# Measurement of RF Emissions from a NTN2574A Mission Critical Wireless Earpiece Transceiver

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|---|---|
| For | Motorola, Inc.<br>1301 E. Algonquin Road<br>Schaumburg, IL 60196 |
| P.O. Number | NP5174521 and NP5181731 |
| Date Tested | July 21, 2010 through August 16, 2010 |
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| Test 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 Operating within the band 2400-2483.5MHz<br>FCC "Code of Federal Regulations" Title 47, Part 15, Subpart B, Sections 15.107 and 15.109 for Receivers<br>Industry Canada RSS-GEN<br>Industry Canada RSS-210 |
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## REVISION HISTORY

| Revision | Date | Description |
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| — | August 26, 2010 | Initial release |
| | | |

# Measurement of RF Emissions from a Mission Critical Wireless Earpiece, Model No. NTN2574A Transceiver

## 1 INTRODUCTION

### 1.1 Scope of Tests

This report represents the results of the series of radio interference measurements performed on a Motorola, Inc. Mission Critical Wireless Earpiece, Model No. NTN2574A, Serial No. 6088, transceiver (hereinafter referred to as the test item). The test item is a Bluetooth hybrid frequency hopping spread spectrum transceiver. The transmitter was designed to transmit and receive in the 2400-2483.5 MHz band using an internal antenna. The test item was manufactured and submitted for testing by Motorola, Inc. located in Schaumburg, IL.

### 1.2 Purpose

The test series was performed to determine if the test item 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 2400-2483.5 MHz band.

The test series was also performed to determine if the test item 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 C63.4-2003.

### 1.3 Deviations, Additions and Exclusions

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

### 1.4 EMC Laboratory Identification

This series of tests was performed by Elite Electronic Engineering Incorporated of Downers Grove, Illinois. The laboratory is accredited by The American Association for Laboratory Accreditation (A2LA). A2LA Certificate Number: 1786.01.

### 1.5 Laboratory Conditions

The temperature at the time of the test was 23°C and the relative humidity was 61%.

## 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 2009
- ANSI C63.4-2003, "American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz"
- FCC Public Notice, DA 00-705, "Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems", Released March 30, 2000
- Industry Canada Radio Standards Specification, RSS-Gen, “General Requirements and Information for the Certification of Radiocommunication Equipment”, Issue 2, June 2007

- Industry Canada Radio Standards Specification, RSS-210, “Low-power License-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment”, Issue 7, June 2007

# 3 EUT SETUP AND OPERATION

## 3.1 General Description

The EUT is a Motorola, Inc., Mission Critical Wireless Earpiece, Model No. NTN2574A. It can transmit and receive while the internal battery is being charged. The battery is charged via the USB port of the EUT. The EUT could be used as a standalone device or with one of two accessories. Therefore the EUT could be configured in one of the following:

- NTN2572A headset with battery charging using a Motorola AC Power Supply
- NTN2572A headset
- NTN2575A headset with battery charging using a Motorola AC Power Supply
- NTN2575A headset
- Battery charging using a Motorola AC Power Supply, No headset
- No headset

A block diagram of the EUT setup is shown as Figure 1.

### 3.1.1 Power Input

The EUT obtained 3VDC from an internal lithium polymer battery. The EUT can transmit and receive while the battery is being charged. The battery is charged via the USB port of the EUT. For testing purposes, battery charging mode was accomplished by connecting the 5VDC output of a Motorola AC Power Supply, M/N: DCH3-050US-0303 to the USB port of the EUT. The Motorola AC Power Supply was connected to the EUT via a 2 wire 1.8 meter long cable. The Motorola AC Power Supply was powered with 115V, 60Hz.

### 3.1.2 Peripheral Equipment

The following peripheral equipment was submitted with the EUT:

| Item | Description |
|---|---|
| NTN2572A | Headset |
| NTN2575A | Headset |

### 3.1.3 Signal Input/Output Leads

No interconnect cables were submitted with the EUT for testing.

### 3.1.4 Grounding

The EUT was ungrounded during the tests.

## 3.2 Operational Mode

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

- Transmit at 2402 MHz
- Transmit at 2441 MHz
- Transmit at 2480 MHz
- Receive at 2441 MHz
- Frequency Hopping Enabled
- Inquiry Mode

### 3.3 EUT Modifications

No modifications were required for compliance.

## 4 TEST FACILITY AND TEST INSTRUMENTATION

### 4.1 Shielded Enclosure

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

### 4.2 Test Instrumentation

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

### 4.3 Calibration Traceability

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

### 4.4 Measurement Uncertainty

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

The measurement uncertainty for these tests is presented below:

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

| Radiated Emissions 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, Section 15.101(b), receivers operating above 960MHz are exempt from complying with the technical provisions of part 15.

Per 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 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 test item 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 Receive at 2441MHz mode, with NTN2572A headset.

b) Measurements were first made on the 115V, 60Hz high line of the Motorola AC Power Supply.

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 of the Motorola AC Power Supply.

h) Steps (b) through (g) were repeated with the EUT operated in the Receive at 2441MHz mode, with NTN2575A headset.

i) Steps (b) through (g) were repeated with the EUT operated in the Receive at 2441MHz mode, with no headset.

#### 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 Receive at 2441MHz with NTN2572A headset mode are shown on pages 30 and 32. The tabular quasi-peak and average results from each input power line with the EUT operated in the Receive at 2441MHz with NTN2572A mode are shown on pages 29 and 31. All power line conducted emissions measured from the EUT were within the specification limits. The emissions level closest to the limit (worst case) occurred at 590kHz. The emissions level at this frequency was 25.1dB within the limit. Photographs of the test configuration which yielded the highest or worst case, conducted emission levels are shown on Figure 4.

The plots of the peak, quasi-peak, and average conducted voltage levels acquired from each input power line with the EUT operated in the Receive at 2441MHz with NTN2575A headset mode are shown on pages 34 and 36. The tabular quasi-peak and average results from each input power line with the EUT operated in the Receive at 2441MHz with NTN2575A mode are shown on pages 33 and 35. All power line conducted emissions measured from the EUT were within the specification limits. The emissions level closest to the limit (worst case) occurred at 590kHz. The emissions level at this frequency was 25.2dB within the limit. Photographs of the test configuration which yielded the highest or worst case, conducted emission levels are shown on Figure 4.

The plots of the peak, quasi-peak, and average conducted voltage levels acquired from each input power line with the EUT operated in the Receive at 2441MHz with no headset mode are shown on pages 38 and 40. The tabular quasi-peak and average results from each input power line with the EUT operated in the Receive at 2441MHz with NTN2572A mode are shown on pages 37 and 39. All power line conducted emissions measured from the EUT were within the specification limits. The emissions level closest to the limit (worst case) occurred at 551kHz. The emissions level at this frequency was 25.7dB within the limit. Photographs of the test configuration which yielded the highest or worst case, conducted emission levels are shown on Figure 4.

### 5.1.2 Radiated Measurements

#### 5.1.2.1 Requirements

Per the FCC "Code of Federal Regulations" Title 47, Part 15, Subpart B, Section 15.101(b), receivers operating above 960MHz are exempt from complying with the technical provisions of part 15.

Per 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 Test Item 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

Per the FCC "Code of Federal Regulations" Title 47, Part 15, Subpart B, Section 15.101(b), receivers operating above 960MHz are exempt from complying with the technical provisions of part 15.

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

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

C63.4-2003 for site attenuation.

The shielded enclosure prevents emissions from other sources, such as radio and TV stations from interfering with the measurements. All powerlines and signal lines entering the enclosure pass through filters on the enclosure wall. The powerline filters prevent extraneous signals from entering the enclosure on these leads.

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 test item 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.

Preliminary radiated emissions tests were performed to determine the emission characteristics of the test item. For the preliminary test, a broadband measuring antenna was positioned at a 3 meter distance from the test item. The entire frequency range from 30MHz to 7.5GHz was investigated using a peak detector function.

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 test item 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 test item 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 41 through 64. The plots are presented for a reference only, and are not used to determine compliance. The final radiated levels are presented on page 65 through 70. As can be seen from the data, all emissions measured from the test item were within the specification limits. The emissions level closet to the limit (worst case) occurred at 2442.5MHz. The emissions level at this frequency was 17.3dB within the limit. Photographs of the test configuration which yielded the highest or worst case, radiated emission levels are shown on Figure 5 and Figure 6.

## 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 test item 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 Transmit at 2441MHz mode with NTN2572A headset.

b) Measurements were first made on the 115V, 60Hz high line of the Motorola AC Power Supply.

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 of the Motorola AC Power Supply.

h) Steps (b) through (g) were repeated with the EUT operated in the Transmit at 2441MHz mode with NTN2575A headset.

i) Steps (b) through (g) were repeated with the EUT operated in the Transmit at 2441MHz mode with no headset.

#### 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 Transmit at 2441MHz mode with the NTN2572A headset are shown on pages 72 and 74. The tabular quasi-peak and average results from each input power line with the EUT operated in the Transmit at 2441MHz mode with the NTN2572A headset are shown on pages 71 and 73. All power line conducted emissions measured from the EUT were within the specification limits. The emissions level closest to the limit (worst case) occurred at 279kHz. The emissions level at this frequency was 26.7dB within the limit. Photographs of the test configuration which yielded the highest or worst case, conducted emission levels are

shown on Figure 4.

The plots of the peak, quasi-peak, and average conducted voltage levels acquired from each input power line with the EUT operated in the Transmit at 2441MHz mode with the NTN2575A headset are shown on pages 76 through 78. The tabular quasi-peak and average results from each input power line with the EUT operated in the Transmit at 2441MHz mode with the NTN2575A headset are shown on pages 75 through 77. All power line conducted emissions measured from the EUT were within the specification limits. The emissions level closest to the limit (worst case) occurred at 293kHz. The emissions level at this frequency was 26.4dB within the limit. Photographs of the test configuration which yielded the highest or worst case, conducted emission levels are shown on Figure 4.

The plots of the peak, quasi-peak, and average conducted voltage levels acquired from each input power line with the EUT operated in the Transmit at 2441MHz mode with no headset are shown on pages 80 and 82. The tabular quasi-peak and average results from each input power line with the EUT operated in the Transmit at 2441MHz mode with no headset are shown on pages 79 and 81. All power line conducted emissions measured from the EUT were within the specification limits. The emissions level closest to the limit (worst case) occurred at 288kHz. The emissions level at this frequency was 27.8dB within the limit. Photographs of the test configuration which yielded the highest or worst case, conducted emission levels are shown on Figure 4.

### 5.2.2 20dB Bandwidth

#### 5.2.2.1 Requirement

Per section 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. Alternatively, frequency hopping systems operating in the 2400-2483.5MHz band may have hopping channel carrier frequencies that are separated by 25kHz or two-thirds of the 20dB bandwidth of the hopping channel, whichever is greater, provided the systems operate within an output power no greater than 125mW.

#### 5.2.2.2 Procedures

The test item was setup inside the chamber. With the hopping function disabled, the test item 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 > 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 83 through 85 show that the maximum 20 dB bandwidth was 973.9kHz. The 99% bandwidth was measured to be 853.7kHz.

### 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.

Per section 15.247(a)(1), alternatively, frequency hopping systems operating in the 2400-2483.5MHz band may have hopping channel carrier frequencies that are separated by 25kHz or two-thirds of the 20dB bandwidth of the hopping channel, whichever is greater, provided the systems operate within an output power no greater than 125mW.

#### 5.2.3.2 Procedures

The test item was setup inside the chamber. With the hopping function enabled, the test item 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 86 shows the carrier frequency separation. As can be seen from this plot, the carrier frequency separation is 1MHz which is greater than the 20dB bandwidth of the hopping channel (973.9kHz).

### 5.2.4 Number of Hopping Frequencies

#### 5.2.4.1 Requirements

Per section 15.247(a)(1)(iii), frequency hopping systems operating in the 2400-2483.5MHz band that employ at least 15 hopping channels must have a maximum peak conducted output power that does not exceed 0.125W (21dBm).

Per 15.247(b)(1), frequency hopping systems operating in the 2400- 2483.5MHz band that employ at least 75 non-overlapping hopping channels must have a maximum peak conducted output power that does not exceed 1W (30dBm).

#### 5.2.4.2 Procedures

The test item was setup inside the chamber. With the hopping function enabled, the test item 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 test item’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 87 shows the number of hopping frequencies. As can be seen from this plot, the number of hopping frequencies is 79 which is greater than 75 which is the minimum number of required hopping frequencies for systems operating in the 2400-2483.5MHz band that have a maximum peak conducted output power that does not exceed 1W (30dBm).

### 5.2.5 Time of Occupancy

#### 5.2.5.1 Requirements

Per section 15.247(a)(1)(iii), for frequency hopping systems operating in the 2400-2483.5MHz band, the average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

#### 5.2.5.2 Procedures

The test item was setup inside the chamber. With the hopping function enabled, the test item 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 0.4 seconds multiplied by the number of hopping channels employed 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 88 and 89 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 400usec/hop multiplied by 324 hops. This calculated value is equal to 129.6msec 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)(1), for frequency hopping systems operating in the 2400-2483.5MHz band and employing at least 75 non-overlapping 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 test item was placed on the non-conductive stand and set to transmit. A double ridged waveguide antenna was placed at a test distance of 3 meters from the test item. 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 test item 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 double ridged waveguide antenna was then set in place of the test item and connected to a calibrated signal generator. The output of the signal generator was adjusted to match the received level at the spectrum analyzer. The signal level was recorded. The reading was then corrected to compensate for cable loss and antenna gain, 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 pages 90 and 91. The maximum EIRP measured from the transmitter was 12.9dBm or 19.5mW which is below the 4 Watt limit.

### 5.2.7 Radiated Spurious Emissions Measurements

#### 5.2.7.1 Requirements

Per section 15.247(d), in any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated emissions measurement. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must comply with the radiated emission limits specified in §15.209(a).

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

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

5.2.7.2 Procedures

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

The shielded enclosure prevents emissions from other sources, such as radio and TV stations from interfering with the measurements. All powerlines and signal lines entering the enclosure pass through filters on the enclosure wall. The powerline filters prevent extraneous signals from entering the enclosure on these leads.

Preliminary radiated emissions tests were performed to determine the emission characteristics of the test item. For the preliminary test, a broadband measuring antenna was positioned at a 3 meter distance from the test item. The entire frequency range from 30MHz to 25GHz was investigated using a peak detector function.

The final open field emission tests were then manually performed over the frequency range of 30MHz to 25GHz.

For all harmonics not in the restricted bands, the following procedure was used:

a) The field strength of the fundamental was measured using a double ridged waveguide antenna. The waveguide antenna was positioned at a 3 meter distance from the test item. A peak detector with a resolution bandwidth of 100 kHz was used on the spectrum analyzer.
b) The field strengths of all of the harmonics not in the restricted band were then measured using a double-ridged waveguide antenna. The waveguide antenna was positioned at a 3 meter distance from the test item. A peak detector with a resolution bandwidth of 100 kHz was used on the spectrum analyzer.
c) To ensure that maximum or worst case emission levels at the fundamental and harmonics were measured, the following steps were taken when measuring the fundamental emissions and the spurious emissions:
    i) The test item 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 test item was rotated through all axis to ensure the maximum readings were recorded for the test item.
d) All harmonics not in the restricted bands must be at least 20 dB below levels measured at the fundamental. However, attenuation below the general limits specified in §15.209(a) is not required.

2) 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 test item. 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 test item. 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 test item 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 test item was rotated through all axis to ensure the maximum readings were recorded for the test item.

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).

#### 5.2.7.3 Results

Preliminary radiated emissions plots with the test item transmitting at 2402MHz, 2441MHz, 2480MHz are shown on pages 92 through 235. Final radiated emissions data are presented on data pages 236 through 261. As can be seen from the data, all emissions measured from the test item were within the specification limits. The emissions level closet to the limit (worst case) occurred at 4960MHz. The emissions level at this frequency was 1.8dB within the limit. Photographs of the test configuration which yielded the highest, or worst case, radiated emission levels are shown on Figure 5 through Figure 7.

### 5.2.8 Band Edge Compliance

#### 5.2.8.1 Requirement

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.

In addition, the radiated emissions which fall in the restricted band beginning at 2483.5 MHz must meet the general limits of 15.209(a).

#### 5.2.8.2 Procedures

##### 5.2.8.2.1 Low Band Edge

1) The test item was setup inside the test chamber on a non-conductive stand.
2) A broadband measuring antenna was placed at a test distance of 3 meters from the test item.

3) The test item was set to transmit continuously at the channel closest to the low band-edge (hopping function disabled).
4) The test item was maximized for worst case emissions at the measuring antenna. The maximum meter reading was recorded.
5) To determine the bandedge 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.

6) Step 5) was repeated with the frequency hopping function enabled.

#### 5.2.8.2.2 High Band Edge

1) The test item was set to transmit continuously at the channel closest to the high band-edge (hopping function disabled).
2) A double ridged waveguide was placed 3 meters away from the test item. The antenna was connected to the input of a spectrum analyzer.
3) The center frequency of the analyzer was set to the high band edge (2483.5MHz)
4) The resolution bandwidth was set to 1MHz.
5) To ensure that the maximum or worst case emission level was measured, the following steps were taken:

    a. The test item 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.

6) The highest measured peak reading was recorded.
7) The highest measured average reading was recorded.
8) Steps 1 through 7 were repeated with the hopping enabled.

### 5.2.8.3 Results

Pages 262 through 273 show the radiated band-edge results at the low frequency band-edge. Pages 274 through 275 show the radiated band-edge results at the high frequency band-edge. As can be seen from these plots, the radiated emissions at the low frequency band edge are within the 20 dB down limits. The radiated emissions at the high frequency band edge are within the general limits.

## 5.2.9 Power Spectral Density

### 5.2.9.1 Requirements

Per section 15.247(d), the peak power spectral density from the intentional radiator shall not be greater than 8

dBm in any 3 kHz band during any time interval of continuous transmission.

#### 5.2.9.2 Procedures

1) The test item was placed on the non-conductive stand and set to transmit at a mid channel.
2) A broadband measuring antenna was placed near the test item.
3) To determine the power spectral density, the following spectrum analyzer settings were used for Channel 1:
    a. Center frequency = transmit frequency
    b. Span = 1MHz
    c. Resolution bandwidth (RBW) greater than the 6dB bandwidth.
    d. Sweep time = auto
    e. The peak detector and 'Max-Hold' function was engaged. The analyzer was allowed to scan until the envelope of the transmitter bandwidth was defined.
    f. Channel 1 of the spectrum analyzer was placed in 'View' mode.
4) This reading corresponds to the peak output power measured for the mid channel.
5) Turn on the display line and place it at the corresponding +8dBm level. (e.g. if the peak output power is +18dBm then the +8dBm level will be 10dB down from the radiated level and if the peak output power is +6dBm then the +8dBm level will be 2dB above the radiated level.)
6) The test item was then placed in the inquiry mode.
7) To determine the power spectral density, the following spectrum analyzer settings were used for Channel 2:
    a. Center frequency = transmit frequency
    b. Span = 1MHz
    c. Resolution bandwidth (RBW) = 3kHz
    d. Sweep time = span divided by RBW = ( for example :1MHz/3kHz = 333 seconds)
    e. The peak detector and 'Max-Hold' function was engaged.
    f. The display line represents the 8 dBm limit
    g. The analyzer's display was plotted using a 'screen dump' utility.

#### 5.2.9.3 Results

Page 276 through 278 shows the power spectral density results. As can be seen from this plot, the peak power density is less than 8dBm in a 3kHz band during any time interval of continuous transmission.

# 6 OTHER TEST CONDITIONS

## 6.1 Test Personnel and Witnesses

Qualified personnel from Elite Electronic Engineering Incorporated performed all tests. The test series was partially witnessed by Motorola, Inc. personnel.

## 6.2 Disposition of the EUT

The EUT and all associated equipment were returned to Motorola, Inc. upon completion of the tests.

# 7 CONCLUSIONS

It was determined that the Motorola, Inc. Mission Critical Wireless Earpiece Transceiver, Model No. NTN2574A, Serial No. 6088, 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 15.249 for Intentional Radiators Operating within the 2400-2483.5 MHz band when tested per ANSI C63-4:2003.

It was also determined that the Motorola, Inc. Mission Critical Wireless Earpiece Transceiver, Model No. NTN2574A, Serial No. 6088, 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 C63-4-2003.

## 8 CERTIFICATION

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

The data presented in this test report pertains to the EUT at the test. Any electrical or mechanical modification made to the EUT subsequent to the specified test date will serve to invalidate the data and void this certification.

