



Measurement of RF Interference from a Model AAM27JQR9JA7AN, MOTOTRBO Repeater

For : Motorola Inc.
Rolling Meadows, IL 60008

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RSS-119 - Land Mobile and Fixed Radio
Transmitters and Receivers Operating in
The Frequency Range 27.41- 960 MHz

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Revision History

Revision	Date	Description
—	4/23/07	Initial release
A	5/9/07	Added TPL, DPL and DTMF modulations in Occupied Bandwidth tests.

**Measurement of RF Emissions from a Motorola Inc.,
Model AAM27JQR9JA7AN MOTOTRBO 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 AAM27JQR9JA7AN MOTOTRBO Repeater (hereinafter referred to as the test item). Serial No. 484THC0A40 was assigned to the test item used for the receiver portion of the test. The test item is designed to transmit and receive in the frequency range of 150MHz to 174MHz for FCC part 90 and 136MHz to 174MHz for Industry Canada using an external antenna. The receiver contained one local oscillator at 44.83 MHz above the carrier. The test item was submitted for testing by Motorola Inc. located in Rolling Meadows, 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 the RF power output, emissions mask, spurious emissions at antenna terminal, field strength of spurious emissions, frequency stability, and transient frequency behavior requirements of Part 90, Subpart I. 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 2005
- Federal Communications Commission "Code of Federal Regulations", Title 47, Part 87, dated 1 October 2005
- 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 8 September

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 22°C and the relative humidity was 24%.

2.0 TEST ITEM SET-UP AND OPERATION:

The test item is a Motorola Inc., Model AAM27JQR9JA7AN MOTOTRBO Repeater. The test item is designed to transmit and receive in the 150MHz to 174MHz VHF frequency range for FCC part 90 and 136MHz to 174MHz for Industry Canada. The test item operates at two power level, 25 Watts and 45 Watts. The test item operates with two channel spacings, 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 - The following peripheral equipment was submitted with the test item:

Item	Description
Mobile Radio	Motorola model PMPN4001A mobile radio serial number RA67156018 Used to produce the digital signal at the input of the MOTOTRBO repeater.

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 set to receive separately at 136 MHz, 150 MHz, 162 MHz and 174 MHz.

For all transmitter tests, the test item was set to transmit separately at 136 MHz, 150 MHz, and 174 MHz.

2.6 Test Item Modifications - No modifications were required for compliance to the FCC "Code of Federal Regulations" Title 47, Part 15, Subpart B, Sections 15.107 and 15.109,

or the Part 90, Subpart I requirements.

3.0 TEST EQUIPMENT:

3.1 Test Equipment List - A list of the test equipment used can be found on Table I. All equipment was calibrated per the instruction manuals supplied by the manufacturer.

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 budgets were based on guidelines in "ISO Guide to the Expression of Uncertainty in Measurements" and NAMAS NIS81 "The Treatment of Uncertainty in EMC Measurements".

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:

4.1.1 Powerline Conducted Emissions:

4.1.1.1 Requirements - 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 RECEIVERS

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
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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.

4.1.1.2 Procedures - The interference on each input power lead of the test item was measured by connecting the measuring equipment to the appropriate meter terminal of the LISN. The meter terminal of the LISN not under test was terminated with 50 ohm. Measurements were first made over the entire frequency range from 150kHz through 30MHz with a peak detector and the results were automatically plotted. The data thus obtained was then searched by the computer for the highest levels. Quasi-peak measurements were automatically performed at the frequencies selected from the highest peak measurements, and the results printed.

4.1.1.3 Results - The plots of the peak preliminary conducted voltage levels on each power line, with the test item in the receive at 162 MHz mode, are presented on pages 23 and 24. The conducted limits for receivers are shown as a reference. The final quasi-peak results are presented on pages 25 and 26. As can be seen from the data, all emissions measured from the test item were within the specification limits.

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 2000MHz 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 2000MHz were observed and then plotted.

4.1.2.3 Results - The results of the antenna conducted measurements are presented on pages 27 through 30. 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:

RADIATION 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 2000MHz was investigated using a peak detector

function with a bilog 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 31 through 38. These plots are presented for a reference only, and are not used to determine compliance. The final radiated levels are presented on pages 39 through 42.

As can be seen from the data, all emissions measured from the test item were within the specification limits. A block diagram of the radiated emissions test setup is shown on Figure 1. Photographs of the test configuration which yielded the highest or worst case radiated emission levels are shown in Figures 2.

4.2 Transmitter:

4.2.1 RF Power Output:

4.2.1.1 Requirements - In accordance with paragraph 90.205(r), 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 136MHz, the antenna port of the test item was connected to a spectrum analyzer through 50 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. This procedure was repeated separately with the test item transmitting at 150MHz and 174MHz.

4.2.1.3 Results - The output power measurements are shown in a tabular form on page 43. As can be seen from the data, the power output at each frequency is below the maximum allowable power of 20% above the manufacturer's rated output power.

4.2.2 Emission Mask

4.2.2.1 Requirements - Per 90.210, for equipment operating in the frequency band of 150MHz to 174MHz with a 12.5kHz channel bandwidth, any emissions must be attenuated below the power (P) of the highest emission contained within the authorized bandwidth as follows:

- (1) On any frequency from the center of the authorized bandwidth f_0 to 5.625kHz removed from f_0 : Zero dB.
- (2) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 5.625kHz but no more than 12.5kHz: At least $7.25(f_d - 2.88\text{kHz})$ dB.
- (3) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 12.5kHz; At least $50 + 10\log(P)$ dB or 70dB whichever is the lesser attenuation.

Per 90.210, for equipment operating in the frequency band of 150MHz to 174MHz with a 25kHz channel bandwidth, any emissions must be attenuated below the power (P) of the highest emission contained within the authorized bandwidth as follows:

- (1) On any frequency removed from the assigned frequency by more than 50 percent, but not more than 100 percent of the authorized bandwidth: At least 25 dB.
- (2) On any frequency removed from the assigned frequency by more than 100 percent, but not more than 250 percent of the authorized bandwidth: At least 35 dB.
- (3) On any frequency removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least $43 + 10\log(P)$ dB.

4.2.2.2 Procedures - The test item was set to transmit at 136MHz.

- (a) The antenna port of the test item was connected to a spectrum analyzer through a 60dB attenuator.
- (b) The following spectrum analyzer settings were employed:
 - o trace 1 = on
 - o center frequency = transmit frequency of the test item
 - o resolution bandwidth = 1MHz
 - o video bandwidth > resolution bandwidth
 - o frequency span = 100kHz
 - o sweep = Auto
 - o detector function = peak

- o trace = max hold
- (c) Several sweeps were made with the settings listed above.
- (d) Trace 1 was changed from max hold to view
- (e) The following spectrum analyzer settings were employed:
 - o trace 2 = on
 - o resolution bandwidth = 100Hz/300Hz
 - o video bandwidth = 1kHz
 - o sweep = Auto
 - o detector function = peak
 - o trace = max hold
- (f) Several sweeps were made with the settings listed above.
- (g) Steps (a) through (f) were repeated with the test item set to transmit at 150MHz.
- (h) Steps (a) through (f) were repeated with the test item set to transmit at 174MHz.

4.2.2.3 Results - The spectrum analyzer plots of the emissions of the test item are shown on pages 44 through 81. The limits, shown on the plots, are referenced to the power measured with a 1MHz resolution bandwidth. As can be seen from the data, the test item did comply with the emission mask requirements. The 99% bandwidth measurement is 11 kHz for the 12.5 kHz channel, 16 kHz for the 25 kHz channel and 7.6 kHz when using digital modulation.

4.2.3 Spurious Emissions at Antenna Terminal

4.2.3.1 Requirements - Per 90.210, for a 12.5kHz channel - on any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 12.5kHz the emissions must be attenuated by at least $50 + 10\log(P)$ dB or 70dB whichever is the lesser attenuation. For a 25kHz channel - on any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 250% of the emission bandwidth, the emissions must be attenuated by at least $43 + 10\log(P)$ dB.

4.2.3.2 Procedures - The test item was set to transmit at 136MHz.

- a) The antenna port of the test item was connected to a spectrum analyzer through a 50dB attenuator.
- b) The resolution bandwidth of the spectrum analyzer was set to 100kHz.
- c) A sweep was made from 30MHz to 1GHz.
- d) The resolution bandwidth of the spectrum analyzer was set to 1MHz.
- e) A sweep was made from 1GHz to 2GHz.

- f) Steps (a) through (e) were repeated with the test item set to transmit at 150MHz.
- g) Steps (a) through (e) were repeated with the test item set to transmit at 174MHz.

4.2.3.3 Results - The plots of the antenna conducted output measurements are presented on pages 82 through 105. As can be seen from the data, the test item did not produce spurious emissions in excess of the limit.

4.2.4 Field Strength Of Spurious Emissions:

4.2.4.1 Requirements - Per 90.210, for a 12.5kHz channel - on any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 12.5kHz the emissions must be attenuated by at least $50 + 10\log(P)$ dB or 70dB whichever is the lesser attenuation. For a 25kHz channel - on any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 250% of the emission bandwidth, the emissions must be attenuated by at least $43 + 10\log(P)$ dB.

4.2.4.2 Procedures - All tests were performed in a 32ft. x 20ft. x 18ft. hybrid ferrite-tile/anechoic absorber lined test chamber. The walls and ceiling of the shielded chamber are lined with ferrite tiles. Anechoic absorber material is installed over the ferrite tile. The floor of the chamber is used as the ground plane. The chamber complies with ANSI C63.4 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 2GHz was investigated using a peak detector function. All preliminary tests were performed separately with the test item operating in the transmit mode at 136MHz, 150MHz and 174MHz.
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 2GHz.
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.

4.2.4.3 Results - The preliminary radiated emissions plots are presented on pages 106 through 129. 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 130 through 141. 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 configuration are shown in Figures 3.

4.2.5 Frequency Stability :

4.2.5.1 Requirements - In accordance with paragraph 90.213(a), fixed and base stations operating in the 150MHz to 174MHz band with a 12.5kHz channel bandwidth must have a frequency stability of 2.5ppm.

4.2.5.2 Procedures - The antenna port of the test item was connected to a frequency counter through a 50dB attenuator. The test item was then placed in a humidity temperature chamber.

- b) The test item was set to transmit at 150MHz. The transmit frequency was measured and recorded at ambient temperature.
- c) The temperature chamber was then set to -30°C.
- d) Once the temperature chamber had reached -30°C, the test item was allowed to soak for 30 minutes.
- e) After soaking at -30°C for thirty minutes, the test item was turned on and set to transmit at 150MHz and the transmit frequency was measured and recorded.
- f) Steps (b) through (d) were repeated at -20°C.

- g) Steps (b) through (d) were repeated at -10°C.
- h) Steps (b) through (d) were repeated at 0°C.
- i) Steps (b) through (d) were repeated at +10°C.
- j) Steps (b) through (d) were repeated at +20°C.
- k) Steps (b) through (d) were repeated at +30°C.
- l) Steps (b) through (d) were repeated at +40°C.
- m) Steps (b) through (d) were repeated at +50°C.
- n) The test item was then removed from the temperature chamber and allowed to adjust to nominal room temperature.
- o) The supply voltage was checked and adjusted to the nominal level (120VAC). The test item was turned on and set to transmit at 150MHz. The transmit frequency was measured and recorded at ambient temperature.
- p) The supply voltage was then varied to 85% of its nominal level (102VAC). The test item was turned on and set to transmit at 150MHz. The transmit frequency was measured and recorded at ambient temperature.
- q) The supply voltage was then varied to 115% of its nominal level (138VAC). The test item was turned on and set to transmit at 150MHz. The transmit frequency was measured and recorded at ambient temperature.

4.2.5.3 Results - The frequency stability measurements are presented on pages 142 and 143. As can be seen from the data, all frequency deviations were within the 2.5 ppm limit. A photograph of the test configuration is shown on Figure 4.

4.2.6 Transient Frequency Behavior

4.2.6.1 Requirements - Per 90.214, transmitters designed to operate in the 150MHz to 174MHz frequency band with 12.5kHz channel spacing must maintain transient frequencies within the maximum frequency difference limits during the time intervals indicated:

Time intervals	Maximum Frequency Difference	Time (ms)
t_1	+/-12.5kHz	5.0
t_2	+/-6.25kHz	20.0
t_3	+/-12.5kHz	5.0

Where:

t_1 is the time period immediately following t_{on}

t_2 is the time period immediately following t_1

t_3 is the time period from the instant when the transmitter is turned off until t_{off}

Transmitters designed to operate in the 150MHz to 174MHz frequency band with 25kHz channel spacing must maintain transient frequencies within the maximum frequency difference limits during the time intervals indicated:

Time intervals	Maximum Frequency Difference	Time (ms)
t_1	+/-25kHz	5.0
t_2	+/-12.5kHz	20.0
t_3	+/-25kHz	5.0

Where:

t_1 is the time period immediately following t_{on}

t_2 is the time period immediately following t_1

t_3 is the time period from the instant when the transmitter is turned off until t_{off}

4.2.6.2 Procedures - Two test signals were connected to the test discriminator via a combining network. The transmitter was connected to a 50 ohm power attenuator. The output of the power attenuator was connected to the test discriminator via one input of the combining network. A test signal was connected to the second input of the combining network.

- The test signal was adjusted to the nominal frequency of the transmitter.
- The test signal was modulated by a 1 kHz signal with a deviation equal to the value of the relevant channel separation (12.5kHz or 25kHz).
- The test signal was adjusted to correspond to 0.5% of the power of the transmitter under test measured at the input of the test discriminator. This level was maintained throughout the measurement.
- The amplitude difference (ad) and the frequency difference (fd) output of the test discriminator were connected to a storage oscilloscope.
- The storage oscilloscope was set to display the channel corresponding to the (fd) input up to ± 1 channel frequency difference, corresponding to the relevant channel separation, from the nominal frequency.
- The storage oscilloscope was set to a rate of 5 ms/div and set so that the triggering occurs at 1 div from the left edge of the display.
- The 1 kHz test signal was shown continuously. The storage oscilloscope was set to trigger on the channel corresponding to the amplitude difference (ad) input at a low input level, rising.
- The transmitter was then switched on, without modulation, to produce the trigger pulse and a picture on the display. The result of the change in the ratio of power between the test signal and the transmitter output produced two separate sides, one showing the 1 kHz test signal, the other the frequency difference of the transmitter versus time.
- The transmit signal suppresses the 1 kHz test signal and produces the start of the test or t_{on} . During this test time the frequency difference was measured and recorded versus



time.

- (j) The transmitter was then switched off to produce the trigger pulse and a picture of the display. The result of the change in the ratio of power between the test signal and the transmitter output produced two separate sides, one showing the frequency difference of the transmitter versus time and the other showing the 1 kHz test signal.
- (k) The transmitter signal no longer suppresses the 1 kHz test signal and produces t_3 .

4.2.6.3 Results - The plots of the transient frequency behavior are shown on pages 144 through 147. As can be seen from the data, all transient frequencies were within the maximum frequency difference limits specified by 90.214.

5.0 CONCLUSIONS:

It was determined that the Motorola Inc., Model AAM27JQR9JA7AN MOTOTRBO Repeater, 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 when tested per ANSI C63.4-2003.

It was determined that the Motorola Inc., Model AAM27JQR9JA7AN MOTOTRBO Repeater did fully meet the RF power output, emissions mask, spurious emissions at antenna terminal, field strength of spurious emissions, frequency stability, and transient frequency behavior, requirements of the FCC "Code of Federal Regulations" Title 47, Part 90, Subpart I, when tested per TIA-603-C-2004 and RSS-119 - Land Mobile and Fixed Radio Transmitters and Receivers Operating in The Frequency Range 27.41- 960 MHz Issue 8 September 2006.

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: TEST EQUIPMENT LIST

ELITE ELECTRONIC ENG. INC.

Page: 1

Eq ID	Equipment Description	Manufacturer	Model No.	Serial No.	Frequency Range	Cal Date	Cal Inv	Due Date
Equipment Type: ACCESSORIES, MISCELLANEOUS								
XLB0	50W, 500HM COAXIAL LOAD	BIRD ELECTRONIC	8085	21450	DC-3.5GHZ	11/27/06	12	11/27/07
XLG0	75W, 500HM COAXIAL LOAD	VECTRONICS, INC	DL75-1.5	---	DC-1.5GHZ	07/07/06	12	07/07/07
XLK0	100W, 50 OHM TERMINATION	JFW INDUSTRIES	50T-032-1.0	1	DC-1GHZ	07/28/06	12	07/28/07
XLK1	100W, 50 OHM TERMINATION	JFW INDUSTRIES	50T-032-1.0	2	DC-1GHZ	05/15/06	12	05/15/07
Equipment Type: ANTENNAS								
NDQ0	TUNED DIPOLE ANTENNA	EMCO	3121C-DB4	311	400-1000MHZ	03/06/07	12	03/06/08
NDQ1	TUNED DIPOLE ANTENNA	EMCO	3121C-DB4	313	400-1000MHZ	03/28/07	12	03/28/08
NTA0	BILOG ANTENNA	CHASE EMC LTD.	BILOG CBL611	2057	0.03-2GHZ	08/21/06	12	08/21/07
Equipment Type: ATTENUATORS								
T1F1	10DB, 100W ATTENUATOR	BIRD ELECTRONIC	8343-100	2433	DC-1GHZ	01/09/07	12	01/09/08
T1F2	10DB, 100W ATTENUATOR	BIRD ELECTRONIC	8343-100	442	DC-1GHZ	01/09/07	12	01/09/08
T2C9	20DB, 20W ATTENUATOR	NARDA	768-20	19	DC-11GHZ	01/10/07	12	01/10/08
T2DA	20DB, 25W ATTENUATOR	WEINSCHTEL	46-20-34	BH5446	DC-18GHZ	10/04/06	12	10/04/07
T2DI	20DB 25W ATTENUATOR	WEINSCHTEL	46-20-34	BN1041	DC-18GHZ	12/04/06	12	12/04/07
T2DJ	25W 20DB ATTENUATOR	WEINSCHTEL	46-20-34	BS0923	DC-18GHZ	12/04/06	12	12/04/07
T2F2	20DB, 100W ATTENUATOR	WEINSCHTEL	48-20-33	AZ0084	DC-18GHZ	03/15/07	12	03/15/08
T2S3	20DB 25W ATTENUATOR	WEINSCHTEL CORP	BV3544	BV3544	DC-18GHZ		12	
Equipment Type: CHAMBERS (ENV)								
ETC0	TEMPERATURE CHAMBER	TENNEY	BTR-100350	9145-17	-60C TO 100C			NOTE 1
Equipment Type: CONTROLLERS								
CDS2	COMPUTER	GATEWAY	MFATXPNT NMZ	0028483108	1.8GHZ			N/A
CMA0	MULTI-DEVICE CONTROLLER	EMCO	2090	9701-1213	---			N/A
Equipment Type: METERS								
MFC0	MICROWAVE FREQ. COUNTER	HEWLETT PACKARD	5343A	2133A00591	10HZ-26GHZ	05/17/06	12	05/17/07
MPC1	DUAL POWER METER	HEWLETT PACKARD	EPN-442A	US37480258	0.1MHZ-50GHZ	02/23/07	12	02/23/08
MPC1	POWER SENSOR	HEWLETT PACKARD	8482A	US3318A27650	0.1-4200MHZ	07/03/06	12	07/03/07
MSP4	8 CHANNEL DIGITAL OSCILLOS	YOKOGAWA	DL708	27VJ0035	---	01/03/07	12	01/03/08
Equipment Type: PROBES; CLAMP-ON & LISNS								
PLL9	50UH LISN 462D	ELITE	462D/70A	010	0.01-400MHZ	03/08/07	12	03/08/08
PLLA	50UH LISN 462D	ELITE	462D/70A	011	0.01-400MHZ	03/08/07	12	03/08/08
Equipment Type: PRINTERS AND PLOTTERS								
HRE1	LASER JET 5P	HEWLETT PACKARD	C3150A	USHB061052	---			N/A
Equipment Type: RECEIVERS								
RAC1	SPECTRUM ANALYZER	HEWLETT PACKARD	85660B	3407A08369	100HZ-22GHZ	02/21/07	12	02/21/08
RACB	RF PRESELECTOR	HEWLETT PACKARD	85685A	3506A01491	20HZ-2GHZ	02/21/07	12	02/21/08
RAF3	QUASISPEAK ADAPTER	HEWLETT PACKARD	85650A	3303A01775	0.01-1000MHZ	02/21/07	12	02/21/08
RBB0	EMI TEST RECEIVER 20HZ TO	ROHDE & SCHWARZ	ES1B40	100250	20 HZ TO 40GHZ	09/29/06	12	09/29/07
RYE0	MODULATION ANALYZER	HEWLETT PACKARD	8901B	3104A03410	0.15-1300MHZ	03/08/06	13	04/08/07
Equipment Type: SIGNAL GENERATORS								
GBR2	SIGNAL GENERATOR	HEWLETT PACKARD	8648D	3847U00488	0.009-4000MHZ	02/19/07	12	02/19/08
GRD0	SIGNAL GENERATOR	HEWLETT PACKARD	E4432B	US38080222	250KHZ-3.0GHZ	08/28/06	12	08/28/07

Cal. Interval: Listed in Months I/O: Initial Only N/A: Not Applicable

Note 1: For the purpose of this test, the equipment was calibrated over the specified frequency range, pulse rate, or modulation prior to the test or monitored by a calibrated instrument.

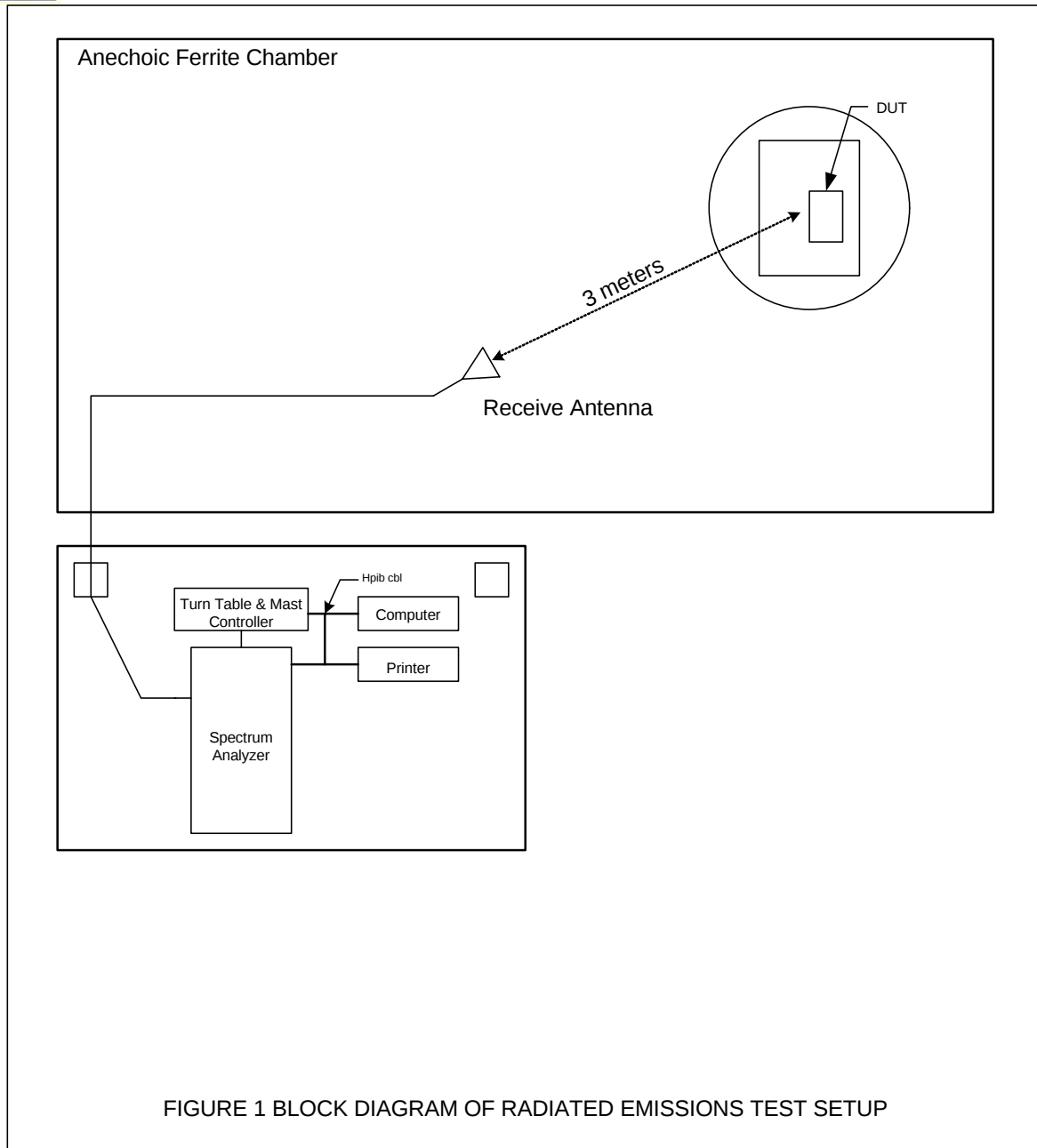
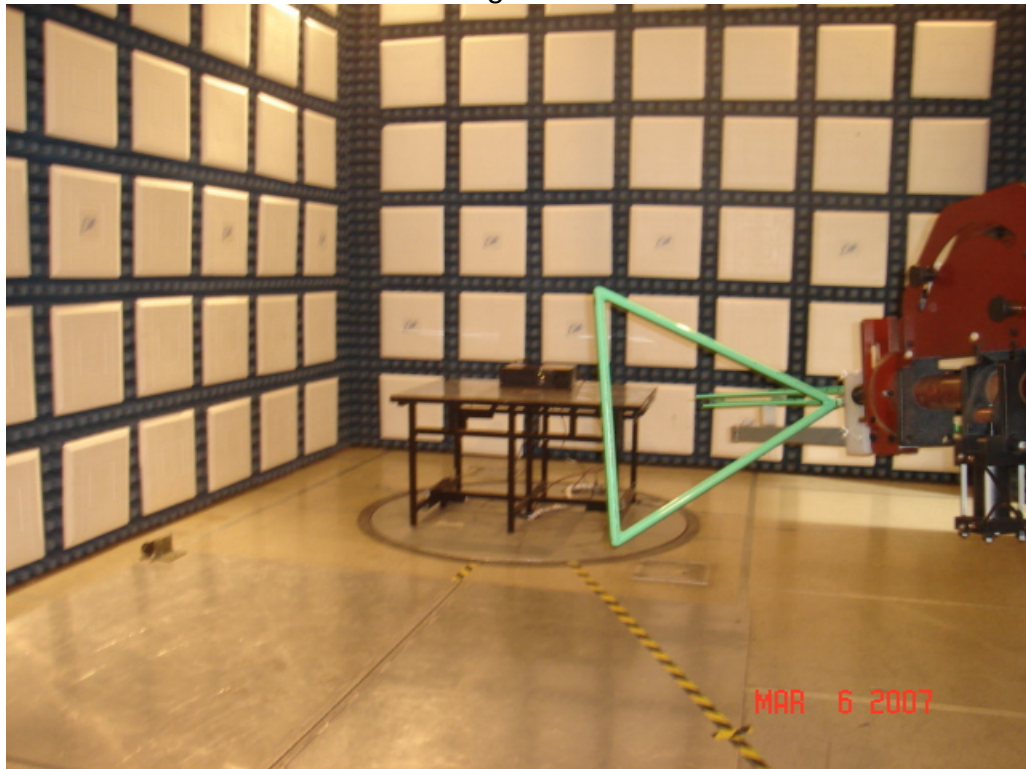
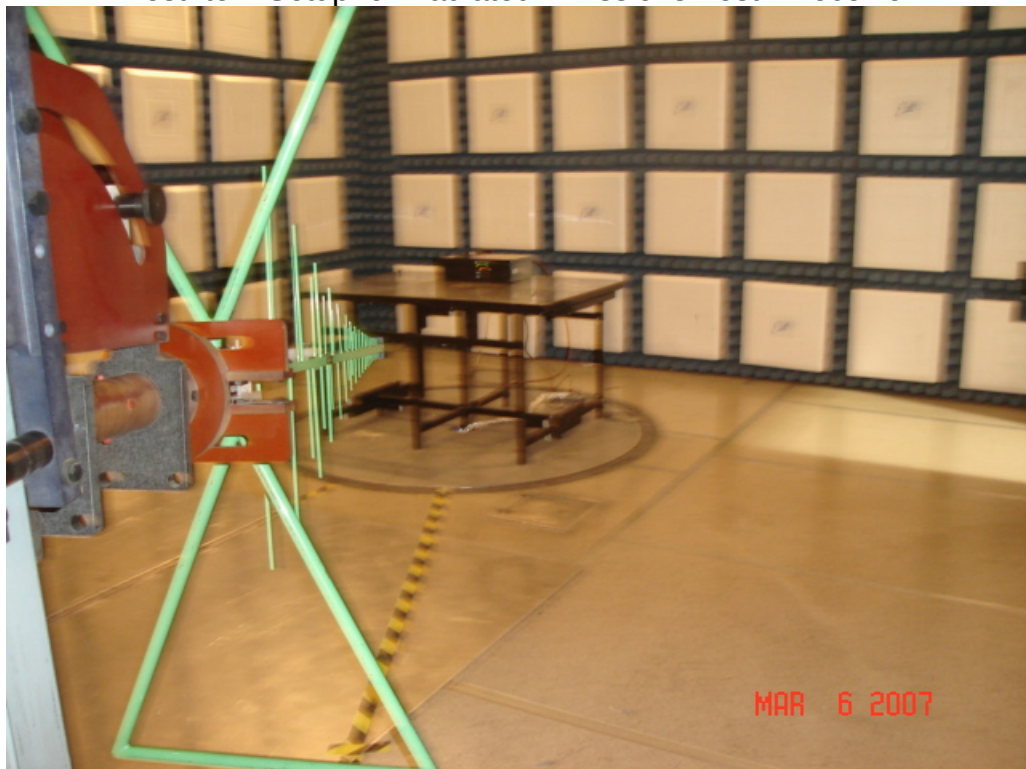


Figure 2

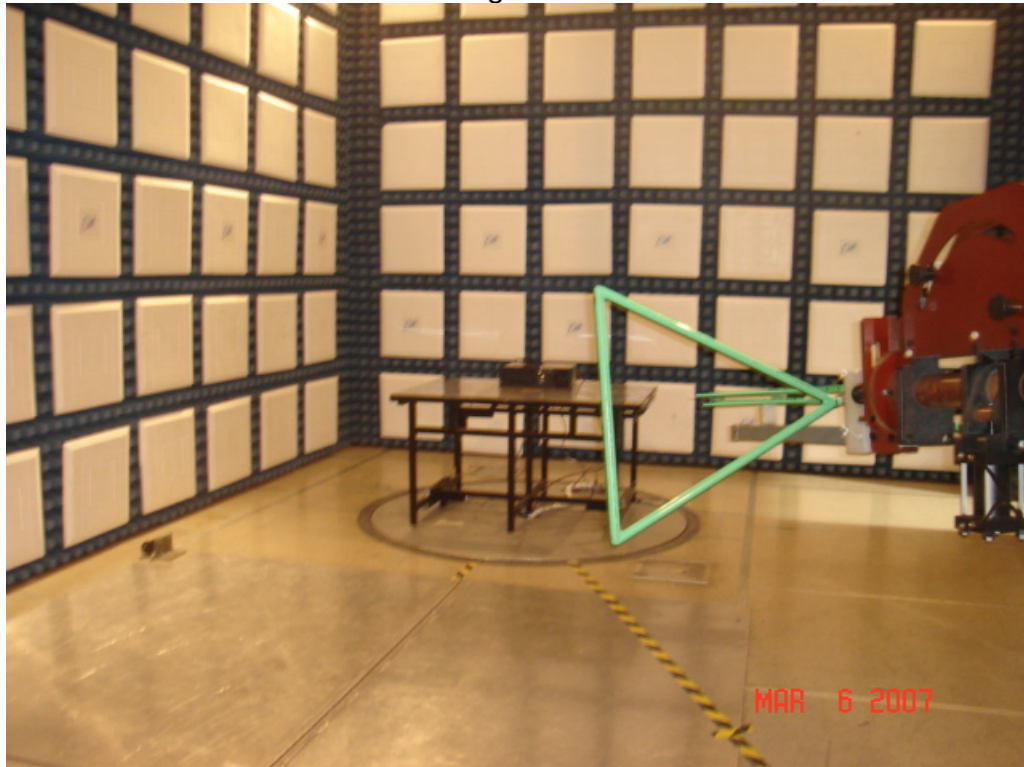


Test Item Setup for Radiated Emissions Test - Receiver

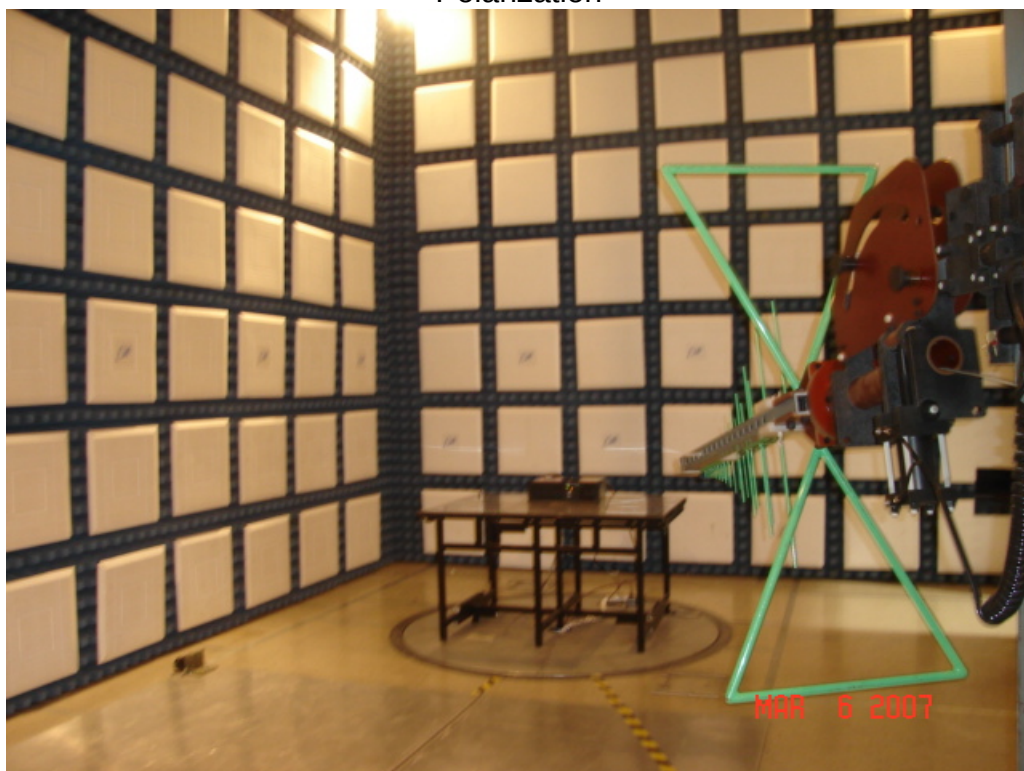


Test Item Setup for Radiated Emissions Test - Receiver

Figure 3



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

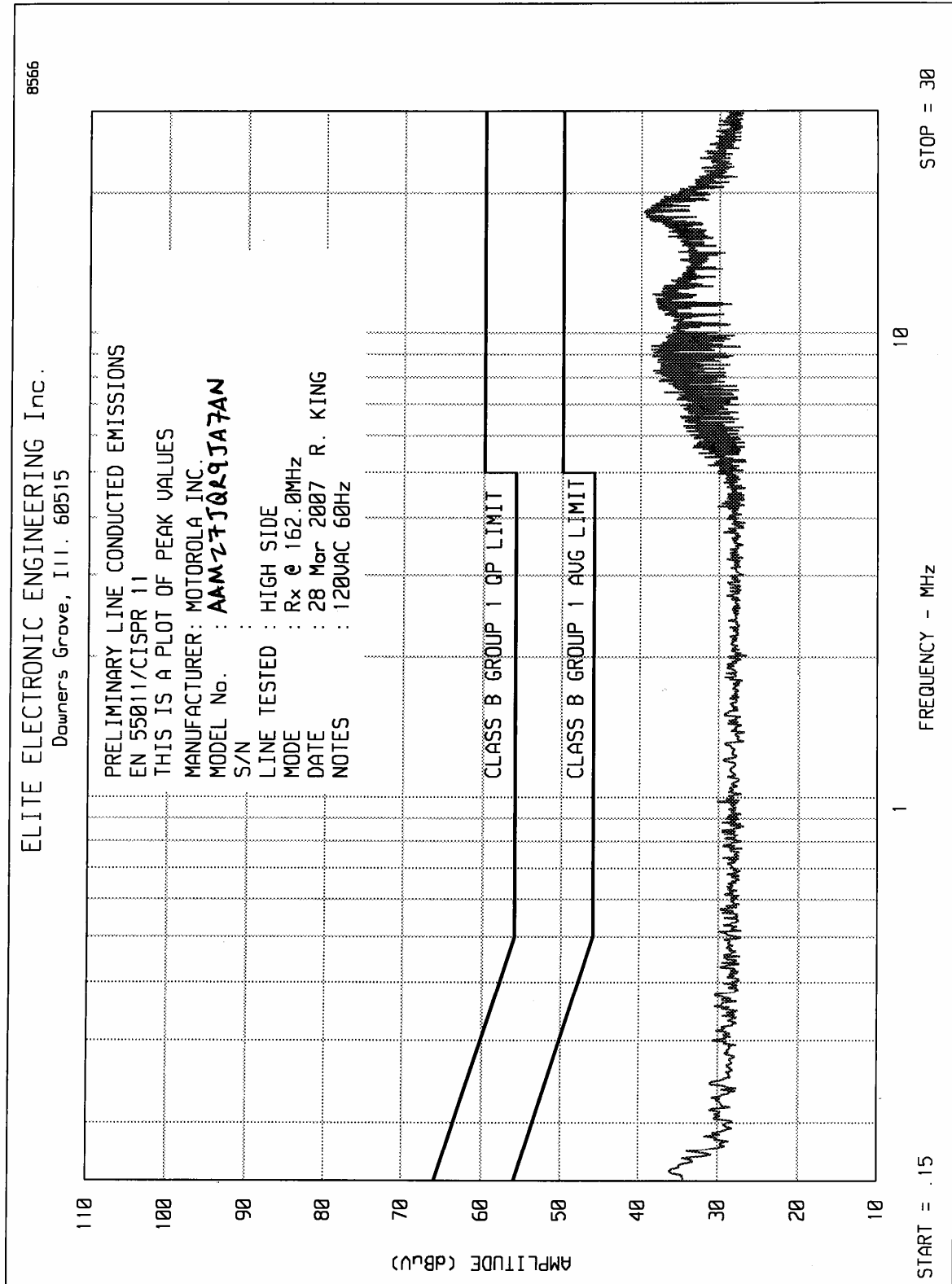


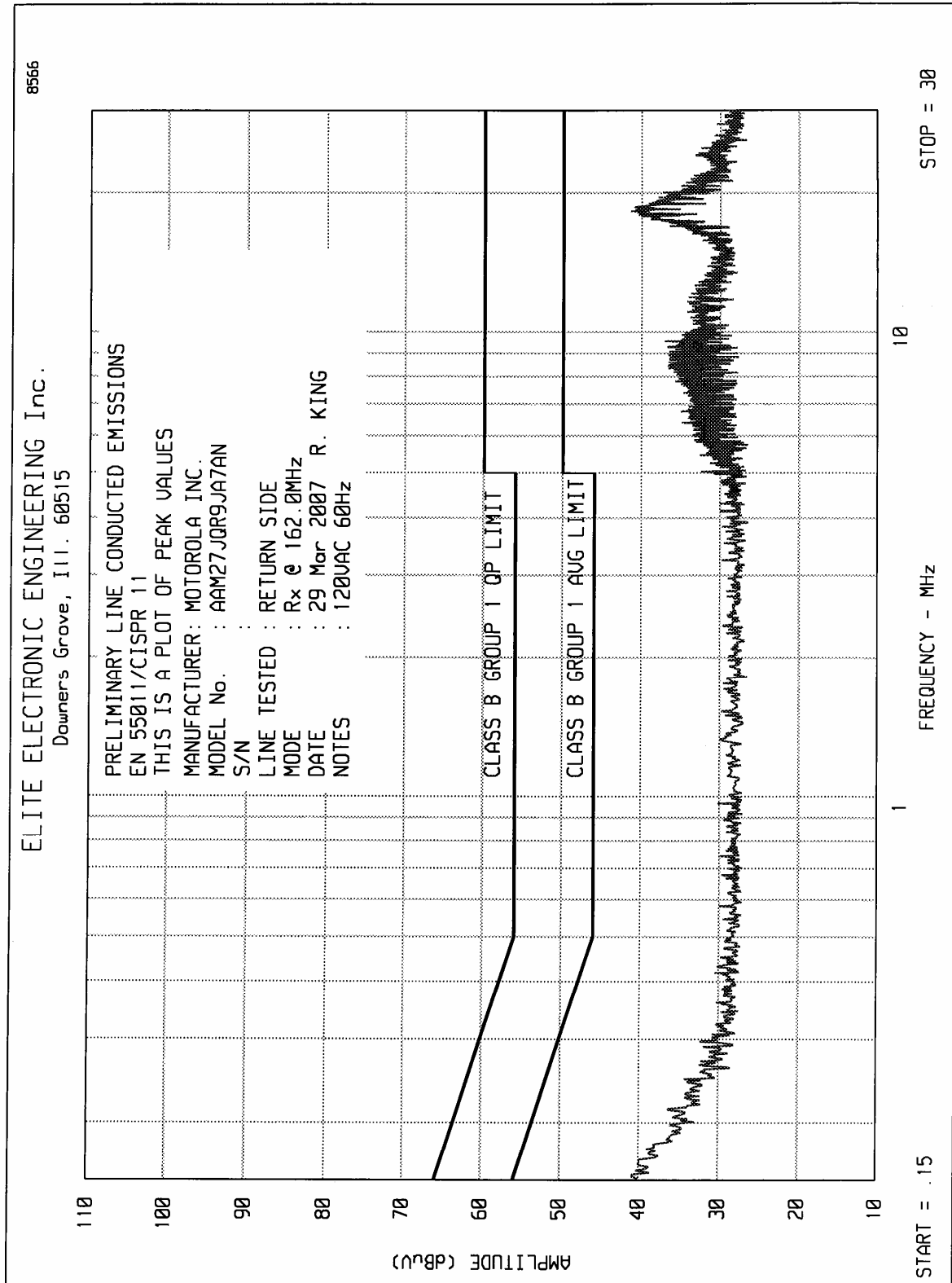
Test Setup for Radiated Emissions, 30MHz to 1GHz - Vertical Polarization

Figure 4



Test Setup for Frequency Stability – Frequency vs. Temperature







ETR No.
ELITE ELECTRONIC ENGINEERING CO.

MANUFACTURER : MOTOROLA INC.
MODEL : **AAM27JQR9JA7AN**
S/N :
SPECIFICATION : EN 55011/CISPR 11, CLASS B GROUP 1
TEST : LINE CONDUCTED EMISSIONS
LINE TESTED : HIGH SIDE
MODE : Rx @ 162.0MHz
DATE : 28 Mar 2007
NOTES : 120VAC 60Hz
RECEIVER : HP 8566 w/ HP85650A QP ADAPTOR
VALUES MEASURED WITH QP DETECTOR USING 9kHz BANDWIDTH

FREQUENCY MHz	METER RDG. dBuV	QP LIMIT dBuV	AVG RDG dBuV	AVG LIMIT dBuV	NOTES
.158	29.0	65.6		55.6	
.356	24.9	58.8		48.8	
.509	25.4	56.0		46.0	
.972	24.9	56.0		46.0	
1.796	24.9	56.0		46.0	
3.139	25.2	56.0		46.0	
5.650	28.2	60.0		50.0	
7.796	33.4	60.0		50.0	
8.268	34.2	60.0		50.0	
9.208	34.7	60.0		50.0	
11.512	34.0	60.0		50.0	
12.086	33.6	60.0		50.0	
16.012	30.8	60.0		50.0	
17.996	37.3	60.0		50.0	
18.048	37.2	60.0		50.0	
18.466	36.3	60.0		50.0	
20.402	30.8	60.0		50.0	
23.751	26.8	60.0		50.0	
27.149	24.6	60.0		50.0	

CHECKED BY:

Richard E. King
R. KING



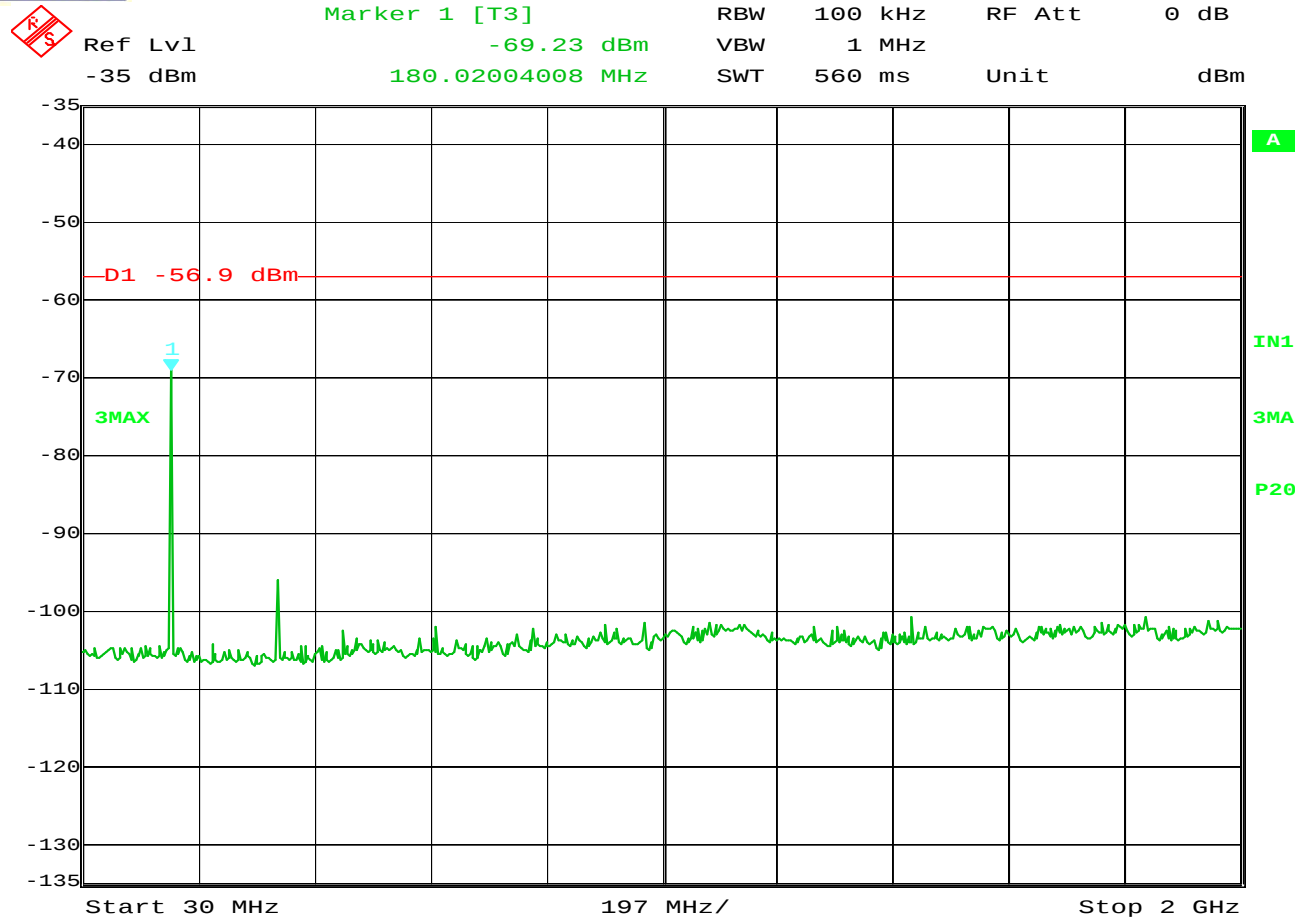
ETR No.
ELITE ELECTRONIC ENGINEERING CO.

MANUFACTURER : MOTOROLA INC.
MODEL : AAM27JQR9JA7AN
S/N :
SPECIFICATION : EN 55011/CISPR 11, CLASS B GROUP 1
TEST : LINE CONDUCTED EMISSIONS
LINE TESTED : RETURN SIDE
MODE : Rx @ 162.0MHz
DATE : 29 Mar 2007
NOTES : 120VAC 60Hz
RECEIVER : HP 8566 w/ HP85650A QP ADAPTOR
VALUES MEASURED WITH QP DETECTOR USING 9kHz BANDWIDTH

FREQUENCY MHz	METER RDG. dBuV	QP LIMIT dBuV	AVG RDG dBuV	AVG LIMIT dBuV	NOTES
.156	32.8	65.7		55.7	
.416	25.2	57.5		47.5	
.751	25.2	56.0		46.0	
1.754	25.0	56.0		46.0	
2.985	25.0	56.0		46.0	
4.975	26.9	56.0		46.0	
6.754	30.0	60.0		50.0	
8.432	32.0	60.0		50.0	
9.532	32.1	60.0		50.0	
11.888	29.7	60.0		50.0	
13.411	26.3	60.0		50.0	
18.066	38.4	60.0		50.0	
18.170	38.3	60.0		50.0	
18.536	37.9	60.0		50.0	
20.003	33.2	60.0		50.0	
24.979	25.7	60.0		50.0	
28.003	25.9	60.0		50.0	

CHECKED BY:

Richard King
R. KING



Date: 6.MAR.2007 17:44:24

FCC 15.111 Antenna Conducted Emissions

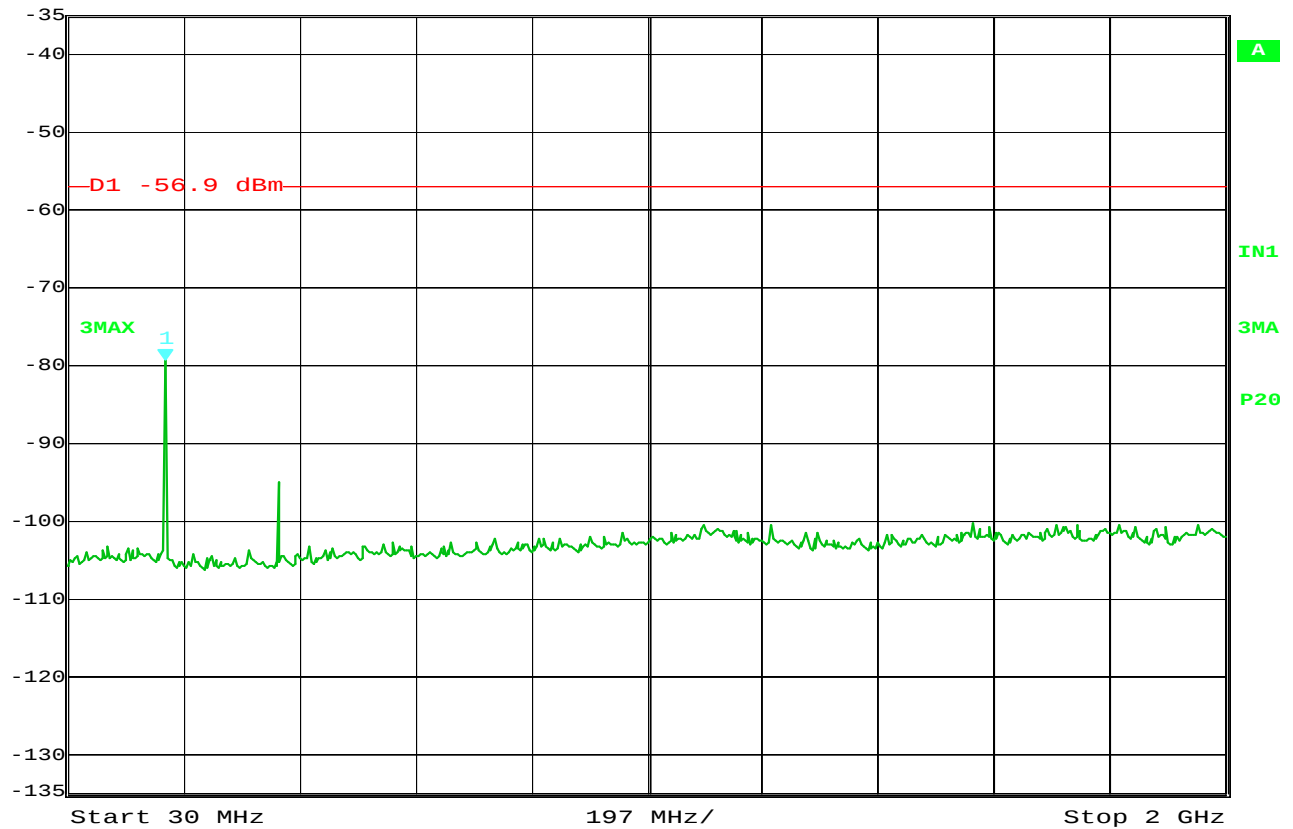
MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Receive
TUNED FREQUENCY : 136MHz
NOTES :



Ref Lvl
-35 dBm

Marker 1 [T3]
-79.32 dBm
195.81162325 MHz

RBW 100 kHz RF Att 0 dB
VBW 1 MHz
SWT 560 ms Unit dBm



Date: 6.MAR.2007 17:41:17

FCC 15.111 Antenna Conducted Emissions

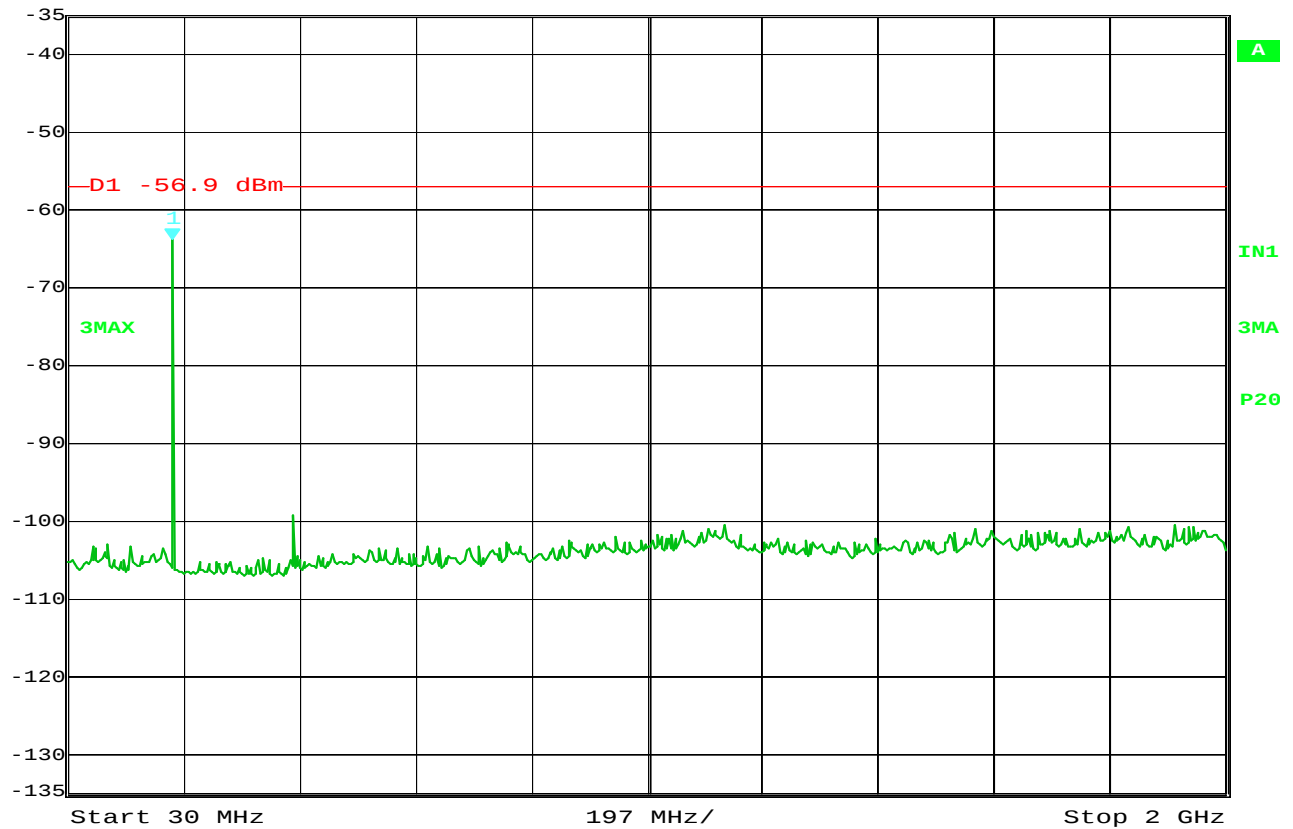
MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Receive
TUNED FREQUENCY : 150MHz
NOTES :



