Measurement of RF Emissions from a UKEP Universal Keypad Transmitter

For	Genie Company One Door Drive Mount Hope, OH 44660
P.O. Number	4900037120
Date Tested	October 21, 2019 through October 24, 2019
Test Personnel	Mark E. Longinotti
Test Specification	FCC "Code of Federal Regulations" Title 47 Part15, Subpart C ISED RSS-GEN ISED RSS-210

Test Report By: MARK E. LONGINOTTI

Mark E. Longinotti
EMC Engineer

Requested By: Mike Whitley
Genie Company

Approved By: Raymond J Klouda

Raymond J. Klouda
Registered Professional
Engineer of Illinois - 44894

Elite Electronic Engineering Inc.
1516 CENTRE CIRCLE
DOWNERS GROVE, IL 60515
TEL: 630 - 495 - 9770
FAX: 630 - 495 - 9785
www.elitetest.com

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REVISION HISTORY

Revision	Date	Description
—	04 Nov 2019	Initial release

Measurement of RF Emissions from a Universal Keypad Transmitter, Model No. UKEP

1. INTRODUCTION

1.1. Scope of Tests

This report presents the results of the RF emissions measurements performed on a Genie Company Universal Keypad transmitter, Model No. UKEP, serial number 001 (hereinafter referred to as the Equipment Under Test (EUT)). The EUT was designed to transmit between 303MHz and 433.92MHz using an integral, non-removable antenna. The EUT were manufactured and submitted for testing by Genie Company located in Mount Hope, OH.

1.2. Purpose

The test series was performed to determine if the EUT meets the conducted and radiated RF emission requirements of the FCC "Code of Federal Regulations" Title 47, Part 15, Subpart C, Sections 15.207 and 15.231 for Intentional Radiators. Testing was performed in accordance with ANSI C63.10-2013.

The test series was also performed to determine if the EUT meets the conducted RF emission requirements of the Innovation, Science, and Economic Development Canada Radio Standards Specification, RSS-Gen, Section 8.8 and the radiated RF emission requirements of the Innovation, Science, and Economic Development Canada Radio Standards Specification, RSS-210, Annex 1 for transmitters. Testing was performed in accordance with ANSI C63.10-2013.

1.3. Deviations, Additions and Exclusions

There were no deviations, additions to, or exclusions from the test specifications 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 Certificate Number: 1786.01.

1.5. Laboratory Conditions

The temperature at the time of the test was 21°C and the relative humidity was 31%.

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 15, Subpart C
- ANSI C63.4-2014, "American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz"
- ANSI C63-10-2013, “American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices”
- Innovation, Science, and Economic Development Canada Radio Standards Specification, RSS-Gen, “General Requirements for Compliance of Radio Apparatus”, Issue 5, April 2018
- Innovation, Science, and Economic Development Canada Radio Standards Specification, RSS-210, “License-exempt Radio Apparatus: Category I Equipment”, Issue 9, August 2016

3. EUT Setup and Operation

3.1. General Description

The EUT is a Genie Company, Universal Keypad, Model No. UKEP. 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 obtained 3VDC from two (2) each “AAA” batteries.

3.1.2. Peripheral Equipment

No peripheral equipment was submitted with the EUT.

3.1.3. Signal Input/Output Leads

No interconnect cables were submitted with the EUT.

3.1.4. Grounding

The EUT was ungrounded during the tests.

3.2. Software

For all tests, the EUT had firmware version 0.7.10 loaded onto the device to provide correct load characteristics.

3.3. Operational Mode

For all tests, the EUT was placed on an 80cm high non-conductive stand when testing below 1GHz. Above 1GHz, the EUT was placed on a 150cm high non-conductive stand. The EUT was programmed to transmit separately in each of the following modes:

Mode	Frequency MHz	Manufacturer	Description	Duty Cycle	Field Strength Correction Factor (dB)
1	303	Guardian	Fixed Code	43.5%	-7.23
2	310	Sommer	Rolling Code	25.6%	-11.84
3	310	Stanley	Fixed Dip Switch	43.5%	-7.23
4	315	Chamberlain	Purple	43.5%	-7.23
5	315	Genie	IC1	25.2%	-11.97
6	315	Genie	IC2	24.2%	-12.32
7	315	Marantec	Fixed Code	29.64%	-10.56
8	318	Linear	Mega Code	17.00%	-15.39
9	372.5	Wayne Dalton	Rolling Code	25.4%	-11.90
10	372.5	Ryobi	Rolling Code	25.0%	-12.00
11	390	Chamberlain	Green	33.02%	-9.62
12	390	Chamberlain	Orange/Red	46.5%	-6.65
13	390	Chamberlain	Yellow	49.0%	-6.20
14	390	Genie Legacy	9 position DIP switch	50.0%	-6.00
15	390	Genie Legacy	12 position DIP switch	50.0%	-6.00
16	390	OHD Trinary	9 position DIP switch	48.4%	-6.3
17	390	Chamberlain Legacy	9 position DIP switch	42.0%	-7.54
18	390	Genie	IC1	25.2%	-11.97

19	390	Genie	IC2	24.2%	-12.32
20	433.92	FAAC	Rolling Code	61.3%	-4.25

3.4. EUT Modifications

No modifications were required for compliance to the requirements.

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 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.

Values of Expanded Measurement Uncertainty (95% Confidence) are presented below:

Measurement Type	Expanded Measurement Uncertainty
Conducted disturbance (mains port) (150 kHz – 30 MHz)	2.7
Radiated disturbance (electric field strength on an open area test site or alternative test site) (30 MHz – 1000 MHz)	4.3
Radiated disturbance (electric field strength on an open area test site or alternative test site) (1 GHz – 6 GHz)	3.1
Radiated disturbance (electric field strength on an open area test site or alternative test site) (6 GHz – 18 GHz)	3.2

5. Test Procedures

5.1. Powerline Conducted Emissions

5.1.1. Requirements

Since the EUT was powered by internal batteries and has no connections to AC power, no conducted emissions tests are required.

5.2. Periodic Operation Measurements

5.2.1. Requirements

Per 15.231(a)(1) and RSS-210 Annex A1.1, a manually operated transmitter shall employ a switch that will

automatically deactivate the transmitter within not more than 5 seconds of being released. Also, a transmitter activated automatically shall cease transmission within 5 seconds after activation.

5.2.2. Procedures

The spectrum analyzer was set up to display the time domain trace. The EUT was set to transmit normally. The spectrum analyzer was used to record the amount of time that the EUT remained active following activation.

5.2.3. Results

The plot of the periodic timing for the OHD 9 Position DIP switch is shown on data page 17. The data shows that the EUT ceases operation within the allotted time. For plots of all other modes of operation, see Elite Electronic Engineering Inc., Engineering Test Report No. 1802542-01 Rev. A.

5.3. Duty Cycle Factor Measurements

5.3.1. Procedures

The duty cycle factor is used to convert peak detected readings to average readings. This factor is computed from the time domain trace of the pulse modulation signal. The following procedure was used to measure the duty cycle:

a) With the transmitter set up to transmit for maximum pulse density, the time domain trace is displayed on the spectrum analyzer.

b) The pulse width is measured and a plot of this measurement is recorded.

c) Next the number of pulses in the word period is measured and a plot is recorded.

d) Finally the length of the word period is measured and a third plot is recorded. If the word period exceeds 100 msec, the word period is limited to 100 msec.

e) The pulse width and number of pulses for the word period are used to compute the on-time. The duty cycle is then computed as the (on-time/ word period).

f) The duty cycle factor is computed from the duty cycle.

5.3.2. Results

Plots of the duty cycle factor for the OHD 9 Position DIP switch are shown on data pages 18 through 20. For plots of all other modes of operation, see Elite Electronic Engineering Inc., Engineering Test Report No. 1802542-01 Rev. A. See section 3.3 of this document for a summary of the duty cycle factors.

5.4. Radiated Measurements

5.4.1. Requirements

The EUT must comply with the requirements of FCC "Code of Federal Regulations Title 47", Part 15, Subpart C, Section 15.205 et seq. and RSS-210 Annex A, Table A1

Paragraph 15.231(b) and RSS-Gen Annex A, Table A1 has the following radiated emission limits:

Fundamental Frequency MHz	Field Intensity uV/m @ 3 meters	Field Strength Harmonics and Spurious @ 3 meters
260 to 470	3,750 to 12,500*	375 to 1,250*

* - Linear Interpolation

For 303MHz, the limit at the fundamental is 5541.7uV/m @ 3m and the limit on the harmonics is 554.2uV/m @ 3m.

For 310MHz, the limit at the fundamental is 5833.3uV/m @ 3m and the limit on the harmonics is 583.3uV/m @ 3m.

For 315MHz, the limit at the fundamental is 6041.7uV/m @ 3m and the limit on the harmonics is 604.2uV/m @ 3m.

For 318MHz, the limit at the fundamental is 6166.7uV/m @ 3m and the limit on the harmonics is 616.7uV/m @ 3m.

For 372.5MHz, the limit at the fundamental is 8437.5uV/m @ 3m and the limit on the harmonics is 843.8uV/m @ 3m.

For 390MHz, the limit at the fundamental is 9166.7uV/m @ 3m and the limit on the harmonics is 916.7uV/m @ 3m.

For 433.92MHz, the limit at the fundamental is 10996.7uV/m @ 3m and the limit on the harmonics is 1099.7uV/m @ 3m.

In addition, emissions appearing in the Restricted Bands of Operation listed in paragraph 15.205(a) shall not exceed the general requirements shown in paragraph 15.209.

5.4.2. Procedures

All tests were performed in a 32ft. x 20ft. x 18ft. hybrid ferrite-tile/anechoic absorber lined test chamber. The walls and ceiling of the shielded chamber are lined with ferrite tiles. Anechoic absorber material is installed over the ferrite tile. The floor of the chamber is used as the ground plane. The chamber complies with ANSI C63.4-2014 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.

A preliminary radiated emissions test was 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 30MHz to the 10th harmonic of the transmitter was investigated using a peak detector function. The data was then processed by the computer to calculate equivalent field intensity.

The final open field emission tests were then manually performed over the frequency range of 30MHz to the 10th harmonic. Between 30MHz and 1000MHz, a bilog antenna was used as the pick-up device. A broadband double ridged waveguide antenna was used as the pick-up device for all frequencies above 1GHz. All significant broadband and narrowband signals were measured and recorded. The peak detected levels were converted to average levels using a duty cycle factor which was computed from the pulse train.

To ensure that maximum or worst case, emission levels were measured, the following steps were taken:

1) The EUT was rotated so that all of its sides were exposed to the receiving antenna.
2) Since the measuring antenna is linearly polarized, both horizontal and vertical field components were measured.
3) The measuring antenna was raised and lowered from 1 to 4 meters for each antenna polarization to maximize the readings.
4) For hand-held or body-worn devices, the EUT was rotated through three orthogonal axes to determine which orientation produces the highest emission relative to the limit.

5.4.3. Results

The preliminary plots and final radiated levels with the EUT transmitting in each of the modes listed in section 3.3 of this document are presented on data pages 21 through 94. The plots are presented for a reference only, and are not used to determine compliance. As can be seen from the data, all emissions measured from the

EUT were within the specification limits.

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

5.5. Occupied Bandwidth Measurements

5.5.1. Requirement

In accordance with paragraph 15.231(c) and RSS-Gen Annex A1.3, all emissions within 20dB of the peak amplitude level of the center frequency are required to be within a band less than 0.25% of the center frequency wide.

5.5.2. Procedures

The EUT was placed next to a near-field probe. The unit was programmed to transmit separately in each of the modes listed in section 3.3 of this document. The resolution bandwidth was set to 30 kHz and span was set to 4MHz. The frequency spectrum near the fundamental was plotted.

5.5.3. Results

The plot of the emissions near the fundamental frequency for the OHD 9 Position DIP Switch is presented on data page 95. For plots of all other modes of operation, see Elite Electronic Engineering Inc., Engineering Test Report No. 1802542-01 Rev. A. As can be seen from these data pages, each transmitter met the occupied bandwidth requirements. See below for 99% bandwidth measurements:

Mode	Frequency MHz	Manufacturer	Description	99% BW
1	303	Guardian	Fixed Code	135.8kHz
2	310	Sommer	Rolling Code	37.0kHz
3	310	Stanley	Fixed Dip Switch	157.8kHz
4	315	Chamberlain	Purple	227.8kHz
5	315	Genie	IC1	131.9kHz
6	315	Genie	IC2	131.9kHz
7	315	Marantec	Fixed Code	135.9kHz
8	318	Linear	Mega Code	311.7kHz
9	372.5	Wayne Dalton	Rolling Code	219.8kHz
10	372.5	Ryobi	Rolling Code	223.8kHz
11	390	Chamberlain	Green	295.7kHz
12	390	Chamberlain	Orange/Red	111.8kHz
13	390	Chamberlain	Yellow	255.7kHz
14	390	Genie Legacy	9 position DIP switch	299.7kHz
15	390	Genie Legacy	12 position DIP switch	289.7kHz
16	390	OHD Trinary	9 Position DIP switch	111.8kHz
17	390	Chamberlain Legacy	9 position DIP switch	184.8kHz
18	390	Genie	IC1	151.8kHz
19	390	Genie	IC2	151.8kHz
20	433.92	FAAC	Rolling Code	144.9kHz

6. Other Test Conditions

6.1. Test Personnel and Witnesses

All tests were performed by qualified personnel from Elite Electronic Engineering Incorporated. The test series was witnessed by Genie Company personnel.

6.2. Disposition of the EUT

The EUT and all associated equipment were returned to Genie Company upon completion of the tests.

7. Conclusions

It was determined that Genie Company Universal Keypad transmitter, Model No. UKEP, Serial No. 001, did fully meet the emission requirements of the FCC "Code of Federal Regulations" Title 47, Part 15, Subpart C, Section 15.205 et seq. for Intentional Radiators, when tested per ANSI C63.10-2013.

It was also determined that Genie Company Universal Keypad, Model No. UKEP, Serial No. 001, did fully meet the RF emission requirements of the Innovation, Science, and Economic Development Canada Radio Standards Specification, RSS-Gen, RSS-210, Annex 1 for transmitters, when tested per ANSI C63.10-2013.

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 as operated by Genie Company personnel. 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	
NTA4	BILOG ANTENNA	TESEQ	6112D	46660	20-2000GHZ	9/23/2019	9/23/2020
NWQ1	DOUBLE RIDGED WAVEGUIDE ANTENNA	ETS-LINDGREN	3117	66655	1GHZ-18GHZ	4/10/2018	4/10/2020
RBG2	EMI ANALYZER	ROHDE & SCHWARZ	ESW44	101591	2HZ-44GHZ	2/21/2019	2/21/2020
WKA1	SOFTWARE, UNIVERSAL RCV EMI	ELITE	UNIV_RCV_EMI	1	---	I/O	

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.

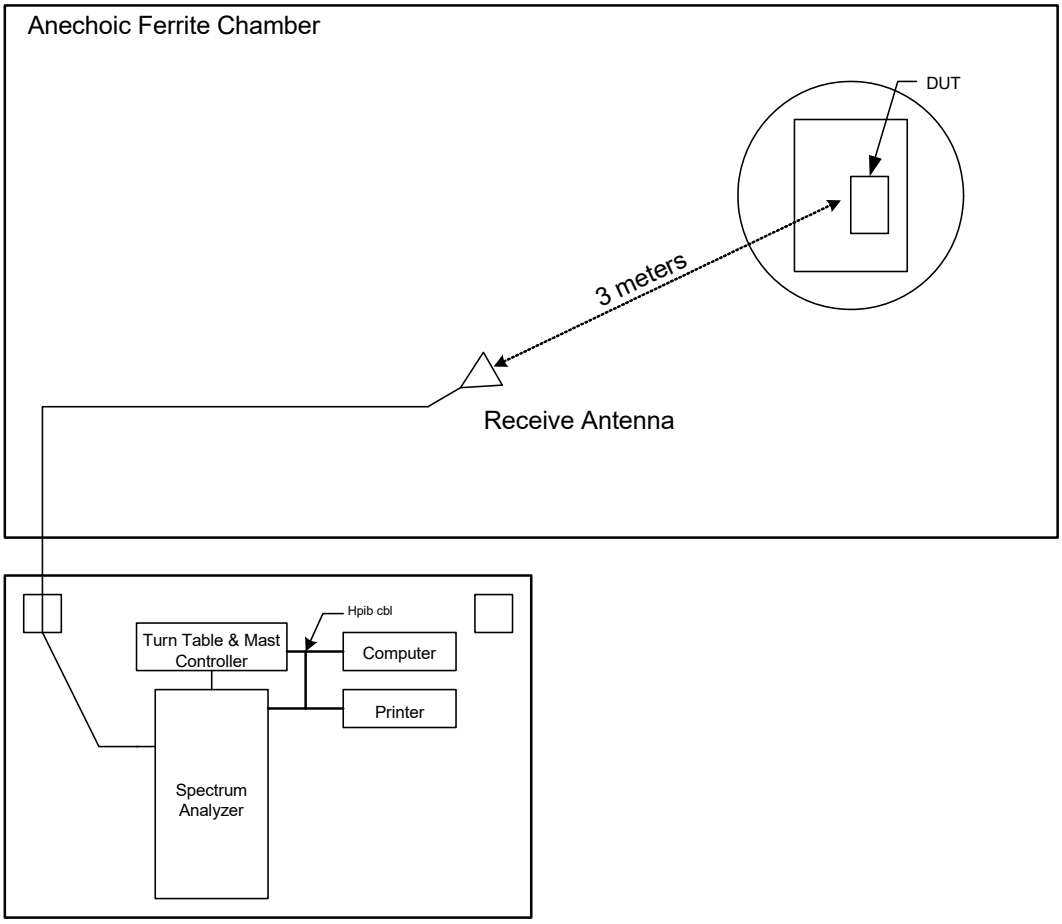


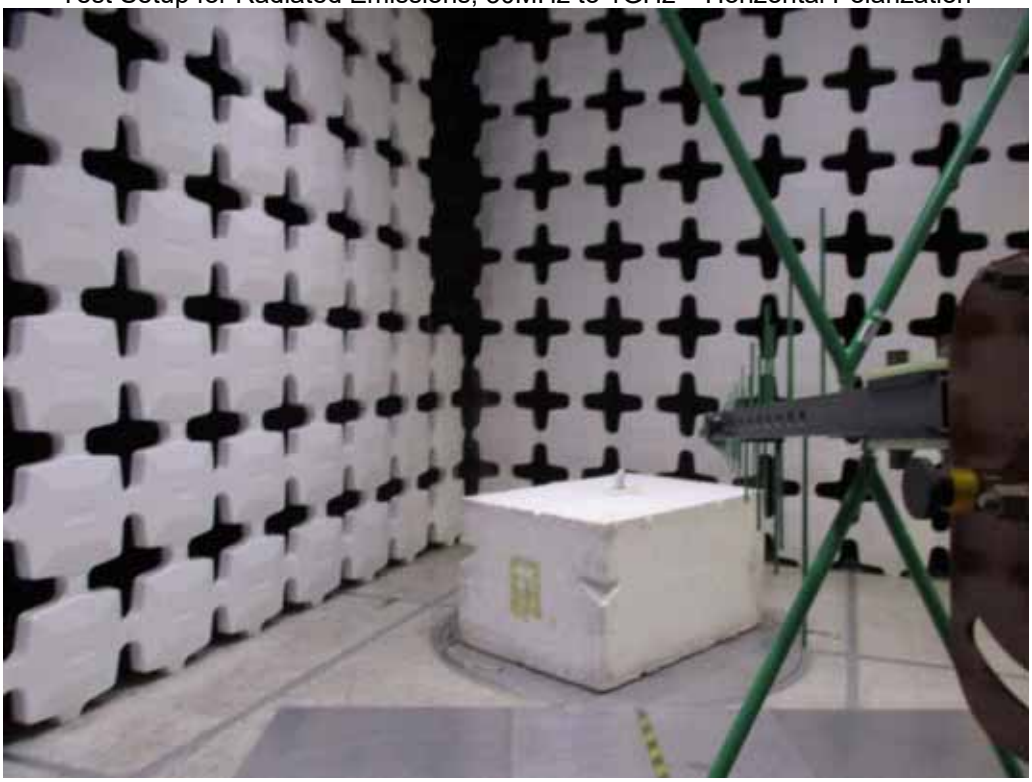
FIGURE 1 BLOCKDIAGRAM OF TEST SETUP

Figure 2

Photograph of the EUT

Figure 3

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

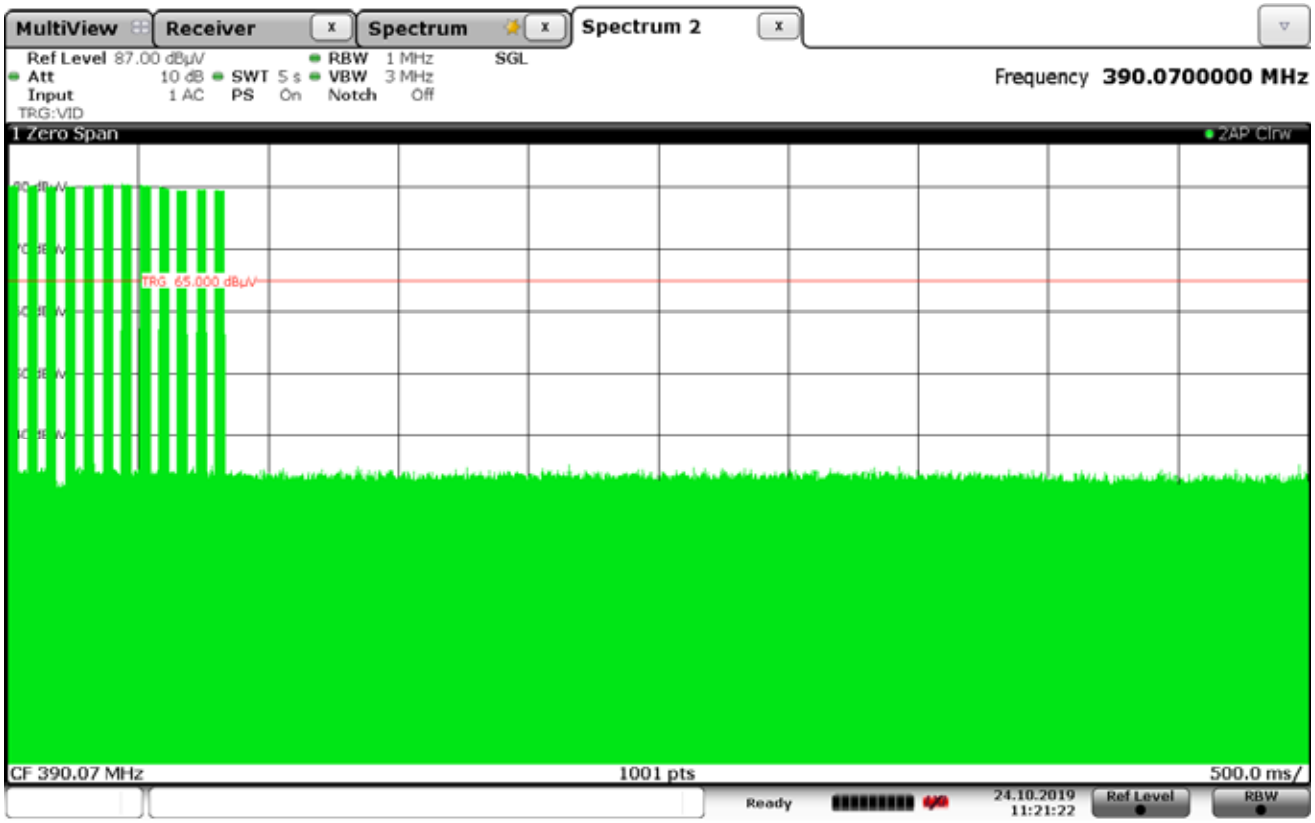


Test Setup for Radiated Emissions, 30MHz to 1GHz – Vertical Polarization

Figure 4

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

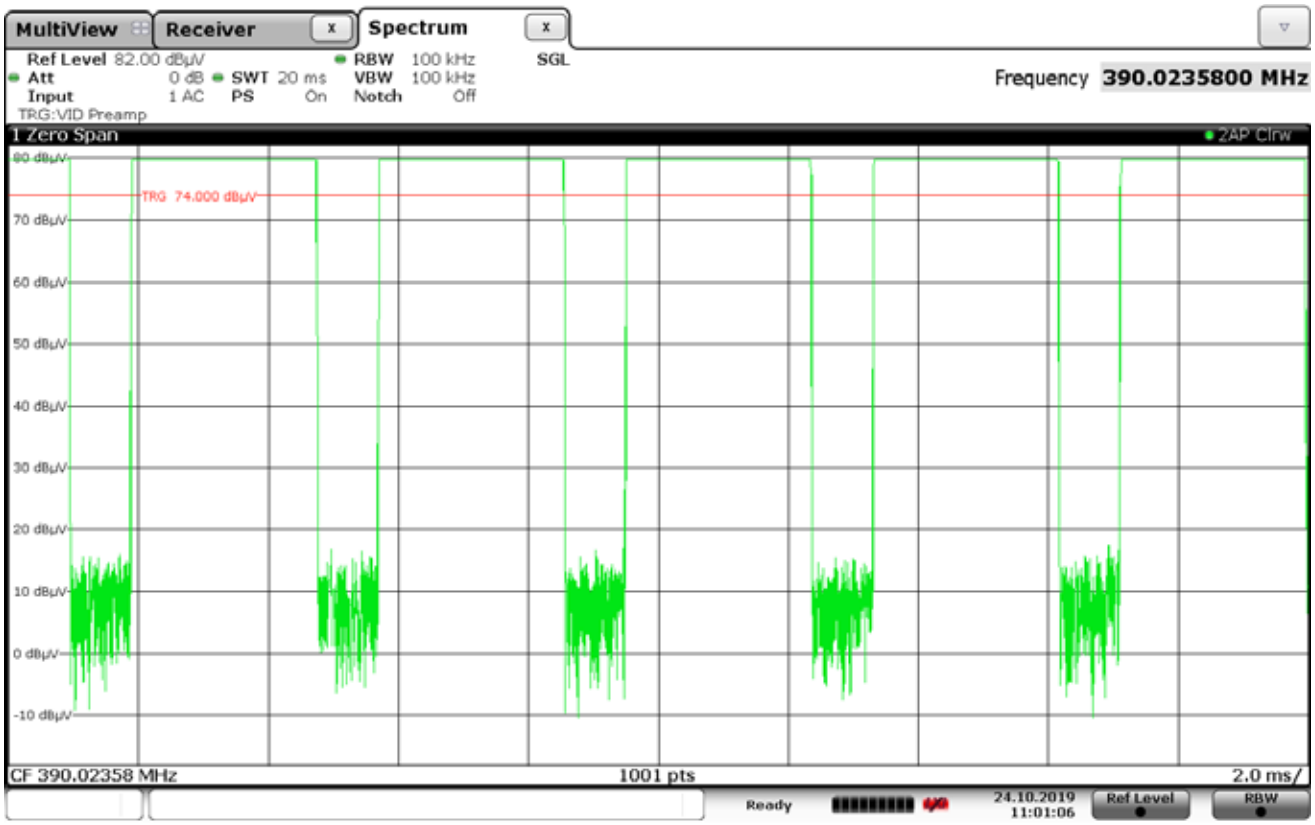
Test Setup for Radiated Emissions, Above 1GHz – Vertical Polarization



Date: 24.OCT.2019 11:21:22

FCC 15C 15.231(a)(1) and ISED RSS-210 A.1.1(a) Periodic Operation

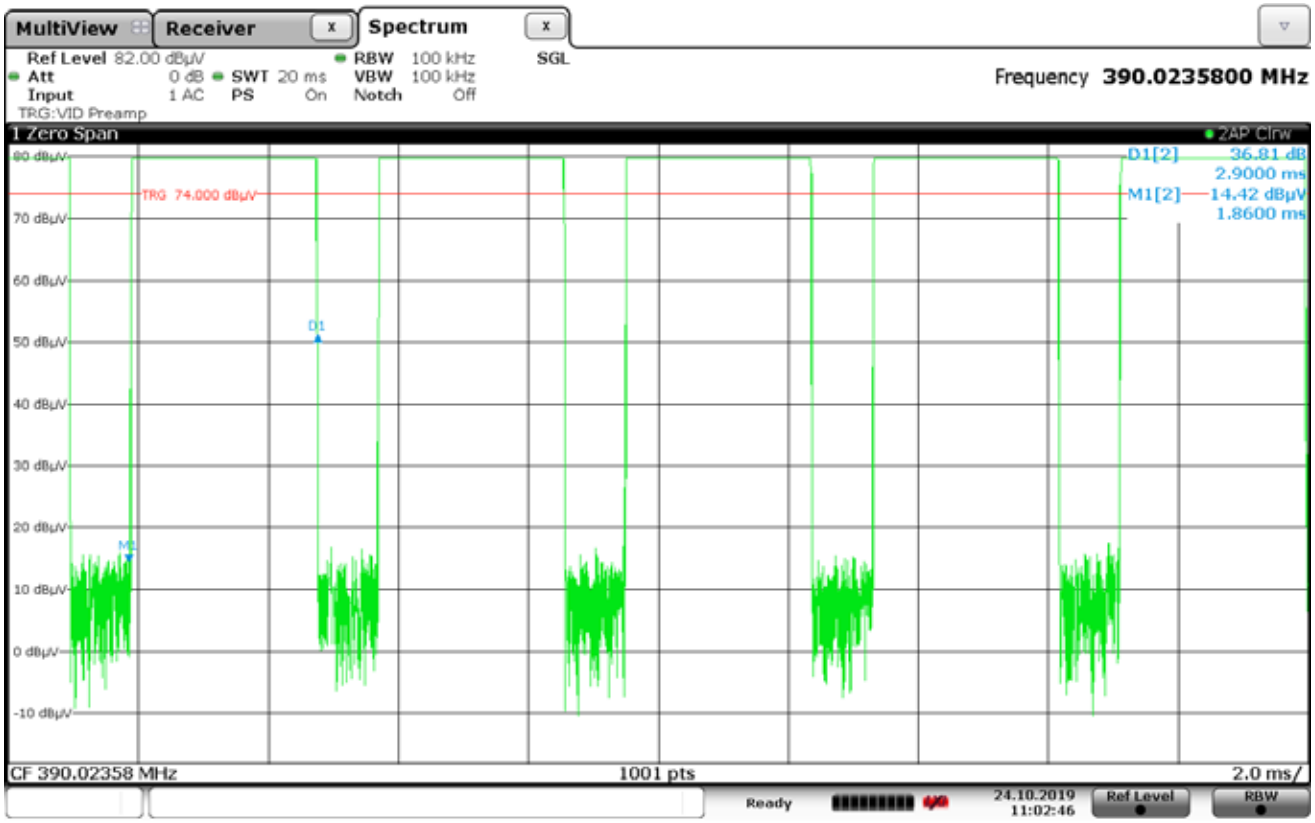
MANUFACTURER : Genie Company
MODEL NUMBER : UKEP
TEST MODE : TX @ 390MHz
NOTES: : OHD 9 Position DIP Switch Trinary



Date: 24.OCT.2019 11:01:06

FCC 15C 15.35 / Duty Cycle

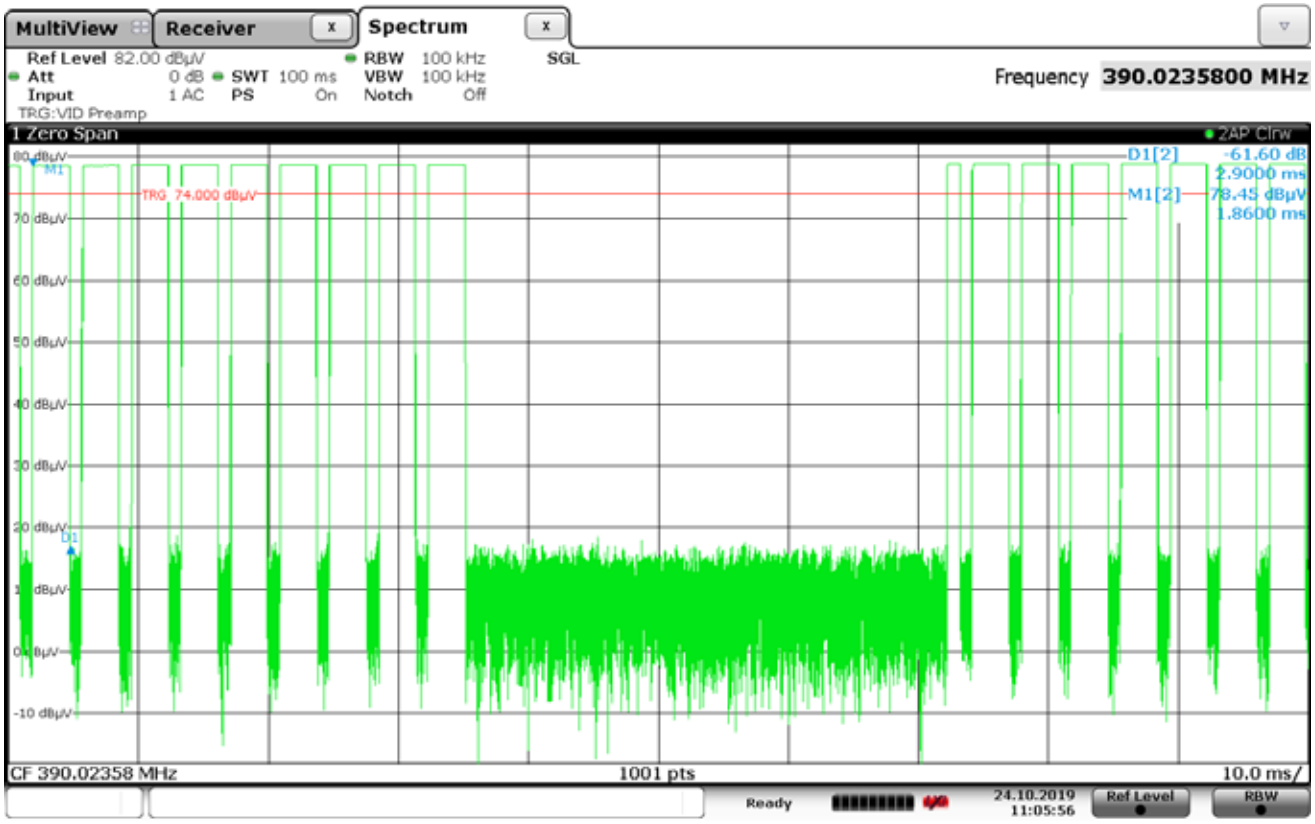
MANUFACTURER : Genie Company
MODEL NUMBER : UKEP
TEST MODE : Tx @ 390MHz
NOTES : OHD 9 Position DIP Switch Trinary
NOTES : First Pulse is 960 usec



