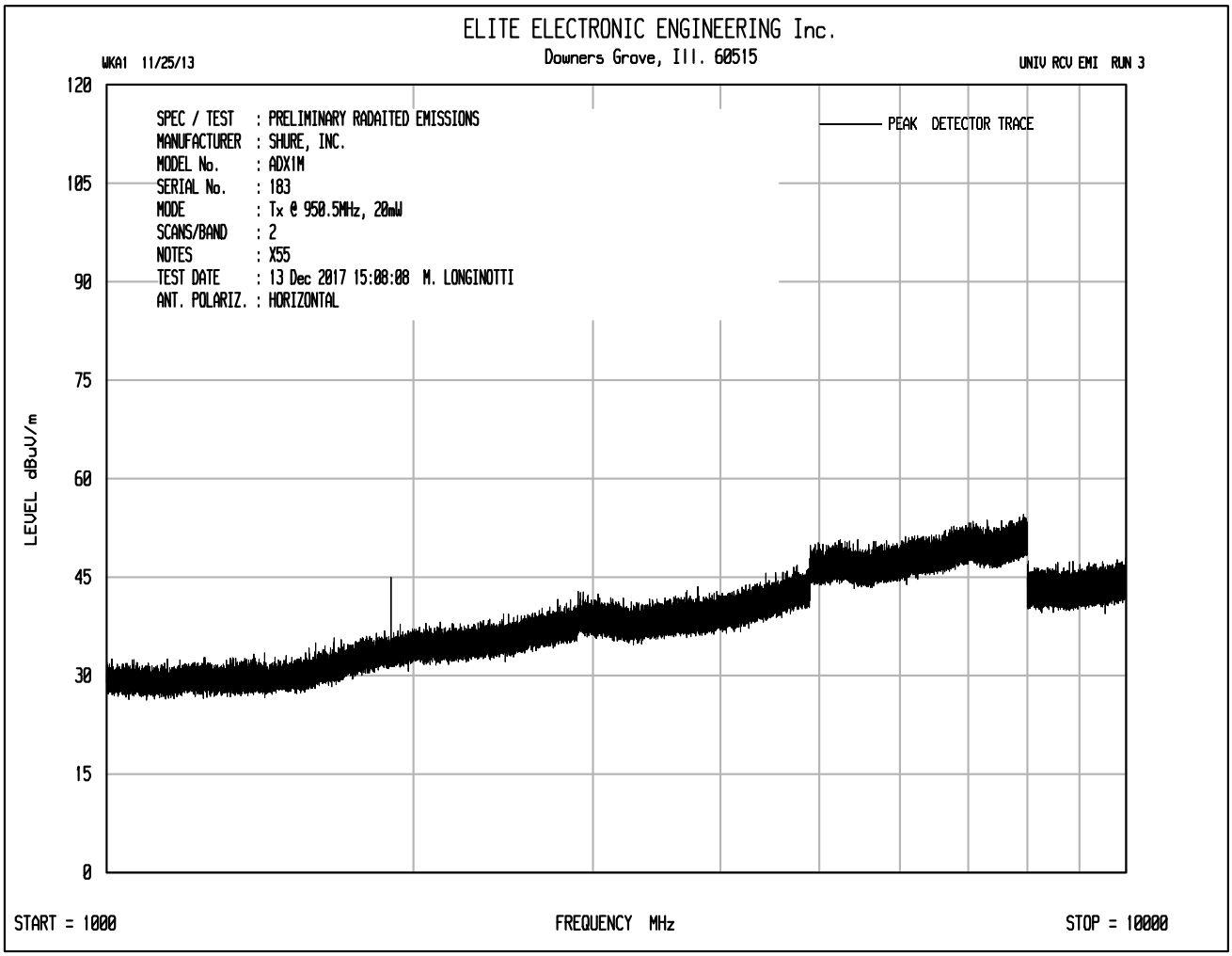
ERP (dBm) = Matched Sig. Gen.Reading (dBm) + Equivalent Antenna Gain (dB) – Cable Loss (dB)

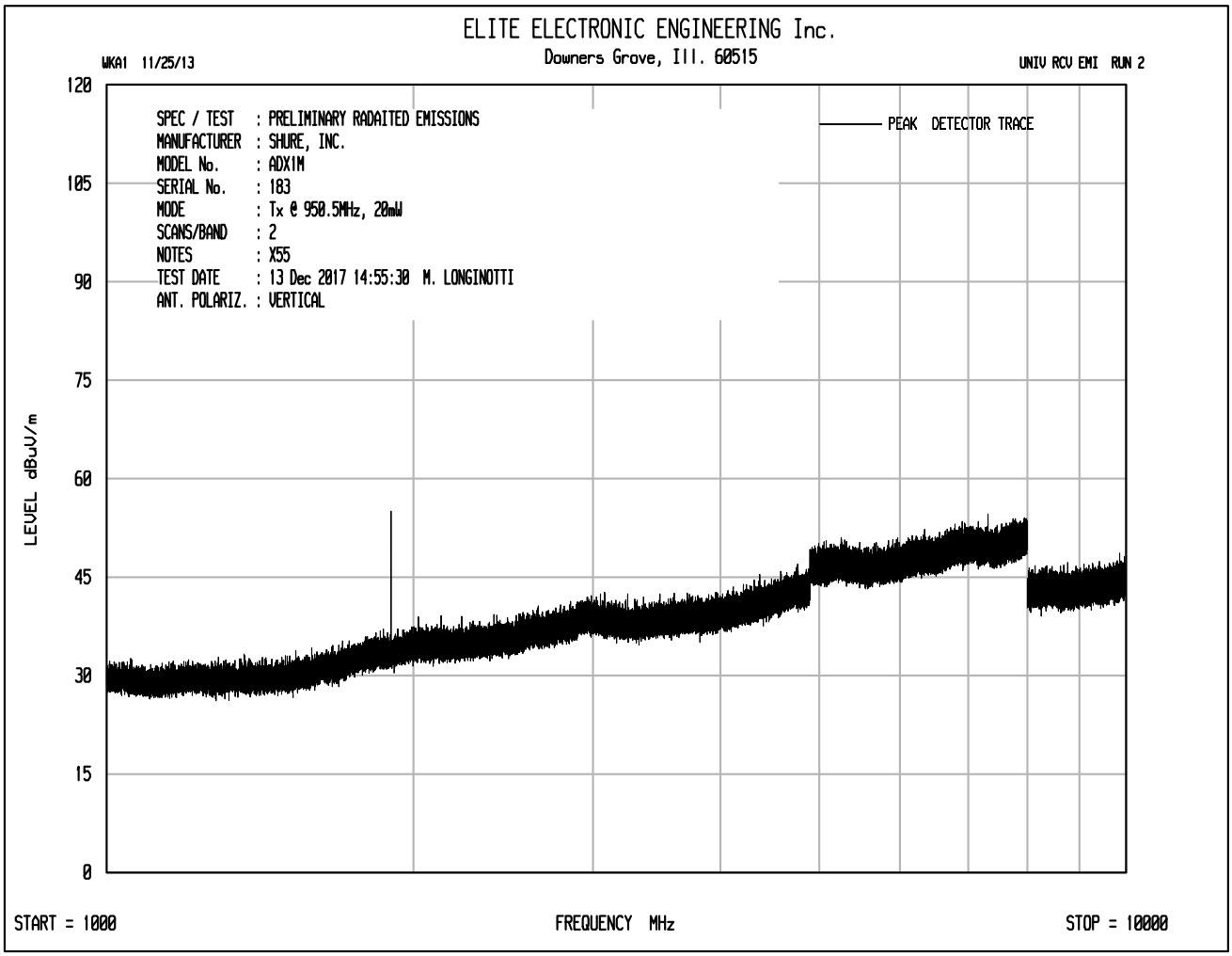
Checked By: MARK E. LONGINOTTI

Mark E. Longinotti


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 30
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 183
MODE : Tx@ 950.500MHz, 20mW
SCANS/BAND : 2
NOTES : X55
TEST DATE : 13 Dec 2017 10:34:21 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 25
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 29
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 183
MODE : Tx@ 950.500MHz, 20mW
SCANS/BAND : 2
NOTES : X55
TEST DATE : 13 Dec 2017 10:31:29 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 25
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 3
SPEC / TEST : PRELIMINARY RADAITED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 183
MODE : Tx @ 950.5MHz, 20mW
SCANS/BAND : 2
NOTES : X55
TEST DATE : 13 Dec 2017 15:08:08 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 10000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 2
SPEC / TEST : PRELIMINARY RADAITED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 183
MODE : Tx @ 950.5MHz, 20mW
SCANS/BAND : 2
NOTES : X55
TEST DATE : 13 Dec 2017 14:55:30 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 10000

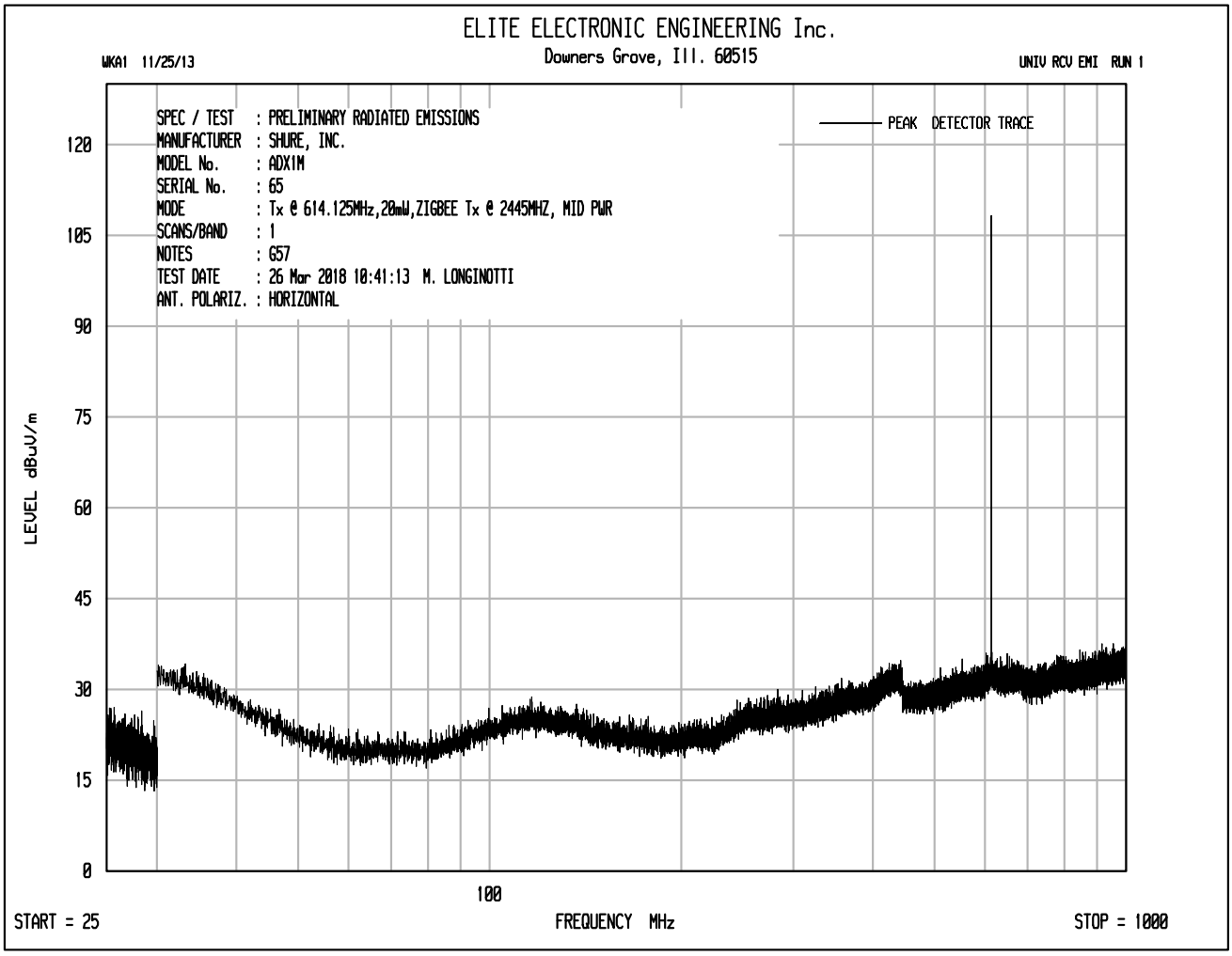
MANUFACTURER : Shure Incorporated
MODEL NO. : ADX1M
SERIAL NO. : 183
SPECIFICATION : FCC 74.861(d)(4)(ii) Spurious Radiated Emissions
DATE : December 13, 2017 and December 14, 2017
MODE : Transmit at 950.500MHz
UNIT : X55
EQUIPMENT USED : NTA3,RBG2,GRE2, GSE0,NWQ0, NWQ2, CDX8
NOTES : 20mW nominal power