Ref Lvl
-35 dBm

Marker 1 [T3]
-63.91 dBm
207.65531062 MHz

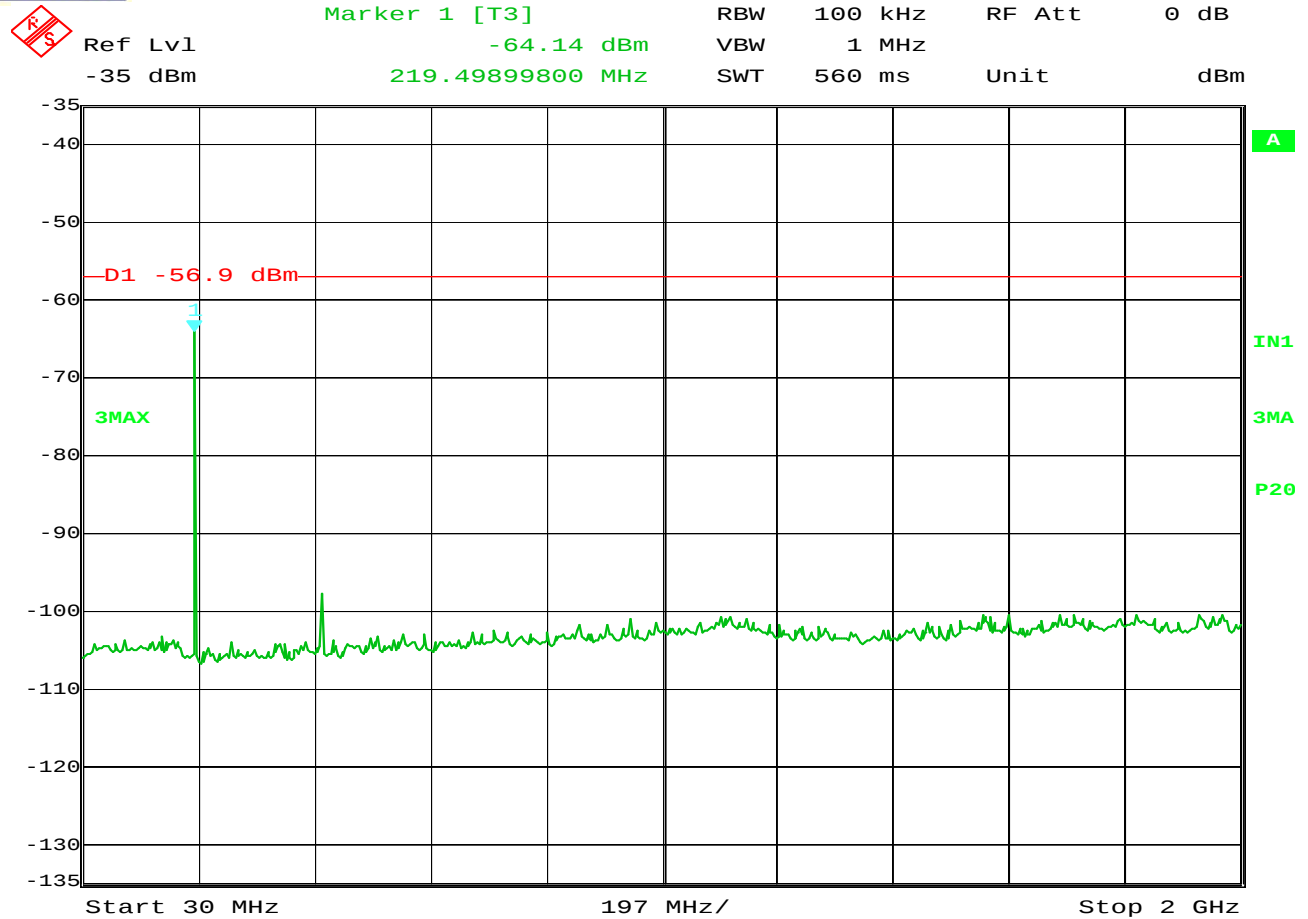
RBW 100 kHz RF Att 0 dB
VBW 1 MHz
SWT 560 ms Unit dBm



Date: 6.MAR.2007 17:47:37

FCC 15.111 Antenna Conducted Emissions

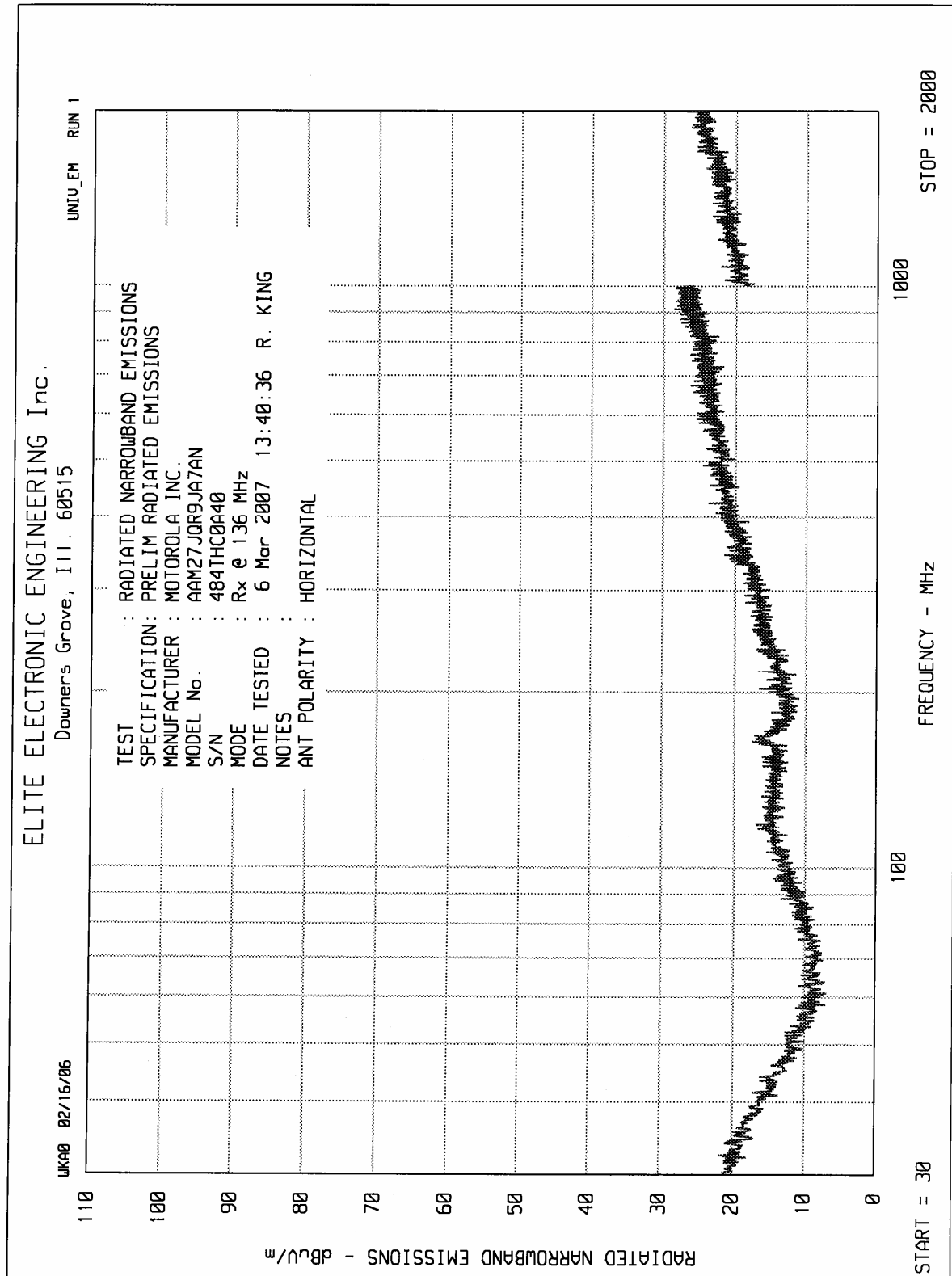
MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Receive
TUNED FREQUENCY : 162MHz
NOTES :

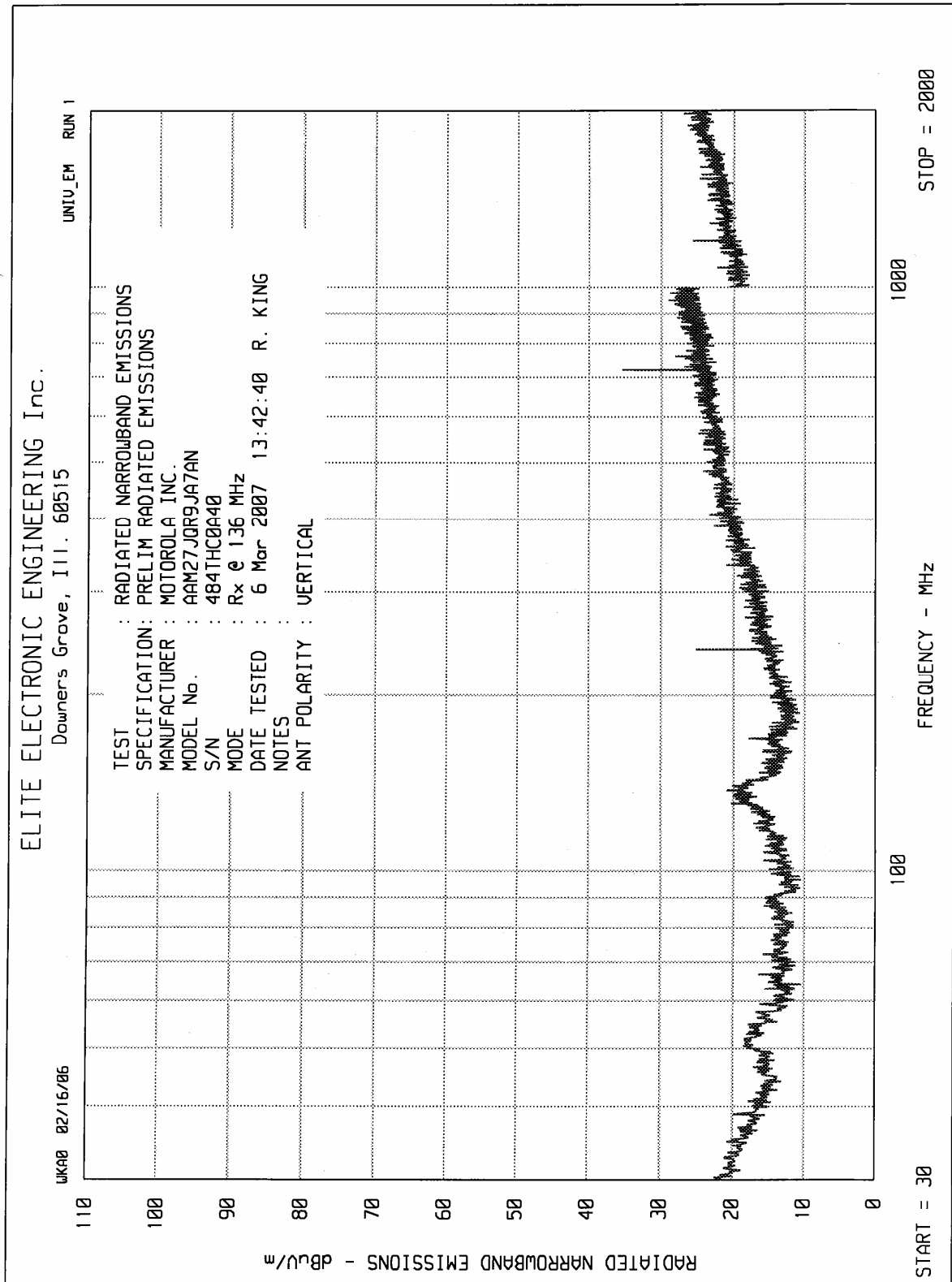


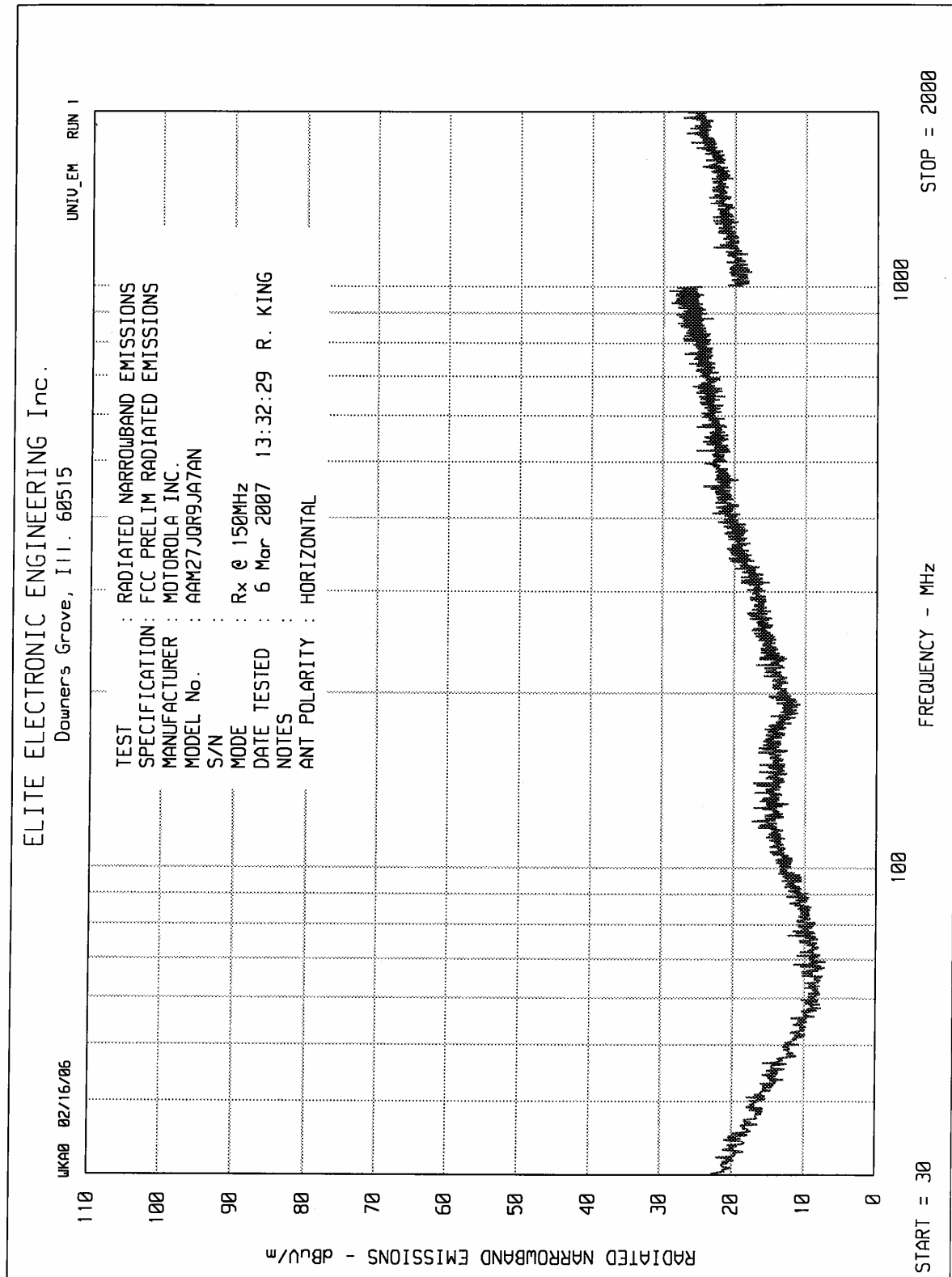
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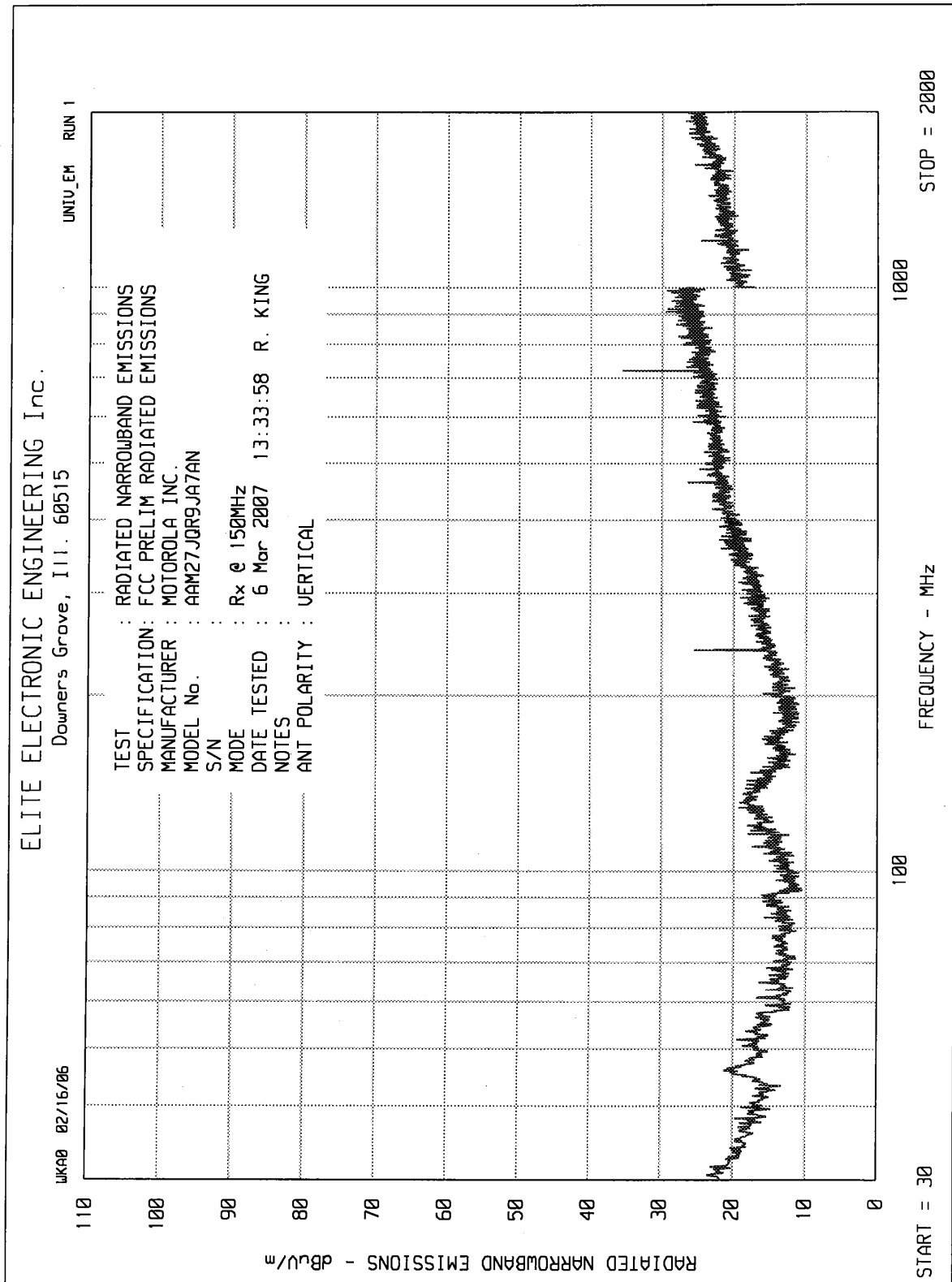
FCC 15.111 Antenna Conducted Emissions

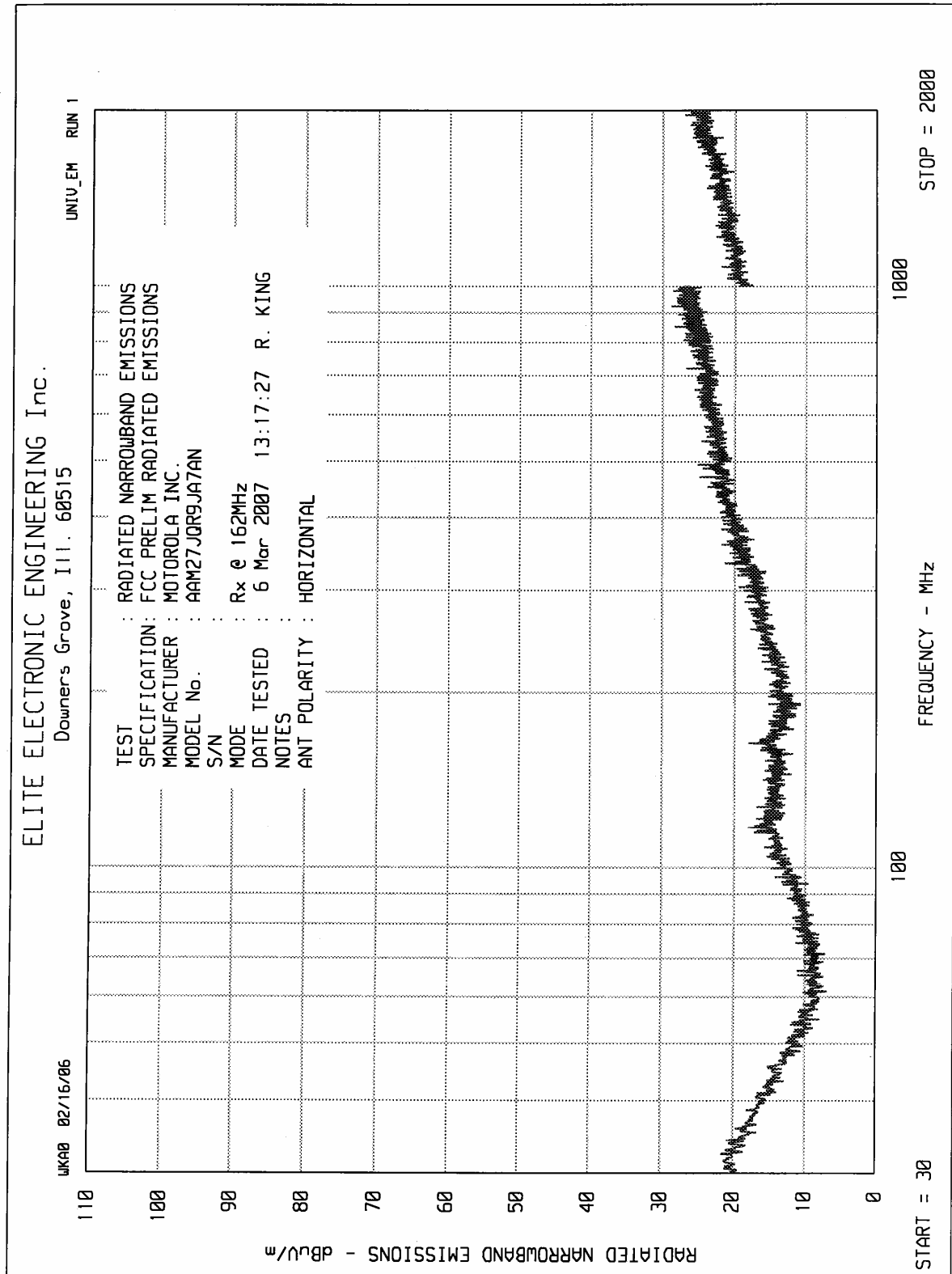
MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Receive
TUNED FREQUENCY : 174MHz
NOTES :

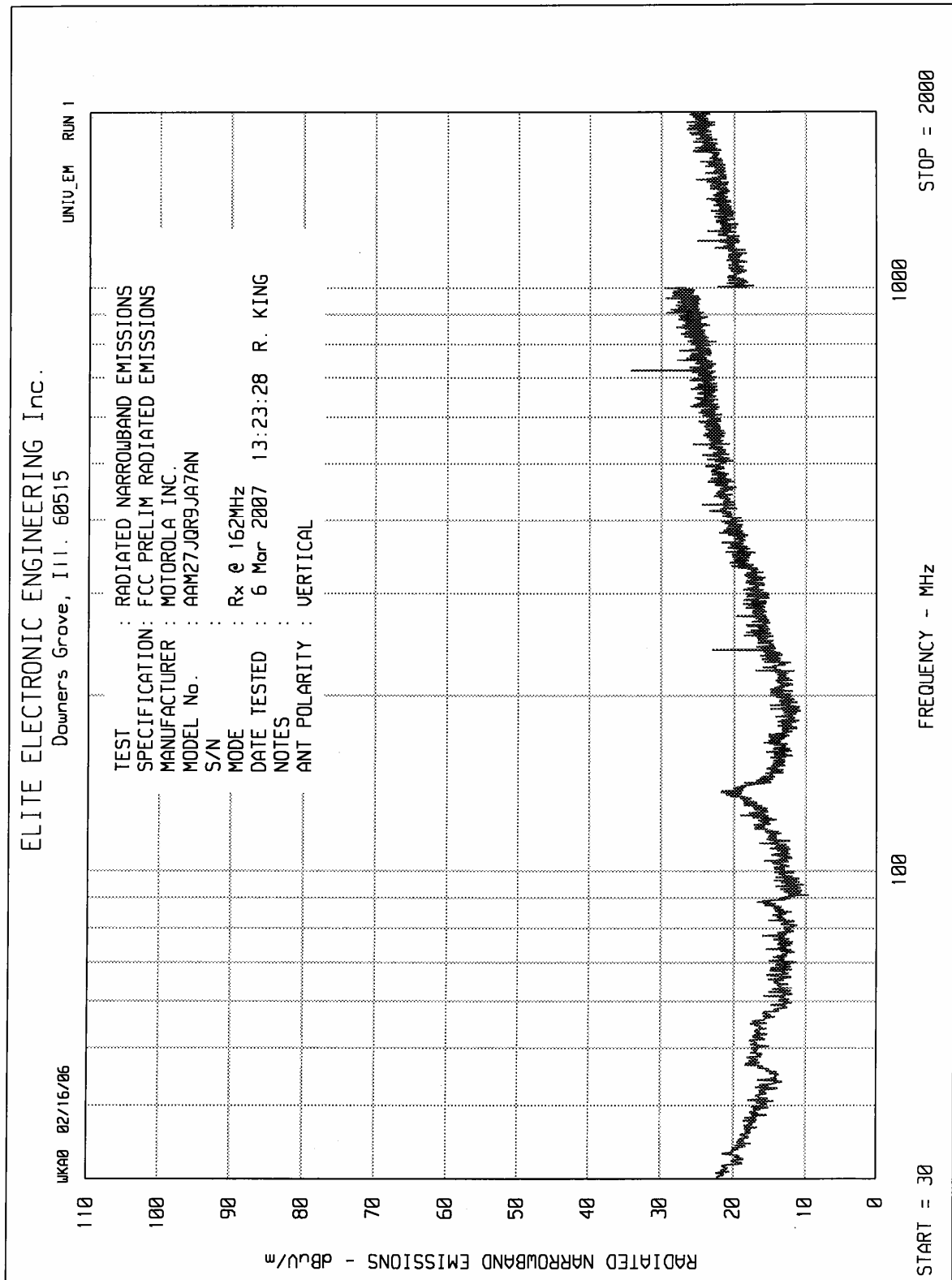


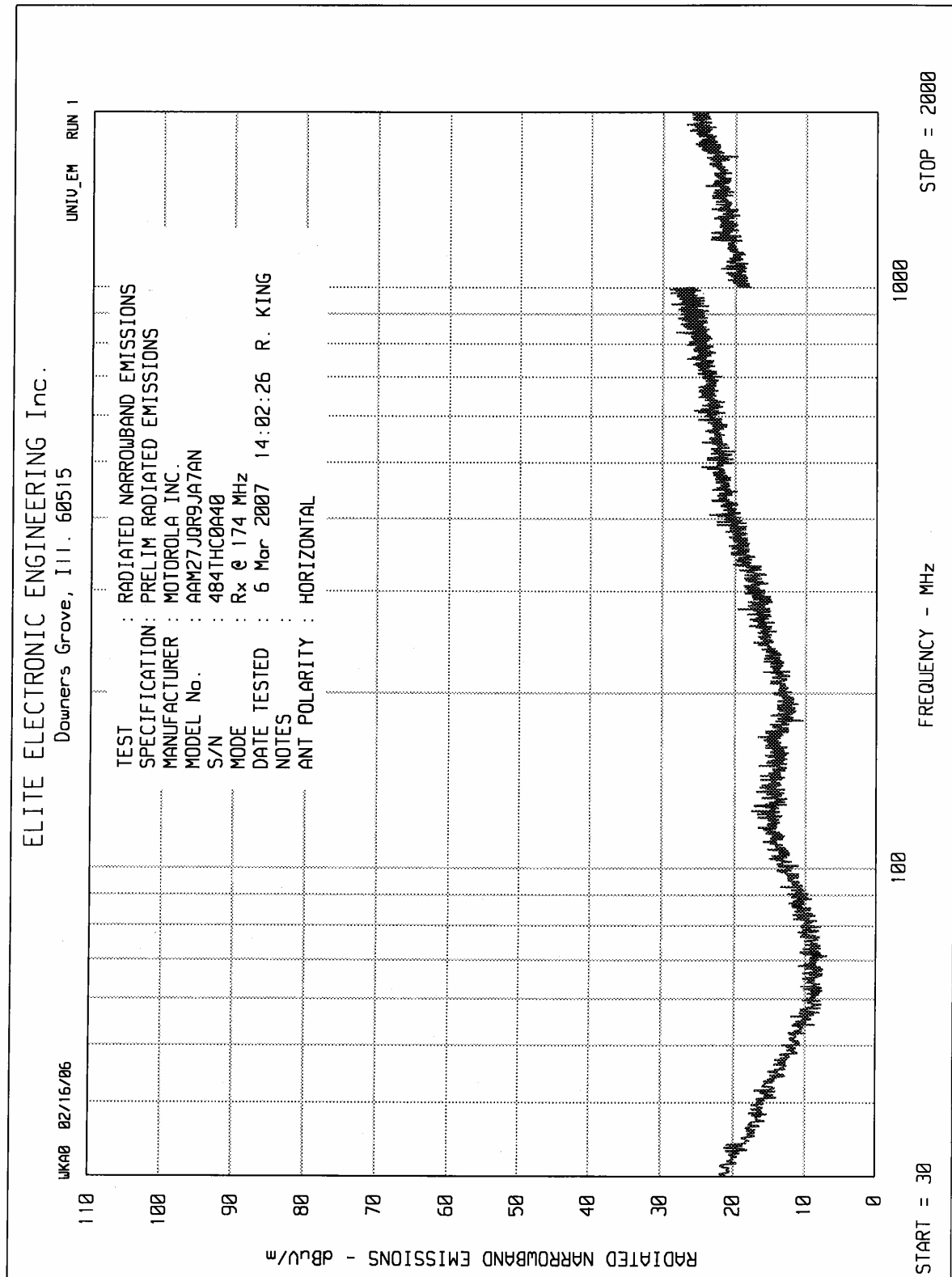


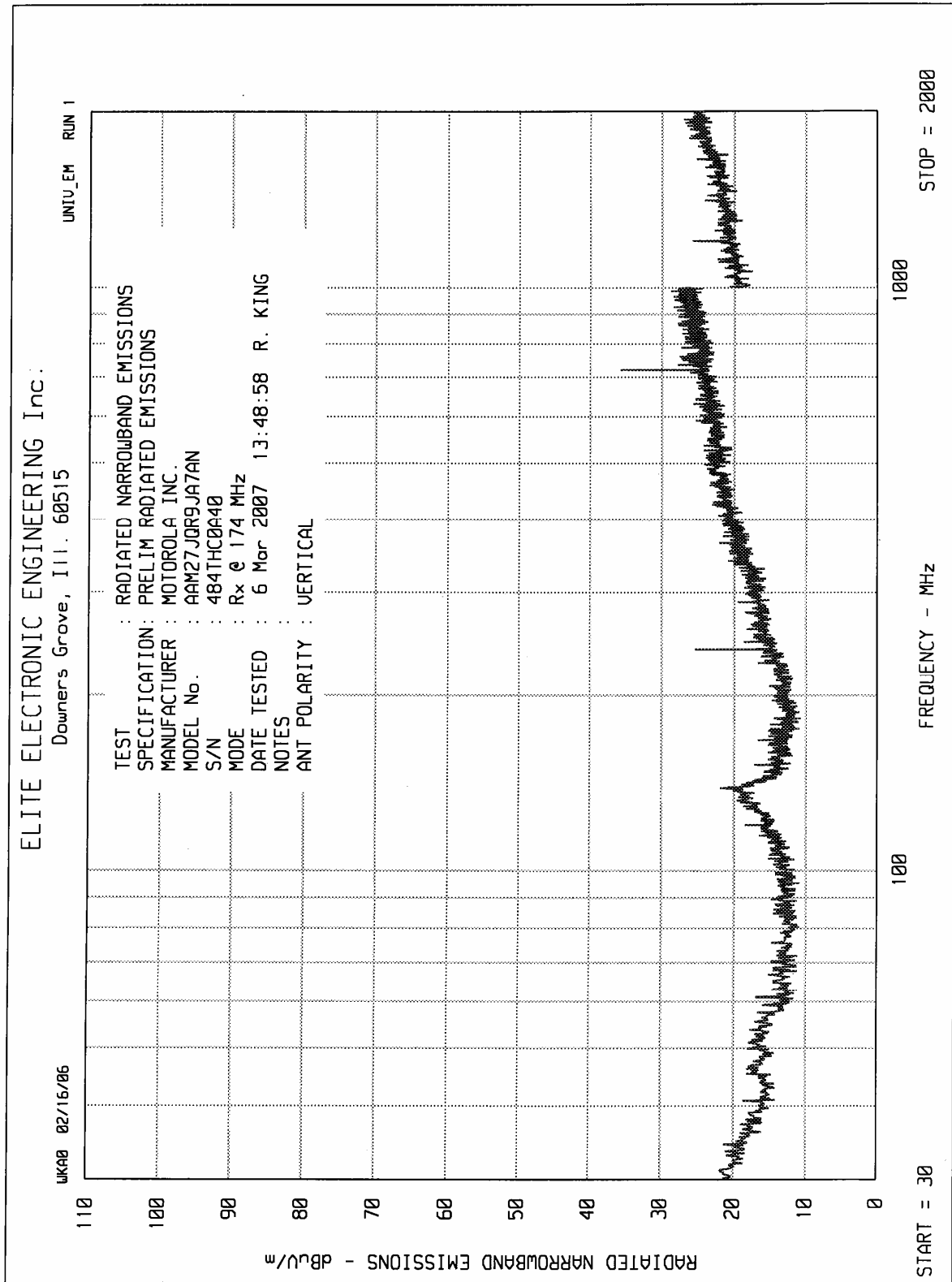














MANUFACTURER : Motorola Inc.
 MODEL : AAM27JQR9JA7AN
 SERIAL NO. : 484THC0A40
 SPECIFICATION : FCC-15B Spurious Radiated Emissions
 DATE : March 6, 2007
 NOTES : Tuned to 136MHz
 : Test Distance is 3 meters

		Meter		CBL	Ant	Total	Total	Limit	
Freq	Ant	Reading	Ambien	Fac	Fac	dBuV/m	uV/m	uV/m	Margin
(MHz)	Pol	(dBuV)	t	(dB)	(dB)	at 3 M	at 3M	at 3M	(dB)
180.83	H	4.0	*	0.9	9.9	14.8	5.5	150.0	-28.7
180.83	V	4.6	*	0.9	9.9	15.4	5.9	150.0	-28.1
361.66	H	5.7	*	1.4	15.3	22.5	13.3	200.0	-23.6
361.66	V	5.6	*	1.4	15.3	22.4	13.1	200.0	-23.7
542.49	H	5.6	*	1.7	18.9	26.2	20.3	200.0	-19.9
542.49	V	4.4	*	1.7	18.9	25.0	17.7	200.0	-21.1
723.32	H	5.7	*	1.8	20.3	27.9	24.7	200.0	-18.2
723.32	V	5.3	*	1.8	20.3	27.5	23.6	200.0	-18.6
904.15	H	6.7	*	0.2	22.3	29.2	28.9	200.0	-16.8
904.15	V	6.7	*	0.2	22.3	29.2	28.9	200.0	-16.8
1084.98	H	14.4	*	0.3	23.8	38.5	83.7	500.0	-15.5
1084.98	V	14.0	*	0.3	23.8	38.1	79.9	500.0	-15.9
1265.81	H	15.8	*	0.3	24.8	40.8	110.3	500.0	-13.1
1265.81	V	15.8	*	0.3	24.8	40.8	110.3	500.0	-13.1
1446.64	H	16.2	*	0.3	25.6	42.1	127.9	500.0	-11.8
1446.64	V	15.5	*	0.3	25.6	41.4	118.0	500.0	-12.5
1627.47	H	16.5	*	0.3	26.6	43.5	149.2	500.0	-10.5
1627.47	V	16.1	*	0.3	26.6	43.1	142.5	500.0	-10.9
1808.30	H	16.1	*	0.3	28.1	44.6	169.4	500.0	-9.4
1808.30	V	16.1	*	0.3	28.1	44.6	169.4	500.0	-9.4

V - Vertical H - Horizontal

Total (dBuV/m) = Meter Reading + Cable Factor + Antenna Factor

Checked BY RICHARD E. KING :

Richard E. King



MANUFACTURER : Motorola Inc.
MODEL : AAM27JQR9JA7AN
SERIAL NO. : 484THC0A40
SPECIFICATION : FCC-15B Spurious Radiated Emissions
DATE : March 6, 2007
NOTES : Receive at 150MHz
: Test Distance is 3 meters

		Meter		CBL	Ant	Total	Total	Limit	
Freq	An t	Reading		Fac	Fac	dBuV/m	uV/m	uV/m	Margin
(MHz)	Pol	(dBuV)	Ambien t	(dB)	(dB)	at 3 M	at 3M	at 3M	(dB)
194.83	H	4.0	*	0.9	9.9	14.8	5.5	150.0	-28.7
194.83	V	4.6	*	0.9	9.9	15.4	5.9	150.0	-28.1
389.66	H	5.7	*	1.4	15.3	22.5	13.3	200.0	-23.6
389.66	V	5.6	*	1.4	15.3	22.4	13.1	200.0	-23.7
584.49	H	5.6	*	1.7	18.9	26.2	20.3	200.0	-19.9
584.49	V	4.4	*	1.7	18.9	25.0	17.7	200.0	-21.1
779.32	H	5.7	*	1.8	20.3	27.9	24.7	200.0	-18.2
779.32	V	5.3	*	1.8	20.3	27.5	23.6	200.0	-18.6
974.15	H	5.9	*	0.2	22.3	28.4	26.4	500.0	-25.6
974.15	V	6.1	*	0.2	22.3	28.6	27.0	500.0	-25.4
1168.98	H	14.4	*	0.3	23.8	38.5	83.7	500.0	-15.5
1168.98	V	14.0	*	0.3	23.8	38.1	79.9	500.0	-15.9
1363.81	H	15.8	*	0.3	24.8	40.8	110.3	500.0	-13.1
1363.81	V	15.8	*	0.3	24.8	40.8	110.3	500.0	-13.1
1558.64	H	16.2	*	0.3	25.6	42.1	127.9	500.0	-11.8
1558.64	V	15.5	*	0.3	25.6	41.4	118.0	500.0	-12.5
1753.47	H	16.5	*	0.3	26.6	43.5	149.2	500.0	-10.5
1753.47	V	16.1	*	0.3	26.6	43.1	142.5	500.0	-10.9
1948.30	H	16.1	*	0.3	28.1	44.6	169.4	500.0	-9.4
1948.30	V	16.1	*	0.3	28.1	44.6	169.4	500.0	-9.4

V - Vertical H - Horizontal

Total (dBuV/m) = Meter Reading + Cable Factor + Antenna Factor

Checked BY RICHARD E. KING :

Richard E. King



MANUFACTURER : Motorola Inc.
MODEL : AAM27JQR9JA7AN
SERIAL NO. : 484THC0A40
SPECIFICATION : FCC-15B Spurious Radiated Emissions
DATE : March 6, 2007
NOTES : Receive at 162 MHz
: Test Distance is 3 meters

		Meter		CBL	Ant	Total	Total	Limit	
Freq	Ant	Reading		Fac	Fac	dBuV/m	uV/m	uV/m	Margin
(MHz)	Pol	(dBuV)	Ambien	(dB)	(dB)	at 3 M	at 3M	at 3M	(dB)
207.65	H	4.0	*	0.9	9.9	14.8	5.5	150.0	
207.65	V	4.6	*	0.9	9.9	15.4	5.9	150.0	
415.30	H	5.7	*	1.4	15.3	22.5	13.3	200.0	-23.6
415.30	V	5.6	*	1.4	15.3	22.4	13.1	200.0	-23.7
622.95	H	5.6	*	1.7	18.9	26.2	20.3	200.0	-19.9
622.95	V	4.4	*	1.7	18.9	25.0	17.7	200.0	-21.1
830.60	H	5.7	*	1.8	20.3	27.9	24.7	200.0	-18.2
830.60	V	5.3	*	1.8	20.3	27.5	23.6	200.0	-18.6
1038.25	H	15.6	*	0.2	22.3	38.1	80.5	500.0	-15.9
1038.25	V	15.2	*	0.2	22.3	37.7	76.9	500.0	-16.3
1245.90	H	14.4	*	0.3	23.8	38.5	83.7	500.0	-15.5
1245.90	V	14.0	*	0.3	23.8	38.1	79.9	500.0	-15.9
1453.55	H	15.8	*	0.3	24.8	40.8	110.3	500.0	-13.1
1453.55	V	15.8	*	0.3	24.8	40.8	110.3	500.0	-13.1
1661.20	H	16.2	*	0.3	25.6	42.1	127.9	500.0	-11.8
1661.20	V	15.5	*	0.3	25.6	41.4	118.0	500.0	-12.5
1868.85	H	16.5	*	0.3	26.6	43.5	149.2	500.0	-10.5
1868.85	V	16.1	*	0.3	26.6	43.1	142.5	500.0	-10.9

V - Vertical

H - Horizontal

Total (dBuV/m) = Meter Reading + Cable Factor + Antenna Factor

Checked BY RICHARD E. KING :

Richard E. King



MANUFACTURER : Motorola Inc.
MODEL : AAM27JQR9JA7AN
SERIAL NO. : 484THC0A40
SPECIFICATION : FCC-15B Spurious Radiated Emissions
DATE : March 6, 2007
NOTES : Receive at 174MHz
: Test Distance is 3 meters

Freq (MHz)	Ant Pol	Meter		CBL Fac (dB)	Ant Fac (dB)	Total dBuV/m at 3 M	Total uV/m at 3M	Limit uV/m at 3M	Margin (dB)
		Reading (dBuV)	Ambient						
218.83	H	4.0	*	0.9	9.9	14.8	5.5	150.0	
218.83	V	4.6	*	0.9	9.9	15.4	5.9	150.0	
437.66	H	5.7	*	1.4	15.3	22.5	13.3	200.0	-23.6
437.66	V	5.6	*	1.4	15.3	22.4	13.1	200.0	-23.7
656.49	H	5.6	*	1.7	18.9	26.2	20.3	200.0	-19.9
656.49	V	4.4	*	1.7	18.9	25.0	17.7	200.0	-21.1
875.32	H	5.7	*	1.8	20.3	27.9	24.7	200.0	-18.2
875.32	V	5.3	*	1.8	20.3	27.5	23.6	200.0	-18.6
1094.15	H	15.6	*	0.2	22.3	38.1	80.5	500.0	-15.9
1094.15	V	15.2	*	0.2	22.3	37.7	76.9	500.0	-16.3
1312.98	H	14.4	*	0.3	23.8	38.5	83.7	500.0	-15.5
1312.98	V	14.0	*	0.3	23.8	38.1	79.9	500.0	-15.9
1531.81	H	15.8	*	0.3	24.8	40.8	110.3	500.0	-13.1
1531.81	V	15.8	*	0.3	24.8	40.8	110.3	500.0	-13.1
1750.64	H	16.2	*	0.3	25.6	42.1	127.9	500.0	-11.8
1750.64	V	15.5	*	0.3	25.6	41.4	118.0	500.0	-12.5
1969.47	H	16.5	*	0.3	26.6	43.5	149.2	500.0	-10.5
1969.47	V	16.1	*	0.3	26.6	43.1	142.5	500.0	-10.9

V - Vertical H - Horizontal

Total (dBuV/m) = Meter Reading + Cable Factor + Antenna Factor

Checked BY RICHARD E. King :

Richard E. King

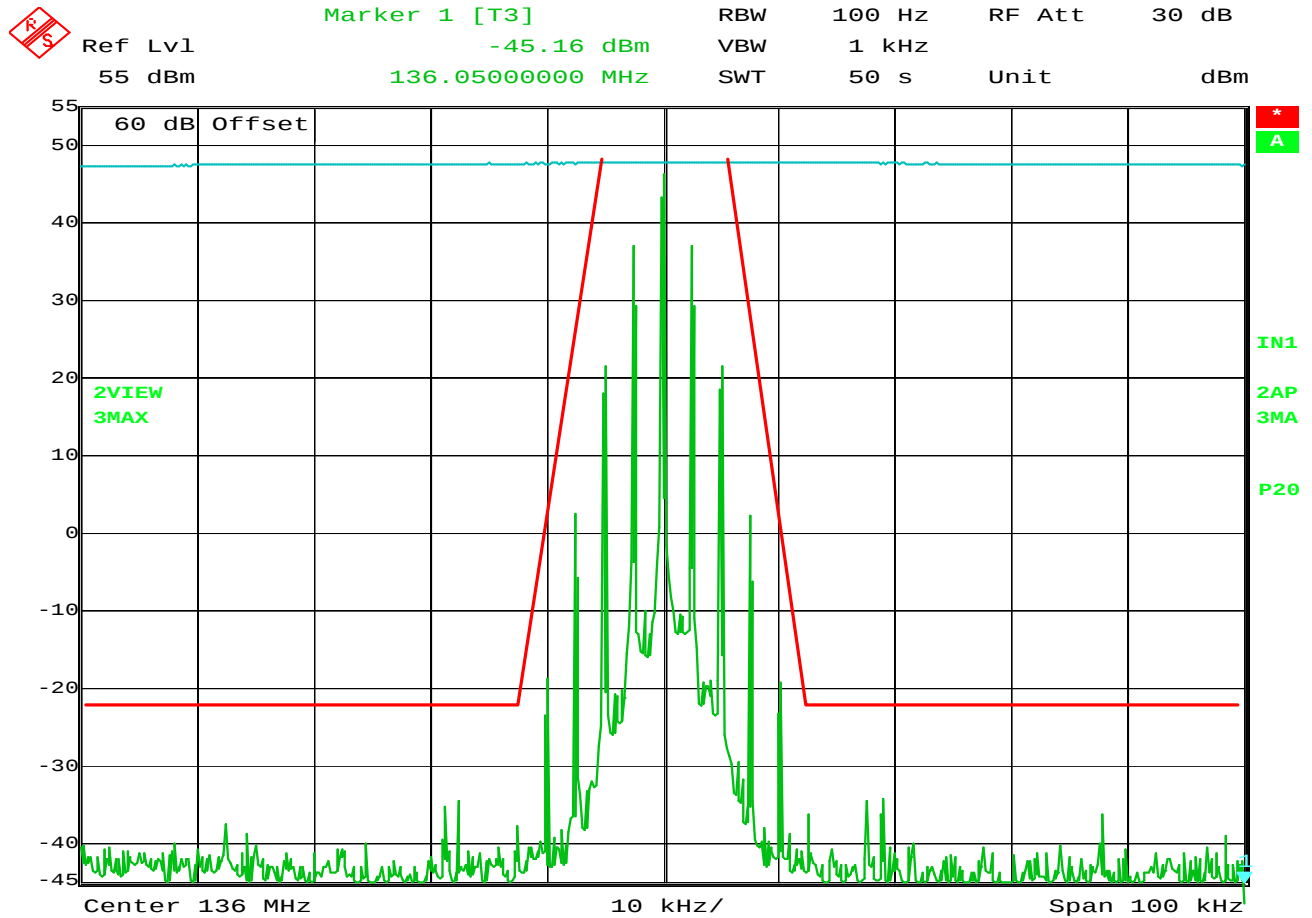


MANUFACTURER : Motorola Inc.
MODEL : AAM27JQR9JA7AN
SERIAL NO. : 484THC0A40
SPECIFICATION : FCC 90.205 Power Output
DATE : March 6, 2007

Frequency MHz	Measured Output Power dBm	Measured Output Power Watts	Manufacturer's Rated Power Watts	Manufacturer's Rated Power + 20% Watts
136	47.3	53.7	45.0	54.0
136	44.7	29.5	25.0	30.0
150	47.3	53.7	45.0	54.0
150	44.6	28.8	25.0	30.0
174	47.2	52.5	45.0	54.0
174	44.7	29.5	25.0	30.0

Checked BY RICHARD E. KING :

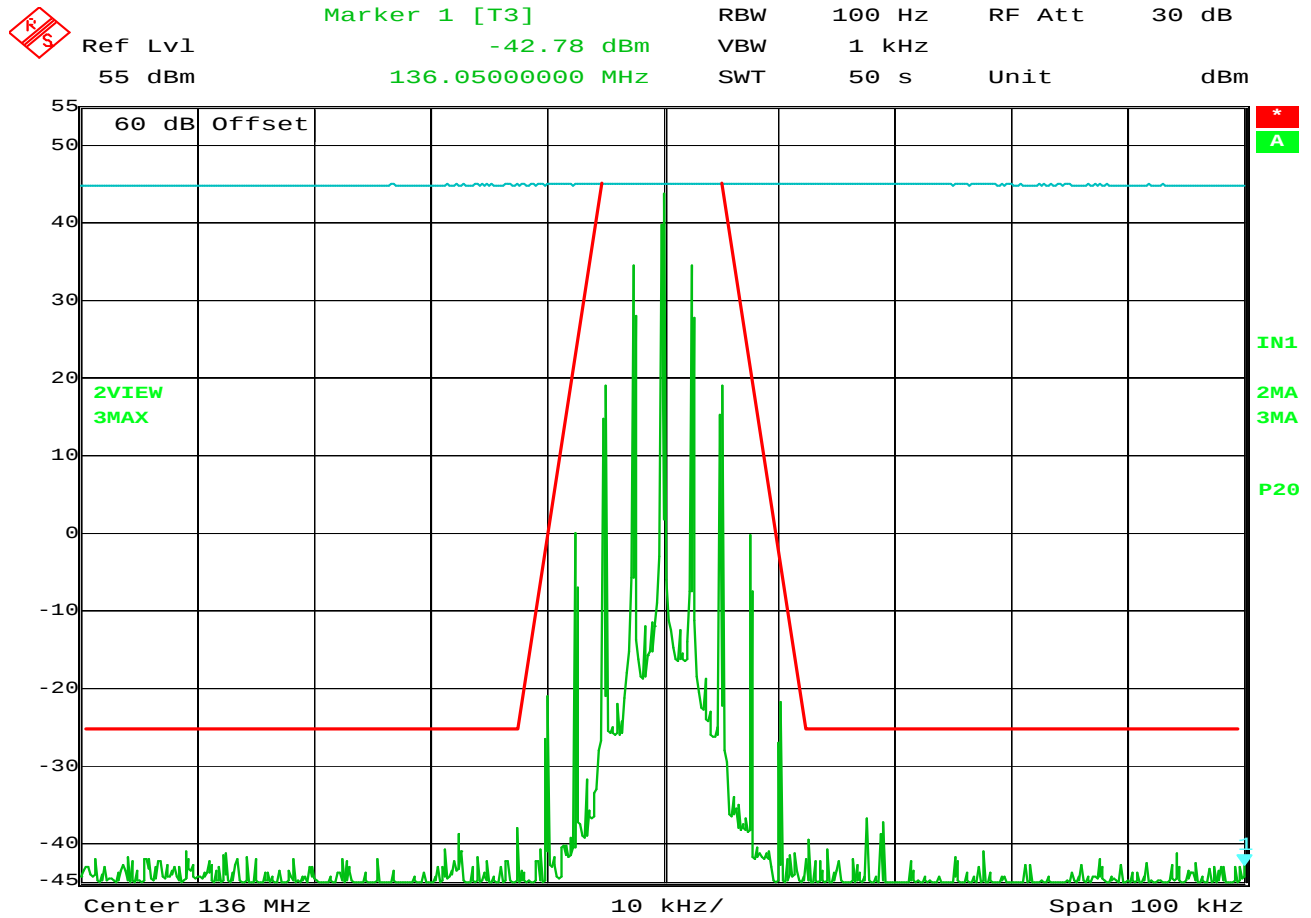
Richard E. King



Date: 9.MAR.2007 22:02:24

FCC 90 Occupied Bandwidth

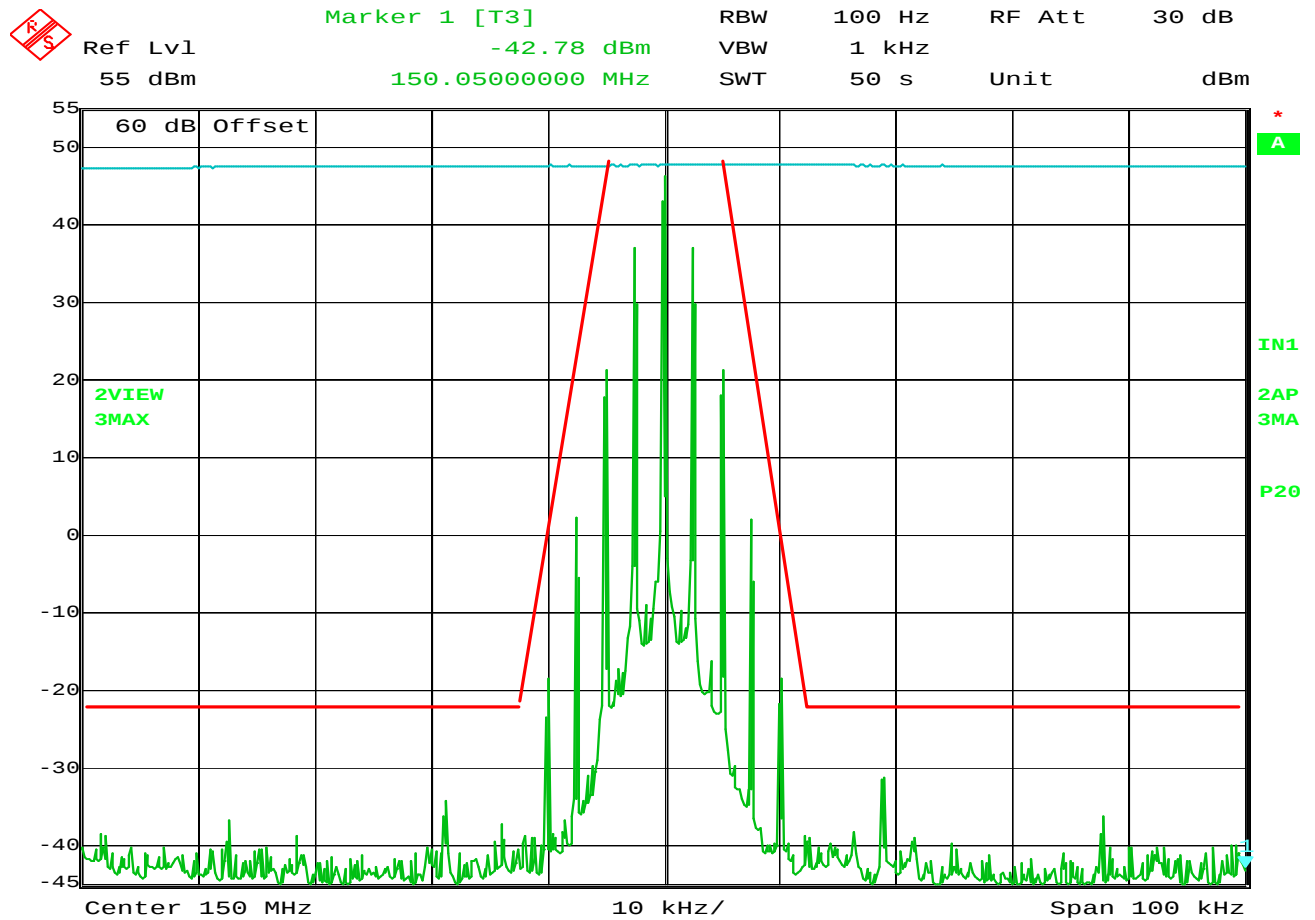
MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 136MHz
POWER LEVEL : 45W
CHANNEL SPACING : 12.5kHz
NOTES : Mask D
: 2500Hz Tone, 16dB above 50% Deviation