Date: 24.OCT.2019 11:02:46

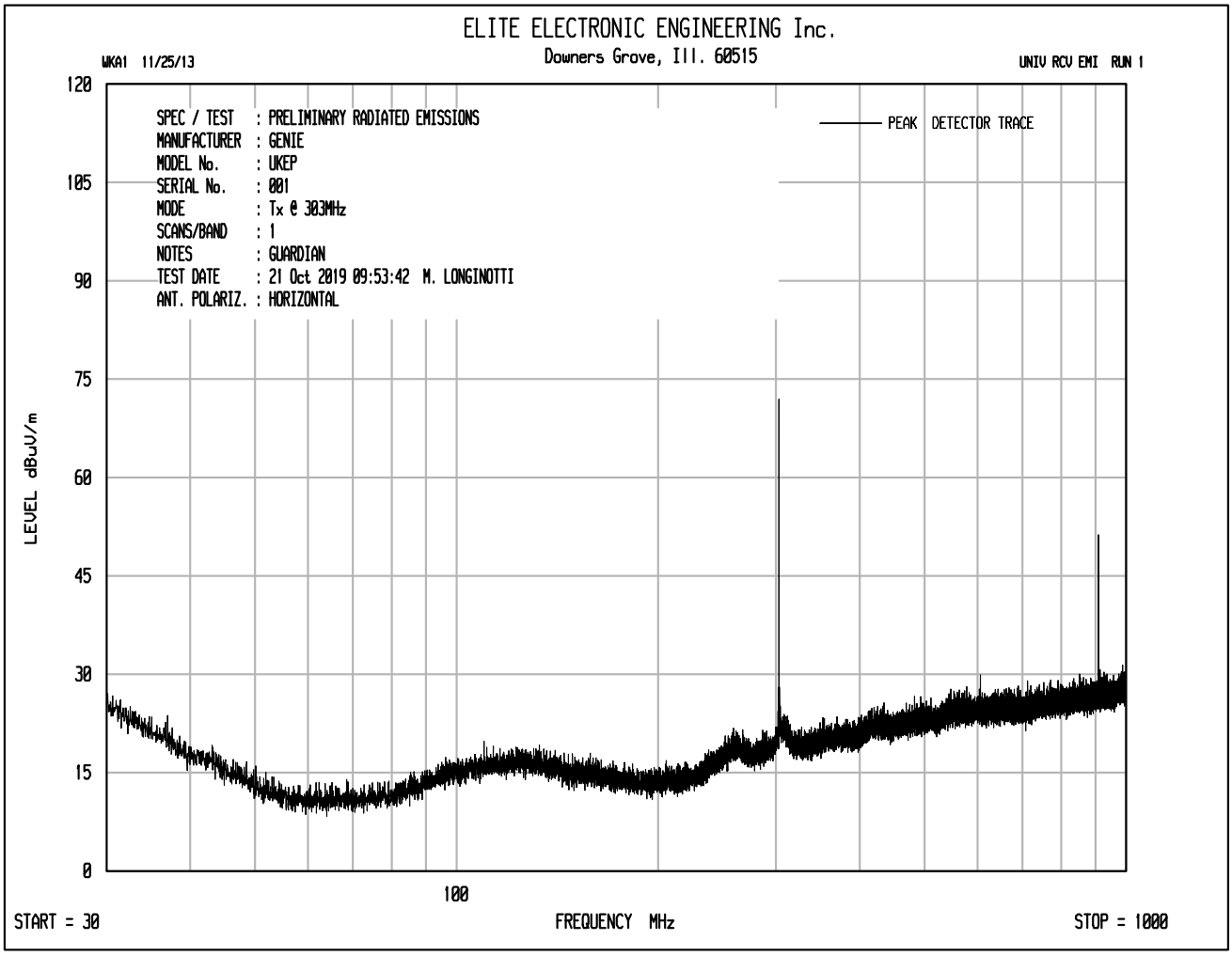
FCC 15C 15.35 / Duty Cycle

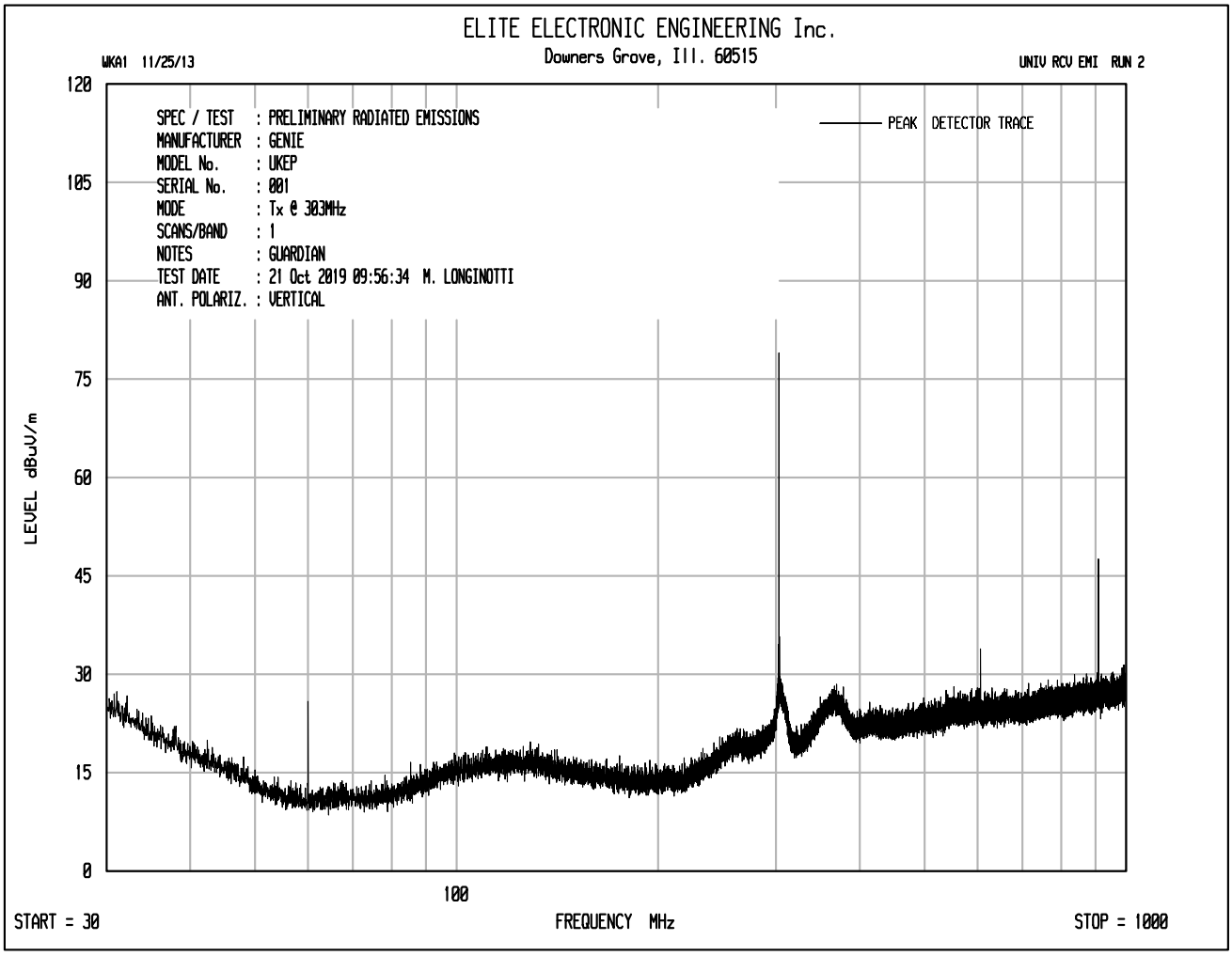
MANUFACTURER : Genie Company
MODEL NUMBER : UKEP
TEST MODE : Tx @ 390MHz
NOTES : OHD 9 Position DIP Switch Trinary
NOTES : Pulse width is 2.9msec

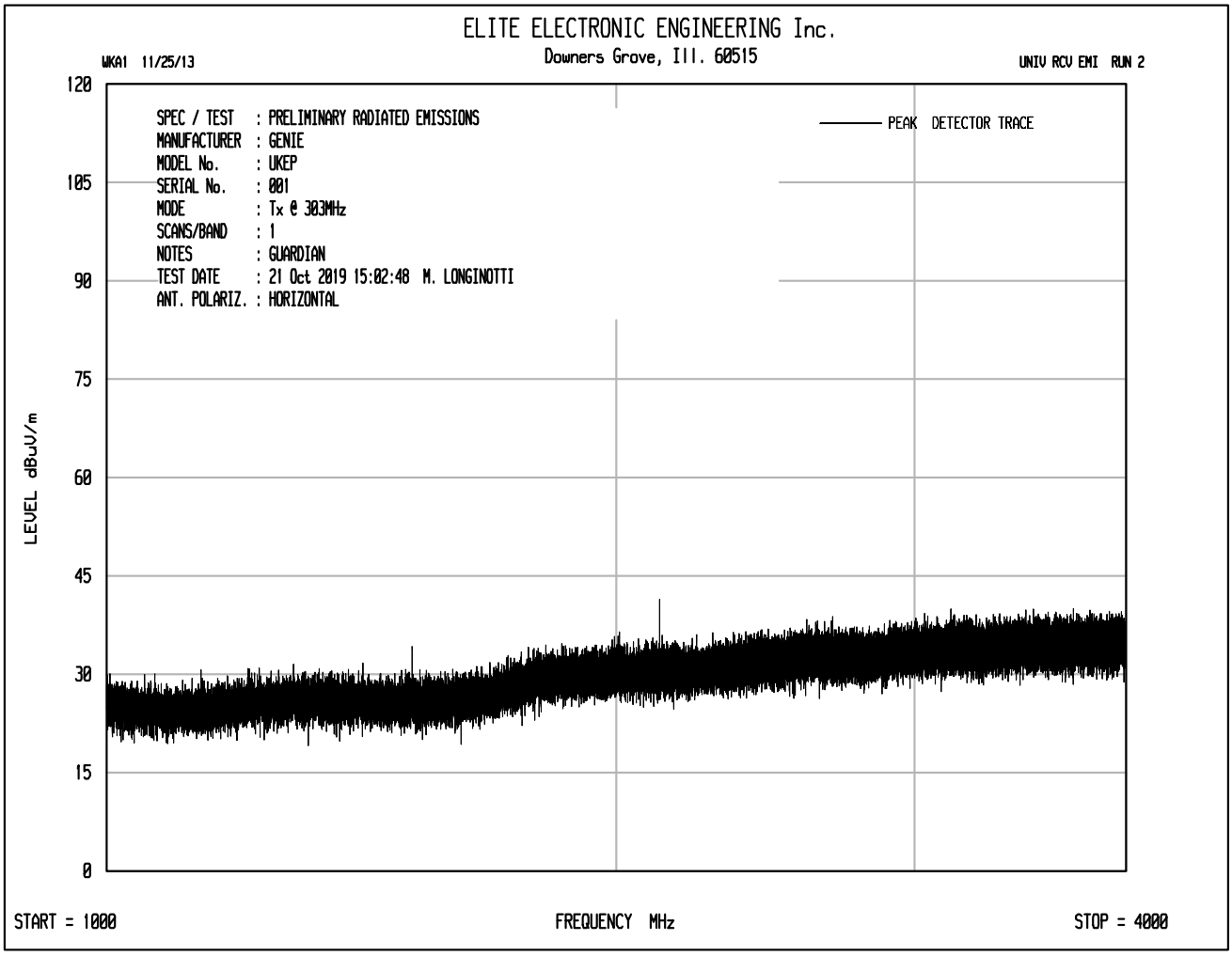


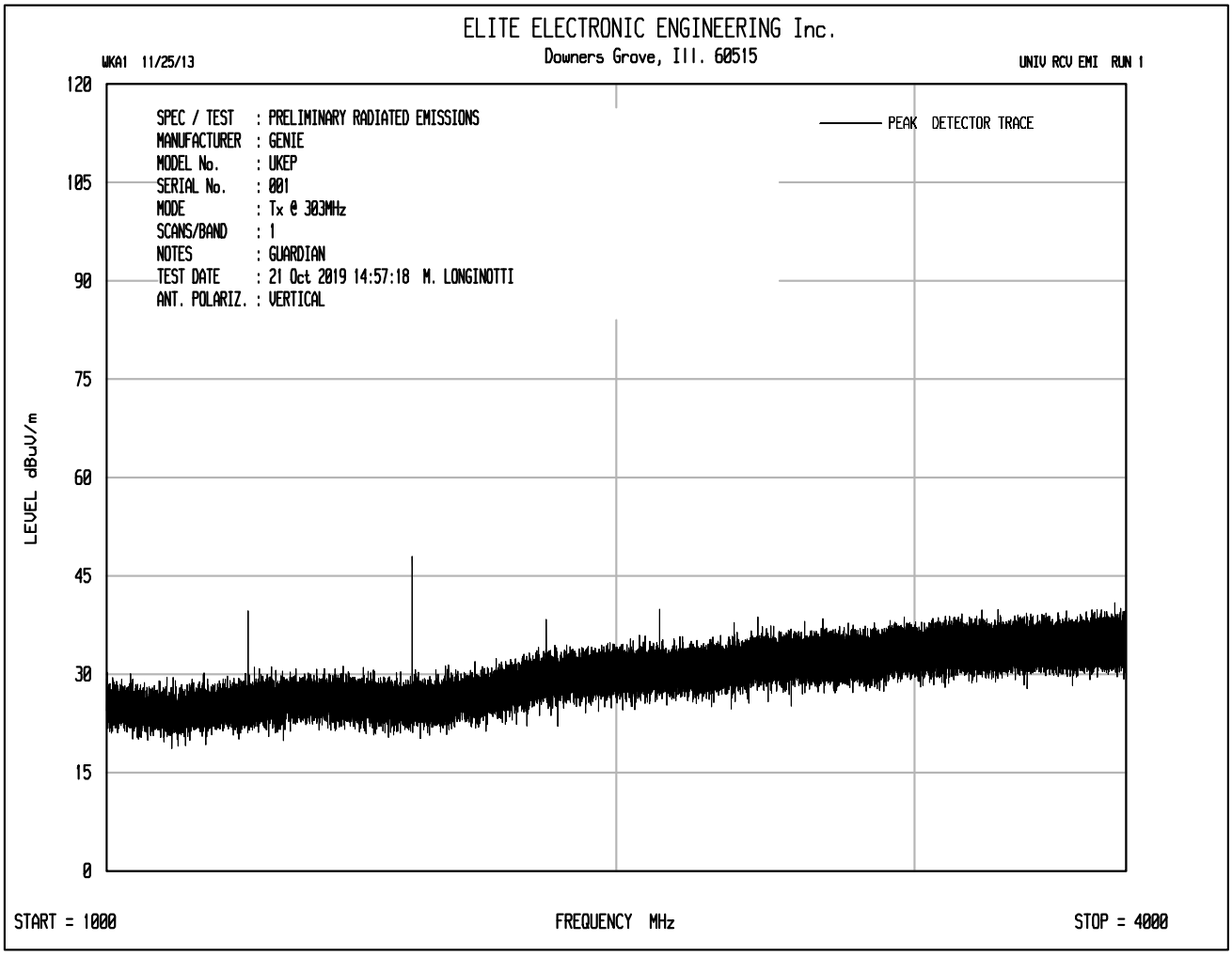
FCC 15C 15.35 / Duty Cycle

MANUFACTURER : Genie Company
MODEL NUMBER : UKEP
TEST MODE : Tx @ 390MHz
NOTES : OHD 9 Position DIP Switch Trinary (all DIP switches in the UP position)
NOTES : 100msec time
NOTES : Duty Cycle calculation was based on 2 short pulses and 16 long pulses =
: 2 x 960 usec + 16 x 2.9msec = 48.32msec
: Duty Cycle = 20 x log(48.32msec/100msec) = -6.3dB


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 1
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 303MHz
SCANS/BAND : 1
NOTES : GUARDIAN
TEST DATE : 21 Oct 2019 09:53:42 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
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 : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 303MHz
SCANS/BAND : 1
NOTES : GUARDIAN
TEST DATE : 21 Oct 2019 09:56:34 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
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 : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 303MHz
SCANS/BAND : 1
NOTES : GUARDIAN
TEST DATE : 21 Oct 2019 15:02:48 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 : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 303MHz
SCANS/BAND : 1
NOTES : GUARDIAN
TEST DATE : 21 Oct 2019 14:57:18 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

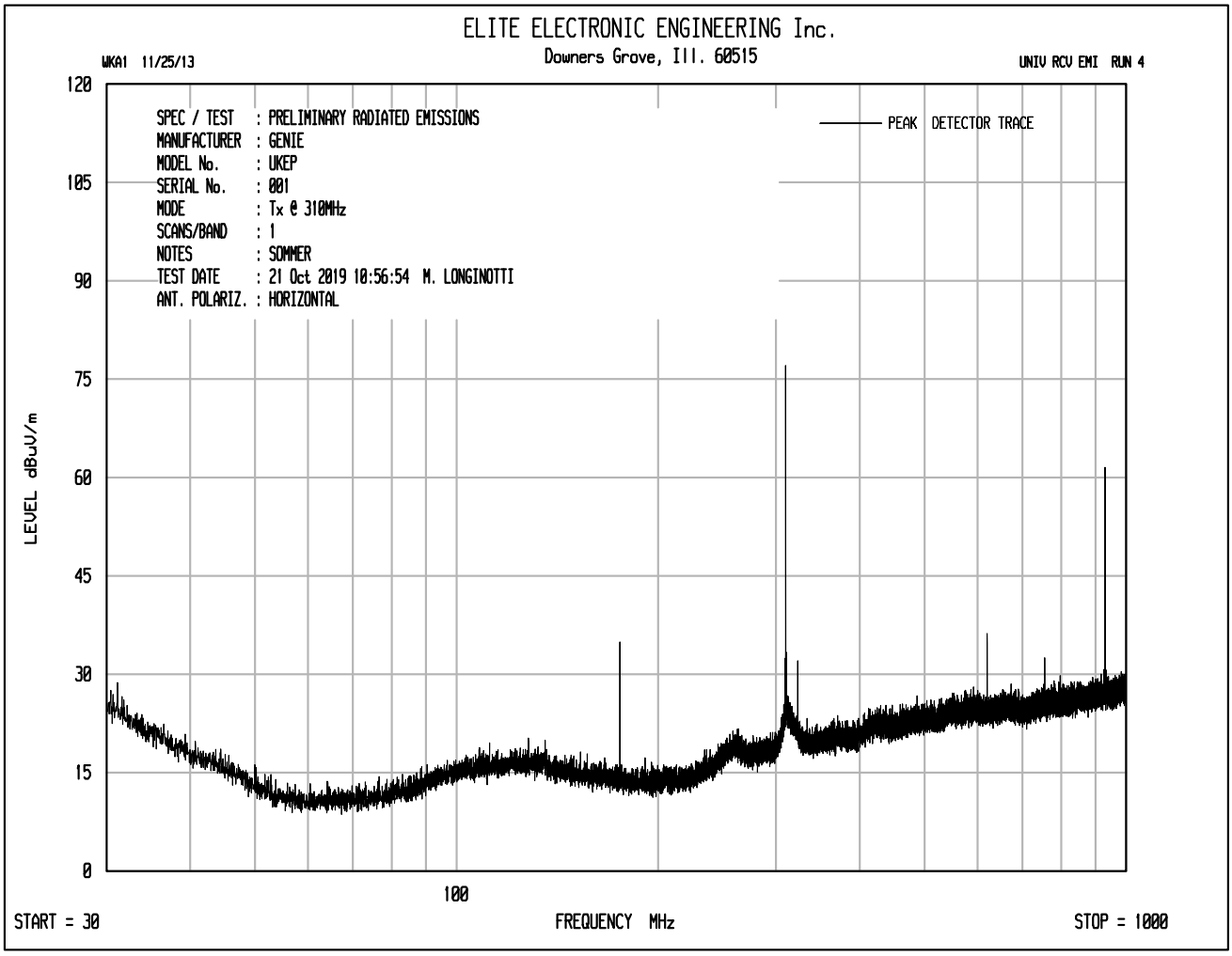
RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

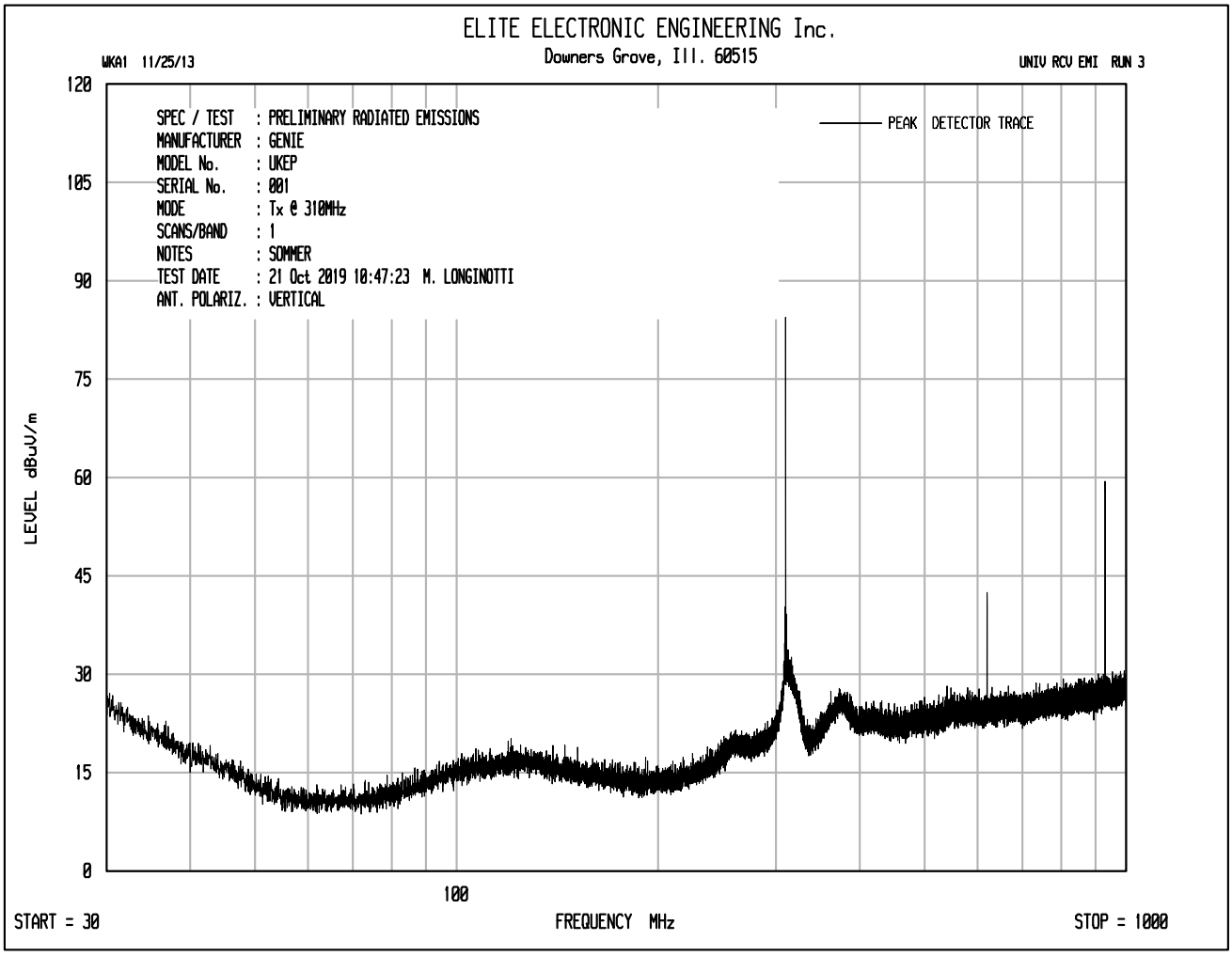
MANUFACTURER	:	Genie Company
MODEL NO.	:	UKEP
TEST MODE	:	Guardian Tx @ 303MHz
NOTES	:	
TEST DATE	:	October 21, 2019 through October 24, 2019

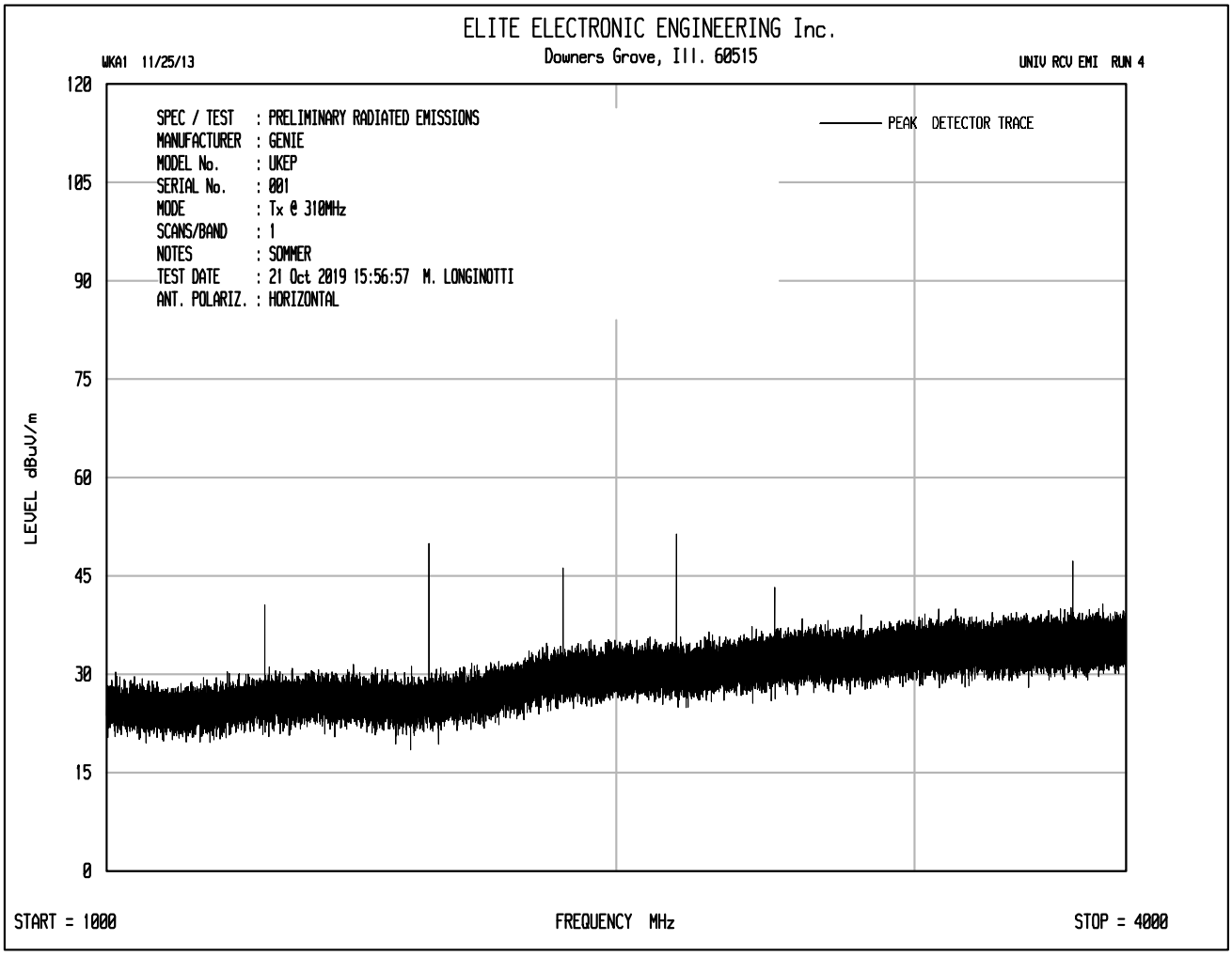
Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
303.000	H	51.9		0.9	19.5	0.0	-7.2	65.0	1788.3	5541.7	-9.8
303.000	V	58.9		0.9	19.5	0.0	-7.2	72.0	4003.4	5541.7	-2.8
606.000	H	6.0		1.3	24.8	0.0	-7.2	24.9	17.6	554.2	-30.0
606.000	V	9.2		1.3	24.8	0.0	-7.2	28.1	25.4	554.2	-26.8
909.000	H	25.6		1.6	26.7	0.0	-7.2	46.6	214.2	554.2	-8.3
909.000	V	23.1		1.6	26.7	0.0	-7.2	44.1	160.6	554.2	-10.8
1212.000	H	17.1		1.8	28.7	0.0	-7.2	40.4	104.2	500.0	-13.6
1212.000	V	17.3		1.8	28.7	0.0	-7.2	40.6	106.6	500.0	-13.4
1515.000	H	17.7		2.0	27.8	0.0	-7.2	40.3	103.6	500.0	-13.7
1515.000	V	23.0		2.0	27.8	0.0	-7.2	45.6	190.7	500.0	-8.4
1818.000	H	16.1		2.2	30.6	0.0	-7.2	41.7	122.1	554.2	-13.1
1818.000	V	17.0		2.2	30.6	0.0	-7.2	42.6	135.4	554.2	-12.2
2121.000	H	19.0		2.4	31.5	0.0	-7.2	45.6	191.5	554.2	-9.2
2121.000	V	19.1		2.4	31.5	0.0	-7.2	45.7	193.7	554.2	-9.1
2424.000	H	18.3	Ambient	2.6	32.3	0.0	-7.2	46.0	199.5	554.2	-8.9
2424.000	V	16.6	Ambient	2.6	32.3	0.0	-7.2	44.3	164.0	554.2	-10.6
2727.000	H	17.2	Ambient	2.8	32.5	0.0	-7.2	45.3	184.1	500.0	-8.7
2727.000	V	16.7	Ambient	2.8	32.5	0.0	-7.2	44.8	173.8	500.0	-9.2
3030.000	H	16.8	Ambient	3.0	32.7	0.0	-7.2	45.2	182.3	554.2	-9.7
3030.000	V	17.8	Ambient	3.0	32.7	0.0	-7.2	46.2	204.5	554.2	-8.7

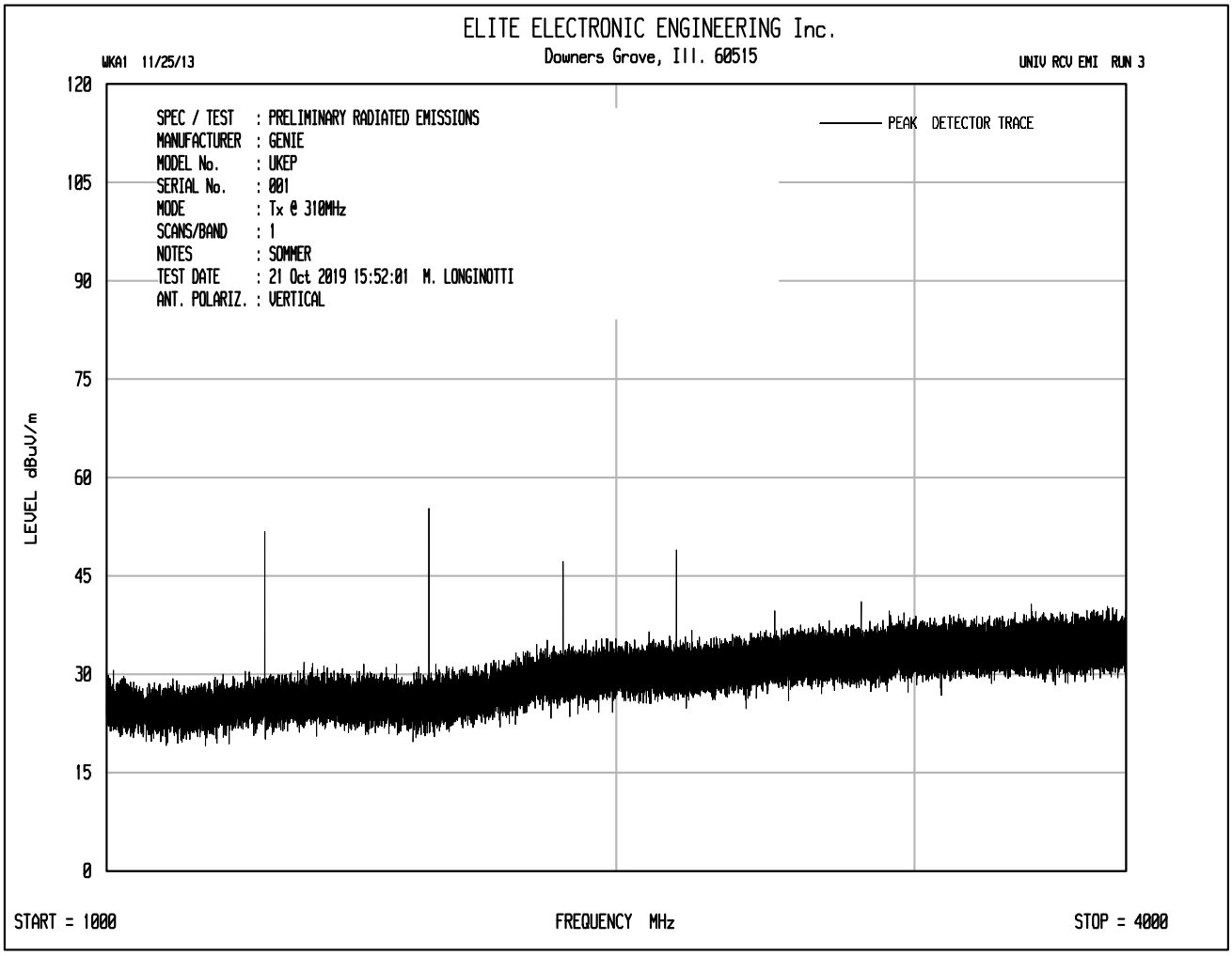
Checked By: MARK E. LONGINOTTI

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 : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 310MHz
SCANS/BAND : 1
NOTES : SOMMER
TEST DATE : 21 Oct 2019 10:56:54 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
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 : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 310MHz
SCANS/BAND : 1
NOTES : SOMMER
TEST DATE : 21 Oct 2019 10:47:23 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
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 : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 310MHz
SCANS/BAND : 1
NOTES : SOMMER
TEST DATE : 21 Oct 2019 15:56:57 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 : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 310MHz
SCANS/BAND : 1
NOTES : SOMMER
TEST DATE : 21 Oct 2019 15:52:01 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

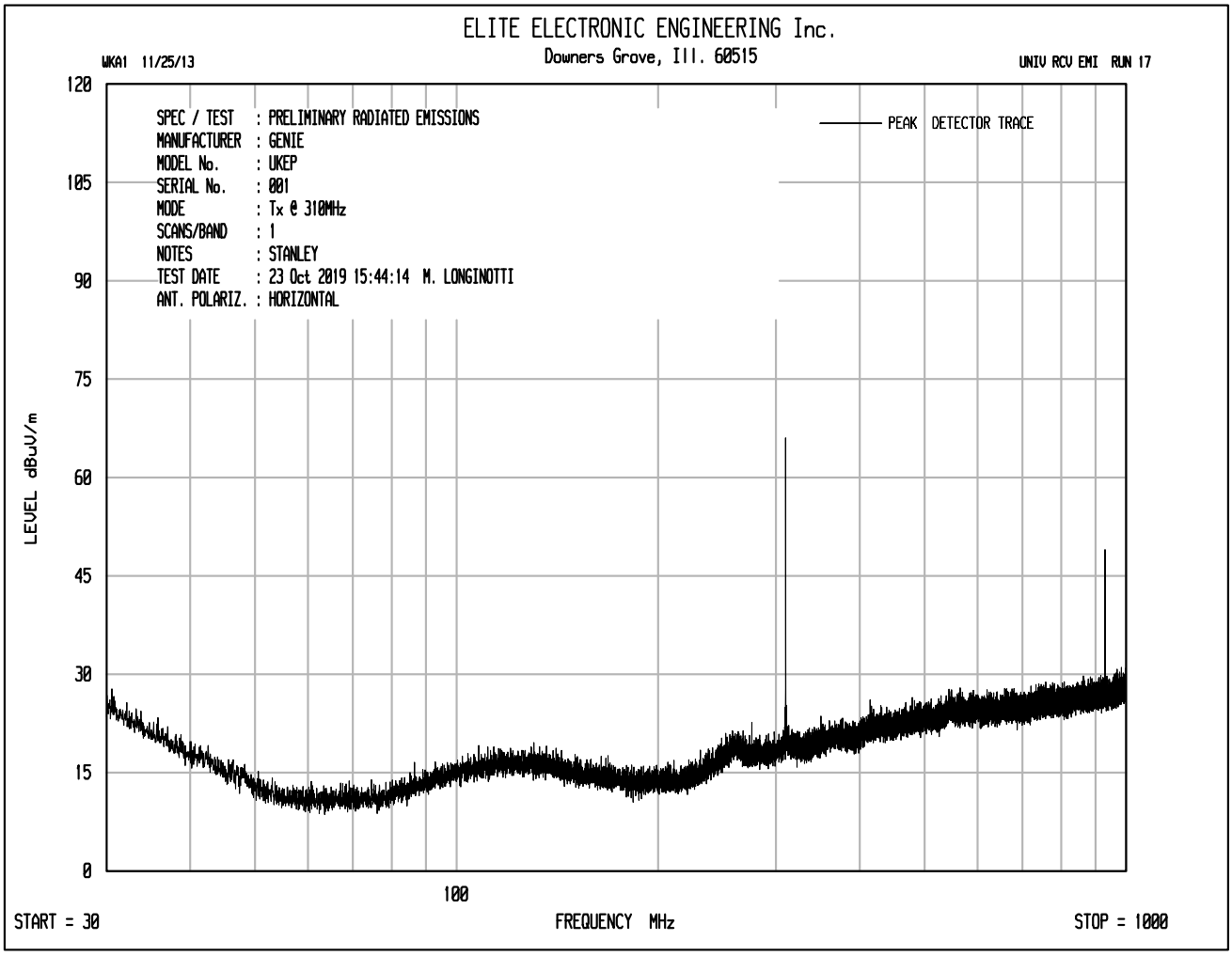
RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

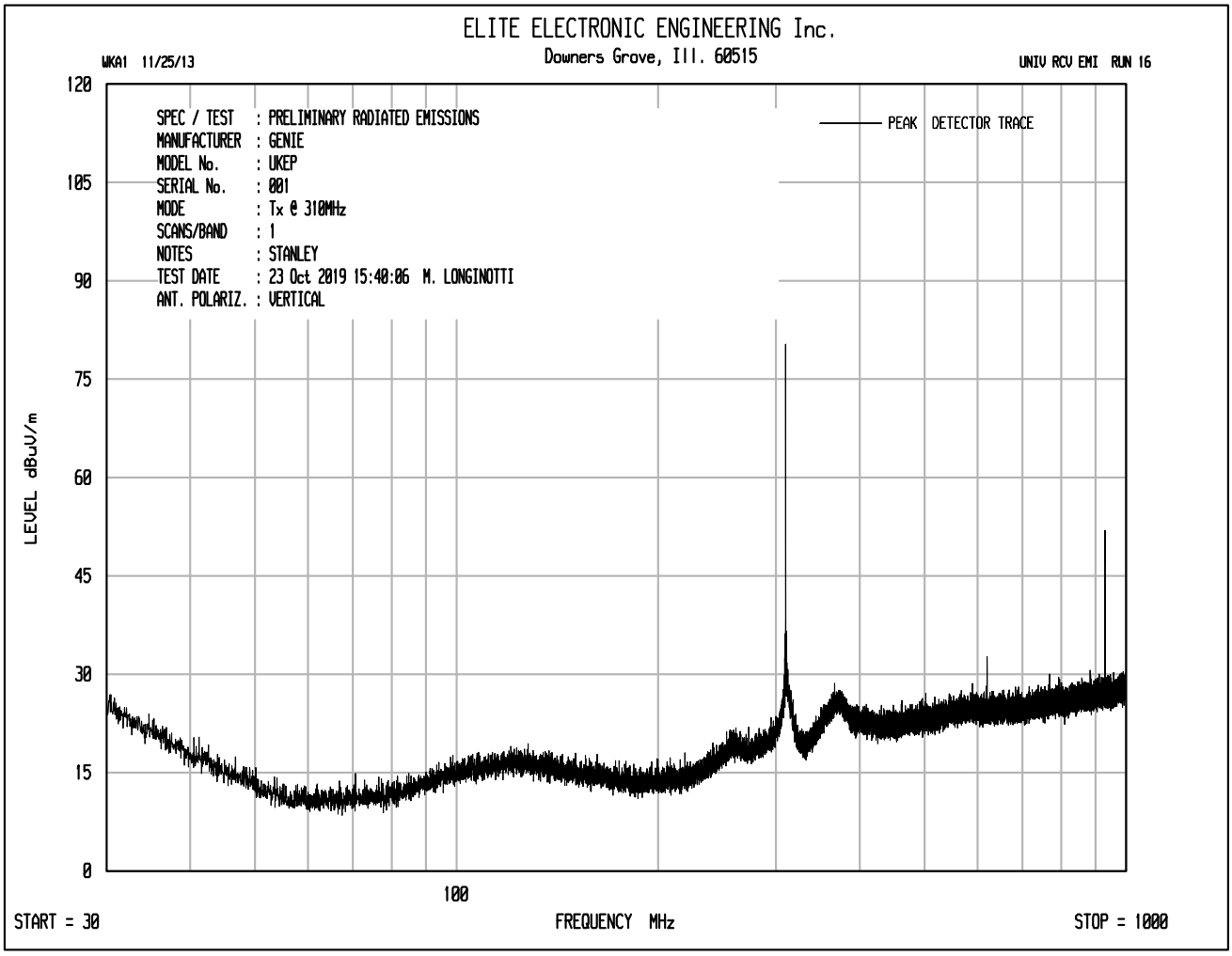
MANUFACTURER	:	Genie Company
MODEL NO.	:	UKEP
TEST MODE	:	Sommer Tx @ 310MHz
NOTES	:	
TEST DATE	:	October 21, 2019 through October 24, 2019

