Measurement of RF Emissions from a WIFI Extender Model No. RP-WF12 Transmitter

For	Winegard Co. 2541 Technology Drive Elgin, IL 60124
P.O. Number	P469150-01
Date Tested	March 3 through June 7, 2016
Test Personnel	Richard King
Test Specification	FCC "Code of Federal Regulations" Title 47, Part 15, Subpart C, Section 15.407 Subpart E for Unlicensed National Information Infrastructure Devices Industry Canada RSS-Gen Industry Canada RSS-247

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REVISION HISTORY

Revision	Date	Description
—	15 June 2016	Initial release

Measurement of RF Emissions from a WIFI Extender, Model No. RP-WF12 Transmitter

1. INTRODUCTION

1.1. Scope of Tests

This report represents the results of the series of radio interference measurements performed on a Winegard Co. WIFI Extender, Model No. RP-WF12, Serial Nos. no serial numbers were assigned transmitter (hereinafter referred to as the EUT). The EUT is a digital modulation transmitter. The transmitter was designed to transmit in the UNII I and UNII III bands using an external antenna. The EUT was manufactured and submitted for testing by Winegard Co. located in Elgin, IL.

1.2. Purpose

The test series was performed to determine if the EUT meets the conducted and radiated RF emission requirements of the FCC "Code of Federal Regulations" Title 47, Part 15, Subpart E, Section 15.407 for Intentional Radiators Operating within the 5GHz band. Testing was performed in accordance with ANSI C63.4-2014.

1.3. Deviations, Additions and Exclusions

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

1.4. EMC Laboratory Identification

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

1.5. Laboratory Conditions

The temperature at the time of the test was 22.9^{o}C and the relative humidity was 20%.

2. APPLICABLE DOCUMENTS

The following documents of the exact issue designated form part of this document to the extent specified herein:

- Federal Communications Commission "Code of Federal Regulations", Title 47, Part 15, Subpart C, dated 1 October 2015
- ANSI C63.4-2014, "American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz"
- ANSI C63.10-2013, " American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices"
- Federal Communications Commission Office of Engineering and Technology Laboratory Division Guidance for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part 15, Subpart E, April 8, 2016
- Federal Communications Commission Office of Engineering and Technology Laboratory Division Emissions Testing of Transmitters with Multiple Outputs in the Same Band (*e.g.,* MIMO, Smart Antenna, etc.), October 31, 2013
- Industry Canada RSS-247, Issue 1,May 2015, “Spectrum Management and

- Telecommunications Radio Standards Specification, Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and License-Exempt Local Area Network (LE-LAN) Devices"

- Industry Canada RSS-GEN, Issue 4, November 2014, "Spectrum Management and Telecommunications Radio Standards Specification, General Requirements for Compliance of Radio Apparatus"

3. EUT SETUP AND OPERATION

3.1. General Description

The EUT is a Winegard Co., WIFI Extender, Model No. RP-WF12. A block diagram of the EUT setup is shown as Figure 1.

3.1.1.Power Input

The EUT obtained 24VDC power via a CUI Inc. Model EMSA240167 AC/DC power supply. The power supply provided 24VDC to the EUT via a 1.95m long 2 wire power cable. The power supply was powered with 115V, 60Hz AC power. The high and low leads were connected through a line impedance stabilization network (LISN) which was located on the ground plane. The network complies with the requirements of Paragraph 4.1.2 of ANSI C63.4-2014.

3.1.2.Peripheral Equipment

No peripheral equipment was submitted with the EUT.

3.1.3.Signal Input/Output Leads

The EUT was supplied with an Ethernet port which was used for programming purposes. For testing purposes a 1 meter long CAT 5 Ethernet cable was connected to the EUT.

3.1.4.Grounding

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

3.2. Operational Mode

For all tests the EUT and all peripheral equipment were placed on a non-conductive stand per ANSI C63.10. ANSI C63.10 states for frequencies below 1GHz the non-conductive stand shall be 80cm and frequencies above 1GHz the non-conductive stand shall be 150cm.

The EUT was energized.

- Transmit at 5180MHz 802.11ac, 20MHz
- Transmit at 5180MHz 802.11n, 20MHz
- Transmit at 5200MHz 802.11ac, 20MHz
- Transmit at 5200MHz 802.11n, 20MHz
- Transmit at 5240MHz 802.11ac, 20MHz
- Transmit at 5240MHz 802.11n, 20MHz
- Transmit at 5745MHz 802.11ac, 20MHz
- Transmit at 5745MHz 802.11n, 20MHz
- Transmit at 5785MHz 802.11ac, 20MHz
- Transmit at 5785MHz 802.11n, 20MHz
- Transmit at 5825MHz 802.11ac, 20MHz
- Transmit at 5825MHz 802.11n, 20MHz

- Transmit at 5190MHz 802.11ac, 40MHz
- Transmit at 5190MHz 802.11n, 40MHz
- Transmit at 5230MHz 802.11ac, 40MHz

- Transmit at 5230MHz 802.11n, 40MHz
- Transmit at 5755MHz 802.11ac, 40MHz
- Transmit at 5755MHz 802.11n, 40MHz
- Transmit at 5795MHz 802.11ac, 40MHz
- Transmit at 5795MHz 802.11n, 40MHz

- Transmit at 5210MHz 802.11ac, 80MHz
- Transmit at 5755MHz 802.11ac, 80MHz

3.3. EUT Modifications

No modifications were required for compliance to the FCC 15.407 requirements.

4. TEST FACILITY AND TEST INSTRUMENTATION

4.1. Shielded Enclosure

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

4.2. Test Instrumentation

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

Conducted and radiated emission measurements were performed with a spectrum analyzer. This receiver allows measurements with the bandwidths and detector functions specified by the FCC. The receiver bandwidth was 120kHz for the 30MHz to 1000MHz radiated emissions data and 1MHz for the 1000MHz and above radiated emissions data.

4.3. Calibration Traceability

Test equipment is maintained and calibrated on a regular basis with calibration interval no greater than 2 years. All calibrations are traceable to the National Institute of Standards and Technology (NIST).

4.4. Measurement Uncertainty

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

The measurement uncertainty for these tests is presented below:

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

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

5. TEST PROCEDURES

5.1. Powerline Conducted Emissions

5.1.1.Requirements

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

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

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

5.1.2.Procedures

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

a) The EUT was operated in the transmitting mode.

b) Measurements were first made on the 120V 60Hz high line.

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

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

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

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

g) Steps (c) through (f) were repeated on the 120V 60Hz return line.

5.1.3.Results

The plots and tabular data of the peak, quasi-peak, and average conducted voltage levels acquired from each input power line are shown on pages 21 through 24.

All power line conducted emissions measured from the EUT were within the specification limits.

5.2. 6dB Bandwidth

5.2.1.Requirement

Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

5.2.2.Procedures

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

a) Set RBW = 100 kHz.
b) Set the video bandwidth (VBW) ≥ 3 * RBW.
c) Sweep time = auto.
d) Detector = Peak
e) Allow trace to stabilize.
f) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

5.2.3.Results

The data pages 25 through 29 show the minimum 6 dB bandwidth was 16.4MHz which meets the minimum allowable 6dB bandwidth requirement of 500kHz for systems using digital modulation techniques. A representative plot of this measurement is shown on data page 30.

5.3. Duty Cycle

5.3.1.Requirement

Preferably, all measurements of maximum conducted (average) output power will be performed with the EUT transmitting continuously (i.e., with a duty cycle of greater than or equal to 98%). When continuous transmission cannot be achieved and sweep triggering/signal gating cannot be implemented, alternate procedures are provided that can be used to measure the average power; however, they will require an additional measurement of the transmitter duty cycle. Within this guidance document, the duty cycle refers to the fraction of time over which the transmitter is on and is transmitting at its maximum power control level. The duty cycle is considered to be constant if variations are less than ± 2 percent, otherwise the duty cycle is considered to be non-constant.

5.3.2.Procedures

a) The antenna port of the EUT was connected to the spectrum analyzer through 40 dB of attenuation.
b) Set center frequency to the transmit frequency of the EUT.
c) Set span to 0Hz
d) Set RBW ≥ OBW if possible; otherwise, set RBW to the largest available value.
e) Set detector = peak or average.
f) Measure the fraction of time over which the transmitter is on and is transmitting at its maximum power control level.
g) Measure the period which is the total on time plus the off time.
h) Calculate the duty cycle correction factor.

5.3.3.Results

The tabular data on pages 31 through 40 show the duty cycle correction factor for each data rate and each 802.11 protocol.

5.4. Maximum conducted (average) output power

5.4.1.Requirements

Per section 15.407(a)(1)(i), the maximum conducted output power over the frequency band of operation shall not exceed 1.0W (30dBm) provided the maximum antenna gain does not exceed 6dBi. Since the limit allows for a 6dBi antenna gain, the maximum EIRP can be increased by 6dB to 4 Watt (36dBm).

Per section 15.407(3), the maximum conducted output power over the frequency band of operation shall not exceed 1.0W (30dBm) provided the maximum antenna gain does not exceed 6dBi. Since the limit allows for a 6dBi antenna gain, the maximum EIRP can be increased by 6dB to 4 Watt (36dBm).

5.4.2.Procedures

Method SA-2

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

a) Set span to encompass the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.
b) Set RBW = 1 MHz.
c) Set VBW ≥ 3 MHz.
d) Number of points in sweep ≥ 2 x span / RBW. (This gives bin-to-bin spacing ≤ RBW/2, so that narrowband signals are not lost between frequency bins.)
e) Sweep time = auto.
f) Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
g) Trace average at least 100 traces in power averaging (rms) mode; however, the number of traces to be averaged shall be increased above 100 as needed to ensure that the average accurately represents the true average over the on and off periods of the transmitter.
h) Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument's band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at 1 MHz intervals extending across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.
i) Add 10 log (1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times (because the measurement represents an average over both the on and off times of the transmission). For example, add 10 log (1/0.25) = 6 dB if the duty cycle is 25%.
j) Measure and add 10 log(N_{ANT}) dB, where N_{ANT} is the number of outputs. With this technique, spectrum measurements are performed at each output of the device, but rather than summing the spectra or the spectral peaks across the outputs, the quantity 10 log(N_{ANT}) dB is added to each spectrum value before comparing to the emission limit. The addition of 10 log(N_{ANT}) dB serves to apportion the emission limit among the N_{ANT} outputs so that each output is permitted to contribute no more than $1/N_{ANT}^{th}$ of the PSD limit specified in the rules.

k) For all protocols of the EUT that utilizes MIMO, the Measure and add technique was used.

5.4.3.Results

The Maximum average conducted output power and the maximum EIRP results are presented on pages 41 through 60. The maximum average conducted output power from the transmitter was below the 1 Watt limit. The maximum EIRP from the transmitter was below the 4 Watt limit.

5.5. Occupied bandwidth (EBW) — power bandwidth (99%) measurement procedure

The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission.
The following procedure shall be used for measuring 99% power bandwidth

5.5.1.Procedures

a) The instrument center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the EBW.

b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the EBW, and VBW shall be approximately three times the RBW, unless otherwise specified by the applicable requirement.

c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than [10 log (EBW/RBW)] below the reference level. Specific guidance is given in 4.1.5.2.

d) Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.

e) Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth.

f) The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

5.5.2.Results

The data pages 61 through 70 show the EBW bandwidth measurements. A representative plot of this measurement is shown on data page 71.

5.6. Unwanted Emissions Measurements

5.6.1.Requirements

As specified in § 15.407(b), emissions above 1000 MHz that are outside of the restricted bands are subject to a maximum emission limit of -27 dBm/MHz (or -17 dBm/MHz as specified in § 15.407(b)(4)). However, an out-of-band emission that complies with both the peak and average limits of § 15.209 is not required to satisfy the -27 dBm/MHz or -17 dBm/MHz maximum emission limit.

Radiated emissions which fall in the restricted bands, as defined in §15.205(a), must comply with the radiated emission limits specified in §15.209(a).

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

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

5.6.2.Procedures

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

over the ferrite tile. The floor of the chamber is used as the ground plane. The chamber complies with ANSI C63.4-2014 for site attenuation.

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

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

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

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

   f) Next, for all radiated emissions measurements above 1GHz, the resolution bandwidth was set to 1MHz. The analyzer was set to linear mode with a 10Hz video bandwidth in order to simulate an average detector. An average reading was taken.

5.6.3.Results

Preliminary radiated emissions plots with the EUT transmitting at Low Frequency, Middle Frequency, and High Frequency for the UNII I and UNII III bands are shown on pages 72 through 293. Final radiated emissions data are presented on data pages 294 through 337. As can be seen from the data, all emissions measured from the EUT were within the specification limits.

Photographs of the test configuration which yielded the highest, or worst case, radiated emission levels are shown on Figures 3 through 5.

5.7. Band Edge Compliance

5.7.1.Requirement

As specified in § 15.407(b), emissions above 1000 MHz that are outside of the restricted bands are subject to a maximum emission limit of -27 dBm/MHz (or -17 dBm/MHz as specified in § 15.407(b)(4)). However, an out-of-band emission that complies with both the peak and average limits of § 15.209 is not required to satisfy the -27 dBm/MHz or -17 dBm/MHz maximum emission limit.

5.7.2.Requirement

Unwanted band-edge emissions may be measured using either of the special band-edge measurement techniques (the marker-delta or integration methods) described below. Note that the marker-delta method is primarily a radiated measurement technique that requires the 99% occupied bandwidth edge to be within 2 MHz of the authorized band edge, whereas the integration method can be used in either a radiated or conducted measurement without any special requirement with regards to the displacement of the unwanted emission(s) relative to the authorized bandwidth.

5.7.1.Procedures

For all frequencies in the UNII I band the band-edge compliance measurement was performed radiated and the procedure for maximizing the unwanted emission is detailed in paragraph 5.6.2. The following integration method was used.

Integration method - Maximum emission levels are measured by setting the analyzer as follows:

(i) RBW = 100kHz.

(ii) VBW ≥ 3*RBW.

(iii) Detector = RMS

(iv) Sweep time = auto.

(v) Trace mode = max hold.

(vi) Allow sweeps to continue until the trace stabilizes. Note that if the transmission is not continuous, the time required for the trace to stabilize will increase by a factor of approximately 1/x, where x is the duty cycle. For example, at 50% duty cycle, the measurement time will increase by a factor of two relative to measurement time for continuous transmission.

(vii) Perform a band-power integration across the 1 MHz bandwidth in which the band-edge emission level is to be measured. CAUTION: You must ensure that the spectrum analyzer or EMI receiver is set for peak-detection and max-hold for this measurement.

For all frequencies in the UNII III band the EUT was connected to the receiver through 40dB of attenuation and the following integration method was used.

Integration method - Maximum emission levels are measured by setting the analyzer as follows:

(i) RBW = 100kHz.

(ii) VBW ≥ 3*RBW.

(iii) Detector = RMS

(iv) Sweep time = auto.

(v) Trace mode = max hold.

(vi) Allow sweeps to continue until the trace stabilizes. Note that if the transmission is not continuous, the time required for the trace to stabilize will increase by a factor of approximately 1/x, where x is the duty cycle. For example, at 50% duty cycle, the measurement time will increase by a factor of two relative to measurement time for continuous transmission.

(vii) Perform a band-power integration across the 1 MHz bandwidth in which the band-edge emission level is to be measured. CAUTION: You must ensure that the spectrum analyzer or EMI receiver is set for peak-detection and max-hold for this measurement.

5.7.2.Results

Pages 338 through 341 show the band-edge compliance results. As can be seen from the data, the emissions at the band edges are within the -27 dBm/MHz (or -17 dBm/MHz as specified in § 15.407(b)(4)) emissions limits.

5.8. Power Spectral Density

5.8.1.Requirements

Per section 15.407(a)(1), For an access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Per section 15.407(a)(5),The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test. If the device cannot be connected directly, alternative techniques acceptable to the Commission may be used. Measurements in the 5.725-5.85 GHz band are made over a reference bandwidth of 500 kHz or the 26 dB emission bandwidth of the device, whichever is less. Measurements in the 5.15-5.25 GHz, 5.25-5.35 GHz, and the 5.47-5.725 GHz bands are made over a bandwidth of 1 MHz or the 26 dB emission bandwidth of the device, whichever is less. A narrower resolution bandwidth can be used, provided that the measured power is integrated over the full reference bandwidth.

5.8.2.Procedures

Method SA-2

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

a) Set span to encompass the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.
b) Set RBW = 100kHz.
c) Set VBW to 3*RBW.
d) Number of points in sweep ≥ 2 x span / RBW. (This gives bin-to-bin spacing ≤ RBW/2, so that narrowband signals are not lost between frequency bins.)
e) Sweep time = auto.
f) Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
g) Trace average at least 100 traces in power averaging (rms) mode; however, the number of traces to be averaged shall be increased above 100 as needed to ensure that the average accurately represents the true average over the on and off periods of the transmitter.
h) Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument's band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at 1 MHz intervals extending across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.

i) Add 10 log (1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times (because the measurement represents an average over both the on and off times of the transmission). For example, add 10 log (1/0.25) = 6 dB if the duty cycle is 25%.
j) For all protocols of the EUT that utilizes MIMO, the Measure and add technique was used.

5.8.3.Results

Data pages 342 through 352 show the power spectral density results for each data rate. Representative plots of the power spectral density are shown on pages 353 through 370. As can be seen from the data, the power density is less than -17dBm limit for all conditions.

6. OTHER TEST CONDITIONS

6.1. Test Personnel and Witnesses

All tests were performed by qualified personnel from Elite Electronic Engineering Incorporated.

6.2. Disposition of the EUT

The EUT and all associated equipment were returned to Winegard Co. upon completion of the tests.

7. CONCLUSIONS

It was determined that the Winegard Co. WIFI Extender, Model No. RP-WF12, digital modulation transmitter, Serial Nos. no serial numbers were assigned did fully meet the conducted and radiated emission requirements of the FCC "Code of Federal Regulations" Title 47, Part 15, Subpart E, Sections 15.207 and 15.407 for Intentional Radiators Operating within the UNII I and UNII III, when tested per ANSI C63.4-2014 and ANSI C63.10-2013.

It was also determined that the Winegard Co. WIFI Extender, Model No. RP-WF12, digital modulation transmitter, did fully meet the conducted and radiated emission requirements of the Industry Canada Radio Standards Specification, RSS-Gen, Section 8.8 and Radio Standards and Specification RSS-247 for transmitters, when tested per ANSI C63.4-2014 and ANSI C63.10-2013.

8. CERTIFICATION

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

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

This report must not be used to claim product certification, approval, or endorsement by A2LA, NIST or any agency of the Federal Government.

9. EQUIPMENT LIST

Table 9-1 Equipment List

Eq ID	Equipment Description	Manufacturer	Model No.	Serial No.	Frequency Range	Cal Date	Due Date
APW0	PREAMPLIFIER	PLANAR ELECTRONICS	PE2-30-20G20R6G	PL2926/0646	20GHZ-26.5GHZ	3/2/2016	3/2/2017
APW11	PREAMPLIFIER	PMI	PE2-35-120-5R0-10-12-SFF	PL11685/1241	1GHZ-20GHZ	4/18/2016	4/18/2017
APW4	PREAMPLIFIER	PLANAR	PE2-36-2D540G-5R0-10	PL3043/0651	26.5GHZ-40GHZ	3/2/2016	3/2/2017
CDW9	COMPUTER	ELITE				N/A	
CDY0	WORKSTATION	ELITE	WORKSTATION		WINDOWS 7	N/A	
CDY3	LAB COMPUTER	ELITE	WORKSTATION		WINDOWS 7	N/A	
NHG0	STANDARD GAIN HORN ANTENNA	NARDA	638	---	18-26.5GHZ	NOTE 1	
NHH1	STANDARD GAIN HORN ANTENNA	NARDA	V637	---	26.5-40GHZ	NOTE 1	
NTA1	BILOG ANTENNA	CHASE EMC LTD.	BILOG CBL6112	2054	0.03-2GHZ	2/29/2016	2/28/2017
NWQ0	DOUBLE RIDGED WAVEGUIDE ANTENNA		3117	66657	1GHZ-18GHZ	5/18/2016	5/18/2018
PLF1	CISPR16 50UH LISN	ELITE	CISPR16/70A	001	.15-30MHz	5/16/2016	5/16/2017
PLF3	CISPR16 50UH LISN	ELITE	CISPER16/70A	003	.15-30MHz	5/16/2016	5/16/2017
RBA1	EMI TEST RECEIVER	ROHDE & SCHWARZ	ESIB26	100146	20HZ-26.5GHZ	2/12/2016	2/12/2017
RBB0	EMI TEST RECEIVER 20HZ TO 40 GHZ.		ESIB40	100250	20 HZ TO 40GHZ	2/16/2016	2/16/2017
RBD1	EMI TEST RECEIVER	ROHDE & SCHWARZ	ESU40	100009	20Hz-40GHz	2/10/2016	2/10/2017
T1N2	10DB 20W ATTENUATOR	NARDA	766-10	---	DC-4GHZ	7/8/2015	7/8/2016
T1P0	10dB ATTENUATOR (40GHz)	WEINSCHEL	89-10-12	254	DC-40GHz	3/3/2016	3/3/2018
T2D8	20DB, 25W ATTENUATOR	WEINSCHEL	46-20-43	AY9247	DC-18GHZ	9/21/2015	9/21/2016
T2Q2	20DB/20W ATTENUATOR	AEROFLEX/WEINSCHEL	89-20-21	336	DC-40GHZ	8/20/2015	8/20/2017
T2SB	20DB 25W ATTENUATOR	WEINSCHEL	46-20-34	DC5014	DC-18GHZ	10/13/2015	10/13/2016
VBR8	CISPR EN FCC CE VOLTAGE.exe						
XOA2	WAVE-TO-COAX ADAPTER	HEWLETT PACKARD	R281B	01138	26.5-65GHZ	NOTE 1	
XOB2	ADAPTER	HEWLETT PACKARD	K281C,012	09407	18-26.5GHZ	NOTE 1	
XPR0	HIGH PASS FILTER	K&L MICROWAVE	11SH10-4800/X20000	001	4.8-20GHZ	9/22/2015	9/22/2016

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

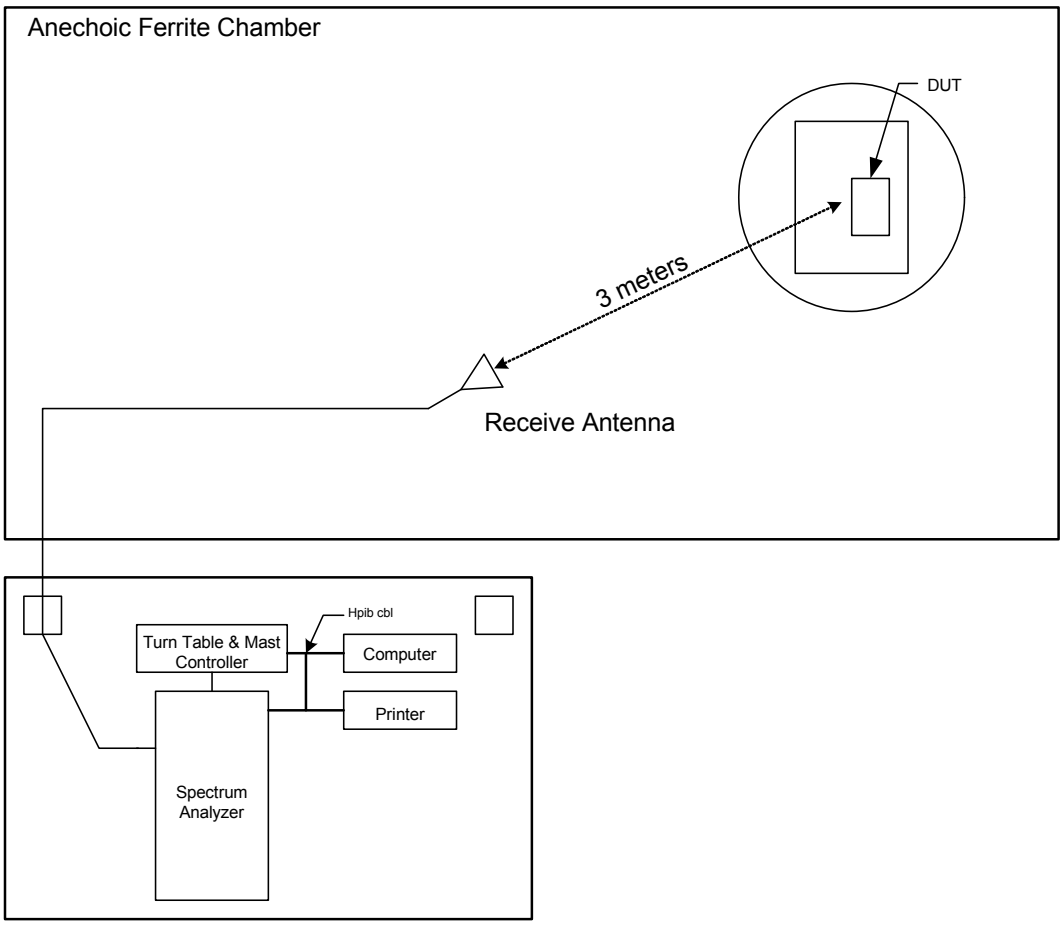
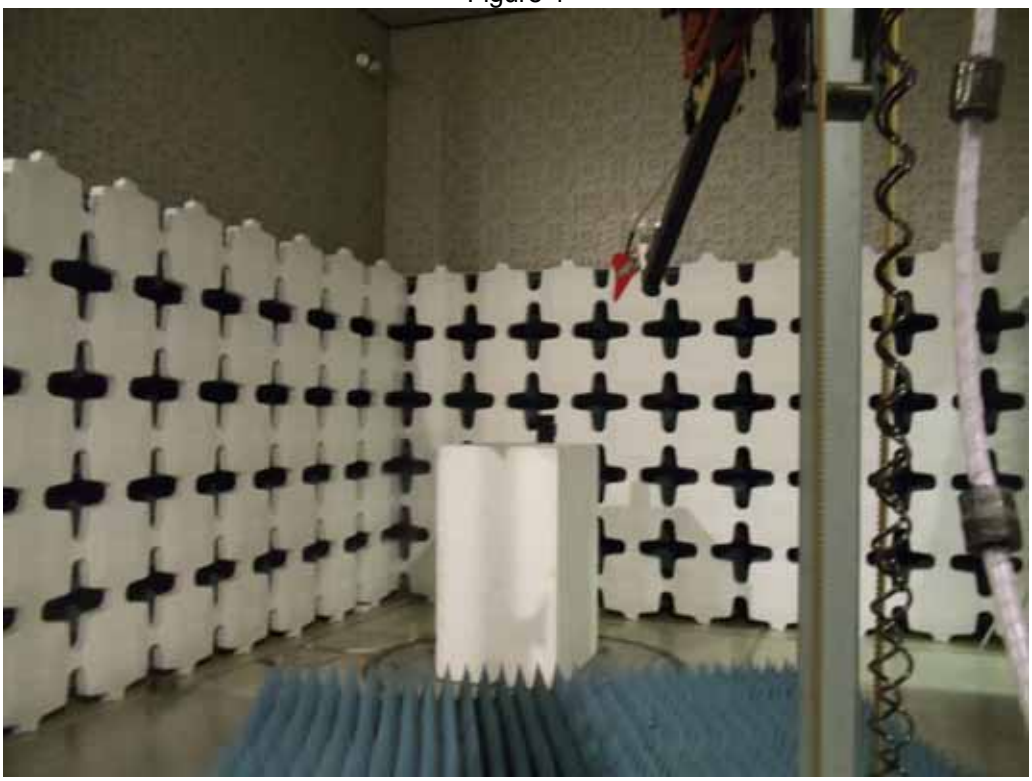