Date: 9.MAR.2007 21:44:23

FCC 90 Occupied Bandwidth

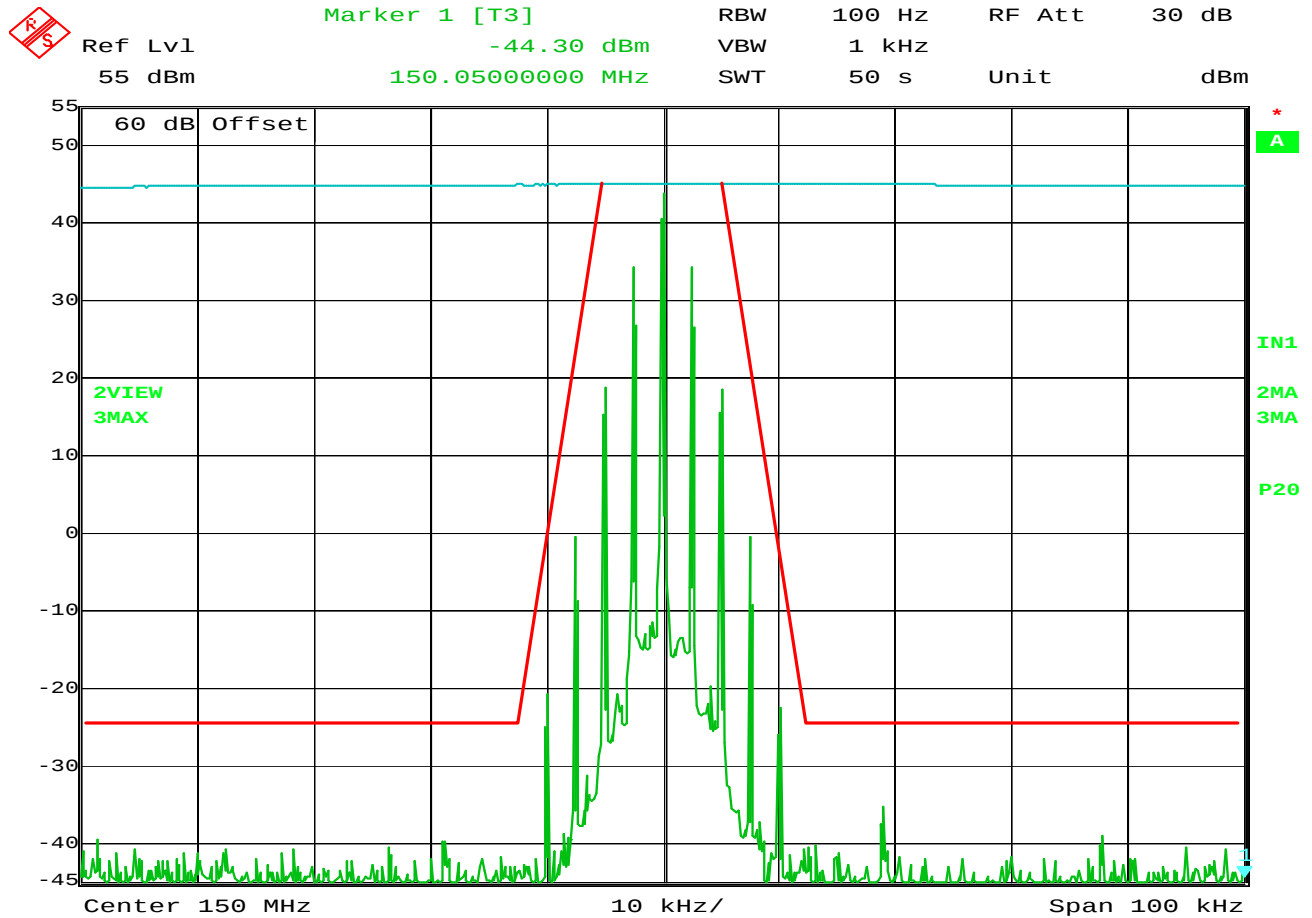
MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 136MHz
POWER LEVEL : 25W
CHANNEL SPACING : 12.5kHz
NOTES : Mask D
: 2500Hz Tone, 16dB above 50% Deviation



Date: 9.MAR.2007 22:13:19

FCC 90 Occupied Bandwidth

MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 150MHz
POWER LEVEL : 45W
CHANNEL SPACING : 12.5kHz
NOTES : 2500Hz Tone, 16dB above 50% Deviation



Date: 9.MAR.2007 22:26:32

FCC 90 Occupied Bandwidth

MANUFACTURER : Motorola Inc.
 TEST ITEM : MOTOTRBO Repeater
 MODEL NUMBER : AAM27JQR9JA7AN
 TEST MODE : Transmit
 FREQUENCY : 150MHz
 POWER LEVEL : 25W
 CHANNEL SPACING : 12.5kHz
 NOTES : 2500Hz Tone, 16dB above 50% Deviation



Ref Lvl
50 dBm

Marker 1 [T2]

47.13 dBm

150.05000000 MHz

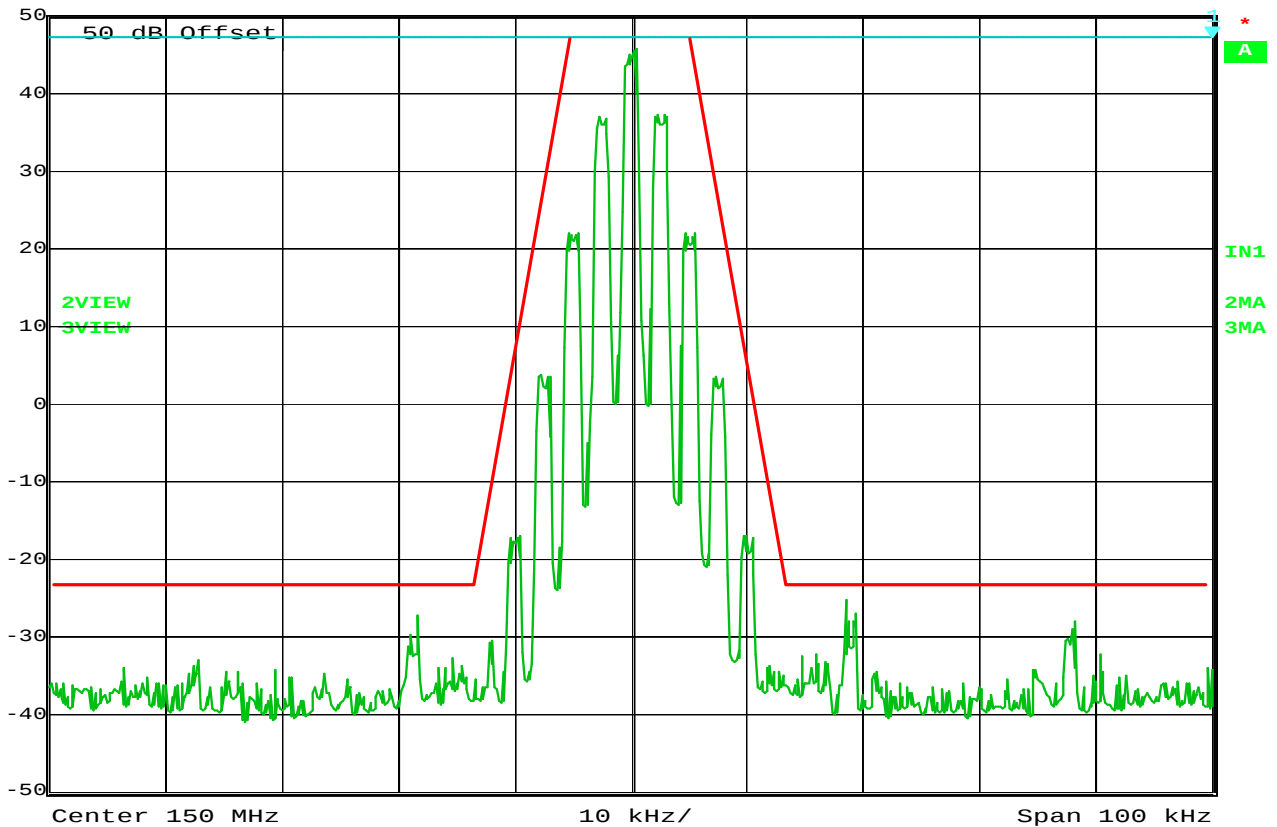
RBW 300 Hz

RF Att 30 dB

VBW 300 Hz

SWT 5.6 s

Unit dBm



Date: 7.MAY.2007 17:24:22

MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 150MHz
POWER LEVEL : 45W
CHANNEL SPACING : 12.5kHz

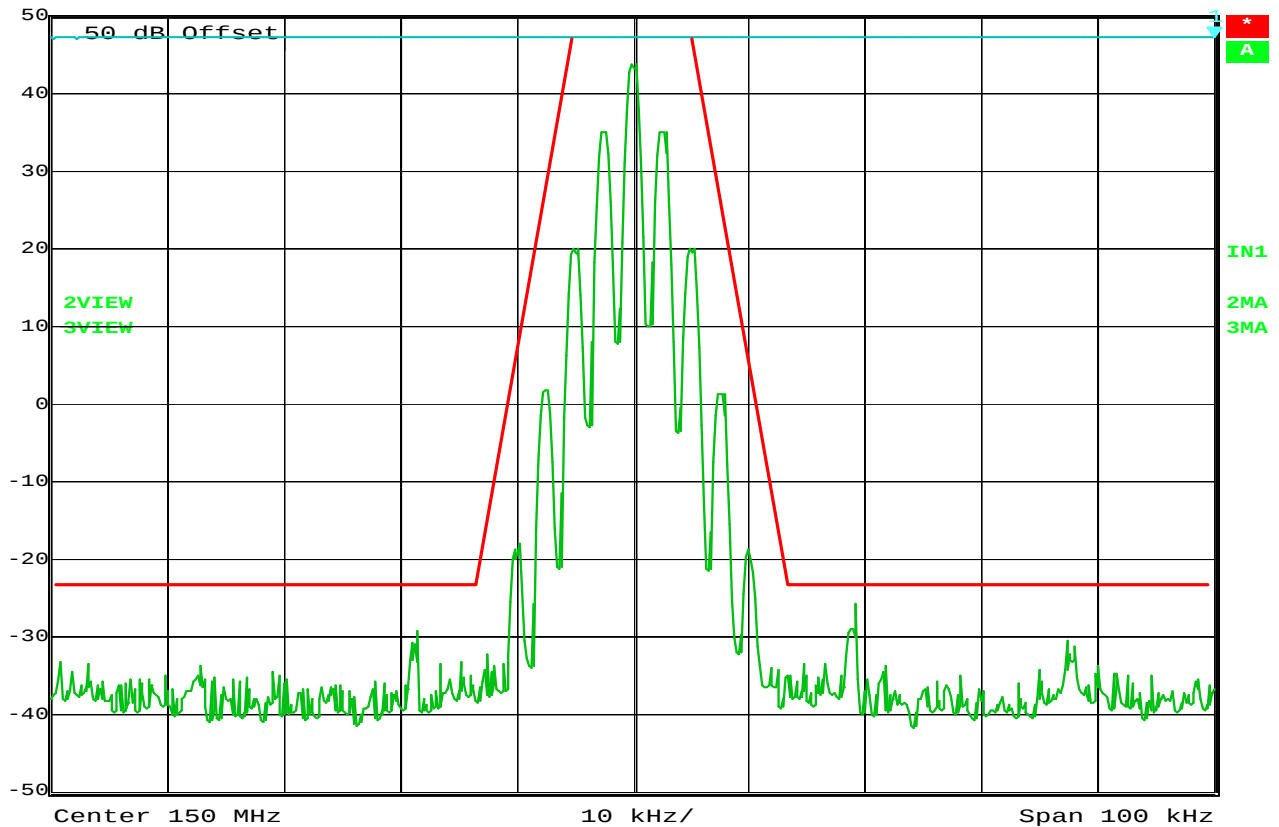
NOTES : 12.5 kHz CHANNEL SPACING, 2500 Hz TONE, DPL 131



NOTES : 12.5 kHz CHANNEL SPACING, 2500 Hz TONE, DPL 131



Ref Lvl 50 dBm
Marker 1 [T2] 47.02 dBm
150.05000000 MHz
RBW 300 Hz
VBW 300 Hz
SWT 5.6 s
RF Att 30 dB
Unit dBm



Date: 7.MAY.2007 17:39:55

MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 150MHz
POWER LEVEL : 45W
CHANNEL SPACING : 12.5kHz

NOTES : 12.5 kHz CHANNEL SPACING, 2500 Hz TONE, TPL 250.3Hz



Ref Lvl
50 dBm

Marker 1 [T2]

44.44 dBm

150.05000000 MHz

RBW

1 MHz

RF Att

30 dB

VBW

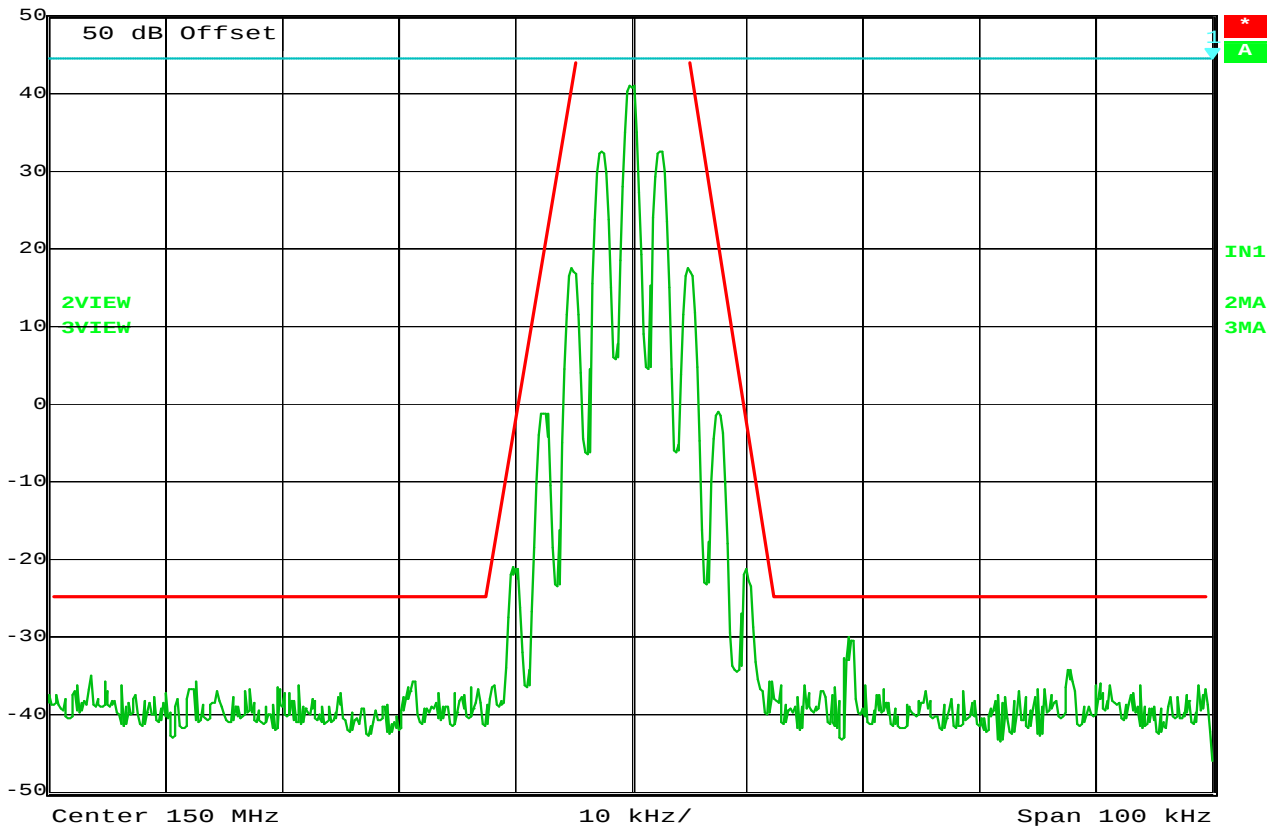
1 MHz

SWT

5 ms

Unit

dBm



Date: 7.MAY.2007 17:36:58

MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 150MHz
POWER LEVEL : 25W
CHANNEL SPACING : 12.5kHz

NOTES : 12.5 kHz CHANNEL SPACING, 2500 Hz TONE, TPL 250.3Hz



Ref Lvl
50 dBm

Marker 1 [T2]

46.92 dBm

150.05000000 MHz

RBW

1 MHz

RF Att

30 dB

VBW

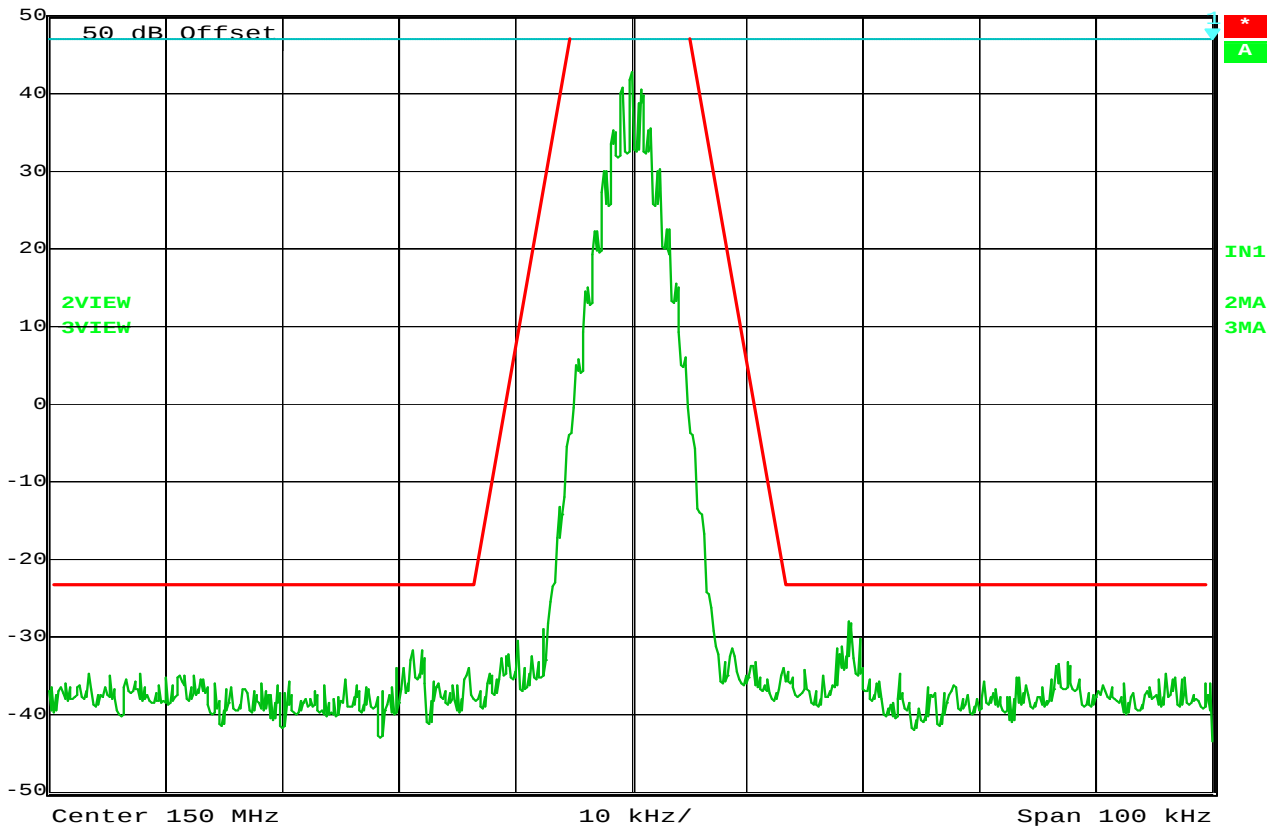
1 MHz

SWT

5 ms

Unit

dBm



Date: 7.MAY.2007 19:32:08

MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 150MHz
POWER LEVEL : 45W
CHANNEL SPACING : 12.5kHz

NOTES : 12.5 kHz CHANNEL SPACING, DTMF

Ref Lvl
50 dBm

Marker 1 [T2]

44.34 dBm

150.05000000 MHz

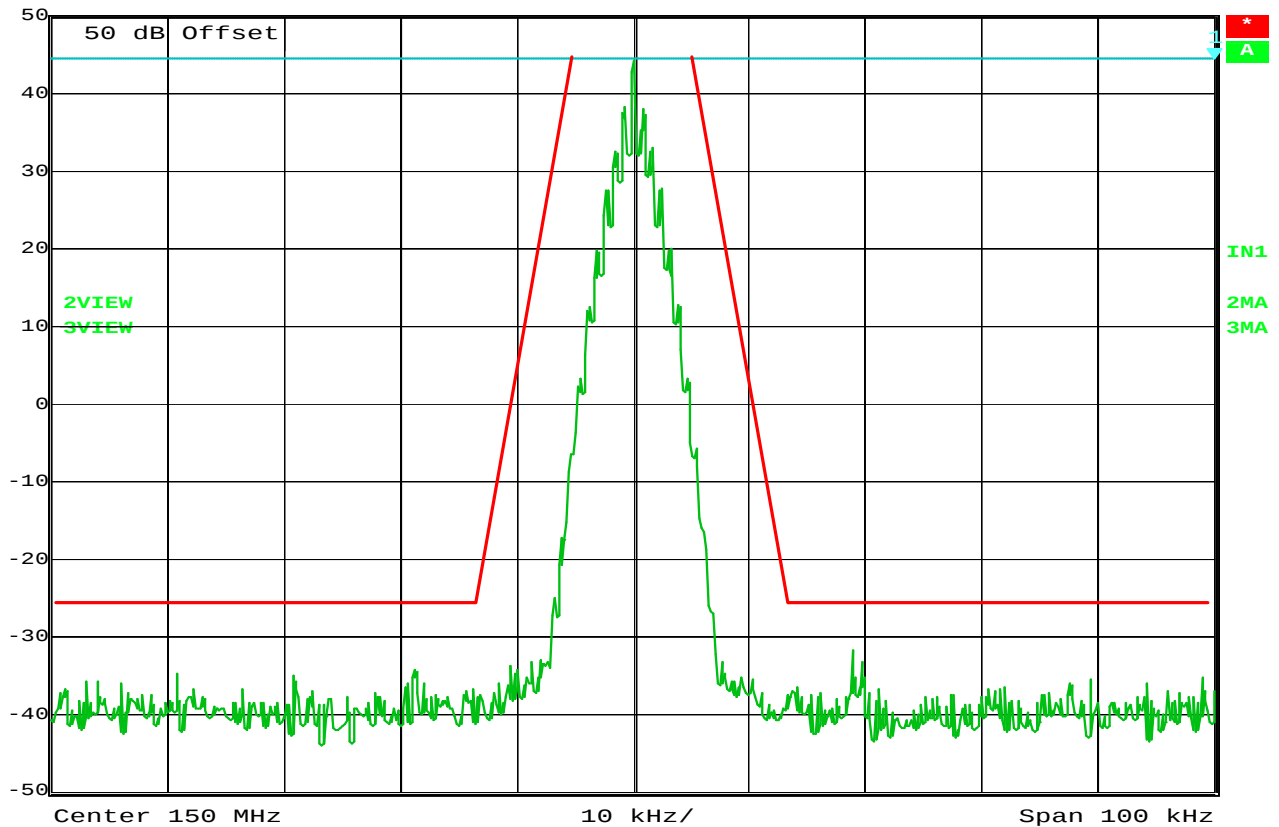
RBW 300 Hz

RF Att 30 dB

VBW 300 Hz

SWT 5.6 s

Unit dBm



Date: 7.MAY.2007 19:28:56

MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 150MHz
POWER LEVEL : 25W
CHANNEL SPACING : 12.5kHz

NOTES : 12.5 kHz CHANNEL SPACING, DTMF



Ref Lvl
50 dBm

Marker 1 [T2]

46.97 dBm

150.05000000 MHz

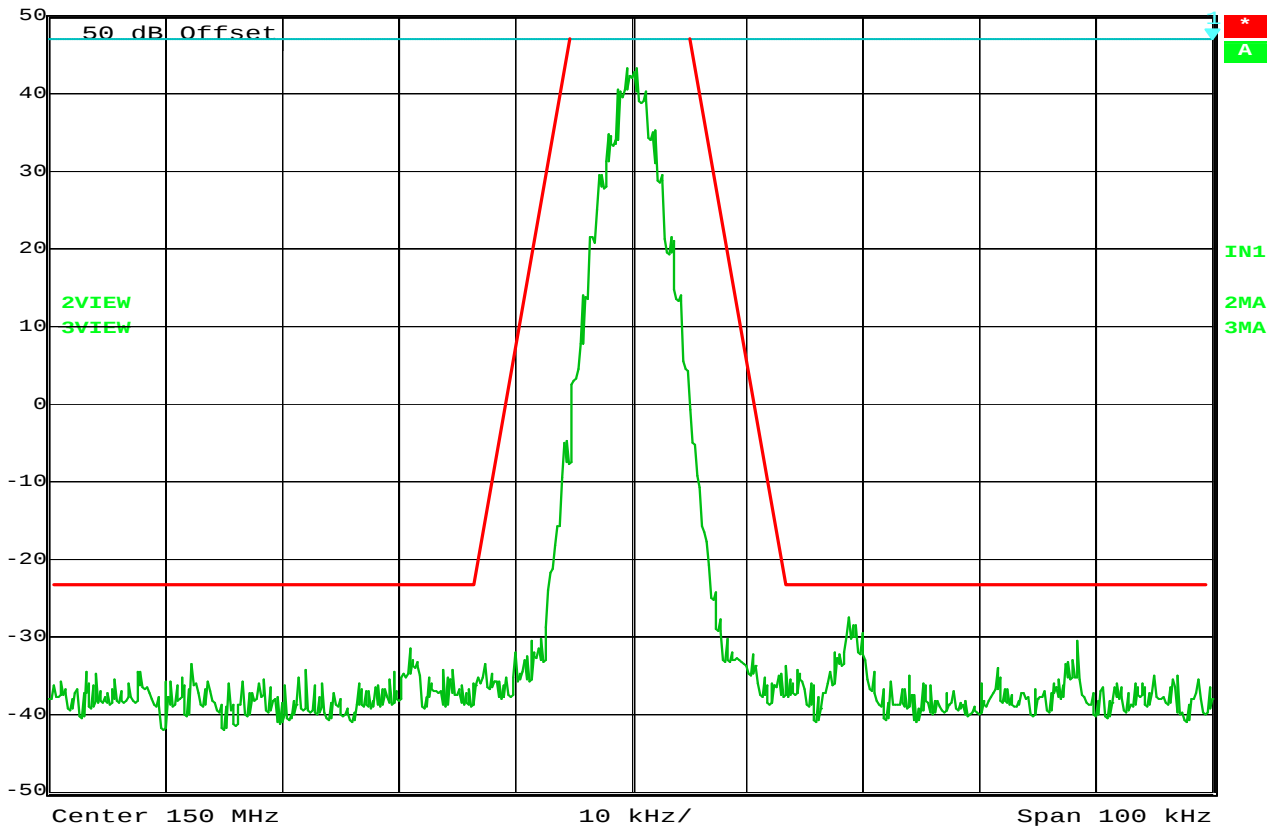
RBW 300 Hz

RF Att 30 dB

VBW 300 Hz

SWT 5.6 s

Unit dBm



Date: 7.MAY.2007 19:34:36

MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 150MHz
POWER LEVEL : 45W
CHANNEL SPACING : 12.5kHz

NOTES : 12.5 kHz CHANNEL SPACING, DTMF, DPL 131



Ref Lvl
50 dBm

Marker 1 [T2]

44.31 dBm

150.05000000 MHz

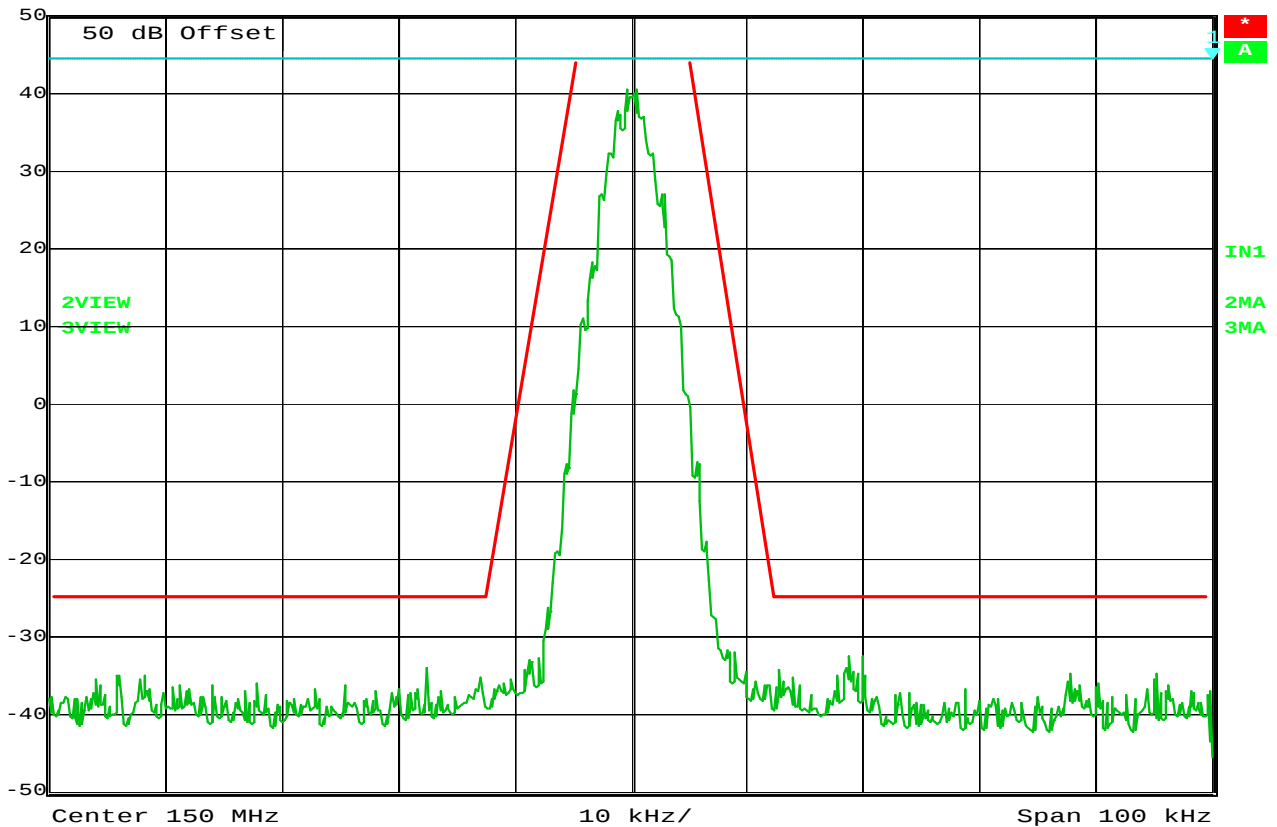
RBW 300 Hz

RF Att 30 dB

VBW 300 Hz

SWT 5.6 s

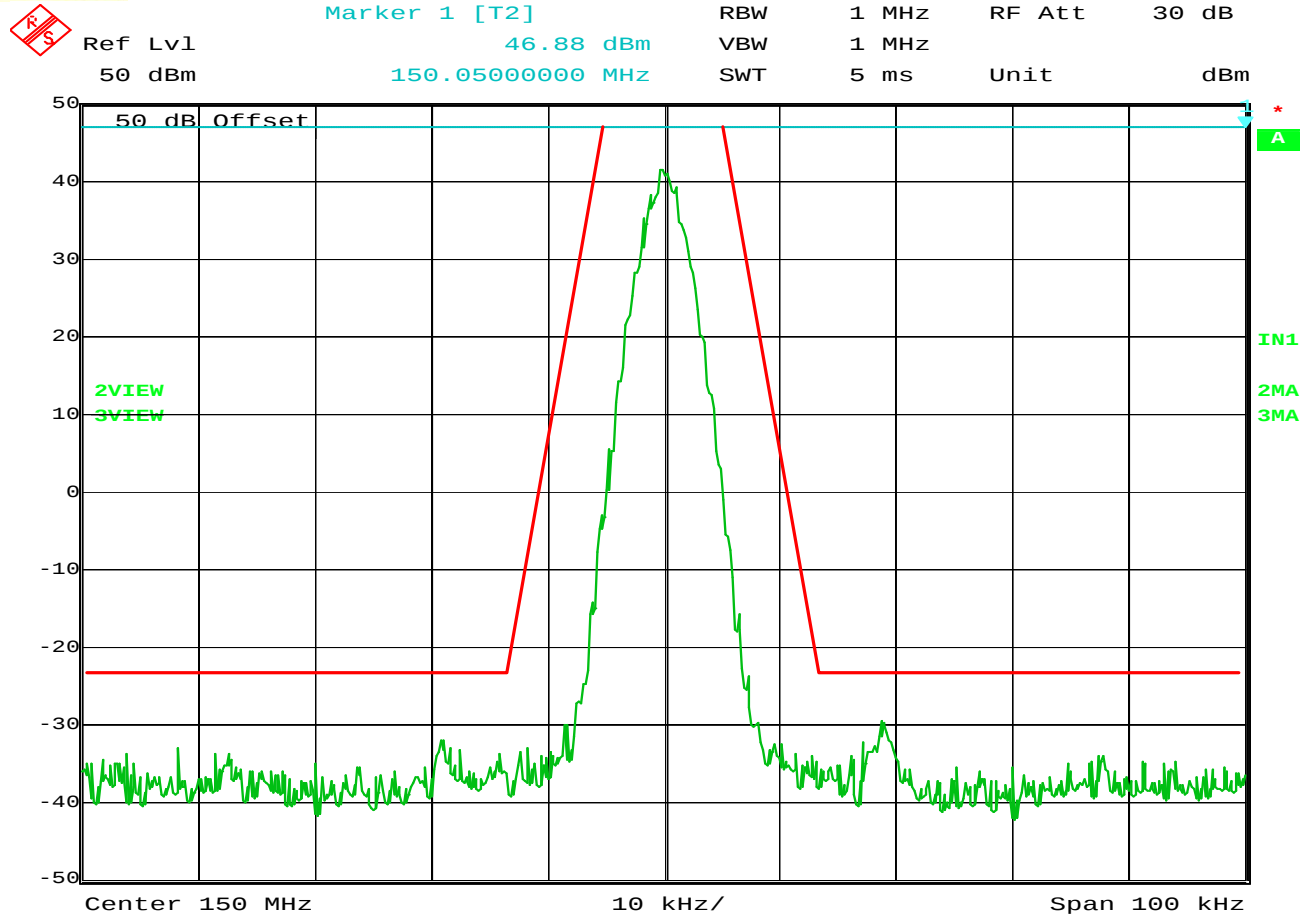
Unit dBm



Date: 7.MAY.2007 19:40:07

MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 150MHz
POWER LEVEL : 25W
CHANNEL SPACING : 12.5kHz

NOTES : 12.5 kHz CHANNEL SPACING, DTMF, DPL 131



Date: 7.MAY.2007 19:48:10

MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 150MHz
POWER LEVEL : 45W
CHANNEL SPACING : 12.5kHz

NOTES : 12.5 kHz CHANNEL SPACING, DTMF, TPL 250.3Hz



Ref Lvl
50 dBm

Marker 1 [T2]

44.31 dBm

150.05000000 MHz

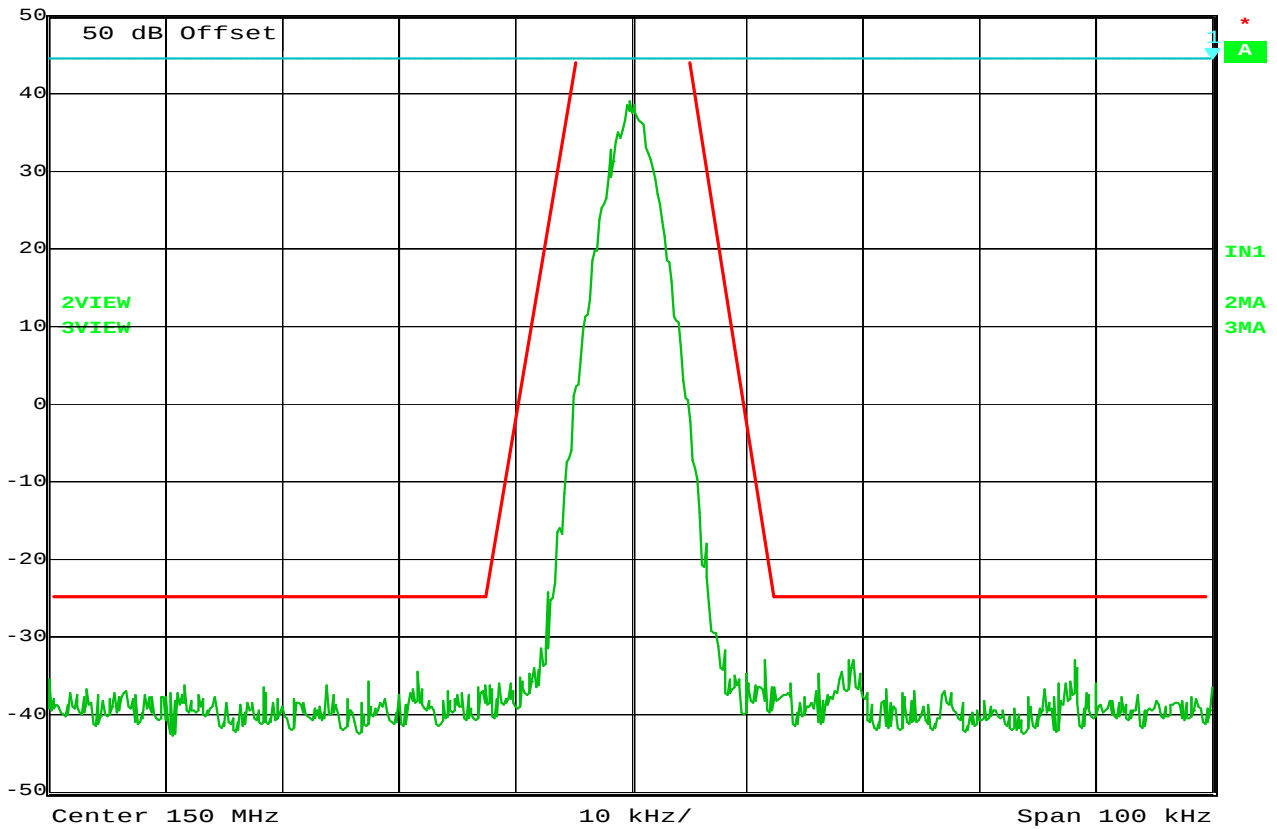
RBW 300 Hz

RF Att 30 dB

VBW 300 Hz

SWT 5.6 s

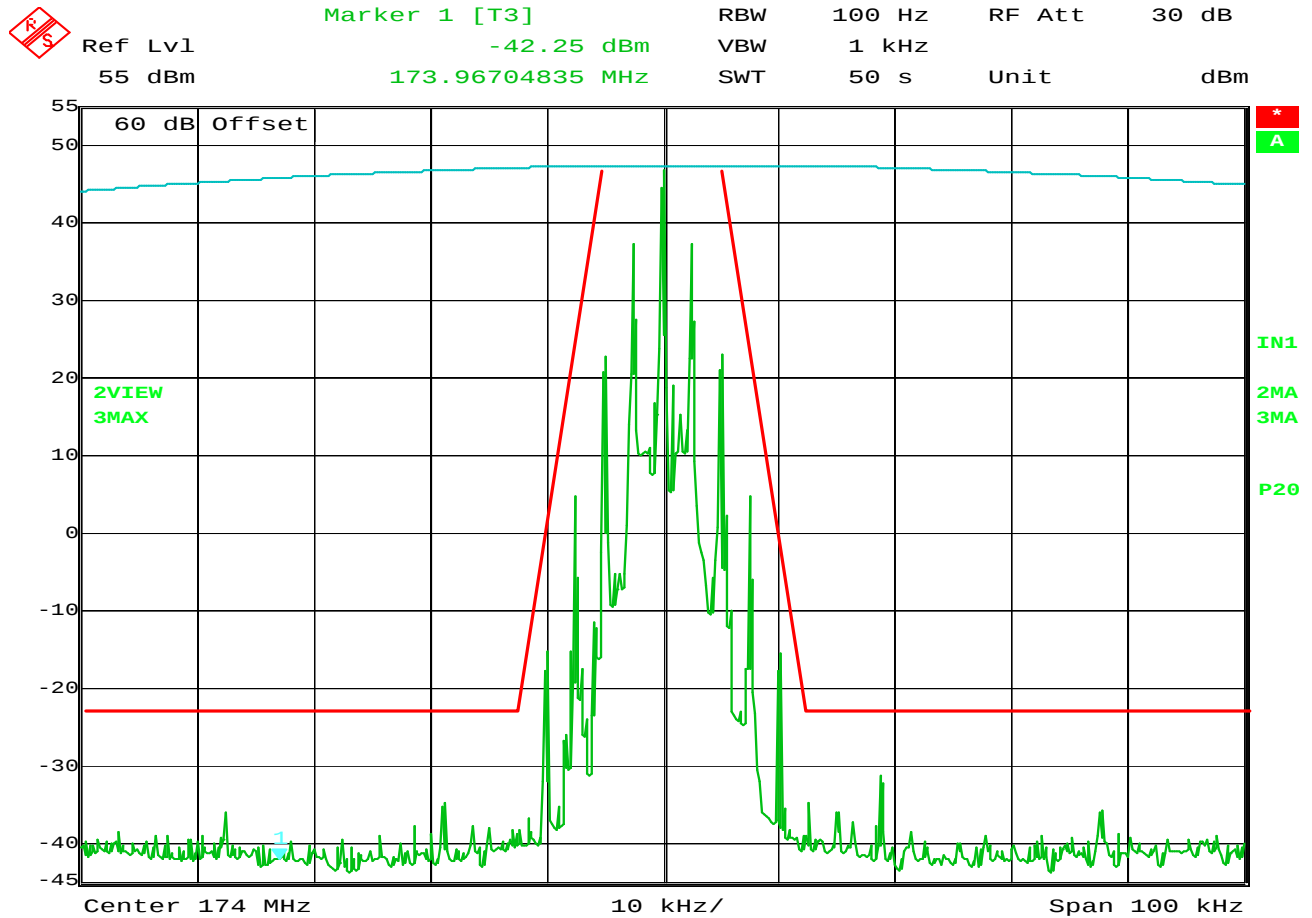
Unit dBm



Date: 7.MAY.2007 19:44:23

MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 150MHz
POWER LEVEL : 25W
CHANNEL SPACING : 12.5kHz

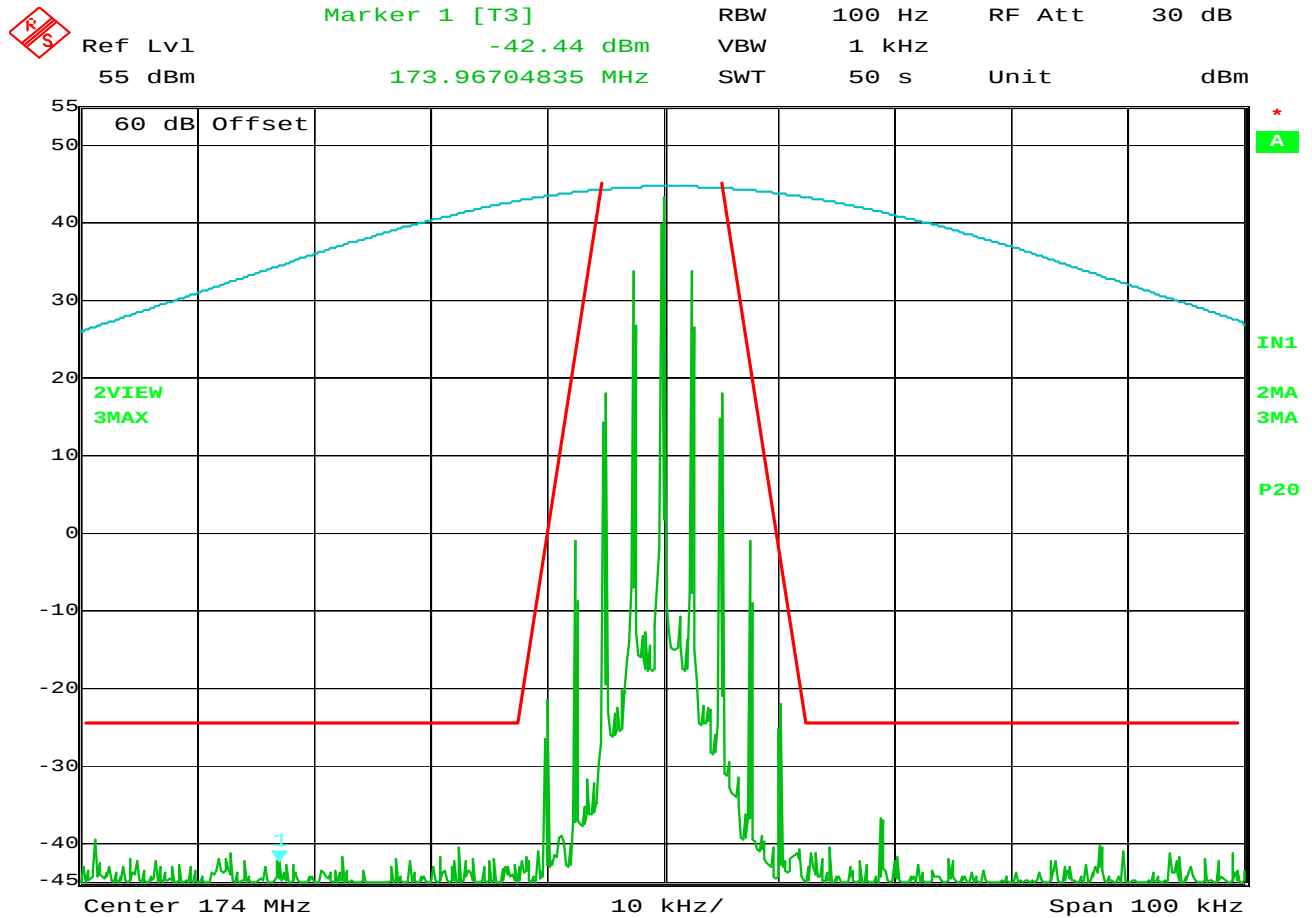
NOTES : 12.5 kHz CHANNEL SPACING, DTMF, TPL 250.3Hz



Date: 9.MAR.2007 20:39:19

FCC 90 Antenna Conducted Emissions

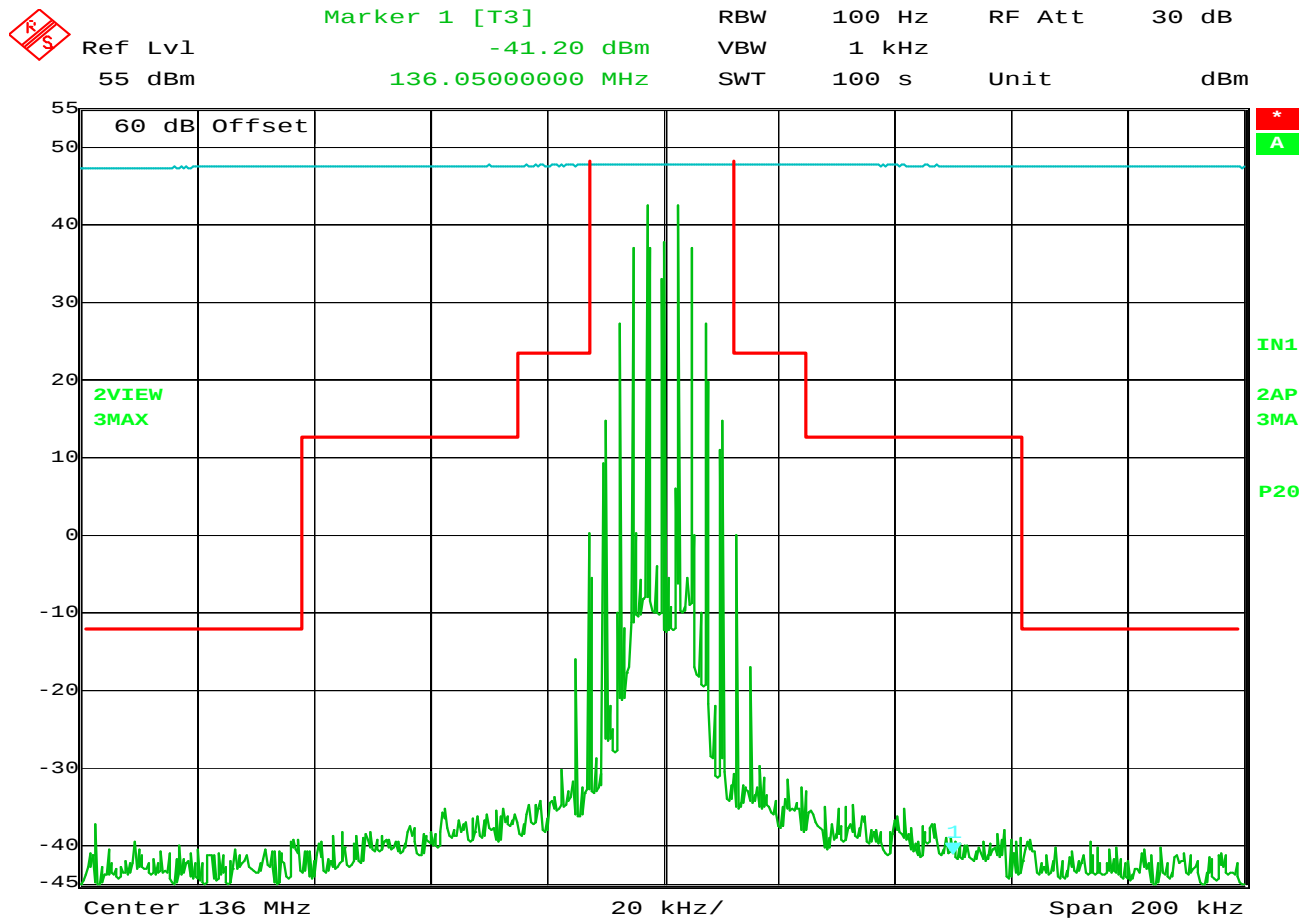
MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 174MHz
POWER LEVEL : 45W
CHANNEL SPACING : 12.5kHz
NOTES : 2500Hz Tone, 16dB above 50% Deviation



Date: 9.MAR.2007 21:39:49

FCC 90 Occupied Bandwidth

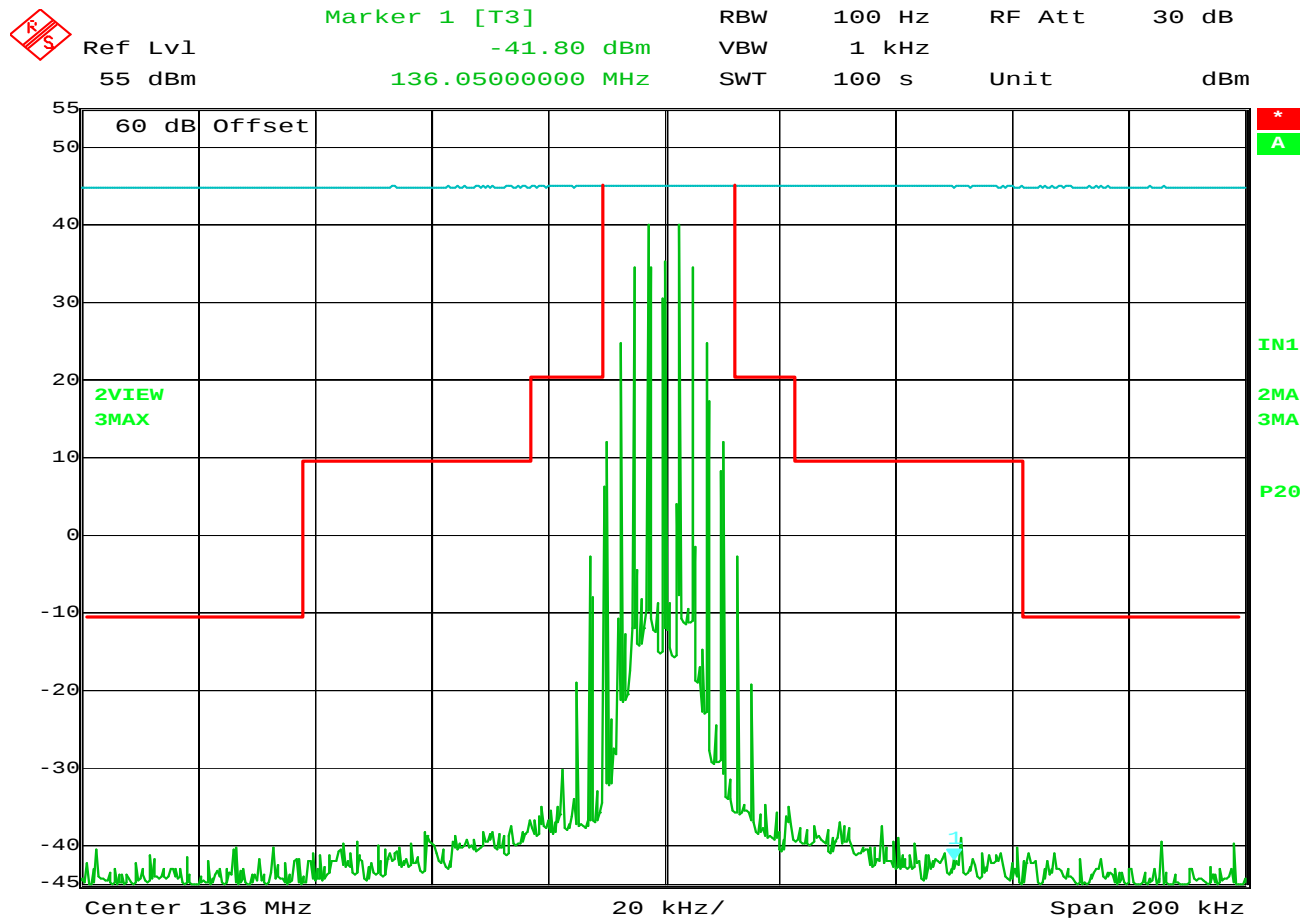
MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 174MHz
POWER LEVEL : 25W
CHANNEL SPACING : 12.5kHz
NOTES : 2500Hz Tone, 16dB above 50% Deviation



Date: 9.MAR.2007 21:54:31

FCC 90 Occupied Bandwidth

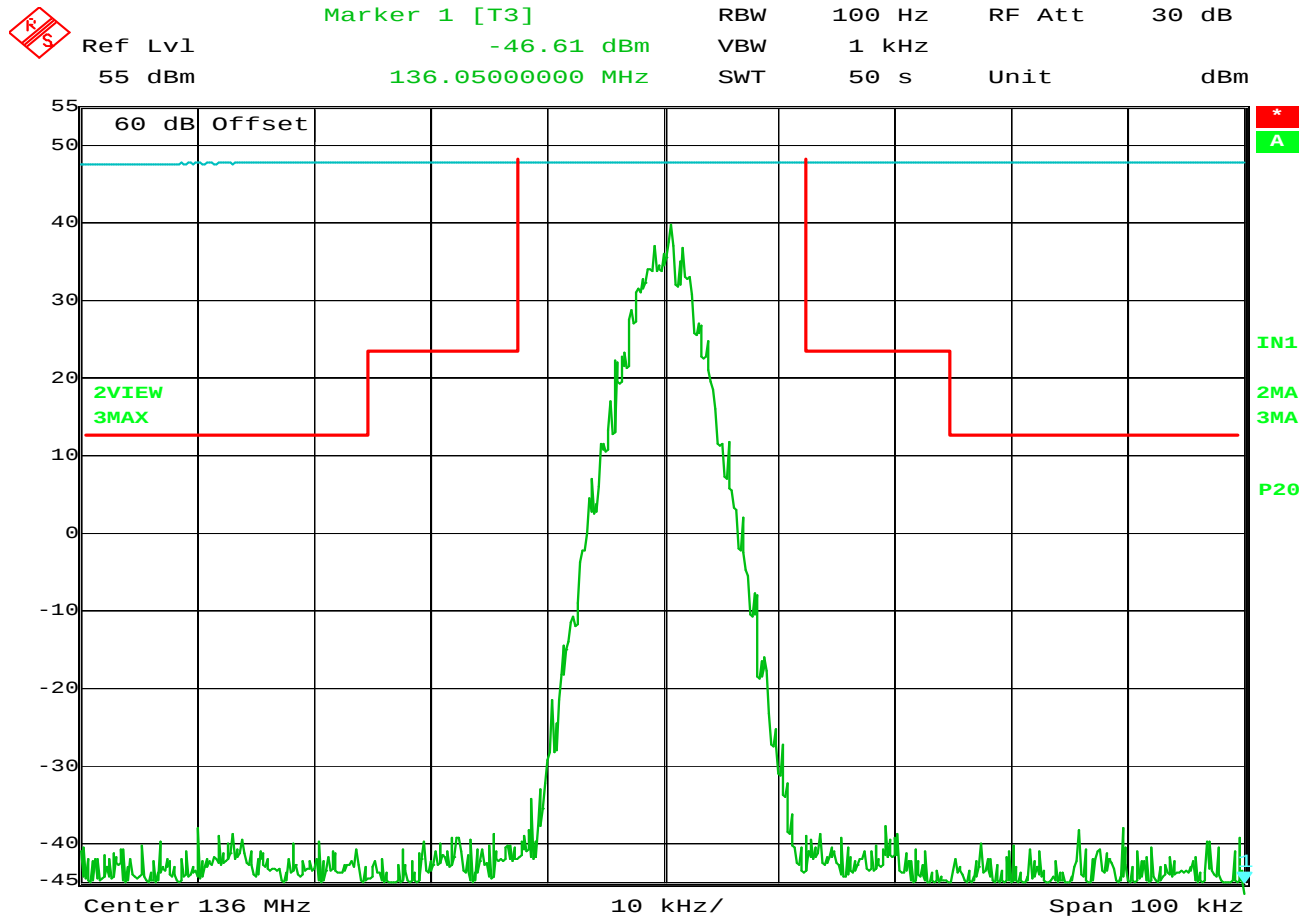
MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 136MHz
POWER LEVEL : 45W
CHANNEL SPACING : 12.5kHz
NOTES : Mask B
: 2500Hz Tone, 16dB above 50% Deviation