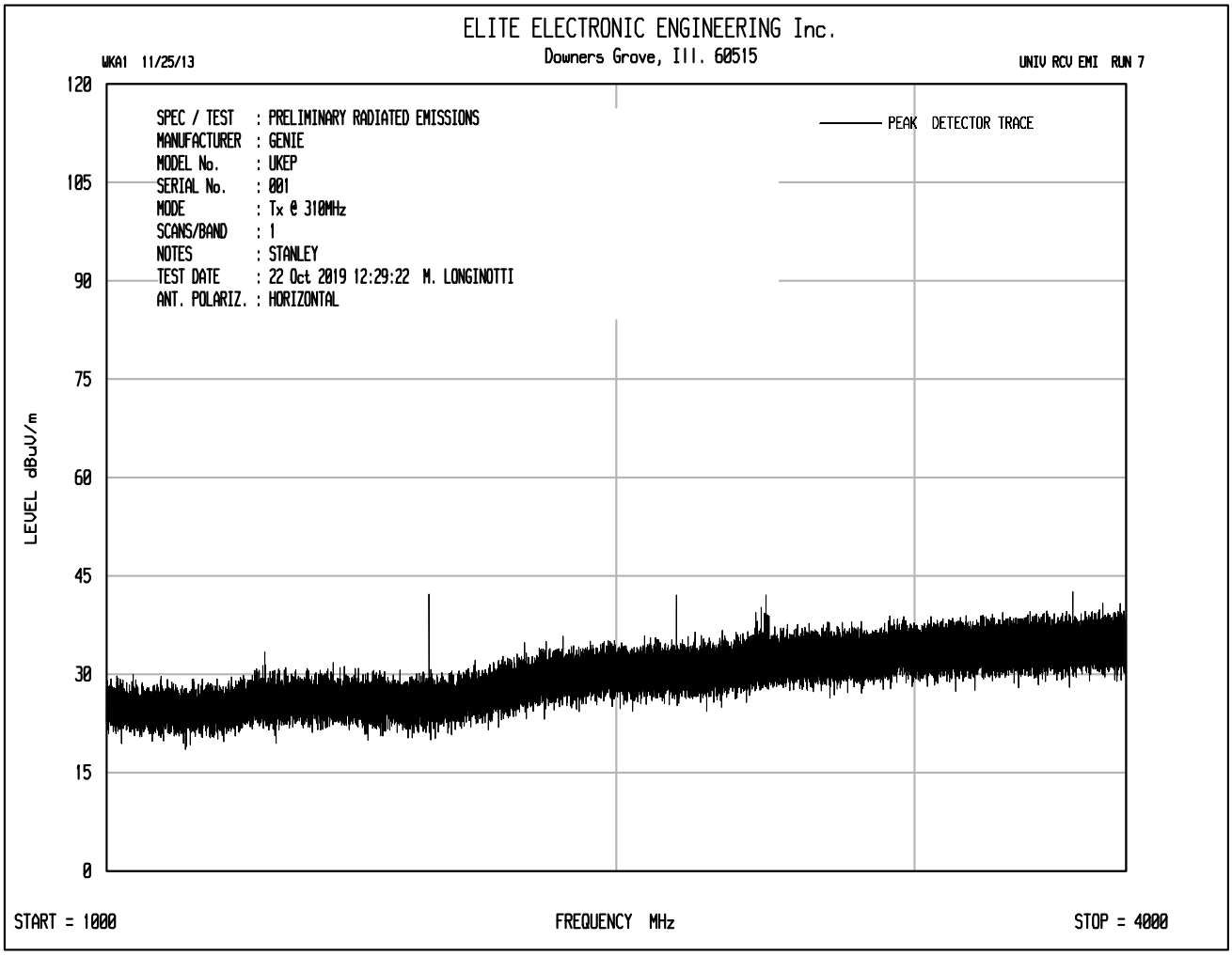
Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
310.000	H	56.7		0.9	19.7	0.0	-11.8	65.5	1872.9	5833.3	-9.9
310.000	V	64.0		0.9	19.7	0.0	-11.8	72.8	4340.2	5833.3	-2.6
620.000	H	21.7		1.3	25.0	0.0	-11.8	36.1	64.1	583.3	-19.2
620.000	V	11.6		1.3	25.0	0.0	-11.8	26.0	20.0	583.3	-29.3
930.000	H	35.6		1.6	26.7	0.0	-11.8	52.0	400.3	583.3	-3.3
930.000	V	33.9		1.6	26.7	0.0	-11.8	50.3	329.1	583.3	-5.0
1240.000	H	17.2		1.8	29.0	0.0	-11.8	36.2	64.7	500.0	-17.8
1240.000	V	24.0		1.8	29.0	0.0	-11.8	43.0	141.5	500.0	-11.0
1550.000	H	24.6		2.1	27.9	0.0	-11.8	42.8	137.4	500.0	-11.2
1550.000	V	30.6		2.1	27.9	0.0	-11.8	48.8	274.2	500.0	-5.2
1860.000	H	21.1		2.3	30.8	0.0	-11.8	42.3	130.5	583.3	-13.0
1860.000	V	21.4		2.3	30.8	0.0	-11.8	42.6	135.1	583.3	-12.7
2170.000	H	23.1		2.5	31.4	0.0	-11.8	45.1	179.7	583.3	-10.2
2170.000	V	22.1		2.5	31.4	0.0	-11.8	44.1	160.1	583.3	-11.2
2480.000	H	19.2		2.7	32.5	0.0	-11.8	42.5	133.5	583.3	-12.8
2480.000	V	19.1		2.7	32.5	0.0	-11.8	42.4	132.0	583.3	-12.9
2790.000	H	17.3		2.8	32.4	0.0	-11.8	40.7	108.6	500.0	-13.3
2790.000	V	17.6		2.8	32.4	0.0	-11.8	41.0	112.4	500.0	-13.0
3100.000	H	18.8		3.0	32.8	0.0	-11.8	42.8	137.3	583.3	-12.6
3100.000	V	17.2		3.0	32.8	0.0	-11.8	41.2	114.2	583.3	-14.2

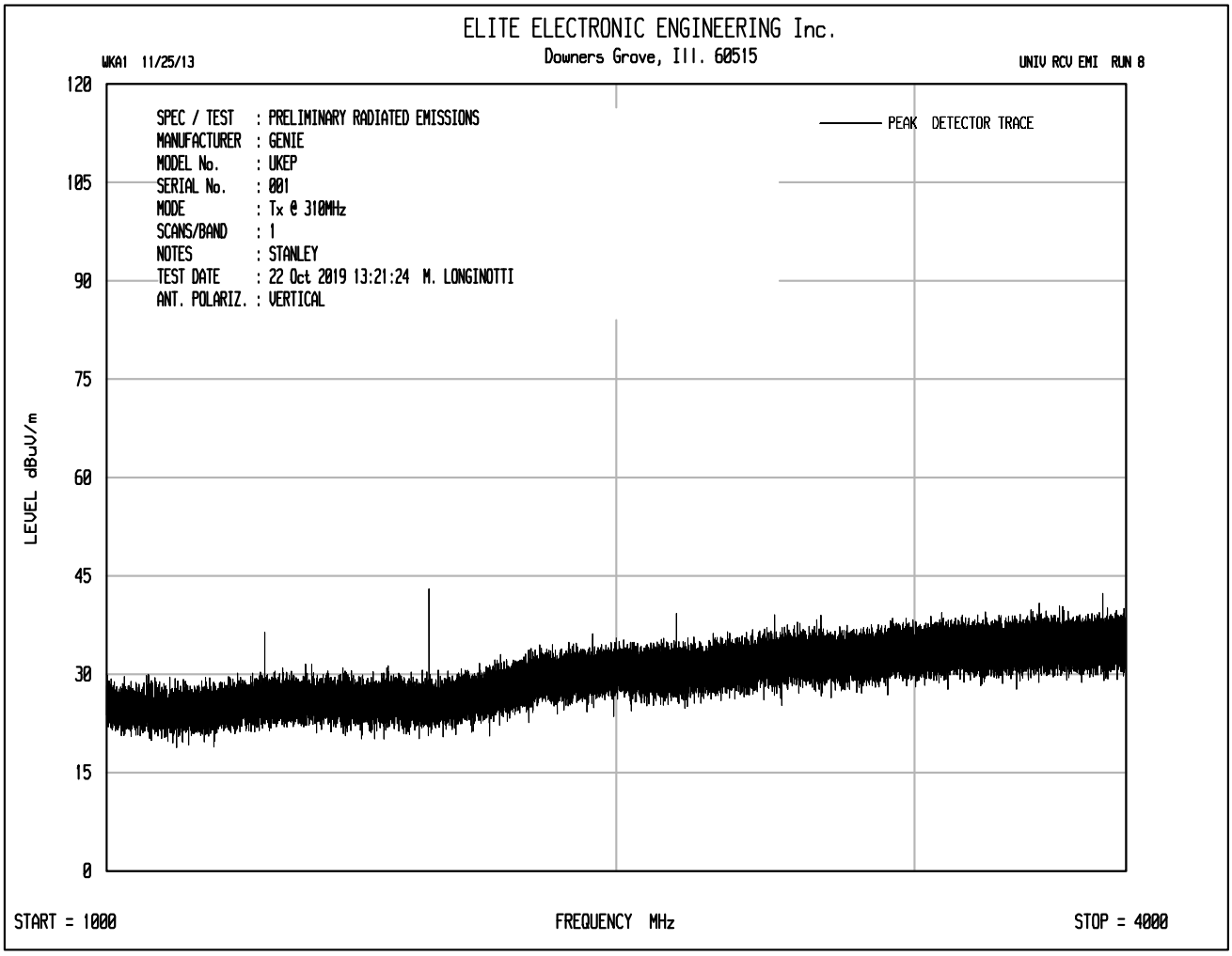
Checked By: MARK E. LONGINOTTI

Mark E. Longinotti


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 17
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 310MHz
SCANS/BAND : 1
NOTES : STANLEY
TEST DATE : 23 Oct 2019 15:44:14 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 16
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 310MHz
SCANS/BAND : 1
NOTES : STANLEY
TEST DATE : 23 Oct 2019 15:40:06 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
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 : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 310MHz
SCANS/BAND : 1
NOTES : STANLEY
TEST DATE : 22 Oct 2019 12:29:22 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 : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 310MHz
SCANS/BAND : 1
NOTES : STANLEY
TEST DATE : 22 Oct 2019 13:21:24 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

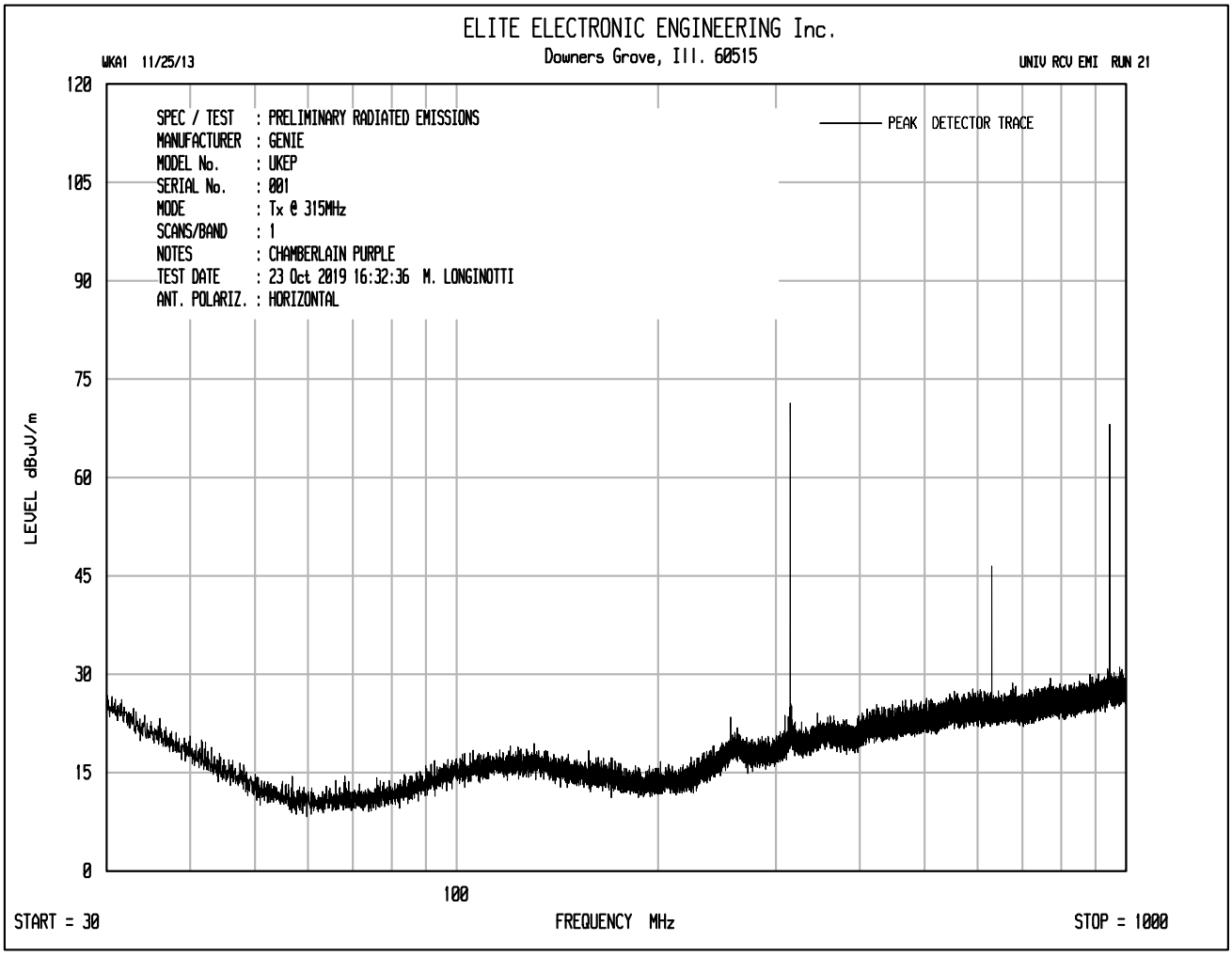
RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

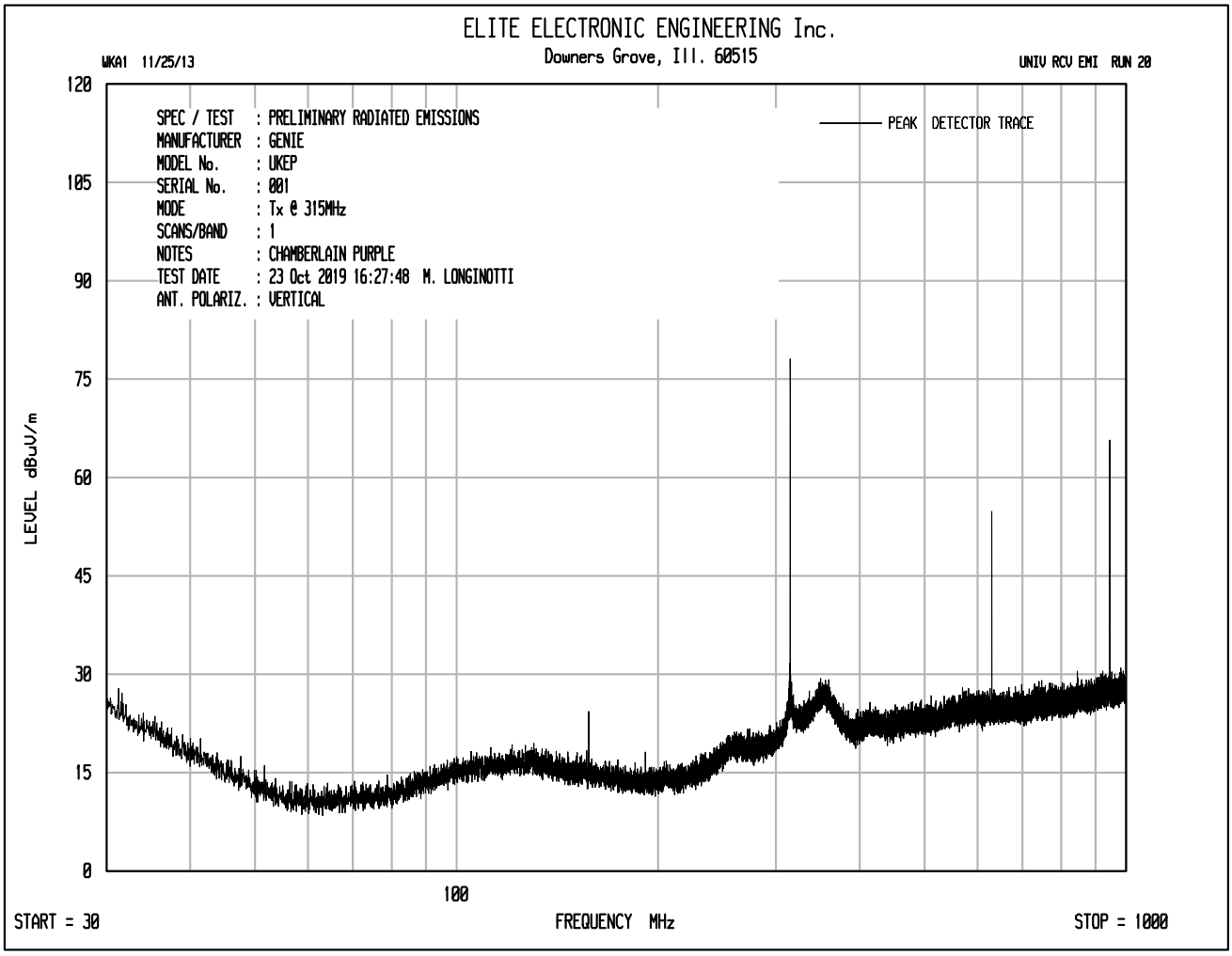
MANUFACTURER	:	Genie Company
MODEL NO.	:	UKEP
TEST MODE	:	Stanley Tx @ 310MHz
NOTES	:	
TEST DATE	:	October 21, 2019 through October 24, 2019

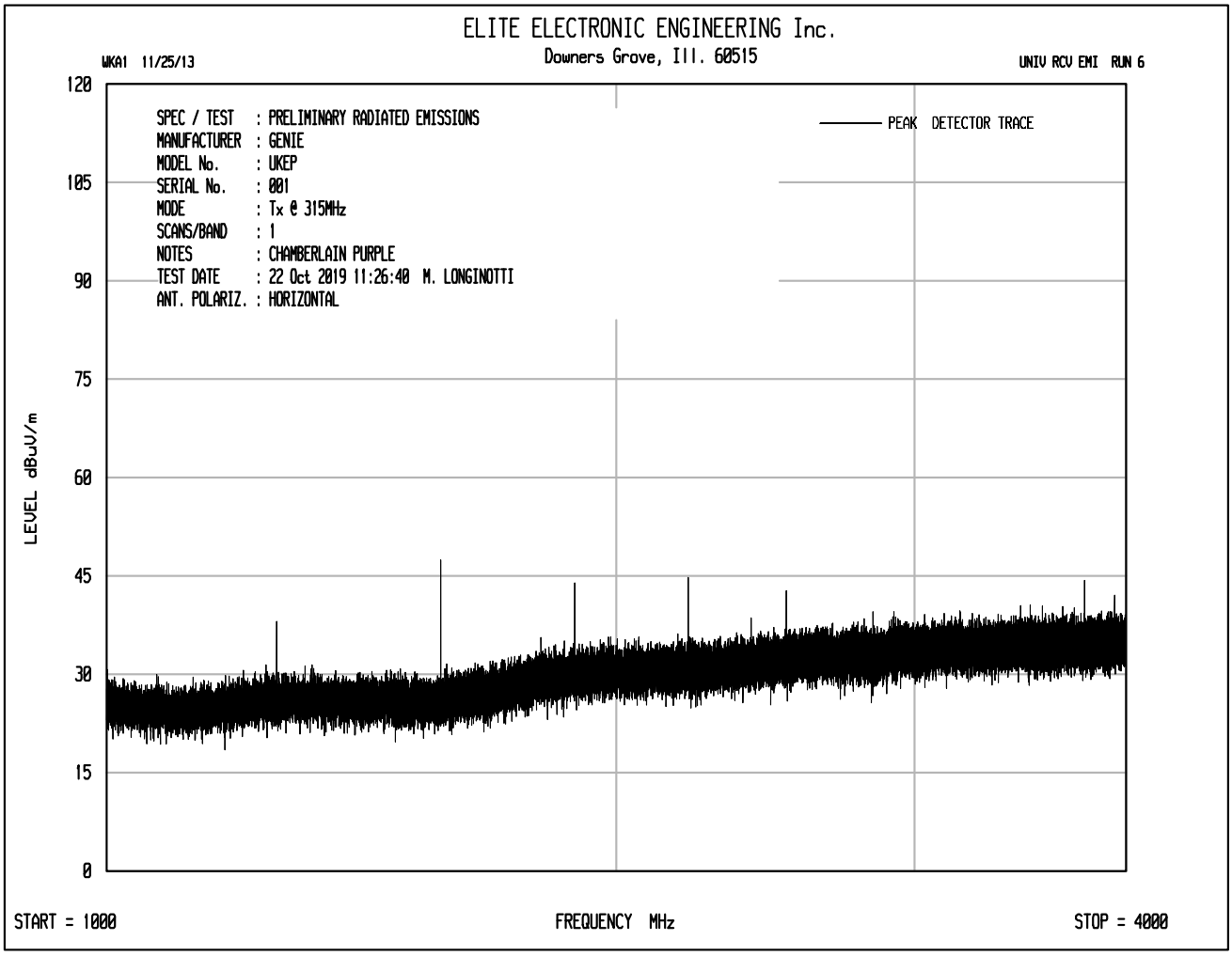
Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
310.000	H	45.7		0.9	19.7	0.0	-7.2	59.1	897.5	5833.3	-16.3
310.000	V	59.9		0.9	19.7	0.0	-7.2	73.3	4602.7	5833.3	-2.1
620.000	H	6.1		1.3	25.0	0.0	-7.2	25.1	18.1	583.3	-30.2
620.000	V	9.3		1.3	25.0	0.0	-7.2	28.3	26.1	583.3	-27.0
930.000	H	26.4		1.6	26.7	0.0	-7.2	47.5	236.0	583.3	-7.9
930.000	V	26.0		1.6	26.7	0.0	-7.2	47.1	225.4	583.3	-8.3
1240.000	H	14.0	Ambient	1.8	29.0	0.0	-7.2	37.6	76.1	500.0	-16.4
1240.000	V	16.5		1.8	29.0	0.0	-7.2	40.1	101.4	500.0	-13.9
1550.000	H	17.5		2.1	27.9	0.0	-7.2	40.3	103.2	500.0	-13.7
1550.000	V	20.3		2.1	27.9	0.0	-7.2	43.1	142.4	500.0	-10.9
1860.000	H	18.2	Ambient	2.3	30.8	0.0	-7.2	44.0	158.9	583.3	-11.3
1860.000	V	15.9	Ambient	2.3	30.8	0.0	-7.2	41.7	121.9	583.3	-13.6
2170.000	H	17.1	Ambient	2.5	31.4	0.0	-7.2	43.7	153.1	583.3	-11.6
2170.000	V	16.5	Ambient	2.5	31.4	0.0	-7.2	43.1	142.9	583.3	-12.2
2480.000	H	17.4	Ambient	2.7	32.5	0.0	-7.2	45.3	184.5	583.3	-10.0
2480.000	V	18.6	Ambient	2.7	32.5	0.0	-7.2	46.5	211.9	583.3	-8.8
2790.000	H	16.6	Ambient	2.8	32.4	0.0	-7.2	44.6	170.3	500.0	-9.4
2790.000	V	16.3	Ambient	2.8	32.4	0.0	-7.2	44.3	164.5	500.0	-9.7
3100.000	H	16.8	Ambient	3.0	32.8	0.0	-7.2	45.4	185.5	583.3	-10.0
3100.000	V	16.0	Ambient	3.0	32.8	0.0	-7.2	44.6	169.2	583.3	-10.8

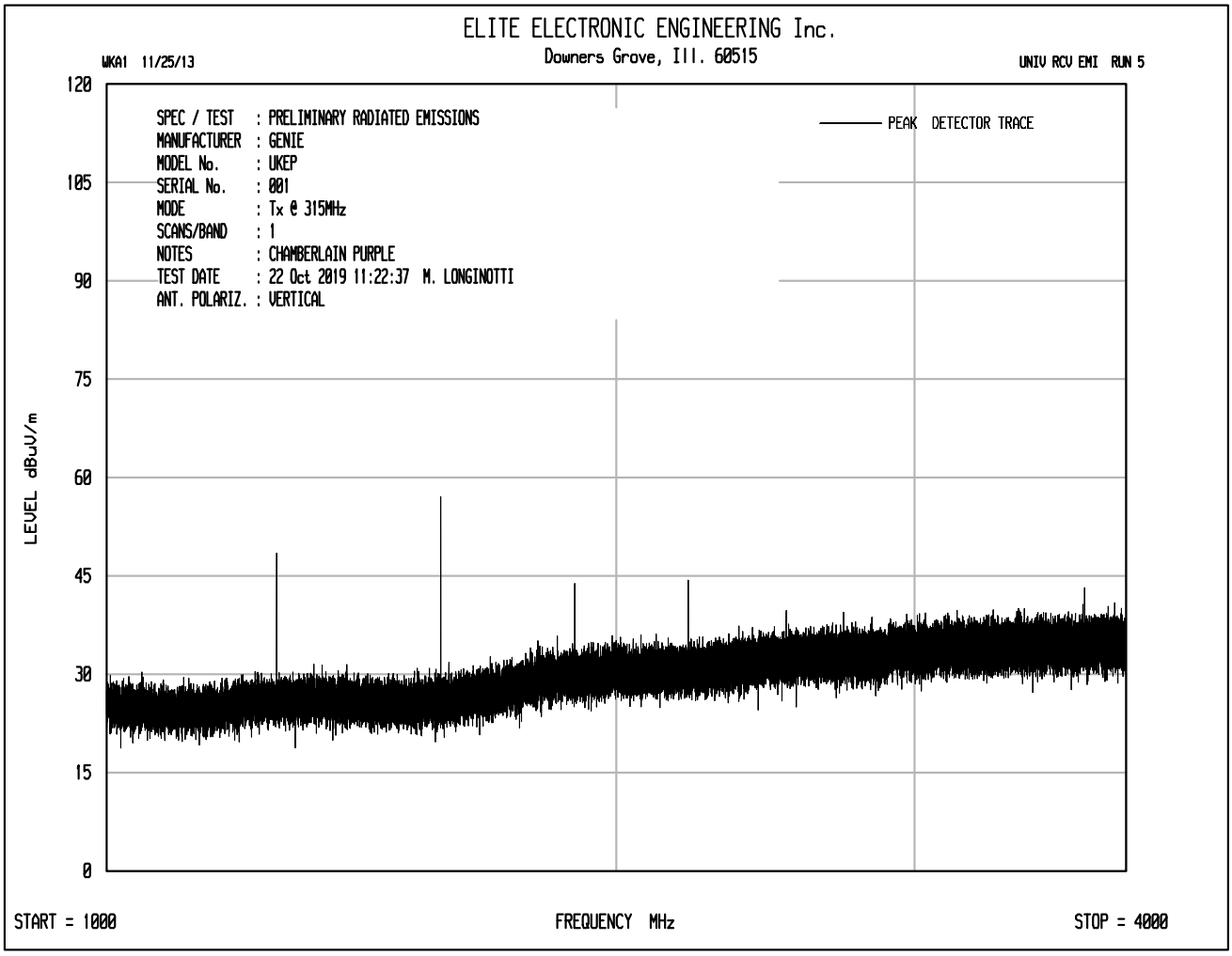
Checked By: MARK E. LONGINOTTI

Mark E. Longinotti


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 21
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 315MHz
SCANS/BAND : 1
NOTES : CHAMBERLAIN PURPLE
TEST DATE : 23 Oct 2019 16:32:36 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 20
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 315MHz
SCANS/BAND : 1
NOTES : CHAMBERLAIN PURPLE
TEST DATE : 23 Oct 2019 16:27:48 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
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 : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 315MHz
SCANS/BAND : 1
NOTES : CHAMBERLAIN PURPLE
TEST DATE : 22 Oct 2019 11:26:40 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 : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 315MHz
SCANS/BAND : 1
NOTES : CHAMBERLAIN PURPLE
TEST DATE : 22 Oct 2019 11:22:37 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

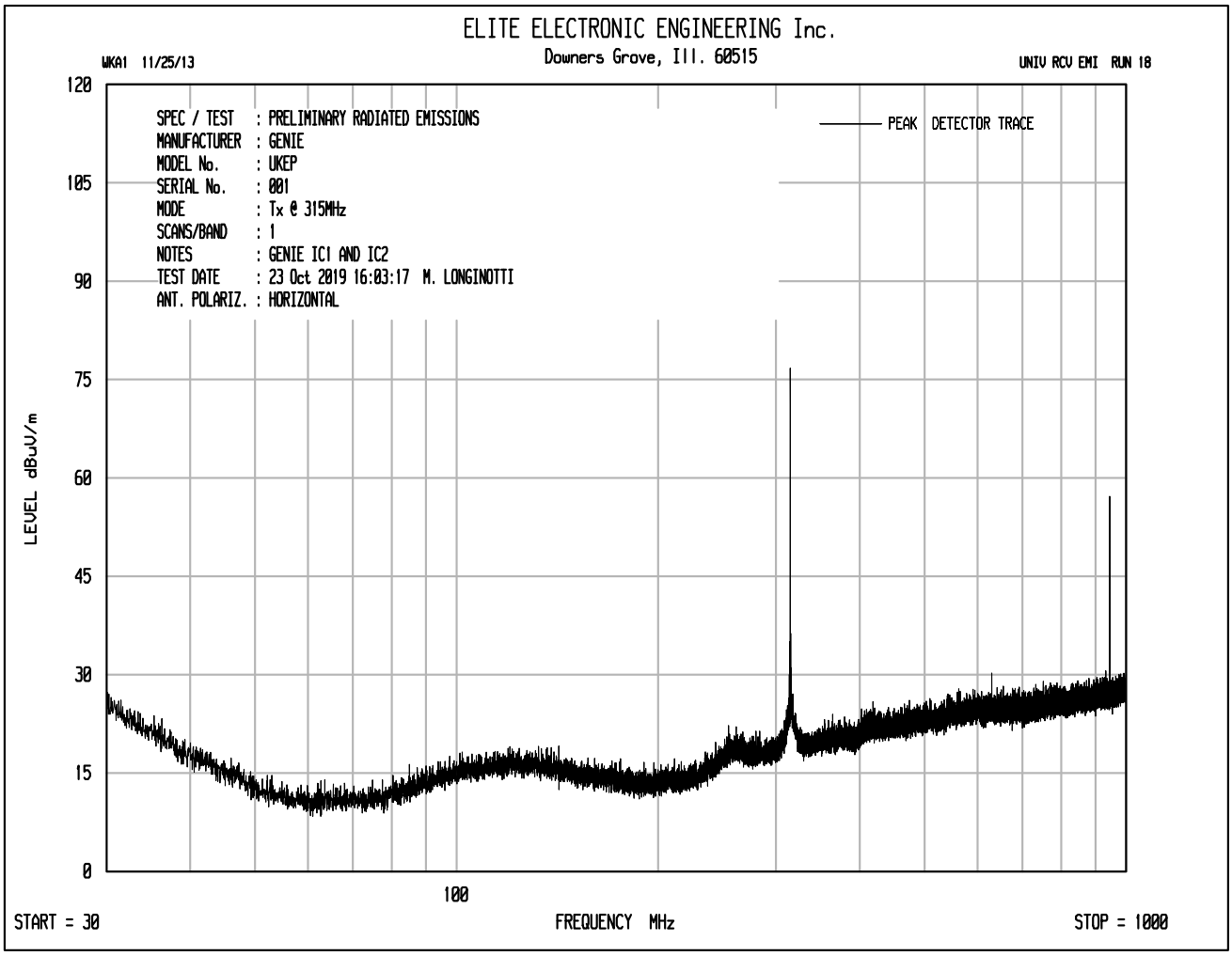
RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

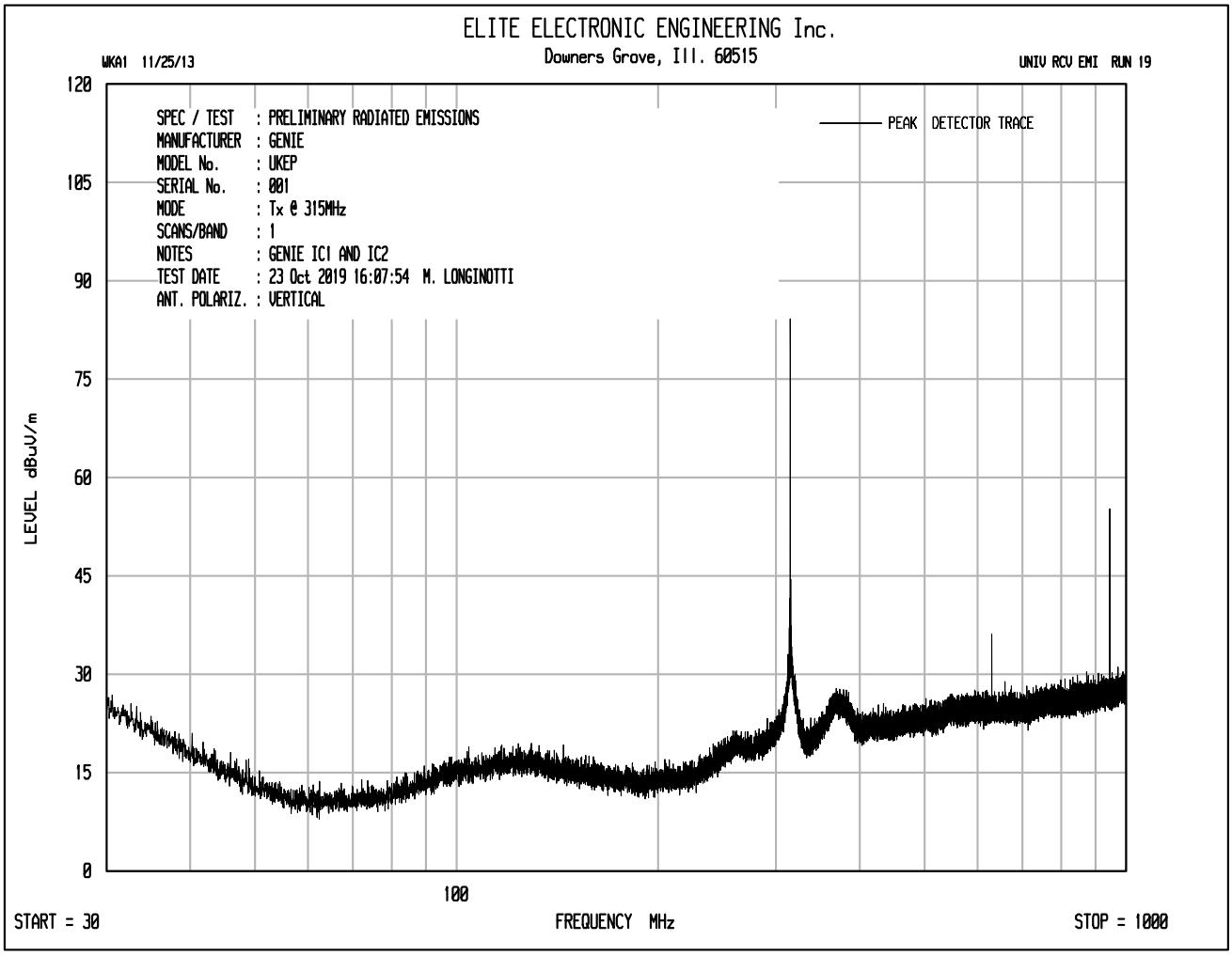
MANUFACTURER	:	Genie Company
MODEL NO.	:	UKEP
TEST MODE	:	Chamberlain Purple Tx @ 315MHz
NOTES	:	
TEST DATE	:	October 21, 2019 through October 24, 2019