This report must not be used to claim product 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 |
|---|---|---|---|---|---|---|---|
| APW0 | PREAMPLIFIER | PLANAR ELECTRONICS | PE2-30-20G20R6G | PL2926/0646 | 20GHZ-26.5GHZ | 7/28/2009 | 8/28/2010 |
| APW2 | PREAMPLIFIER | PLANAR ELECTRONICS | PE2-35-120-5R0-10 | PL2925 | 1GHZ-20GHZ | 7/28/2009 | 8/28/2010 |
| CDS2 | COMPUTER | GATEWAY | MFATXPNT NMZ 500L | 0028483108 | 1.8GHZ | N/A | |
| CDW4 | DESKTOP COMPUTER | ELITE | PENTIUM 4 | 005 | 3.8GHZ | N/A | |
| CMA1 | Controllers | EMCO | 2090 | 9701-1213 | --- | N/A | |
| GRE0 | SIGNAL GENERATOR | AGILENT TECHNOLOGIES | E4438C | MY42083127 | 250KHZ-6GHZ | 2/16/2010 | 2/16/2011 |
| NHG0 | STANDARD GAIN HORN ANTENNA | NARDA | 638 | --- | 18-26.5GHZ | NOTE 1 | |
| NTA2 | BILOG ANTENNA | TESEQ | 6112D | 28040 | 25-1000MHz | 6/7/2010 | 6/7/2011 |
| NWH0 | RIDGED WAVE GUIDE | TENSOR | 4105 | 2081 | 1-12.4GHZ | 8/11/2009 | 9/11/2010 |
| NWQ1 | DOUBLE RIDGED WAVEGUIDE ANTENNA | ETS-LINDGREN | 3117 | 66655 | 1GHZ-18GHZ | 12/5/2009 | 12/5/2010 |
| PLL2 | 50UH LISN 462D | ELITE ELECTRONIC ENG | 462D/70A | 003 | 0.01-400MHZ | 1/12/2010 | 1/12/2011 |
| PLLI | 50UH LISN 462D - FL | ELITE ELECTRONIC ENG | 462D/70A | 019 | 0.01-400MHZ | 12/9/2009 | 12/9/2010 |
| RBB0 | EMI TEST RECEIVER 20HZ TO 40 GHZ. | ROHDE & SCHWARZ | ESIB40 | 100250 | 20 HZ TO 40GHZ | 3/16/2010 | 3/16/2011 |
| RBD0 | EMI TEST RECIEVER | ROHDE & SCHWARZ | ESU40 | 100010 | 20Hz-40GHz | 3/11/2010 | 3/11/2011 |
| SES1 | 24VDC POWER SUPPLY | P TRANS | FS-32024-1M | 002 | 18-27VDC | NOTE 1 | |
| T1N3 | 10DB 20W ATTENUATOR | NARDA | 766-10 | --- | DC-4GHZ | 8/9/2010 | 8/9/2011 |
| XLJ1 | 5W, 50 OHM TERMINATION | JFW INDUSTRIES | 50T-052 | 2 | DC-2GHZ | 8/11/2010 | 8/11/2011 |
| XLQJ | 5W, 50 OHM TERMINATION | JFW INDUSTRIES | 50T-052 | 56 | DC-2GHZ | 8/11/2010 | 8/11/2011 |
| XOB1 | ADAPTER | HEWLETT PACKARD | K281C | 10422 | 18-26.5GHZ | NOTE 1 | |

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

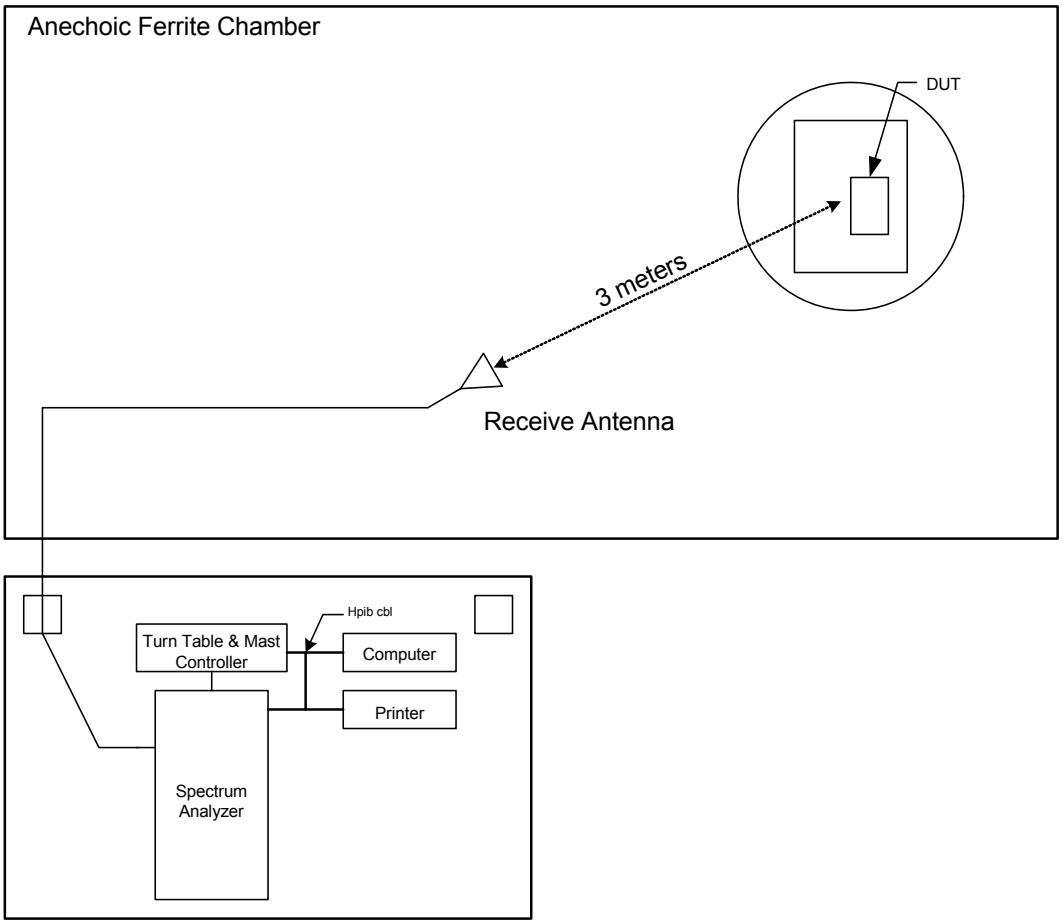



FIGURE 1 BLOCKDIAGRAM OF TEST SETUP

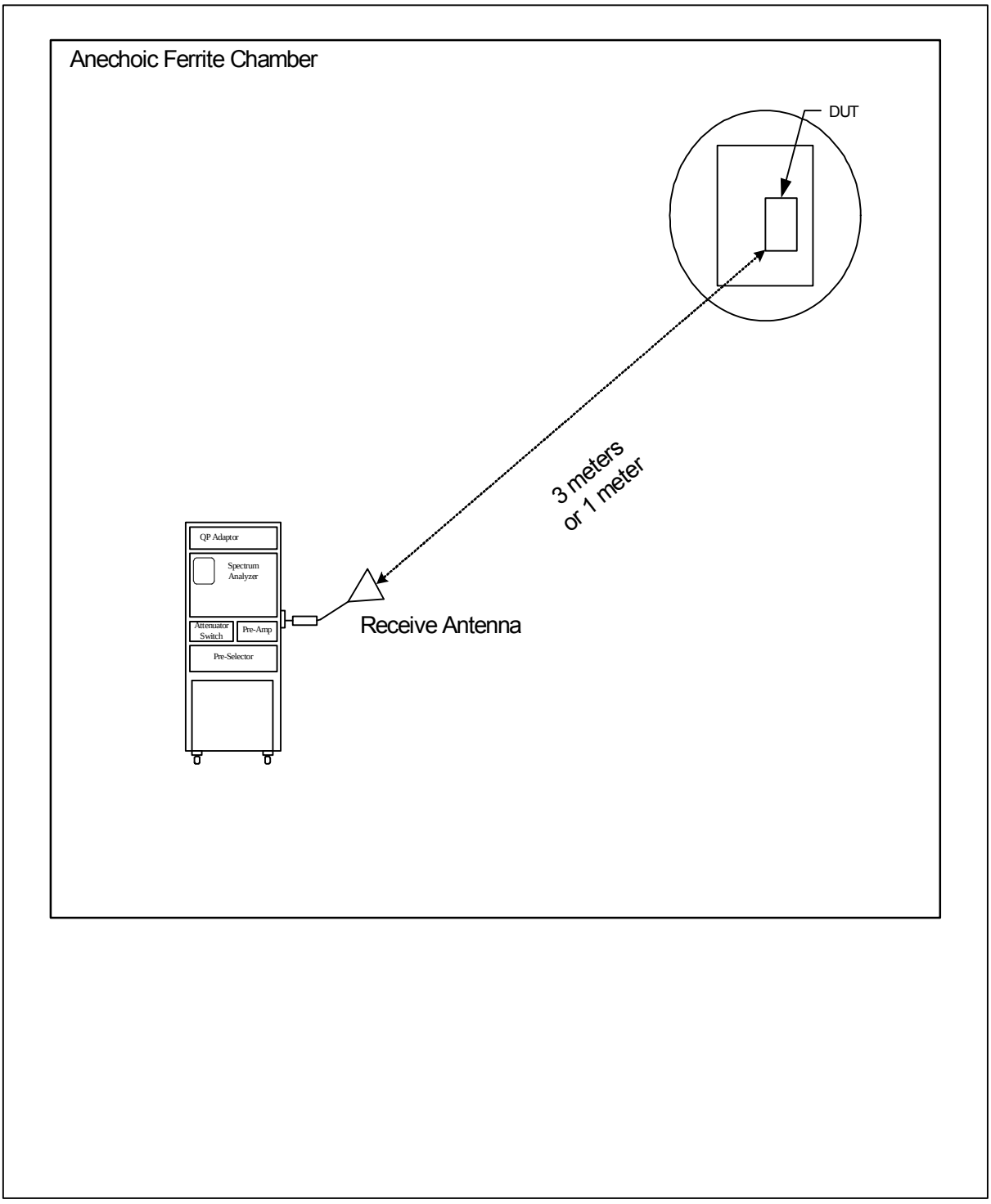

Anechoic Ferrite Chamber
DUT
3 meters
or 1 meter
QP Adaptor
Spectrum
Analyzer
Attenuator
Switch
Pre-Amp
Pre-Selector
Receive Antenna

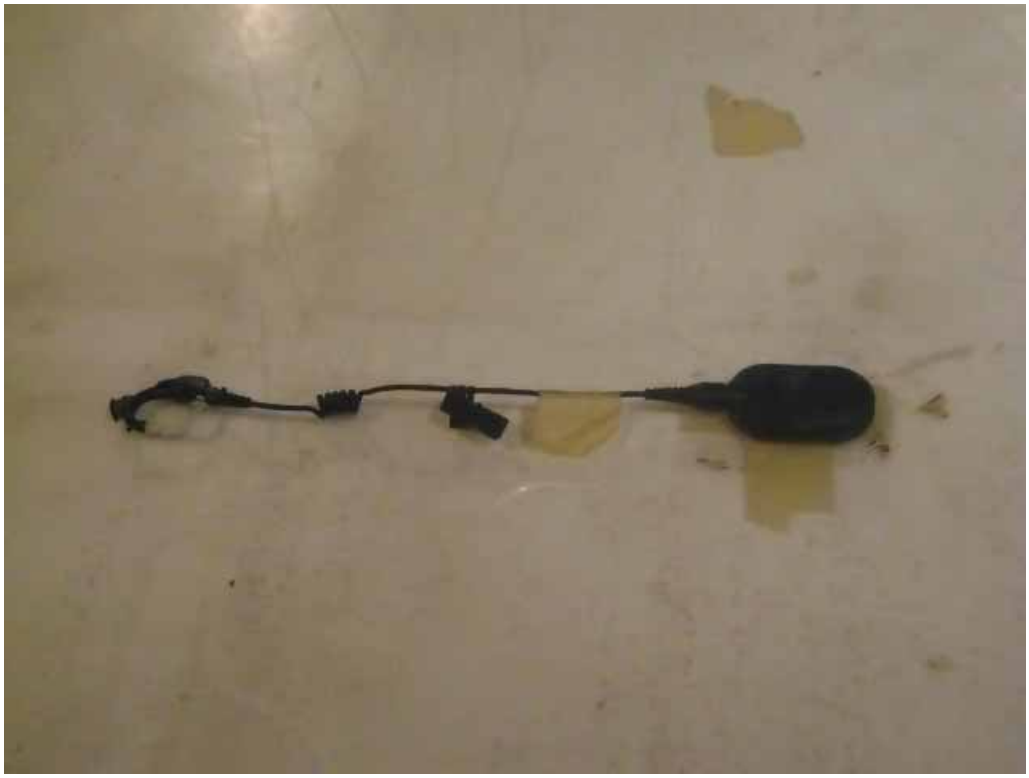
Figure 2

EUT With No Headset

EUT With Motorola AC Power Supply, No Headset

Figure 3

EUT With NTN2572A Headset



EUT With NTN2575A Headset

Figure 4

Test Setup for Conducted Emissions

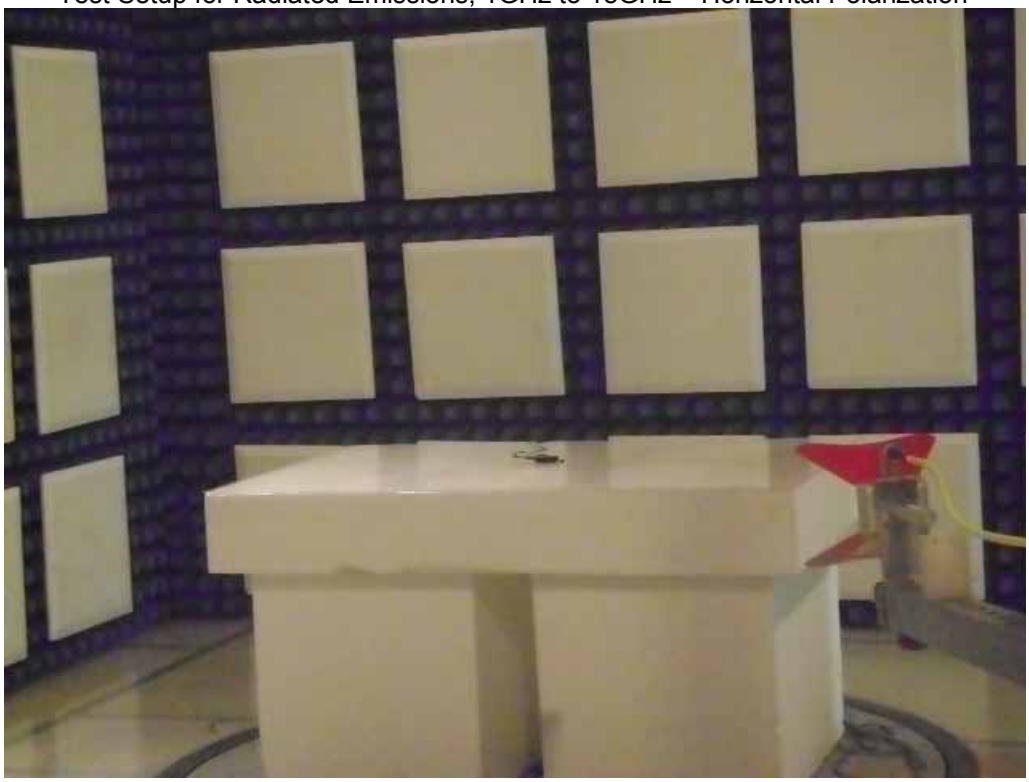
Figure 5

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

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

Figure 6

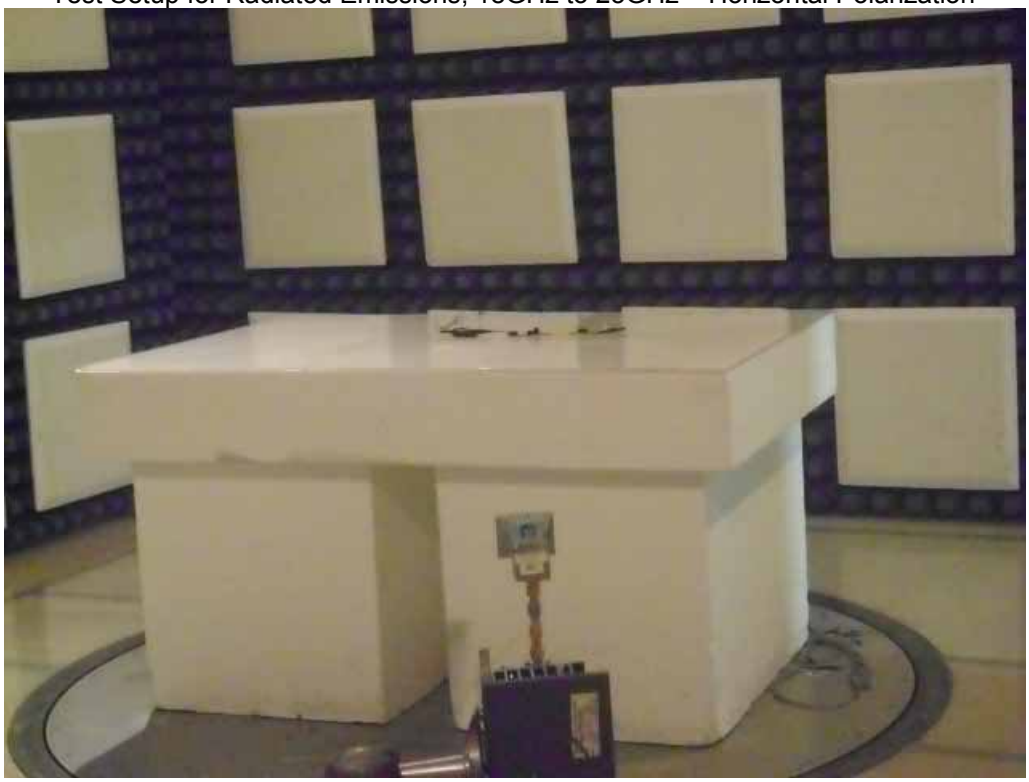
Test Setup for Radiated Emissions, 1GHz to 18GHz – Horizontal Polarization



Test Setup for Radiated Emissions, 1GHz to 18GHz – Vertical Polarization

Figure 7

Test Setup for Radiated Emissions, 18GHz to 25GHz – Horizontal Polarization



Test Setup for Radiated Emissions, 18GHz to 25GHz – Vertical Polarization

# FCC Part 15 Subpart B Conducted Emissions Test

## Significant Emissions Data

VB** 04/12/2010

| | | |
|---|---|---|
| Manufacturer | : | MOTOROLA INC. |
| Model | : | NTN2574A |
| DUT Revision | : | 1.2 |
| Serial Number | : | 6088 |
| DUT Mode | : | Rx @ 2441MHz |
| Line Tested | : | L1 |
| Scan Step Time [ms] | : | 30 |
| Meas. Threshold [dB] | : | -10 |
| Notes | : | HEADSET NTN2572A |
| Test Engineer | : | R. King |
| Limit | : | Class B |
| Test Date | : | Aug 16, 2010 03:21:06 PM |
| Data Filter | : | Up to 80 maximum levels detected with 6 dB level excursion threshold over 10 dB margin below limit |

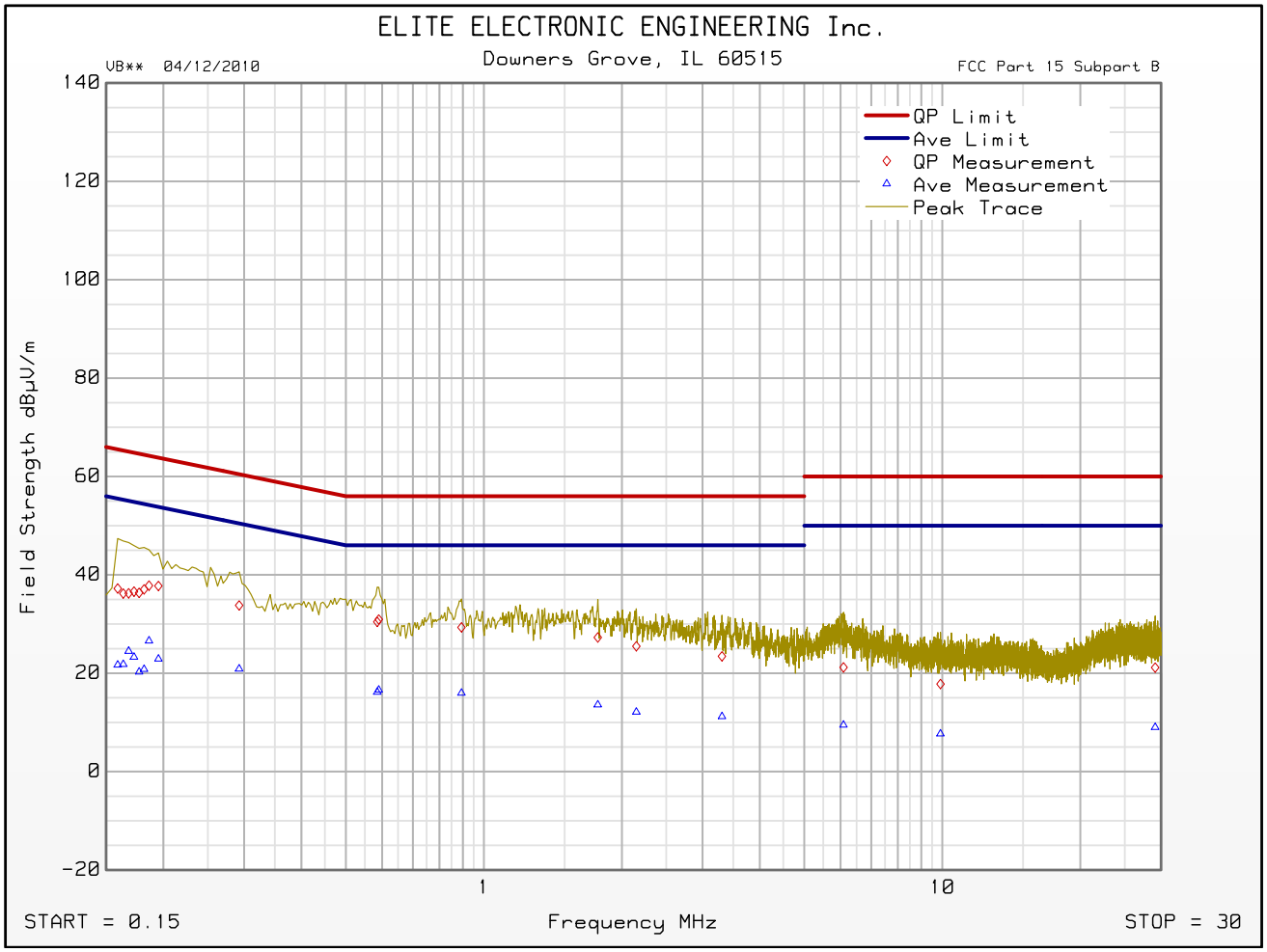
| Freq MHz | Quasi-peak Level dBµV/m | Quasi-peak Limit dBµV/m | Excessive Quasi-peak Emissions | Average Level dBµV/m | Average Limit dBµV/m | Excessive Average Emissions |
|---|---|---|---|---|---|---|
| 0.186 | 37.8 | 64.2 | | 26.6 | 54.2 | |
| 0.293 | 33.8 | 60.5 | | 20.9 | 50.5 | |
| 0.590 | 30.9 | 56.0 | | 16.6 | 46.0 | |
| 0.894 | 29.3 | 56.0 | | 16.0 | 46.0 | |
| 1.772 | 27.3 | 56.0 | | 13.6 | 46.0 | |
| 2.151 | 25.5 | 56.0 | | 12.1 | 46.0 | |
| 3.307 | 23.4 | 56.0 | | 11.2 | 46.0 | |
| 6.089 | 21.2 | 60.0 | | 9.5 | 50.0 | |
| 9.909 | 17.8 | 60.0 | | 7.7 | 50.0 | |
| 29.125 | 21.1 | 60.0 | | 9.0 | 50.0 | |