Date: 9.MAR.2007 21:49:06

FCC 90 Occupied Bandwidth

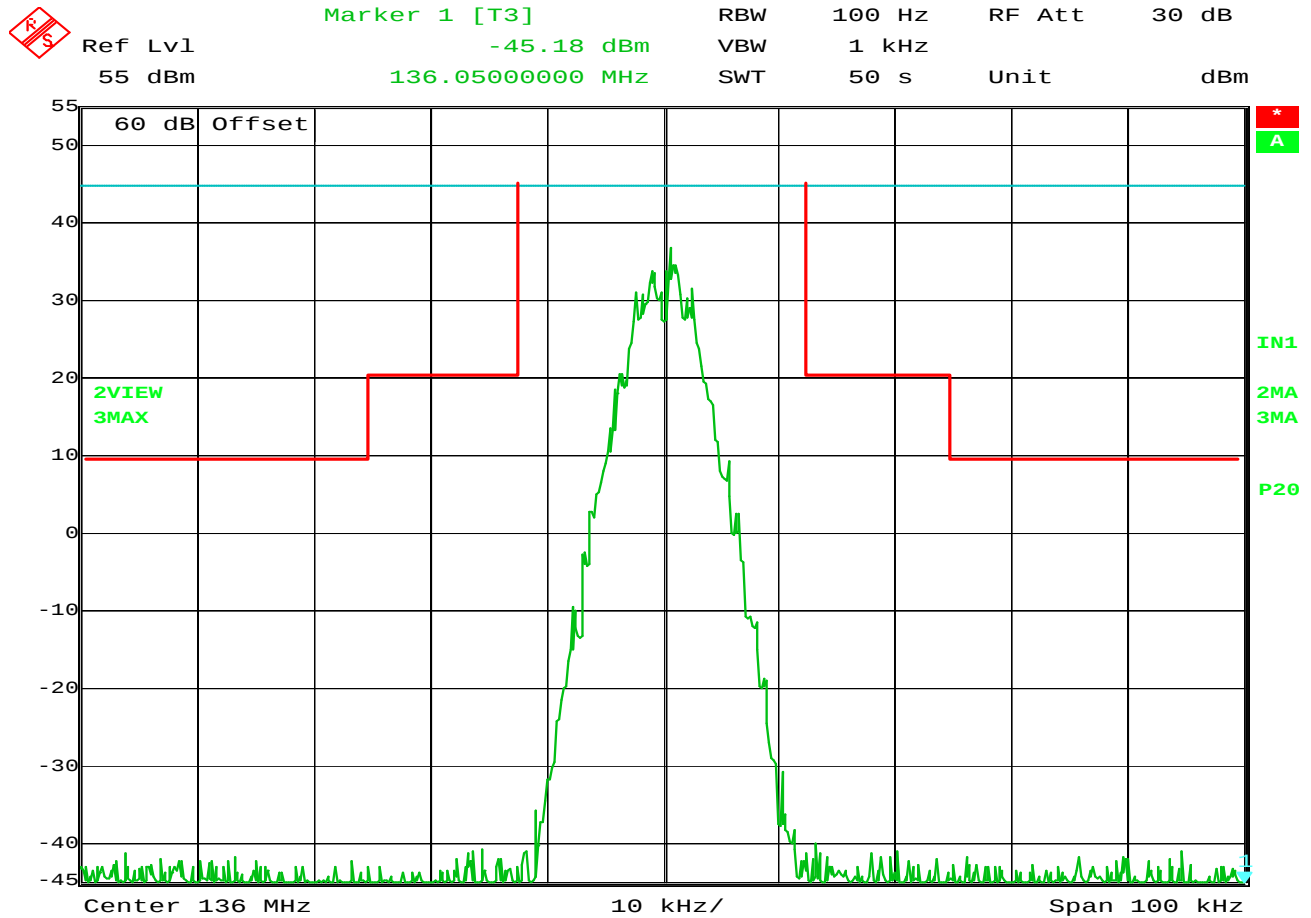
MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 136MHz
POWER LEVEL : 25W
CHANNEL SPACING : 25kHz
NOTES : Mask B
: 2500Hz Tone, 16dB above 50% Deviation



Date: 12.MAR.2007 16:11:34

FCC 90 Occupied Bandwidth

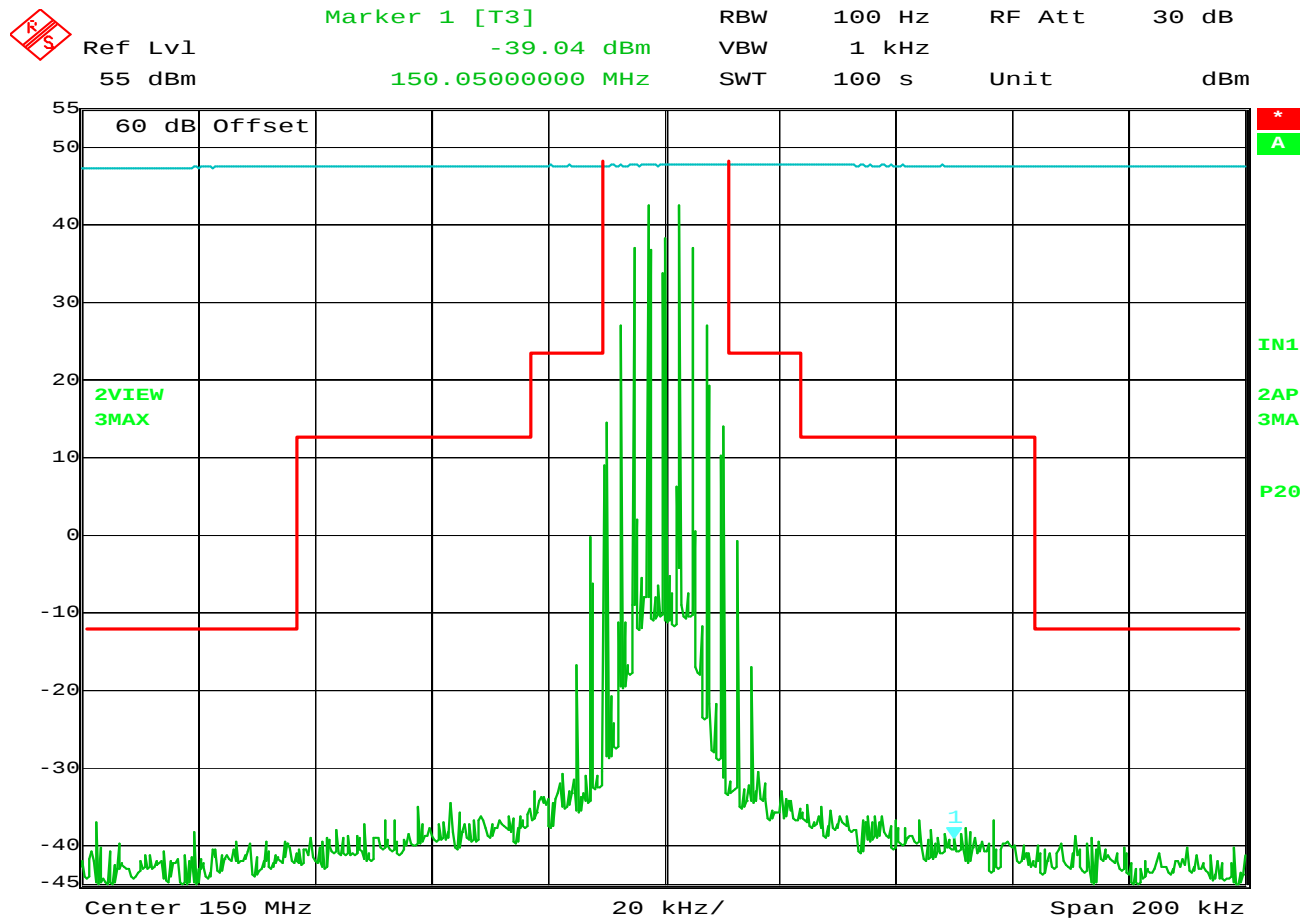
MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 136MHz
POWER LEVEL : 45W
CHANNEL SPACING : 25kHz
NOTES : Mask B
: Motorola Digital Modulation



Date: 12.MAR.2007 16:17:55

FCC 90 Occupied Bandwidth

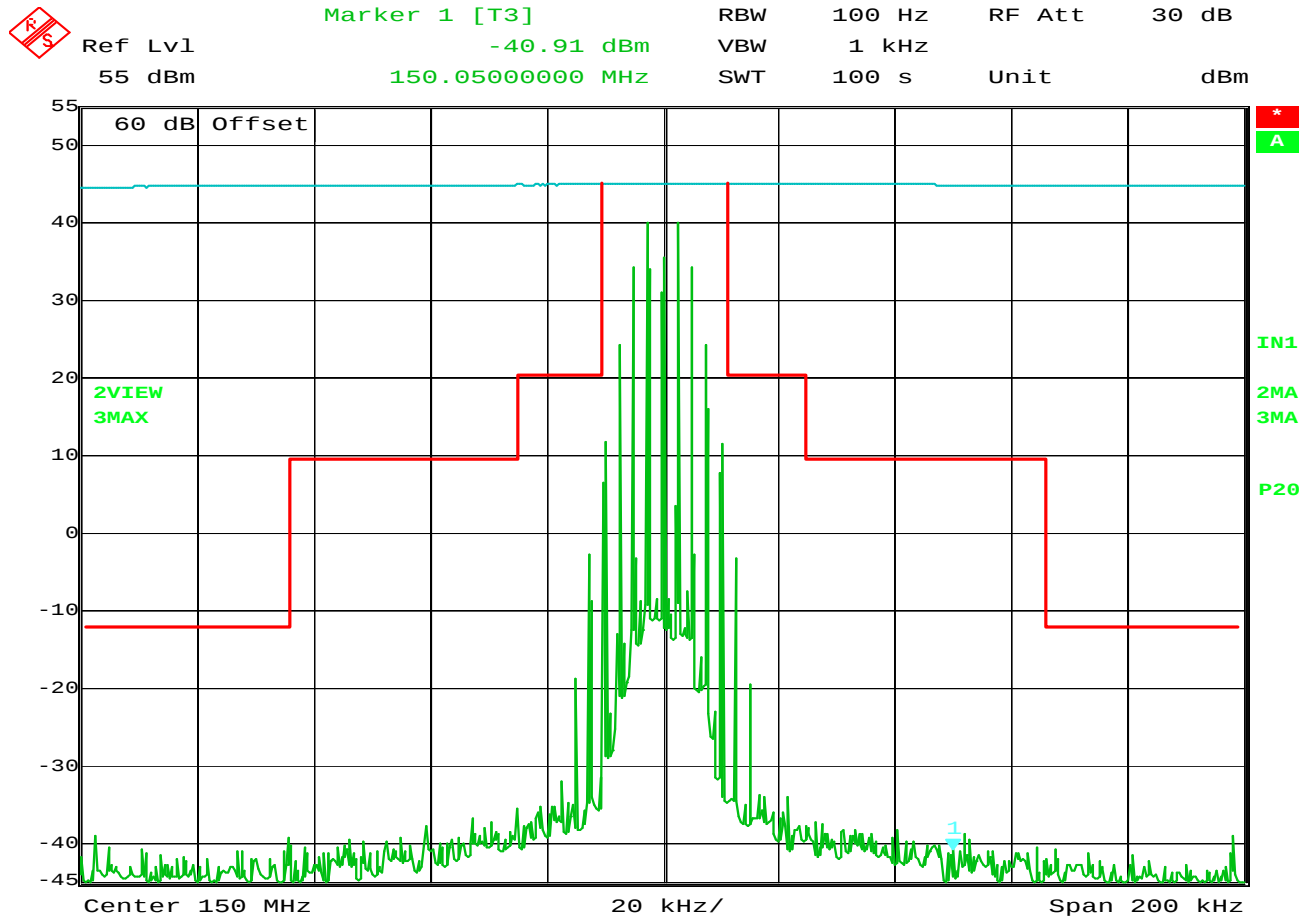
MANUFACTURER : Motorola Inc.
 TEST ITEM : MOTOTRBO Repeater
 MODEL NUMBER : AAM27JQR9JA7AN
 TEST MODE : Transmit
 FREQUENCY : 136MHz
 POWER LEVEL : 25W
 CHANNEL SPACING : 25kHz
 NOTES : Mask B
 : Motorola Digital Modulation



Date: 9.MAR.2007 22:17:59

FCC 90 Occupied Bandwidth

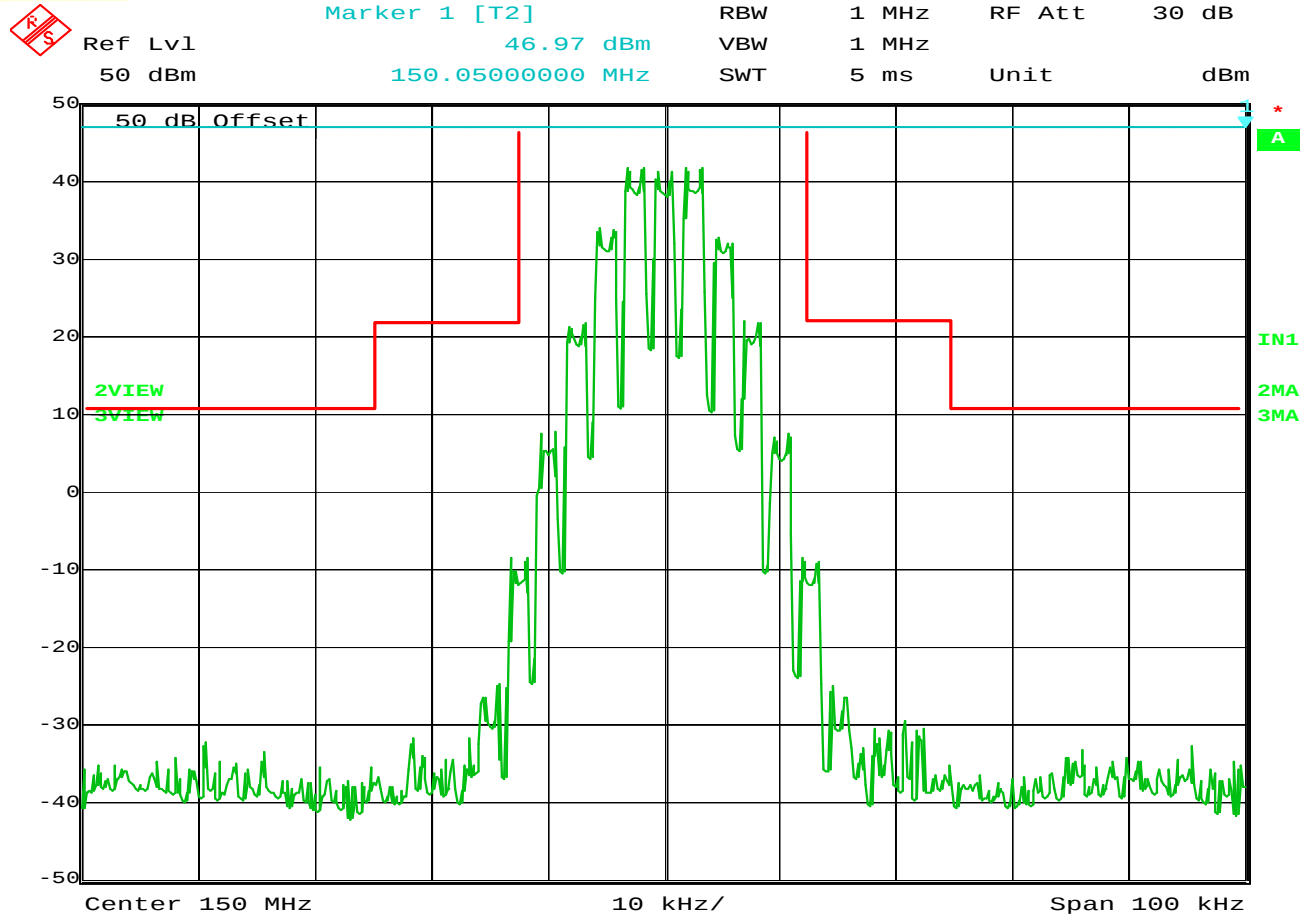
MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 150MHz
POWER LEVEL : 45W
CHANNEL SPACING : 25kHz
NOTES : Mask B
: 2500Hz Tone, 16dB above 50% Deviation



Date: 9.MAR.2007 22:22:56

FCC 90 Occupied Bandwidth

MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 150MHz
POWER LEVEL : 25W
CHANNEL SPACING : 25kHz
NOTES : Mask B
: 2500Hz Tone, 16dB above 50% Deviation



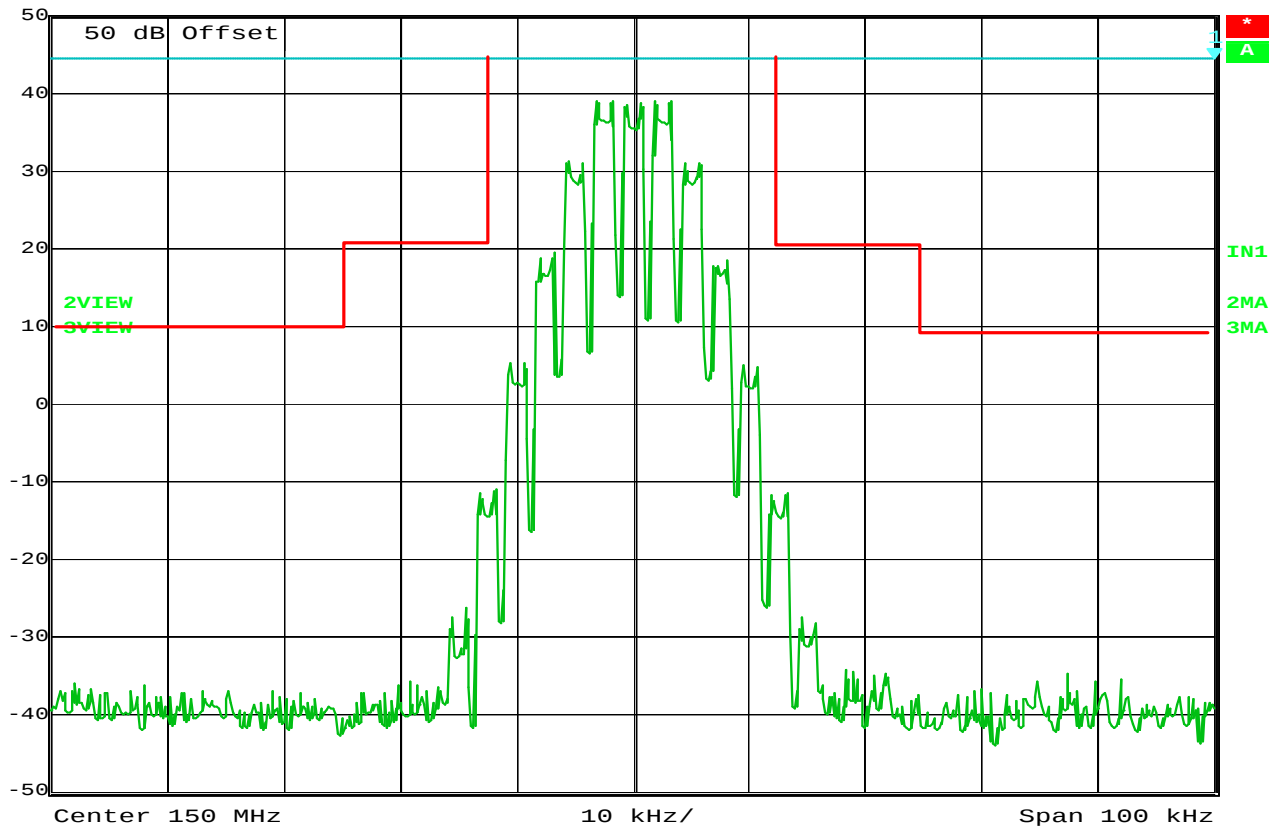
Date: 7.MAY.2007 17:53:44

MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 150MHz
POWER LEVEL : 45W
CHANNEL SPACING : 25kHz

NOTES : 25 kHz CHANNEL SPACING, 2500 Hz TONE, DPL 131



Ref Lvl 50 dBm
Marker 1 [T2] 44.41 dBm
150.05000000 MHz
RBW 300 Hz
VBW 300 Hz
SWT 5.6 s
RF Att 30 dB
Unit dBm



Date: 7.MAY.2007 17:50:53

MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 150MHz
POWER LEVEL : 25W
CHANNEL SPACING : 25kHz

NOTES : 25 kHz CHANNEL SPACING, 2500 Hz TONE, DPL 131



NOTES : 25 kHz CHANNEL SPACING, 2500 Hz TONE, TPL 250.3Hz



Ref Lvl
50 dBm

Marker 1 [T2]

44.41 dBm

150.05000000 MHz

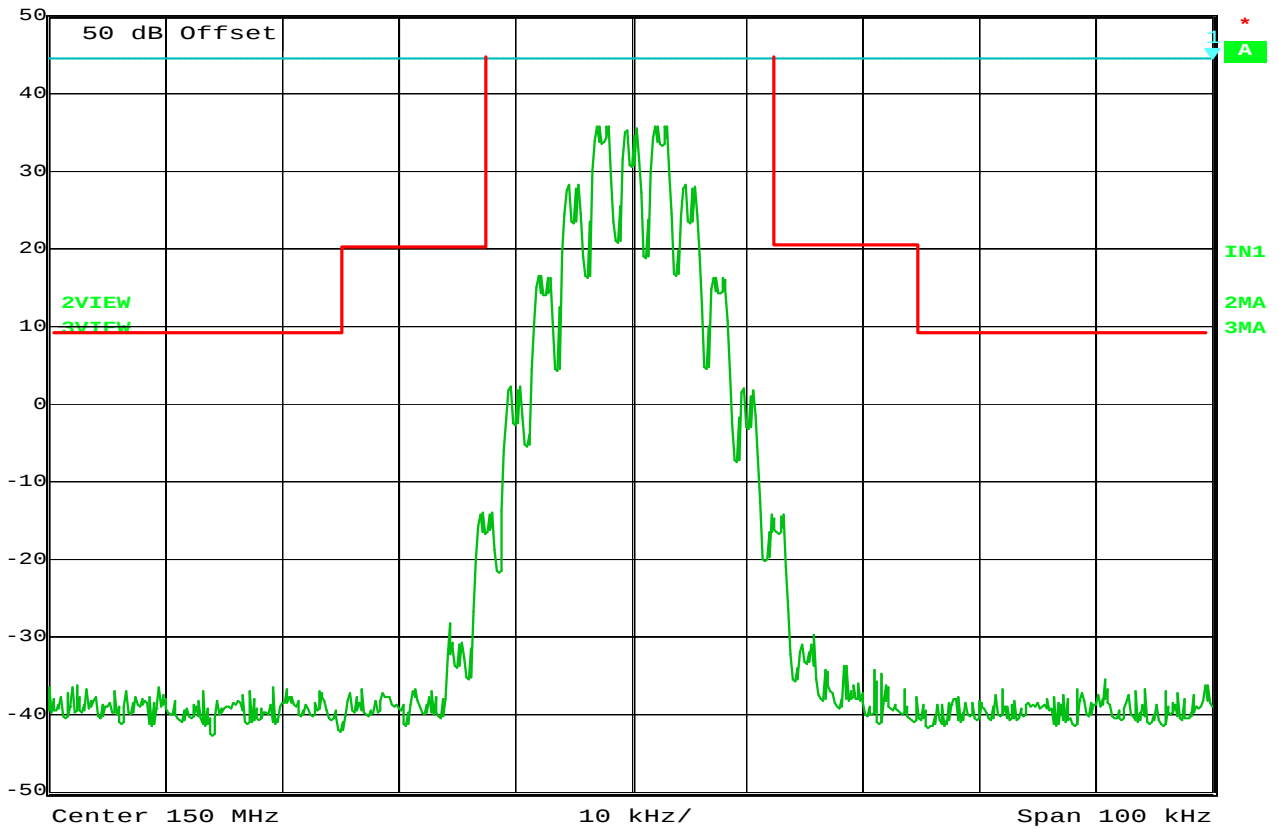
RBW 300 Hz

RF Att 30 dB

VBW 300 Hz

SWT 5.6 s

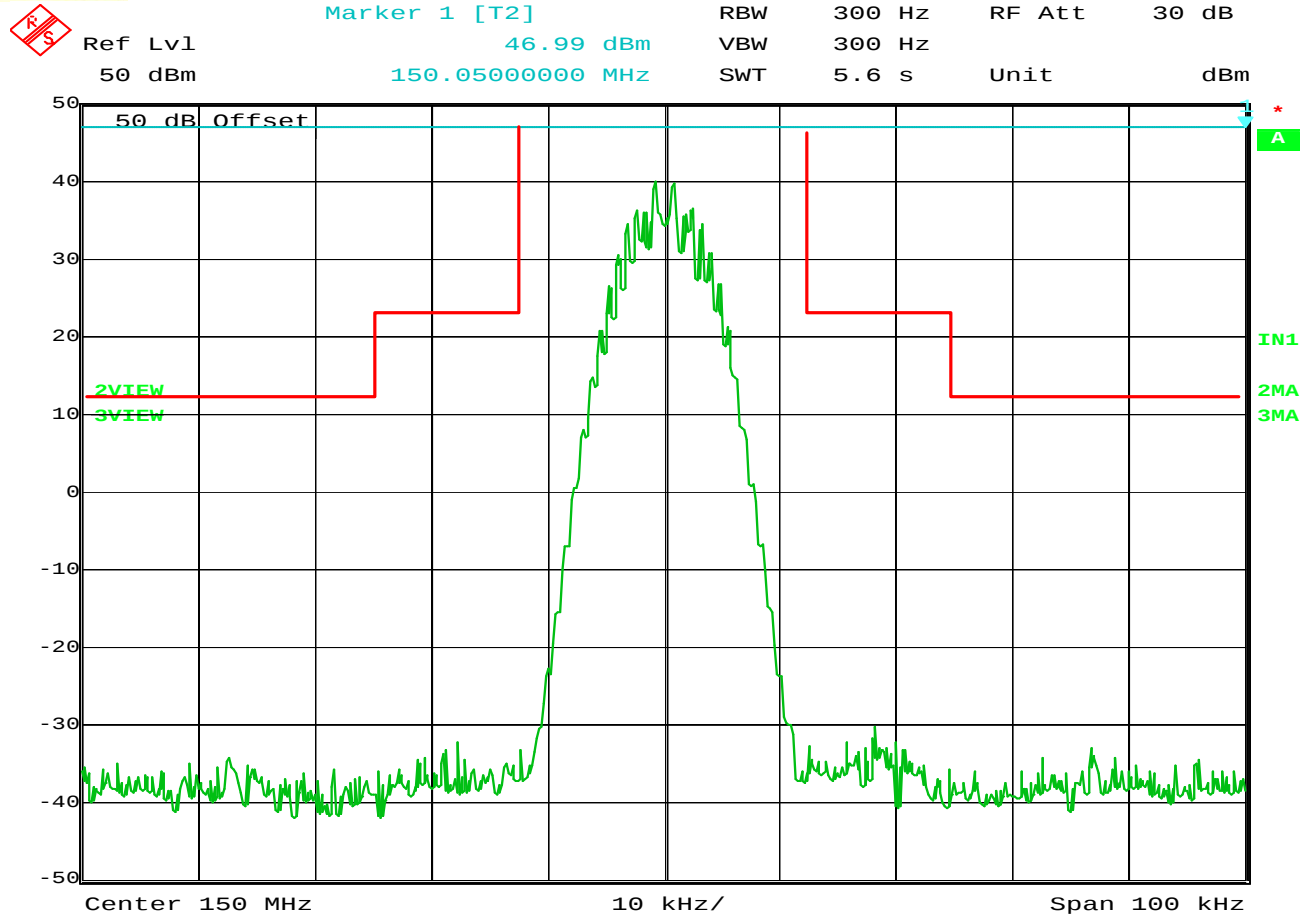
Unit dBm



Date: 7.MAY.2007 17:48:35

MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 150MHz
POWER LEVEL : 25W
CHANNEL SPACING : 25kHz

NOTES : 25 kHz CHANNEL SPACING, 2500 Hz TONE, TPL 250.3Hz



Date: 7.MAY.2007 18:13:03

MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 150MHz
POWER LEVEL : 45W
CHANNEL SPACING : 25kHz

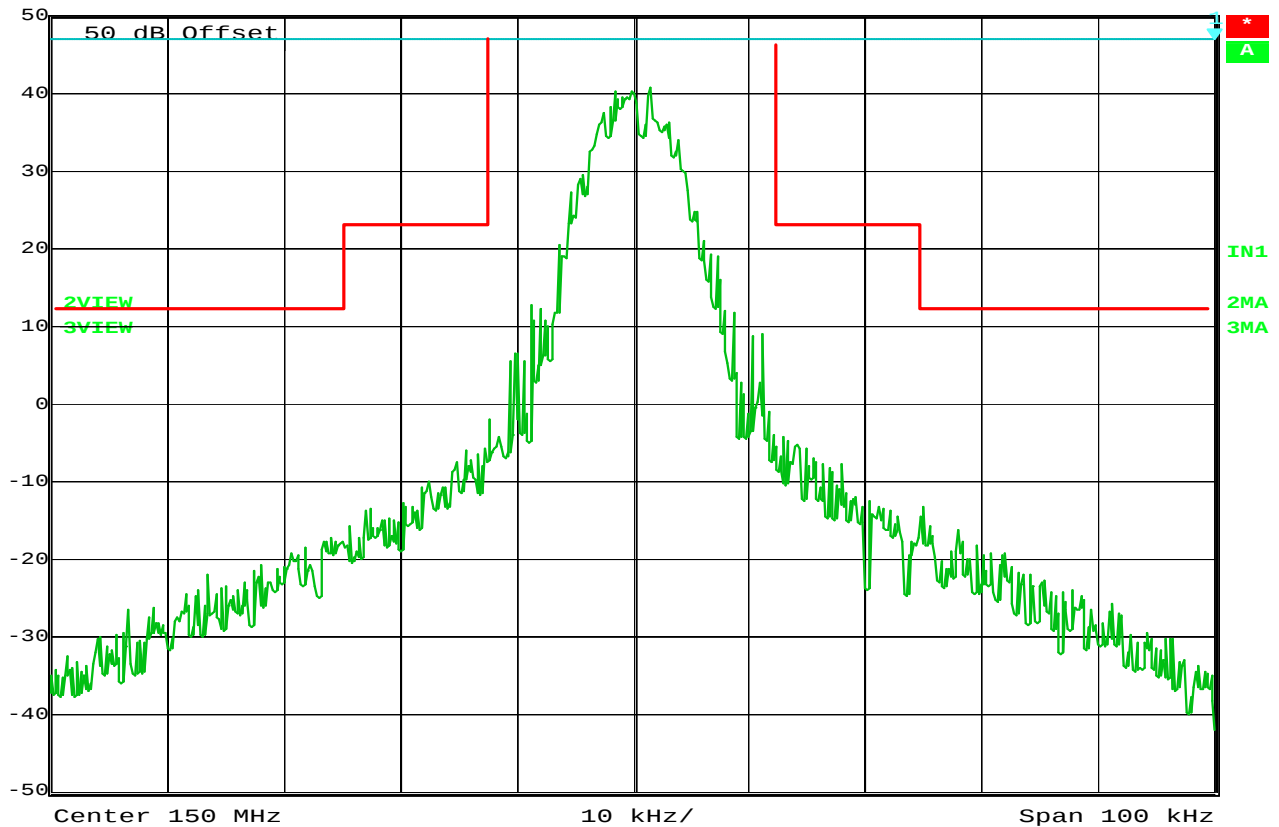
NOTES : 25 kHz CHANNEL SPACING, DTMF



NOTES : 25 kHz CHANNEL SPACING, DTMF



Ref Lvl 50 dBm
Marker 1 [T2] 46.97 dBm
150.05000000 MHz
RBW 300 Hz
VBW 300 Hz
SWT 5.6 s
RF Att 30 dB
Unit dBm



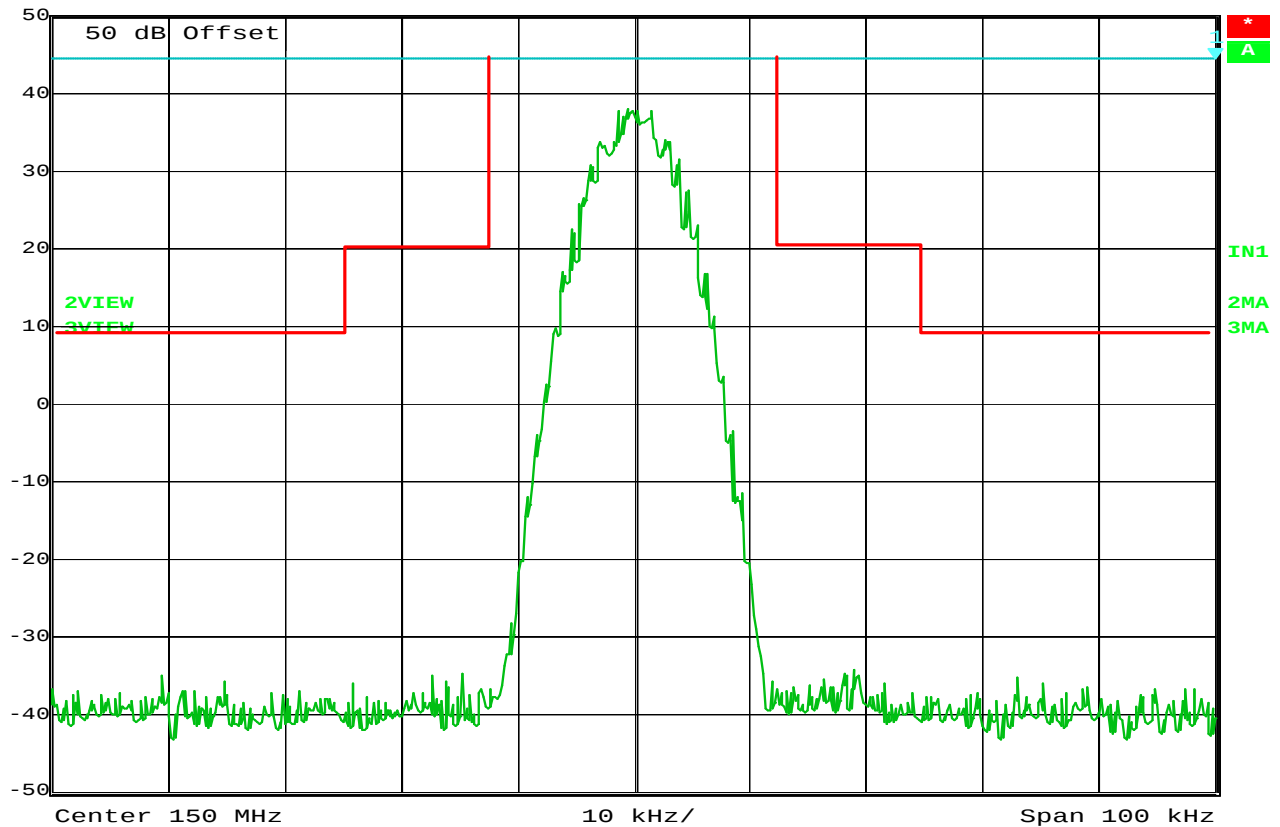
Date: 7.MAY.2007 17:59:35

MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 150MHz
POWER LEVEL : 45W
CHANNEL SPACING : 25kHz

NOTES : 25 kHz CHANNEL SPACING, DTMF, DPL 131



Ref Lvl 50 dBm
Marker 1 [T2] 44.30 dBm
150.05000000 MHz
RBW 1 MHz
VBW 1 MHz
SWT 5 ms
RF Att 30 dB
Unit dBm



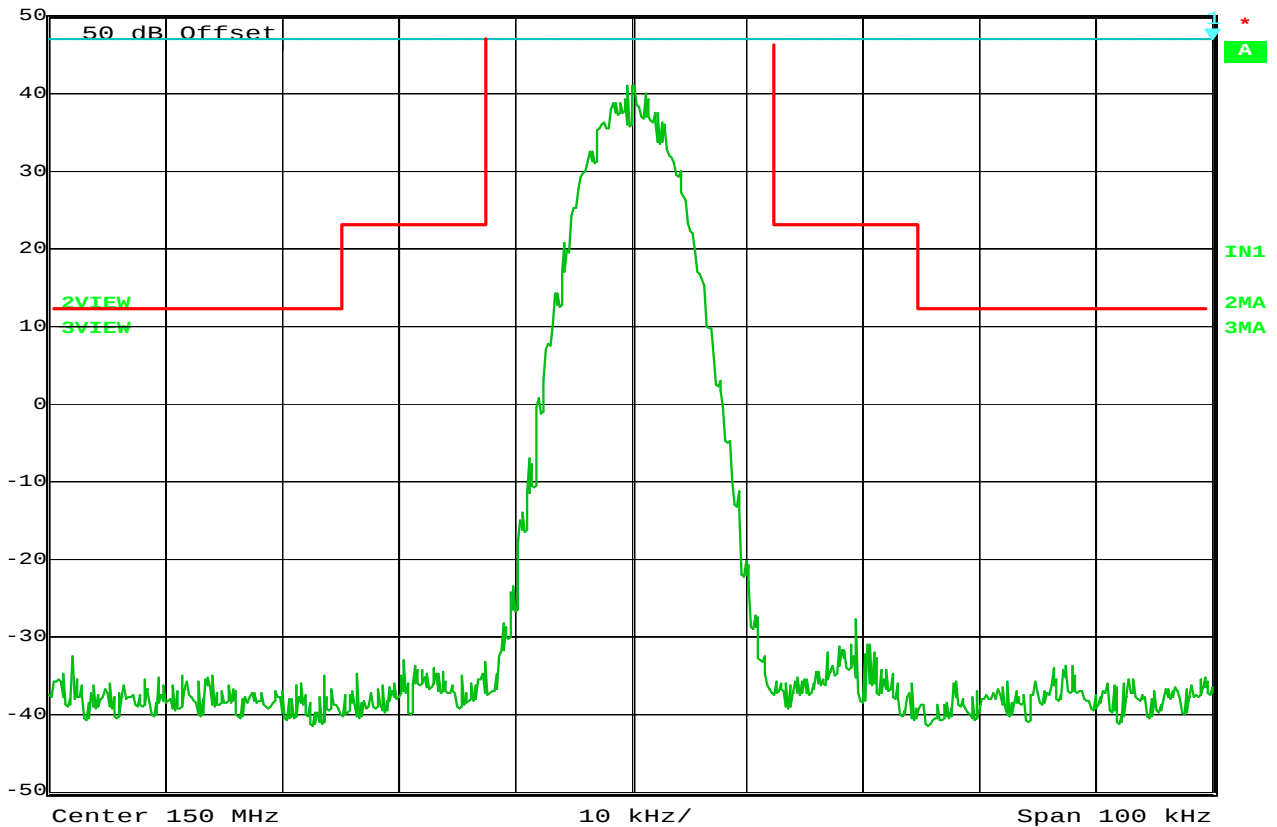
Date: 7.MAY.2007 18:03:27

MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 150MHz
POWER LEVEL : 25W
CHANNEL SPACING : 25kHz

NOTES : 25 kHz CHANNEL SPACING, DTMF, DPL 131



Ref Lvl 50 dBm
Marker 1 [T2] 46.99 dBm
150.05000000 MHz
RBW 300 Hz
VBW 300 Hz
SWT 5.6 s
RF Att 30 dB
Unit dBm



Date: 7.MAY.2007 18:10:32

MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 150MHz
POWER LEVEL : 45W
CHANNEL SPACING : 25kHz

NOTES : 25 kHz CHANNEL SPACING, DTMF, TPL 250.3Hz



Ref Lvl
50 dBm

Marker 1 [T2]

44.34 dBm

150.05000000 MHz

RBW

1 MHz

RF Att

30 dB

VBW

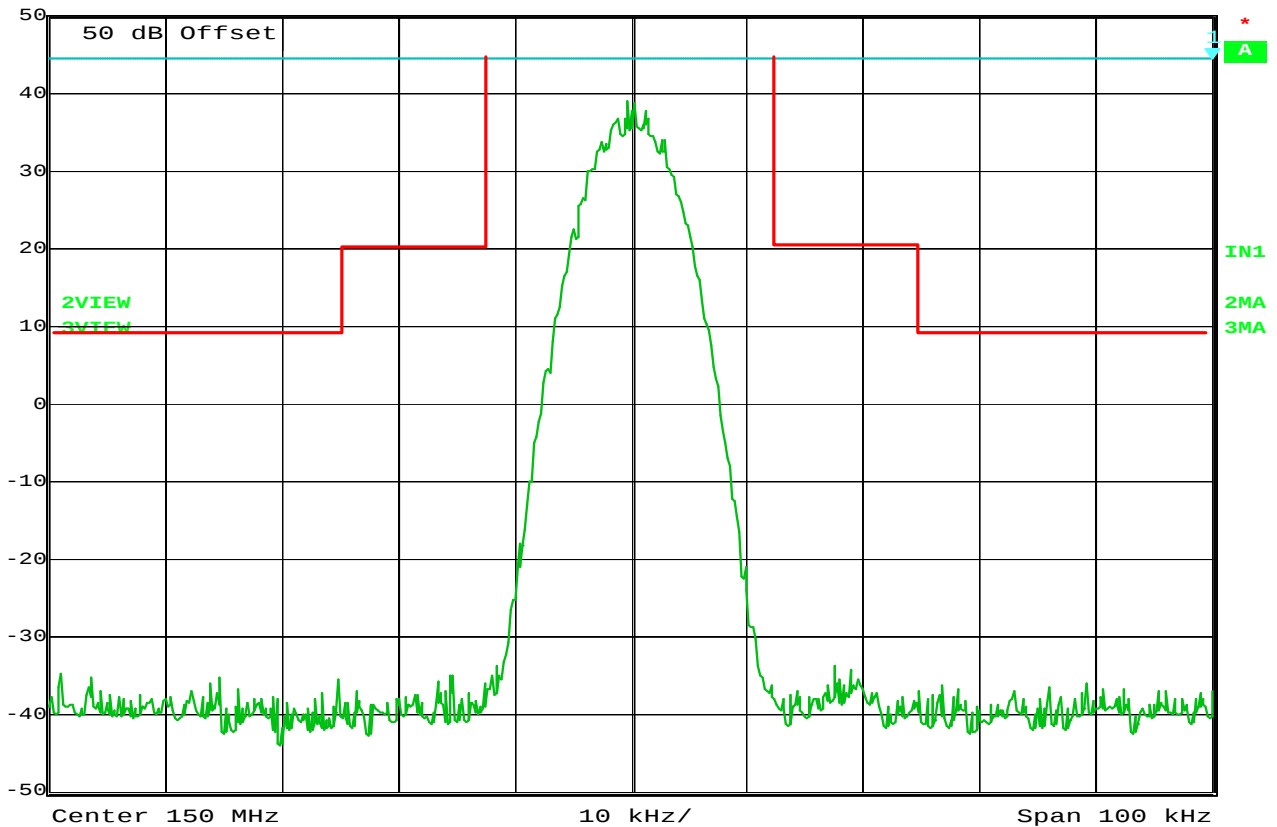
1 MHz

SWT

5 ms

Unit

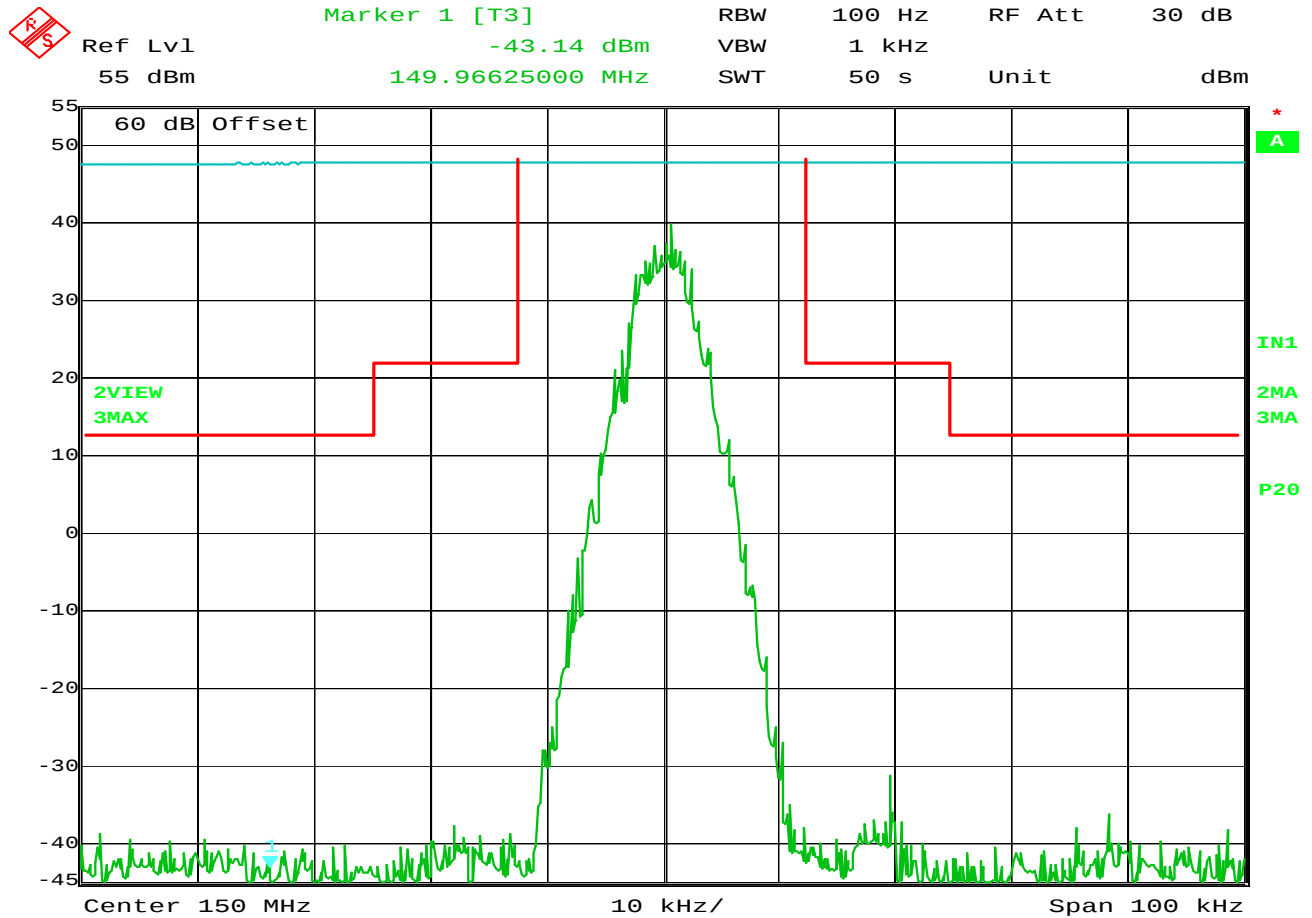
dBm



Date: 7.MAY.2007 18:07:49

MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 150MHz
POWER LEVEL : 25W
CHANNEL SPACING : 25kHz

NOTES : 25 kHz CHANNEL SPACING, DTMF, TPL 250.3Hz



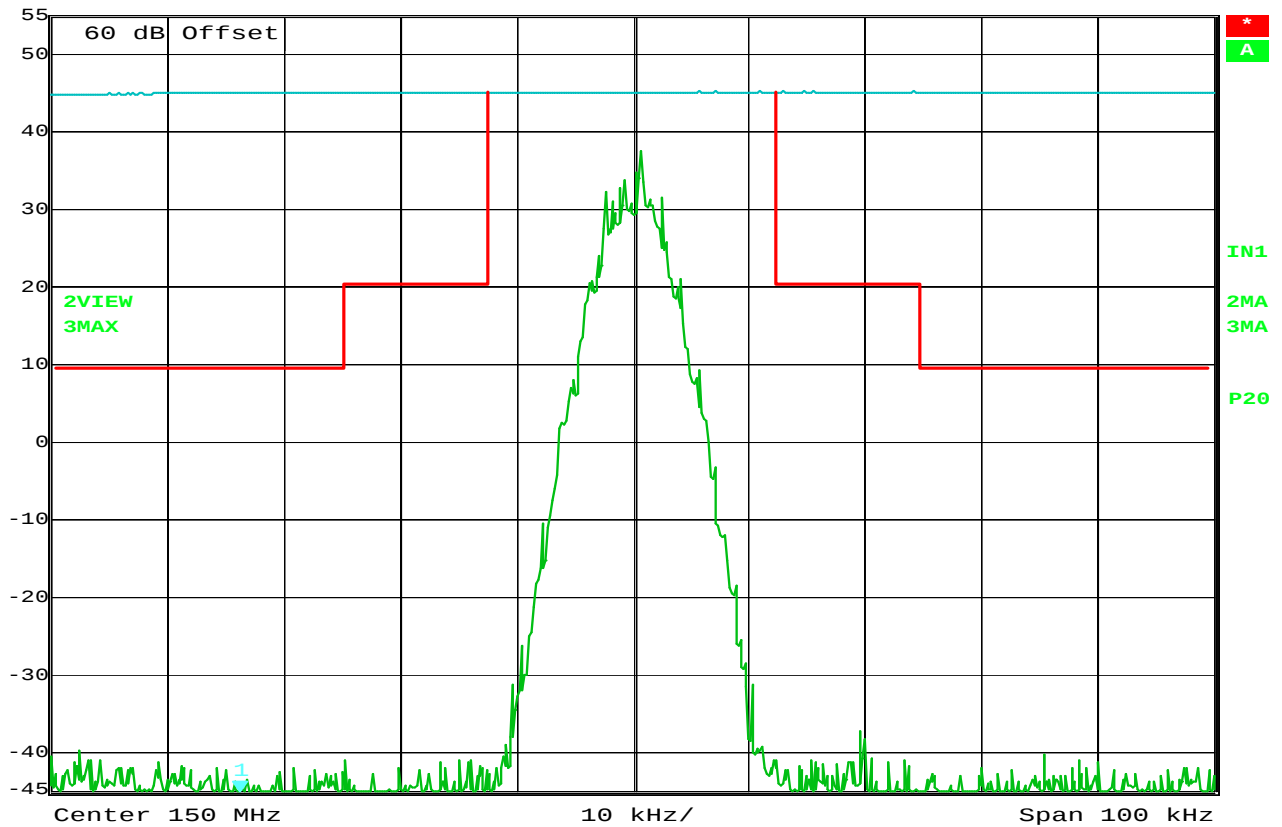
Date: 12.MAR.2007 15:58:01

FCC 90 Occupied Bandwidth

MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 150MHz
POWER LEVEL : 45W
CHANNEL SPACING : 25kHz
NOTES : Mask B
: Motorola Digital Modulation



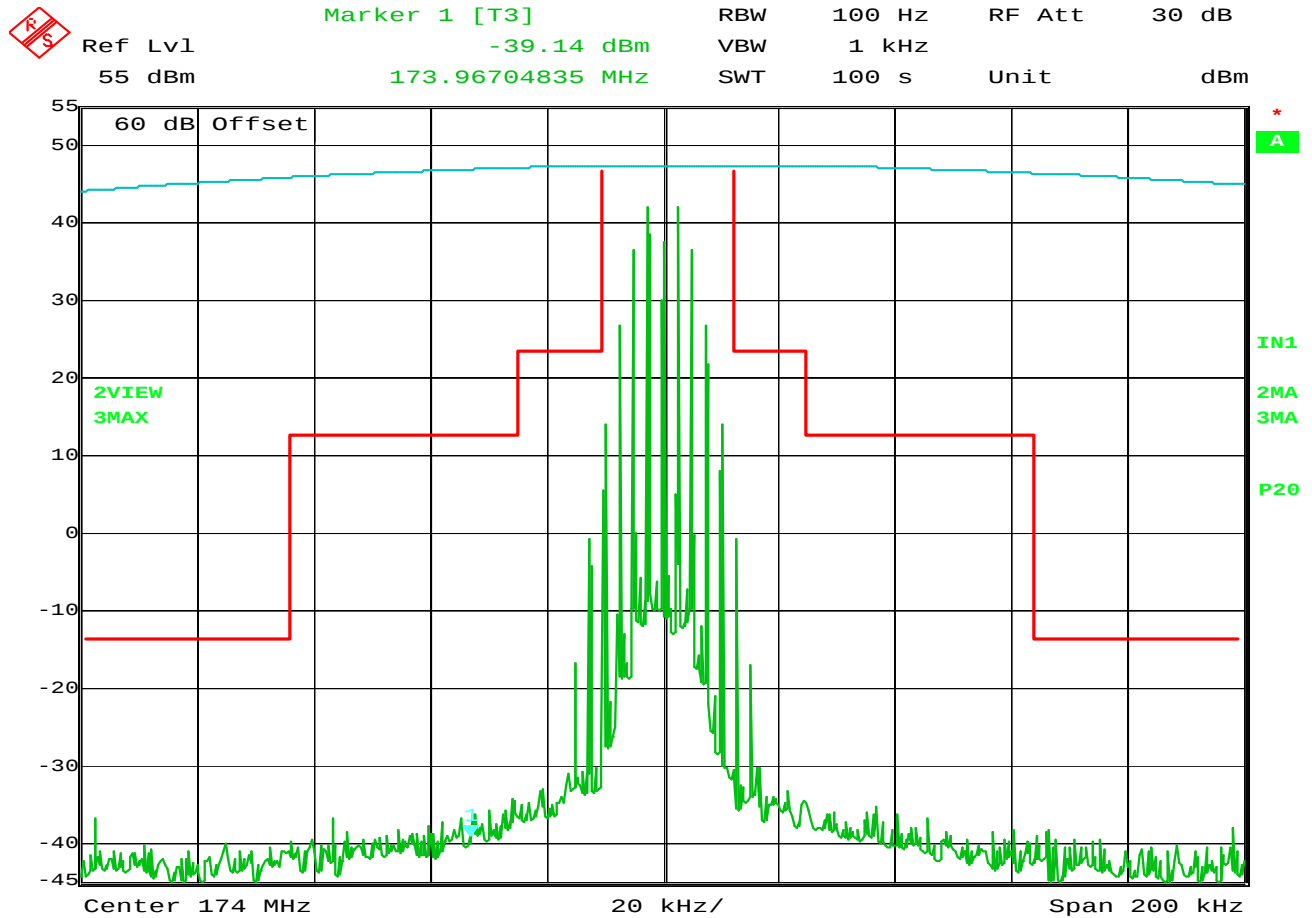
Ref Lvl 55 dBm
Marker 1 [T3] -47.22 dBm
149.96625000 MHz
RBW 100 Hz
VBW 1 kHz
SWT 50 s
RF Att 30 dB
Unit dBm