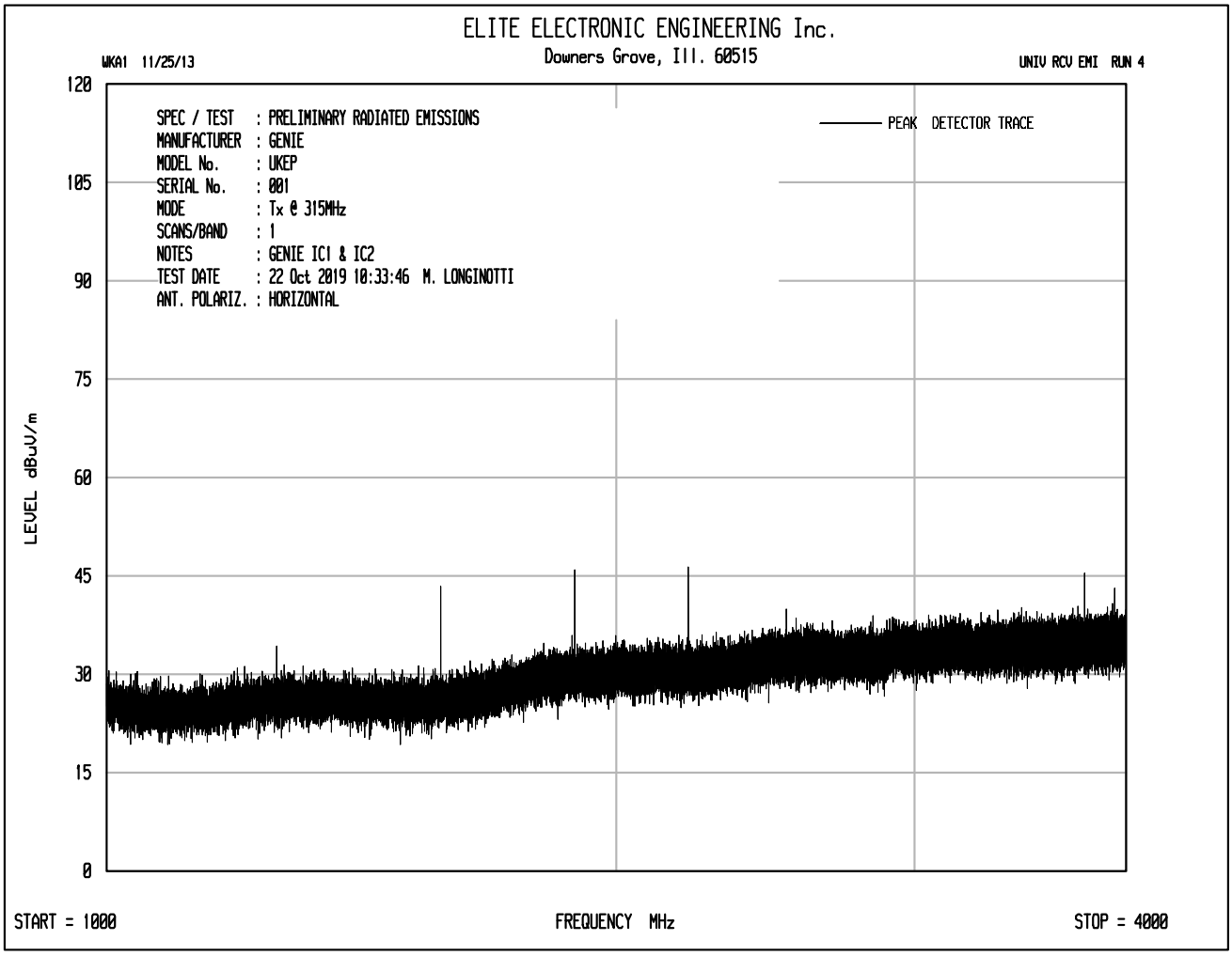
Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
315.000	H	53.1		0.9	19.7	0.0	-7.2	66.5	2112.3	6041.7	-9.1
315.000	V	60.5		0.9	19.7	0.0	-7.2	73.9	4951.7	6041.7	-1.7
630.000	H	11.2		1.3	25.1	0.0	-7.2	30.4	33.0	604.2	-25.3
630.000	V	13.8		1.3	25.1	0.0	-7.2	33.0	44.5	604.2	-22.7
945.000	H	29.8		1.6	26.7	0.0	-7.2	50.8	348.7	604.2	-4.8
945.000	V	26.8		1.6	26.7	0.0	-7.2	47.8	246.8	604.2	-7.8
1260.000	H	18.2		1.9	29.1	0.0	-7.2	41.9	125.0	604.2	-13.7
1260.000	V	23.0		1.9	29.1	0.0	-7.2	46.7	217.3	604.2	-8.9
1575.000	H	20.7		2.1	28.0	0.0	-7.2	43.6	151.4	500.0	-10.4
1575.000	V	28.0		2.1	28.0	0.0	-7.2	50.9	350.8	500.0	-3.1
1890.000	H	20.4		2.3	31.1	0.0	-7.2	46.6	213.5	604.2	-9.0
1890.000	V	21.1		2.3	31.1	0.0	-7.2	47.3	231.4	604.2	-8.3
2205.000	H	22.9		2.5	31.5	0.0	-7.2	49.6	302.0	500.0	-4.4
2205.000	V	20.0		2.5	31.5	0.0	-7.2	46.7	216.3	500.0	-7.3
2520.000	H	18.8		2.7	32.6	0.0	-7.2	46.9	220.1	604.2	-8.8
2520.000	V	19.1		2.7	32.6	0.0	-7.2	47.2	227.9	604.2	-8.5
2835.000	H	18.0	Ambient	2.9	32.5	0.0	-7.2	46.1	201.7	500.0	-7.9
2835.000	V	17.1	Ambient	2.9	32.5	0.0	-7.2	45.2	181.8	500.0	-8.8
3150.000	H	18.1	Ambient	3.0	32.8	0.0	-7.2	46.7	216.3	604.2	-8.9
3150.000	V	17.5	Ambient	3.0	32.8	0.0	-7.2	46.1	201.8	604.2	-9.5

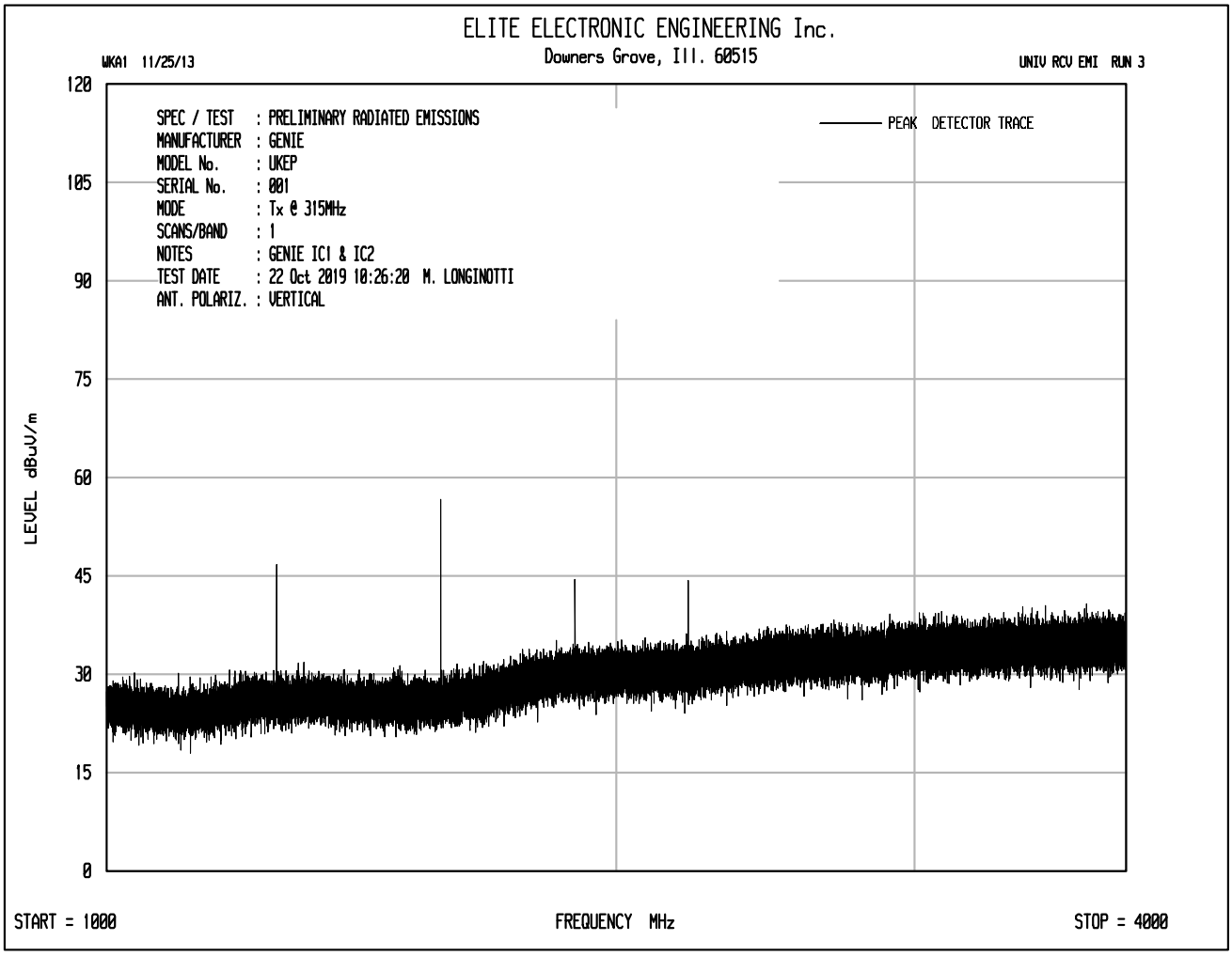
Checked By: MARK E. LONGINOTTI

Mark E. Longinotti


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 18
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 315MHz
SCANS/BAND : 1
NOTES : GENIE IC1 AND IC2
TEST DATE : 23 Oct 2019 16:03:17 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
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 : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 315MHz
SCANS/BAND : 1
NOTES : GENIE IC1 AND IC2
TEST DATE : 23 Oct 2019 16:07:54 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
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 : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 315MHz
SCANS/BAND : 1
NOTES : GENIE IC1 & IC2
TEST DATE : 22 Oct 2019 10:33:46 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 : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 315MHz
SCANS/BAND : 1
NOTES : GENIE IC1 & IC2
TEST DATE : 22 Oct 2019 10:26:20 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

RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

MANUFACTURER	:	Genie Company
MODEL NO.	:	UKEP
TEST MODE	:	Genie IC1 Tx @ 315MHz
NOTES	:	
TEST DATE	:	October 21, 2019 through October 24, 2019

Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
315.000	H	56.5		0.9	19.7	0.0	-12.0	65.1	1804.1	6041.7	-10.5
315.000	V	64.6		0.9	19.7	0.0	-12.0	73.2	4584.1	6041.7	-2.4
630.000	H	7.3		1.3	25.1	0.0	-12.0	21.7	12.2	604.2	-33.9
630.000	V	11.8		1.3	25.1	0.0	-12.0	26.2	20.4	604.2	-29.4
945.000	H	30.9		1.6	26.7	0.0	-12.0	47.2	228.5	604.2	-8.4
945.000	V	29.7		1.6	26.7	0.0	-12.0	46.0	199.0	604.2	-9.6
1260.000	H	16.4		1.9	29.1	0.0	-12.0	35.4	58.7	604.2	-20.3
1260.000	V	21.9		1.9	29.1	0.0	-12.0	40.9	110.5	604.2	-14.8
1575.000	H	19.6		2.1	28.0	0.0	-12.0	37.7	77.0	500.0	-16.2
1575.000	V	27.9		2.1	28.0	0.0	-12.0	46.0	200.3	500.0	-7.9
1890.000	H	18.4		2.3	31.1	0.0	-12.0	39.8	97.9	604.2	-15.8
1890.000	V	20.0		2.3	31.1	0.0	-12.0	41.4	117.7	604.2	-14.2
2205.000	H	19.7		2.5	31.5	0.0	-12.0	41.6	120.7	500.0	-12.3
2205.000	V	18.7		2.5	31.5	0.0	-12.0	40.6	107.5	500.0	-13.3
2520.000	H	17.3		2.7	32.6	0.0	-12.0	40.6	107.0	604.2	-15.0
2520.000	V	17.8		2.7	32.6	0.0	-12.0	41.1	113.3	604.2	-14.5
2835.000	H	16.6	Ambient	2.9	32.5	0.0	-12.0	39.9	99.1	500.0	-14.1
2835.000	V	17.5	Ambient	2.9	32.5	0.0	-12.0	40.8	109.9	500.0	-13.2
3150.000	H	17.6	Ambient	3.0	32.8	0.0	-12.0	41.4	117.9	604.2	-14.2
3150.000	V	17.5	Ambient	3.0	32.8	0.0	-12.0	41.3	116.5	604.2	-14.3

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti

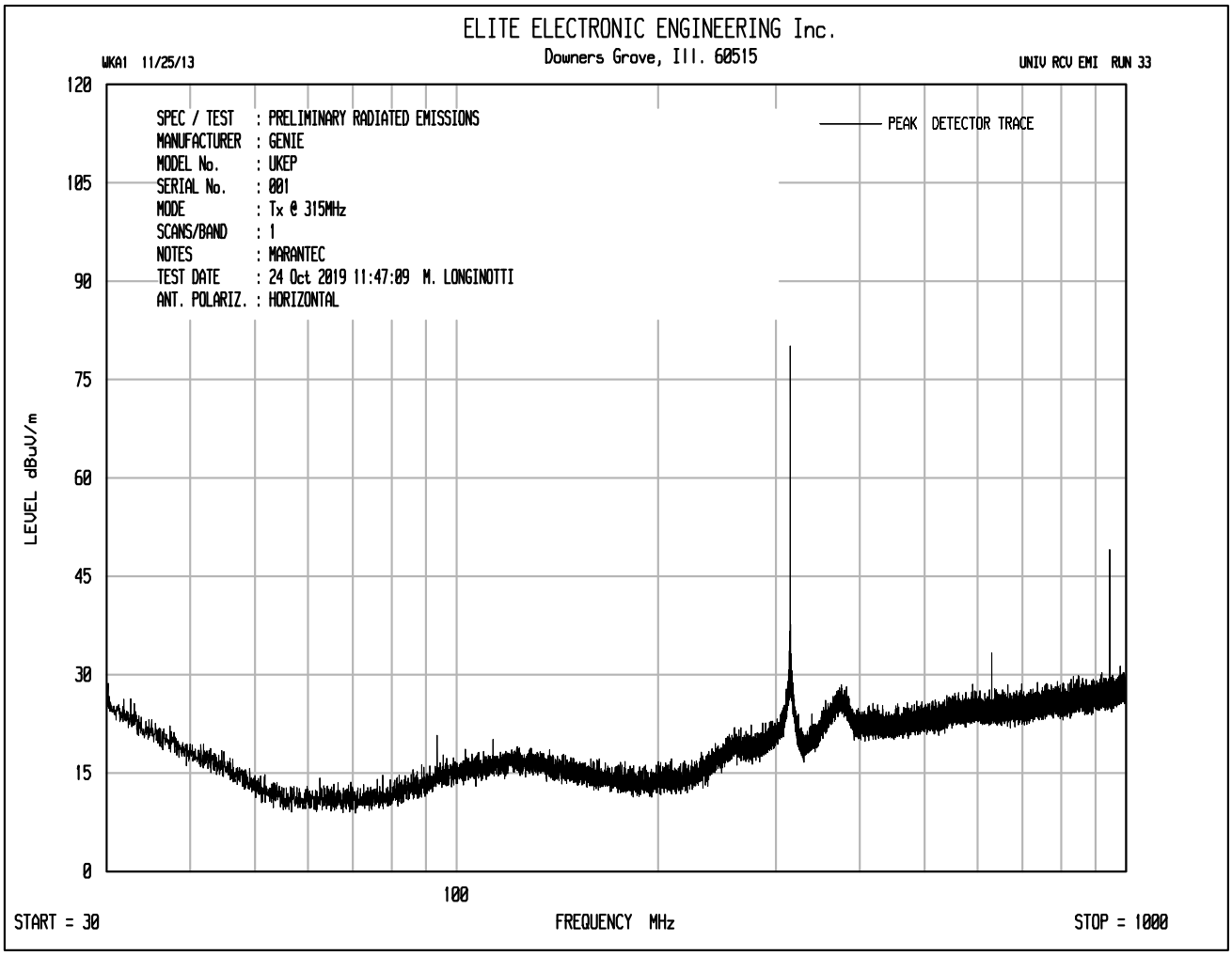
RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

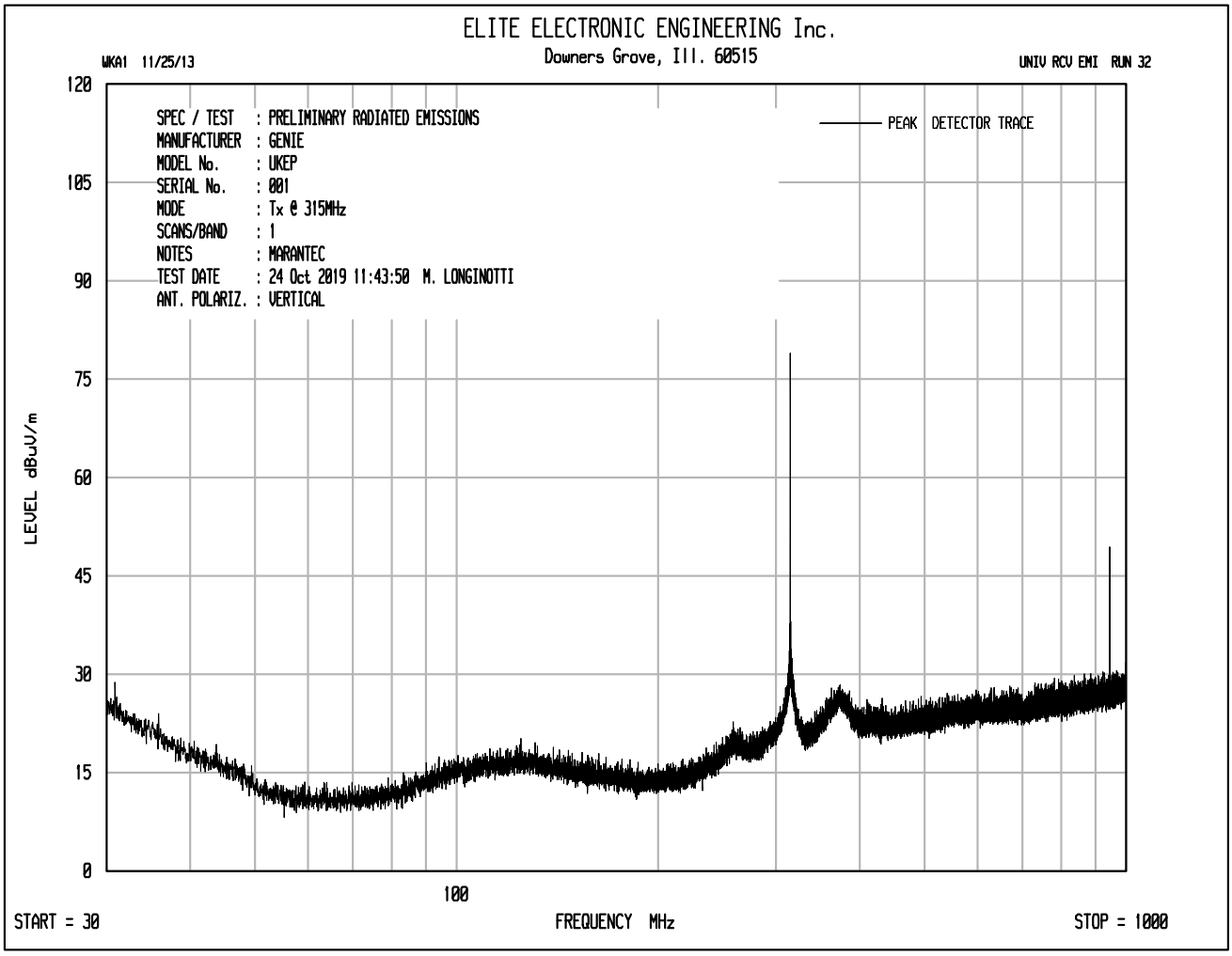
MANUFACTURER	:	Genie Company
MODEL NO.	:	UKEP
TEST MODE	:	Genie IC2 Tx @ 315MHz
NOTES	:	
TEST DATE	:	October 21, 2019 through October 24, 2019

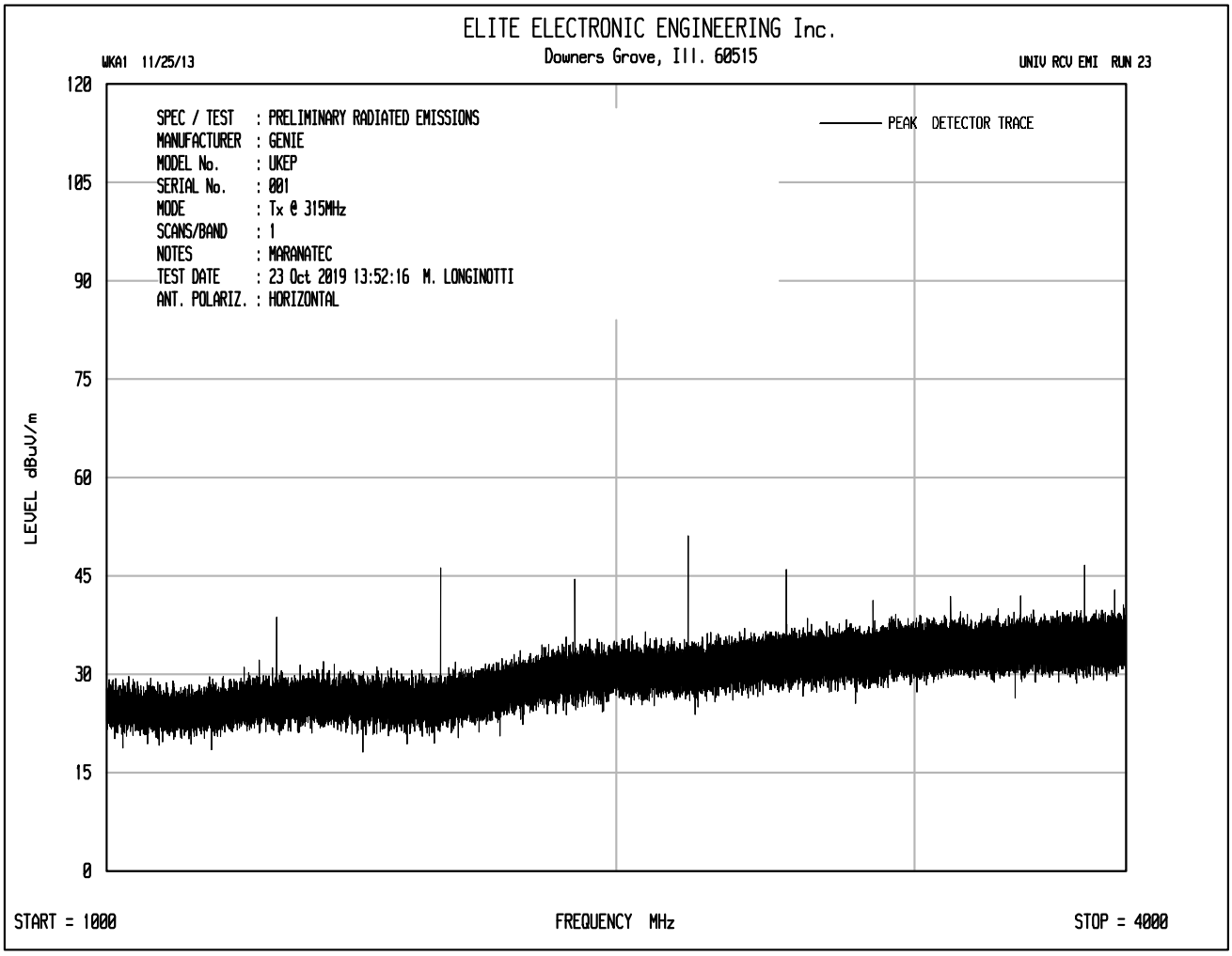
Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
315.000	H	56.5		0.9	19.7	0.0	-12.3	64.8	1742.8	6041.7	-10.8
315.000	V	64.6		0.9	19.7	0.0	-12.3	72.9	4428.5	6041.7	-2.7
630.000	H	7.3		1.3	25.1	0.0	-12.3	21.4	11.7	604.2	-34.2
630.000	V	11.8		1.3	25.1	0.0	-12.3	25.9	19.7	604.2	-29.7
945.000	H	30.9		1.6	26.7	0.0	-12.3	46.9	220.8	604.2	-8.7
945.000	V	29.7		1.6	26.7	0.0	-12.3	45.7	192.3	604.2	-9.9
1260.000	H	16.4		1.9	29.1	0.0	-12.3	35.1	56.7	604.2	-20.6
1260.000	V	21.9		1.9	29.1	0.0	-12.3	40.6	106.8	604.2	-15.1
1575.000	H	19.6		2.1	28.0	0.0	-12.3	37.4	74.4	500.0	-16.5
1575.000	V	27.9		2.1	28.0	0.0	-12.3	45.7	193.5	500.0	-8.2
1890.000	H	18.4		2.3	31.1	0.0	-12.3	39.5	94.6	604.2	-16.1
1890.000	V	20.0		2.3	31.1	0.0	-12.3	41.1	113.7	604.2	-14.5
2205.000	H	19.7		2.5	31.5	0.0	-12.3	41.3	116.6	500.0	-12.6
2205.000	V	18.7		2.5	31.5	0.0	-12.3	40.3	103.9	500.0	-13.6
2520.000	H	17.3		2.7	32.6	0.0	-12.3	40.3	103.3	604.2	-15.3
2520.000	V	17.8		2.7	32.6	0.0	-12.3	40.8	109.4	604.2	-14.8
2835.000	H	16.6	Ambient	2.9	32.5	0.0	-12.3	39.6	95.7	500.0	-14.4
2835.000	V	17.5	Ambient	2.9	32.5	0.0	-12.3	40.5	106.2	500.0	-13.5
3150.000	H	17.6	Ambient	3.0	32.8	0.0	-12.3	41.1	113.9	604.2	-14.5
3150.000	V	17.5	Ambient	3.0	32.8	0.0	-12.3	41.0	112.6	604.2	-14.6

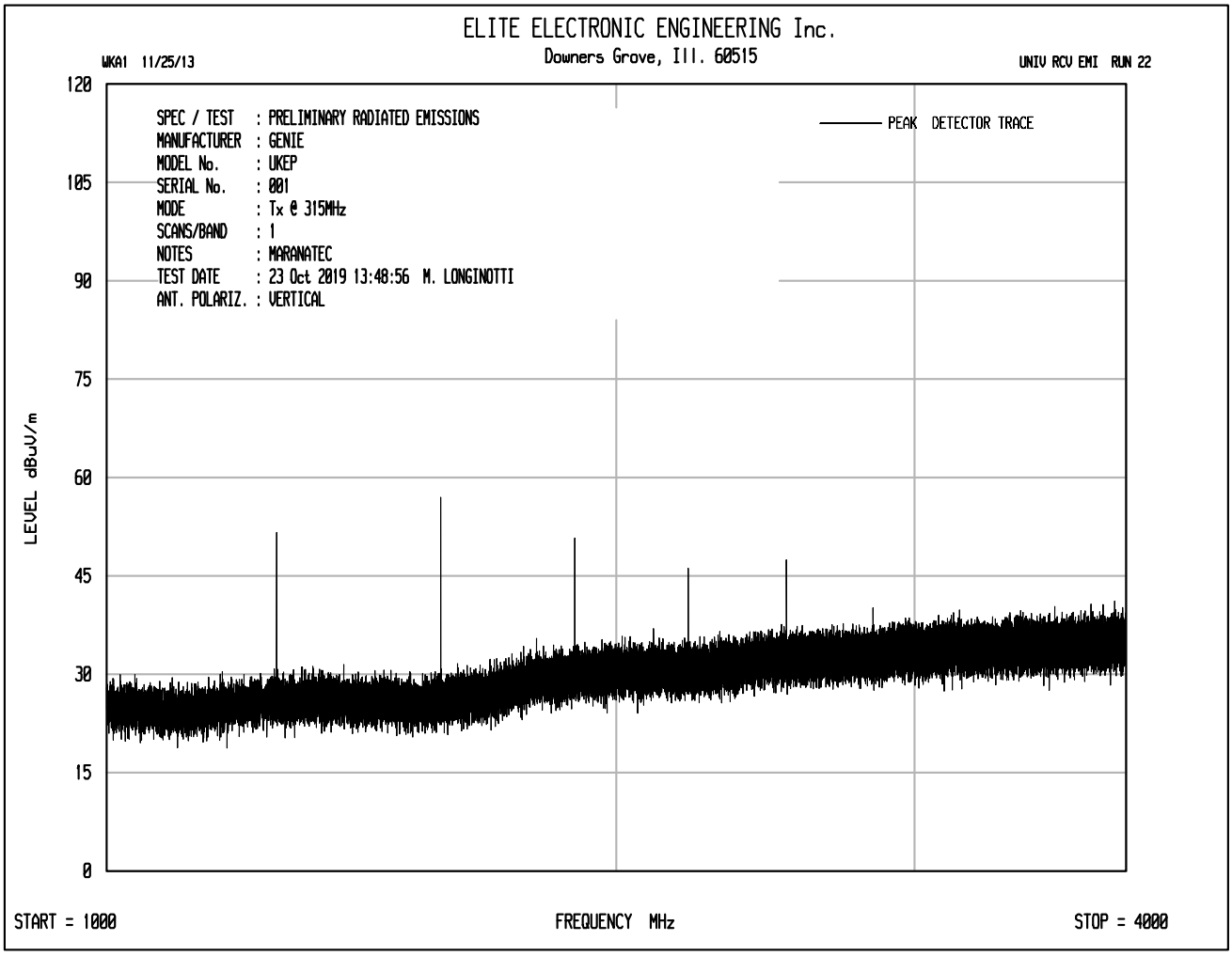
Checked By: MARK E. LONGINOTTI

Mark E. Longinotti


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 33
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 315MHz
SCANS/BAND : 1
NOTES : MARANTEC
TEST DATE : 24 Oct 2019 11:47:09 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 32
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 315MHz
SCANS/BAND : 1
NOTES : MARANTEC
TEST DATE : 24 Oct 2019 11:43:50 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
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 : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 315MHz
SCANS/BAND : 1
NOTES : MARANATEC
TEST DATE : 23 Oct 2019 13:52:16 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 22
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 315MHz
SCANS/BAND : 1
NOTES : MARANATEC
TEST DATE : 23 Oct 2019 13:48:56 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

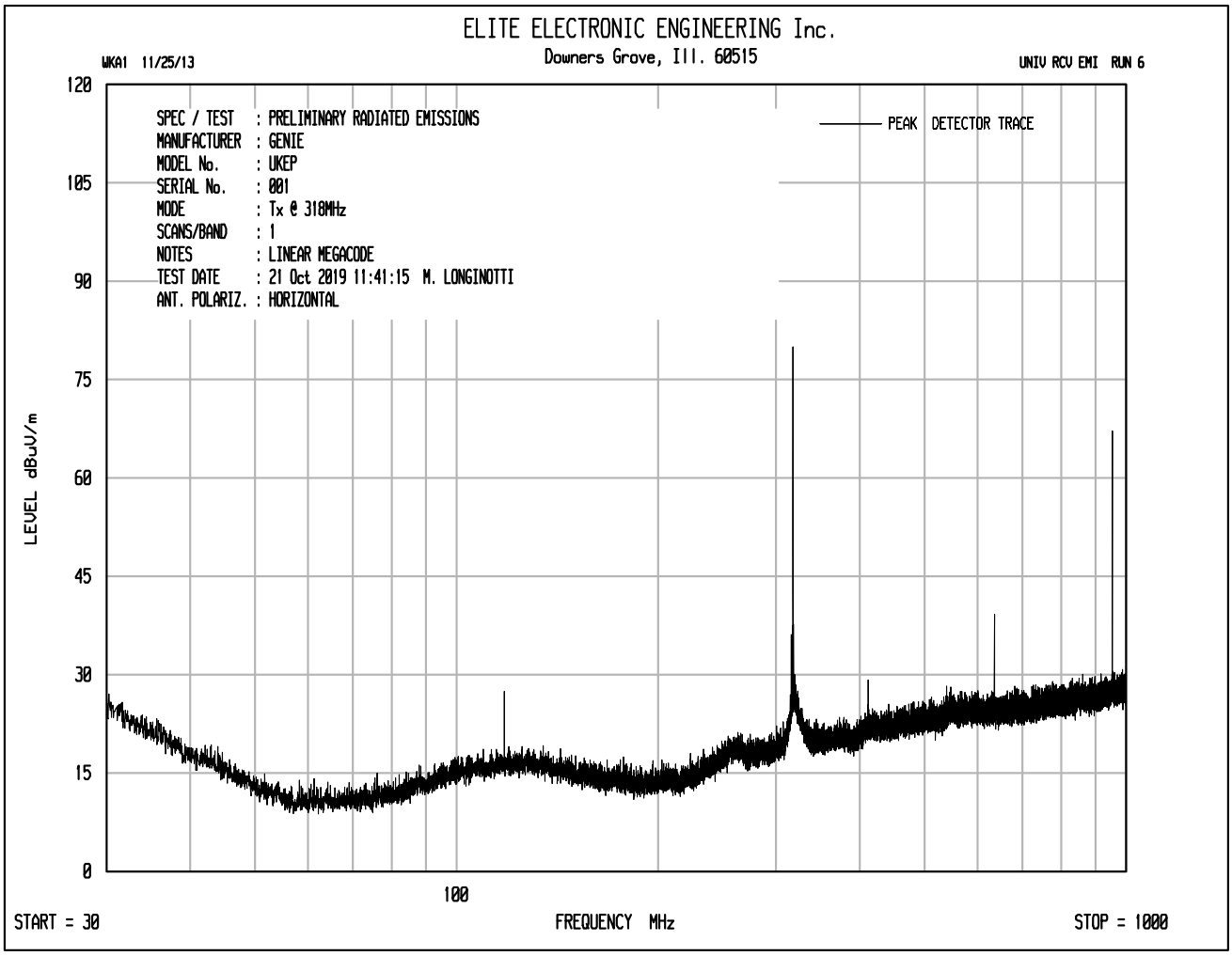
RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

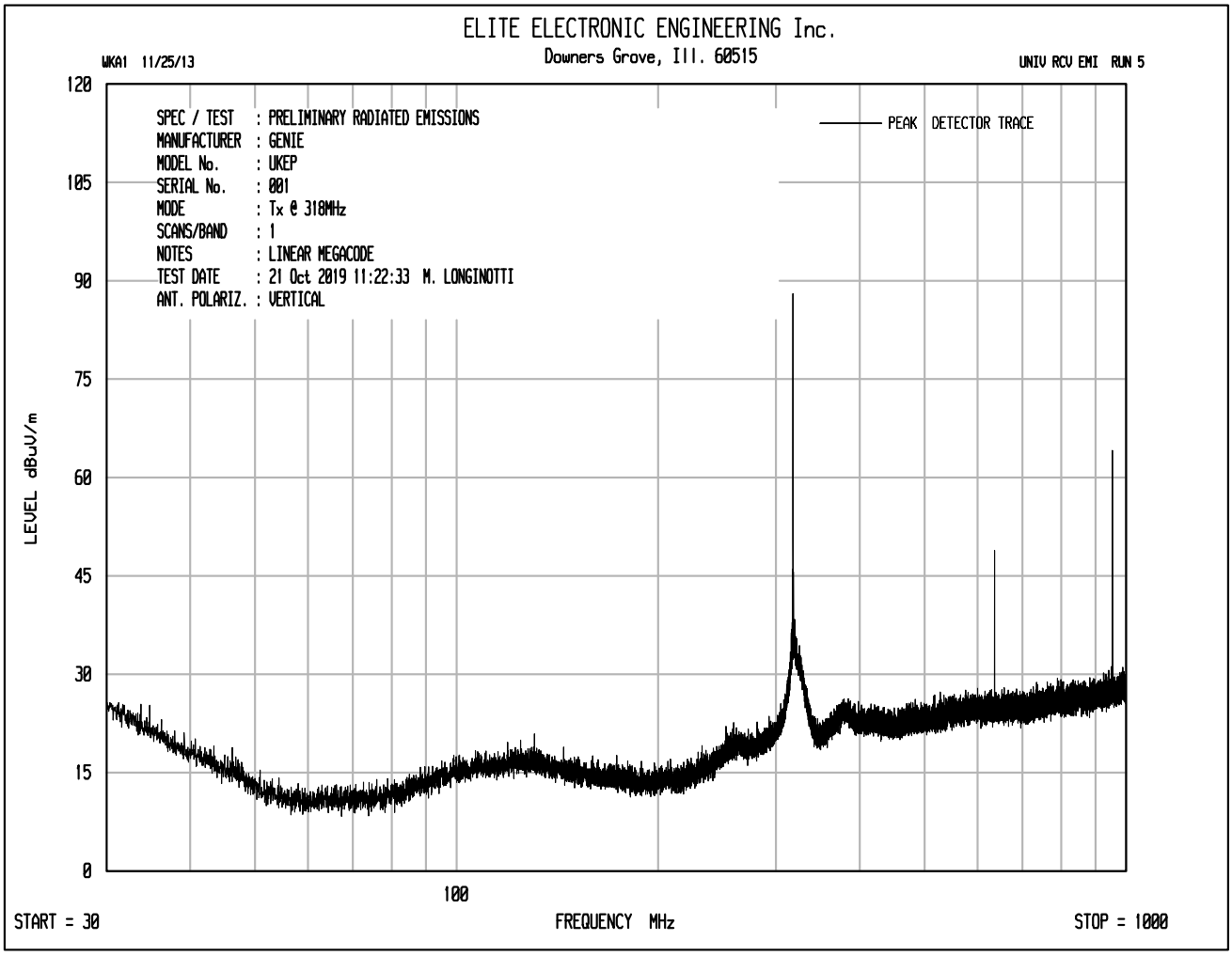
MANUFACTURER	:	Genie Company
MODEL NO.	:	UKEP
TEST MODE	:	Marantec Tx @ 315MHz
NOTES	:	
TEST DATE	:	October 21, 2019 through October 24, 2019