FIGURE 1 BLOCKDIAGRAM OF TEST SETUP

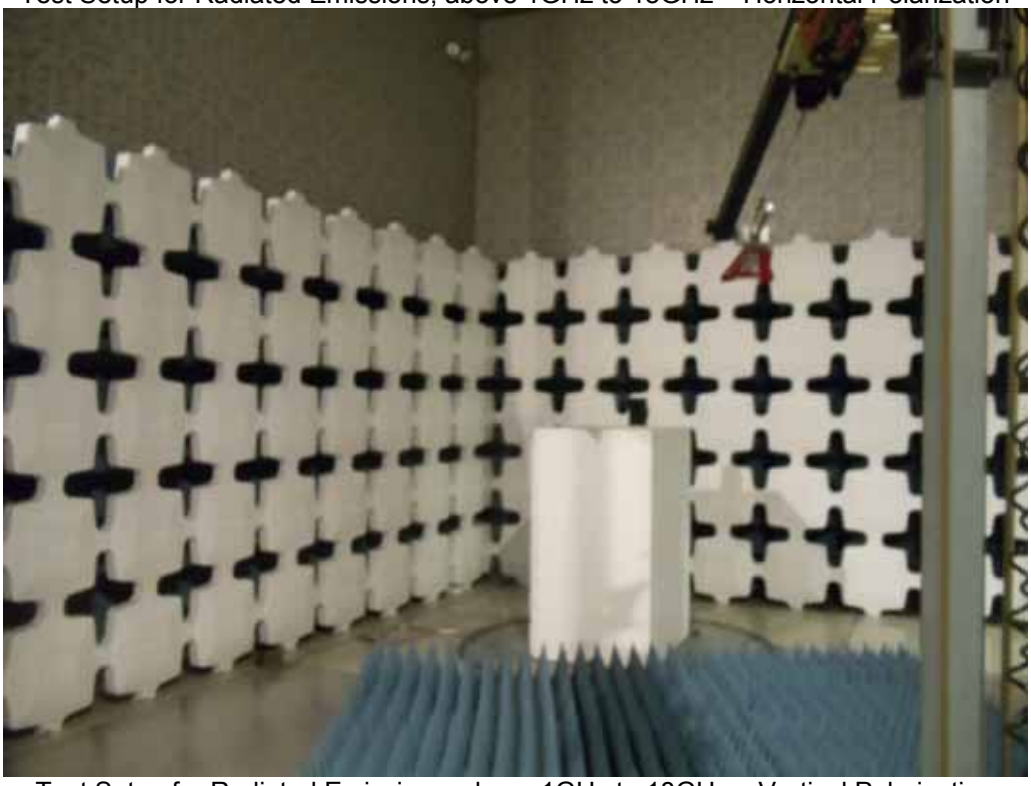
Figure 2

Test Setup for Antenna Conducted Emissions

Figure 4

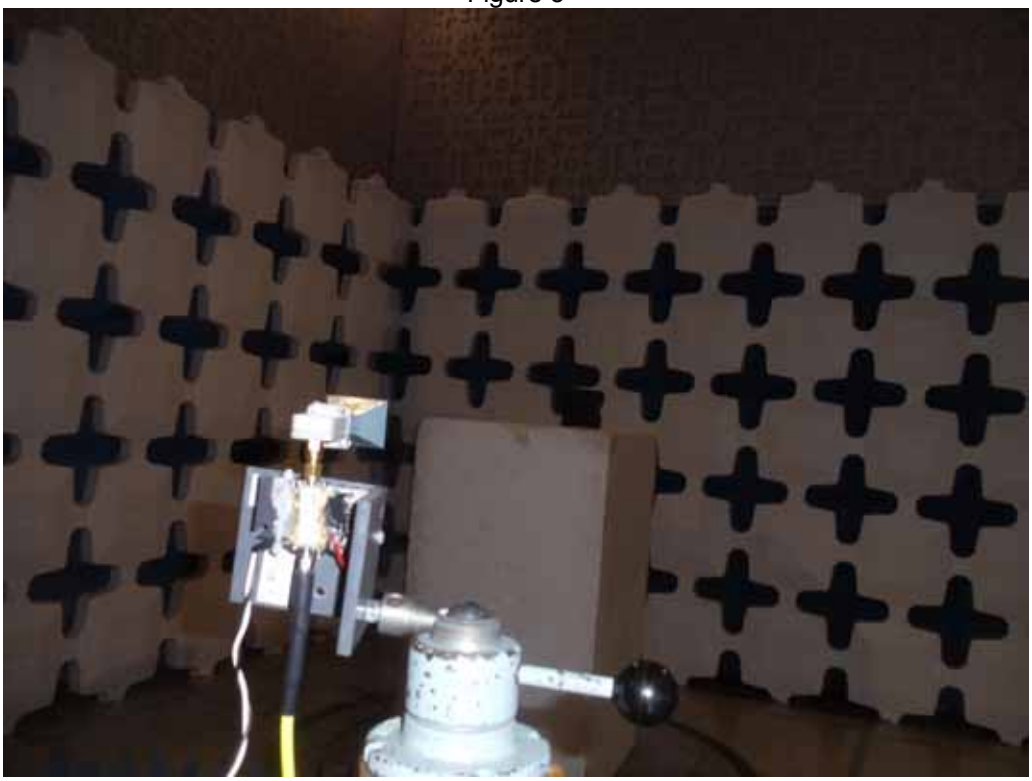


Test Setup for Radiated Emissions, above 1GHz to 18GHz – Horizontal Polarization



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

Figure 5



Test Setup for Radiated Emissions, above 18GHz – Horizontal Polarization

Test Setup for Radiated Emissions, above 18GHz – Vertical Polarization

FCC Part 15 Subpart B Conducted Emissions Test

Significant Emissions Data

VBR8 03/04/2015

Manufacturer	:	WINEGARD
Model	:	RP-WF12
DUT Revision	:	
Serial Number	:	
DUT Mode	:	NORMAL OPERATION
Line Tested	:	L1
Scan Step Time [ms]	:	30
Meas. Threshold [dB]	:	-10
Notes	:	
Test Engineer	:	R. King
Limit	:	Class B
Test Date	:	Mar 04, 2016 03:14:27 PM
Data Filter	:	Up to 80 maximum levels detected with 6 dB level excursion threshold over 10 dB margin below limit

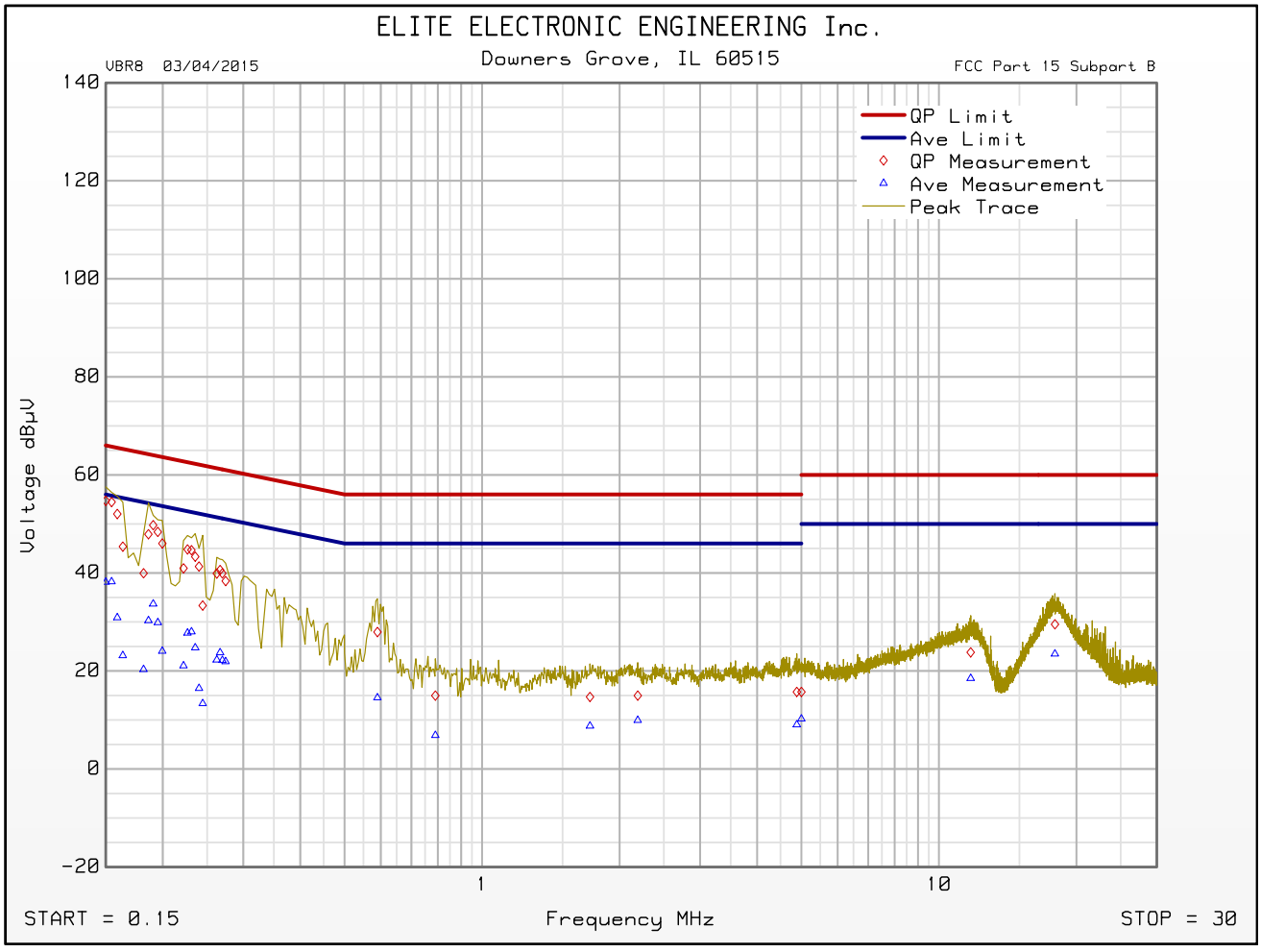
Freq MHz	Quasi-peak Level dBµV	Quasi-peak Limit dBµV	Excessive Quasi-peak Emissions	Average Level dBµV	Average Limit dBµV	Excessive Average Emissions
0.150	54.7	66.0		38.1	56.0	
0.270	39.9	61.1		22.2	51.1	
0.590	27.9	56.0		14.6	46.0	
0.790	15.0	56.0		6.9	46.0	
1.723	14.7	56.0		8.8	46.0	
2.192	15.0	56.0		10.0	46.0	
4.886	15.7	56.0		9.0	46.0	
5.000	15.7	56.0		10.2	46.0	
11.736	23.8	60.0		18.5	50.0	
17.947	29.5	60.0		23.5	50.0	

FCC Part 15 Subpart B Conducted Emissions Test

Cumulative Data

VBR8 03/04/2015

Manufacturer	:	WINEGARD
Model	:	RP-WF12
DUT Revision	:	
Serial Number	:	
DUT Mode	:	NORMAL OPERATION - Transmitting
Line Tested	:	L1
Scan Step Time [ms]	:	30
Meas. Threshold [dB]	:	-10
Notes	:	
Test Engineer	:	R. King
Limit	:	Class B
Test Date	:	Mar 04, 2016 03:14:27 PM



Emissions Meet QP Limit
Emissions Meet Ave Limit

FCC Part 15 Subpart B Conducted Emissions Test

Significant Emissions Data

VBR8 03/04/2015

Manufacturer	:	WINEGARD
Model	:	RP-WF12
DUT Revision	:	
Serial Number	:	
DUT Mode	:	NORMAL OPERATION - Transmitting
Line Tested	:	L2
Scan Step Time [ms]	:	30
Meas. Threshold [dB]	:	-10
Notes	:	
Test Engineer	:	R. King
Limit	:	Class B
Test Date	:	Mar 04, 2016 03:21:46 PM
Data Filter	:	Up to 80 maximum levels detected with 6 dB level excursion threshold over 10 dB margin below limit

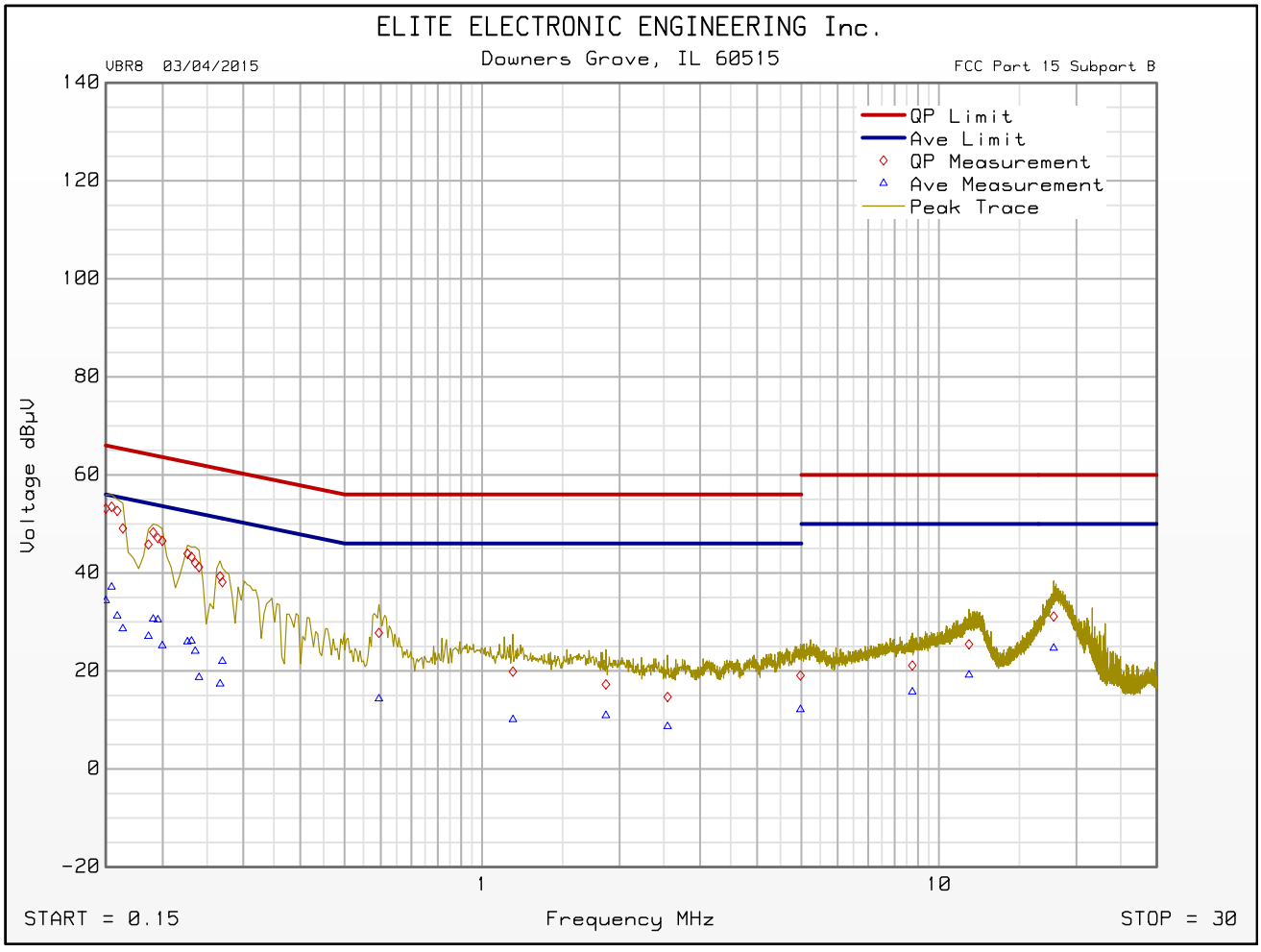
Freq MHz	Quasi-peak Level dBµV	Quasi-peak Limit dBµV	Excessive Quasi-peak Emissions	Average Level dBµV	Average Limit dBµV	Excessive Average Emissions
0.155	53.5	65.8		37.1	55.8	
0.270	38.1	61.1		22.0	51.1	
0.595	27.8	56.0		14.3	46.0	
1.168	19.9	56.0		10.1	46.0	
1.867	17.3	56.0		10.9	46.0	
2.547	14.7	56.0		8.7	46.0	
4.976	19.1	56.0		12.2	46.0	
8.744	21.1	60.0		15.8	50.0	
11.637	25.5	60.0		19.2	50.0	
17.830	31.1	60.0		24.7	50.0	

FCC Part 15 Subpart B Conducted Emissions Test

Cumulative Data

VBR8 03/04/2015

Manufacturer	:	WINEGARD
Model	:	RP-WF12
DUT Revision	:	
Serial Number	:	
DUT Mode	:	NORMAL OPERATION - Transmitting
Line Tested	:	L2
Scan Step Time [ms]	:	30
Meas. Threshold [dB]	:	-10
Notes	:	
Test Engineer	:	R. King
Limit	:	Class B
Test Date	:	Mar 04, 2016 03:21:46 PM



Emissions Meet QP Limit
Emissions Meet Ave Limit

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : 6dB bandwidth
TEST DATE : March 28-29, 2016
TEST MODE : See below
PROTOCOL : 802.11n UNII III
DATA RATE : See below
NOTES : 20MHz bandwidth
: Antenna Port 0

Lo/Mid/Hi	Channel	Frequency MHz	802.11 Protocol	Rate Mbps	6dB Bandwidth (MHz)
Lo	149	5745	n	7.2	17.8
Mid	157	5785	n	7.2	17.7
Hi	165	5825	n	7.2	17.6
Lo	149	5745	n	14.4	17.7
Mid	157	5785	n	14.4	17.7
Hi	165	5825	n	14.4	17.6
Lo	149	5745	n	21.7	17.7
Mid	157	5785	n	21.7	17.7
Hi	165	5825	n	21.7	17.6
Lo	149	5745	n	28.9	17.7
Mid	157	5785	n	28.9	17.7
Hi	165	5825	n	28.9	17.6
Lo	149	5745	n	43.3	16.5
Mid	157	5785	n	43.3	16.5
Hi	165	5825	n	43.3	16.4
Lo	149	5745	n	57.8	17.7
Mid	157	5785	n	57.8	17.7
Hi	165	5825	n	57.8	17.6
Lo	149	5745	n	65	17.7
Mid	157	5785	n	65	17.7
Hi	165	5825	n	65	17.6
Lo	149	5745	n	72.2	17.7
Mid	157	5785	n	72.2	17.7
Hi	165	5825	n	72.2	17.7

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : 6dB bandwidth
TEST DATE : March 28-29, 2016
TEST MODE : See below
PROTOCOL : 802.11ac UNII III
DATA RATE : See below
NOTES : 20MHz bandwidth
: Antenna Port 0

Lo/Mid/Hi	Channel	Frequency MHz	802.11 Protocol	Rate Mbps	6dB Bandwidth (MHz)
Lo	149	5745	ac	7.2	17.6
Mid	157	5785	ac	7.2	17.7
Hi	165	5825	ac	7.2	17.7
Lo	149	5745	ac	14.4	17.7
Mid	157	5785	ac	14.4	17.7
Hi	165	5825	ac	14.4	17.7
Lo	149	5745	ac	21.7	17.6
Mid	157	5785	ac	21.7	17.7
Hi	165	5825	ac	21.7	17.7
Lo	149	5745	ac	28.9	17.7
Mid	157	5785	ac	28.9	17.7
Hi	165	5825	ac	28.9	17.7
Lo	149	5745	ac	43.3	17.7
Mid	157	5785	ac	43.3	17.7
Hi	165	5825	ac	43.3	17.7
Lo	149	5745	ac	57.8	17.7
Mid	157	5785	ac	57.8	17.7
Hi	165	5825	ac	57.8	17.7
Lo	149	5745	ac	65	17.7
Mid	157	5785	ac	65	17.7
Hi	165	5825	ac	65	17.7
Lo	149	5745	ac	72.2	17.7
Mid	157	5785	ac	72.2	17.7
Hi	165	5825	ac	72.2	17.7
Lo	149	5745	ac	86.7	17.7
Mid	157	5785	ac	86.7	17.8
Hi	165	5825	ac	86.7	17.7

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : 6dB bandwidth
TEST DATE : March 28-29, 2016
TEST MODE : See below
PROTOCOL : 802.11n UNII III
DATA RATE : See below
NOTES : 40MHz bandwidth
: Antenna Port 0

Lo/Mid/Hi	Channel	Frequency MHz	802.11 Protocol	Rate Mbps	6dB Bandwidth (MHz)
Lo	151	5755	n	15	36.44
Hi	159	5795	n	15	36.5
Lo	151	5755	n	30	36.44
Hi	159	5795	n	30	36.5
Lo	151	5755	n	45	36.44
Hi	159	5795	n	45	36.5
Lo	151	5755	n	60	36.44
Hi	159	5795	n	60	36.5
Lo	151	5755	n	90	36.44
Hi	159	5795	n	90	36.5
Lo	151	5755	n	120	36.44
Hi	159	5795	n	120	36.5
Lo	151	5755	n	135	36.44
Hi	159	5795	n	135	36.5
Lo	151	5755	n	150	36.44
Hi	159	5795	n	150	36.5

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : 6dB bandwidth
TEST DATE : March 28-29, 2016
TEST MODE : See below
PROTOCOL : 802.11ac UNII III
DATA RATE : See below
NOTES : 40MHz bandwidth
: Antenna Port 0

Lo/Mid/Hi	Channel	Frequency MHz	802.11 Protocol	Rate Mbps	6dB Bandwidth (MHz)
Lo	151	5755	ac	15	36.3
Hi	159	5795	ac	15	36.35
Lo	151	5755	ac	30	36.3
Hi	159	5795	ac	30	36.35
Lo	151	5755	ac	45	36.4
Hi	46	5795	ac	45	36.35
Lo	151	5755	ac	60	36.4
Hi	159	5795	ac	60	36.35
Lo	151	5755	ac	90	36.4
Hi	159	5795	ac	90	36.44
Lo	151	5755	ac	120	36.44
Hi	159	5795	ac	120	36.44
Lo	151	5755	ac	135	36.44
Hi	159	5795	ac	135	36.44
Lo	151	5755	ac	150	36.44
Hi	159	5795	ac	150	36.44
Lo	151	5755	ac	180	36.44
Hi	159	5795	ac	180	36.44
Lo	151	5755	ac	200	36.44
Hi	159	5795	ac	200	36.44

Checked BY Richard E. King :

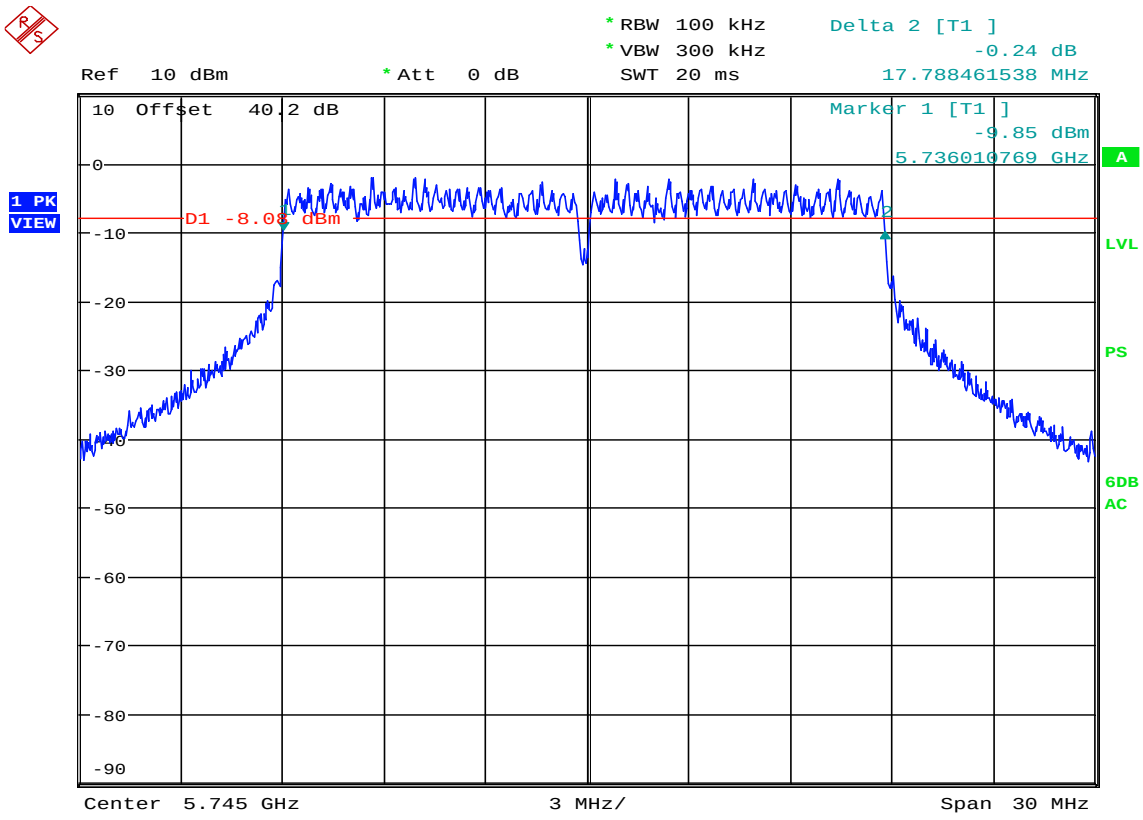
Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : 6dB bandwidth
TEST DATE : March 28-29, 2016
TEST MODE : See below
PROTOCOL : 802.11ac UNII III
DATA RATE : See below
NOTES : 80MHz bandwidth
: Antenna Port 0