Date: 12.MAR.2007 15:51:18

FCC 90 Occupied Bandwidth

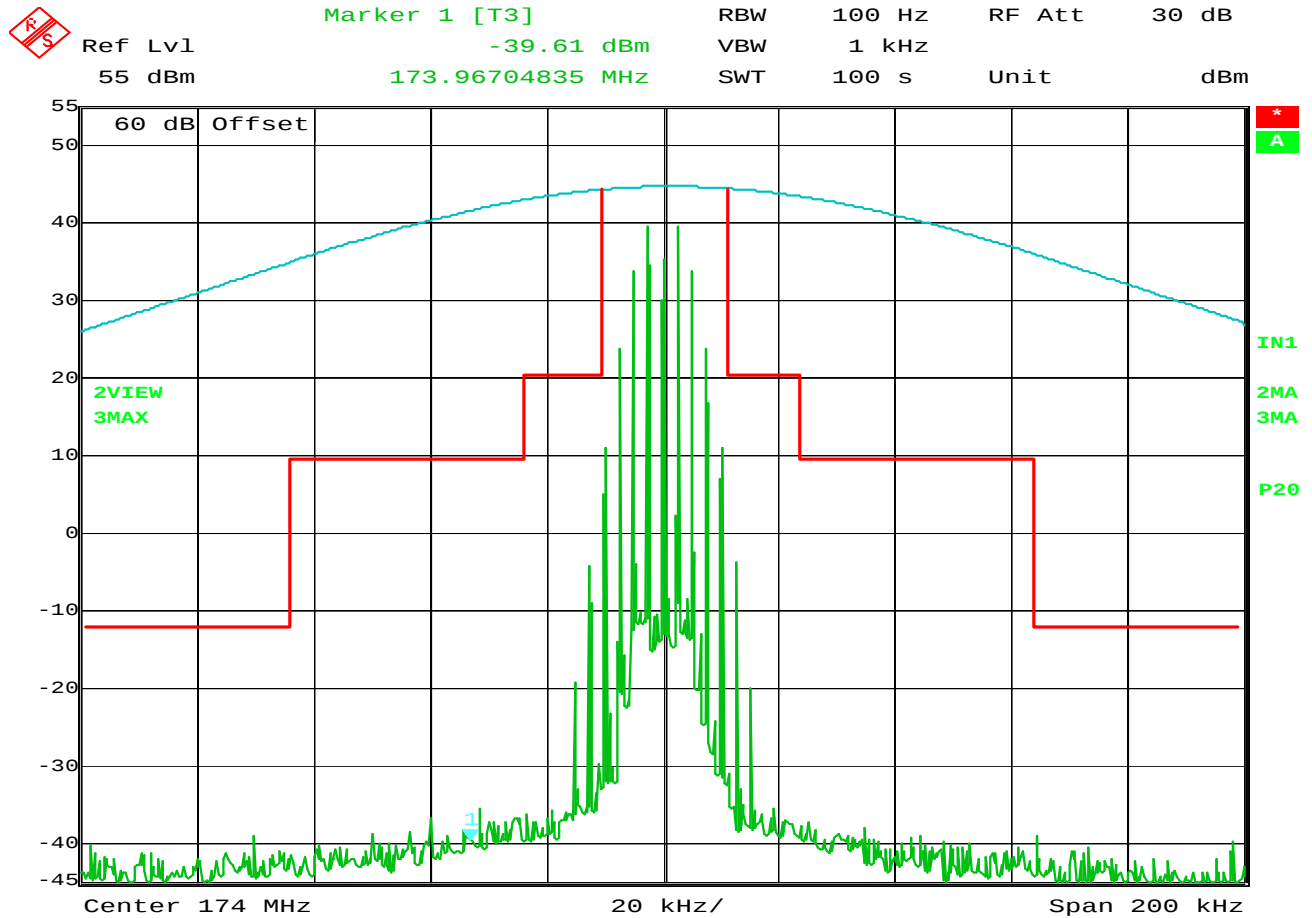
MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 150MHz
POWER LEVEL : 25W
CHANNEL SPACING : 25kHz
NOTES : Mask B
Motorola Digital Modulation



Date: 9.MAR.2007 21:23:27

FCC 90 Occupied Bandwidth

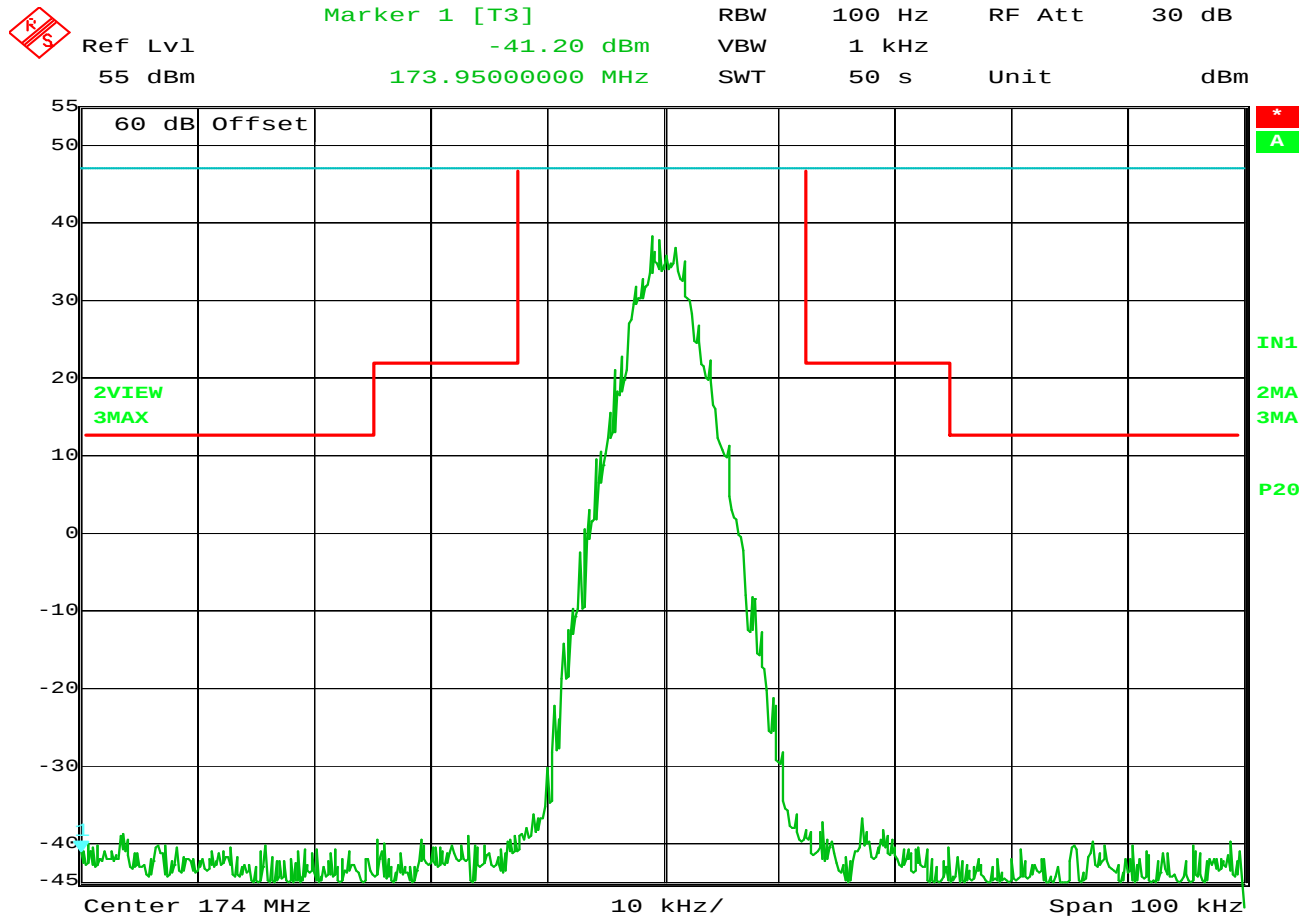
MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 174MHz
POWER LEVEL : 45W
CHANNEL SPACING : 25kHz
NOTES : Mask B
: 2500Hz Tone, 16dB above 50% Deviation



Date: 9.MAR.2007 21:32:51

FCC 90 Occupied Bandwidth

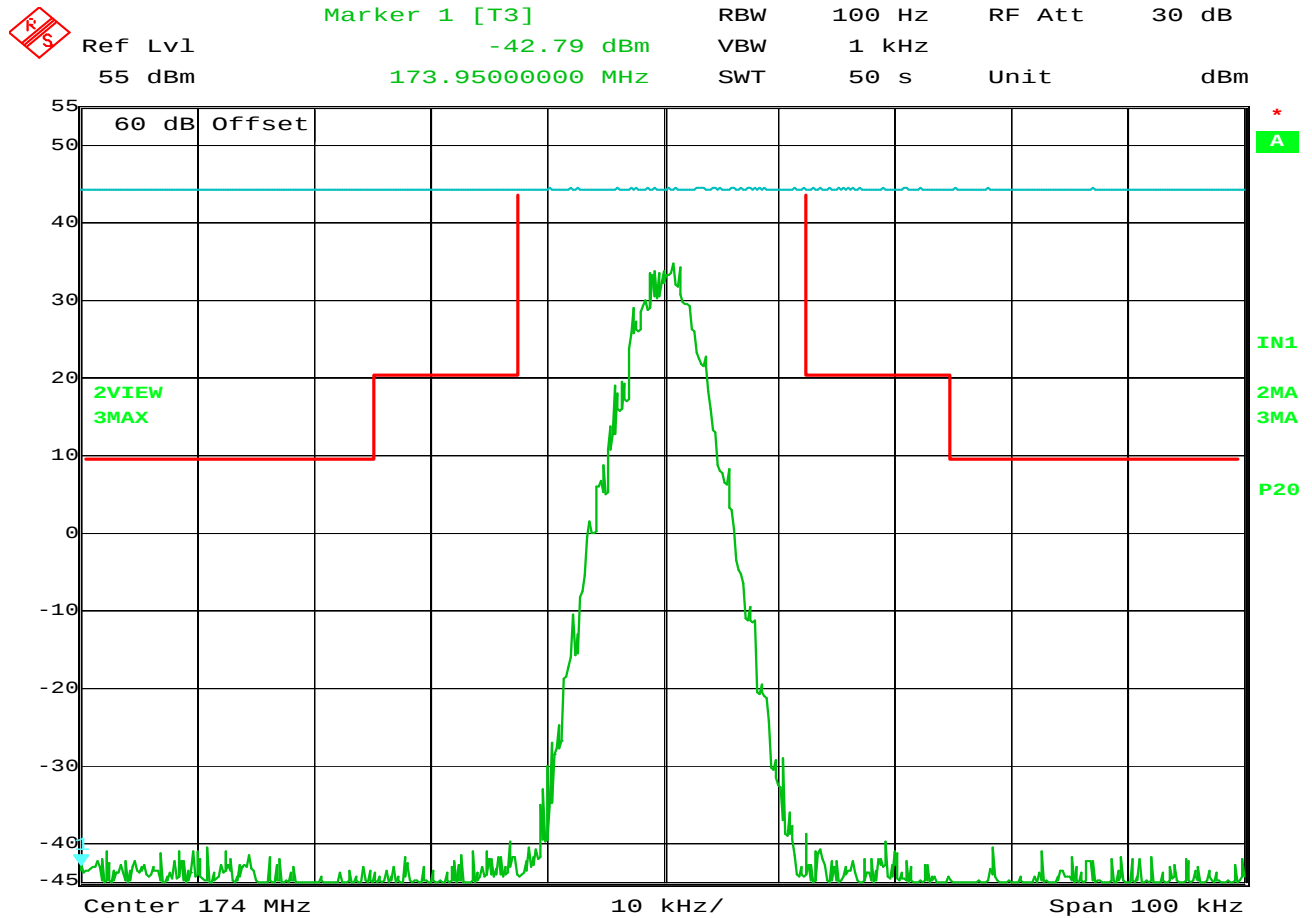
MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 174MHz
POWER LEVEL : 25W
CHANNEL SPACING : 25kHz
NOTES : Mask B
: 2500Hz Tone, 16dB above 50% Deviation



Date: 12.MAR.2007 16:28:47

FCC 90 Occupied Bandwidth

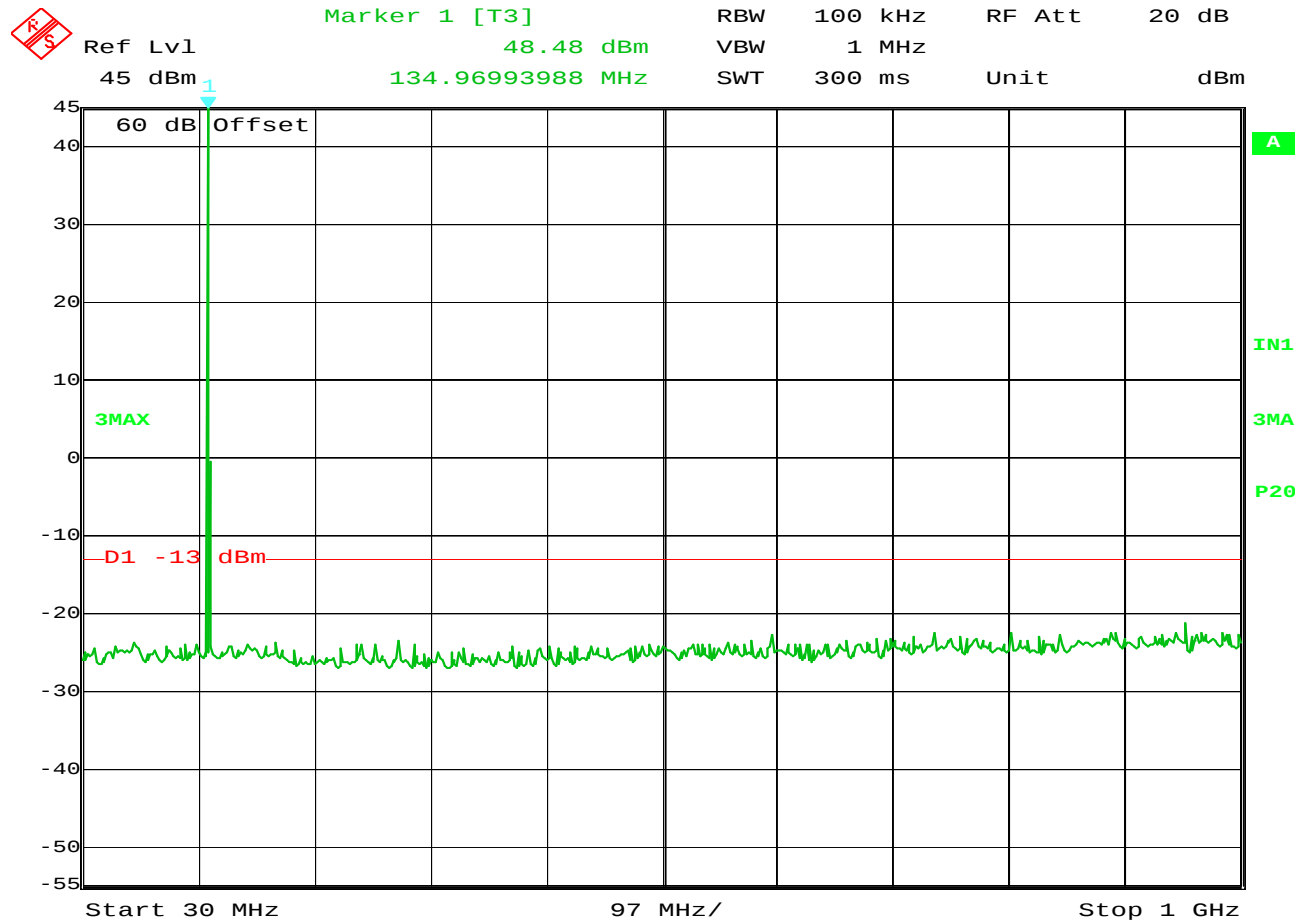
MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 174MHz
POWER LEVEL : 45W
CHANNEL SPACING : 25kHz
NOTES : Mask B
: Motorola Digital Modulation



Date: 12.MAR.2007 16:23:53

FCC 90 Occupied Bandwidth

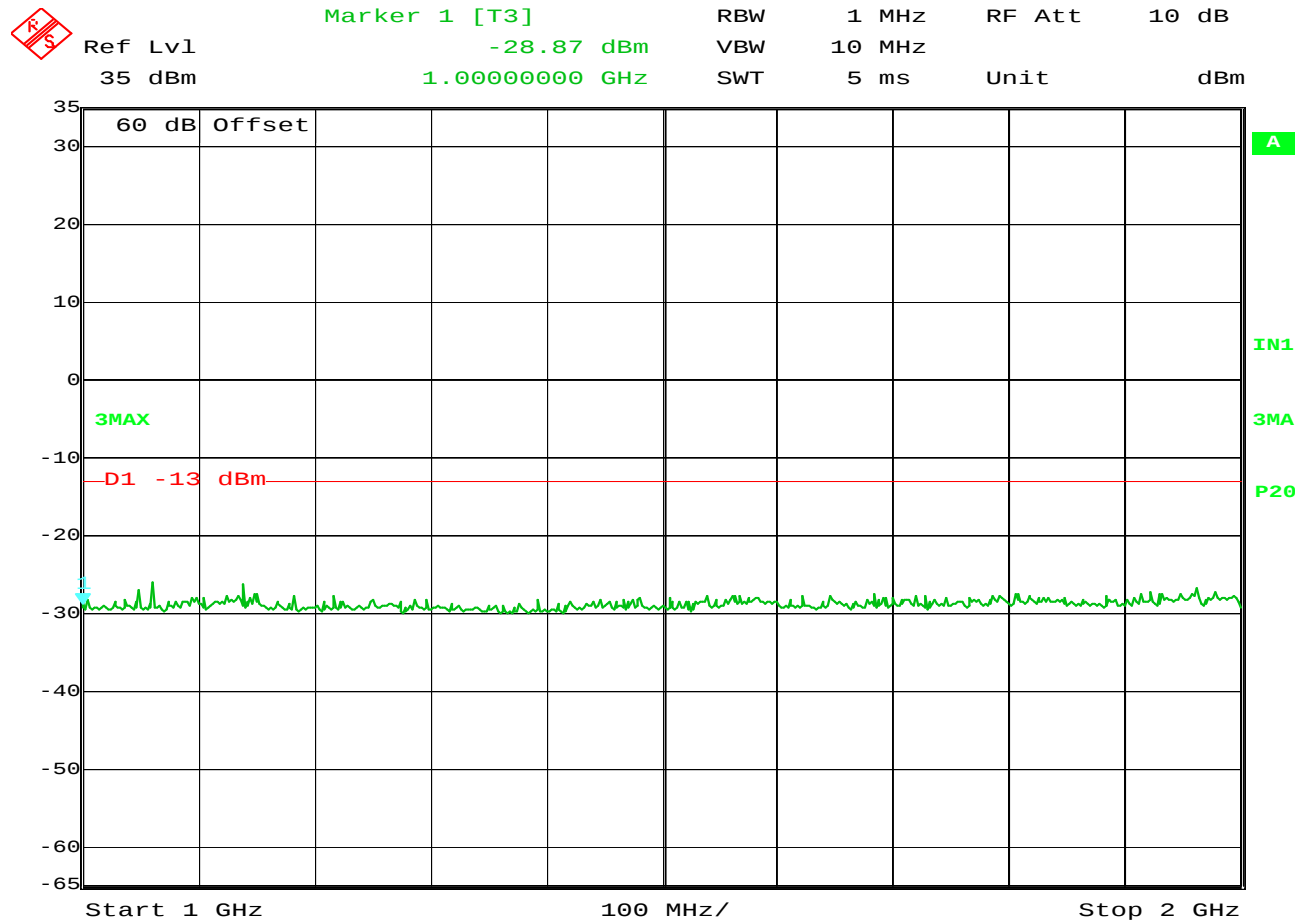
MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 174MHz
POWER LEVEL : 25W
CHANNEL SPACING : 25kHz
NOTES : Mask B
: Motorola Digital Modulation



Date: 7.MAR.2007 20:34:10

FCC 90 Antenna Conducted Emissions

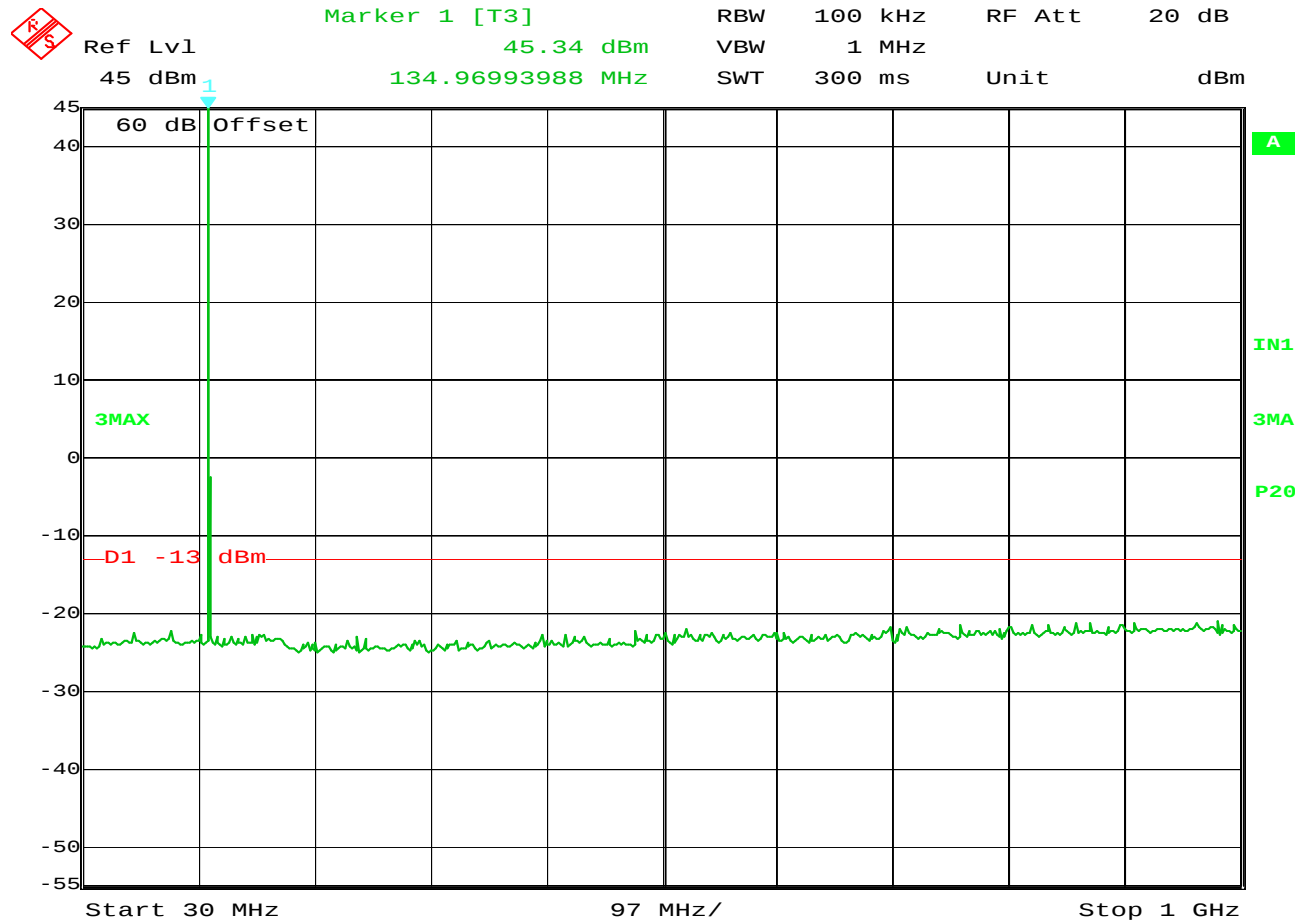
MANUFACTURER	: Motorola Inc.
TEST ITEM	: MOTOTRBO Repeater
MODEL NUMBER	: AAM27JQR9JA7AN
TEST MODE	: Transmit
FREQUENCY	: 136MHz
POWER LEVEL	: 45W
CHANNEL SPACING	: 25kHz
NOTES	:



Date: 7.MAR.2007 21:33:06

FCC 90 Antenna Conducted Emissions

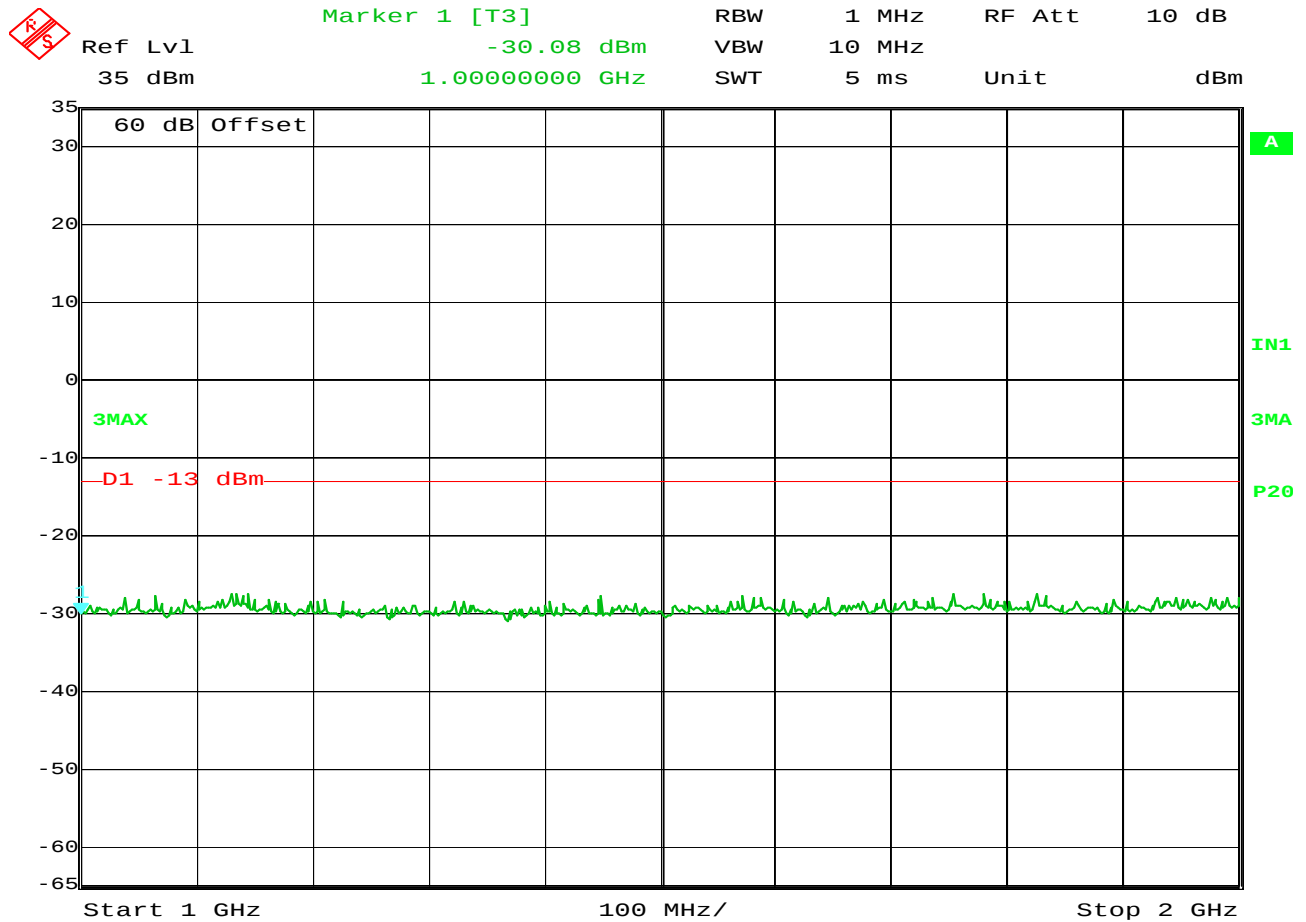
MANUFACTURER	: Motorola Inc.
TEST ITEM	: MOTOTRBO Repeater
MODEL NUMBER	: AAM27JQR9JA7AN
TEST MODE	: Transmit
FREQUENCY	: 136MHz
POWER LEVEL	: 45W
CHANNEL SPACING	: 25kHz
NOTES	:
NOTES	:



Date: 7.MAR.2007 20:28:52

FCC 90 Antenna Conducted Emissions

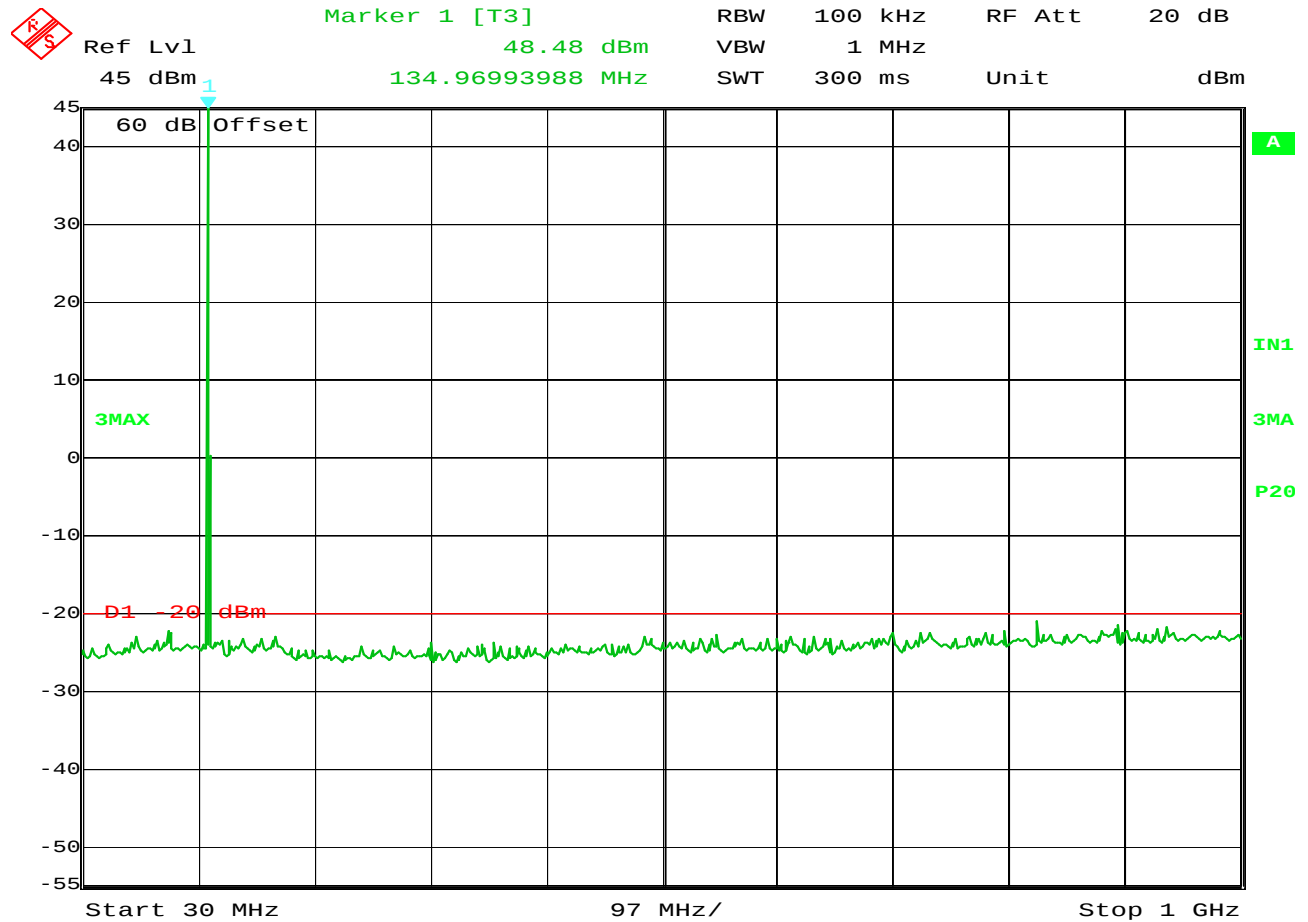
MANUFACTURER	: Motorola Inc.
TEST ITEM	: MOTOTRBO Repeater
MODEL NUMBER	: AAM27JQR9JA7AN
TEST MODE	: Transmit
FREQUENCY	: 136MHz
POWER LEVEL	: 25W
CHANNEL SPACING	: 25kHz
NOTES	:



Date: 7.MAR.2007 20:08:53

FCC 90 Antenna Conducted Emissions

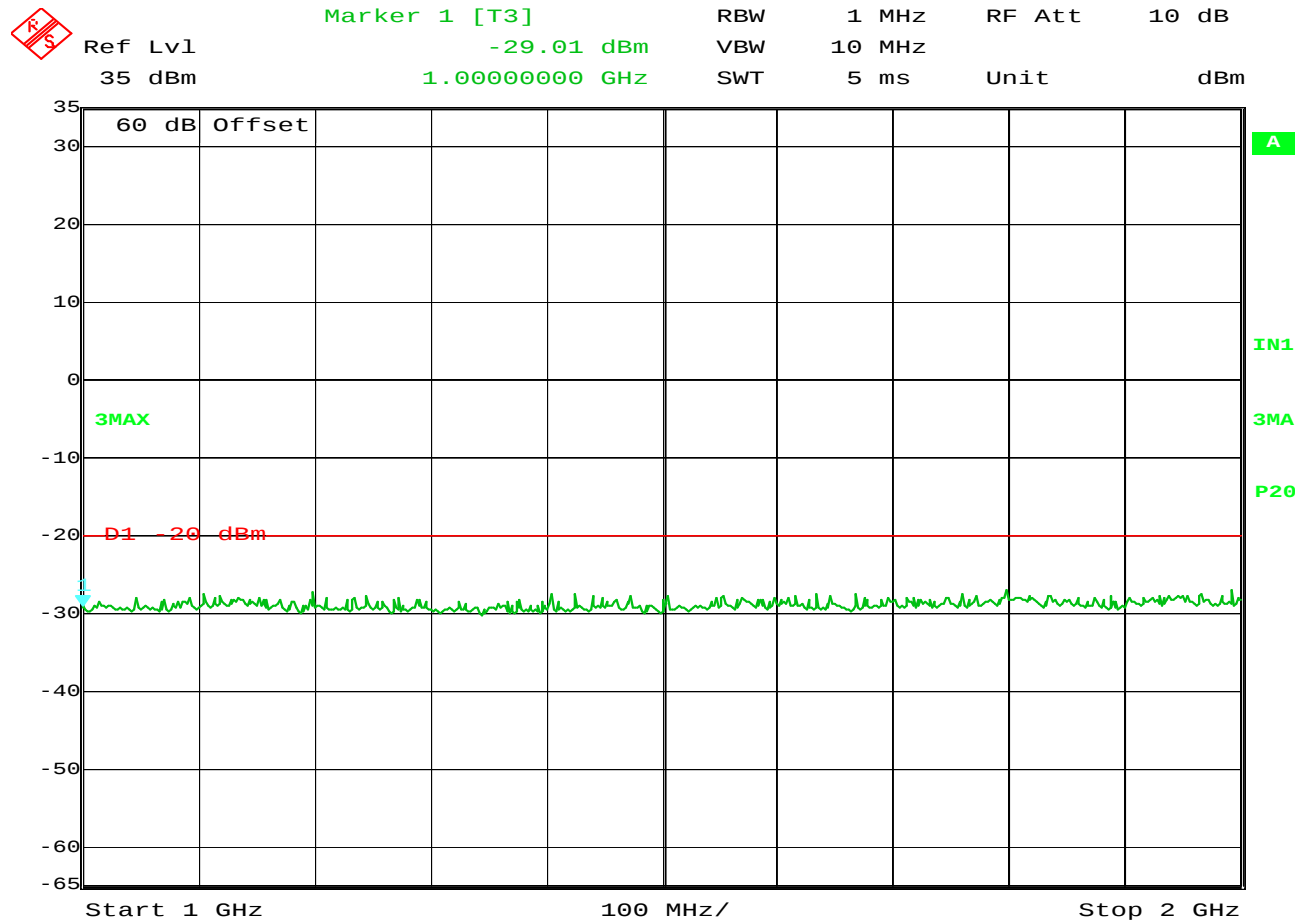
MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 136MHz
POWER LEVEL : 25W
CHANNEL SPACING : 25kHz
NOTES :



Date: 7.MAR.2007 21:37:38

FCC 90 Antenna Conducted Emissions

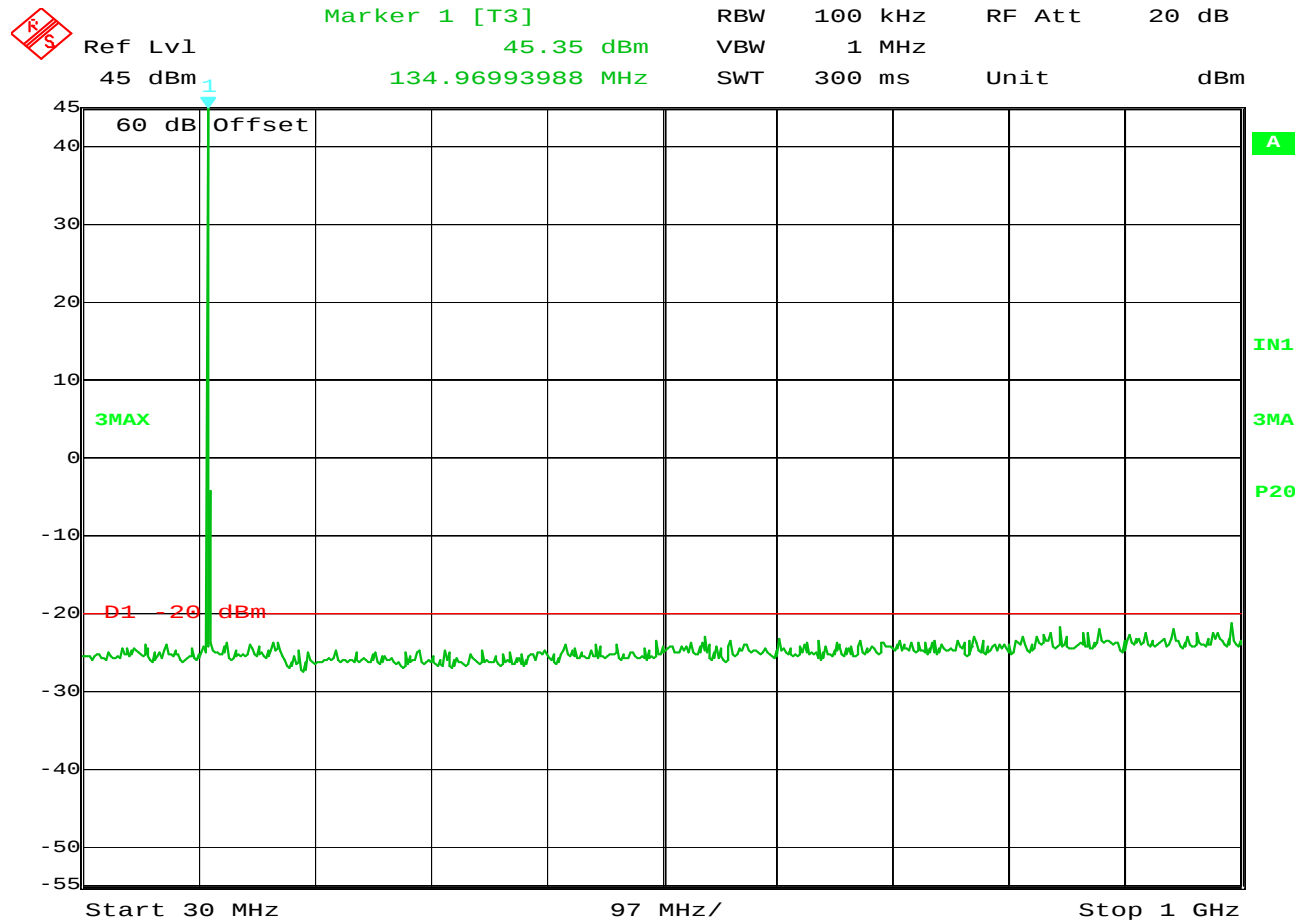
MANUFACTURER	: Motorola Inc.
TEST ITEM	: MOTOTRBO Repeater
MODEL NUMBER	: AAM27JQR9JA7AN
TEST MODE	: Transmit
FREQUENCY	: 136MHz
POWER LEVEL	: 45W
CHANNEL SPACING	: 12.5kHz
NOTES	:



Date: 7.MAR.2007 21:35:52

FCC 90 Antenna Conducted Emissions

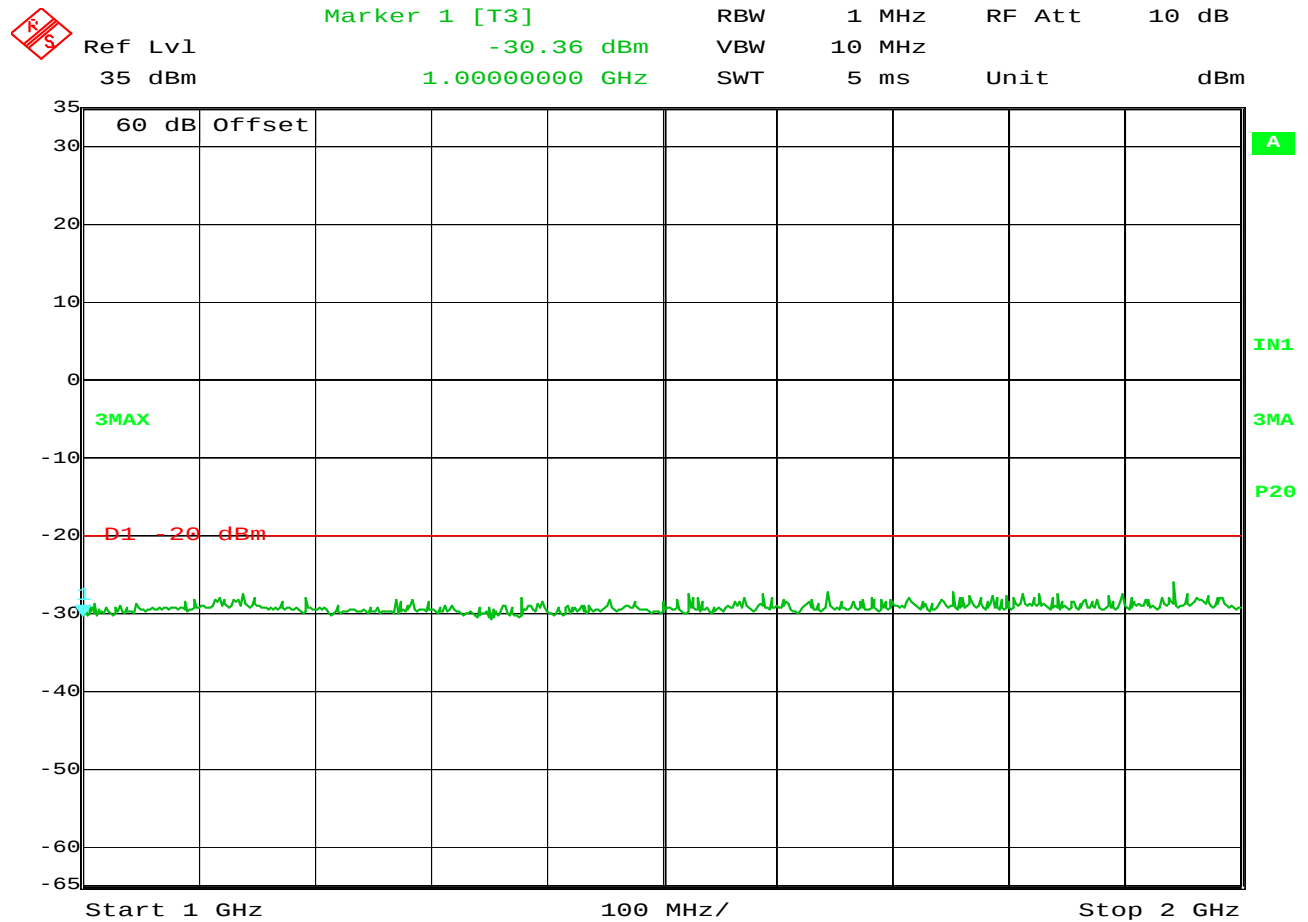
MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 136MHz
POWER LEVEL : 45W
CHANNEL SPACING : 12.5kHz
NOTES :



Date: 7.MAR.2007 20:03:21

FCC 90 Antenna Conducted Emissions

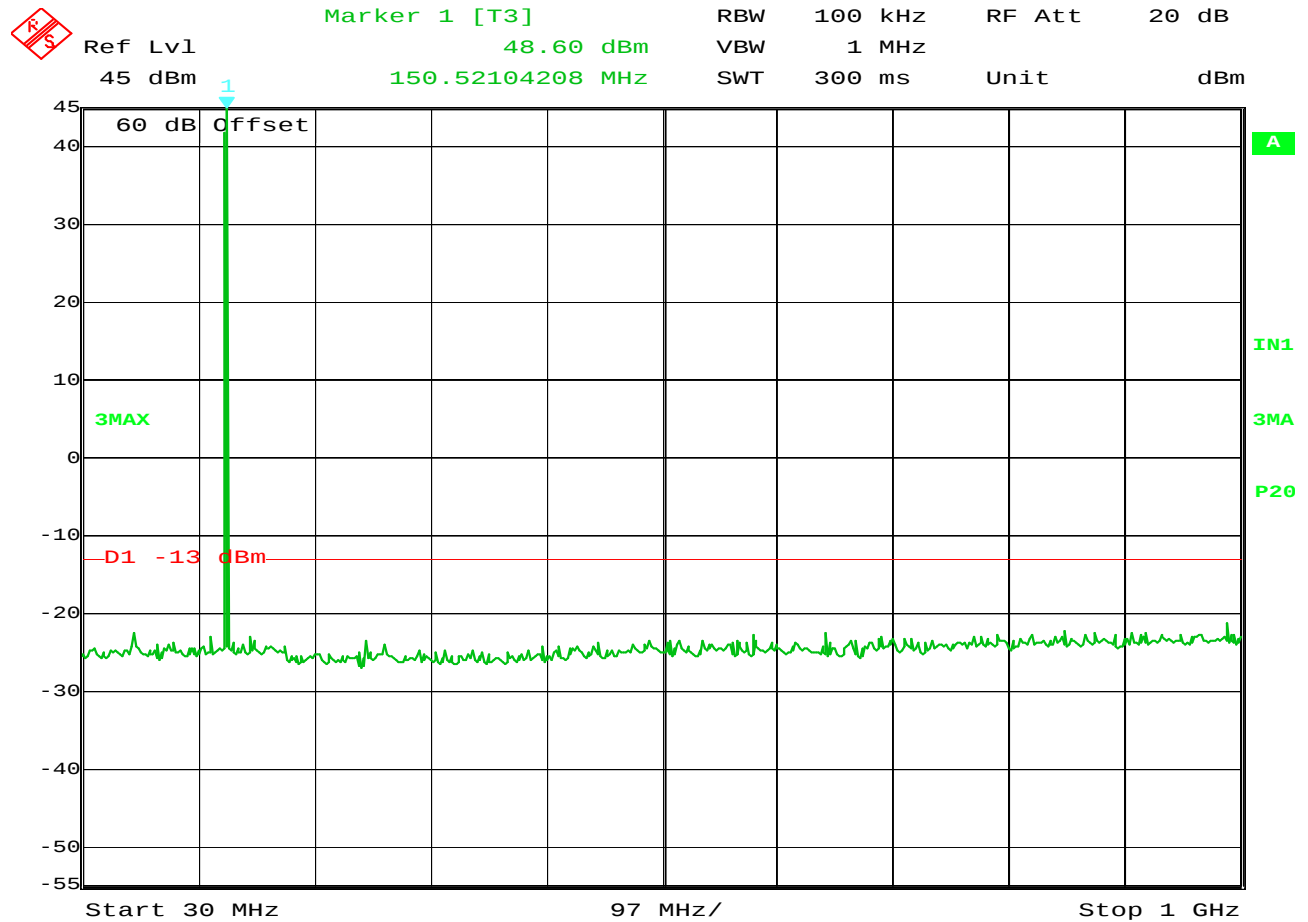
MANUFACTURER	: Motorola Inc.
TEST ITEM	: MOTOTRBO Repeater
MODEL NUMBER	: AAM27JQR9JA7AN
TEST MODE	: Transmit
FREQUENCY	: 136MHz
POWER LEVEL	: 25W
CHANNEL SPACING	: 12.5kHz
NOTES	:



Date: 7.MAR.2007 20:04:45

FCC 90 Antenna Conducted Emissions

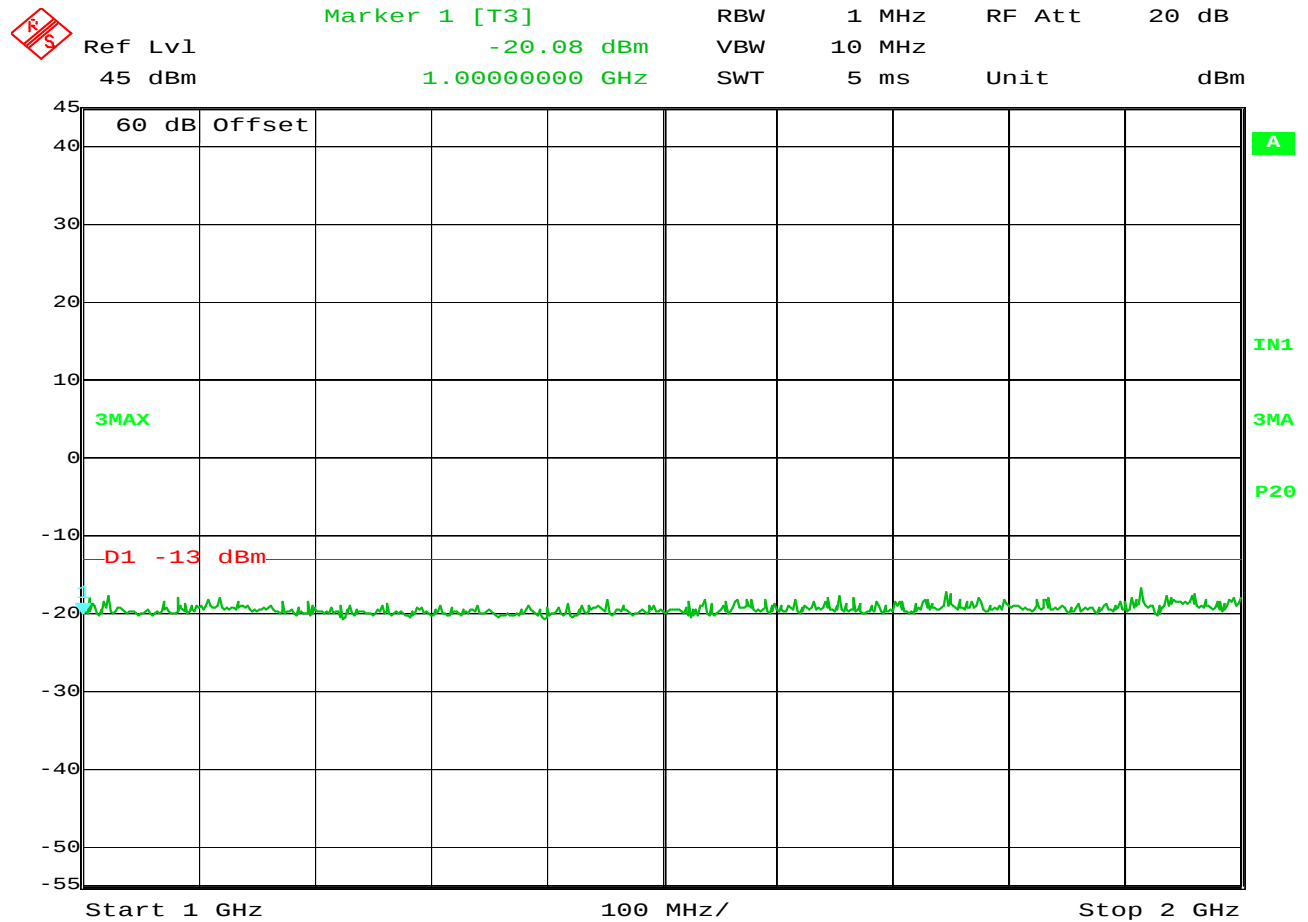
MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 136MHz
POWER LEVEL : 25W
CHANNEL SPACING : 12.5kHz
NOTES :



Date: 7.MAR.2007 21:51:53

FCC 90 Antenna Conducted Emissions

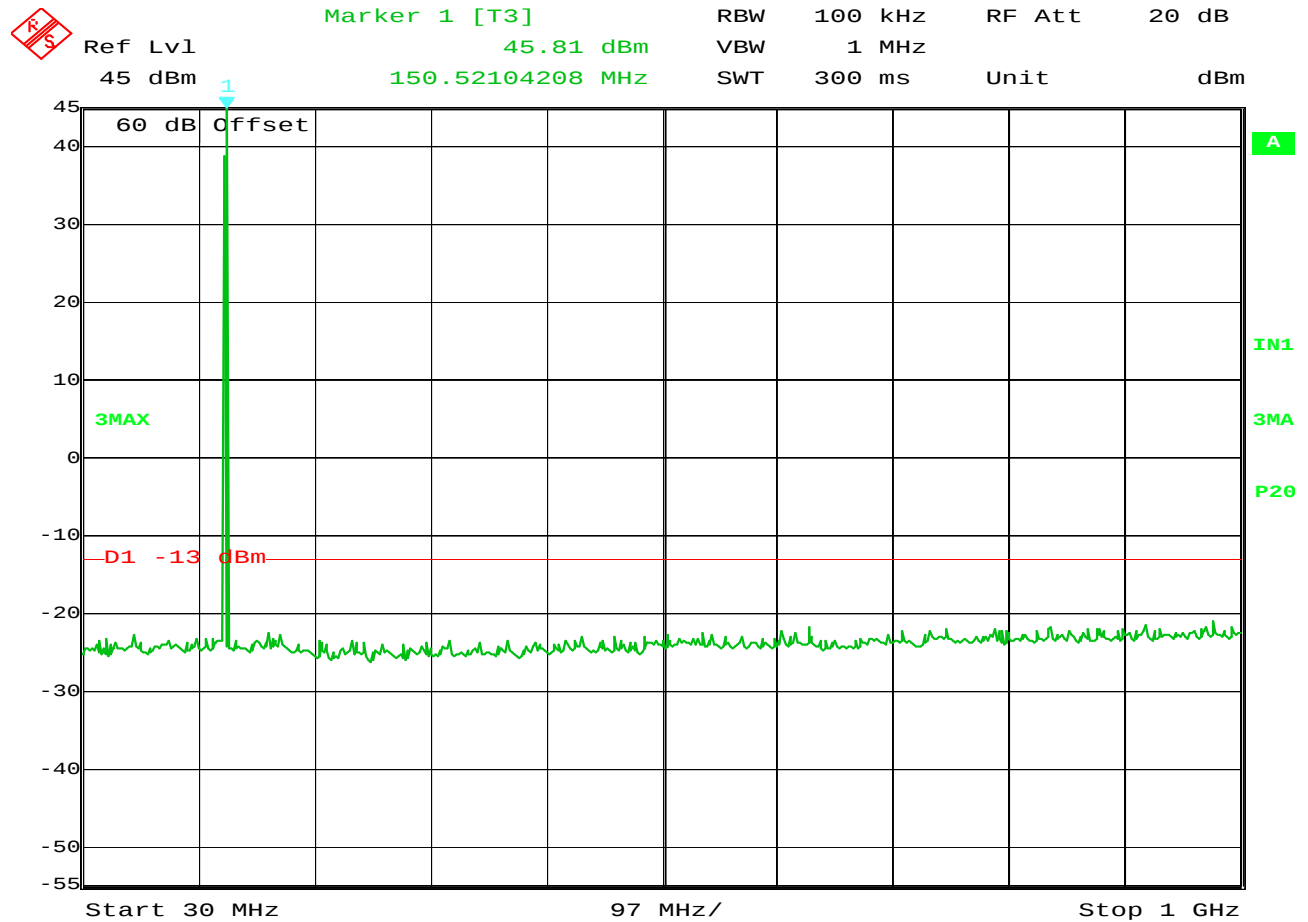
MANUFACTURER	: Motorola Inc.
TEST ITEM	: MOTOTRBO Repeater
MODEL NUMBER	: AAM27JQR9JA7AN
TEST MODE	: Transmit
FREQUENCY	: 150MHz
POWER LEVEL	: 45W
CHANNEL SPACING	: 25kHz
NOTES	:



Date: 7.MAR.2007 21:50:40

FCC 90 Antenna Conducted Emissions

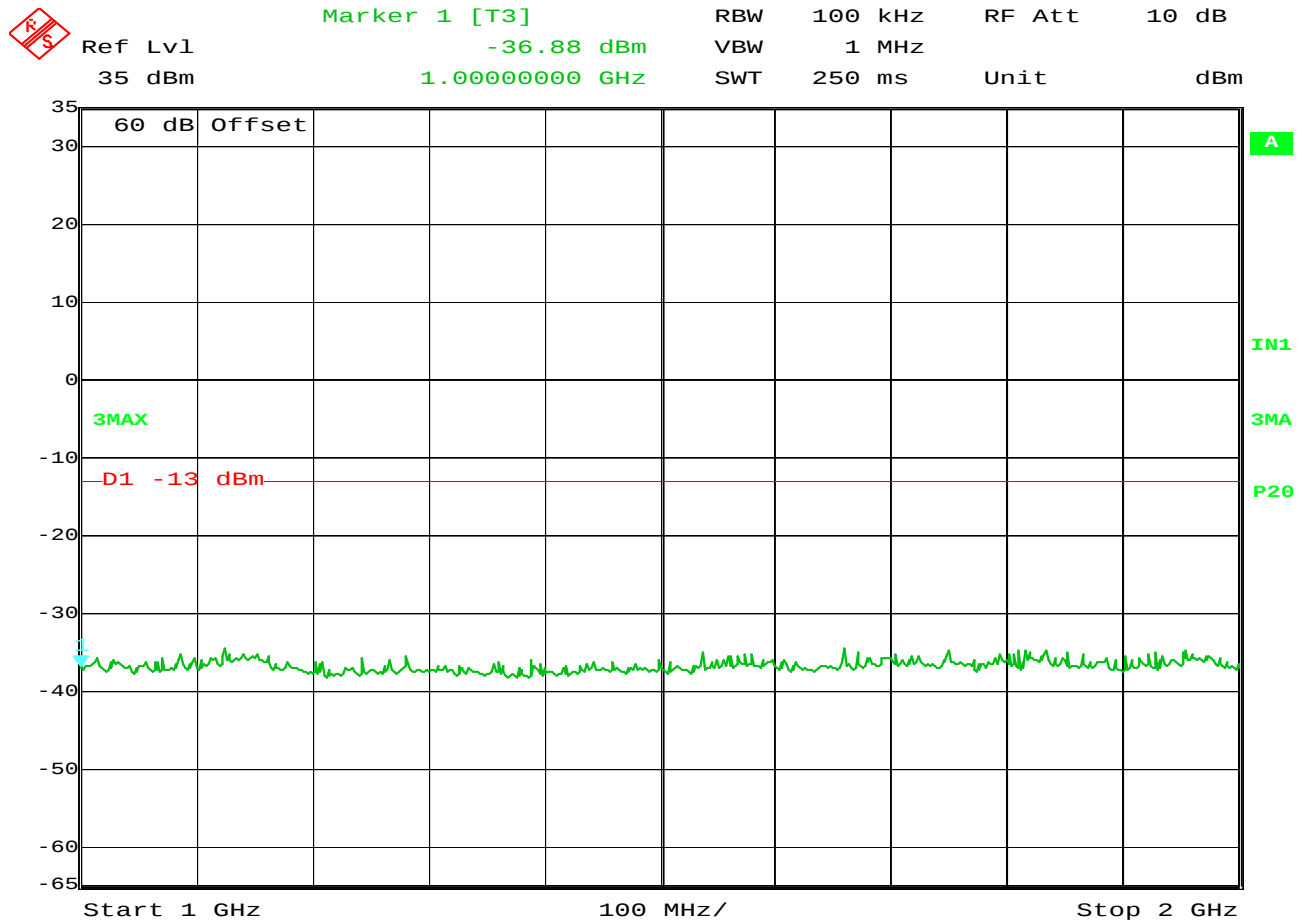
MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 150MHz
POWER LEVEL : 45W
CHANNEL SPACING : 25kHz
NOTES :