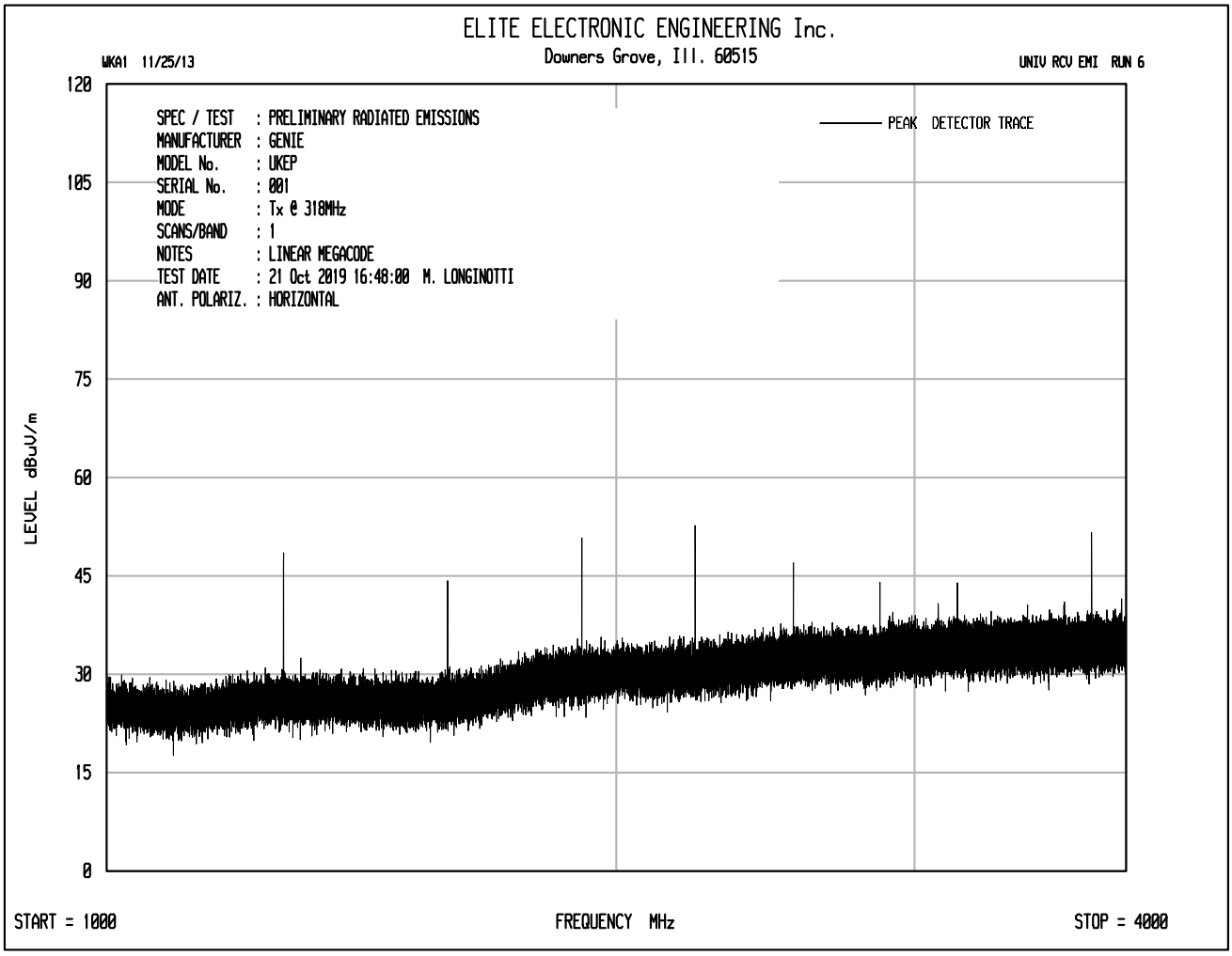
Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
315.000	H	54.5		0.9	19.7	0.0	-10.6	64.6	1691.4	6041.7	-11.1
315.000	V	62.3		0.9	19.7	0.0	-10.6	72.4	4152.0	6041.7	-3.3
630.000	H	10.3		1.3	25.1	0.0	-10.6	26.1	20.3	604.2	-29.5
630.000	V	16.8		1.3	25.1	0.0	-10.6	32.6	42.8	604.2	-23.0
945.000	H	30.8		1.6	26.7	0.0	-10.6	48.5	266.6	604.2	-7.1
945.000	V	27.2		1.6	26.7	0.0	-10.6	44.9	176.2	604.2	-10.7
1260.000	H	14.8		1.9	29.1	0.0	-10.6	35.2	57.6	604.2	-20.4
1260.000	V	19.0		1.9	29.1	0.0	-10.6	39.4	93.4	604.2	-16.2
1575.000	H	17.8		2.1	28.0	0.0	-10.6	37.4	73.9	500.0	-16.6
1575.000	V	24.3		2.1	28.0	0.0	-10.6	43.9	156.2	500.0	-10.1
1890.000	H	17.1		2.3	31.1	0.0	-10.6	40.0	99.5	604.2	-15.7
1890.000	V	18.0		2.3	31.1	0.0	-10.6	40.9	110.4	604.2	-14.8
2205.000	H	18.7		2.5	31.5	0.0	-10.6	42.1	126.9	500.0	-11.9
2205.000	V	18.4		2.5	31.5	0.0	-10.6	41.8	122.6	500.0	-12.2
2520.000	H	16.4	Ambient	2.7	32.6	0.0	-10.6	41.1	113.8	604.2	-14.5
2520.000	V	17.2		2.7	32.6	0.0	-10.6	41.9	124.8	604.2	-13.7
2835.000	H	16.5	Ambient	2.9	32.5	0.0	-10.6	41.3	115.6	500.0	-12.7
2835.000	V	17.2	Ambient	2.9	32.5	0.0	-10.6	42.0	125.3	500.0	-12.0
3150.000	H	17.2	Ambient	3.0	32.8	0.0	-10.6	42.5	132.9	604.2	-13.2
3150.000	V	17.0	Ambient	3.0	32.8	0.0	-10.6	42.3	129.9	604.2	-13.4

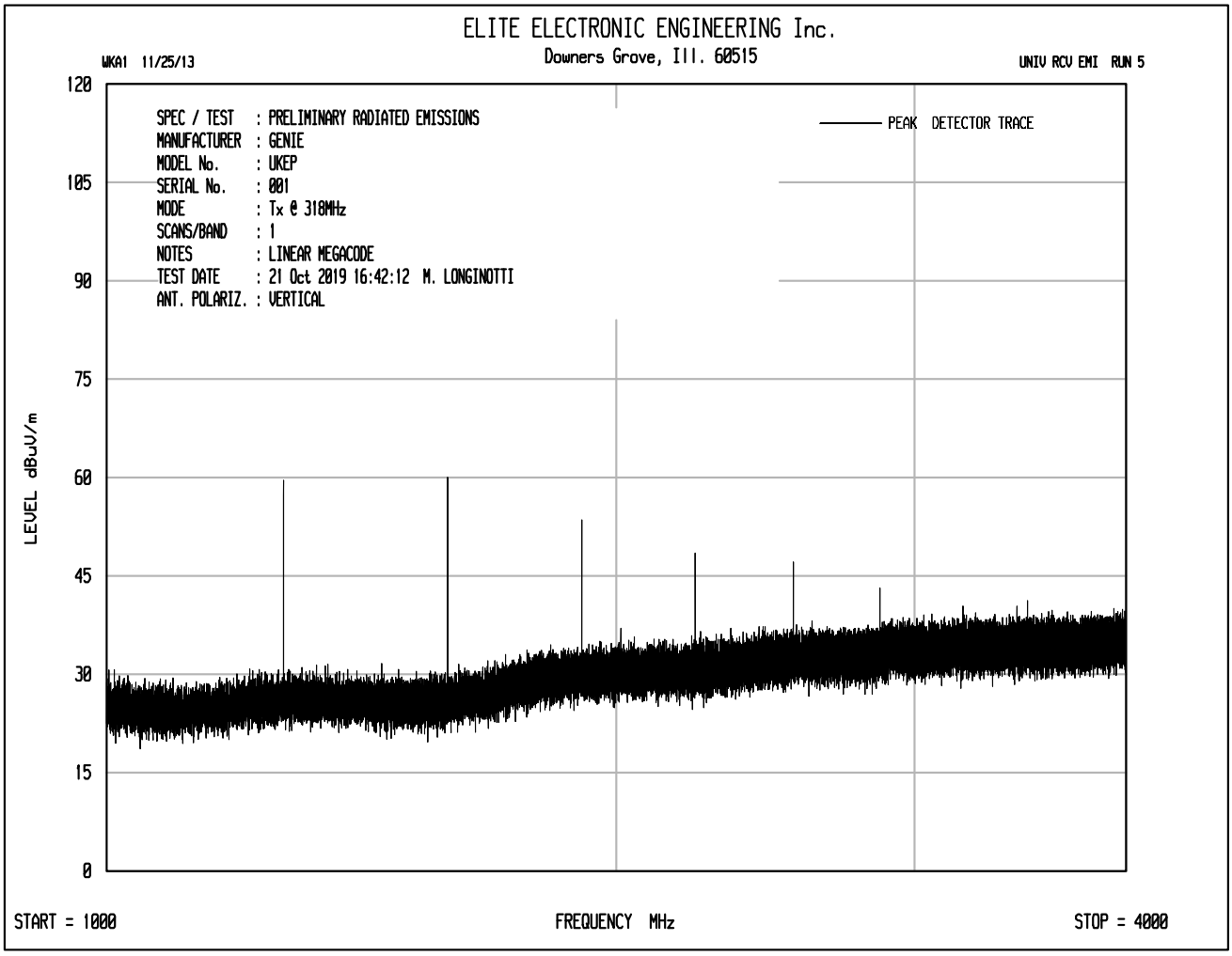
Checked By: MARK E. LONGINOTTI

Mark E. Longinotti


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 6
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 318MHz
SCANS/BAND : 1
NOTES : LINEAR MEGACODE
TEST DATE : 21 Oct 2019 11:41:15 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 5
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 318MHz
SCANS/BAND : 1
NOTES : LINEAR MEGACODE
TEST DATE : 21 Oct 2019 11:22:33 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
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 : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 318MHz
SCANS/BAND : 1
NOTES : LINEAR MEGACODE
TEST DATE : 21 Oct 2019 16:48:00 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 : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 318MHz
SCANS/BAND : 1
NOTES : LINEAR MEGACODE
TEST DATE : 21 Oct 2019 16:42:12 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

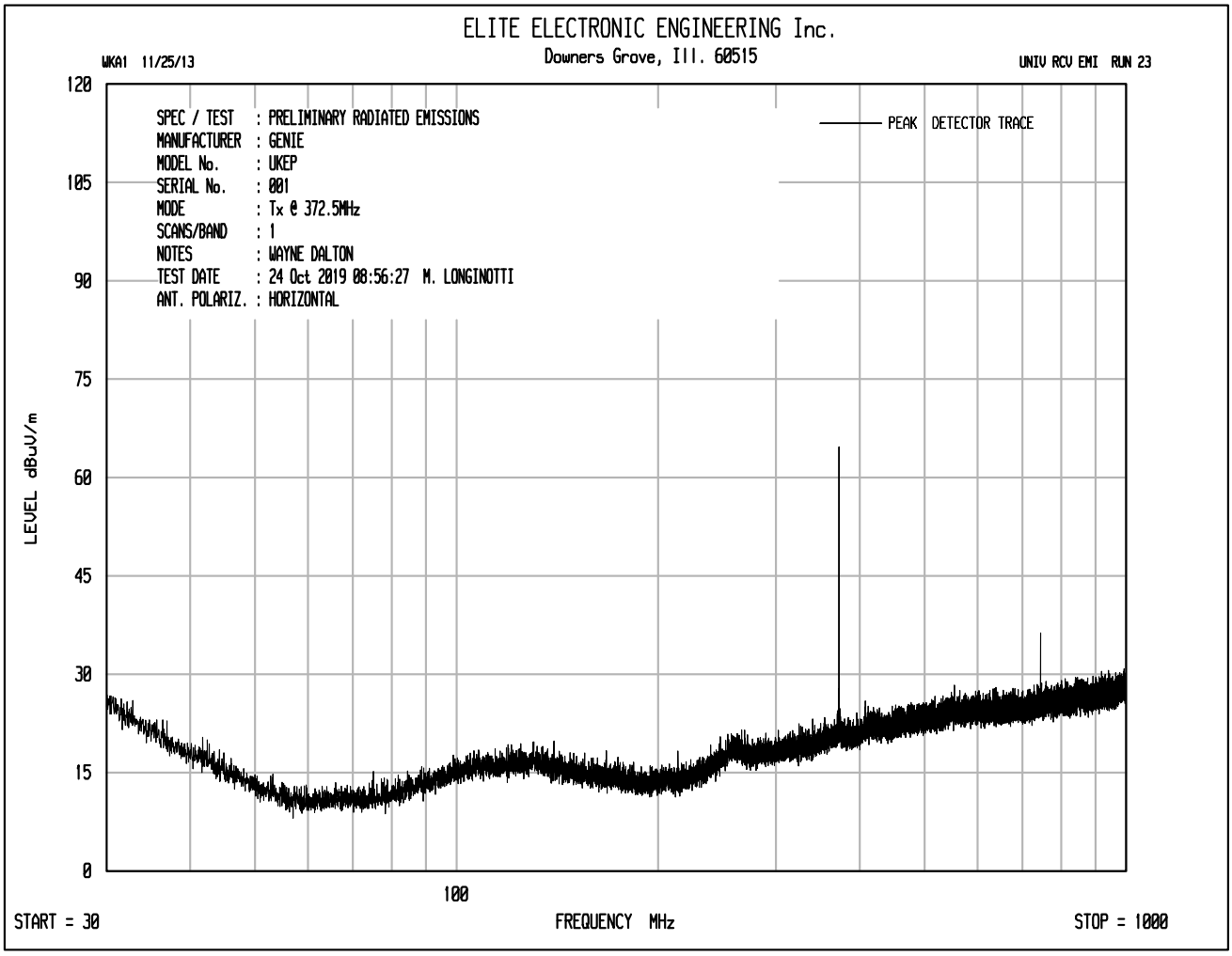
RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

MANUFACTURER	:	Genie Company
MODEL NO.	:	UKEP
TEST MODE	:	Linear Megacode Tx @ 318MHz
NOTES	:	
TEST DATE	:	October 21, 2019 through October 24, 2019

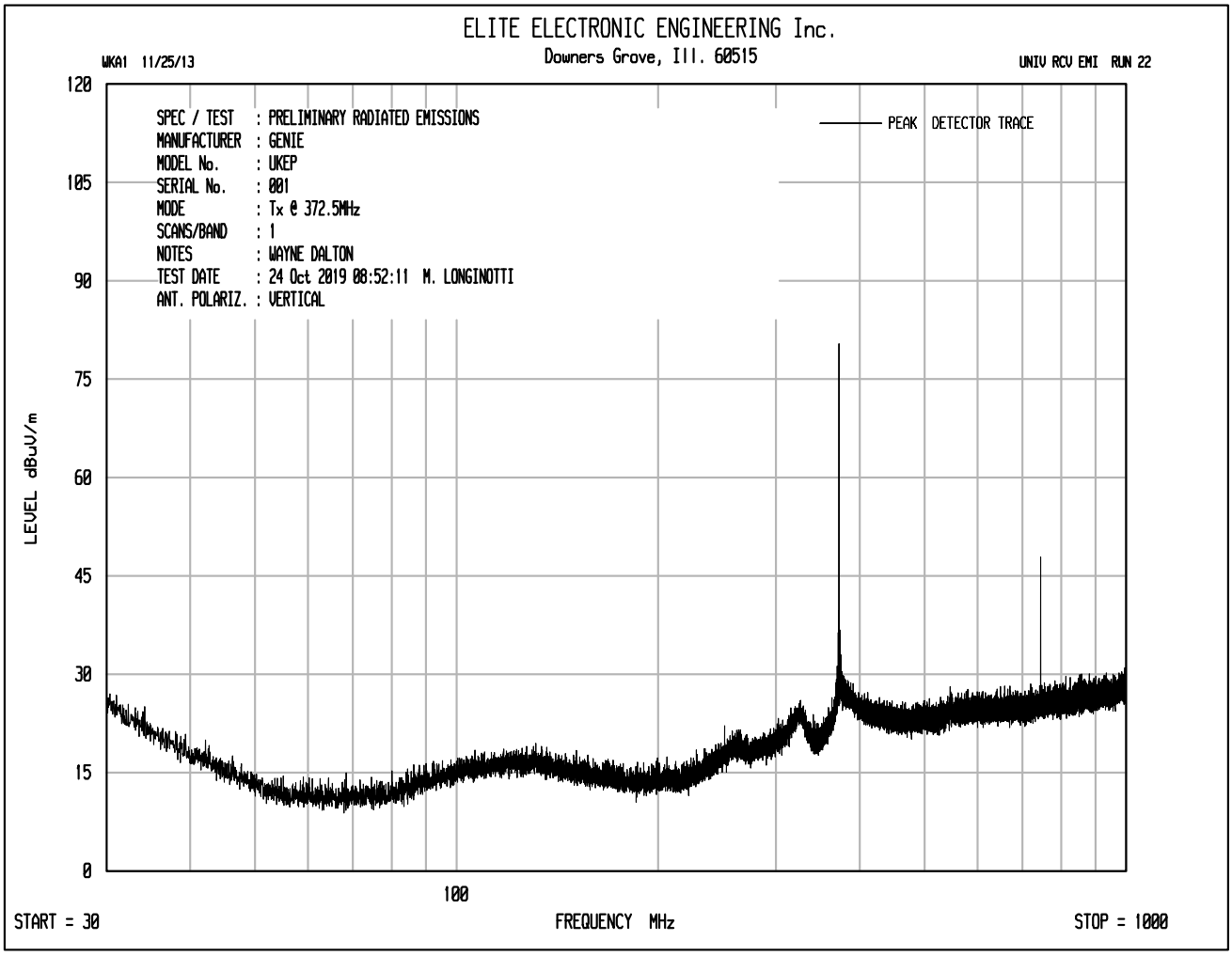
Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
318.000	H	59.9		0.9	19.8	0.0	-15.4	65.2	1816.0	6166.7	-10.6
318.000	V	67.8		0.9	19.8	0.0	-15.4	73.1	4509.5	6166.7	-2.7
636.000	H	15.9		1.3	25.0	0.0	-15.4	26.8	22.0	616.7	-29.0
636.000	V	24.8		1.3	25.0	0.0	-15.4	35.7	61.2	616.7	-20.1
954.000	H	40.0		1.6	26.9	0.0	-15.4	53.1	449.9	616.7	-2.7
954.000	V	38.1		1.6	26.9	0.0	-15.4	51.2	361.5	616.7	-4.6
1272.000	H	21.4		1.9	29.1	0.0	-15.4	37.0	70.4	616.7	-18.8
1272.000	V	29.9		1.9	29.1	0.0	-15.4	45.5	187.4	616.7	-10.3
1590.000	H	26.9		2.1	28.1	0.0	-15.4	41.7	121.7	500.0	-12.3
1590.000	V	34.4		2.1	28.1	0.0	-15.4	49.2	288.7	500.0	-4.8
1908.000	H	20.8		2.3	31.2	0.0	-15.4	38.9	88.4	616.7	-16.9
1908.000	V	22.6		2.3	31.2	0.0	-15.4	40.7	108.8	616.7	-15.1
2226.000	H	21.3		2.5	31.5	0.0	-15.4	39.8	98.3	500.0	-14.1
2226.000	V	19.8		2.5	31.5	0.0	-15.4	38.3	82.7	500.0	-15.6
2544.000	H	18.5		2.7	32.7	0.0	-15.4	38.5	84.2	616.7	-17.3
2544.000	V	19.6		2.7	32.7	0.0	-15.4	39.6	95.6	616.7	-16.2
2862.000	H	17.8	Ambient	2.9	32.5	0.0	-15.4	37.8	77.2	500.0	-16.2
2862.000	V	18.1	Ambient	2.9	32.5	0.0	-15.4	38.1	79.9	500.0	-15.9
3180.000	H	17.9	Ambient	3.0	32.8	0.0	-15.4	38.4	83.0	616.7	-17.4
3180.000	V	17.5	Ambient	3.0	32.8	0.0	-15.4	38.0	79.2	616.7	-17.8

Checked By: MARK E. LONGINOTTI

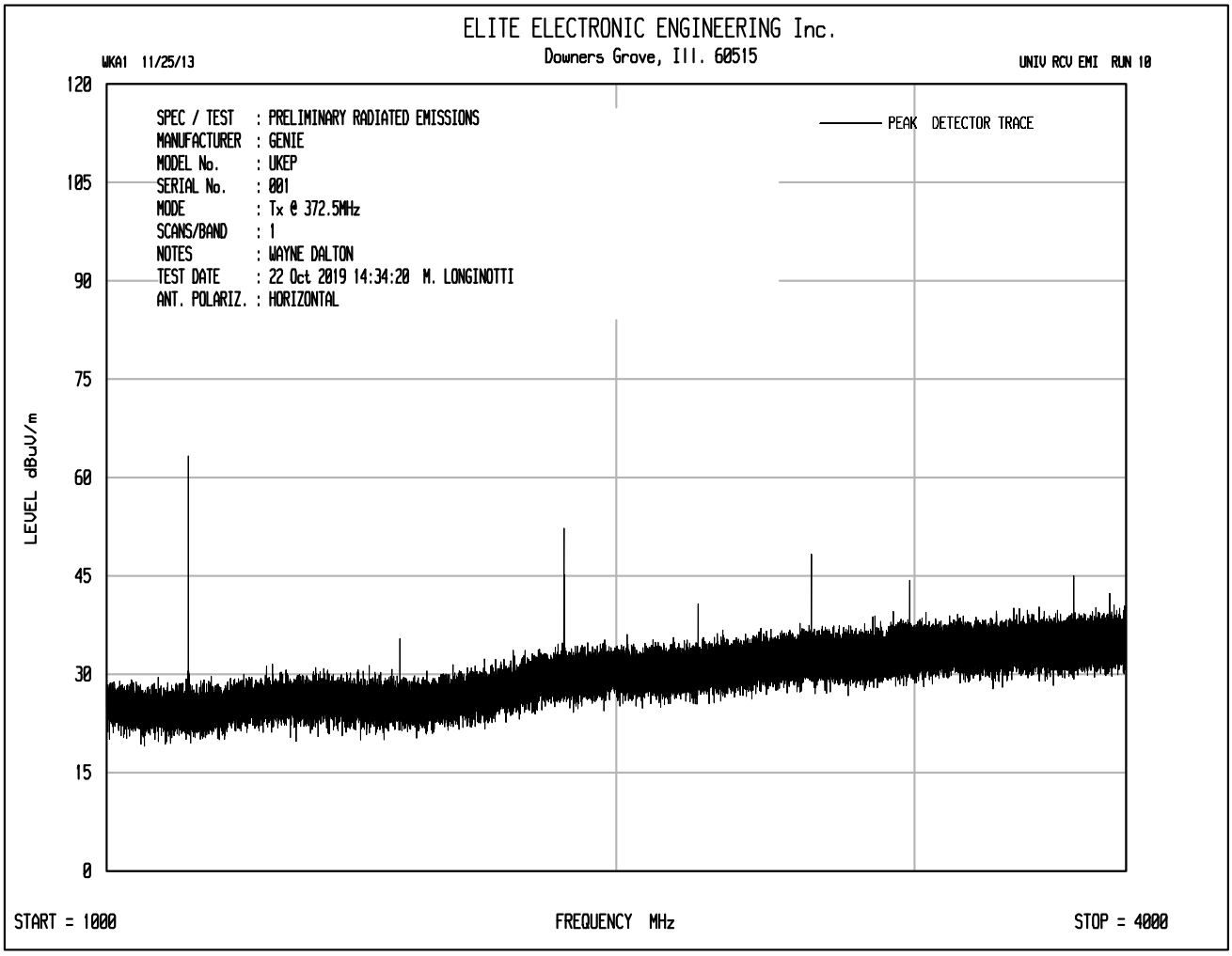
Mark E. Longinotti



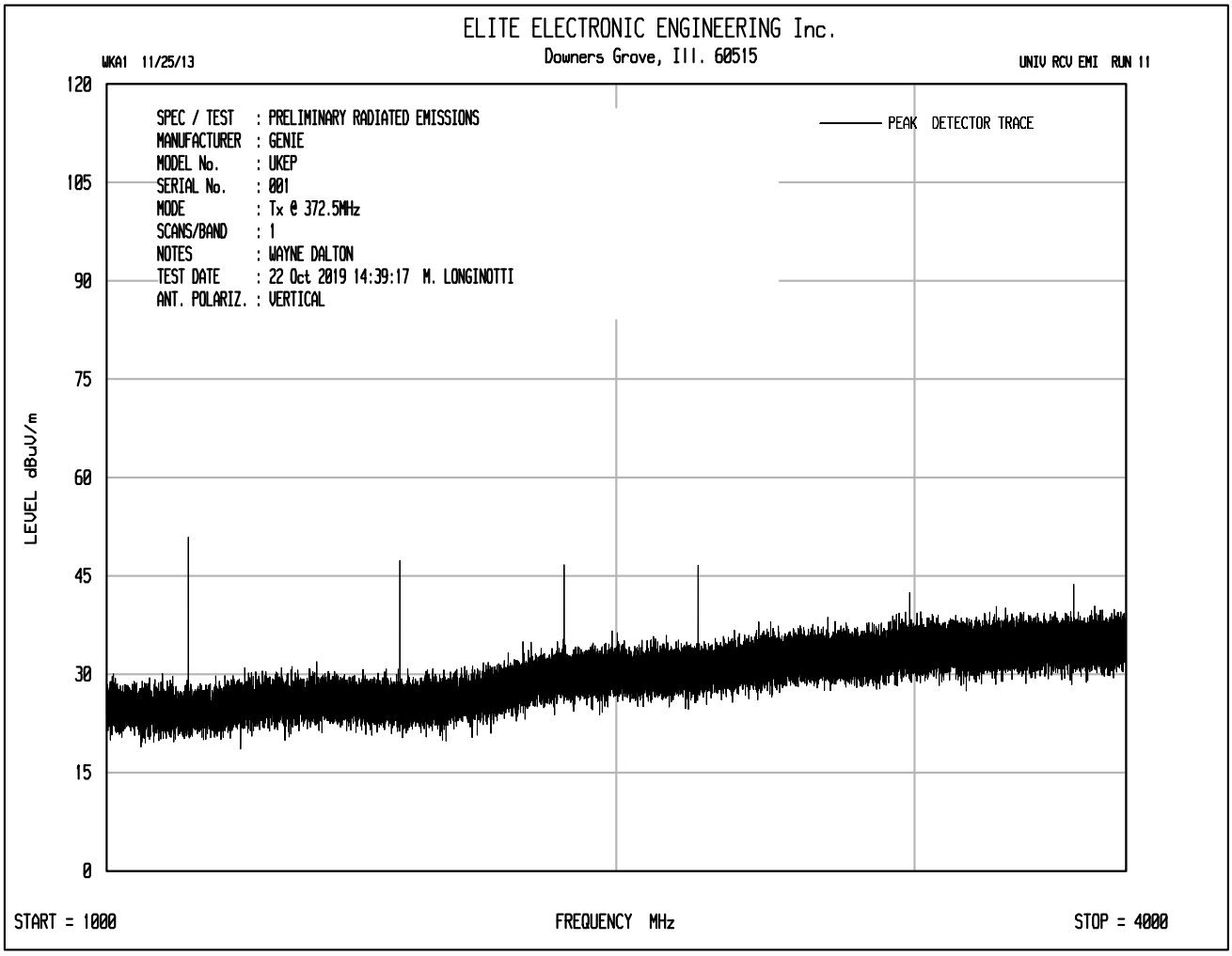
Same power settings for Ryobi



Same power settings for Ryobi



Same power settings for Ryobi



Same power settings for Ryobi

RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

MANUFACTURER	:	Genie Company
MODEL NO.	:	UKEP
TEST MODE	:	Wayne Dalton Tx @ 372.5MHz
NOTES	:	
TEST DATE	:	October 21, 2019 through October 24, 2019

Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
372.500	H	43.0		1.0	21.0	0.0	-11.9	53.1	449.3	8437.5	-25.5
372.500	V	58.7		1.0	21.0	0.0	-11.9	68.8	2738.5	8437.5	-9.8
745.000	H	11.0		1.4	25.7	0.0	-11.9	26.2	20.5	843.7	-32.3
745.000	V	22.7		1.4	25.7	0.0	-11.9	37.9	78.7	843.7	-20.6
1117.500	H	35.7		1.7	27.8	0.0	-11.9	53.3	463.9	500.0	-0.7
1117.500	V	24.2		1.7	27.8	0.0	-11.9	41.8	123.4	500.0	-12.2
1490.000	H	17.9		2.0	27.8	0.0	-11.9	35.8	62.0	500.0	-18.1
1490.000	V	22.9		2.0	27.8	0.0	-11.9	40.8	110.2	500.0	-13.1
1862.500	H	25.4		2.3	30.8	0.0	-11.9	46.6	213.4	843.7	-11.9
1862.500	V	22.9		2.3	30.8	0.0	-11.9	44.1	160.0	843.7	-14.4
2235.000	H	17.3		2.5	31.5	0.0	-11.9	39.4	92.9	500.0	-14.6
2235.000	V	19.7		2.5	31.5	0.0	-11.9	41.8	122.4	500.0	-12.2
2607.500	H	19.4		2.7	32.6	0.0	-11.9	42.8	138.5	843.7	-15.7
2607.500	V	19.0		2.7	32.6	0.0	-11.9	42.4	132.2	843.7	-16.1
2980.000	H	18.4	Ambient	2.9	32.6	0.0	-11.9	42.0	126.3	843.7	-16.5
2980.000	V	19.4	Ambient	2.9	32.6	0.0	-11.9	43.0	141.7	843.7	-15.5
3352.500	H	17.4	Ambient	3.1	32.8	0.0	-11.9	41.5	118.4	500.0	-12.5
3352.500	V	17.4	Ambient	3.1	32.8	0.0	-11.9	41.5	118.4	500.0	-12.5
3725.000	H	18.8	Ambient	3.3	33.0	0.0	-11.9	43.2	143.8	500.0	-10.8
3725.000	V	18.0	Ambient	3.3	33.0	0.0	-11.9	42.4	131.1	500.0	-11.6

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti

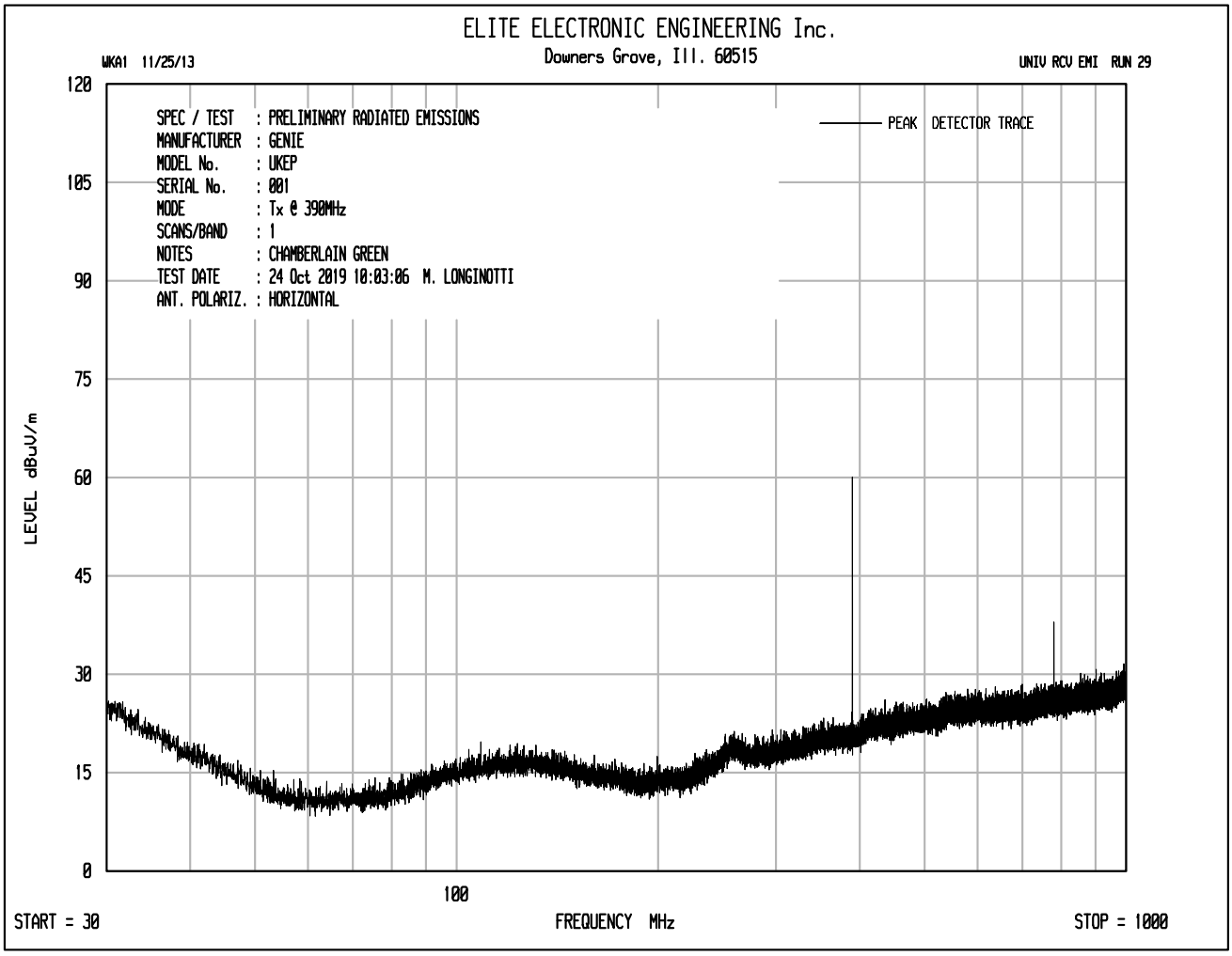
RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