# FCC Part 15 Subpart B Conducted Emissions Test

**Cumulative Data**

VB** 04/12/2010

| | | |
|---|---|---|
| Manufacturer | : | MOTOROLA INC. |
| Model | : | NTN2574A |
| DUT Revision | : | 1.2 |
| Serial Number | : | 6088 |
| DUT Mode | : | Rx @ 2441MHz |
| Line Tested | : | L1 |
| Scan Step Time [ms] | : | 30 |
| Meas. Threshold [dB] | : | -10 |
| Notes | : | HEADSET NTN2572A |
| Test Engineer | : | R. King |
| Limit | : | Class B |
| Test Date | : | Aug 16, 2010 03:21:06 PM |




Emissions Meet QP Limit
Emissions Meet Ave Limit

# FCC Part 15 Subpart B Conducted Emissions Test

## Significant Emissions Data

VB** 04/12/2010

| | | |
|---|---|---|
| Manufacturer | : | MOTOROLA INC. |
| Model | : | NTN2574A |
| DUT Revision | : | 1.2 |
| Serial Number | : | 6088 |
| DUT Mode | : | Rx @ 2441MHz |
| Line Tested | : | L2 |
| Scan Step Time [ms] | : | 30 |
| Meas. Threshold [dB] | : | -10 |
| Notes | : | HEADSET NTN2572A |
| Test Engineer | : | R. King |
| Limit | : | Class B |
| Test Date | : | Aug 16, 2010 03:28:47 PM |
| Data Filter | : | Up to 80 maximum levels detected with 6 dB level excursion threshold over 10 dB margin below limit |

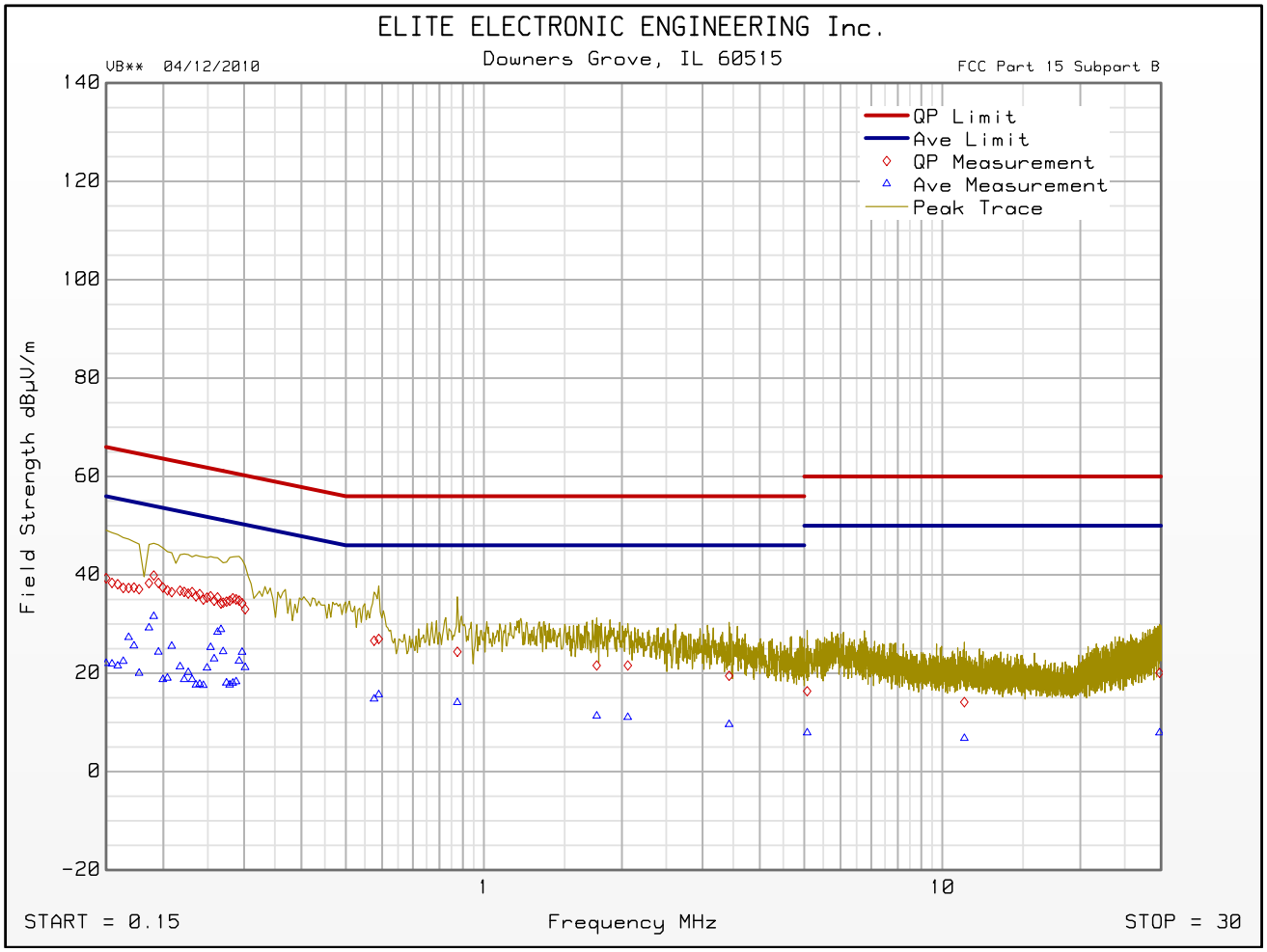
| Freq MHz | Quasi-peak Level dBµV/m | Quasi-peak Limit dBµV/m | Excessive Quasi-peak Emissions | Average Level dBµV/m | Average Limit dBµV/m | Excessive Average Emissions |
|---|---|---|---|---|---|---|
| 0.267 | 34.2 | 61.2 | | 28.9 | 51.2 | |
| 0.297 | 34.2 | 60.3 | | 24.3 | 50.3 | |
| 0.590 | 27.0 | 56.0 | | 15.7 | 46.0 | |
| 0.876 | 24.4 | 56.0 | | 14.1 | 46.0 | |
| 1.763 | 21.6 | 56.0 | | 11.3 | 46.0 | |
| 2.061 | 21.6 | 56.0 | | 11.1 | 46.0 | |
| 3.428 | 19.5 | 56.0 | | 9.6 | 46.0 | |
| 5.072 | 16.4 | 60.0 | | 7.9 | 50.0 | |
| 11.169 | 14.1 | 60.0 | | 6.8 | 50.0 | |
| 29.786 | 20.1 | 60.0 | | 7.9 | 50.0 | |

# FCC Part 15 Subpart B Conducted Emissions Test

**Cumulative Data**

VB** 04/12/2010

| | | |
|---|---|---|
| Manufacturer | : | MOTOROLA INC. |
| Model | : | NTN2574A |
| DUT Revision | : | 1.2 |
| Serial Number | : | 6088 |
| DUT Mode | : | Rx @ 2441MHz |
| Line Tested | : | L2 |
| Scan Step Time [ms] | : | 30 |
| Meas. Threshold [dB] | : | -10 |
| Notes | : | HEADSET NTN2572A |
| Test Engineer | : | R. King |
| Limit | : | Class B |
| Test Date | : | Aug 16, 2010 03:28:47 PM |




Emissions Meet QP Limit
Emissions Meet Ave Limit

# FCC Part 15 Subpart B Conducted Emissions Test

## Significant Emissions Data

VB** 04/12/2010

| | | |
|---|---|---|
| Manufacturer | : | MOTOROLA INC. |
| Model | : | NTN2574A |
| DUT Revision | : | 1.1 |
| Serial Number | : | 6088 |
| DUT Mode | : | Rx @ 2441MHz |
| Line Tested | : | L1 |
| Scan Step Time [ms] | : | 30 |
| Meas. Threshold [dB] | : | -10 |
| Notes | : | HEADSET NTN2575A |
| Test Engineer | : | R. King |
| Limit | : | Class B |
| Test Date | : | Aug 16, 2010 03:15:00 PM |
| Data Filter | : | Up to 80 maximum levels detected with 6 dB level excursion threshold over 10 dB margin below limit |

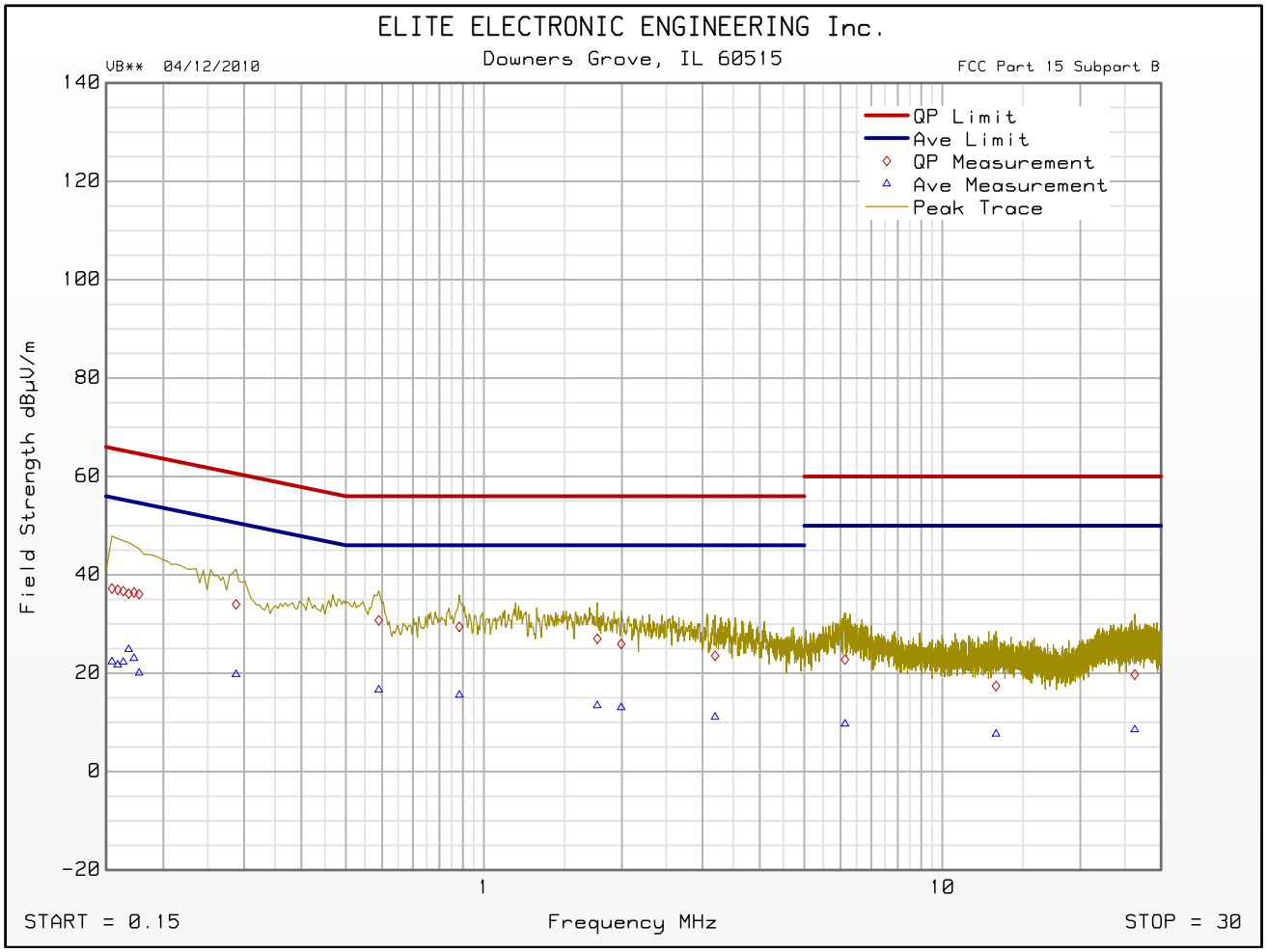
| Freq MHz | Quasi-peak Level dBµV/m | Quasi-peak Limit dBµV/m | Excessive Quasi-peak Emissions | Average Level dBµV/m | Average Limit dBµV/m | Excessive Average Emissions |
|---|---|---|---|---|---|---|
| 0.168 | 36.2 | 65.1 | | 24.8 | 55.1 | |
| 0.288 | 34.0 | 60.6 | | 19.8 | 50.6 | |
| 0.590 | 30.8 | 56.0 | | 16.6 | 46.0 | |
| 0.885 | 29.4 | 56.0 | | 15.6 | 46.0 | |
| 1.768 | 27.0 | 56.0 | | 13.4 | 46.0 | |
| 1.994 | 26.0 | 56.0 | | 13.0 | 46.0 | |
| 3.194 | 23.6 | 56.0 | | 11.1 | 46.0 | |
| 6.134 | 22.8 | 60.0 | | 9.7 | 50.0 | |
| 13.095 | 17.4 | 60.0 | | 7.6 | 50.0 | |
| 26.290 | 19.7 | 60.0 | | 8.6 | 50.0 | |

# FCC Part 15 Subpart B Conducted Emissions Test

**Cumulative Data**

VB** 04/12/2010

| | | |
|---|---|---|
| Manufacturer | : | MOTOROLA INC. |
| Model | : | NTN2574A |
| DUT Revision | : | 1.1 |
| Serial Number | : | 6088 |
| DUT Mode | : | Rx @ 2441MHz |
| Line Tested | : | L1 |
| Scan Step Time [ms] | : | 30 |
| Meas. Threshold [dB] | : | -10 |
| Notes | : | HEADSET NTN2575A |
| Test Engineer | : | R. King |
| Limit | : | Class B |
| Test Date | : | Aug 16, 2010 03:15:00 PM |




Emissions Meet QP Limit
Emissions Meet Ave Limit

# FCC Part 15 Subpart B Conducted Emissions Test

## Significant Emissions Data

VB** 04/12/2010

| | | |
|---|---|---|
| Manufacturer | : | MOTOROLA INC. |
| Model | : | NTN2574A |
| DUT Revision | : | 1.1 |
| Serial Number | : | 6088 |
| DUT Mode | : | Rx @ 2441MHz |
| Line Tested | : | L2 |
| Scan Step Time [ms] | : | 30 |
| Meas. Threshold [dB] | : | -10 |
| Notes | : | HEADSET NTN2575A |
| Test Engineer | : | R. King |
| Limit | : | Class B |
| Test Date | : | Aug 16, 2010 03:09:23 PM |
| Data Filter | : | Up to 80 maximum levels detected with 6 dB level excursion threshold over 10 dB margin below limit |

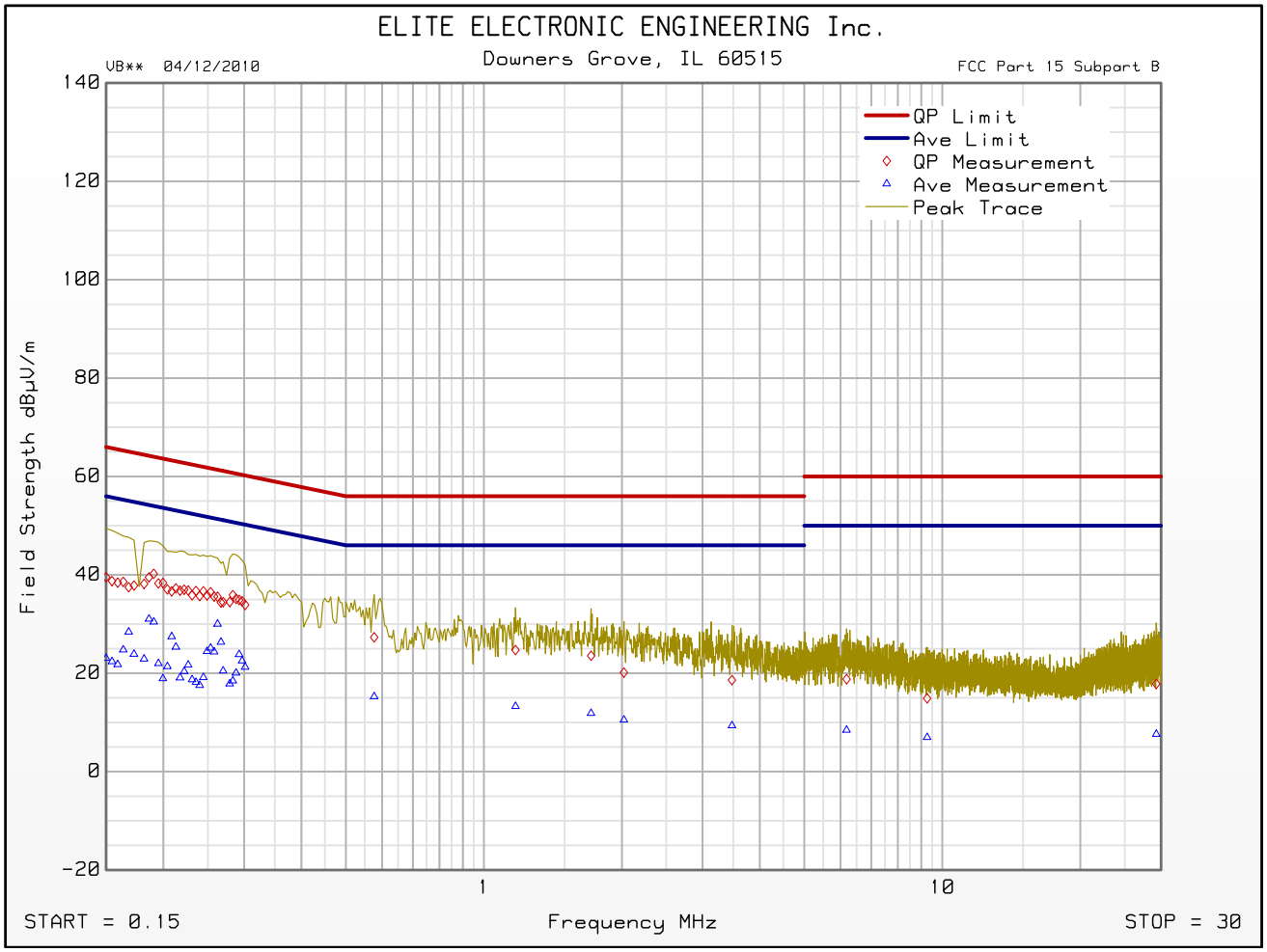
| Freq MHz | Quasi-peak Level dBµV/m | Quasi-peak Limit dBµV/m | Excessive Quasi-peak Emissions | Average Level dBµV/m | Average Limit dBµV/m | Excessive Average Emissions |
|---|---|---|---|---|---|---|
| 0.263 | 35.6 | 61.4 | | 30.0 | 51.4 | |
| 0.293 | 34.9 | 60.5 | | 23.8 | 50.5 | |
| 0.577 | 27.3 | 56.0 | | 15.3 | 46.0 | |
| 1.173 | 24.7 | 56.0 | | 13.3 | 46.0 | |
| 1.714 | 23.5 | 56.0 | | 11.9 | 46.0 | |
| 2.021 | 20.1 | 56.0 | | 10.5 | 46.0 | |
| 3.478 | 18.6 | 56.0 | | 9.4 | 46.0 | |
| 6.184 | 18.8 | 60.0 | | 8.4 | 50.0 | |
| 9.266 | 14.9 | 60.0 | | 7.0 | 50.0 | |
| 29.291 | 17.8 | 60.0 | | 7.6 | 50.0 | |

# FCC Part 15 Subpart B Conducted Emissions Test

**Cumulative Data**

VB** 04/12/2010

| | | |
|---|---|---|
| Manufacturer | : | MOTOROLA INC. |
| Model | : | NTN2574A |
| DUT Revision | : | 1.1 |
| Serial Number | : | 6088 |
| DUT Mode | : | Rx @ 2441MHz |
| Line Tested | : | L2 |
| Scan Step Time [ms] | : | 30 |
| Meas. Threshold [dB] | : | -10 |
| Notes | : | HEADSET NTN2575A |
| Test Engineer | : | R. King |
| Limit | : | Class B |
| Test Date | : | Aug 16, 2010 03:09:23 PM |




Emissions Meet QP Limit
Emissions Meet Ave Limit

# FCC Part 15 Subpart B Conducted Emissions Test

## Significant Emissions Data

VB** 04/12/2010

| | | |
|---|---|---|
| Manufacturer | : | MOTOROLA INC. |
| Model | : | NTN2574A |
| DUT Revision | : | 1.3 |
| Serial Number | : | 6088 |
| DUT Mode | : | Rx @ 2441MHz |
| Line Tested | : | L1 |
| Scan Step Time [ms] | : | 30 |
| Meas. Threshold [dB] | : | -10 |
| Notes | : | NO HEADSET |
| Test Engineer | : | R. King |
| Limit | : | Class B |
| Test Date | : | Aug 16, 2010 03:40:38 PM |
| Data Filter | : | Up to 80 maximum levels detected with 6 dB level excursion threshold over 10 dB margin below limit |