Channel	Frequency MHz	802.11 Protocol	Rate Mbps	6dB Bandwidth (MHz)
155	5775	ac	32.5	75.57
155	5775	ac	65	75.57
155	5775	ac	97.5	75.57
155	5775	ac	130	75.57
155	5775	ac	195	75.57
155	5775	ac	260	75.57
155	5775	ac	292.5	75.57
155	5775	ac	325	75.57
155	5775	ac	390	75.57
155	5775	ac	433.3	75.57

Checked BY Richard E. King :

Richard E. King



Date: 19.APR.2016 10:55:20

FCC15C 15.407 / 6dB Bandwidth in the 5.725 to 5.8GHz Band

MANUFACTURER	:	Winegard Co.
MODEL NUMBER	:	RP-WF12
TEST MODE	:	Tx @ LOW Channel UNII III
	:	PEAK detector
NOTES	:	802.11 ac (20 MHz)
NOTES	:	86.7Mbps
NOTES	:	

NOTES

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : Duty Cycle
TEST DATE : March 3 through April 28, 2016
TEST MODE : See below
PROTOCOL : 802.11n UNII I
DATA RATE : See below
NOTES : 20MHz bandwidth
:

802.11 Protocol	Data Rate Mbps	On Time msec	Period msec	Duty Cycle Correction Factor
n	7.2	1.26	1.34	0.27
n	14.4	613.9	680.9	0.45
n	21.7	438.4	519.5	0.74
n	28.9	339.4	411.5	0.84
n	43.3	294.3	313.5	0.27
n	57.8	189.4	264.4	1.45
n	65	188.9	269.5	1.54
n	72.2	149.03	215.4	1.60

Duty Cycle = (On Time)/(Period)
Duty Cycle Correction Factor= 10*LOG(1/Duty Cycle)

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : Duty Cycle
TEST DATE : March 3 through April 28, 2016
TEST MODE : See below
PROTOCOL : 802.11ac UNII I
DATA RATE : See below
NOTES : 20MHz bandwidth
:

802.11 Protocol	Data Rate Mbps	On Time msec	Period msec	Duty Cycle Correction Factor
ac	7.2	1.26	1.34	0.27
ac	14.4	613.9	680.9	0.45
ac	21.7	438.4	519.5	0.74
ac	28.9	339.4	411.5	0.84
ac	43.3	294.3	313.5	0.27
ac	57.8	189.4	264.4	1.45
ac	65	188.9	269.5	1.54
ac	72.2	149.03	215.4	1.60
ac	86.7	140.8	211.4	1.77

Duty Cycle = (On Time)/(Period)
Duty Cycle Correction Factor= 10*LOG(1/Duty Cycle)

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : Duty Cycle
TEST DATE : March 3 through April 28, 2016
TEST MODE : See below
PROTOCOL : 802.11n UNII III
DATA RATE : See below
NOTES : 20MHz bandwidth
:

802.11 Protocol	Data Rate Mbps	On Time msec	Period msec	Duty Cycle Correction Factor
n	7.2	1.26	1.34	0.27
n	14.4	613.9	680.9	0.45
n	21.7	438.4	519.5	0.74
n	28.9	339.4	411.5	0.84
n	43.3	294.3	313.5	0.27
n	57.8	189.4	264.4	1.45
n	65	188.9	269.5	1.54
n	72.2	149.03	215.4	1.60

Duty Cycle = (On Time)/(Period)
Duty Cycle Correction Factor= 10*LOG(1/Duty Cycle)

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : Duty Cycle
TEST DATE : March 3 through April 28, 2016
TEST MODE : See below
PROTOCOL : 802.11ac UNII III
DATA RATE : See below
NOTES : 20MHz bandwidth
:

802.11 Protocol	Data Rate Mbps	On Time msec	Period msec	Duty Cycle Correction Factor
ac	7.2	1.26	1.34	0.27
ac	14.4	613.9	680.9	0.45
ac	21.7	438.4	519.5	0.74
ac	28.9	339.4	411.5	0.84
ac	43.3	294.3	313.5	0.27
ac	57.8	189.4	264.4	1.45
ac	65	188.9	269.5	1.54
ac	72.2	149.03	215.4	1.60
ac	86.7	140.8	211.4	1.77

Duty Cycle = (On Time)/(Period)
Duty Cycle Correction Factor= 10*LOG(1/Duty Cycle)

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : Duty Cycle
TEST DATE : March 3 through April 28, 2016
TEST MODE : See below
PROTOCOL : 802.11n UNII I
DATA RATE : See below
NOTES : 40MHz bandwidth
:

802.11 Protocol	Data Rate Mbps	On Time msec	Period msec	Duty Cycle Correction Factor
n	15	625.9	700.9	0.49
n	30	328.9	403.9	0.89
n	45	235.3	300.8	1.07
n	60	182.11	250.8	1.39
n	90	132.11	200.8	1.82
n	120	110.3	178.9	2.10
n	135	100.9	175.8	2.41
n	150	108.07	187.4	2.39

Duty Cycle = (On Time)/(Period)
Duty Cycle Correction Factor= 10*LOG(1/Duty Cycle)

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : Duty Cycle
TEST DATE : March 3 through April 28, 2016
TEST MODE : See below
PROTOCOL : 802.11ac UNII I
DATA RATE : See below
NOTES : 40MHz bandwidth
:

802.11 Protocol	Data Rate Mbps	On Time msec	Period msec	Duty Cycle Correction Factor
ac	15	625.9	700.9	0.49
ac	30	328.9	403.9	0.89
ac	45	235.3	300.8	1.07
ac	60	182.11	250.8	1.39
ac	90	132.11	200.8	1.82
ac	120	110.3	178.9	2.10
ac	135	100.9	175.8	2.41
ac	150	108.07	187.4	2.39
ac	180	90.04	158.5	2.46
ac	200	86.4	154.9	2.54

Duty Cycle = (On Time)/(Period)
Duty Cycle Correction Factor= 10*LOG(1/Duty Cycle)

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : Duty Cycle
TEST DATE : March 3 through April 28, 2016
TEST MODE : See below
PROTOCOL : 802.11n UNII III
DATA RATE : See below
NOTES : 40MHz bandwidth
:

802.11 Protocol	Data Rate Mbps	On Time msec	Period msec	Duty Cycle Correction Factor
n	15	625.9	700.9	0.49
n	30	328.9	403.9	0.89
n	45	235.3	300.8	1.07
n	60	182.11	250.8	1.39
n	90	132.11	200.8	1.82
n	120	110.3	178.9	2.10
n	135	100.9	175.8	2.41
n	150	108.07	187.4	2.39

Duty Cycle = (On Time)/(Period)
Duty Cycle Correction Factor= 10*LOG(1/Duty Cycle)

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : Duty Cycle
TEST DATE : March 3 through April 28, 2016
TEST MODE : See below
PROTOCOL : 802.11ac UNII III
DATA RATE : See below
NOTES : 40MHz bandwidth
:

802.11 Protocol	Data Rate Mbps	On Time msec	Period msec	Duty Cycle Correction Factor
ac	15	625.9	700.9	0.49
ac	30	328.9	403.9	0.89
ac	45	235.3	300.8	1.07
ac	60	182.11	250.8	1.39
ac	90	132.11	200.8	1.82
ac	120	110.3	178.9	2.10
ac	135	100.9	175.8	2.41
ac	150	108.07	187.4	2.39
ac	180	90.04	158.5	2.46
ac	200	86.4	154.9	2.54

Duty Cycle = (On Time)/(Period)
Duty Cycle Correction Factor= 10*LOG(1/Duty Cycle)

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : Duty Cycle
TEST DATE : March 3 through April 28, 2016
TEST MODE : See below
PROTOCOL : 802.11ac UNII I
DATA RATE : See below
NOTES : 80MHz bandwidth
:

802.11 Protocol	Data Rate Mbps	On Time msec	Period msec	Duty Cycle Correction Factor
ac	32.5	311.3	383.4	0.90
ac	65	177.9	250	1.48
ac	97.5	131	203.1	1.90
ac	130	106.6	178.7	2.24
ac	195	84.9	153.5	2.57
ac	260	74.1	146.3	2.95
ac	292.5	70.5	144.1	3.10
ac	325	64.8	136.9	3.25
ac	390	61.2	140.5	3.61
ac	433.3	53.98	126.1	3.68

Duty Cycle = (On Time)/(Period)
Duty Cycle Correction Factor= 10*LOG(1/Duty Cycle)

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : Duty Cycle
TEST DATE : March 3 through April 28, 2016
TEST MODE : See below
PROTOCOL : 802.11ac UNII III
DATA RATE : See below
NOTES : 80MHz bandwidth
:

802.11 Protocol	Data Rate Mbps	On Time msec	Period msec	Duty Cycle Correction Factor
ac	32.5	311.3	383.4	0.90
ac	65	177.9	250	1.48
ac	97.5	131	203.1	1.90
ac	130	106.6	178.7	2.24
ac	195	84.9	153.5	2.57
ac	260	74.1	146.3	2.95
ac	292.5	70.5	144.1	3.10
ac	325	64.8	136.9	3.25
ac	390	61.2	140.5	3.61
ac	433.3	53.98	126.1	3.68

Duty Cycle = (On Time)/(Period)
Duty Cycle Correction Factor= 10*LOG(1/Duty Cycle)

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : Maximum conducted (average) output power
TEST DATE : March 29-30, 2016
TEST MODE : See below
PROTOCOL : See below
DATA RATE : See below
NOTES : 20MHz UNII I

Lo/Mid/Hi	Channel	Frequency MHz	802.11 Protocol	Rate Mbps	MIMO dB	Conducted Output Power dBm	COP + MIMO+DC dBm
Lo	36	5180	n	7.2	4.77	16.2	21.24
Mid	40	5200	n	7.2	4.77	16.37	21.41
Hi	48	5240	n	7.2	4.77	2.1	7.14
Lo	36	5180	n	14.4	4.77	16.31	21.53
Mid	40	5200	n	14.4	4.77	16.55	21.77
Hi	48	5240	n	14.4	4.77	2.2	7.42
Lo	36	5180	n	21.7	4.77	16.37	21.88
Mid	40	5200	n	21.7	4.77	16.72	22.23
Hi	48	5240	n	21.7	4.77	2.23	7.74
Lo	36	5180	n	28.9	4.77	16.7	22.31
Mid	40	5200	n	28.9	4.77	17.04	22.65
Hi	48	5240	n	28.9	4.77	2.64	8.25
Lo	36	5180	n	43.3	4.77	16.74	21.79
Mid	40	5200	n	43.3	4.77	17.2	22.25
Hi	48	5240	n	43.3	4.77	2.64	7.69
Lo	36	5180	n	57.8	4.77	16.67	22.89
Mid	40	5200	n	57.8	4.77	16.87	23.09
Hi	48	5240	n	57.8	4.77	2.46	8.68
Lo	36	5180	n	65	4.77	16.64	22.95
Mid	40	5200	n	65	4.77	16.89	23.20
Hi	48	5240	n	65	4.77	2.46	8.77
Lo	36	5180	n	72.2	4.77	16.59	22.96
Mid	40	5200	n	72.2	4.77	16.98	23.35
Hi	48	5240	n	72.2	4.77	2.51	8.88

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : Maximum conducted (average) output power
TEST DATE : March 29-30, 2016
TEST MODE : See below
PROTOCOL : See below
DATA RATE : See below
NOTES : 20MHz UNII I

Lo/Mid/Hi	Channel	Frequency MHz	802.11 Protocol	Rate Mbps	MIMO dB	Conducted Output Power dBm	COP + MIMO+DC dBm
Lo	36	5180	ac	7.2	4.77	16.63	21.67
Mid	40	5200	ac	7.2	4.77	16.75	21.79
Hi	48	5240	ac	7.2	4.77	0.44	5.48
Lo	36	5180	ac	14.4	4.77	16.83	22.05
Mid	40	5200	ac	14.4	4.77	16.98	22.20
Hi	48	5240	ac	14.4	4.77	0.59	5.81
Lo	36	5180	ac	21.7	4.77	16.91	22.42
Mid	40	5200	ac	21.7	4.77	17.06	22.57
Hi	48	5240	ac	21.7	4.77	0.65	6.16
Lo	36	5180	ac	28.9	4.77	17.21	22.82
Mid	40	5200	ac	28.9	4.77	17.35	22.96
Hi	48	5240	ac	28.9	4.77	1.17	6.78
Lo	36	5180	ac	43.3	4.77	17.32	22.37
Mid	40	5200	ac	43.3	4.77	17.41	22.46
Hi	48	5240	ac	43.3	4.77	1.14	6.19
Lo	36	5180	ac	57.8	4.77	17.12	23.34
Mid	40	5200	ac	57.8	4.77	17.18	23.40
Hi	48	5240	ac	57.8	4.77	0.9	7.12
Lo	36	5180	ac	65	4.77	17.12	23.43
Mid	40	5200	ac	65	4.77	17.18	23.49
Hi	48	5240	ac	65	4.77	0.88	7.19
Lo	36	5180	ac	72.2	4.77	17.09	23.46
Mid	40	5200	ac	72.2	4.77	17.17	23.54
Hi	48	5240	ac	72.2	4.77	0.91	7.28
Lo	36	5180	ac	86.7	4.77	17.22	23.59
Mid	40	5200	ac	86.7	4.77	17.2	23.57
Hi	48	5240	ac	86.7	4.77	0.92	7.29

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : Maximum conducted (average) output power
TEST DATE : March 29-30, 2016
TEST MODE : See below
PROTOCOL : See below
DATA RATE : See below
NOTES : 20MHz UNII III

Lo/Mid/Hi	Channel	Frequency MHz	802.11 Protocol	Rate Mbps	MIMO dB	Conducted Output Power dBm	COP + MIMO+DC dBm
Lo	149	5745	n	7.2	4.77	10.74	15.78
Mid	157	5785	n	7.2	4.77	11.88	16.92
Hi	165	5825	n	7.2	4.77	12.54	17.58
Lo	149	5745	n	14.4	4.77	10.91	16.13
Mid	157	5785	n	14.4	4.77	12.07	17.29
Hi	165	5825	n	14.4	4.77	12.69	17.91
Lo	149	5745	n	21.7	4.77	11.06	16.57
Mid	157	5785	n	21.7	4.77	12.21	17.72
Hi	165	5825	n	21.7	4.77	12.76	18.27
Lo	149	5745	n	28.9	4.77	11.43	17.04
Mid	157	5785	n	28.9	4.77	12.52	18.13
Hi	165	5825	n	28.9	4.77	13.41	19.02
Lo	149	5745	n	43.3	4.77	11.44	16.49
Mid	157	5785	n	43.3	4.77	12.46	17.51
Hi	165	5825	n	43.3	4.77	13.44	18.49
Lo	149	5745	n	57.8	4.77	11.37	17.59
Mid	157	5785	n	57.8	4.77	12.53	18.75
Hi	165	5825	n	57.8	4.77	13.23	19.45
Lo	149	5745	n	65	4.77	11.39	17.70
Mid	157	5785	n	65	4.77	12.54	18.85
Hi	165	5825	n	65	4.77	13.2	19.51
Lo	149	5745	n	72.2	4.77	11.39	17.76
Mid	157	5785	n	72.2	4.77	12.56	18.93
Hi	165	5825	n	72.2	4.77	13.24	19.61

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : Maximum conducted (average) output power
TEST DATE : March 29-30, 2016
TEST MODE : See below
PROTOCOL : See below
DATA RATE : See below
NOTES : 20MHz UNII III

Lo/Mid/Hi	Channel	Frequency MHz	802.11 Protocol	Rate Mbps	MIMO dB	Conducted Output Power dBm	COP + MIMO+DC dBm
Lo	149	5745	ac	7.2	4.77	10.88	15.92
Mid	157	5785	ac	7.2	4.77	10.92	15.96
Hi	165	5825	ac	7.2	4.77	10.63	15.67
Lo	149	5745	ac	14.4	4.77	11.06	16.28
Mid	157	5785	ac	14.4	4.77	11.05	16.27
Hi	165	5825	ac	14.4	4.77	10.78	16.00
Lo	149	5745	ac	21.7	4.77	11.46	16.97
Mid	157	5785	ac	21.7	4.77	11.06	16.57
Hi	165	5825	ac	21.7	4.77	10.78	16.29
Lo	149	5745	ac	28.9	4.77	11.46	17.07
Mid	157	5785	ac	28.9	4.77	11.42	17.03
Hi	165	5825	ac	28.9	4.77	11.11	16.72
Lo	149	5745	ac	43.3	4.77	11.48	16.53
Mid	157	5785	ac	43.3	4.77	11.41	16.46
Hi	165	5825	ac	43.3	4.77	11.12	16.17
Lo	149	5745	ac	57.8	4.77	11.36	17.58
Mid	157	5785	ac	57.8	4.77	11.46	17.68
Hi	165	5825	ac	57.8	4.77	11.09	17.31
Lo	149	5745	ac	65	4.77	11.34	17.65
Mid	157	5785	ac	65	4.77	11.45	17.76
Hi	165	5825	ac	65	4.77	11.07	17.38
Lo	149	5745	ac	72.2	4.77	11.35	17.72
Mid	157	5785	ac	72.2	4.77	11.43	17.80
Hi	165	5825	ac	72.2	4.77	11.05	17.42
Lo	149	5745	ac	86.7	4.77	11.41	17.76
Mid	157	5785	ac	86.7	4.77	11.49	18.93
Hi	165	5825	ac	86.7	4.77	11.12	19.61

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : Maximum conducted (average) output power
TEST DATE : March 29-30, 2016
TEST MODE : See below
PROTOCOL : See below
DATA RATE : See below
NOTES : 40MHz UNII I

Lo/Mid/Hi	Channel	Frequency MHz	802.11 Protocol	Rate Mbps	MIMO dB	Conducted Output Power dBm	COP + MIMO+DC dBm
Lo	38	5190	n	15	4.77	16.21	21.47
Hi	46	5230	n	15	4.77	0.49	5.75
Lo	38	5190	n	30	4.77	16.4	22.06
Hi	46	5230	n	30	4.77	0.57	6.23
Lo	38	5190	n	45	4.77	16.53	22.37
Hi	46	5230	n	45	4.77	0.59	6.43
Lo	38	5190	n	60	4.77	16.84	23.00
Hi	46	5230	n	60	4.77	0.97	7.13
Lo	38	5190	n	90	4.77	16.92	23.51
Hi	46	5230	n	90	4.77	0.99	7.58
Lo	38	5190	n	120	4.77	17.24	24.11
Hi	46	5230	n	120	4.77	1.09	7.96
Lo	38	5190	n	135	4.77	17.12	24.30
Hi	46	5230	n	135	4.77	1.03	8.21
Lo	38	5190	n	150	4.77	17.14	24.30
Hi	46	5230	n	150	4.77	1.03	8.19

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : Maximum conducted (average) output power
TEST DATE : March 29-30, 2016
TEST MODE : See below
PROTOCOL : See below
DATA RATE : See below
NOTES : 40MHz UNII I

Lo/Mid/Hi	Channel	Frequency MHz	802.11 Protocol	Rate Mbps	MIMO dB	Conducted Output Power dBm	COP+MIMO+DC dBm
Lo	38	5190	ac	15	4.77	14.84	20.10
Hi	46	5230	ac	15	4.77	0	5.26
Lo	38	5190	ac	30	4.77	15.07	20.73
Hi	46	5230	ac	30	4.77	0.12	5.78
Lo	38	5190	ac	45	4.77	15.15	20.99
Hi	46	5230	ac	45	4.77	0.2	6.04
Lo	38	5190	ac	60	4.77	15.54	21.70
Hi	46	5230	ac	60	4.77	0.51	6.67
Lo	38	5190	ac	90	4.77	15.47	22.06
Hi	46	5230	ac	90	4.77	0.49	7.08
Lo	38	5190	ac	120	4.77	15.75	22.62
Hi	46	5230	ac	120	4.77	0.55	7.42
Lo	38	5190	ac	135	4.77	15.77	22.95
Hi	46	5230	ac	135	4.77	0.5	7.68
Lo	38	5190	ac	150	4.77	15.72	22.88
Hi	46	5230	ac	150	4.77	0.61	7.77
Lo	38	5190	ac	180	4.77	15.75	22.98
Hi	46	5230	ac	180	4.77	0.59	7.82
Lo	38	5190	ac	200	4.77	15.77	23.08
Hi	46	5230	ac	200	4.77	0.63	7.94

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : Maximum conducted (average) output power
TEST DATE : March 29-30, 2016
TEST MODE : See below
PROTOCOL : See below
DATA RATE : See below
NOTES : 40MHz UNII III

Lo/Mid/Hi	Channel	Frequency MHz	802.11 Protocol	Rate Mbps	MIMO dB	Conducted Output Power dBm	COP+MIMO+DC dBm
Lo	151	5755	n	15	4.77	16.89	22.15
Hi	159	5795	n	15	4.77	16.89	22.15
Lo	151	5755	n	30	4.77	17.14	22.80
Hi	159	5795	n	30	4.77	17.12	22.78
Lo	151	5755	n	45	4.77	17.19	23.03
Hi	159	5795	n	45	4.77	17.15	22.99
Lo	151	5755	n	60	4.77	17.54	23.70
Hi	159	5795	n	60	4.77	17.49	23.65
Lo	151	5755	n	90	4.77	17.58	24.17
Hi	159	5795	n	90	4.77	17.6	24.19
Lo	151	5755	n	120	4.77	17.77	24.64
Hi	159	5795	n	120	4.77	17.74	24.61
Lo	151	5755	n	135	4.77	17.82	25.00
Hi	159	5795	n	135	4.77	17.77	24.95
Lo	151	5755	n	150	4.77	17.79	24.95
Hi	159	5795	n	150	4.77	17.78	24.94

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : Maximum conducted (average) output power
TEST DATE : March 29-30, 2016
TEST MODE : See below
PROTOCOL : See below
DATA RATE : See below
NOTES : 40MHz UNII III

Lo/Mid/Hi	Channel	Frequency MHz	802.11 Protocol	Rate Mbps	MIMO dB	Conducted Output Power dBm	COP+MIMO+DC dBm
Lo	151	5755	ac	15	4.77	12.26	17.52
Hi	159	5795	ac	15	4.77	17.46	22.72
Lo	151	5755	ac	30	4.77	12.44	18.10
Hi	159	5795	ac	30	4.77	17.65	23.31
Lo	151	5755	ac	45	4.77	12.53	18.37
Hi	46	5795	ac	45	4.77	17.69	23.53
Lo	151	5755	ac	60	4.77	13.01	19.17
Hi	159	5795	ac	60	4.77	18.04	24.20
Lo	151	5755	ac	90	4.77	12.97	19.56
Hi	159	5795	ac	90	4.77	18.05	24.64
Lo	151	5755	ac	120	4.77	13.14	20.01
Hi	159	5795	ac	120	4.77	18.28	25.15
Lo	151	5755	ac	135	4.77	13.12	20.30
Hi	159	5795	ac	135	4.77	18.24	25.42
Lo	151	5755	ac	150	4.77	13.14	20.30
Hi	159	5795	ac	150	4.77	18.25	25.41
Lo	151	5755	ac	180	4.77	13.14	20.37
Hi	159	5795	ac	180	4.77	18.27	25.50
Lo	151	5755	ac	200	4.77	13.21	20.52
Hi	159	5795	ac	200	4.77	18.29	25.60

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : Maximum conducted (average) output power
TEST DATE : March 29-30, 2016
TEST MODE : See below
PROTOCOL : See below
DATA RATE : See below
NOTES : 80MHz UNII I

Channel	Frequency MHz	802.11 Protocol	Rate Mbps	MIMO dB	Conducted Output Power dBm	COP+MIMO+DC dBm
42	5210	ac	32.5	4.77	0.89	6.57
42	5210	ac	65	4.77	0.99	7.24
42	5210	ac	97.5	4.77	0.97	7.65
42	5210	ac	130	4.77	1.35	8.36
42	5210	ac	195	4.77	1.28	8.62
42	5210	ac	260	4.77	1.41	9.14
42	5210	ac	292.5	4.77	1.37	9.25
42	5210	ac	325	4.77	1.37	9.39
42	5210	ac	390	4.77	1.31	9.69
42	5210	ac	433.3	4.77	1.32	9.78

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : Maximum conducted (average) output power
TEST DATE : March 29-30, 2016
TEST MODE : See below
PROTOCOL : See below
DATA RATE : See below
NOTES : 80MHz UNII III