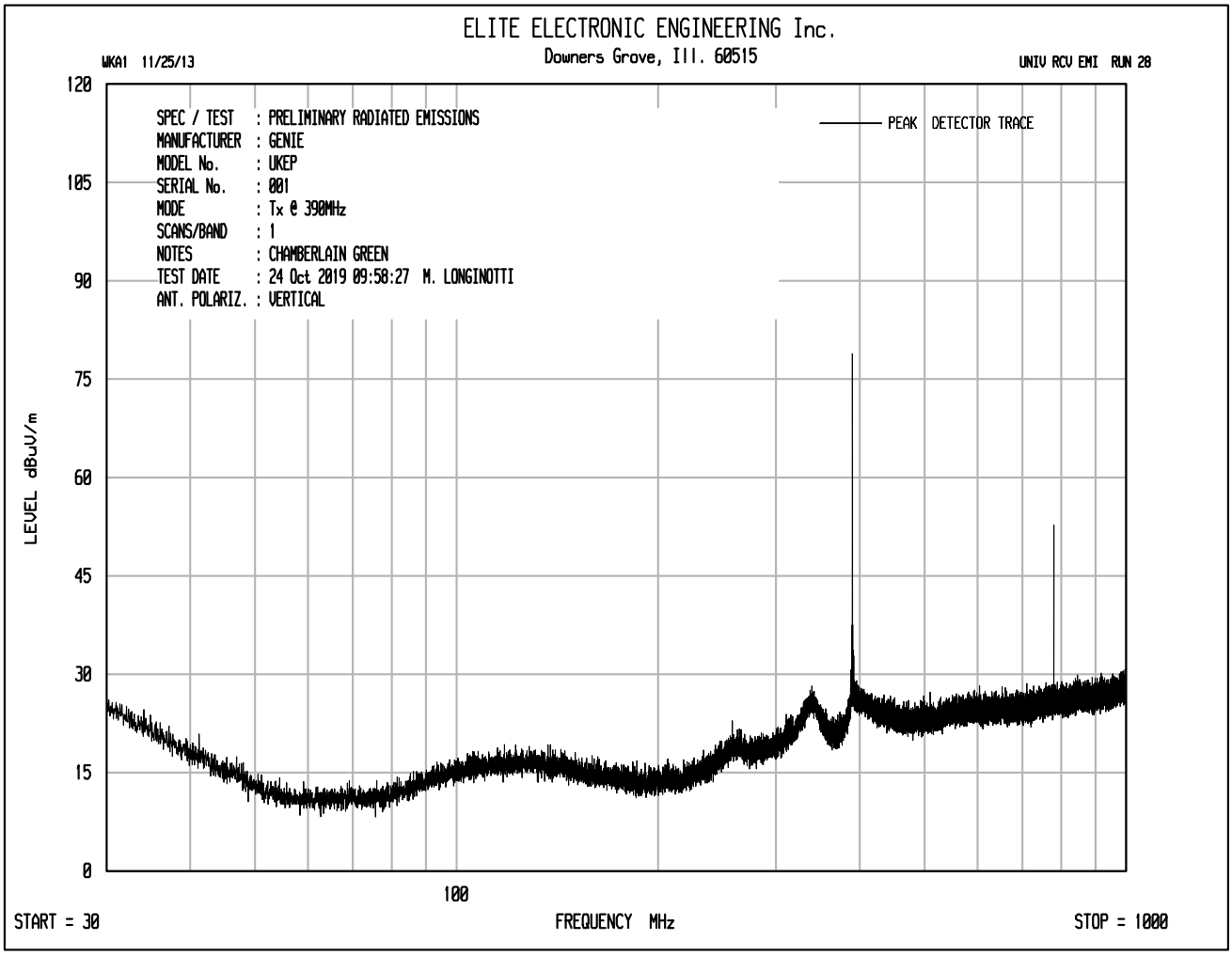
MANUFACTURER	:	Genie Company
MODEL NO.	:	UKEP
TEST MODE	:	Ryobi Tx @ 372.5MHz
NOTES	:	
TEST DATE	:	October 21, 2019 through October 24, 2019

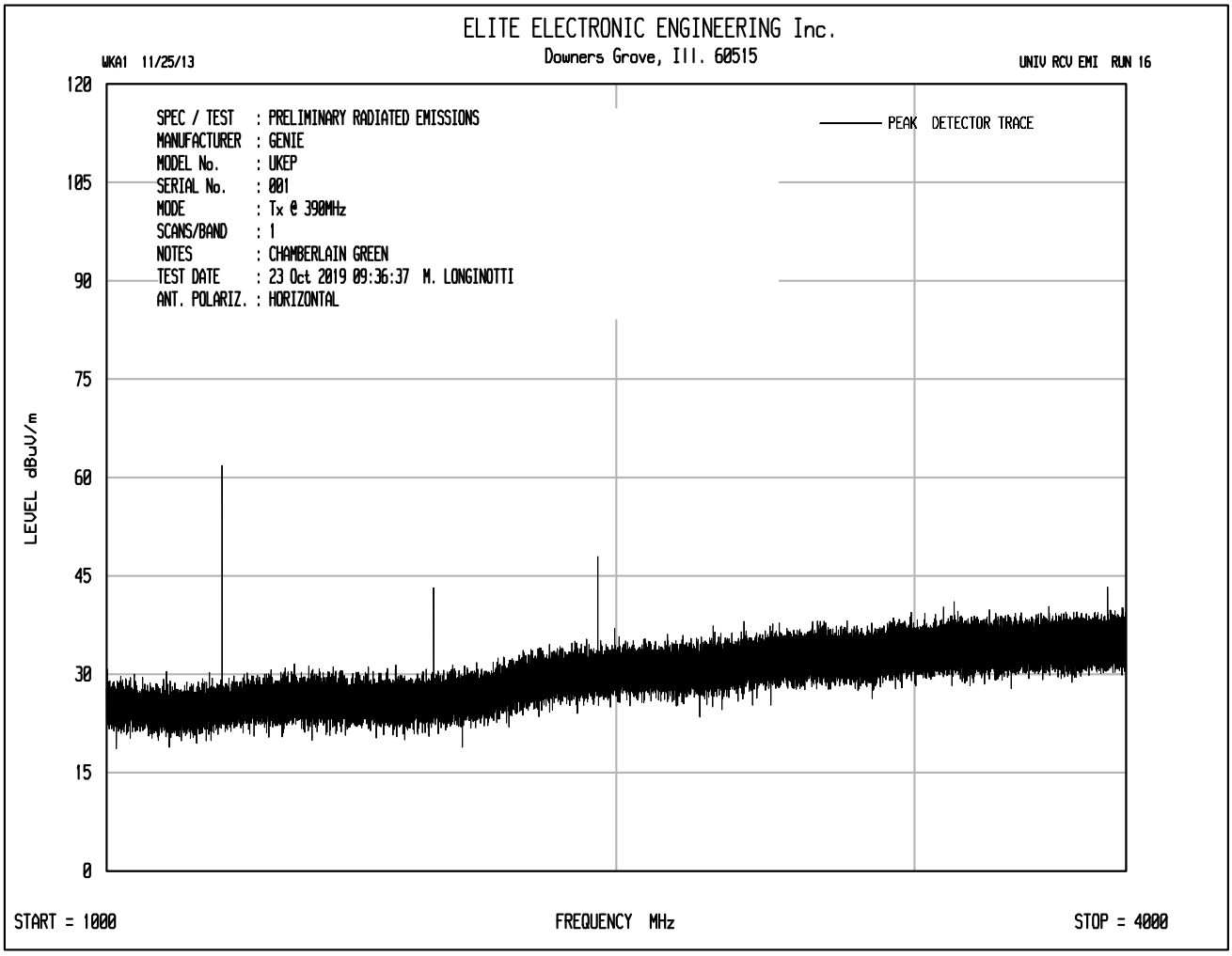
Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
372.500	H	43.0		1.0	21.0	0.0	-12.0	53.0	444.1	8437.5	-25.6
372.500	V	58.7		1.0	21.0	0.0	-12.0	68.7	2707.2	8437.5	-9.9
745.000	H	11.0		1.4	25.7	0.0	-12.0	26.1	20.2	843.7	-32.4
745.000	V	22.7		1.4	25.7	0.0	-12.0	37.8	77.8	843.7	-20.7
1117.500	H	35.7		1.7	27.8	0.0	-12.0	53.2	458.6	500.0	-0.8
1117.500	V	24.2		1.7	27.8	0.0	-12.0	41.7	122.0	500.0	-12.3
1490.000	H	17.9		2.0	27.8	0.0	-12.0	35.7	61.3	500.0	-18.2
1490.000	V	22.9		2.0	27.8	0.0	-12.0	40.7	108.9	500.0	-13.2
1862.500	H	25.4		2.3	30.8	0.0	-12.0	46.5	210.9	843.7	-12.0
1862.500	V	22.9		2.3	30.8	0.0	-12.0	44.0	158.2	843.7	-14.5
2235.000	H	17.3		2.5	31.5	0.0	-12.0	39.3	91.8	500.0	-14.7
2235.000	V	19.7		2.5	31.5	0.0	-12.0	41.7	121.0	500.0	-12.3
2607.500	H	19.4		2.7	32.6	0.0	-12.0	42.7	136.9	843.7	-15.8
2607.500	V	19.0		2.7	32.6	0.0	-12.0	42.3	130.7	843.7	-16.2
2980.000	H	18.4	Ambient	2.9	32.6	0.0	-12.0	41.9	124.9	843.7	-16.6
2980.000	V	19.4	Ambient	2.9	32.6	0.0	-12.0	42.9	140.1	843.7	-15.6
3352.500	H	17.4	Ambient	3.1	32.8	0.0	-12.0	41.4	117.1	500.0	-12.6
3352.500	V	17.4	Ambient	3.1	32.8	0.0	-12.0	41.4	117.1	500.0	-12.6
3725.000	H	18.8	Ambient	3.3	33.0	0.0	-12.0	43.1	142.1	500.0	-10.9
3725.000	V	18.0	Ambient	3.3	33.0	0.0	-12.0	42.3	129.6	500.0	-11.7

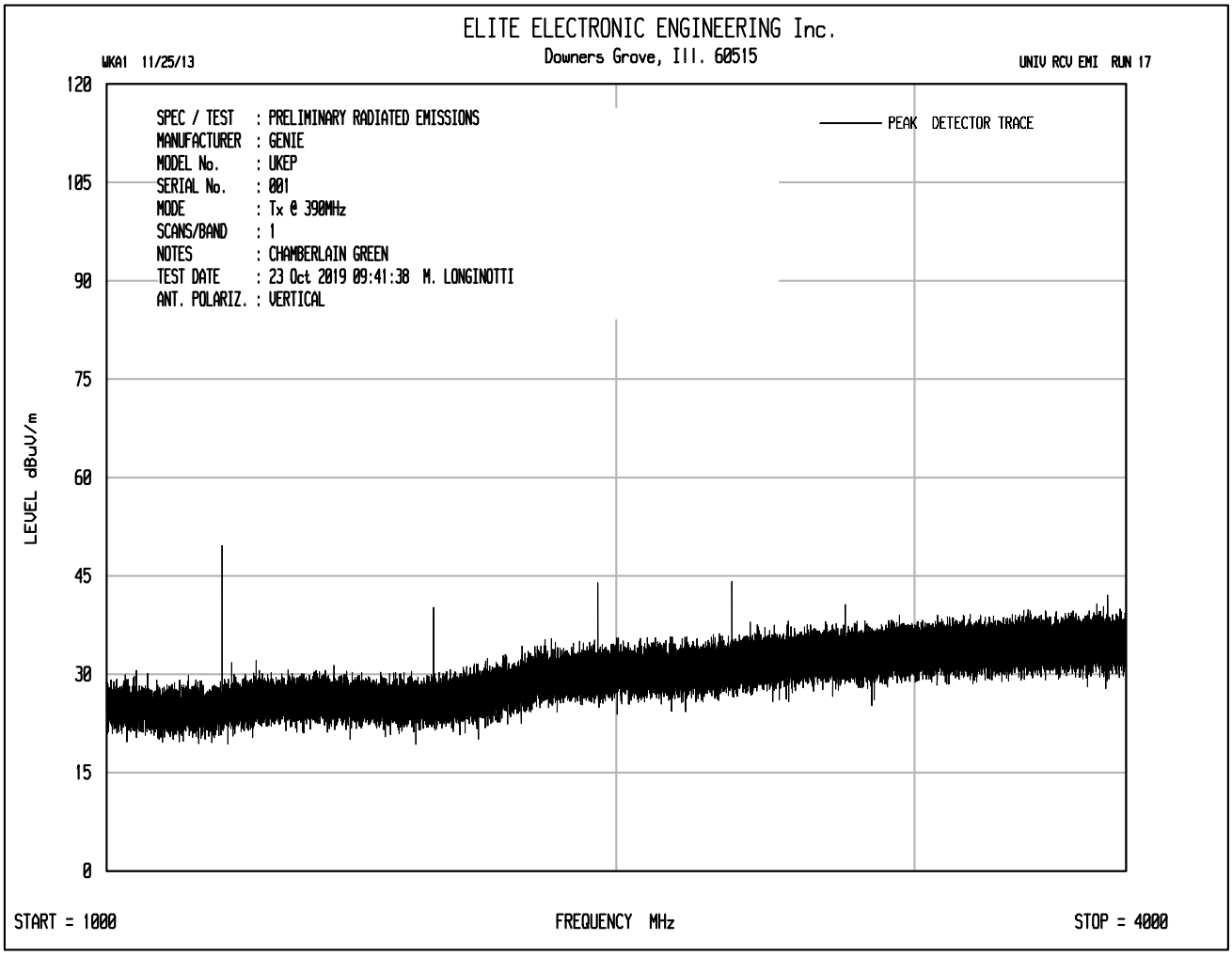
Checked By: MARK E. LONGINOTTI

Mark E. Longinotti


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 29
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 390MHz
SCANS/BAND : 1
NOTES : CHAMBERLAIN GREEN
TEST DATE : 24 Oct 2019 10:03:06 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
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 : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 390MHz
SCANS/BAND : 1
NOTES : CHAMBERLAIN GREEN
TEST DATE : 24 Oct 2019 09:58:27 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 16
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 390MHz
SCANS/BAND : 1
NOTES : CHAMBERLAIN GREEN
TEST DATE : 23 Oct 2019 09:36:37 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 = 4000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 17
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 390MHz
SCANS/BAND : 1
NOTES : CHAMBERLAIN GREEN
TEST DATE : 23 Oct 2019 09:41:38 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

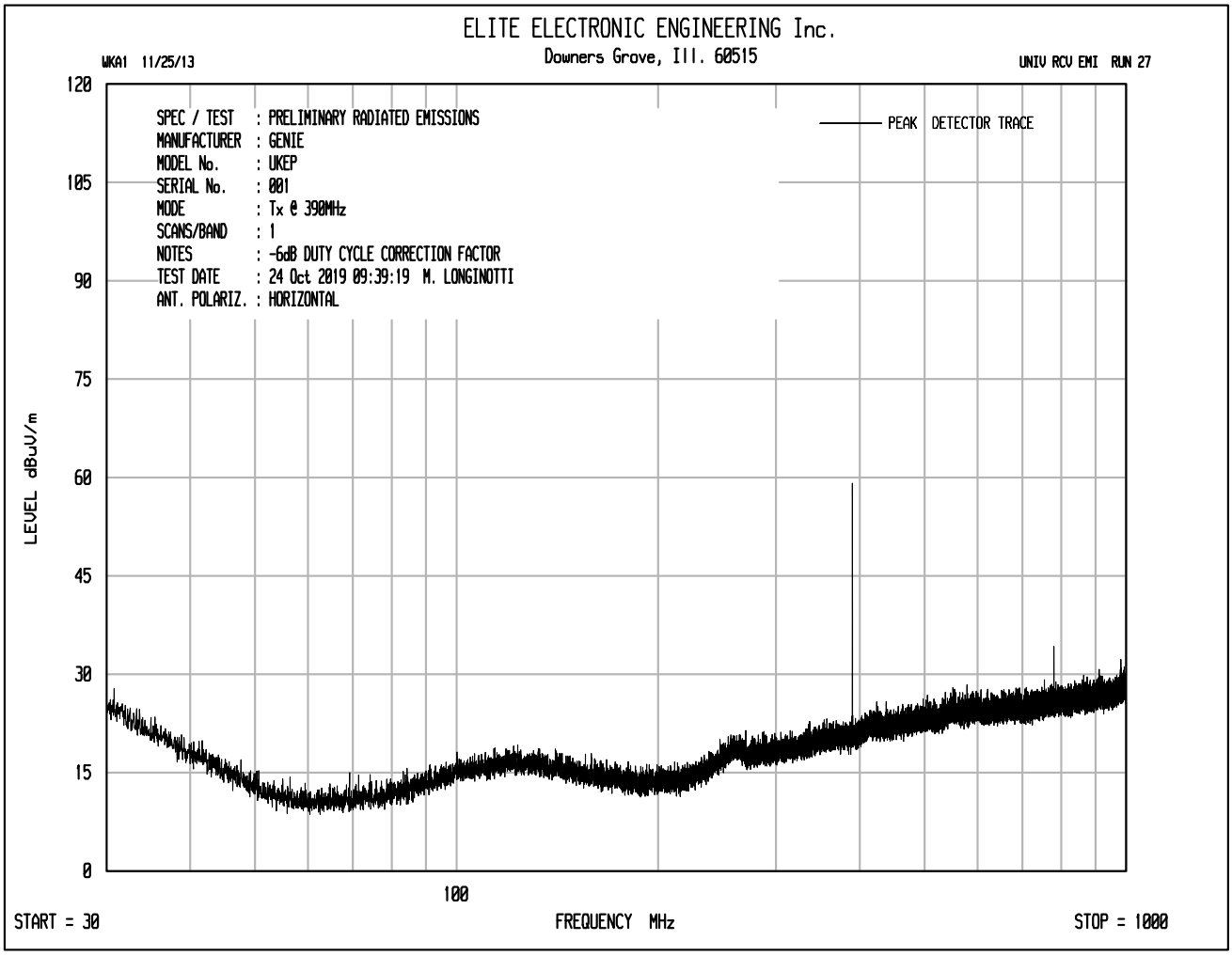
RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

MANUFACTURER	:	Genie Company
MODEL NO.	:	UKEP
TEST MODE	:	Chamberlain Green Tx @ 390MHz
NOTES	:	
TEST DATE	:	October 21, 2019 through October 24, 2019

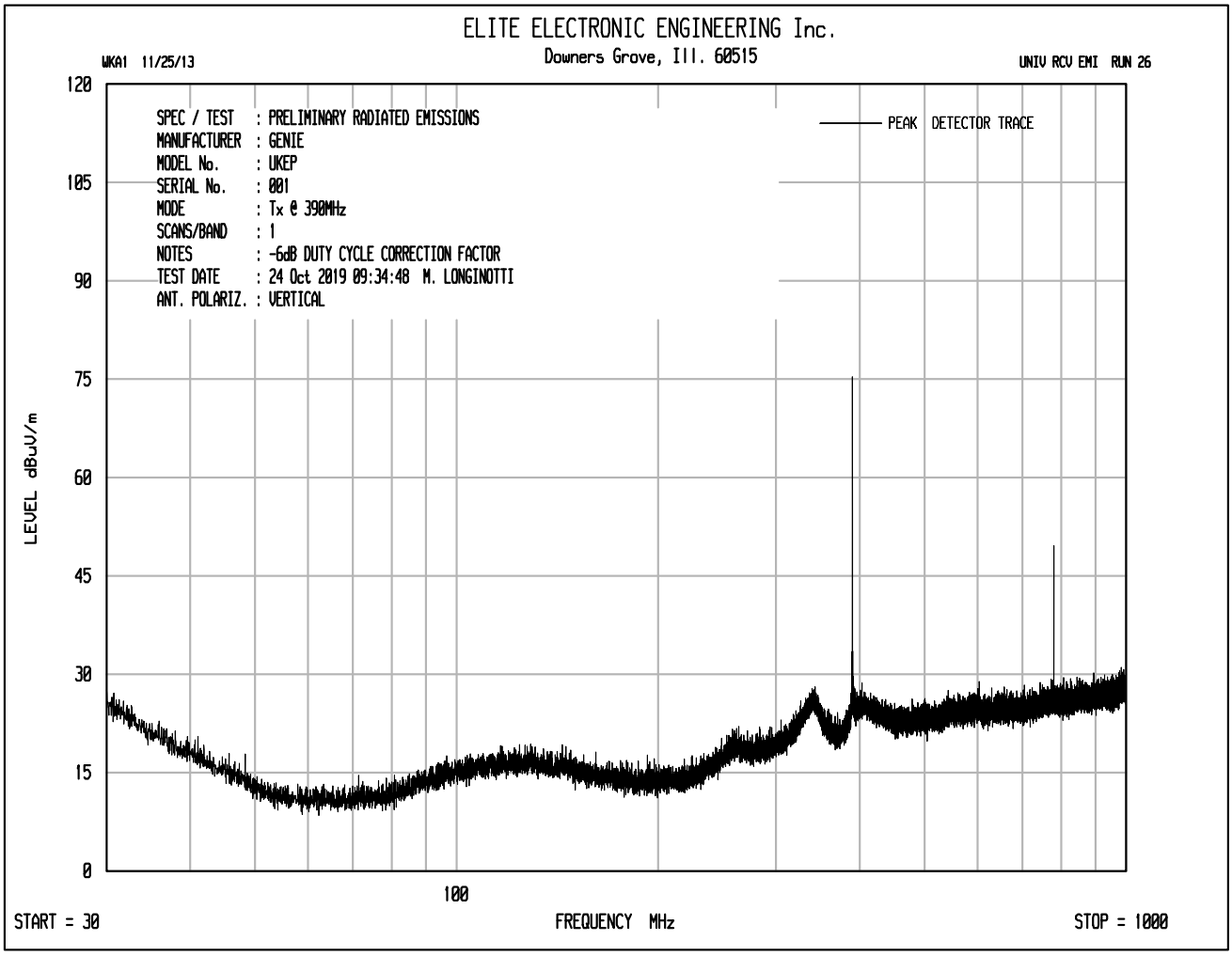
Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
390.000	H	38.8		1.0	20.8	0.0	-9.6	51.1	357.1	9166.7	-28.2
390.000	V	57.6		1.0	20.8	0.0	-9.6	69.9	3110.2	9166.7	-9.4
780.000	H	10.1		1.4	26.0	0.0	-9.6	28.0	25.1	916.7	-31.3
780.000	V	26.6		1.4	26.0	0.0	-9.6	44.5	167.5	916.7	-14.8
1170.000	H	33.1		1.8	28.3	0.0	-9.6	53.6	477.2	500.0	-0.4
1170.000	V	23.1		1.8	28.3	0.0	-9.6	43.6	150.9	500.0	-10.4
1560.000	H	19.3		2.1	28.0	0.0	-9.6	39.8	97.2	500.0	-14.2
1560.000	V	22.9		2.1	28.0	0.0	-9.6	43.4	147.1	500.0	-10.6
1950.000	H	21.9		2.3	31.2	0.0	-9.6	45.8	194.5	916.7	-13.5
1950.000	V	17.8		2.3	31.2	0.0	-9.6	41.7	121.3	916.7	-17.6
2340.000	H	15.8	Ambient	2.6	31.9	0.0	-9.6	40.6	107.7	500.0	-13.3
2340.000	V	19.6		2.6	31.9	0.0	-9.6	44.4	166.8	500.0	-9.5
2730.000	H	18.5	Ambient	2.8	32.5	0.0	-9.6	44.2	162.9	500.0	-9.7
2730.000	V	17.6	Ambient	2.8	32.5	0.0	-9.6	43.3	146.9	500.0	-10.6
3120.000	H	18.3	Ambient	3.0	32.8	0.0	-9.6	44.5	168.1	916.7	-14.7
3120.000	V	17.9	Ambient	3.0	32.8	0.0	-9.6	44.1	160.5	916.7	-15.1
3510.000	H	17.3	Ambient	3.2	32.9	0.0	-9.6	43.8	155.0	916.7	-15.4
3510.000	V	18.0	Ambient	3.2	32.9	0.0	-9.6	44.5	168.1	916.7	-14.7
3900.000	H	19.5	Ambient	3.4	33.2	0.0	-9.6	46.5	211.3	500.0	-7.5
3900.000	V	18.9	Ambient	3.4	33.2	0.0	-9.6	45.9	197.2	500.0	-8.1

Checked By: MARK E. LONGINOTTI

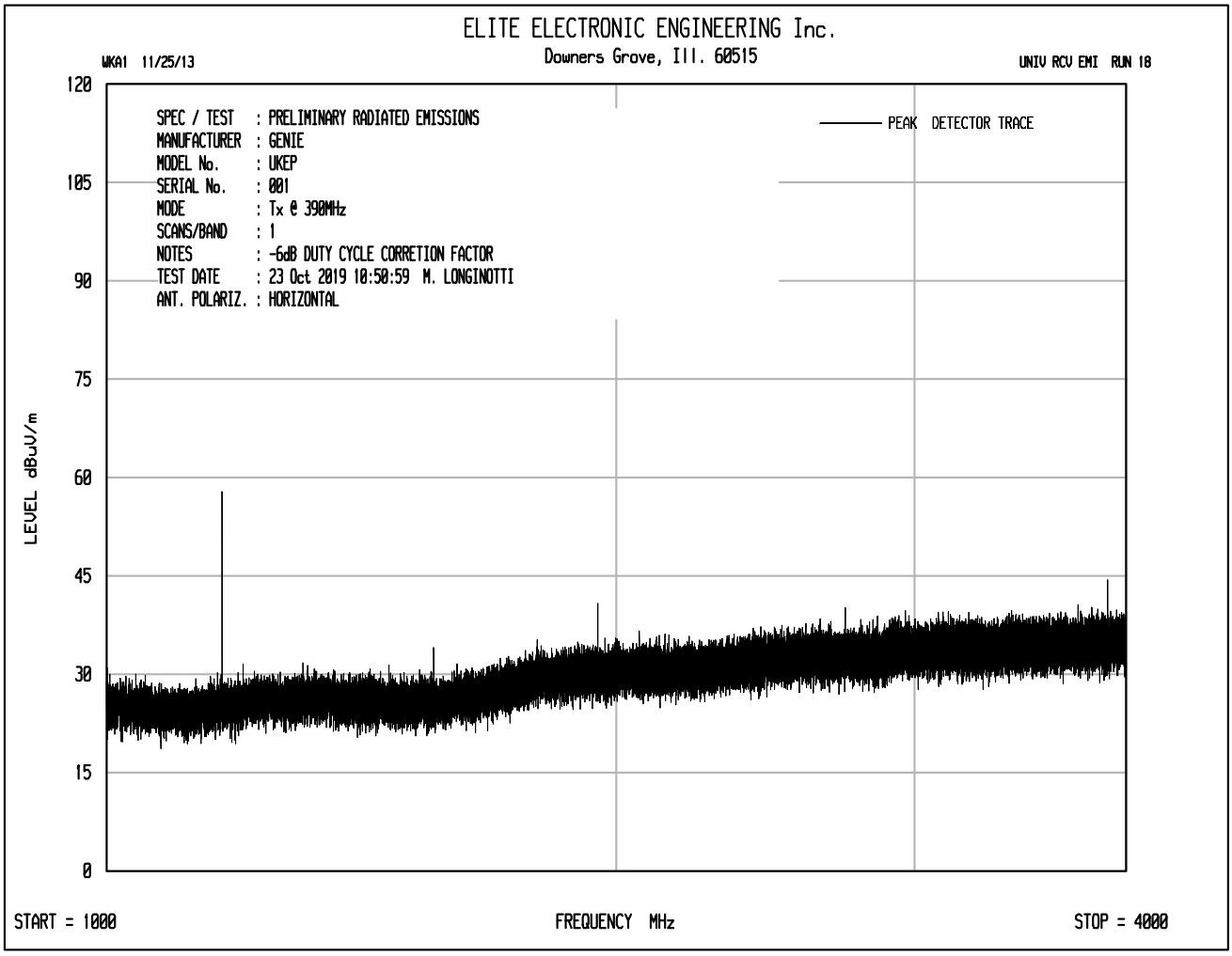
Mark E. Longinotti



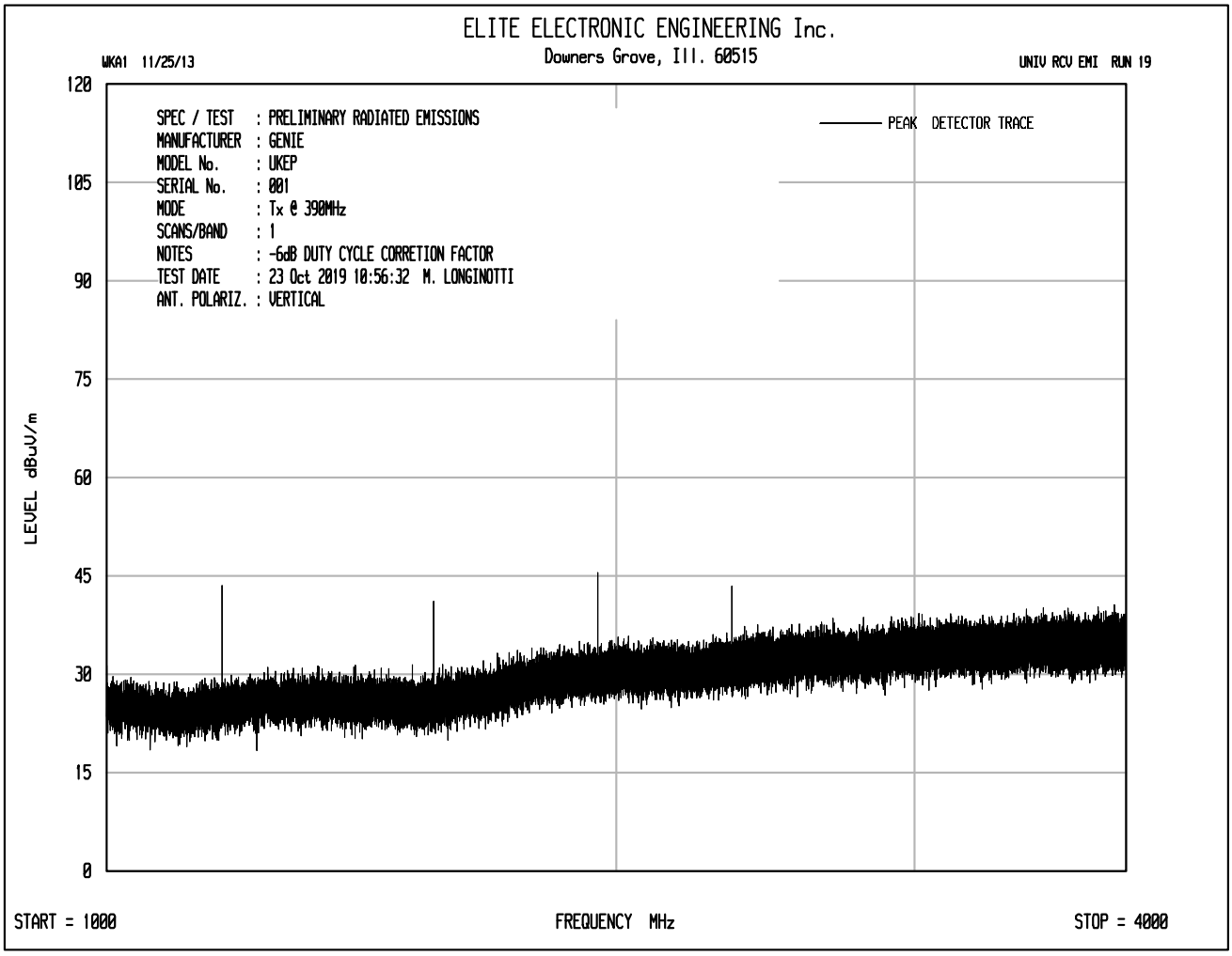
Power Setting for Chamberlain Orange/Red
Power Setting for Chamberlain Yellow
Power Setting for Genie Legacy 9 Position DIP Switch
Power Setting for Genie Legacy 12 Position DIP Switch
Power Setting for OHD 9 Position DIP Switch



Power Setting for Chamberlain Orange/Red
Power Setting for Chamberlain Yellow
Power Setting for Genie Legacy 9 Position DIP Switch
Power Setting for Genie Legacy 12 Position DIP Switch
Power Setting for OHD 9 Position DIP Switch



Power Setting for Chamberlain Orange/Red
Power Setting for Chamberlain Yellow
Power Setting for Genie Legacy 9 Position DIP Switch
Power Setting for Genie Legacy 12 Position DIP Switch
Power Setting for OHD 9 Position DIP Switch



Power Setting for Chamberlain Orange/Red
Power Setting for Chamberlain Yellow
Power Setting for Genie Legacy 9 Position DIP Switch
Power Setting for Genie Legacy 12 Position DIP Switch
Power Setting for OHD 9 Position DIP Switch

RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

MANUFACTURER	:	Genie Company
MODEL NO.	:	UKEP
TEST MODE	:	Chamberlain Orange/Red Tx @ 390MHz
NOTES	:	
TEST DATE	:	October 21, 2019 through October 24, 2019

Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
390.000	H	37.8		1.0	20.8	0.0	-6.7	53.0	444.4	9166.7	-26.3
390.000	V	54.0		1.0	20.8	0.0	-6.7	69.2	2869.4	9166.7	-10.1
780.000	H	10.0		1.4	26.0	0.0	-6.7	30.8	34.6	916.7	-28.5
780.000	V	23.3		1.4	26.0	0.0	-6.7	44.1	159.9	916.7	-15.2
1170.000	H	29.6		1.8	28.3	0.0	-6.7	53.0	445.4	500.0	-1.0
1170.000	V	19.8		1.8	28.3	0.0	-6.7	43.2	144.1	500.0	-10.8
1560.000	H	21.0		2.1	28.0	0.0	-6.7	44.4	165.1	500.0	-9.6
1560.000	V	20.9		2.1	28.0	0.0	-6.7	44.3	163.2	500.0	-9.7
1950.000	H	21.5		2.3	31.2	0.0	-6.7	48.3	259.4	916.7	-11.0
1950.000	V	18.3		2.3	31.2	0.0	-6.7	45.1	179.4	916.7	-14.2
2340.000	H	16.6	Ambient	2.6	31.9	0.0	-6.7	44.3	164.9	500.0	-9.6
2340.000	V	18.4		2.6	31.9	0.0	-6.7	46.1	202.8	500.0	-7.8
2730.000	H	17.5	Ambient	2.8	32.5	0.0	-6.7	46.1	202.7	500.0	-7.8
2730.000	V	16.8	Ambient	2.8	32.5	0.0	-6.7	45.4	187.0	500.0	-8.5
3120.000	H	18.0	Ambient	3.0	32.8	0.0	-6.7	47.1	226.7	916.7	-12.1
3120.000	V	17.2	Ambient	3.0	32.8	0.0	-6.7	46.3	206.8	916.7	-12.9
3510.000	H	17.0	Ambient	3.2	32.9	0.0	-6.7	46.4	209.1	916.7	-12.8
3510.000	V	16.2	Ambient	3.2	32.9	0.0	-6.7	45.6	190.7	916.7	-13.6
3900.000	H	18.1	Ambient	3.4	33.2	0.0	-6.7	48.0	251.2	500.0	-6.0
3900.000	V	17.3	Ambient	3.4	33.2	0.0	-6.7	47.2	229.1	500.0	-6.8

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti

RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

MANUFACTURER	:	Genie Company
MODEL NO.	:	UKEP
TEST MODE	:	Chamberlain Yellow Tx @ 390MHz
NOTES	:	
TEST DATE	:	October 21, 2019 through October 24, 2019

Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
390.000	H	37.8		1.0	20.8	0.0	-6.2	53.5	470.8	9166.7	-25.8
390.000	V	54.0		1.0	20.8	0.0	-6.2	69.7	3039.4	9166.7	-9.6
780.000	H	10.0		1.4	26.0	0.0	-6.2	31.3	36.6	916.7	-28.0
780.000	V	23.3		1.4	26.0	0.0	-6.2	44.6	169.4	916.7	-14.7
1170.000	H	29.6		1.8	28.3	0.0	-6.2	53.5	471.8	500.0	-0.5
1170.000	V	19.8		1.8	28.3	0.0	-6.2	43.7	152.7	500.0	-10.3
1560.000	H	21.0		2.1	28.0	0.0	-6.2	44.9	174.9	500.0	-9.1
1560.000	V	20.9		2.1	28.0	0.0	-6.2	44.8	172.8	500.0	-9.2
1950.000	H	21.5		2.3	31.2	0.0	-6.2	48.8	274.7	916.7	-10.5
1950.000	V	18.3		2.3	31.2	0.0	-6.2	45.6	190.1	916.7	-13.7
2340.000	H	16.6	Ambient	2.6	31.9	0.0	-6.2	44.8	174.6	500.0	-9.1
2340.000	V	18.4		2.6	31.9	0.0	-6.2	46.6	214.8	500.0	-7.3
2730.000	H	17.5	Ambient	2.8	32.5	0.0	-6.2	46.6	214.7	500.0	-7.3
2730.000	V	16.8	Ambient	2.8	32.5	0.0	-6.2	45.9	198.1	500.0	-8.0
3120.000	H	18.0	Ambient	3.0	32.8	0.0	-6.2	47.6	240.1	916.7	-11.6
3120.000	V	17.2	Ambient	3.0	32.8	0.0	-6.2	46.8	219.0	916.7	-12.4
3510.000	H	17.0	Ambient	3.2	32.9	0.0	-6.2	46.9	221.5	916.7	-12.3
3510.000	V	16.2	Ambient	3.2	32.9	0.0	-6.2	46.1	202.0	916.7	-13.1
3900.000	H	18.1	Ambient	3.4	33.2	0.0	-6.2	48.5	266.1	500.0	-5.5
3900.000	V	17.3	Ambient	3.4	33.2	0.0	-6.2	47.7	242.7	500.0	-6.3

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti

RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

MANUFACTURER	:	Genie Company
MODEL NO.	:	UKEP
TEST MODE	:	Genie Legacy 9 Position DIP Switch Tx @ 390MHz
NOTES	:	
TEST DATE	:	October 21, 2019 through October 24, 2019

Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
390.000	H	37.8		1.0	20.8	0.0	-6.0	53.7	481.7	9166.7	-25.6
390.000	V	54.0		1.0	20.8	0.0	-6.0	69.9	3110.2	9166.7	-9.4
780.000	H	10.0		1.4	26.0	0.0	-6.0	31.5	37.5	916.7	-27.8
780.000	V	23.3		1.4	26.0	0.0	-6.0	44.8	173.3	916.7	-14.5
1170.000	H	29.6		1.8	28.3	0.0	-6.0	53.7	482.8	500.0	-0.3
1170.000	V	19.8		1.8	28.3	0.0	-6.0	43.9	156.2	500.0	-10.1
1560.000	H	21.0		2.1	28.0	0.0	-6.0	45.1	178.9	500.0	-8.9
1560.000	V	20.9		2.1	28.0	0.0	-6.0	45.0	176.9	500.0	-9.0
1950.000	H	21.5		2.3	31.2	0.0	-6.0	49.0	281.1	916.7	-10.3
1950.000	V	18.3		2.3	31.2	0.0	-6.0	45.8	194.5	916.7	-13.5
2340.000	H	16.6	Ambient	2.6	31.9	0.0	-6.0	45.0	178.7	500.0	-8.9
2340.000	V	18.4		2.6	31.9	0.0	-6.0	46.8	219.8	500.0	-7.1
2730.000	H	17.5	Ambient	2.8	32.5	0.0	-6.0	46.8	219.7	500.0	-7.1
2730.000	V	16.8	Ambient	2.8	32.5	0.0	-6.0	46.1	202.7	500.0	-7.8
3120.000	H	18.0	Ambient	3.0	32.8	0.0	-6.0	47.8	245.7	916.7	-11.4
3120.000	V	17.2	Ambient	3.0	32.8	0.0	-6.0	47.0	224.1	916.7	-12.2
3510.000	H	17.0	Ambient	3.2	32.9	0.0	-6.0	47.1	226.7	916.7	-12.1
3510.000	V	16.2	Ambient	3.2	32.9	0.0	-6.0	46.3	206.7	916.7	-12.9
3900.000	H	18.1	Ambient	3.4	33.2	0.0	-6.0	48.7	272.3	500.0	-5.3
3900.000	V	17.3	Ambient	3.4	33.2	0.0	-6.0	47.9	248.3	500.0	-6.1