Date: 8.MAR.2007 15:08:21

FCC 90 Antenna Conducted Emissions

MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 150MHz
POWER LEVEL : 25W
CHANNEL SPACING : 25kHz
NOTES :



Date: 8.MAR.2007 15:13:21

FCC 90 Antenna Conducted Emissions

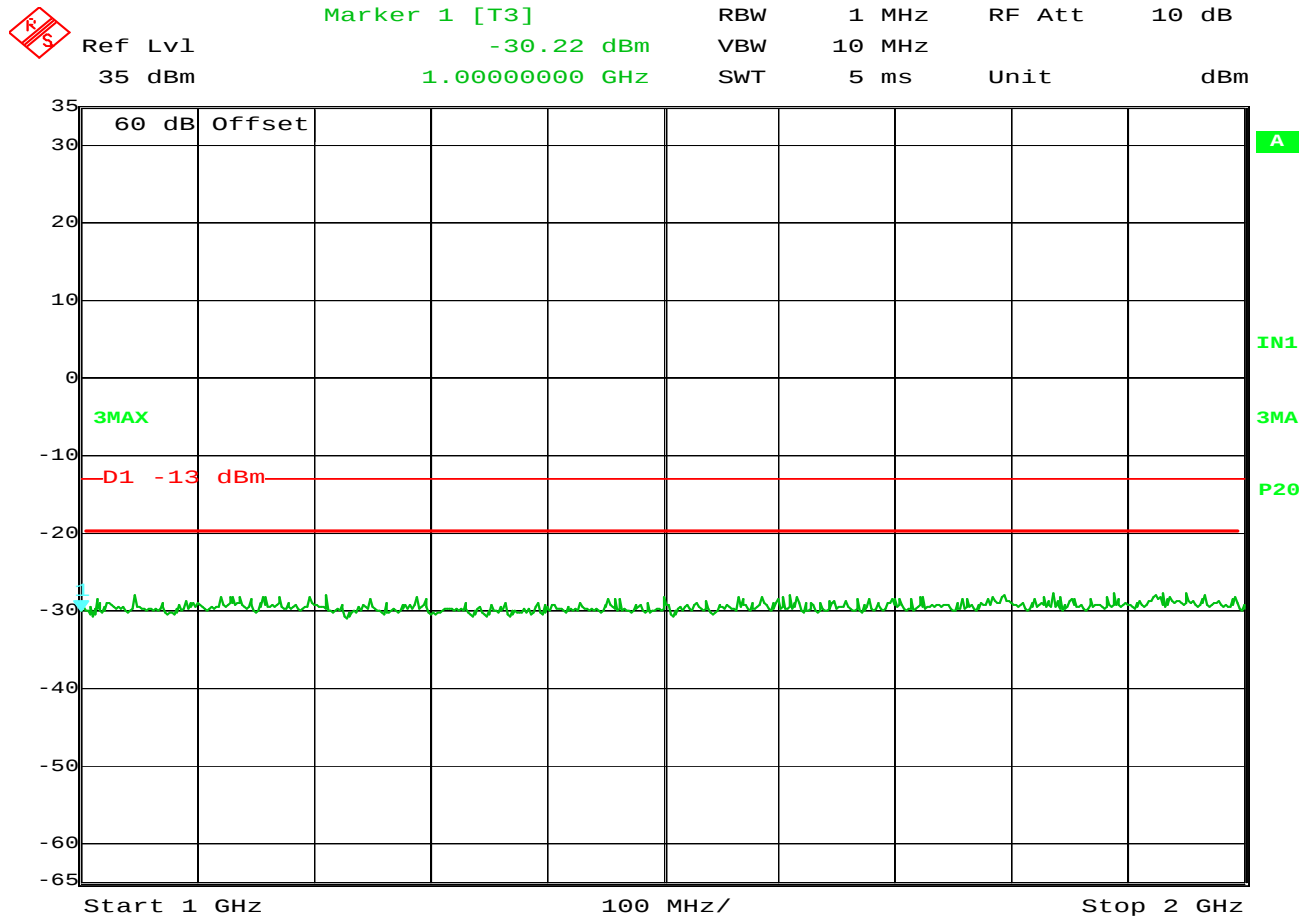
MANUFACTURER	: Motorola Inc.
TEST ITEM	: MOTOTRBO Repeater
MODEL NUMBER	: AAM27JQR9JA7AN
TEST MODE	: Transmit
FREQUENCY	: 150MHz
POWER LEVEL	: 25W
CHANNEL SPACING	: 25kHz
NOTES	:



Date: 7.MAR.2007 21:46:13

FCC 90 Antenna Conducted Emissions

MANUFACTURER	: Motorola Inc.
TEST ITEM	: MOTOTRBO Repeater
MODEL NUMBER	: AAM27JQR9JA7AN
TEST MODE	: Transmit
FREQUENCY	: 150MHz
POWER LEVEL	: 45W
CHANNEL SPACING	: 12.5kHz
NOTES	:
NOTES	:



Date: 7.MAR.2007 21:35:21

FCC 90 Antenna Conducted Emissions

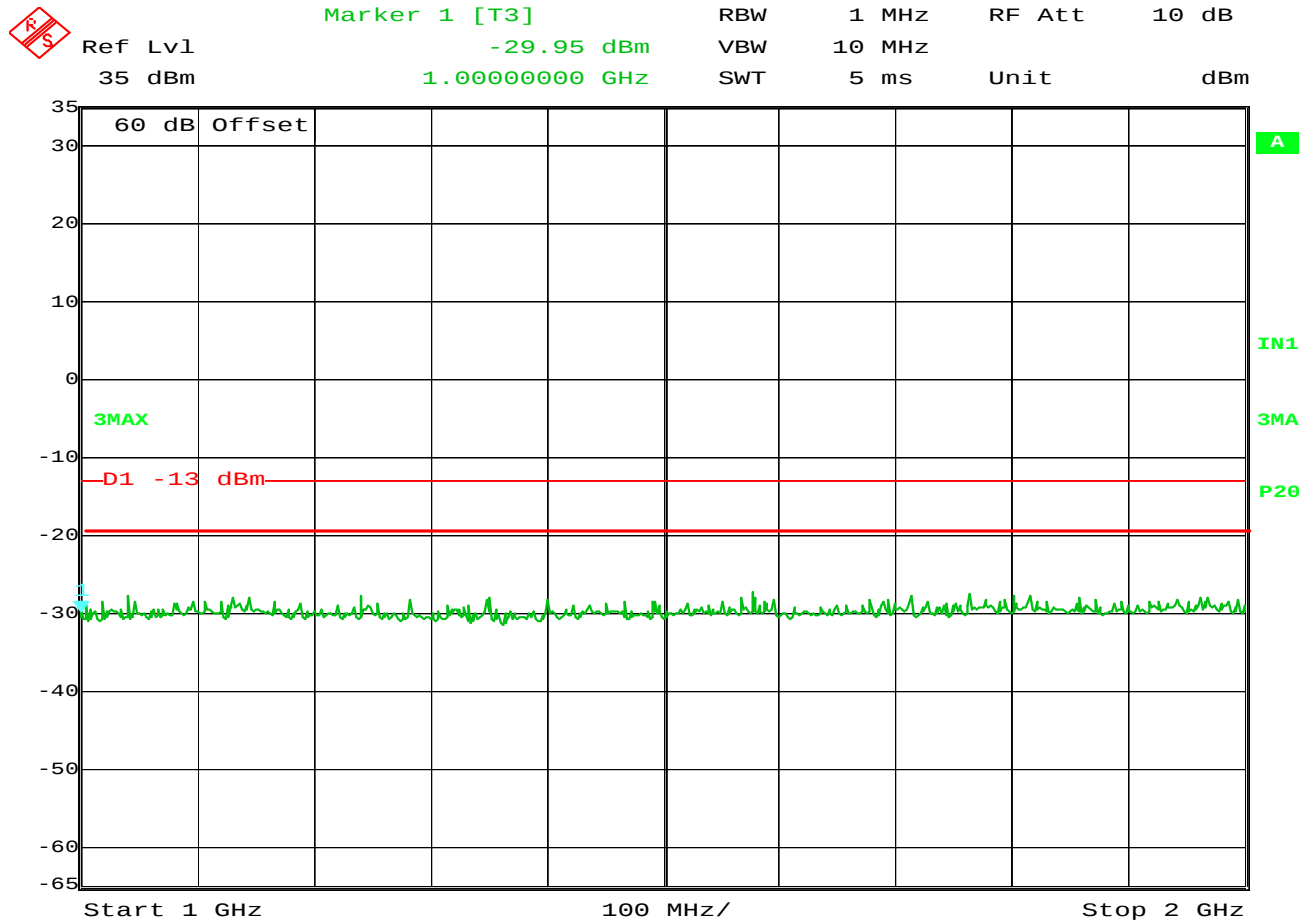
MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 150MHz
POWER LEVEL : 45W
CHANNEL SPACING : 12.5kHz
NOTES :



Date: 8.MAR.2007 15:23:34

FCC 90 Antenna Conducted Emissions

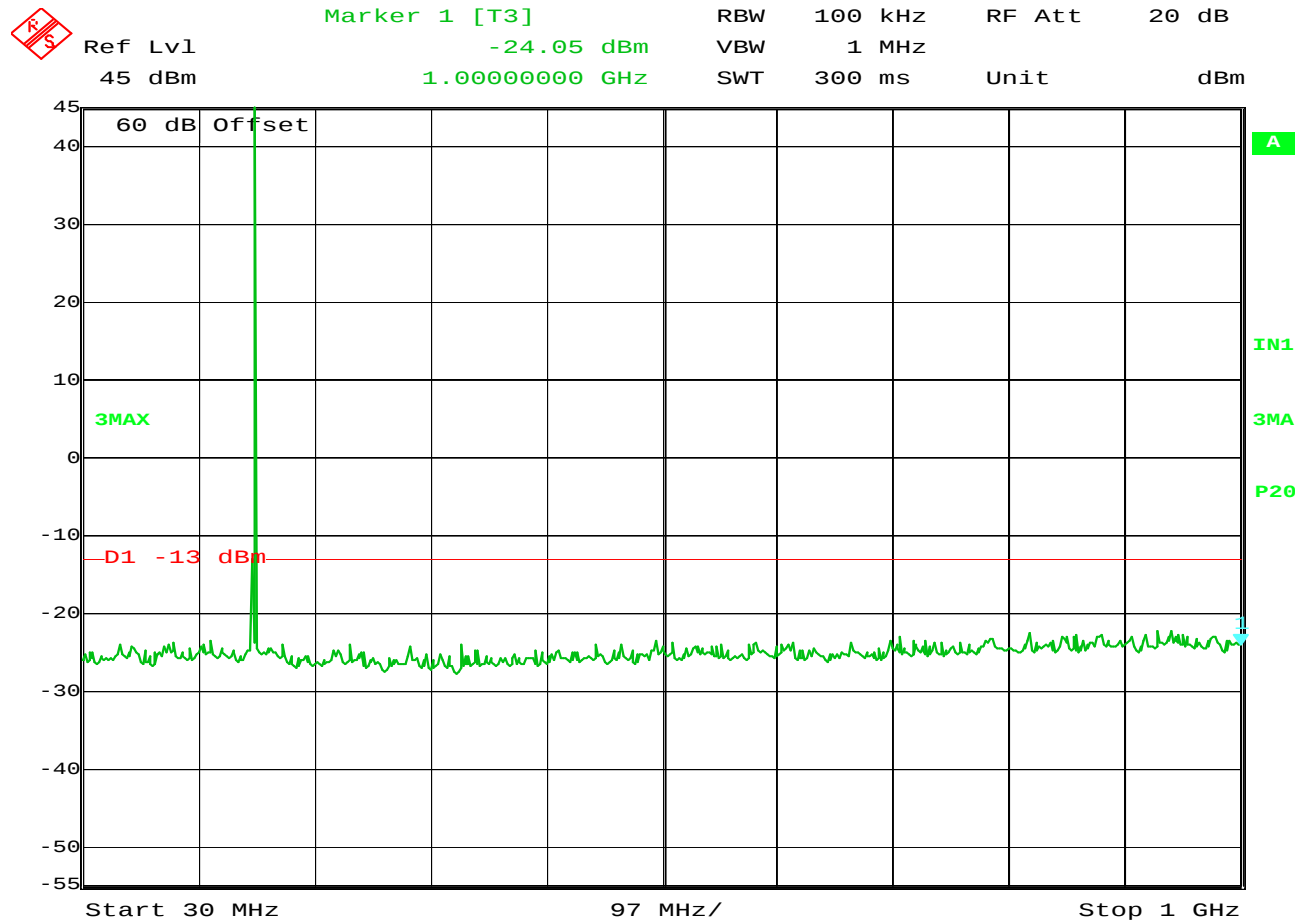
MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 150MHz
POWER LEVEL : 25W
CHANNEL SPACING : 12.5kHz
NOTES :



Date: 8.MAR.2007 15:21:21

FCC 90 Antenna Conducted Emissions

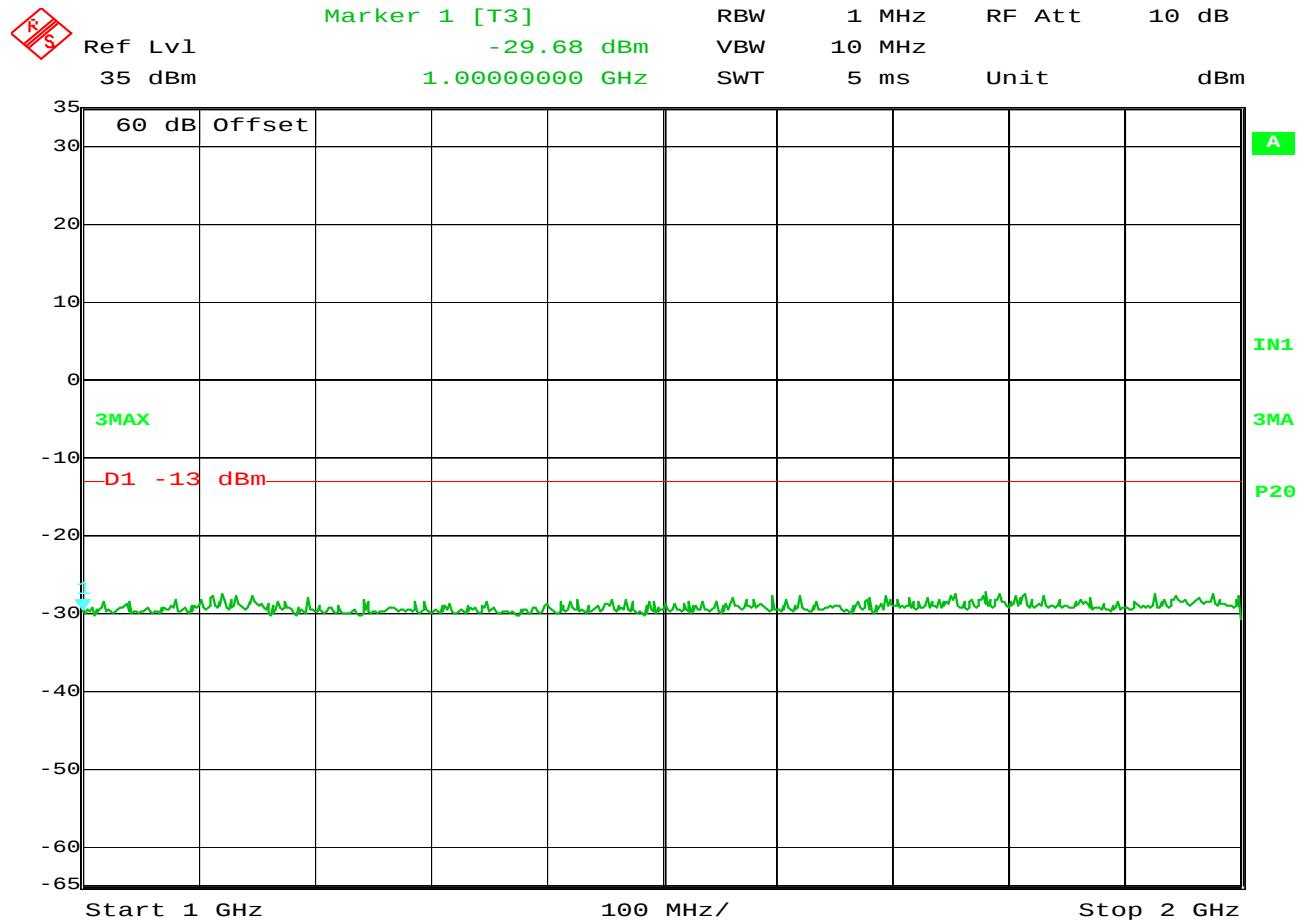
MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 150MHz
POWER LEVEL : 25W
CHANNEL SPACING : 12.5kHz
NOTES :



Date: 8.MAR.2007 15:45:29

FCC 90 Antenna Conducted Emissions

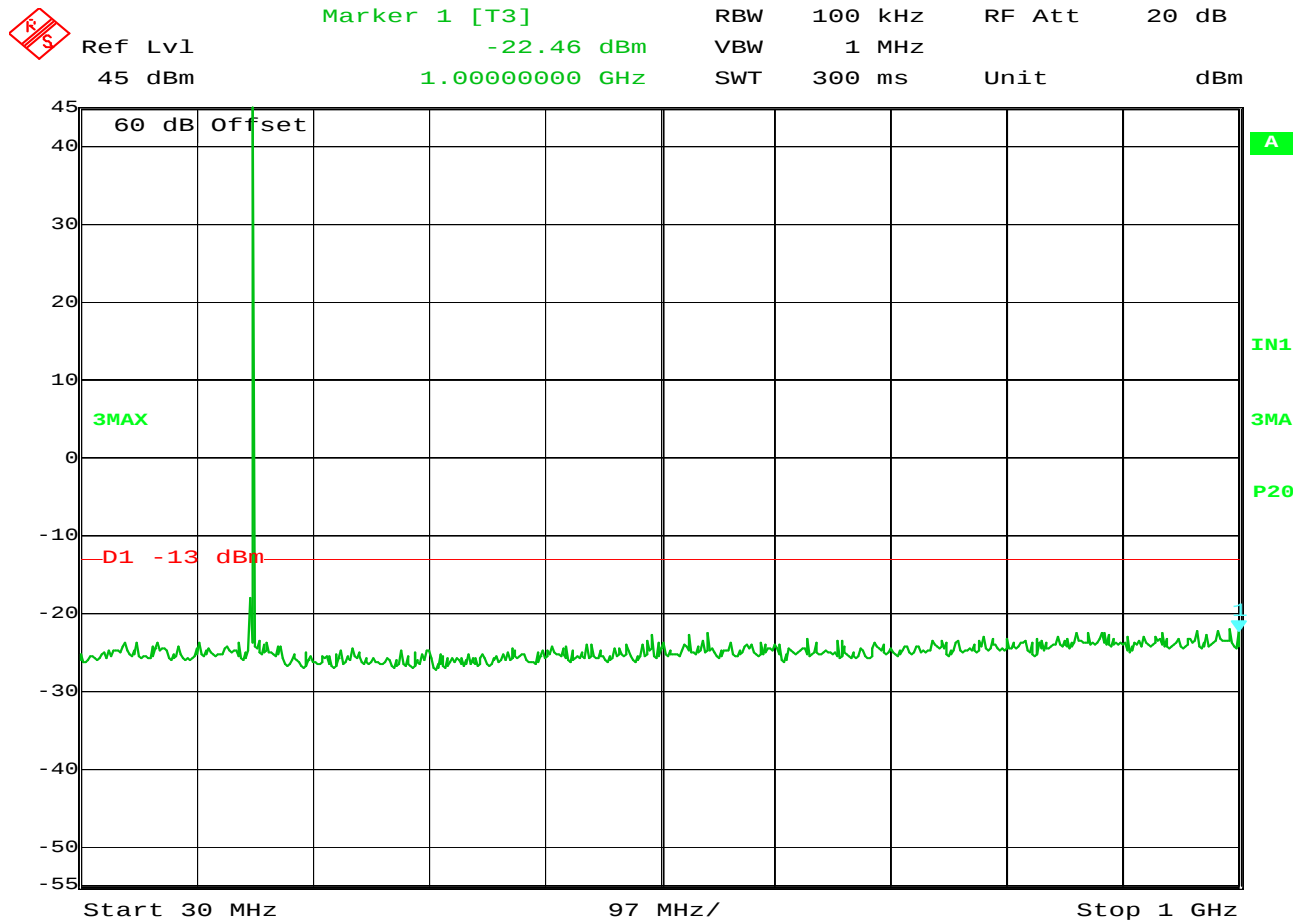
MANUFACTURER	: Motorola Inc.
TEST ITEM	: MOTOTRBO Repeater
MODEL NUMBER	: AAM27JQR9JA7AN
TEST MODE	: Transmit
FREQUENCY	: 174MHz
POWER LEVEL	: 45W
CHANNEL SPACING	: 25kHz
NOTES	:



Date: 8.MAR.2007 15:47:05

FCC 90 Antenna Conducted Emissions

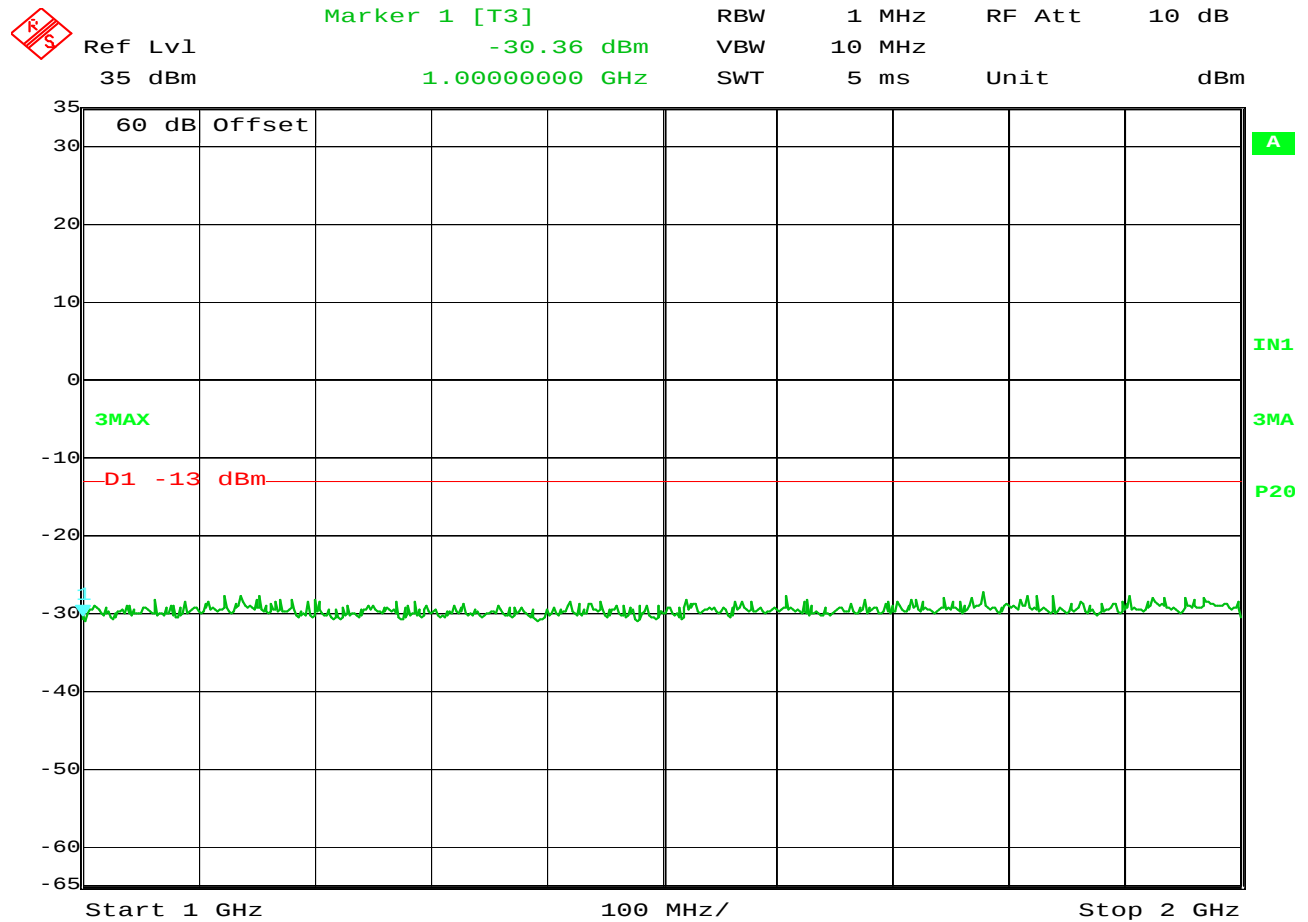
MANUFACTURER	: Motorola Inc.
TEST ITEM	: MOTOTRBO Repeater
MODEL NUMBER	: AAM27JQR9JA7AN
TEST MODE	: Transmit
FREQUENCY	: 174MHz
POWER LEVEL	: 45W
CHANNEL SPACING	: 25kHz
NOTES	:



Date: 8.MAR.2007 15:34:05

FCC 90 Antenna Conducted Emissions

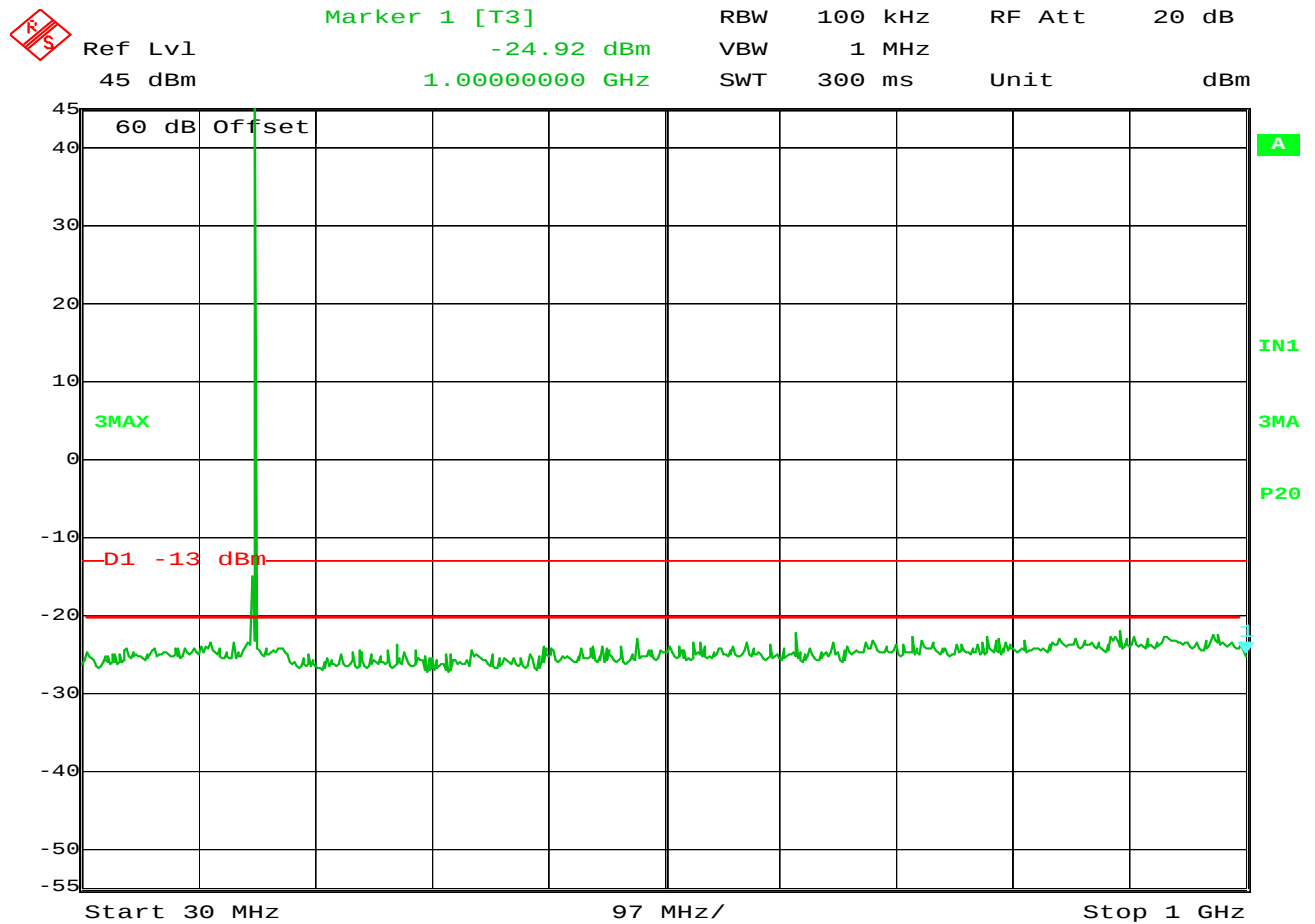
MANUFACTURER	: Motorola Inc.
TEST ITEM	: MOTOTRBO Repeater
MODEL NUMBER	: AAM27JQR9JA7AN
TEST MODE	: Transmit
FREQUENCY	: 174MHz
POWER LEVEL	: 25W
CHANNEL SPACING	: 25kHz
NOTES	:



Date: 8.MAR.2007 15:32:30

FCC 90 Antenna Conducted Emissions

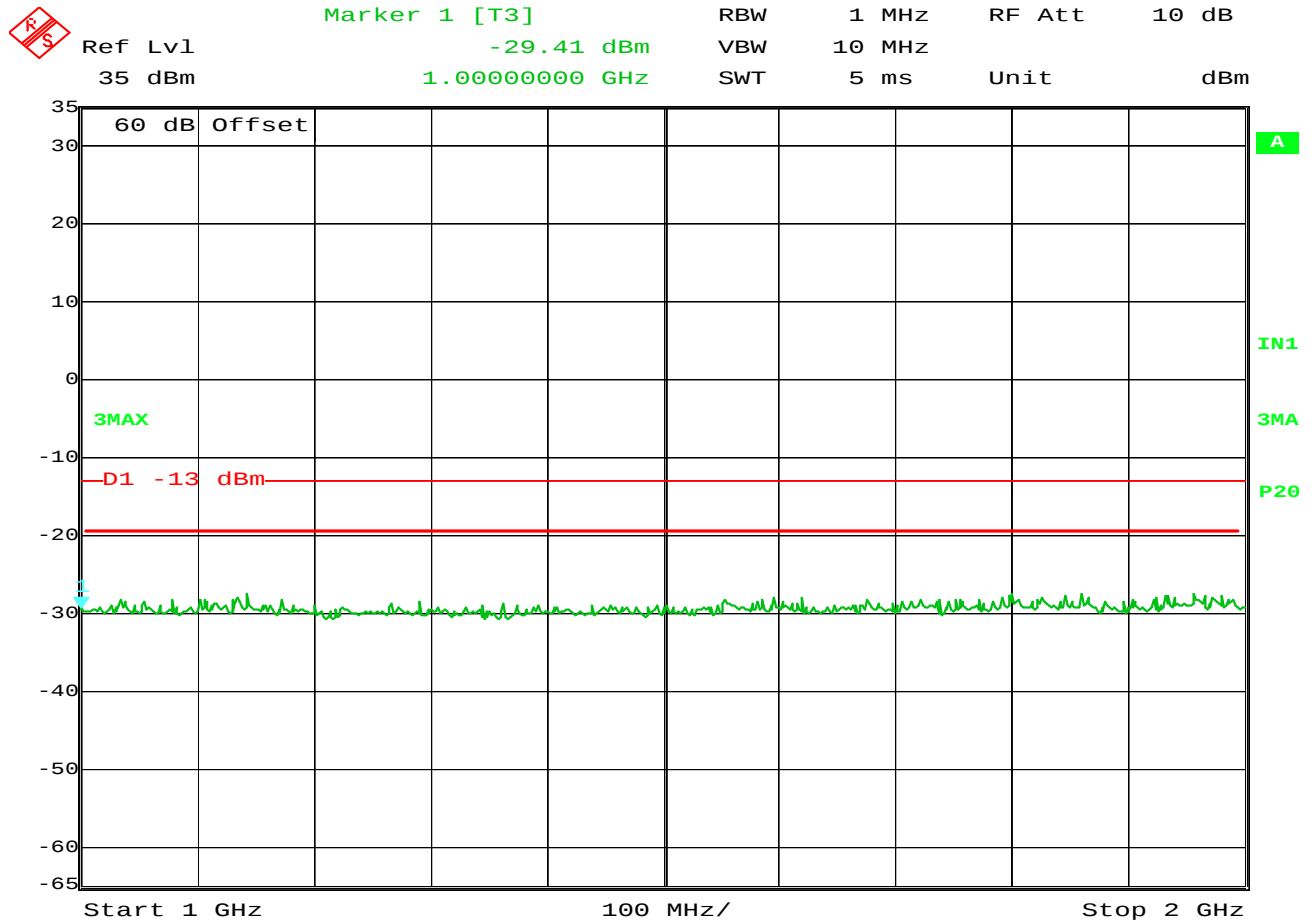
MANUFACTURER	: Motorola Inc.
TEST ITEM	: MOTOTRBO Repeater
MODEL NUMBER	: AAM27JQR9JA7AN
TEST MODE	: Transmit
FREQUENCY	: 174MHz
POWER LEVEL	: 25W
CHANNEL SPACING	: 25kHz
NOTES	:



Date: 8.MAR.2007 15:51:27

FCC 90 Antenna Conducted Emissions

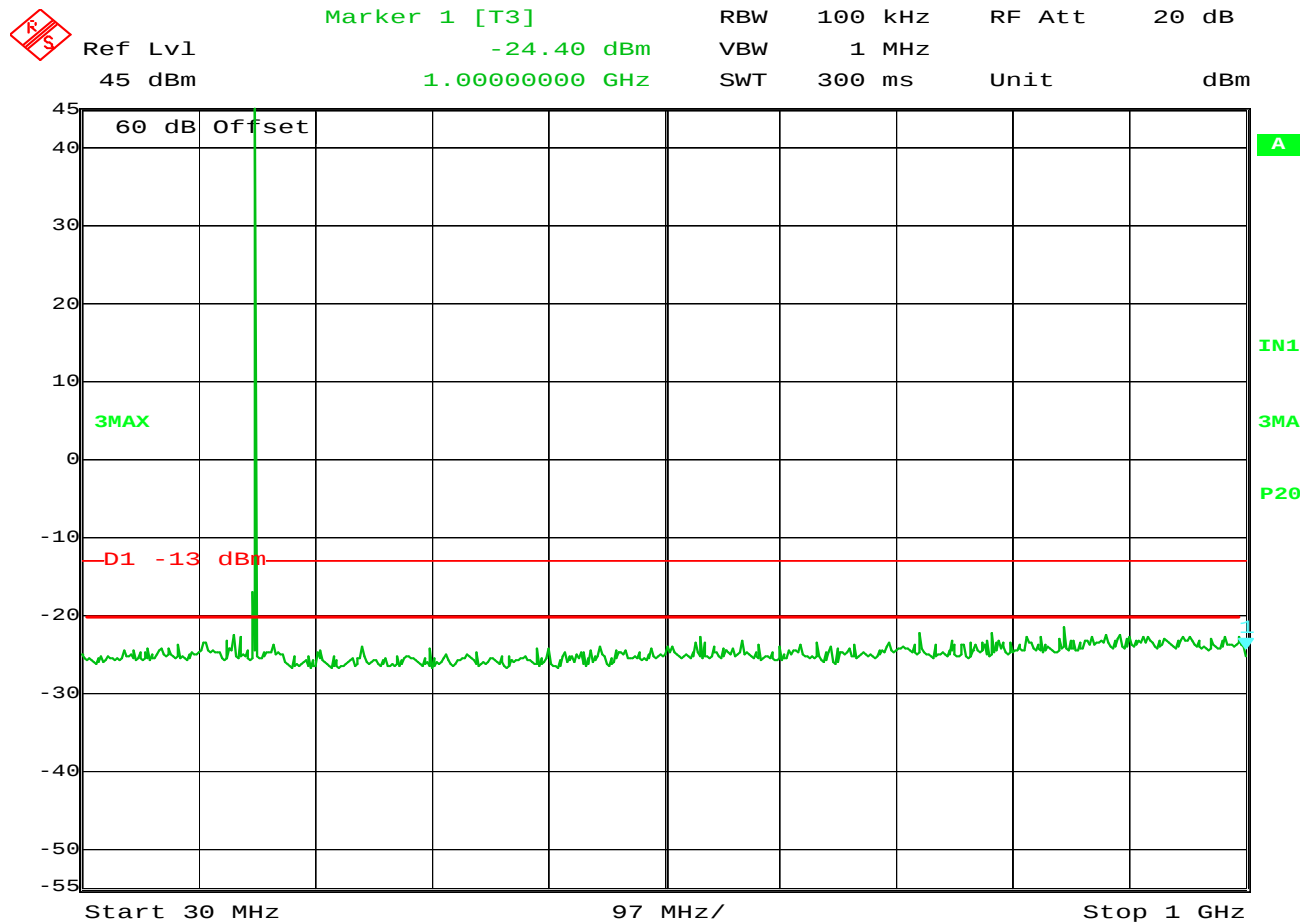
MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 174MHz
POWER LEVEL : 45W
CHANNEL SPACING : 12.5kHz
NOTES :



Date: 8.MAR.2007 15:50:02

FCC 90 Antenna Conducted Emissions

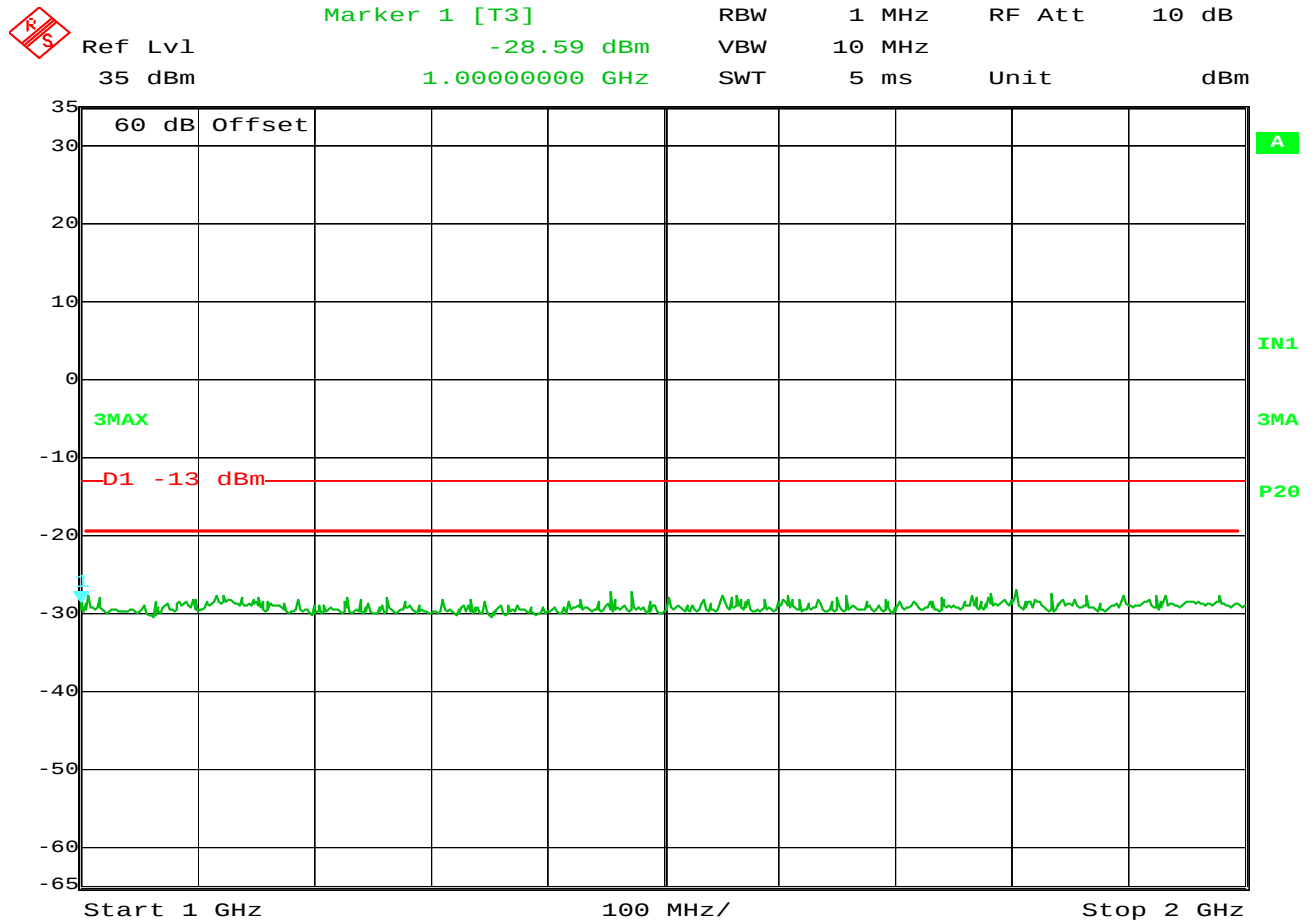
MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 174MHz
POWER LEVEL : 45W
CHANNEL SPACING : 12.5kHz
NOTES :



Date: 8.MAR.2007 15:26:29

FCC 90 Antenna Conducted Emissions

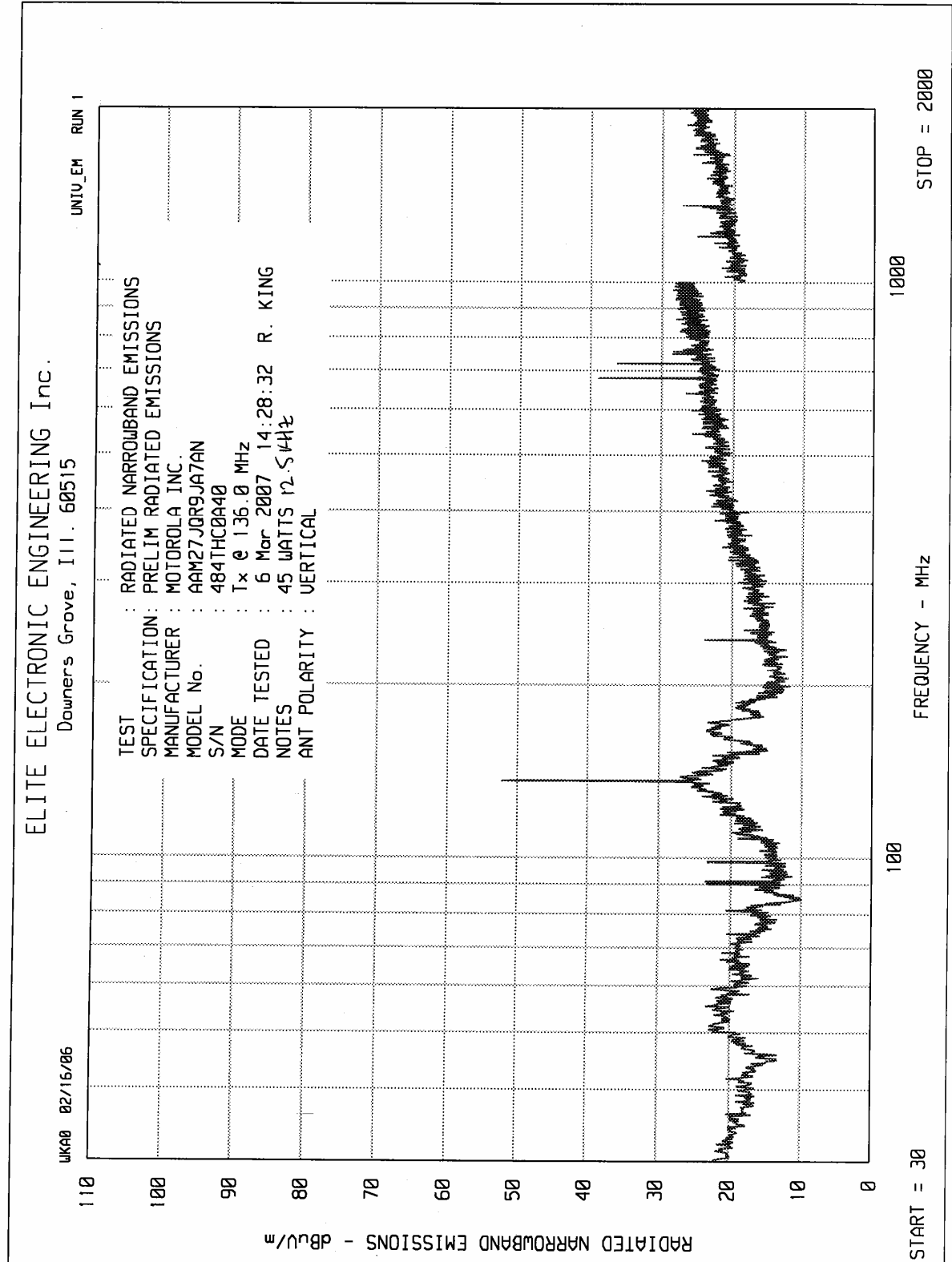
MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 174MHz
POWER LEVEL : 25W
CHANNEL SPACING : 12.5kHz
NOTES :

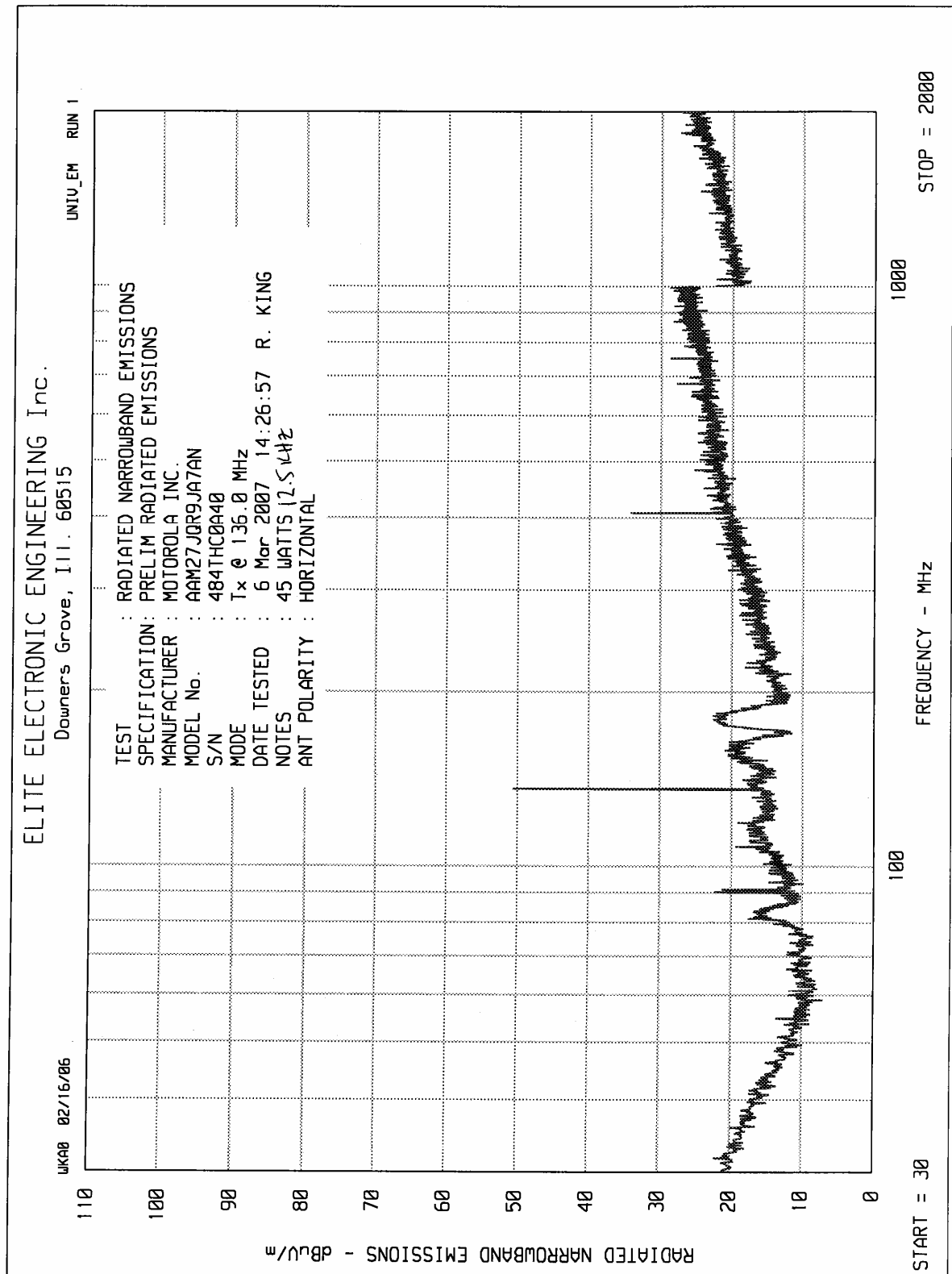


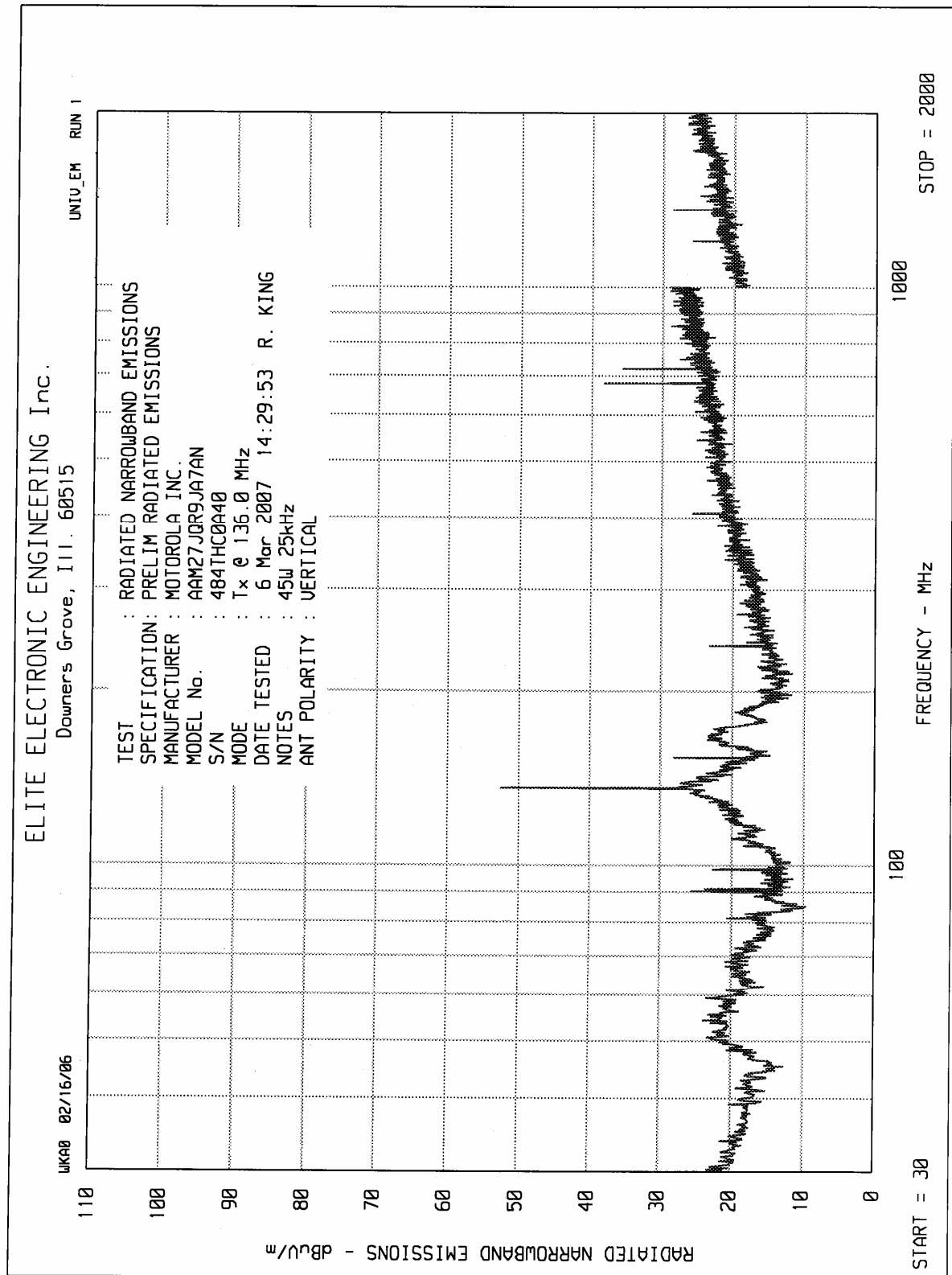
Date: 8.MAR.2007 15:28:06

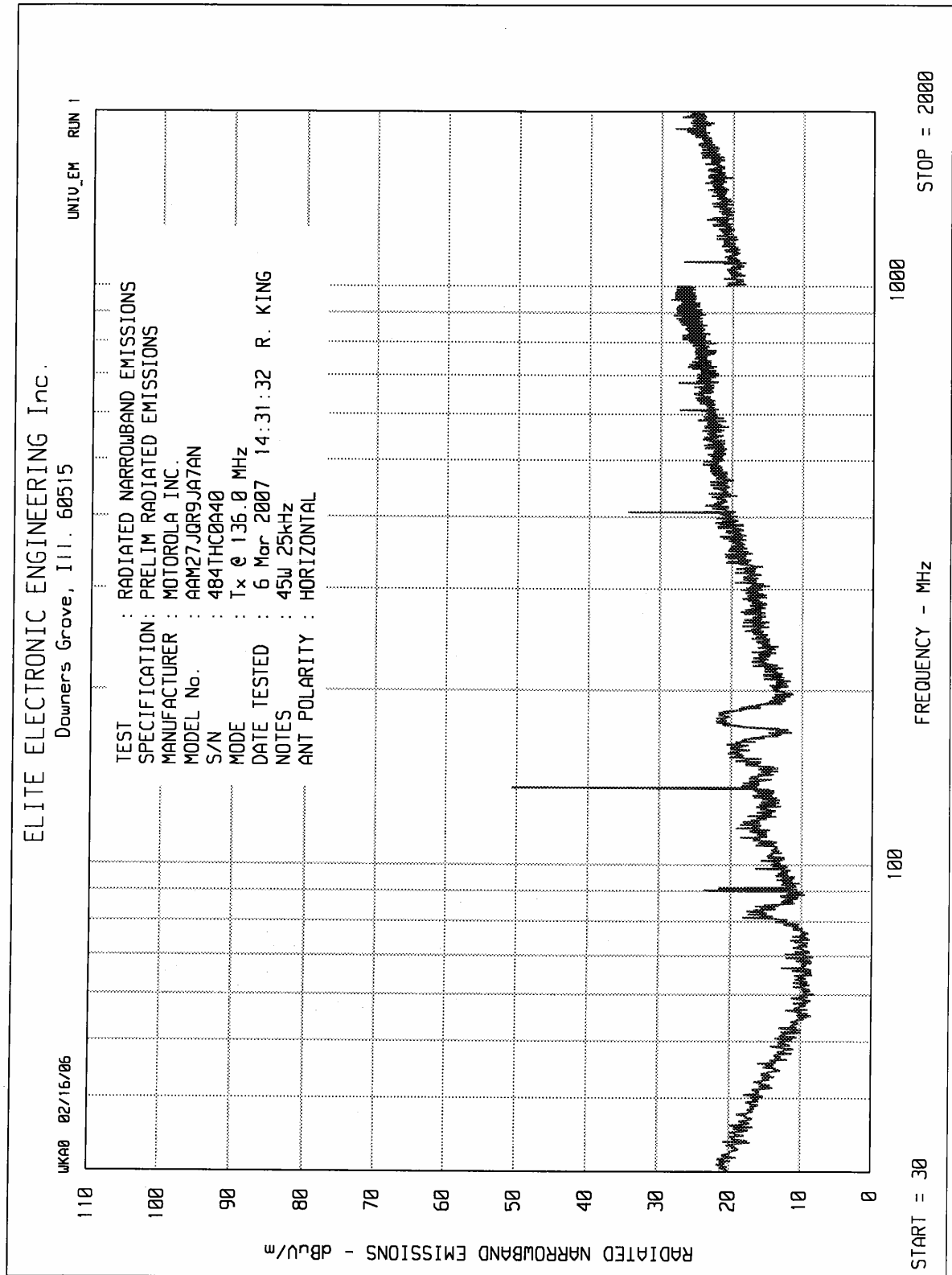
FCC 90 Antenna Conducted Emissions

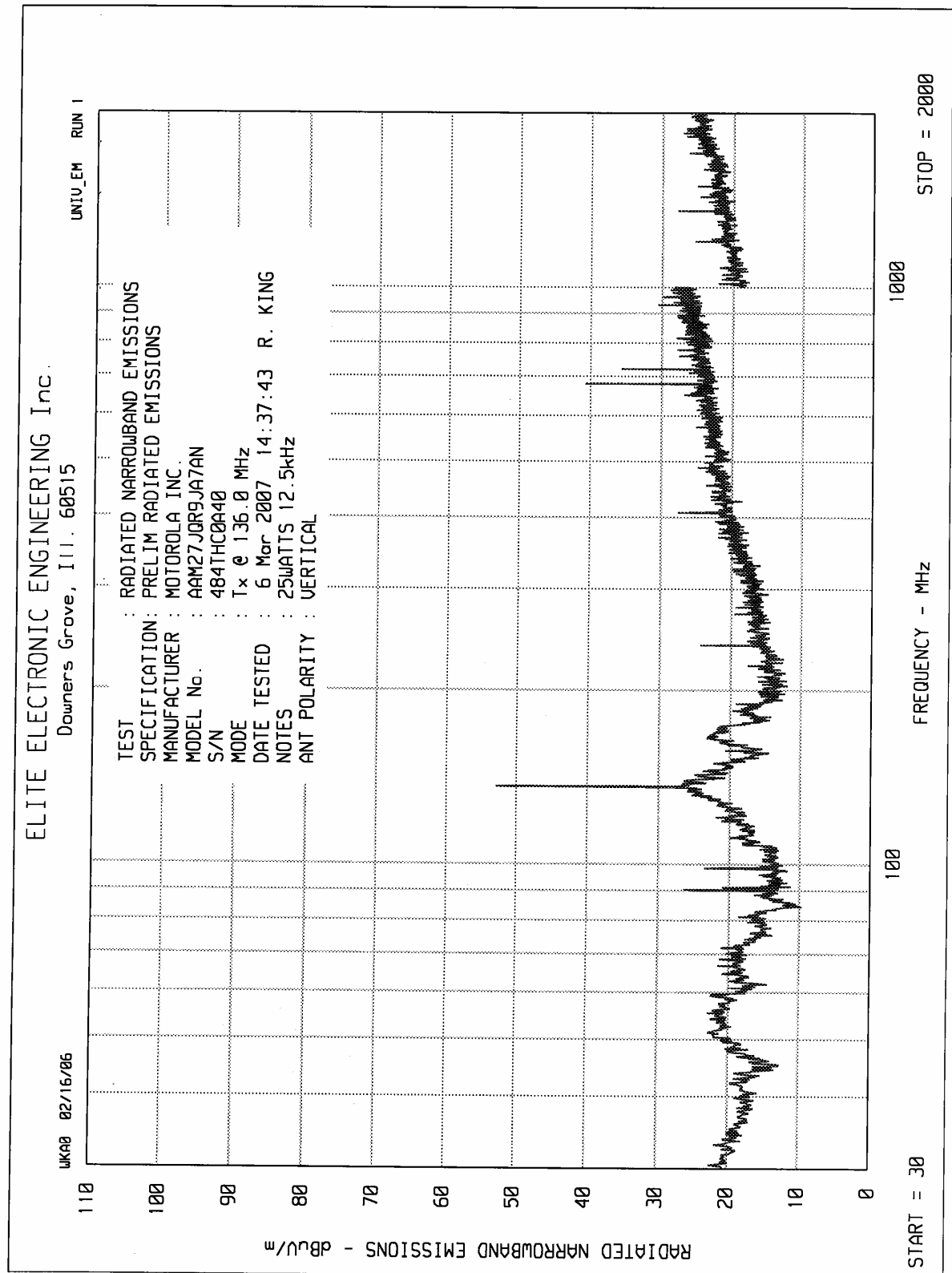
MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 174MHz
POWER LEVEL : 25W
CHANNEL SPACING : 12.5kHz
NOTES :