Freq. MHz	Ant Pol	Meter Reading (dBuV)	Ambient	Matched Sig. Gen. Reading (dBm)	Equivalent Antenna Gain (dB)	Cable Loss (dB)	ERP (dBm)	Limit dBm	Margin dB
1901.00	H	8.7		-57.5	4.6	3.0	-55.9	-30.0	-25.9
1901.00	V	19.6		-44.3	4.6	3.0	-42.7	-30.0	-12.7
2851.50	H	8.0		-57.2	6.7	3.8	-54.3	-30.0	-24.3
2851.50	V	2.5		-61.1	6.7	3.8	-58.2	-30.0	-28.2
3802.00	H	7.4		-56.5	8.6	4.4	-52.3	-30.0	-22.3
3802.00	V	12.2		-51.0	8.6	4.4	-46.8	-30.0	-16.8
4752.50	H	3.5	Ambient	-57.7	9.7	4.8	-52.8	-30.0	-22.8
4752.50	V	3.6	Ambient	-56.6	9.7	4.8	-51.7	-30.0	-21.7
5703.00	H	6.5	Ambient	-52.1	10.3	5.3	-47.0	-30.0	-17.0
5703.00	V	6.5	Ambient	-53.6	10.3	5.3	-48.5	-30.0	-18.5
6653.50	H	7.2	Ambient	-51.5	11.1	5.8	-46.2	-30.0	-16.2
6653.50	V	7.2	Ambient	-51.9	11.1	5.8	-46.6	-30.0	-16.6
7604.00	H	7.9	Ambient	-52.1	11.9	6.3	-46.5	-30.0	-16.5
7604.00	V	7.8	Ambient	-51.1	11.9	6.3	-45.5	-30.0	-15.5
8554.50	H	0.6	Ambient	-53.3	12.5	6.5	-47.3	-30.0	-17.3
8554.50	V	0.3	Ambient	-56.9	12.5	6.5	-50.9	-30.0	-20.9
9505.00	H	0.8	Ambient	-55.2	13.0	6.8	-49.0	-30.0	-19.0
9505.00	V	0.8	Ambient	-56.0	13.0	6.8	-49.8	-30.0	-19.8

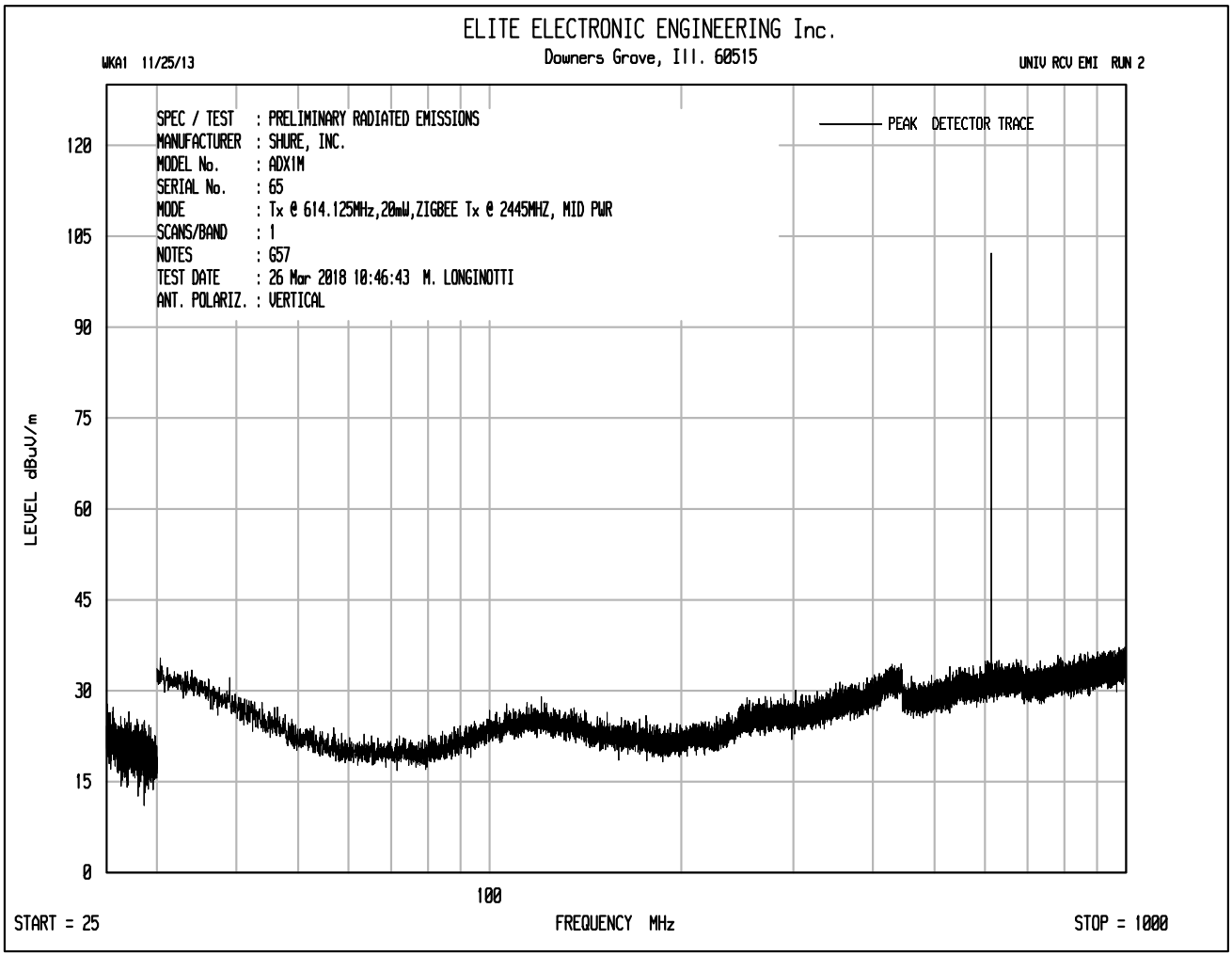
ERP (dBm) = Matched Sig. Gen.Reading (dBm) + Equivalent Antenna Gain (dB) – Cable Loss (dB)

Checked By: MARK E. LONGINOTTI

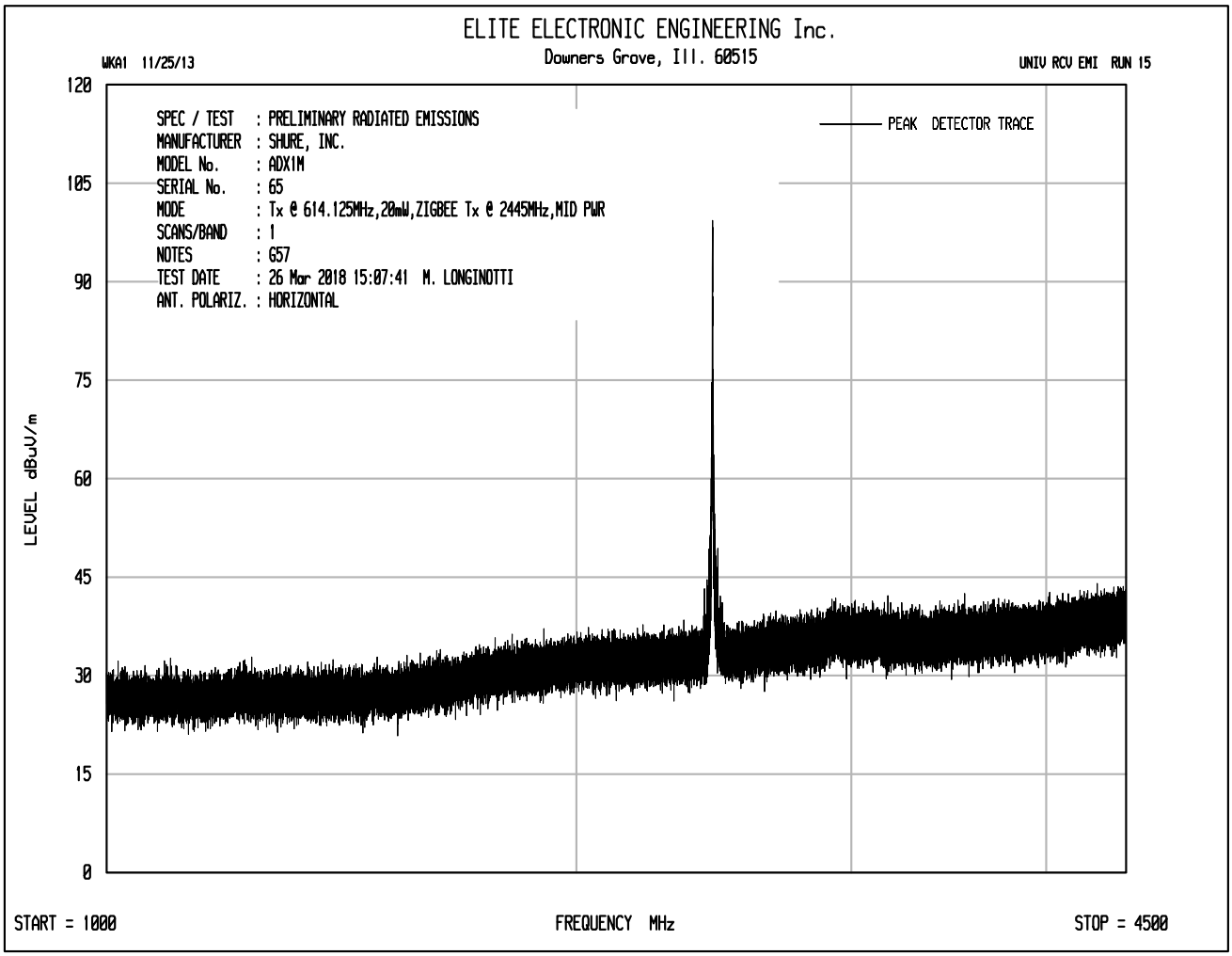
Mark E. Longinotti



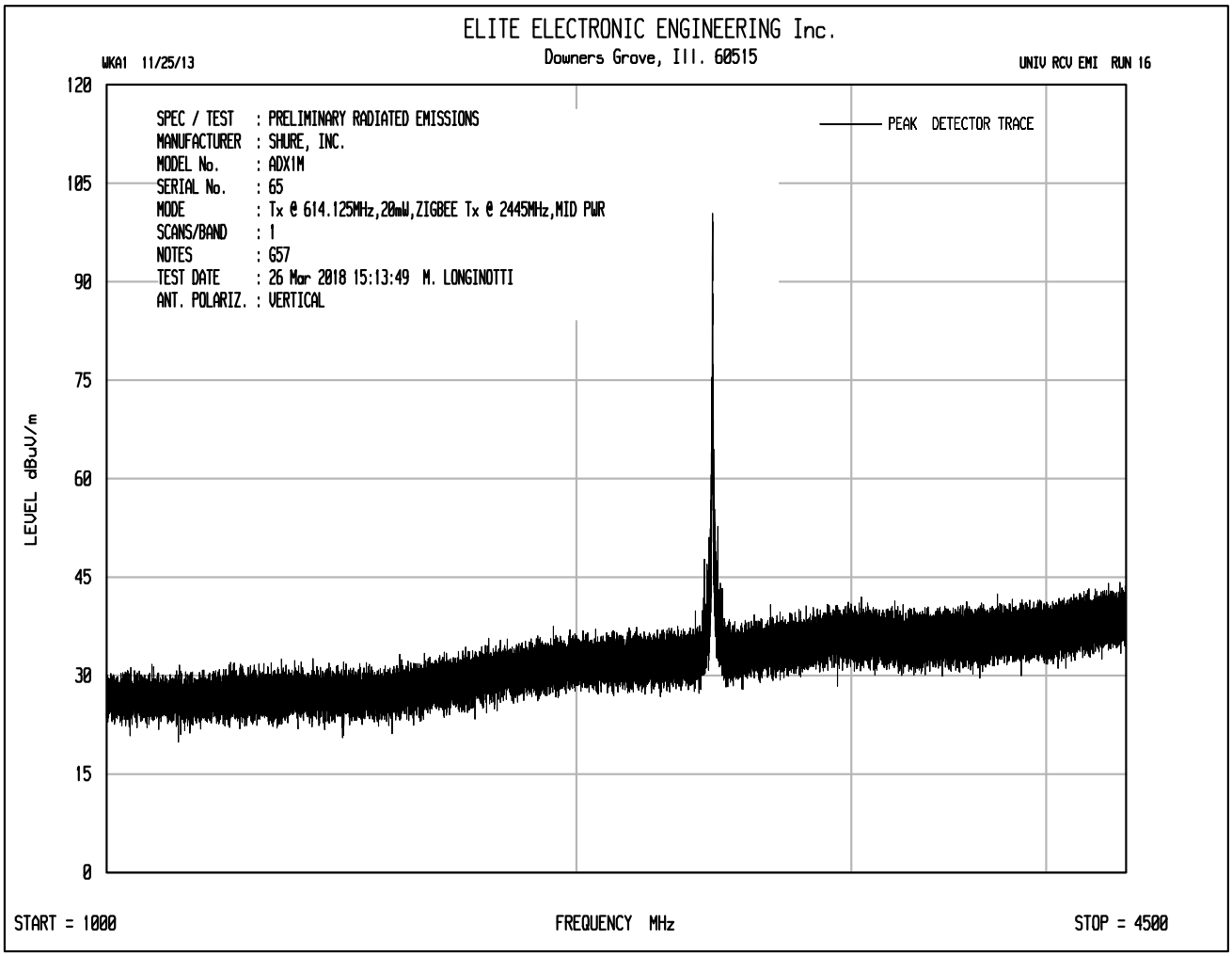
Plot shows emissions at 614.125MHz from UHF transmitter.