Channel	Frequency MHz	802.11 Protocol	Rate Mbps	MIMO dB	Conducted Output Power dBm	COP+MIMO+DC dBm
155	5775	ac	32.5	4.77	13.64	19.32
155	5775	ac	65	4.77	13.78	20.03
155	5775	ac	97.5	4.77	13.78	20.46
155	5775	ac	130	4.77	14.39	21.40
155	5775	ac	195	4.77	14.34	21.68
155	5775	ac	260	4.77	14.33	22.06
155	5775	ac	292.5	4.77	14.27	22.15
155	5775	ac	325	4.77	14.29	22.31
155	5775	ac	390	4.77	14.24	22.62
155	5775	ac	433.3	4.77	14.22	22.68

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : EIRP
TEST DATE : March 29-30, 2016
TEST MODE : See below
PROTOCOL : See below
DATA RATE : See below
NOTES : 20MHz UNII I

Frequency MHz	802.11 Protocol	Rate Mbps	MIMO dB	antenna Gain dB	Conducted Output Power dBm	COP + MIMO+DC dBm	EIRP dBm	EIRP Watts	LIMIT dBm	LIMIT Watts
5180	n	7.2	4.77	5.00	16.2	21.24	26.24	0.42	36	4
5200	n	7.2	4.77	5.00	16.37	21.41	26.41	0.44	36	4
5240	n	7.2	4.77	5.00	2.1	7.14	12.14	0.02	36	4
5180	n	14.4	4.77	5.00	16.31	21.53	26.53	0.45	36	4
5200	n	14.4	4.77	5.00	16.55	21.77	26.77	0.48	36	4
5240	n	14.4	4.77	5.00	2.2	7.42	12.42	0.02	36	4
5180	n	21.7	4.77	5.00	16.37	21.88	26.88	0.49	36	4
5200	n	21.7	4.77	5.00	16.72	22.23	27.23	0.53	36	4
5240	n	21.7	4.77	5.00	2.23	7.74	12.74	0.02	36	4
5180	n	28.9	4.77	5.00	16.7	22.31	27.31	0.54	36	4
5200	n	28.9	4.77	5.00	17.04	22.65	27.65	0.58	36	4
5240	n	28.9	4.77	5.00	2.64	8.25	13.25	0.02	36	4
5180	n	43.3	4.77	5.00	16.74	21.79	26.79	0.48	36	4
5200	n	43.3	4.77	5.00	17.2	22.25	27.25	0.53	36	4
5240	n	43.3	4.77	5.00	2.64	7.69	12.69	0.02	36	4
5180	n	57.8	4.77	5.00	16.67	22.89	27.89	0.62	36	4
5200	n	57.8	4.77	5.00	16.87	23.09	28.09	0.64	36	4
5240	n	57.8	4.77	5.00	2.46	8.68	13.68	0.02	36	4
5180	n	65	4.77	5.00	16.64	22.95	27.95	0.62	36	4
5200	n	65	4.77	5.00	16.89	23.20	28.20	0.66	36	4
5240	n	65	4.77	5.00	2.46	8.77	13.77	0.02	36	4
5180	n	72.2	4.77	5.00	16.59	22.96	27.96	0.63	36	4
5200	n	72.2	4.77	5.00	16.98	23.35	28.35	0.68	36	4
5240	n	72.2	4.77	5.00	2.51	8.88	13.88	0.02	36	4

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : EIRP
TEST DATE : March 29-30, 2016
TEST MODE : See below
PROTOCOL : See below
DATA RATE : See below
NOTES : 20MHz UNII I

Frequency MHz	802.11 Protocol	Rate Mbps	MIMO dB	antenna gain dB	Conducted Output Power dBm	COP + MIMO+DC dBm	EIRP dBm	EIRP Watts	LIMIT dBm	LIMIT Watts
5180	ac	7.2	4.77	5.00	16.63	21.67	26.67	0.15	36	4
5200	ac	7.2	4.77	5.00	16.75	21.79	26.79	0.15	36	4
5240	ac	7.2	4.77	5.00	0.44	5.48	10.48	0.00	36	4
5180	ac	14.4	4.77	5.00	16.83	22.05	27.05	0.16	36	4
5200	ac	14.4	4.77	5.00	16.98	22.20	27.20	0.17	36	4
5240	ac	14.4	4.77	5.00	0.59	5.81	10.81	0.00	36	4
5180	ac	21.7	4.77	5.00	16.91	22.42	27.42	0.17	36	4
5200	ac	21.7	4.77	5.00	17.06	22.57	27.57	0.18	36	4
5240	ac	21.7	4.77	5.00	0.65	6.16	11.16	0.00	36	4
5180	ac	28.9	4.77	5.00	17.21	22.82	27.82	0.19	36	4
5200	ac	28.9	4.77	5.00	17.35	22.96	27.96	0.20	36	4
5240	ac	28.9	4.77	5.00	1.17	6.78	11.78	0.00	36	4
5180	ac	43.3	4.77	5.00	17.32	22.37	27.37	0.17	36	4
5200	ac	43.3	4.77	5.00	17.41	22.46	27.46	0.18	36	4
5240	ac	43.3	4.77	5.00	1.14	6.19	11.19	0.00	36	4
5180	ac	57.8	4.77	5.00	17.12	23.34	28.34	0.22	36	4
5200	ac	57.8	4.77	5.00	17.18	23.40	28.40	0.22	36	4
5240	ac	57.8	4.77	5.00	0.9	7.12	12.12	0.01	36	4
5180	ac	65	4.77	5.00	17.12	23.43	28.43	0.22	36	4
5200	ac	65	4.77	5.00	17.18	23.49	28.49	0.22	36	4
5240	ac	65	4.77	5.00	0.88	7.19	12.19	0.01	36	4
5180	ac	72.2	4.77	5.00	17.09	23.46	28.46	0.22	36	4
5200	ac	72.2	4.77	5.00	17.17	23.54	28.54	0.23	36	4
5240	ac	72.2	4.77	5.00	0.91	7.28	12.28	0.01	36	4
5180	ac	86.7	4.77	5.00	17.22	23.59	28.59	0.23	36	4
5200	ac	86.7	4.77	5.00	17.2	23.57	28.57	0.23	36	4
5240	ac	86.7	4.77	5.00	0.92	7.29	12.29	0.01	36	4

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : EIRP
TEST DATE : March 29-30, 2016
TEST MODE : See below
PROTOCOL : See below
DATA RATE : See below
NOTES : 20MHz UNII III

Frequency MHz	802.11 Protocol	Rate Mbps	MIMO dB	antenna Gain dB	Conducted Output Power dBm	COP + MIMO+DC dBm	EIRP dBm	EIRP Watts	LIMIT dBm	LIMIT Watts
5745	n	7.2	4.77	5.00	10.74	15.78	20.78	0.12	36	4
5785	n	7.2	4.77	5.00	11.88	16.92	21.92	0.16	36	4
5825	n	7.2	4.77	5.00	12.54	17.58	22.58	0.18	36	4
5745	n	14.4	4.77	5.00	10.91	16.13	21.13	0.13	36	4
5785	n	14.4	4.77	5.00	12.07	17.29	22.29	0.17	36	4
5825	n	14.4	4.77	5.00	12.69	17.91	22.91	0.20	36	4
5745	n	21.7	4.77	5.00	11.06	16.57	21.57	0.14	36	4
5785	n	21.7	4.77	5.00	12.21	17.72	22.72	0.19	36	4
5825	n	21.7	4.77	5.00	12.76	18.27	23.27	0.21	36	4
5745	n	28.9	4.77	5.00	11.43	17.04	22.04	0.16	36	4
5785	n	28.9	4.77	5.00	12.52	18.13	23.13	0.21	36	4
5825	n	28.9	4.77	5.00	13.41	19.02	24.02	0.25	36	4
5745	n	43.3	4.77	5.00	11.44	16.49	21.49	0.14	36	4
5785	n	43.3	4.77	5.00	12.46	17.51	22.51	0.18	36	4
5825	n	43.3	4.77	5.00	13.44	18.49	23.49	0.22	36	4
5745	n	57.8	4.77	5.00	11.37	17.59	22.59	0.18	36	4
5785	n	57.8	4.77	5.00	12.53	18.75	23.75	0.24	36	4
5825	n	57.8	4.77	5.00	13.23	19.45	24.45	0.28	36	4
5745	n	65	4.77	5.00	11.39	17.70	22.70	0.19	36	4
5785	n	65	4.77	5.00	12.54	18.85	23.85	0.24	36	4
5825	n	65	4.77	5.00	13.2	19.51	24.51	0.28	36	4
5745	n	72.2	4.77	5.00	11.39	17.76	22.76	0.19	36	4
5785	n	72.2	4.77	5.00	12.56	18.93	23.93	0.25	36	4
5825	n	72.2	4.77	5.00	13.24	19.61	24.61	0.29	36	4

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : EIRP
TEST DATE : March 29-30, 2016
TEST MODE : See below
PROTOCOL : See below
DATA RATE : See below
NOTES : 20MHz UNII III

Frequency	802.11	Rate	MIMO	antenna Gain	Conducted Output Power	COP + MIMO+DC	EIRP	EIRP	LIMIT	LIMIT
MHz	Protocol	Mbps	dB	dB	dBm	dBm	dBm	Watts	dBm	Watts
5745	ac	7.2	4.77	5.00	10.88	15.92	20.92	0.12	36	4
5785	ac	7.2	4.77	5.00	10.92	15.96	20.96	0.12	36	4
5825	ac	7.2	4.77	5.00	10.63	15.67	20.67	0.12	36	4
5745	ac	14.4	4.77	5.00	11.06	16.28	21.28	0.13	36	4
5785	ac	14.4	4.77	5.00	11.05	16.27	21.27	0.13	36	4
5825	ac	14.4	4.77	5.00	10.78	16.00	21.00	0.13	36	4
5745	ac	21.7	4.77	5.00	11.46	16.97	21.97	0.16	36	4
5785	ac	21.7	4.77	5.00	11.06	16.57	21.57	0.14	36	4
5825	ac	21.7	4.77	5.00	10.78	16.29	21.29	0.13	36	4
5745	ac	28.9	4.77	5.00	11.46	17.07	22.07	0.16	36	4
5785	ac	28.9	4.77	5.00	11.42	17.03	22.03	0.16	36	4
5825	ac	28.9	4.77	5.00	11.11	16.72	21.72	0.15	36	4
5745	ac	43.3	4.77	5.00	11.48	16.53	21.53	0.14	36	4
5785	ac	43.3	4.77	5.00	11.41	16.46	21.46	0.14	36	4
5825	ac	43.3	4.77	5.00	11.12	16.17	21.17	0.13	36	4
5745	ac	57.8	4.77	5.00	11.36	17.58	22.58	0.18	36	4
5785	ac	57.8	4.77	5.00	11.46	17.68	22.68	0.19	36	4
5825	ac	57.8	4.77	5.00	11.09	17.31	22.31	0.17	36	4
5745	ac	65	4.77	5.00	11.34	17.65	22.65	0.18	36	4
5785	ac	65	4.77	5.00	11.45	17.76	22.76	0.19	36	4
5825	ac	65	4.77	5.00	11.07	17.38	22.38	0.17	36	4
5745	ac	72.2	4.77	5.00	11.35	17.72	22.72	0.19	36	4
5785	ac	72.2	4.77	5.00	11.43	17.80	22.80	0.19	36	4
5825	ac	72.2	4.77	5.00	11.05	17.42	22.42	0.17	36	4
5745	ac	86.7	4.77	5.00	11.41	17.76	22.76	0.19	36	4
5785	ac	86.7	4.77	5.00	11.49	18.93	23.93	0.25	36	4
5825	ac	86.7	4.77	5.00	11.12	19.61	24.61	0.29	36	4

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : EIRP
TEST DATE : March 29-30, 2016
TEST MODE : See below
PROTOCOL : See below
DATA RATE : See below
NOTES : 40MHz UNII I

Frequency	802.11	Rate	MIMO	antenna Gain	Conducted Output Power	COP + MIMO+DC	EIRP	EIRP	LIMIT	LIMIT
MHz	Protocol	Mbps	dB	dB	dBm	dBm	dBm	Watts	dBm	Watts
5190	n	15	4.77	5.00	16.21	21.47	26.47	0.44	36	4
5230	n	15	4.77	5.00	0.49	5.75	10.75	0.01	36	4
5190	n	30	4.77	5.00	16.4	22.06	27.06	0.51	36	4
5230	n	30	4.77	5.00	0.57	6.23	11.23	0.01	36	4
5190	n	45	4.77	5.00	16.53	22.37	27.37	0.55	36	4
5230	n	45	4.77	5.00	0.59	6.43	11.43	0.01	36	4
5190	n	60	4.77	5.00	16.84	23.00	28.00	0.63	36	4
5230	n	60	4.77	5.00	0.97	7.13	12.13	0.02	36	4
5190	n	90	4.77	5.00	16.92	23.51	28.51	0.71	36	4
5230	n	90	4.77	5.00	0.99	7.58	12.58	0.02	36	4
5190	n	120	4.77	5.00	17.24	24.11	29.11	0.81	36	4
5230	n	120	4.77	5.00	1.09	7.96	12.96	0.02	36	4
5190	n	135	4.77	5.00	17.12	24.30	29.30	0.85	36	4
5230	n	135	4.77	5.00	1.03	8.21	13.21	0.02	36	4
5190	n	150	4.77	5.00	17.14	24.30	29.30	0.85	36	4
5230	n	150	4.77	5.00	1.03	8.19	13.19	0.02	36	4

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : EIRP
TEST DATE : March 29-30, 2016
TEST MODE : See below
PROTOCOL : See below
DATA RATE : See below
NOTES : 40MHz UNII I

Frequency	802.11	Rate	MIMO	antenna Gain	Conducted Output Power	COP + MIMO+DC	EIRP	EIRP	LIMIT	LIMIT
MHz	Protocol	Mbps	dB	dB	dBm	dBm	dBm	Watts	dBm	Watts
5190	ac	15	4.77	5.00	14.84	20.10	25.10	0.32	36	4
5230	ac	15	4.77	5.00	0	5.26	10.26	0.01	36	4
5190	ac	30	4.77	5.00	15.07	20.73	25.73	0.37	36	4
5230	ac	30	4.77	5.00	0.12	5.78	10.78	0.01	36	4
5190	ac	45	4.77	5.00	15.15	20.99	25.99	0.40	36	4
5230	ac	45	4.77	5.00	0.2	6.04	11.04	0.01	36	4
5190	ac	60	4.77	5.00	15.54	21.70	26.70	0.47	36	4
5230	ac	60	4.77	5.00	0.51	6.67	11.67	0.01	36	4
5190	ac	90	4.77	5.00	15.47	22.06	27.06	0.51	36	4
5230	ac	90	4.77	5.00	0.49	7.08	12.08	0.02	36	4
5190	ac	120	4.77	5.00	15.75	22.62	27.62	0.58	36	4
5230	ac	120	4.77	5.00	0.55	7.42	12.42	0.02	36	4
5190	ac	135	4.77	5.00	15.77	22.95	27.95	0.62	36	4
5230	ac	135	4.77	5.00	0.5	7.68	12.68	0.02	36	4
5190	ac	150	4.77	5.00	15.72	22.88	27.88	0.61	36	4
5230	ac	150	4.77	5.00	0.61	7.77	12.77	0.02	36	4
5190	ac	200	4.77	5.00	15.77	23.08	28.08	0.64	36	4
5230	ac	200	4.77	5.00	0.63	7.94	12.94	0.02	36	4

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : EIRP
TEST DATE : March 29-30, 2016
TEST MODE : See below
PROTOCOL : See below
DATA RATE : See below
NOTES : 40MHz UNII III

Frequency	802.11	Rate	MIMO	antenna Gain	Conducted Output Power	COP + MIMO+DC	EIRP	EIRP	LIMIT	LIMIT
MHz	Protocol	Mbps	dB	dB	dBm	dBm	dBm	Watts	dBm	Watts
5755	n	15	4.77	5.00	16.89	22.15	27.15	0.52	36	4
5795	n	15	4.77	5.00	16.89	22.15	27.15	0.52	36	4
5755	n	30	4.77	5.00	17.14	22.80	27.80	0.60	36	4
5795	n	30	4.77	5.00	17.12	22.78	27.78	0.60	36	4
5755	n	45	4.77	5.00	17.19	23.03	28.03	0.64	36	4
5795	n	45	4.77	5.00	17.15	22.99	27.99	0.63	36	4
5755	n	60	4.77	5.00	17.54	23.70	28.70	0.74	36	4
5795	n	60	4.77	5.00	17.49	23.65	28.65	0.73	36	4
5755	n	90	4.77	5.00	17.58	24.17	29.17	0.83	36	4
5795	n	90	4.77	5.00	17.6	24.19	29.19	0.83	36	4
5755	n	120	4.77	5.00	17.77	24.64	29.64	0.92	36	4
5795	n	120	4.77	5.00	17.74	24.61	29.61	0.91	36	4
5755	n	135	4.77	5.00	17.82	25.00	30.00	1.00	36	4
5795	n	135	4.77	5.00	17.77	24.95	29.95	0.99	36	4
5755	n	150	4.77	5.00	17.79	24.95	29.95	0.99	36	4
5795	n	150	4.77	5.00	17.78	24.94	29.94	0.99	36	4

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : EIRP
TEST DATE : March 29-30, 2016
TEST MODE : See below
PROTOCOL : See below
DATA RATE : See below
NOTES : 40MHz UNII I

Frequency	802.11	Rate	MIMO	antenna Gain	Conducted Output Power	COP + MIMO+DC	EIRP	EIRP	LIMIT	LIMIT
MHz	Protocol	Mbps	dB	dB	dBm	dBm	dBm	Watts	dBm	Watts
5755	ac	15	4.77	5.00	12.26	17.52	22.52	0.18	36	4
5795	ac	15	4.77	5.00	17.46	22.72	27.72	0.59	36	4
5755	ac	30	4.77	5.00	12.44	18.10	23.10	0.20	36	4
5795	ac	30	4.77	5.00	17.65	23.31	28.31	0.68	36	4
5755	ac	45	4.77	5.00	12.53	18.37	23.37	0.22	36	4
5795	ac	45	4.77	5.00	17.69	23.53	28.53	0.71	36	4
5755	ac	60	4.77	5.00	13.01	19.17	24.17	0.26	36	4
5795	ac	60	4.77	5.00	18.04	24.20	29.20	0.83	36	4
5755	ac	90	4.77	5.00	12.97	19.56	24.56	0.29	36	4
5795	ac	90	4.77	5.00	18.05	24.64	29.64	0.92	36	4
5755	ac	120	4.77	5.00	13.14	20.01	25.01	0.32	36	4
5795	ac	120	4.77	5.00	18.28	25.15	30.15	1.04	36	4
5755	ac	135	4.77	5.00	13.12	20.30	25.30	0.34	36	4
5795	ac	135	4.77	5.00	18.24	25.42	30.42	1.10	36	4
5755	ac	150	4.77	5.00	13.14	20.30	25.30	0.34	36	4
5795	ac	150	4.77	5.00	18.25	25.41	30.41	1.10	36	4
5755	ac	180	4.77	5.00	13.14	20.37	25.37	0.34	36	4
5795	ac	180	4.77	5.00	18.27	25.50	30.50	1.12	36	4

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : EIRP
TEST DATE : March 29-30, 2016
TEST MODE : See below
PROTOCOL : See below
DATA RATE : See below
NOTES : 80MHz UNII I

Frequency	802.11	Rate	MIMO	antenna Gain	Conducted Output Power	COP + MIMO+DC	EIRP	EIRP	LIMIT	LIMIT
MHz	Protocol	Mbps	dB	dB	dBm	dBm	dBm	Watts	dBm	Watts
5210	ac	32.5	4.77	5.00	0.89	6.57	11.57	0.01	36	4
5210	ac	65	4.77	5.00	0.99	7.24	12.24	0.02	36	4
5210	ac	97.5	4.77	5.00	0.97	7.65	12.65	0.02	36	4
5210	ac	130	4.77	5.00	1.35	8.36	13.36	0.02	36	4
5210	ac	195	4.77	5.00	1.28	8.62	13.62	0.02	36	4
5210	ac	260	4.77	5.00	1.41	9.14	14.14	0.03	36	4
5210	ac	292.5	4.77	5.00	1.37	9.25	14.25	0.03	36	4
5210	ac	325	4.77	5.00	1.37	9.39	14.39	0.03	36	4
5210	ac	390	4.77	5.00	1.31	9.69	14.69	0.03	36	4
5210	ac	433.3	4.77	5.00	1.32	9.78	14.78	0.03	36	4

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : EIRP
TEST DATE : March 29-30, 2016
TEST MODE : See below
PROTOCOL : See below
DATA RATE : See below
NOTES : 80MHz UNII I

Frequency	802.11	Rate	MIMO	antenna Gain	Conducted Output Power	COP + MIMO+DC	EIRP	EIRP	LIMIT	LIMIT
MHz	Protocol	Mbps	dB	dB	dBm	dBm	dBm	Watts	dBm	Watts
5775	ac	32.5	4.77	5.00	13.64	19.32	24.32	0.27	36	4
5775	ac	65	4.77	5.00	13.78	20.03	25.03	0.32	36	4
5775	ac	97.5	4.77	5.00	13.78	20.46	25.46	0.35	36	4
5775	ac	130	4.77	5.00	14.39	21.40	26.40	0.44	36	4
5775	ac	195	4.77	5.00	14.34	21.68	26.68	0.47	36	4
5775	ac	260	4.77	5.00	14.33	22.06	27.06	0.51	36	4
5775	ac	292.5	4.77	5.00	14.27	22.15	27.15	0.52	36	4
5775	ac	325	4.77	5.00	14.29	22.31	27.31	0.54	36	4
5775	ac	390	4.77	5.00	14.24	22.62	27.62	0.58	36	4
5775	ac	433.3	4.77	5.00	14.22	22.68	27.68	0.59	36	4

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : EBW bandwidth
TEST DATE : March 28-29, 2016
TEST MODE : See below
PROTOCOL : 802.11n UNII I
DATA RATE : See below
NOTES : 20MHz bandwidth
: Antenna Port 0

Lo/Mid/Hi	Channel	Frequency MHz	802.11 Protocol	Rate Mbps	EBW/99% Bandwidth MHz
Lo	36	5180	n	7.2	19.8
Mid	40	5200	n	7.2	19.9
Hi	48	5240	n	7.2	19.5
Lo	36	5180	n	14.4	19.8
Mid	40	5200	n	14.4	19.8
Hi	48	5240	n	14.4	19.4
Lo	36	5180	n	21.7	19.6
Mid	40	5200	n	21.7	19.9
Hi	48	5240	n	21.7	19.2
Lo	36	5180	n	28.9	19.1
Mid	40	5200	n	28.9	19.02
Hi	48	5240	n	28.9	18.7
Lo	36	5180	n	43.3	18.3
Mid	40	5200	n	43.3	18.26
Hi	48	5240	n	43.3	18.2
Lo	36	5180	n	57.8	19.9
Mid	40	5200	n	57.8	19.44
Hi	48	5240	n	57.8	19.2
Lo	36	5180	n	65	20.04
Mid	40	5200	n	65	19.8
Hi	48	5240	n	65	19.4
Lo	36	5180	n	72.2	20
Mid	40	5200	n	72.2	19.9
Hi	48	5240	n	72.2	19.3

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : EBW bandwidth
TEST DATE : March 28-29, 2016
TEST MODE : See below
PROTOCOL : 802.11ac UNII I
DATA RATE : See below
NOTES : 20MHz bandwidth
: Antenna Port 0

Lo/Mid/Hi	Channel	Frequency MHz	802.11 Protocol	Rate Mbps	EBW/99% Bandwidth MHz
Lo	36	5180	ac	7.2	18.03
Mid	40	5200	ac	7.2	18.075
Hi	48	5240	ac	7.2	18.04
Lo	36	5180	ac	14.4	17.98
Mid	40	5200	ac	14.4	17.94
Hi	48	5240	ac	14.4	17.97
Lo	36	5180	ac	21.7	17.97
Mid	40	5200	ac	21.7	17.97
Hi	48	5240	ac	21.7	17.98
Lo	36	5180	ac	28.9	17.91
Mid	40	5200	ac	28.9	17.94
Hi	48	5240	ac	28.9	17.92
Lo	36	5180	ac	43.3	17.95
Mid	40	5200	ac	43.3	17.94
Hi	48	5240	ac	43.3	17.97
Lo	36	5180	ac	57.8	18.16
Mid	40	5200	ac	57.8	18.09
Hi	48	5240	ac	57.8	18.14
Lo	36	5180	ac	65	18.12
Mid	40	5200	ac	65	18.1
Hi	48	5240	ac	65	18.1
Lo	36	5180	ac	72.2	18.1
Mid	40	5200	ac	72.2	18.1
Hi	48	5240	ac	72.2	18.1
Lo	36	5180	ac	86.7	18.06
Mid	40	5200	ac	86.7	18.06
Hi	48	5240	ac	86.7	18.07

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : EBW bandwidth
TEST DATE : March 28-29, 2016
TEST MODE : See below
PROTOCOL : 802.11n UNII III
DATA RATE : See below
NOTES : 20MHz bandwidth
: Antenna Port 0

Lo/Mid/Hi	Channel	Frequency MHz	802.11 Protocol	Rate Mbps	EBW/99% Bandwidth MHz
Lo	149	5745	n	7.2	20.7
Mid	157	5785	n	7.2	20.62
Hi	165	5825	n	7.2	20.98
Lo	149	5745	n	14.4	20.7
Mid	157	5785	n	14.4	20.32
Hi	165	5825	n	14.4	21.2
Lo	149	5745	n	21.7	20.3
Mid	157	5785	n	21.7	20.84
Hi	165	5825	n	21.7	21.1
Lo	149	5745	n	28.9	20.04
Mid	157	5785	n	28.9	20.06
Hi	165	5825	n	28.9	19.96
Lo	149	5745	n	43.3	19.5
Mid	157	5785	n	43.3	19.2
Hi	165	5825	n	43.3	19.4
Lo	149	5745	n	57.8	20.7
Mid	157	5785	n	57.8	20.4
Hi	165	5825	n	57.8	20.4
Lo	149	5745	n	65	20.7
Mid	157	5785	n	65	20.3
Hi	165	5825	n	65	20.3
Lo	149	5745	n	72.2	20.9
Mid	157	5785	n	72.2	20.7
Hi	165	5825	n	72.2	20.4

