Measurement of RF Interference from a Model AAM27UMR9JA7AN, Cypher Repeater

For : Motorola Inc.
Schaumburg, IL 60196

P.O. No. : NP5090508
Date Tested : March 22 through April 6, 2010
Test Personnel : Richard E. King
Specification : FCC Part 15, Subpart B and Part 90, Subpart I
: Industry Canada RSS-119
: Industry Canada RSS-GEN

Test Report By : Richard E. King

Richard E. King

Witnessed By : Tim Dittmer
Motorola Inc.

Approved By : Raymond J. Klouda
Registered Professional Engineer
of Illinois - 44894

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REVISION HISTORY

Revision	Date	Description
—	4/7/2010	Initial release
A	4/13/2010	- Changed the model number from AAM27VMR9JA7AN to AAM27UMRJA7AN - Corrected power level to read 30 Watts instead of 35 Watts.

Measurement of RF Emissions from a Motorola Inc.

Model AAM27UMR9JA7AN Cypher Repeater

1.0 INTRODUCTION:

1.1 Description of Test Item - This document presents the results of the series of radio interference measurements performed on a Motorola Inc., Model AAM27UMR9JA7AN Cypher Repeater, Serial No. 484TLE0050 (hereinafter referred to as the test item). The test item is designed to transmit in the ranges of 851MHz to 869MHz and 935MHz to 940MHz and receive in the frequency ranges of 806MHz to 825MHz and 896MHz to 902MHz. The test item employs an external antenna. The receiver contained one local oscillator at 73.35MHz below the carrier. The test item was 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 radiated emissions requirements for the FCC and Industry Canada (IC) technical requirements for receivers and transmitter. The test item shall comply with the technical requirements of FCC Part 15 and 90; and IC RSS-119. The testing includes the radiated RF emission requirements for receivers, and the RF power output, and field strength of spurious emissions requirements for the transmitters. Testing was performed in accordance with ANSI C63.4-2003 and TIA-603-C-2004.

1.3 Deviations, Additions and Exclusions - There were no deviations, additions to, or exclusions from the test specification during this test series.

1.4 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, dated 1 October 2009
- Federal Communications Commission "Code of Federal Regulations", Title 47, Part 90, 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"
- TIA-603-C-2004, “Land Mobile FM or PM – Communications Equipment – Measurement and Performance Standards”
- RSS-119 - Land Mobile and Fixed Radio Transmitters and Receivers

Operating in The Frequency Range 27.41- 960 MHz Issue 9 June 2007

1.5 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.

1.6 Laboratory Conditions The temperature at the time of the test was 21.2°C and the relative humidity was 25%.

2.0 TEST ITEM SET-UP AND OPERATION:

The test item is a Motorola Inc., Model AAM27UMR9JA7AN Cypher Repeater. The test item is designed to transmit in the ranges of 851MHz to 869MHz and 935MHz to 940MHz and receive in the frequency ranges of 806MHz to 825MHz and 896MHz to 902MHz. The test item operates at two power levels, 10 Watts and 30 Watts from 935MHZ to 940MHz and 10 Watts and 35 Watts from 851MHz to 869MHz. The test item operates with two channel bandwidths, 12.5kHz and 25kHz. Photographs of the test item are shown as Figure 2.

2.1 Power Input - The 120 VAC 60 Hz power was provided to the test item through a 3 wire, 6 foot long shielded cord.

2.2 Grounding - The test item was grounded through the third wire of its input power cord.

2.3 Peripheral Equipment - No peripheral equipment was submitted with the test item.

2.4 Interconnect Cables - A multi-pin connector was supplied to provide connections for the control functions. The control leads were connected to the USB port of a laptop computer to control the transmit and receive tuned frequencies, the power output and the channel bandwidth.

2.5 Operational Mode - For all receiver tests, the test item was tuned to receive separately at 806.0125MHz, 815.5MHz, 825MHz, 896MHz and 902MHz.

For transmitter tests, the test item was set to transmit at 860.5MHz and 937.5MHz.

2.6 Test Item Modifications - No modifications were required for compliance to the requirements.

3.0 TEST EQUIPMENT:

3.1 Test Equipment List - A list of the test equipment used can be found on Table I.

3.2 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).

3.3 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 dB	-1.07 dB
Expanded Uncertainty (95% confidence)	2.1 dB	-2.1 dB

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

4.0 REQUIREMENTS, PROCEDURES AND RESULTS:

4.1 Receiver:

4.1.2 Antenna Conducted Emissions Measurements:

4.1.2.1 Requirements - This test is performed to determine the test item configuration during the radiated RF emissions tests. The power at the antenna terminal over the frequency range 30MHz to 5000MHz may be measured. If the emissions at the antenna terminal exceed 2 nanowatts, it is necessary to perform the radiated RF emissions tests with the antenna port terminated with an equivalent antenna. If the test item does meet the 2 nanowatt requirement, the radiated emissions tests can be performed with the antenna port terminated with a shielded load.

4.1.2.2 Procedures - The measuring equipment was connected to the test item's antenna port. The emissions in the frequency range from 30MHz to 5000MHz were observed and then plotted.

4.1.2.3 Results - The results of the antenna conducted measurements are presented on pages 15 through 19. The reference line shown on the data pages represents the 2 nanowatt requirement. As can be seen from the data pages, all emissions from the test item were below the 2 nanowatt requirement. Since the emissions were below the 2 nanowatt limit, the antenna port was terminated with a shielded load for radiated emissions

measurements.

4.1.3 Radiated Measurements:

4.1.3.1 Requirements - All emanations from a receiver shall be below the levels shown on the following table:

RADIATED EMISSION LIMITS FOR RECIEVERS

Frequency MHz	Distance between Test Item And Antenna in Meters	Field Strength uV/m
30-88	3	100
88-216	3	150
216-960	3	200
Above 960	3	500

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

4.1.3.2 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 power lines and signal lines entering the enclosure pass through filters on the enclosure wall. The power line filters prevent extraneous signals from entering the enclosure on these leads.

Since a quasi-peak detector requires long integration times, it is not practical to automatically sweep through the quasi-peak 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.

The broadband measuring antenna was positioned at a 3 meter distance from the test item. The frequency range from 30MHz to 1000MHz was investigated using a peak detector function with a bilog antenna. The frequency range above 1000MHz was investigated using a peak detector function with a waveguide antenna. The maximum levels were plotted.

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

1) For all frequencies 1GHz and below, measurements were made using a broadband bi-log antenna.

2) For all frequencies above 1GHz, measurements were made using a waveguide antenna.

3) To ensure that the 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.

4.1.3.3 Results - The preliminary plots are presented on pages 20 through 39. These plots are presented for a reference only, and are not used to determine compliance. The final radiated levels are presented on pages 40 through 49.

As can be seen from the final data, all emissions measured from the test item were within the specification limits. A block diagram of the radiated emissions test set-up is shown on Figure 1. Photographs of the test set-up are shown in Figure 2 and Figure 3.

4.2 Transmitter:

4.2.1 RF Power Output:

4.2.1.1 Requirements - The output power shall not exceed by more than 20 percent the manufacturer's rated output power for the particular transmitter specifically listed on the authorization.

4.2.1.2 Procedures – With the test item transmitting at 860.5 MHz then at 937.5 MHz, the antenna port of the test item was connected to a spectrum analyzer through 60 dB of attenuation. The resolution bandwidth of the spectrum analyzer was set wider than the bandwidth of the test item. The output power of the item was then measured.

4.2.1.3 Results - The output power measurements are shown in a tabular form on page 50. As can be seen from the data, the power output at each frequency meets the requirement for maximum allowable power of 20% above the manufacturer's rated output power.

4.2.2 Field Strength Of Spurious Emissions:

4.2.2.1 Requirements - For a 12.5 or 25kHz channel in the 851 to 869 MHz band - on any frequency removed from the center of the authorized bandwidth by a

displacement frequency (fd in kHz) of more than 250% of the emission bandwidth, the emissions must be attenuated by at least 43 + 10log (P) dB.

For a 12.5 kHz channel in the 935 to 940 MHz band - on any frequency removed from the center of the authorized bandwidth by a displacement frequency of more than 15 kHz: At least 43 + 10 log (P) dB, or 70 dB, whichever is the lesser attenuation.

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

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

1. Preliminary radiated emissions measurements were first performed using a peak detector and automatically plotted. The broadband measuring antenna was positioned at a 3 meter distance from the test item. The entire frequency range from 30MHz to 9GHz was investigated using a peak detector function. All preliminary tests were performed separately with the test item operating in the transmit mode at 860.5 MHz and 937.5 MHz.

2. All significant broadband and narrowband signals found in the preliminary sweeps were then measured using a peak detector at a test distance of 3 meters. The measurements were made with a tuned dipole or double ridged waveguide antenna over the frequency range of 30MHz to 10GHz.

3. To ensure that maximum 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 antennas are linearly polarized, both horizontal and vertical field components were measured.
   c) The measuring antenna was raised and lowered from 1 to 4 meters for each antenna polarization to maximize the readings.

4. The equivalent power was determined from the field intensity levels measured at 3 meters using the substitution method. To determine the emission power a tuned dipole or double ridged waveguide antenna was 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 corrected to compensate for cable loss, as required, and when the double ridged waveguide antenna was used, increased by the difference in gain between the dipole and the waveguide antenna.

4.2.2.3 Results - The preliminary radiated emissions plots for the transmitter are presented on pages 51 through 73. Factors for the antennas and cables were added to the data before it was plotted. This data is only presented for a reference, and is not used as official data.

The final radiated levels are presented on pages 74 through 79. The radiated emissions were measured through the 10th harmonic. As can be seen from the data, all emissions measured from the test item were within the specification limits. Photographs of the test set-up are shown in Figure 2 and Figure 3.

5.0 CONCLUSIONS:

It was determined that the Motorola Inc., Model AAM27UMR9JA7AN Cypher Repeater, did fully comply with the selected technical requirements of FCC Part 15 and 90; and IC RSS-119 for transmitters and receivers.

The test item meets the radiated emission requirements of the FCC Part 15, Subpart B; and RSS-119 for receivers.

The test item meets the RF power output and field strength of spurious emissions requirements of the FCC Part 90, and RSS-119 for transmitters.

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

7.0 ENDORSEMENT DISCLAIMER:

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

Table I: Equipment List

Eq ID	Equipment Description	Manufacturer	Model No.	Serial No.	Frequency Range	Cal Date	Due Date
APW2	PREAMPLIFIER	PLANAR ELECTRONICS	PE2-35-120-5R0-10	PL2925	1GHZ-20GHZ	7/28/2009	7/28/2010
CDS2	COMPUTER	GATEWAY	MFATXPNT NMZ 500L	0028483108	1.8GHZ	N/A	
GRE0	SIGNAL GENERATOR	AGILENT TECHNOLOGIES	E4438C	MY42083127	250KHZ-6GHZ	2/16/2010	2/16/2011
HRE7	LASER JET 6P	HEWLETT PACKARD	C3980A	USCD109509	---	N/A	
NWF0	RIDGED WAVE GUIDE	EMCO	3105	2035	1-12.4GHZ	12/5/2009	12/5/2010
NWH0	RIDGED WAVE GUIDE	TENSOR	4105	2081	1-12.4GHZ	8/11/2009	8/11/2010
RAKG	RF SECTION	HEWLETT PACKARD	85462A	3549A00284	0.009-6500MHZ	2/16/2010	2/16/2011
RAKH	RF FILTER SECTION	HEWLETT PACKARD	85460A	3448A00324	---	2/16/2010	2/16/2011
RBA0	EMI TEST RECEIVER	ROHDE & SCHWARZ	ESIB26	100145	20HZ-26.5GHZ	3/12/2010	3/12/2011
RBB0	EMI TEST RECEIVER 20HZ TO 40 GHZ	ROHDE & SCHWARZ	ESIB40	100250	20 HZ TO 40GHZ	3/16/2010	3/16/2011
SEK1	DC POWER SUPPLY	LABORNETZGERAT	L3205	94081004	0-32VDC;0-5A	NOTE 1	
T2DL	20DB, 25W ATTENUATOR	WEINSCHEL	46-20-34	BS0910	DC-18GHZ	8/24/2009	8/24/2010
T2DS	20DB, 25W ATTENUATOR	WEINSCHEL	46-20-34	BS0916	DC-18GHZ	8/24/2009	8/24/2010
T2H0	20DB, 150W ATTENUATOR	BIRD ELECTRONIC CORP	8343-200	1618	DC-1GHZ	1/11/2010	1/11/2011
XLJW	5W, 50 OHM TERMINATION	JFW INDUSTRIES	50T-052	31	DC-2GHZ	8/24/2009	8/24/2010
XLK6	100W 50 OHM TERMINATION	JFW INDUSTRIES	50T-032-1.0	007	DC-1GHz	4/27/2009	4/27/2010

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.

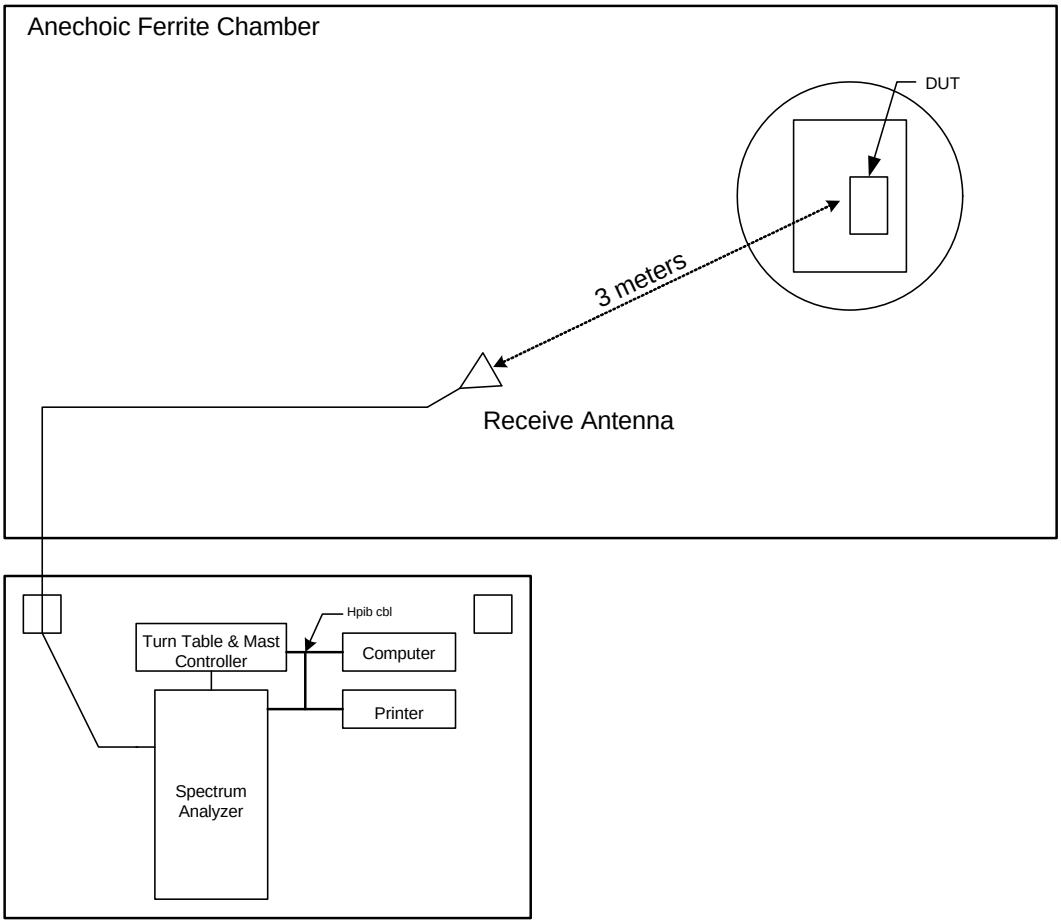
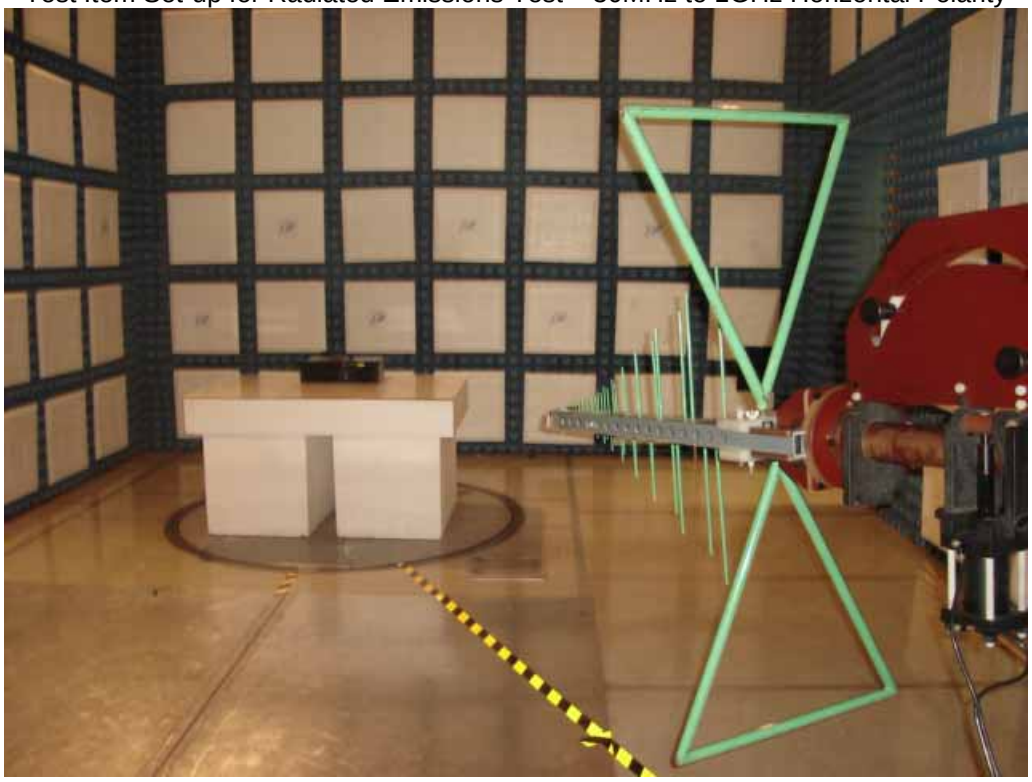


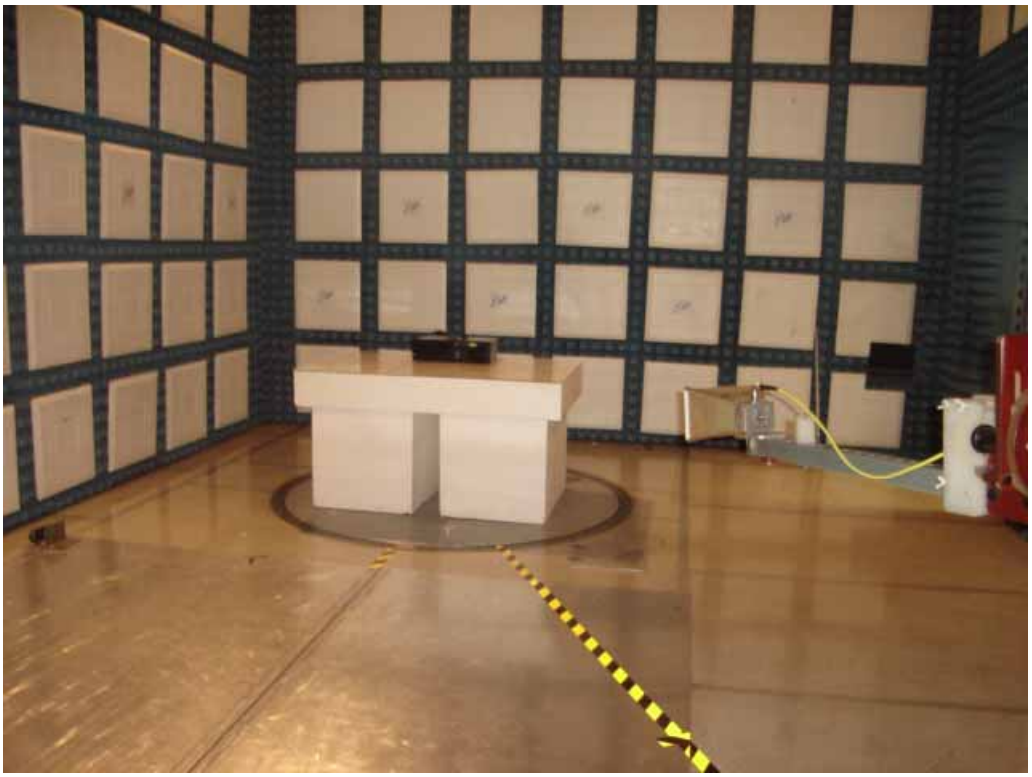
FIGURE 1 BLOCK DIAGRAM OF RADIATED EMISSIONS TEST SETUP