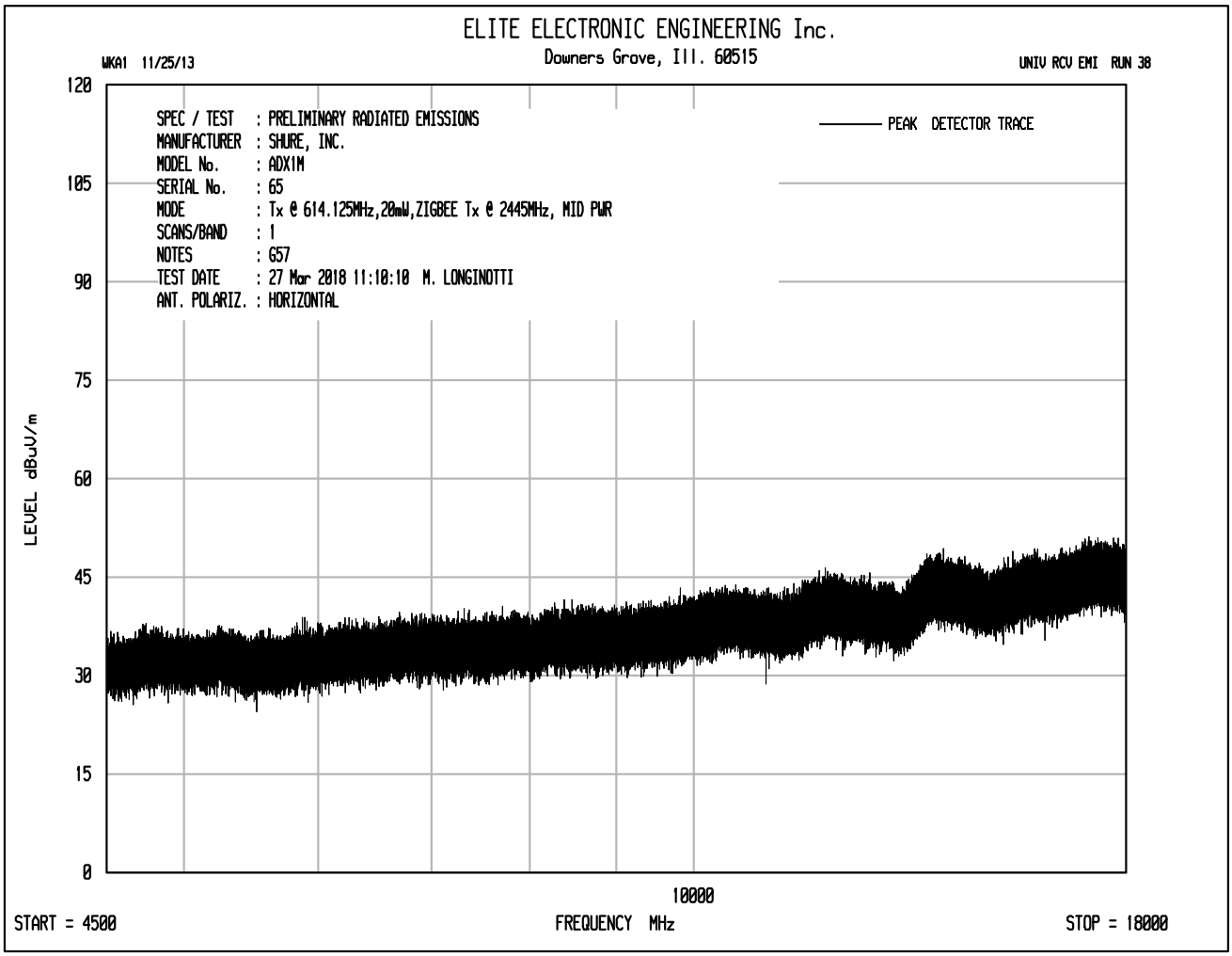
Plot shows emissions at 614.125MHz from UHF transmitter.

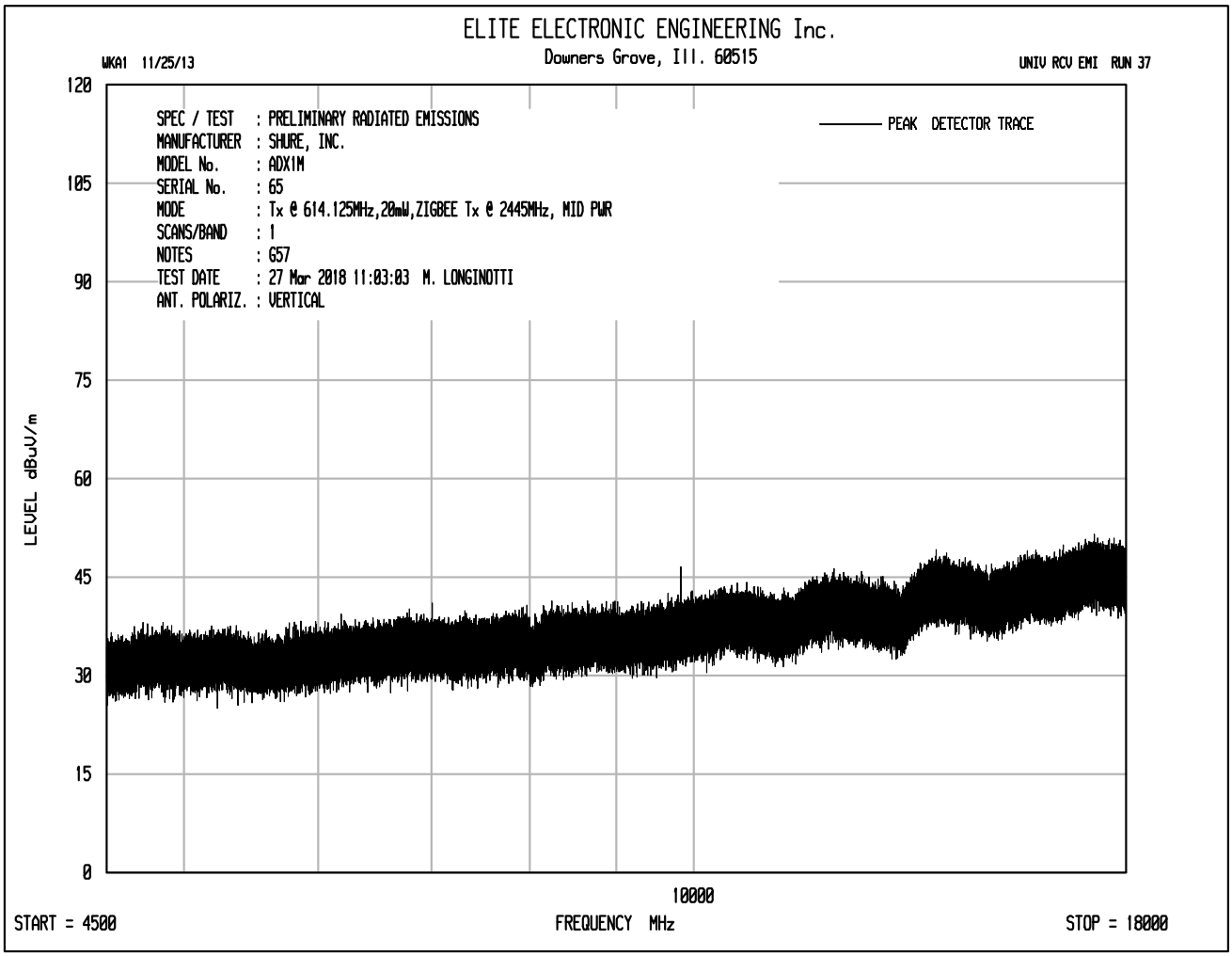


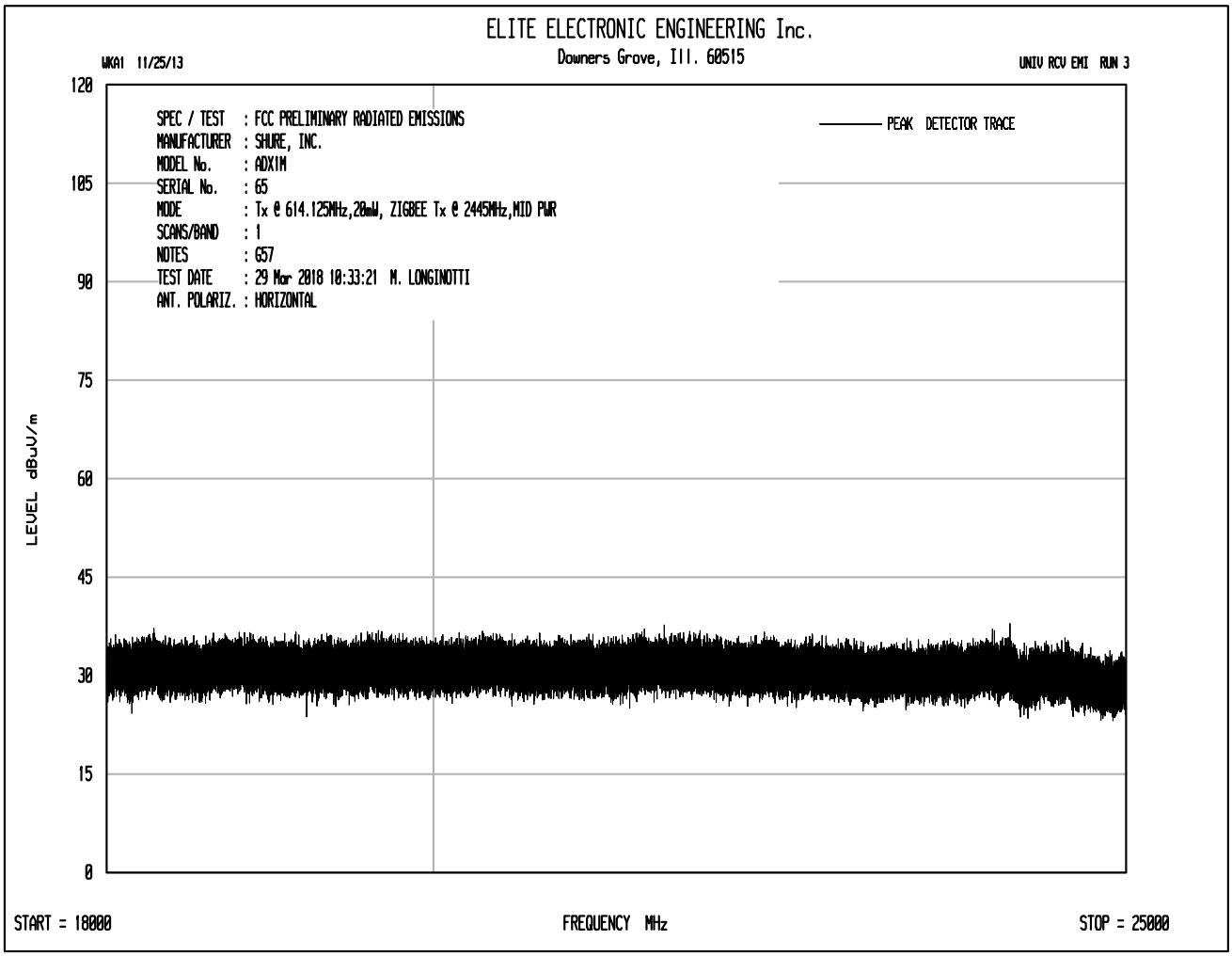
Plot shows emissions at 2445MHz from Zigbee transmitter.