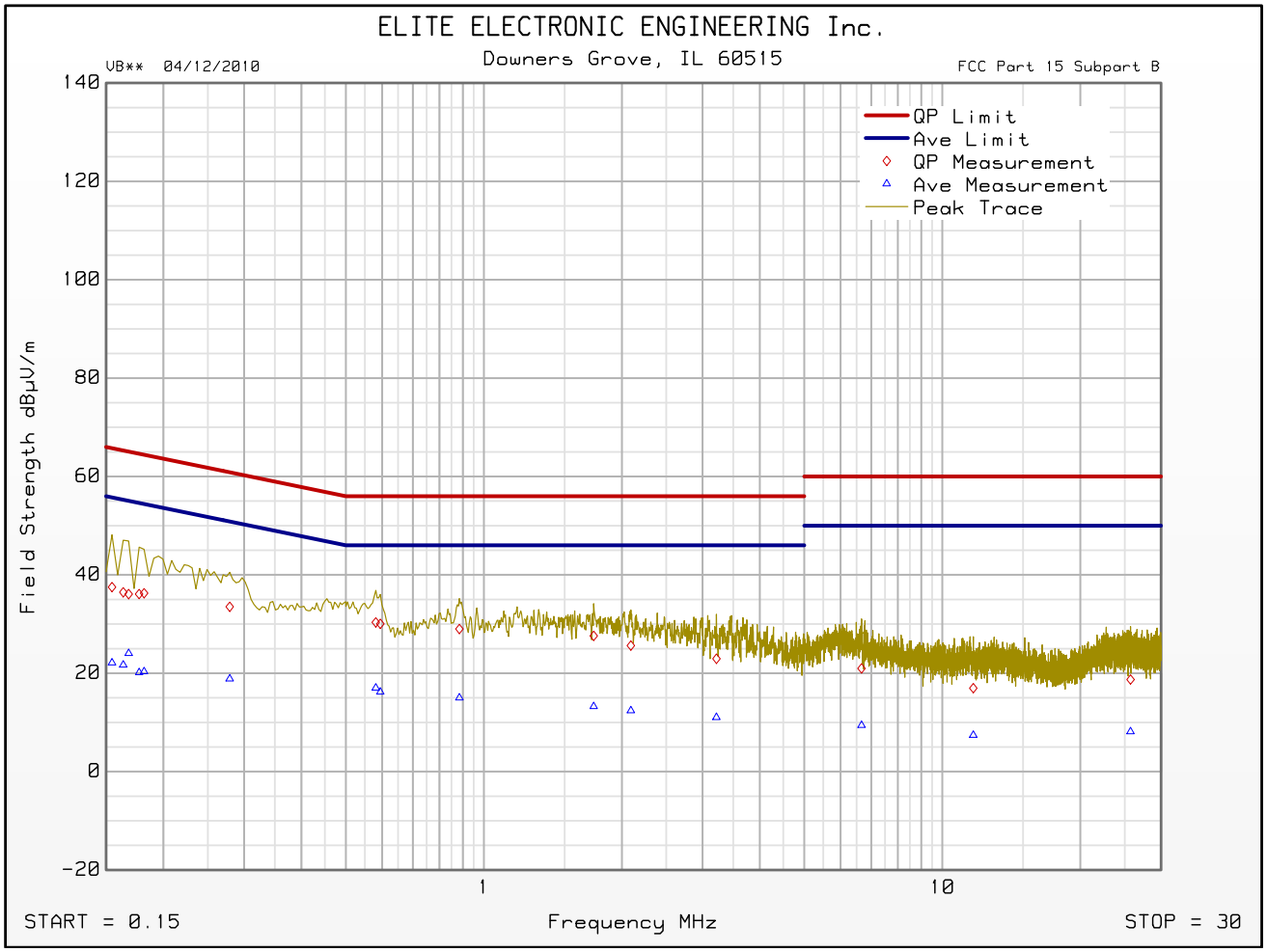
| Freq MHz | Quasi-peak Level dBµV/m | Quasi-peak Limit dBµV/m | Excessive Quasi-peak Emissions | Average Level dBµV/m | Average Limit dBµV/m | Excessive Average Emissions |
|---|---|---|---|---|---|---|
| 0.168 | 36.1 | 65.1 | | 24.0 | 55.1 | |
| 0.279 | 33.5 | 60.8 | | 18.9 | 50.8 | |
| 0.581 | 30.3 | 56.0 | | 17.0 | 46.0 | |
| 0.885 | 29.0 | 56.0 | | 15.0 | 46.0 | |
| 1.736 | 27.6 | 56.0 | | 13.2 | 46.0 | |
| 2.093 | 25.6 | 56.0 | | 12.4 | 46.0 | |
| 3.217 | 22.9 | 56.0 | | 11.0 | 46.0 | |
| 6.665 | 21.0 | 60.0 | | 9.4 | 50.0 | |
| 11.682 | 17.0 | 60.0 | | 7.4 | 50.0 | |
| 25.736 | 18.7 | 60.0 | | 8.1 | 50.0 | |

# FCC Part 15 Subpart B Conducted Emissions Test

**Cumulative Data**

VB** 04/12/2010

| | | |
|---|---|---|
| Manufacturer | : | MOTOROLA INC. |
| Model | : | NTN2574A |
| DUT Revision | : | 1.3 |
| Serial Number | : | 6088 |
| DUT Mode | : | Rx @ 2441MHz |
| Line Tested | : | L1 |
| Scan Step Time [ms] | : | 30 |
| Meas. Threshold [dB] | : | -10 |
| Notes | : | NO HEADSET |
| Test Engineer | : | R. King |
| Limit | : | Class B |
| Test Date | : | Aug 16, 2010 03:40:38 PM |




Emissions Meet QP Limit
Emissions Meet Ave Limit

# FCC Part 15 Subpart B Conducted Emissions Test

## Significant Emissions Data

VB** 04/12/2010

| | | |
|---|---|---|
| Manufacturer | : | MOTOROLA INC. |
| Model | : | NTN2574A |
| DUT Revision | : | 1.3 |
| Serial Number | : | 6088 |
| DUT Mode | : | Rx @ 2441MHz |
| Line Tested | : | L2 |
| Scan Step Time [ms] | : | 30 |
| Meas. Threshold [dB] | : | -10 |
| Notes | : | NO HEADSET |
| Test Engineer | : | R. King |
| Limit | : | Class B |
| Test Date | : | Aug 16, 2010 03:35:07 PM |
| Data Filter | : | Up to 80 maximum levels detected with 6 dB level excursion threshold over 10 dB margin below limit |

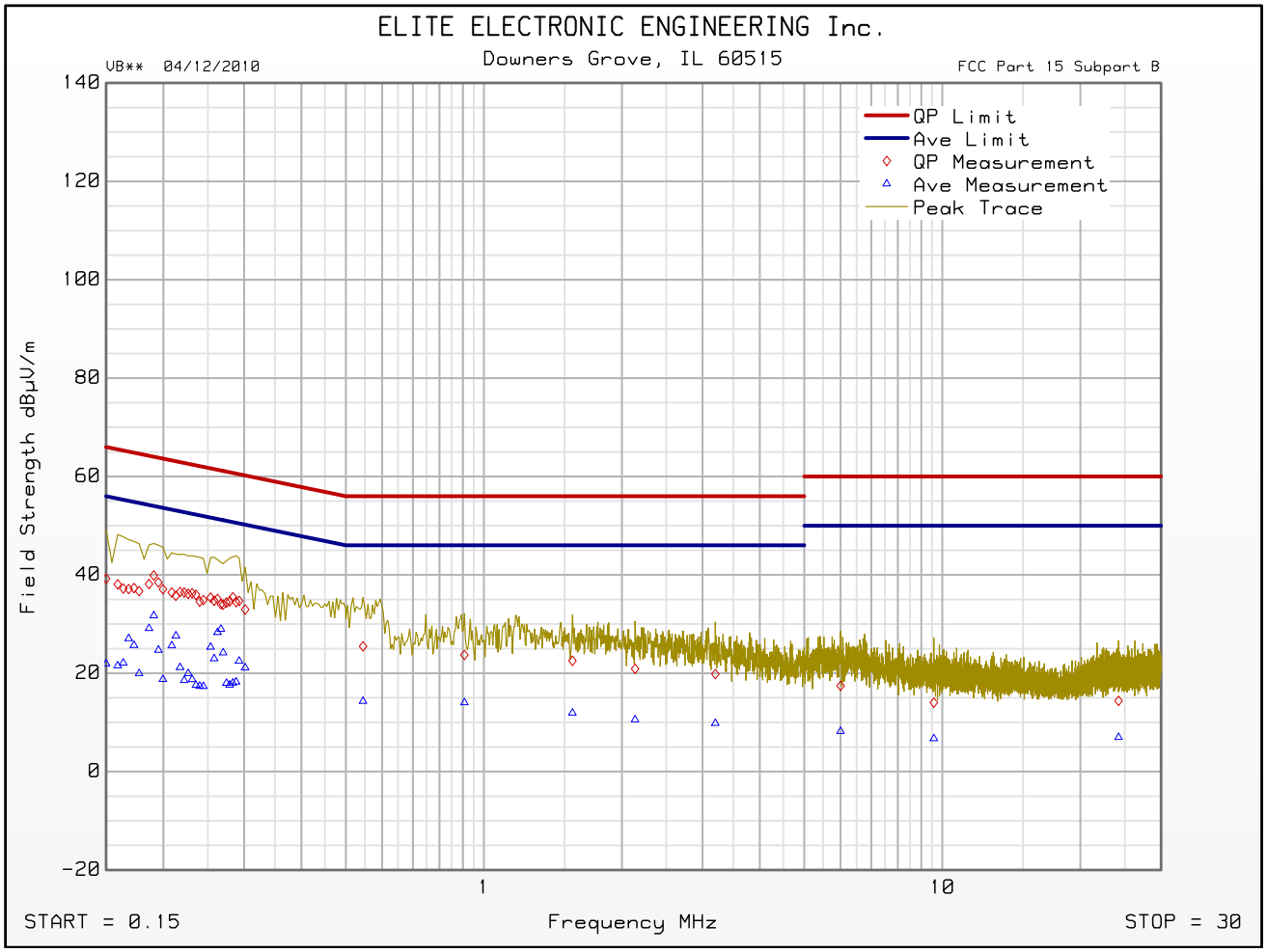
| Freq MHz | Quasi-peak Level dBµV/m | Quasi-peak Limit dBµV/m | Excessive Quasi-peak Emissions | Average Level dBµV/m | Average Limit dBµV/m | Excessive Average Emissions |
|---|---|---|---|---|---|---|
| 0.267 | 34.1 | 61.2 | | 29.0 | 51.2 | |
| 0.270 | 34.0 | 61.1 | | 24.2 | 51.1 | |
| 0.545 | 25.5 | 56.0 | | 14.3 | 46.0 | |
| 0.907 | 23.7 | 56.0 | | 14.0 | 46.0 | |
| 1.561 | 22.5 | 56.0 | | 11.9 | 46.0 | |
| 2.138 | 20.9 | 56.0 | | 10.5 | 46.0 | |
| 3.199 | 19.8 | 56.0 | | 9.8 | 46.0 | |
| 5.999 | 17.4 | 60.0 | | 8.2 | 50.0 | |
| 9.585 | 14.0 | 60.0 | | 6.7 | 50.0 | |
| 24.238 | 14.4 | 60.0 | | 7.0 | 50.0 | |

# FCC Part 15 Subpart B Conducted Emissions Test

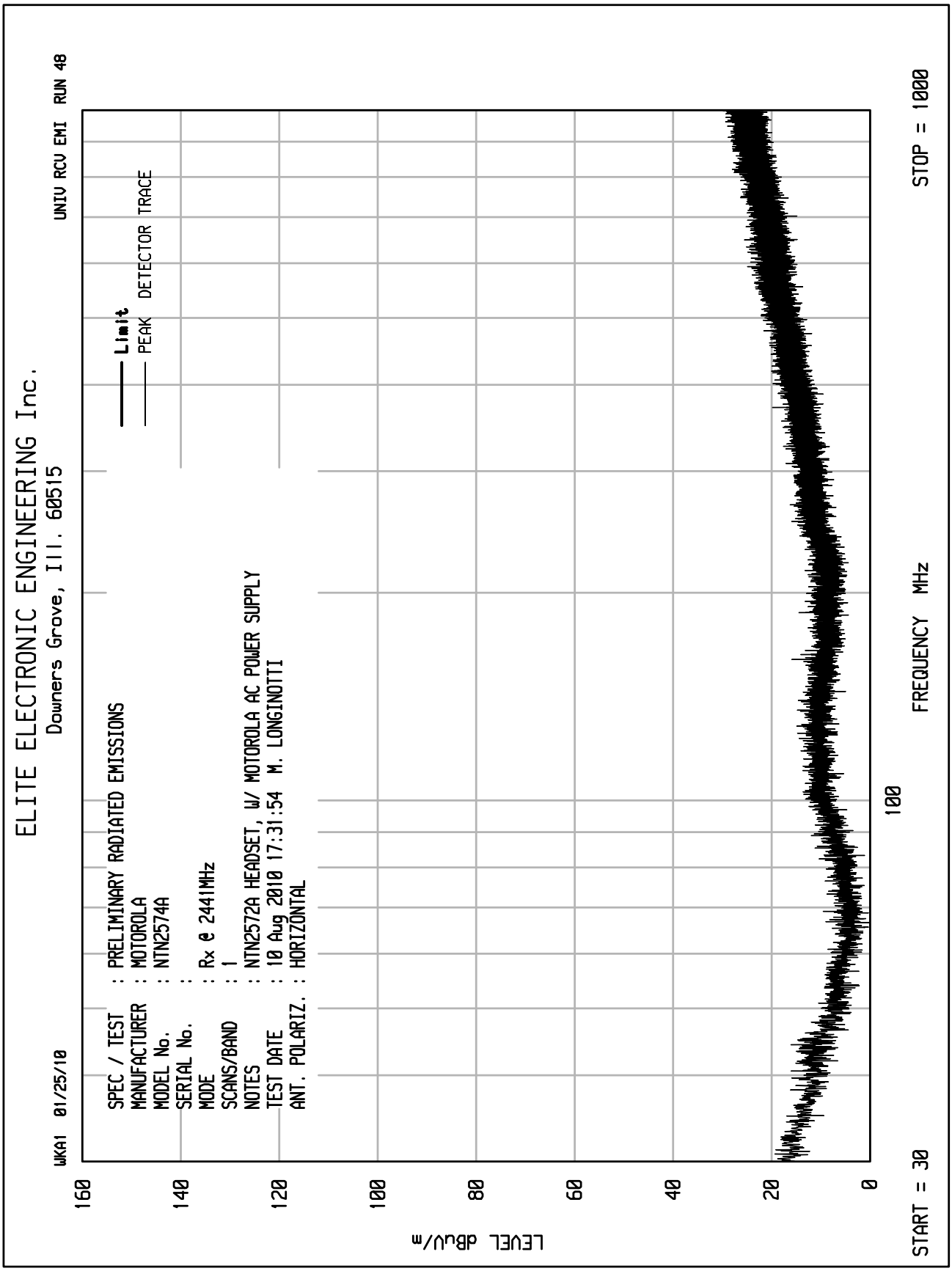
**Cumulative Data**

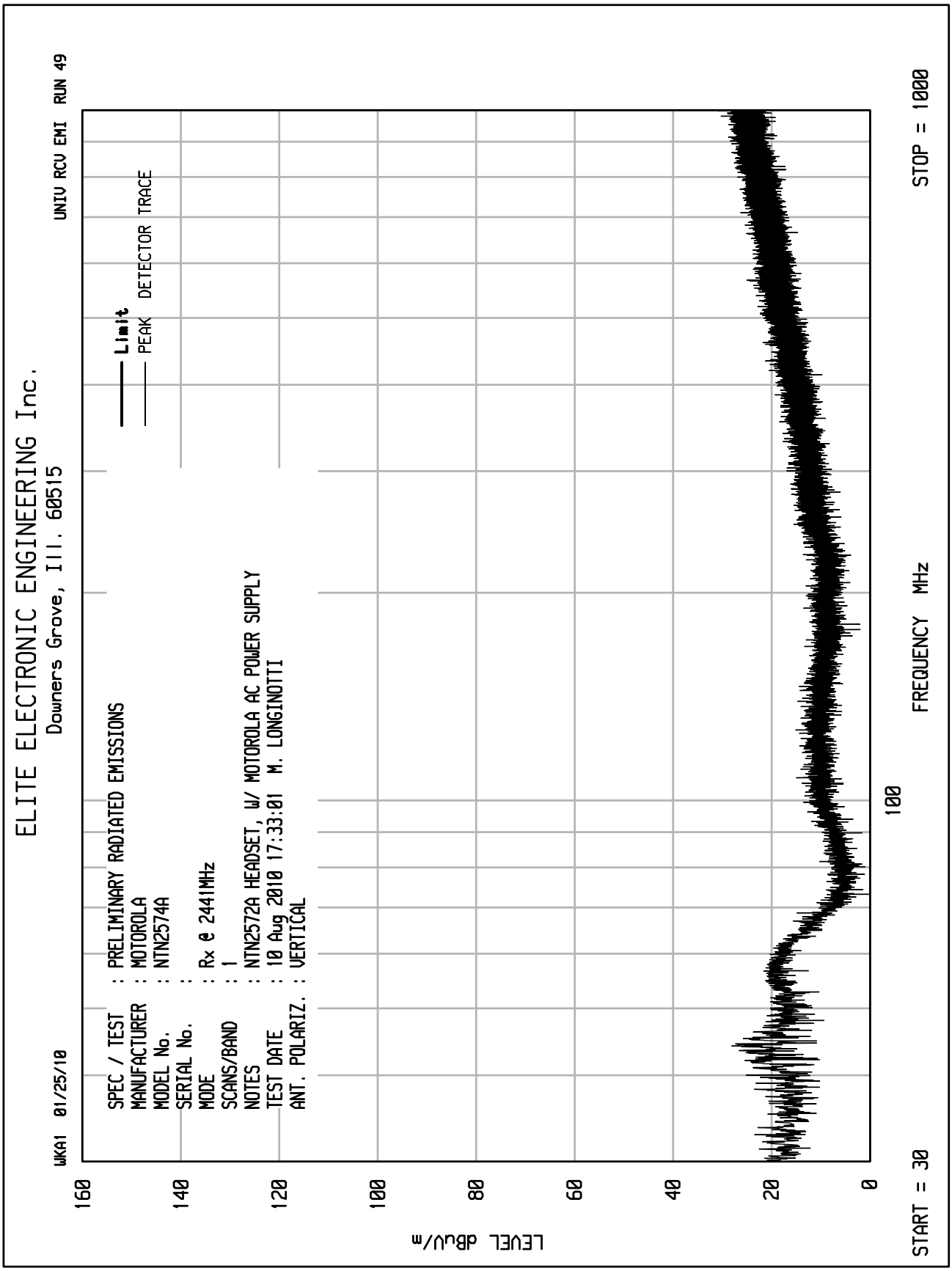
VB** 04/12/2010

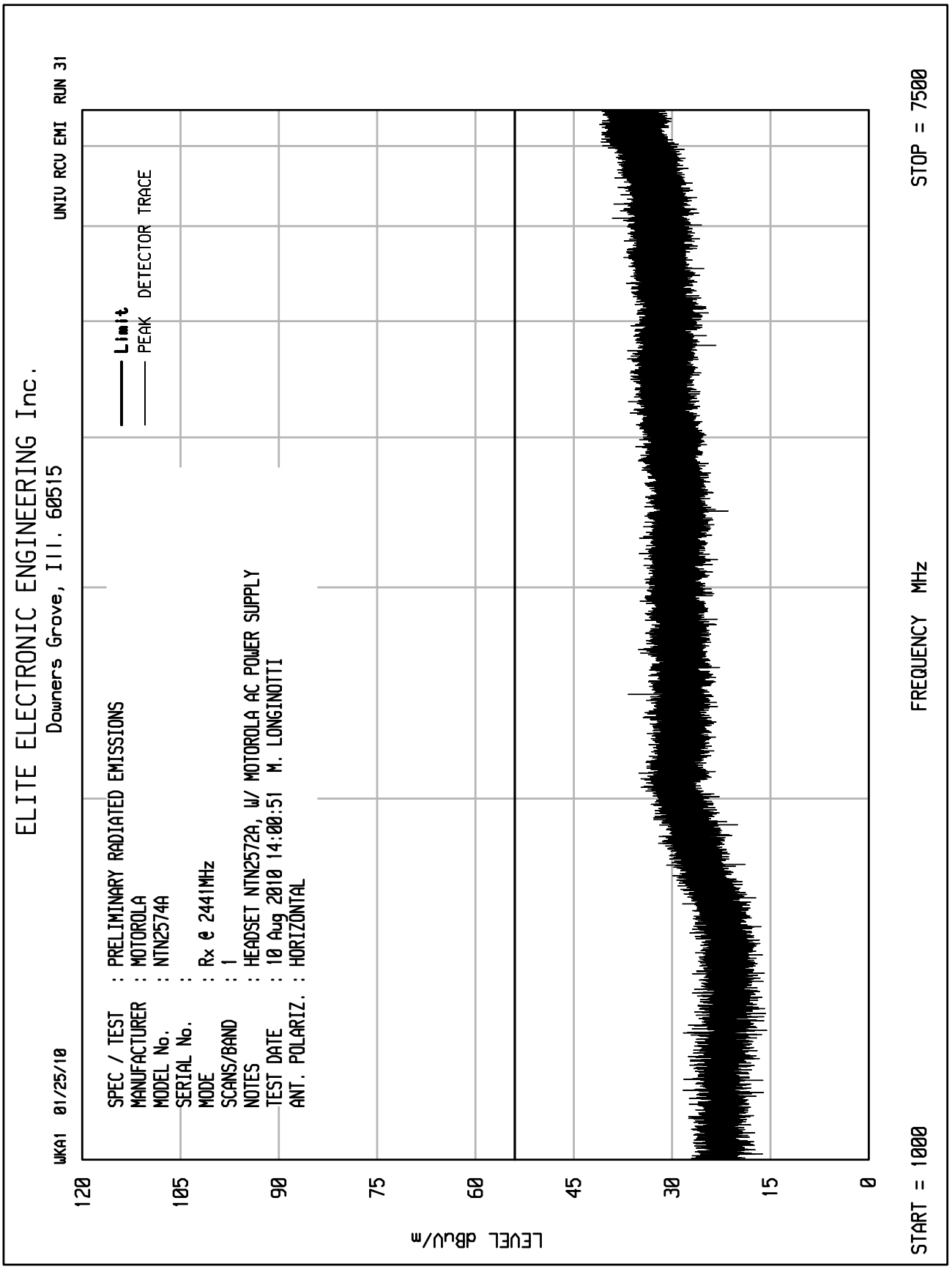
| | | |
|---|---|---|
| Manufacturer | : | MOTOROLA INC. |
| Model | : | NTN2574A |
| DUT Revision | : | 1.3 |
| Serial Number | : | 6088 |
| DUT Mode | : | Rx @ 2441MHz |
| Line Tested | : | L2 |
| Scan Step Time [ms] | : | 30 |
| Meas. Threshold [dB] | : | -10 |
| Notes | : | NO HEADSET |
| Test Engineer | : | R. King |
| Limit | : | Class B |
| Test Date | : | Aug 16, 2010 03:35:07 PM |

