Measurement of RF Interference from an 001D7675 AC Unit Transceiver

For	The Chamberlain Group 845 Larch Avenue Elmhurst, IL 60126
P.O. Number	880279
Date Tested	December 13, 2011 through January 27, 2012
Test Personnel	Mark Longinotti, Richard King
Specification	FCC "Code of Federal Regulations" Title 47, Part 15, Subpart C, Sections 15.207 and 15.247 for Frequency Hopping Spread Spectrum Intentional Radiators within the band 902-928 MHz FCC "Code of Federal Regulations" Title 47, Part15, Subpart 15B, Section 15.107 and 15.109 for Receivers Industry Canada RSS-210 Industry Canada RSS-GEN

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REVISION HISTORY

Revision	Date	Description
—	1 Mar 2012	Initial release
A	May 15, 2012	Changed the model number from 011D7675 to 001D7675 throughout the test report.
B	May 24, 2012	Added conducted emissions data from the new switched mode power supply.

Measurement of RF Emissions from an AC Unit, Part No. 001D7675 Transceiver

1 INTRODUCTION

1.1 Scope of Tests

This document represents the results of the series of radio interference measurements performed on The Chamberlain Group AC Unit, Part No. 001D7675, Serial No. None Assigned, transceiver (hereinafter referred to as the EUT). The EUT is a frequency hopping spread spectrum frequency hopping spread spectrum transceiver. The transceiver was designed to transmit and receive in the 902-928 MHz band using an internal antenna. The EUT contained a super-heterodyne type receiver which utilizes an intermediate frequency (IF) of 937 kHz. The EUT was manufactured and submitted for testing by The Chamberlain Group located in Elmhurst, IL.

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 B, Sections 15.107 and 15.109, for receivers and Subpart C, Sections 15.207 and 15.249 for Intentional Radiators Operating within the 902-928 MHz band.

The test series was also performed to determine if the EUT meets the conducted and radiated RF emission requirements of the Industry Canada Radio Standards Specification, RSS-Gen, Section 7.2.2 and Section 7.2.3 for receivers and the Industry Canada Radio Standards Specification RSS-Gen Section 7.2.2 and RSS-210 Annex 2, section A2.9 for Transmitters.

Testing was performed in accordance with ANSI C63.4-2009.

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 National Institute of Standards and Technology (NIST) under the National Voluntary Laboratory Accreditation Program (NVLAP). NVLAP Lab Code: 100278-0.

1.5 Laboratory Conditions

The temperature at the time of the test was 23C and the relative humidity was 30%.

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, Subparts B and C, dated 1 October 2011
- ANSI C63.4-2009, "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"
- FCC Public Notice, DA 00-705, "Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems", Released March 30, 2000
- Industry Canada RSS-210, Issue 8, December 2010, “Spectrum Management and Telecommunications Radio Standards Specification, Low-power License-exempt radio communication devices (All Frequency Bands): Category I Equipment”
- Industry Canada RSS-GEN, Issue 3, December 2010, “Spectrum Management and Telecommunications Radio Standards Specification, General Requirements and Information for the Certification of radio communication equipment”

3 EUT SET-UP AND OPERATION

3.1 General Description

The EUT is an AC Unit, Part No. 001D7675. A block diagram of the EUT setup is shown as Figure 1.

3.1.1 Power Input

The EUT obtained 115V 60Hz power via a 3 wire, 4 foot long, unshielded power cord. The high and low leads were connected through a line impedance stabilization network (LISN) which was located on the copper ground plane. The network complies with the requirements of Paragraph 4.1.2 of ANSI C63.4-2009

3.1.2 Peripheral Equipment

The EUT does not require peripheral equipment to operate properly.

3.1.3 Interconnect Cables

The EUT does not require interconnect cables to operate properly.

3.1.4 Grounding

The EUT was grounded only through the third wire of its input power cord.

3.2 Operational Mode

For all tests, the EUT was placed on an 80cm high non-conductive stand. The EUT was energized. The unit was programmed to operate in one of the following modes:

1) Transmit at 902.25MHz
2) Transmit at 914.75MHz
3) Transmit at 926.75MHz
4) Receive at 310MHz
5) Receive at 315MHz
6) Receive at 390MHz
7) Receive at 433.3MHz
8) Receive at 433.92MHz
9) Receive at 434.54MHz
10) Receive at 902.25MHz
11) Receive at 914.75MHz
12) Receive at 926.75MHz
13) Frequency Hopping Enabled

The EUT was also operated in the down mode which indicates the motor continuously running in the down direction.

3.3 EUT Modifications

No modifications were required for compliance.

4 TEST FACILITY AND TEST INSTRUMENTATION

4.1 Shielded Enclosure

All tests were performed in a 32ft. x 20ft. x 18ft. hybrid ferrite-tile/anechoic absorber lined test chamber. With the exception of the floor, the reflective surfaces of the shielded chamber are lined with ferrite tiles on the walls and ceiling. Anechoic absorber material is installed over the ferrite tile. The floor of the chamber is used as the ground plane. The chamber complies with ANSI C63.4-2009 for site attenuation.

4.2 Test Instrumentation

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

Conducted emission tests were performed with a spectrum analyzer in conjunction with a quasi-peak adapter. Radiated emissions were performed with a spectrum analyzer. This receiver allows measurements with the bandwidths and with the quasi-peak and average detector functions as specified. The spectrum analyzer bandwidth was 120kHz for the 30MHz to 1000MHz radiated emissions data.

4.3 Calibration Traceability

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

4.4 Measurement Uncertainty

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

The measurement uncertainty for these tests is presented below:

Conducted Emission Measurements		
Combined Standard Uncertainty	1.07	-1.07
Expanded Uncertainty (95% confidence)	2.1	-2.1

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

5 TEST PROCEDURES

5.1 Receiver

5.1.1 Powerline Conducted Emissions

5.1.1.1 Requirements

Per the FCC "Code of Federal Regulations" Title 47, Part 15, Subpart B, 15.107(a) and Industry Canada RSS-Gen section 7.2.2, all radio frequency voltages on the power lines of a receiver shall be below the values shown below when using a quasi-peak or average detector:

CONDUCTED LIMITS FOR A RECEIVER

Frequency MHz	RFI Voltage dBuV(QP)	RFI Voltage dBuV(Average)
0.15-0.5	66 decreasing with logarithm of frequency to 56	56 decreasing with logarithm of frequency to 46
0.5-5	56	46
5-30	60	50

Note 1: The lower limit shall apply at the transition frequencies.
Note 2: If the levels measured using the QP detector meet both the QP and the Average limits, the EUT is considered to have met both requirements and measurements do not need to be performed using the Average detector.

5.1.1.2 Procedures

The interference on each power lead of the EUT was measured by connecting the measuring equipment to the

appropriate meter terminal of the Line Impedance Stabilization Network (LISN). The meter terminal of the LISN not under test was terminated with 50 ohms.

a) The EUT was operated in the down mode.

b) Measurements were first made on the 115V, 60Hz high line.

c) The frequency range from 150 kHz to 30 MHz was broken up into smaller frequency sub-bands.

d) Conducted emissions measurements were taken on the first frequency sub-band using a peak detector.

e) The data thus obtained was then searched by the computer for the highest levels. Any emissions levels that were within 10dB of the average limit were then measured again using both a quasi-peak detector and an average detector. (If no peak readings were within 10dB of the average limit, quasi-peak and average readings were taken on the highest emissions levels measured during the peak detector scan.)

f) Steps (d) and (e) were repeated for the remainder of the frequency sub-bands until the entire frequency range from 150kHz to 30MHz was investigated. The peak trace was automatically plotted. The plot also shows quasi-peak and average readings that were taken on discrete frequencies. A table showing the quasi-peak and average readings was also generated. This tabular data compares the quasi-peak and average conducted emissions to the applicable conducted emissions limits.

g) Steps (c) through (f) were repeated on the 115V, 60Hz return line.

h) Steps (b) through (g) were repeated with the EUT operated in the Rx mode.

5.1.1.3 Results

The plots of the peak, quasi-peak, and average conducted voltage levels acquired from each input power line with the EUT operated in the down mode are shown on pages 22 and 23. The tabular quasi-peak and average results from each input power line with the EUT operated in the down mode are shown on pages 24 and 25. All power line conducted emissions measured from the EUT were within the specification limits.

The plots of the peak, quasi-peak, and average conducted voltage levels acquired from each input power line with the EUT operated in the Rx mode are shown on pages 26 and 27. The tabular quasi-peak and average results from each input power line with the EUT operated in the Mode 2 mode are shown on pages 28 and 29. All power line conducted emissions measured from the EUT were within the specification limits.

The plots of the peak, quasi-peak, and average conducted voltage levels acquired from each input power line with the EUT with the new switched mode power supply and operated in the down mode are shown on pages 30 and 31. The tabular quasi-peak and average results from each input power line with the EUT operated in the down mode are shown on pages 32 through 34. All power line conducted emissions measured from the EUT were within the specification limits.

5.1.2 Radiated Measurements

5.1.2.1 Requirements

Per the FCC "Code of Federal Regulations" Title 47, Part 15, Subpart B, Section 15.109(a) and Industry Canada RSS-Gen, Section 7.2.3, all radio frequency emissions from a receiver shall be below the limits shown on the following table:

RADIATION LIMITS FOR A RECEIVER

Frequency MHz	Distance between EUT And Antenna in Meters	Field Strength uV/m	Field Strength dBuV/m
30-88	3	100	40
88-216	3	150	43.5
216-960	3	200	46
Above 960	3	500	54

Note: The tighter limit shall apply at the edge between the two frequency bands.

5.1.2.2 Procedures

For FCC, testing was performed separately on a low, middle, and high channel. The emissions in the frequency range of 30MHz to 5GHz were measured and plotted using a 'screen-dump' utility.

Testing was performed with the antenna of the EUT in place.

For Industry Canada, testing was performed on a middle channel. The emissions in the frequency range of 30MHz to 3 times the highest tuneable or local oscillator frequency, whichever is the higher, were measured and plotted. Testing was performed with the antenna of the EUT in place.

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 C63.4-2009 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.

Since a quasi-peak detector and an average detector require long integration times, it is not practical to automatically sweep through the quasi-peak and average levels. Therefore, radiated emissions from the EUT were first scanned using a peak detector and automatically plotted. The frequencies where significant emission levels were noted were then remeasured using the quasi-peak detector or average detector.

The broadband measuring antenna was positioned at a 3 meter distance from the EUT. The frequency range from 30MHz to 1GHz was investigated using a peak detector function with the bilog antenna at several heights, horizontal and vertical polarization, and with several different orientations of the EUT with respect to the antenna. The frequency range from 1GHz to 5GHz was investigated using a peak detector function with the double ridged waveguide antenna at several heights, horizontal and vertical polarization, and with several different orientations of the EUT with respect to the antenna. The maximum levels for each antenna polarization were plotted.

Final radiated emissions were performed on all significant broadband and narrowband emissions found in the preliminary sweeps using the following methods:

1) Measurements from 30MHz to 1GHz were made using a quasi-peak detector and a broadband bilog antenna. Measurements above 1GHz were made using an average detector and a broadband double ridged waveguide antenna.

2) To ensure that maximum or worst case, 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 antenna is 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.

d) 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.

5.1.2.3 Results

The preliminary plots are presented on pages 35 through 58. The plots are presented for a reference only, and are not used to determine compliance. The final radiated levels are presented on pages 59 through 69. 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 on Figure 3 and Figure 4.

5.2 Transmitter

5.2.1 Powerline Conducted Emissions

5.2.1.1 Requirements

Per the FCC "Code of Federal Regulations" Title 47, Part 15, Subpart C, Per 15.207(a) and Industry Canada RSS-Gen section 7.2.2, all radio frequency voltages on the power lines of a transmitter shall be below the values shown below when using a quasi-peak or average detector:

Frequency MHz	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 – 0.5	66 decreasing with logarithm of frequency to 56	56 decreasing with logarithm of frequency to 46
0.5 - 5	56	46
5 - 30	60	50

Note 1: The lower limit shall apply at the transition frequencies.
Note 2: If the levels measured using the QP detector meet both the QP and the Average limits, the EUT is considered to have met both requirements and measurements do not need to be performed using the Average detector.

5.2.1.2 Procedures

The interference on each power lead of the EUT was measured by connecting the measuring equipment to the appropriate meter terminal of the Line Impedance Stabilization Network (LISN). The meter terminal of the LISN not under test was terminated with 50 ohms.

a) The EUT was operated in the Tx mode.

b) Measurements were first made on the 115V, 60Hz high line.

c) The frequency range from 150 kHz to 30 MHz was broken up into smaller frequency sub-bands.

d) Conducted emissions measurements were taken on the first frequency sub-band using a peak detector.

e) The data thus obtained was then searched by the computer for the highest levels. Any emissions levels that were within 10dB of the average limit were then measured again using both a quasi-peak detector and an average detector. (If no peak readings were within 10dB of the average

limit, quasi-peak and average readings were taken on the highest emissions levels measured during the peak detector scan.)

f) Steps (d) and (e) were repeated for the remainder of the frequency sub-bands until the entire frequency range from 150kHz to 30MHz was investigated. The peak trace was automatically plotted. The plot also shows quasi-peak and average readings that were taken on discrete frequencies. A table showing the quasi-peak and average readings was also generated. This tabular data compares the quasi-peak and average conducted emissions to the applicable conducted emissions limits.

g) Steps (c) through (f) were repeated on the 115V, 60Hz return line.

5.2.1.3 Results

The plots of the peak, quasi-peak, and average conducted voltage levels acquired from each input power line with the EUT operated in the Tx mode are shown on pages 70 and 71. The tabular quasi-peak and average results from each input power line with the EUT operated in the Tx mode are shown on pages 72 and 73. All power line conducted emissions measured from the EUT were within the specification limits.

5.2.2 20dB Bandwidth

5.2.2.1 Requirements

Per 15.247(a)(1), Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Per section 15.247(a)(1)(i), for frequency hopping systems operating in the 902-928MHz band, the 20dB bandwidth shall be measured for determination of the carrier frequency separation limits and must not exceed 500 kHz. If the 20dB bandwidth of the hopping channel is less than 250kHz, the system shall use at least 50 hopping channels. If the 20dB bandwidth of the hopping channel is 250kHz or greater (but not greater than 500kHz), the system shall use at least 25 hopping channels.

5.2.2.2 Procedures

The output of the EUT was connected to the spectrum analyzer through 40dB of attenuation.

With the hopping function disabled, the EUT was allowed to transmit continuously. The frequency hopping channel was set separately to low, middle, and high hopping channels. The resolution bandwidth (RBW) was set to ≥ 1% of the 20 dB BW. The span was set to approximately 2 to 3 times the 20 dB bandwidth.

The 'Max-Hold' function was engaged. The analyzer was allowed to scan until the envelope of the transmitter bandwidth was defined. The analyzer's display was plotted using a 'screen dump' utility.

5.2.2.3 Results

The plots on pages 75 through 77 show that the maximum 20 dB bandwidth was 213.42kHz. The 99% bandwidth was measured to be 200.4kHz.

Therefore, since the 20dB bandwidth of the hopping channel is less than 250kHz, the system shall use at least 50 hopping channels.

5.2.3 Carrier Frequency Separation

5.2.3.1 Requirements

Per section 15.247 (a)(1), frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25kHz or the 20dB bandwidth of the hopping channel, whichever is greater.

5.2.3.2 Procedures

The output of the EUT was connected to the spectrum analyzer through 40dB of attenuation. With the hopping function enabled, the EUT was allowed to transmit continuously.

The resolution bandwidth (RBW) was set to > to 1% of the span. The peak detector and 'Max-Hold' function were engaged. The span was set wide enough to capture the peaks of at least two adjacent channels. When the trace had stabilized after multiple scans, the marker-delta function was used to determine the separation between the peaks of the adjacent channels. The analyzer's display was plotted using a 'screen dump' utility.

5.2.3.3 Results

Page 78 shows the carrier frequency separation. As can be seen from this plot, the carrier frequency separation is 499kHz, which is greater than the 20dB bandwidth (213.42kHz).

5.2.4 Number of Hopping Frequencies

5.2.4.1 Requirements

Per section 15.247(a)(1)(i), for frequency hopping systems operating in the 902-928MHz band, the 20dB bandwidth shall be measured for determination of the carrier frequency separation limits and must not exceed 500 kHz. If the 20dB bandwidth of the hopping channel is less than 250kHz, the system shall use at least 50 hopping channels. If the 20dB bandwidth of the hopping channel is 250kHz or greater (but not greater than 500kHz), the system shall use at least 25 hopping channels.

5.2.4.2 Procedures

The output of the EUT was connected to the spectrum analyzer through 40dB of attenuation. With the hopping function enabled, the EUT was allowed to transmit continuously.

The resolution bandwidth (RBW) was set to ≥ to 1% of the span. The peak detector and 'Max-Hold' function were engaged. The span was set wide enough to capture the entire frequency band of operation.

The EUT’s signal was allowed to stabilize after multiple scans. The number of hopping frequencies was counted. The analyzer's display was plotted using a 'screen dump' utility.

5.2.4.3 Results

Page 79 shows the number of hopping frequencies. As can be seen from this plot, the number of hopping frequencies is 50 which is equal to (or greater than) 50 which is the minimum number of required hopping frequencies for systems with a 20dB bandwidth less than 250kHz.

5.2.5 Time of Occupancy

5.2.5.1 Requirements

Per section 15.247(a)(1)(i), for frequency hopping systems operating in the 902-928MHz band, if the 20dB bandwidth of the hopping channel is less than 250kHz, the system shall use at least 50 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period.

5.2.5.2 Procedures

The output of the EUT was connected to the spectrum analyzer through 40dB of attenuation. With the hopping function enabled, the EUT was allowed to transmit continuously.

The resolution bandwidth (RBW) was set to 1 MHz. The peak detector and 'Max-Hold' function were engaged. With the span set to 0Hz, the sweep time was adjusted to capture a single event in order to measure the dwell time per hop. The analyzer's display was plotted using a 'screen dump' utility. Then, the sweep time was expanded to 20 seconds to capture the number of hops in the appropriate sweep time. A single sweep was made. The analyzer's display was plotted using a 'screen dump' utility.

The dwell time in the specified time period was then calculated from dwell time per hop multiplied by the number of hops in the specified time period.

5.2.5.3 Results

Pages 80 and 81 show the plots for the time of occupancy (dwell time). As can be seen from the plots, the time of occupancy can be determined by (1.3mS) multiplied by (89). This calculated value is equal to (0.1157) seconds which is less than the 0.4 seconds maximum allowed.

5.2.6 Peak Output Power

5.2.6.1 Requirements

Per section 15.247(b)(2), for frequency hopping systems operating in the 902-928MHz band and employing at least 50 hopping channels, the maximum peak output conducted power shall not be greater than 1W (30dBm). Per section 15.247(b)(4), this limit is based on the use of antennas with directional gains that do not exceed 6dBi. Since the limit allows for a 6dBi antenna gain, the maximum EIRP can be increased by 6dB to 4 Watt (36dBm). If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below 30dBm by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

5.2.6.2 Procedures

The output of the EUT was connected to the spectrum analyzer through 40dB of attenuation. With the hopping function disabled, the EUT was allowed to transmit continuously. The frequency hopping channel was set separately to low, middle, and high hopping channels. The resolution bandwidth (RBW) was set to greater than the 20dB bandwidth. The span was set to approximately 5 times the 20 dB bandwidth. The 'Max-Hold' function was engaged. The maximum meter reading was recorded. The peak power output was calculated for the low, middle and high hopping frequencies.

The EUT was placed on the non-conductive stand and set to transmit. A dipole antenna (double ridged waveguide antenna for all measurements above 1GHz) 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 20dB bandwidth. The span was set to approximately 5 times the 20 dB bandwidth. The EUT was maximized for worst case emissions (or maximum output power) at the measuring antenna. The maximum meter reading was recorded. The peak power output was measured for the low, middle and high hopping frequencies.

The equivalent power was determined from the field intensity levels measured at 3 meters using the substitution method. To determine the emission power, a second dipole antenna (double ridged waveguide antenna for all measurements above 1GHz) 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 for all measurements above 1GHz), as required. The peak power output was calculated for low, middle, and high hopping frequencies.

5.2.6.3 Results

The results are presented on page 82. The maximum peak conducted output power from the transmitter was 0.0371W or 15.7 dBm which is below the 1 Watt limit.

The results are presented on page 83. The maximum EIRP measured from the transmitter was 14.2 dBm or 0.026 W which is below the 4 Watt limit.

5.2.7 Duty Cycle Factor Measurements

5.2.7.1 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.

With the transmitter set up to transmit for maximum pulse density, the time domain trace is displayed on the spectrum analyzer. This trace is obtained by tuning center frequency to the transmitter frequency and then setting a zero span width with 1msec/div. The amplitude settings are adjusted so that the on/off transitions clear the 4th

division from the bottom of the display. The markers are set at the beginning and end of the “on-time”. The trace is recorded.

Next the spectrum analyzer center frequency is set to the transmitter frequency with a zero span width and 10msec/div. This shows if the word is longer than 100msec or shorter than 100msec. If the word period is less than 100msec, the display is set to show at least one word. The on-time and off-time are then measured. The on-time is total time signal level exceeds the 4th division. Off-time is time under for the word period. The duty cycle is then computed as the (On-time/ word period) where the word period = (On-time + Off-time).

5.2.7.2 Results

The plots of the duty cycle are shown on data pages 84 and 85.

The EUT transmits a 1.3 msec pulse. Since a word is greater than 100 msec long, the duty cycle factor was computed over a 100msec interval. The duty cycle correction factor was calculated to be -37.7dB (-37.7dB = 20*log(1.3msec/100msec).

5.2.8 Antenna Conducted Spurious Emissions

5.2.8.1 Requirements

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.

5.2.8.2 Procedures

The output of the EUT was connected to the spectrum analyzer through 40dB of attenuation. The frequency hopping function was disabled. The resolution bandwidth (RBW) was set to 100kHz. The peak detector and 'Max-Hold' function were engaged. The emissions in the frequency range from 30MHz to 10GHz were observed and plotted separately with the EUT transmitting at low, middle and high hopping frequencies.

5.2.8.3 Results

The results of the antenna conducted emissions levels were plotted. These plots are presented on pages 86 through 88. These plots show that the spurious emissions were at least 20 dB below the level of the fundamental.

5.2.9 Radiated Spurious Emissions Measurements

5.2.9.1 Requirements

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

5.2.9.2 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.

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 30MHz to 10.0GHz was investigated using a peak detector function.

The final open field emission tests were then manually performed over the frequency range of 30MHz to 10.0GHz.

1) For all emissions in the restricted bands, the following procedure was used:
   a) The field strengths of all emissions below 1 GHz were measured using a bi-log antenna. The bi-log antenna was positioned at a 3 meter distance from the EUT. A peak detector with a resolution bandwidth of 100 kHz was used on the spectrum analyzer.
   b) The field strengths of all emissions above 1 GHz were measured using a double-ridged waveguide antenna. The waveguide antenna was positioned at a 3 meter distance from the EUT. A peak detector with a resolution bandwidth of 1 MHz was used on the spectrum analyzer.
   c) To ensure that maximum or worst case emission levels were measured, the following steps were taken when taking all measurements:
      i) The EUT was rotated so that all of its sides were exposed to the receiving antenna.
      ii) Since the measuring antenna is linearly polarized, both horizontal and vertical field components were measured.
      iii) The measuring antenna was raised and lowered for each antenna polarization to maximize the readings.
      iv) In instances where it was necessary to use a shortened cable between the measuring antenna and the spectrum analyzer. The measuring antenna was not raised or lowered to ensure maximized readings, instead the EUT was rotated through all axis to ensure the maximum readings were recorded for the EUT.
   d) For all radiated emissions measurements below 1 GHz, if the peak reading is below the limits listed in 15.209(a), no further measurements are required. If however, the peak readings exceed the limits listed in 15.209(a), then the emissions are remeasured using a quasi-peak detector.
   e) For all radiated emissions measurements above 1 GHz, the peak readings must comply with the 15.35(b) limits. 15.35(b) states that when average radiated emissions measurements are specified, there also is a limit on the peak level of the radiated emissions. The limit on the peak radio frequency emissions is 20 dB above the maximum permitted average emission limit applicable to the equipment under test. Therefore, all peak readings above 1 GHz must be no greater than 20 dB above the limits specified in 15.209(a).
   f) Next, for all radiated emissions measurements above 1GHz, the resolution bandwidth was set to 1MHz. The analyzer was set to linear mode with a 10Hz video bandwidth in order to simulate an average detector. An average reading was taken. If the dwell time per channel of the hopping signal is less than 100msec, then the reading obtained with the 10 Hz video bandwidth may be further adjusted by a “duty cycle correction factor”, derived from 20*log(dwell time/100msec). These readings must be no greater than the limits specified in 15.209(a).

If the dwell time per channel of the hopping signal is less than 100msec, then the reading obtained with the 10 Hz video bandwidth may be further adjusted by a “duty cycle correction factor”, derived from 20*log(dwell time/100msec). These readings must be no greater than the limits specified in 15.209(a).

5.2.9.3 Results

Preliminary radiated emissions plots with the EUT transmitting at 902.25MHz, 914.75MHz, and 926.75MHz are shown on pages 89 through 100. Final radiated emissions data are presented on data pages 101 through 106. 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 on Figures 2 and 3.

5.2.10 Band Edge Compliance

5.2.10.1 Requirements

Per section 15.247(d), the emissions at the band-edges must be at least 20dB below the highest level measured within the band but attenuation below the general limits listed in 15.209(a) is not required.

5.2.10.2 Procedures

5.2.10.2.1 Low Band Edge

1) The output of the EUT was connected to the spectrum analyzer through 40dB of attenuation.
2) The EUT was set to transmit continuously at the channel closest to the low band-edge (hopping function disabled).
3) To determine the band edge compliance, the following spectrum analyzer settings were used:

    a. Center frequency = low band-edge frequency.
    b. Span = Wide enough to capture the peak level of the emission operating on the channel closest to the band-edge, as well as any modulation products which fall outside of the authorized band of operation.
    c. Resolution bandwidth (RBW) ≥ 1% of the span.
    d. The 'Max-Hold' function was engaged. The analyzer was allowed to scan until the envelope of the transmitter bandwidth was defined.
    e. The marker was set on the peak of the in-band emissions. A display line was placed 20dB down from the peak of the in-band emissions. All emissions which fall outside of the authorized band of operation must be below the 20dB down display line. (All emissions to the left of the center frequency (band-edge) must be below the display line.)
    f. The analyzer's display was plotted using a 'screen dump' utility.

4) Step 3) was repeated with the frequency hopping function enabled.

5.2.10.2.2 High Band Edge

1) The output of the EUT was connected to the spectrum analyzer through 40dB of attenuation.
2) The EUT was set to transmit continuously at the channel closest to the high band-edge (hopping function disabled).
3) To determine the band edge compliance, the following spectrum analyzer settings were used:

    a. Center frequency = high band-edge frequency.
    b. Span = Wide enough to capture the peak level of the emission operating on the channel closest to the band-edge, as well as any modulation products which fall outside of the authorized band of operation.
    c. Resolution bandwidth (RBW) ≥ 1% of the span.
    d. The 'Max-Hold' function was engaged. The analyzer was allowed to scan until the envelope of the transmitter bandwidth was defined.
    e. The marker was set on the peak of the in-band emissions. A display line was placed 20dB down from the peak of the in-band emissions. All emissions which fall outside of the authorized band of operation must be below the 20dB down display line. (All emissions to the right of the center frequency (band-edge) must be below the display line.)
    f. The analyzer's display was plotted using a 'screen dump' utility.

4) Step 3) was repeated with the frequency hopping function enabled.

5.2.10.3 Results

Pages 107 through 110 show the conducted band-edge compliance results. As can be seen from these plots, the

emissions at the low end band edge and the high end band edge are within the 20 dB down limits.

6 CONCLUSIONS

It was determined that The Chamberlain Group AC Unit, Part No. 001D7675 frequency hopping spread spectrum transceiver, Serial No. None Assigned, did fully meet the conducted and radiated emission requirements of the FCC "Code of Federal Regulations" Title 47, Part 15, Subpart B, Sections 15.107 and 15.109 for receivers and Subpart C, Sections 15.207 and 15.247 for Intentional Radiators Operating within the 902-928 MHz band, when tested per ANSI C63.4-2009.

It was also determined that The Chamberlain Group AC Unit, Part No. 001D7675 frequency hopping spread spectrum transceiver, Serial No. None Assigned, did fully meet the conducted and radiated RF emission requirements of the Industry Canada Radio Standards Specification, RSS-Gen, Section 7.2.2 and Section 7.2.3 for receivers and the Industry Canada Radio Standards Specification RSS-Gen Section 7.2.2 and RSS-210 Annex 2, section A2.9 for transmitters, when tested per ANSI C63.4-2009.

7 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.

8 ENDORSEMENT DISCLAIMER

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

9 EQUIPMENT LIST

Table 9-1 Equipment List

Eq ID	Equipment Description	Manufacturer	Model No.	Serial No.	Frequency Range	Cal Date	Due Date
APW3	PREAMPLIFIER	PLANAR ELECTRONICS	PE2-35-120-5R0-10-12	PL2924	1GHZ-20GHZ	6/3/2011	6/3/2012
NTA2	BILOG ANTENNA	TESEQ	6112D	28040	25-1000MHz	6/29/2011	6/29/2012
NWH0	RIDGED WAVE GUIDE	TENSOR	4105	2081	1-12.4GHZ	11/3/2011	11/3/2012
PLF1	CISPR16 50UH LISN	ELITE	CISPR16/70A	001	.15-30MHz	6/27/2011	6/27/2012
PLF2	CISPR16 50UH LISN	ELITE	CISPR16/70A	002	.15-30MHz	6/27/2011	6/27/2012
RBA0	EMI TEST RECEIVER	ROHDE & SCHWARZ	ESIB26	100145	20HZ-26.5GHZ	3/9/2011	3/9/2012
RBB0	EMI TEST RECEIVER 20HZ TO 40 GHZ	ROHDE & SCHWARZ	ESIB40	100250	20 HZ TO 40GHZ	3/24/2011	3/24/2012
T1D2	10DB 20W ATTENUATOR	NARDA	768-10	6	DC-11GHZ	1/6/2012	1/6/2013
T2DH	20DB, 25W ATTENUATOR	WEINSCHEL	46-20-34	BN1039	DC-18GHZ	1/3/2012	1/3/2013
T2S1	20DB 25W ATTENUATOR	WEINSCHEL	46-20-34	BU8140	DC-18GHZ	1/3/2012	1/3/2013
XLQQ	5W, 50 OHM TERMINATION	JFW INDUSTRIES	50T-052	55	DC-2GHZ	8/4/2011	8/4/2012

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

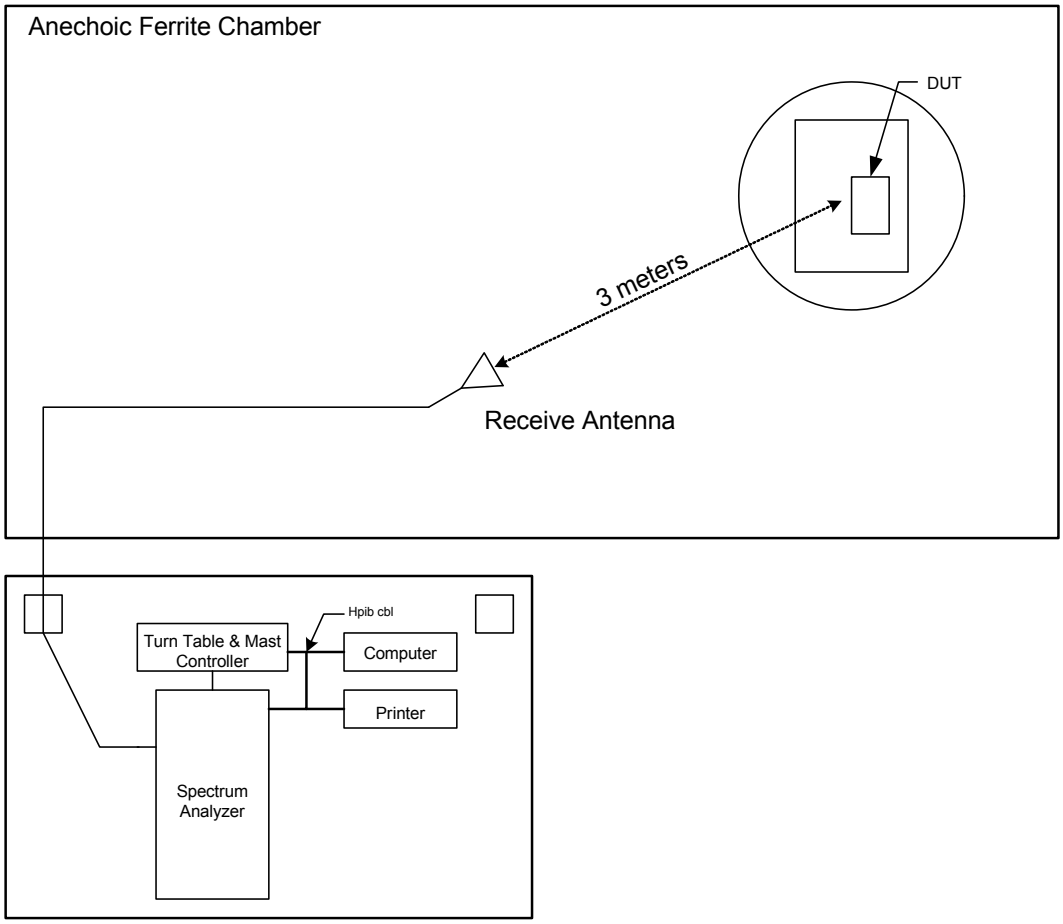
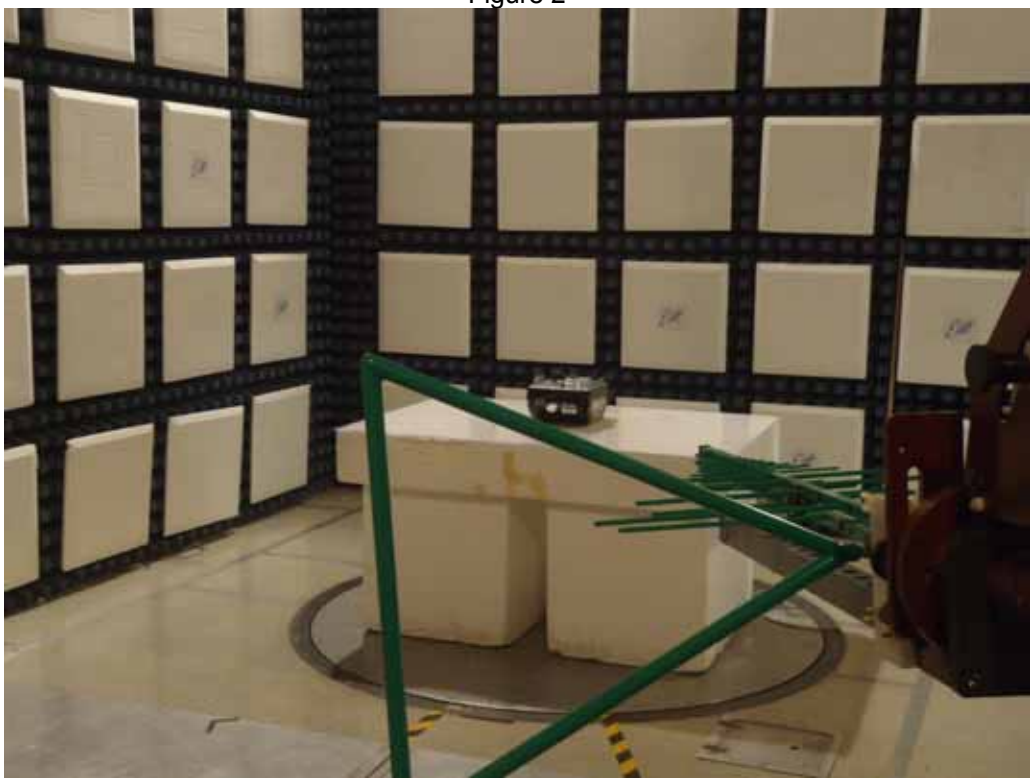
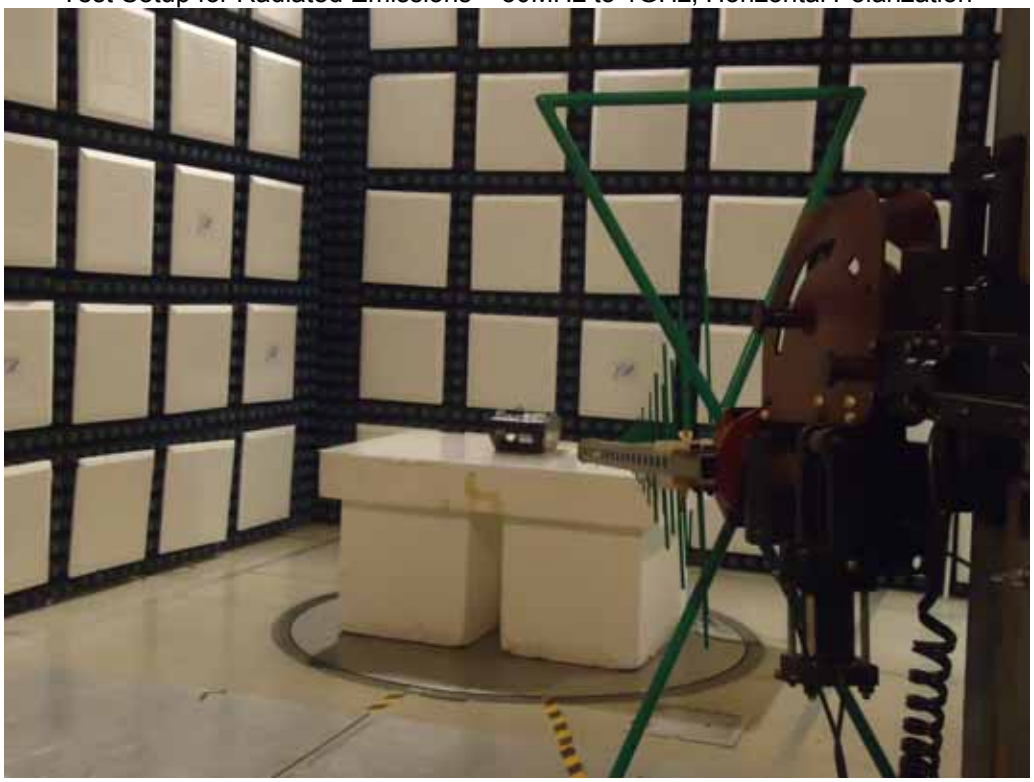