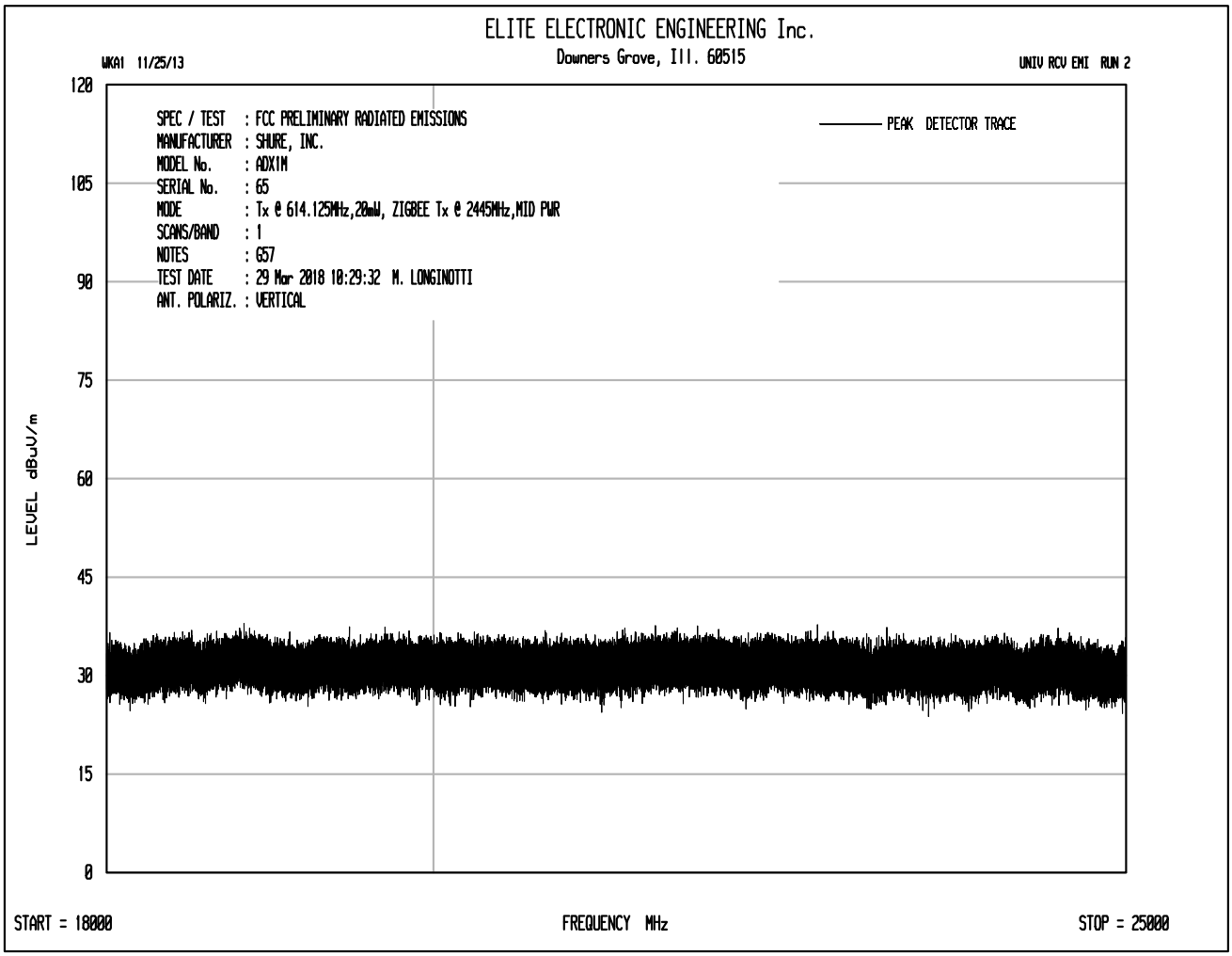


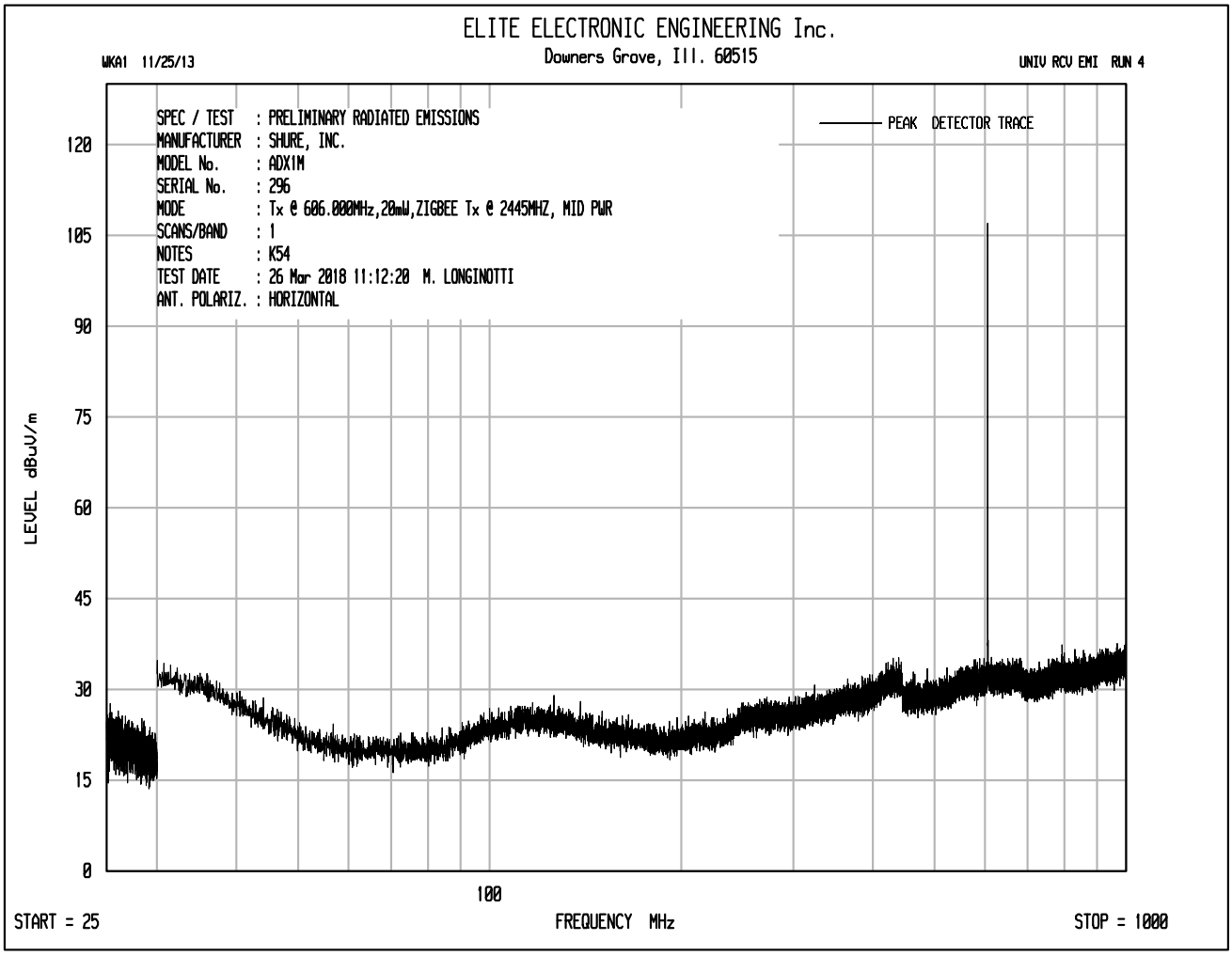
Plot shows emissions at 2445MHz from Zigbee transmitter.


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 38
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 614.125MHz,20mW,ZIGBEE Tx @ 2445MHz, MID PWR
SCANS/BAND : 1
NOTES : G57
TEST DATE : 27 Mar 2018 11:10:10 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
10000
START = 4500
FREQUENCY MHz
STOP = 18000

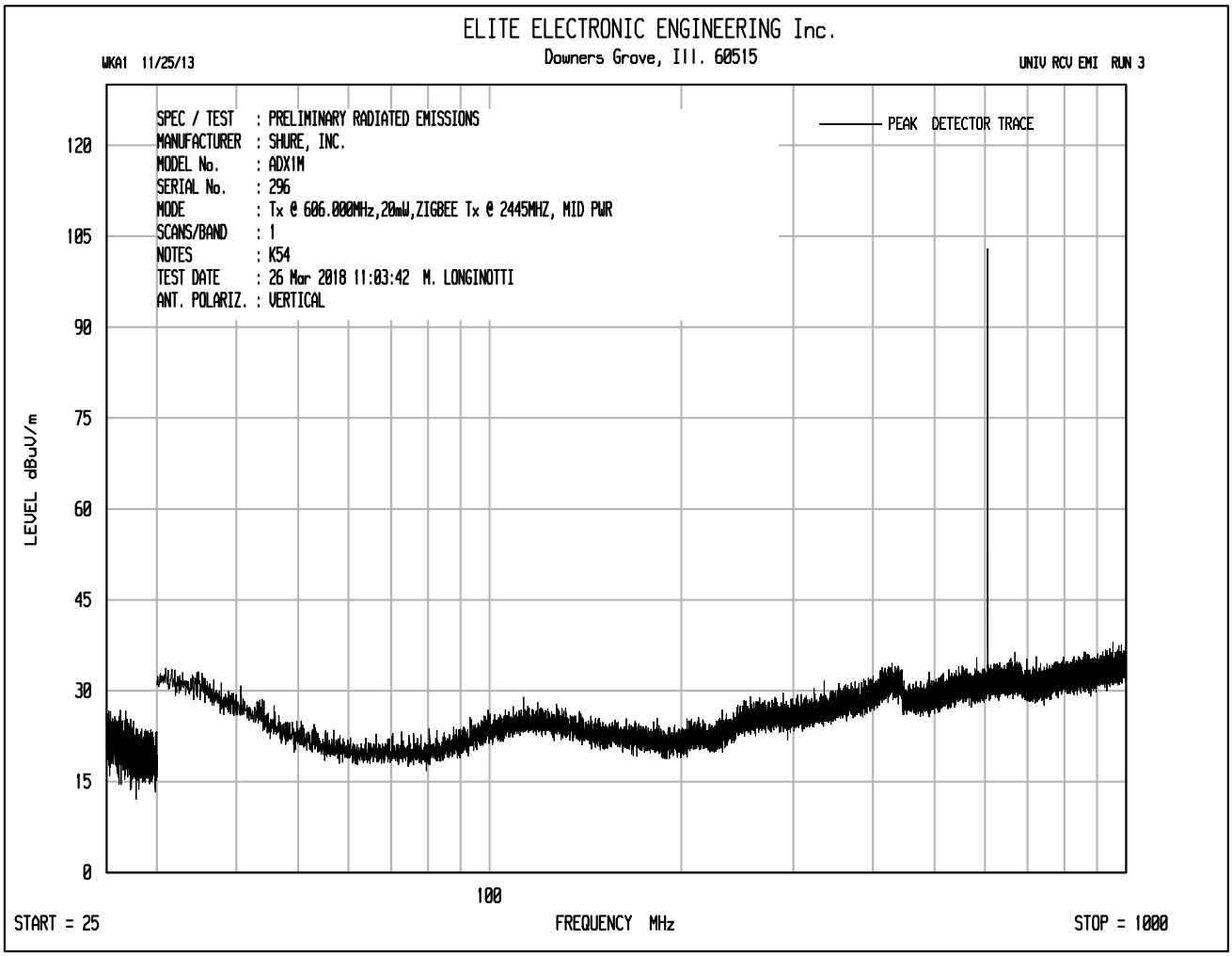

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 37
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 614.125MHz,20mW,ZIGBEE Tx @ 2445MHz, MID PWR
SCANS/BAND : 1
NOTES : G57
TEST DATE : 27 Mar 2018 11:03:03 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
10000
START = 4500
FREQUENCY MHz
STOP = 18000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 3
SPEC / TEST : FCC PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 614.125MHz,20mW, ZIGBEE Tx @ 2445MHz,MID PWR
SCANS/BAND : 1
NOTES : 657
TEST DATE : 29 Mar 2018 10:33:21 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 18000
FREQUENCY MHz
STOP = 25000

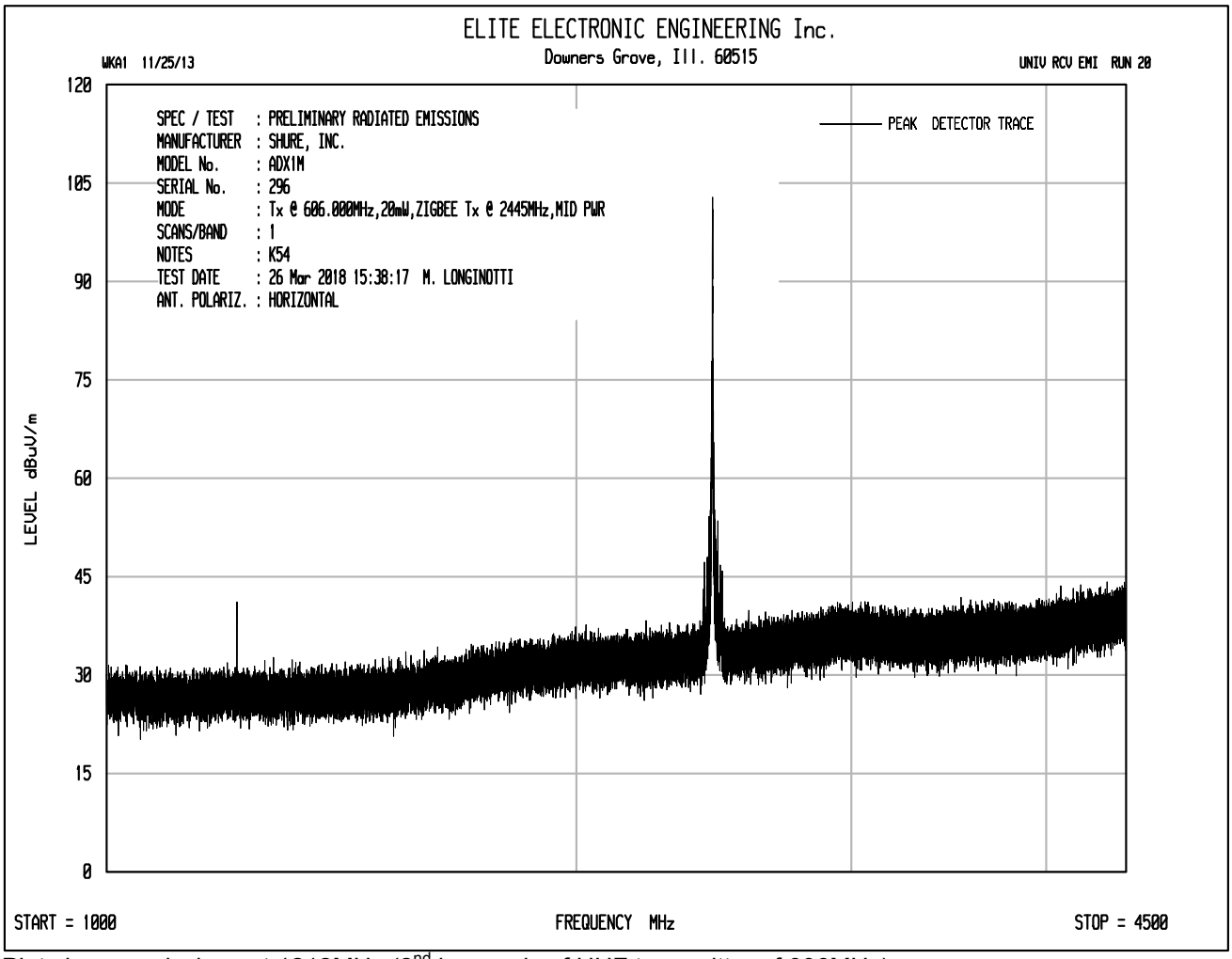

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 2
SPEC / TEST : FCC PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 614.125MHz,20mW, ZIGBEE Tx @ 2445MHz,MID PWR
SCANS/BAND : 1
NOTES : 657
TEST DATE : 29 Mar 2018 10:29:32 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 18000
FREQUENCY MHz
STOP = 25000