Figure 2

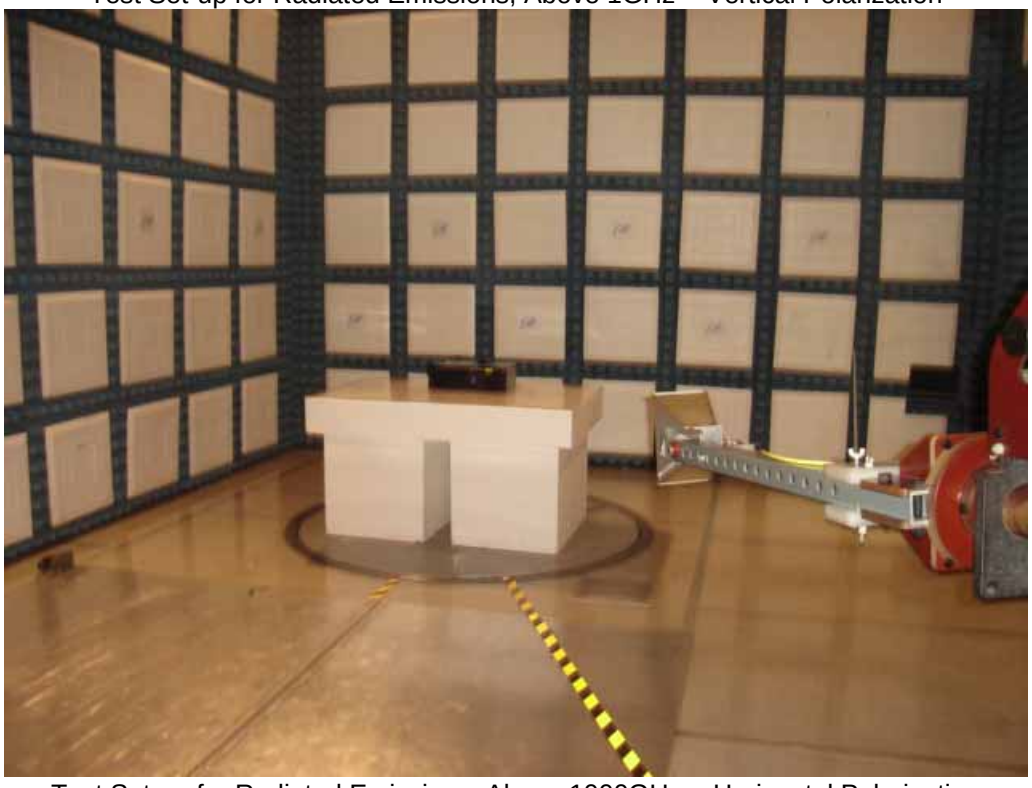
Test Item Set-up for Radiated Emissions Test – 30MHz to 1GHz Horizontal Polarity



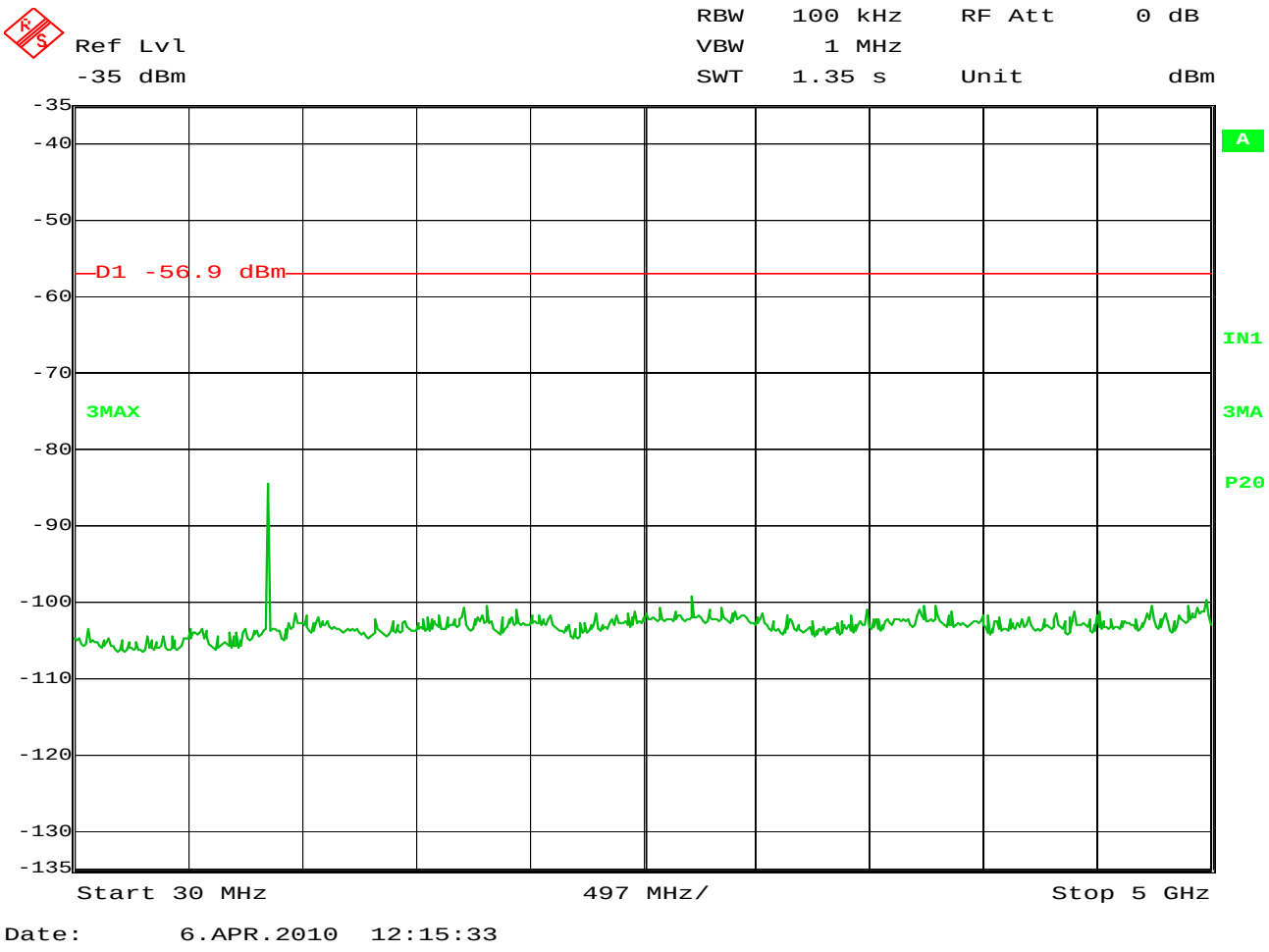
Test Item Set-up for Radiated Emissions Test - 30MHz to 1GHz Horizontal Polarity



Test Set-up for Radiated Emissions, Above 1GHz - Vertical Polarization



Test Set-up for Radiated Emissions, Above 1000GHz - Horizontal Polarization



FCC 15.111 Antenna Conducted Emissions

MANUFACTURER : Motorola Inc.
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SERIAL NO. : 484TLE0050
TEST MODE : Receive
TUNNED FREQ. : 806.0125 MHz
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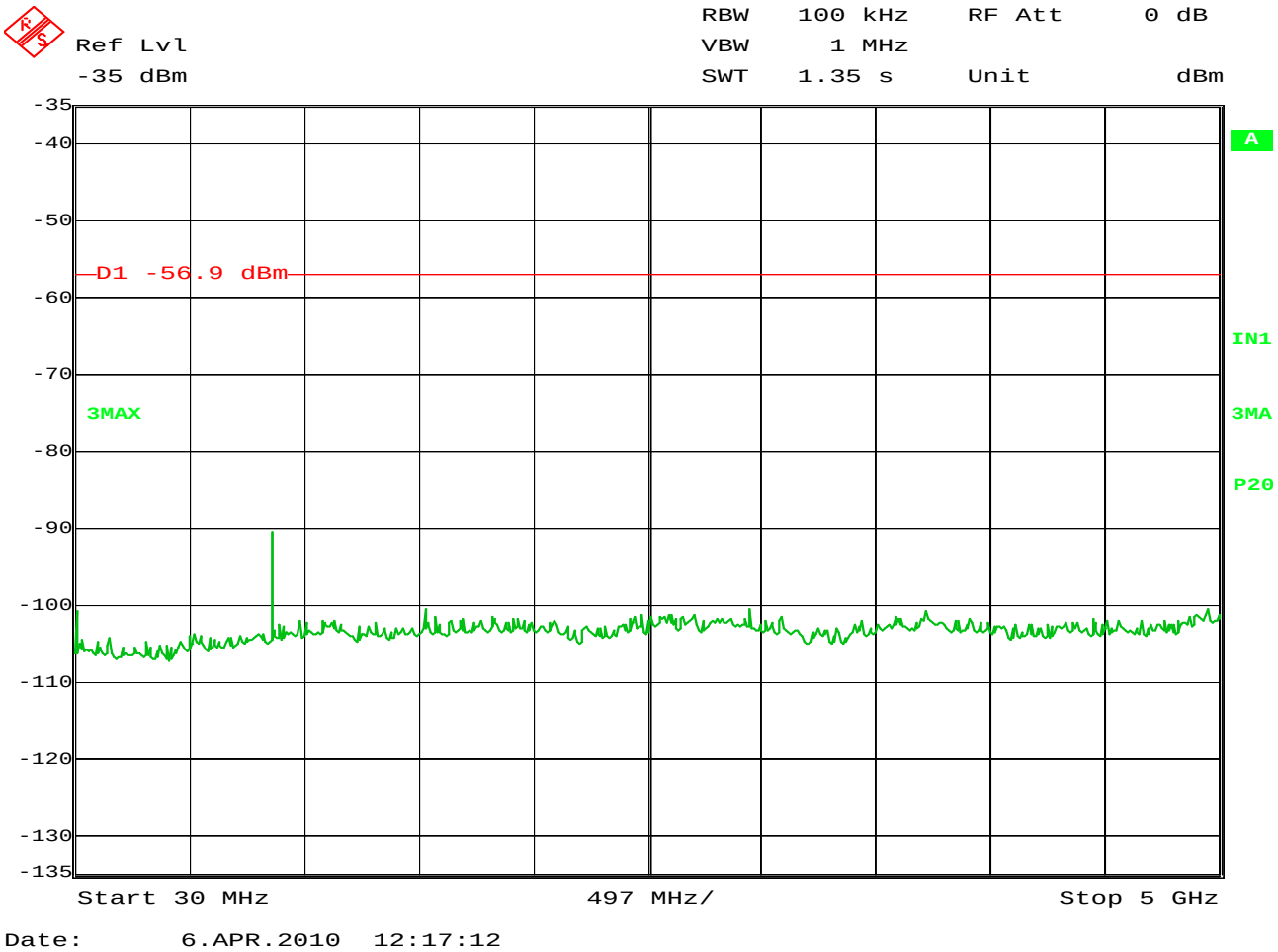
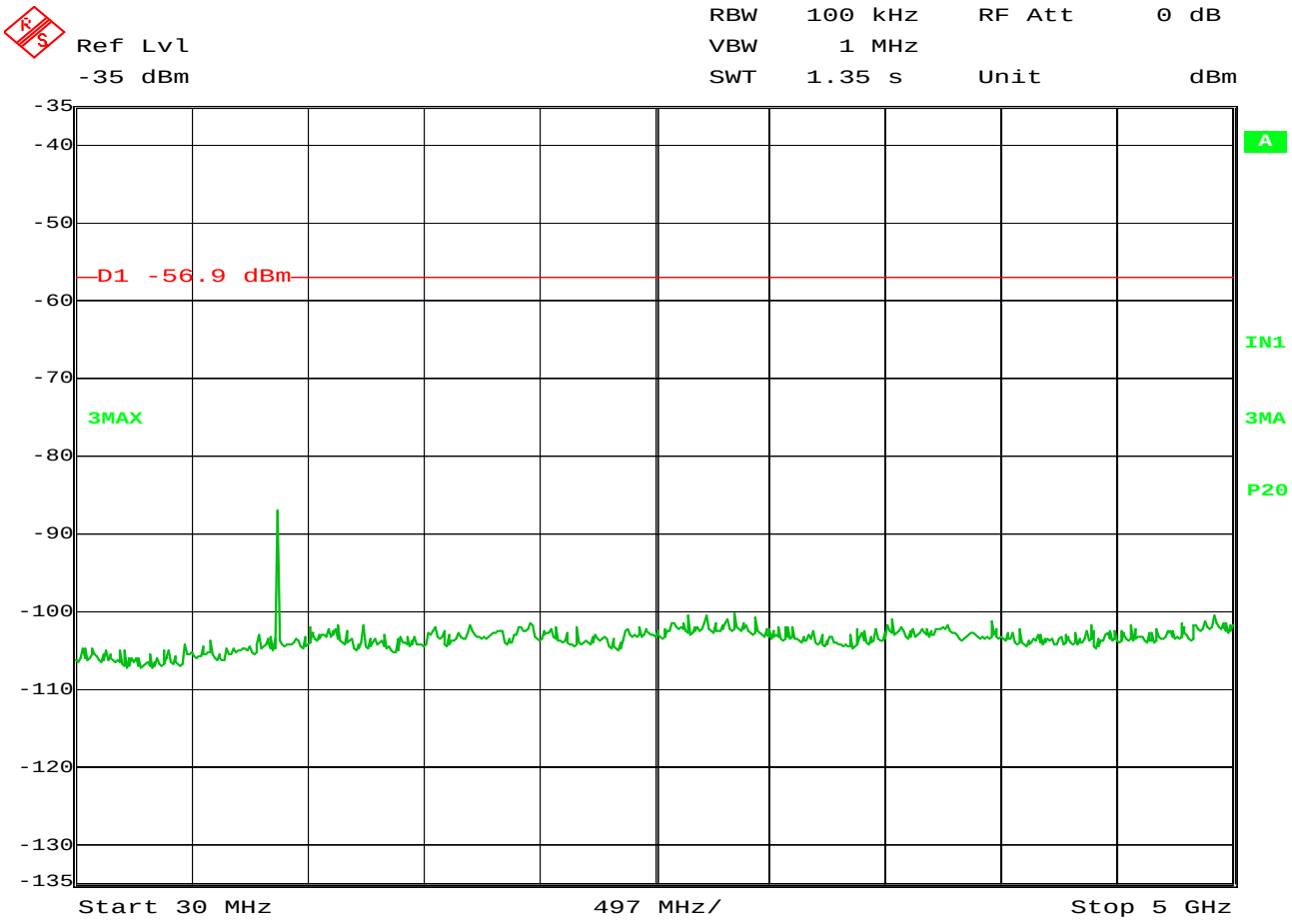


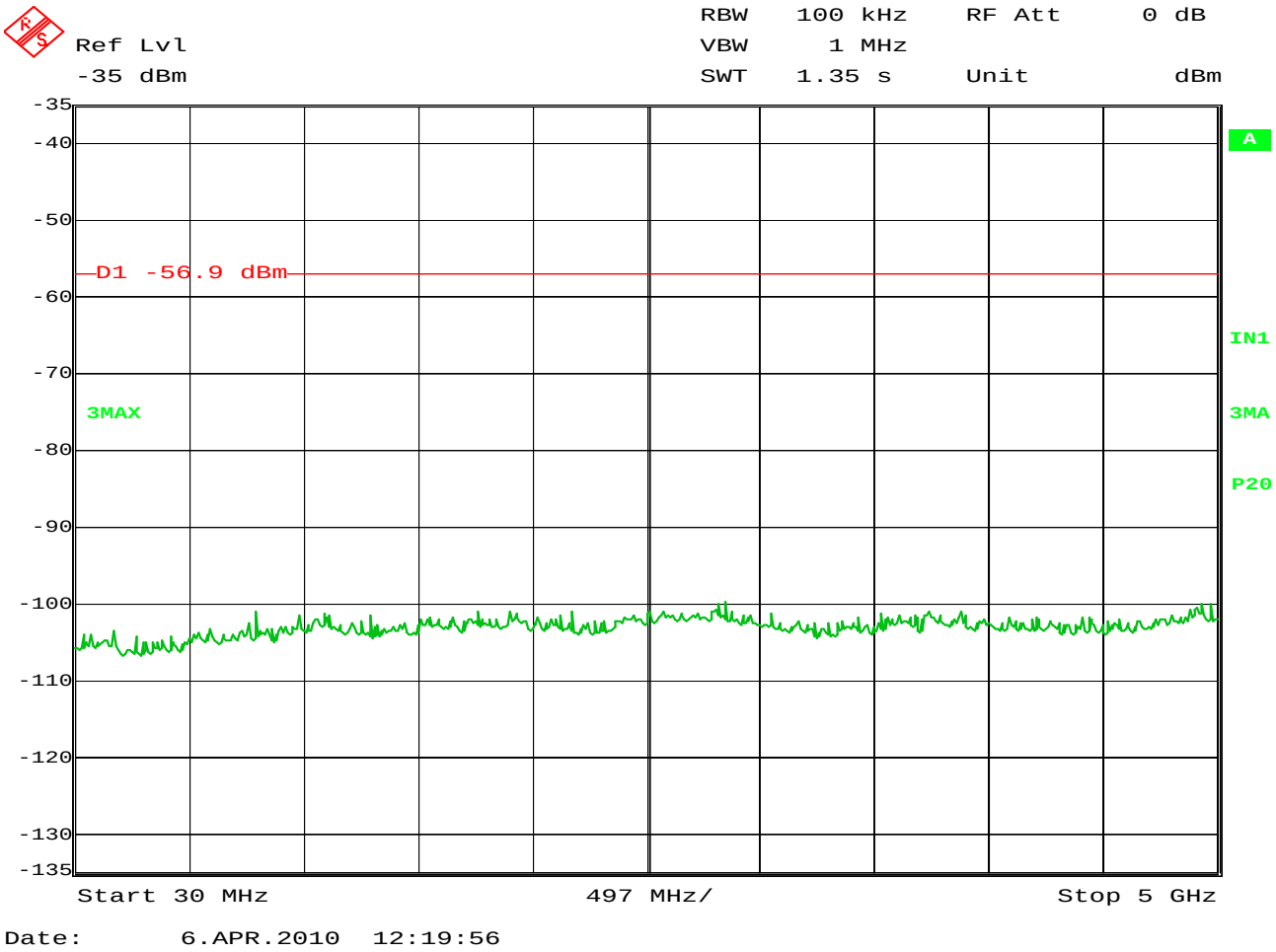
FCC 15.111 Antenna Conducted Emissions

MANUFACTURER	: Motorola Inc.
MODEL	: AAM27UMR9JA7AN
SERIAL NO.	: 484TLE0050
TEST MODE	: Receive
TUNNED FREQ.	: 815MHz
NOTES	:



FCC 15.111 Antenna Conducted Emissions

MANUFACTURER : Motorola Inc.
MODEL : AAM27UMR9JA7AN
SERIAL NO. : 484TLE0050
TEST MODE : Receive
TUNNED FREQ. : 825MHz
NOTES :



FCC 15.111 Antenna Conducted Emissions

MANUFACTURER : Motorola Inc.
MODEL : AAM27UMR9JA7AN
SERIAL NO. : 484TLE0050
TEST MODE : Receive
TUNNED FREQ. : 896MHz
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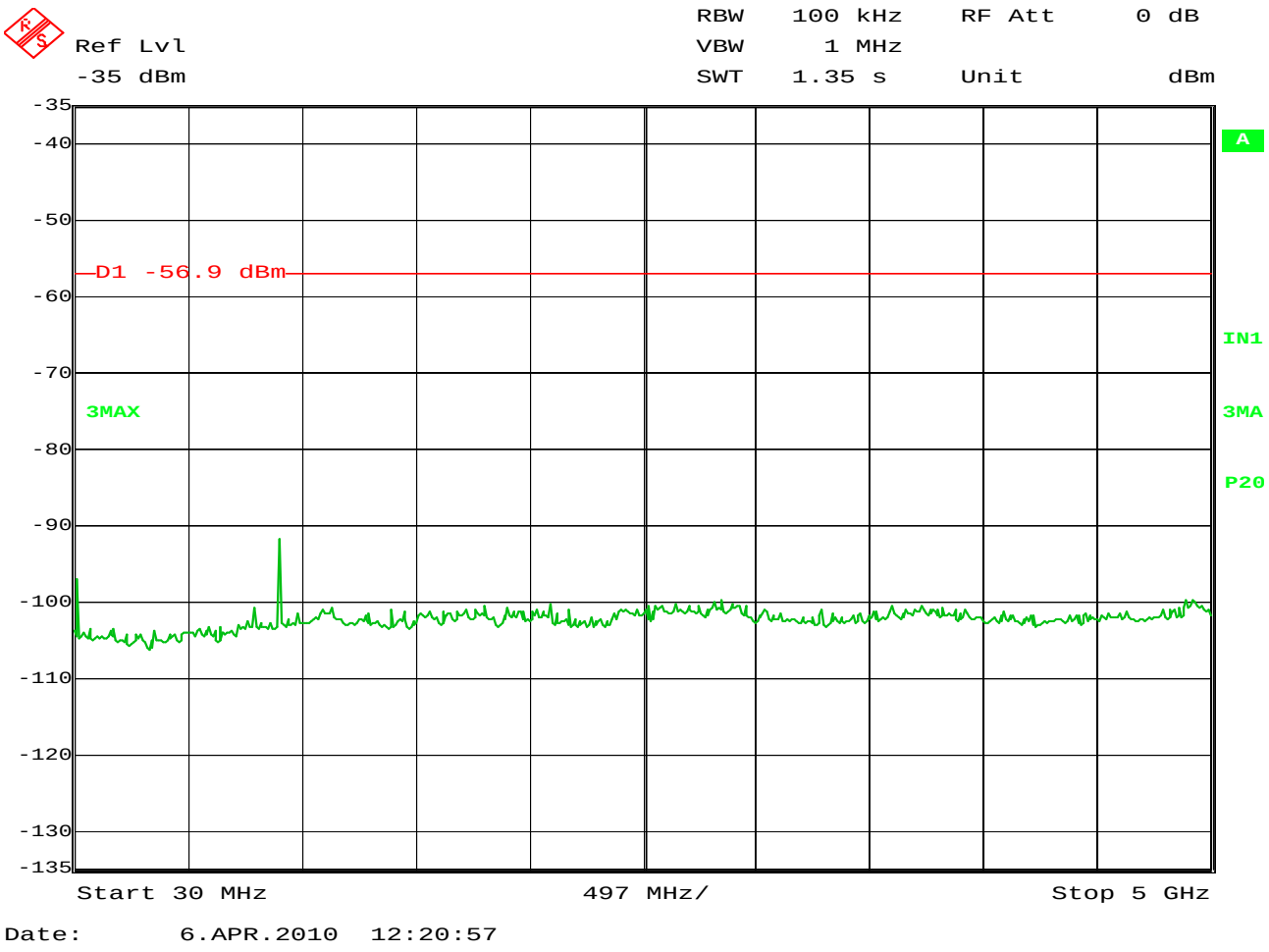

FCC 15.111 Antenna Conducted Emissions

MANUFACTURER : Motorola Inc.
MODEL : AAM27UMR9JA7AN
SERIAL NO. : 484TLE0050
TEST MODE : Receive
TUNNED FREQ. : 902MHz
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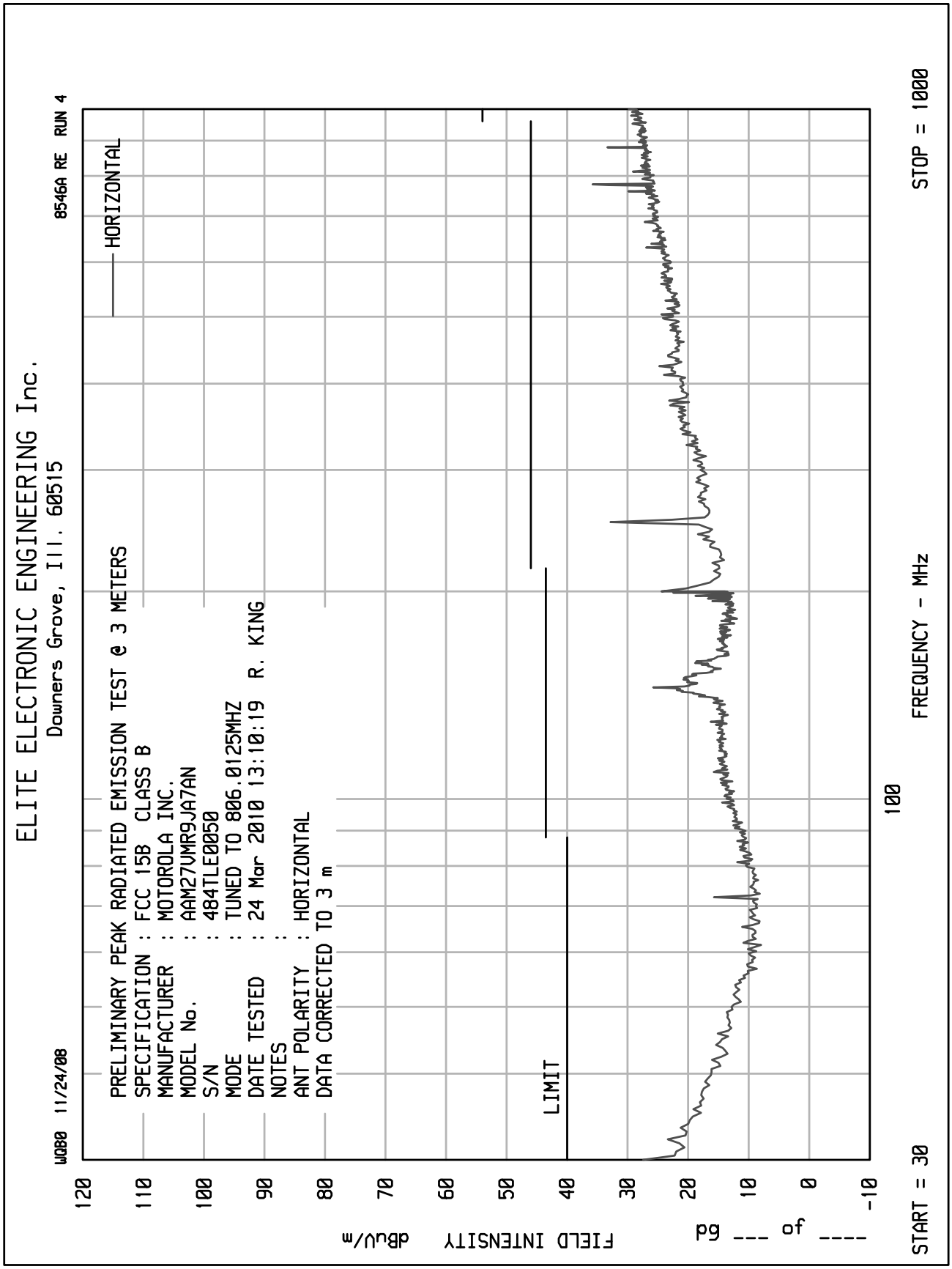
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Downers Grove, Ill. 60515
8546A RE RUN 4
WQBO 11/24/08
PRELIMINARY PEAK RADIATED EMISSION TEST @ 3 METERS
SPECIFICATION : FCC 15B CLASS B
MANUFACTURER : MOTOROLA INC.
MODEL No. : AAM27VMR9JA7AN
S/N : 484TLE0050
MODE : TUNED TO 806.0125MHZ
DATE TESTED : 24 Mar 2010 13:10:19 R. KING
NOTES :
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DATA CORRECTED TO 3 m
HORIZONTAL
LIMIT
FIELD INTENSITY dBuV/m
120
110
100
90
80
70
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30
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10
0
-10
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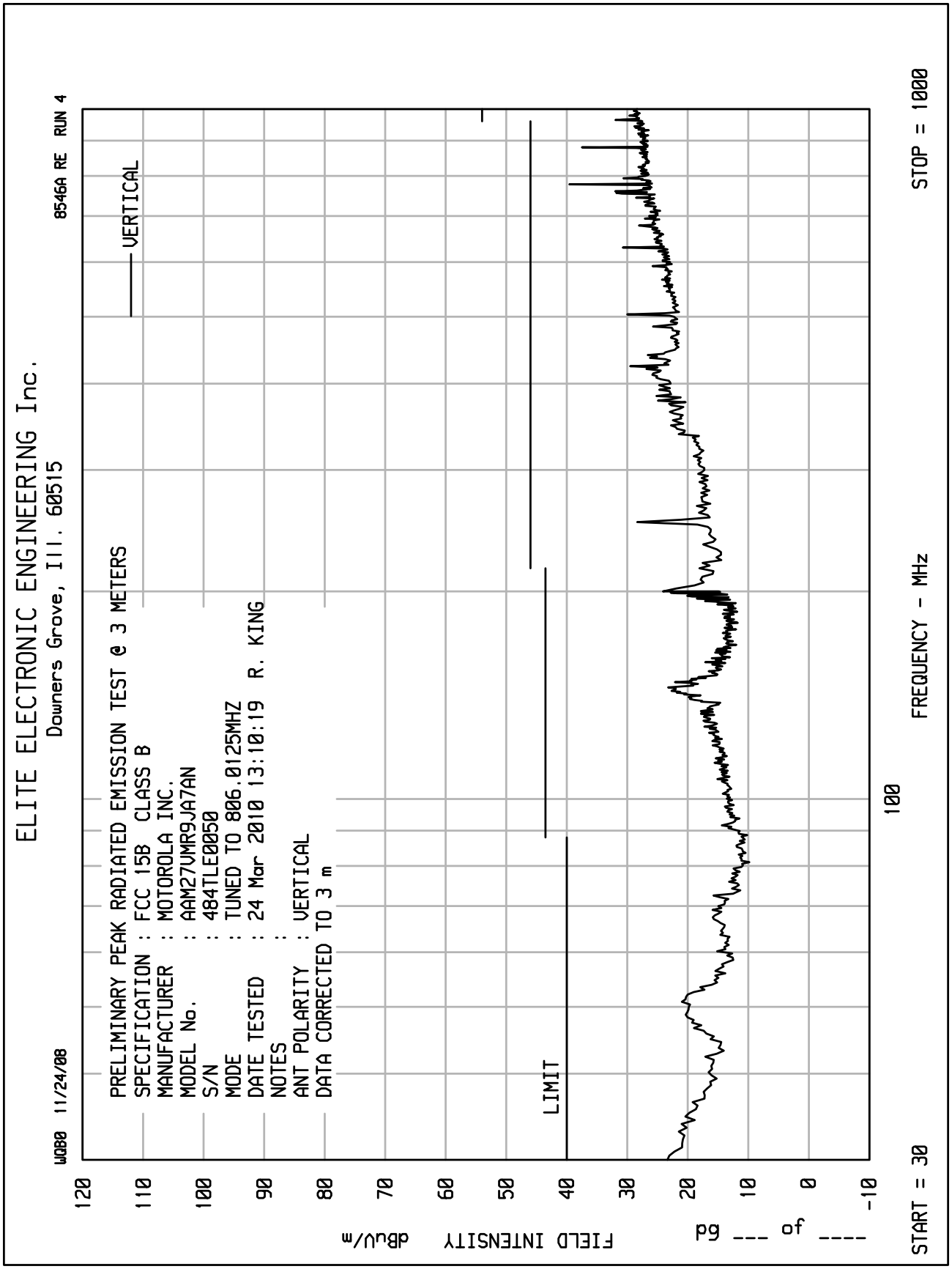
FREQUENCY - MHz
STOP = 1000
pg --- of ---- fd


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
8546A RE RUN 4
W080 11/24/08
PRELIMINARY PEAK RADIATED EMISSION TEST @ 3 METERS
SPECIFICATION : FCC 15B CLASS B
MANUFACTURER : MOTOROLA INC.
MODEL No. : AAM27VMR9JA7AN
S/N : 484TLE0050
MODE : TUNED TO 806.0125MHZ
DATE TESTED : 24 Mar 2010 13:10:19 R. KING
NOTES :
ANT POLARITY : VERTICAL
DATA CORRECTED TO 3 m
VERTICAL
LIMIT
FIELD INTENSITY dBuV/m
120
110
100
90
80
70
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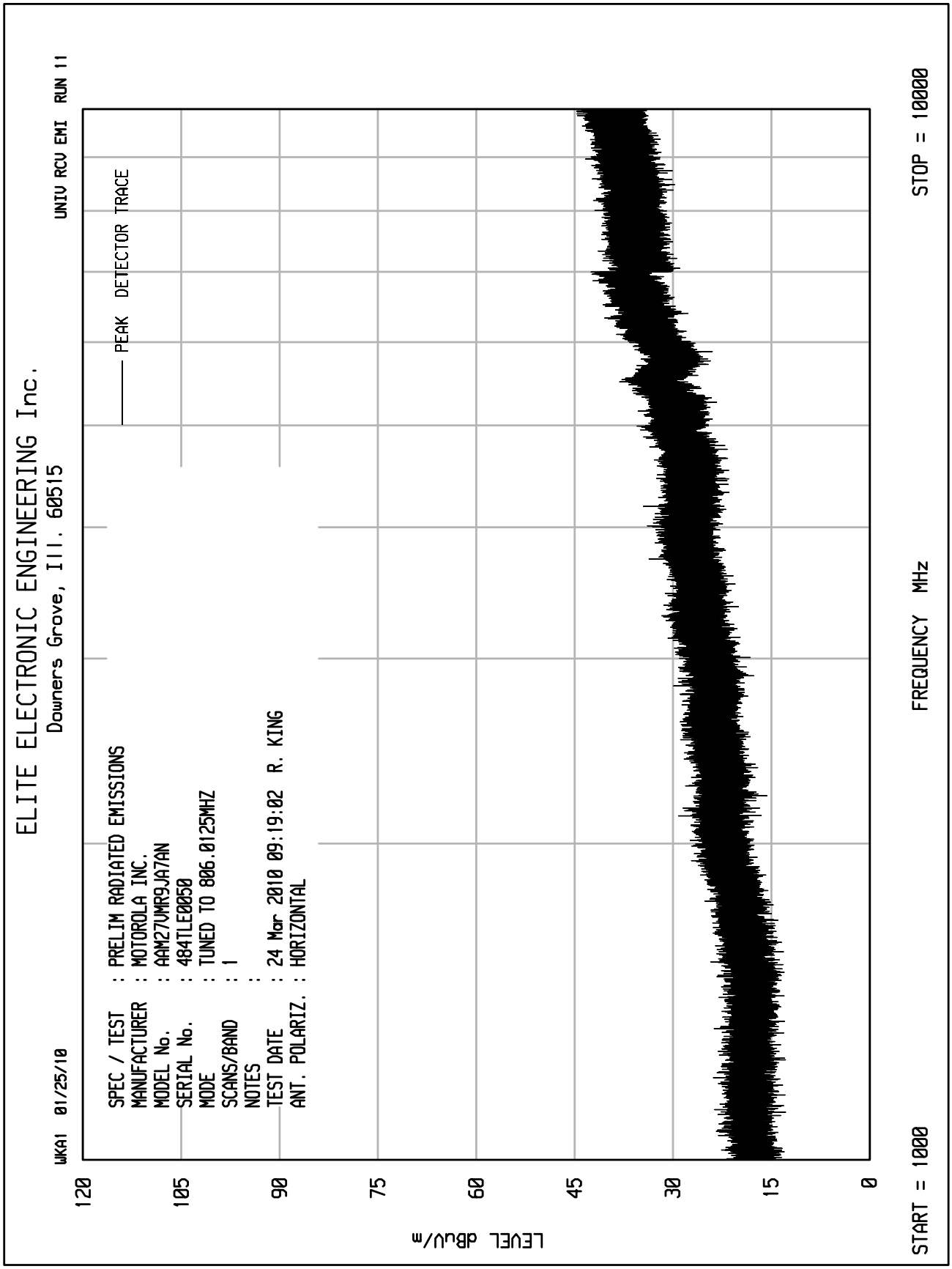
40
30
20
10
0
-10
START = 30
100
STOP = 1000
FREQUENCY - MHz
pg ___ of ____