FIGURE 1 BLOCKDIAGRAM OF TEST SETUP

Figure 2

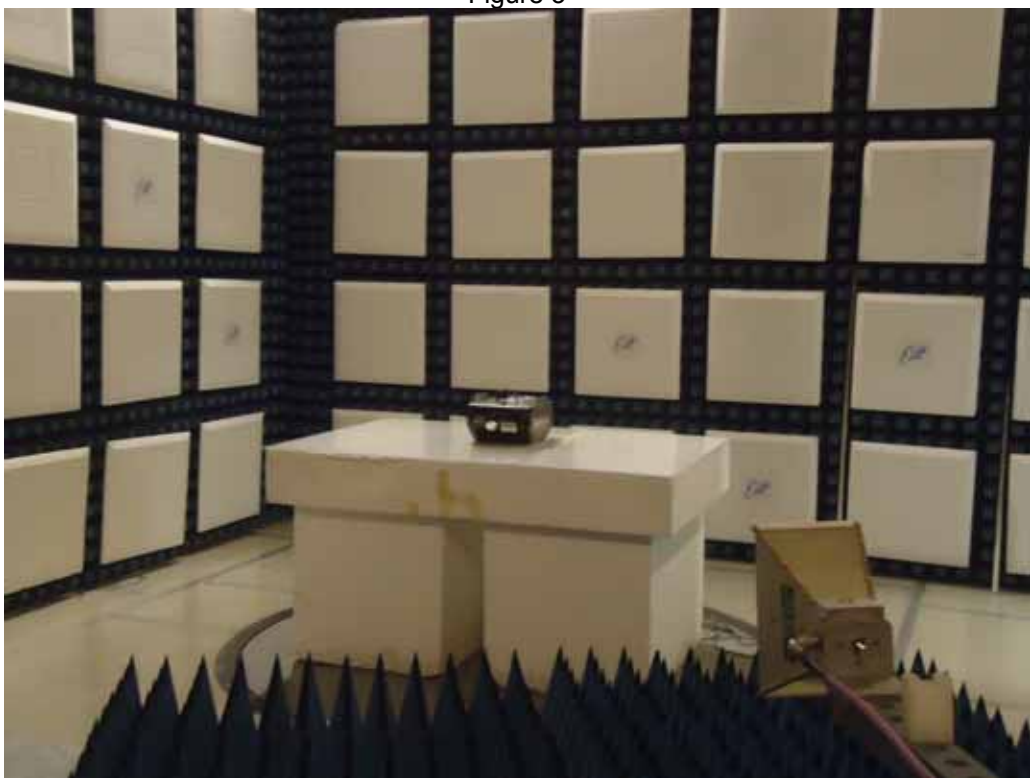


Test Setup for Radiated Emissions – 30MHz to 1GHz, Horizontal Polarization

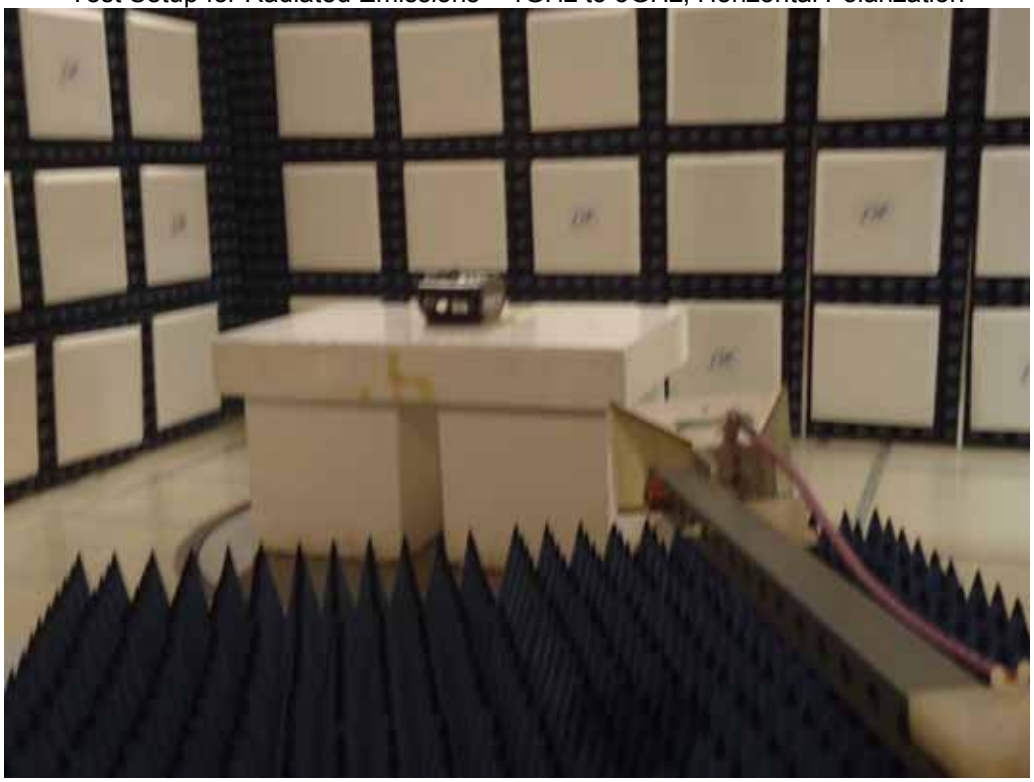


Test Setup for Radiated Emissions – 30MHz to 1GHz, Vertical Polarization

Figure 3



Test Setup for Radiated Emissions – 1GHz to 5GHz, Horizontal Polarization



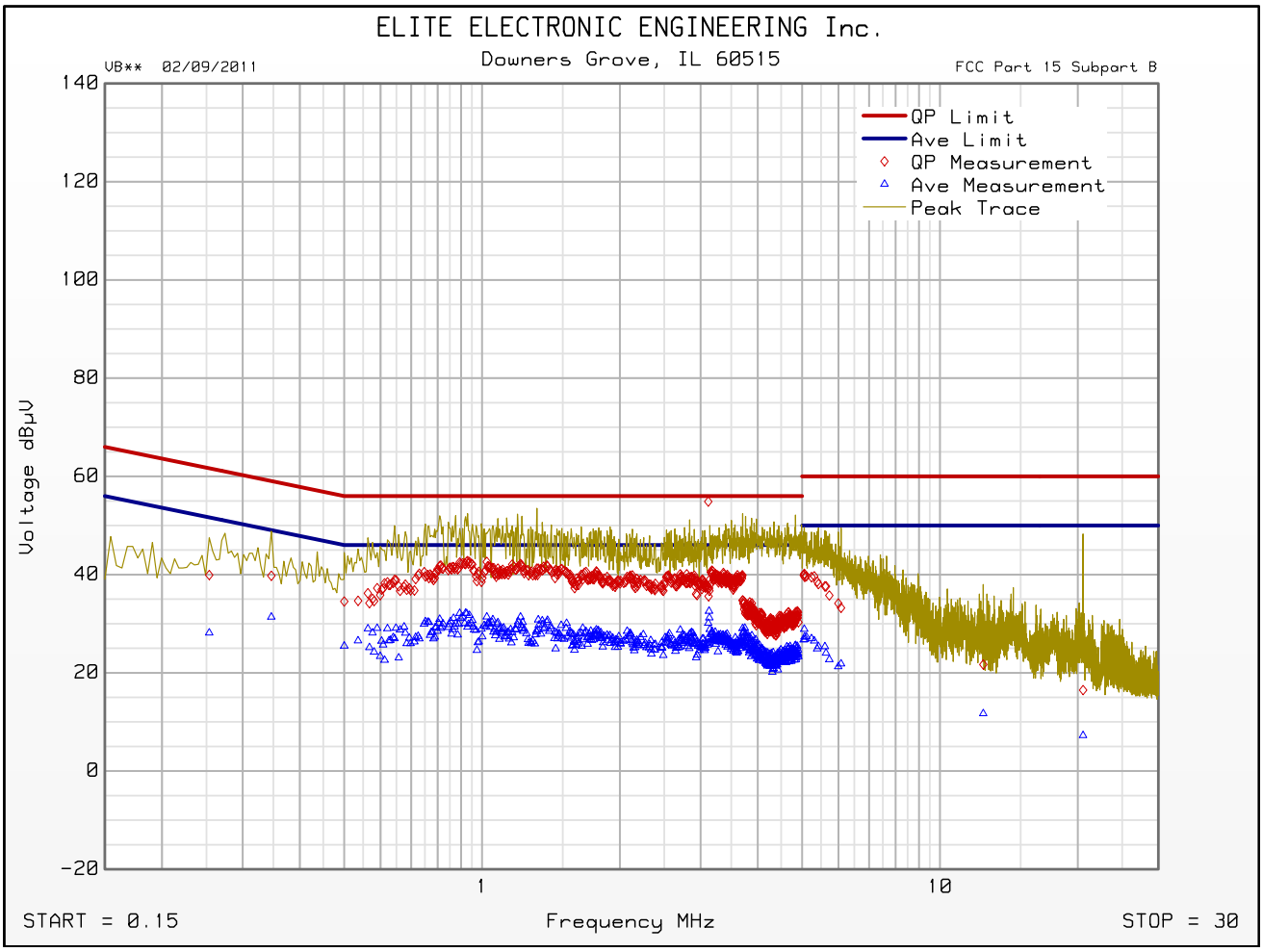
Test Setup for Radiated Emissions – 1GHz to 5GHz, Vertical Polarization

FCC Part 15 Subpart B Conducted Emissions Test

Cumulative Data

VB** 02/09/2011

Manufacturer	:	The Chamberlain Group
Model	:	AC Unit
DUT Revision	:	1.4
Serial Number	:	
DUT Mode	:	down
Line Tested	:	L1
Scan Step Time [ms]	:	30
Meas. Threshold [dB]	:	-2
Notes	:	
Test Engineer	:	R. King
Limit	:	Class B
Test Date	:	Jan 27, 2012 11:54:14 AM



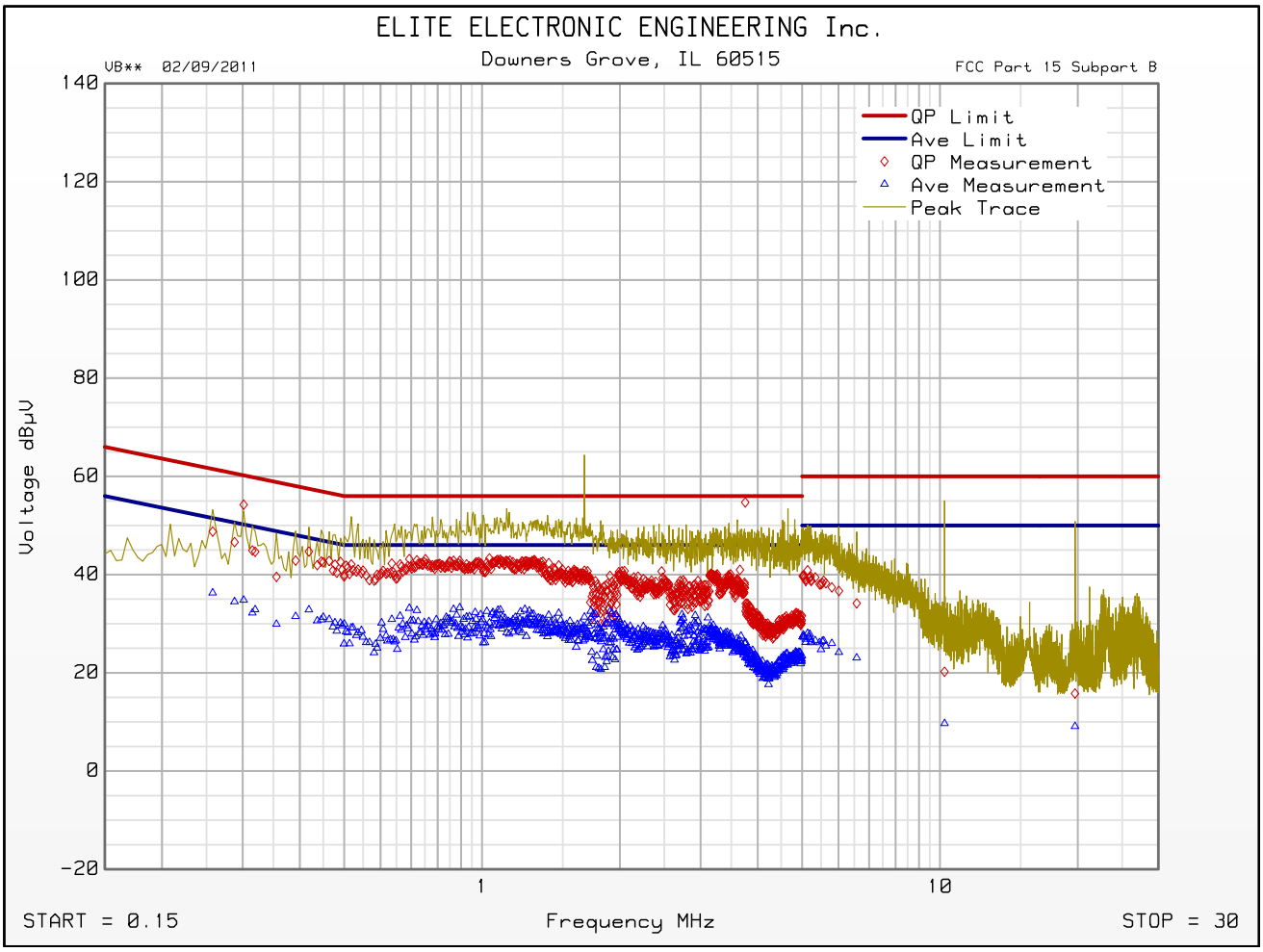
Emissions Meet QP Limit
Emissions Meet Ave Limit

FCC Part 15 Subpart B Conducted Emissions Test

Cumulative Data

VB** 02/09/2011

Manufacturer	:	The Chamberlain Group
Model	:	AC Unit
DUT Revision	:	1.4
Serial Number	:	
DUT Mode	:	down
Line Tested	:	L2
Scan Step Time [ms]	:	30
Meas. Threshold [dB]	:	-2
Notes	:	
Test Engineer	:	R. King
Limit	:	Class B
Test Date	:	Jan 27, 2012 02:45:47 PM



Emissions Meet QP Limit
Emissions Meet Ave Limit

FCC Part 15 Subpart B Conducted Emissions Test

Significant Emissions Data

VB** 02/09/2011

Manufacturer	:	The Chamberlain Group
Model	:	AC Unit
DUT Revision	:	1.4
Serial Number	:	
DUT Mode	:	down
Line Tested	:	L1
Scan Step Time [ms]	:	30
Meas. Threshold [dB]	:	-2
Notes	:	
Test Engineer	:	R. King
Limit	:	Class B
Test Date	:	Jan 27, 2012 11:54:14 AM
Data Filter	:	Up to 80 maximum levels detected with 6 dB level excursion threshold over 2 dB margin below limit

Freq MHz	Quasi-peak Level dBµV	Quasi-peak Limit dBµV	Excessive Quasi-peak Emissions	Average Level dBµV	Average Limit dBµV	Excessive Average Emissions
0.254	39.9	61.6		28.1	51.6	
0.347	39.8	59.0		31.4	49.0	
0.748	40.5	56.0		30.0	46.0	
0.930	42.8	56.0		29.3	46.0	
1.385	41.8	56.0		30.3	46.0	
3.119	54.9	56.0		30.1	46.0	
3.176	40.8	56.0		27.8	46.0	
5.054	40.1	60.0		28.9	50.0	
12.434	21.7	60.0		11.7	50.0	
20.539	16.5	60.0		7.2	50.0	

FCC Part 15 Subpart B Conducted Emissions Test

Significant Emissions Data

VB** 02/09/2011

Manufacturer : The Chamberlain Group
Model : AC Unit
DUT Revision : 1.4
Serial Number :
DUT Mode : down
Line Tested : L2
Scan Step Time [ms] : 30
Meas. Threshold [dB] : -2
Notes :
Test Engineer : R. King
Limit : Class B
Test Date : Jan 27, 2012 02:45:47 PM
Data Filter : Up to 80 maximum levels detected with 6 dB level excursion threshold over 2 dB margin below limit

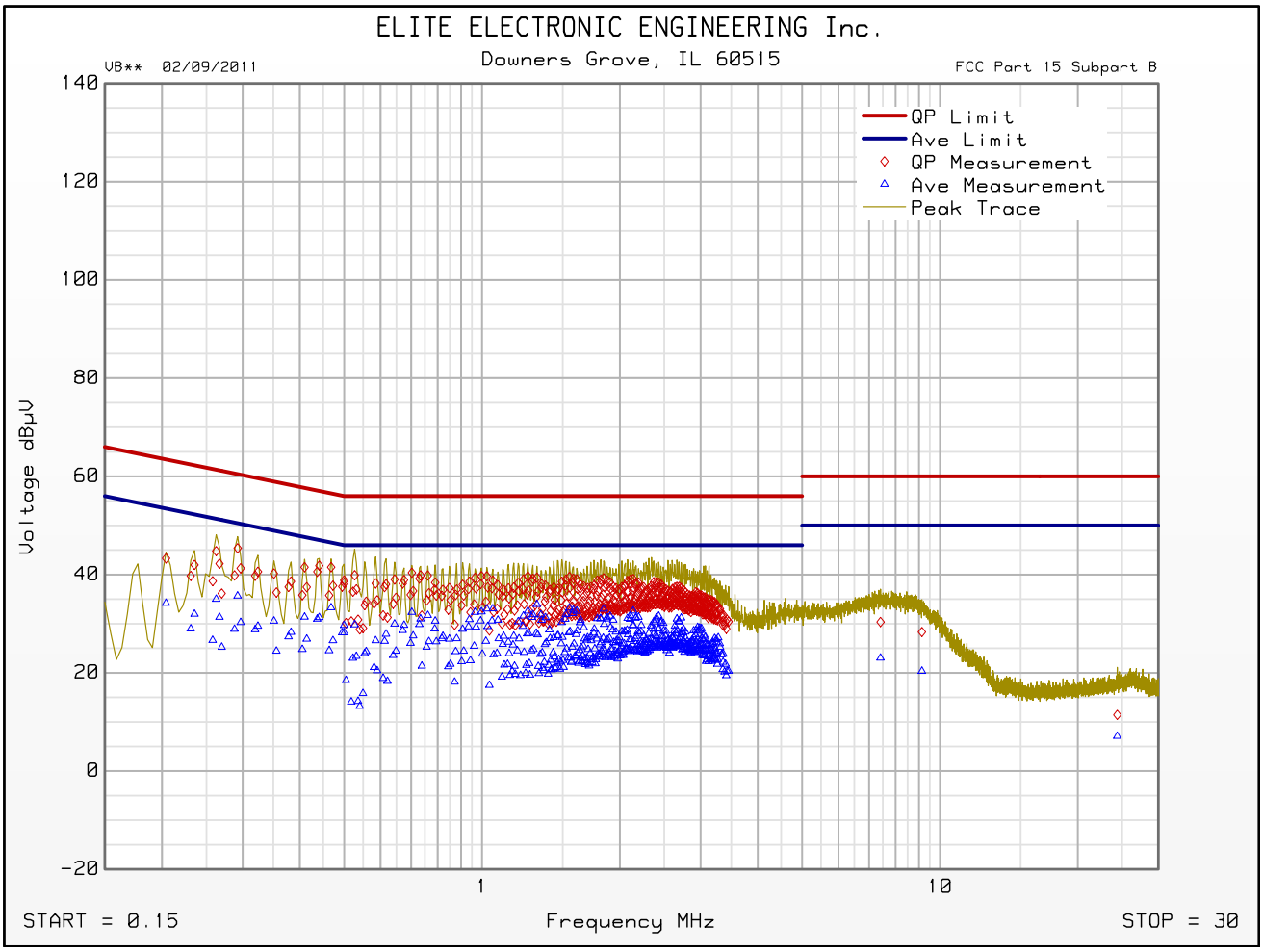
Freq MHz	Quasi-peak Level dBµV	Quasi-peak Limit dBµV	Excessive Quasi-peak Emissions	Average Level dBµV	Average Limit dBµV	Excessive Average Emissions
0.258	48.8	61.5		36.3	51.5	
0.302	54.2	60.2		34.8	50.2	
0.694	43.2	56.0		33.1	46.0	
1.038	43.3	56.0		30.2	46.0	
1.300	43.0	56.0		30.8	46.0	
2.048	40.7	56.0		29.8	46.0	
3.757	54.7	56.0		23.1	46.0	
5.140	40.9	60.0		28.0	50.0	
10.233	20.2	60.0		9.7	50.0	
19.724	15.8	60.0		9.1	50.0	

FCC Part 15 Subpart B Conducted Emissions Test

Cumulative Data

VB** 02/09/2011

Manufacturer	:	The Chamberlain Group
Model	:	AC Unit, 001D7675
DUT Revision	:	
Serial Number	:	
DUT Mode	:	Rx @ 390MHz
Line Tested	:	L1
Scan Step Time [ms]	:	30
Meas. Threshold [dB]	:	-10
Notes	:	
Test Engineer	:	R. King
Limit	:	Class B
Test Date	:	Dec 20, 2011 02:27:02 AM



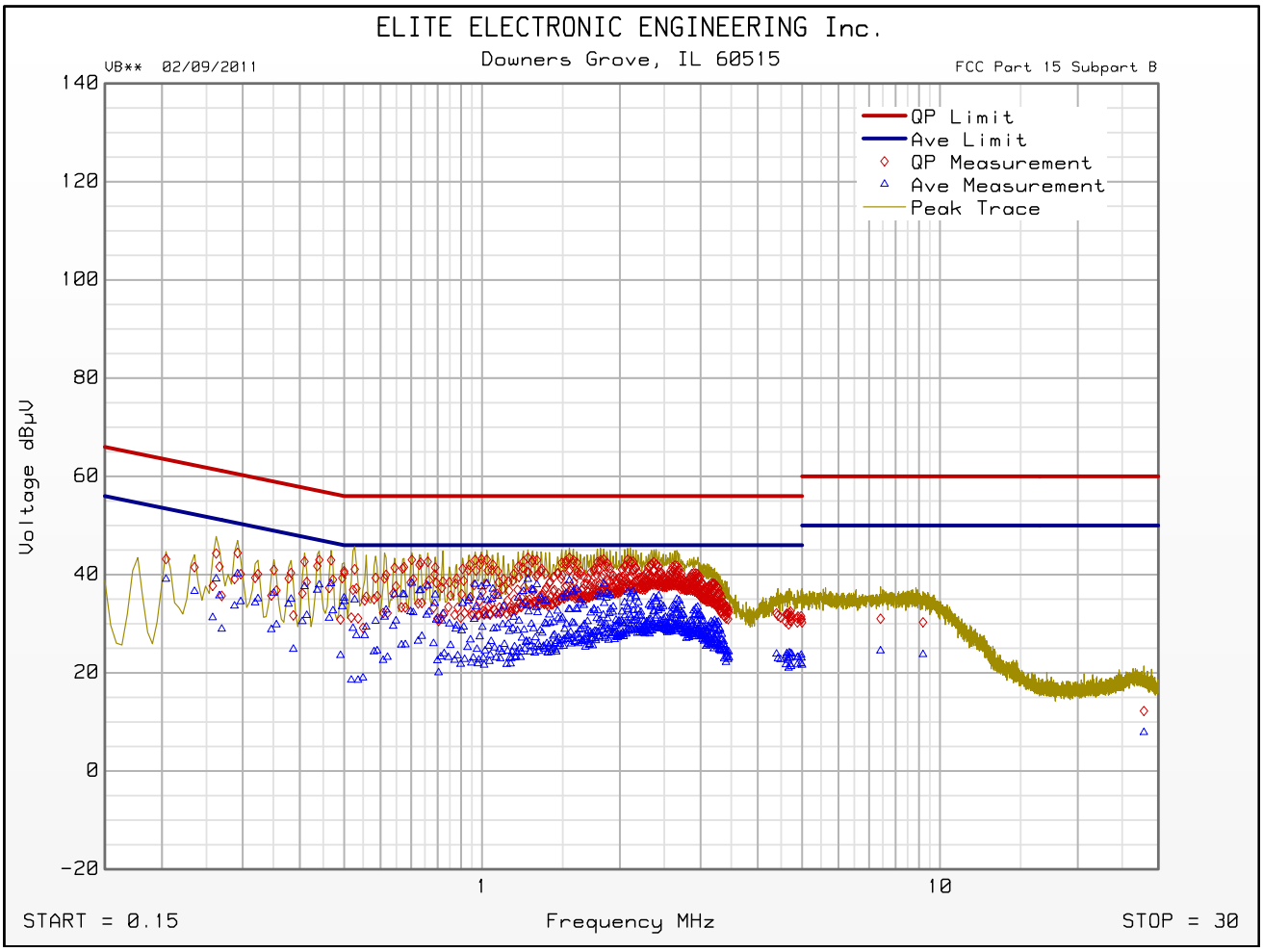
Emissions Meet QP Limit
Emissions Meet Ave Limit

FCC Part 15 Subpart B Conducted Emissions Test

Cumulative Data

VB** 02/09/2011

Manufacturer	:	The Chamberlain Group
Model	:	AC Unit, 001D7675
DUT Revision	:	
Serial Number	:	
DUT Mode	:	Rx @ 390MHz
Line Tested	:	L2
Scan Step Time [ms]	:	30
Meas. Threshold [dB]	:	-10
Notes	:	
Test Engineer	:	R. King
Limit	:	Class B
Test Date	:	Dec 20, 2011 02:43:39 AM



Emissions Meet QP Limit
Emissions Meet Ave Limit

FCC Part 15 Subpart B Conducted Emissions Test

Significant Emissions Data

VB** 02/09/2011

Manufacturer : The Chamberlain Group
Model : AC Unit, 001D7675
DUT Revision :
Serial Number :
DUT Mode : Rx @ 390MHz
Line Tested : L1
Scan Step Time [ms] : 30
Meas. Threshold [dB] : -10
Notes :
Test Engineer : R. King
Limit : Class B
Test Date : Dec 20, 2011 02:27:02 AM
Data Filter : Up to 80 maximum levels detected with 6 dB level excursion threshold over 10 dB margin below limit

Freq MHz	Quasi-peak Level dBµV	Quasi-peak Limit dBµV	Excessive Quasi-peak Emissions	Average Level dBµV	Average Limit dBµV	Excessive Average Emissions
0.263	44.8	61.4		35.0	51.4	
0.468	41.5	56.5		33.3	46.5	
0.703	40.4	56.0		32.3	46.0	
0.997	39.7	56.0		32.4	46.0	
1.259	39.6	56.0		32.6	46.0	
2.138	39.1	56.0		32.6	46.0	
3.163	34.8	56.0		25.7	46.0	
7.417	30.3	60.0		23.0	50.0	
9.131	28.3	60.0		20.3	50.0	
24.395	11.4	60.0		7.1	50.0	

FCC Part 15 Subpart B Conducted Emissions Test

Significant Emissions Data

VB** 02/09/2011

Manufacturer : The Chamberlain Group
Model : AC Unit, 001D7675
DUT Revision :
Serial Number :
DUT Mode : Rx @ 390MHz
Line Tested : L2
Scan Step Time [ms] : 30
Meas. Threshold [dB] : -10
Notes :
Test Engineer : R. King
Limit : Class B
Test Date : Dec 20, 2011 02:43:39 AM
Data Filter : Up to 80 maximum levels detected with 6 dB level excursion threshold over 10 dB margin below limit

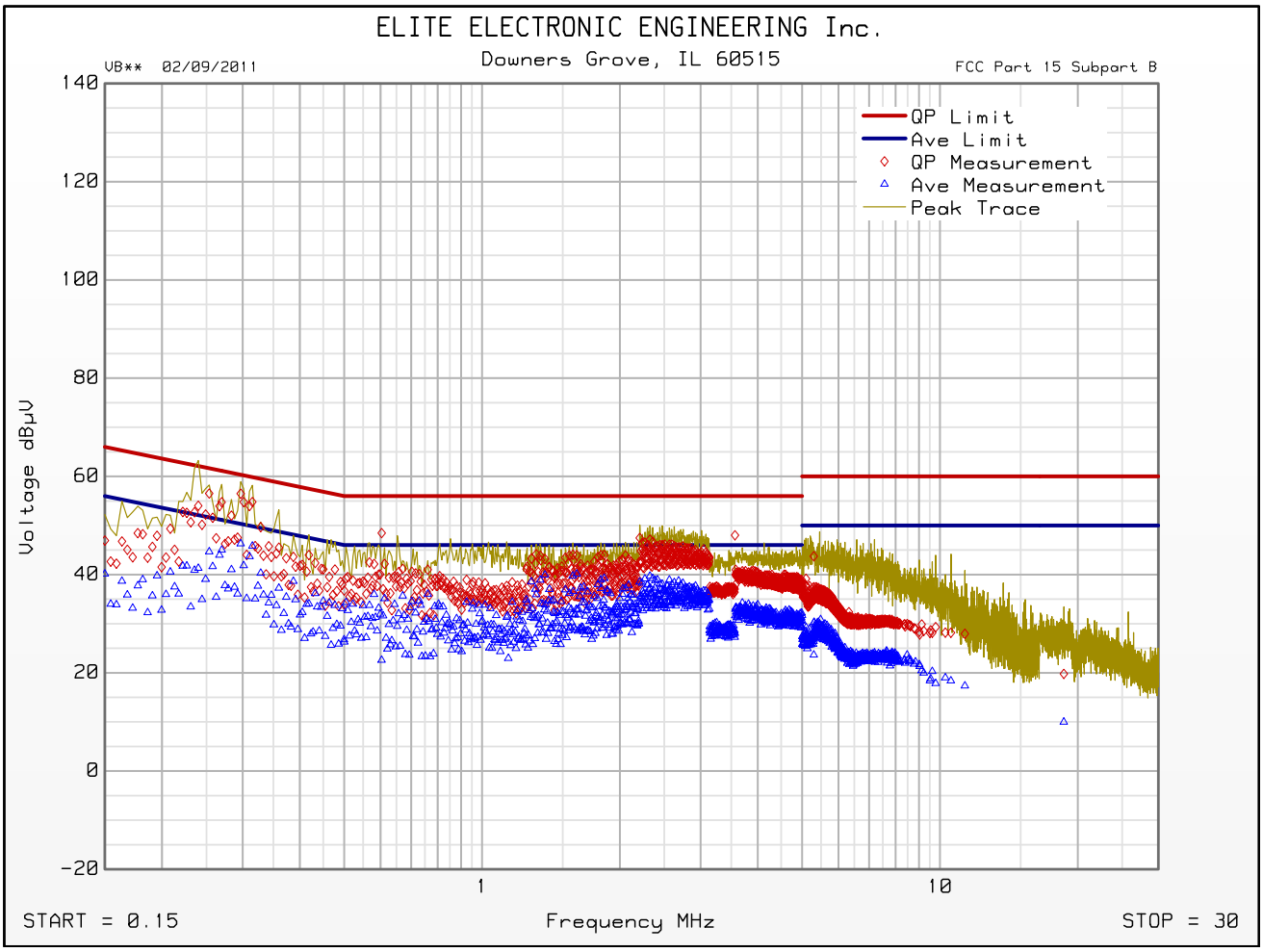
Freq MHz	Quasi-peak Level dBµV	Quasi-peak Limit dBµV	Excessive Quasi-peak Emissions	Average Level dBµV	Average Limit dBµV	Excessive Average Emissions
0.263	44.3	61.4		39.2	51.4	
0.441	43.0	57.0		37.9	47.0	
0.468	42.9	56.5		38.2	46.5	
0.671	41.3	56.0		36.0	46.0	
0.703	43.0	56.0		38.3	46.0	
0.734	42.5	56.0		36.8	46.0	
0.761	42.6	56.0		37.7	46.0	
0.966	43.0	56.0		38.0	46.0	
0.997	43.1	56.0		37.5	46.0	
1.024	43.1	56.0		38.2	46.0	
1.056	42.0	56.0		37.1	46.0	
1.231	42.7	56.0		36.6	46.0	
1.259	43.5	56.0		39.1	46.0	
1.286	42.5	56.0		37.0	46.0	
1.318	43.0	56.0		37.9	46.0	
1.525	42.8	56.0		36.1	46.0	
1.552	43.4	56.0		38.8	46.0	
1.583	42.9	56.0		36.7	46.0	
1.610	42.4	56.0		37.0	46.0	
1.817	43.0	56.0		36.0	46.0	
1.844	43.1	56.0		38.1	46.0	
1.876	42.3	56.0		36.2	46.0	
2.079	43.0	56.0		36.5	46.0	
2.111	42.7	56.0		36.1	46.0	
2.138	42.7	56.0		36.6	46.0	
3.194	38.2	56.0		30.0	46.0	
7.417	31.0	60.0		24.5	50.0	
9.185	30.3	60.0		23.7	50.0	
27.892	12.2	60.0		7.9	50.0	

FCC Part 15 Subpart B Conducted Emissions Test

Cumulative Data

VB** 02/09/2011

Manufacturer	:	CHAMBERALIN
Model	:	001D7675
DUT Revision	:	1.1
Serial Number	:	
DUT Mode	:	GDO
Line Tested	:	HIGH SIDE
Scan Step Time [ms]	:	30
Meas. Threshold [dB]	:	-10
Notes	:	
Test Engineer	:	R. King
Limit	:	Class B
Test Date	:	May 14, 2012 04:21:26 PM



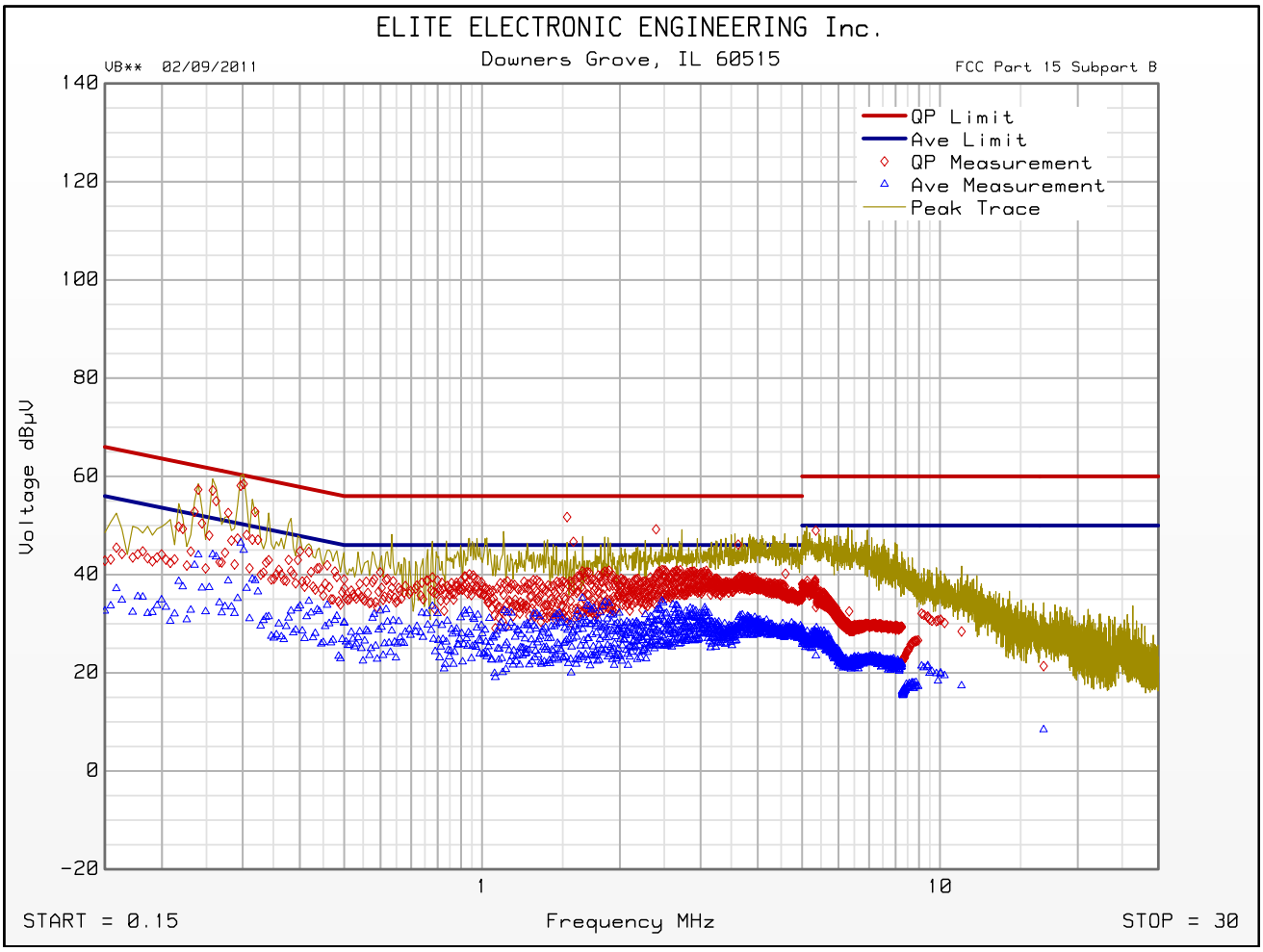
Emissions Meet QP Limit
Emissions Meet Ave Limit

FCC Part 15 Subpart B Conducted Emissions Test

Cumulative Data

VB** 02/09/2011

Manufacturer	:	CHAMBERALIN
Model	:	001D7675
DUT Revision	:	1.1
Serial Number	:	
DUT Mode	:	GDO
Line Tested	:	RETURN SIDE
Scan Step Time [ms]	:	30
Meas. Threshold [dB]	:	-10
Notes	:	
Test Engineer	:	R. King
Limit	:	Class B
Test Date	:	May 14, 2012 02:39:55 PM



Emissions Meet QP Limit
Emissions Meet Ave Limit

FCC Part 15 Subpart B Conducted Emissions Test

Significant Emissions Data

VB** 02/09/2011

Manufacturer : CHAMBERALIN
Model : 001D7675
DUT Revision : 1.1
Serial Number :
DUT Mode : GDO
Line Tested : HIGH SIDE
Scan Step Time [ms] : 30
Meas. Threshold [dB] : -10
Notes :
Test Engineer : R. King
Limit : Class B
Test Date : May 14, 2012 04:21:26 PM
Data Filter : Up to 80 maximum levels detected with 6 dB level excursion threshold over 10 dB margin below limit

Freq MHz	Quasi-peak Level dBµV	Quasi-peak Limit dBµV	Excessive Quasi-peak Emissions	Average Level dBµV	Average Limit dBµV	Excessive Average Emissions
0.222	52.8	62.7		41.7	52.7	
0.240	54.0	62.1		41.3	52.1	
0.254	56.5	61.6		44.7	51.6	
0.270	54.7	61.1		45.0	51.1	
0.284	52.0	60.7		41.0	50.7	
0.297	56.5	60.3		46.3	50.3	
0.315	54.8	59.8		45.8	49.8	
0.329	49.7	59.5		40.3	49.5	
0.387	43.6	58.1		38.6	48.1	
0.604	48.5	56.0		22.6	46.0	
1.250	41.1	56.0		34.9	46.0	
1.282	43.3	56.0		38.5	46.0	
1.309	42.3	56.0		37.1	46.0	
1.340	43.9	56.0		38.9	46.0	
1.372	43.2	56.0		39.9	46.0	
1.403	41.6	56.0		37.0	46.0	
1.520	43.4	56.0		36.9	46.0	
1.552	43.9	56.0		36.2	46.0	
1.579	44.0	56.0		39.7	46.0	
1.610	44.0	56.0		40.1	46.0	
1.642	42.1	56.0		37.3	46.0	
1.669	41.3	56.0		37.5	46.0	
1.700	41.8	56.0		36.5	46.0	
1.790	43.6	56.0		38.0	46.0	
1.817	43.9	56.0		38.9	46.0	
1.849	44.0	56.0		39.3	46.0	
1.876	42.2	56.0		36.8	46.0	
1.907	41.5	56.0		36.2	46.0	
2.030	42.9	56.0		37.1	46.0	
2.057	43.9	56.0		37.2	46.0	
2.088	43.1	56.0		37.8	46.0	
2.210	47.5	56.0		38.5	46.0	
2.237	46.4	56.0		38.3	46.0	

Freq MHz	Quasi-peak Level dBµV	Quasi-peak Limit dBµV	Excessive Quasi-peak Emissions	Average Level dBµV	Average Limit dBµV	Excessive Average Emissions
2.255	44.7	56.0		36.2	46.0	
2.268	46.5	56.0		39.2	46.0	
2.282	44.7	56.0		36.1	46.0	
2.300	46.1	56.0		38.0	46.0	
2.313	45.0	56.0		37.0	46.0	
2.327	47.1	56.0		39.7	46.0	
2.340	44.2	56.0		36.3	46.0	
2.358	46.7	56.0		39.2	46.0	
2.372	44.8	56.0		36.7	46.0	
2.390	45.5	56.0		38.8	46.0	
2.417	45.8	56.0		38.9	46.0	
2.430	44.5	56.0		36.0	46.0	
2.448	46.0	56.0		38.1	46.0	
2.462	45.0	56.0		37.0	46.0	
2.475	46.0	56.0		38.1	46.0	
2.493	44.6	56.0		36.8	46.0	
2.507	46.1	56.0		36.8	46.0	
2.525	43.9	56.0		36.5	46.0	
2.534	45.1	56.0		37.8	46.0	
2.552	44.6	56.0		36.5	46.0	
2.565	46.1	56.0		38.9	46.0	
2.583	44.4	56.0		36.5	46.0	
2.597	46.1	56.0		38.0	46.0	
2.610	44.4	56.0		36.2	46.0	
2.628	45.8	56.0		38.4	46.0	
2.642	44.4	56.0		36.7	46.0	
2.655	45.5	56.0		37.5	46.0	
2.687	45.6	56.0		38.7	46.0	
2.714	45.5	56.0		37.9	46.0	
2.745	45.7	56.0		38.3	46.0	
2.777	45.4	56.0		37.4	46.0	
2.790	44.1	56.0		36.0	46.0	
2.808	45.4	56.0		37.3	46.0	
2.835	45.4	56.0		37.5	46.0	
2.862	44.7	56.0		37.2	46.0	
2.880	43.9	56.0		36.1	46.0	
2.894	44.8	56.0		37.3	46.0	
2.907	43.2	56.0		36.9	46.0	
2.925	45.0	56.0		37.7	46.0	
2.952	43.5	56.0		36.9	46.0	
2.970	43.6	56.0		36.3	46.0	
2.988	44.0	56.0		36.3	46.0	
3.015	44.5	56.0		36.4	46.0	
3.024	43.0	56.0		36.0	46.0	
3.047	45.2	56.0		36.7	46.0	
3.078	44.5	56.0		36.7	46.0	
3.110	43.8	56.0		36.2	46.0	
3.568	48.0	56.0		28.0	46.0	
5.302	43.7	60.0		23.6	50.0	
9.126	29.9	60.0		20.5	50.0	
18.649	19.8	60.0		10.0	50.0	

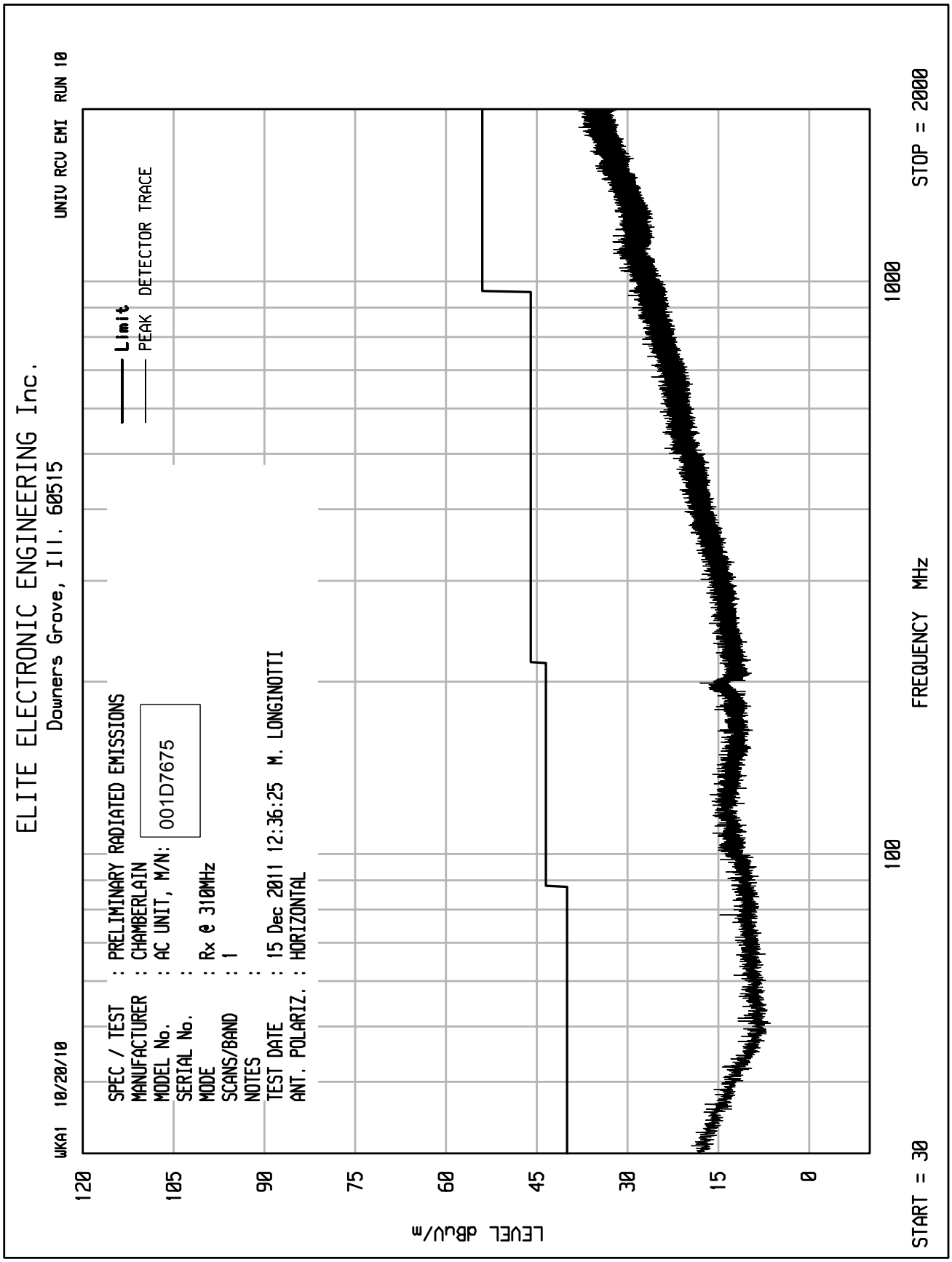
FCC Part 15 Subpart B Conducted Emissions Test