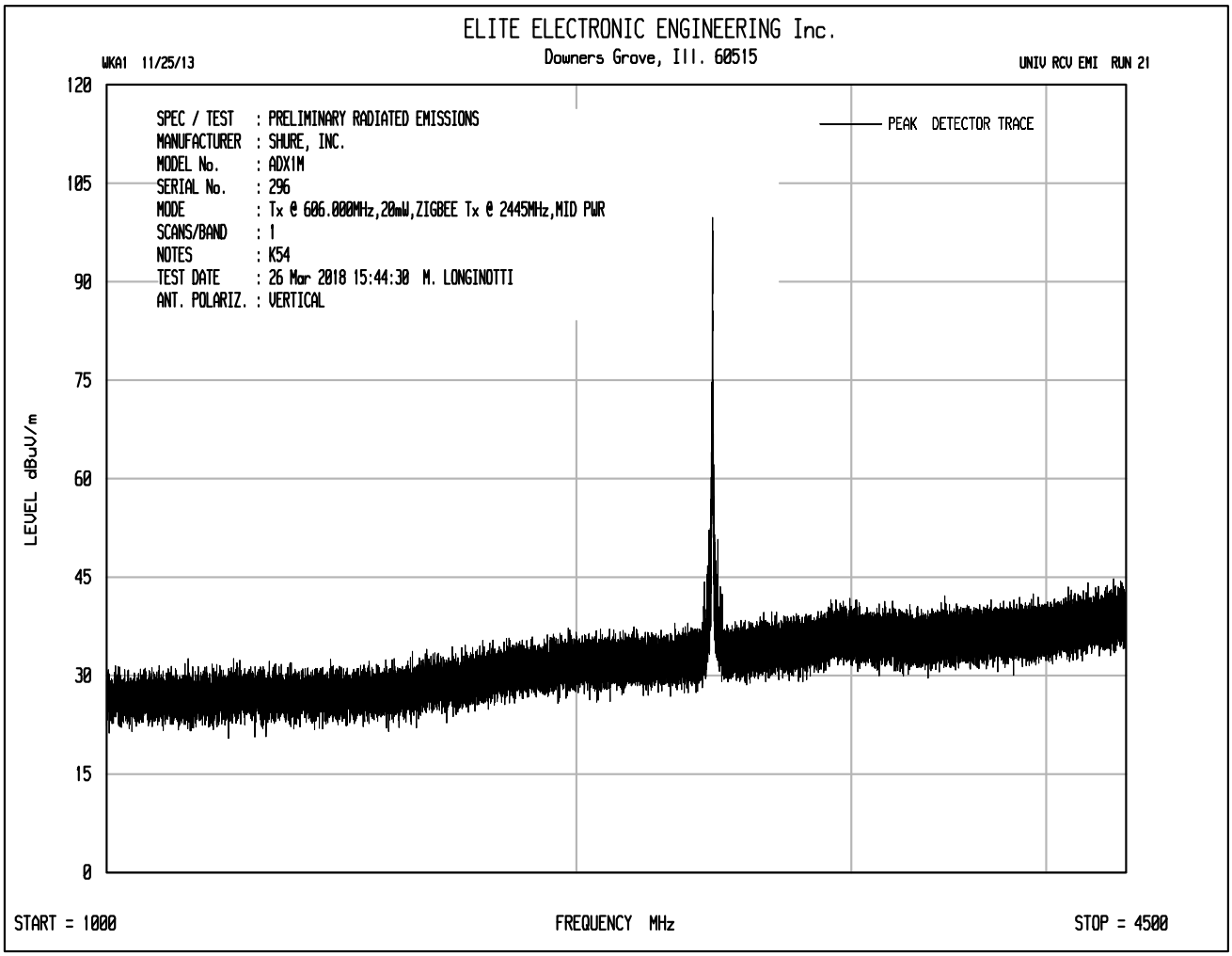
Plot shows emissions at 606MHz from UHF transmitter.



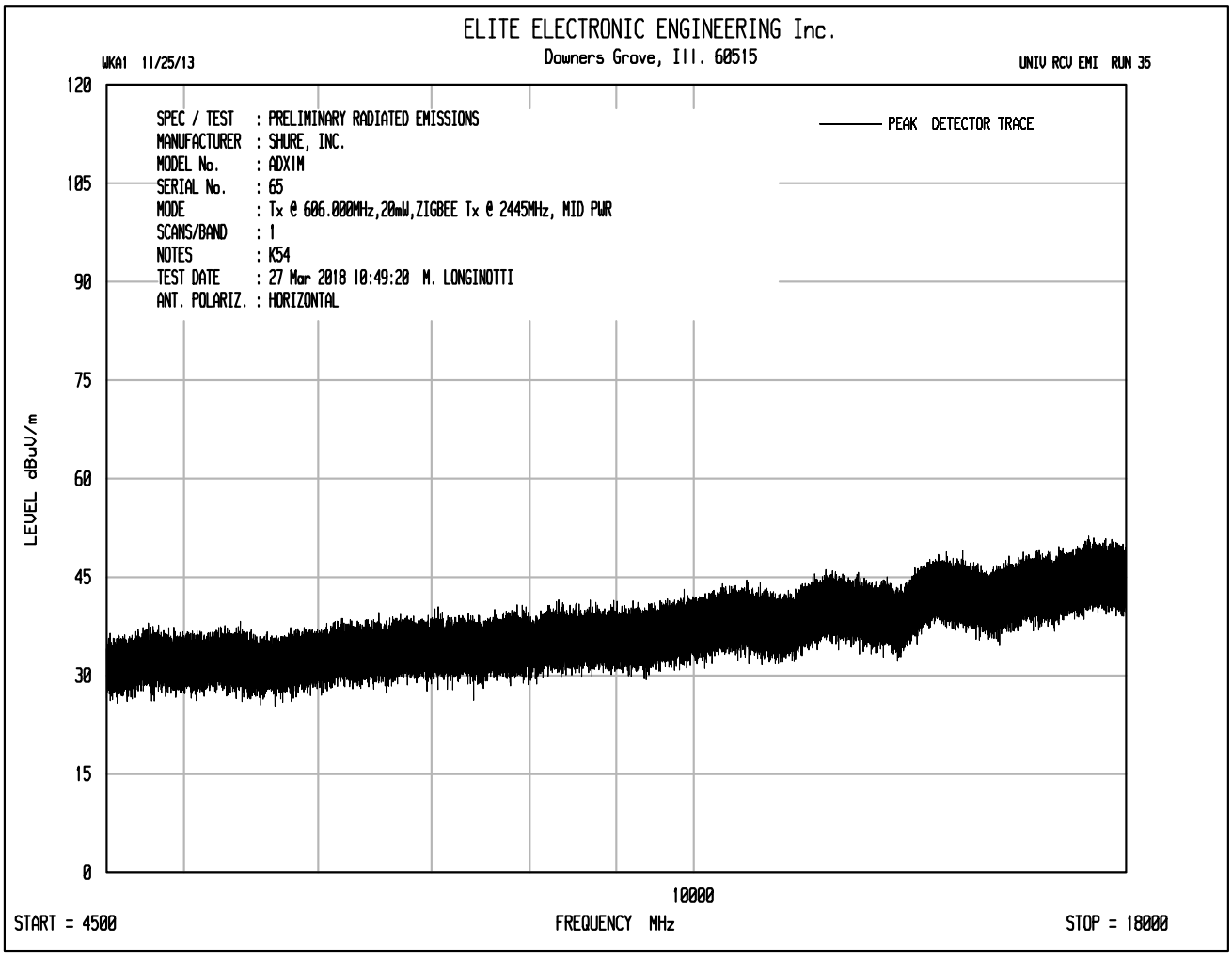
Plot shows emissions at 606MHz from UHF transmitter.