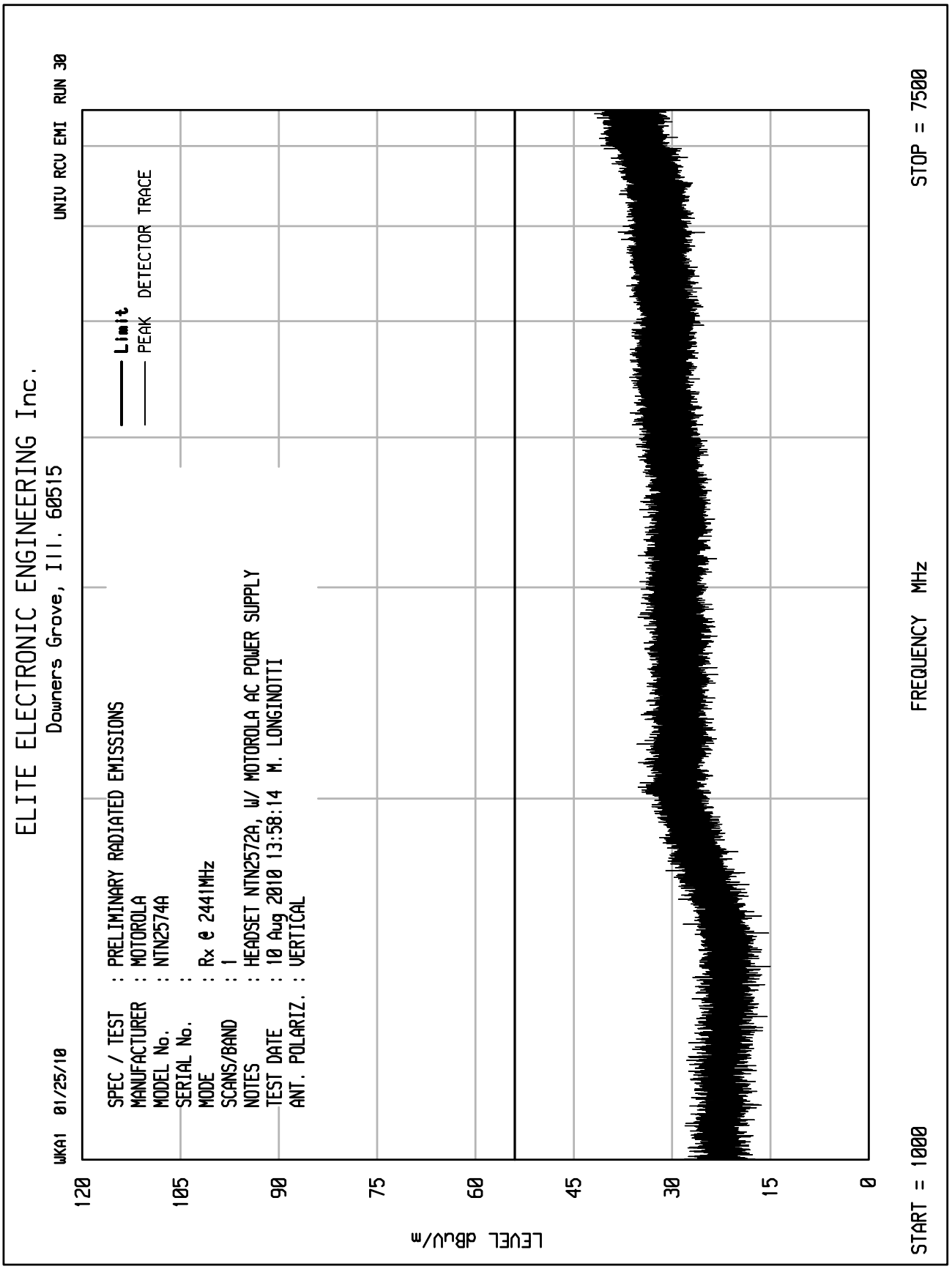


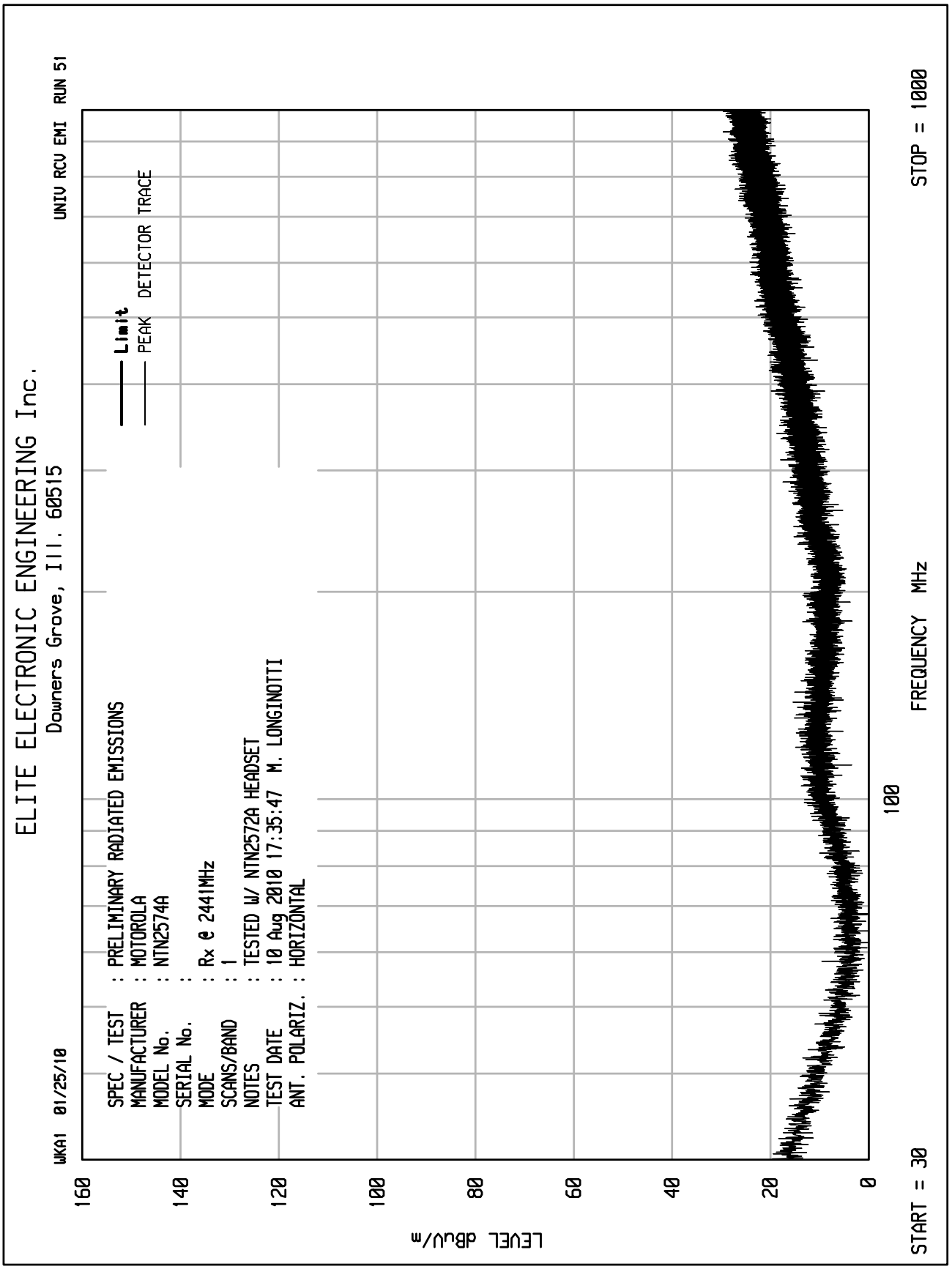

Emissions Meet QP Limit
Emissions Meet Ave Limit

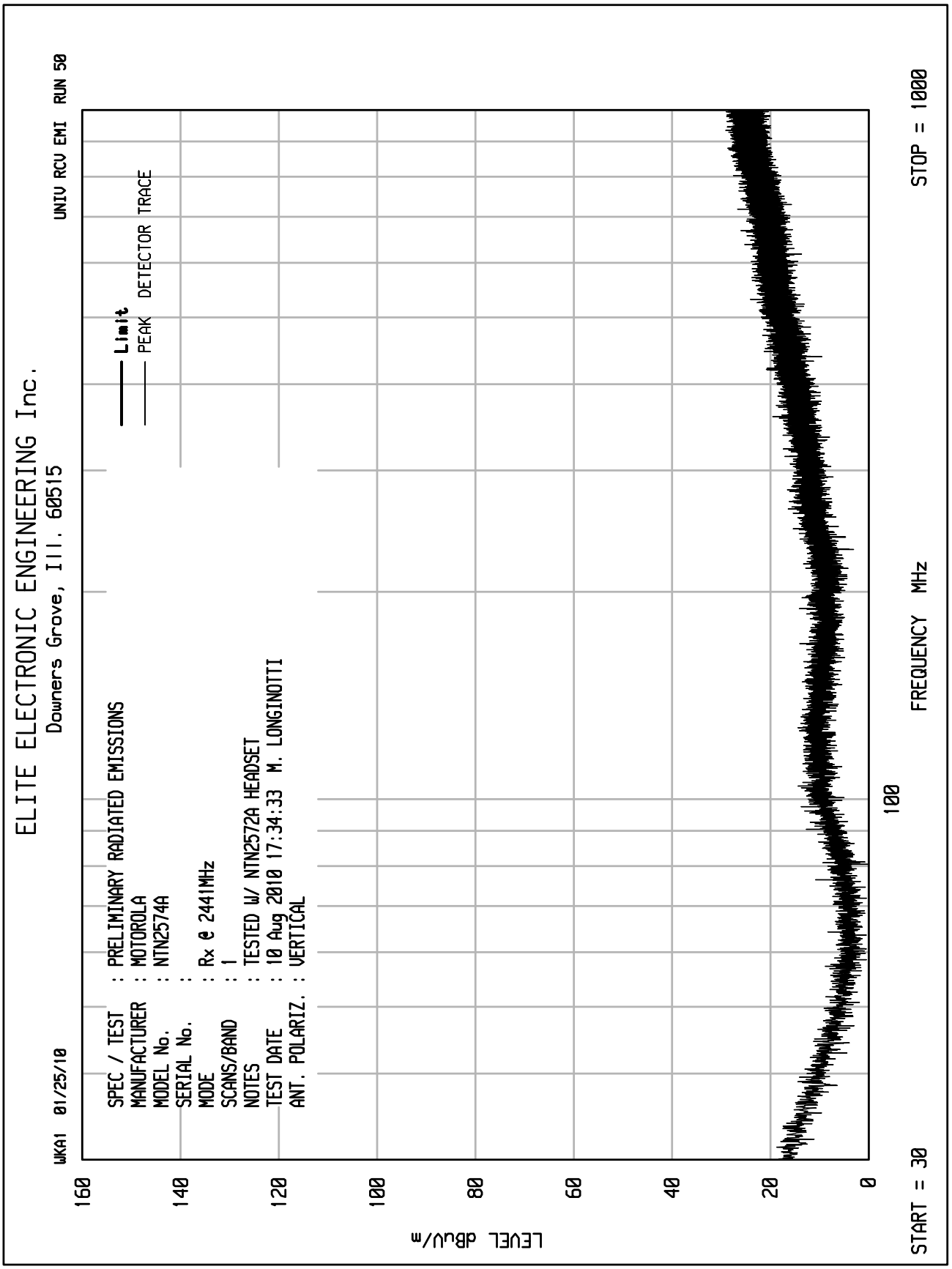

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 48
WKA1 01/25/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : MOTOROLA
MODEL No. : NTN2574A
SERIAL No. :
MODE : Rx @ 2441MHz
SCANS/BAND : 1
NOTES : NTN2572A HEADSET, W/ MOTOROLA AC POWER SUPPLY
TEST DATE : 10 Aug 2010 17:31:54 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
160
140
120
100
80
60
40
20
0
START = 30
100
FREQUENCY MHz
STOP = 1000

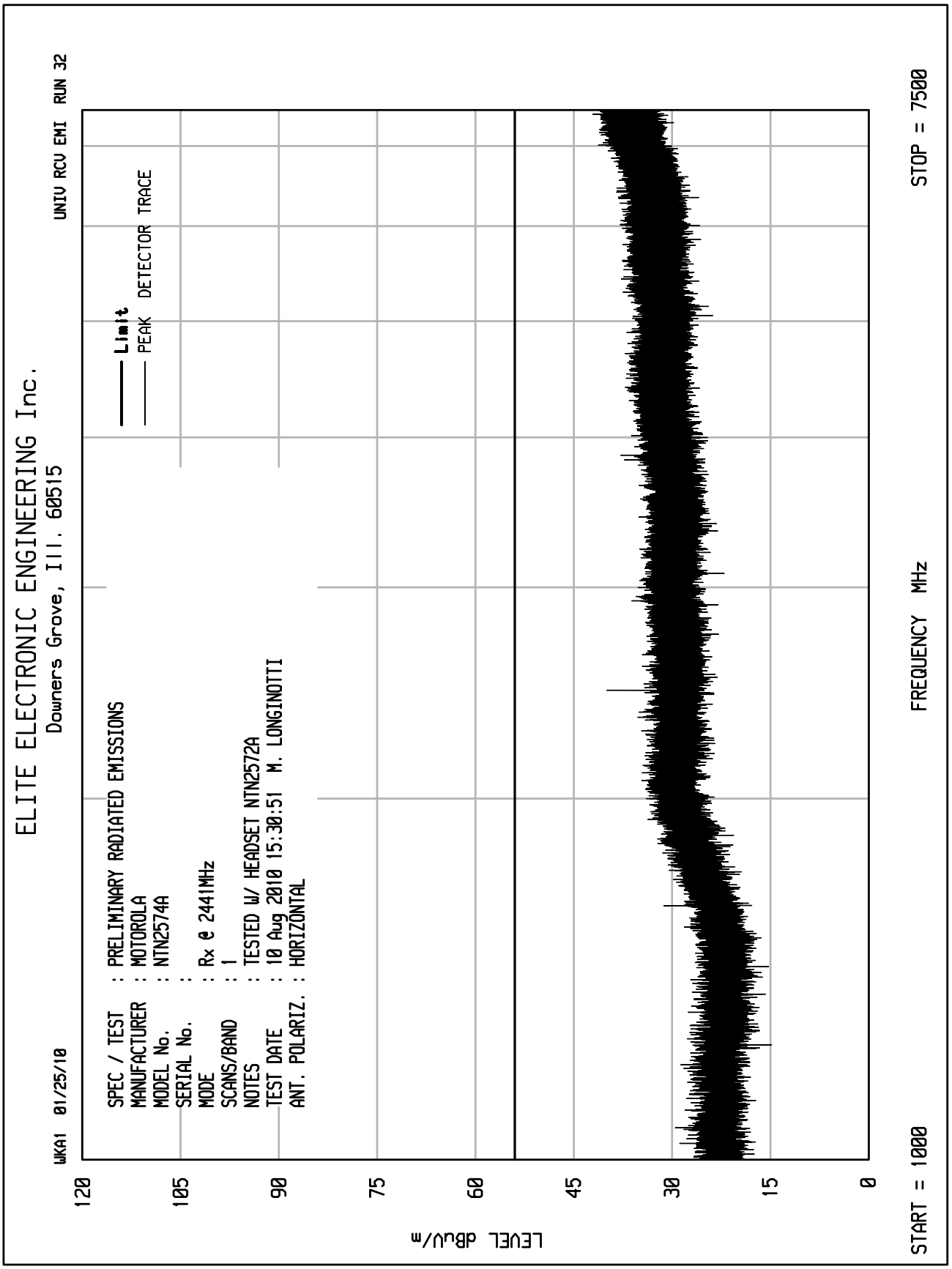

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 49
WKA1 01/25/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : MOTOROLA
MODEL No. : NTN2574A
SERIAL No. : :
MODE : Rx @ 2441MHz
SCANS/BAND : 1
NOTES : NTN2572A HEADSET, W/ MOTOROLA AC POWER SUPPLY
TEST DATE : 10 Aug 2010 17:33:01 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
160
140
120
100
80
60
40
20
0
START = 30
100
FREQUENCY MHz
STOP = 1000

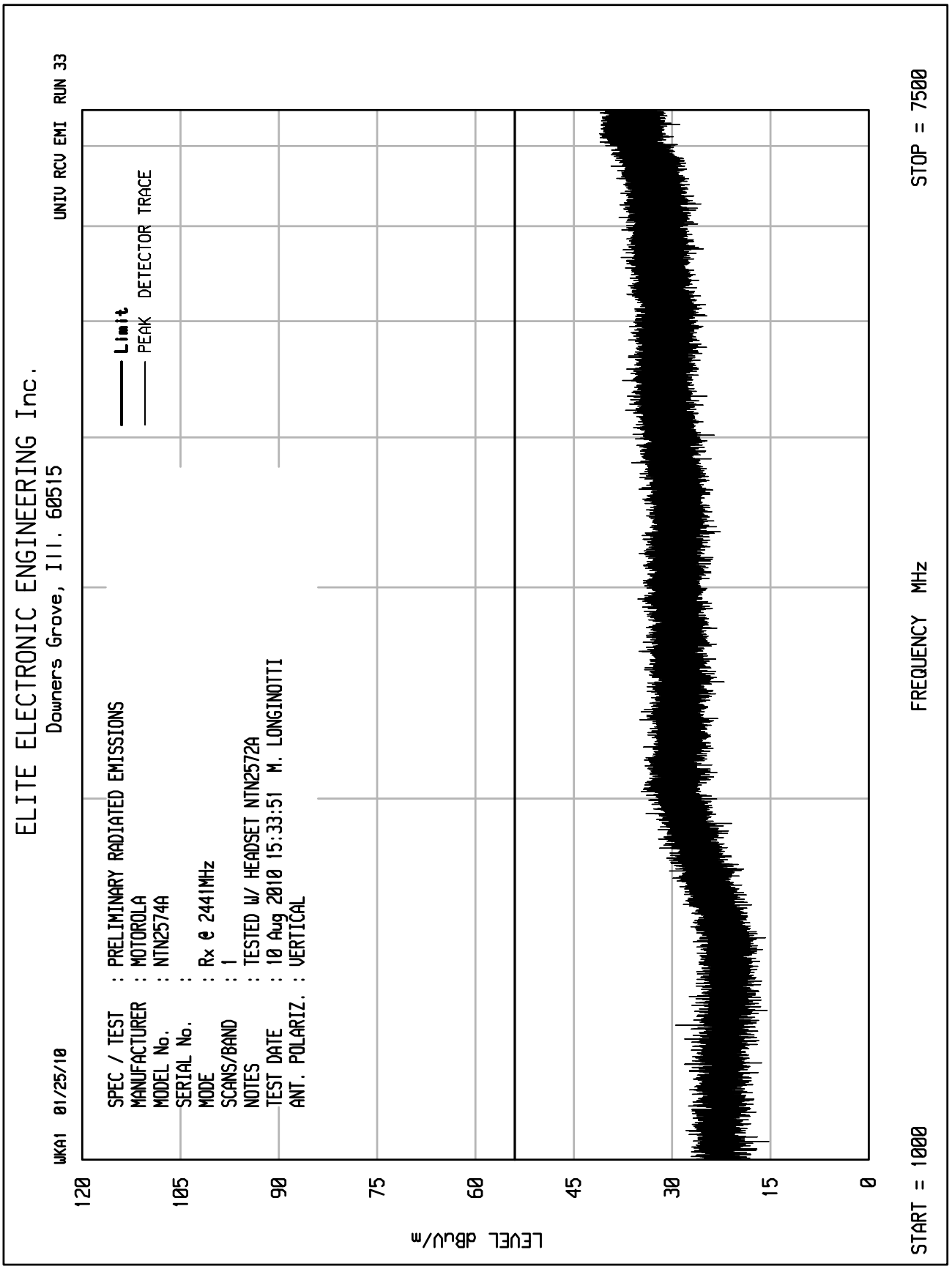

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 31
WKA1 01/25/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : MOTOROLA
MODEL No. : NTN2574A
SERIAL No. :
MODE : Rx @ 2441MHz
SCANS/BAND : 1
NOTES : HEADSET NTN2572A, W/ MOTOROLA AC POWER SUPPLY
TEST DATE : 10 Aug 2010 14:00:51 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 7500