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti

RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

MANUFACTURER : Genie Company
MODEL NO. : UKEP
TEST MODE : Genie Legacy 12 Position DIP Switch Tx @ 390MHz
NOTES :
TEST DATE : October 21, 2019 through October 24, 2019

Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
390.000	H	37.8		1.0	20.8	0.0	-6.0	53.7	481.7	9166.7	-25.6
390.000	V	54.0		1.0	20.8	0.0	-6.0	69.9	3110.2	9166.7	-9.4
780.000	H	10.0		1.4	26.0	0.0	-6.0	31.5	37.5	916.7	-27.8
780.000	V	23.3		1.4	26.0	0.0	-6.0	44.8	173.3	916.7	-14.5
1170.000	H	29.6		1.8	28.3	0.0	-6.0	53.7	482.8	500.0	-0.3
1170.000	V	19.8		1.8	28.3	0.0	-6.0	43.9	156.2	500.0	-10.1
1560.000	H	21.0		2.1	28.0	0.0	-6.0	45.1	178.9	500.0	-8.9
1560.000	V	20.9		2.1	28.0	0.0	-6.0	45.0	176.9	500.0	-9.0
1950.000	H	21.5		2.3	31.2	0.0	-6.0	49.0	281.1	916.7	-10.3
1950.000	V	18.3		2.3	31.2	0.0	-6.0	45.8	194.5	916.7	-13.5
2340.000	H	16.6	Ambient	2.6	31.9	0.0	-6.0	45.0	178.7	500.0	-8.9
2340.000	V	18.4		2.6	31.9	0.0	-6.0	46.8	219.8	500.0	-7.1
2730.000	H	17.5	Ambient	2.8	32.5	0.0	-6.0	46.8	219.7	500.0	-7.1
2730.000	V	16.8	Ambient	2.8	32.5	0.0	-6.0	46.1	202.7	500.0	-7.8
3120.000	H	18.0	Ambient	3.0	32.8	0.0	-6.0	47.8	245.7	916.7	-11.4
3120.000	V	17.2	Ambient	3.0	32.8	0.0	-6.0	47.0	224.1	916.7	-12.2
3510.000	H	17.0	Ambient	3.2	32.9	0.0	-6.0	47.1	226.7	916.7	-12.1
3510.000	V	16.2	Ambient	3.2	32.9	0.0	-6.0	46.3	206.7	916.7	-12.9
3900.000	H	18.1	Ambient	3.4	33.2	0.0	-6.0	48.7	272.3	500.0	-5.3
3900.000	V	17.3	Ambient	3.4	33.2	0.0	-6.0	47.9	248.3	500.0	-6.1

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti

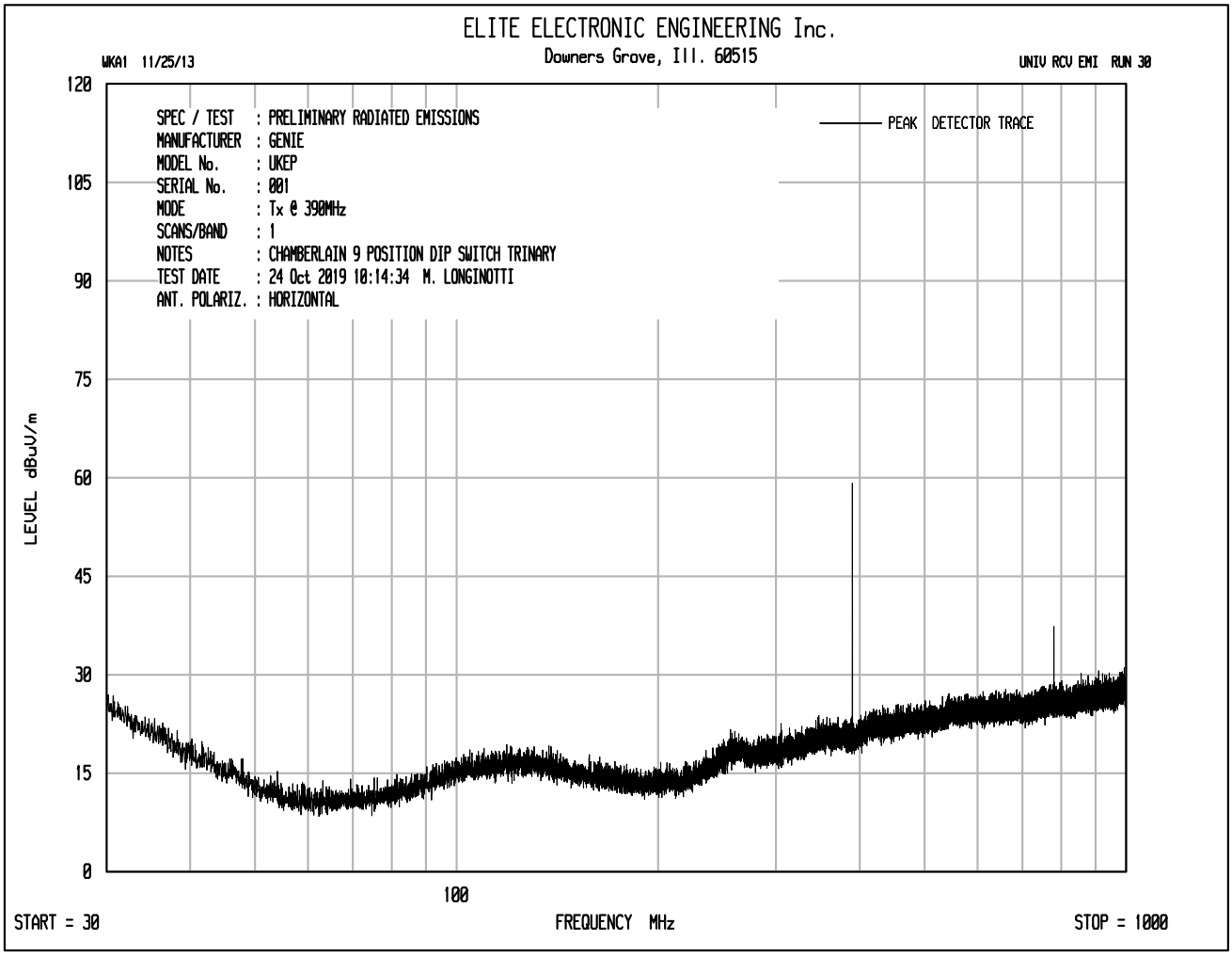
RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

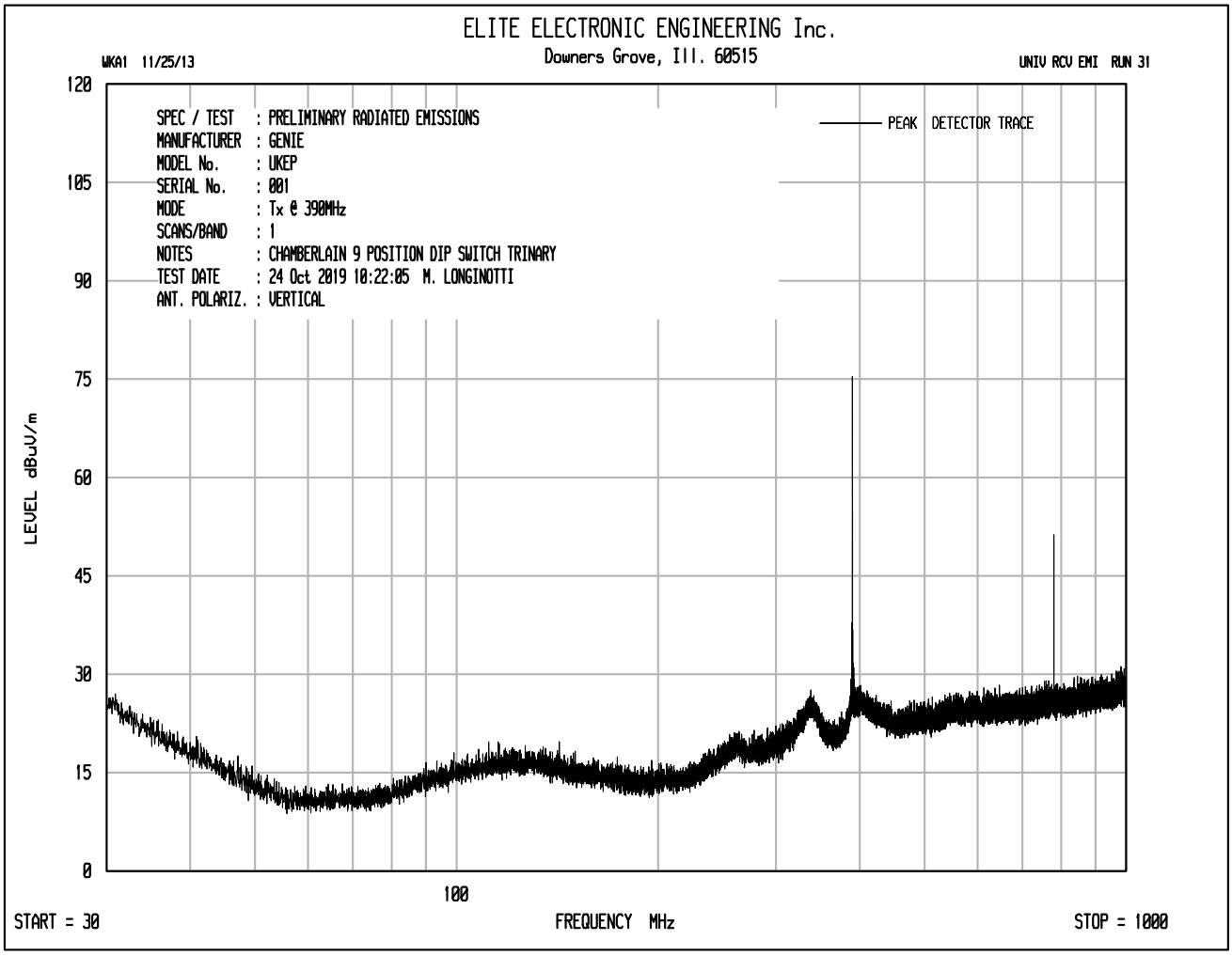
MANUFACTURER	:	Genie Company
MODEL NO.	:	UKEP
TEST MODE	:	OHD 9 Position DIP Switch Tx @ 390MHz
NOTES	:	
TEST DATE	:	October 21, 2019 through October 24, 2019

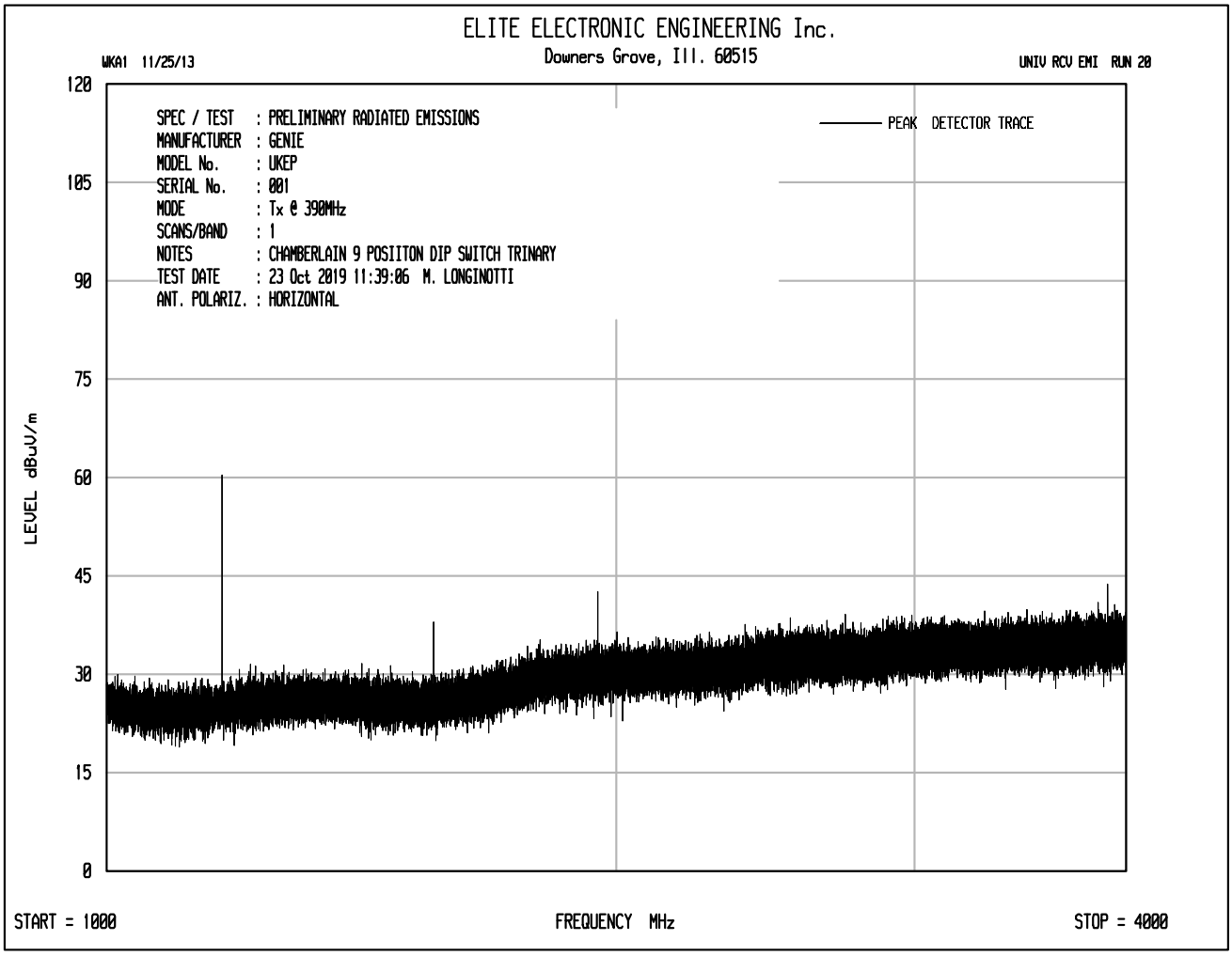
Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
390.000	H	37.8		1.0	20.8	0.0	-6.3	53.4	465.4	9166.7	-25.9
390.000	V	54.0		1.0	20.8	0.0	-6.3	69.6	3004.6	9166.7	-9.7
780.000	H	10.0		1.4	26.0	0.0	-6.3	31.2	36.2	916.7	-28.1
780.000	V	23.3		1.4	26.0	0.0	-6.3	44.5	167.5	916.7	-14.8
1170.000	H	29.6		1.8	28.3	0.0	-6.3	53.4	466.4	500.0	-0.6
1170.000	V	19.8		1.8	28.3	0.0	-6.3	43.6	150.9	500.0	-10.4
1560.000	H	21.0		2.1	28.0	0.0	-6.3	44.8	172.8	500.0	-9.2
1560.000	V	20.9		2.1	28.0	0.0	-6.3	44.7	170.9	500.0	-9.3
1950.000	H	21.5		2.3	31.2	0.0	-6.3	48.7	271.6	916.7	-10.6
1950.000	V	18.3		2.3	31.2	0.0	-6.3	45.5	187.9	916.7	-13.8
2340.000	H	16.6	Ambient	2.6	31.9	0.0	-6.3	44.7	172.6	500.0	-9.2
2340.000	V	18.4		2.6	31.9	0.0	-6.3	46.5	212.4	500.0	-7.4
2730.000	H	17.5	Ambient	2.8	32.5	0.0	-6.3	46.5	212.3	500.0	-7.4
2730.000	V	16.8	Ambient	2.8	32.5	0.0	-6.3	45.8	195.8	500.0	-8.1
3120.000	H	18.0	Ambient	3.0	32.8	0.0	-6.3	47.5	237.4	916.7	-11.7
3120.000	V	17.2	Ambient	3.0	32.8	0.0	-6.3	46.7	216.5	916.7	-12.5
3510.000	H	17.0	Ambient	3.2	32.9	0.0	-6.3	46.8	219.0	916.7	-12.4
3510.000	V	16.2	Ambient	3.2	32.9	0.0	-6.3	46.0	199.7	916.7	-13.2
3900.000	H	18.1	Ambient	3.4	33.2	0.0	-6.3	48.4	263.0	500.0	-5.6
3900.000	V	17.3	Ambient	3.4	33.2	0.0	-6.3	47.6	239.9	500.0	-6.4

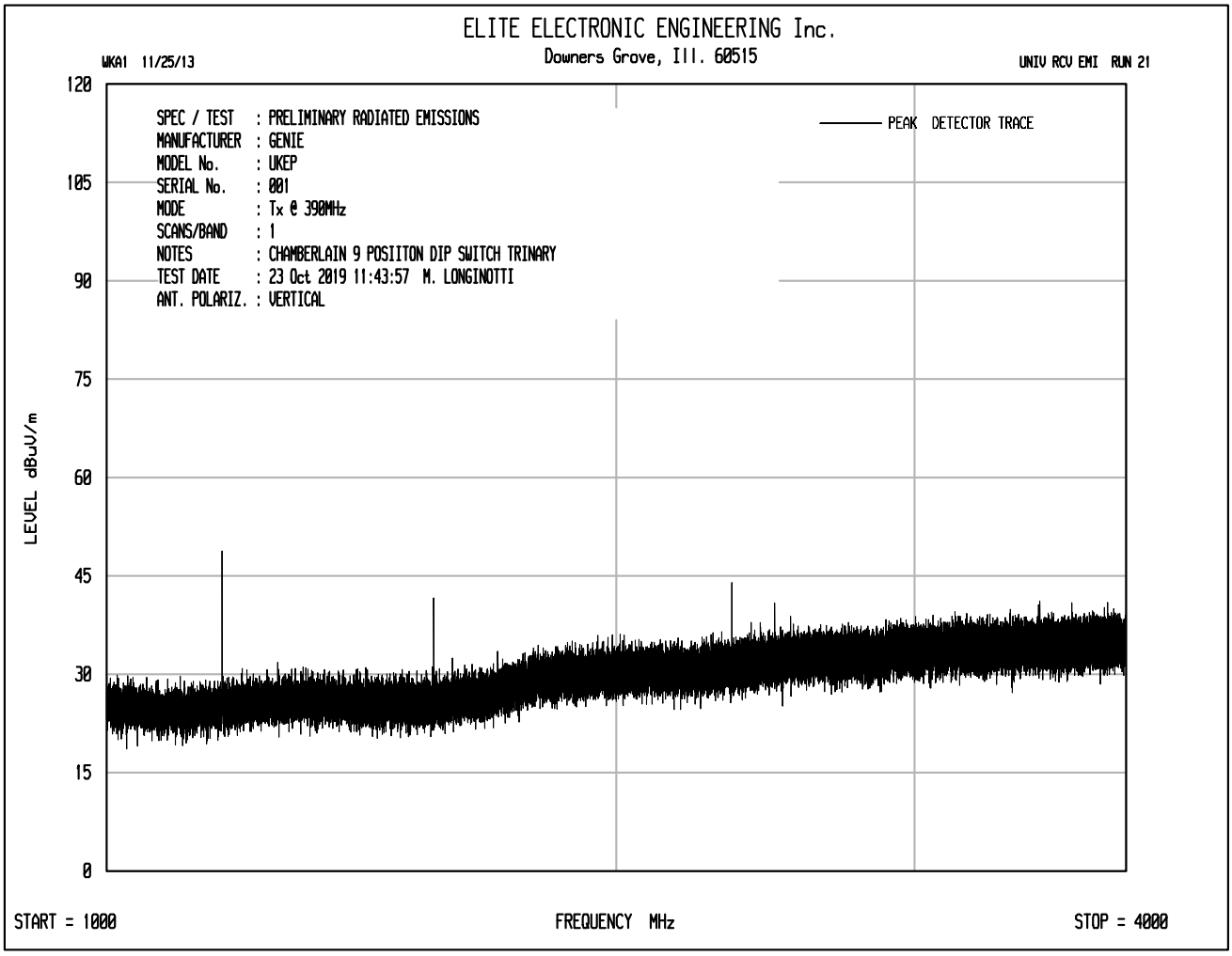
Checked By: MARK E. LONGINOTTI

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 : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 390MHz
SCANS/BAND : 1
NOTES : CHAMBERLAIN 9 POSITION DIP SWITCH TRINARY
TEST DATE : 24 Oct 2019 10:14:34 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 31
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 390MHz
SCANS/BAND : 1
NOTES : CHAMBERLAIN 9 POSITION DIP SWITCH TRINARY
TEST DATE : 24 Oct 2019 10:22:05 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 20
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 390MHz
SCANS/BAND : 1
NOTES : CHAMBERLAIN 9 POSIITON DIP SWITCH TRINARY
TEST DATE : 23 Oct 2019 11:39:06 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 21
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 390MHz
SCANS/BAND : 1
NOTES : CHAMBERLAIN 9 POSIITON DIP SWITCH TRINARY
TEST DATE : 23 Oct 2019 11:43:57 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

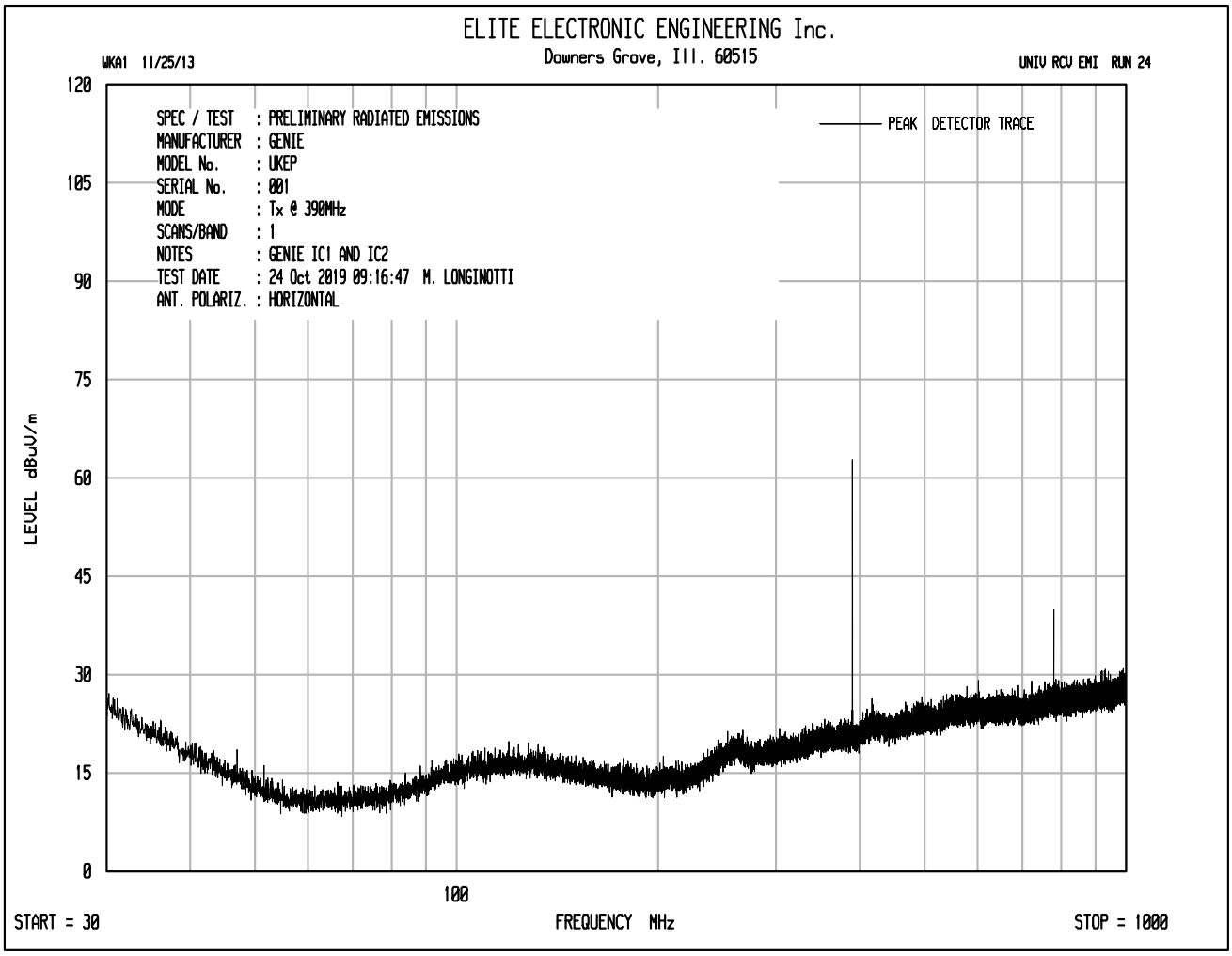
RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

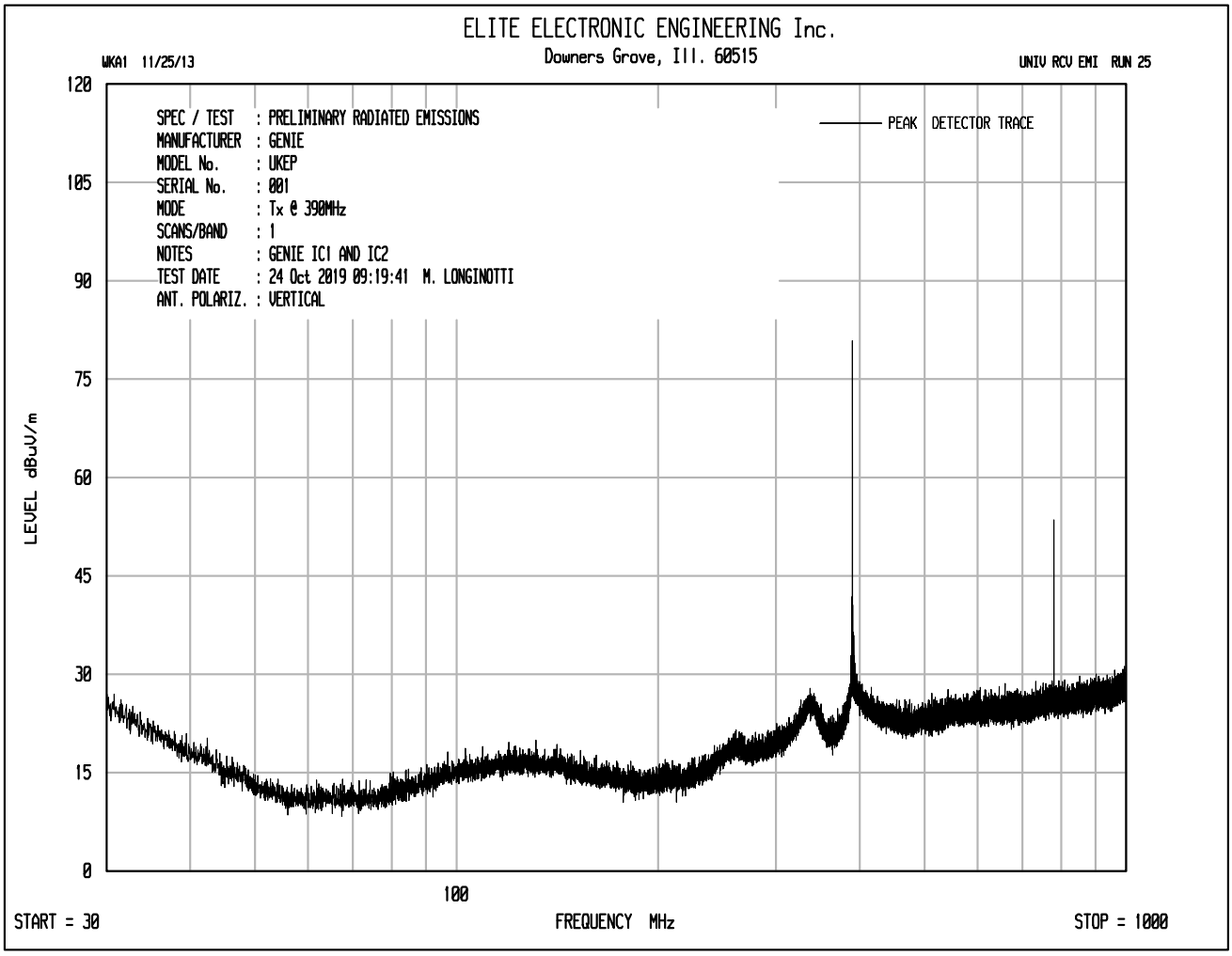
MANUFACTURER : Genie Company
MODEL NO. : UKEP
TEST MODE : Chamberlain Legacy 9 Position DIP Switch Tx @ 390MHz
NOTES :
TEST DATE : October 21, 2019 through October 24, 2019

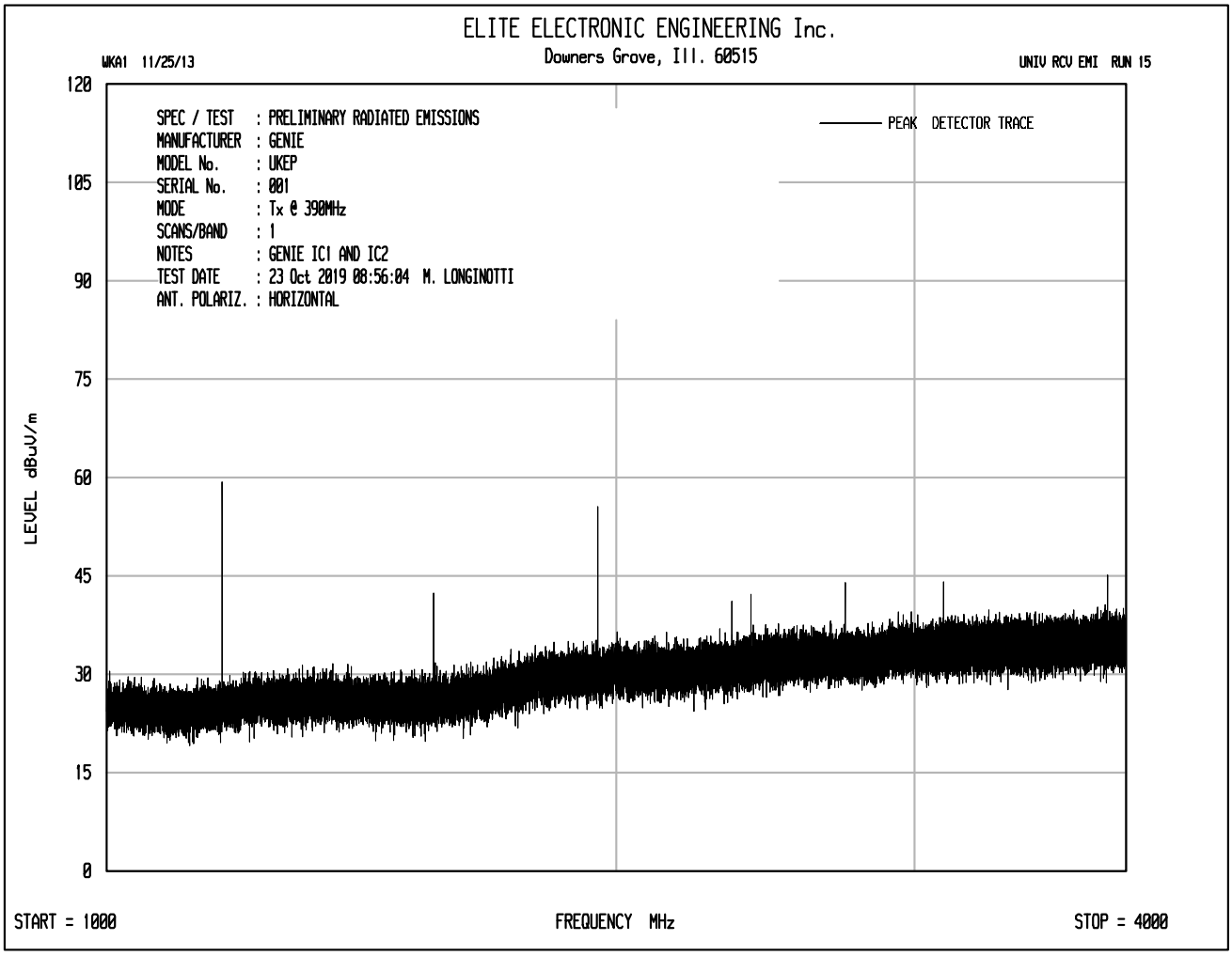
Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
390.000	H	38.1		1.0	20.8	0.0	-7.5	52.5	419.6	9166.7	-26.8
390.000	V	55.3		1.0	20.8	0.0	-7.5	69.7	3039.4	9166.7	-9.6
780.000	H	10.2		1.4	26.0	0.0	-7.5	30.2	32.3	916.7	-29.1
780.000	V	24.3		1.4	26.0	0.0	-7.5	44.3	163.6	916.7	-15.0
1170.000	H	30.7		1.8	28.3	0.0	-7.5	53.3	461.0	500.0	-0.7
1170.000	V	24.3		1.8	28.3	0.0	-7.5	46.9	220.7	500.0	-7.1
1560.000	H	17.8		2.1	28.0	0.0	-7.5	40.4	104.2	500.0	-13.6
1560.000	V	21.3		2.1	28.0	0.0	-7.5	43.9	155.8	500.0	-10.1
1950.000	H	20.9		2.3	31.2	0.0	-7.5	46.9	220.7	916.7	-12.4
1950.000	V	20.2		2.3	31.2	0.0	-7.5	46.2	203.7	916.7	-13.1
2340.000	H	16.9		2.6	31.9	0.0	-7.5	43.8	155.6	500.0	-10.1
2340.000	V	19.2		2.6	31.9	0.0	-7.5	46.1	202.8	500.0	-7.8
2730.000	H	17.1	Ambient	2.8	32.5	0.0	-7.5	44.9	176.6	500.0	-9.0
2730.000	V	17.3	Ambient	2.8	32.5	0.0	-7.5	45.1	180.7	500.0	-8.8
3120.000	H	17.2	Ambient	3.0	32.8	0.0	-7.5	45.5	188.6	916.7	-13.7
3120.000	V	17.6	Ambient	3.0	32.8	0.0	-7.5	45.9	197.5	916.7	-13.3
3510.000	H	17.2	Ambient	3.2	32.9	0.0	-7.5	45.8	195.2	916.7	-13.4
3510.000	V	17.7	Ambient	3.2	32.9	0.0	-7.5	46.3	206.7	916.7	-12.9
3900.000	H	18.5	Ambient	3.4	33.2	0.0	-7.5	47.6	239.9	500.0	-6.4
3900.000	V	17.2	Ambient	3.4	33.2	0.0	-7.5	46.3	206.5	500.0	-7.7