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : EBW bandwidth
TEST DATE : March 28-29, 2016
TEST MODE : See below
PROTOCOL : 802.11ac UNII III
DATA RATE : See below
NOTES : 20MHz bandwidth
: Antenna Port 0

Lo/Mid/Hi	Channel	Frequency MHz	802.11 Protocol	Rate Mbps	EBW/99% Bandwidth MHz
Lo	149	5745	ac	7.2	18.03
Mid	157	5785	ac	7.2	18.03
Hi	165	5825	ac	7.2	18.07
Lo	149	5745	ac	14.4	17.95
Mid	157	5785	ac	14.4	17.93
Hi	165	5825	ac	14.4	17.98
Lo	149	5745	ac	21.7	17.98
Mid	157	5785	ac	21.7	17.98
Hi	165	5825	ac	21.7	17.97
Lo	149	5745	ac	28.9	17.94
Mid	157	5785	ac	28.9	17.94
Hi	165	5825	ac	28.9	17.97
Lo	149	5745	ac	43.3	17.97
Mid	157	5785	ac	43.3	17.97
Hi	165	5825	ac	43.3	18.1
Lo	149	5745	ac	57.8	18.12
Mid	157	5785	ac	57.8	18.13
Hi	165	5825	ac	57.8	18.07
Lo	149	5745	ac	65	18.1
Mid	157	5785	ac	65	18.1
Hi	165	5825	ac	65	18.07
Lo	149	5745	ac	72.2	18.1
Mid	157	5785	ac	72.2	18.09
Hi	165	5825	ac	72.2	18.09
Lo	149	5745	ac	86.7	18.09
Mid	157	5785	ac	86.7	18.09
Hi	165	5825	ac	86.7	18.07

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : EBW bandwidth
TEST DATE : March 28-29, 2016
TEST MODE : See below
PROTOCOL : 802.11n UNII I
DATA RATE : See below
NOTES : 40MHz bandwidth
: Antenna Port 0

Lo/Mid/Hi	Channel	Frequency MHz	802.11 Protocol	Rate Mbps	EBW/99% Bandwidth MHz
Lo	38	5190	n	15	37.05
Hi	46	5230	n	15	36.98
Lo	38	5190	n	30	36.8
Hi	46	5230	n	30	36.84
Lo	38	5190	n	45	36.75
Hi	46	5230	n	45	36.74
Lo	38	5190	n	60	36.69
Hi	46	5230	n	60	36.96
Lo	38	5190	n	90	36.69
Hi	46	5230	n	90	36.72
Lo	38	5190	n	120	36.8
Hi	46	5230	n	120	36.87
Lo	38	5190	n	135	36.7
Hi	46	5230	n	135	36.84
Lo	38	5190	n	150	36.78
Hi	46	5230	n	150	36.94

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : EBW bandwidth
TEST DATE : March 28-29, 2016
TEST MODE : See below
PROTOCOL : 802.11ac UNII I
DATA RATE : See below
NOTES : 40MHz bandwidth
: Antenna Port 0

Lo/Mid/Hi	Channel	Frequency MHz	802.11 Protocol	Rate Mbps	EBW/99% Bandwidth MHz
Lo	38	5190	ac	15	36.9
Hi	46	5230	ac	15	36.9
Lo	38	5190	ac	30	36.84
Hi	46	5230	ac	30	36.87
Lo	38	5190	ac	45	36.78
Hi	46	5230	ac	45	36.81
Lo	38	5190	ac	60	36.7
Hi	46	5230	ac	60	36.73
Lo	38	5190	ac	90	36.72
Hi	46	5230	ac	90	36.72
Lo	38	5190	ac	120	36.98
Hi	46	5230	ac	120	36.93
Lo	38	5190	ac	135	36.81
Hi	46	5230	ac	135	36.84
Lo	38	5190	ac	150	36.87
Hi	46	5230	ac	150	36.94
Lo	38	5190	ac	180	36.87
Hi	46	5230	ac	180	36.93
Lo	38	5190	ac	200	36.87
Hi	46	5230	ac	200	36.9

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : EBW bandwidth
TEST DATE : March 28-29, 2016
TEST MODE : See below
PROTOCOL : 802.11n UNII III
DATA RATE : See below
NOTES : 40MHz bandwidth
: Antenna Port 0

Lo/Mid/Hi	Channel	Frequency MHz	802.11 Protocol	Rate Mbps	EBW/99% Bandwidth MHz
Lo	151	5755	n	15	36.9
Hi	159	5795	n	15	36.4
Lo	151	5755	n	30	36.84
Hi	159	5795	n	30	36.9
Lo	151	5755	n	45	36.78
Hi	159	5795	n	45	36.8
Lo	151	5755	n	60	36.69
Hi	159	5795	n	60	36.7
Lo	151	5755	n	90	36.72
Hi	159	5795	n	90	36.7
Lo	151	5755	n	120	36.87
Hi	159	5795	n	120	36.84
Lo	151	5755	n	135	36.78
Hi	159	5795	n	135	36.84
Lo	151	5755	n	150	36.9
Hi	159	5795	n	150	36.84

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : EBW bandwidth
TEST DATE : March 28-29, 2016
TEST MODE : See below
PROTOCOL : 802.11ac UNII III
DATA RATE : See below
NOTES : 40MHz bandwidth
: Antenna Port 0

Lo/Mid/Hi	Channel	Frequency MHz	802.11 Protocol	Rate Mbps	EBW/99% Bandwidth MHz
Lo	151	5755	ac	15	36.9
Hi	159	5795	ac	15	36.9
Lo	151	5755	ac	30	36.84
Hi	159	5795	ac	30	36.84
Lo	151	5755	ac	45	36.81
Hi	46	5795	ac	45	36.75
Lo	151	5755	ac	60	36.75
Hi	159	5795	ac	60	36.72
Lo	151	5755	ac	90	36.72
Hi	159	5795	ac	90	36.72
Lo	151	5755	ac	120	36.9
Hi	159	5795	ac	120	36.84
Lo	151	5755	ac	135	36.81
Hi	159	5795	ac	135	36.81
Lo	151	5755	ac	150	36.9
Hi	159	5795	ac	150	36.84
Lo	151	5755	ac	180	36.93
Hi	159	5795	ac	180	36.9
Lo	151	5755	ac	200	36.93
Hi	159	5795	ac	200	36.87

Checked BY Richard E. King :

Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : EBW bandwidth
TEST DATE : March 28-29, 2016
TEST MODE : See below
PROTOCOL : 802.11ac UNII I
DATA RATE : See below
NOTES : 80MHz bandwidth
: Antenna Port 0

Frequency MHz	802.11 Protocol	Rate Mbps	EBW/99% Bandwidth MHz
5210	ac	32.5	76.36
5210	ac	65	76.3
5210	ac	97.5	76.3
5210	ac	130	76.4
5210	ac	195	76.4
5210	ac	260	76.8
5210	ac	292.5	76.3
5210	ac	325	76.74
5210	ac	390	76.74
5210	ac	433.3	76.8

Checked BY Richard E. King :

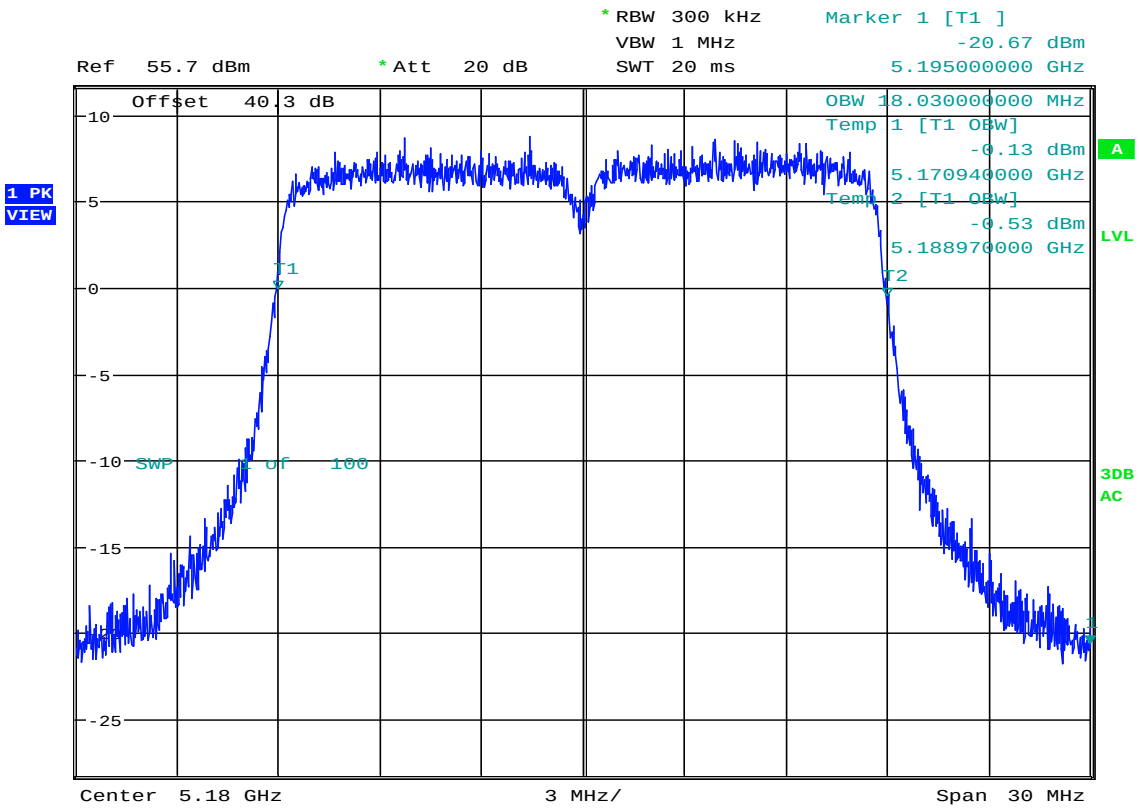
Richard E. King

MANUFACTURER : Winegard Co.
MODEL NUMBER : RP-WF12
TEST PERFORMED : EBW bandwidth
TEST DATE : March 28-29, 2016
TEST MODE : See below
PROTOCOL : 802.11ac UNII III
DATA RATE : See below
NOTES : 80MHz bandwidth
: Antenna Port 0

Frequency MHz	802.11 Protocol	Rate Mbps	EBW/99% Bandwidth MHz
5775	ac	32.5	76.5
5775	ac	65	76.4
5775	ac	97.5	76.4
5775	ac	130	76.4
5775	ac	195	76.32
5775	ac	260	76.8
5775	ac	292.5	77.22
5775	ac	325	76.8
5775	ac	390	76.7
5775	ac	433.3	76.7

Checked BY Richard E. King :

Richard E. King

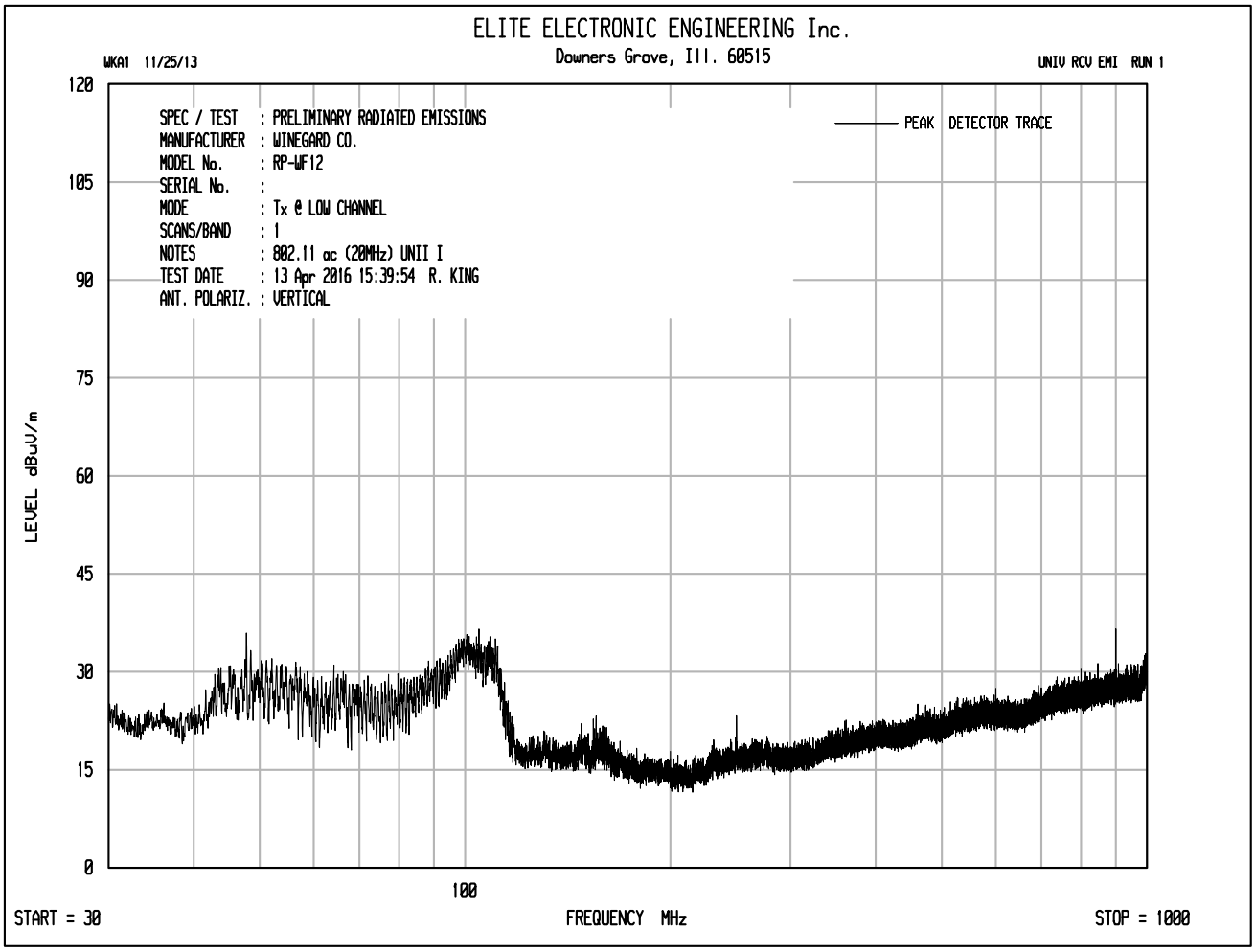


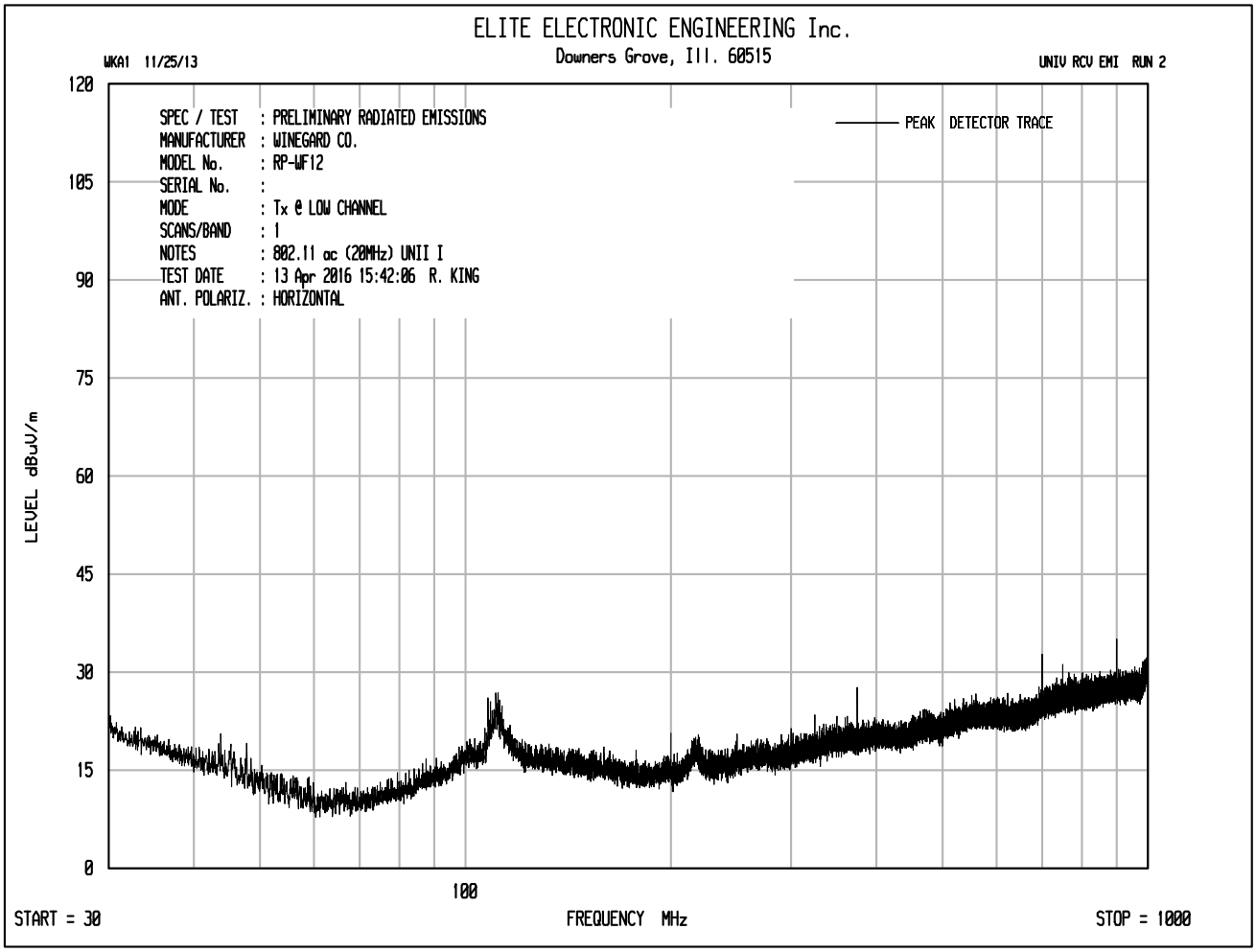
Date: 1.JUL.2003 01:01:25

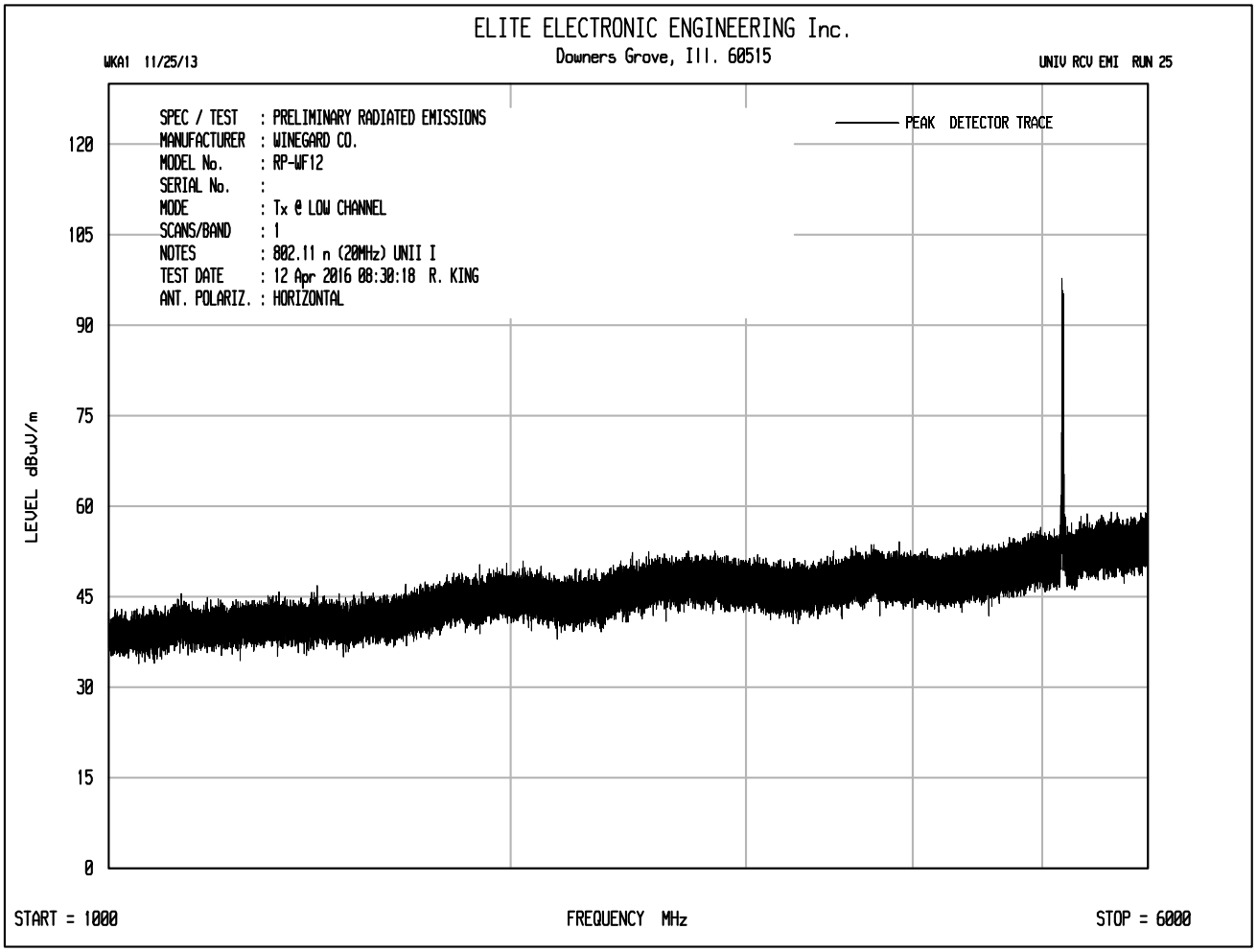
FCC 15C 15.407 / EBW

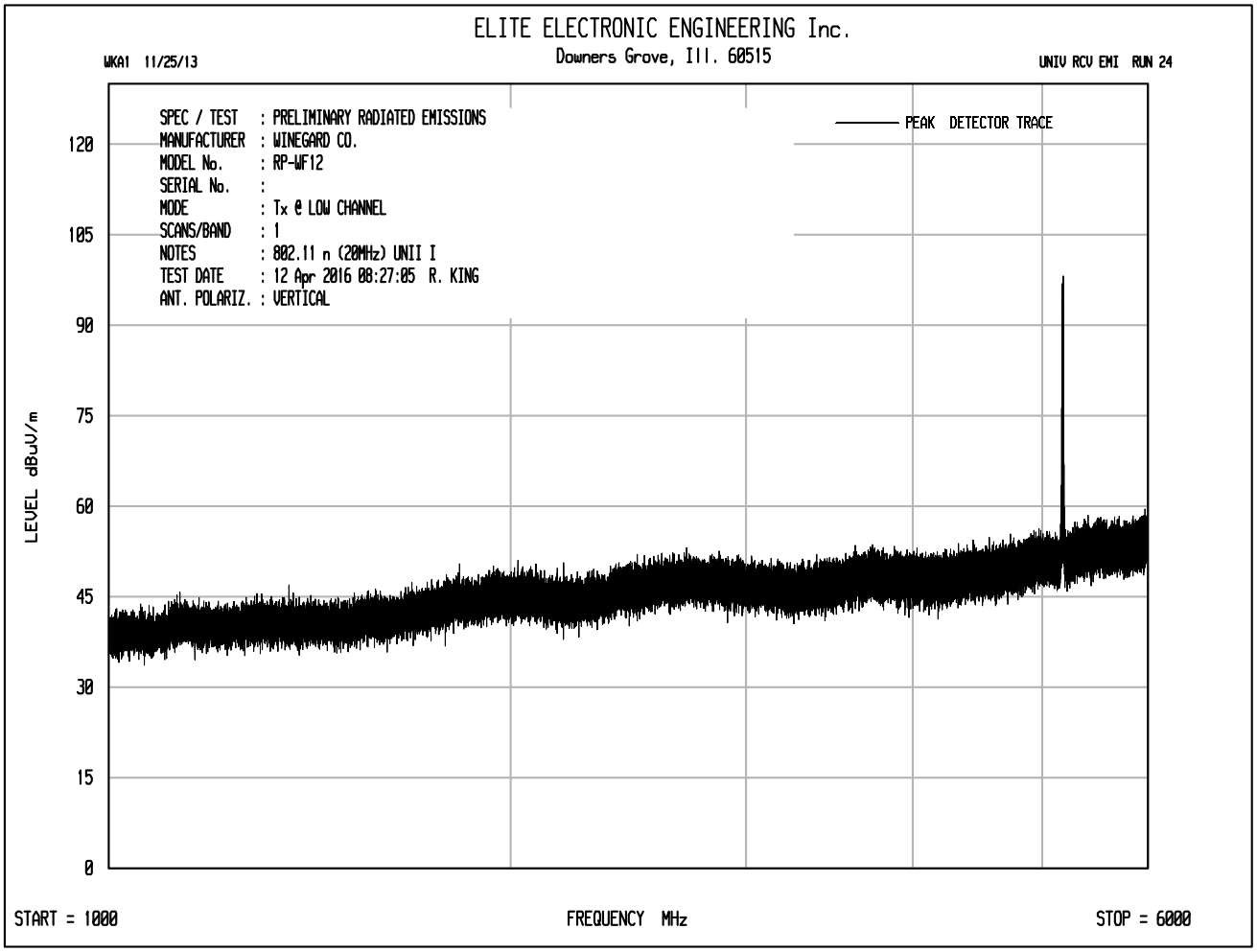
MANUFACTURER	:	Winegard Co.
MODEL NUMBER	:	RP-WF12
TEST MODE	:	Tx @ LOW Channel UNII I
	:	PEAK detector
NOTES	:	802.11 ac (20 MHz)
NOTES	:	7.2MBPs
NOTES	:	