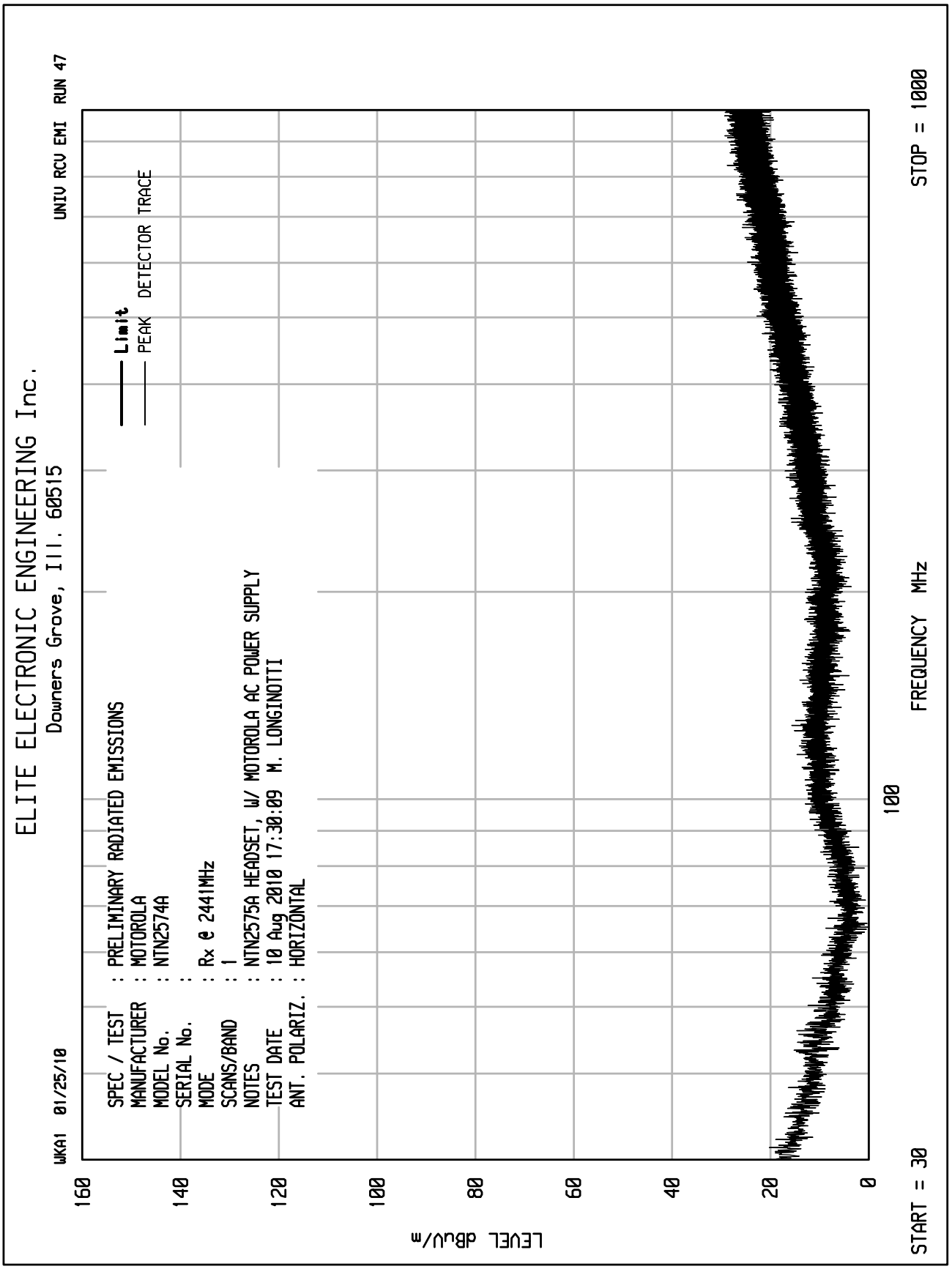

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 30
WKA1 01/25/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : MOTOROLA
MODEL No. : NTN2574A
SERIAL No. :
MODE : Rx @ 2441MHz
SCANS/BAND : 1
NOTES : HEADSET NTN2572A, W/ MOTOROLA AC POWER SUPPLY
TEST DATE : 10 Aug 2010 13:58:14 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 7500

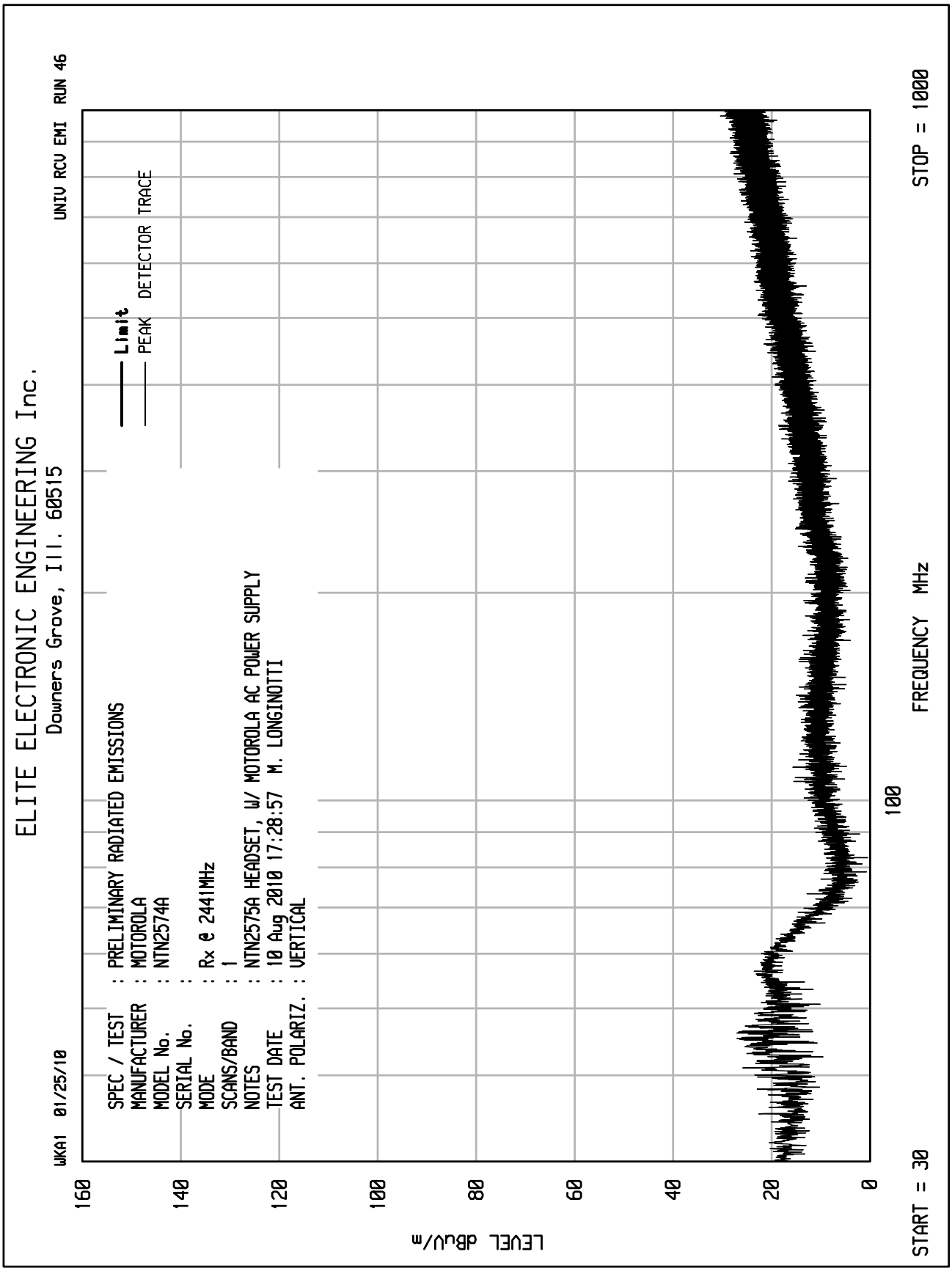

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 51
WKA1 01/25/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : MOTOROLA
MODEL No. : NTN2574A
SERIAL No. :
MODE : Rx @ 2441MHz
SCANS/BAND : 1
NOTES : TESTED W/ NTN2572A HEADSET
TEST DATE : 10 Aug 2010 17:35:47 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
160
140
120
100
80
60
40
20
0
START = 30
100
FREQUENCY MHz
STOP = 1000

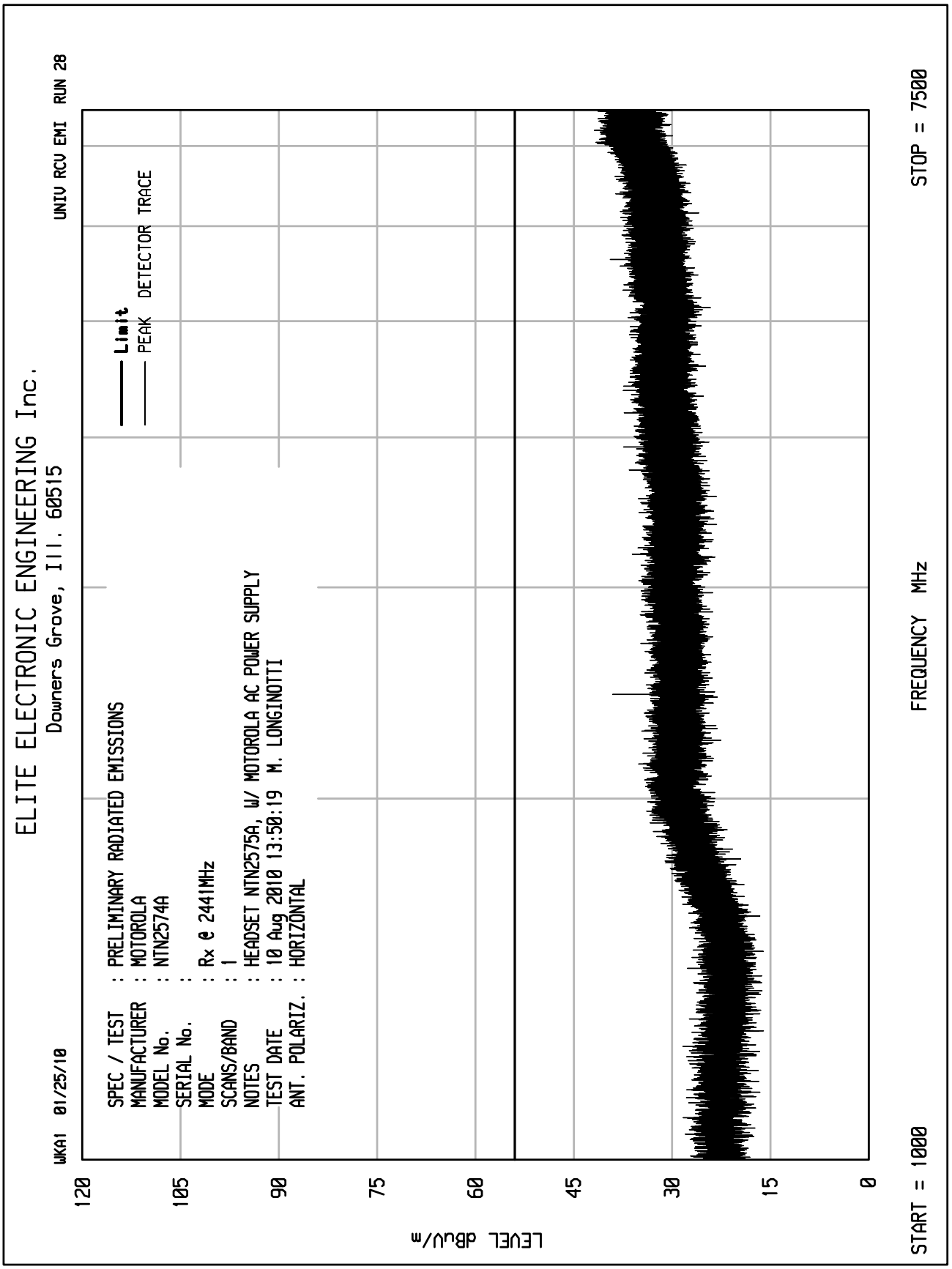

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 50
WKA1 01/25/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : MOTOROLA
MODEL No. : NTN2574A
SERIAL No. :
MODE : Rx @ 2441MHz
SCANS/BAND : 1
NOTES : TESTED W/ NTN2572A HEADSET
TEST DATE : 10 Aug 2010 17:34:33 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
160
140
120
100
80
60
40
20
0
START = 30
100
FREQUENCY MHz
STOP = 1000

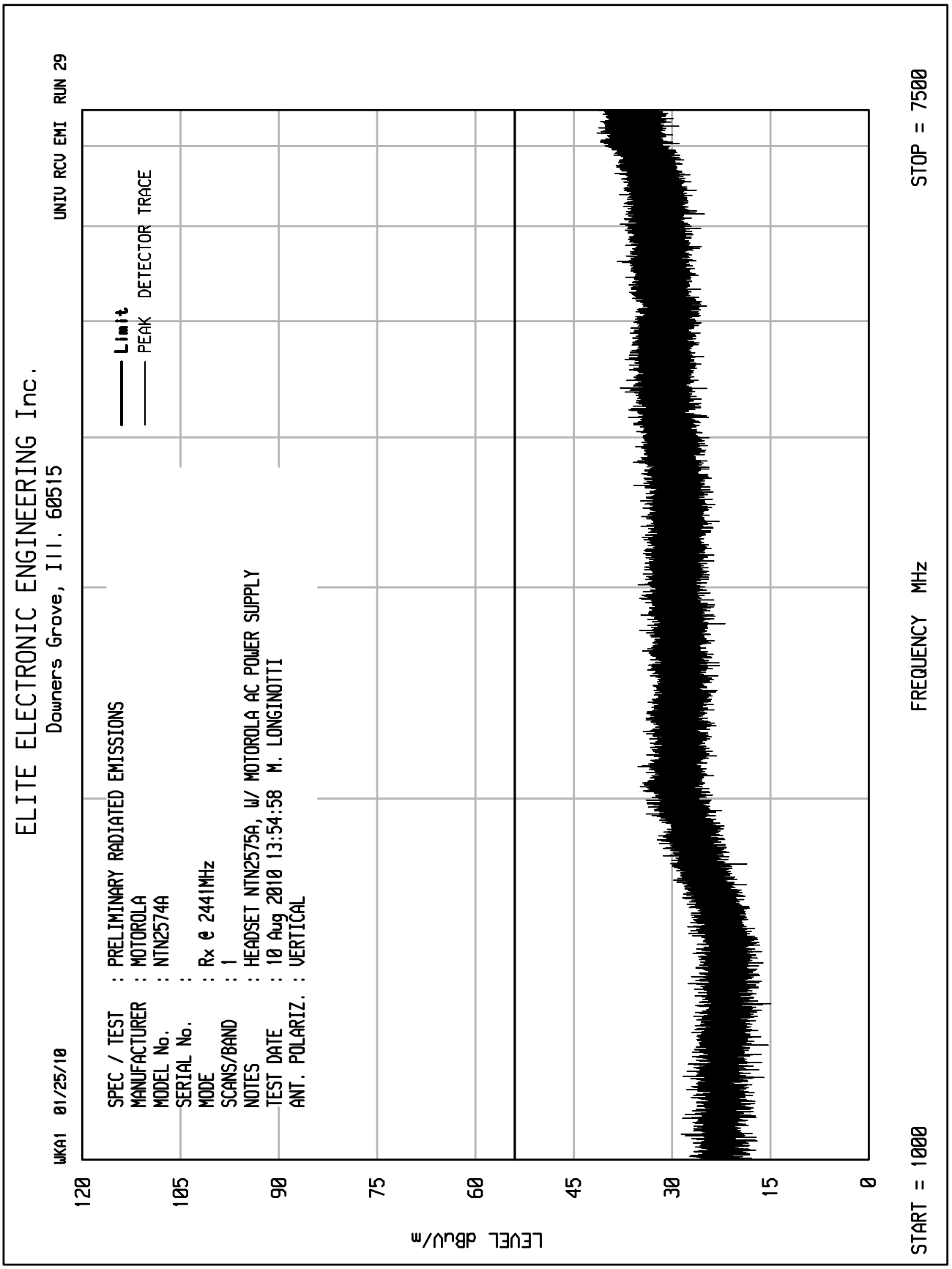

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 32
WKA1 01/25/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : MOTOROLA
MODEL No. : NTN2574A
SERIAL No. :
MODE : Rx @ 2441MHz
SCANS/BAND : 1
NOTES : TESTED W/ HEADSET NTN2572A
TEST DATE : 10 Aug 2010 15:30:51 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 7500

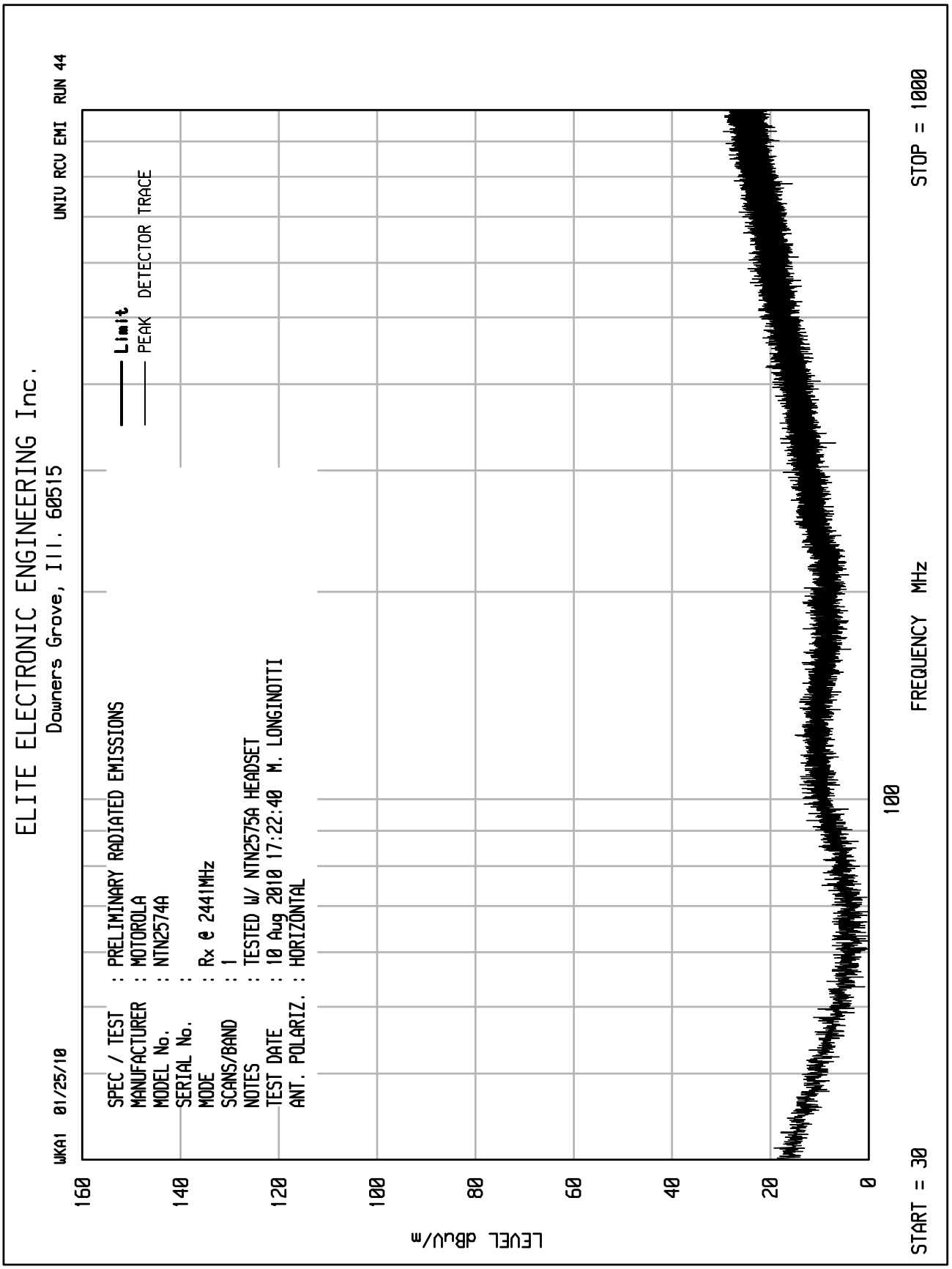

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 33
WKA1 01/25/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : MOTOROLA
MODEL No. : NTN2574A
SERIAL No. :
MODE : Rx @ 2441MHz
SCANS/BAND : 1
NOTES : TESTED W/ HEADSET NTN2572A
TEST DATE : 10 Aug 2010 15:33:51 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 7500

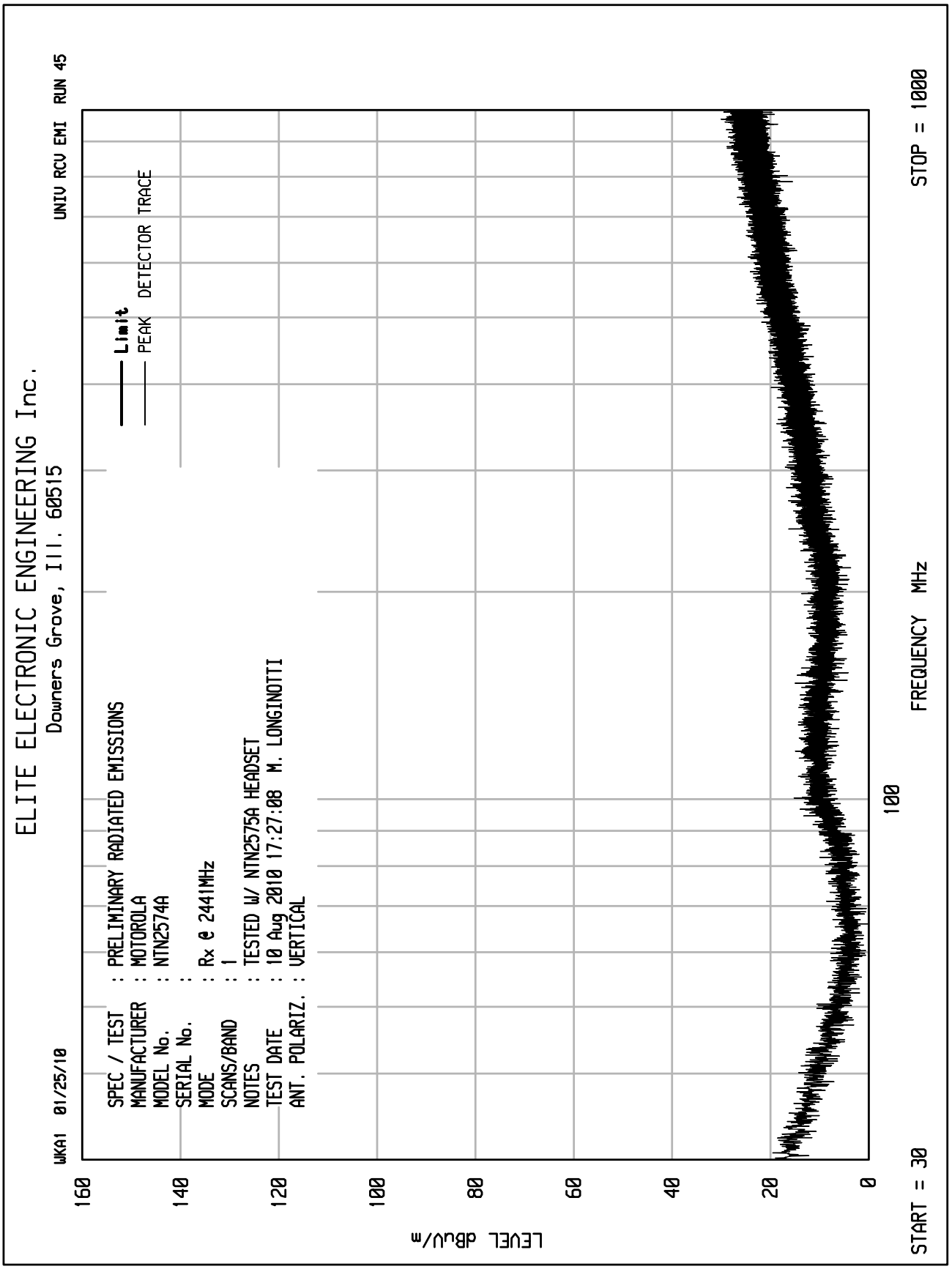

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 47
WKA1 01/25/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : MOTOROLA
MODEL No. : NTN2574A
SERIAL No. :
MODE : Rx @ 2441MHz
SCANS/BAND : 1
NOTES : NTN2575A HEADSET, W/ MOTOROLA AC POWER SUPPLY
TEST DATE : 10 Aug 2010 17:30:09 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
160
140
120
100
80
60
40
20
0
START = 30
100
FREQUENCY MHz
STOP = 1000