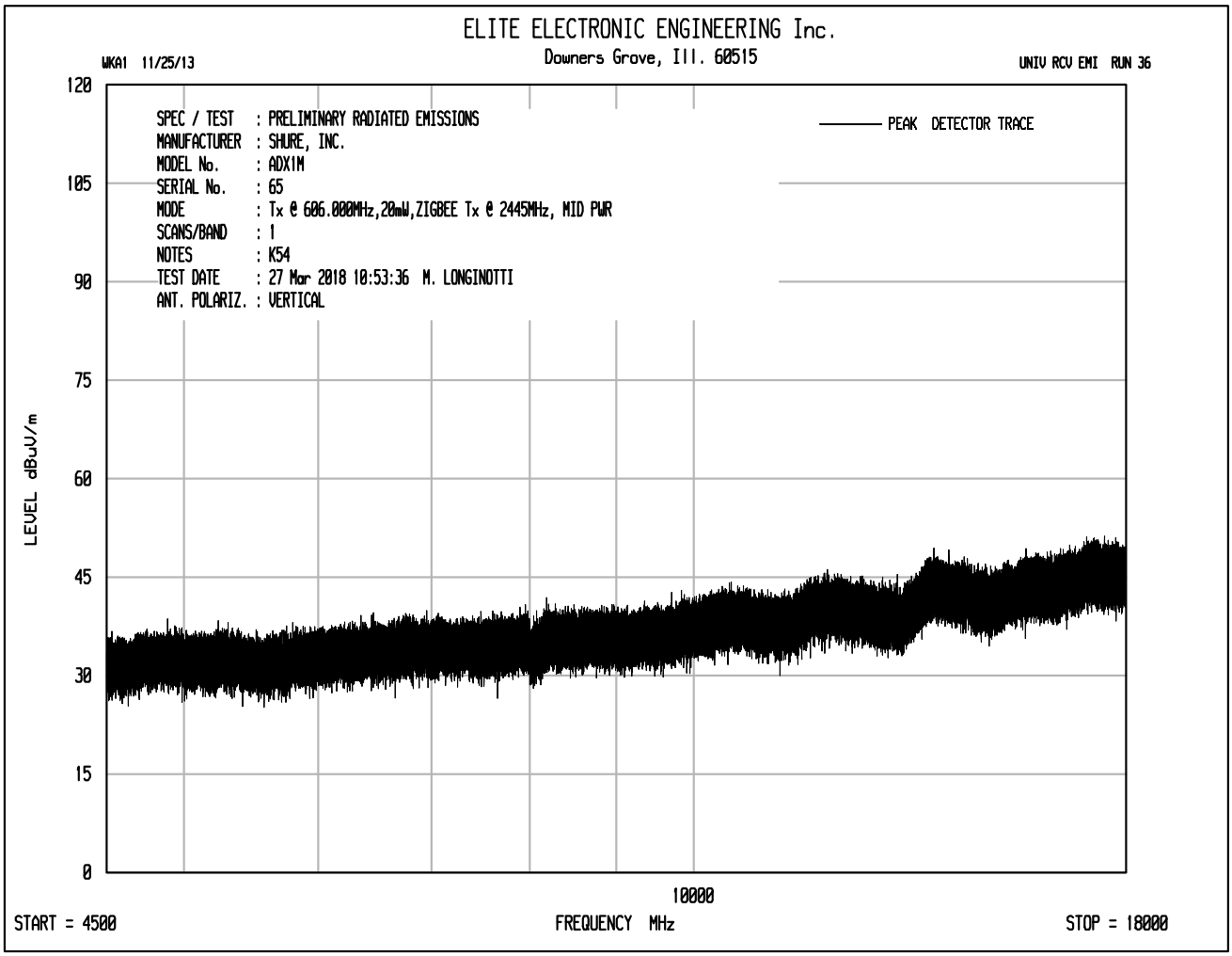


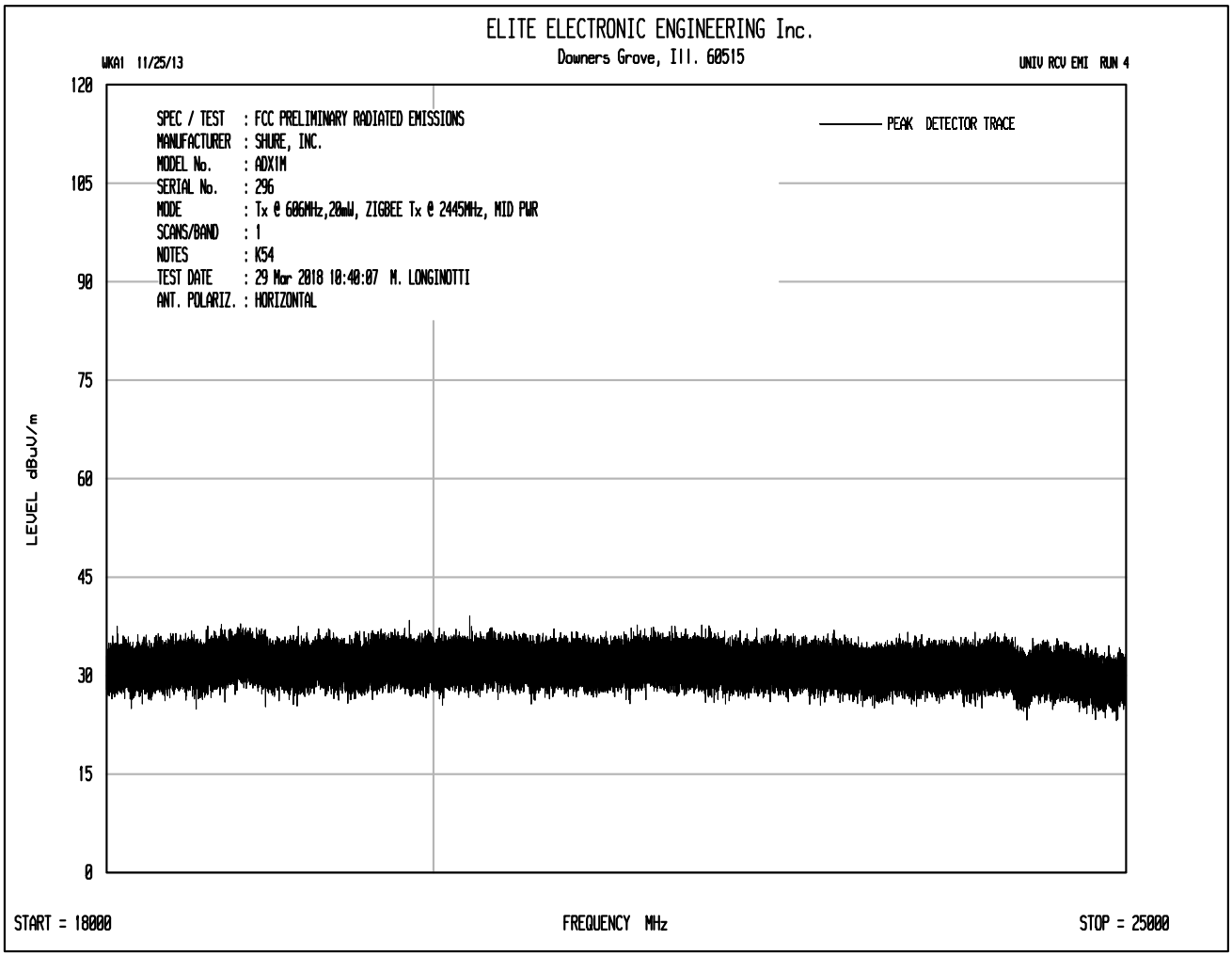
Plot shows emissions at 1212MHz (2nd harmonic of UHF transmitter of 606MHz).
Plot shows emissions at 2445MHz from Zigbee transmitter.

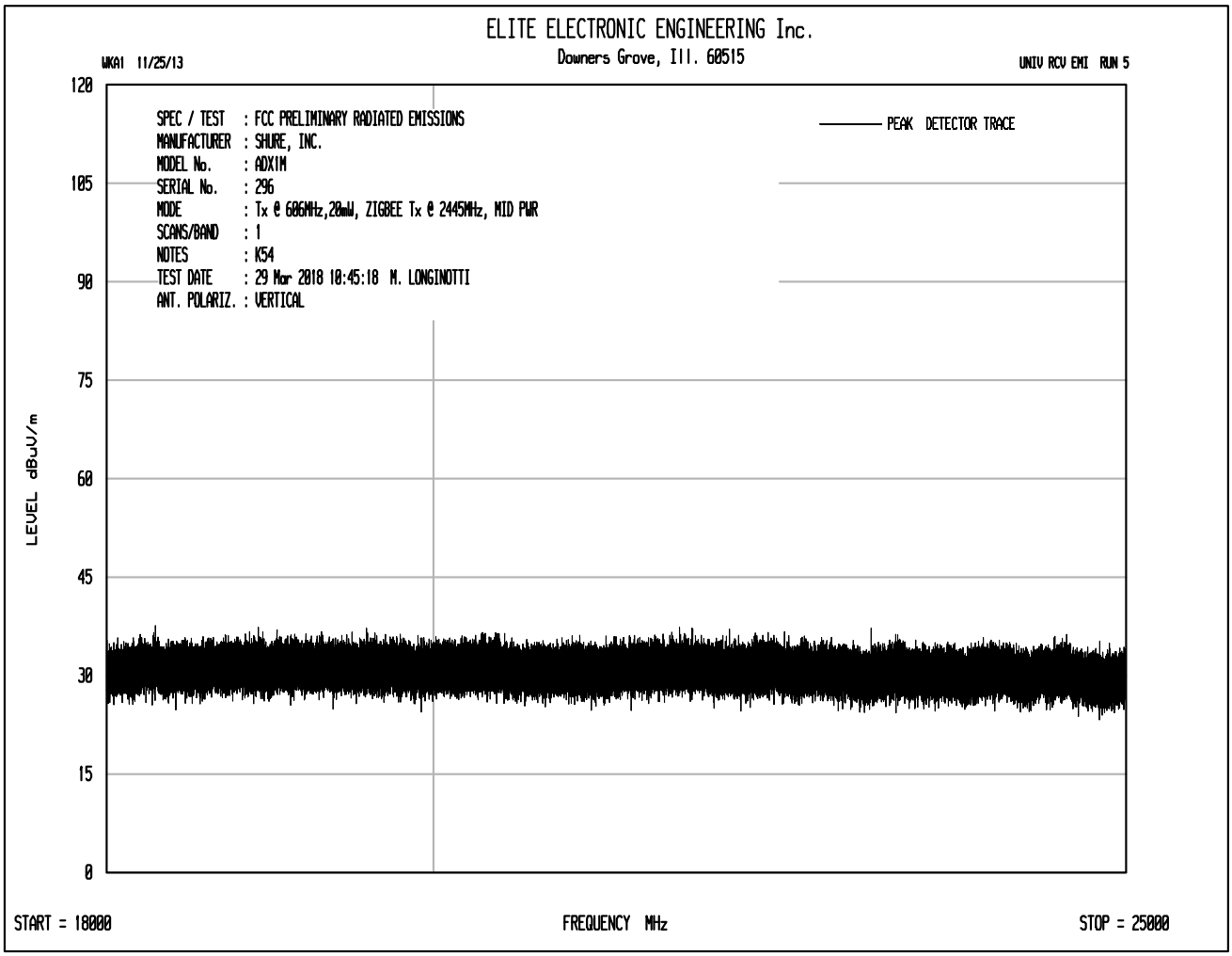


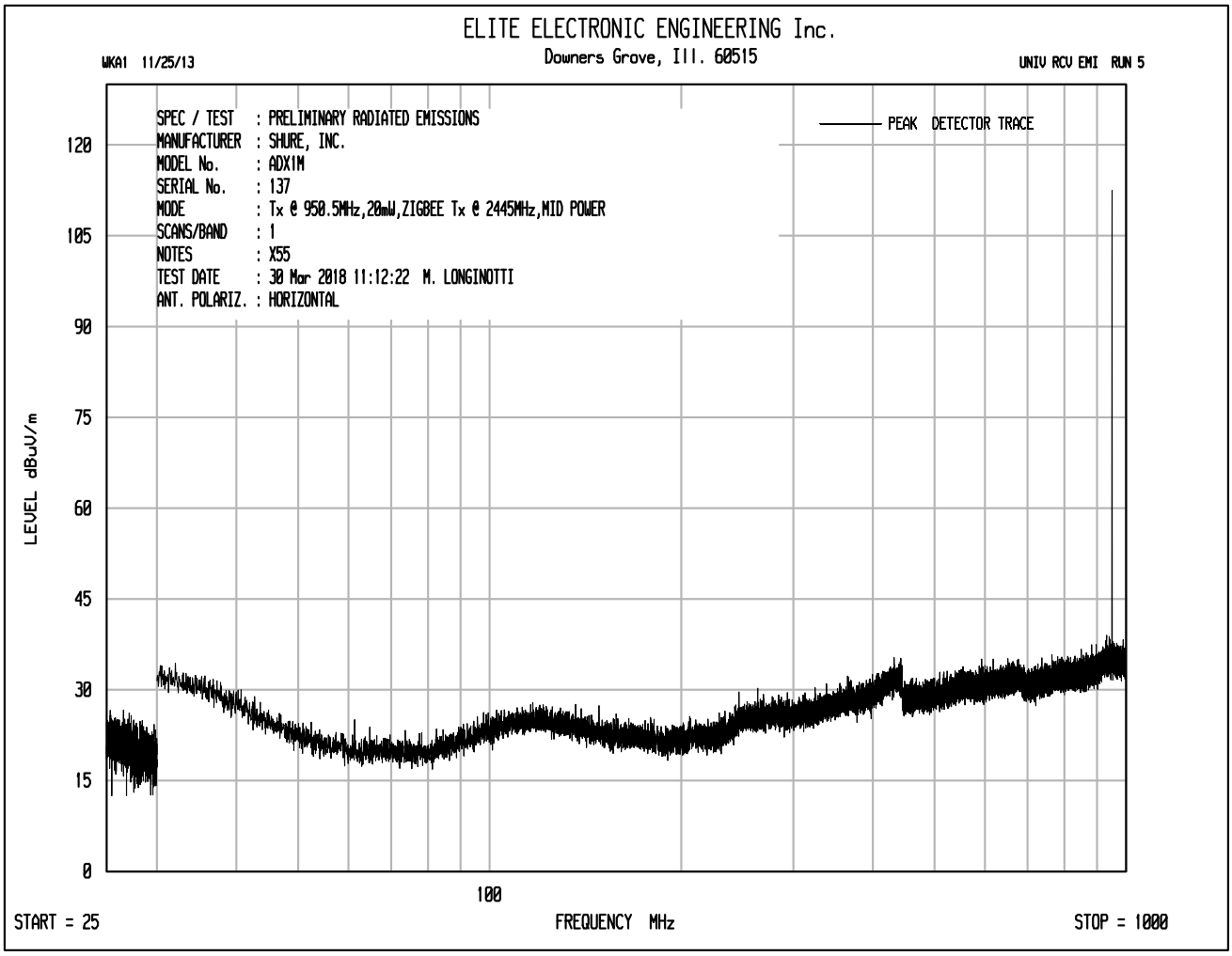
Plot shows emissions at 2445MHz from Zigbee transmitter.


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 35
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 606.000MHz,20mW,ZIGBEE Tx @ 2445MHz, MID PWR
SCANS/BAND : 1
NOTES : K54
TEST DATE : 27 Mar 2018 10:49:20 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
10000
START = 4500
FREQUENCY MHz
STOP = 18000