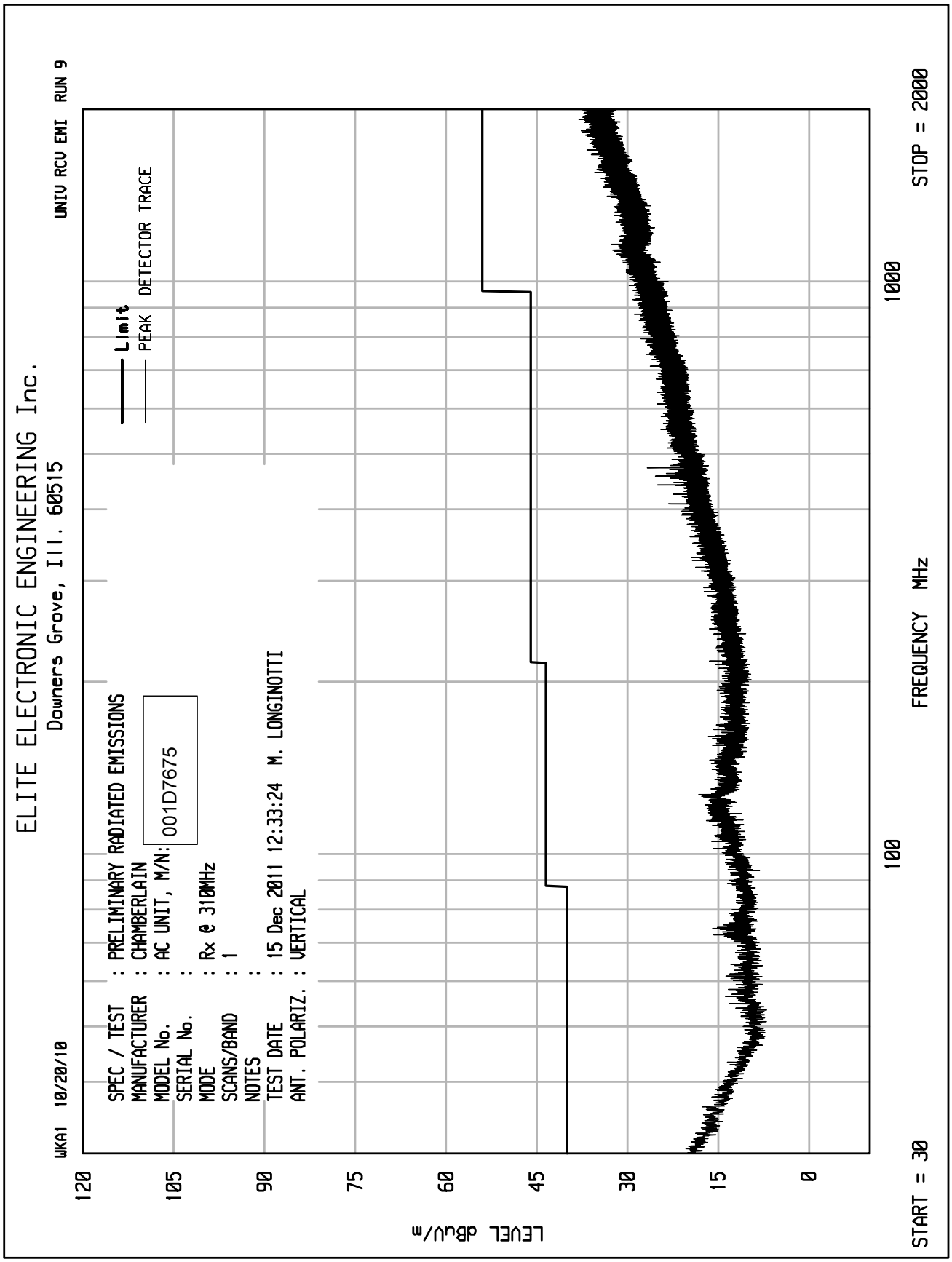
Significant Emissions Data

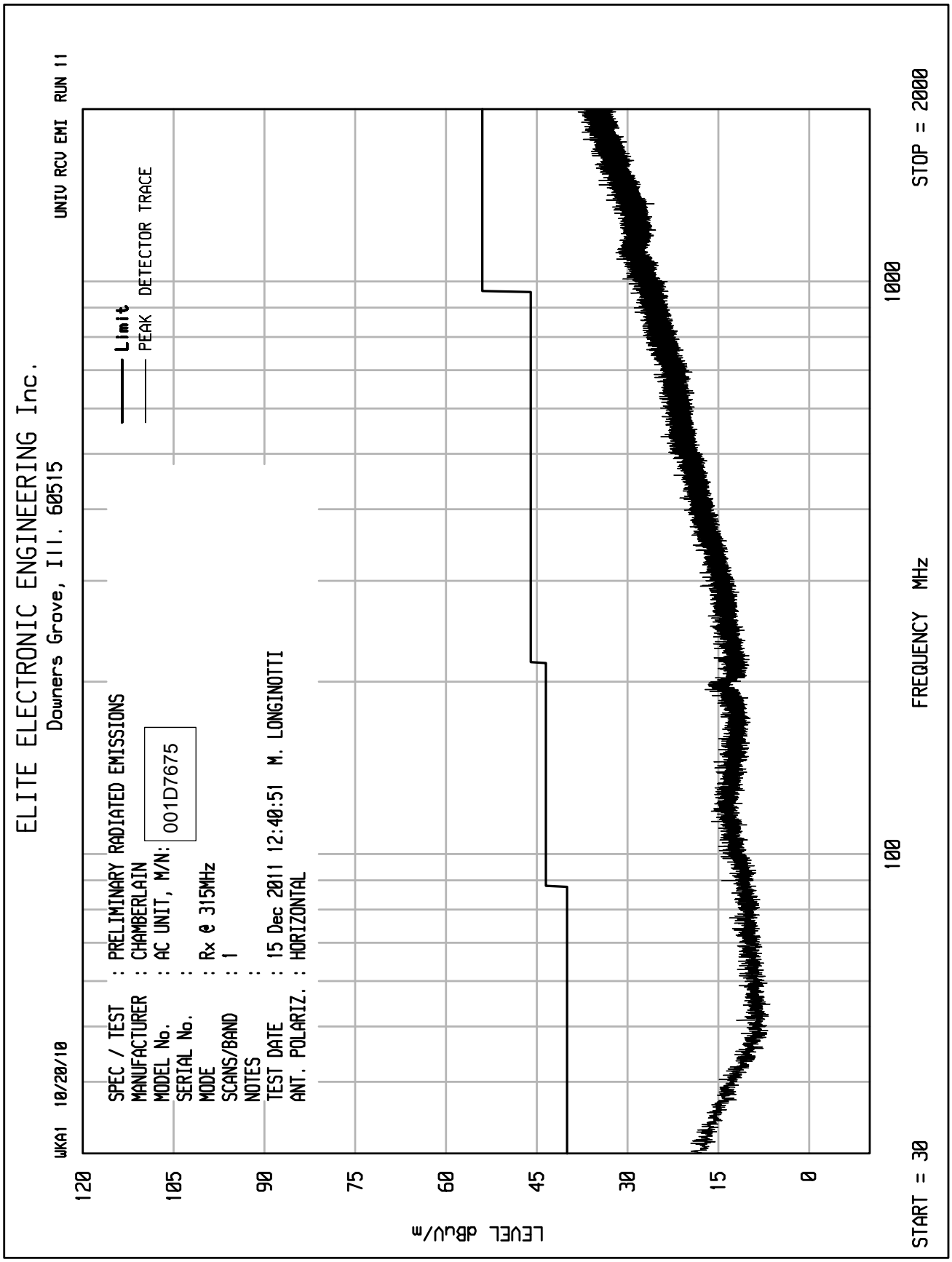
VB** 02/09/2011

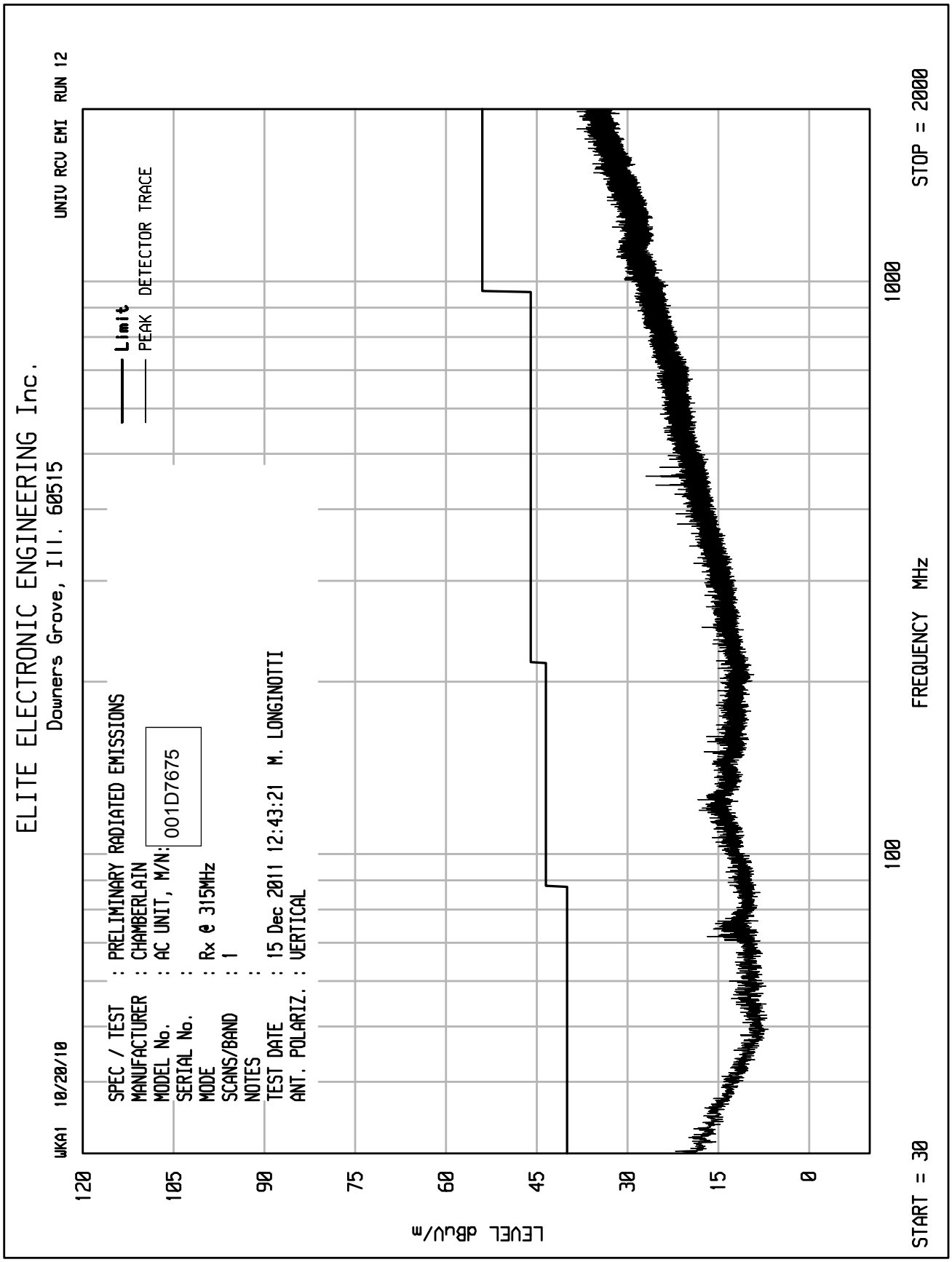
Manufacturer	:	CHAMBERALIN
Model	:	001D7675
DUT Revision	:	1.1
Serial Number	:	
DUT Mode	:	GDO
Line Tested	:	RETURN SIDE
Scan Step Time [ms]	:	30
Meas. Threshold [dB]	:	-10
Notes	:	
Test Engineer	:	R. King
Limit	:	Class B
Test Date	:	May 14, 2012 02:39:55 PM
Data Filter	:	Up to 80 maximum levels detected with 6 dB level excursion threshold over 10 dB margin below limit

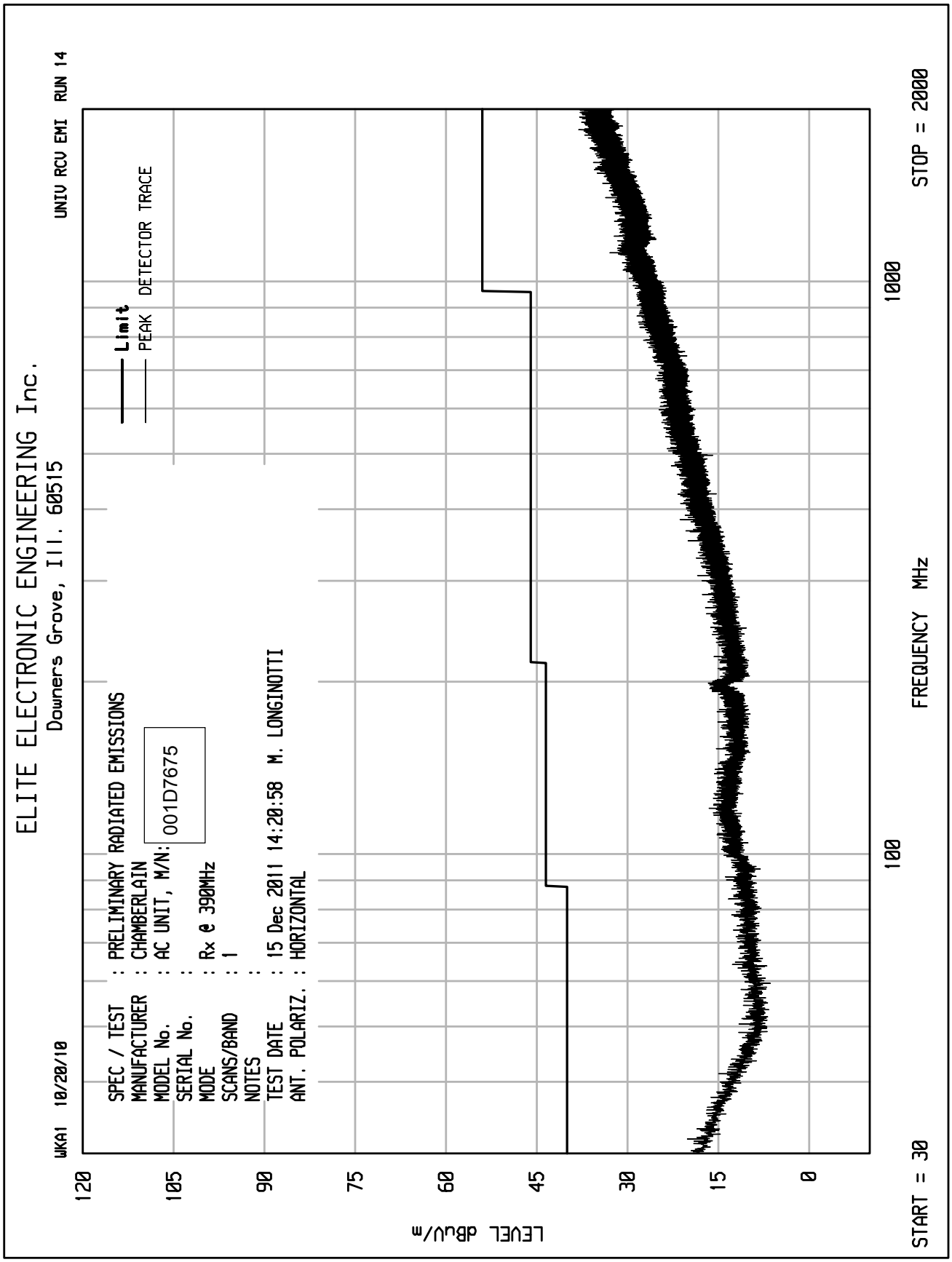
Freq MHz	Quasi-peak Level dBµV	Quasi-peak Limit dBµV	Excessive Quasi-peak Emissions	Average Level dBµV	Average Limit dBµV	Excessive Average Emissions
0.240	57.3	62.1		44.0	52.1	
0.258	57.1	61.5		44.1	51.5	
0.279	52.6	60.8		38.7	50.8	
0.297	58.1	60.3		46.5	50.3	
0.302	58.5	60.2		45.0	50.2	
0.320	52.8	59.7		38.8	49.7	
0.599	40.5	56.0		32.6	46.0	
0.939	40.1	56.0		32.7	46.0	
1.534	51.7	56.0		30.3	46.0	
1.583	46.7	56.0		28.5	46.0	
2.399	49.2	56.0		25.5	46.0	
3.626	46.1	56.0		27.7	46.0	
5.356	49.0	60.0		26.3	50.0	
9.122	32.1	60.0		21.4	50.0	
16.849	21.4	60.0		8.4	50.0	

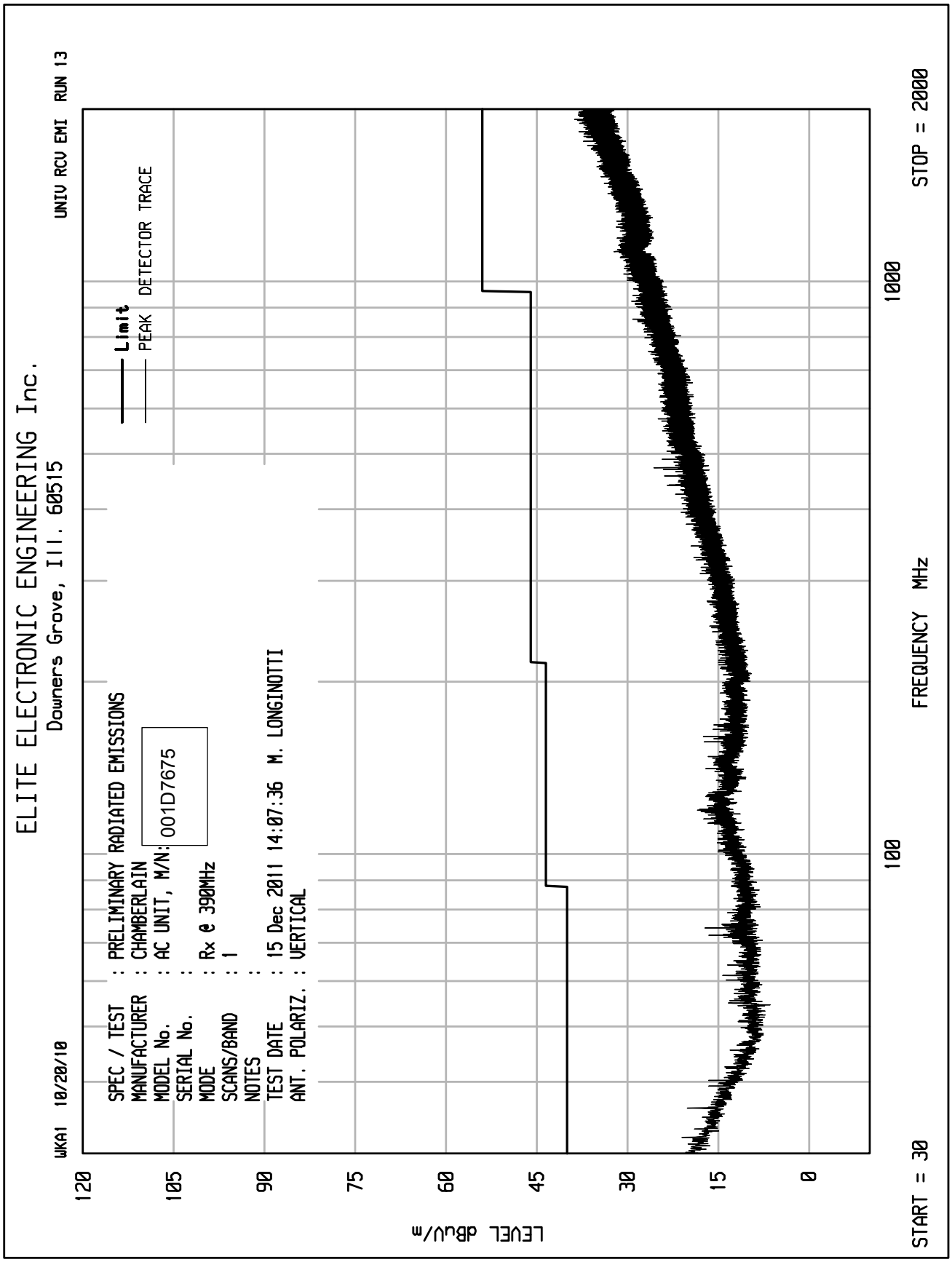

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 10
WKA1 10/20/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N: 001D7675
SERIAL No. :
MODE : Rx @ 310MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 15 Dec 2011 12:36:25 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 30
100
1000
STOP = 2000
FREQUENCY MHz

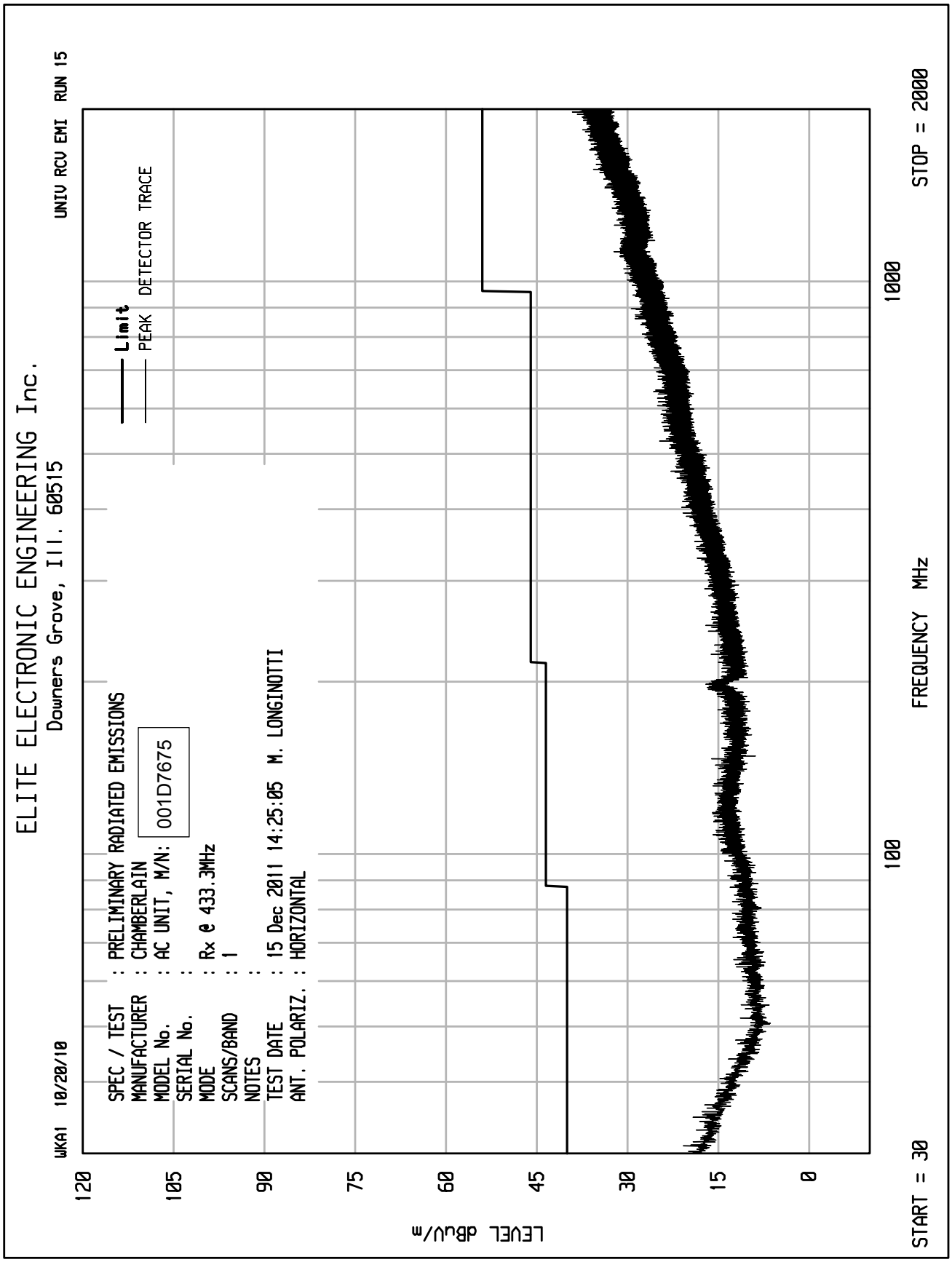

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 9
WKA1 10/20/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N: 001D7675
SERIAL No. :
MODE : Rx @ 310MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 15 Dec 2011 12:33:24 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 30
100
1000
STOP = 2000
FREQUENCY MHz

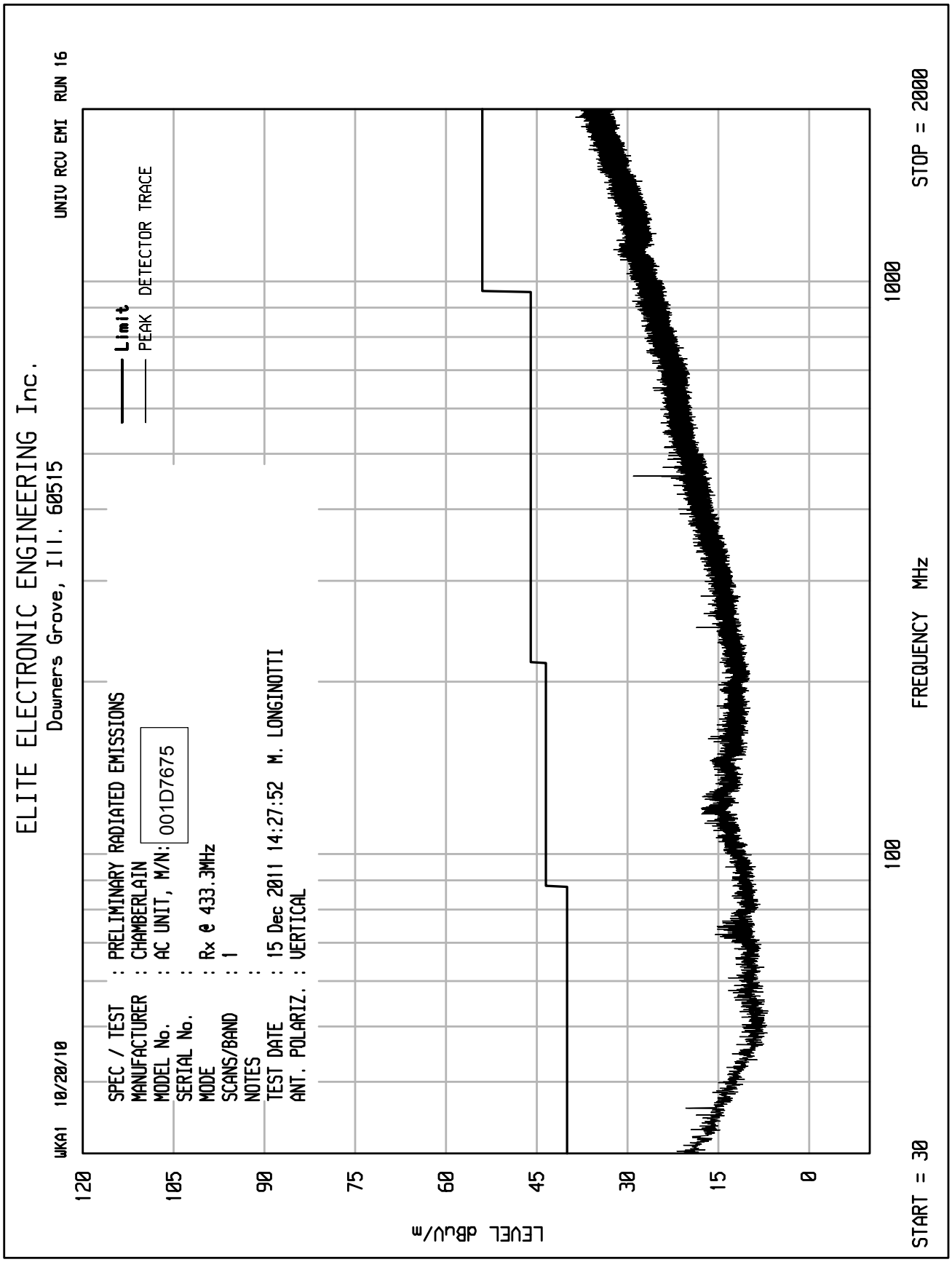

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 11
WKA1 10/20/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N: 001D7675
SERIAL No. :
MODE : Rx @ 315MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 15 Dec 2011 12:40:51 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 30
100
1000
STOP = 2000
FREQUENCY MHz

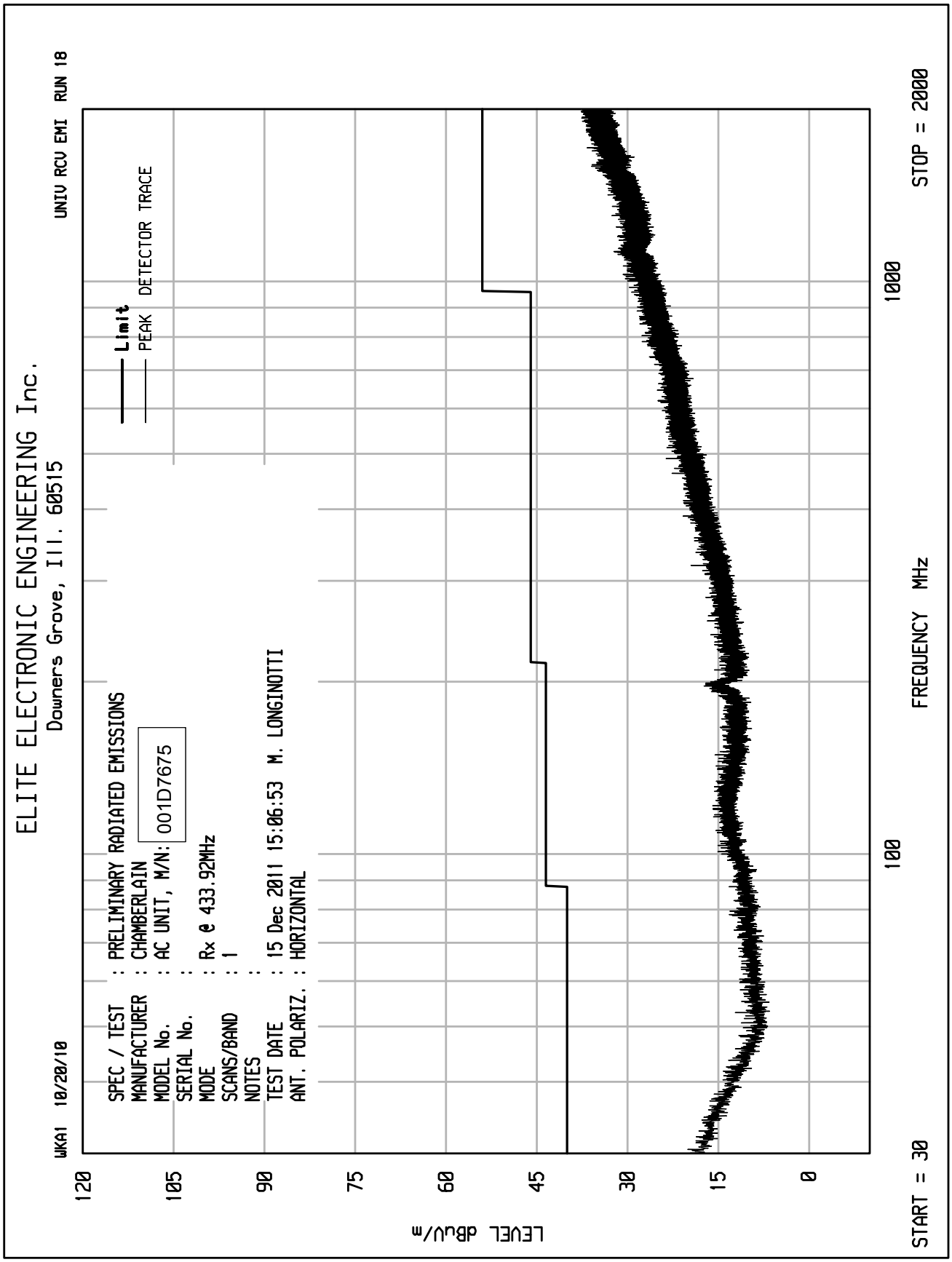

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 12
WKA1 10/20/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N: 001D7675
SERIAL No. :
MODE : Rx @ 315MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 15 Dec 2011 12:43:21 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 30
100
1000
STOP = 2000
FREQUENCY MHz

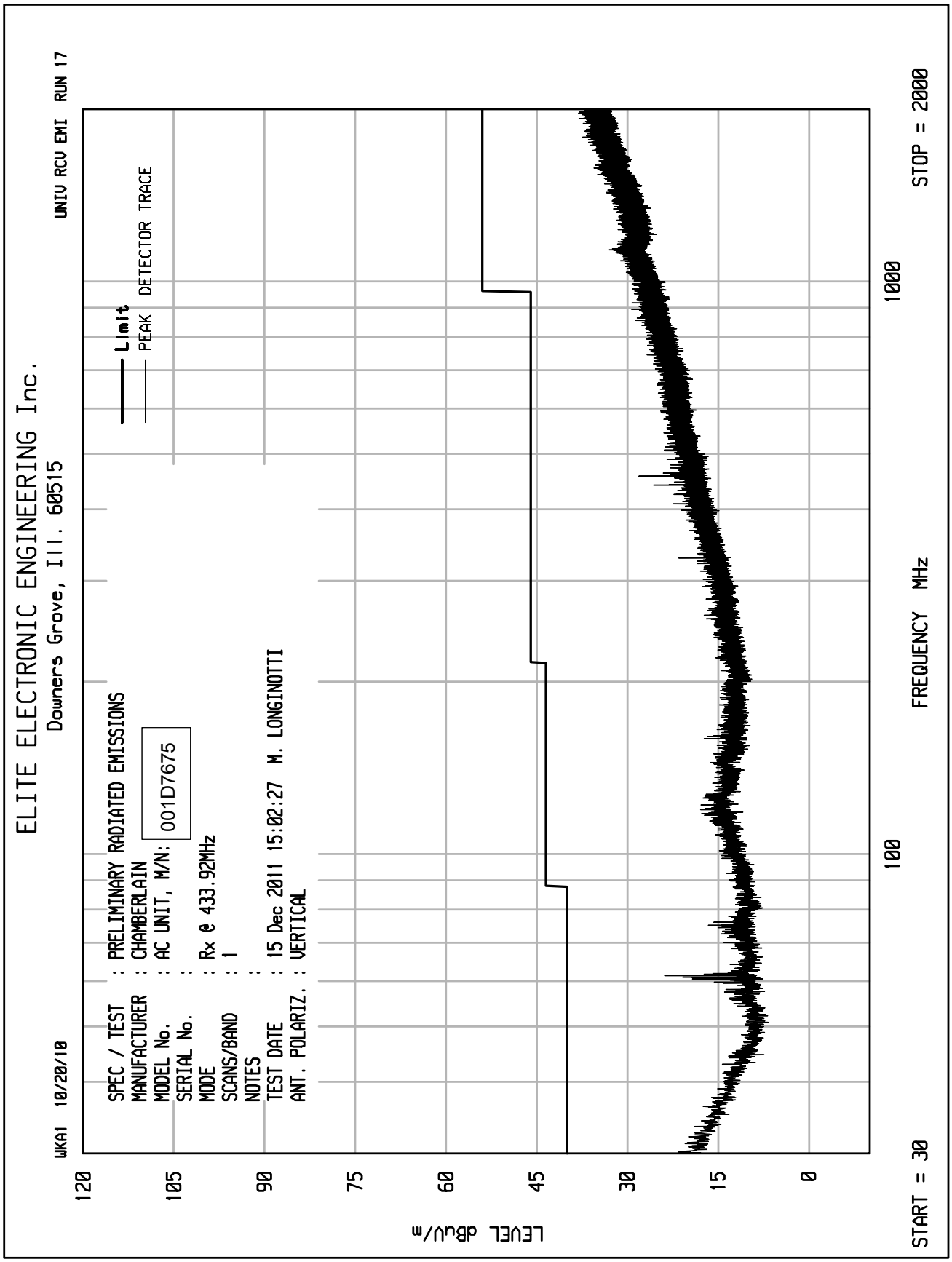

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 14
WKA1 10/20/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N: 001D7675
SERIAL No. :
MODE : Rx @ 390MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 15 Dec 2011 14:20:58 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 30
100
1000
STOP = 2000
FREQUENCY MHz

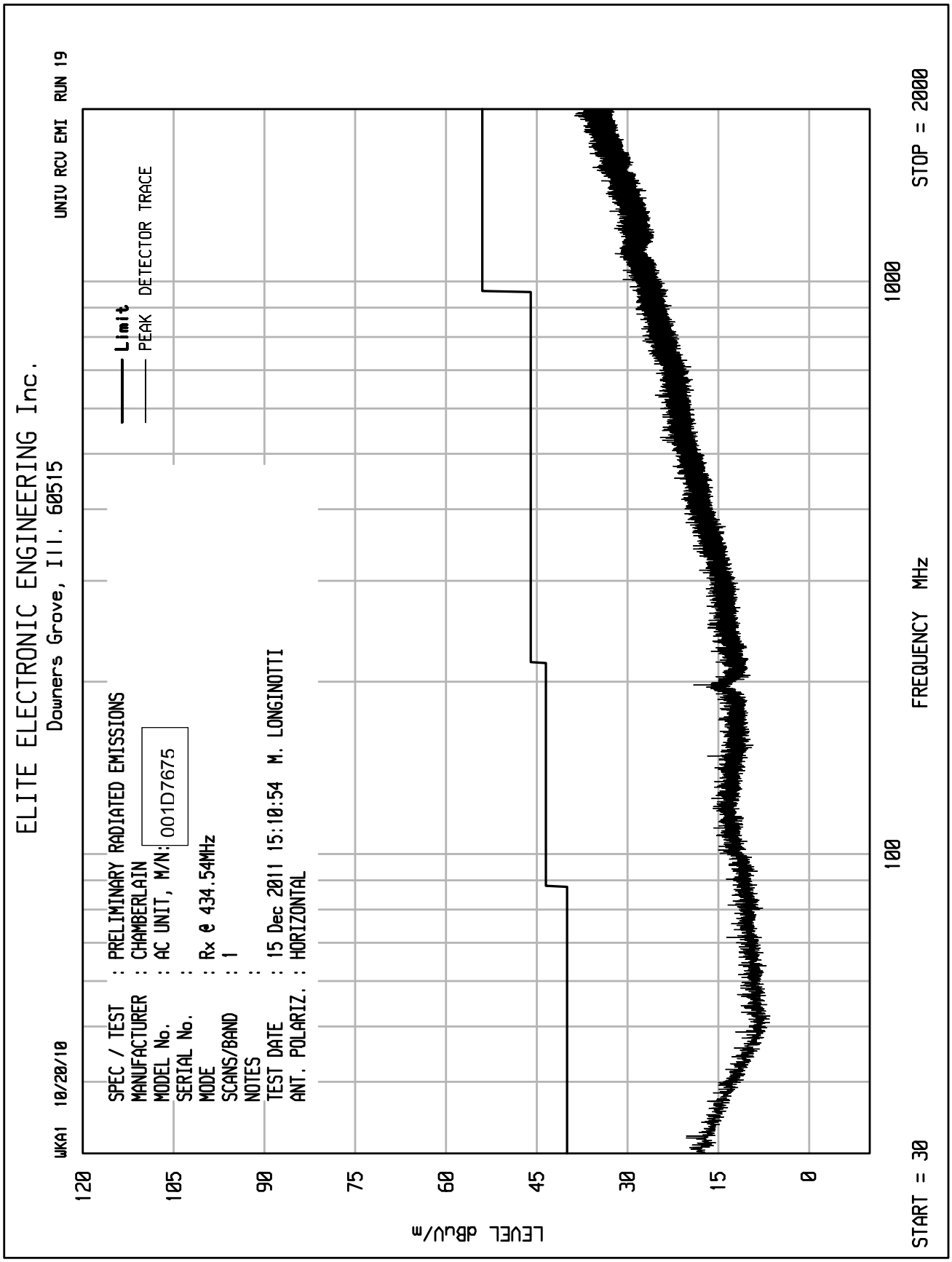

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 13
WKA1 10/20/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N: 001D7675
SERIAL No. :
MODE : Rx @ 390MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 15 Dec 2011 14:07:36 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 30
100
1000
STOP = 2000
FREQUENCY MHz