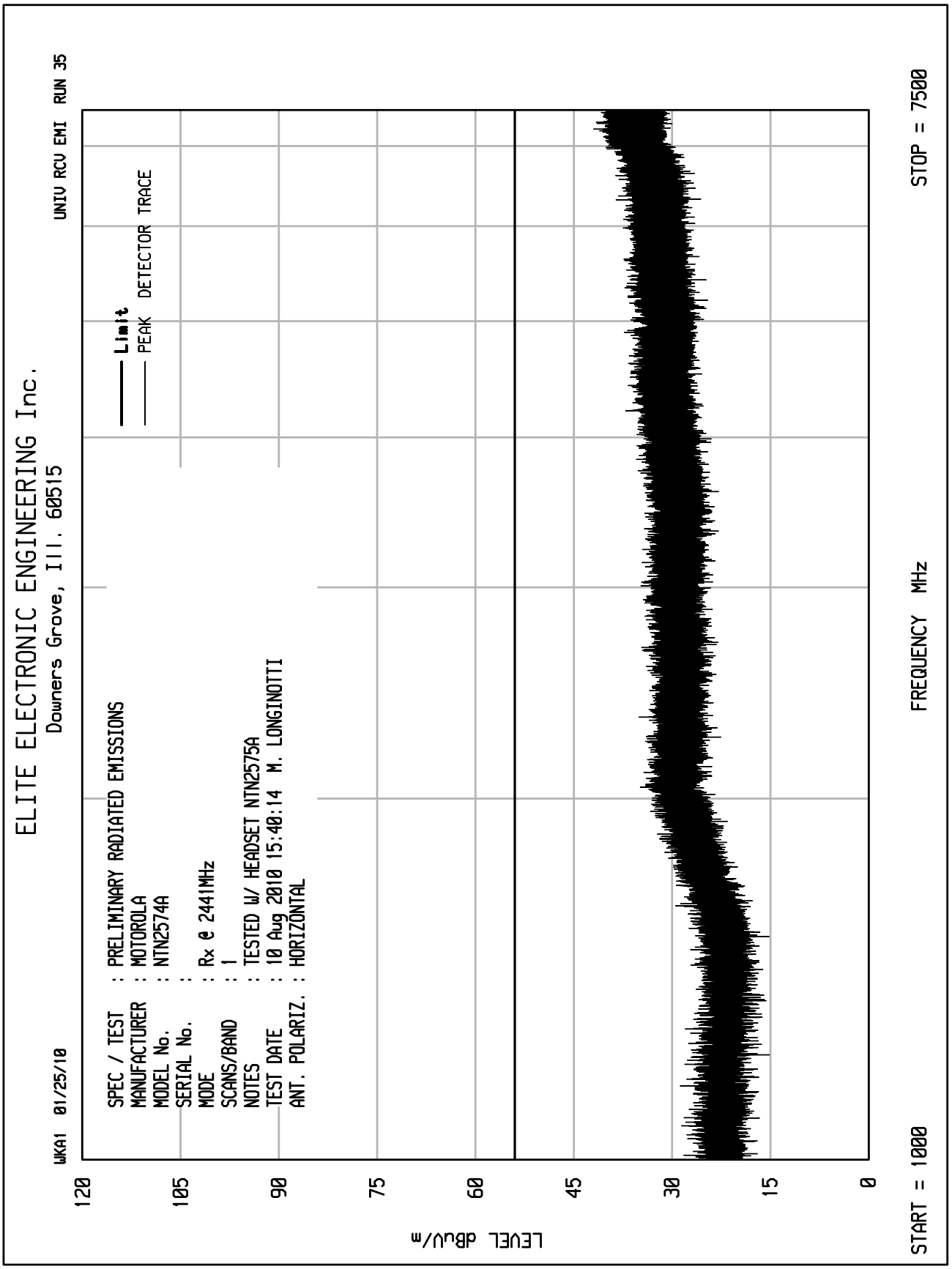

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 46
WKA1 01/25/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : MOTOROLA
MODEL No. : NTN2574A
SERIAL No. : :
MODE : Rx @ 2441MHz
SCANS/BAND : 1
NOTES : NTN2575A HEADSET, W/ MOTOROLA AC POWER SUPPLY
TEST DATE : 10 Aug 2010 17:28:57 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
160
140
120
100
80
60
40
20
0
START = 30
100
FREQUENCY MHz
STOP = 1000

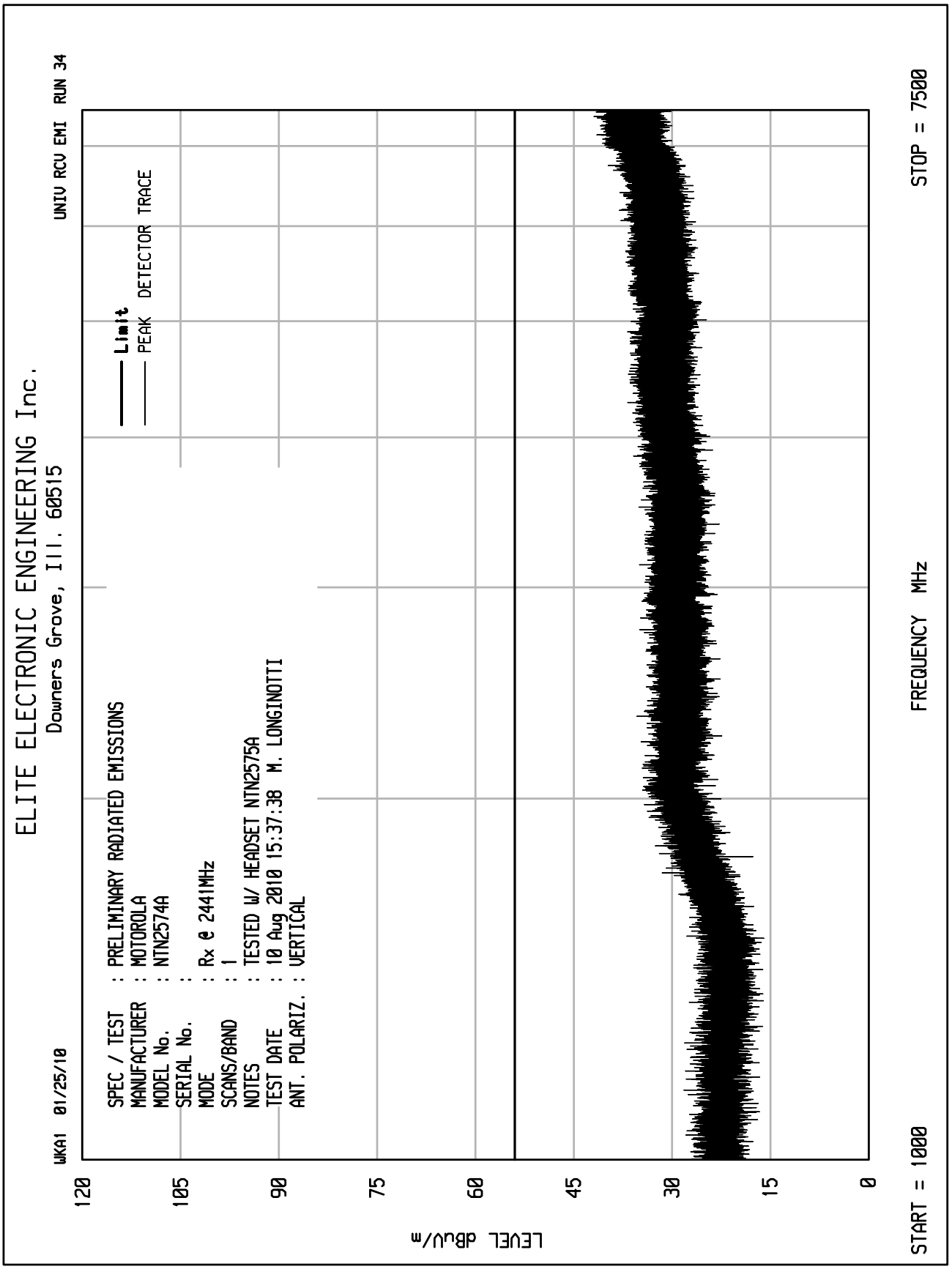

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 28
WKA1 01/25/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : MOTOROLA
MODEL No. : NTN2574A
SERIAL No. :
MODE : Rx @ 2441MHz
SCANS/BAND : 1
NOTES : HEADSET NTN2575A, W/ MOTOROLA AC POWER SUPPLY
TEST DATE : 10 Aug 2010 13:50:19 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 7500

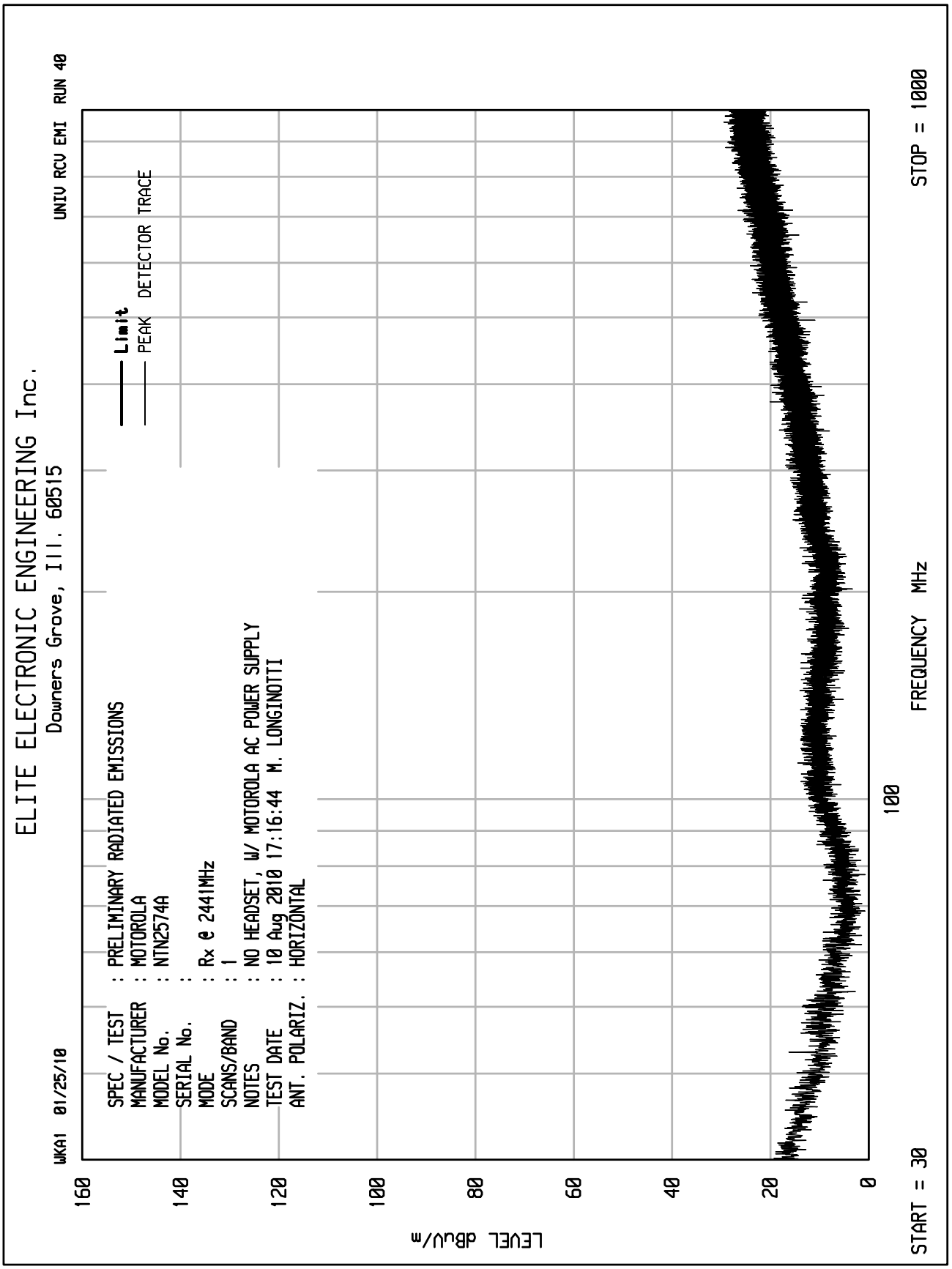

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 29
WKA1 01/25/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : MOTOROLA
MODEL No. : NTN2574A
SERIAL No. :
MODE : Rx @ 2441MHz
SCANS/BAND : 1
NOTES : HEADSET NTN2575A, W/ MOTOROLA AC POWER SUPPLY
TEST DATE : 10 Aug 2010 13:54:58 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 7500

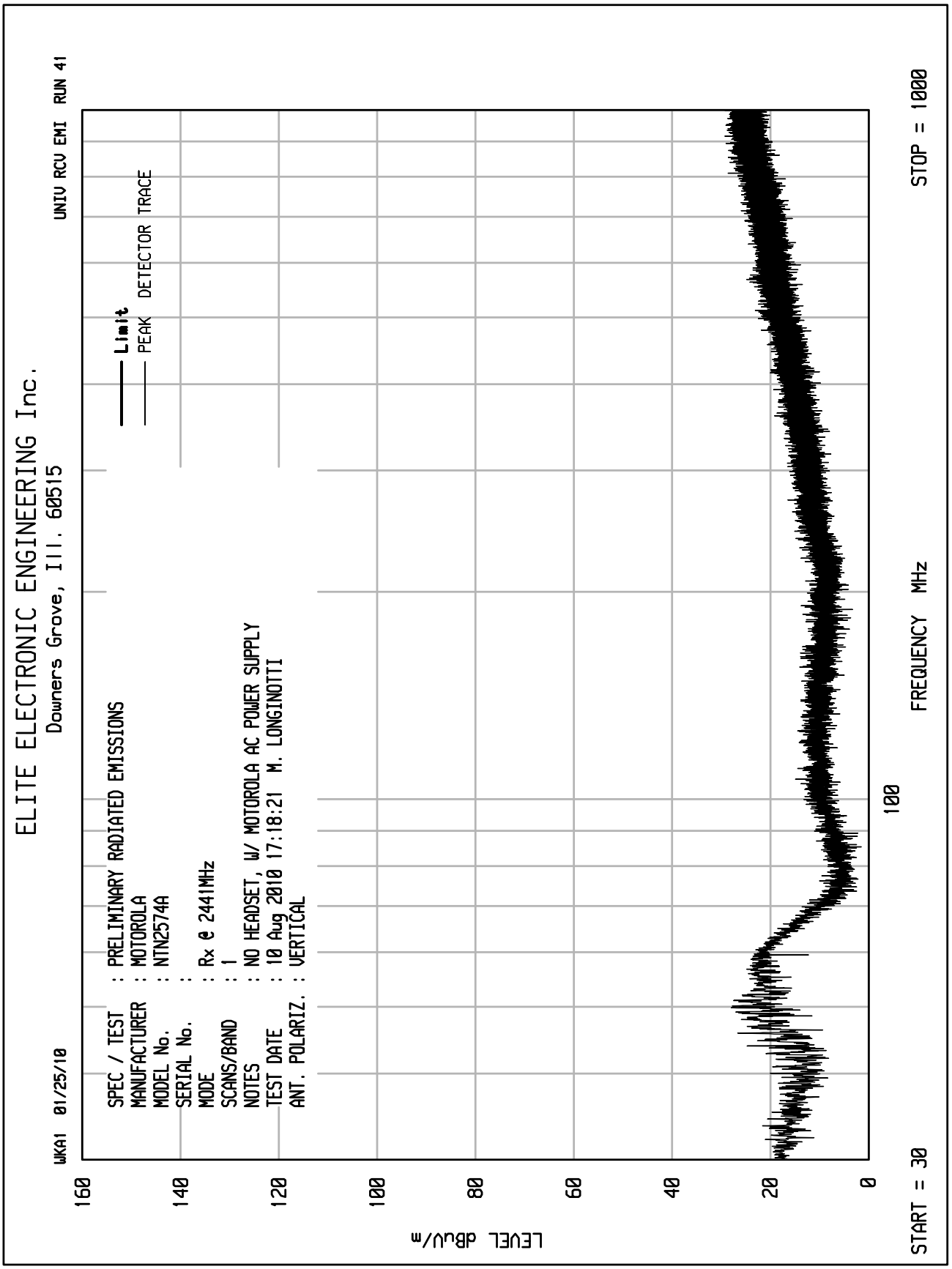

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 44
WKA1 01/25/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : MOTOROLA
MODEL No. : NTN2574A
SERIAL No. :
MODE : Rx @ 2441MHz
SCANS/BAND : 1
NOTES : TESTED W/ NTN2575A HEADSET
TEST DATE : 10 Aug 2010 17:22:40 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
160
140
120
100
80
60
40
20
0
START = 30
100
FREQUENCY MHz
STOP = 1000

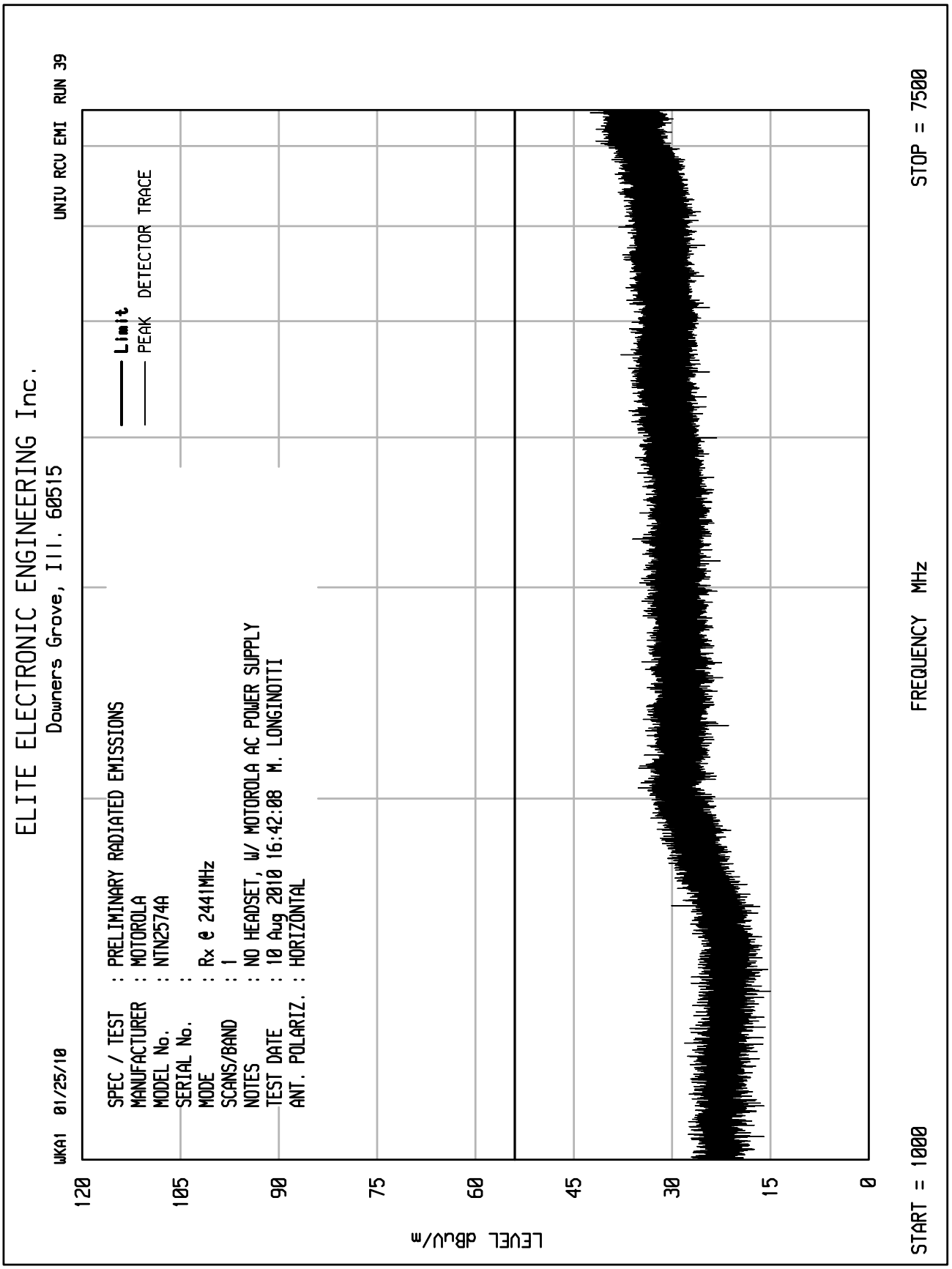

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 45
WKA1 01/25/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : MOTOROLA
MODEL No. : NTN2574A
SERIAL No. :
MODE : Rx @ 2441MHz
SCANS/BAND : 1
NOTES : TESTED W/ NTN2575A HEADSET
TEST DATE : 10 Aug 2010 17:27:08 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
160
140
120
100
80
60
40
20
0
START = 30
100
FREQUENCY MHz
STOP = 1000