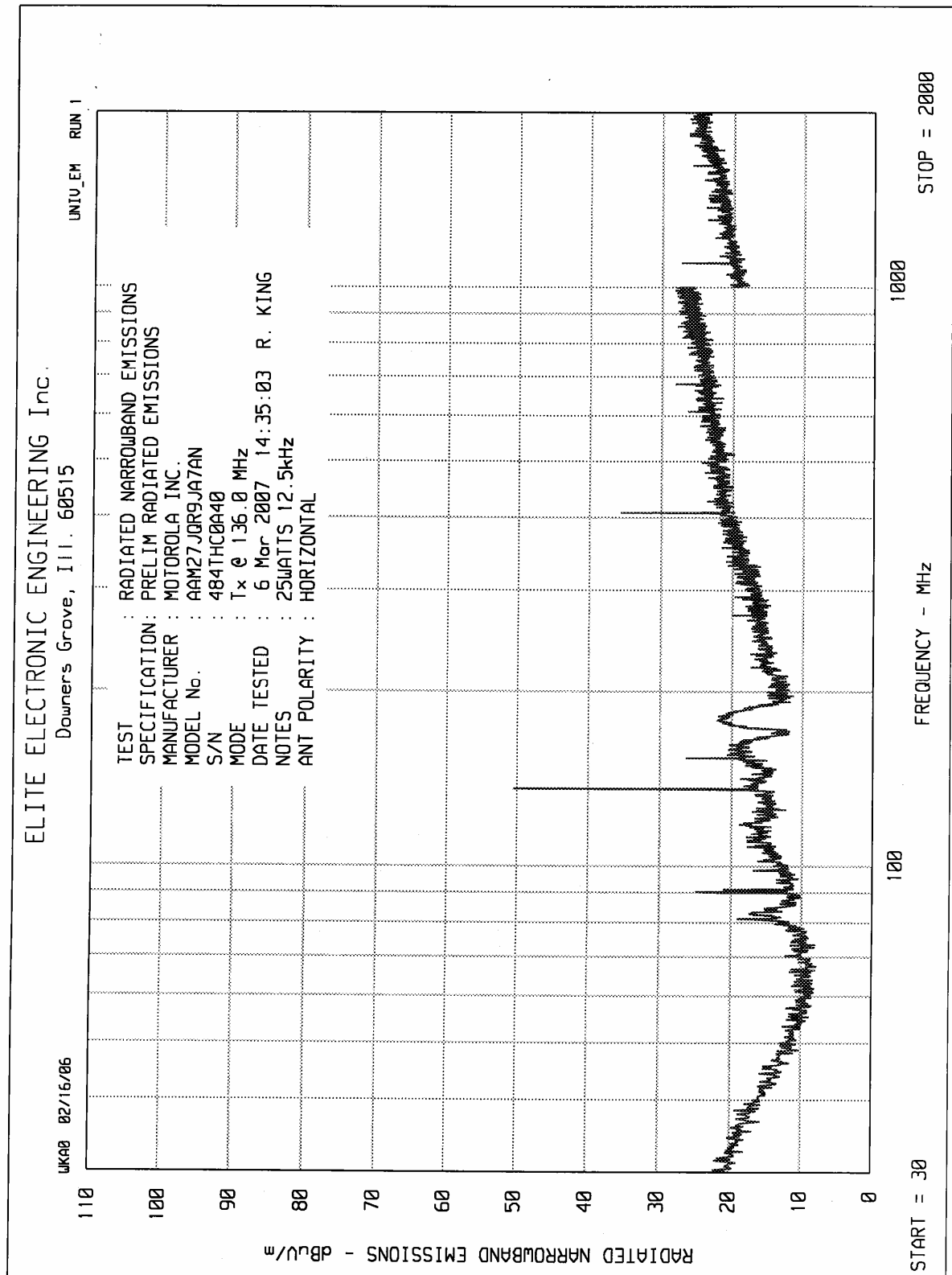


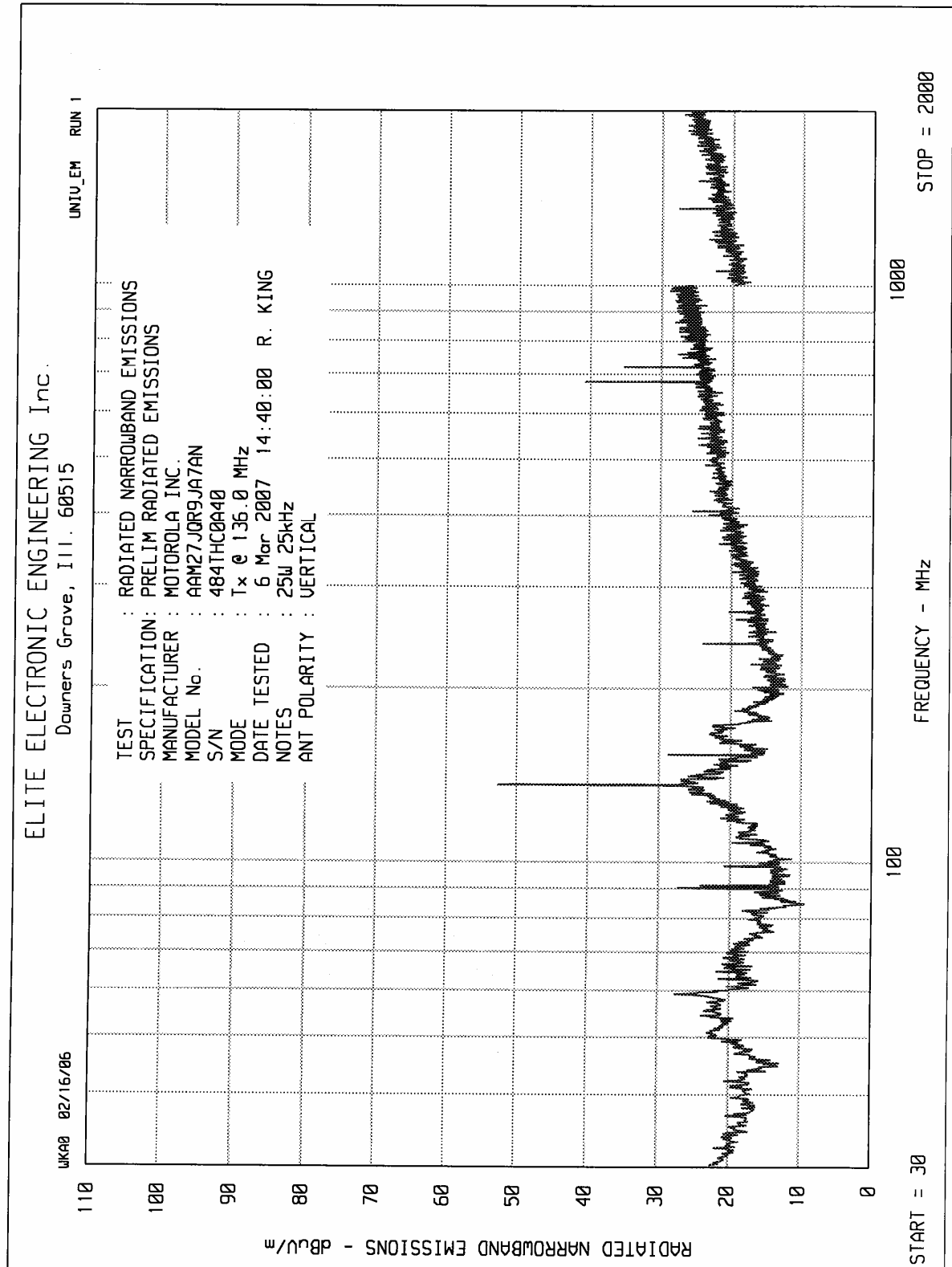


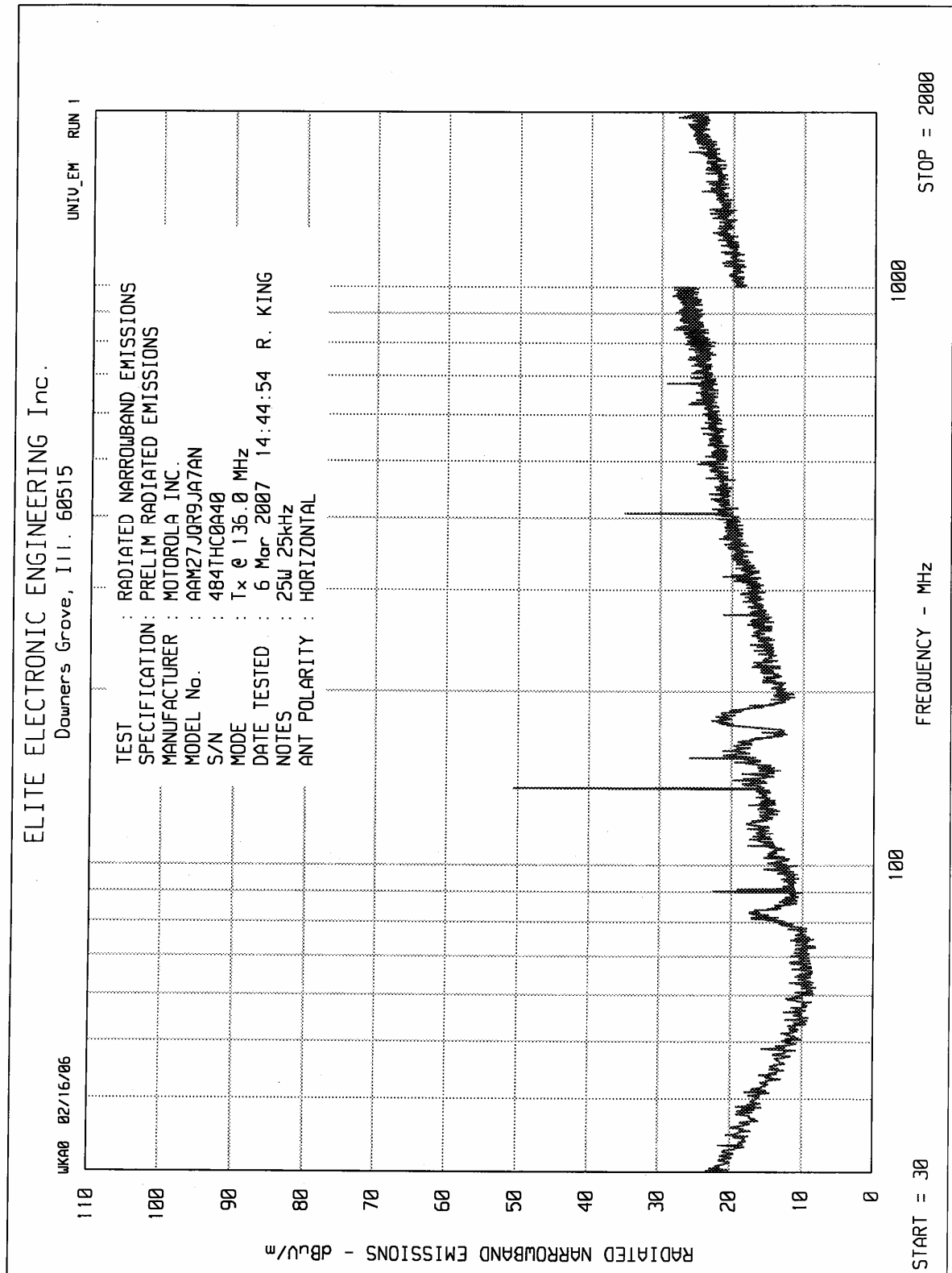


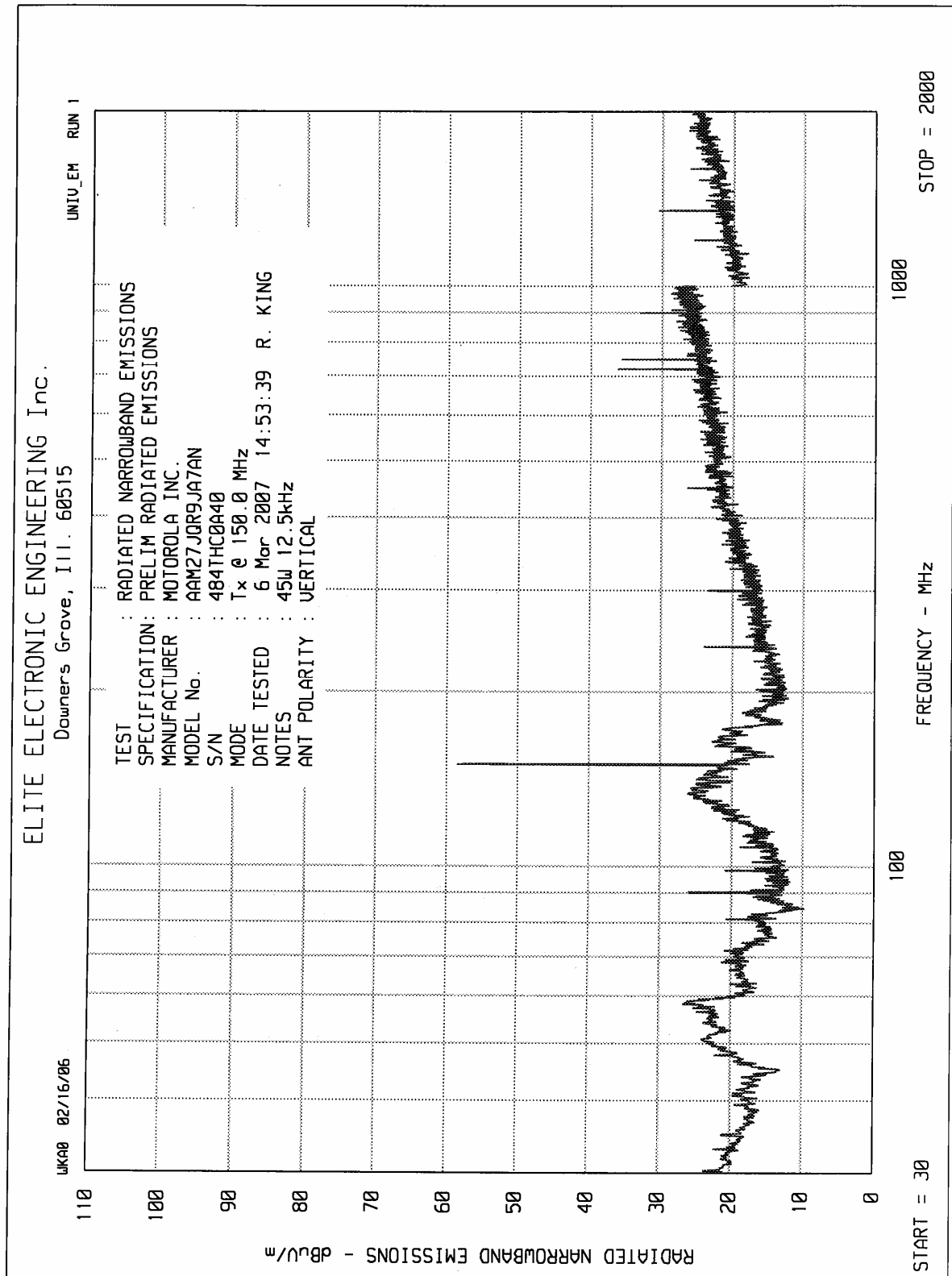


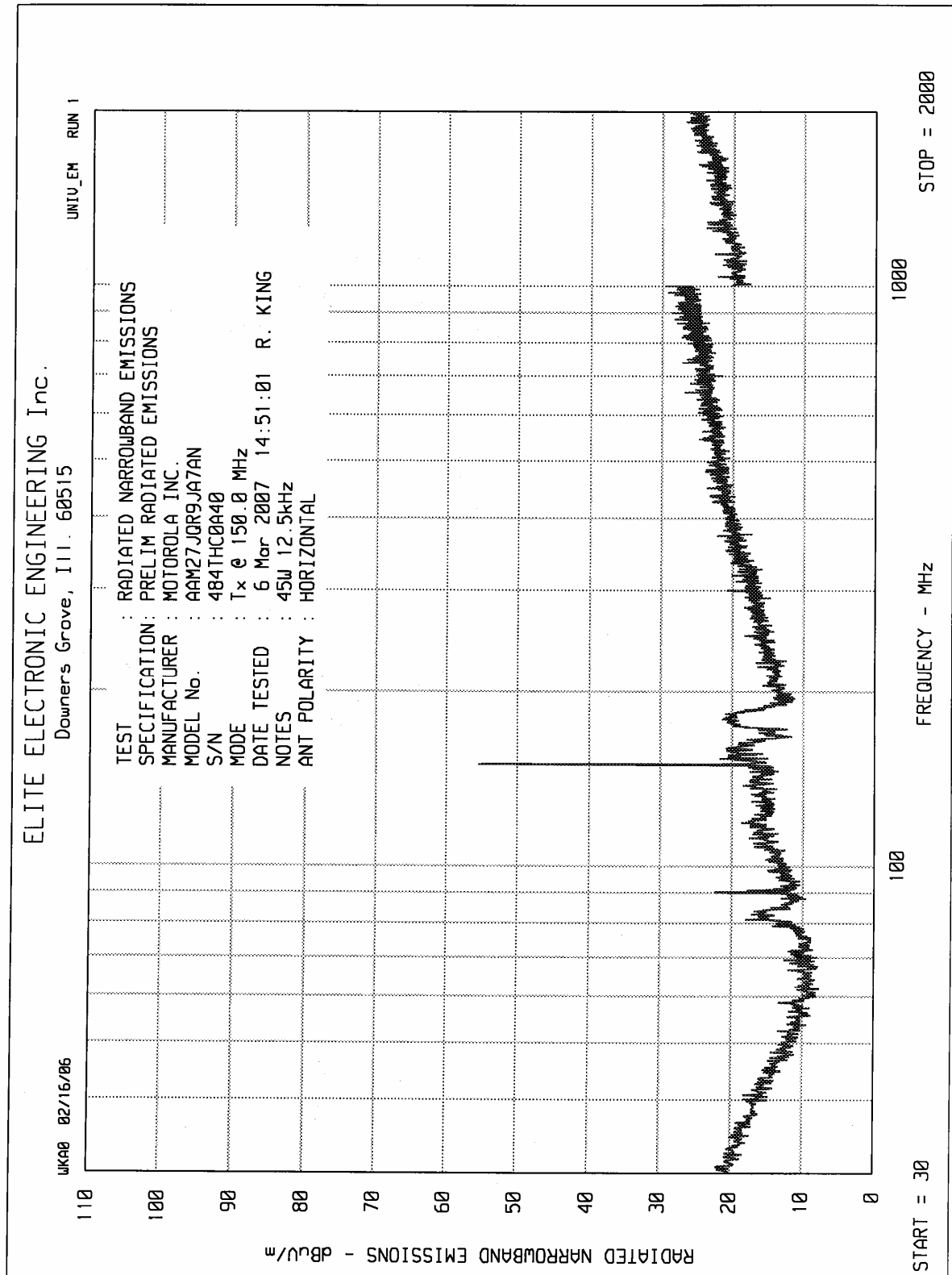


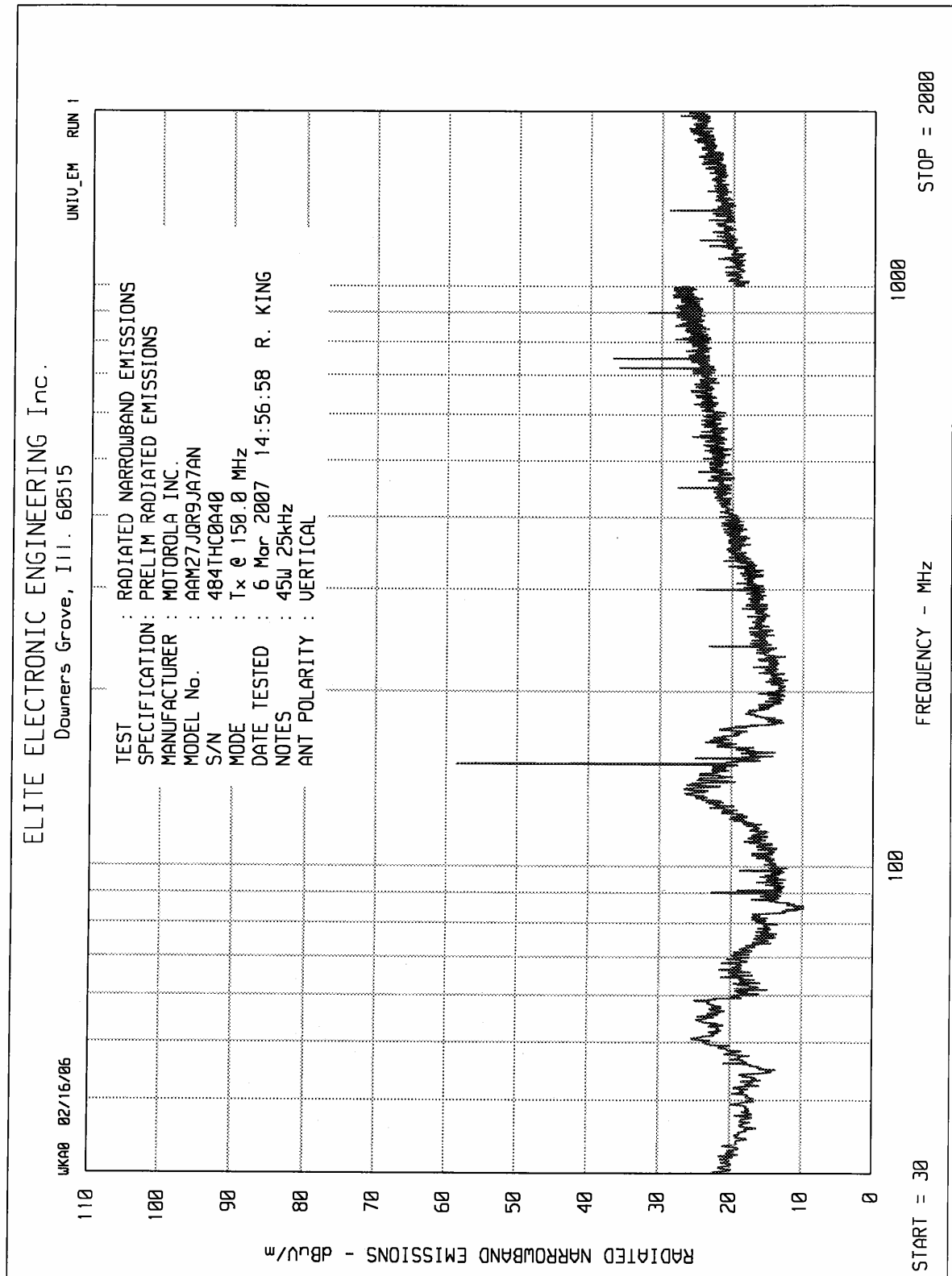


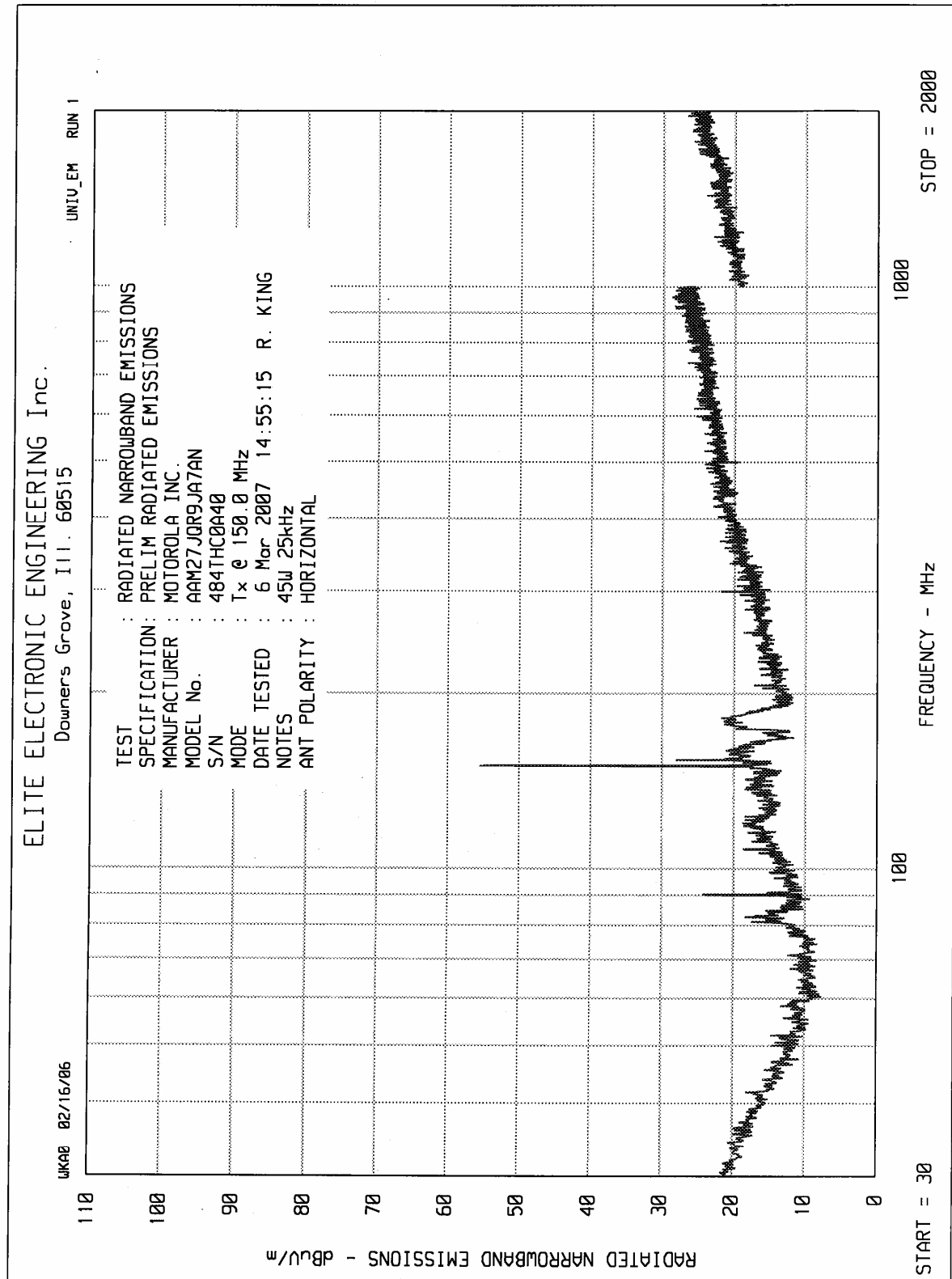


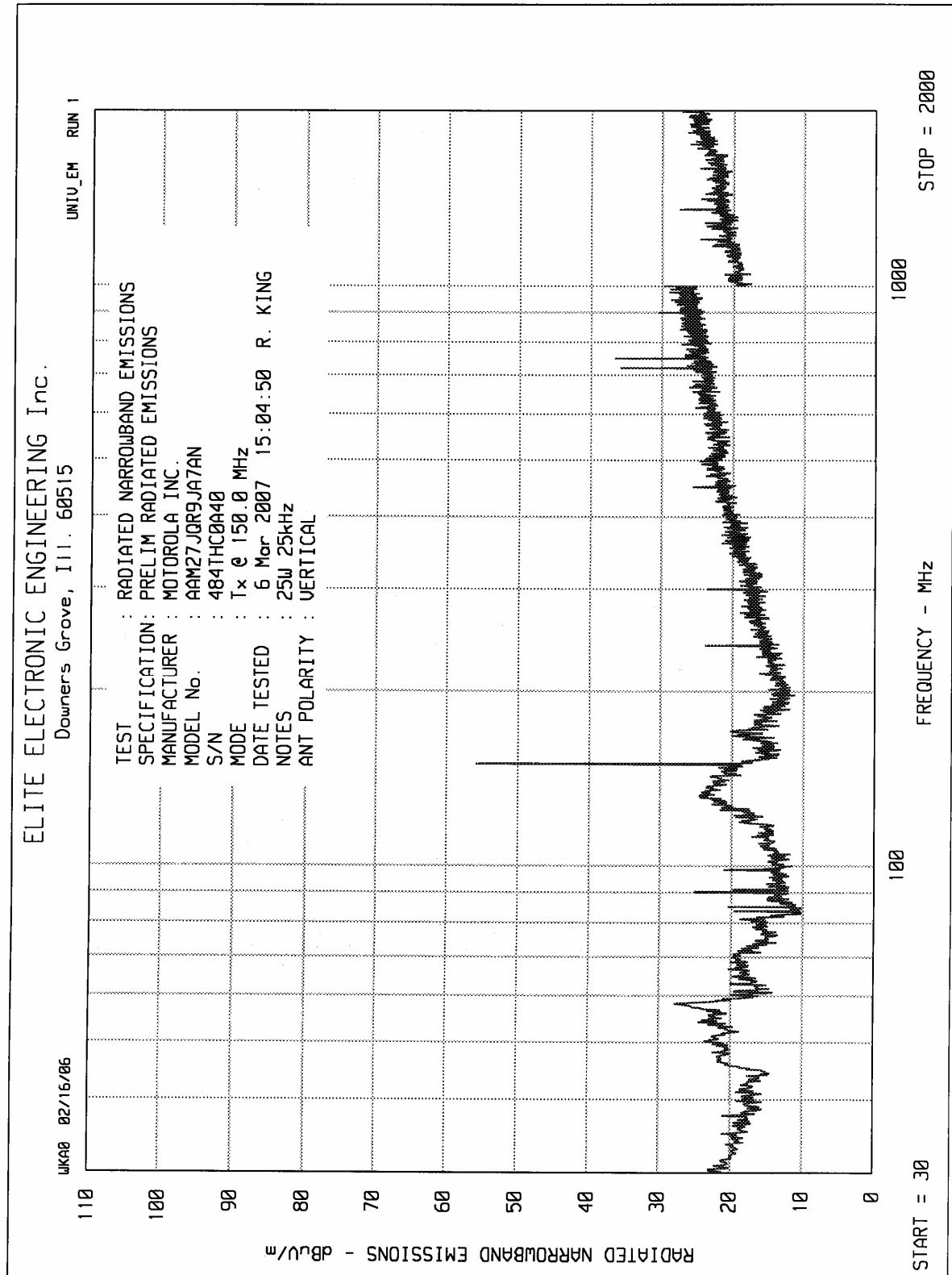


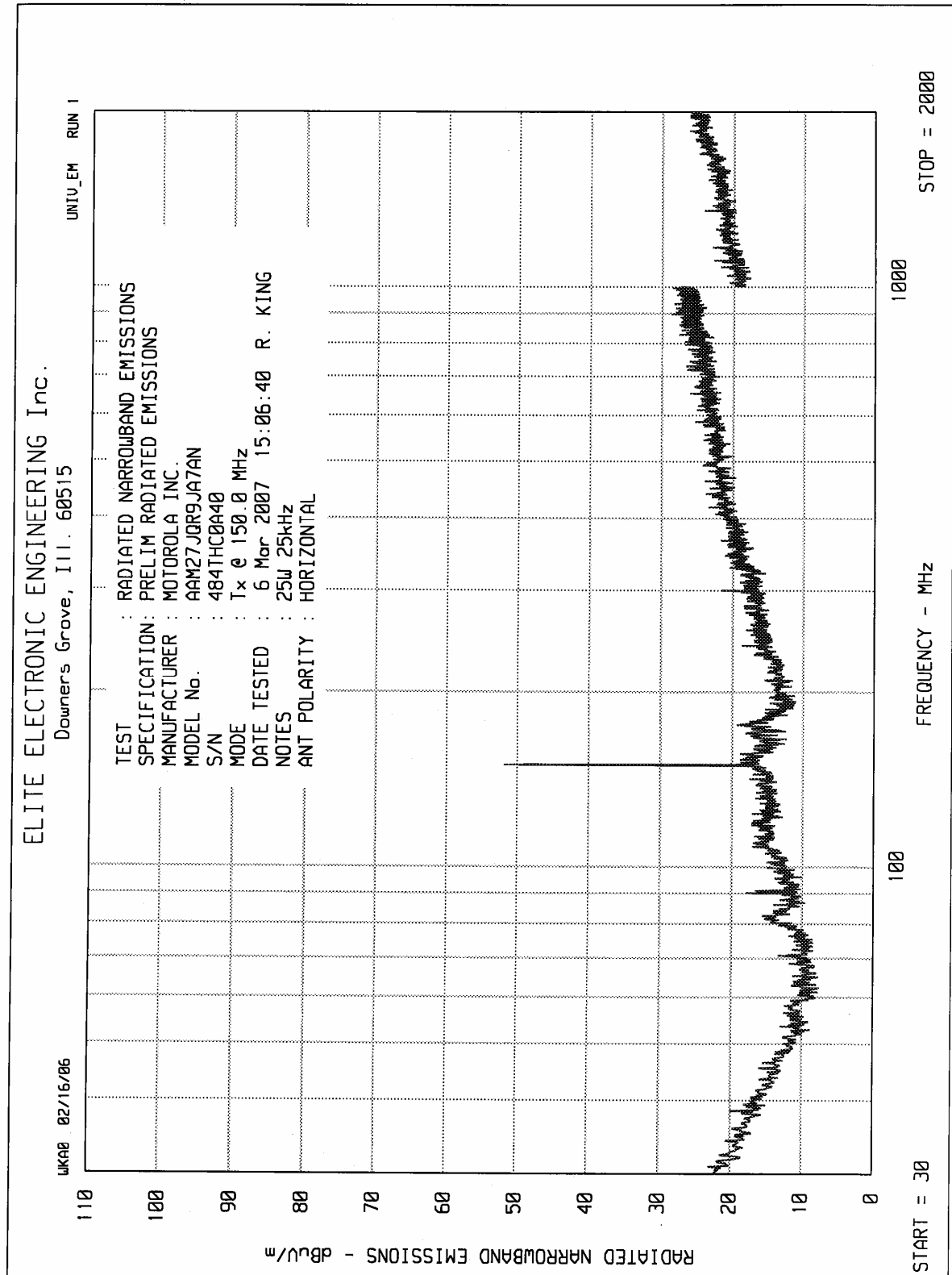


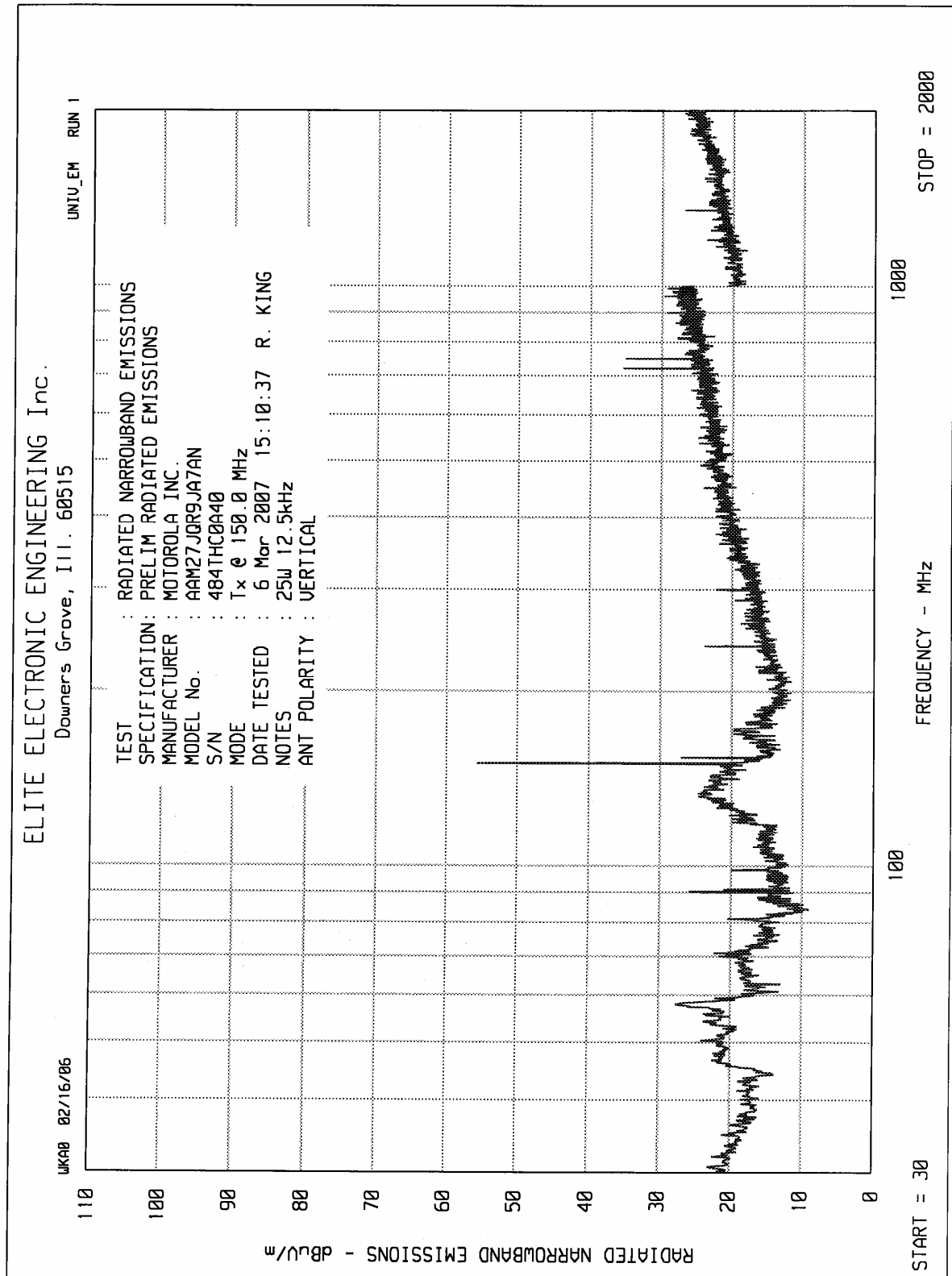


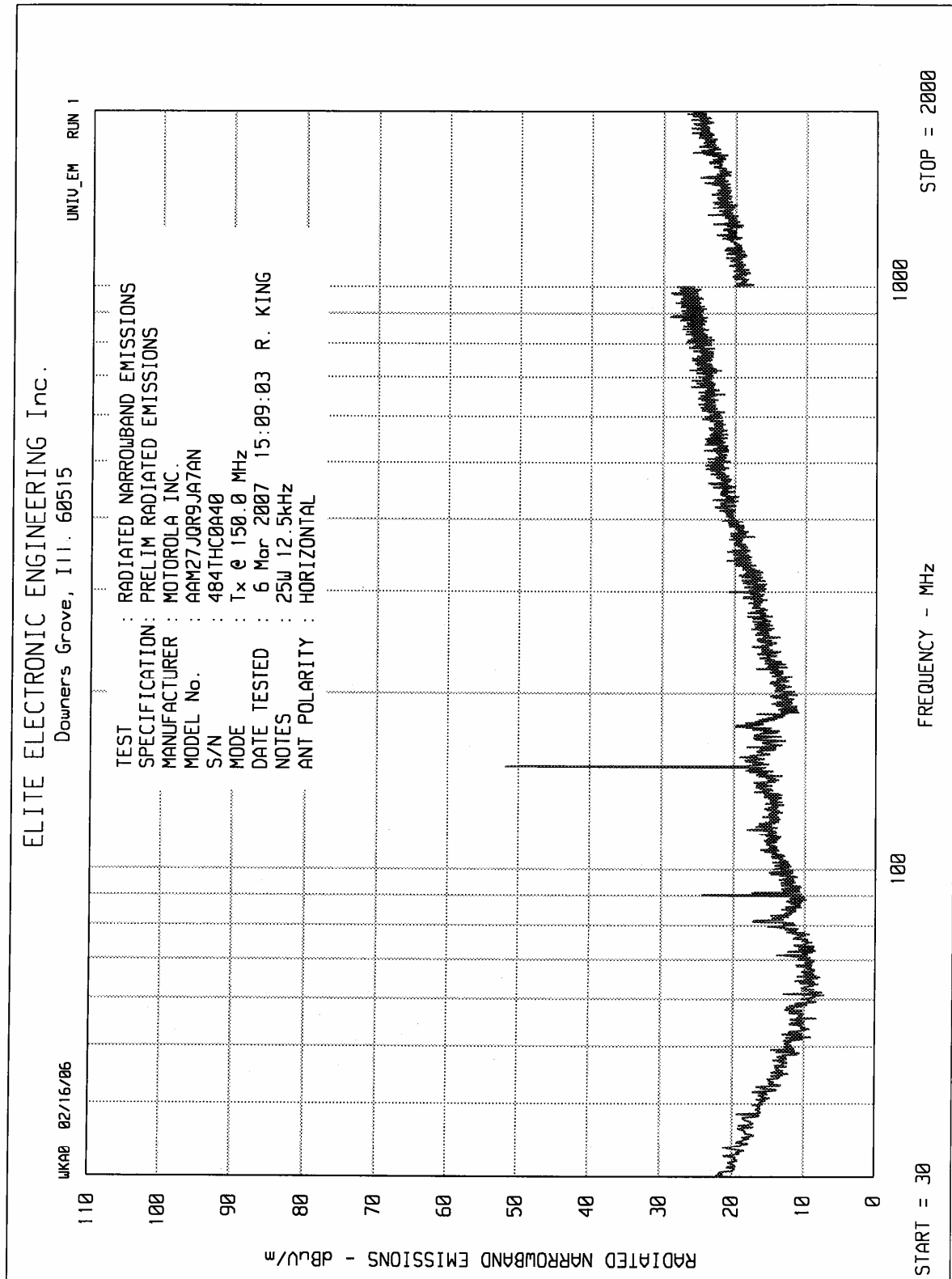


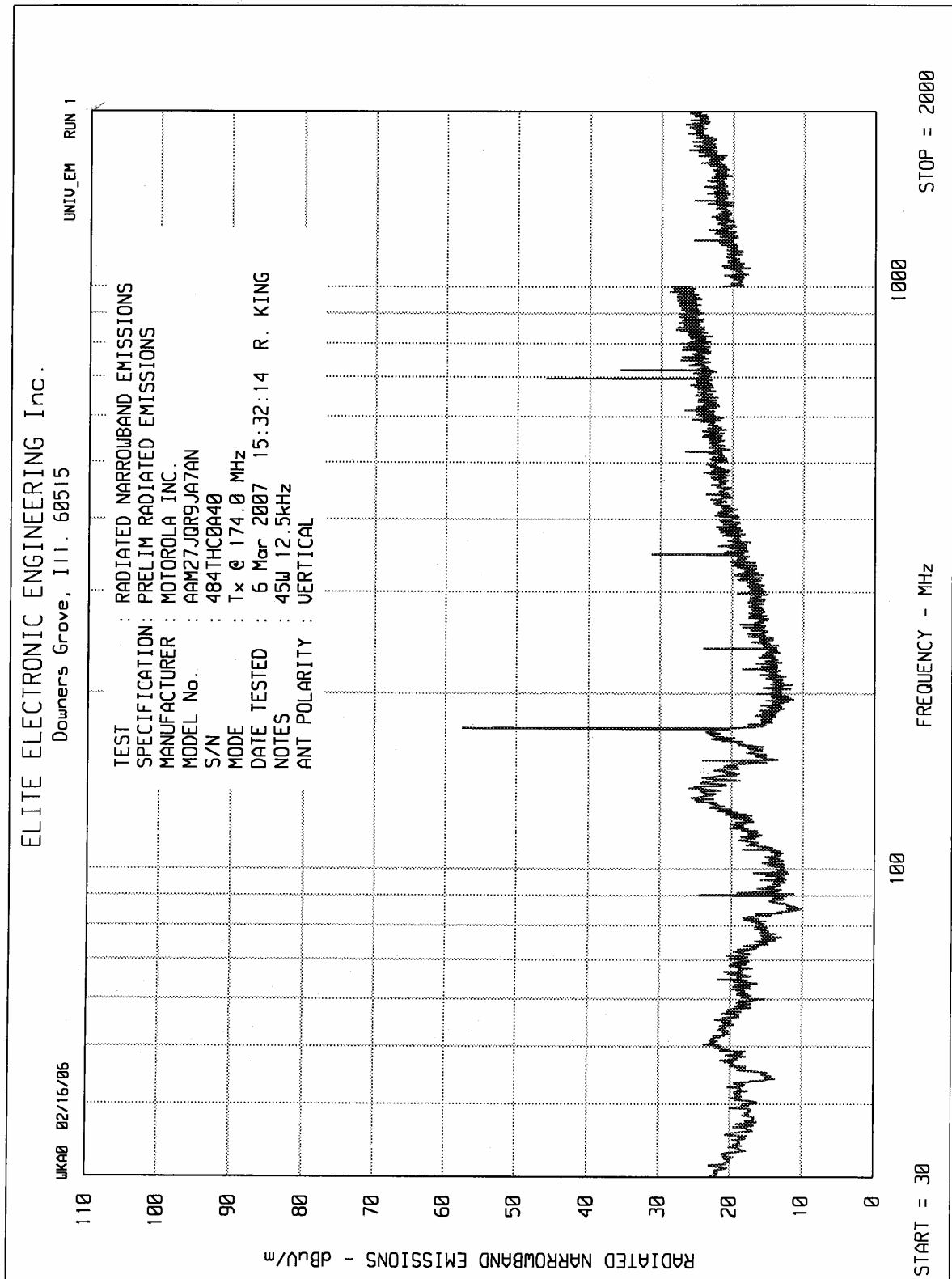


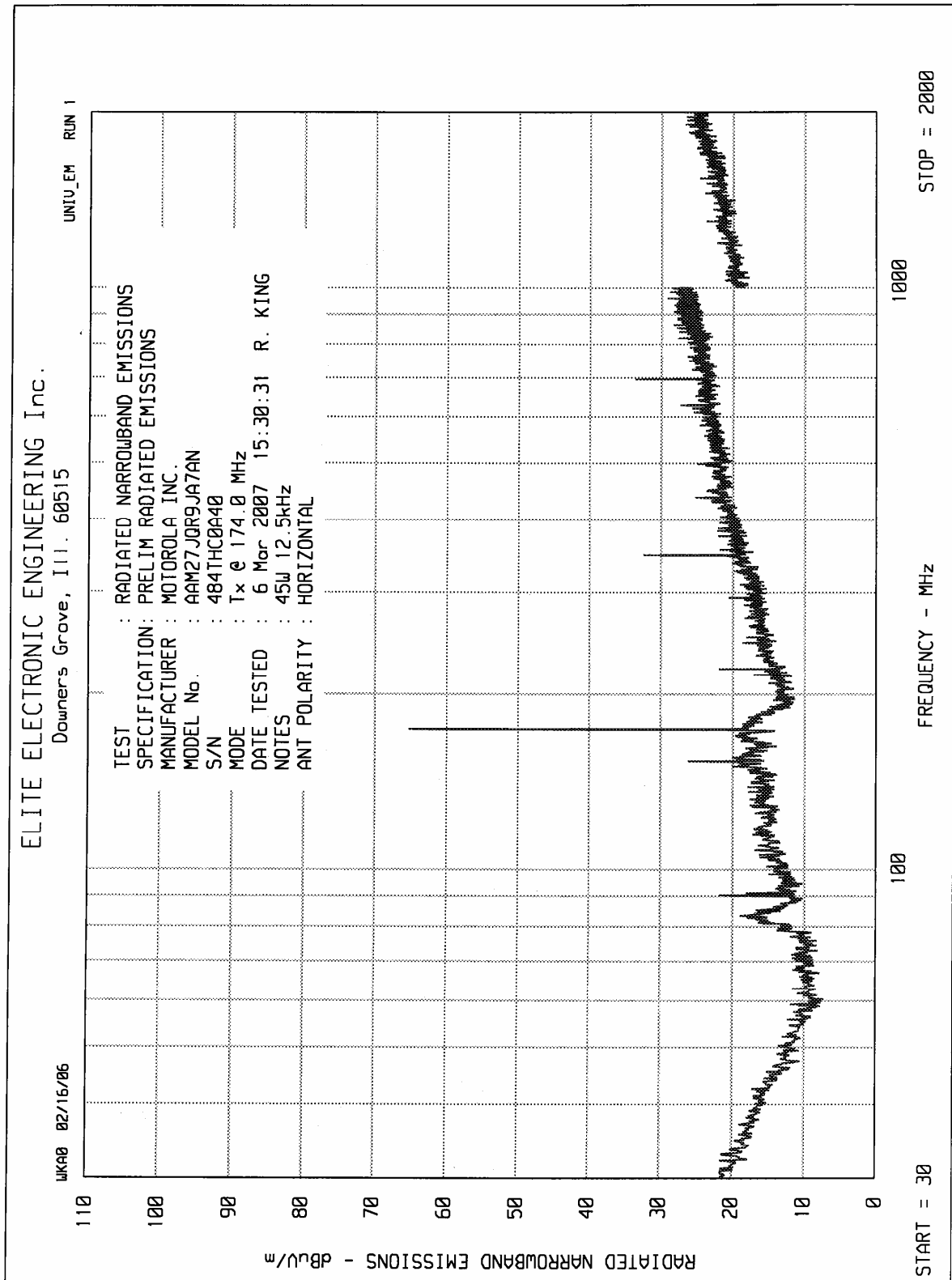


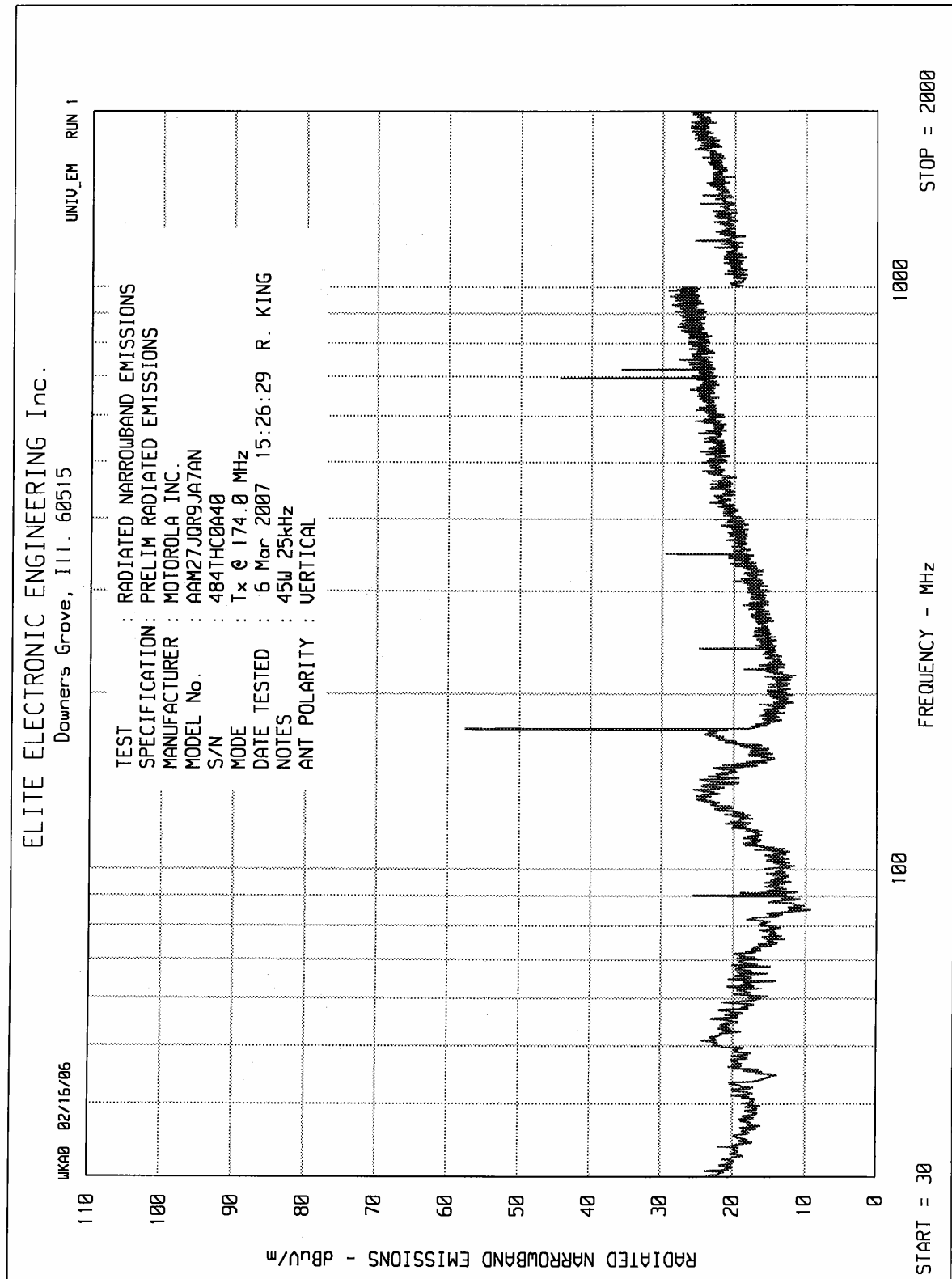


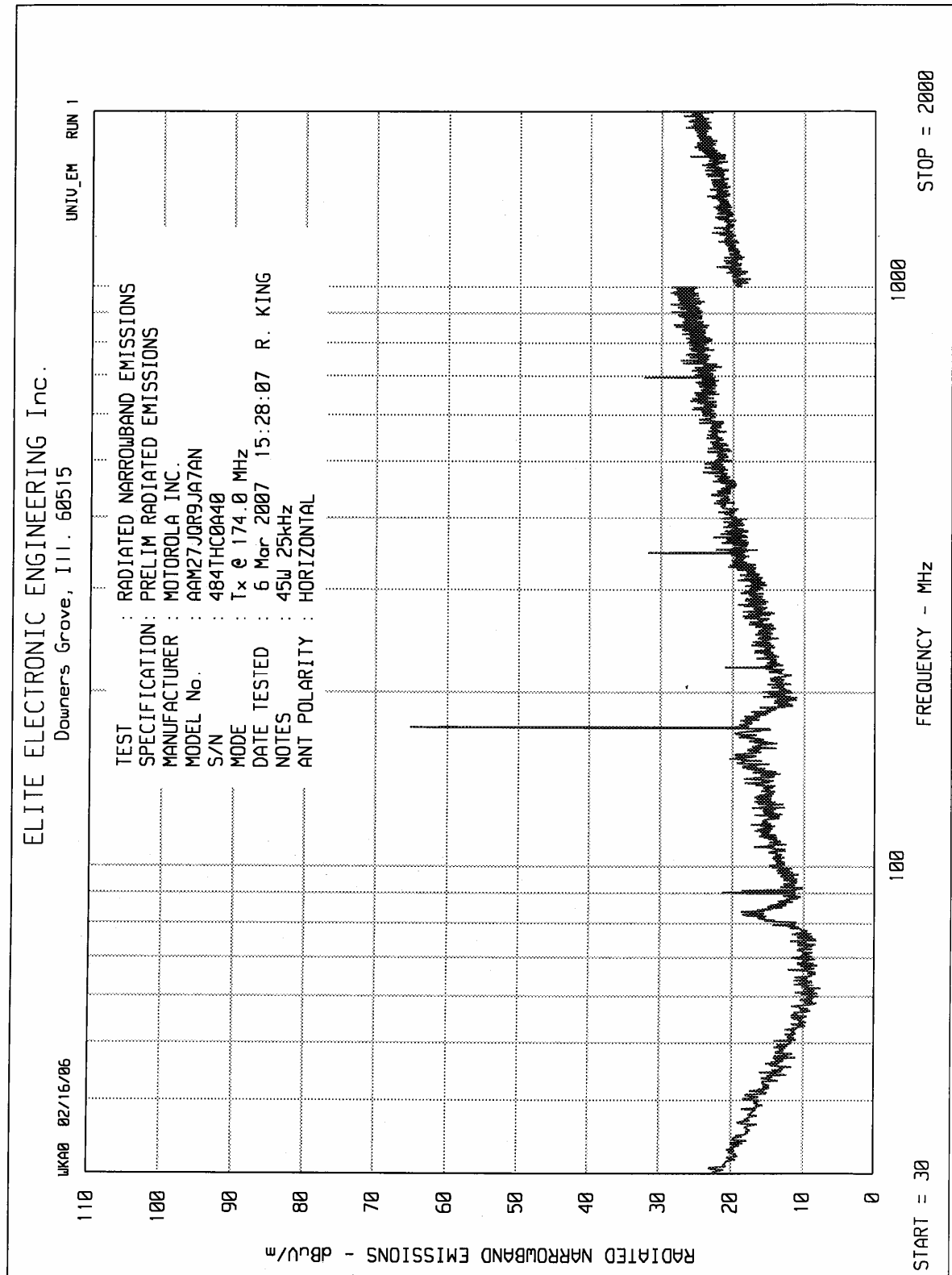


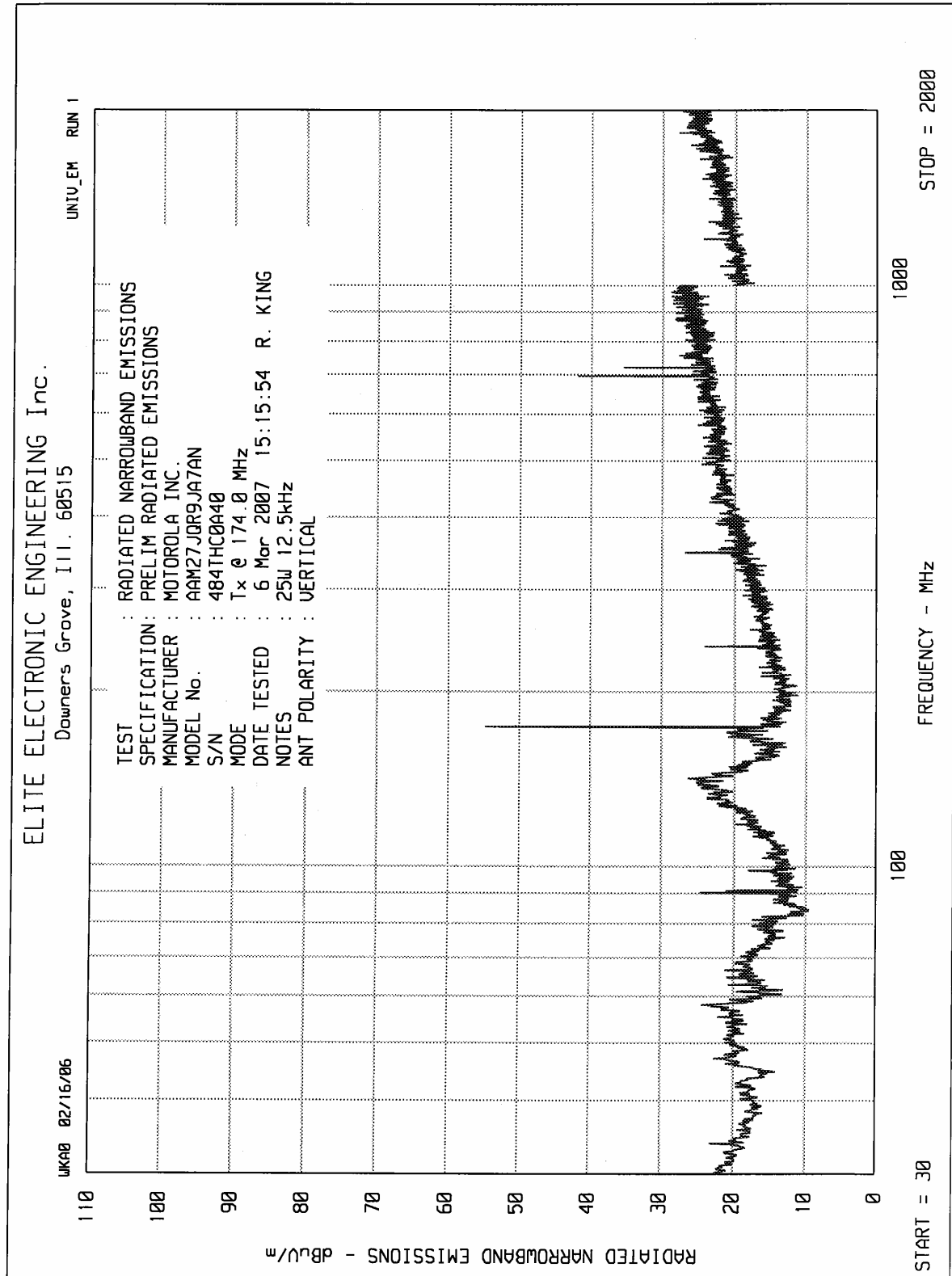


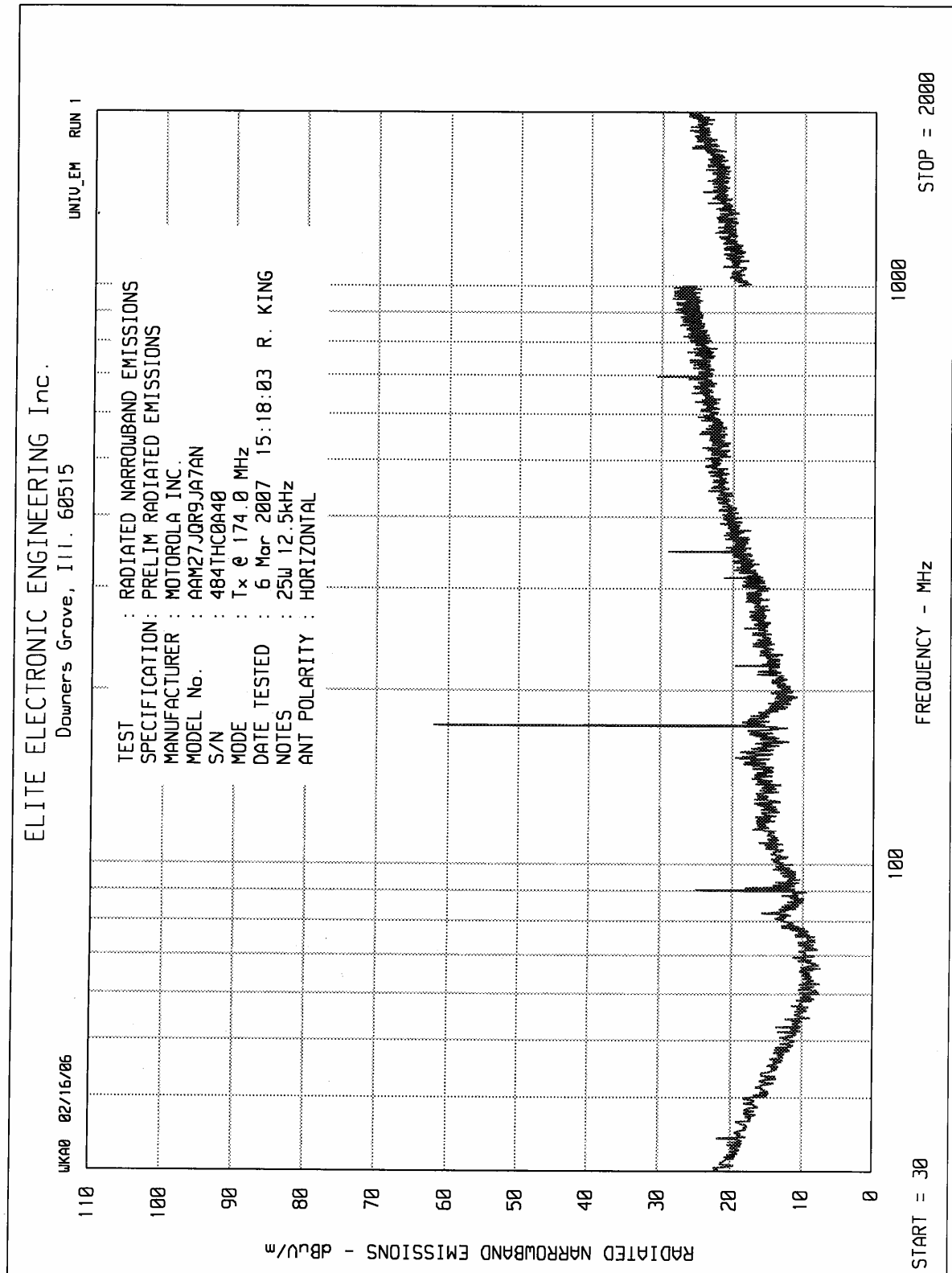


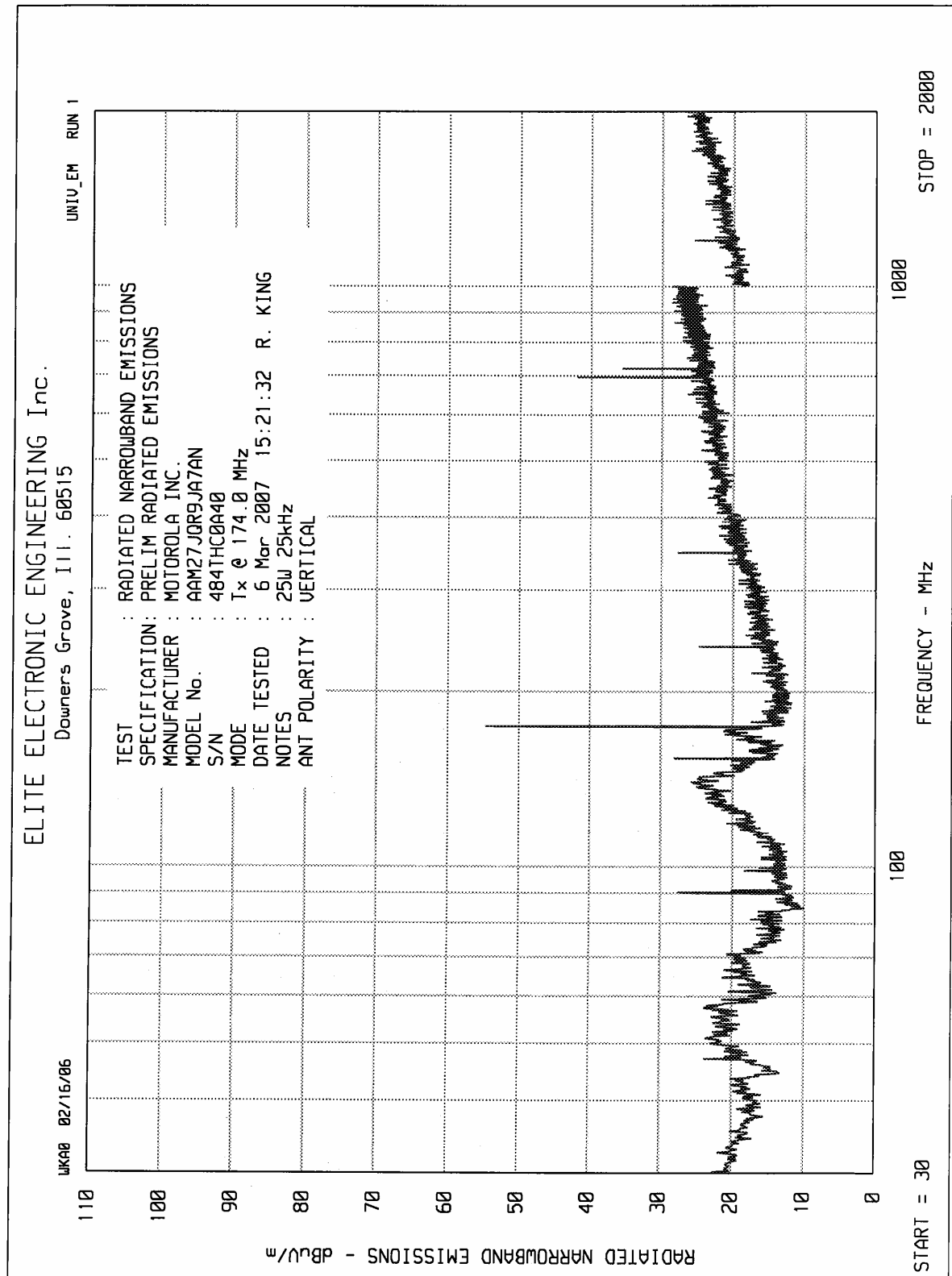


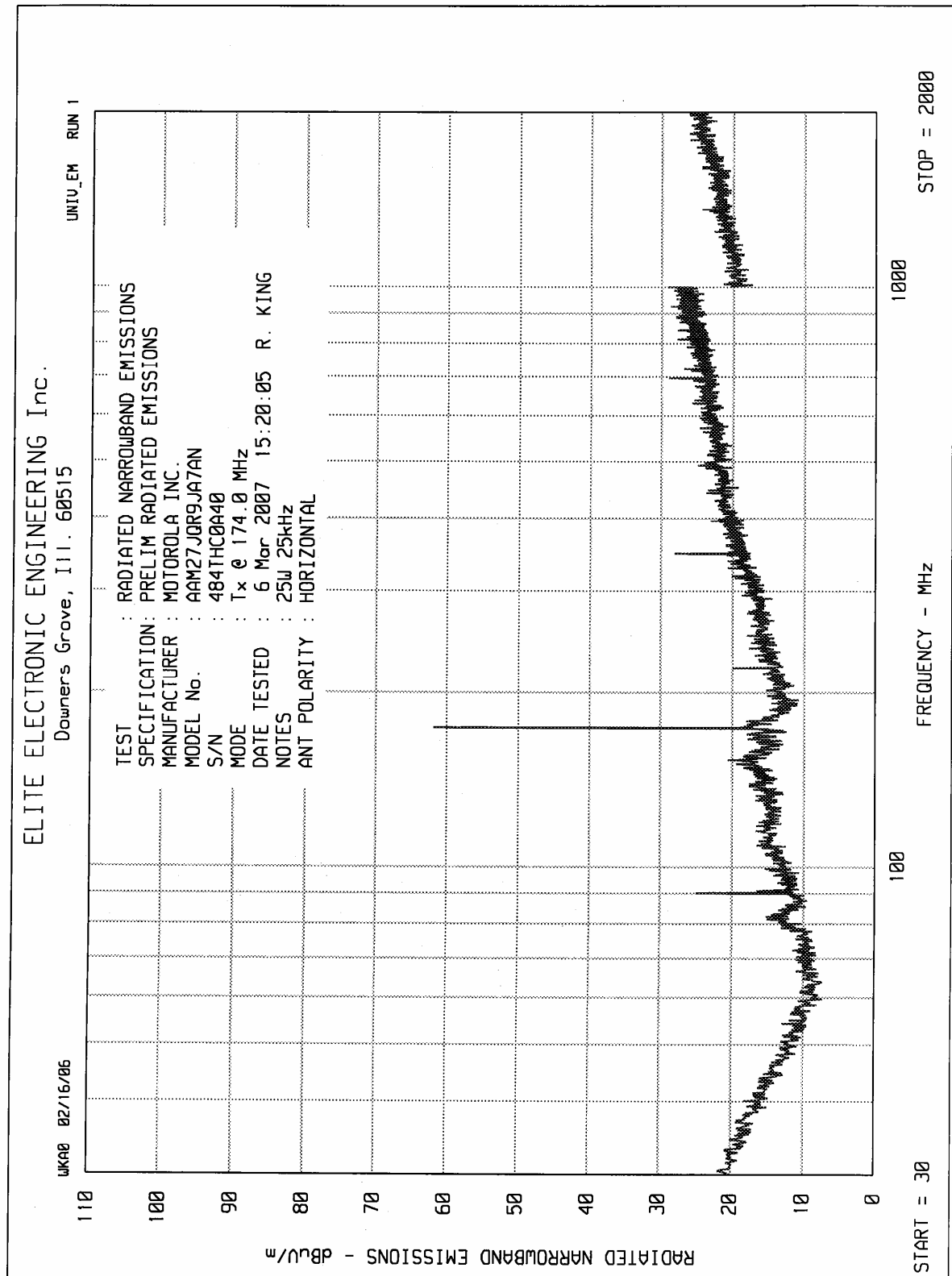














MANUFACTURER : Motorola Inc.
MODEL : AAM27JQR9JA7AN
SERIAL NO. : 484THC0A40
SPECIFICATION : FCC-90 Spurious Radiated Emissions
DATE : March 6, 2007
NOTES : Transmit at 136 MHz
: 45 Watts, 12.5 kHz channel spacing

Freq. MHz	Ant Pol	Mtr Rdg (dBuV)	Matched Sig Gen (dBm)	equil ant gain	CBL Loss (dB)	Total (dBm)	Attn	min attn
272.00	H	10.3	-74.9	0.0	1.6	-76.5	123.0	66.5
272.00	V	11.3	-67.7	0.0	1.6	-69.3	115.8	66.5
408.00	H	13.7	-65.7	0.0	2.2	-67.9	114.4	66.5
408.00	V	18.4	-60.5	0.0	2.2	-62.7	109.2	66.5
544.00	H	6.4	-70.2	0.0	2.5	-72.7	119.2	66.5
544.00	V	8.2	-68.4	0.0	2.5	-70.9	117.4	66.5
680.00	H	6.7	-70.3	0.0	2.8	-73.1	119.6	66.5
680.00	V	11.0	-66.0	0.0	2.8	-68.8	115.3	66.5
816.00	H	6.2	-69.2	0.0	3.1	-72.3	118.8	66.5
816.00	V	7.6	-67.8	0.0	3.1	-70.9	117.4	66.5
952.00	H	5.8	-68.2	0.0	3.4	-71.6	118.1	66.5
952.00	V	4.4	-69.6	0.0	3.4	-73.0	119.5	66.5
1088.00	H	4.3	-68.8	5.0	3.7	-67.6	114.1	66.5
1088.00	V	4.8	-68.3	5.0	3.7	-67.1	113.6	66.5
1224.00	H	4.6	-67.5	5.1	4.0	-66.4	112.9	66.5
1224.00	V	6.1	-66.0	5.1	4.0	-64.9	111.4	66.5
1360.00	H	4.6	-67.1	5.5	4.3	-65.9	112.4	66.5
1360.00	V	7.6	-64.1	5.5	4.3	-62.9	109.4	66.5

Checked BY RICHARD E. KING :

Richard E. King



MANUFACTURER : Motorola Inc.
MODEL : AAM27JQR9JA7AN
SERIAL NO. : 484THC0A40
SPECIFICATION : FCC-90 Spurious Radiated Emissions
DATE : March 6, 2007
NOTES : Transmit at 136 MHz
: 45 Watts, 25 kHz channel spacing

Freq. MHz	Ant Pol	Mtr Rdg (dBuV)	Matched Sig Gen (dBm)	equil ant gain	CBL Loss (dB)	Total (dBm)	Attn	min attn
272.00	H	10.3	-74.9	0.0	1.6	-76.5	123.0	59.5
272.00	V	11.3	-67.7	0.0	1.6	-69.3	115.8	59.5
408.00	H	13.7	-65.7	0.0	2.2	-67.9	114.4	59.5
408.00	V	18.4	-60.5	0.0	2.2	-62.7	109.2	59.5
544.00	H	6.4	-70.2	0.0	2.5	-72.7	119.2	59.5
544.00	V	8.2	-68.4	0.0	2.5	-70.9	117.4	59.5
680.00	H	6.7	-70.3	0.0	2.8	-73.1	119.6	59.5
680.00	V	11.0	-66.0	0.0	2.8	-68.8	115.3	59.5
816.00	H	6.2	-69.2	0.0	3.1	-72.3	118.8	59.5
816.00	V	7.6	-67.8	0.0	3.1	-70.9	117.4	59.5
952.00	H	5.8	-68.2	0.0	3.4	-71.6	118.1	59.5
952.00	V	4.4	-69.6	0.0	3.4	-73.0	119.5	59.5
1088.00	H	4.3	-68.8	5.0	3.7	-67.6	114.1	59.5
1088.00	V	4.8	-68.3	5.0	3.7	-67.1	113.6	59.5
1224.00	H	4.6	-67.5	5.1	4.0	-66.4	112.9	59.5
1224.00	V	6.1	-66.0	5.1	4.0	-64.9	111.4	59.5
1360.00	H	4.6	-67.1	5.5	4.3	-65.9	112.4	59.5
1360.00	V	7.6	-64.1	5.5	4.3	-62.9	109.4	59.5

Checked BY RICHARD E. KING :

Richard E. King



MANUFACTURER : Motorola Inc.
MODEL : AAM27JQR9JA7AN
SERIAL NO. : 484THC0A40
SPECIFICATION : FCC-90 Spurious Radiated Emissions
DATE : March 6, 2007
NOTES : Transmit at 136 MHz
: 25 Watts, 12.5 kHz channel spacing

Freq. MHz	Ant Pol	Mtr Rdg (dBuV)	Matched Sig Gen (dBm)	equil ant gain	CBL Loss (dB)	Total (dBm)	Attn	min attn
272.00	H	12.8	-71.6	0.0	1.6	-73.2	119.7	64
272.00	V	15.6	-63.2	0.0	1.6	-64.8	111.3	64
408.00	H	11.5	-68.7	0.0	2.2	-70.9	117.4	64
408.00	V	16.8	-62.9	0.0	2.2	-65.1	111.6	64
544.00	H	6.3	-70.3	0.0	2.5	-72.8	119.3	64
544.00	V	8.9	-67.7	0.0	2.5	-70.2	116.7	64
680.00	H	8.3	-68.7	0.0	2.8	-71.5	118.0	64
680.00	V	15.6	-61.4	0.0	2.8	-64.2	110.7	64
816.00	H	5.0	-70.4	0.0	3.1	-73.5	120.0	64
816.00	V	5.9	-69.5	0.0	3.1	-72.6	119.1	64
952.00	H	4.6	-69.4	0.0	3.4	-72.8	119.3	64
952.00	V	5.7	-68.3	0.0	3.4	-71.7	118.2	64
1088.00	H	5.5	-67.6	5.0	3.7	-66.4	112.9	64
1088.00	V	4.7	-68.4	5.0	3.7	-67.2	113.7	64
1224.00	H	4.7	-67.4	5.1	4.0	-66.3	112.8	64
1224.00	V	5.4	-66.7	5.1	4.0	-65.6	112.1	64
1360.00	H	4.5	-67.2	5.5	4.3	-66.0	112.5	64
1360.00	V	5.7	-66.0	5.5	4.3	-64.8	111.3	64

Checked BY RICHARD E. King :

Richard E. King



MANUFACTURER : Motorola Inc.
MODEL : AAM27JQR9JA7AN
SERIAL NO. : 484THC0A40
SPECIFICATION : FCC-90 Spurious Radiated Emissions
DATE : March 6, 2007
NOTES : Transmit at 136 MHz
: 25 Watts, 25 kHz channel spacing

Freq. MHz	Ant Pol	Mtr Rdg (dBuV)	Matched Sig Gen (dBm)	equil ant gain	CBL Loss (dB)	Total (dBm)	Attn	min attn
272.00	H	12.8	-71.6	0.0	1.6	-73.2	119.7	57
272.00	V	15.6	-63.2	0.0	1.6	-64.8	111.3	57
408.00	H	11.5	-68.7	0.0	2.2	-70.9	117.4	57
408.00	V	16.8	-62.9	0.0	2.2	-65.1	111.6	57
544.00	H	6.3	-70.3	0.0	2.5	-72.8	119.3	57
544.00	V	8.9	-67.7	0.0	2.5	-70.2	116.7	57
680.00	H	8.3	-68.7	0.0	2.8	-71.5	118.0	57
680.00	V	15.6	-61.4	0.0	2.8	-64.2	110.7	57
816.00	H	5.0	-70.4	0.0	3.1	-73.5	120.0	57
816.00	V	5.9	-69.5	0.0	3.1	-72.6	119.1	57
952.00	H	4.6	-69.4	0.0	3.4	-72.8	119.3	57
952.00	V	5.7	-68.3	0.0	3.4	-71.7	118.2	57
1088.00	H	5.5	-67.6	5.0	3.7	-66.4	112.9	57
1088.00	V	4.7	-68.4	5.0	3.7	-67.2	113.7	57
1224.00	H	4.7	-67.4	5.1	4.0	-66.3	112.8	57
1224.00	V	5.4	-66.7	5.1	4.0	-65.6	112.1	57
1360.00	H	4.5	-67.2	5.5	4.3	-66.0	112.5	57
1360.00	V	5.7	-66.0	5.5	4.3	-64.8	111.3	57

Checked BY RICHARD E. King :

Richard E. King



MANUFACTURER : Motorola Inc.
MODEL : AAM27JQR9JA7AN
SERIAL NO. : 484THC0A40
SPECIFICATION : FCC-90 Spurious Radiated Emissions
DATE : March 6, 2007
NOTES : Transmit at 150 MHz
: 45 Watts, 12.5 kHz channel spacing

Freq. MHz	Ant Pol	Mtr Rdg (dBuV)	Matched Sig Gen (dBm)	equil ant gain	CBL Loss (dB)	Total (dBm)	Attn	min attn
300.00	H	13.2	-70.9	0.0	1.6	-72.5	119.0	66.5
300.00	V	16.0	-63.7	0.0	1.6	-65.3	111.8	66.5
450.00	H	13.2	-62.7	0.0	2.2	-64.9	111.4	66.5
450.00	V	10.7	-66.7	0.0	2.2	-68.9	115.4	66.5
600.00	H	4.5	-71.7	0.0	2.5	-74.2	120.7	66.5
600.00	V	7.0	-69.2	0.0	2.5	-71.7	118.2	66.5
750.00	H	17.2	-59.2	0.0	2.8	-62.0	108.5	66.5
750.00	V	11.3	-65.1	0.0	2.8	-67.9	114.4	66.5
900.00	H	8.2	-66.6	0.0	3.1	-69.7	116.2	66.5
900.00	V	9.1	-65.7	0.0	3.1	-68.8	115.3	66.5
1050.00	H	3.9	-69.4	0.0	3.4	-72.8	119.3	66.5
1050.00	V	5.7	-67.6	0.0	3.4	-71.0	117.5	66.5
1200.00	H	7.4	-64.9	5.8	3.7	-62.8	109.3	66.5
1200.00	V	6.9	-65.4	5.8	3.7	-63.3	109.8	66.5
1350.00	H	8.4	-63.4	5.9	4.0	-61.5	108.0	66.5
1350.00	V	6.1	-65.7	5.9	4.0	-63.8	110.3	66.5
1500.00	H	6.5	-64.1	6.3	4.3	-62.0	108.5	66.5
1500.00	V	5.5	-65.1	6.3	4.3	-63.0	109.5	66.5

Checked BY RICHARD E. KING :

Richard E. King



MANUFACTURER : Motorola Inc.
MODEL : AAM27JQR9JA7AN
SERIAL NO. : 484THC0A40
SPECIFICATION : FCC-90 Spurious Radiated Emissions
DATE : March 6, 2007
NOTES : Transmit at 150 MHz
: 45 Watts, 25 kHz channel spacing

Freq. MHz	Ant Pol	Mtr Rdg (dBuV)	Matched Sig Gen (dBm)	equil ant gain	CBL Loss (dB)	Total (dBm)	Attn	min attn
300.00	H	13.2	-70.9	0.0	1.6	-72.5	119.0	59.5
300.00	V	16.0	-63.7	0.0	1.6	-65.3	111.8	59.5
450.00	H	13.2	-62.7	0.0	2.2	-64.9	111.4	59.5
450.00	V	10.7	-66.7	0.0	2.2	-68.9	115.4	59.5
600.00	H	4.5	-71.7	0.0	2.5	-74.2	120.7	59.5
600.00	V	7.0	-69.2	0.0	2.5	-71.7	118.2	59.5
750.00	H	17.2	-59.2	0.0	2.8	-62.0	108.5	59.5
750.00	V	11.3	-65.1	0.0	2.8	-67.9	114.4	59.5
900.00	H	8.2	-66.6	0.0	3.1	-69.7	116.2	59.5
900.00	V	9.1	-65.7	0.0	3.1	-68.8	115.3	59.5
1050.00	H	3.9	-69.4	0.0	3.4	-72.8	119.3	59.5
1050.00	V	5.7	-67.6	0.0	3.4	-71.0	117.5	59.5
1200.00	H	7.4	-64.9	5.8	3.7	-62.8	109.3	59.5
1200.00	V	6.9	-65.4	5.8	3.7	-63.3	109.8	59.5
1350.00	H	8.4	-63.4	5.9	4.0	-61.5	108.0	59.5
1350.00	V	6.1	-65.7	5.9	4.0	-63.8	110.3	59.5
1500.00	H	6.5	-64.1	6.3	4.3	-62.0	108.5	59.5
1500.00	V	5.5	-65.1	6.3	4.3	-63.0	109.5	59.5

Checked BY RICHARD E. KING :

Richard E. King



MANUFACTURER : Motorola Inc.
MODEL : AAM27JQR9JA7AN
SERIAL NO. : 484THC0A40
SPECIFICATION : FCC-90 Spurious Radiated Emissions
DATE : March 6, 2007
NOTES : Transmit at 150 MHz
: 25 Watts, 25 kHz channel spacing

Freq. MHz	Ant Pol	Mtr Rdg (dBuV)	Matched Sig Gen (dBm)	equil ant gain	CBL Loss (dB)	Total (dBm)	Attn	min attn
300.00	H	13.5	-70.5	0.0	1.6	-72.1	118.6	57
300.00	V	16.9	-63.0	0.0	1.6	-64.6	111.1	57
450.00	H	10.9	-65.8	0.0	2.2	-68.0	114.5	57
450.00	V	16.6	-59.6	0.0	2.2	-61.8	108.3	57
600.00	H	4.2	-72.0	0.0	2.5	-74.5	121.0	57
600.00	V	6.4	-69.8	0.0	2.5	-72.3	118.8	57
750.00	H	10.7	-65.7	0.0	2.8	-68.5	115.0	57
750.00	V	16.3	-60.1	0.0	2.8	-62.9	109.4	57
900.00	H	8.0	-66.8	0.0	3.1	-69.9	116.4	57