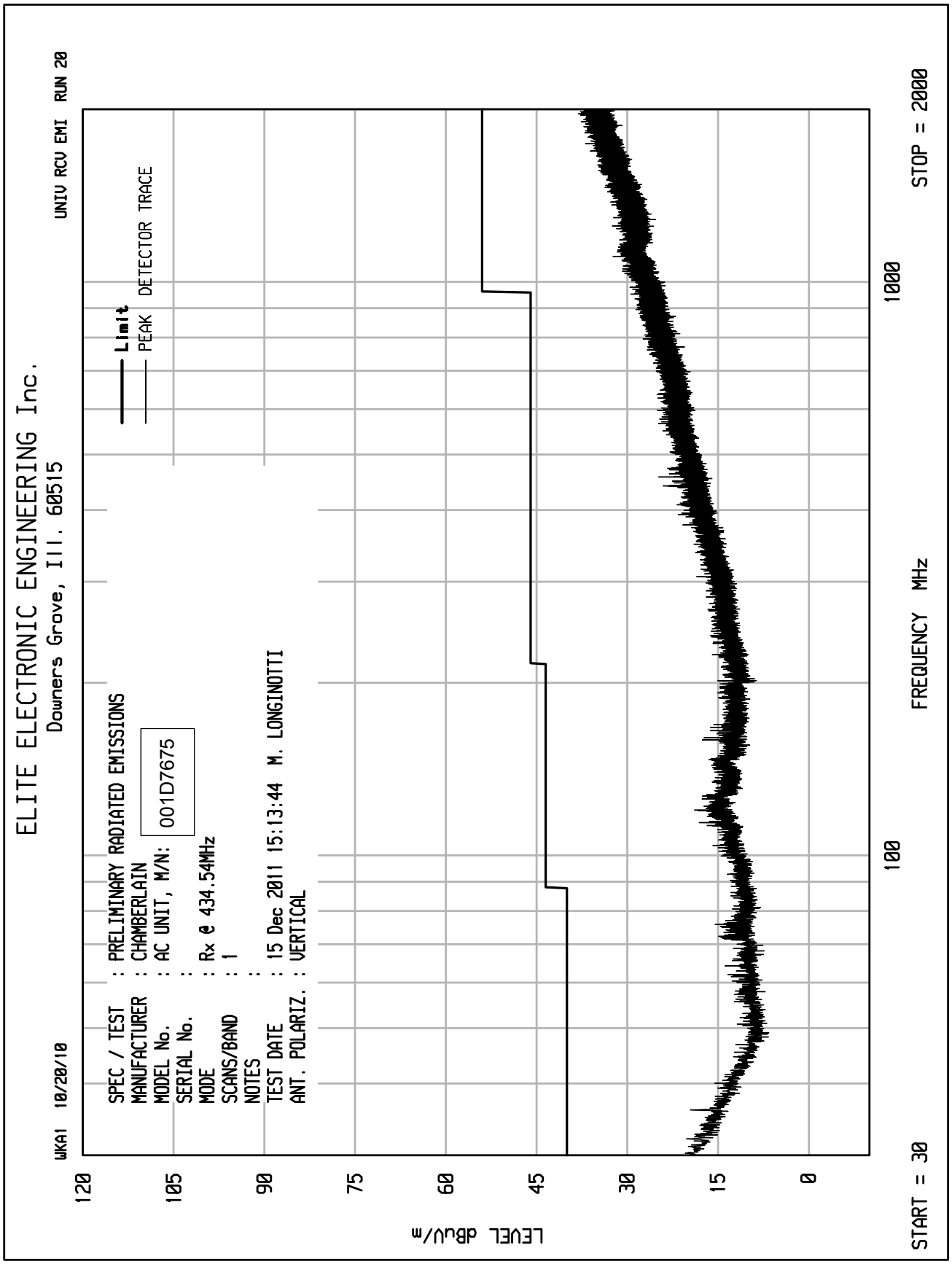

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 15
WKA1 10/20/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N: 001D7675
SERIAL No. :
MODE : Rx @ 433.3MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 15 Dec 2011 14:25:05 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 30
100
1000
STOP = 2000
FREQUENCY MHz

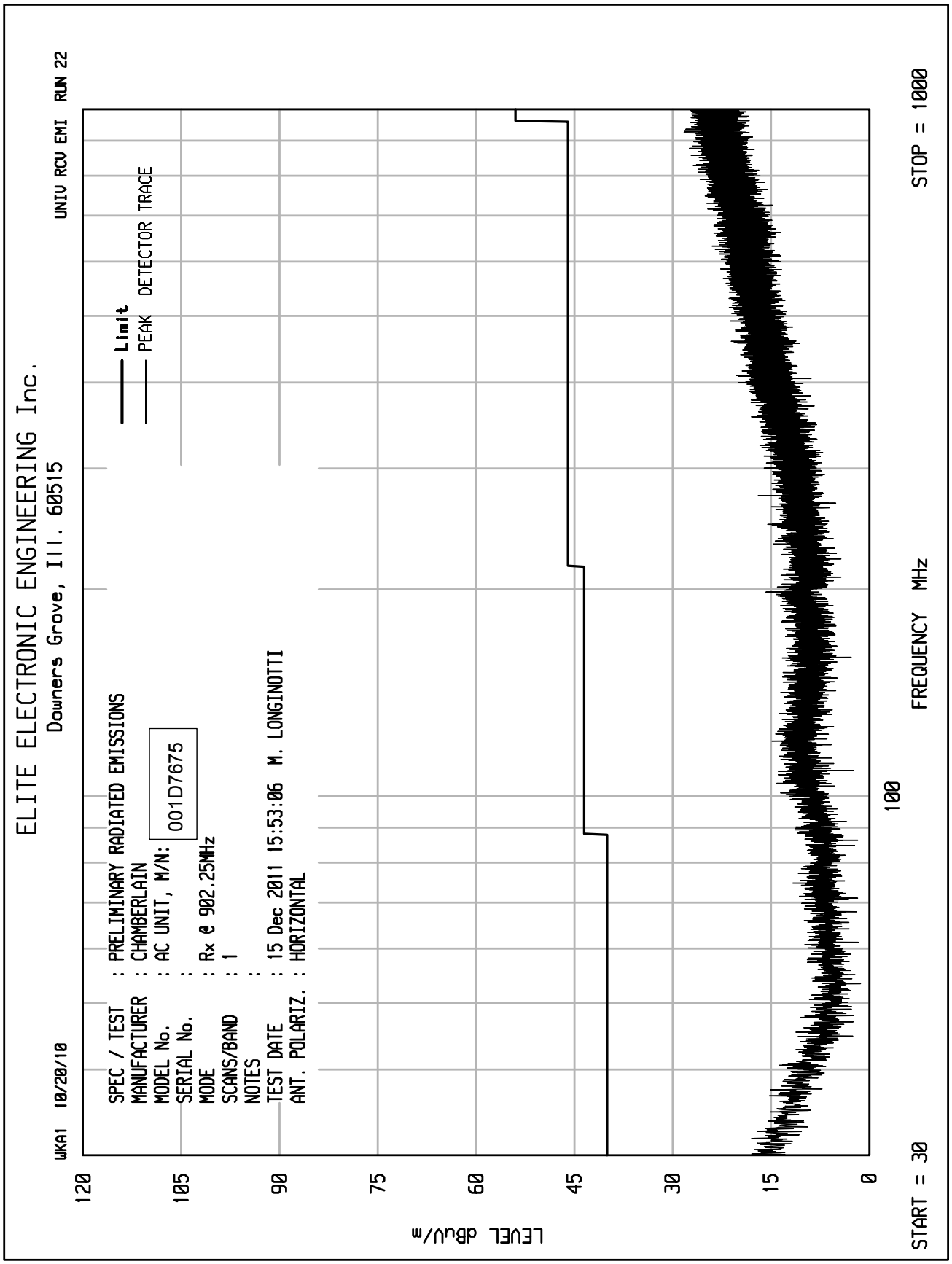

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 16
WKA1 10/20/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N: 001D7675
SERIAL No. :
MODE : Rx @ 433.3MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 15 Dec 2011 14:27:52 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 30
100
1000
STOP = 2000
FREQUENCY MHz

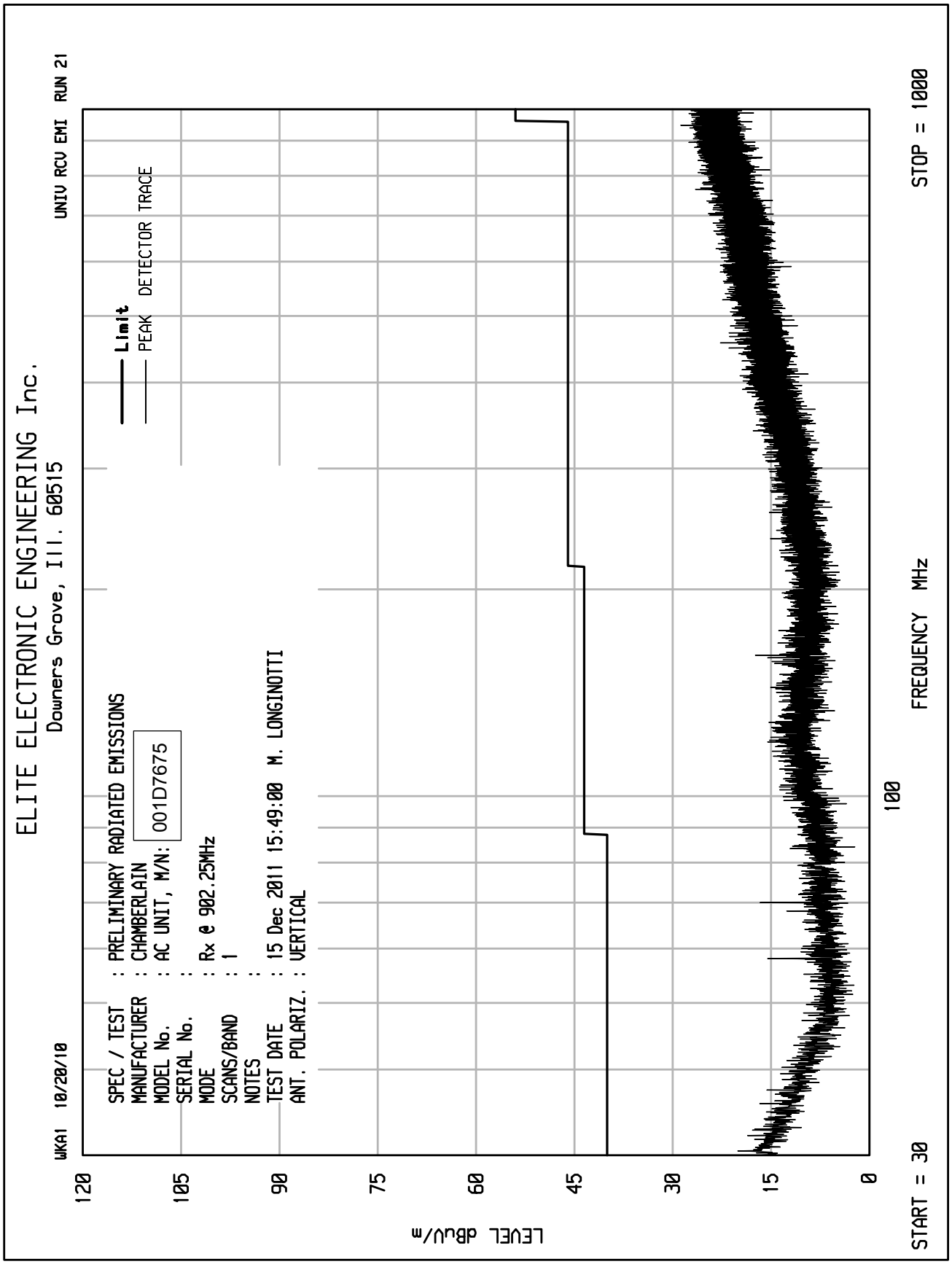

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 18
WKA1 10/20/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N: 001D7675
SERIAL No. :
MODE : Rx @ 433.92MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 15 Dec 2011 15:06:53 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 30
100
1000
STOP = 2000
FREQUENCY MHz

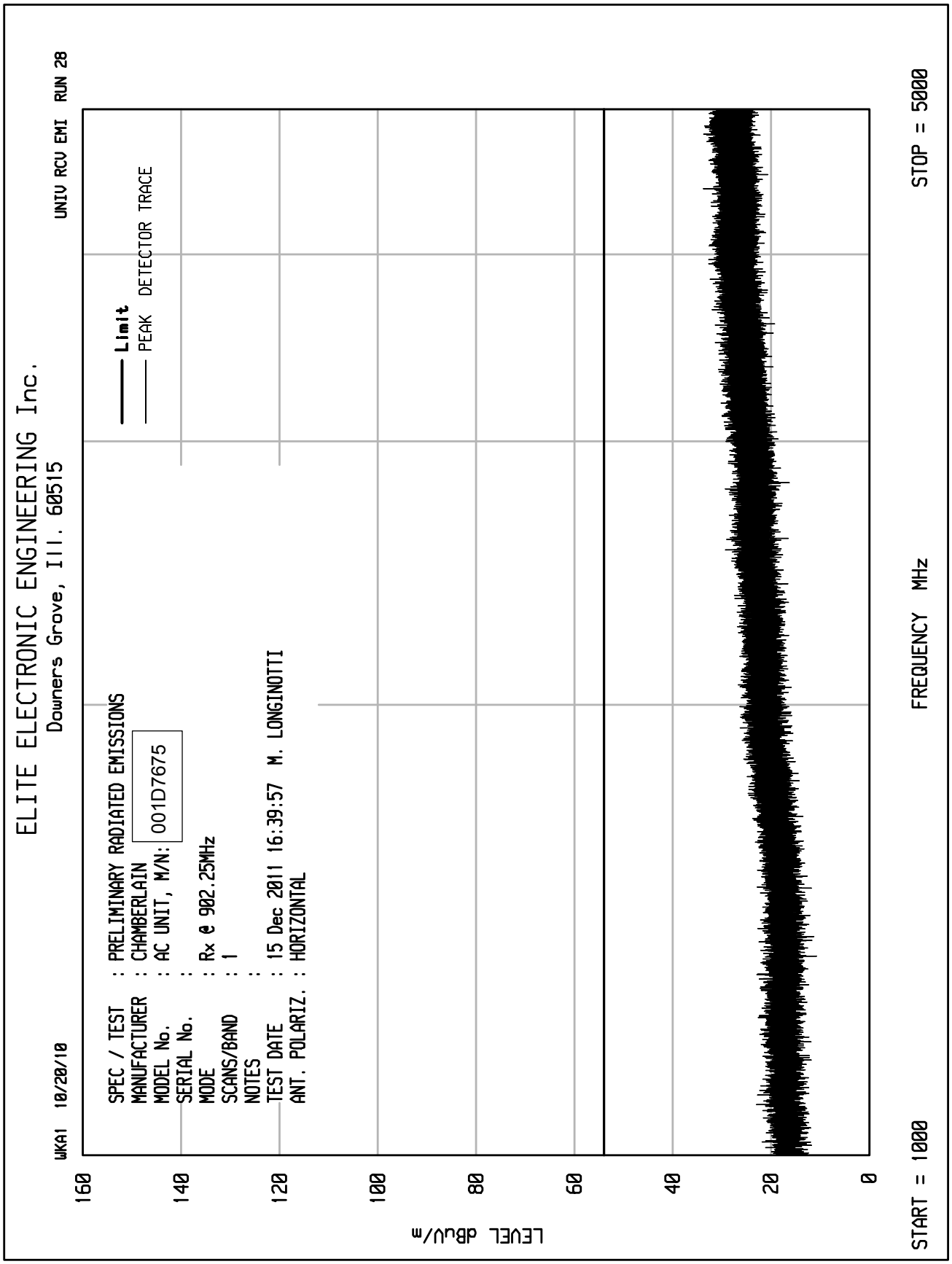

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 17
WKA1 10/20/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N: 001D7675
SERIAL No. :
MODE : Rx @ 433.92MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 15 Dec 2011 15:02:27 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 30
100
1000
STOP = 2000
FREQUENCY MHz

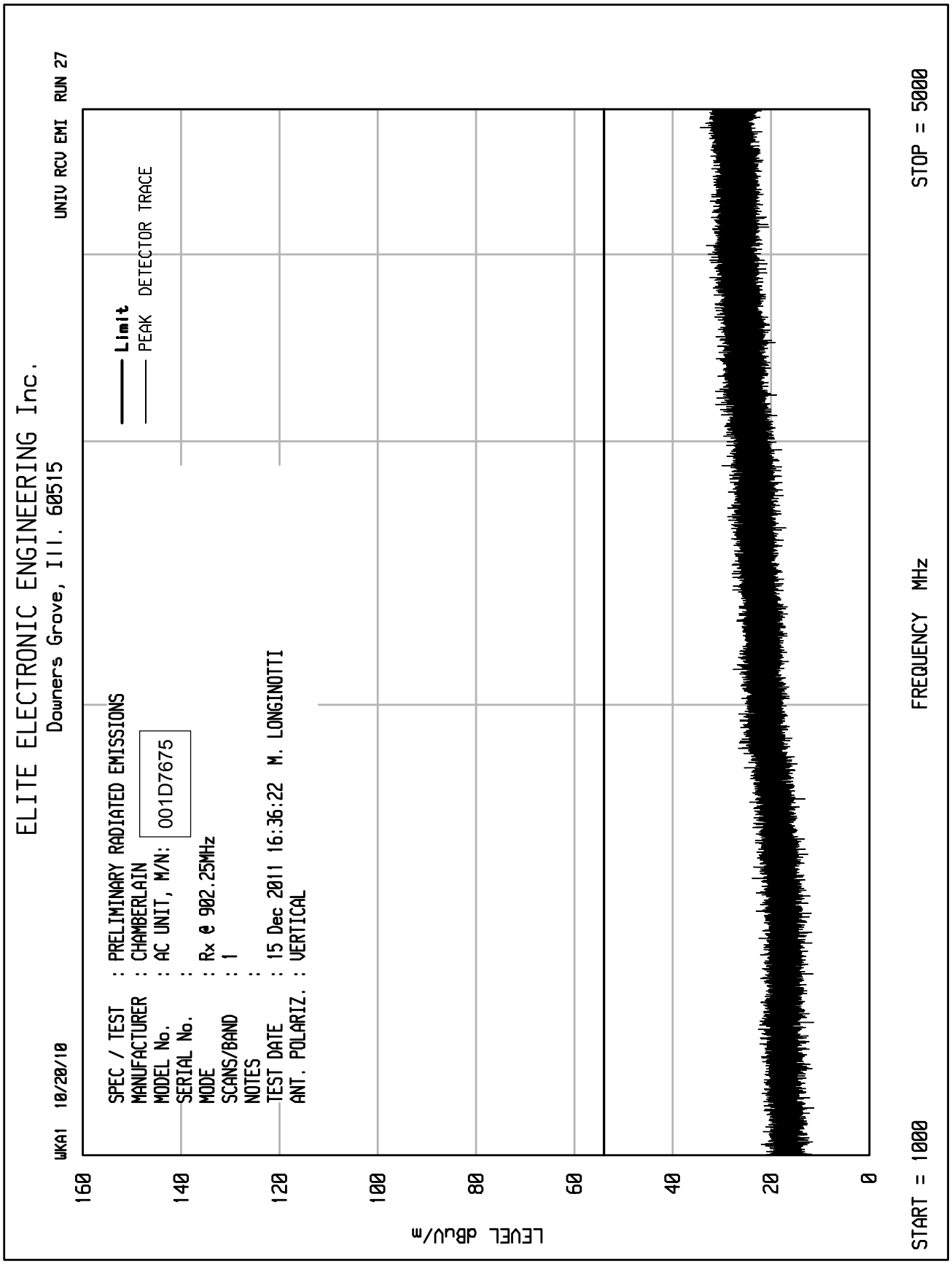

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 19
WKA1 10/20/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N: 001D7675
SERIAL No. :
MODE : Rx @ 434.54MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 15 Dec 2011 15:10:54 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 30
100
1000
STOP = 2000
FREQUENCY MHz

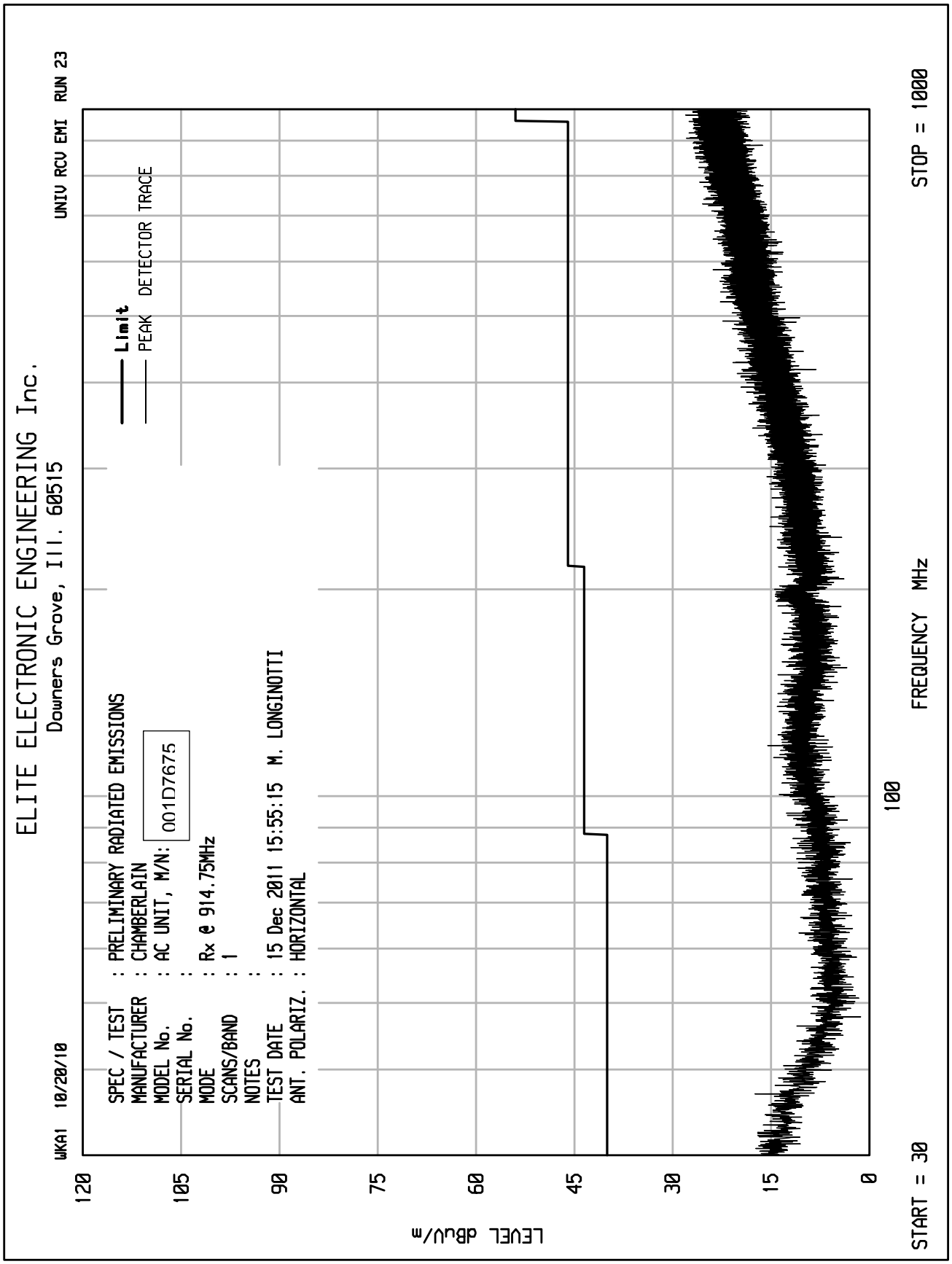

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 20
WKA1 10/20/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N: 001D7675
SERIAL No. :
MODE : Rx @ 434.54MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 15 Dec 2011 15:13:44 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 30
100
1000
STOP = 2000
FREQUENCY MHz

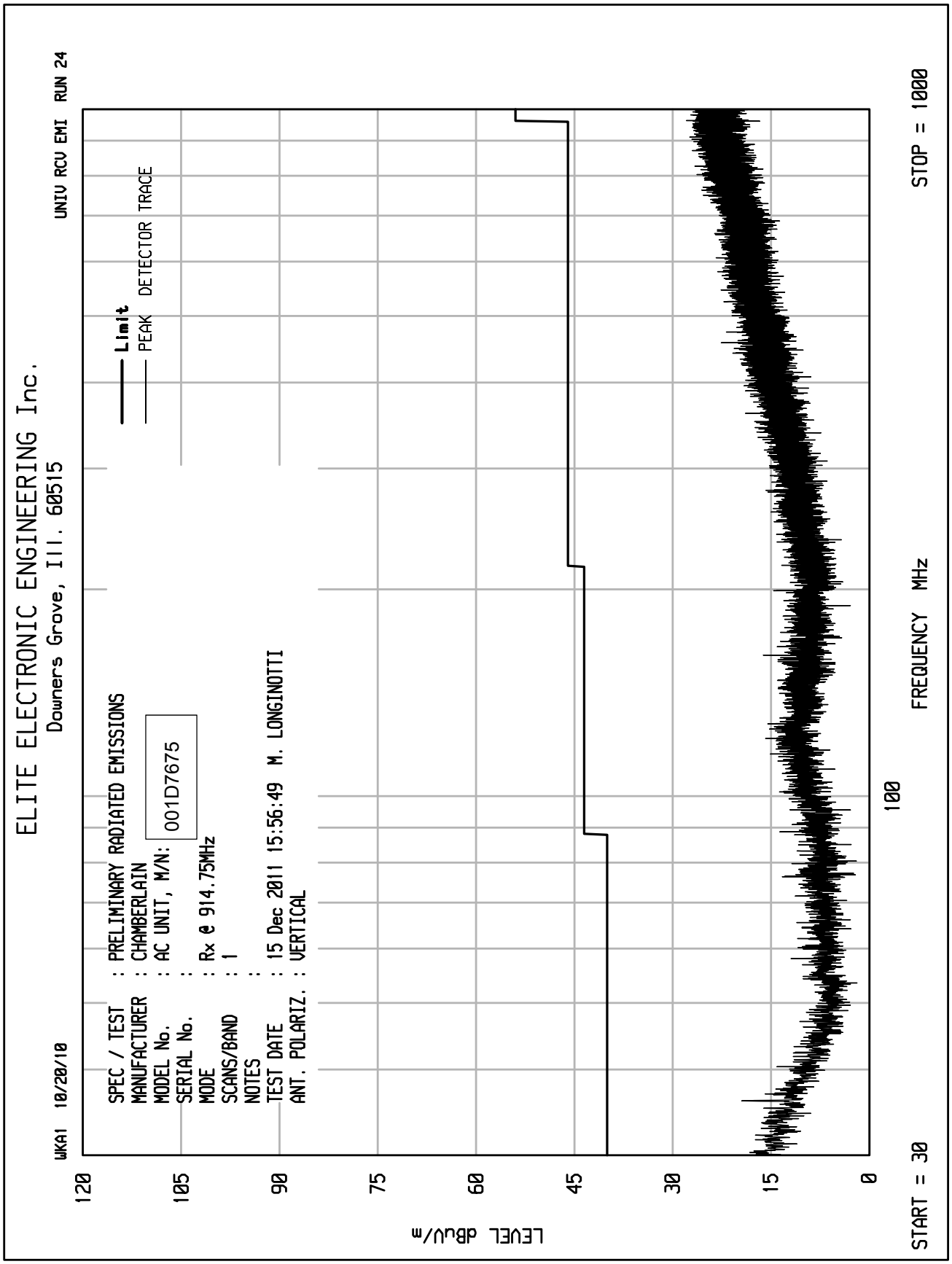

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 22
WKA1 10/20/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N: 001D7675
SERIAL No. :
MODE : Rx @ 902.25MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 15 Dec 2011 15:53:06 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 30
100
FREQUENCY MHz
STOP = 1000

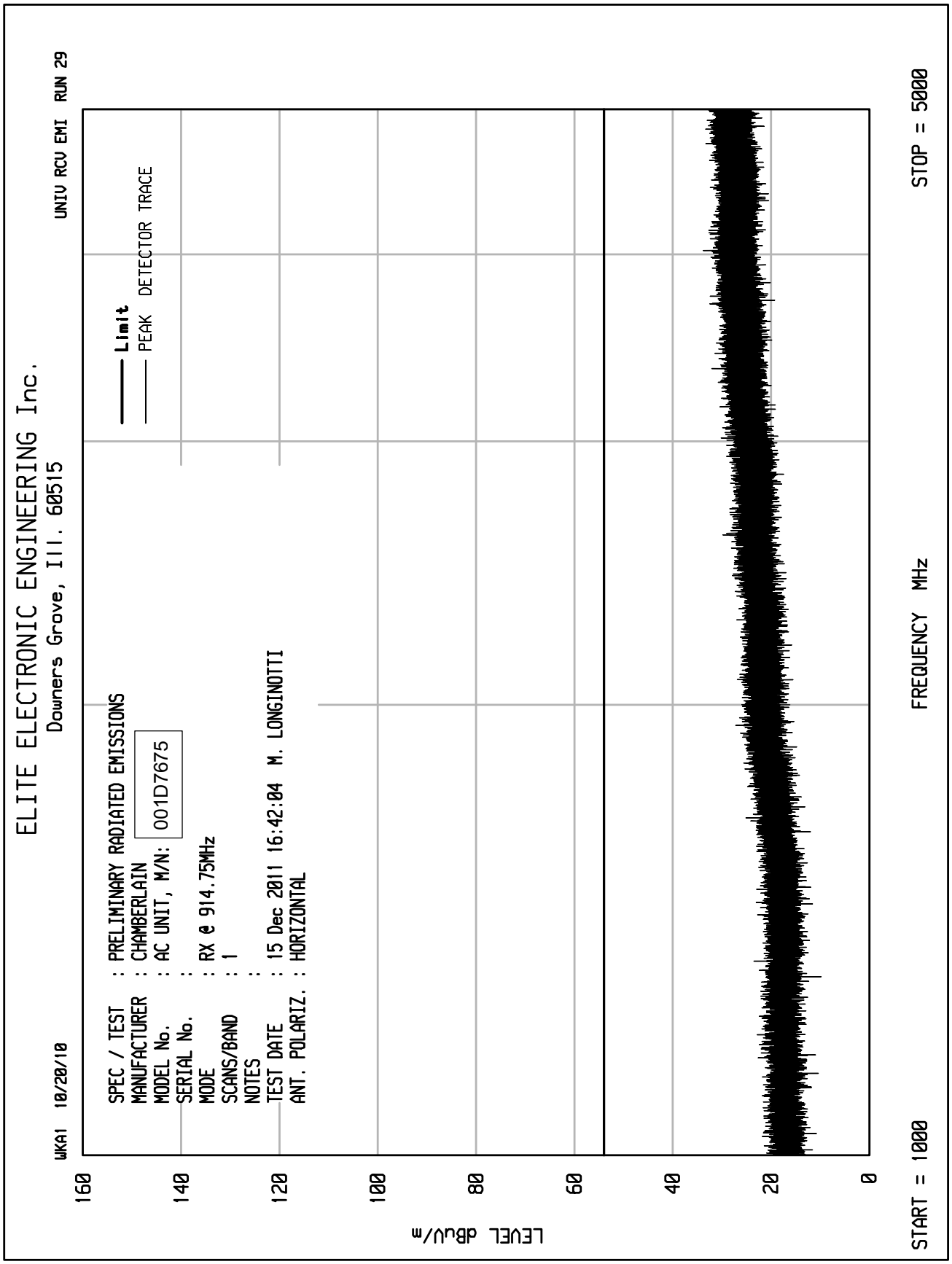

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 21
WKA1 10/20/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N: 001D7675
SERIAL No. :
MODE : Rx @ 902.25MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 15 Dec 2011 15:49:00 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 30
100
FREQUENCY MHz
STOP = 1000

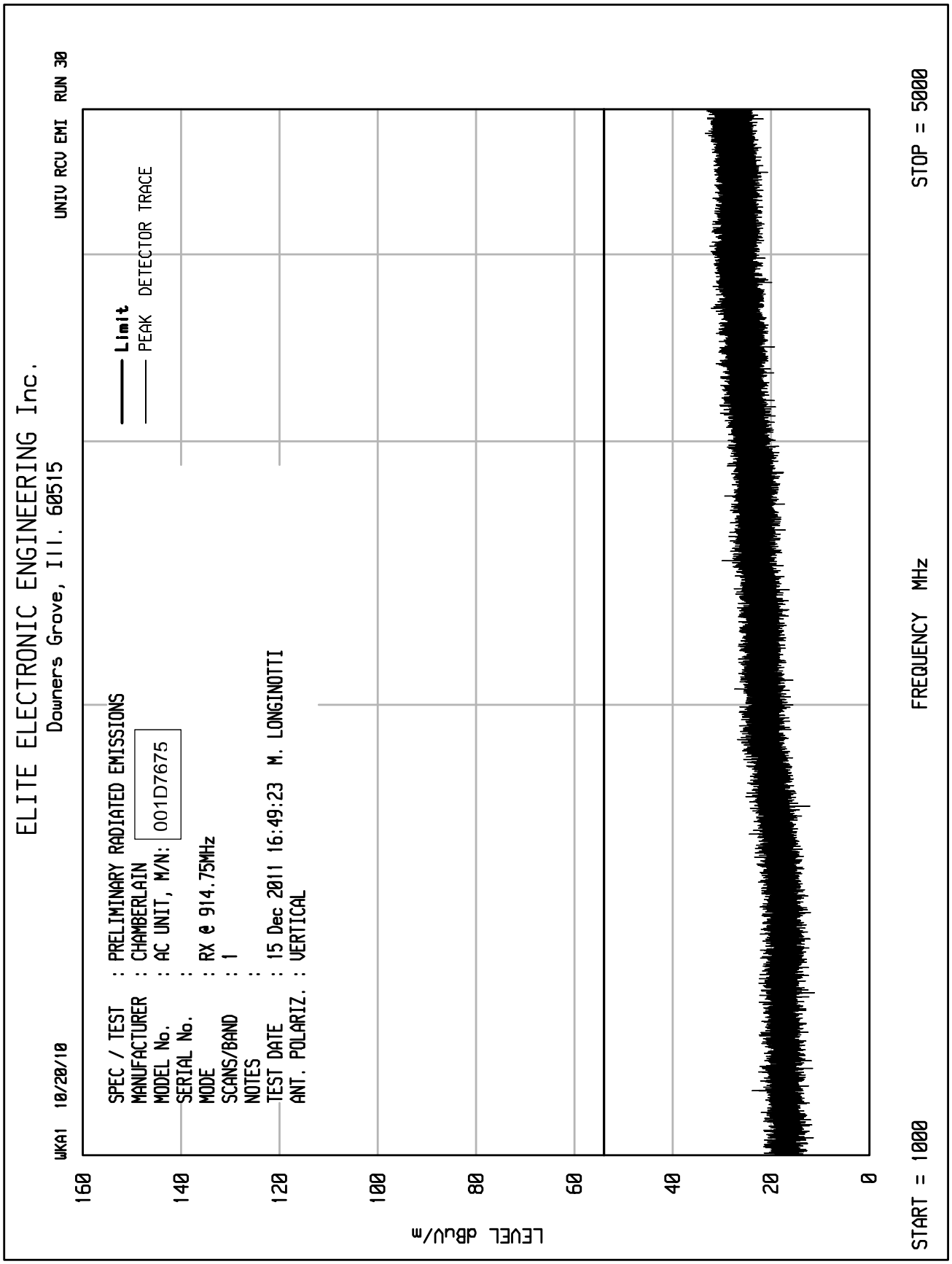

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 28
WKA1 10/20/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N: 001D7675
SERIAL No. : :
MODE : Rx @ 902.25MHz
SCANS/BAND : 1
NOTES : :
TEST DATE : 15 Dec 2011 16:39:57 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
160
140
120
100
80
60
40
20
0
START = 1000
FREQUENCY MHz
STOP = 5000

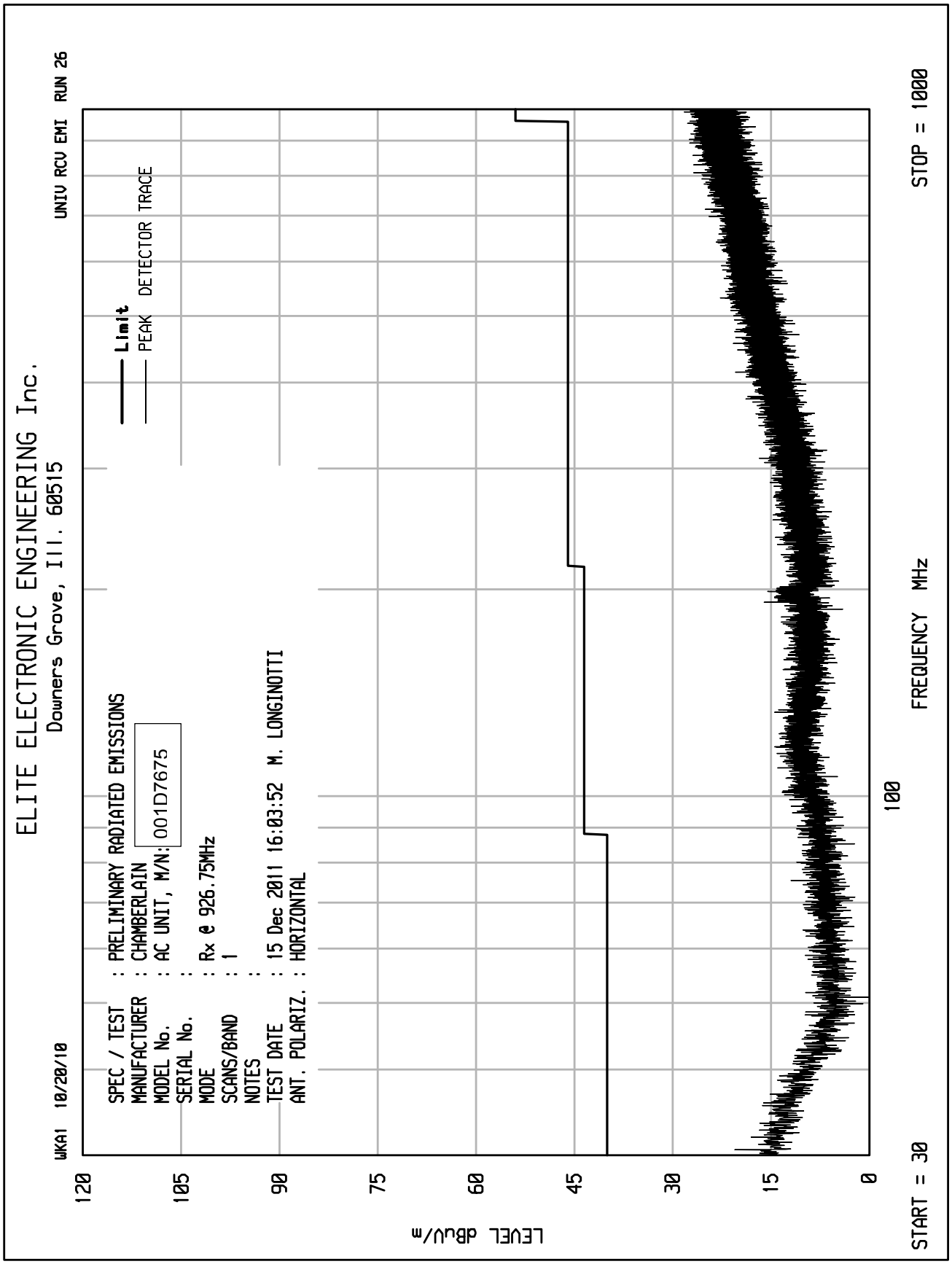

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 27
WKA1 10/20/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N: 001D7675
SERIAL No. :
MODE : Rx @ 902.25MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 15 Dec 2011 16:36:22 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
160
140
120
100
80
60
40
20
0
START = 1000
FREQUENCY MHz
STOP = 5000

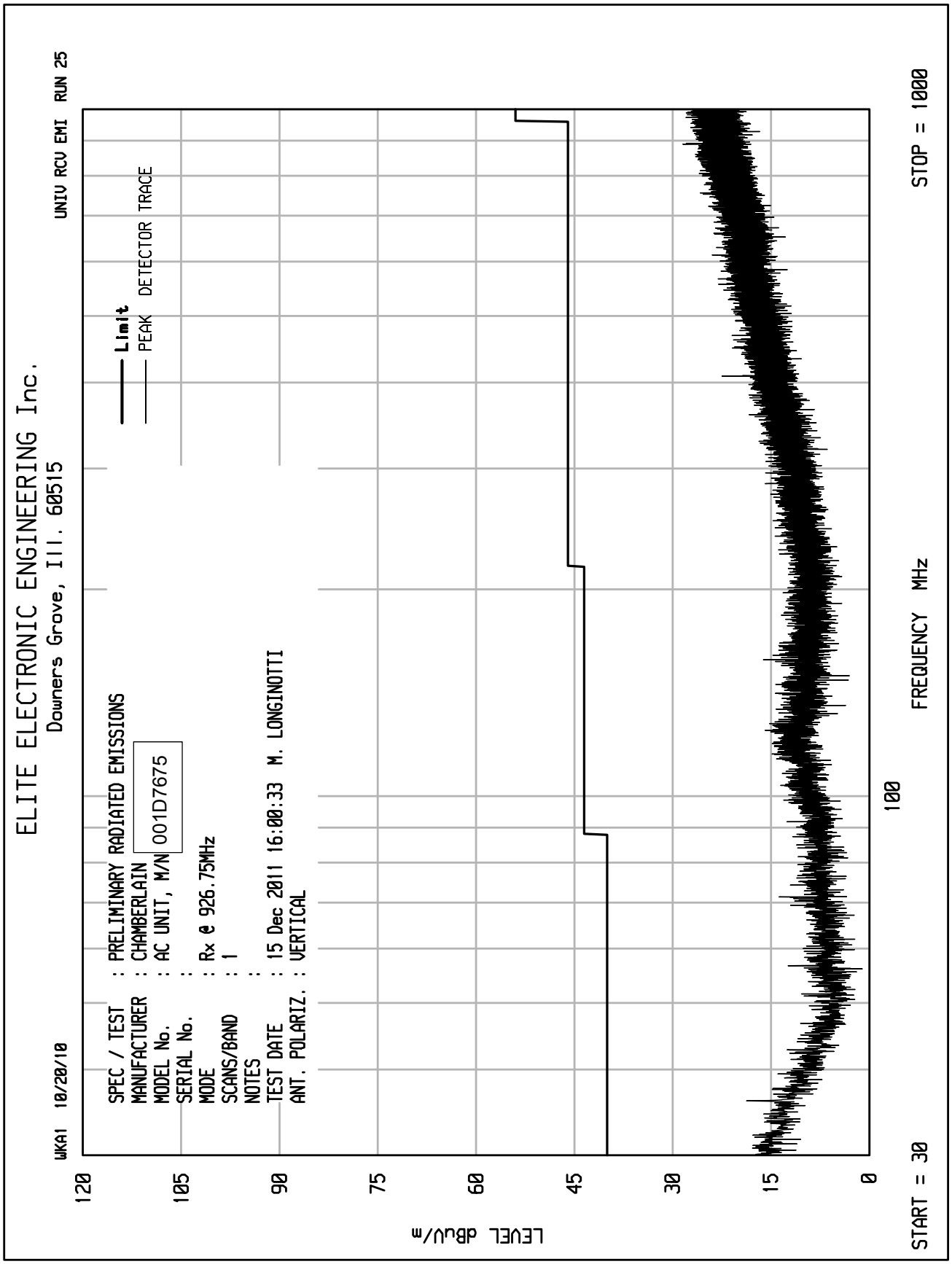

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 23
WKA1 10/20/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N: 001D7675
SERIAL No. :
MODE : Rx @ 914.75MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 15 Dec 2011 15:55:15 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 30
100
FREQUENCY MHz
STOP = 1000