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 11
WKAI 01/25/10
SPEC / TEST : PRELIM RADIATED EMISSIONS
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MODEL No. : AAM27VMR9JA7AN
SERIAL No. : 484TLE0050
MODE : TUNED TO 806.0125MHZ
SCANS/BAND : 1
NOTES :
TEST DATE : 24 Mar 2010 09:19:02 R. KING
ANT. POLARIZ. : HORIZONTAL
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90
75
60
45
30
15
0
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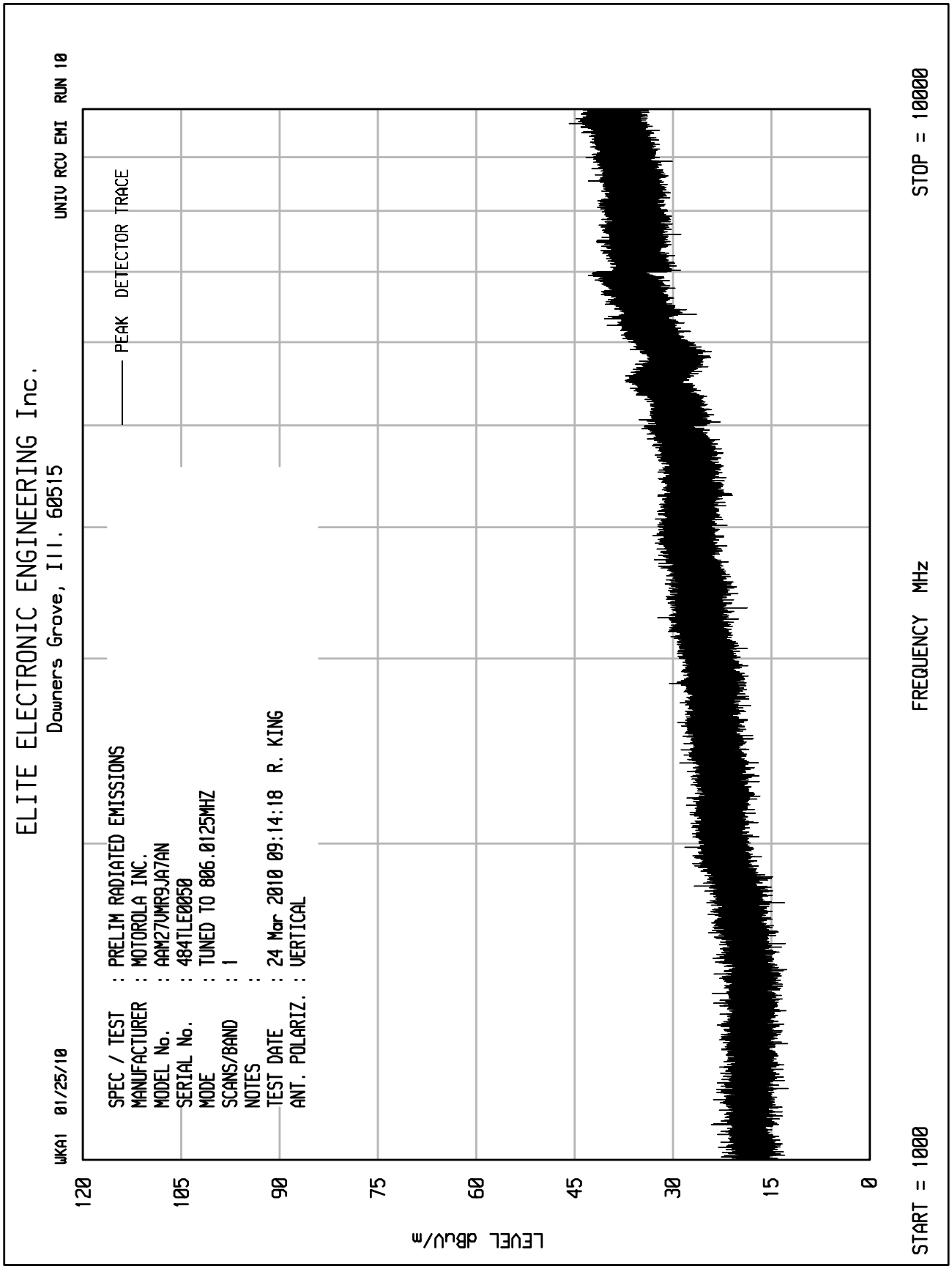
FREQUENCY MHz
STOP = 10000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Downers Grove, Ill. 60515
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SPEC / TEST : PRELIM RADIATED EMISSIONS
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SCANS/BAND : 1
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FREQUENCY MHz
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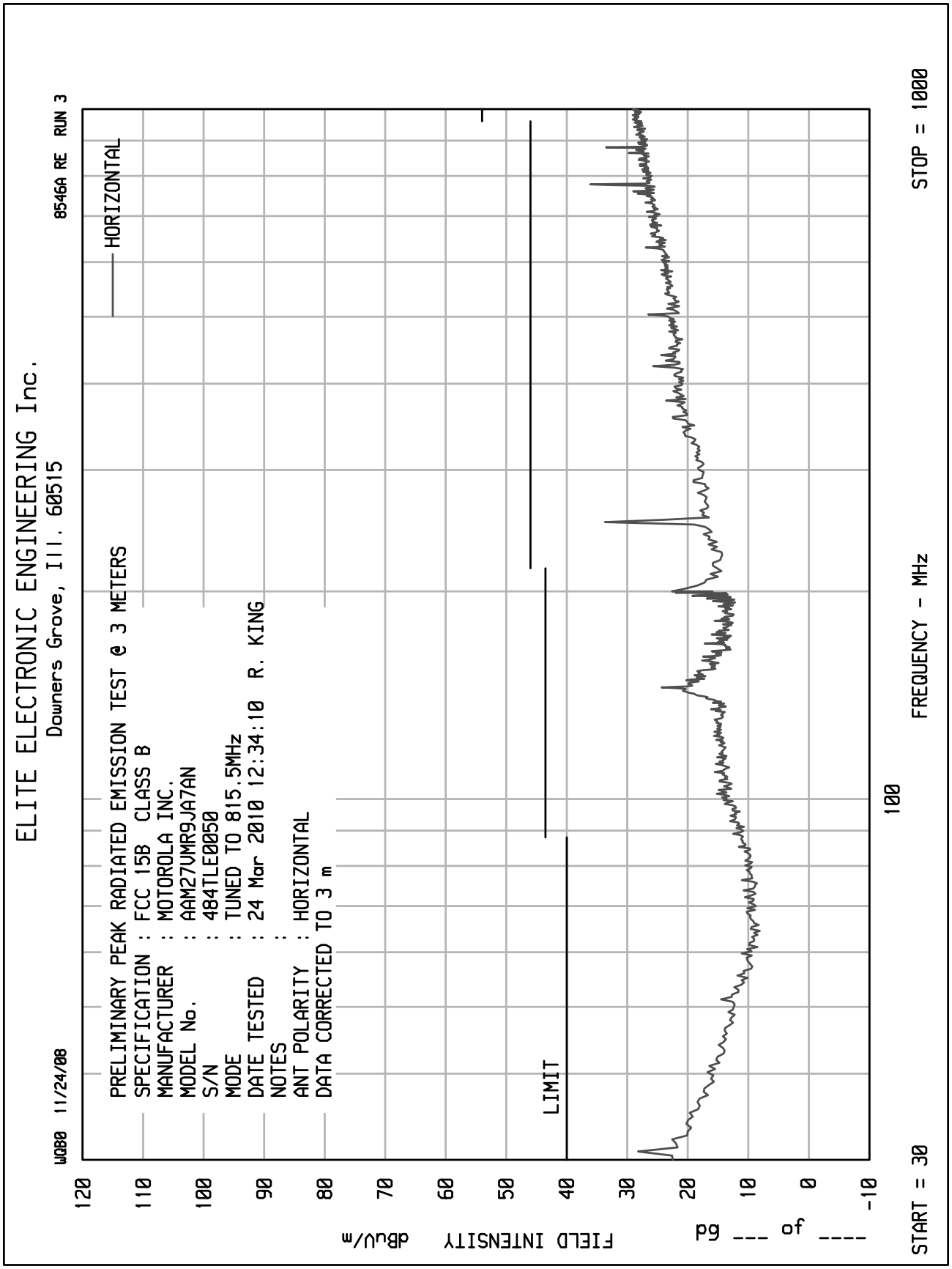
ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
8546A RE RUN 3
WQBQ 11/24/08
PRELIMINARY PEAK RADIATED EMISSION TEST @ 3 METERS
SPECIFICATION : FCC 15B CLASS B
MANUFACTURER : MOTOROLA INC.
MODEL No. : AAM27VMR9JA7AN
S/N : 484TLE0050
MODE : TUNED TO 815.5MHz
DATE TESTED : 24 Mar 2010 12:34:10 R. KING
NOTES :
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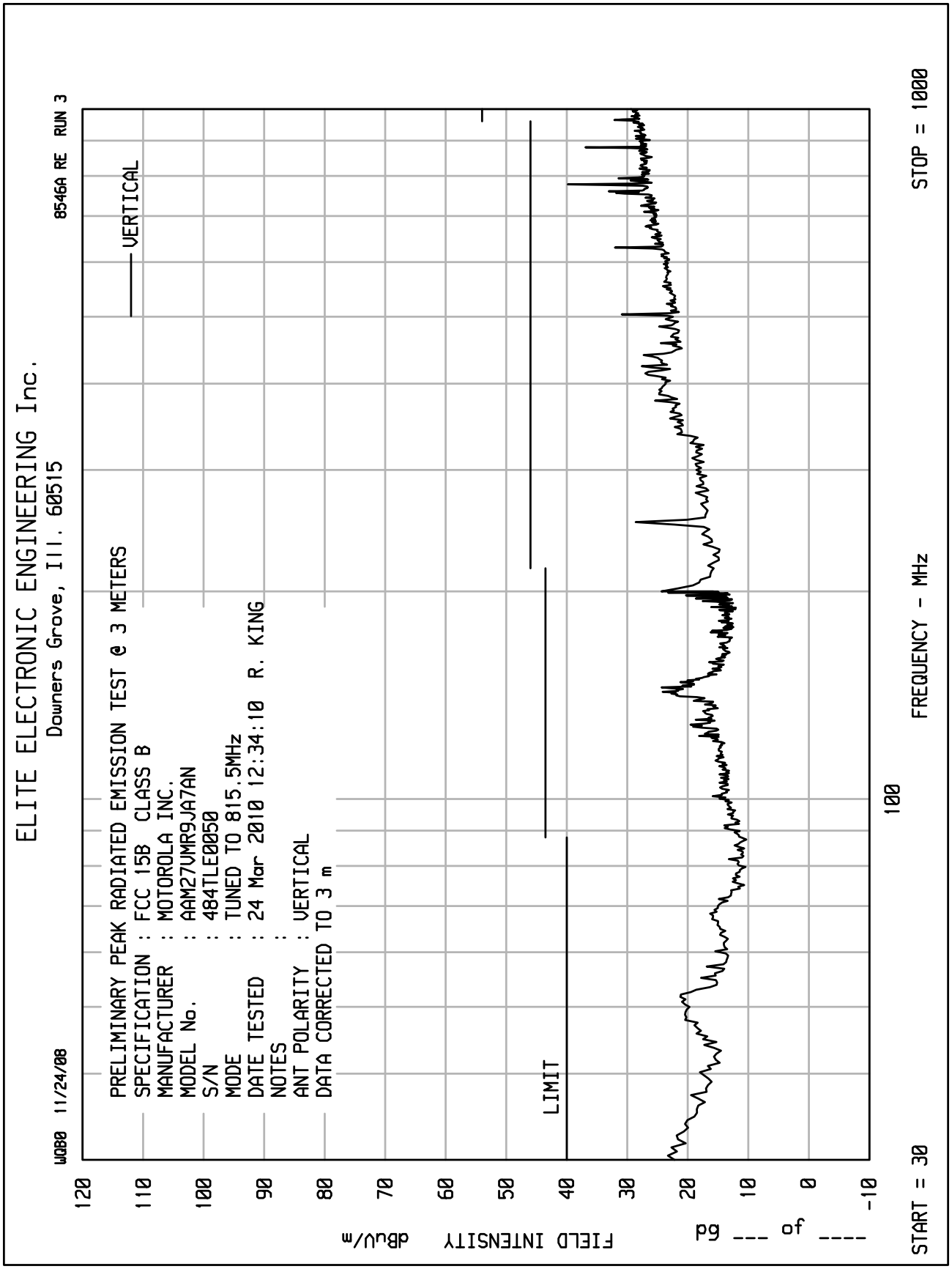
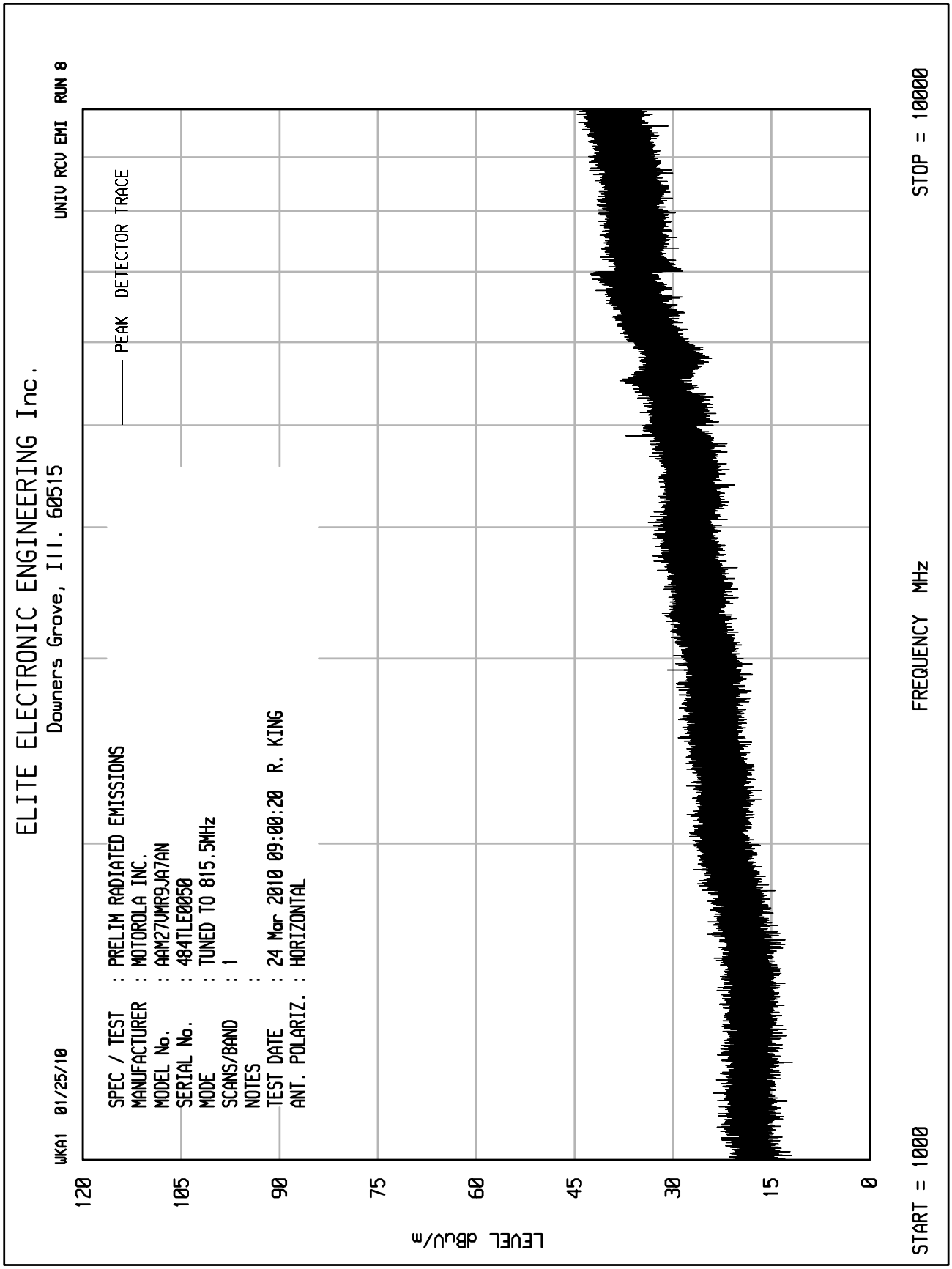
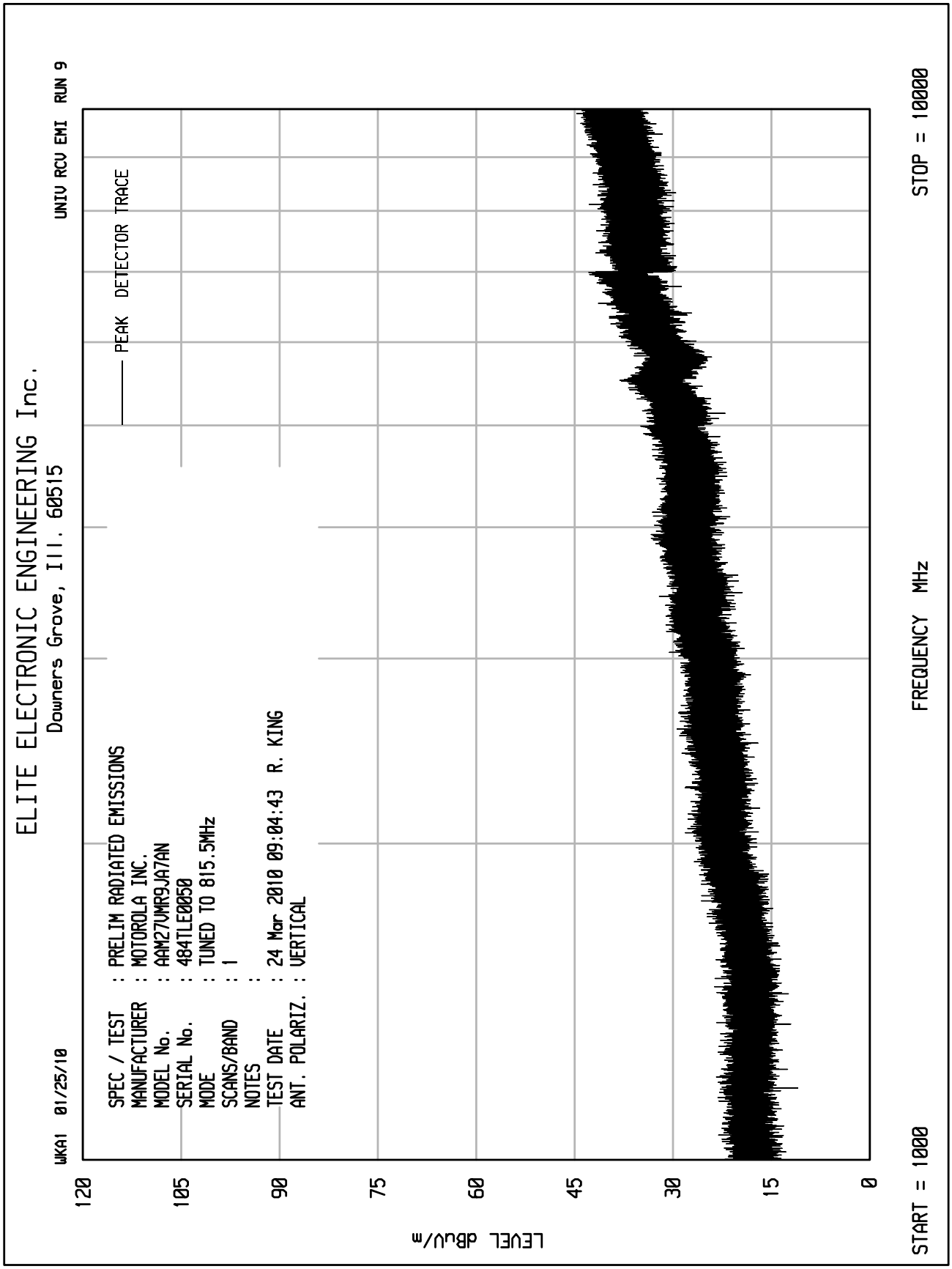
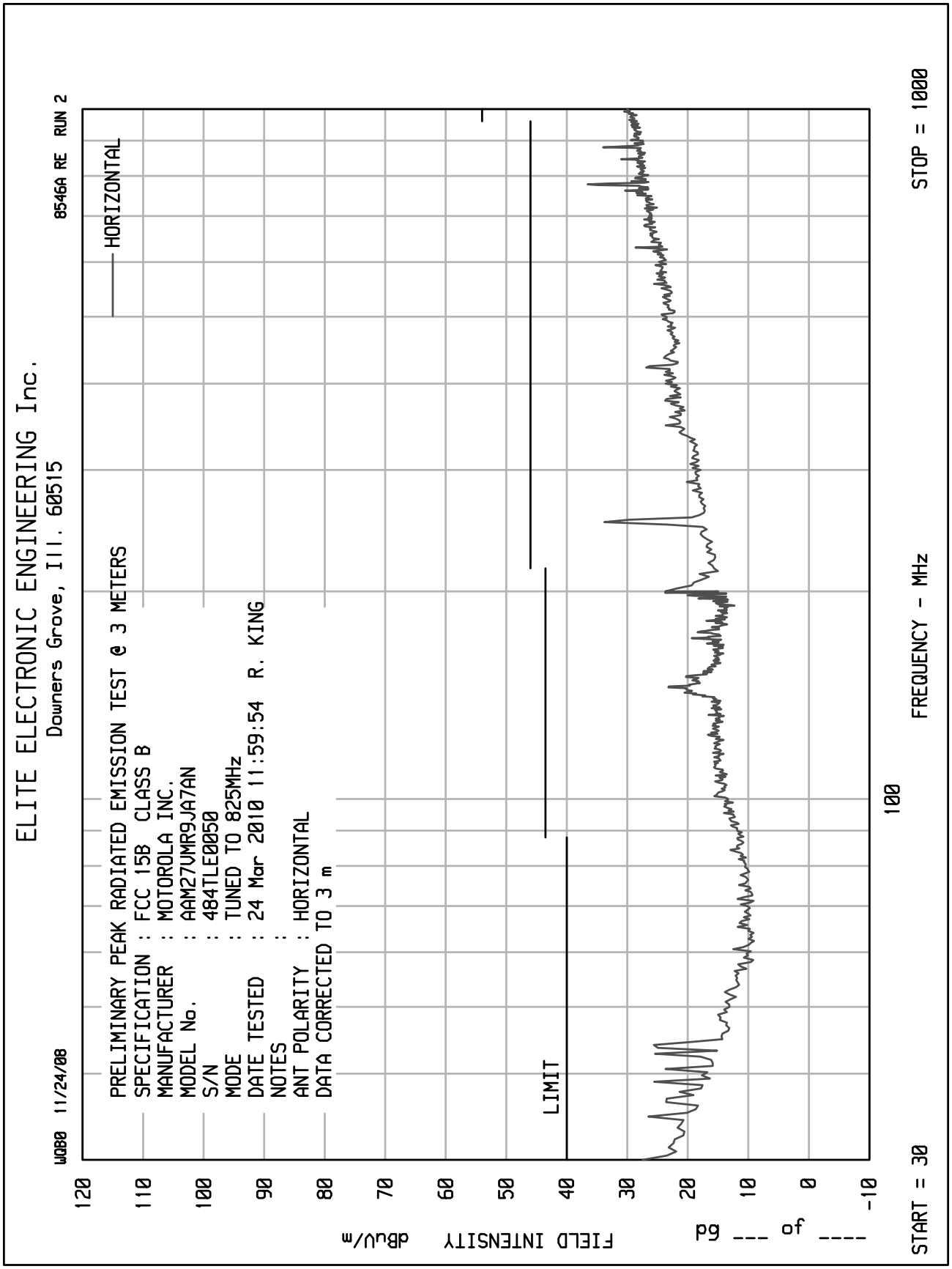
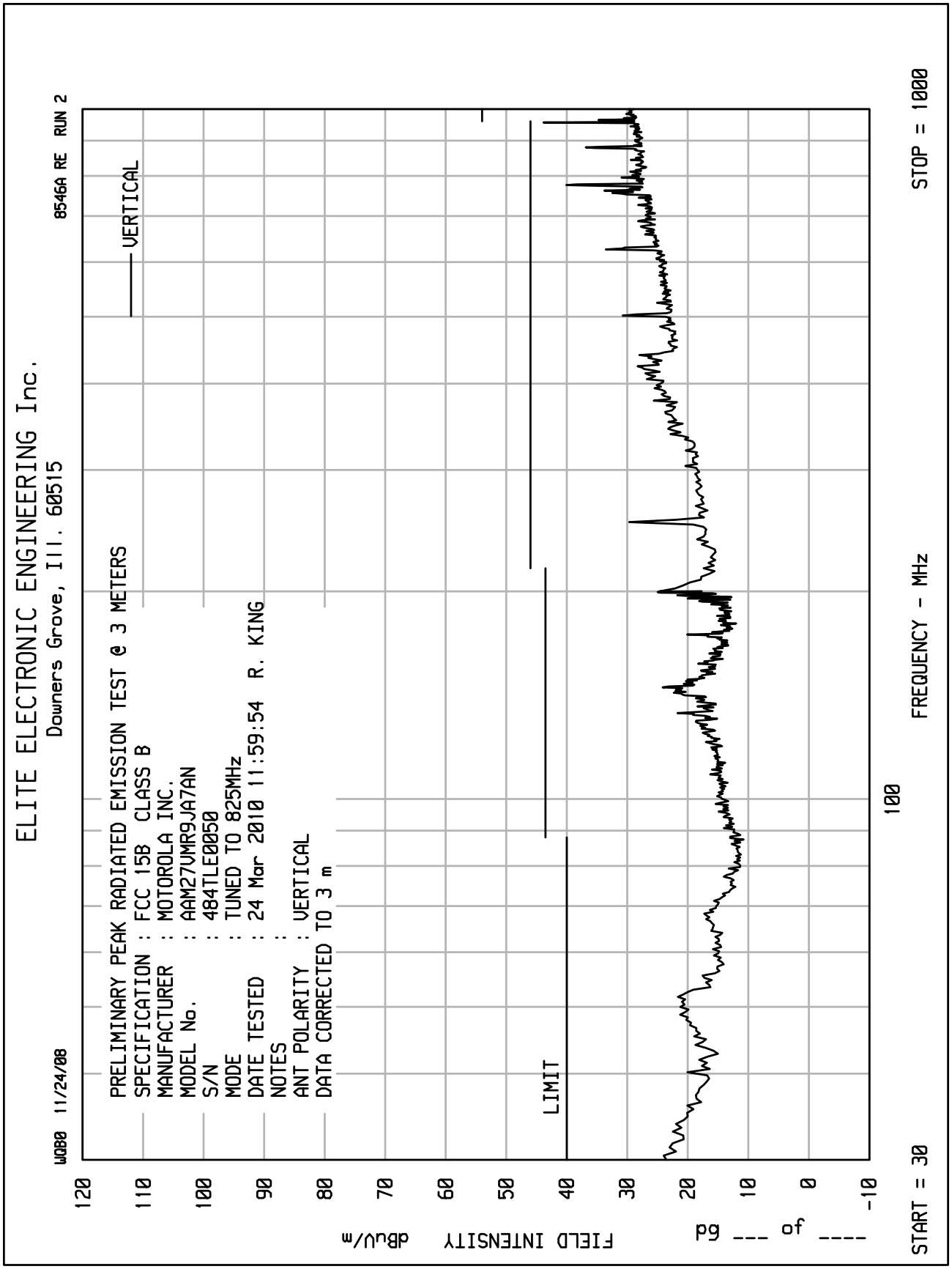
DATA CORRECTED TO 3 m
HORIZONTAL
LIMIT
FIELD INTENSITY dBuV/m
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
START = 30
100
FREQUENCY - MHz
STOP = 1000
pg ___ of ____