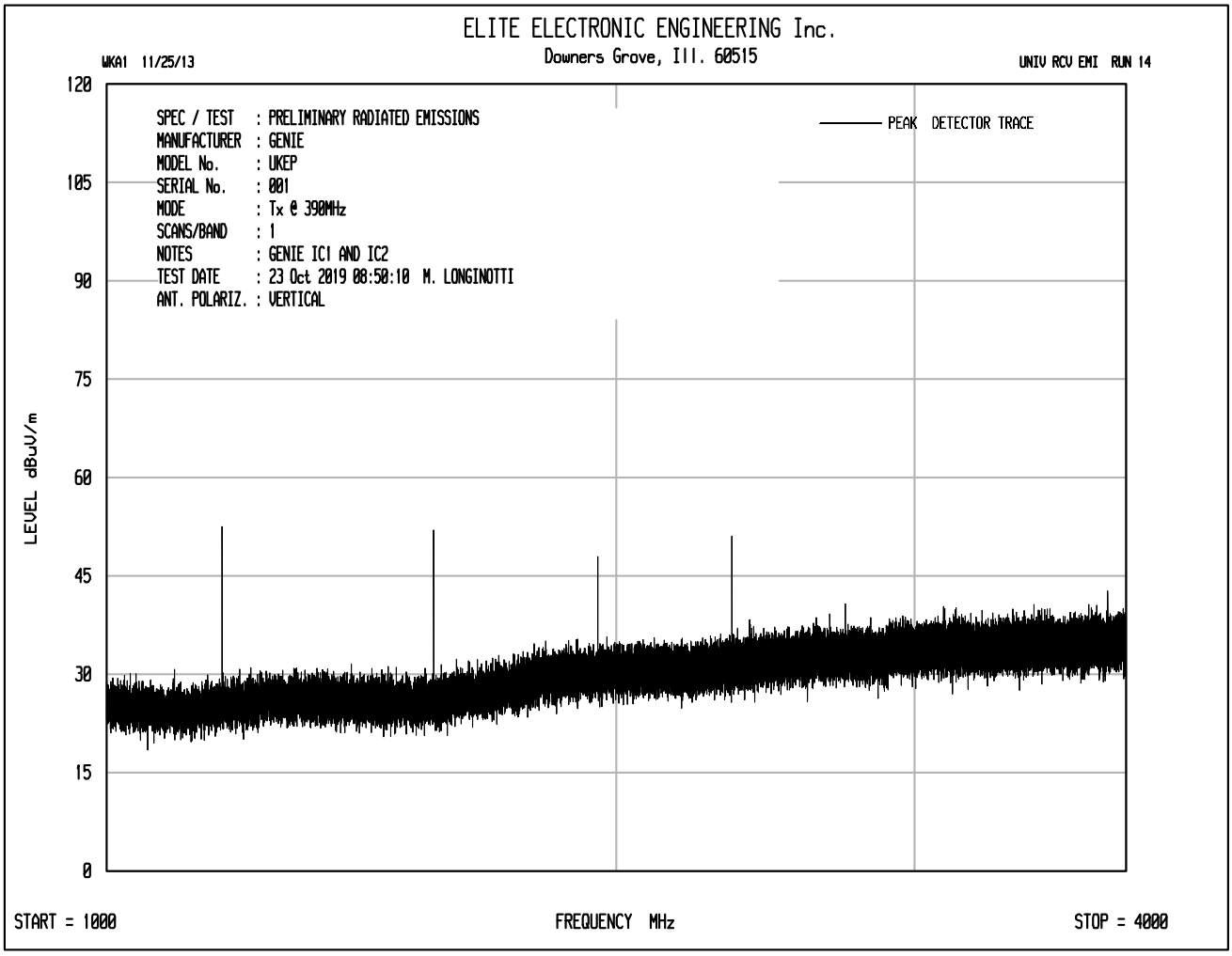
Checked By: MARK E. LONGINOTTI

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 : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 390MHz
SCANS/BAND : 1
NOTES : GENIE IC1 AND IC2
TEST DATE : 24 Oct 2019 09:16:47 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 25
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 390MHz
SCANS/BAND : 1
NOTES : GENIE IC1 AND IC2
TEST DATE : 24 Oct 2019 09:19:41 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
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 : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 390MHz
SCANS/BAND : 1
NOTES : GENIE IC1 AND IC2
TEST DATE : 23 Oct 2019 08:56:04 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 14
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 390MHz
SCANS/BAND : 1
NOTES : GENIE IC1 AND IC2
TEST DATE : 23 Oct 2019 08:50:10 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

RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

MANUFACTURER : Genie Company
MODEL NO. : UKEP
TEST MODE : Genie IC1 Tx @ 390MHz
NOTES :
TEST DATE : October 21, 2019 through October 24, 2019

Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
390.000	H	41.6		1.0	20.8	0.0	-12.0	51.5	373.9	9166.7	-27.8
390.000	V	59.5		1.0	20.8	0.0	-12.0	69.4	2936.3	9166.7	-9.9
780.000	H	13.6		1.4	26.0	0.0	-12.0	29.1	28.4	916.7	-30.2
780.000	V	27.5		1.4	26.0	0.0	-12.0	43.0	140.9	916.7	-16.3
1170.000	H	35.2		1.8	28.3	0.0	-12.0	53.3	461.0	500.0	-0.7
1170.000	V	25.6		1.8	28.3	0.0	-12.0	43.7	152.7	500.0	-10.3
1560.000	H	19.4		2.1	28.0	0.0	-12.0	37.5	74.6	500.0	-16.5
1560.000	V	26.2		2.1	28.0	0.0	-12.0	44.3	163.2	500.0	-9.7
1950.000	H	24.0		2.3	31.2	0.0	-12.0	45.5	187.9	916.7	-13.8
1950.000	V	22.9		2.3	31.2	0.0	-12.0	44.4	165.5	916.7	-14.9
2340.000	H	16.7	Ambient	2.6	31.9	0.0	-12.0	39.1	90.6	500.0	-14.8
2340.000	V	21.3		2.6	31.9	0.0	-12.0	43.7	153.9	500.0	-10.2
2730.000	H	18.1	Ambient	2.8	32.5	0.0	-12.0	41.4	118.0	500.0	-12.5
2730.000	V	18.1	Ambient	2.8	32.5	0.0	-12.0	41.4	118.0	500.0	-12.5
3120.000	H	18.5	Ambient	3.0	32.8	0.0	-12.0	42.3	130.5	916.7	-16.9
3120.000	V	18.0	Ambient	3.0	32.8	0.0	-12.0	41.8	123.2	916.7	-17.4
3510.000	H	17.4	Ambient	3.2	32.9	0.0	-12.0	41.5	119.0	916.7	-17.7
3510.000	V	17.4	Ambient	3.2	32.9	0.0	-12.0	41.5	119.0	916.7	-17.7
3900.000	H	19.4	Ambient	3.4	33.2	0.0	-12.0	44.0	158.5	500.0	-10.0
3900.000	V	17.8	Ambient	3.4	33.2	0.0	-12.0	42.4	131.8	500.0	-11.6

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti

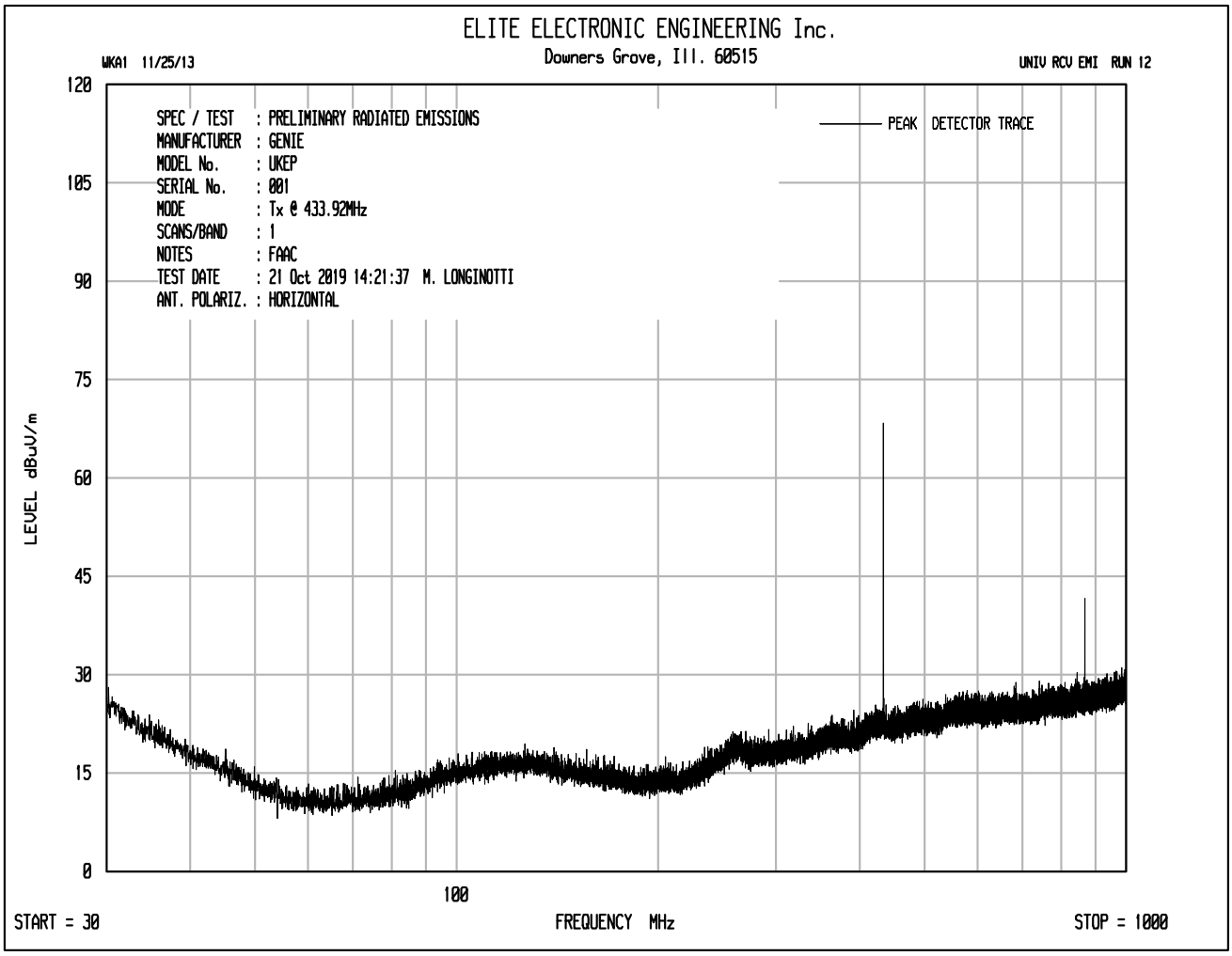
RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

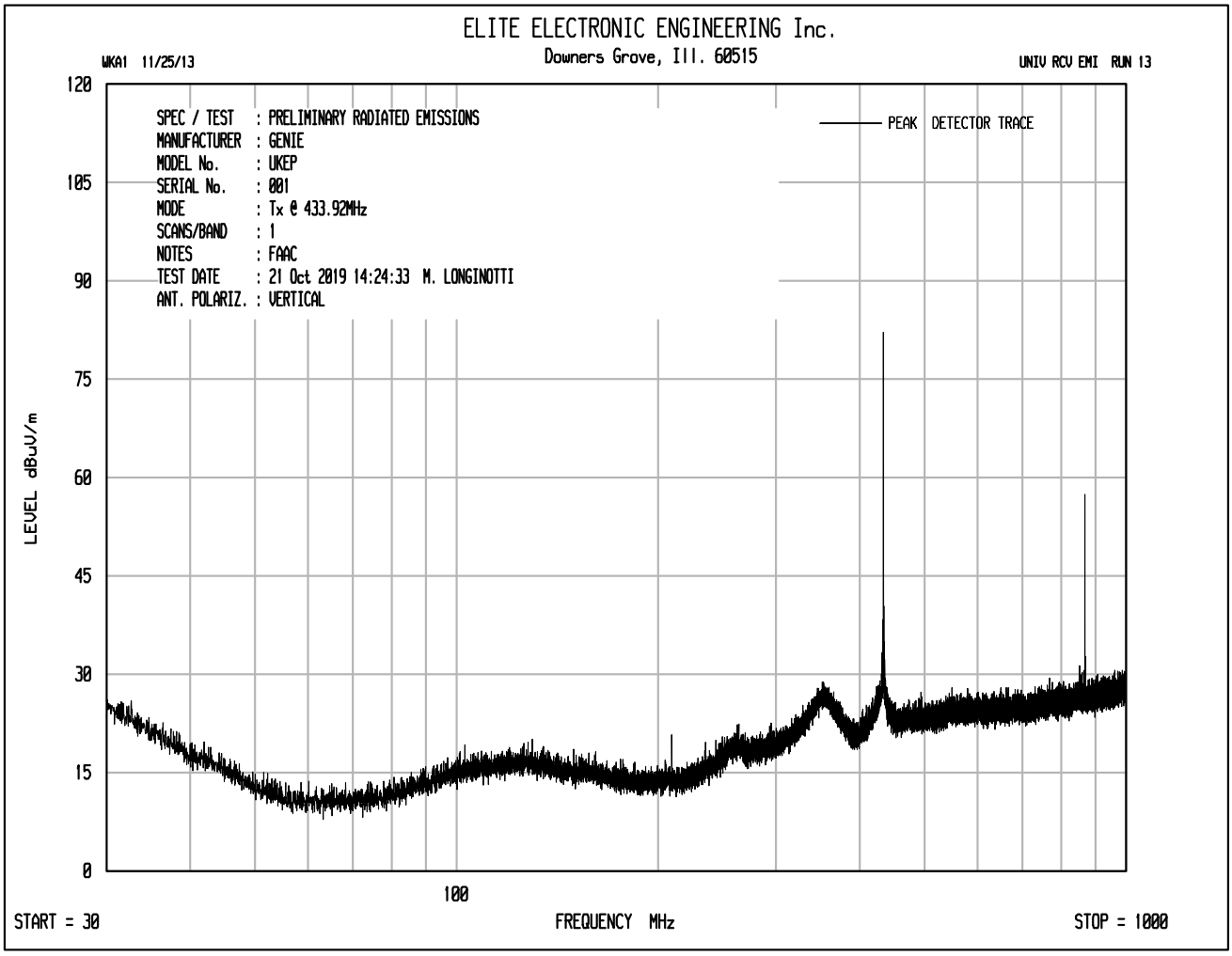
MANUFACTURER	:	Genie Company
MODEL NO.	:	UKEP
TEST MODE	:	Genie IC2 Tx @ 390MHz
NOTES	:	
TEST DATE	:	October 21, 2019 through October 24, 2019

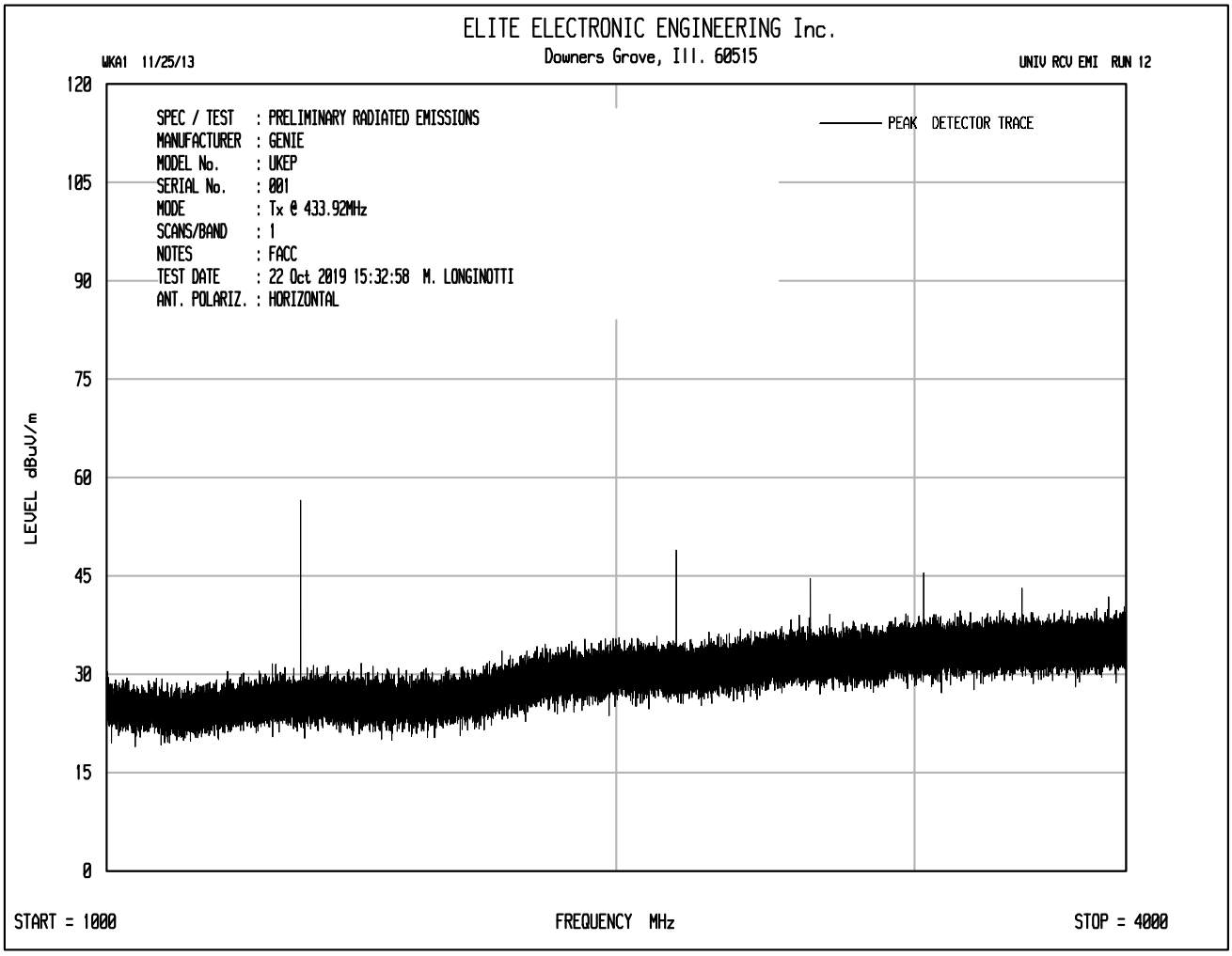
Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
390.000	H	41.6		1.0	20.8	0.0	-12.3	51.2	361.2	9166.7	-28.1
390.000	V	59.5		1.0	20.8	0.0	-12.3	69.1	2836.6	9166.7	-10.2
780.000	H	13.6		1.4	26.0	0.0	-12.3	28.8	27.5	916.7	-30.5
780.000	V	27.5		1.4	26.0	0.0	-12.3	42.7	136.1	916.7	-16.6
1170.000	H	35.2		1.8	28.3	0.0	-12.3	53.0	445.4	500.0	-1.0
1170.000	V	25.6		1.8	28.3	0.0	-12.3	43.4	147.5	500.0	-10.6
1560.000	H	19.4		2.1	28.0	0.0	-12.3	37.2	72.1	500.0	-16.8
1560.000	V	26.2		2.1	28.0	0.0	-12.3	44.0	157.6	500.0	-10.0
1950.000	H	24.0		2.3	31.2	0.0	-12.3	45.2	181.5	916.7	-14.1
1950.000	V	22.9		2.3	31.2	0.0	-12.3	44.1	159.9	916.7	-15.2
2340.000	H	16.7	Ambient	2.6	31.9	0.0	-12.3	38.8	87.5	500.0	-15.1
2340.000	V	21.3		2.6	31.9	0.0	-12.3	43.4	148.6	500.0	-10.5
2730.000	H	18.1	Ambient	2.8	32.5	0.0	-12.3	41.1	114.0	500.0	-12.8
2730.000	V	18.1	Ambient	2.8	32.5	0.0	-12.3	41.1	114.0	500.0	-12.8
3120.000	H	18.5	Ambient	3.0	32.8	0.0	-12.3	42.0	126.0	916.7	-17.2
3120.000	V	18.0	Ambient	3.0	32.8	0.0	-12.3	41.5	119.0	916.7	-17.7
3510.000	H	17.4	Ambient	3.2	32.9	0.0	-12.3	41.2	114.9	916.7	-18.0
3510.000	V	17.4	Ambient	3.2	32.9	0.0	-12.3	41.2	114.9	916.7	-18.0
3900.000	H	19.4	Ambient	3.4	33.2	0.0	-12.3	43.7	153.1	500.0	-10.3
3900.000	V	17.8	Ambient	3.4	33.2	0.0	-12.3	42.1	127.3	500.0	-11.9

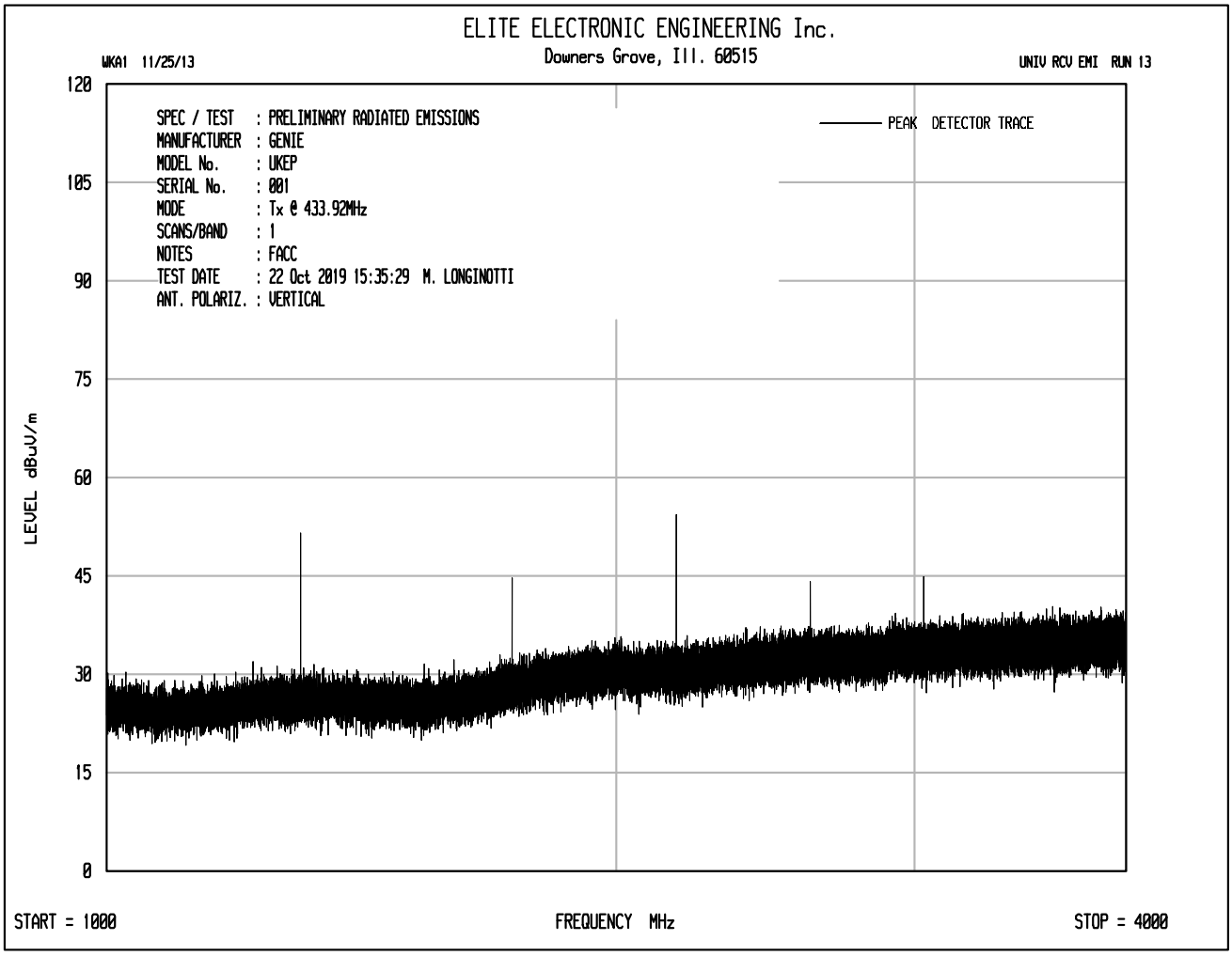
Checked By: MARK E. LONGINOTTI

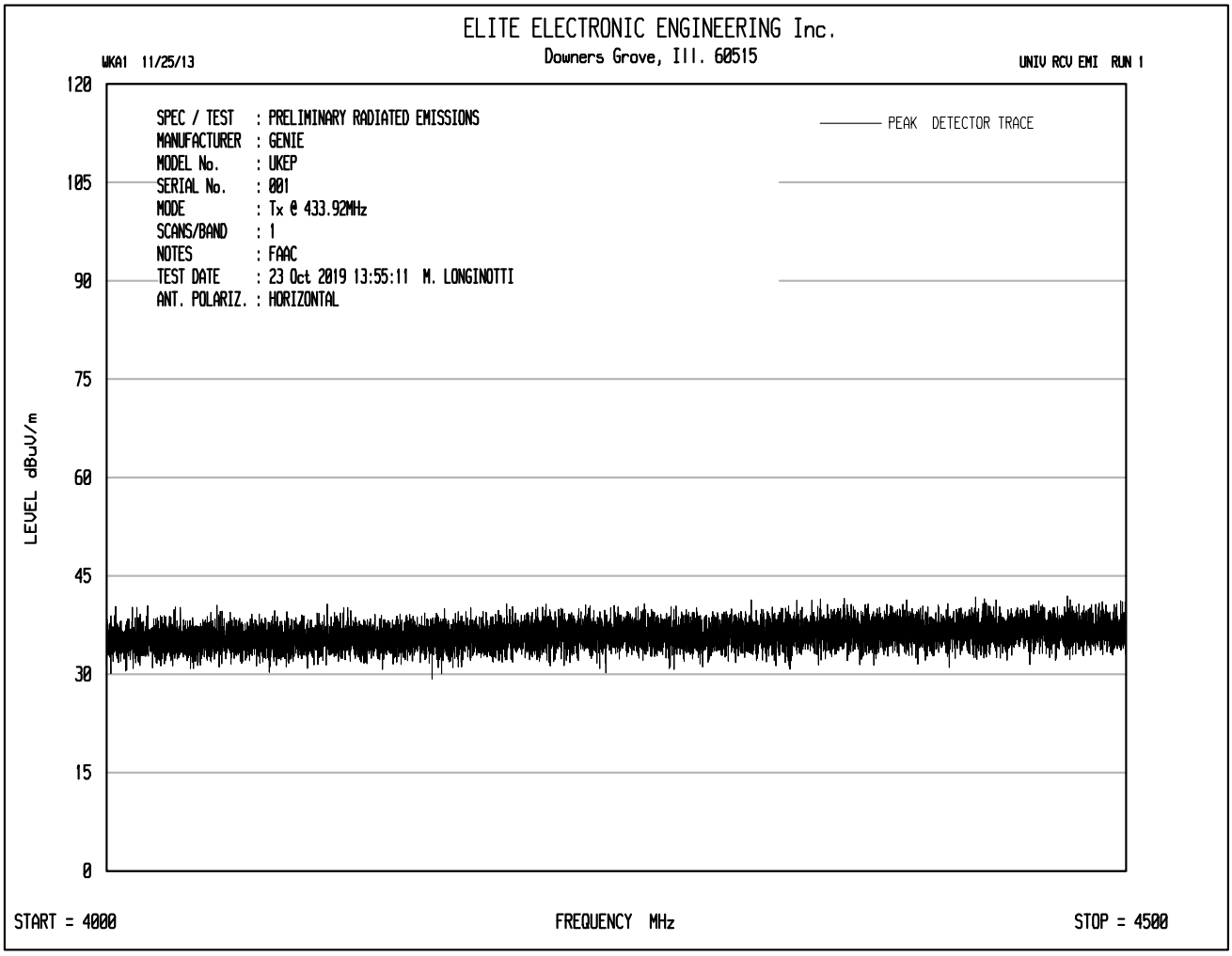
Mark E. Longinotti

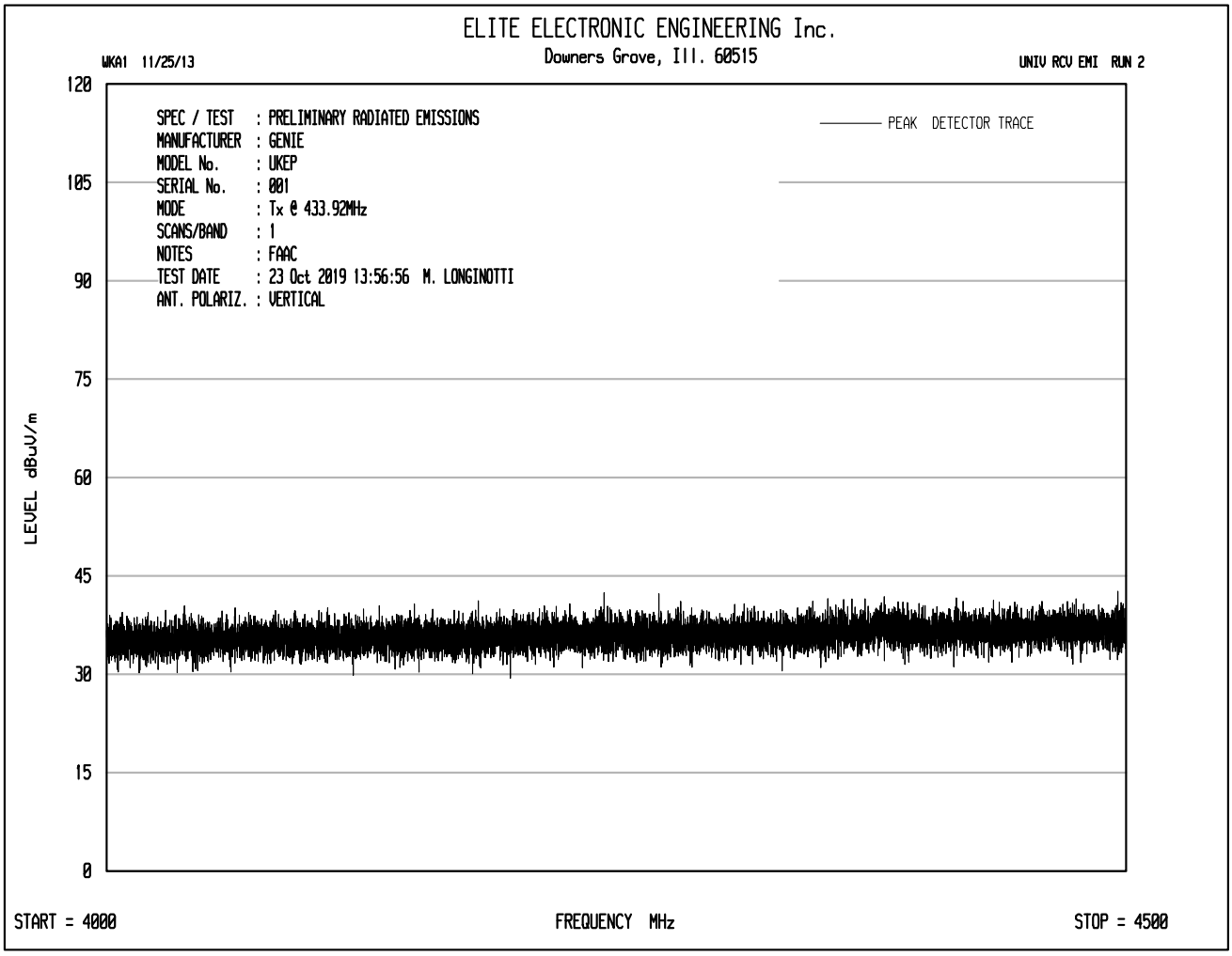

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 12
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 433.92MHz
SCANS/BAND : 1
NOTES : FAAC
TEST DATE : 21 Oct 2019 14:21:37 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
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 : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 433.92MHz
SCANS/BAND : 1
NOTES : FAAC
TEST DATE : 21 Oct 2019 14:24:33 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 12
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 433.92MHz
SCANS/BAND : 1
NOTES : FACC
TEST DATE : 22 Oct 2019 15:32:58 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 13
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 433.92MHz
SCANS/BAND : 1
NOTES : FACC
TEST DATE : 22 Oct 2019 15:35:29 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 : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 433.92MHz
SCANS/BAND : 1
NOTES : FAAC
TEST DATE : 23 Oct 2019 13:55:11 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 = 4500


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 2
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : GENIE
MODEL No. : UKEP
SERIAL No. : 001
MODE : Tx @ 433.92MHz
SCANS/BAND : 1
NOTES : FAAC
TEST DATE : 23 Oct 2019 13:56:56 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 = 4500

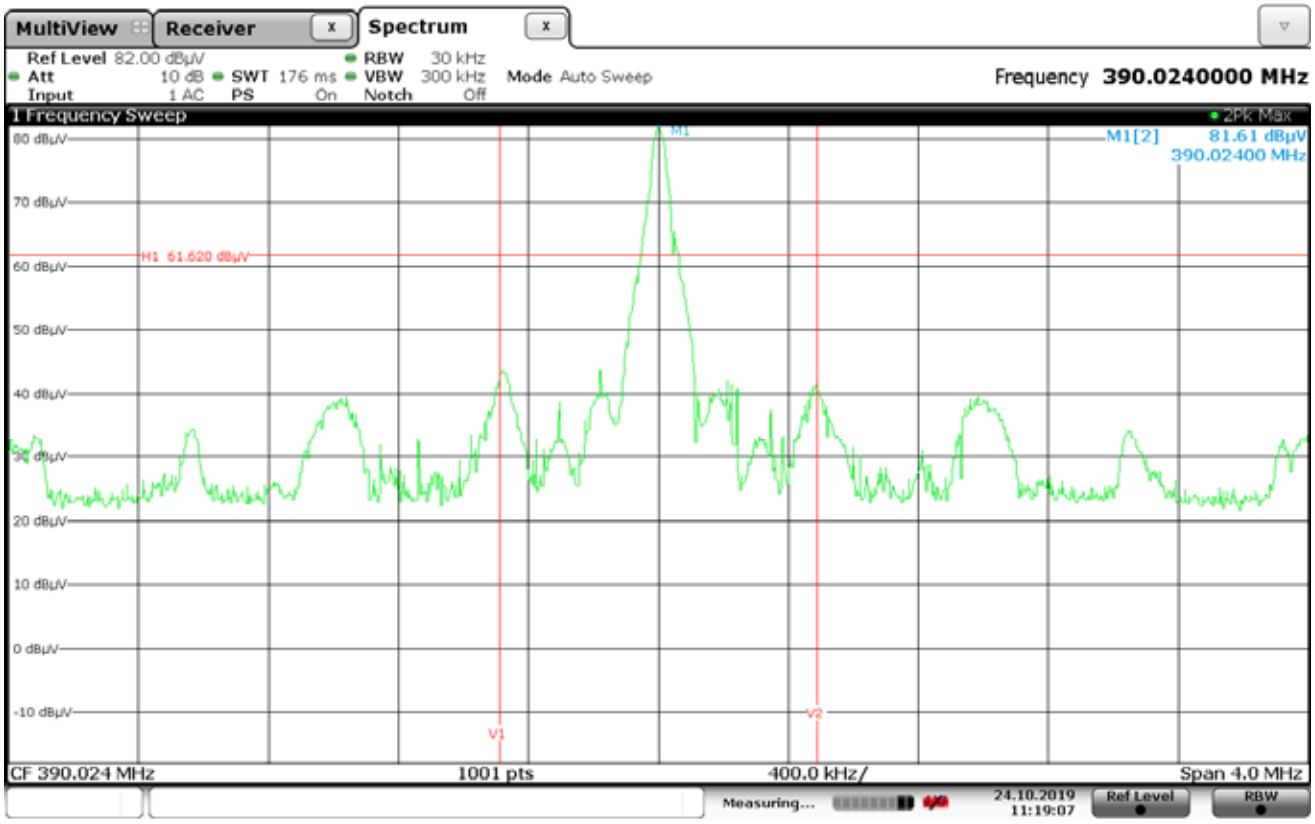
RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

MANUFACTURER	:	Genie Company
MODEL NO.	:	UKEP
TEST MODE	:	FAAC Tx @ 390MHz
NOTES	:	
TEST DATE	:	October 21, 2019 through October 24, 2019

Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
433.920	H	45.1		1.1	22.4	0.0	-4.3	64.3	1649.9	10996.7	-16.5
433.920	V	59.6		1.1	22.4	0.0	-4.3	78.8	8759.3	10996.7	-2.0
867.840	H	21.2		1.5	26.4	0.0	-4.3	44.9	176.0	1099.7	-15.9
867.840	V	32.7		1.5	26.4	0.0	-4.3	56.4	661.6	1099.7	-4.4
1301.760	H	26.8		1.9	29.0	0.0	-4.3	53.5	471.4	500.0	-0.5
1301.760	V	23.8		1.9	29.0	0.0	-4.3	50.5	333.7	500.0	-3.5
1735.680	H	16.8		2.2	29.7	0.0	-4.3	44.5	167.5	1099.7	-16.3
1735.680	V	19.9		2.2	29.7	0.0	-4.3	47.6	239.3	1099.7	-13.2
2169.600	H	24.3		2.5	31.4	0.0	-4.3	53.9	494.2	1099.7	-6.9
2169.600	V	22.6		2.5	31.4	0.0	-4.3	52.2	406.4	1099.7	-8.6
2603.520	H	19.2		2.7	32.6	0.0	-4.3	50.3	325.9	1099.7	-10.6
2603.520	V	21.0		2.7	32.6	0.0	-4.3	52.1	401.0	1099.7	-8.8
3037.440	H	18.5	Ambient	3.0	32.7	0.0	-4.3	49.9	313.2	1099.7	-10.9
3037.440	V	18.7	Ambient	3.0	32.7	0.0	-4.3	50.1	320.5	1099.7	-10.7
3471.360	H	18.9	Ambient	3.2	32.9	0.0	-4.3	50.7	343.5	1099.7	-10.1
3471.360	V	18.1	Ambient	3.2	32.9	0.0	-4.3	49.9	313.3	1099.7	-10.9
3905.280	H	17.4	Ambient	3.4	33.3	0.0	-4.3	49.8	307.7	500.0	-4.2
3905.280	V	17.7	Ambient	3.4	33.3	0.0	-4.3	50.1	318.5	500.0	-3.9
4339.200	H	18.5	Ambient	3.5	33.7	0.0	-4.3	51.5	374.2	500.0	-2.5
4339.200	V	18.6	Ambient	3.5	33.7	0.0	-4.3	51.6	378.6	500.0	-2.4

Checked By: MARK E. LONGINOTTI

Mark E. Longinotti



Date: 24.OCT.2019 11:19:07

FCC 15C 15.231(c) / Occupied Bandwidth

MANUFACTURER : Genie Company
MODEL NUMBER : UKEP
TEST MODE : Tx @ 390MHz
NOTES : 20dB Bandwidth
NOTES : OHD Trinary 9 Position DIP Switch
NOTES : Vertical Lines V1 and V2 represent the 0.25% bandwidth of the center frequency of
: the EUT. Horizontal line H1 represents the level 20dB down from the peak of the
: modulated carrier.