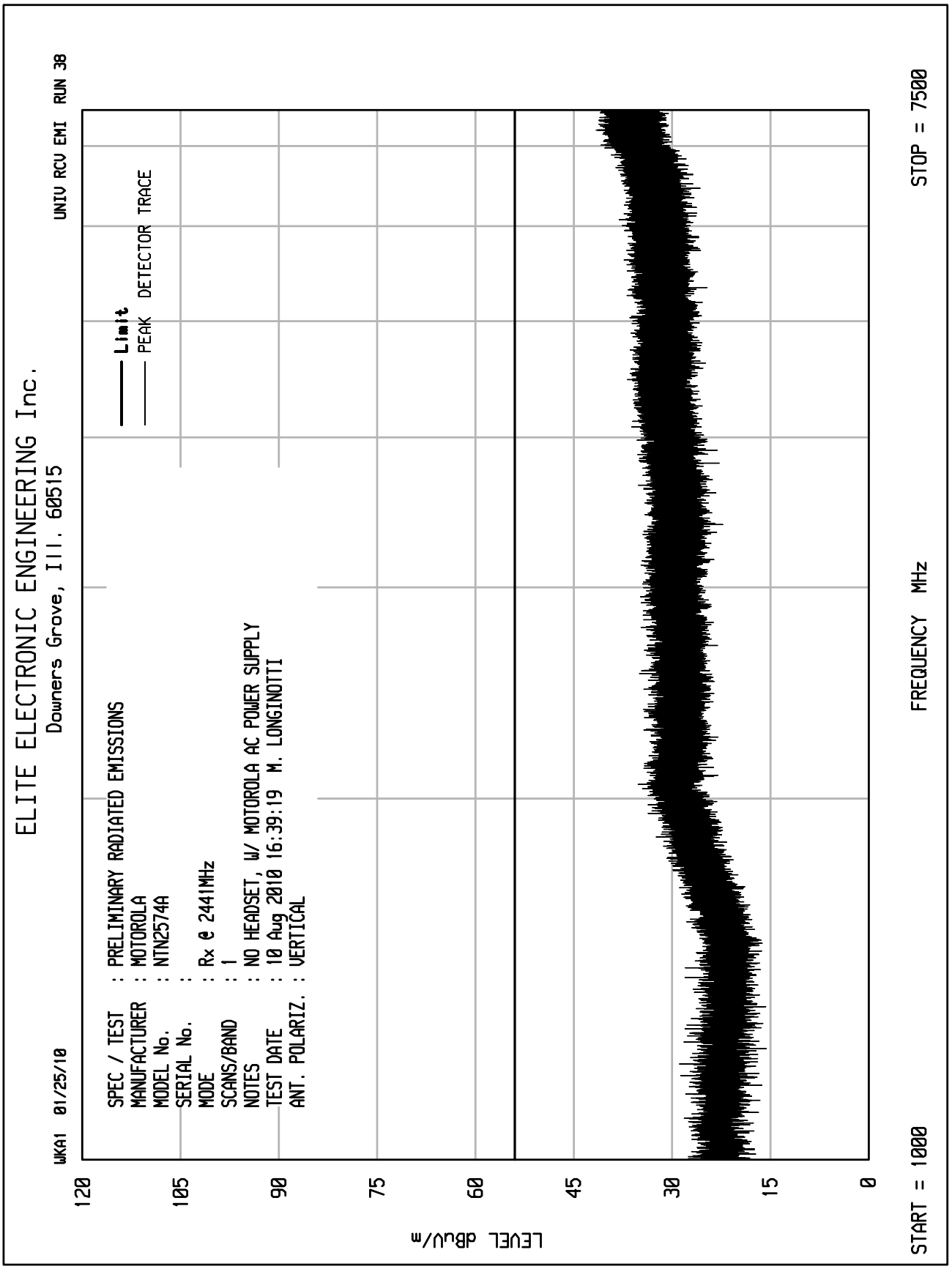

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 35
WKA1 01/25/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : MOTOROLA
MODEL No. : NTN2574A
SERIAL No. :
MODE : Rx @ 2441MHz
SCANS/BAND : 1
NOTES : TESTED W/ HEADSET NTN2575A
TEST DATE : 10 Aug 2010 15:40:14 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 7500

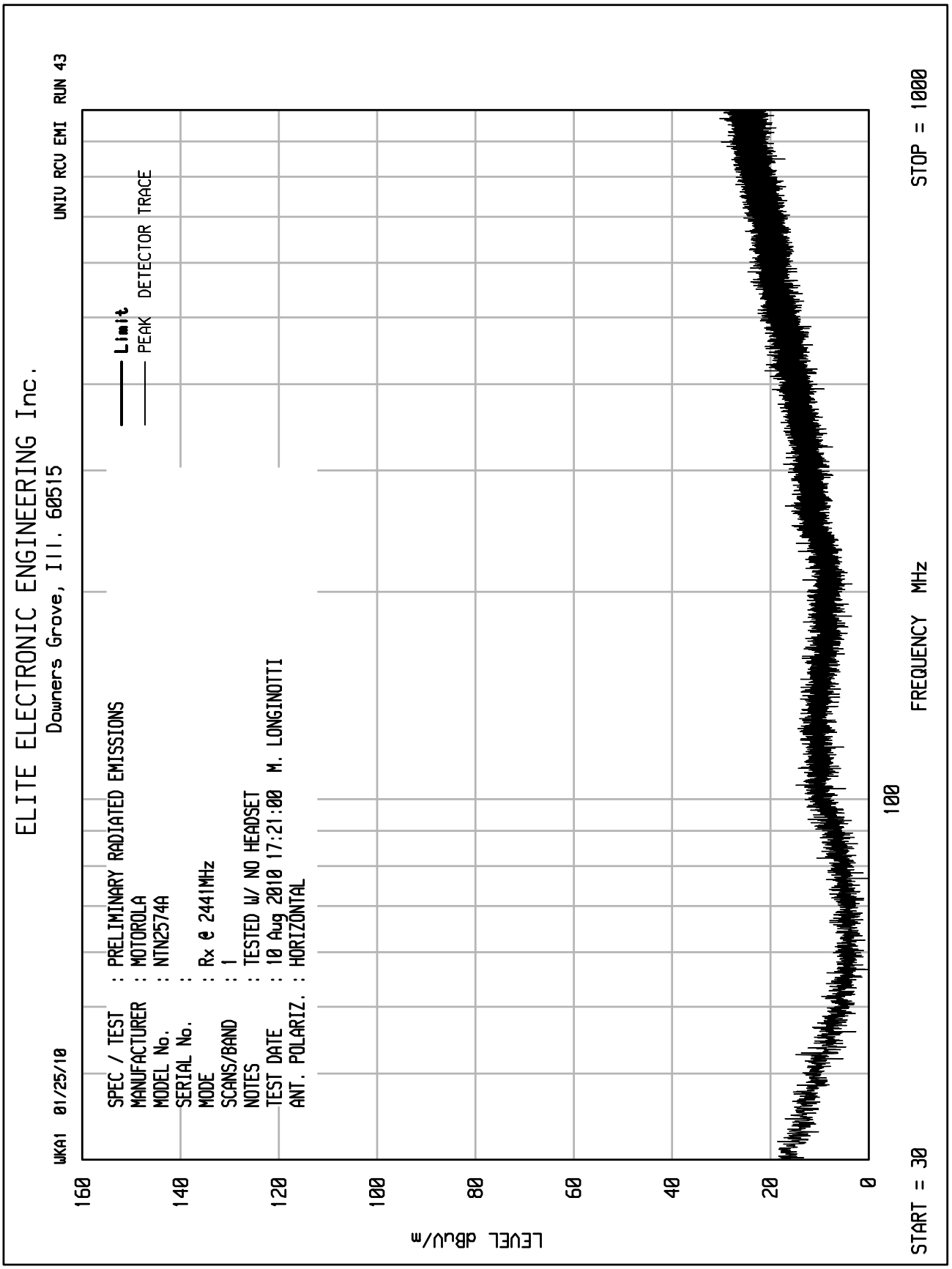

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 34
WKA1 01/25/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : MOTOROLA
MODEL No. : NTN2574A
SERIAL No. :
MODE : Rx @ 2441MHz
SCANS/BAND : 1
NOTES : TESTED W/ HEADSET NTN2575A
TEST DATE : 10 Aug 2010 15:37:38 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 7500

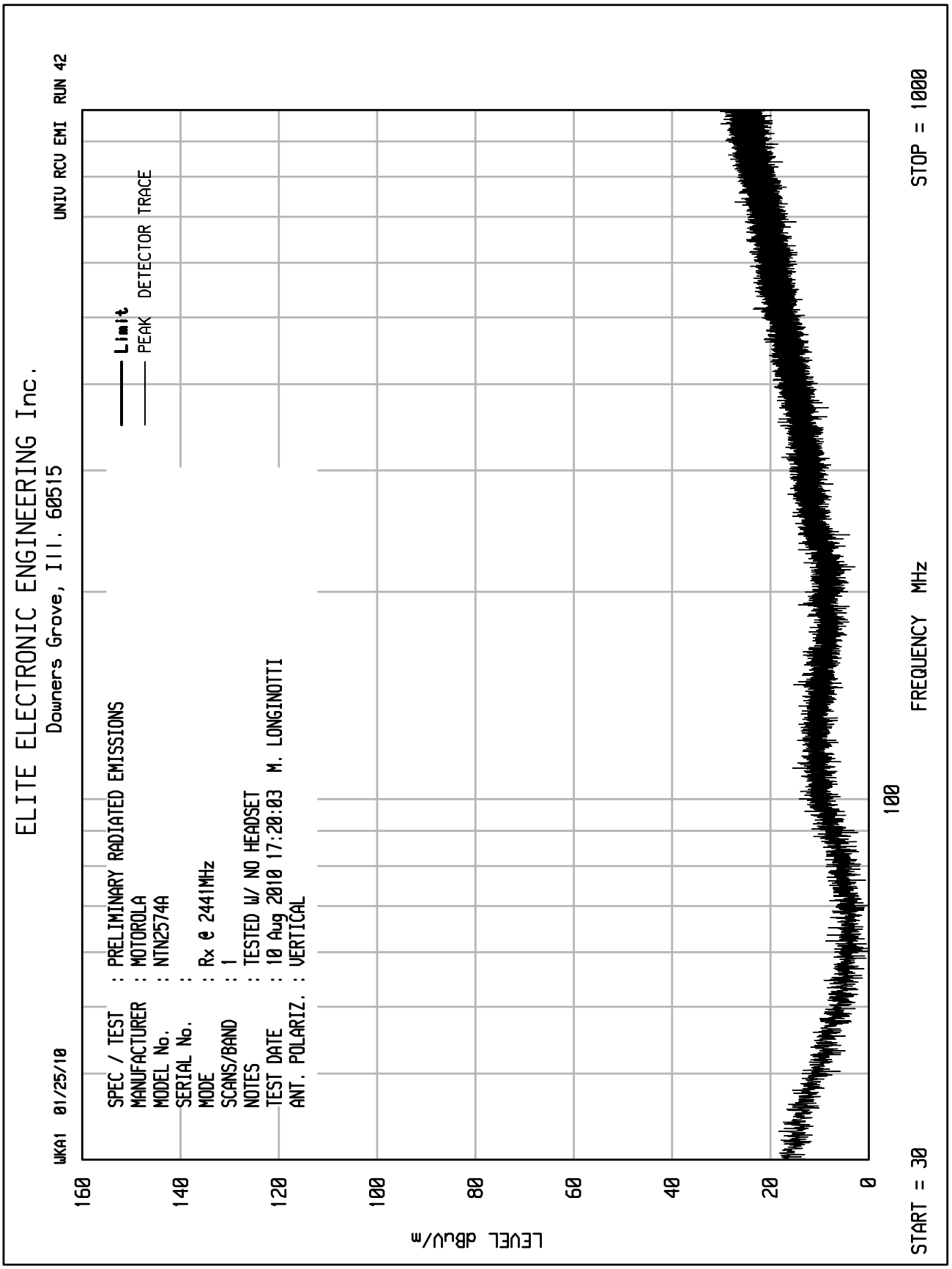

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 40
WKA1 01/25/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : MOTOROLA
MODEL No. : NTN2574A
SERIAL No. :
MODE : Rx @ 2441MHz
SCANS/BAND : 1
NOTES : NO HEADSET, W/ MOTOROLA AC POWER SUPPLY
TEST DATE : 10 Aug 2010 17:16:44 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
160
140
120
100
80
60
40
20
0
START = 30
100
FREQUENCY MHz
STOP = 1000

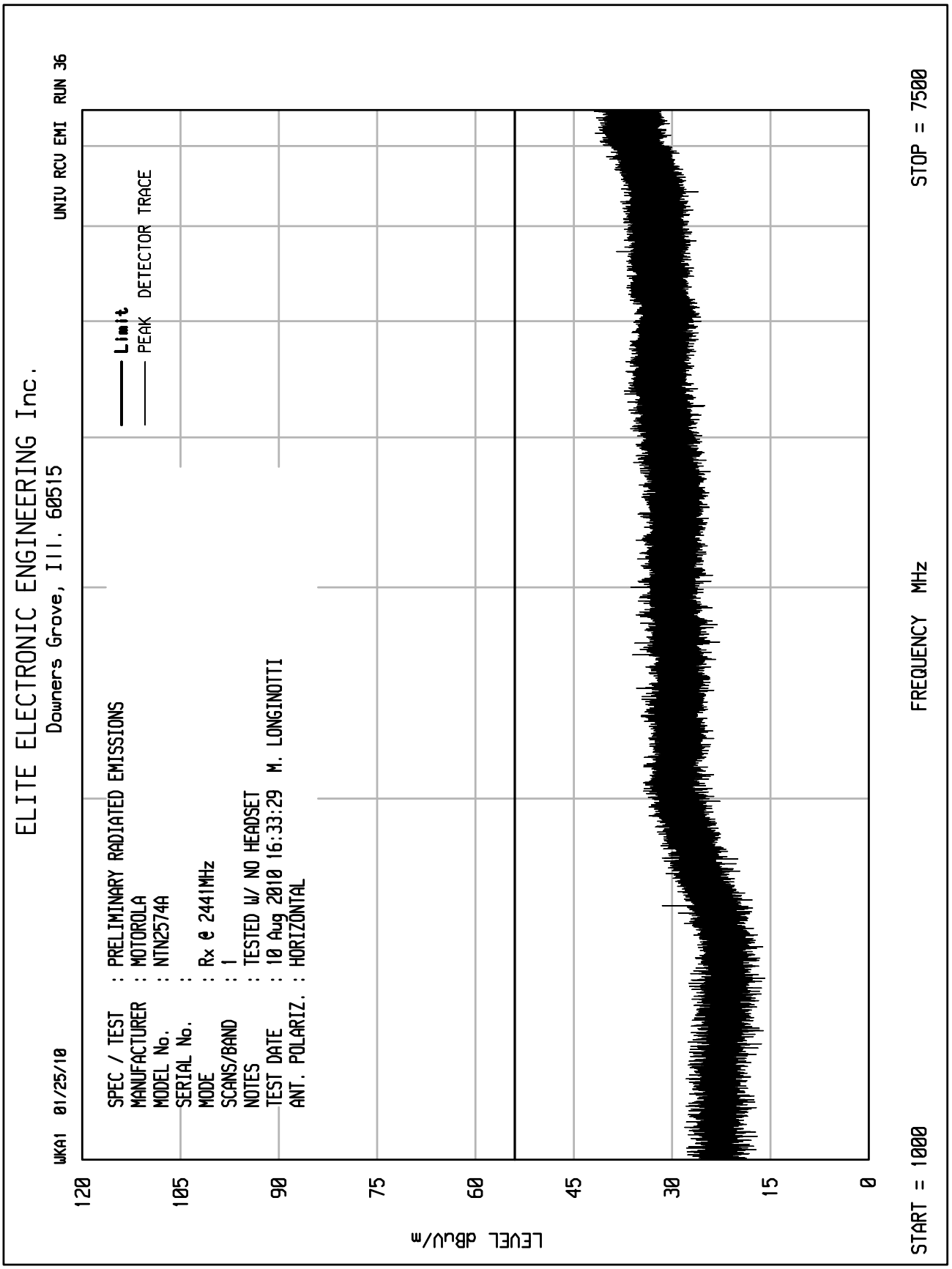

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 41
WKA1 01/25/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : MOTOROLA
MODEL No. : NTN2574A
SERIAL No. : :
MODE : Rx @ 2441MHz
SCANS/BAND : 1
NOTES : NO HEADSET, W/ MOTOROLA AC POWER SUPPLY
TEST DATE : 10 Aug 2010 17:18:21 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
160
140
120
100
80
60
40
20
0
START = 30
100
FREQUENCY MHz
STOP = 1000

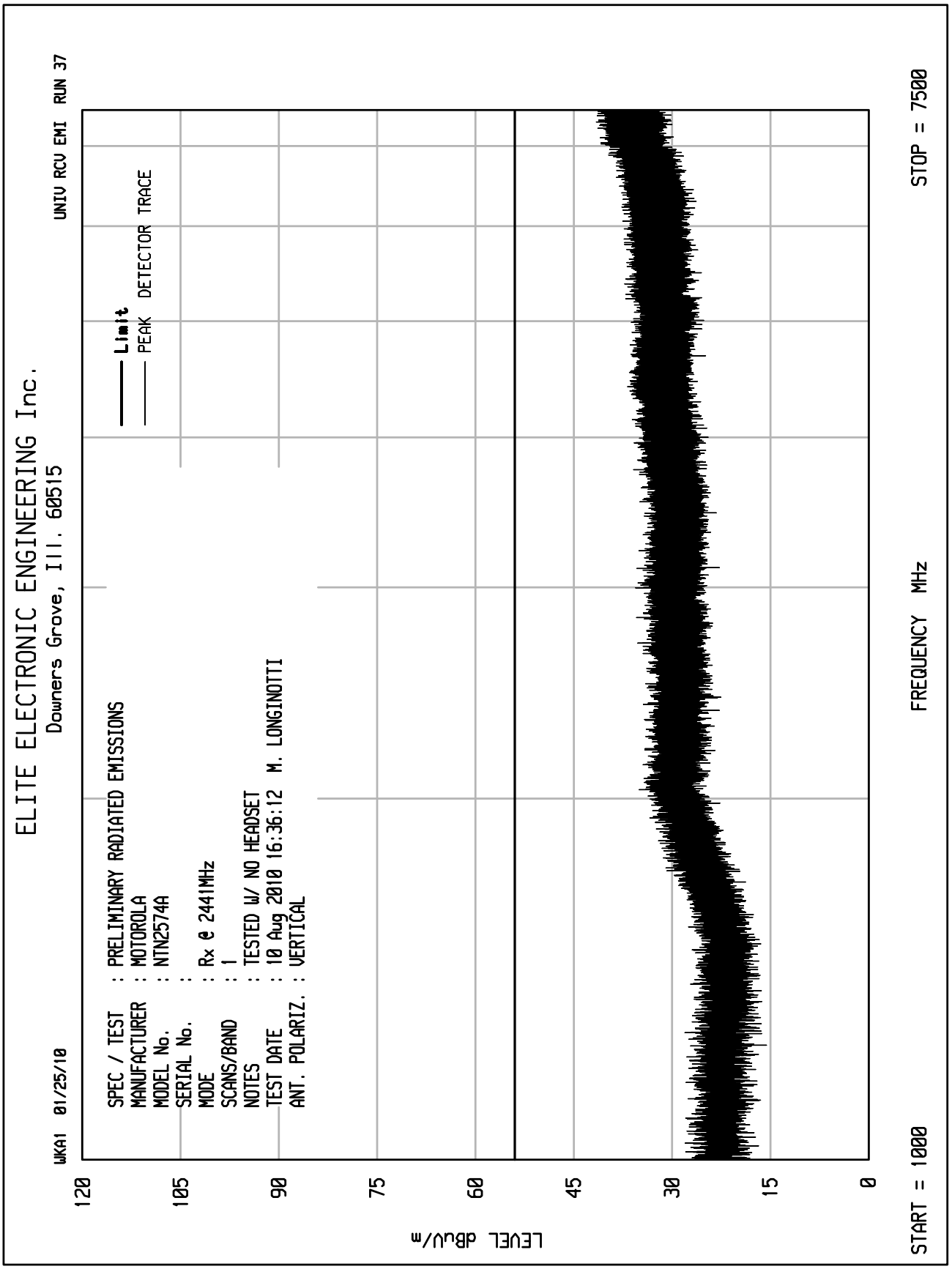

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 39
WKA1 01/25/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : MOTOROLA
MODEL No. : NTN2574A
SERIAL No. :
MODE : Rx @ 2441MHz
SCANS/BAND : 1
NOTES : NO HEADSET, W/ MOTOROLA AC POWER SUPPLY
TEST DATE : 10 Aug 2010 16:42:08 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 7500


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 38
WKA1 01/25/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : MOTOROLA
MODEL No. : NTN2574A
SERIAL No. :
MODE : Rx @ 2441MHz
SCANS/BAND : 1
NOTES : NO HEADSET, W/ MOTOROLA AC POWER SUPPLY
TEST DATE : 10 Aug 2010 16:39:19 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 7500


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 43
WKA1 01/25/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : MOTOROLA
MODEL No. : NTN2574A
SERIAL No. :
MODE : Rx @ 2441MHz
SCANS/BAND : 1
NOTES : TESTED W/ NO HEADSET
TEST DATE : 10 Aug 2010 17:21:00 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
160
140
120
100
80
60
40
20
0
START = 30
100
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 42
WKA1 01/25/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : MOTOROLA
MODEL No. : NTN2574A
SERIAL No. :
MODE : Rx @ 2441MHz
SCANS/BAND : 1
NOTES : TESTED W/ NO HEADSET
TEST DATE : 10 Aug 2010 17:20:03 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
160
140
120
100
80
60
40
20
0
START = 30
100
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 36
WKA1 01/25/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : MOTOROLA
MODEL No. : NTN2574A
SERIAL No. :
MODE : Rx @ 2441MHz
SCANS/BAND : 1
NOTES : TESTED W/ NO HEADSET
TEST DATE : 10 Aug 2010 16:33:29 M. LONGINOTTI
ANT. POLARIZ. : HORIZONTAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 7500


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 37
WKA1 01/25/10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : MOTOROLA
MODEL No. : NTN2574A
SERIAL No. :
MODE : Rx @ 2441MHz
SCANS/BAND : 1
NOTES : TESTED W/ NO HEADSET
TEST DATE : 10 Aug 2010 16:36:12 M. LONGINOTTI
ANT. POLARIZ. : VERTICAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 7500