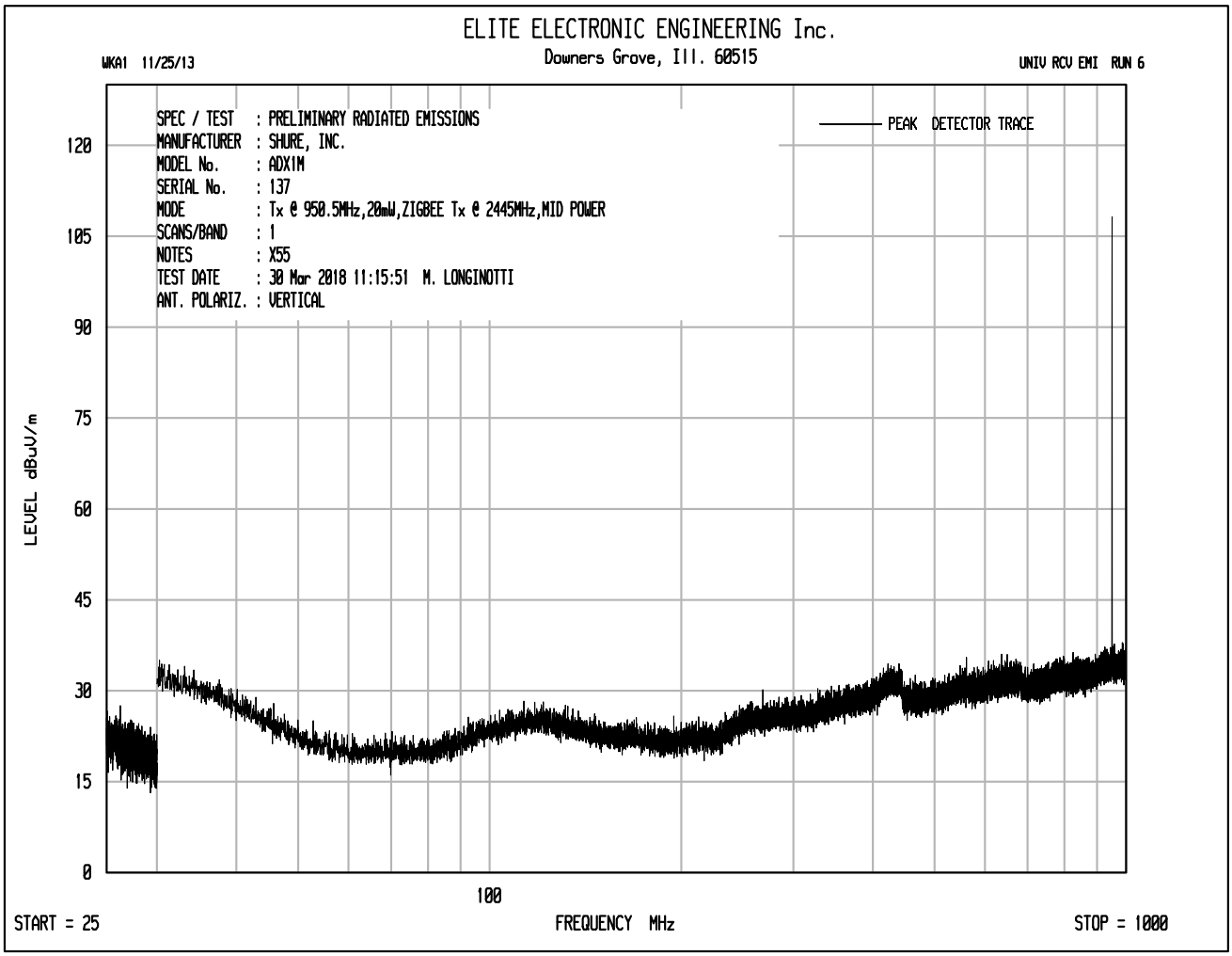

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 36
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 65
MODE : Tx @ 606.000MHz,20mW,ZIGBEE Tx @ 2445MHz, MID PWR
SCANS/BAND : 1
NOTES : K54
TEST DATE : 27 Mar 2018 10:53:36 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
10000
START = 4500
FREQUENCY MHz
STOP = 18000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 4
SPEC / TEST : FCC PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 606MHz,20mW, ZIGBEE Tx @ 2445MHz, MID PWR
SCANS/BAND : 1
NOTES : K54
TEST DATE : 29 Mar 2018 10:40:07 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 18000
FREQUENCY MHz
STOP = 25000

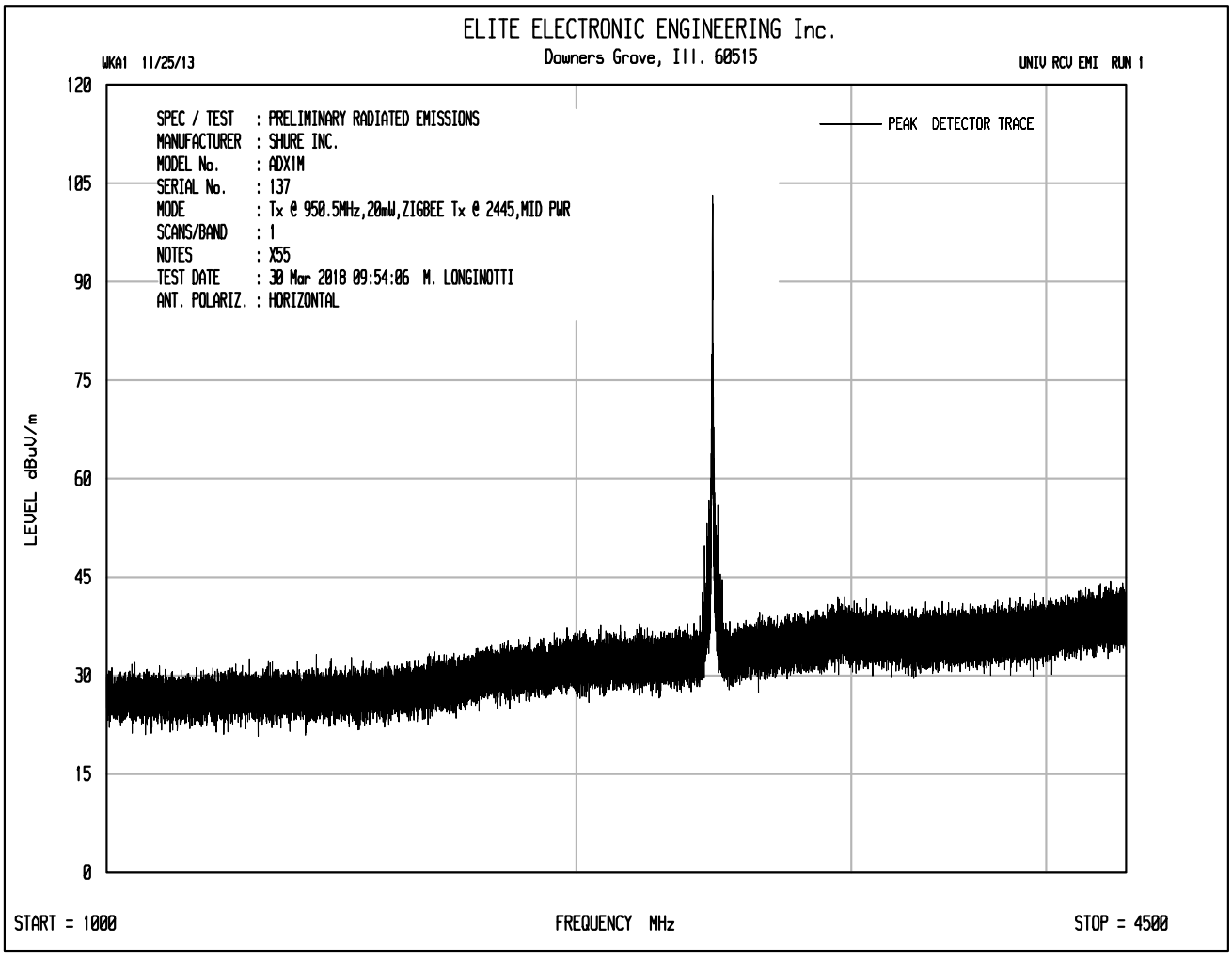

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 5
SPEC / TEST : FCC PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 296
MODE : Tx @ 606MHz,20mW, ZIGBEE Tx @ 2445MHz, MID PWR
SCANS/BAND : 1
NOTES : K54
TEST DATE : 29 Mar 2018 10:45:18 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 18000
FREQUENCY MHz
STOP = 25000



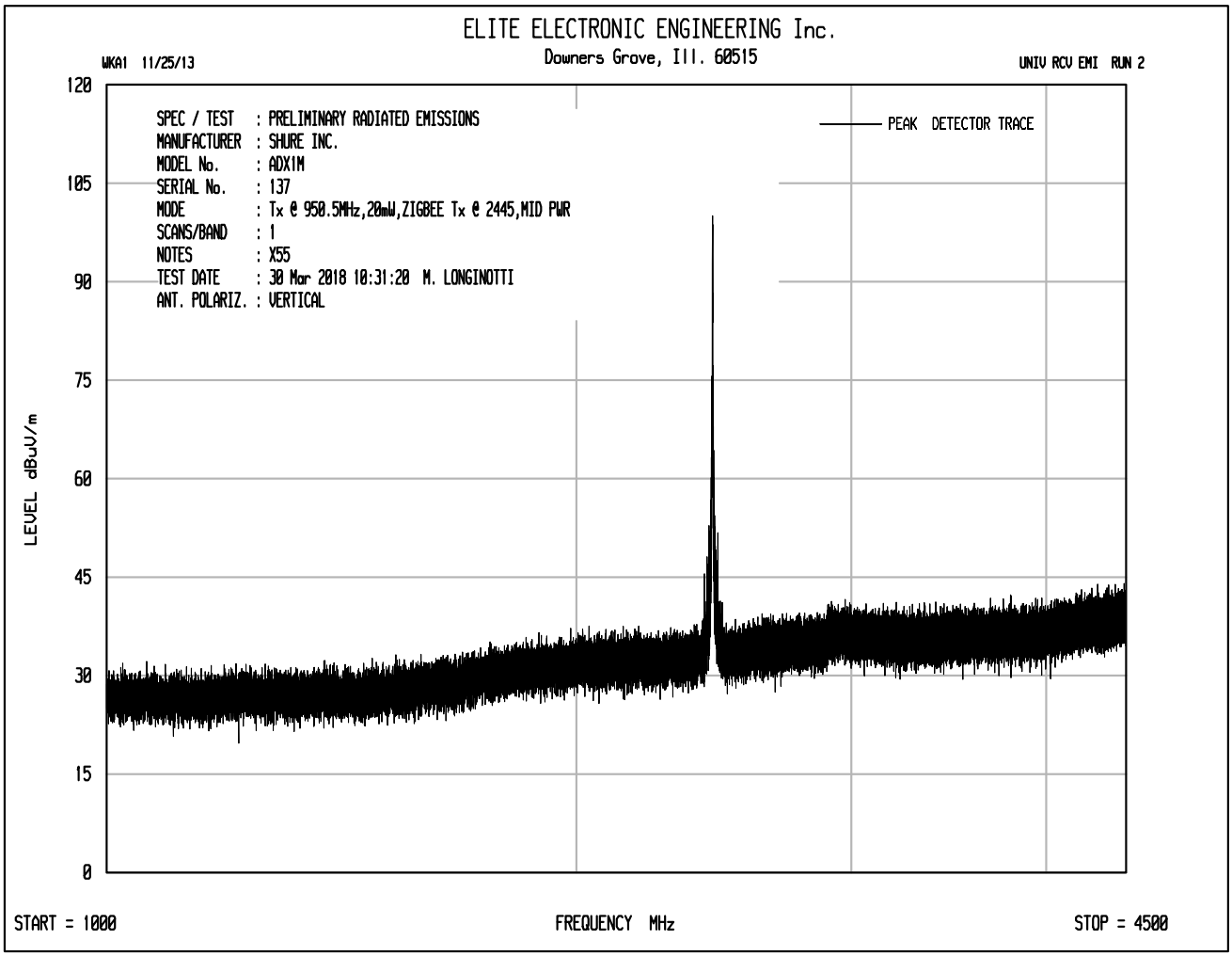
Plot shows emissions at 950.5MHz from UHF transmitter.



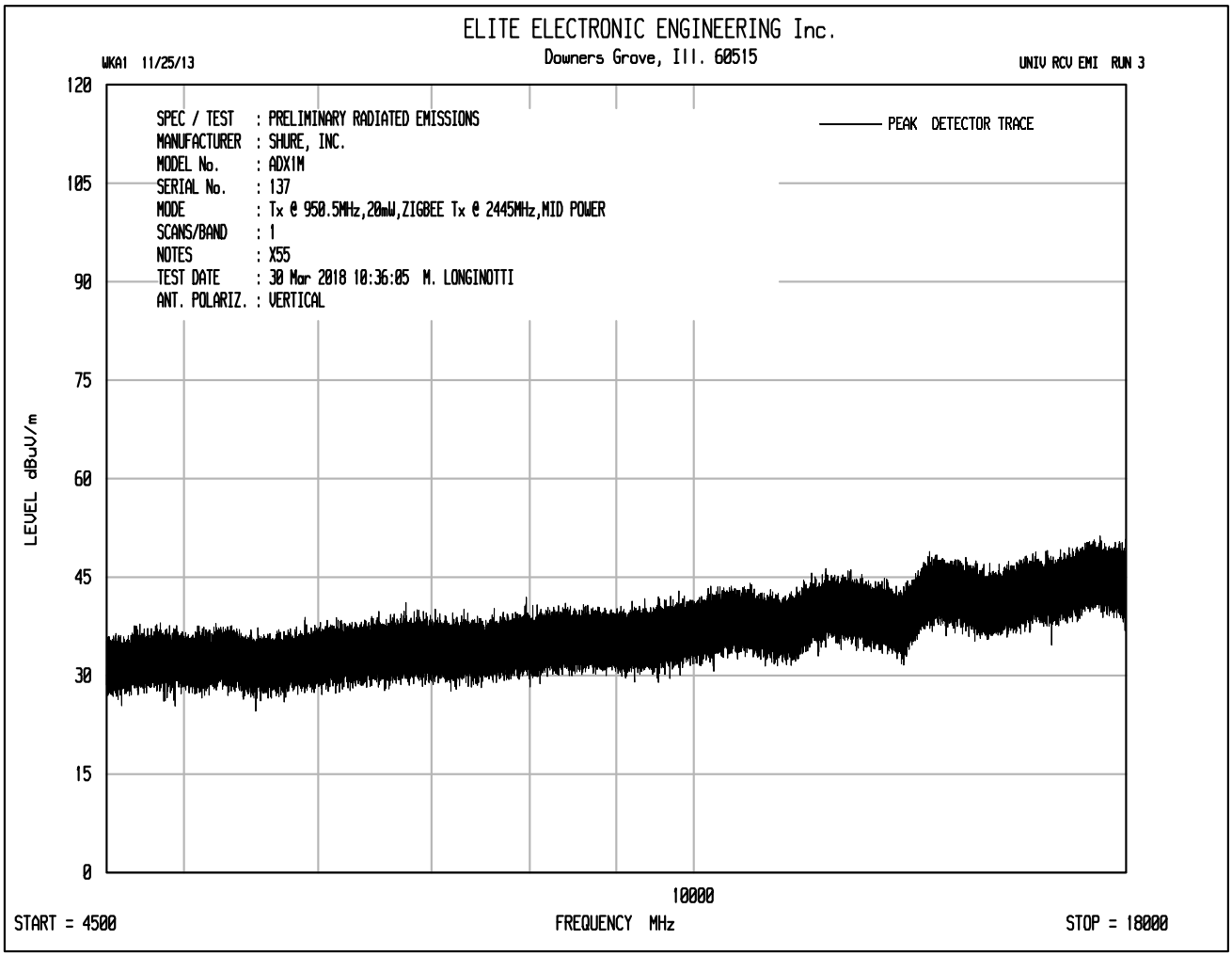
Plot shows emissions at 950.5MHz from UHF transmitter.