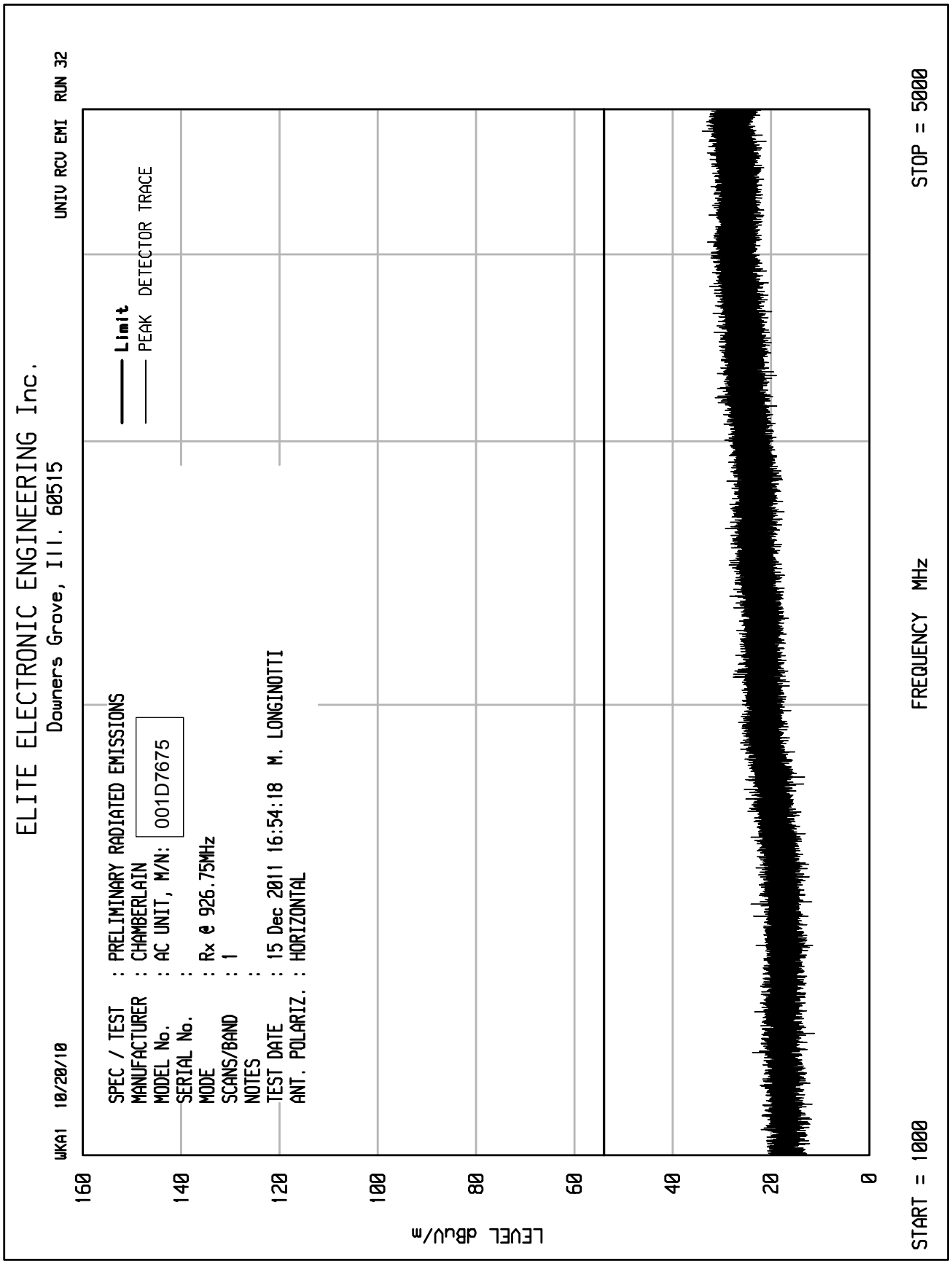

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 24
WKA1 10/20/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N: 001D7675
SERIAL No. :
MODE : Rx @ 914.75MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 15 Dec 2011 15:56:49 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 30
100
FREQUENCY MHz
STOP = 1000

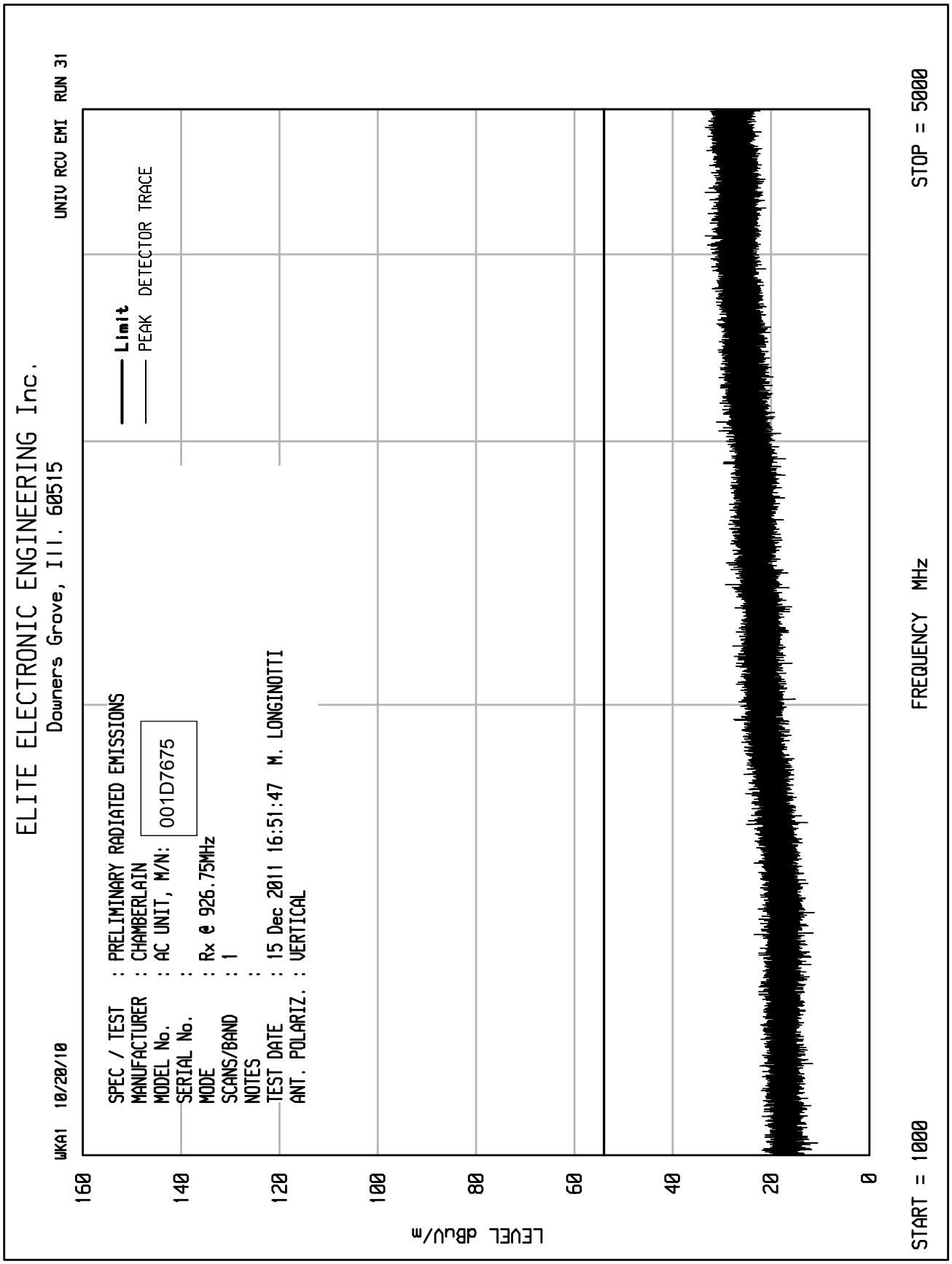

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 29
WKA1 10/20/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N: 001D7675
SERIAL No. : :
MODE : RX @ 914.75MHz
SCANS/BAND : 1
NOTES : :
TEST DATE : 15 Dec 2011 16:42:04 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
160
140
120
100
80
60
40
20
0
START = 1000
FREQUENCY MHz
STOP = 5000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 30
WKA1 10/20/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N: 001D7675
SERIAL No. : :
MODE : RX @ 914.75MHz
SCANS/BAND : 1
NOTES : :
TEST DATE : 15 Dec 2011 16:49:23 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
160
140
120
100
80
60
40
20
0
START = 1000
FREQUENCY MHz
STOP = 5000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 26
WKA1 10/20/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N: 001D7675
SERIAL No. :
MODE : Rx @ 926.75MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 15 Dec 2011 16:03:52 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 30
100
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 25
WKA1 10/20/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N 001D7675
SERIAL No. :
MODE : Rx @ 926.75MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 15 Dec 2011 16:00:33 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 30
100
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 32
WKA1 10/20/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N: 001D7675
SERIAL No. : :
MODE : Rx @ 926.75MHz
SCANS/BAND : 1
NOTES : :
TEST DATE : 15 Dec 2011 16:54:18 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
160
140
120
100
80
60
40
20
0
START = 1000
FREQUENCY MHz
STOP = 5000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 31
WKA1 10/20/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N: 001D7675
SERIAL No. :
MODE : Rx @ 926.75MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 15 Dec 2011 16:51:47 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
160
140
120
100
80
60
40
20
0
START = 1000
FREQUENCY MHz
STOP = 5000

MANUFACTURER : The Chamberlain Group
MODEL : 001D7675 AC Unit
SERIAL NO. : None Assigned
SPECIFICATION : FCC 15B
DATE : December 19, 2011
MODE : Rx at 310 MHz

Freq (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Total dBuV/m at 3 M	Total uV/m at 3M	Limit uV/m at 30M	Margin (dB)
309.063	H	5.6	*	1.1	14.3	0.0	20.9	11.1	200.0	-25.1
309.063	V	3.7	*	1.1	14.3	0.0	19.0	8.9	200.0	-27.0
618.126	H	5.3	*	1.6	19.5	0.0	26.3	20.7	200.0	-19.7
618.126	V	4.3	*	1.6	19.5	0.0	25.3	18.5	200.0	-20.7
927.189	H	5.6	*	2.0	21.9	0.0	29.5	29.8	200.0	-16.5
927.189	V	5.6	*	2.0	21.9	0.0	29.5	29.8	200.0	-16.5
1236.252	H	35.1	*	2.3	24.8	-41.2	20.9	11.1	500.0	-33.0
1236.252	V	35.1	*	2.3	24.8	-41.2	20.9	11.1	500.0	-33.0
1545.315	H	34.4	*	2.6	25.2	-41.4	20.8	11.0	500.0	-33.1
1545.315	V	34.3	*	2.6	25.2	-41.4	20.8	11.0	500.0	-33.2
1854.378	H	35.3	*	2.9	27.0	-40.5	24.7	17.2	500.0	-29.3
1854.378	V	34.8	*	2.9	27.0	-40.5	24.2	16.3	500.0	-29.7

Checked By: Richard E. King

Richard King

MANUFACTURER : The Chamberlain Group
MODEL : 001D7675 AC Unit
SERIAL NO. : None Assigned
SPECIFICATION : FCC 15B
DATE : December 19, 2011
MODE : Rx at 315 MHz

Freq (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Total dBuV/m at 3 M	Total uV/m at 3M	Limit uV/m at 30M	Margin (dB)
309.063	H	5.6	*	1.1	14.3	0.0	20.9	11.1	200.0	-25.1
309.063	V	3.7	*	1.1	14.3	0.0	19.0	8.9	200.0	-27.0
618.126	H	5.3	*	1.6	19.5	0.0	26.3	20.7	200.0	-19.7
618.126	V	4.3	*	1.6	19.5	0.0	25.3	18.5	200.0	-20.7
927.189	H	5.6	*	2.0	21.9	0.0	29.5	29.8	200.0	-16.5
927.189	V	5.6	*	2.0	21.9	0.0	29.5	29.8	200.0	-16.5
1236.252	H	35.1	*	2.3	24.8	-41.2	20.9	11.1	500.0	-33.0
1236.252	V	35.1	*	2.3	24.8	-41.2	20.9	11.1	500.0	-33.0
1545.315	H	34.4	*	2.6	25.2	-41.4	20.8	11.0	500.0	-33.1
1545.315	V	34.3	*	2.6	25.2	-41.4	20.8	11.0	500.0	-33.2
1854.378	H	35.3	*	2.9	27.0	-40.5	24.7	17.2	500.0	-29.3
1854.378	V	34.8	*	2.9	27.0	-40.5	24.2	16.3	500.0	-29.7

Checked By: Richard E. King

Richard King

MANUFACTURER : The Chamberlain Group
MODEL : 001D7675 AC Unit
SERIAL NO. : None Assigned
SPECIFICATION : FCC 15B
DATE : December 19, 2011
MODE : Rx at 315 MHz

Freq (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Total dBuV/m at 3 M	Total uV/m at 3M	Limit uV/m at 30M	Margin (dB)
309.063	H	5.6	*	1.1	14.3	0.0	20.9	11.1	200.0	-25.1
309.063	V	3.7	*	1.1	14.3	0.0	19.0	8.9	200.0	-27.0
618.126	H	5.3	*	1.6	19.5	0.0	26.3	20.7	200.0	-19.7
618.126	V	4.3	*	1.6	19.5	0.0	25.3	18.5	200.0	-20.7
927.189	H	5.6	*	2.0	21.9	0.0	29.5	29.8	200.0	-16.5
927.189	V	5.6	*	2.0	21.9	0.0	29.5	29.8	200.0	-16.5
1236.252	H	35.1	*	2.3	24.8	-41.2	20.9	11.1	500.0	-33.0
1236.252	V	35.1	*	2.3	24.8	-41.2	20.9	11.1	500.0	-33.0
1545.315	H	34.4	*	2.6	25.2	-41.4	20.8	11.0	500.0	-33.1
1545.315	V	34.3	*	2.6	25.2	-41.4	20.8	11.0	500.0	-33.2
1854.378	H	35.3	*	2.9	27.0	-40.5	24.7	17.2	500.0	-29.3
1854.378	V	34.8	*	2.9	27.0	-40.5	24.2	16.3	500.0	-29.7

Checked By: Richard E. King

Richard King

MANUFACTURER : The Chamberlain Group
MODEL : 001D7675 AC Unit
SERIAL NO. : None Assigned
SPECIFICATION : FCC 15B
DATE : December 19, 2011
MODE : Rx at 315 MHz

Freq (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Total dBuV/m at 3 M	Total uV/m at 3M	Limit uV/m at 30M	Margin (dB)
314.063	H	5.4	*	1.1	14.4	0.0	20.9	11.1	200.0	-25.1
314.063	V	3.6	*	1.1	14.4	0.0	19.1	9.0	200.0	-26.9
628.126	H	4.6	*	1.6	19.6	0.0	25.8	19.5	200.0	-20.2
628.126	V	5.4	*	1.6	19.6	0.0	26.6	21.4	200.0	-19.4
942.189	H	5.7	*	2.0	22.0	0.0	29.7	30.6	200.0	-16.3
942.189	V	5.7	*	2.0	22.0	0.0	29.7	30.6	200.0	-16.3
1256.252	H	34.9	*	2.3	24.8	-41.2	20.8	11.0	500.0	-33.1
1256.252	V	35.0	*	2.3	24.8	-41.2	20.9	11.1	500.0	-33.1
1570.315	H	34.5	*	2.7	25.3	-41.3	21.1	11.4	500.0	-32.8
1570.315	V	34.5	*	2.7	25.3	-41.3	21.2	11.5	500.0	-32.8
1884.378	H	33.9	*	2.9	27.3	-40.4	23.7	15.4	500.0	-30.2
1884.378	V	33.9	*	2.9	27.3	-40.4	23.7	15.3	500.0	-30.3

Checked By: Richard E. King

Richard King

MANUFACTURER : The Chamberlain Group
MODEL : 001D7675 AC Unit
SERIAL NO. : None Assigned
SPECIFICATION : FCC 15B
DATE : December 19, 2011
MODE : Rx at 390 MHz

Freq (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Total dBuV/m at 3 M	Total uV/m at 3M	Limit uV/m at 30M	Margin (dB)
389.063	H	3.9	*	1.5	16.4	0.0	21.7	12.2	200.0	-24.3
389.063	V	3.8	*	1.5	16.4	0.0	21.6	12.0	200.0	-24.4
778.126	H	5.8	*	2.0	20.5	0.0	28.3	25.9	200.0	-17.8
778.126	V	5.2	*	2.0	20.5	0.0	27.7	24.1	200.0	-18.4
1167.189	H	31.9	*	2.2	24.6	-41.1	17.6	7.6	500.0	-36.3
1167.189	V	31.8	*	2.2	24.6	-41.1	17.5	7.5	500.0	-36.5
1556.252	H	34.2	*	2.6	25.3	-41.3	20.8	11.0	500.0	-33.2
1556.252	V	34.3	*	2.6	25.3	-41.3	20.8	11.0	500.0	-33.1
1945.315	H	34.6	*	3.0	27.6	-40.3	24.8	17.5	500.0	-29.1
1945.315	V	34.6	*	3.0	27.6	-40.3	24.8	17.4	500.0	-29.2

Checked By: Richard E. King

Richard King

MANUFACTURER : The Chamberlain Group
MODEL : 001D7675 AC Unit
SERIAL NO. : None Assigned
SPECIFICATION : FCC 15B
DATE : December 19, 2011
MODE : Rx at 433.3 MHz

Freq (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Total dBuV/m at 3 M	Total uV/m at 3M	Limit uV/m at 30M	Margin (dB)
432.363	H	4.5	*	1.5	17.0	0.0	23.0	14.1	200.0	-23.0
432.363	V	3.8	*	1.5	17.0	0.0	22.3	13.0	200.0	-23.7
864.726	H	5.3	*	2.0	21.4	0.0	28.7	27.3	200.0	-17.3
864.726	V	5.0	*	2.0	21.4	0.0	28.4	26.4	200.0	-17.6
1297.089	H	35.0	*	2.4	24.9	-41.3	21.0	11.2	500.0	-33.0
1297.089	V	34.9	*	2.4	24.9	-41.3	20.9	11.1	500.0	-33.1
1729.452	H	34.8	*	2.8	26.4	-40.8	23.2	14.5	500.0	-30.8
1729.452	V	34.7	*	2.8	26.4	-40.8	23.1	14.2	500.0	-30.9

Checked By: Richard E. King

Richard King

MANUFACTURER : The Chamberlain Group
MODEL : 001D7675 AC Unit
SERIAL NO. : None Assigned
SPECIFICATION : FCC 15B
DATE : December 19, 2011
MODE : Rx at 433.92 MHz

Freq (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Total dBuV/m at 3 M	Total uV/m at 3M	Limit uV/m at 30M	Margin (dB)
432.983	H	7.2	*	1.5	17.0	0.0	25.7	19.3	200.0	-20.3
432.983	V	4.6	*	1.5	17.0	0.0	23.1	14.3	200.0	-22.9
865.966	H	5.2	*	2.0	21.4	0.0	28.6	27.0	200.0	-17.4
865.966	V	5.0	*	2.0	21.4	0.0	28.4	26.4	200.0	-17.6
1298.949	H	34.3	*	2.4	24.9	-41.3	20.3	10.4	500.0	-33.7
1298.949	V	34.3	*	2.4	24.9	-41.3	20.3	10.3	500.0	-33.7
1731.932	H	34.7	*	2.8	26.4	-40.8	23.1	14.3	500.0	-30.9
1731.932	V	34.7	*	2.8	26.4	-40.8	23.1	14.3	500.0	-30.9

Checked By: Richard E. King

Richard King

MANUFACTURER : The Chamberlain Group
MODEL : 001D7675 AC Unit
SERIAL NO. : None Assigned
SPECIFICATION : FCC 15B
DATE : December 19, 2011
MODE : Rx at 434.54 MHz

Freq (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Total dBuV/m at 3 M	Total uV/m at 3M	Limit uV/m at 30M	Margin (dB)
433.603	H	4.4	*	1.5	17.0	0.0	22.9	14.0	200.0	-23.1
433.603	V	4.3	*	1.5	17.0	0.0	22.8	13.8	200.0	-23.2
867.206	H	4.9	*	2.0	21.4	0.0	28.3	26.1	200.0	-17.7
867.206	V	5.9	*	2.0	21.4	0.0	29.3	29.3	200.0	-16.7
1300.809	H	34.0	*	2.4	24.9	-41.3	20.0	10.0	500.0	-34.0
1300.809	V	34.0	*	2.4	24.9	-41.3	20.0	10.0	500.0	-34.0
1734.412	H	33.5	*	2.8	26.4	-40.8	21.9	12.4	500.0	-32.1
1734.412	V	33.5	*	2.8	26.4	-40.8	21.9	12.4	500.0	-32.1

Checked By: Richard E. King

Richard King

MANUFACTURER : The Chamberlain Group
MODEL : 001D7675 AC Unit
SERIAL NO. : None Assigned
SPECIFICATION : FCC 15B
DATE : December 19, 2011
MODE : Rx at 902.25 MHz

Freq (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Total dBuV/m at 3 M	Total uV/m at 3M	Limit uV/m at 30M	Margin (dB)
901.313	H	2.7	*	2.0	21.8	0.0	26.5	21.1	200.0	-19.5
901.313	V	3.0	*	2.0	21.8	0.0	26.8	21.9	200.0	-19.2
1802.626	H	34.6	*	2.9	26.5	-40.7	23.2	14.5	500.0	-30.7
1802.626	V	34.4	*	2.9	26.5	-40.7	23.0	14.2	500.0	-31.0
2703.939	H	34.0	*	3.7	29.6	-40.3	26.9	22.0	500.0	-27.1
2703.939	V	34.0	*	3.7	29.6	-40.3	26.9	22.1	500.0	-27.1
3605.252	H	32.8	*	4.3	32.0	-39.9	29.2	28.7	500.0	-24.8
3605.252	V	32.9	*	4.3	32.0	-39.9	29.2	29.0	500.0	-24.7
4506.565	H	32.4	*	4.8	32.9	-40.0	30.1	31.9	500.0	-23.9
4506.565	V	32.3	*	4.8	32.9	-40.0	30.1	31.8	500.0	-23.9

Checked By: Richard E. King

Richard King

MANUFACTURER : The Chamberlain Group
MODEL : 001D7675 AC Unit
SERIAL NO. : None Assigned
SPECIFICATION : FCC 15B
DATE : December 19, 2011
MODE : Rx at 914.75 MHz

Freq (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Total dBuV/m at 3 M	Total uV/m at 3M	Limit uV/m at 30M	Margin (dB)
913.813	H	3.2	*	2.0	21.8	0.0	27.0	22.4	200.0	-19.0
913.813	V	2.9	*	2.0	21.8	0.0	26.7	21.6	200.0	-19.3
1827.626	H	34.4	*	2.9	26.7	-40.6	23.4	14.8	500.0	-30.5
1827.626	V	34.4	*	2.9	26.7	-40.6	23.4	14.8	500.0	-30.6
2741.439	H	33.4	*	3.7	29.6	-40.3	26.3	20.7	500.0	-27.7
2741.439	V	33.5	*	3.7	29.6	-40.3	26.4	21.0	500.0	-27.6
3655.252	H	32.8	*	4.3	32.2	-39.8	29.5	29.9	500.0	-24.5
3655.252	V	32.8	*	4.3	32.2	-39.8	29.6	30.1	500.0	-24.4
4569.065	H	32.2	*	4.8	33.1	-40.0	30.1	32.0	500.0	-23.9
4569.065	V	32.2	*	4.8	33.1	-40.0	30.1	31.9	500.0	-23.9

Checked By: Richard E. King

Richard King

MANUFACTURER : The Chamberlain Group
MODEL : 001D7675 AC Unit
SERIAL NO. : None Assigned
SPECIFICATION : FCC 15B
DATE : December 19, 2011
MODE : Rx at 926.75 MHz

Freq (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Total dBuV/m at 3 M	Total uV/m at 3M	Limit uV/m at 30M	Margin (dB)
925.813	H	2.5	*	2.0	21.9	0.0	26.4	20.8	200.0	-19.7
925.813	V	2.7	*	2.0	21.9	0.0	26.6	21.3	200.0	-19.5
1851.626	H	34.0	*	2.9	27.0	-40.5	23.4	14.7	500.0	-30.6
1851.626	V	34.0	*	2.9	27.0	-40.5	23.4	14.8	500.0	-30.6
2777.439	H	33.4	*	3.7	29.6	-40.4	26.3	20.7	500.0	-27.6
2777.439	V	33.4	*	3.7	29.6	-40.4	26.3	20.7	500.0	-27.6
3703.252	H	32.5	*	4.3	32.4	-39.6	29.6	30.3	500.0	-24.3
3703.252	V	32.1	*	4.3	32.4	-39.6	29.2	28.7	500.0	-24.8
4629.065	H	32.0	*	4.8	33.3	-40.0	30.1	31.9	500.0	-23.9
4629.065	V	32.0	*	4.8	33.3	-40.0	30.1	32.0	500.0	-23.9

Checked By: Richard E. King

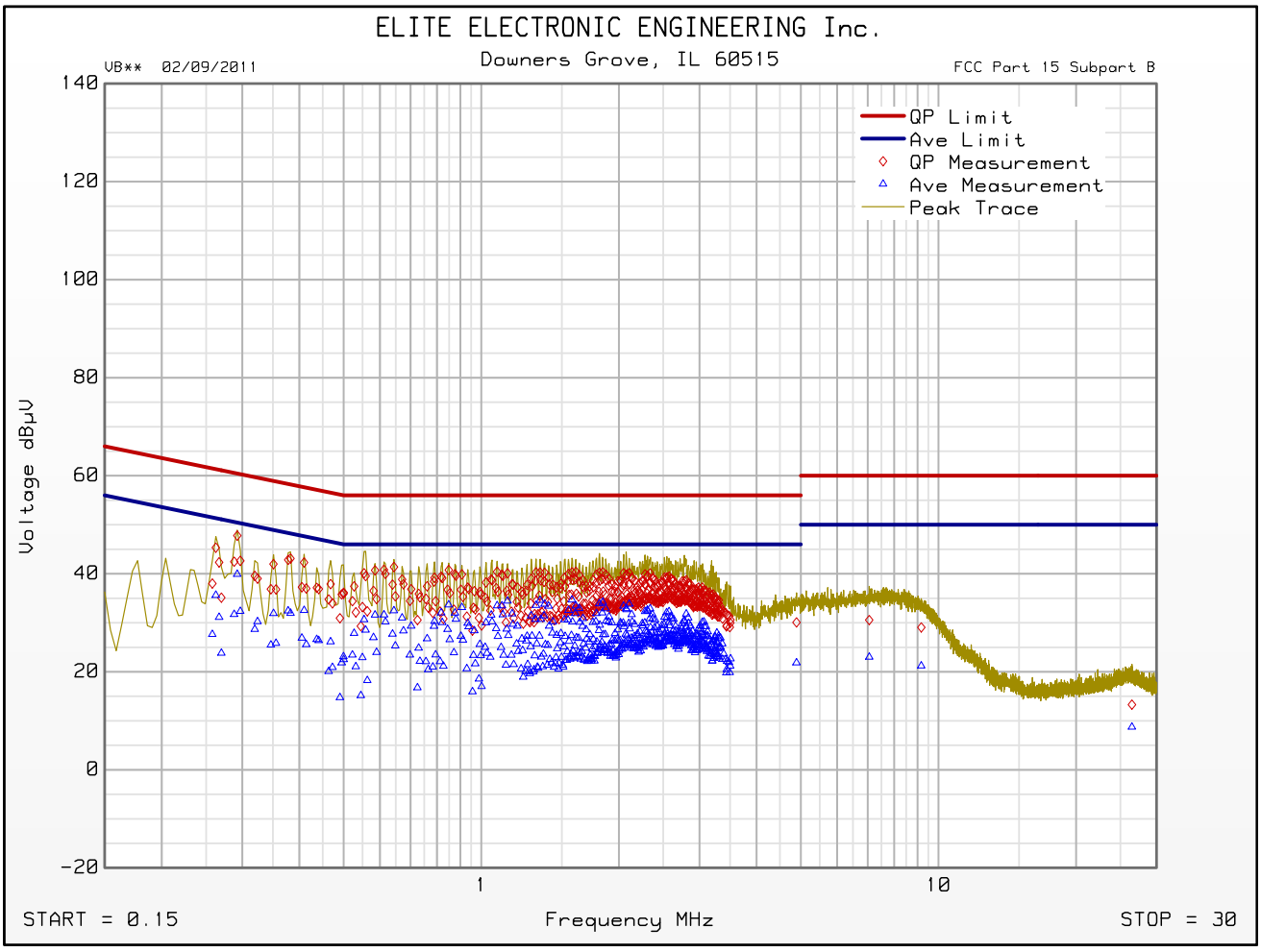
Richard King

FCC Part 15 Subpart B Conducted Emissions Test

Cumulative Data

VB** 02/09/2011

Manufacturer	:	The Chamberlain Group
Model	:	AC Unit, 001D7675
DUT Revision	:	
Serial Number	:	
DUT Mode	:	Tx @ 914.75MHz
Line Tested	:	L1
Scan Step Time [ms]	:	30
Meas. Threshold [dB]	:	-10
Notes	:	
Test Engineer	:	R. King
Limit	:	Class B
Test Date	:	Dec 20, 2011 12:49:33 AM



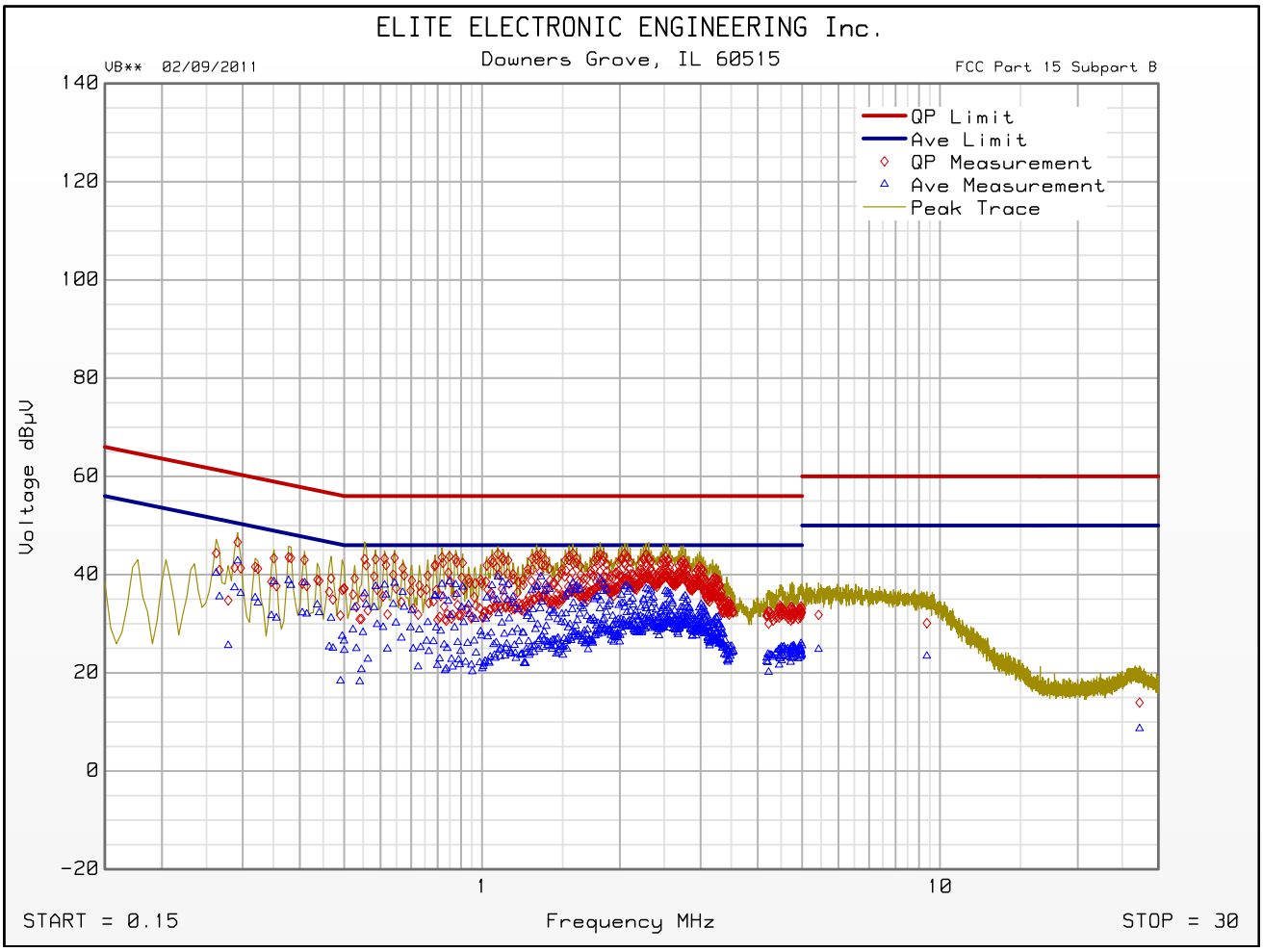
Emissions Meet QP Limit
Emissions Meet Ave Limit

FCC Part 15 Subpart B Conducted Emissions Test

Cumulative Data

VB** 02/09/2011

Manufacturer	:	The Chamberlain Group
Model	:	AC Unit, 001D7675
DUT Revision	:	
Serial Number	:	
DUT Mode	:	Tx @ 914.75MHz
Line Tested	:	L2
Scan Step Time [ms]	:	30
Meas. Threshold [dB]	:	-10
Notes	:	
Test Engineer	:	R. King
Limit	:	Class B
Test Date	:	Dec 20, 2011 01:05:49 AM



Emissions Meet QP Limit
Emissions Meet Ave Limit

FCC Part 15 Subpart B Conducted Emissions Test

Significant Emissions Data

VB** 02/09/2011

Manufacturer	:	The Chamberlain Group
Model	:	AC Unit, 001D7675
DUT Revision	:	
Serial Number	:	
DUT Mode	:	Tx @ 914.75MHz
Line Tested	:	L1
Scan Step Time [ms]	:	30
Meas. Threshold [dB]	:	-10
Notes	:	
Test Engineer	:	R. King
Limit	:	Class B
Test Date	:	Dec 20, 2011 12:49:33 AM
Data Filter	:	Up to 80 maximum levels detected with 6 dB level excursion threshold over 10 dB margin below limit

Freq MHz	Quasi-peak Level dBµV	Quasi-peak Limit dBµV	Excessive Quasi-peak Emissions	Average Level dBµV	Average Limit dBµV	Excessive Average Emissions
0.263	45.3	61.4		35.6	51.4	
0.293	47.8	60.5		39.9	50.5	
0.644	41.4	56.0		32.5	46.0	
0.849	40.8	56.0		33.7	46.0	
1.610	40.4	56.0		33.5	46.0	
2.106	40.1	56.0		33.8	46.0	
3.158	36.2	56.0		26.5	46.0	
7.057	30.6	60.0		23.0	50.0	
9.171	29.1	60.0		21.2	50.0	
26.497	13.3	60.0		8.7	50.0	

FCC Part 15 Subpart B Conducted Emissions Test

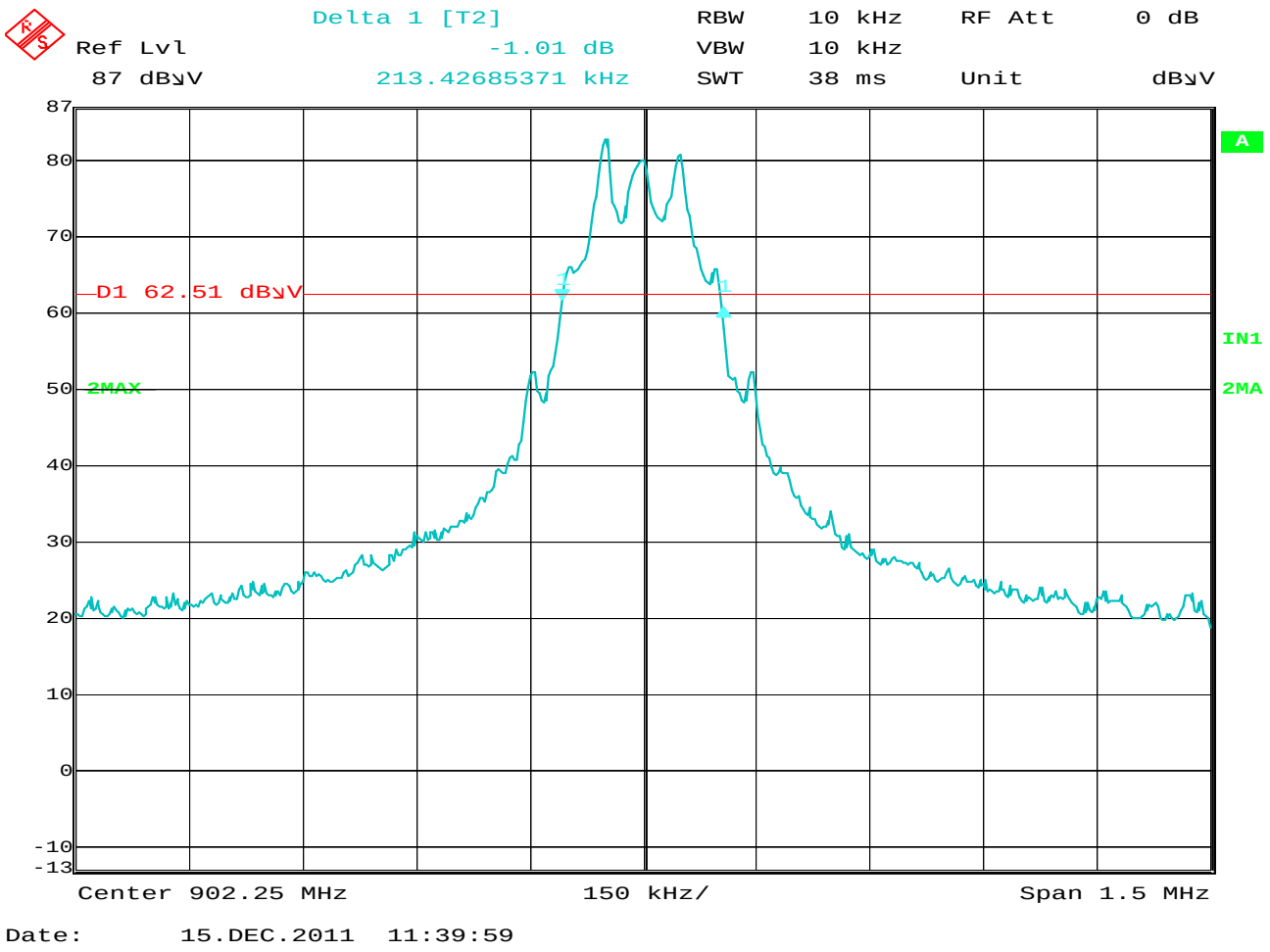
Significant Emissions Data

VB** 02/09/2011

Manufacturer : The Chamberlain Group
Model : AC Unit, 001D7675
DUT Revision :
Serial Number :
DUT Mode : Tx @ 914.75MHz
Line Tested : L2
Scan Step Time [ms] : 30
Meas. Threshold [dB] : -10
Notes :
Test Engineer : R. King
Limit : Class B
Test Date : Dec 20, 2011 01:05:49 AM
Data Filter : Up to 80 maximum levels detected with 6 dB level excursion threshold over 10 dB margin below limit