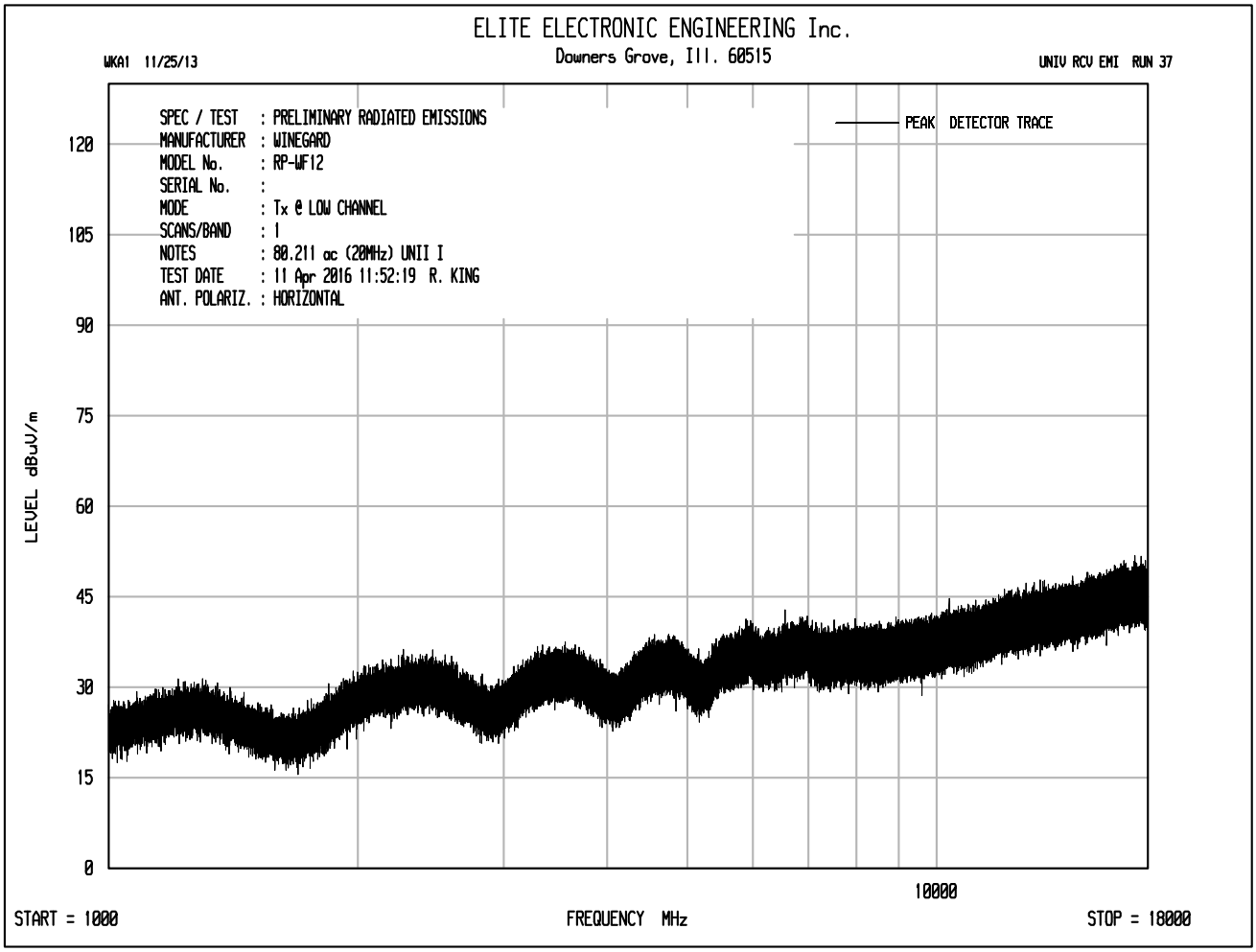
NOTES

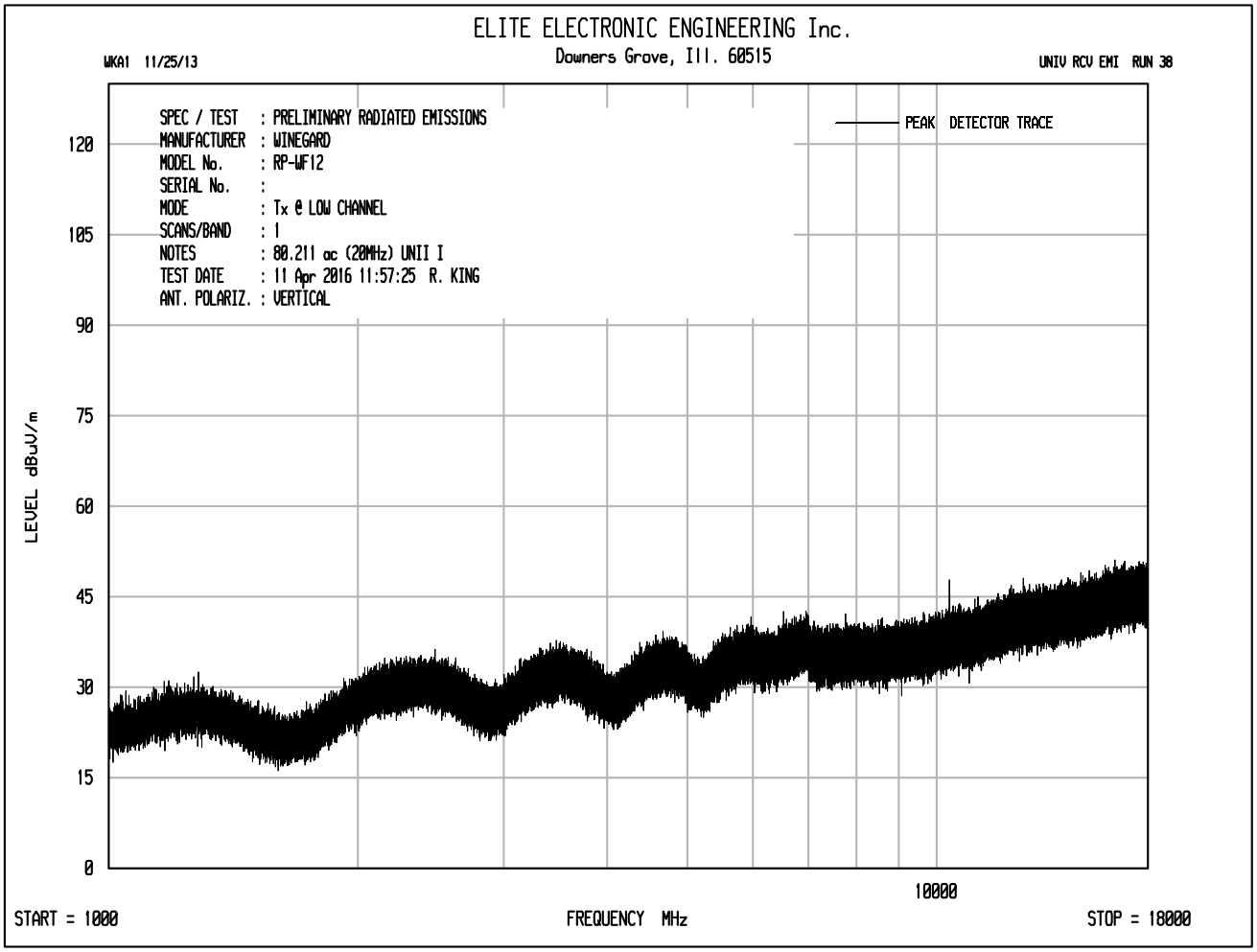

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 1
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ LOW CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII I
TEST DATE : 13 Apr 2016 15:39:54 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBµV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000

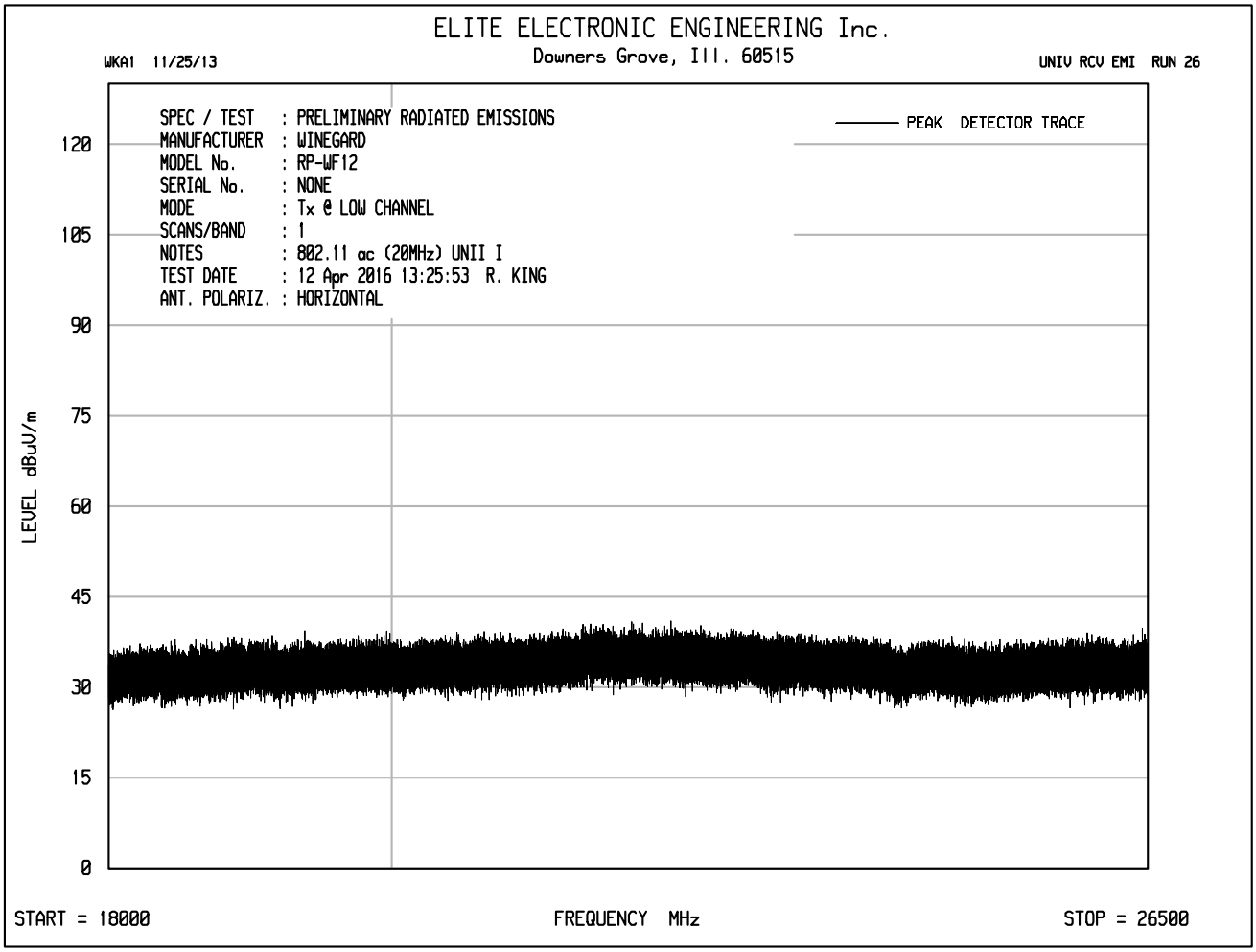

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 2
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ LOW CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII I
TEST DATE : 13 Apr 2016 15:42:06 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000

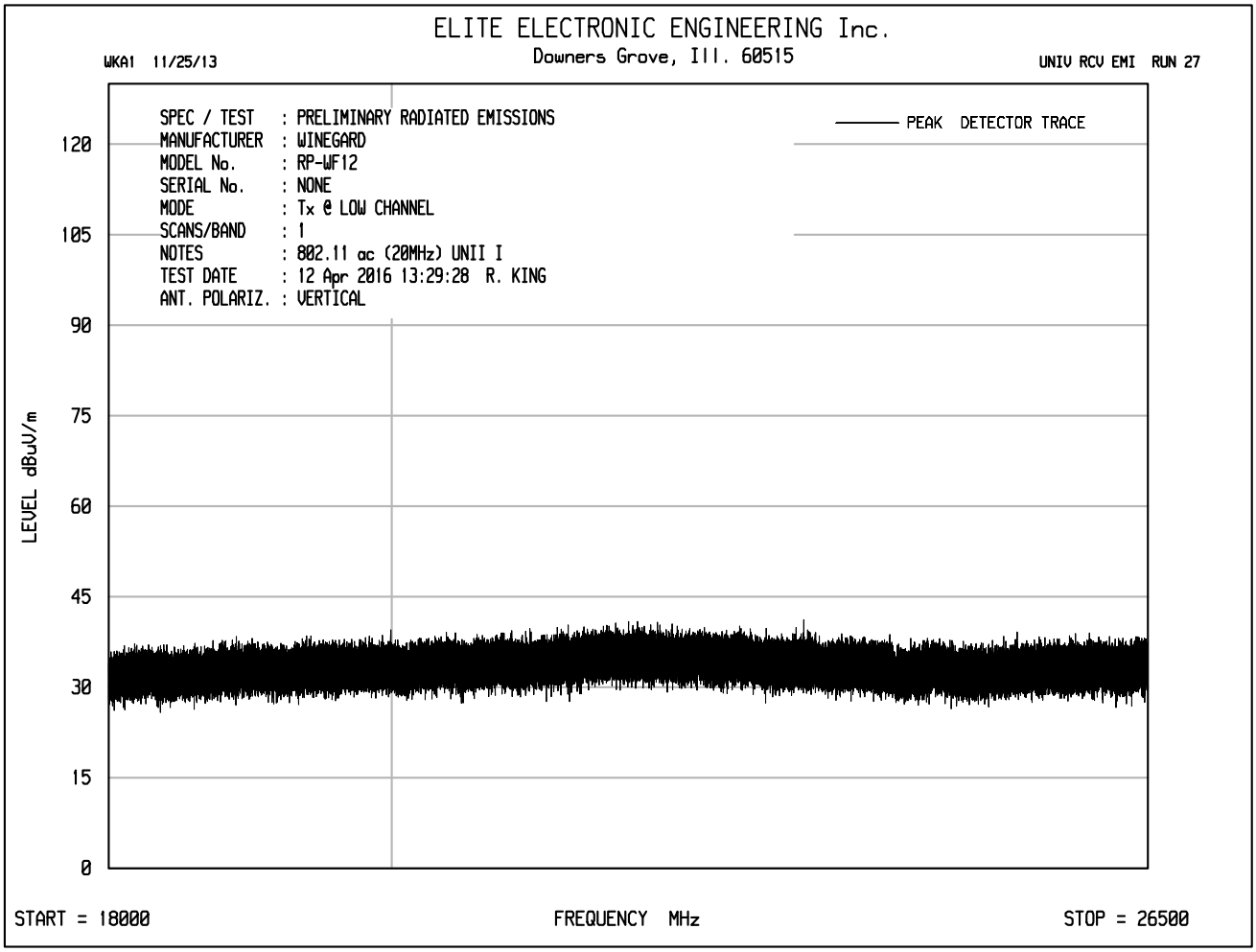

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 25
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ LOW CHANNEL
SCANS/BAND : 1
NOTES : 802.11 n (20MHz) UNII I
TEST DATE : 12 Apr 2016 08:30:18 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 6000

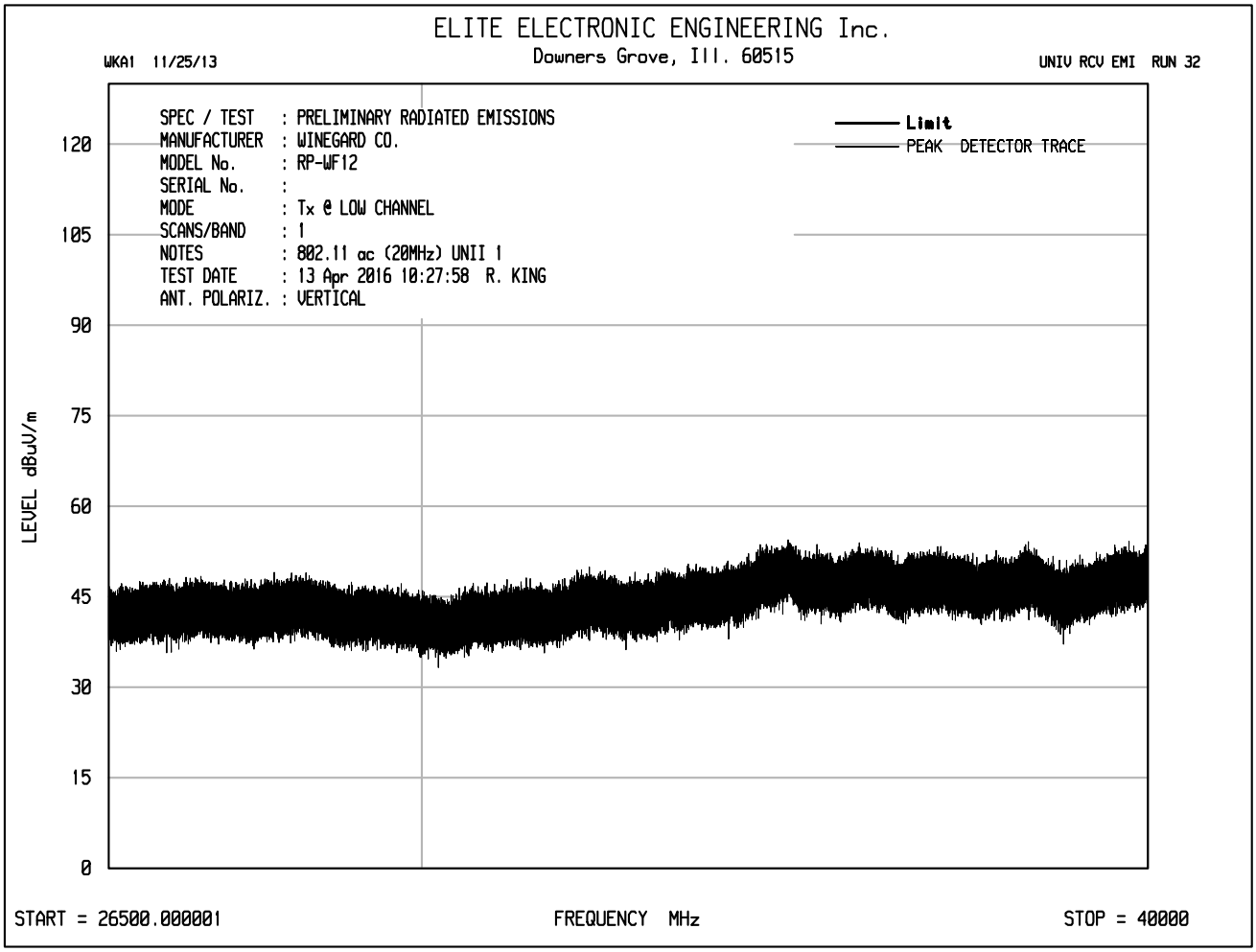

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 24
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ LOW CHANNEL
SCANS/BAND : 1
NOTES : 802.11 n (20MHz) UNII I
TEST DATE : 12 Apr 2016 08:27:05 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 6000

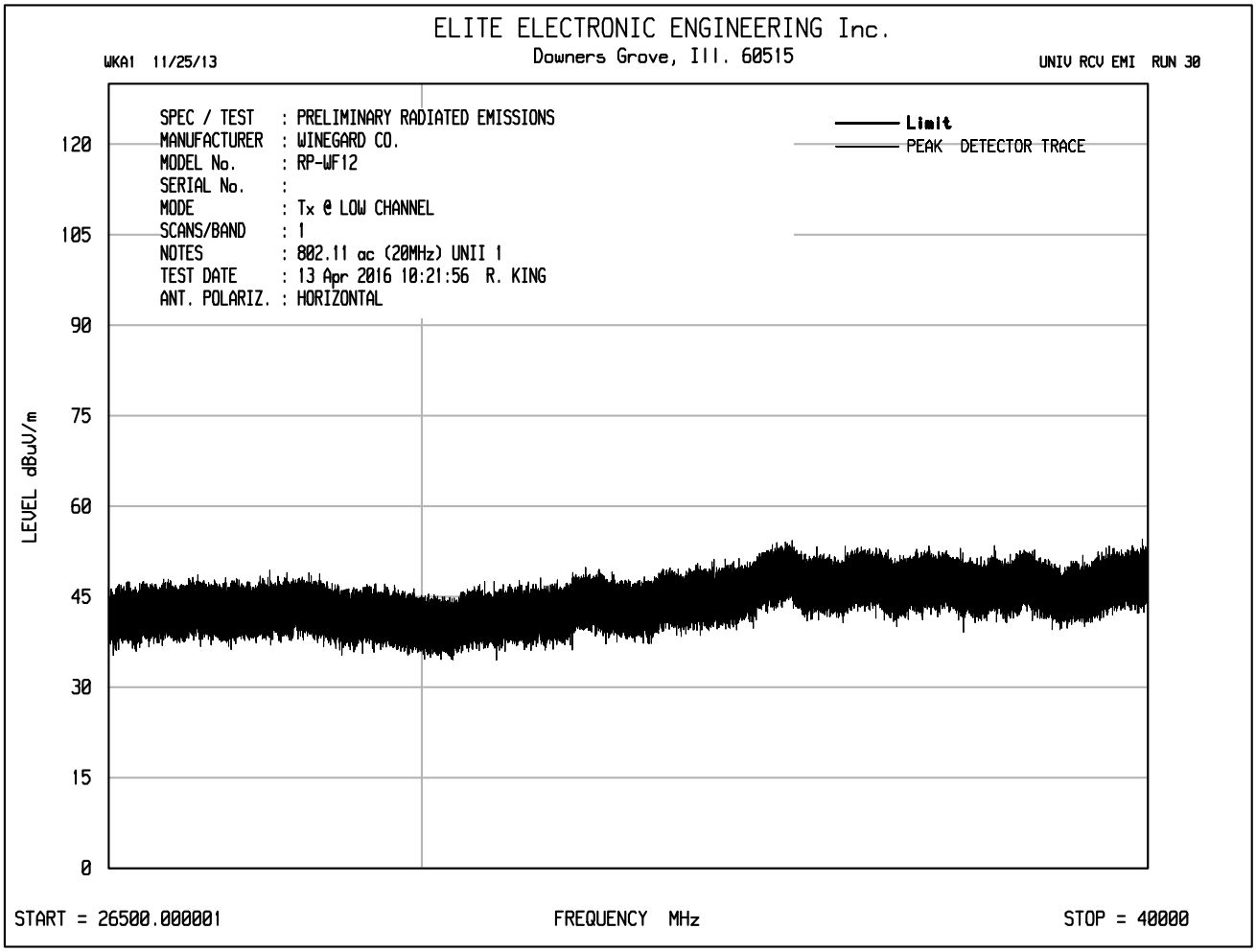

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 37
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ LOW CHANNEL
SCANS/BAND : 1
NOTES : 80.211 ac (20MHz) UNII I
TEST DATE : 11 Apr 2016 11:52:19 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
10000
START = 1000
FREQUENCY MHz
STOP = 18000

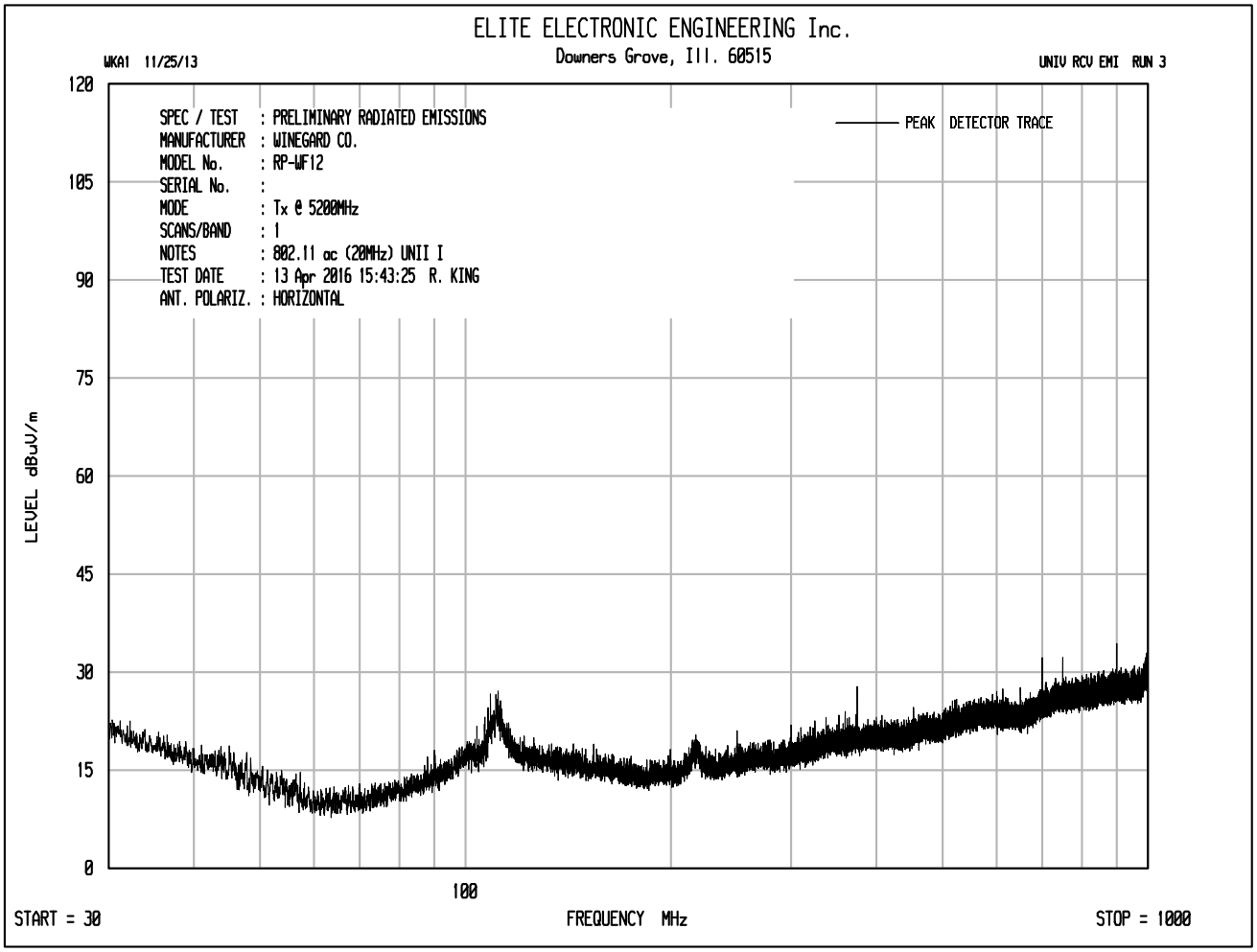

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 38
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ LOW CHANNEL
SCANS/BAND : 1
NOTES : 80.211 ac (20MHz) UNII I
TEST DATE : 11 Apr 2016 11:57:25 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
10000
START = 1000
FREQUENCY MHz
STOP = 18000