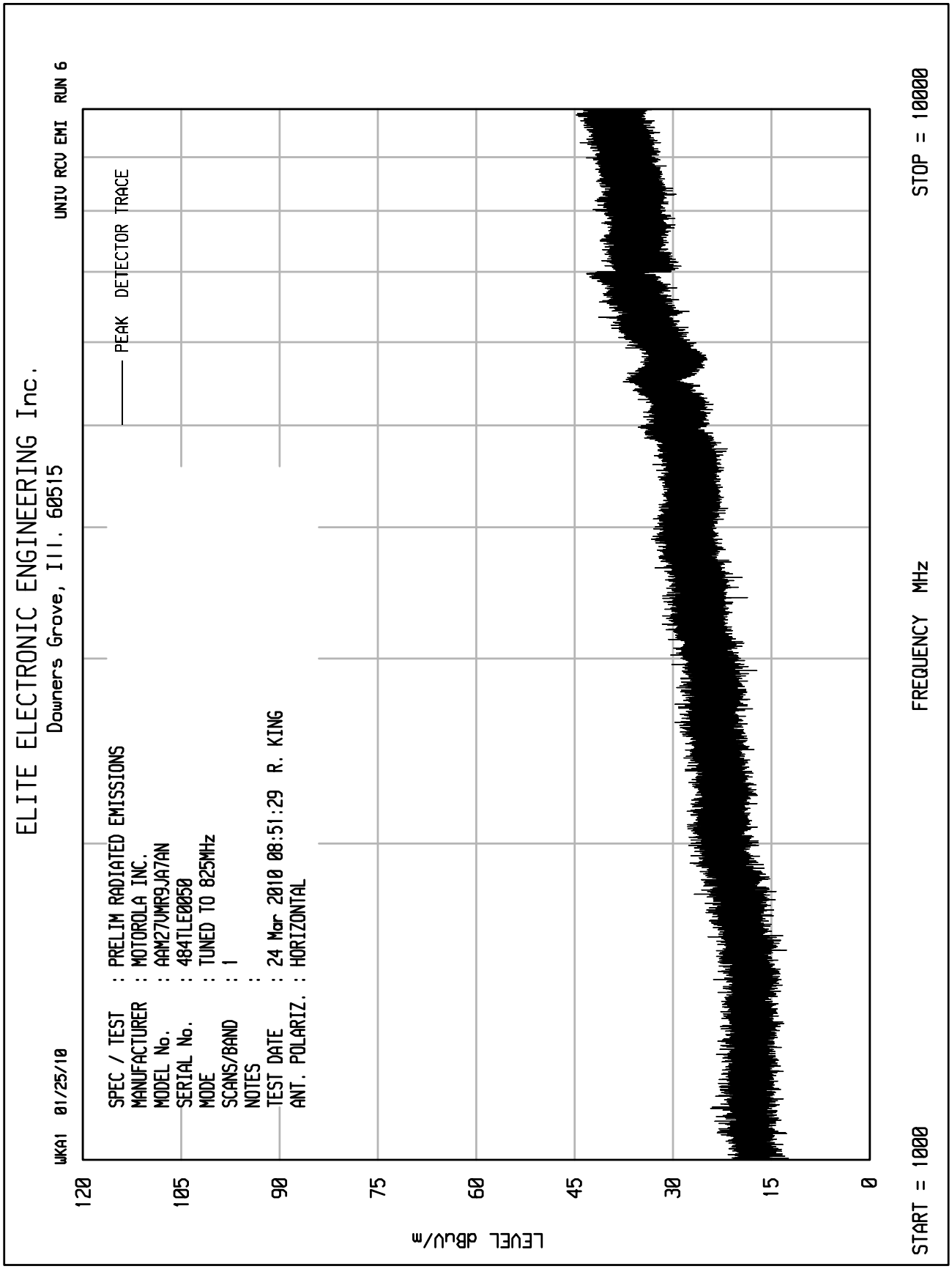

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
8546A RE RUN 3
W080 11/24/08
PRELIMINARY PEAK RADIATED EMISSION TEST @ 3 METERS
SPECIFICATION : FCC 15B CLASS B
MANUFACTURER : MOTOROLA INC.
MODEL No. : AAM27VMR9JA7AN
S/N : 484TLE0050
MODE : TUNED TO 815.5MHz
DATE TESTED : 24 Mar 2010 12:34:10 R. KING
NOTES :
ANT POLARITY : VERTICAL
DATA CORRECTED TO 3 m
VERTICAL
LIMIT
FIELD INTENSITY dBuV/m
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
START = 30
100
FREQUENCY - MHz
STOP = 1000
pg --- of ----

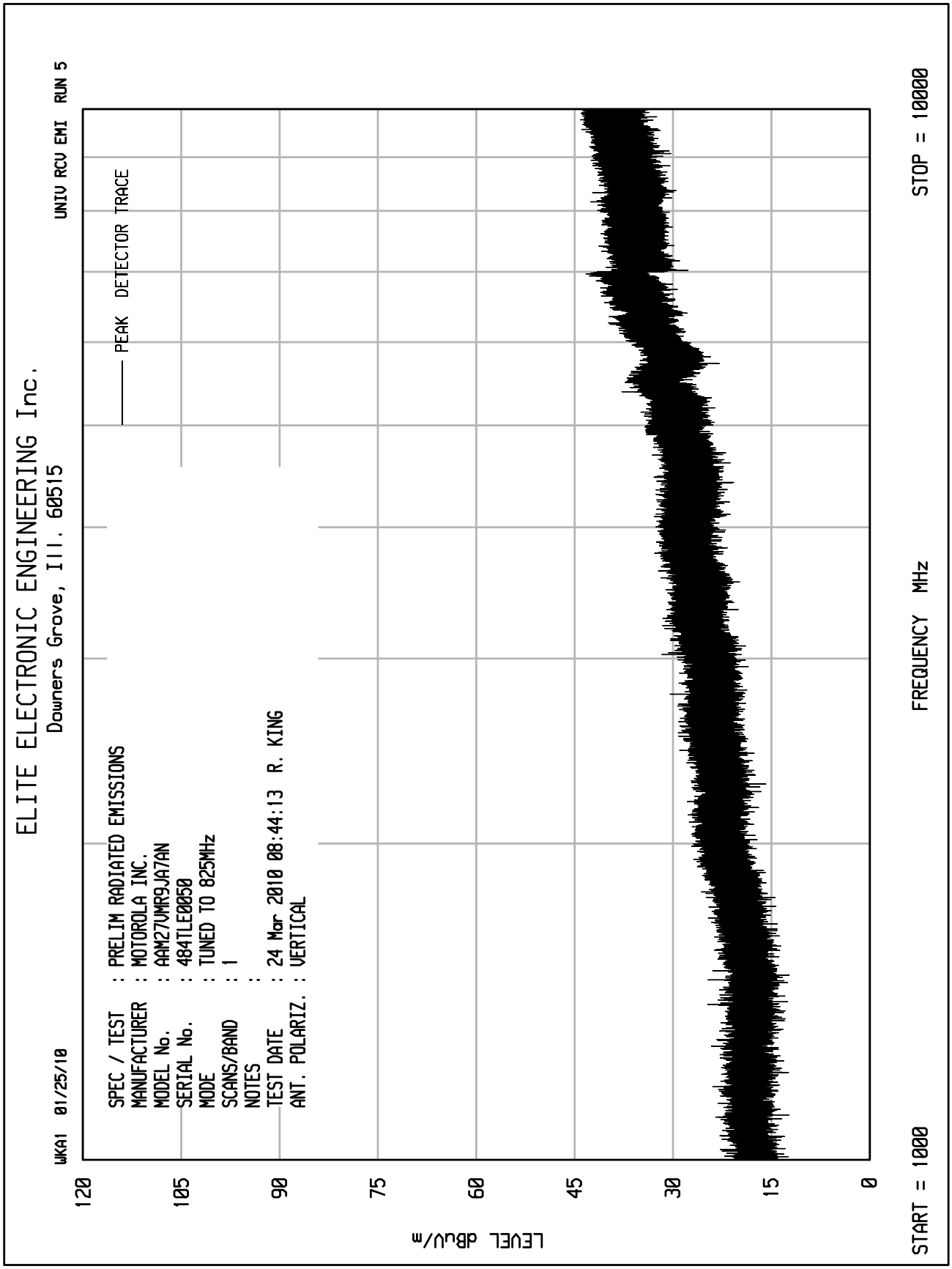

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 8
WKAI 01/25/10
SPEC / TEST : PRELIM RADIATED EMISSIONS
MANUFACTURER : MOTOROLA INC.
MODEL No. : AAM27VMR9JA7AN
SERIAL No. : 484TLE0050
MODE : TUNED TO 815.5MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 24 Mar 2010 09:00:20 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 10000

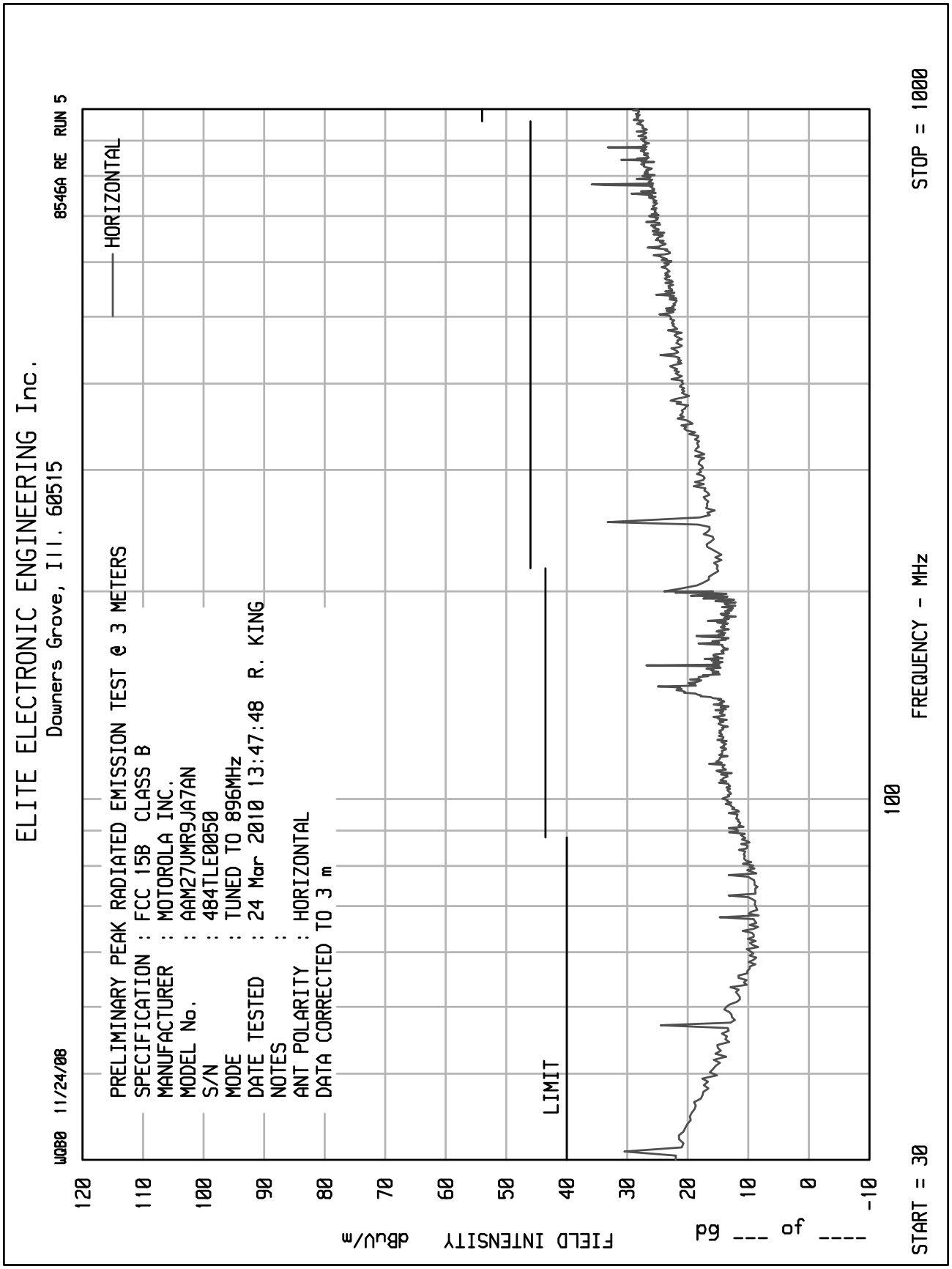

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 9
WKAI 01/25/10
SPEC / TEST : PRELIM RADIATED EMISSIONS
MANUFACTURER : MOTOROLA INC.
MODEL No. : AAM27VMR9JA7AN
SERIAL No. : 484TLE0050
MODE : TUNED TO 815.5MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 24 Mar 2010 09:04:43 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 10000