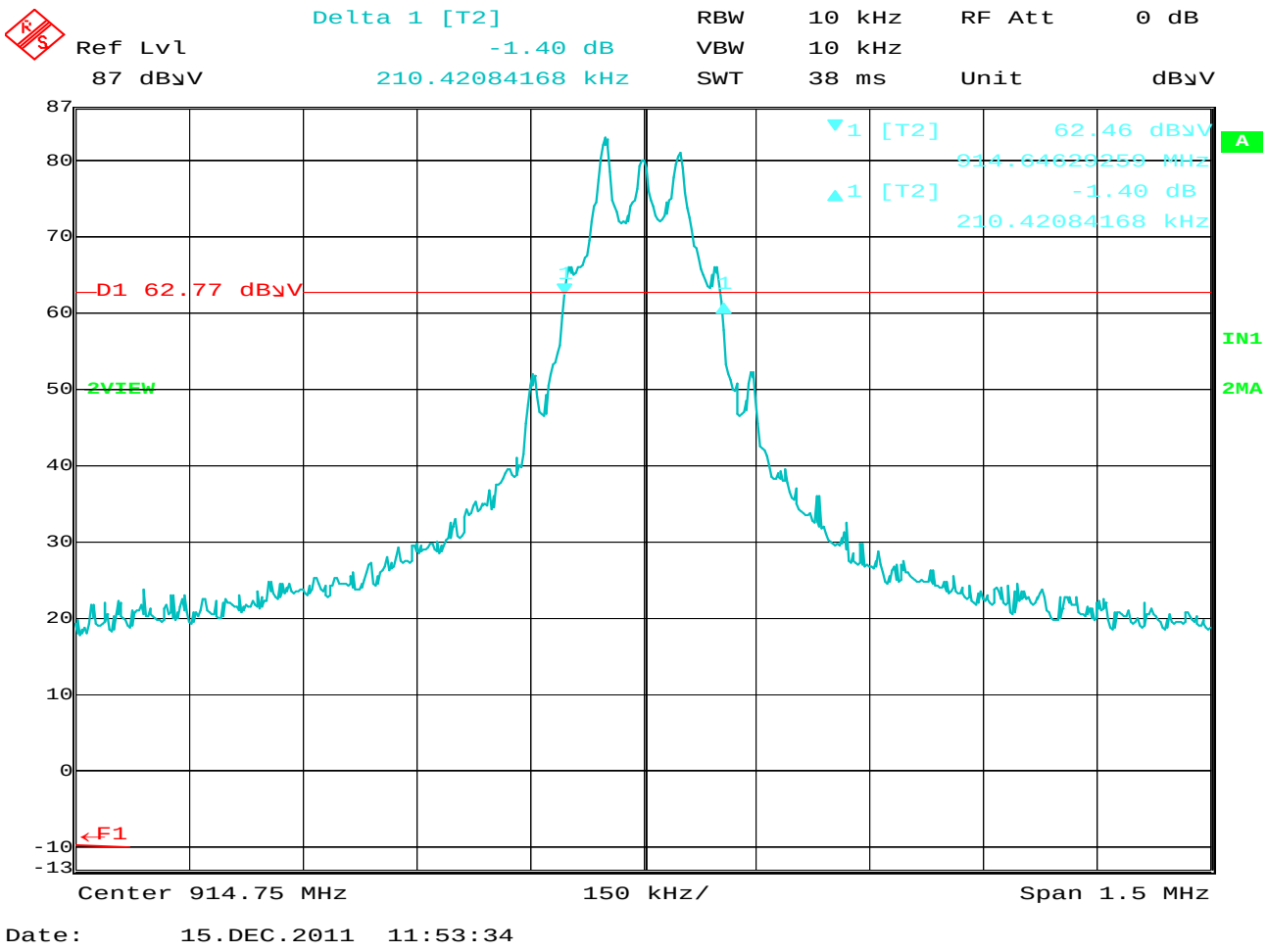
Freq MHz	Quasi-peak Level dBµV	Quasi-peak Limit dBµV	Excessive Quasi-peak Emissions	Average Level dBµV	Average Limit dBµV	Excessive Average Emissions
0.263	44.4	61.4		40.3	51.4	
0.293	46.6	60.5		42.8	50.5	
0.378	43.5	58.3		38.8	48.3	
0.410	43.0	57.7		38.4	47.7	
0.554	43.1	56.0		36.1	46.0	
0.586	43.2	56.0		37.6	46.0	
0.613	43.2	56.0		37.9	46.0	
0.644	43.4	56.0		38.3	46.0	
0.671	41.3	56.0		36.4	46.0	
0.817	43.5	56.0		38.0	46.0	
0.849	43.7	56.0		38.6	46.0	
0.876	43.2	56.0		38.0	46.0	
0.907	42.4	56.0		37.5	46.0	
1.051	43.1	56.0		37.8	46.0	
1.083	44.2	56.0		39.5	46.0	
1.110	43.4	56.0		38.4	46.0	
1.141	42.9	56.0		38.0	46.0	
1.286	43.2	56.0		36.9	46.0	
1.318	43.9	56.0		37.6	46.0	
1.345	44.2	56.0		39.6	46.0	
1.376	43.0	56.0		38.0	46.0	
1.403	41.3	56.0		37.0	46.0	
1.552	43.8	56.0		37.1	46.0	
1.579	44.3	56.0		38.3	46.0	
1.610	43.3	56.0		37.6	46.0	
1.637	41.7	56.0		37.1	46.0	
1.813	44.1	56.0		39.0	46.0	
1.844	43.7	56.0		38.1	46.0	
1.871	42.1	56.0		36.9	46.0	
2.048	44.3	56.0		37.5	46.0	

Freq MHz	Quasi-peak Level dBµV	Quasi-peak Limit dBµV	Excessive Quasi-peak Emissions	Average Level dBµV	Average Limit dBµV	Excessive Average Emissions
2.075	43.7	56.0		37.7	46.0	
2.106	42.6	56.0		37.0	46.0	
2.282	44.1	56.0		37.1	46.0	
2.309	43.4	56.0		36.9	46.0	
2.340	42.7	56.0		36.7	46.0	
2.516	43.6	56.0		36.6	46.0	
2.543	43.0	56.0		36.5	46.0	
2.574	41.9	56.0		36.1	46.0	
3.217	39.4	56.0		30.8	46.0	
5.432	31.8	60.0		24.8	50.0	
9.365	30.1	60.0		23.4	50.0	
27.284	13.9	60.0		8.7	50.0	



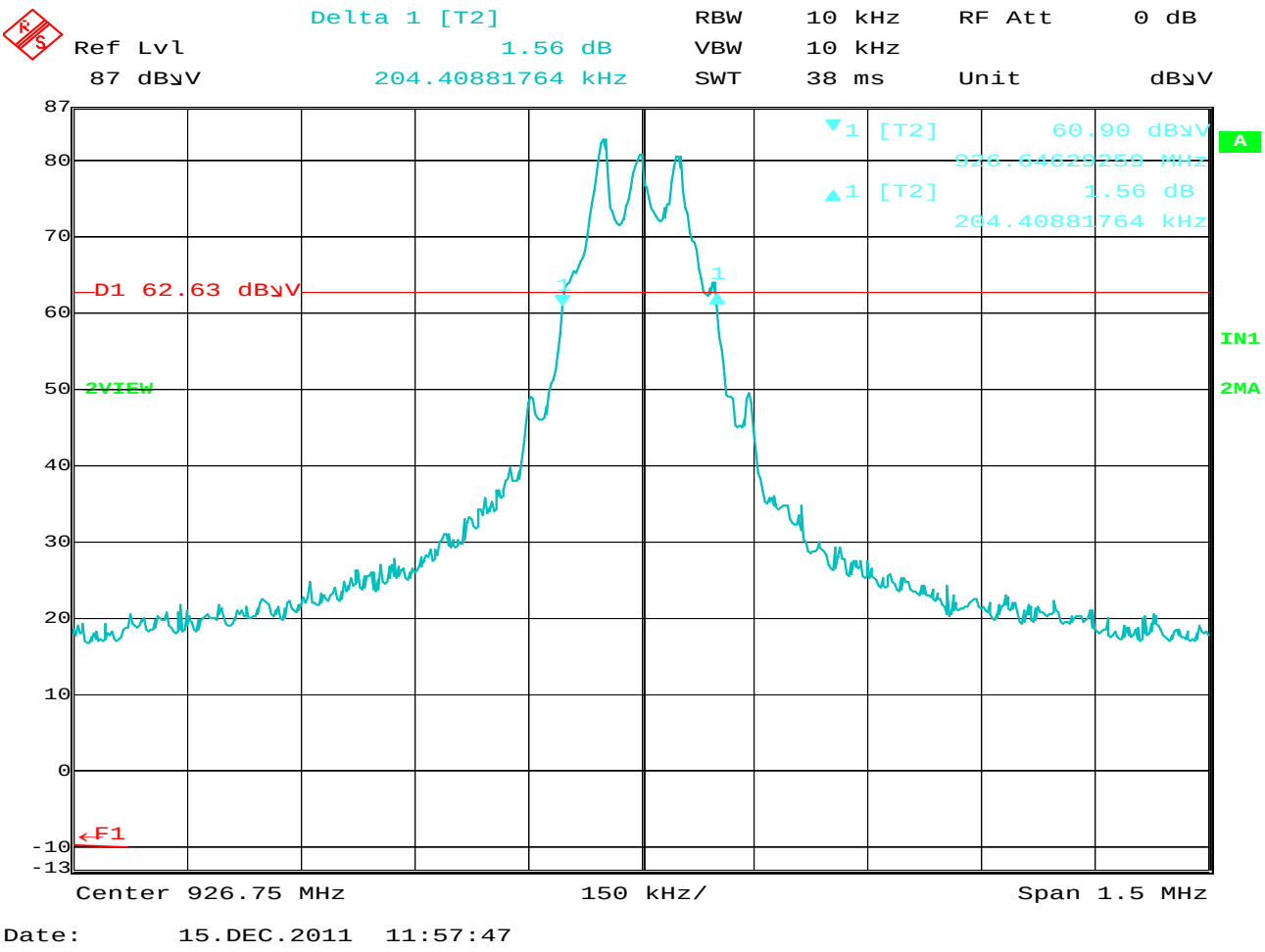
15.247(a) 20dB Bandwidth

MANUFACTURER	:	The Chamberlain Group, Inc.
MODEL NUMBER	:	AC Unit, 001D7675
SERIAL NUMBER	:	None Assigned
TEST MODE	:	Tx @ 902.25MHz
TEST DATE	:	December 15, 2011
TEST PARAMETERS	:	20dB bandwidth
NOTES	:	20dB bandwidth = 213.4kHz, 99% bandwidth = 200.4kHz
EQUIPMENT USED	:	RBB0, T2DH, T2S1



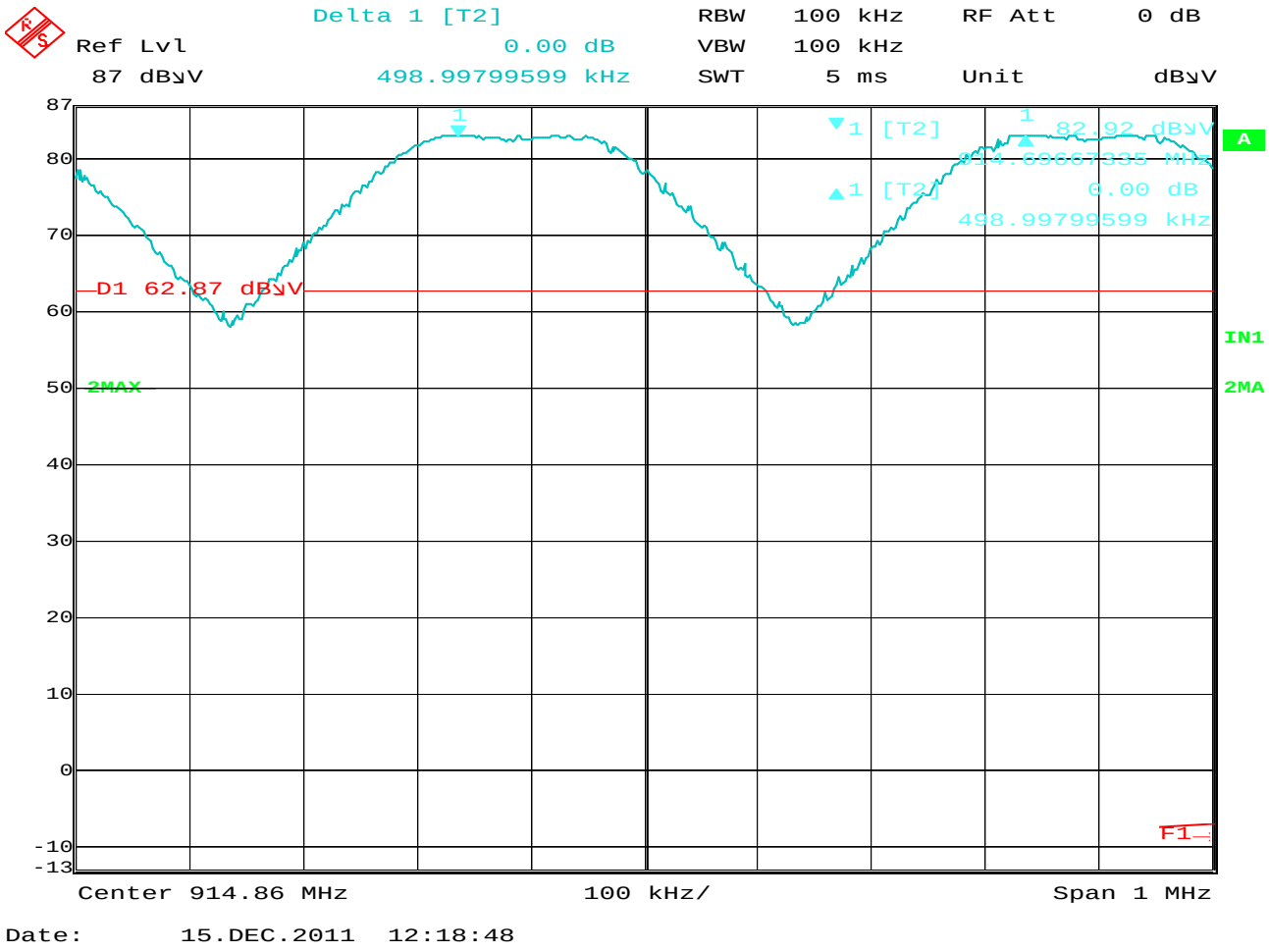
15.247(a) 20dB Bandwidth

MANUFACTURER	:	The Chamberlain Group, Inc.
MODEL NUMBER	:	AC Unit, 001D7675
SERIAL NUMBER	:	None Assigned
TEST MODE	:	Tx @ 914.75MHz
TEST DATE	:	December 15, 2011
TEST PARAMETERS	:	20dB bandwidth
NOTES	:	20dB bandwidth = 210.4kHz, 99% bandwidth = 198.4kHz
EQUIPMENT USED	:	RBB0, T2DH, T2S1



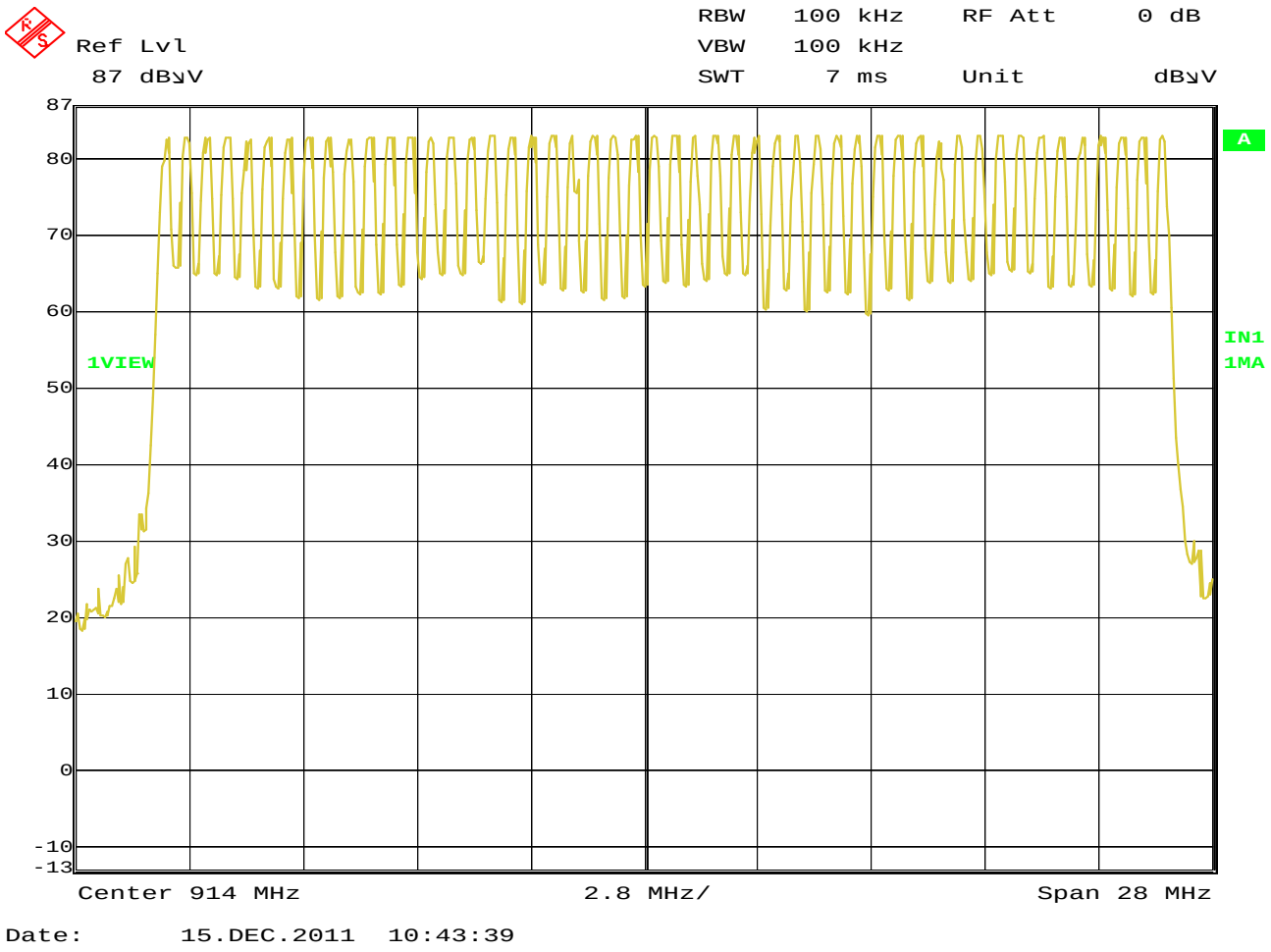
15.247(a) 20dB Bandwidth

MANUFACTURER	:	The Chamberlain Group, Inc.
MODEL NUMBER	:	AC Unit, 001D7675
SERIAL NUMBER	:	None Assigned
TEST MODE	:	Tx @ 926.75MHz
TEST DATE	:	December 15, 2011
TEST PARAMETERS	:	20dB bandwidth
NOTES	:	20dB bandwidth = 204.4kHz, 99% bandwidth = 189.4kHz
EQUIPMENT USED	:	RBB0, T2DH, T2S1



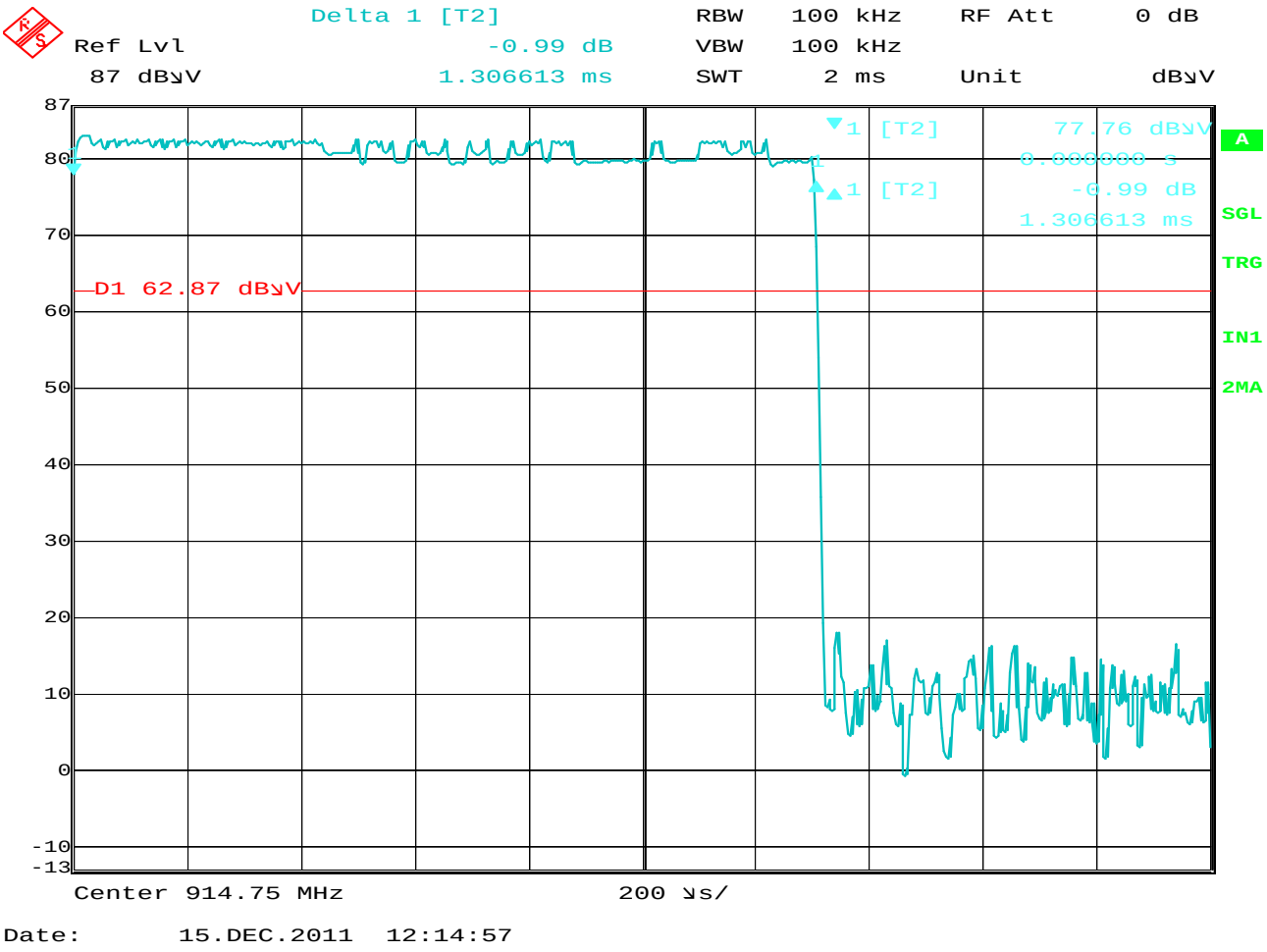
15.247(a) Carrier Frequency Separation

MANUFACTURER	:	The Chamberlain Group, Inc.
MODEL NUMBER	:	AC Unit, 001D7675
SERIAL NUMBER	:	None Assigned
TEST MODE	:	Hopping Enabled
TEST DATE	:	December 15, 2011
TEST PARAMETERS	:	Carrier Frequency Separation
NOTES	:	Carrier Frequency Separation = 499kHz
EQUIPMENT USED	:	RBB0, T2DH, T2S1



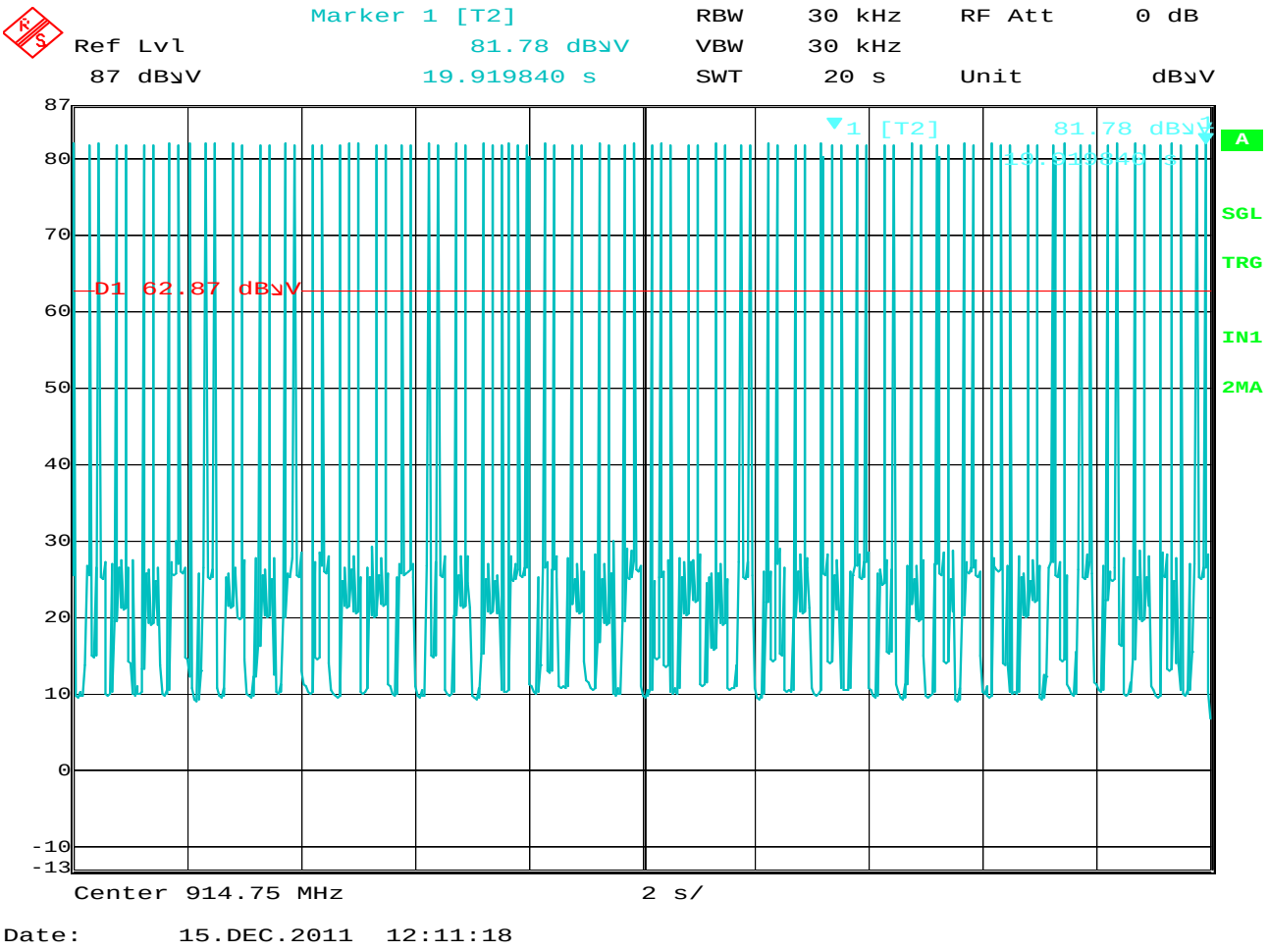
15.247(a) Number of Hopping Frequencies

MANUFACTURER	:	The Chamberlain Group, Inc.
MODEL NUMBER	:	AC Unit, 001D7675
SERIAL NUMBER	:	None Assigned
TEST MODE	:	Hopping Enabled
TEST DATE	:	December 15, 2011
TEST PARAMETERS	:	Number of Hopping Frequencies
NOTES	:	Number of Hopping Frequencies = 50
EQUIPMENT USED	:	RBB0, T2DH, T2S1



15.247(a) Time of Occupancy

MANUFACTURER	:	The Chamberlain Group, Inc.
MODEL NUMBER	:	AC Unit, 001D7675
SERIAL NUMBER	:	None Assigned
TEST MODE	:	Hopping Enabled
TEST DATE	:	December 15, 2011
TEST PARAMETERS	:	Time of Occupancy
NOTES	:	Pulse width = 1.3msec
EQUIPMENT USED	:	RBB0, T2DH, T2S1



15.247(a) Time of Occupancy

MANUFACTURER	:	The Chamberlain Group, Inc.
MODEL NUMBER	:	AC Unit, 001D7675
SERIAL NUMBER	:	None Assigned
TEST MODE	:	Hopping Enabled
TEST DATE	:	December 15, 2011
TEST PARAMETERS	:	Time of Occupancy
NOTES	:	Time of Occupancy in a 20 second period = (# pulses) x (pulse duration)
	:	Time of Occupancy in a 20 second period = 89 x 1.3msec = 115.7msec
EQUIPMENT USED	:	RBB0, T2DH, T2S1

MANUFACTURER : The Chamberlain Group
MODEL : 001D7675 AC Unit
SERIAL NO. : None Assigned
SPECIFICATION : FCC 15.247 and RSS-210 Peak RF Power Output – Antenna Conducted
DATE : December 15, 2011
MODE : See Below
EQUIPMENT USED : MPC2,MPEA

Frequency MHz	Measured Power mW	Limit mW
902.25	36.4	1000
914.75	37.1	1000
926.75	36.4	1000

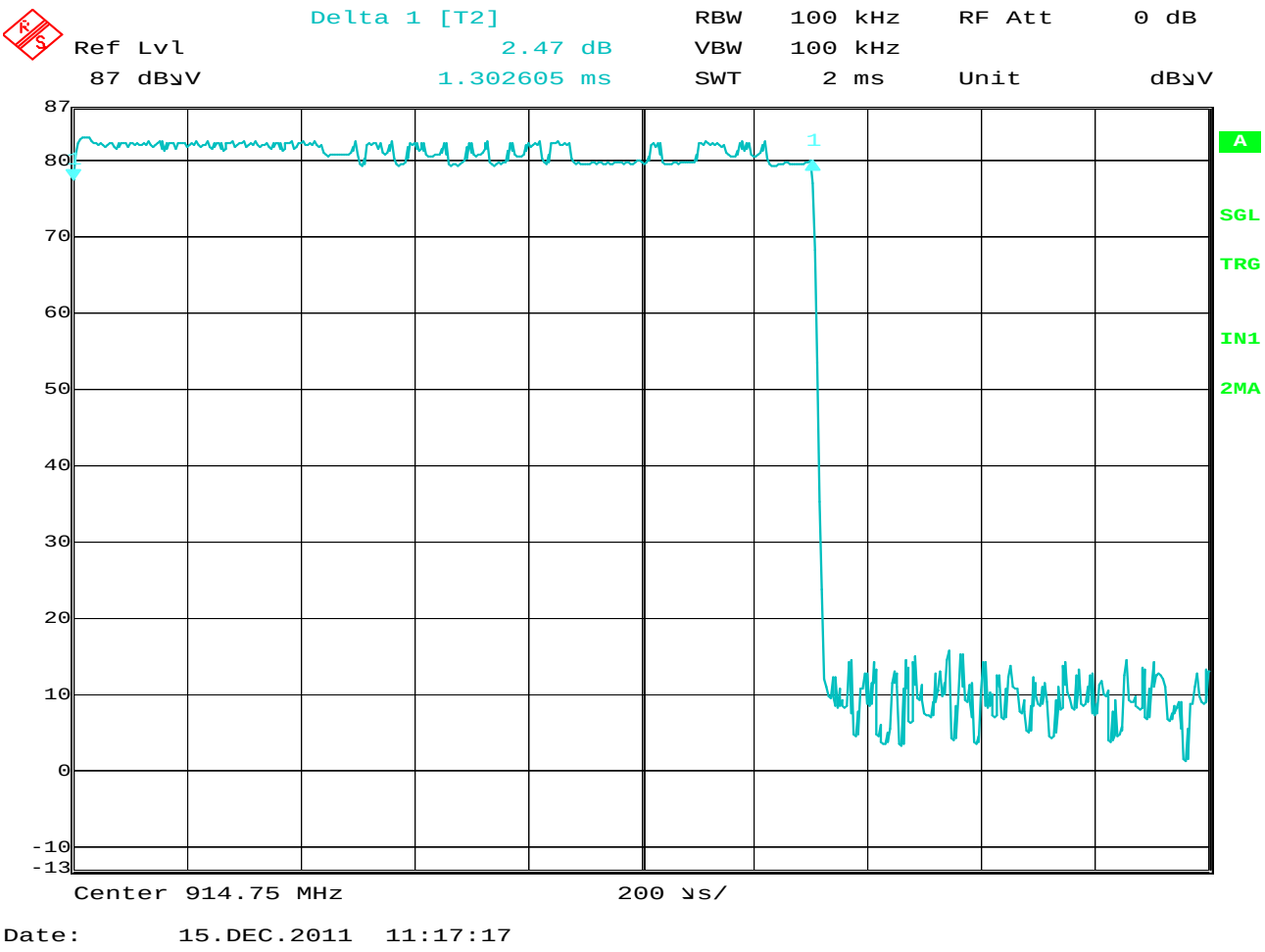
Checked By: MARK E. LONGINOTTI
Mark Longinotti

MANUFACTURER : The Chamberlain Group
MODEL : 001D7675 AC Unit
SERIAL NO. : None Assigned
SPECIFICATION : FCC 15.247 and RSS-210 Peak RF Power Output – EIRP
DATE : December 13, 2011
MODE : See Below
EQUIPMENT USED : RBB0, NTA2, NDQ1, GRE0, CMA1

Freq. MHz	Meter Reading dBuV	Matched Sig. Gen. Reading dBm	Antenna Gain dB	Cable Loss dB	EIRP dBm	Limit dBm
902.25	82.8	8.9	2.2	2.0	9.1	36.0
914.75	84.9	11.8	2.2	2.0	11.9	36.0
926.75	86.5	14.1	2.2	2.0	14.2	36.0

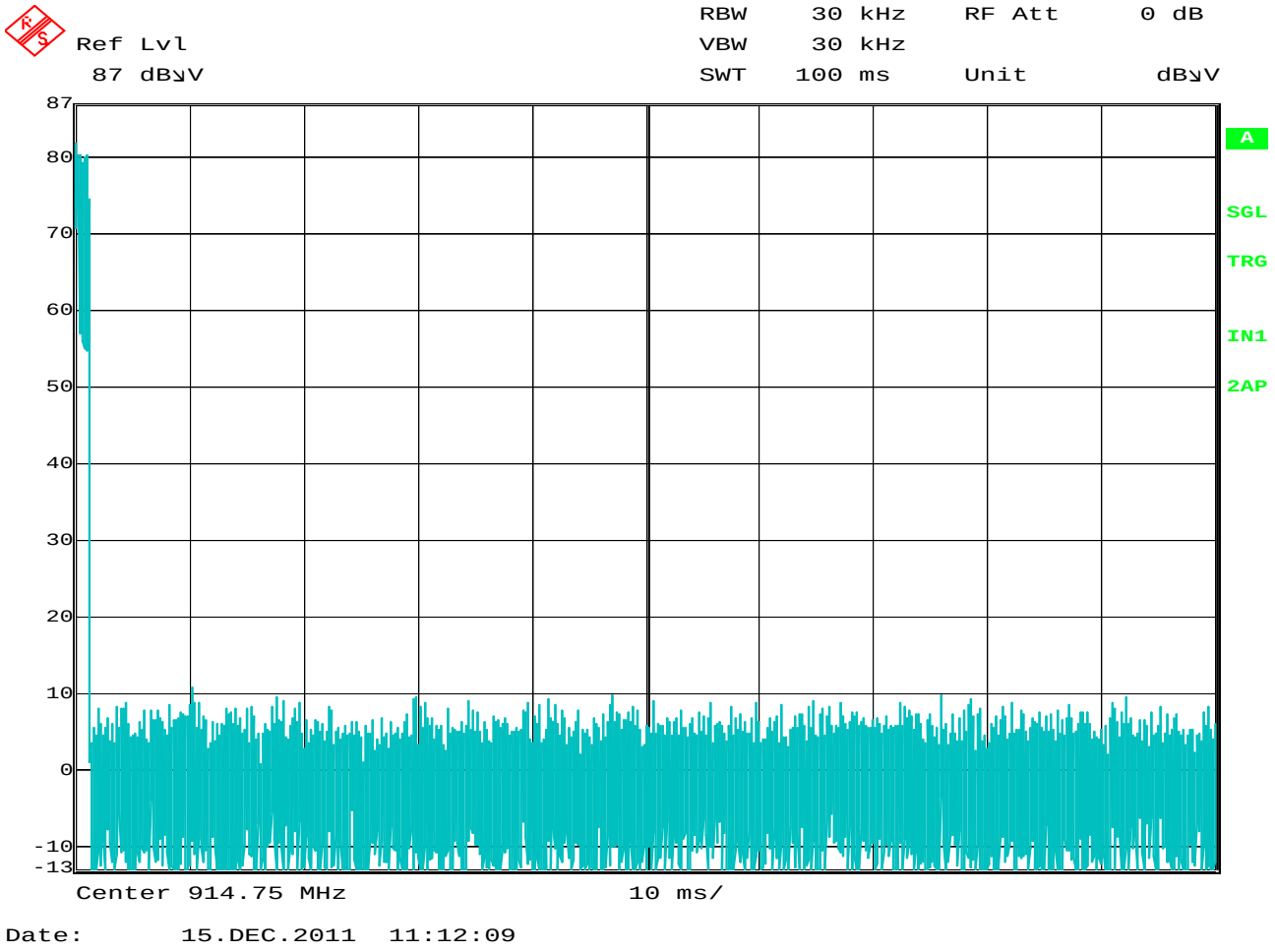
Checked By: MARK E. LONGINOTTI

Mark Longinotti



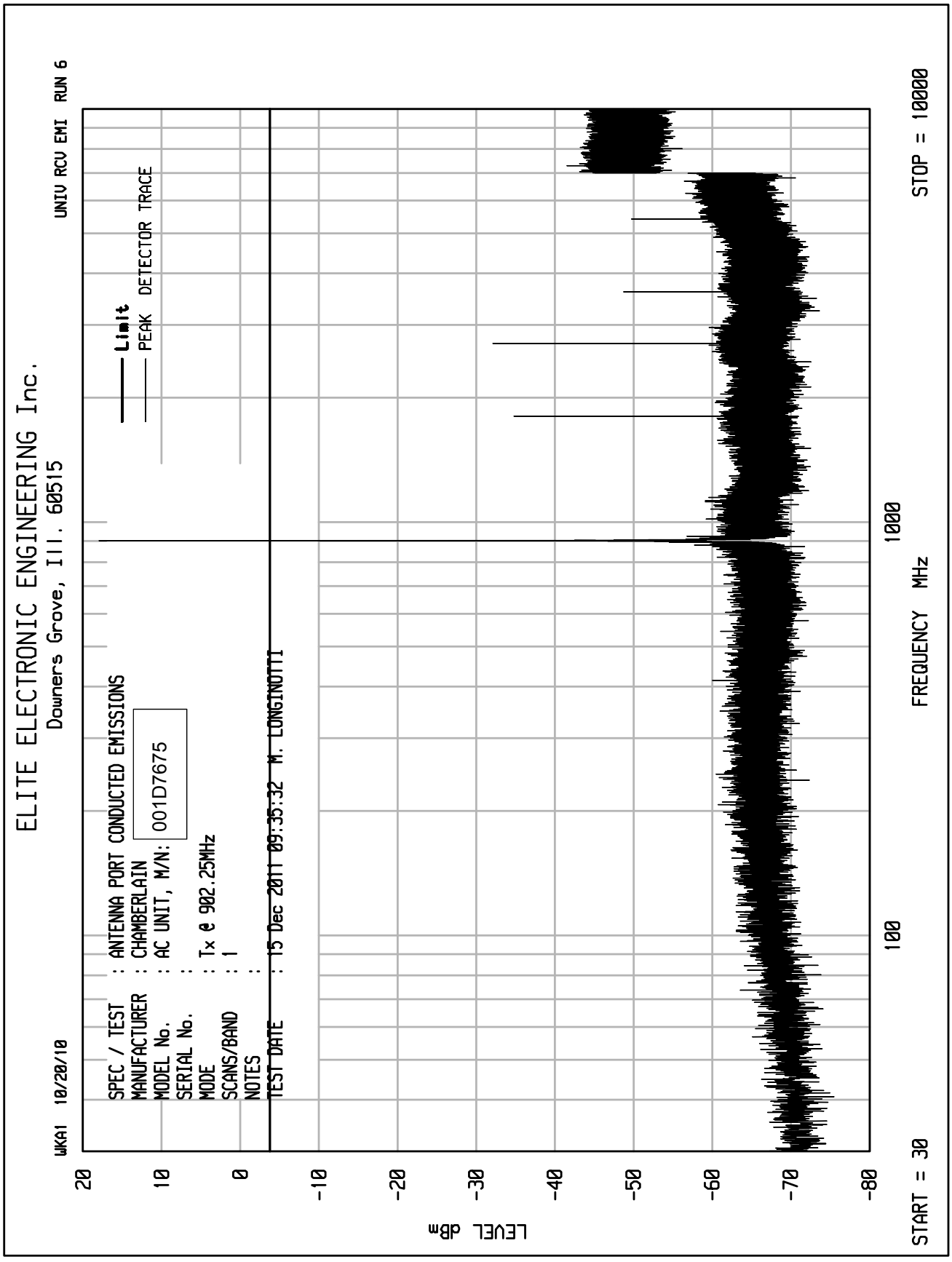
15.35(c) Duty Cycle Correction Factor

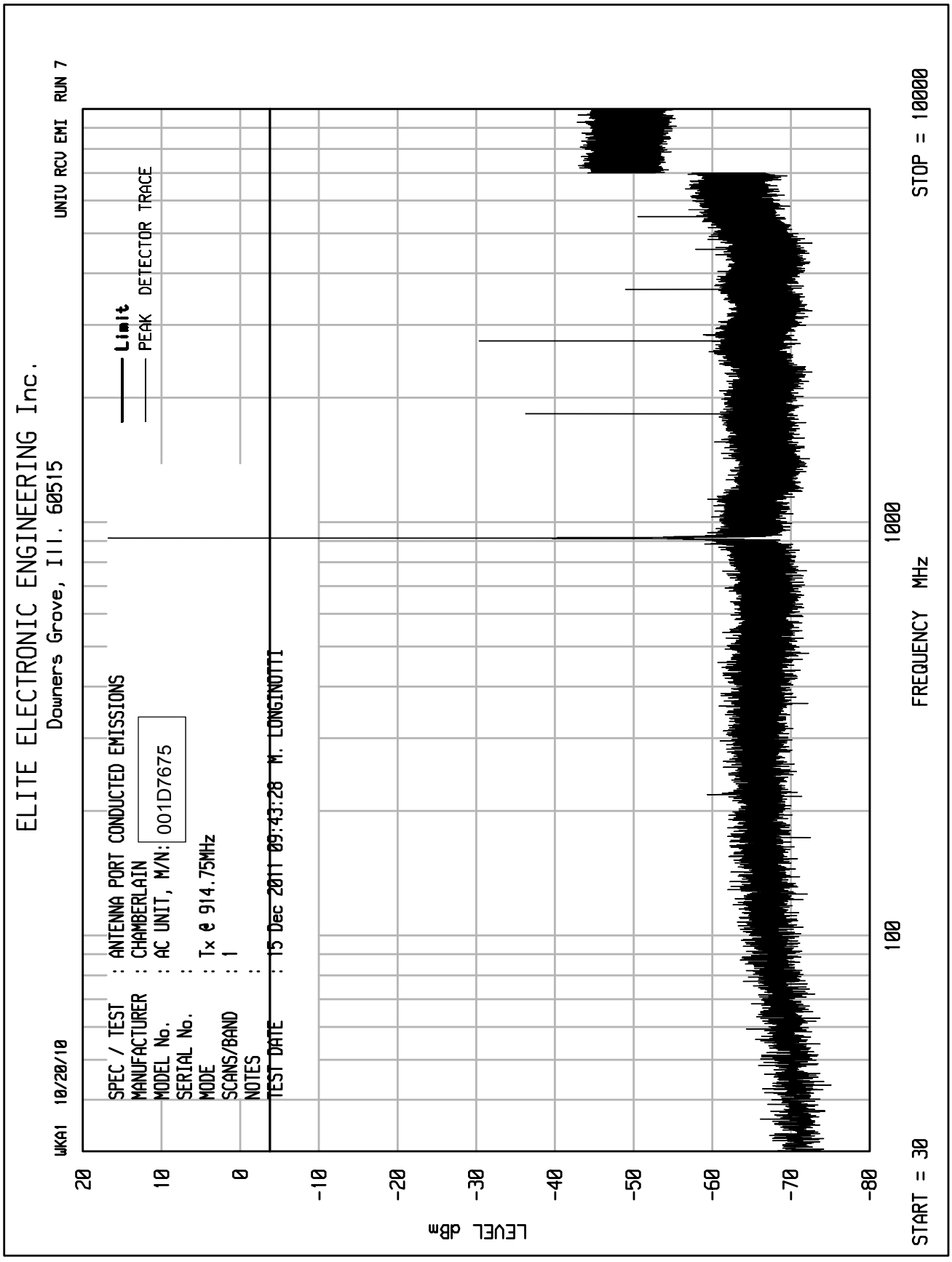
MANUFACTURER	:	The Chamberlain Group, Inc.
MODEL NUMBER	:	AC Unit, 001D7675
SERIAL NUMBER	:	None Assigned
TEST MODE	:	Hopping Enabled
TEST DATE	:	December 15, 2011
TEST PARAMETERS	:	Duty Cycle Factor
NOTES	:	Pulse Duration = 1.3msec
EQUIPMENT USED	:	RBB0, T2DH, T2S1