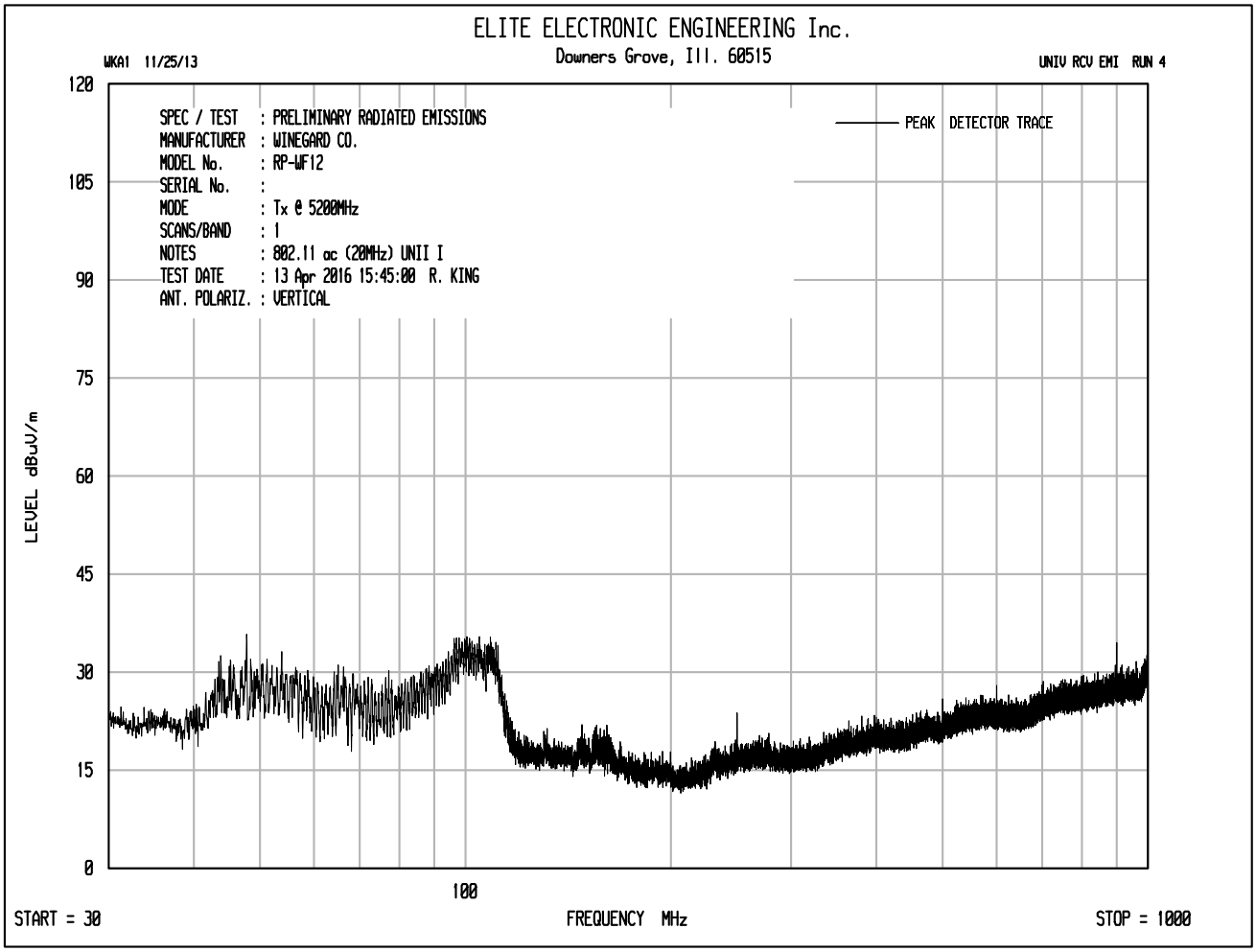

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 26
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. : NONE
MODE : Tx @ LOW CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII I
TEST DATE : 12 Apr 2016 13:25:53 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 18000
FREQUENCY MHz
STOP = 26500

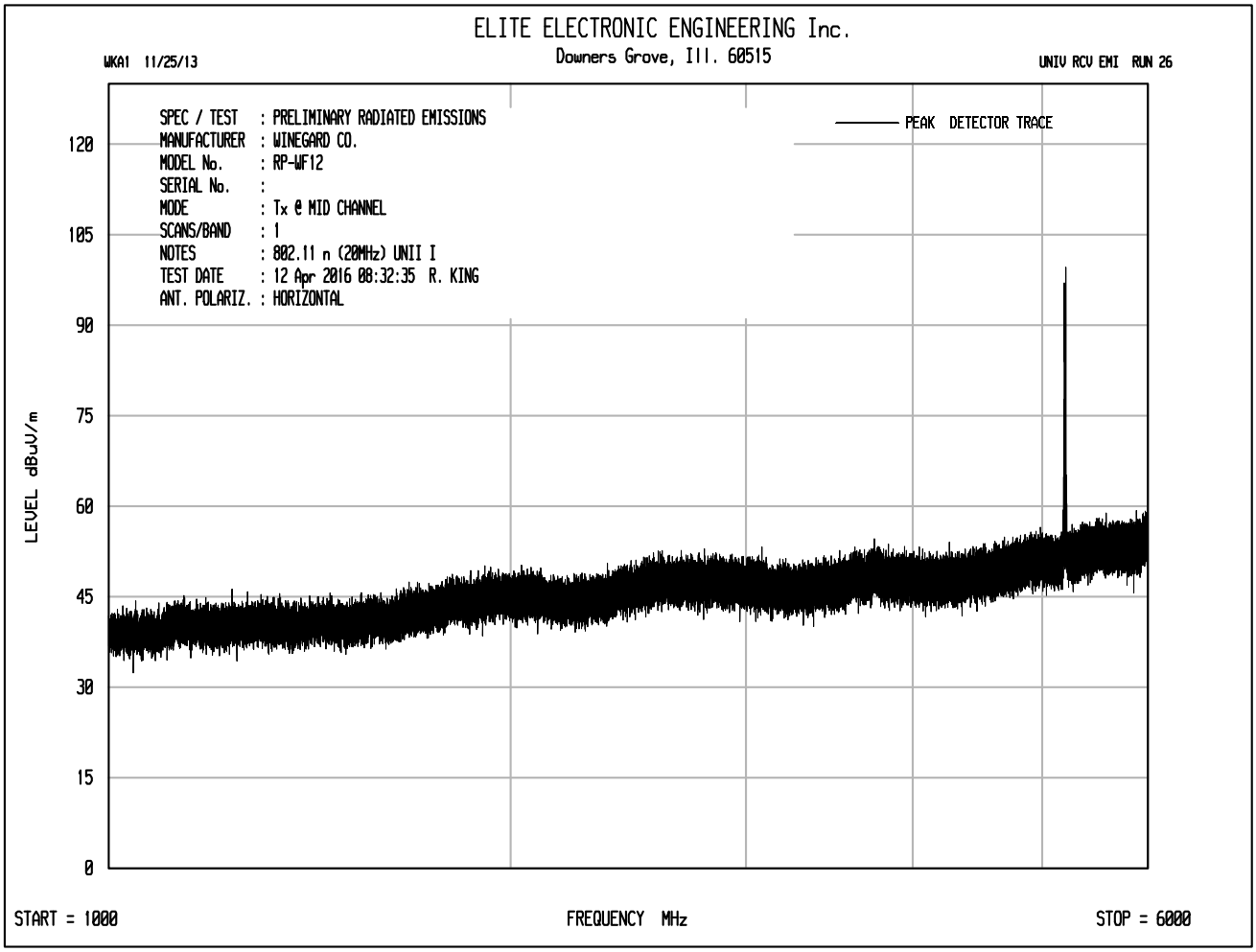

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 27
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. : NONE
MODE : Tx @ LOW CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII I
TEST DATE : 12 Apr 2016 13:29:28 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 18000
FREQUENCY MHz
STOP = 26500

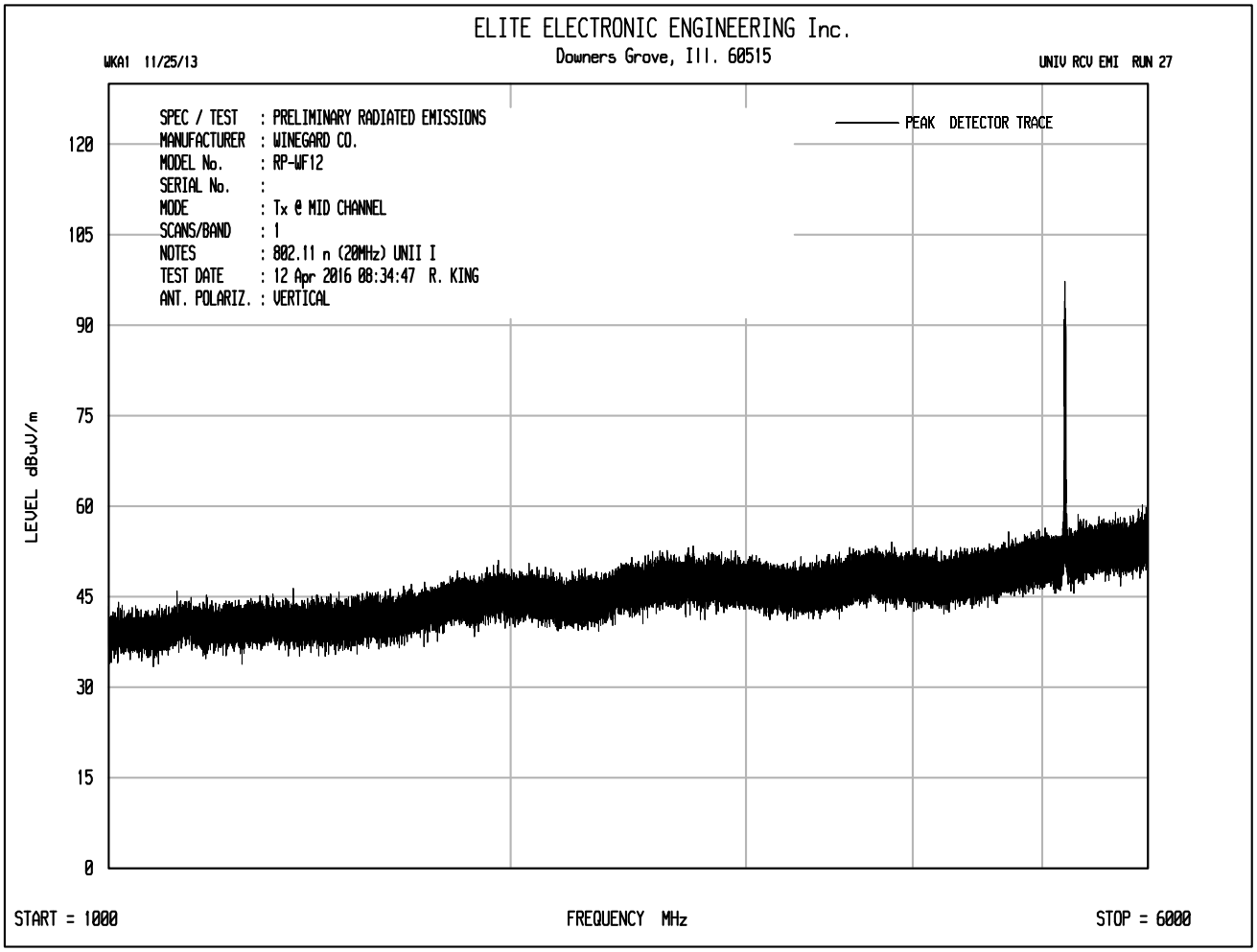

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 32
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ LOW CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII 1
TEST DATE : 13 Apr 2016 10:27:58 R. KING
ANT. POLARIZ. : VERTICAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 26500.000001
FREQUENCY MHz
STOP = 40000

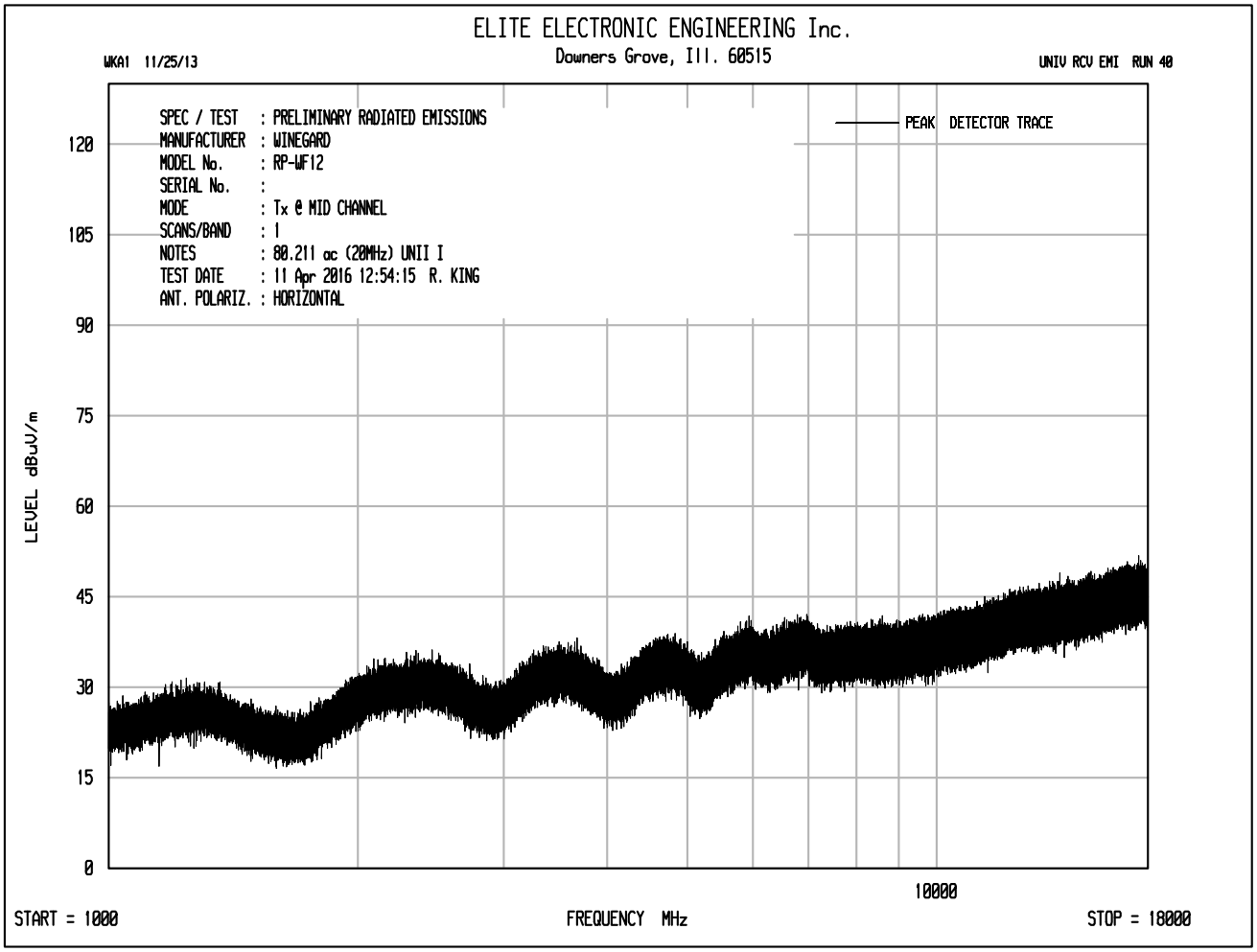

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 30
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ LOW CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII 1
TEST DATE : 13 Apr 2016 10:21:56 R. KING
ANT. POLARIZ. : HORIZONTAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 26500.000001
FREQUENCY MHz
STOP = 40000

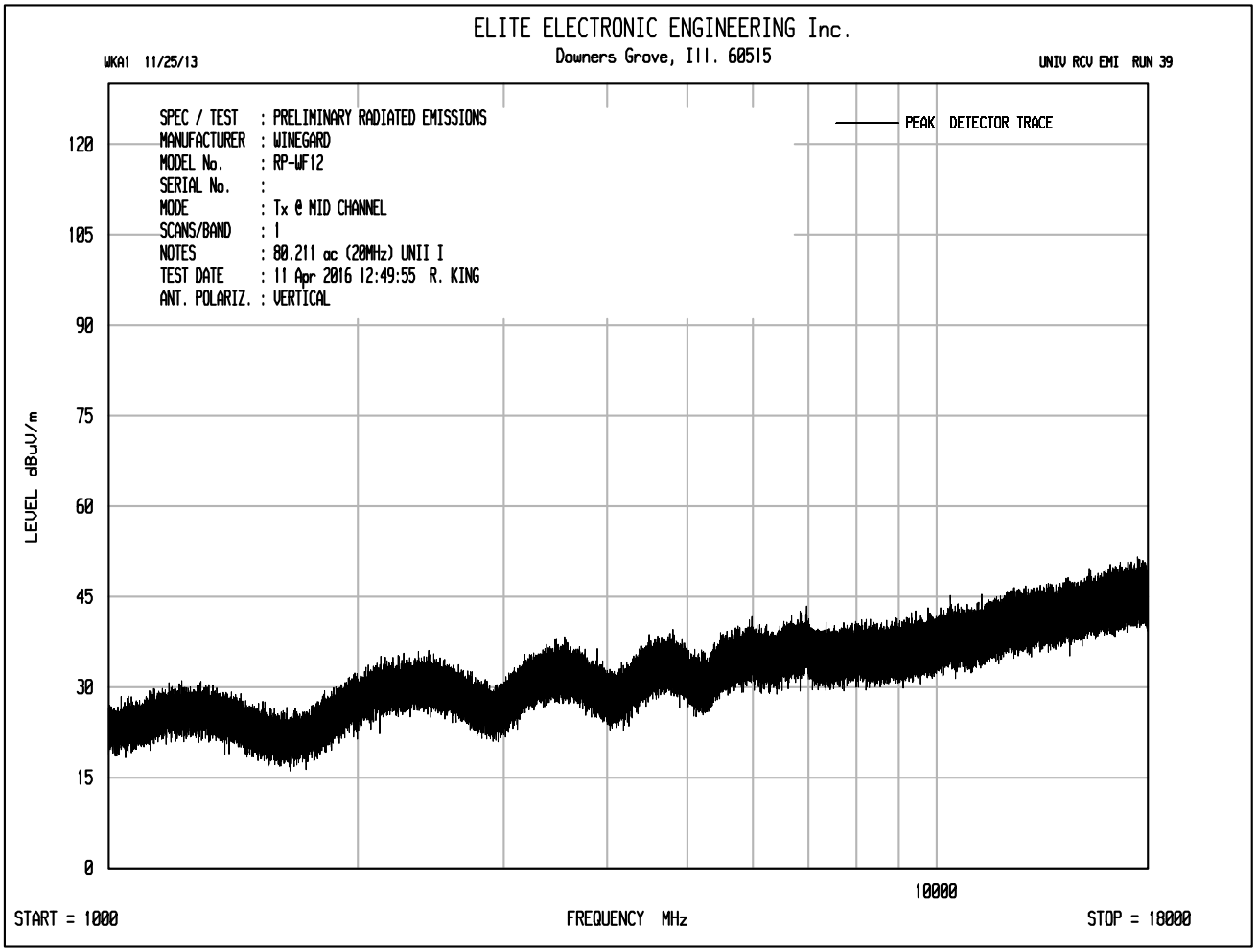

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 3
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ 5200MHz
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII I
TEST DATE : 13 Apr 2016 15:43:25 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000

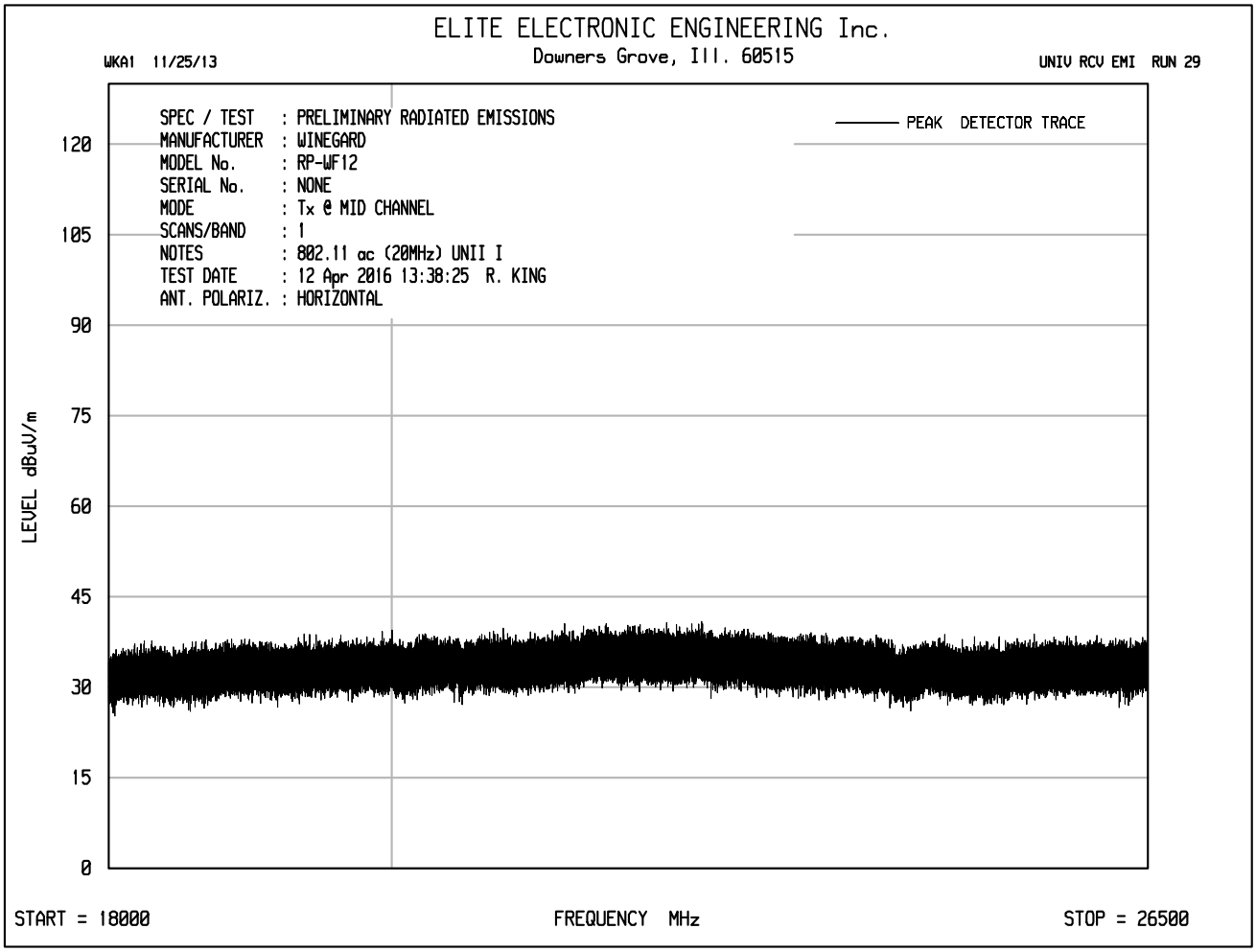

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 4
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ 5200MHz
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII I
TEST DATE : 13 Apr 2016 15:45:00 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000