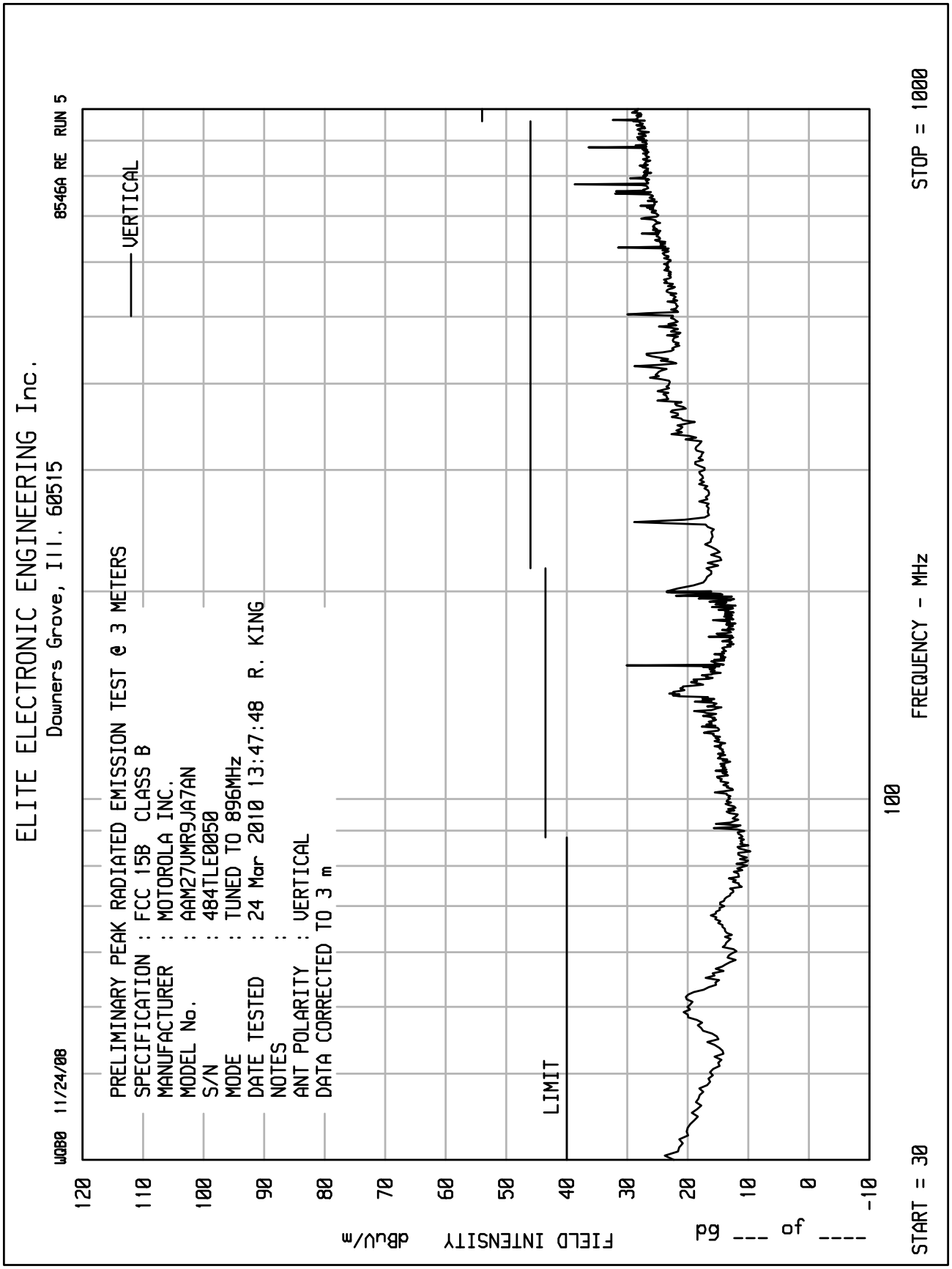

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
8546A RE RUN 2
W080 11/24/08
PRELIMINARY PEAK RADIATED EMISSION TEST @ 3 METERS
SPECIFICATION : FCC 15B CLASS B
MANUFACTURER : MOTOROLA INC.
MODEL No. : AAM27VMR9JA7AN
S/N : 484TLE0050
MODE : TUNED TO 825MHz
DATE TESTED : 24 Mar 2010 11:59:54 R. KING
NOTES :
ANT POLARITY : HORIZONTAL
DATA CORRECTED TO 3 m
HORIZONTAL
LIMIT
FIELD INTENSITY dBuV/m
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
START = 30
100
FREQUENCY - MHz
STOP = 1000
pg --- of ----

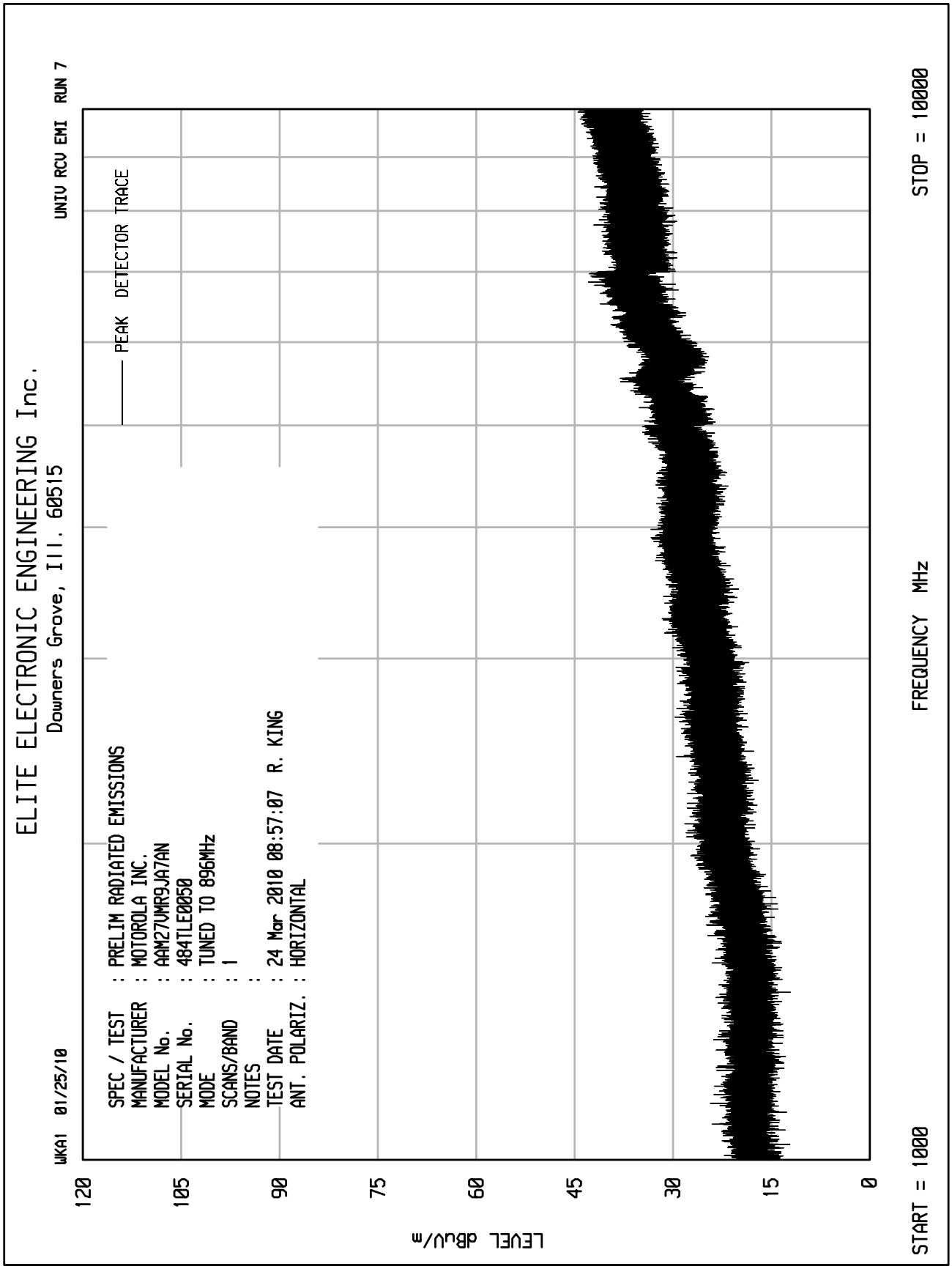

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
8546A RE RUN 2
W080 11/24/08
PRELIMINARY PEAK RADIATED EMISSION TEST @ 3 METERS
SPECIFICATION : FCC 15B CLASS B
MANUFACTURER : MOTOROLA INC.
MODEL No. : AAM27VMR9JA7AN
S/N : 484TLE0050
MODE : TUNED TO 825MHz
DATE TESTED : 24 Mar 2010 11:59:54 R. KING
NOTES :
ANT POLARITY : VERTICAL
DATA CORRECTED TO 3 m
VERTICAL
LIMIT
FIELD INTENSITY dBuV/m
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
START = 30
100
STOP = 1000
FREQUENCY - MHz
pg ___ of ____

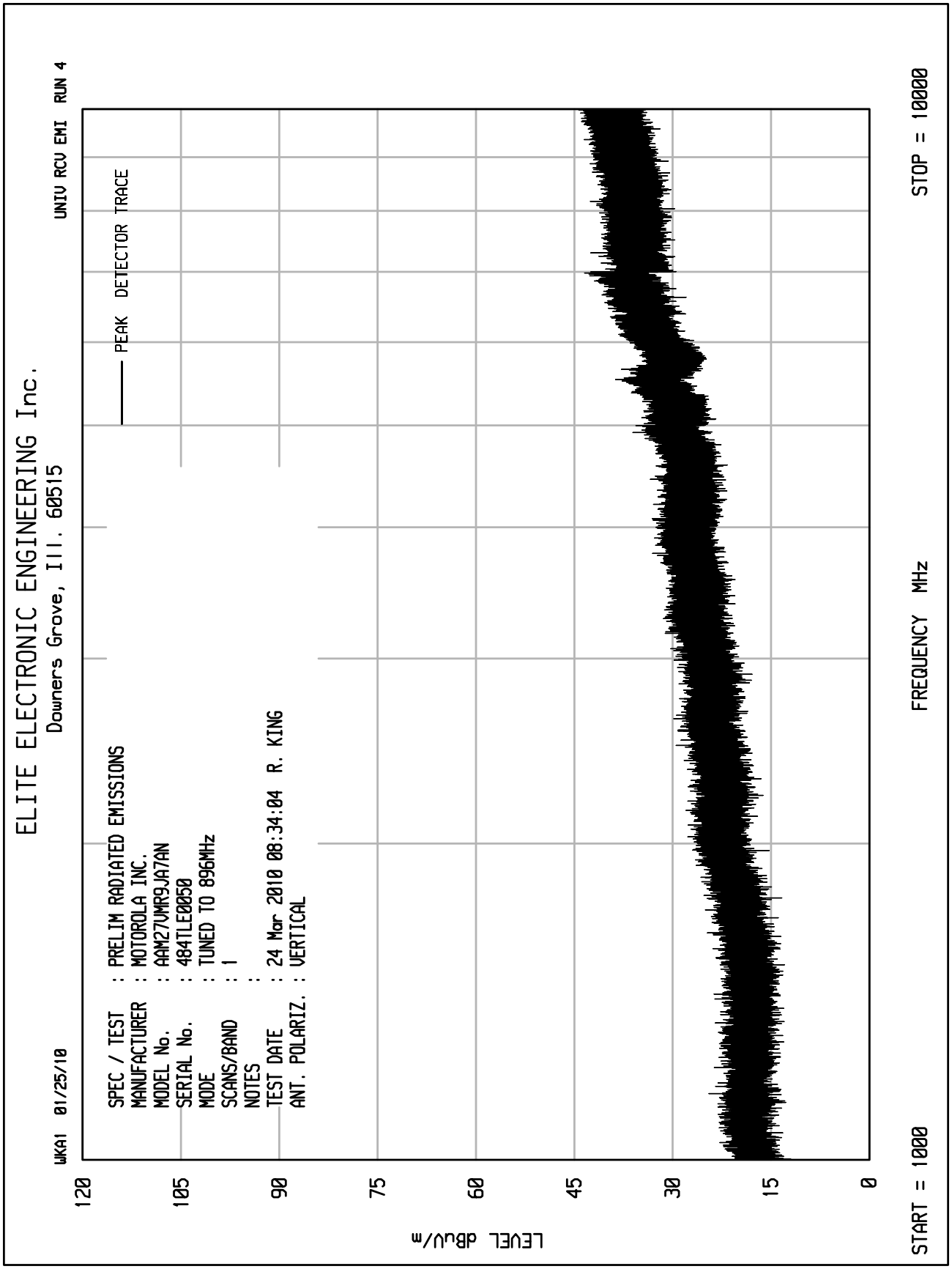

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 6
WKAI 01/25/10
SPEC / TEST : PRELIM RADIATED EMISSIONS
MANUFACTURER : MOTOROLA INC.
MODEL No. : AAM27VMR9JA7AN
SERIAL No. : 484TLE0050
MODE : TUNED TO 825MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 24 Mar 2010 08:51:29 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 10000

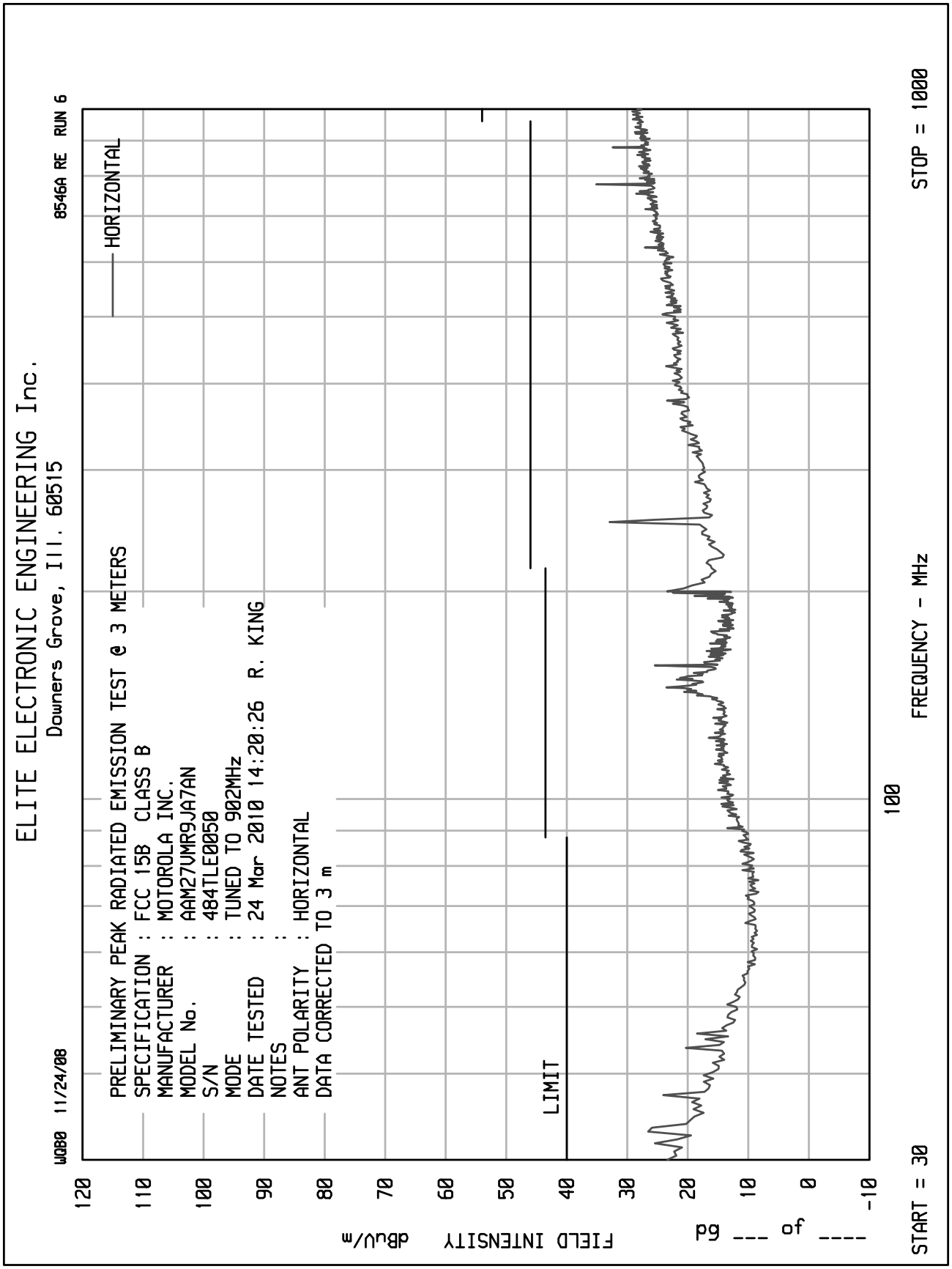

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 5
WKAI 01/25/10
SPEC / TEST : PRELIM RADIATED EMISSIONS
MANUFACTURER : MOTOROLA INC.
MODEL No. : AAM27VMR9JA7AN
SERIAL No. : 484TLE0050
MODE : TUNED TO 825MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 24 Mar 2010 08:44:13 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 10000

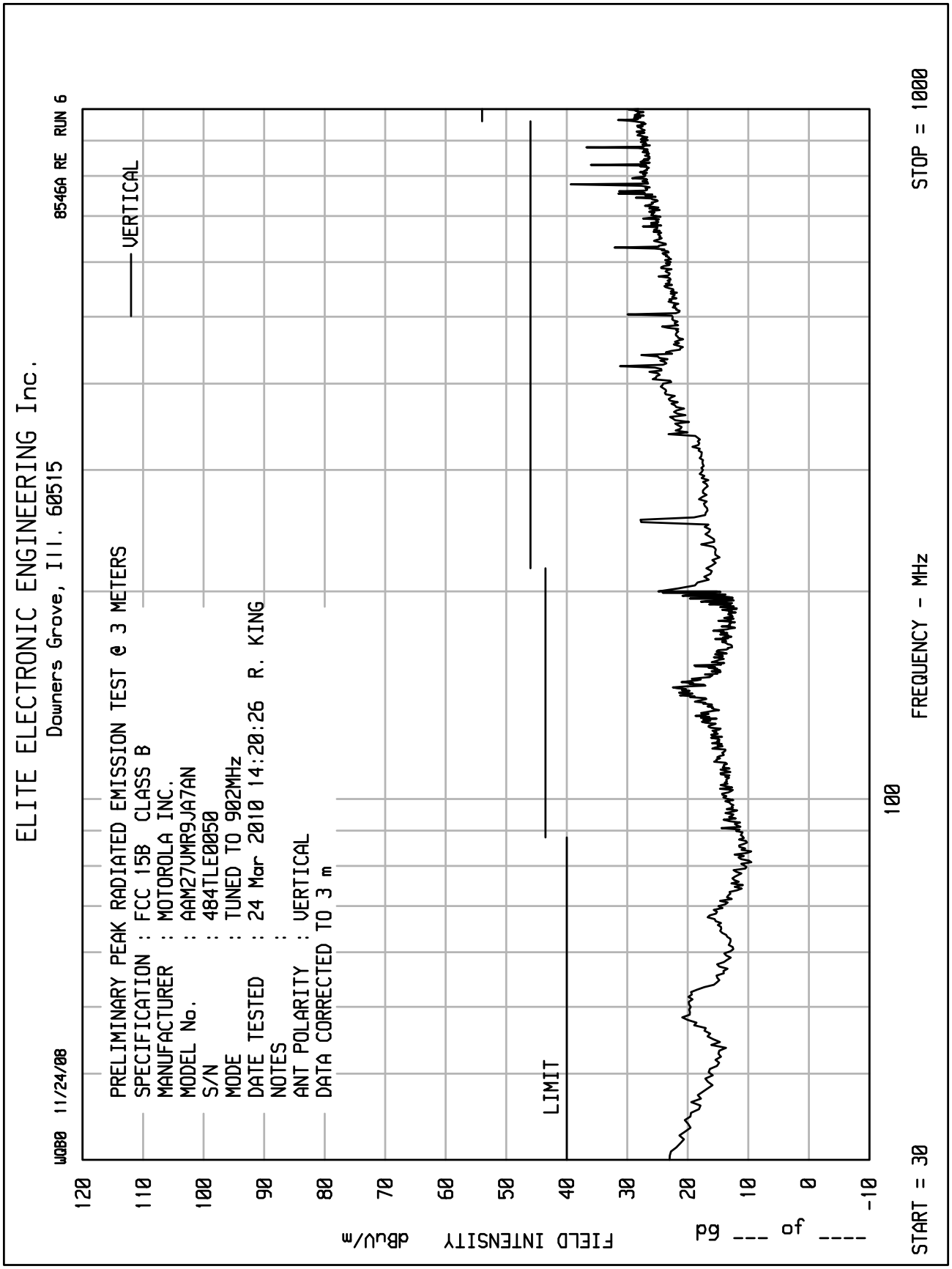

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
8546A RE RUN 5
W080 11/24/08
PRELIMINARY PEAK RADIATED EMISSION TEST @ 3 METERS
SPECIFICATION : FCC 15B CLASS B
MANUFACTURER : MOTOROLA INC.
MODEL No. : AAM27VMR9JA7AN
S/N : 484TLE0050
MODE : TUNED TO 896MHz
DATE TESTED : 24 Mar 2010 13:47:48 R. KING
NOTES :
ANT POLARITY : HORIZONTAL
DATA CORRECTED TO 3 m
HORIZONTAL
LIMIT
FIELD INTENSITY dBuV/m
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
START = 30
100
FREQUENCY - MHz
STOP = 1000
pg --- of ----