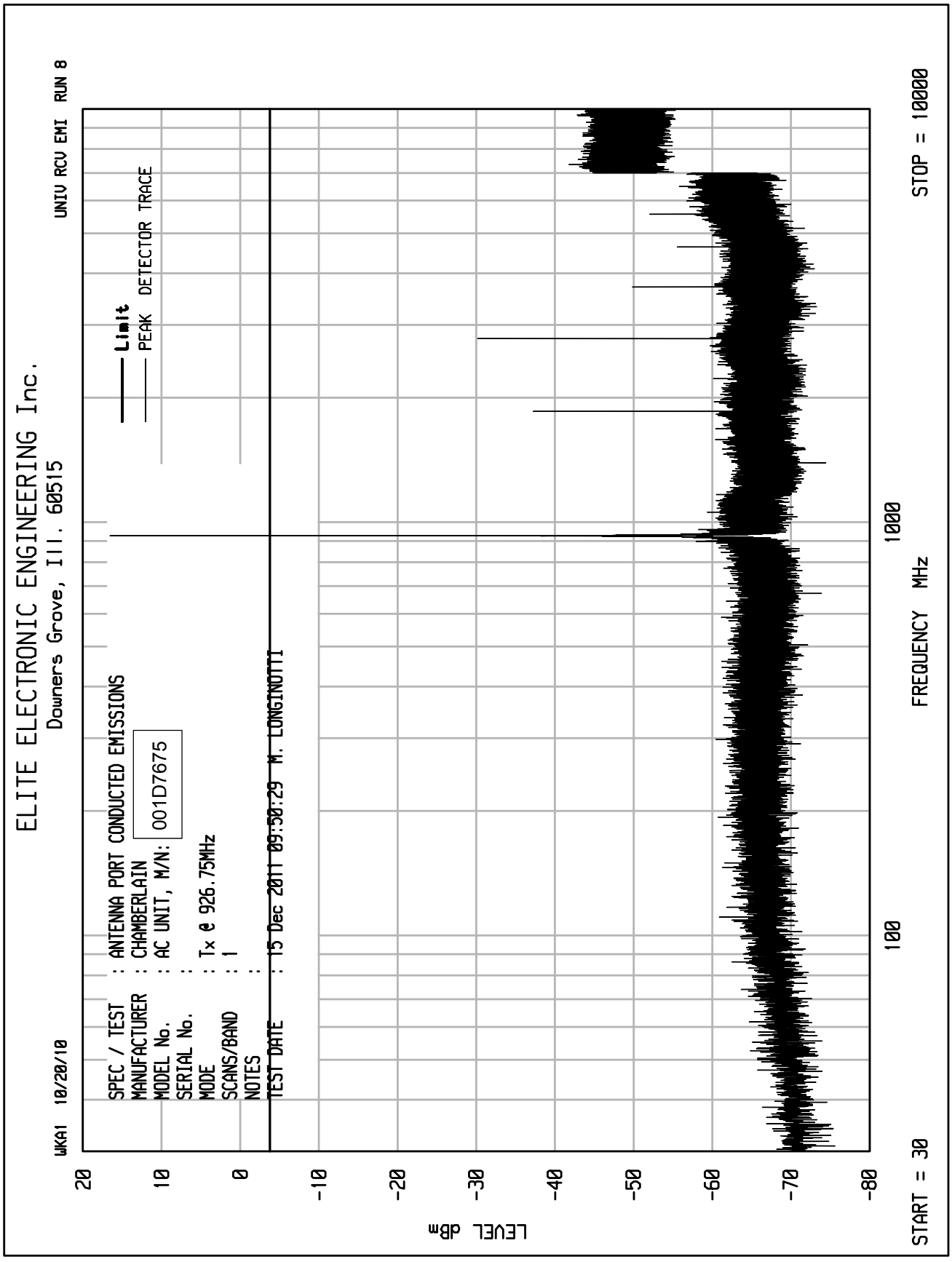


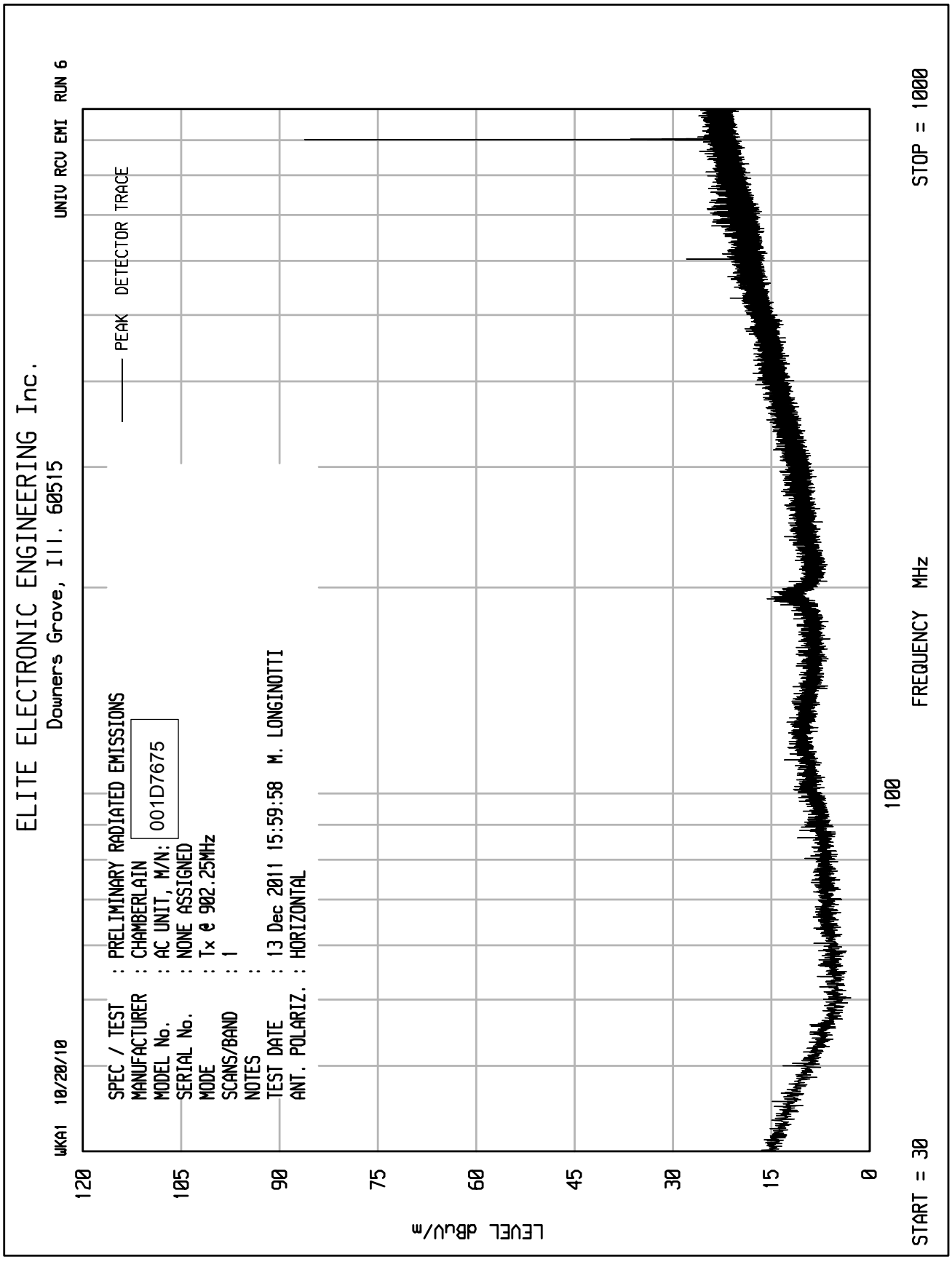
15.35(c) Duty Cycle Correction Factor

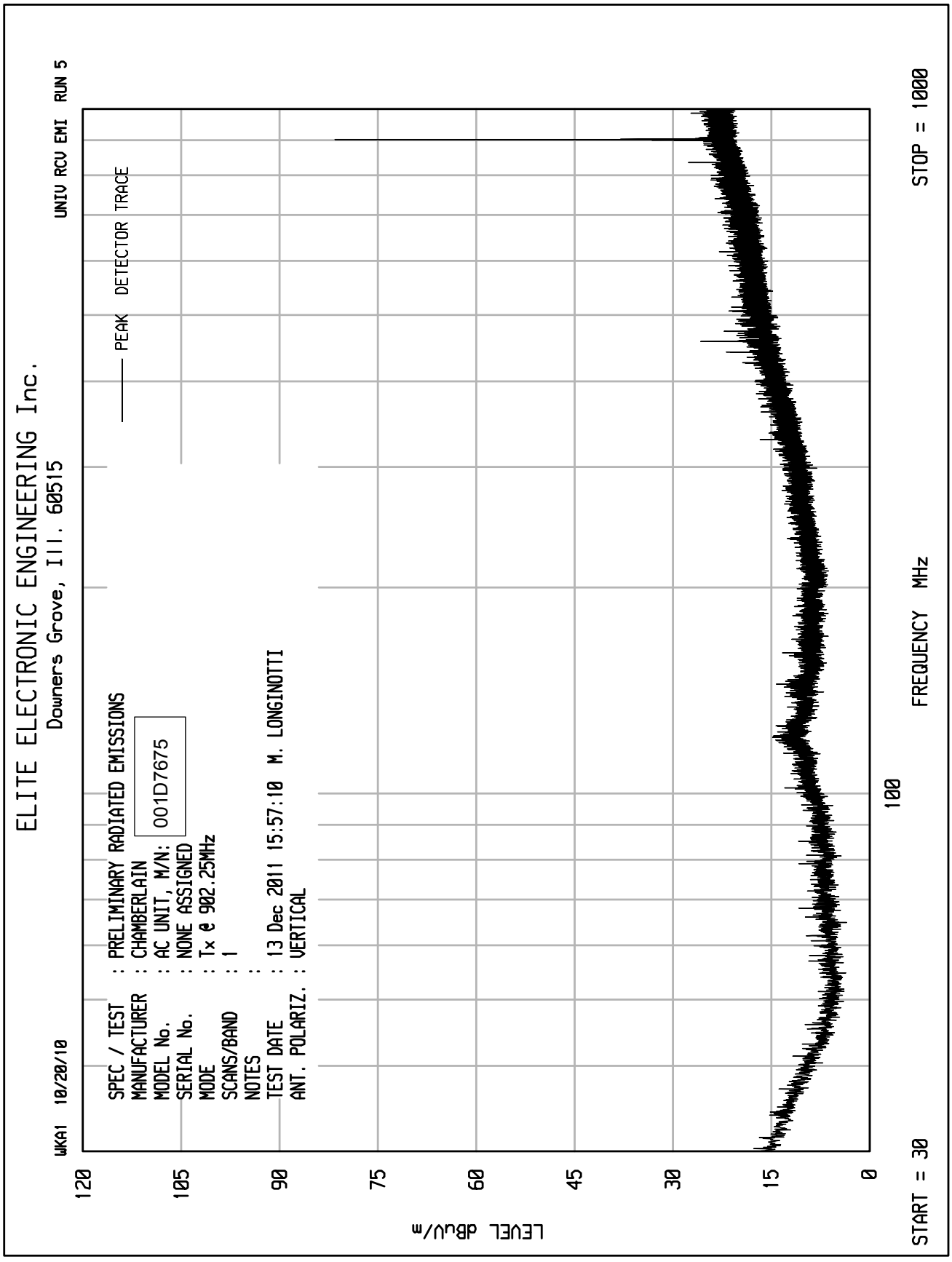
MANUFACTURER	:	The Chamberlain Group, Inc.
MODEL NUMBER	:	AC Unit, 001D7675
SERIAL NUMBER	:	None Assigned
TEST MODE	:	Hopping Enabled
TEST DATE	:	December 15, 2011
TEST PARAMETERS	:	Duty Cycle Factor
NOTES	:	Number of pulses in a 100msec period = 1, pulse duration = 1.3msec
	:	Duty Cycle Correction Factor = 20*log((pulse duration)x(number of pulses in 100msec)/(100msec))
	:	Duty Cycle Correction Factor = 20*log((1.3msec)x(1 pulse)/(100msec))
	:	Duty Cycle Correction Factor = -37.7dB
EQUIPMENT USED	:	RBB0, T2DH, T2S1

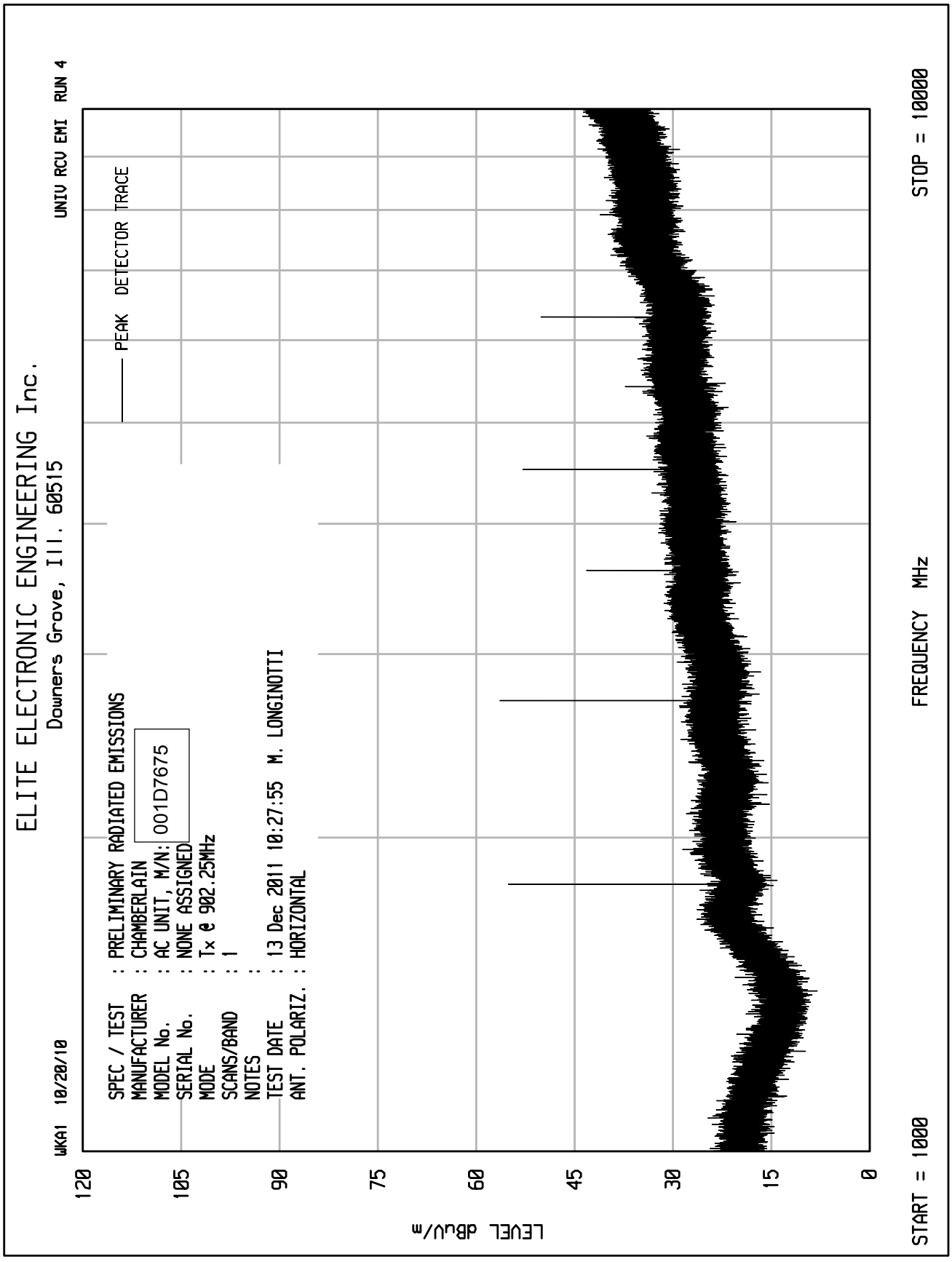

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 6
WKA1 10/20/10
SPEC / TEST : ANTENNA PORT CONDUCTED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N: 001D7675
SERIAL No. :
MODE : Tx @ 902.25MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 15 Dec 2011 09:35:32 M. LONGINOTTI
Limit
PEAK DETECTOR TRACE
LEVEL dBm
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
START = 30
100
1000
FREQUENCY MHz
STOP = 10000

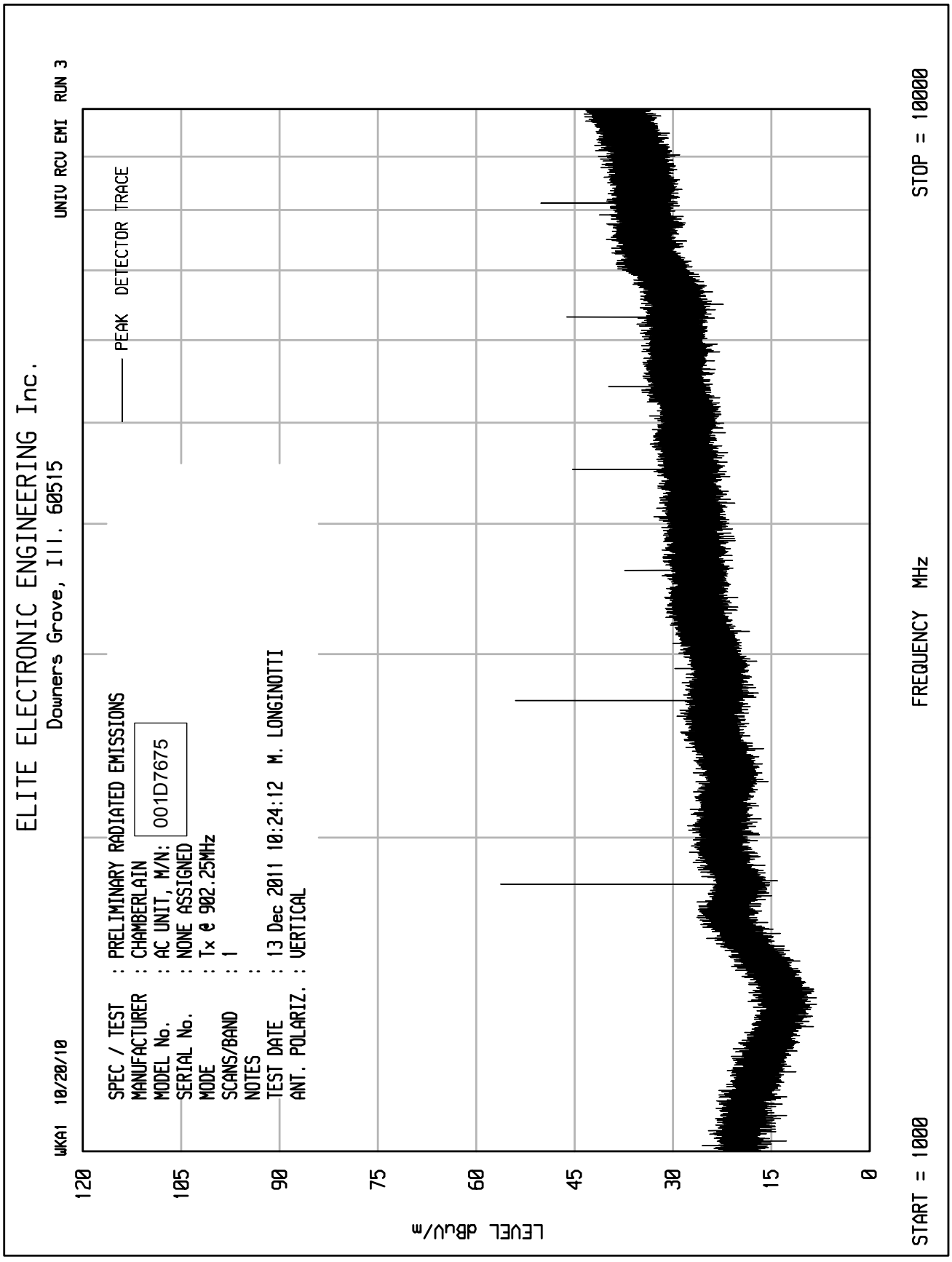

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 7
WKA1 10/20/10
SPEC / TEST : ANTENNA PORT CONDUCTED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N: 001D7675
SERIAL No. : :
MODE : Tx @ 914.75MHz
SCANS/BAND : 1
NOTES : :
TEST DATE : 15 Dec 2011 09:43:28 M. LONGINOTTI
Limit
PEAK DETECTOR TRACE
LEVEL dBm
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
START = 30
100
1000
FREQUENCY MHz
STOP = 10000

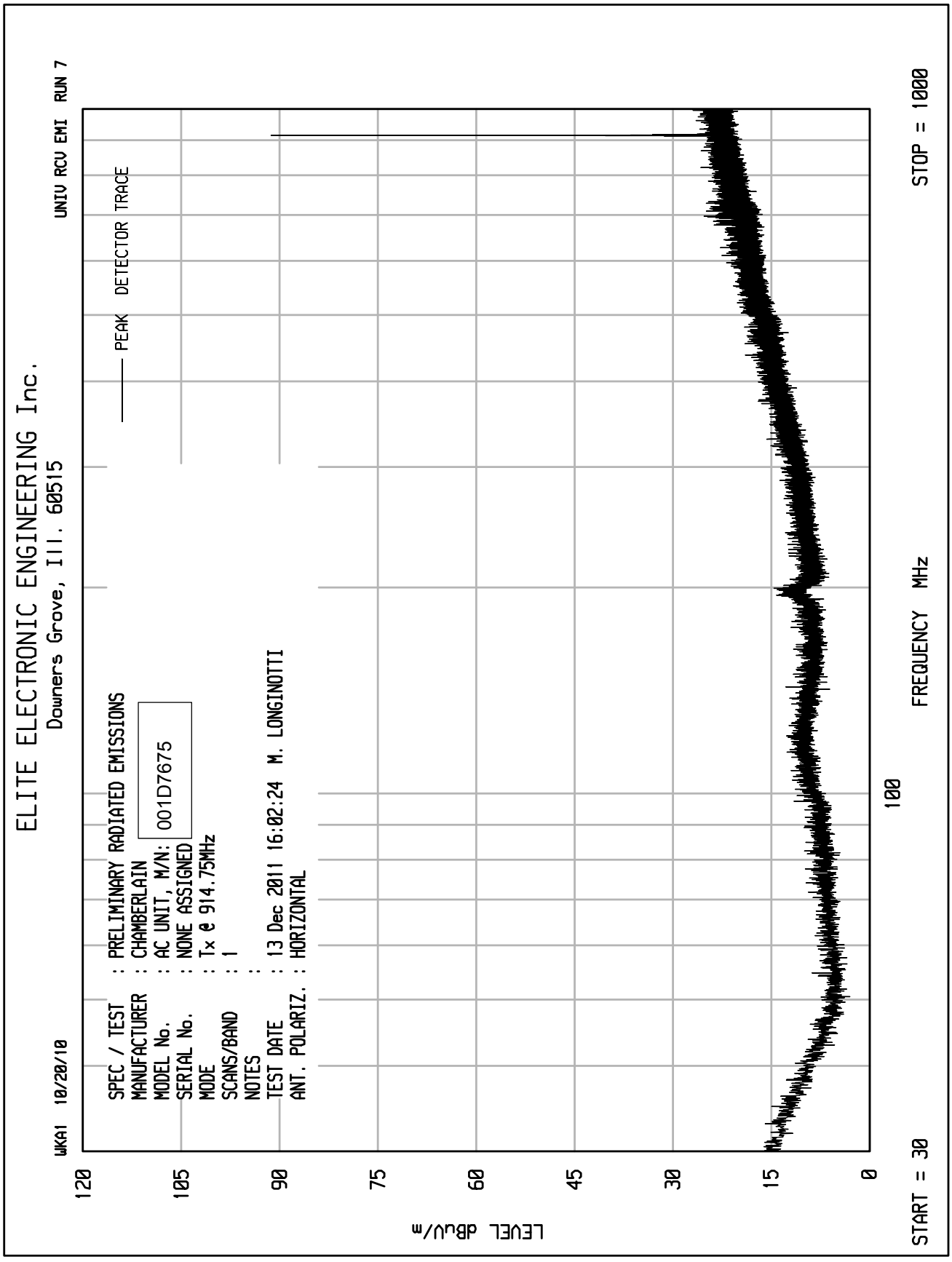

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 8
WKA1 10/20/10
SPEC / TEST : ANTENNA PORT CONDUCTED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N: 001D7675
SERIAL No. : :
MODE : Tx @ 926.75MHz
SCANS/BAND : 1
NOTES : :
TEST DATE : 15 Dec 2011 09:50:29 M. LONGINOTTI
Limit
PEAK DETECTOR TRACE
LEVEL dBm
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
START = 30
100
1000
FREQUENCY MHz
STOP = 10000

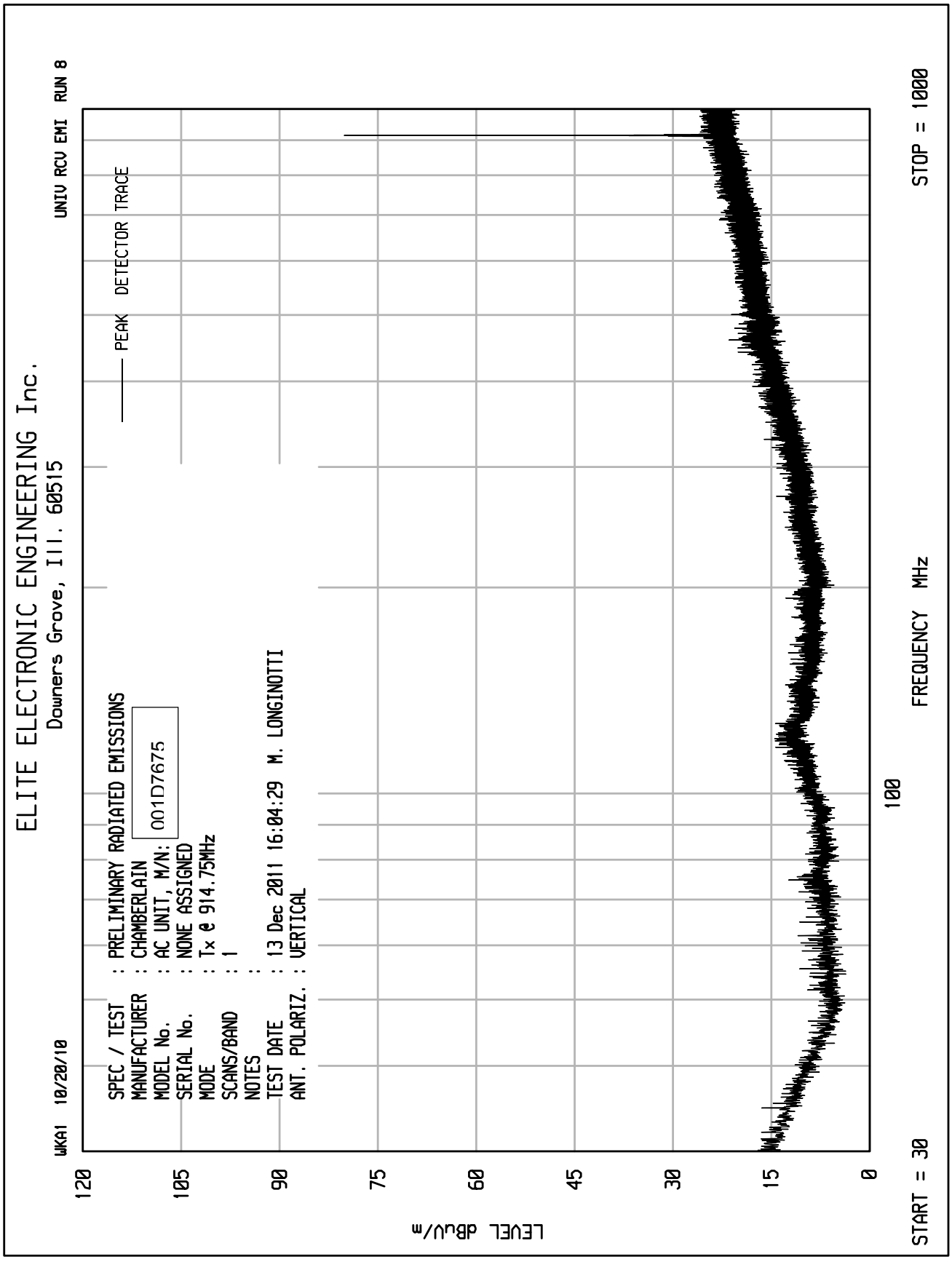

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 6
WKA1 10/20/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N: 001D7675
SERIAL No. : NONE ASSIGNED
MODE : Tx @ 902.25MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 13 Dec 2011 15:59:58 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 30
100
FREQUENCY MHz
STOP = 1000

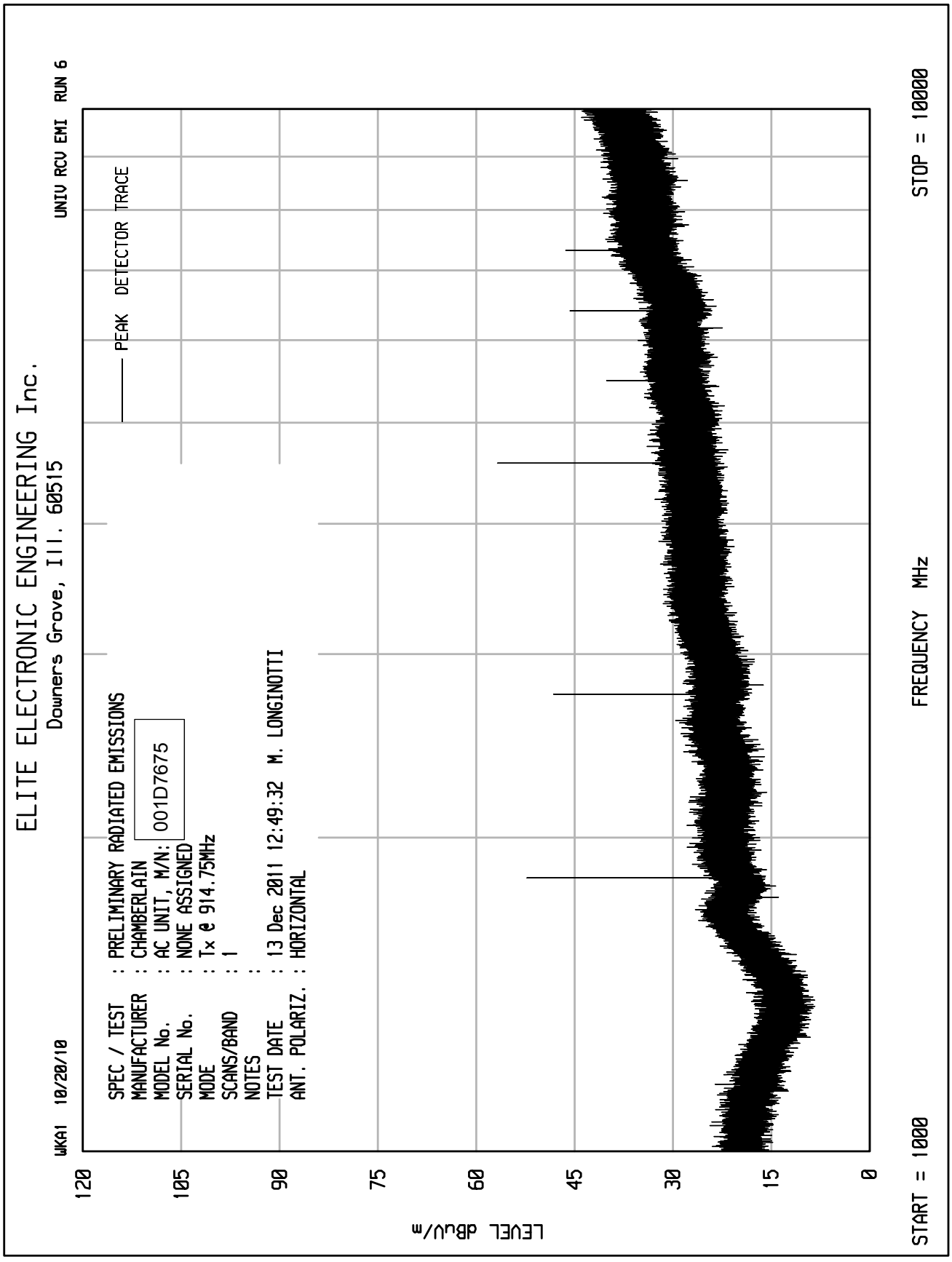

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 5
WKA1 10/20/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N: 001D7675
SERIAL No. : NONE ASSIGNED
MODE : Tx @ 902.25MHz
SCANS/BAND : 1
NOTES : :
TEST DATE : 13 Dec 2011 15:57:10 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 30
100
FREQUENCY MHz
STOP = 1000

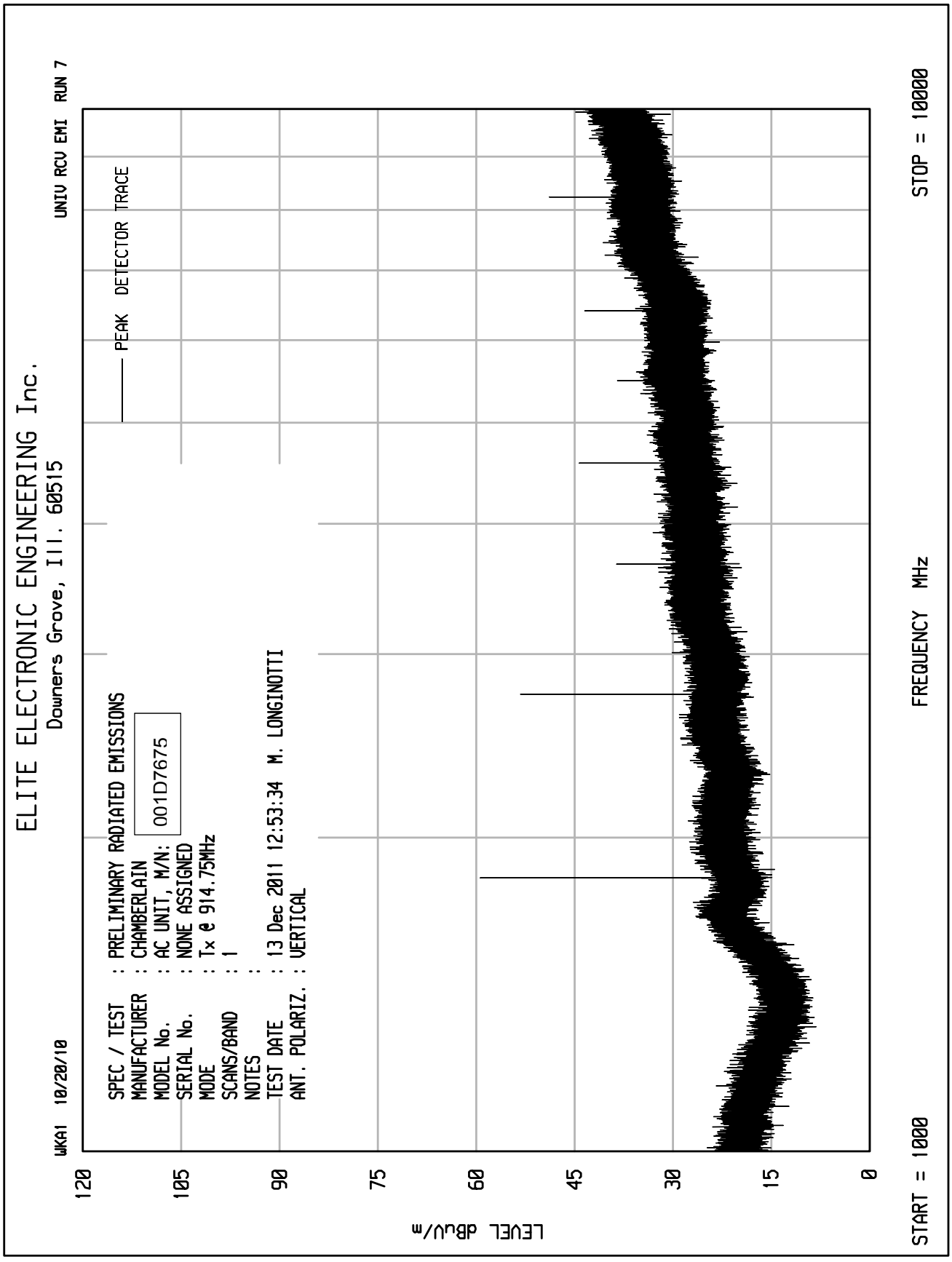

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 4
WKA1 10/20/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N: 001D7675
SERIAL No. : NONE ASSIGNED
MODE : Tx @ 902.25MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 13 Dec 2011 10:27:55 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

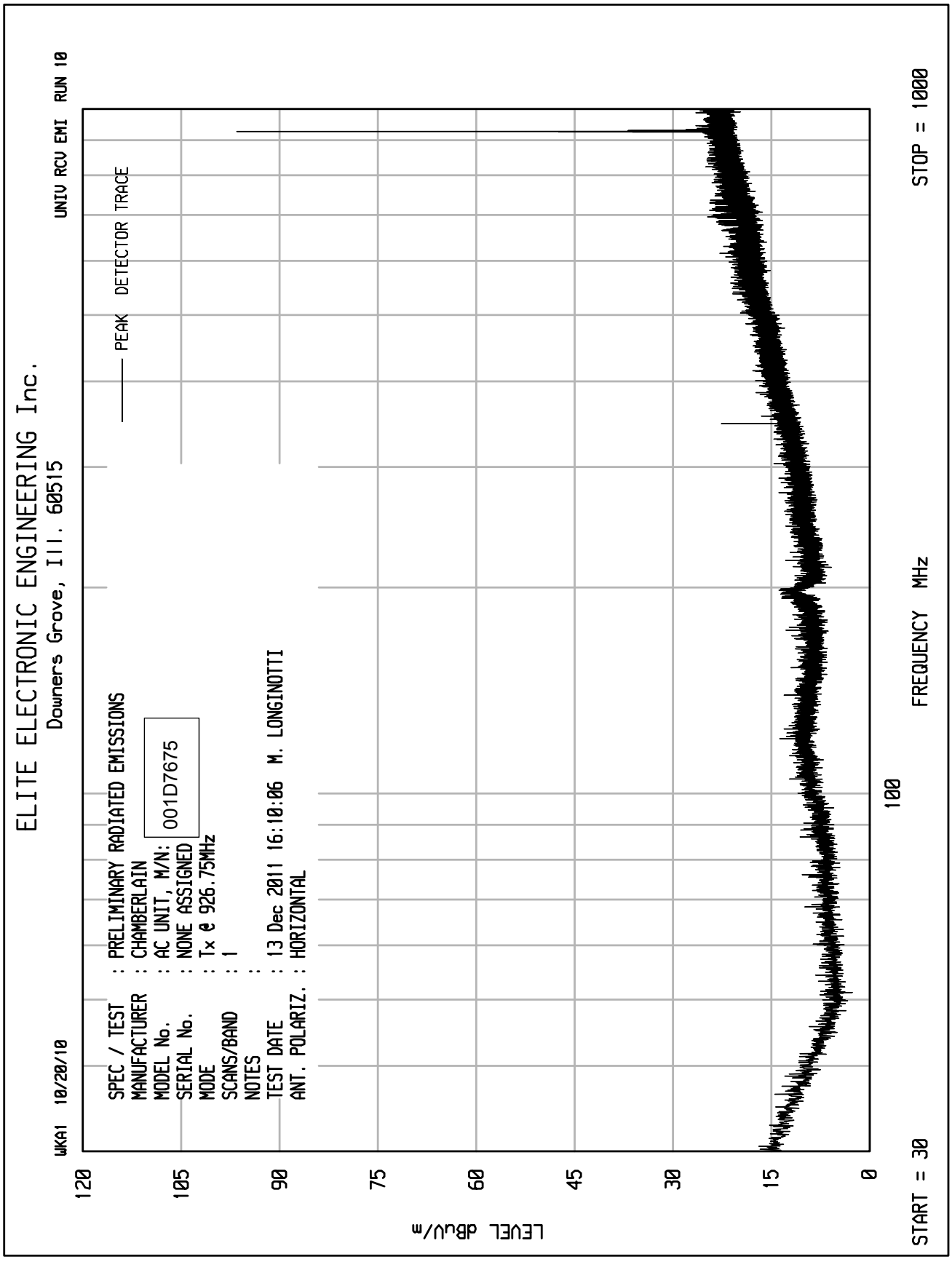

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 3
WKA1 10/20/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N: 001D7675
SERIAL No. : NONE ASSIGNED
MODE : Tx @ 902.25MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 13 Dec 2011 10:24:12 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 = 10000