900.00	V	8.1	-66.7	0.0	3.1	-69.8	116.3	57
1050.00	H	4.9	-68.4	0.0	3.4	-71.8	118.3	57
1050.00	V	4.6	-68.7	0.0	3.4	-72.1	118.6	57
1200.00	H	6.2	-66.1	5.8	3.7	-64.0	110.5	57
1200.00	V	6.5	-65.8	5.8	3.7	-63.7	110.2	57
1350.00	H	6.9	-64.9	5.9	4.0	-63.0	109.5	57
1350.00	V	4.4	-67.4	5.9	4.0	-65.5	112.0	57
1500.00	H	5.1	-65.5	6.3	4.3	-63.4	109.9	57
1500.00	V	5.0	-65.6	6.3	4.3	-63.5	110.0	57

Checked BY RICHARD E. King :

Richard E. King



MANUFACTURER : Motorola Inc.
MODEL : AAM27JQR9JA7AN
SERIAL NO. : 484THC0A40
SPECIFICATION : FCC-90 Spurious Radiated Emissions
DATE : March 6, 2007
NOTES : Transmit at 150 MHz
: 25 Watts, 12.5 kHz channel spacing

Freq. MHz	Ant Pol	Mtr Rdg (dBuV)	Matched Sig Gen (dBm)	equil ant gain	CBL Loss (dB)	Total (dBm)	Attn	min attn
300.00	H	13.5	-70.5	0.0	1.6	-72.1	118.6	64
300.00	V	16.9	-63.0	0.0	1.6	-64.6	111.1	64
450.00	H	10.9	-65.8	0.0	2.2	-68.0	114.5	64
450.00	V	16.6	-59.6	0.0	2.2	-61.8	108.3	64
600.00	H	4.2	-72.0	0.0	2.5	-74.5	121.0	64
600.00	V	6.4	-69.8	0.0	2.5	-72.3	118.8	64
750.00	H	10.7	-65.7	0.0	2.8	-68.5	115.0	64
750.00	V	16.3	-60.1	0.0	2.8	-62.9	109.4	64
900.00	H	8.0	-66.8	0.0	3.1	-69.9	116.4	64
900.00	V	8.1	-66.7	0.0	3.1	-69.8	116.3	64
1050.00	H	4.9	-68.4	0.0	3.4	-71.8	118.3	64
1050.00	V	4.6	-68.7	0.0	3.4	-72.1	118.6	64
1200.00	H	6.2	-66.1	5.8	3.7	-64.0	110.5	64
1200.00	V	6.5	-65.8	5.8	3.7	-63.7	110.2	64
1350.00	H	6.9	-64.9	5.9	4.0	-63.0	109.5	64
1350.00	V	4.4	-67.4	5.9	4.0	-65.5	112.0	64
1500.00	H	5.1	-65.5	6.3	4.3	-63.4	109.9	64
1500.00	V	5.0	-65.6	6.3	4.3	-63.5	110.0	64

Checked BY RICHARD E. King :

Richard E. King



MANUFACTURER : Motorola Inc.
MODEL : AAM27JQR9JA7AN
SERIAL NO. : 484THC0A40
SPECIFICATION : FCC-90 Spurious Radiated Emissions
DATE : March 6, 2007
NOTES : Transmit at 174 MHz
: 45 Watts, 12.5 kHz channel spacing

Freq. MHz	Ant Pol	Mtr Rdg (dBuV)	Matched Sig Gen (dBm)	equil ant gain	CBL Loss (dB)	Total (dBm)	Attn	min attn
348.00	H	18.8	-60.8	0.0	1.6	-62.4	108.9	66.5
348.00	V	18.0	-60.1	0.0	1.6	-61.7	108.2	66.5
522.00	H	5.0	-72.4	0.0	2.2	-74.6	121.1	66.5
522.00	V	9.1	-63.6	0.0	2.2	-65.8	112.3	66.5
696.00	H	18.9	-56.2	0.0	2.5	-58.7	105.2	66.5
696.00	V	23.8	-51.3	0.0	2.5	-53.8	100.3	66.5
870.00	H	6.8	-68.1	0.0	2.8	-70.9	117.4	66.5
870.00	V	5.4	-69.5	0.0	2.8	-72.3	118.8	66.5
1044.00	H	5.7	-67.6	0.0	3.1	-70.7	117.2	66.5
1044.00	V	4.6	-68.7	0.0	3.1	-71.8	118.3	66.5
1218.00	H	6.4	-65.8	0.0	3.4	-69.2	115.7	66.5
1218.00	V	6.0	-66.2	0.0	3.4	-69.6	116.1	66.5
1392.00	H	5.7	-65.9	7.1	3.7	-62.5	109.0	66.5
1392.00	V	5.0	-66.6	7.1	3.7	-63.2	109.7	66.5
1566.00	H	5.5	-64.9	7.2	4.0	-61.7	108.2	66.5
1566.00	V	5.8	-64.6	7.2	4.0	-61.4	107.9	66.5
1740.00	H	6.4	-63.2	7.6	4.3	-59.8	106.3	66.5
1740.00	V	7.6	-62.0	7.6	4.3	-58.6	105.1	66.5

Checked BY RICHARD E. KING :

Richard E. King



MANUFACTURER : Motorola Inc.
MODEL : AAM27JQR9JA7AN
SERIAL NO. : 484THC0A40
SPECIFICATION : FCC-90 Spurious Radiated Emissions
DATE : March 6, 2007
NOTES : Transmit at 174 MHz
: 45 Watts, 25 kHz channel spacing

Freq. MHz	Ant Pol	Mtr Rdg (dBuV)	Matched Sig Gen (dBm)	equil ant gain	CBL Loss (dB)	Total (dBm)	Attn	min attn
348.00	H	18.8	-60.8	0.0	1.6	-62.4	108.9	59.5
348.00	V	18.0	-60.1	0.0	1.6	-61.7	108.2	59.5
522.00	H	5.0	-72.4	0.0	2.2	-74.6	121.1	59.5
522.00	V	9.1	-63.6	0.0	2.2	-65.8	112.3	59.5
696.00	H	18.9	-56.2	0.0	2.5	-58.7	105.2	59.5
696.00	V	23.8	-51.3	0.0	2.5	-53.8	100.3	59.5
870.00	H	6.8	-68.1	0.0	2.8	-70.9	117.4	59.5
870.00	V	5.4	-69.5	0.0	2.8	-72.3	118.8	59.5
1044.00	H	5.7	-67.6	0.0	3.1	-70.7	117.2	59.5
1044.00	V	4.6	-68.7	0.0	3.1	-71.8	118.3	59.5
1218.00	H	6.4	-65.8	0.0	3.4	-69.2	115.7	59.5
1218.00	V	6.0	-66.2	0.0	3.4	-69.6	116.1	59.5
1392.00	H	5.7	-65.9	7.1	3.7	-62.5	109.0	59.5
1392.00	V	5.0	-66.6	7.1	3.7	-63.2	109.7	59.5
1566.00	H	5.5	-64.9	7.2	4.0	-61.7	108.2	59.5
1566.00	V	5.8	-64.6	7.2	4.0	-61.4	107.9	59.5
1740.00	H	6.4	-63.2	7.6	4.3	-59.8	106.3	59.5
1740.00	V	7.6	-62.0	7.6	4.3	-58.6	105.1	59.5

Checked BY RICHARD E. King :

Richard E. King



MANUFACTURER : Motorola Inc.
MODEL : AAM27JQR9JA7AN
SERIAL NO. : 484THC0A40
SPECIFICATION : FCC-90 Spurious Radiated Emissions
DATE : March 6, 2007
NOTES : Transmit at 174 MHz
: 25 Watts, 12.5 kHz channel spacing

Freq. MHz	Ant Pol	Mtr Rdg (dBuV)	Matched Sig Gen (dBm)	equil ant gain	CBL Loss (dB)	Total (dBm)	Attn	min attn
348.00	H	14.6	-65.9	0.0	1.6	-67.5	114.0	64
348.00	V	14.0	-64.7	0.0	1.6	-66.3	112.8	64
522.00	H	6.4	-71.3	0.0	2.2	-73.5	120.0	64
522.00	V	9.4	-62.8	0.0	2.2	-65.0	111.5	64
696.00	H	16.1	-59.0	0.0	2.5	-61.5	108.0	64
696.00	V	19.0	-56.1	0.0	2.5	-58.6	105.1	64
870.00	H	5.6	-69.3	0.0	2.8	-72.1	118.6	64
870.00	V	6.0	-68.9	0.0	2.8	-71.7	118.2	64
1044.00	H	5.8	-67.5	0.0	3.1	-70.6	117.1	64
1044.00	V	5.8	-67.5	0.0	3.1	-70.6	117.1	64
1218.00	H	5.3	-66.9	0.0	3.4	-70.3	116.8	64
1218.00	V	4.6	-67.6	0.0	3.4	-71.0	117.5	64
1392.00	H	5.8	-65.8	7.1	3.7	-62.4	108.9	64
1392.00	V	5.7	-65.9	7.1	3.7	-62.5	109.0	64
1566.00	H	5.1	-65.3	7.2	4.0	-62.1	108.6	64
1566.00	V	5.1	-65.3	7.2	4.0	-62.1	108.6	64
1740.00	H	6.9	-62.7	7.6	4.3	-59.3	105.8	64
1740.00	V	6.2	-63.4	7.6	4.3	-60.0	106.5	64

Checked BY RICHARD E. King :

Richard E. King



MANUFACTURER : Motorola Inc.
MODEL : AAM27JQR9JA7AN
SERIAL NO. : 484THC0A40
SPECIFICATION : FCC-90 Spurious Radiated Emissions
DATE : March 6, 2007
NOTES : Transmit at 174 MHz
: 25 Watts, 25 kHz channel spacing

Freq. MHz	Ant Pol	Mtr Rdg (dBuV)	Matched Sig Gen (dBm)	equil ant gain	CBL Loss (dB)	Total (dBm)	Attn	min attn
348.00	H	14.6	-65.9	0.0	1.6	-67.5	114.0	57
348.00	V	14.0	-64.7	0.0	1.6	-66.3	112.8	57
522.00	H	6.4	-71.3	0.0	2.2	-73.5	120.0	57
522.00	V	9.4	-62.8	0.0	2.2	-65.0	111.5	57
696.00	H	16.1	-59.0	0.0	2.5	-61.5	108.0	57
696.00	V	19.0	-56.1	0.0	2.5	-58.6	105.1	57
870.00	H	5.6	-69.3	0.0	2.8	-72.1	118.6	57
870.00	V	6.0	-68.9	0.0	2.8	-71.7	118.2	57
1044.00	H	5.8	-67.5	0.0	3.1	-70.6	117.1	57
1044.00	V	5.8	-67.5	0.0	3.1	-70.6	117.1	57
1218.00	H	5.3	-66.9	0.0	3.4	-70.3	116.8	57
1218.00	V	4.6	-67.6	0.0	3.4	-71.0	117.5	57
1392.00	H	5.8	-65.8	7.1	3.7	-62.4	108.9	57
1392.00	V	5.7	-65.9	7.1	3.7	-62.5	109.0	57
1566.00	H	5.1	-65.3	7.2	4.0	-62.1	108.6	57
1566.00	V	5.1	-65.3	7.2	4.0	-62.1	108.6	57
1740.00	H	6.9	-62.7	7.6	4.3	-59.3	105.8	57
1740.00	V	6.2	-63.4	7.6	4.3	-60.0	106.5	57

Checked BY RICHARD E. King :

Richard E. King



MANUFACTURER : Motorola Inc.
MODEL : AAM27JQR9JA7AN
SERIAL NO. : 484THC0A40
SPECIFICATION : FCC Part 90 Frequency Stability vs. Temperature
DATE : March 13, 2007
NOTES : Transmit at 150MHz
: 12.5kHz Channel Spacing

Temperature °C	Measured Frequency Hz	Frequency Error Hz	Limit Hz
+23	149999988		
-30	150000021	33	375
-20	150000016	28	375
-10	150000026	38	375
0	150000014	26	375
+10	150000019	31	375
+20	150000020	32	375
+30	150000001	13	375
+40	149999991	3	375
+50	149999997	9	375

Limit = 2.5ppm = 149999988Hz * 2.5ppm = 375Hz

Checked BY RICHARD E. KING :

Richard E. King



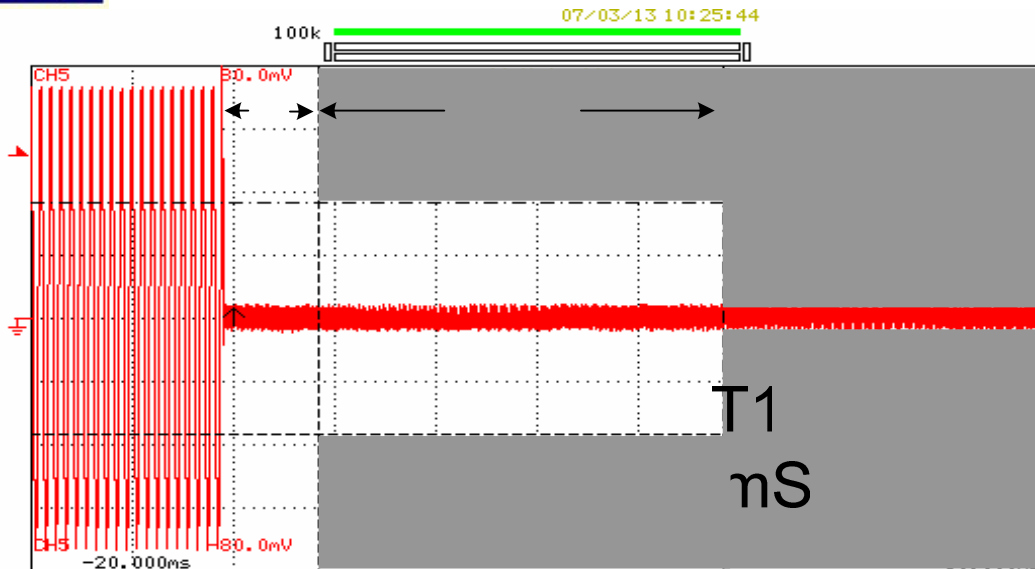
MANUFACTURER : Motorola Inc.
MODEL : AAM27JQR9JA7AN
SERIAL NO. : 484THC0A40
SPECIFICATION : FCC Part 90 Frequency Stability vs. Voltage
DATE : March 13, 2007
NOTES : Transmit at 150MHz
: 12.5kHz Channel Spacing

Voltage VAC		Measured Frequency Hz	Frequency Error Hz	Limit Hz
Nominal	120	149999988		
85%	102	150000016	28	375
115%	138	150000019	31	375

Limit = 2.5ppm = 149999988Hz * 2.5ppm = 375Hz

Checked BY RICHARD E. King :

Richard E. King



Y1 36.67mV
Y2 -36.67mV
ΔY 73.33mV
X1 48.450ms
X2 8.450ms
ΔX 40.000ms
1/ΔX 25.00 Hz

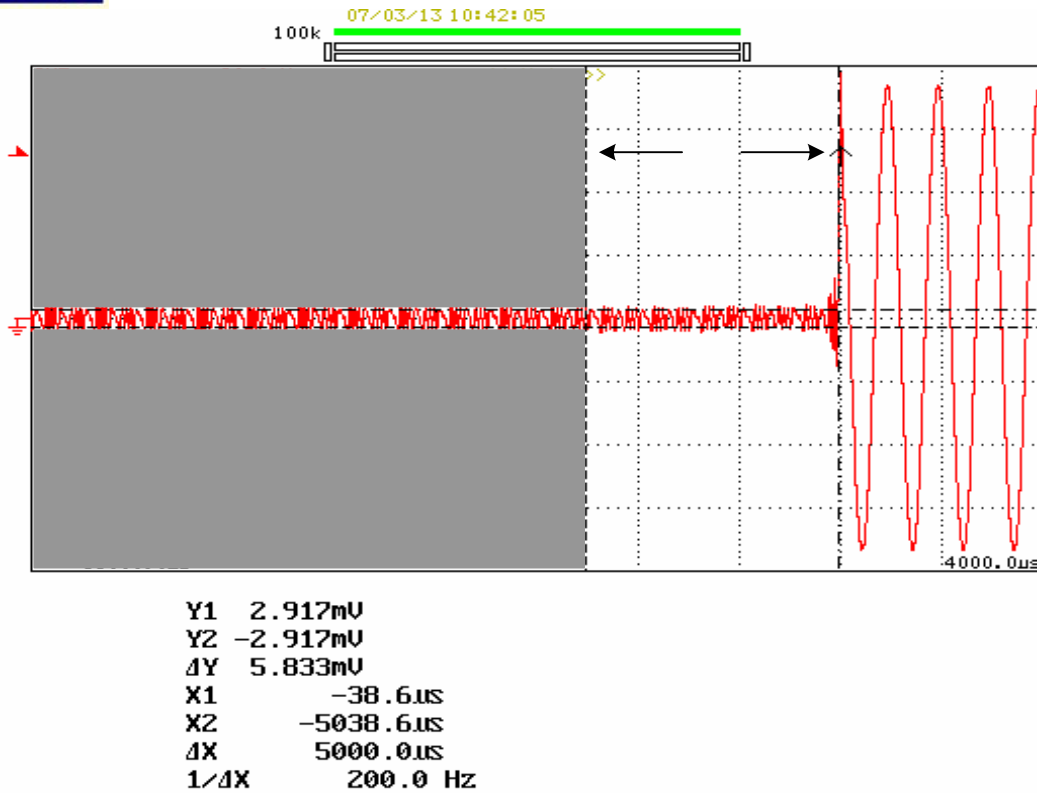
Stopped

1

07/03/13 10:26:24

FCC 90 Transient Frequency Behavior

MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 150MHz
CHANNEL SPACING : 12.5kHz
NOTE : ON Condition
: t1 = 5 mS, t2 = 20 mS



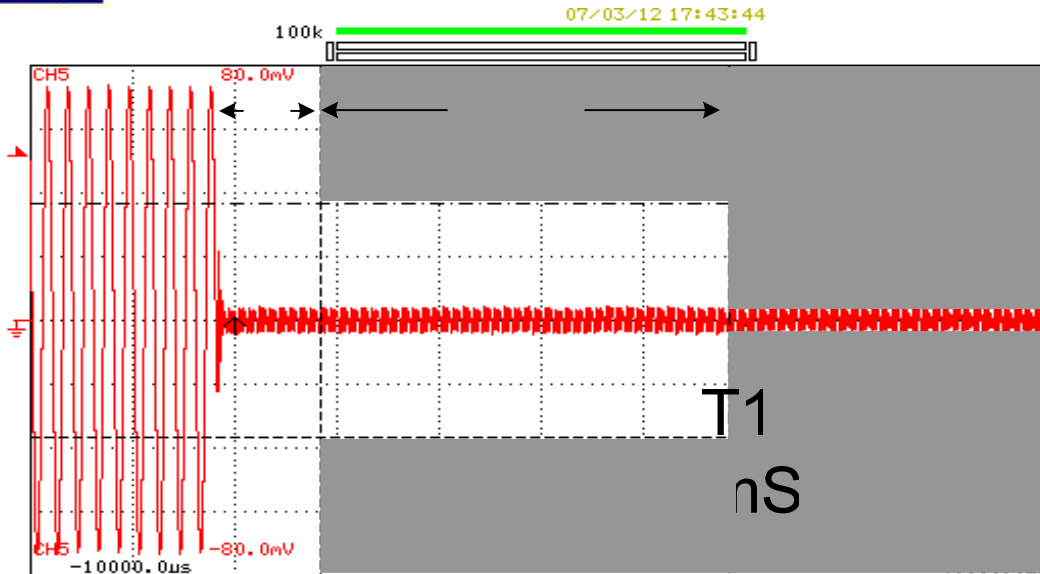
Stopped

3

07/03/13 10:45:45

FCC 90 Transient Frequency Behavior

MANUFACTURER	: Motorola Inc.
TEST ITEM	: MOTOTRBO Repeater
MODEL NUMBER	: AAM27JQR9JA7AN
TEST MODE	: Transmit
FREQUENCY	: 150MHz
CHANNEL SPACING	: 12.5kHz
NOTE	: OFF Condition
	: t3 = 5 mS



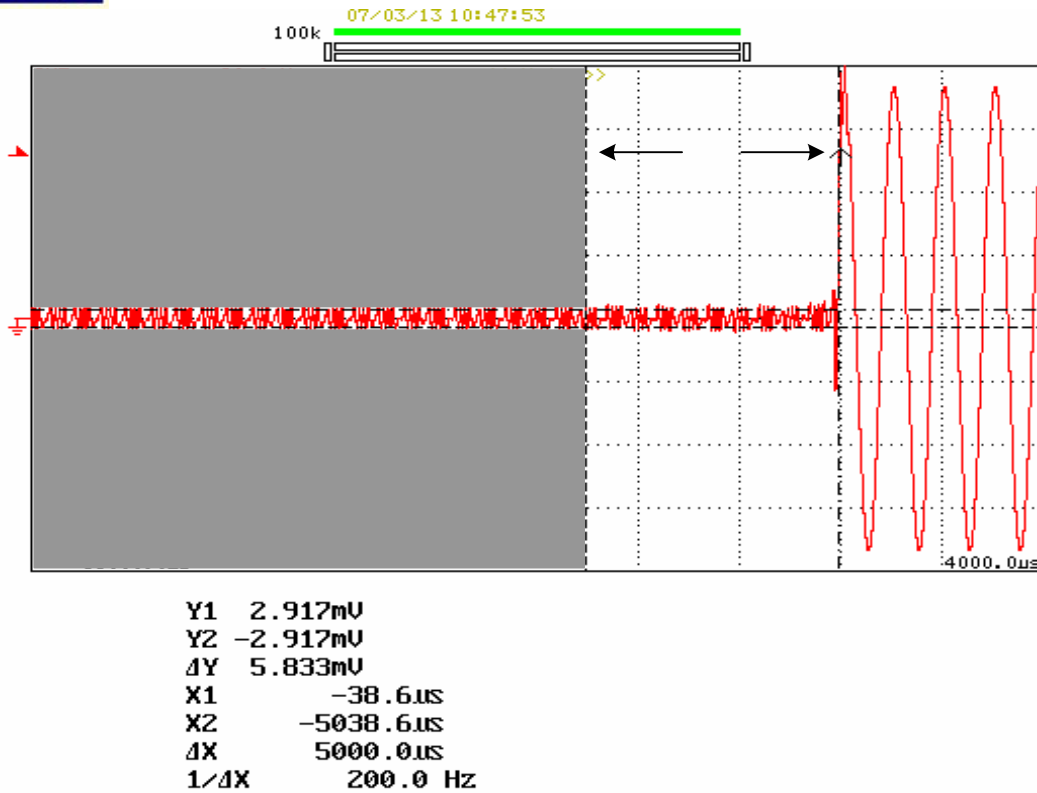
Y1 36.67mV
Y2 -36.67mV
ΔY 73.33mV
X1 24225.0us
X2 4225.0us
ΔX 20000.0us
1/ΔX 50.0 Hz

Stopped 36

07/03/13 10:20:54

FCC 90 Transient Frequency Behavior

MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 150MHz
CHANNEL SPACING : 25kHz
NOTE : ON Condition
: t1 = 5 mS, t2 = 20 mS



Stopped

4

07/03/13 10:48:05

FCC 90 Transient Frequency Behavior

MANUFACTURER : Motorola Inc.
TEST ITEM : MOTOTRBO Repeater
MODEL NUMBER : AAM27JQR9JA7AN
TEST MODE : Transmit
FREQUENCY : 150MHz
CHANNEL SPACING : 25kHz
NOTE : OFF Condition
: t3 = 5 mS