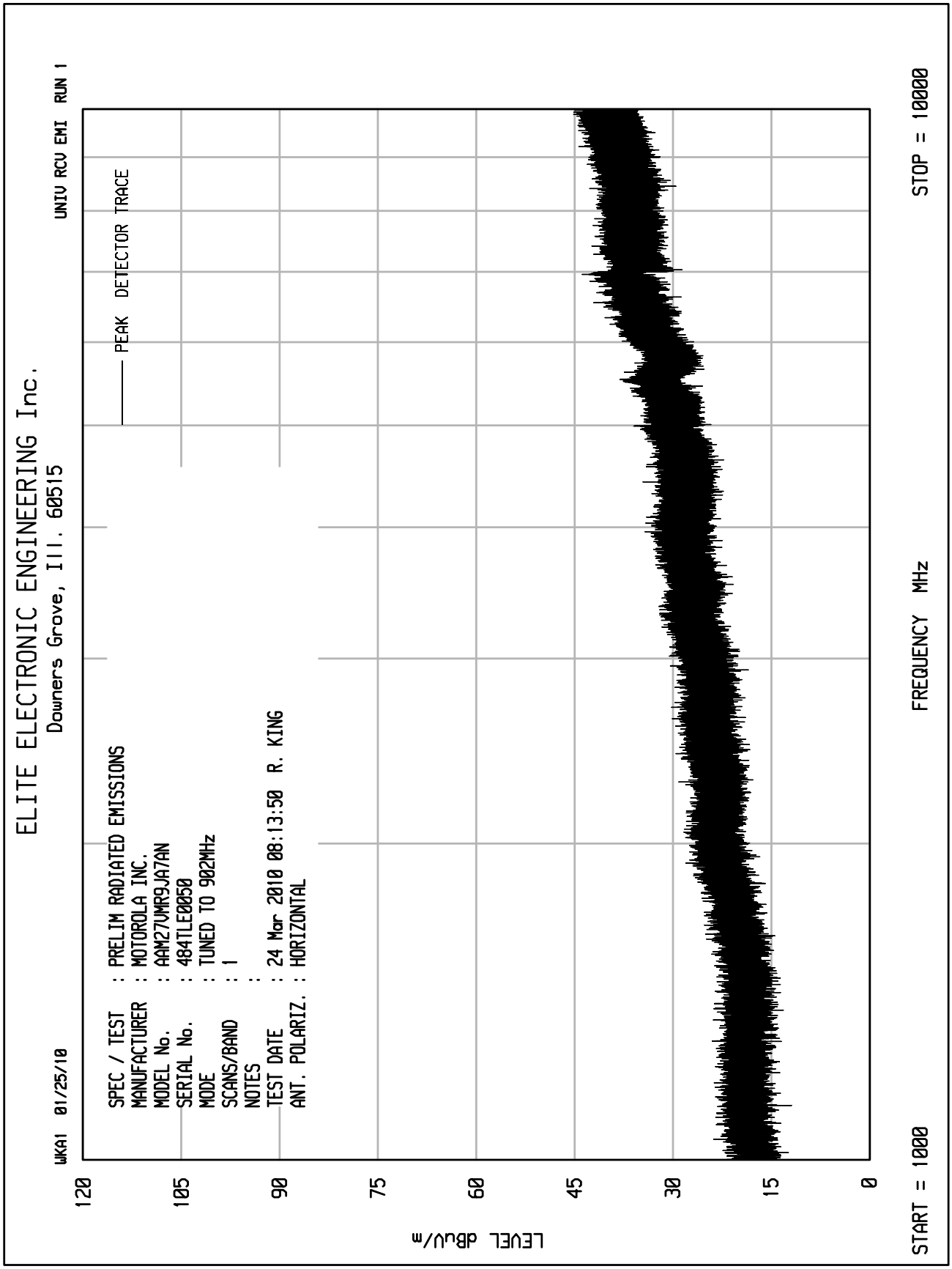

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
8546A RE RUN 5
WQBQ 11/24/08
PRELIMINARY PEAK RADIATED EMISSION TEST @ 3 METERS
SPECIFICATION : FCC 15B CLASS B
MANUFACTURER : MOTOROLA INC.
MODEL No. : AAM27VMR9JA7AN
S/N : 484TLE0050
MODE : TUNED TO 896MHz
DATE TESTED : 24 Mar 2010 13:47:48 R. KING
NOTES :
ANT POLARITY : VERTICAL
DATA CORRECTED TO 3 m
VERTICAL
LIMIT
FIELD INTENSITY dBuV/m
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
START = 30
100
STOP = 1000
FREQUENCY - MHz
pg ___ of ____

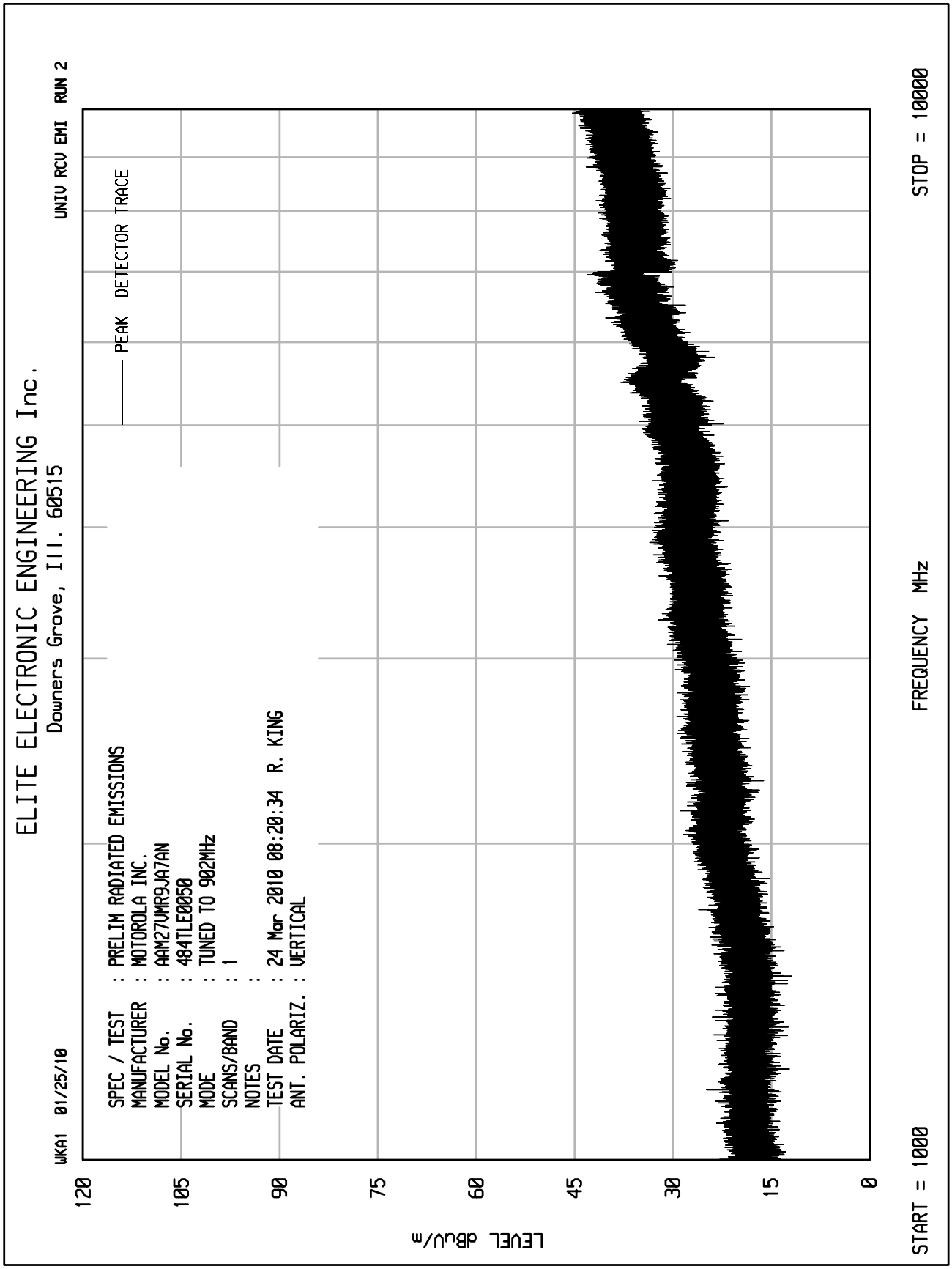

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 7
WKAI 01/25/10
SPEC / TEST : PRELIM RADIATED EMISSIONS
MANUFACTURER : MOTOROLA INC.
MODEL No. : AAM27VMR9JA7AN
SERIAL No. : 484TLE0050
MODE : TUNED TO 896MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 24 Mar 2010 08:57:07 R. KING
ANT. 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 4
WKAI 01/25/10
SPEC / TEST : PRELIM RADIATED EMISSIONS
MANUFACTURER : MOTOROLA INC.
MODEL No. : AAM27VMR9JA7AN
SERIAL No. : 484TLE0050
MODE : TUNED TO 896MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 24 Mar 2010 08:34:04 R. KING
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
8546A RE RUN 6
W080 11/24/08
PRELIMINARY PEAK RADIATED EMISSION TEST @ 3 METERS
SPECIFICATION : FCC 15B CLASS B
MANUFACTURER : MOTOROLA INC.
MODEL No. : AAM27VMR9JA7AN
S/N : 484TLE0050
MODE : TUNED TO 902MHz
DATE TESTED : 24 Mar 2010 14:20:26 R. KING
NOTES :
ANT POLARITY : HORIZONTAL
DATA CORRECTED TO 3 m
HORIZONTAL
LIMIT
FIELD INTENSITY dBuV/m
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
START = 30
100
STOP = 1000
FREQUENCY - MHz
pg ___ of ____


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
8546A RE RUN 6
W080 11/24/08
PRELIMINARY PEAK RADIATED EMISSION TEST @ 3 METERS
SPECIFICATION : FCC 15B CLASS B
MANUFACTURER : MOTOROLA INC.
MODEL No. : AAM27VMR9JA7AN
S/N : 484TLE0050
MODE : TUNED TO 902MHz
DATE TESTED : 24 Mar 2010 14:20:26 R. KING
NOTES :
ANT POLARITY : VERTICAL
DATA CORRECTED TO 3 m
VERTICAL
LIMIT
FIELD INTENSITY dBuV/m
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
START = 30
100
FREQUENCY - MHz
STOP = 1000
pg ___ of ____


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 1
WKA1 01/25/10
SPEC / TEST : PRELIM RADIATED EMISSIONS
MANUFACTURER : MOTOROLA INC.
MODEL No. : AAM27VMR9JA7AN
SERIAL No. : 484TLE0050
MODE : TUNED TO 902MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 24 Mar 2010 08:13:50 R. KING
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
WKAI 01/25/10
SPEC / TEST : PRELIM RADIATED EMISSIONS
MANUFACTURER : MOTOROLA INC.
MODEL No. : AAM27VMR9JA7AN
SERIAL No. : 484TLE0050
MODE : TUNED TO 902MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 24 Mar 2010 08:20:34 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 10000

DATA PAGE

RADIATED QP EMISSION MEASUREMENTS in a 3 m SEMI-ANECHOIC ROOM
SPECIFICATION : FCC 15B CLASS B
MANUFACTURER : MOTOROLA INC.
MODEL NO. : AAM27VMR9JA7AN
SERIAL NO. : 484TLE0050
TEST MODE : TUNED TO 806.0125MHZ
NOTES :
TEST DATE : 24 Mar 2010 13:10:19
TEST DISTANCE : 3 m (DATA EXTRAPOLATED TO 3 m)

FREQUENCY MHz	QP READING dBuV	ANT FAC dB	CBL FAC dB	EXT ATTN dB	DIST FAC dB	TOTAL dBuV/m	QP LIMIT dBuV/m	AZ deg	ANT HT cm	POLAR
51.84	7.3	8.6	.6	0.0	0.0	16.6	40.0	45	120	V
74.40	-2.1	7.1	.8	0.0	0.0	5.8	40.0	-0	200	V
119.72	-6.2	12.3	1.0	0.0	0.0	7.0	43.5	-0	120	V
144.34	9.1	11.5	1.0	0.0	0.0	21.6	43.5	135	200	H
144.39	5.5	11.5	1.0	0.0	0.0	18.0	43.5	225	120	V
167.80	-6.1	10.3	1.0	0.0	0.0	5.3	43.5	225	121	H
250.01	18.7	13.1	1.3	0.0	0.0	33.1	46.0	225	121	H
357.19	3.0	15.5	1.5	0.0	0.0	20.0	46.0	315	200	V
420.01	11.0	17.1	1.6	0.0	0.0	29.7	46.0	315	200	V
500.02	9.6	18.4	1.8	0.0	0.0	29.8	46.0	315	120	V
625.02	10.3	19.7	2.1	0.0	0.0	32.1	46.0	180	200	V
772.80	15.9	21.0	2.4	0.0	0.0	39.4	46.0	315	200	V
875.02	11.5	22.3	2.5	0.0	0.0	36.3	46.0	180	120	V
954.32	-5.8	22.8	2.5	0.0	0.0	19.5	46.0	-0	340	H

Checked BY Richard E. King :

Richard E. King

DATA PAGE

MANUFACTURER : Motorola Inc.
MODEL : AAM27UMR9JA7AN
SERIAL NO. : 484TLE0050
SPECIFICATION : FCC-15B Spurious Radiated Emissions
DATE : March 24, 2010
NOTES : Tuned to 806.0125 MHz
: Test Distance is 3 meters

Freq (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Total dBuV/m at 3 M	Total uV/m at 3M	Limit uV/m at 3M	Margin (dB)
732.7	H	5.8	*	2.2	20.5	28.4	26.4	200	-17.6
732.7	V	5.2	*	2.2	20.5	27.8	24.6	200	-18.2
1465.3	H	15.3	*	3.1	26.0	44.4	165.1	500	-9.6
1465.3	V	15.0	*	3.1	26.0	44.1	159.5	500	-9.9
2198.0	H	14.0	*	3.7	28.7	46.4	208.8	500	-7.6
2198.0	V	13.3	*	3.7	28.7	45.7	192.7	500	-8.3
2930.7	H	14.8	*	4.0	30.9	49.7	307.1	500	-4.2
2930.7	V	14.8	*	4.0	30.9	49.7	307.1	500	-4.2
3663.3	H	14.5	*	4.7	33.2	52.4	417.6	500	-1.6
3663.3	V	16.0	*	4.7	33.2	53.9	496.3	500	-0.1
4396.0	H	14.6	*	5.4	33.6	53.6	476.3	500	-0.4
4396.0	V	14.8	*	5.4	33.6	53.8	487.4	500	-0.2

V - Vertical H - Horizontal

Checked BY Richard E. King :

Richard E. King

DATA PAGE

RADIATED QP EMISSION MEASUREMENTS in a 3 m SEMI-ANECHOIC ROOM
SPECIFICATION : FCC 15B CLASS B
MANUFACTURER : MOTOROLA INC.
MODEL NO. : AAM27VMR9JA7AN
SERIAL NO. : 484TLE0050
TEST MODE : TUNED TO 815.5MHz
NOTES :
TEST DATE : 24 Mar 2010 12:34:10
TEST DISTANCE : 3 m (DATA EXTRAPOLATED TO 3 m)

FREQUENCY MHz	QP READING dBuV	ANT FAC dB	CBL FAC dB	EXT ATTN dB	DIST FAC dB	TOTAL dBuV/m	QP LIMIT dBuV/m	AZ deg	ANT HT cm	POLAR
51.75	7.9	8.6	.6	0.0	0.0	17.1	40.0	-0	120	V
82.01	-4.9	8.0	.9	0.0	0.0	4.0	40.0	180	120	V
102.03	-6.5	11.3	1.0	0.0	0.0	5.8	43.5	315	200	V
143.97	2.1	11.6	1.0	0.0	0.0	14.7	43.5	180	120	V
144.34	7.8	11.5	1.0	0.0	0.0	20.3	43.5	135	200	H
168.11	-3.3	10.3	1.0	0.0	0.0	8.0	43.5	90	200	H
250.01	19.0	13.1	1.3	0.0	0.0	33.5	46.0	225	120	H
349.69	1.7	15.4	1.5	0.0	0.0	18.6	46.0	0	200	V
420.01	11.2	17.1	1.6	0.0	0.0	29.9	46.0	315	200	V
500.01	9.9	18.4	1.8	0.0	0.0	30.1	46.0	315	120	V
625.02	10.1	19.7	2.1	0.0	0.0	31.9	46.0	180	200	V
772.80	15.9	21.0	2.4	0.0	0.0	39.4	46.0	315	200	V
875.02	11.6	22.3	2.5	0.0	0.0	36.4	46.0	180	120	V
960.02	.1	22.8	2.5	0.0	0.0	25.4	54.0	-0	120	V

Checked BY Richard E. King :

Richard E. King

DATA PAGE

MANUFACTURER : Motorola Inc.
MODEL : AAM27UMR9JA7AN
SERIAL NO. : 484TLE0050
SPECIFICATION : FCC-15B Spurious Radiated Emissions
DATE : March 24, 2010
NOTES : Tuned to 815.5 MHz
: Test Distance is 3 meters

Freq (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Total dBuV/m at 3 M	Total uV/m at 3M	Limit uV/m at 3M	Margin (dB)
742.2	H	8.5	*	2.2	20.6	31.2	36.5	200	-14.8
742.2	V	6.7	*	2.2	20.6	29.4	29.7	200	-16.6
1484.3	H	14.6	*	3.1	26.0	43.7	153.3	500	-10.3
1484.3	V	14.9	*	3.1	26.0	44.0	158.7	500	-10.0
2226.5	H	14.3	*	3.7	28.8	46.8	218.2	500	-7.2
2226.5	V	14.0	*	3.7	28.8	46.5	210.8	500	-7.5
2968.6	H	14.8	*	4.0	31.1	49.9	312.1	500	-4.1
2968.6	V	15.0	*	4.0	31.1	50.1	319.4	500	-3.9
3710.8	H	14.4	*	4.8	33.3	52.5	420.6	500	-1.5
3710.8	V	14.3	*	4.8	33.3	52.4	415.8	500	-1.6
4452.9	H	14.7	*	5.4	33.5	53.6	481.3	500	-0.3
4452.9	V	14.7	*	5.4	33.5	53.6	481.3	500	-0.3

V - Vertical H - Horizontal

Checked BY Richard E. King :

Richard E. King

DATA PAGE

RADIATED QP EMISSION MEASUREMENTS in a 3 m SEMI-ANECHOIC ROOM
SPECIFICATION : FCC 15B CLASS B
MANUFACTURER : MOTOROLA INC.
MODEL NO. : AAM27VMR9JA7AN
SERIAL NO. : 484TLE0050
TEST MODE : TUNED TO 825MHz
NOTES :
TEST DATE : 24 Mar 2010 11:59:54
TEST DISTANCE : 3 m (DATA EXTRAPOLATED TO 3 m)