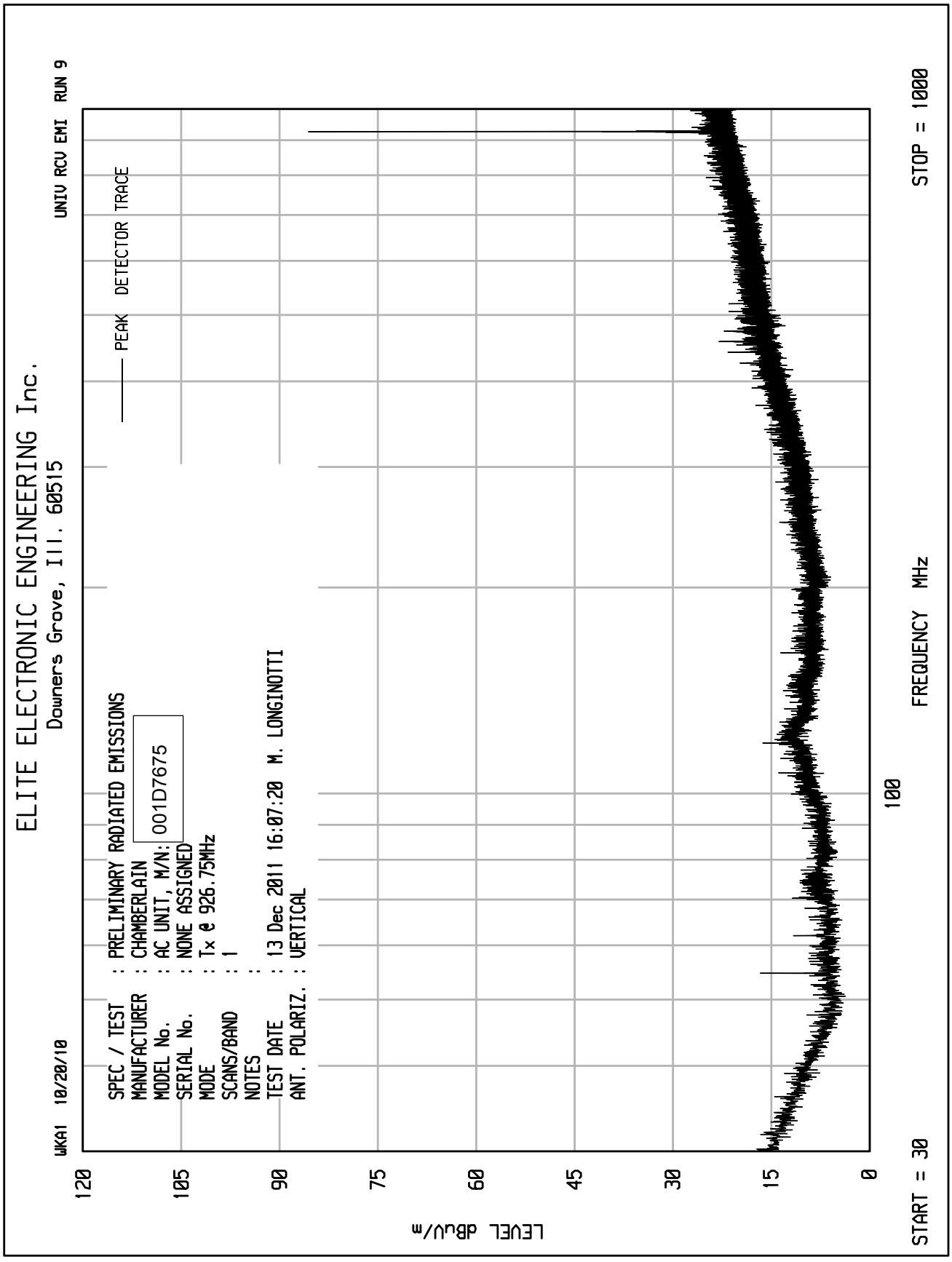

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 7
WKA1 10/20/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N: 001D7675
SERIAL No. : NONE ASSIGNED
MODE : Tx @ 914.75MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 13 Dec 2011 16:02:24 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 30
100
FREQUENCY MHz
STOP = 1000

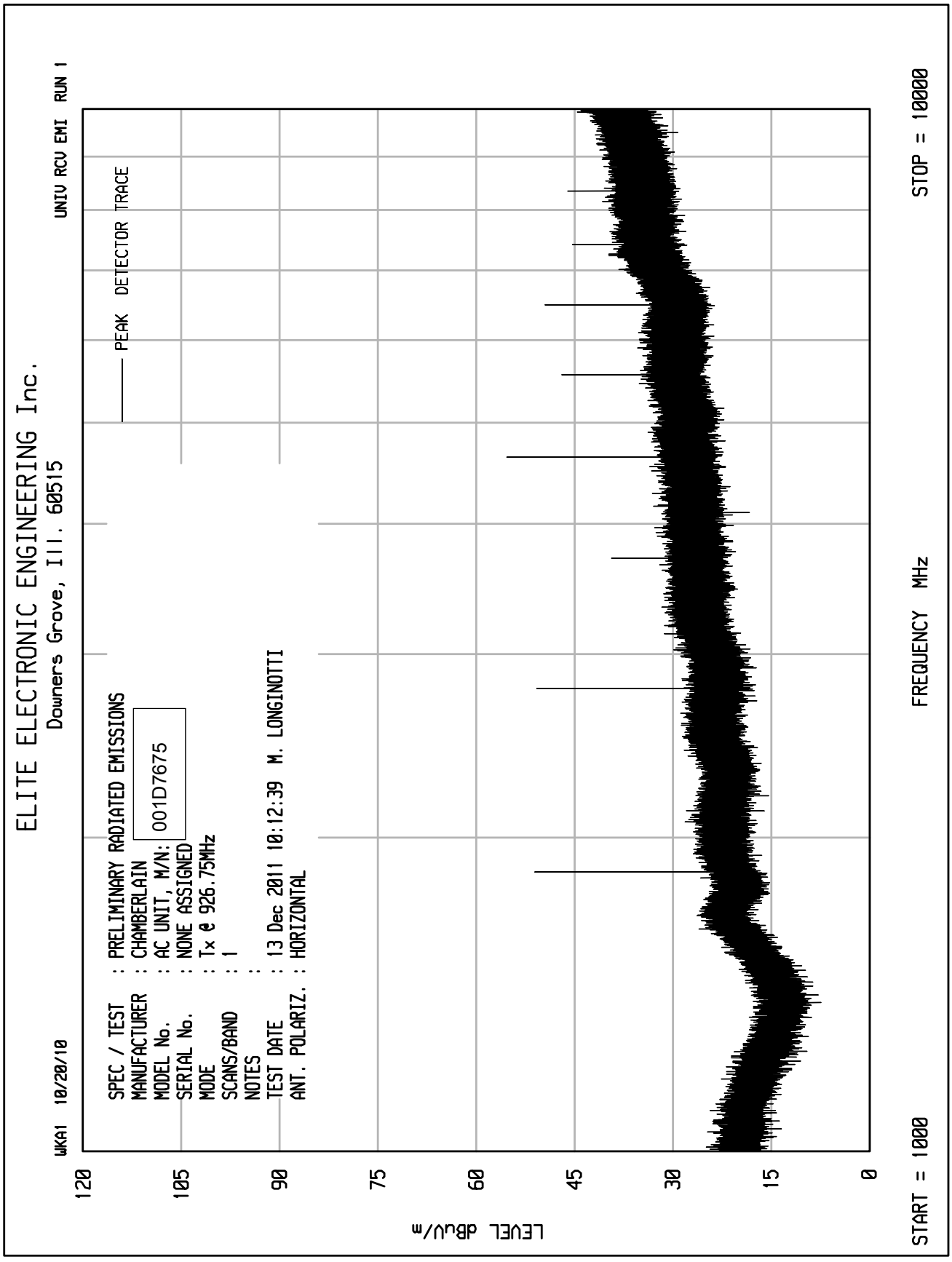

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 8
WKA1 10/20/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N: 001D7675
SERIAL No. : NONE ASSIGNED
MODE : Tx @ 914.75MHz
SCANS/BAND : 1
NOTES : :
TEST DATE : 13 Dec 2011 16:04:29 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 30
100
FREQUENCY MHz
STOP = 1000

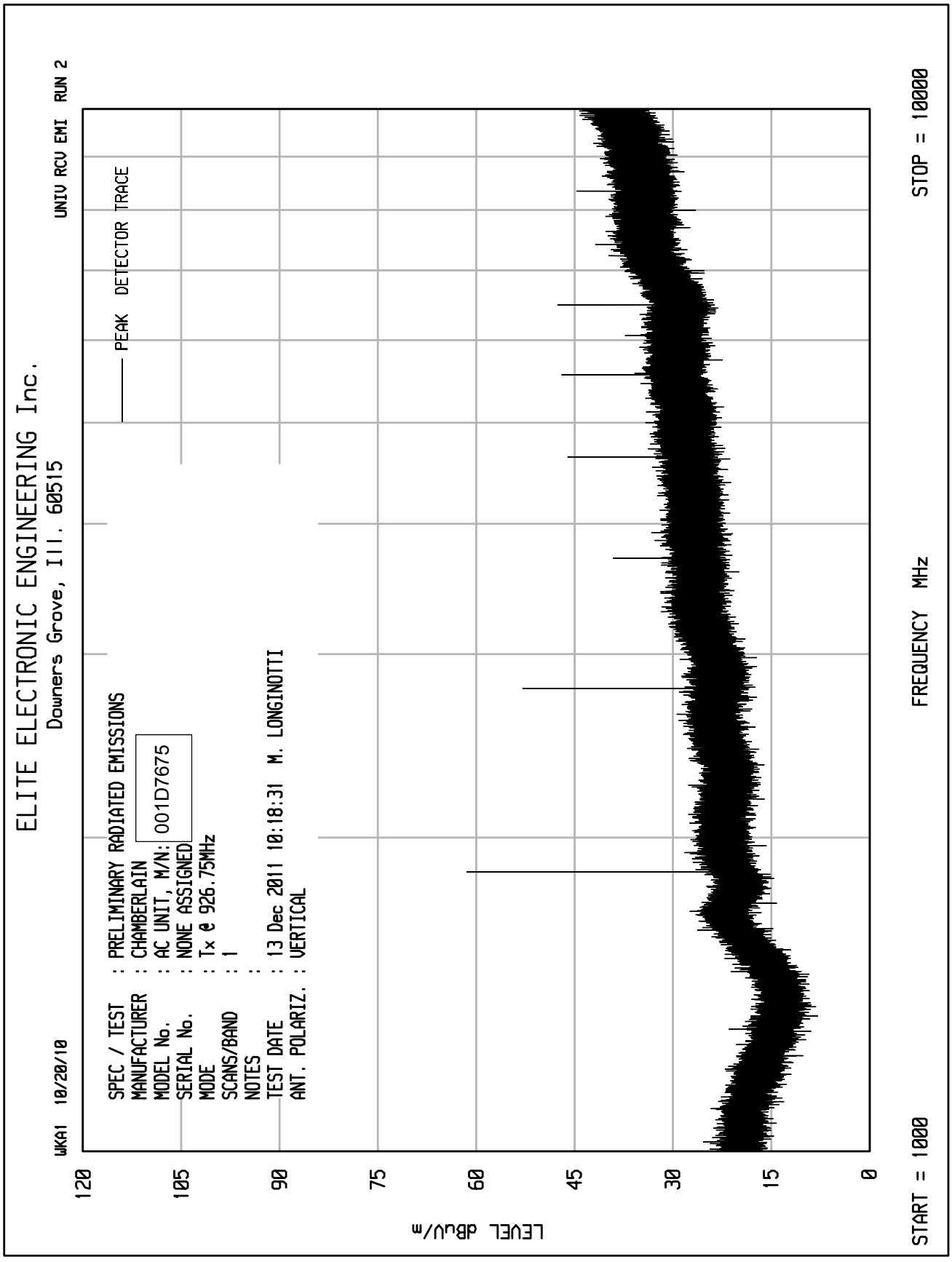

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 6
WKA1 10/20/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N: 001D7675
SERIAL No. : NONE ASSIGNED
MODE : Tx @ 914.75MHz
SCANS/BAND : 1
NOTES : :
TEST DATE : 13 Dec 2011 12:49:32 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
UNIV RCV EMI RUN 7
WKA1 10/20/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N: 001D7675
SERIAL No. : NONE ASSIGNED
MODE : Tx @ 914.75MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 13 Dec 2011 12:53:34 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


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 10
WKA1 10/20/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N: 001D7675
SERIAL No. : NONE ASSIGNED
MODE : Tx @ 926.75MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 13 Dec 2011 16:10:06 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 30
100
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 9
WKA1 10/20/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N: 001D7675
SERIAL No. : NONE ASSIGNED
MODE : Tx @ 926.75MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 13 Dec 2011 16:07:20 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 30
100
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 1
WKA1 10/20/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N: 001D7675
SERIAL No. : NONE ASSIGNED
MODE : Tx @ 926.75MHz
SCANS/BAND : 1
NOTES : :
TEST DATE : 13 Dec 2011 10:12:39 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
UNIV RCV EMI RUN 2
WKA1 10/20/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : AC UNIT, M/N: 001D7675
SERIAL No. : NONE ASSIGNED
MODE : Tx @ 926.75MHz
SCANS/BAND : 1
NOTES : :
TEST DATE : 13 Dec 2011 10:18:31 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 : The Chamberlain Group
MODEL : 001D7675 AC Unit
SERIAL NO. : None Assigned
SPECIFICATION : FCC 15.247 and RSS-210
DATE : December 13, 2011
MODE : Tx at 902.25 MHz

		Meter		CBL	Ant	Pre	Total	Total	Limit	
Freq (MHz)	Ant Pol	Reading (dBuV)	Ambient	Fac (dB)	Fac (dB)	Amp (dB)	dBuV/m at 3 M	uV/m at 3M	uV/m at 30M	Margin (dB)
2706.750	H	69.0		3.7	29.6	-40.3	61.9	1244.4	5000.0	-12.1
2706.750	V	67.1		3.7	29.6	-40.3	60.0	999.9	5000.0	-14.0
3609.000	H	56.2		4.3	32.0	-39.9	52.6	427.3	5000.0	-21.4
3609.000	V	52.5		4.3	32.0	-39.9	48.9	279.1	5000.0	-25.1
4511.250	H	63.2		4.8	32.9	-40.0	60.9	1112.6	5000.0	-13.1
4511.250	V	60.0		4.8	32.9	-40.0	57.7	769.8	5000.0	-16.3
5413.500	H	55.4		5.2	35.2	-40.1	55.7	609.1	5000.0	-18.3
5413.500	V	53.8		5.2	35.2	-40.1	54.1	506.6	5000.0	-19.9
8120.250	H	56.2		6.5	38.4	-39.6	61.6	1197.0	5000.0	-12.4
8120.250	V	56.2		6.5	38.4	-39.6	61.6	1197.0	5000.0	-12.4
9022.500	H	48.5	Ambient	6.5	39.6	-39.1	55.6	600.1	5000.0	-18.4
9022.500	V	47.6	Ambient	6.5	39.6	-39.1	54.7	541.1	5000.0	-19.3

Checked By: MARK E. LONGINOTTI

Mark Longinotti

MANUFACTURER : The Chamberlain Group
MODEL : 001D7675 AC Unit
SERIAL NO. : None Assigned
SPECIFICATION : FCC 15.247 and RSS-210
DATE : December 13, 2011
MODE : Tx at 902.25 MHz

Freq (MHz)	Ant Pol	Meter Reading (dBuV)	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total dBuV/m at 3 M	Total uV/m at 3M	Limit uV/m at 3M	Margin (dB)
2706.8	H	69.0	3.7	29.6	-40.3	-37.5	24.4	16.6	500.0	-29.6
2706.8	V	67.1	3.7	29.6	-40.3	-37.5	22.5	13.3	500.0	-31.5
3609.0	H	56.2	4.3	32.0	-39.9	-37.5	15.1	5.7	500.0	-38.9
3609.0	V	52.5	4.3	32.0	-39.9	-37.5	11.4	3.7	500.0	-42.6
4511.3	H	63.2	4.8	32.9	-40.0	-37.5	23.4	14.8	500.0	-30.6
4511.3	V	60.0	4.8	32.9	-40.0	-37.5	20.2	10.3	500.0	-33.8
5413.5	H	55.4	5.2	35.2	-40.1	-37.5	18.2	8.1	500.0	-35.8
5413.5	V	53.8	5.2	35.2	-40.1	-37.5	16.6	6.8	500.0	-37.4
8120.3	H	56.2	6.5	38.4	-39.6	-37.5	24.1	16.0	500.0	-29.9
8120.3	V	56.2	6.5	38.4	-39.6	-37.5	24.1	16.0	500.0	-29.9
9022.5	H	48.5	6.5	39.6	-39.1	-37.5	18.1	8.0	500.0	-35.9
9022.5	V	47.6	6.5	39.6	-39.1	-37.5	17.2	7.2	500.0	-36.8

Checked By: MARK E. LONGINOTTI

Mark Longinotti

MANUFACTURER : The Chamberlain Group
MODEL : 001D7675 AC Unit
SERIAL NO. : None Assigned
SPECIFICATION : FCC 15.247 and RSS-210
DATE : December 13, 2011
MODE : Tx at 914.75 MHz

		Meter		CBL	Ant	Pre	Total	Total	Limit	
Freq (MHz)	Ant Pol	Reading (dBuV)	Ambient	Fac (dB)	Fac (dB)	Amp (dB)	dBuV/m at 3 M	uV/m at 3M	uV/m at 30M	Margin (dB)
2744.250	H	72.6		3.7	29.6	-40.3	65.5	1888.0	5000.0	-8.5
2744.250	V	68.6		3.7	29.6	-40.3	61.5	1191.3	5000.0	-12.5
3659.000	H	59.8		4.3	32.2	-39.8	56.6	675.6	5000.0	-17.4
3659.000	V	54.1		4.3	32.2	-39.8	50.9	350.5	5000.0	-23.1
4573.750	H	71.4		4.8	33.1	-40.0	69.3	2928.1	5000.0	-4.6
4573.750	V	62.3		4.8	33.1	-40.0	60.2	1027.0	5000.0	-13.7
7318.000	H	50.0	Ambient	6.2	37.3	-39.8	53.7	483.1	5000.0	-20.3
7318.000	V	49.8	Ambient	6.2	37.3	-39.8	53.5	472.1	5000.0	-20.5
8232.750	H	54.5		6.5	38.6	-39.5	60.1	1009.6	5000.0	-13.9
8232.750	V	53.1		6.5	38.6	-39.5	58.7	859.3	5000.0	-15.3
9147.500	H	48.9	Ambient	6.6	39.8	-39.0	56.3	649.5	5000.0	-17.7
9147.500	V	48.1	Ambient	6.6	39.8	-39.0	55.5	592.3	5000.0	-18.5

Checked By: MARK E. LONGINOTTI

Mark Longinotti

MANUFACTURER : The Chamberlain Group
MODEL : 001D7675 AC Unit
SERIAL NO. : None Assigned
SPECIFICATION : FCC 15.247 and RSS-210
DATE : December 13, 2011
MODE : Tx at 914.75 MHz

Freq (MHz)	Ant Pol	Meter Reading (dBuV)	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total dBuV/m at 3 M	Total uV/m at 3M	Limit uV/m at 3M	Margin (dB)
2744.3	H	72.6	3.7	29.6	-40.3	-37.7	27.8	24.6	500.0	-26.2
2744.3	V	68.6	3.7	29.6	-40.3	-37.7	23.8	15.5	500.0	-30.2
3659.0	H	59.8	4.3	32.2	-39.8	-37.7	18.9	8.8	500.0	-35.1
3659.0	V	54.1	4.3	32.2	-39.8	-37.7	13.2	4.6	500.0	-40.8
4573.8	H	71.4	4.8	33.1	-40.0	-37.7	31.6	38.2	500.0	-22.3
4573.8	V	62.3	4.8	33.1	-40.0	-37.7	22.5	13.4	500.0	-31.4
7318.0	H	50.0	6.2	37.3	-39.8	-37.7	16.0	6.3	500.0	-38.0
7318.0	V	49.8	6.2	37.3	-39.8	-37.7	15.8	6.2	500.0	-38.2
8232.8	H	54.5	6.5	38.6	-39.5	-37.7	22.4	13.2	500.0	-31.6
8232.8	V	53.1	6.5	38.6	-39.5	-37.7	21.0	11.2	500.0	-33.0
9147.5	H	48.9	6.6	39.8	-39.0	-37.7	18.6	8.5	500.0	-35.4
9147.5	V	48.1	6.6	39.8	-39.0	-37.7	17.8	7.7	500.0	-36.2

Checked By: MARK E. LONGINOTTI

Mark Longinotti

MANUFACTURER : The Chamberlain Group
MODEL : 001D7675 AC Unit
SERIAL NO. : None Assigned
SPECIFICATION : FCC 15.247 and RSS-210
DATE : December 13, 2011
MODE : Tx at 926.75 MHz

Freq (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Total dBuV/m at 3 M	Total uV/m at 3M	Limit uV/m at 30M	Margin (dB)
2780.250	H	73.1		3.7	29.6	-40.4	66.0	2004.5	5000.0	-7.9
2780.250	V	66.9		3.7	29.6	-40.4	59.8	981.8	5000.0	-14.1
3707.000	H	57.3		4.3	32.4	-39.6	54.4	527.5	5000.0	-19.5
3707.000	V	58.0		4.3	32.4	-39.6	55.1	571.7	5000.0	-18.8
4633.750	H	70.9		4.8	33.3	-40.0	69.0	2826.7	5000.0	-5.0
4633.750	V	61.2		4.8	33.3	-40.0	59.3	925.3	5000.0	-14.7
7414.000	H	52.4		6.2	37.4	-39.7	56.3	652.5	5000.0	-17.7
7414.000	V	51.7		6.2	37.4	-39.7	55.6	602.0	5000.0	-18.4
8340.750	H	52.0		6.5	38.7	-39.5	57.8	775.5	5000.0	-16.2
8340.750	V	52.6		6.5	38.7	-39.5	58.4	831.0	5000.0	-15.6

Checked By: MARK E. LONGINOTTI

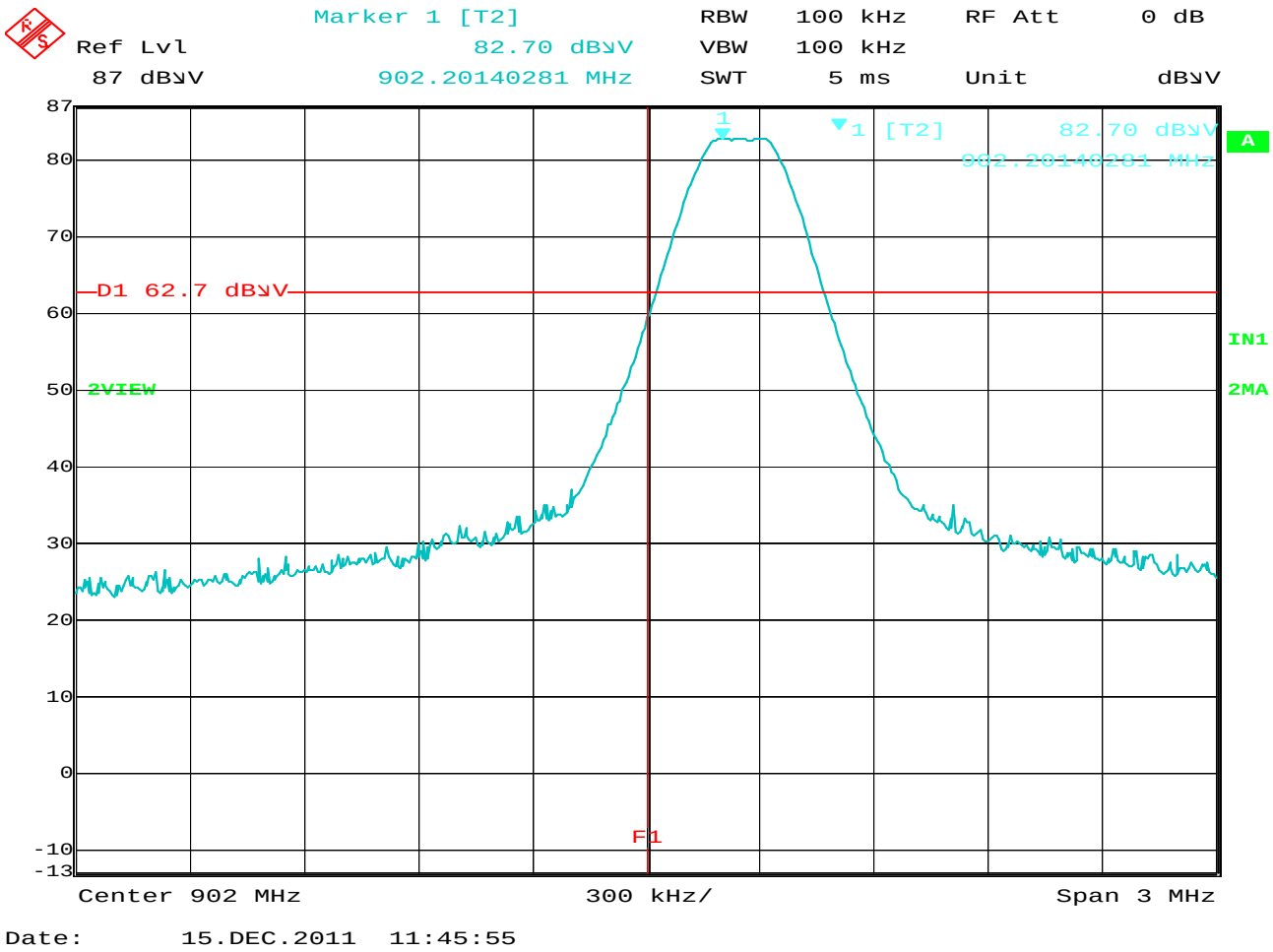
Mark Longinotti

MANUFACTURER : The Chamberlain Group
MODEL : 001D7675 AC Unit
SERIAL NO. : None Assigned
SPECIFICATION : FCC 15.247 and RSS-210
DATE : December 13, 2011
MODE : Tx at 926.75 MHz

Freq (MHz)	Ant Pol	Meter Reading (dBuV)	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total dBuV/m at 3 M	Total uV/m at 3M	Limit uV/m at 3M	Margin (dB)
2780.3	H	73.1	3.7	29.6	-40.4	-37.7	28.3	26.1	500.0	-25.6
2780.3	V	66.9	3.7	29.6	-40.4	-37.7	22.1	12.8	500.0	-31.8
3707.0	H	57.3	4.3	32.4	-39.6	-37.7	16.7	6.9	500.0	-37.2
3707.0	V	58.0	4.3	32.4	-39.6	-37.7	17.4	7.5	500.0	-36.5
4633.8	H	70.9	4.8	33.3	-40.0	-37.7	31.3	36.8	500.0	-22.7
4633.8	V	61.2	4.8	33.3	-40.0	-37.7	21.6	12.1	500.0	-32.4
7414.0	H	52.4	6.2	37.4	-39.7	-37.7	18.6	8.5	500.0	-35.4
7414.0	V	51.7	6.2	37.4	-39.7	-37.7	17.9	7.8	500.0	-36.1
8340.8	H	52.0	6.5	38.7	-39.5	-37.7	20.1	10.1	500.0	-33.9
8340.8	V	52.6	6.5	38.7	-39.5	-37.7	20.7	10.8	500.0	-33.3

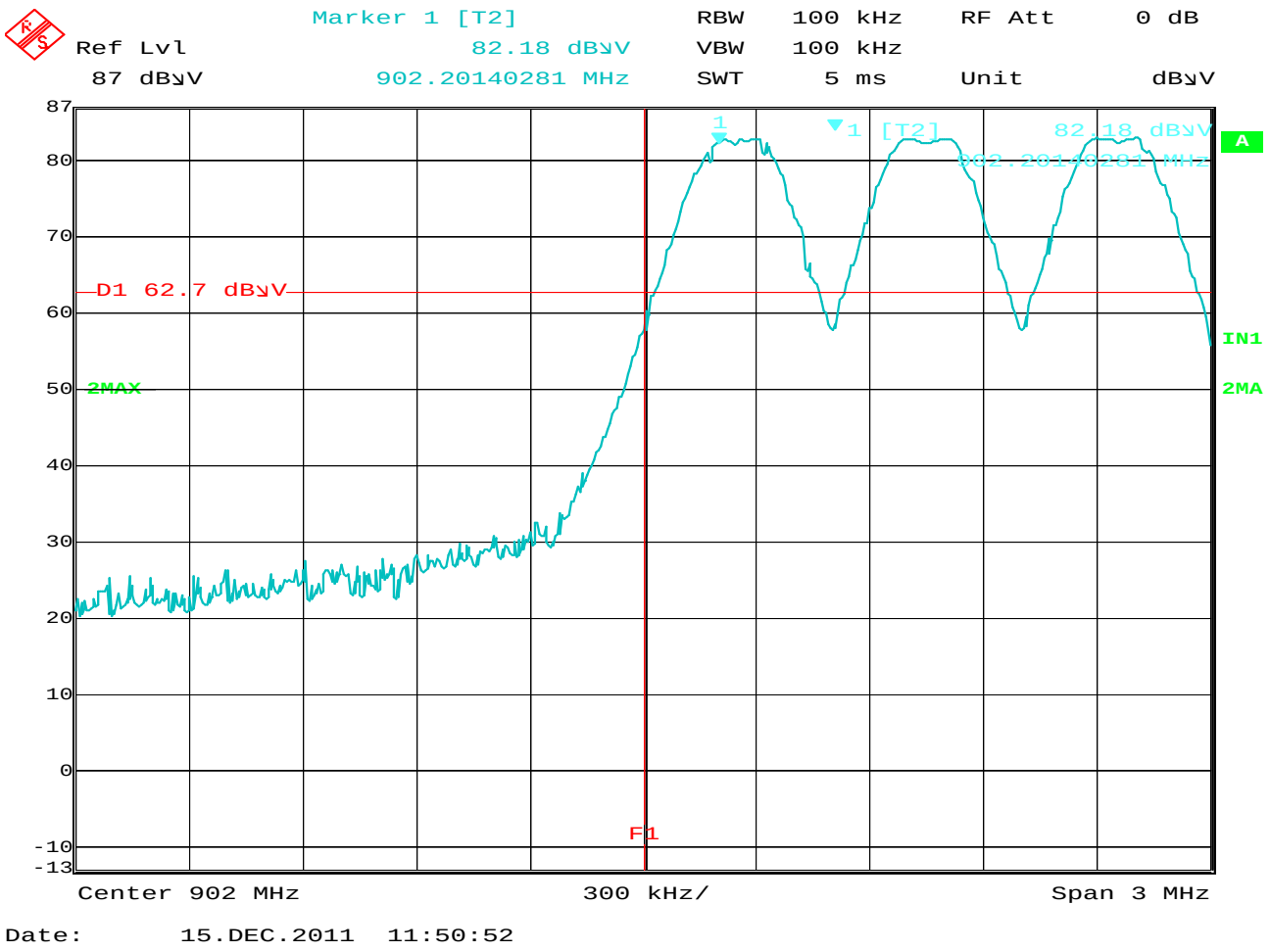
Checked By: MARK E. LONGINOTTI

Mark Longinotti



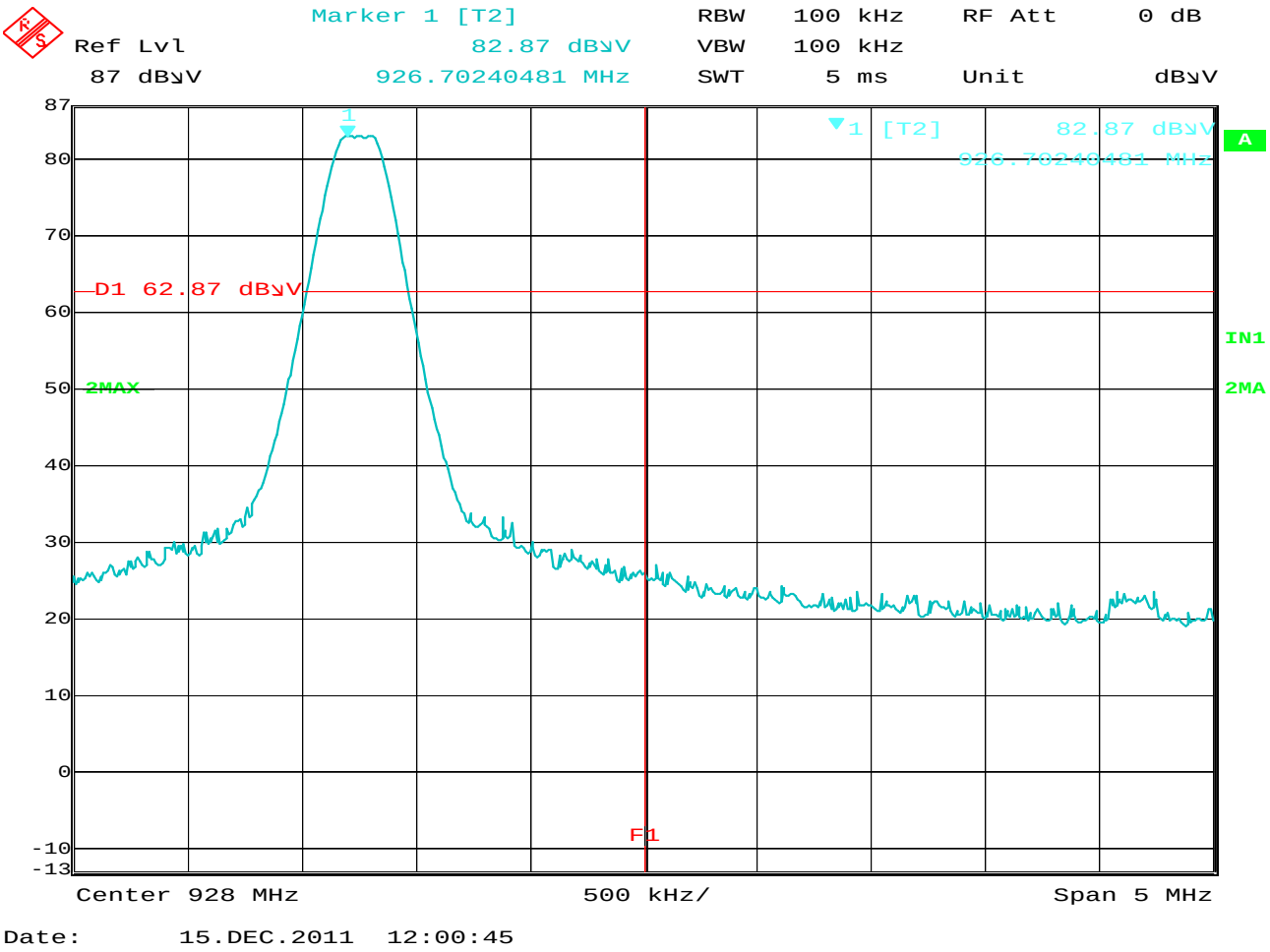
15.247(d) Band Edge Compliance

MANUFACTURER	:	The Chamberlain Group, Inc.
MODEL NUMBER	:	AC Unit, 001D7675
SERIAL NUMBER	:	None Assigned
TEST MODE	:	Tx @ 902.25MHz
TEST DATE	:	December 15, 2011
TEST PARAMETERS	:	Band Edge Compliance
NOTES	:	Display Line D1 represents the 20dB down point from the peak output power in a 100kHz bandwidth. Display line F1 represents the band edge (902MHz)
EQUIPMENT USED	:	RBB0, T2DH, T2S1



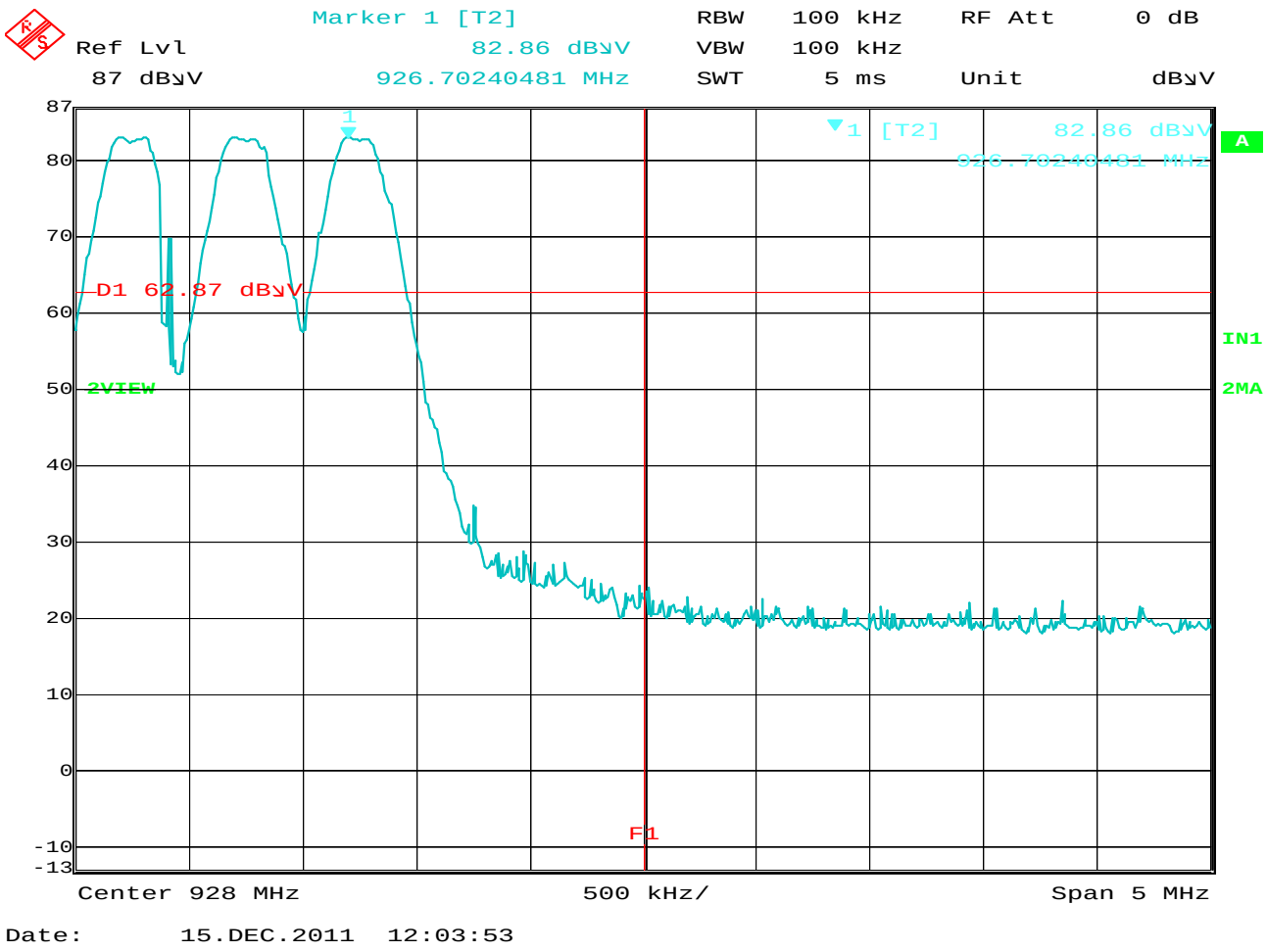
15.247(d) Band Edge Compliance

MANUFACTURER	:	The Chamberlain Group, Inc.
MODEL NUMBER	:	AC Unit, 001D7675
SERIAL NUMBER	:	None Assigned
TEST MODE	:	Hopping Enabled
TEST DATE	:	December 15, 2011
TEST PARAMETERS	:	Band Edge Compliance
NOTES	:	Display Line D1 represents the 20dB down point from the peak output power in a 100kHz bandwidth. Display line F1 represents the band edge (902MHz)
EQUIPMENT USED	:	RBB0, T2DH, T2S1



15.247(d) Band Edge Compliance

MANUFACTURER	:	The Chamberlain Group, Inc.
MODEL NUMBER	:	AC Unit, 001D7675
SERIAL NUMBER	:	None Assigned
TEST MODE	:	Tx @ 926.75MHz
TEST DATE	:	December 15, 2011
TEST PARAMETERS	:	Band Edge Compliance
NOTES	:	Display Line D1 represents the 20dB down point from the peak output power in a 100kHz bandwidth. Display line F1 represents the band edge (928MHz)
EQUIPMENT USED	:	RBB0, T2DH, T2S1



15.247(d) Band Edge Compliance

MANUFACTURER	:	The Chamberlain Group, Inc.
MODEL NUMBER	:	AC Unit, 001D7675
SERIAL NUMBER	:	None Assigned
TEST MODE	:	Hopping Enabled
TEST DATE	:	December 15, 2011
TEST PARAMETERS	:	Band Edge Compliance
NOTES	:	Display Line D1 represents the 20dB down point from the peak output power in a 100kHz bandwidth. Display line F1 represents the band edge (928MHz)
EQUIPMENT USED	:	RBB0, T2DH, T2S1