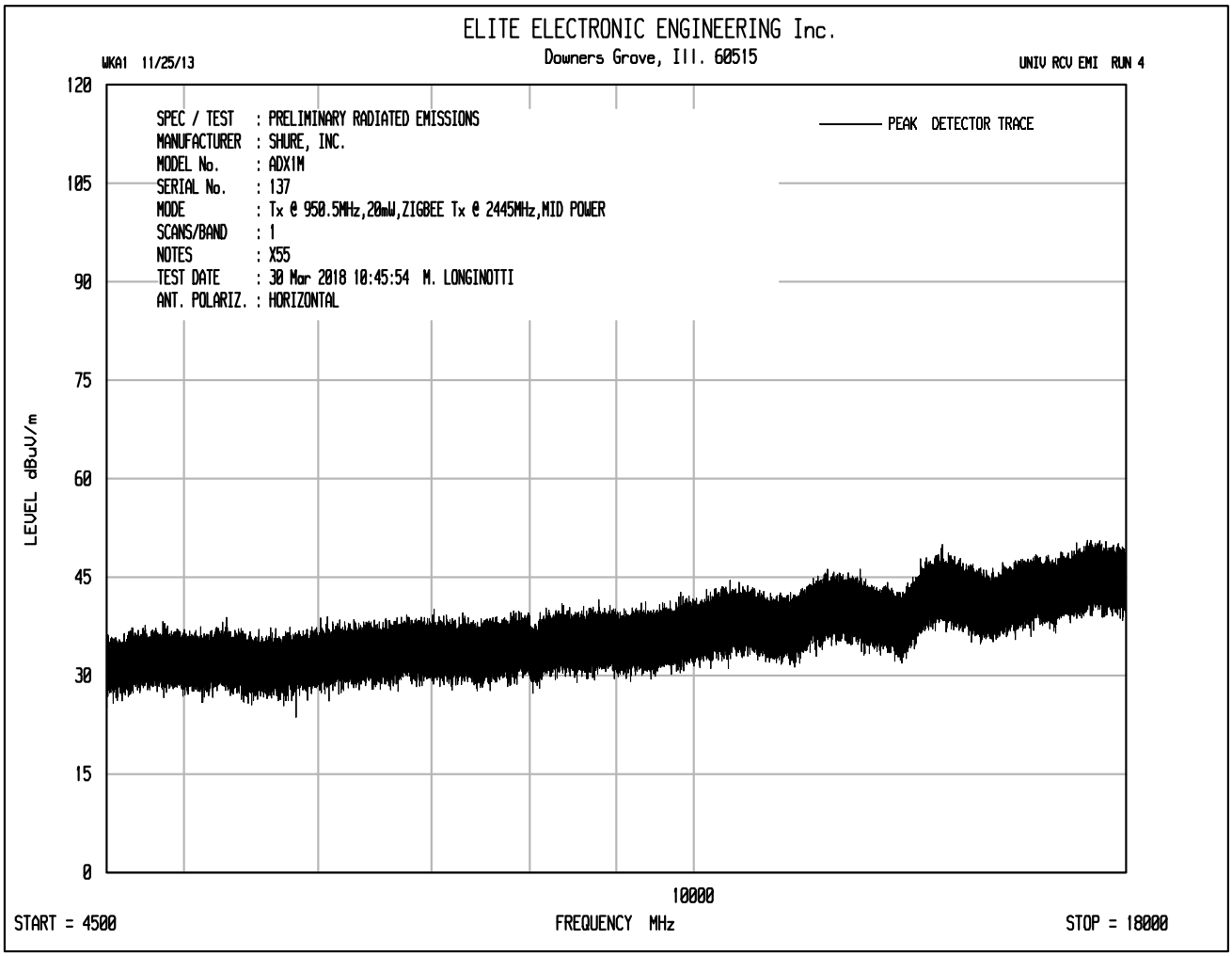


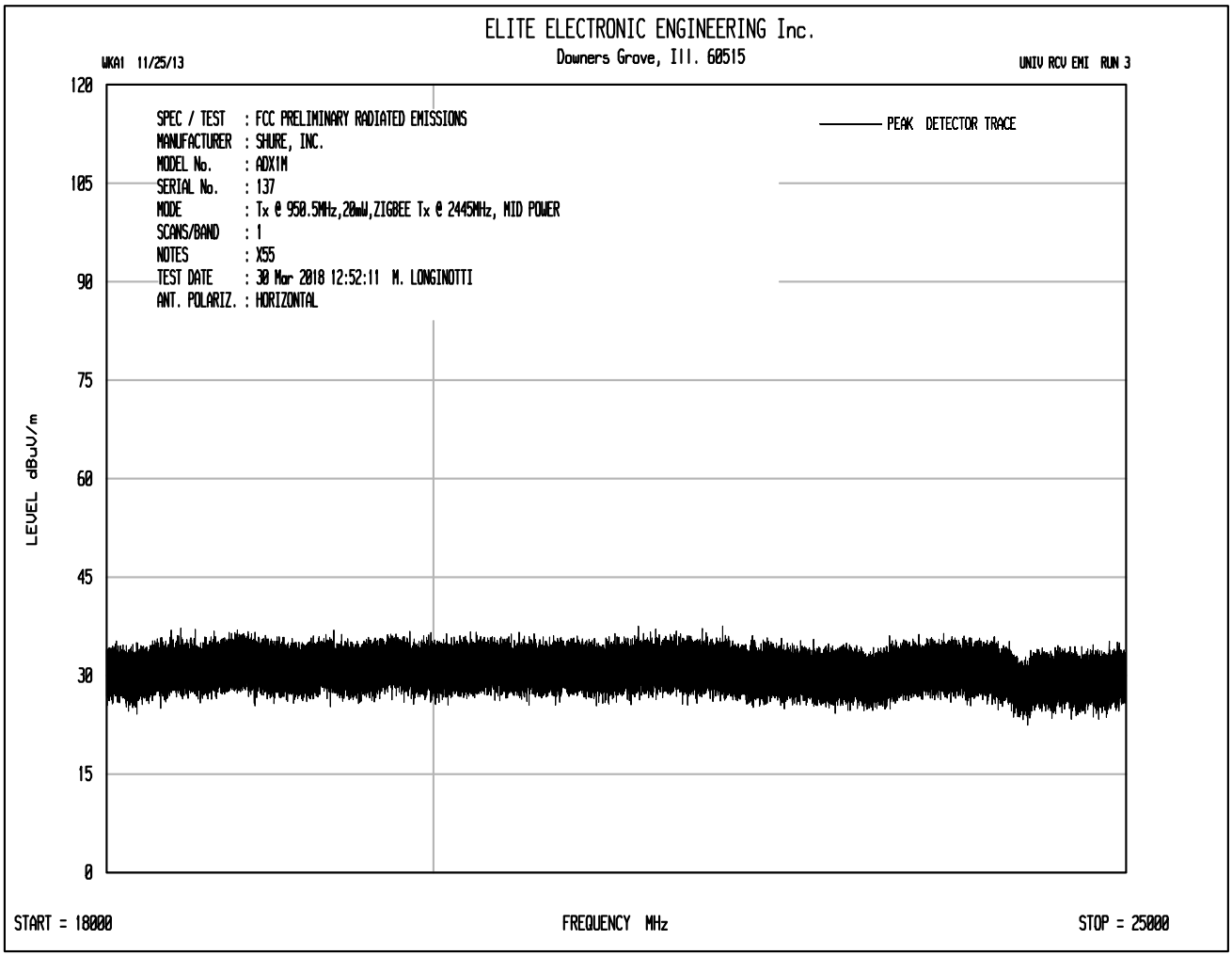
Plot shows emissions at 2445MHz from Zigbee transmitter.

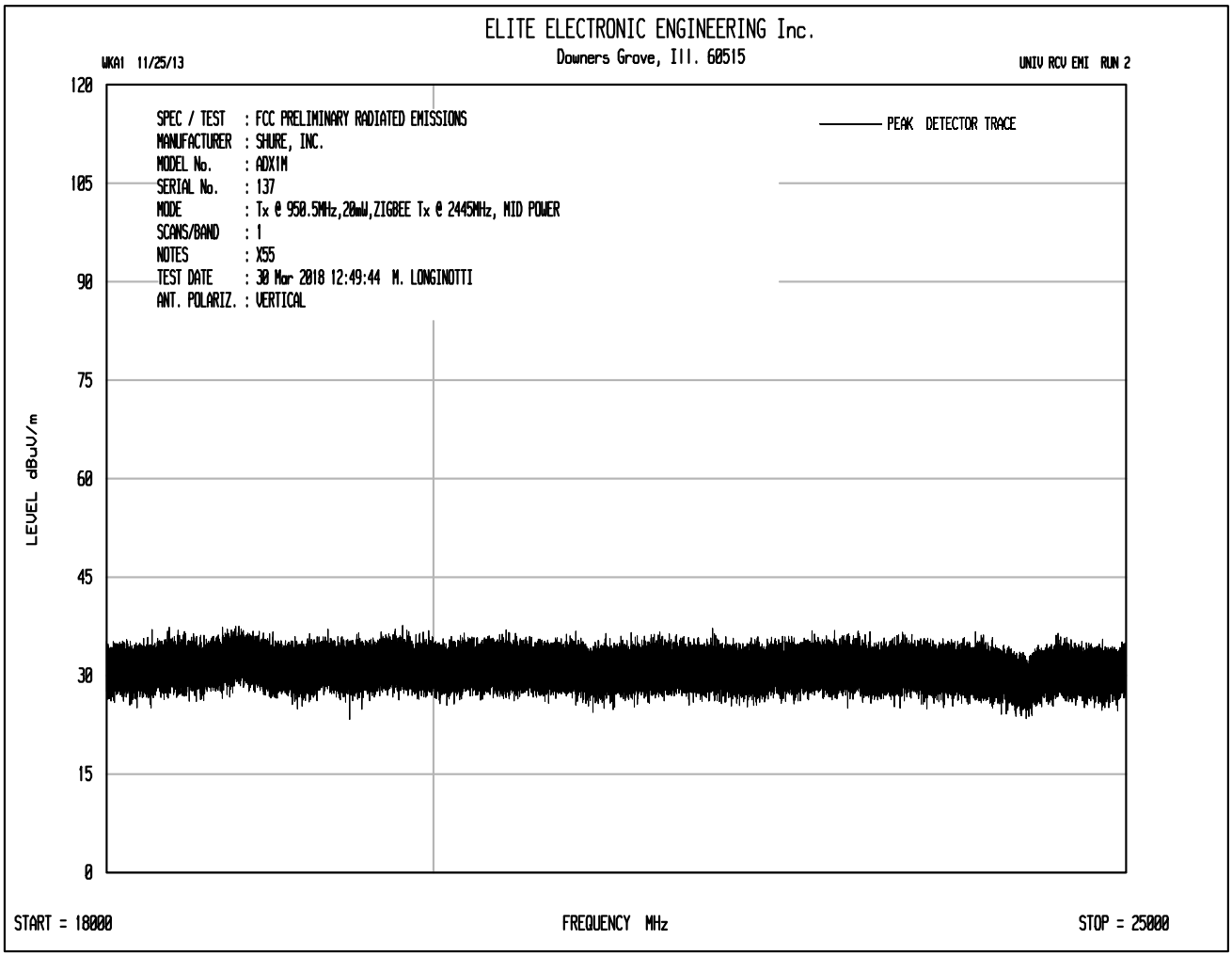


Plot shows emissions at 2445MHz from Zigbee transmitter.


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 3
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 137
MODE : Tx @ 950.5MHz,20mW,ZIGBEE Tx @ 2445MHz,MID POWER
SCANS/BAND : 1
NOTES : X55
TEST DATE : 30 Mar 2018 10:36:05 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
10000
START = 4500
FREQUENCY MHz
STOP = 18000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 4
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 137
MODE : Tx @ 950.5MHz,20mW,ZIGBEE Tx @ 2445MHz,MID POWER
SCANS/BAND : 1
NOTES : X55
TEST DATE : 30 Mar 2018 10:45:54 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
10000
START = 4500
FREQUENCY MHz
STOP = 18000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 3
SPEC / TEST : FCC PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 137
MODE : Tx @ 950.5MHz,20mW,ZIGBEE Tx @ 2445MHz, MID POWER
SCANS/BAND : 1
NOTES : X55
TEST DATE : 30 Mar 2018 12:52:11 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 18000
FREQUENCY MHz
STOP = 25000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 2
SPEC / TEST : FCC PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : SHURE, INC.
MODEL No. : ADX1M
SERIAL No. : 137
MODE : Tx @ 950.5MHz,20mW,ZIGBEE Tx @ 2445MHz, MID POWER
SCANS/BAND : 1
NOTES : X55
TEST DATE : 30 Mar 2018 12:49:44 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 18000
FREQUENCY MHz
STOP = 25000