FREQUENCY MHz	QP READING dBuV	ANT FAC dB	CBL FAC dB	EXT ATTN dB	DIST FAC dB	TOTAL dBuV/m	QP LIMIT dBuV/m	AZ deg	ANT HT cm	POLAR
30.36	-8.6	20.2	.5	0.0	0.0	12.1	40.0	225	120	H
50.45	7.0	9.0	.6	0.0	0.0	16.6	40.0	315	120	V
75.65	-1.1	7.2	.8	0.0	0.0	6.9	40.0	0	200	V
120.71	-5.4	12.3	1.0	0.0	0.0	7.9	43.5	90	121	V
143.91	4.1	11.6	1.0	0.0	0.0	16.6	43.5	180	121	V
144.34	9.3	11.5	1.0	0.0	0.0	21.8	43.5	45	121	V
173.21	-2.2	10.1	1.0	0.0	0.0	8.9	43.5	315	340	V
250.02	19.6	13.1	1.3	0.0	0.0	34.0	46.0	225	120	H
360.01	4.0	15.6	1.5	0.0	0.0	21.1	46.0	135	340	V
420.01	7.7	17.1	1.6	0.0	0.0	26.4	46.0	0	200	V
500.01	10.1	18.4	1.8	0.0	0.0	30.3	46.0	315	120	V
625.02	10.0	19.7	2.1	0.0	0.0	31.8	46.0	180	200	V
772.80	16.3	21.0	2.4	0.0	0.0	39.8	46.0	315	200	V
875.03	11.8	22.3	2.5	0.0	0.0	36.6	46.0	180	120	V
963.77	-4.9	22.9	2.5	0.0	0.0	20.5	54.0	180	200	V

Checked BY Richard E. King :

Richard E. King

DATA PAGE

MANUFACTURER : Motorola Inc.
MODEL : AAM27UMR9JA7AN
SERIAL NO. : 484TLE0050
SPECIFICATION : FCC-15B Spurious Radiated Emissions
DATE : March 24, 2010
NOTES : Tuned to 825 MHz
: Test Distance is 3 meters

Freq (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Total dBuV/m at 3 M	Total uV/m at 3M	Limit uV/m at 3M	Margin (dB)
751.7	H	6.3	*	2.2	20.7	29.2	28.7	200	-16.9
751.7	V	5.9	*	2.2	20.7	28.8	27.4	200	-17.3
1503.3	H	15.0	*	3.1	26.0	44.2	161.7	500	-9.8
1503.3	V	13.7	*	3.1	26.0	42.9	139.2	500	-11.1
2255.0	H	15.1	*	3.7	28.8	47.7	241.6	500	-6.3
2255.0	V	14.0	*	3.7	28.8	46.6	212.8	500	-7.4
3006.7	H	14.3	*	4.0	31.2	49.5	299.6	500	-4.4
3006.7	V	15.3	*	4.0	31.2	50.5	336.2	500	-3.4
3758.4	H	14.6	*	4.8	33.4	52.8	438.5	500	-1.1
3758.4	V	14.6	*	4.8	33.4	52.8	438.5	500	-1.1
4510.0	H	14.7	*	5.5	33.5	53.7	482.9	500	-0.3
4510.0	V	14.6	*	5.5	33.5	53.6	477.3	500	-0.4

V - Vertical H - Horizontal

Checked BY Richard E. King :

Richard E. King

DATA PAGE

RADIATED QP EMISSION MEASUREMENTS in a 3 m SEMI-ANECHOIC ROOM
SPECIFICATION : FCC 15B CLASS B
MANUFACTURER : MOTOROLA INC.
MODEL NO. : AAM27VMR9JA7AN
SERIAL NO. : 484TLE0050
TEST MODE : TUNED TO 896MHz
NOTES :
TEST DATE : 24 Mar 2010 13:47:48
TEST DISTANCE : 3 m (DATA EXTRAPOLATED TO 3 m)

FREQUENCY MHz	QP READING dBuV	ANT FAC dB	CBL FAC dB	EXT ATTN dB	DIST FAC dB	TOTAL dBuV/m	QP LIMIT dBuV/m	AZ deg	ANT HT cm	POLAR
32.98	-6.7	18.1	.5	0.0	0.0	12.0	40.0	45	340	H
51.14	5.9	8.8	.6	0.0	0.0	15.4	40.0	0	200	V
75.45	-6.7	7.2	.8	0.0	0.0	1.4	40.0	135	120	H
111.57	-5.8	11.8	1.0	0.0	0.0	7.0	43.5	225	200	H
142.43	3.7	11.6	1.0	0.0	0.0	16.3	43.5	135	120	V
157.01	-.1	10.9	1.0	0.0	0.0	11.9	43.5	90	120	V
173.02	-.9	10.1	1.0	0.0	0.0	10.2	43.5	90	200	H
250.01	18.7	13.1	1.3	0.0	0.0	33.1	46.0	225	120	H
364.69	-1.8	15.7	1.5	0.0	0.0	15.4	46.0	315	340	V
420.00	9.4	17.1	1.6	0.0	0.0	28.0	46.0	315	120	V
500.01	9.8	18.4	1.8	0.0	0.0	29.9	46.0	315	120	V
625.02	9.7	19.7	2.1	0.0	0.0	31.5	46.0	180	200	V
772.80	15.7	21.0	2.4	0.0	0.0	39.2	46.0	315	200	V
875.02	10.9	22.3	2.5	0.0	0.0	35.7	46.0	180	120	V
966.99	-5.8	22.9	2.5	0.0	0.0	19.6	54.0	90	120	V

Checked BY Richard E. King :

Richard E. King

DATA PAGE

MANUFACTURER : Motorola Inc.
MODEL : AAM27UMR9JA7AN
SERIAL NO. : 484TLE0050
SPECIFICATION : FCC-15B Spurious Radiated Emissions
DATE : March 24, 2010
NOTES : Tuned to 896 MHz
: Test Distance is 3 meters

Freq (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Total dBuV/m at 3 M	Total uV/m at 3M	Limit uV/m at 3M	Margin (dB)
822.7	H	7.8	*	2.3	21.6	31.7	38.6	200	-14.3
822.7	V	6.7	*	2.3	21.6	30.6	34.0	200	-15.4
1645.3	H	15.0	*	3.3	26.7	45.0	177.8	500	-9.0
1645.3	V	13.7	*	3.3	26.7	43.7	153.1	500	-10.3
2468.0	H	15.1	*	3.8	29.3	48.2	258.3	500	-5.7
2468.0	V	14.0	*	3.8	29.3	47.1	227.6	500	-6.8
3290.6	H	14.3	*	4.4	32.1	50.8	346.0	500	-3.2
3290.6	V	15.3	*	4.4	32.1	51.8	388.3	500	-2.2
4113.3	H	14.7	*	5.1	33.9	53.7	484.5	500	-0.3
4113.3	V	14.7	*	5.1	33.9	53.7	484.5	500	-0.3
4935.9	H	13.3	*	5.8	34.7	53.7	486.7	500	-0.2
4935.9	V	13.3	*	5.8	34.7	53.7	486.7	500	-0.2

V - Vertical H - Horizontal

Checked BY Richard E. King :

Richard E. King

DATA PAGE

RADIATED QP EMISSION MEASUREMENTS in a 3 m SEMI-ANECHOIC ROOM
SPECIFICATION : FCC 15B CLASS B
MANUFACTURER : MOTOROLA INC.
MODEL NO. : AAM27VMR9JA7AN
SERIAL NO. : 484TLE0050
TEST MODE : TUNED TO 902MHz
NOTES :
TEST DATE : 24 Mar 2010 14:20:26
TEST DISTANCE : 3 m (DATA EXTRAPOLATED TO 3 m)

FREQUENCY MHz	QP READING dBuV	ANT FAC dB	CBL FAC dB	EXT ATTN dB	DIST FAC dB	TOTAL dBuV/m	QP LIMIT dBuV/m	AZ deg	ANT HT cm	POLAR
32.96	-6.7	18.4	.5	0.0	0.0	12.3	40.0	180	340	H
52.05	5.0	8.6	.6	0.0	0.0	14.3	40.0	270	200	V
75.28	-3.2	7.2	.8	0.0	0.0	4.8	40.0	45	120	V
120.95	-6.4	12.3	1.0	0.0	0.0	6.9	43.5	45	200	V
141.97	3.6	11.7	1.0	0.0	0.0	16.3	43.5	90	120	V
156.01	-4.5	11.0	1.0	0.0	0.0	7.4	43.5	180	200	H
167.39	-2.6	10.4	1.0	0.0	0.0	8.7	43.5	90	200	H
250.01	18.6	13.1	1.3	0.0	0.0	33.0	46.0	225	120	H
336.00	3.3	15.0	1.5	0.0	0.0	19.7	46.0	135	120	V
420.01	11.3	17.1	1.6	0.0	0.0	30.0	46.0	315	200	V
500.01	9.7	18.4	1.8	0.0	0.0	29.9	46.0	315	120	V
625.02	9.4	19.7	2.1	0.0	0.0	31.2	46.0	180	200	V
772.80	15.7	21.0	2.4	0.0	0.0	39.1	46.0	315	200	V
875.02	11.2	22.3	2.5	0.0	0.0	36.0	46.0	180	120	V
960.02	-4.2	22.8	2.5	0.0	0.0	21.1	54.0	90	120	V

Checked BY Richard E. King :

Richard E. King

DATA PAGE

MANUFACTURER : Motorola Inc.
MODEL : AAM27UMR9JA7AN
SERIAL NO. : 484TLE0050
SPECIFICATION : FCC-15B Spurious Radiated Emissions
DATE : March 24, 2010
NOTES : Tuned to 902 MHz
: Test Distance is 3 meters

Freq (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Total dBuV/m at 3 M	Total uV/m at 3M	Limit uV/m at 3M	Margin (dB)
828.7	H	6.8	*	2.3	21.6	30.7	34.2	200	-15.3
828.7	V	6.5	*	2.3	21.6	30.4	33.1	200	-15.6
1657.3	H	13.9	*	3.3	26.8	44.0	157.9	500	-10.0
1657.3	V	14.1	*	3.3	26.8	44.2	161.6	500	-9.8
2486.0	H	14.8	*	3.8	29.3	48.0	250.9	500	-6.0
2486.0	V	14.6	*	3.8	29.3	47.8	245.2	500	-6.2
3314.6	H	15.8	*	4.4	32.2	52.4	416.1	500	-1.6
3314.6	V	14.0	*	4.4	32.2	50.6	338.2	500	-3.4
4143.3	H	14.3	*	5.2	33.8	53.3	462.4	500	-0.7
4143.3	V	14.6	*	5.2	33.8	53.6	478.7	500	-0.4
4971.9	H	13.2	*	5.8	34.7	53.8	487.7	500	-0.2
4971.9	V	13.2	*	5.8	34.7	53.8	487.7	500	-0.2

V - Vertical H - Horizontal

Checked BY Richard E. King :

Richard E. King

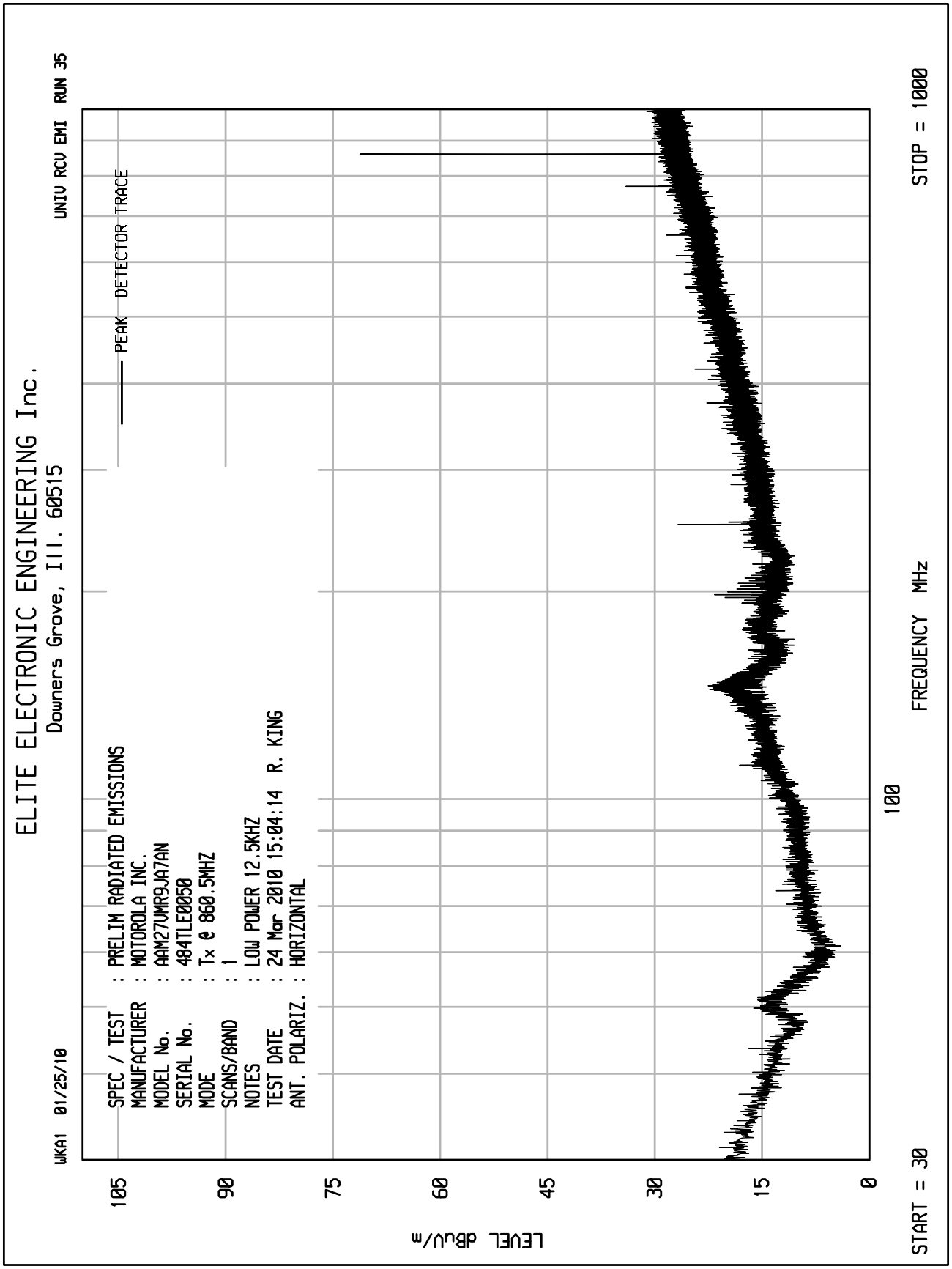
DATA PAGE

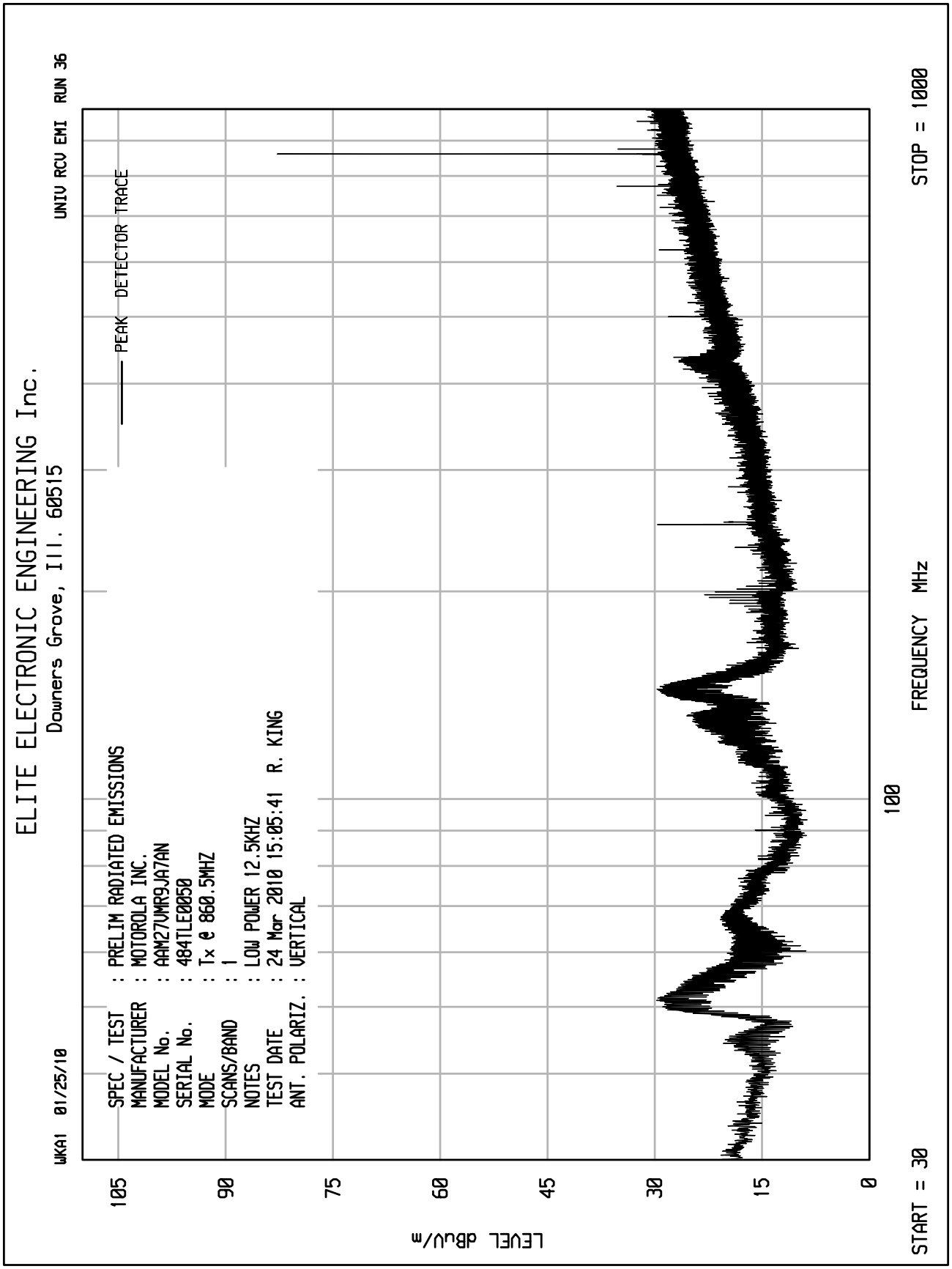
MANUFACTURER : Motorola Inc.
MODEL : AAM27UMR9JA7AN
SERIAL NO. : 484TLE0050
SPECIFICATION : FCC 90.205 Power Output
DATE : March 24, 2010

Frequency (MHz)	Channel Spacing (kHz)	Measured Output Power (dBm)	Measured Output Power (Watts)	Manufacturer's Rated Power (Watts)	Manufacturer's Rated Power + 20% (Watts)
860.5	12.5	39.69	9.31	10.0	12.0
860.5	25	39.69	9.31	10.0	12.0
860.5	12.5	45.21	33.2	35.0	42.0
860.5	25	45.21	33.2	35.0	42.0
937.5	12.5	39.69	9.31	10.0	12.0
937.5	12.5	44.35	27.3	30.0	36.0

Checked BY Richard E. King :

Richard E. King


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 35
WKAI 01/25/10
SPEC / TEST : PRELIM RADIATED EMISSIONS
MANUFACTURER : MOTOROLA INC.
MODEL No. : AAM27VMR9JA7AN
SERIAL No. : 484TLE0050
MODE : Tx @ 860.5MHZ
SCANS/BAND : 1
NOTES : LOW POWER 12.5KHZ
TEST DATE : 24 Mar 2010 15:04:14 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
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 36
WKA1 01/25/10
SPEC / TEST : PRELIM RADIATED EMISSIONS
MANUFACTURER : MOTOROLA INC.
MODEL No. : AAM27VMR9JA7AN
SERIAL No. : 484TLE0050
MODE : Tx @ 860.5MHZ
SCANS/BAND : 1
NOTES : LOW POWER 12.5KHZ
TEST DATE : 24 Mar 2010 15:05:41 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
105
90
75
60
45
30
15
0
START = 30
100
FREQUENCY MHz
STOP = 1000