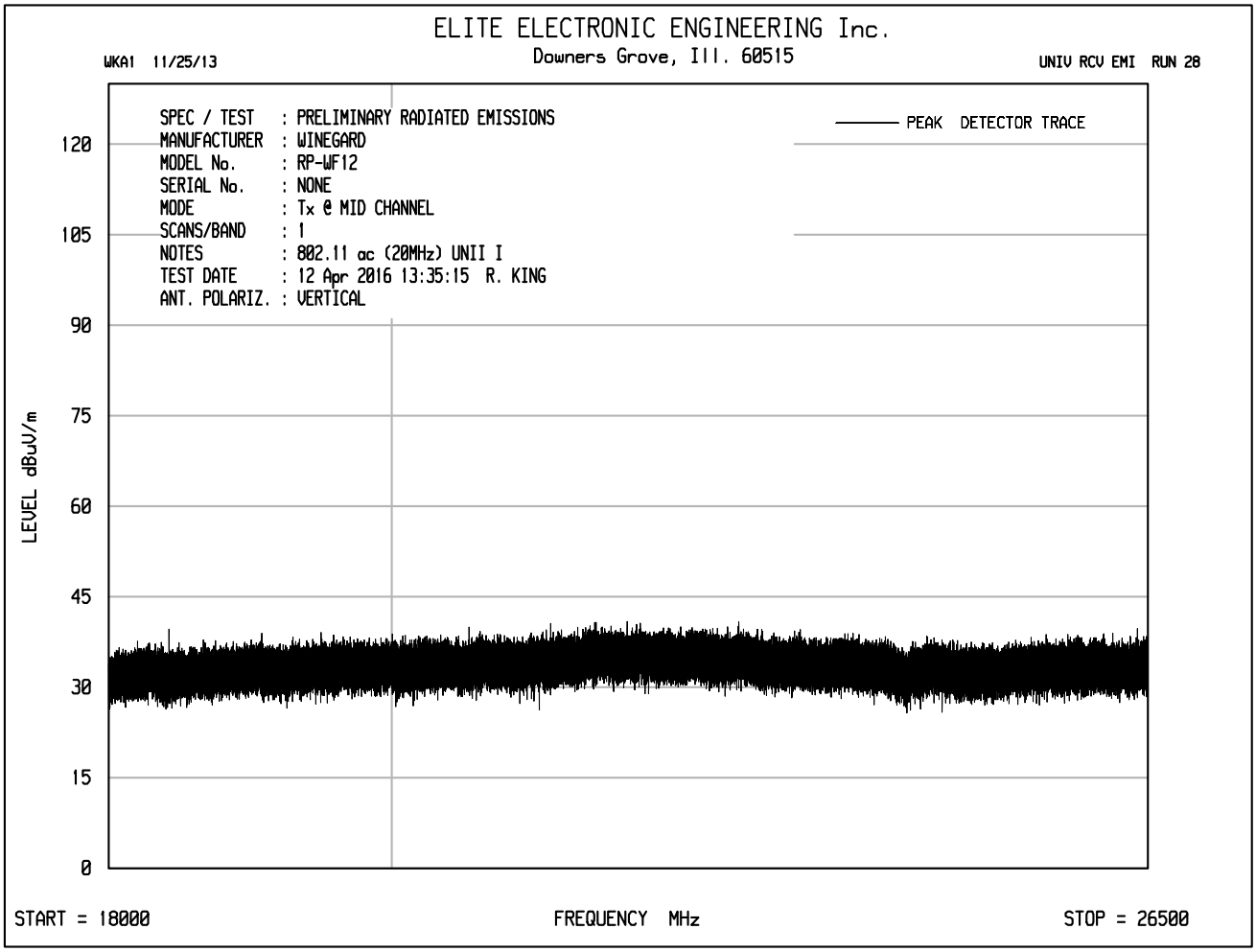

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 26
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ MID CHANNEL
SCANS/BAND : 1
NOTES : 802.11 n (20MHz) UNII I
TEST DATE : 12 Apr 2016 08:32:35 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 6000

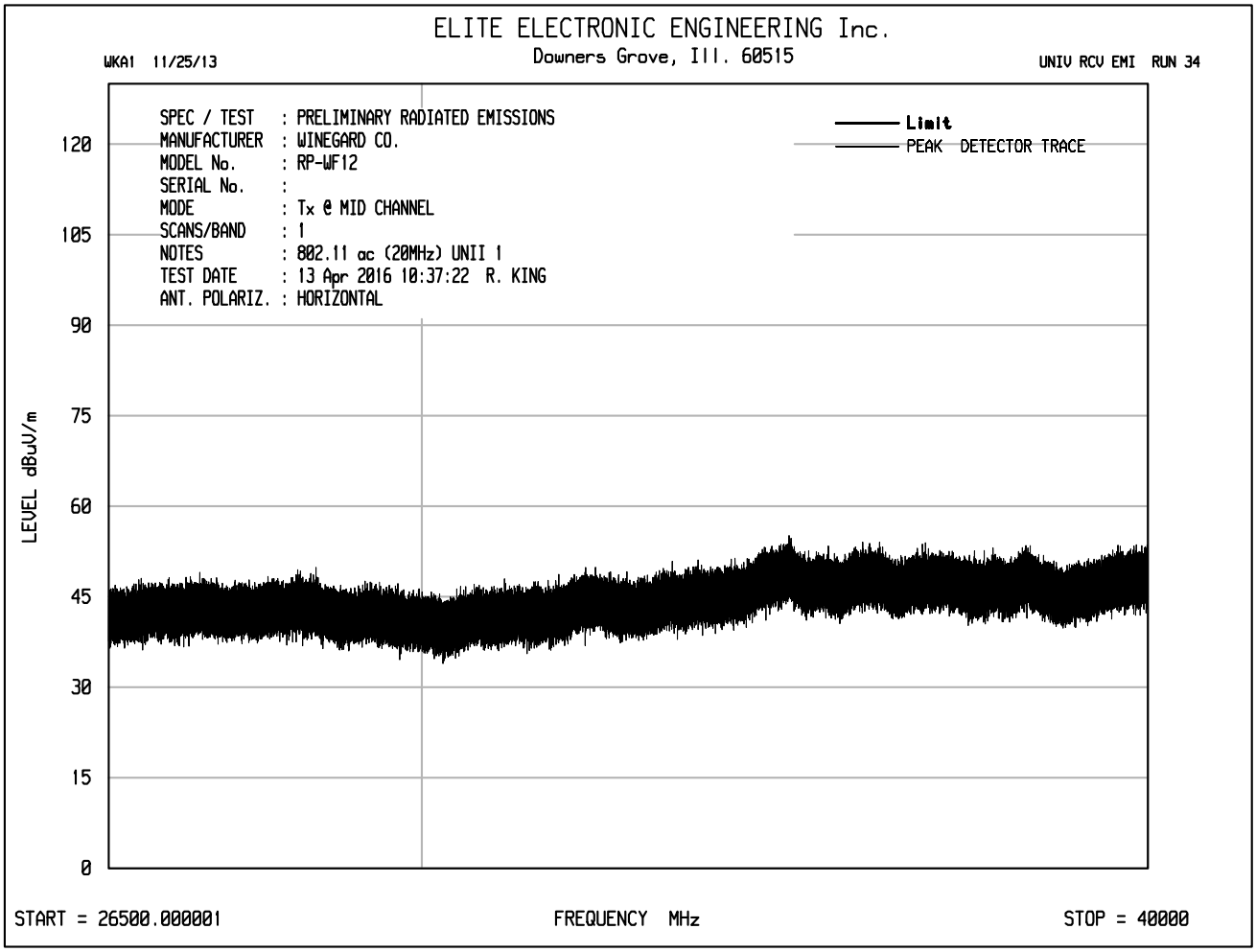

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 27
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ MID CHANNEL
SCANS/BAND : 1
NOTES : 802.11 n (20MHz) UNII I
TEST DATE : 12 Apr 2016 08:34:47 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 6000

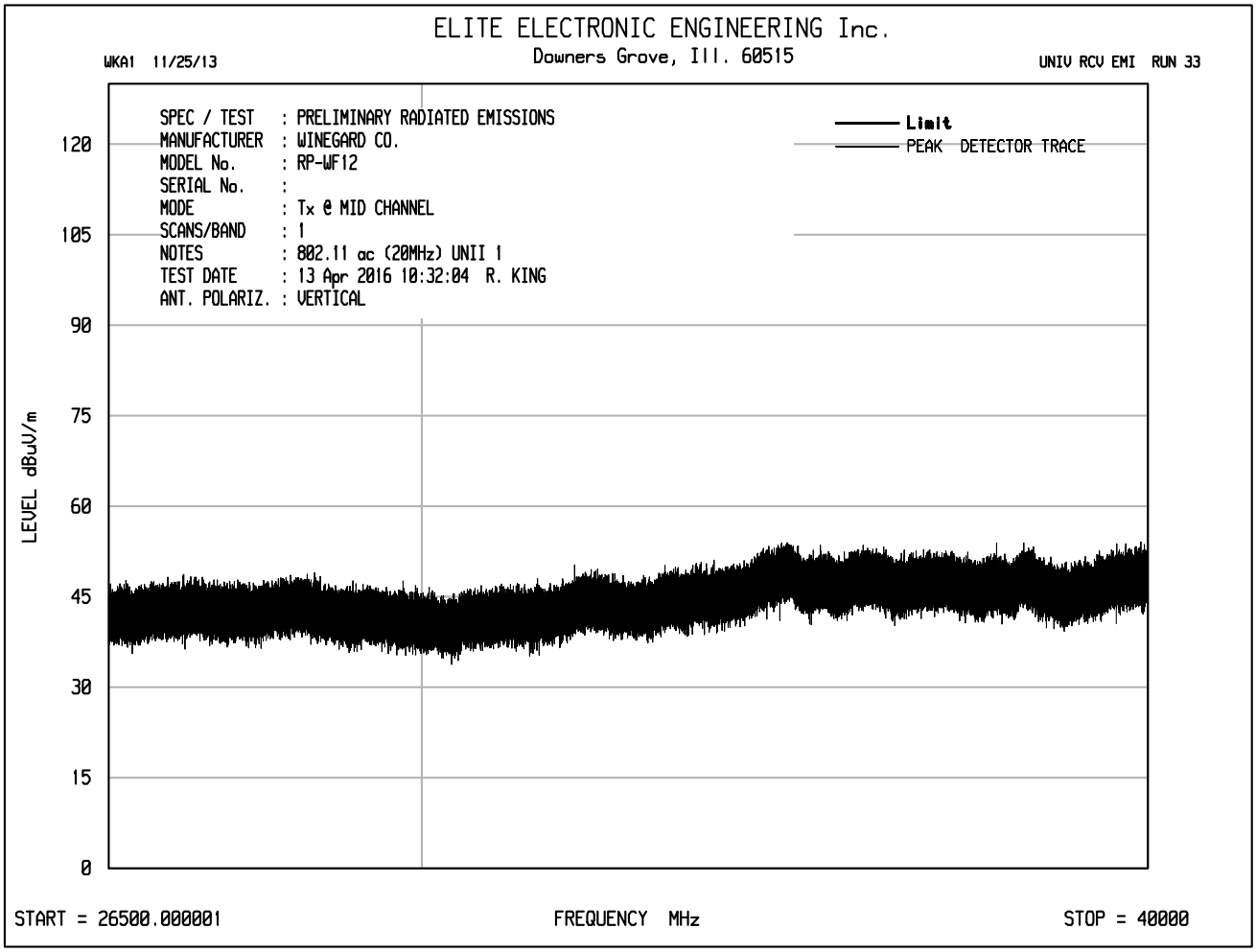

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 40
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ MID CHANNEL
SCANS/BAND : 1
NOTES : 80.211 ac (20MHz) UNII I
TEST DATE : 11 Apr 2016 12:54:15 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
10000
START = 1000
FREQUENCY MHz
STOP = 18000

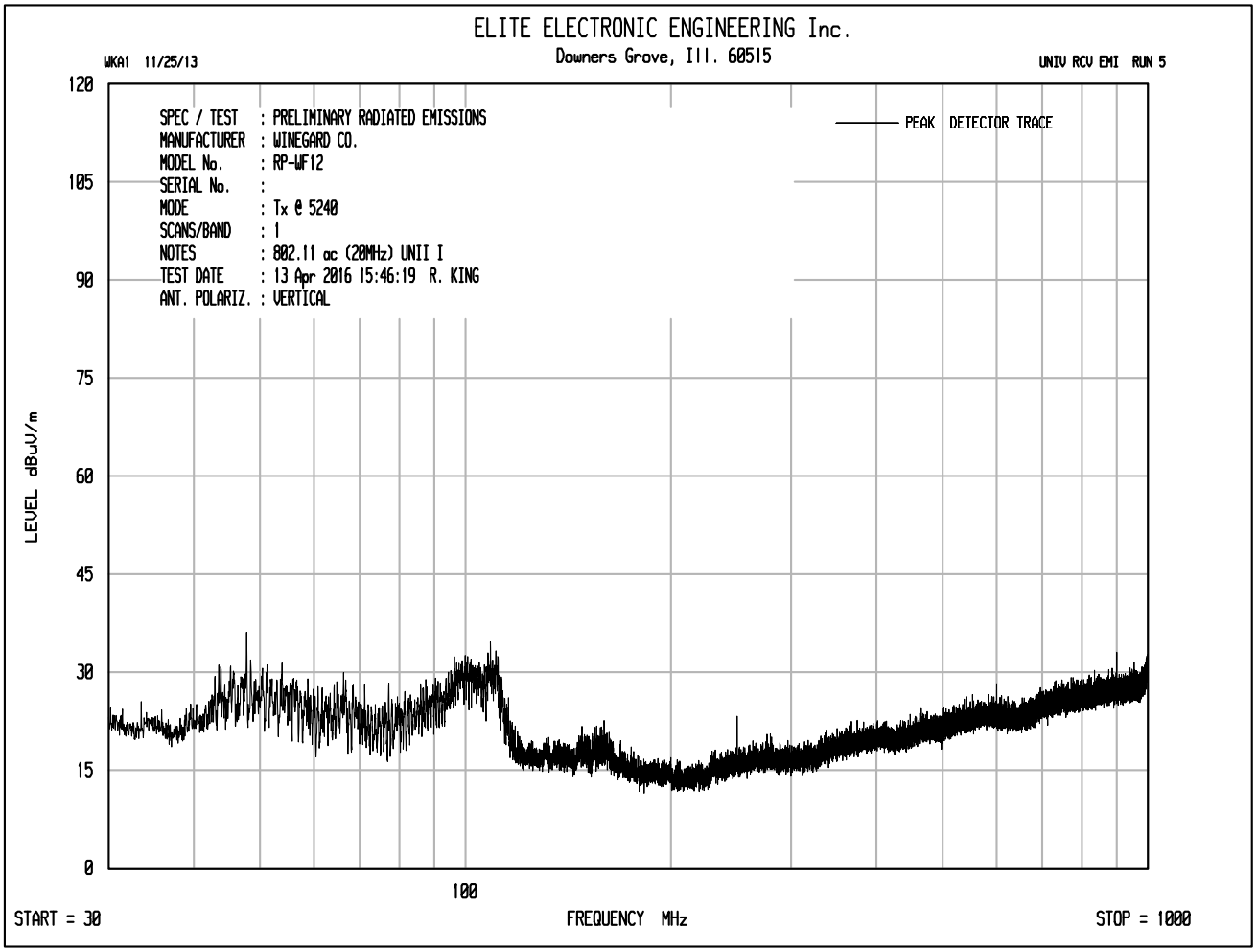

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 39
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ MID CHANNEL
SCANS/BAND : 1
NOTES : 80.211 ac (20MHz) UNII I
TEST DATE : 11 Apr 2016 12:49:55 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
10000
START = 1000
FREQUENCY MHz
STOP = 18000

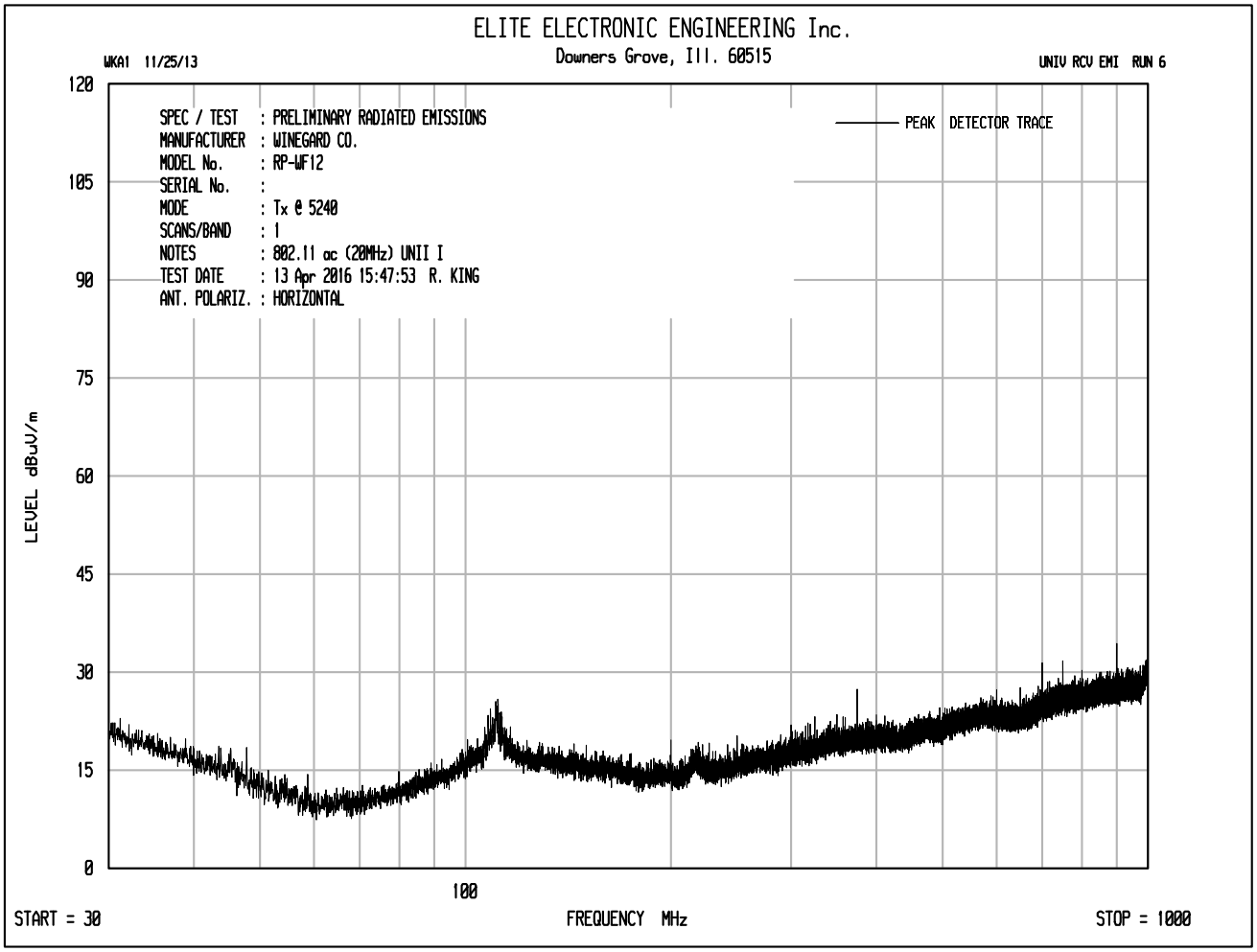

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 29
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. : NONE
MODE : Tx @ MID CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII I
TEST DATE : 12 Apr 2016 13:38:25 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 18000
FREQUENCY MHz
STOP = 26500

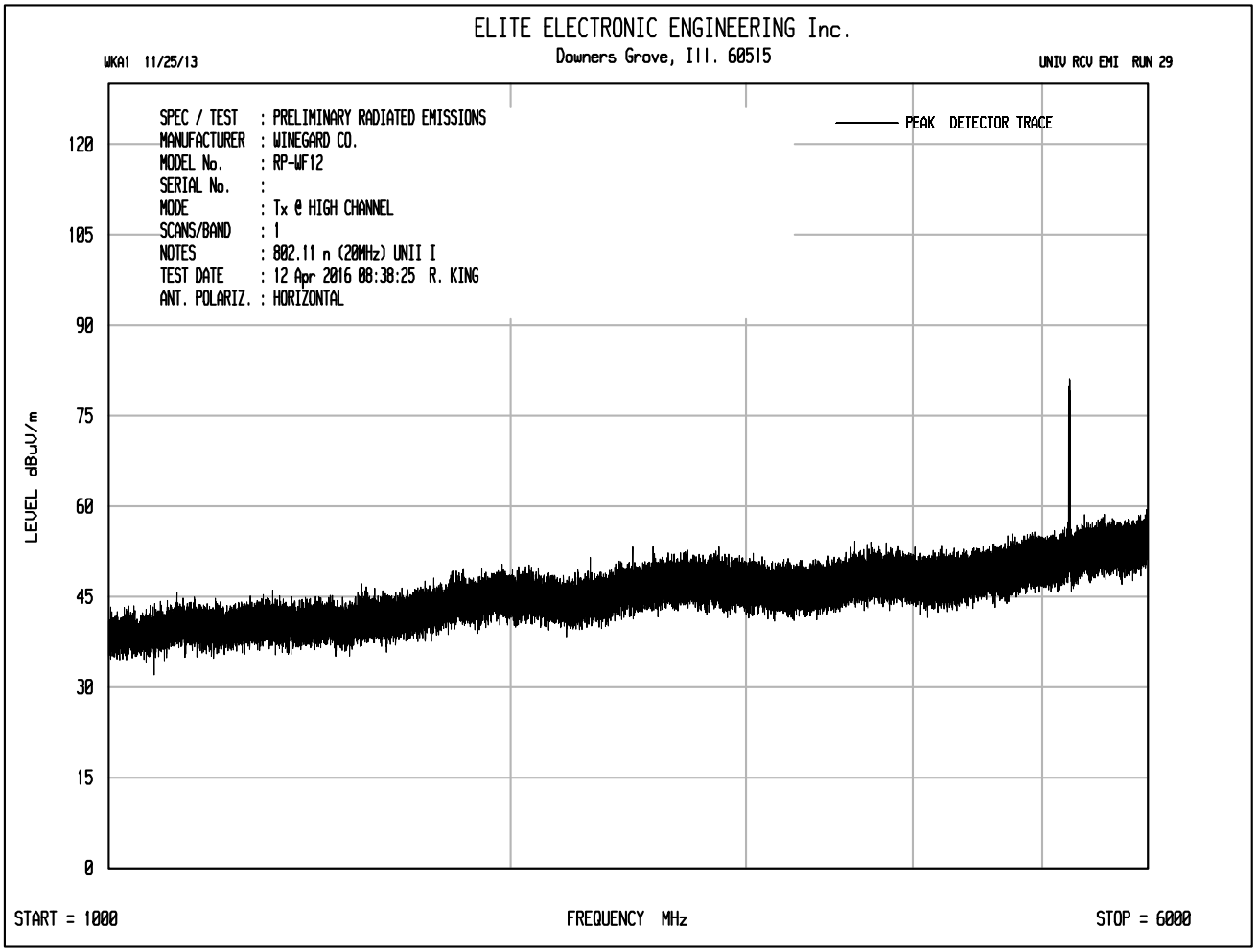

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 28
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. : NONE
MODE : Tx @ MID CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII I
TEST DATE : 12 Apr 2016 13:35:15 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 18000
FREQUENCY MHz
STOP = 26500

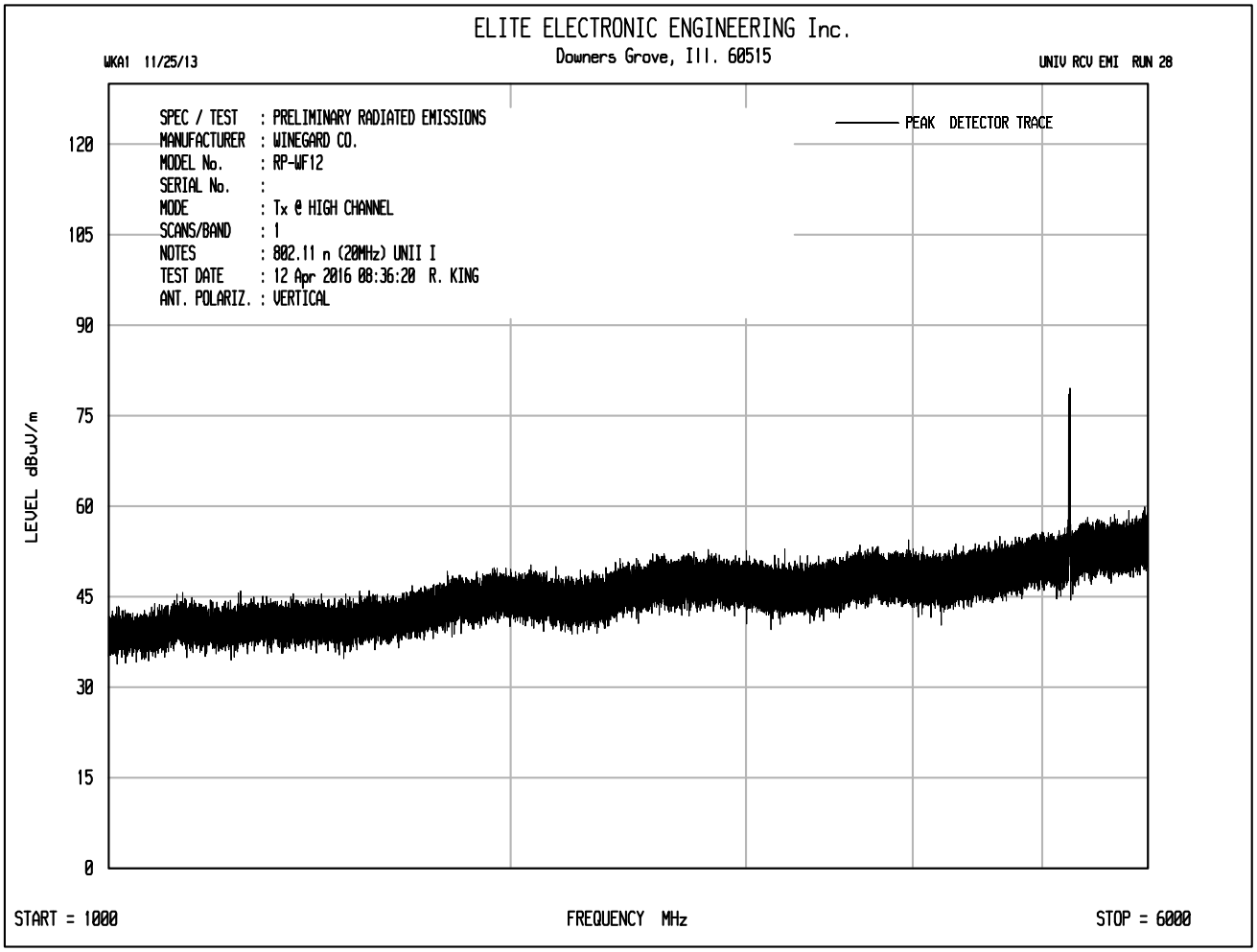

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 34
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ MID CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII 1
TEST DATE : 13 Apr 2016 10:37:22 R. KING
ANT. POLARIZ. : HORIZONTAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 26500.000001
FREQUENCY MHz
STOP = 40000

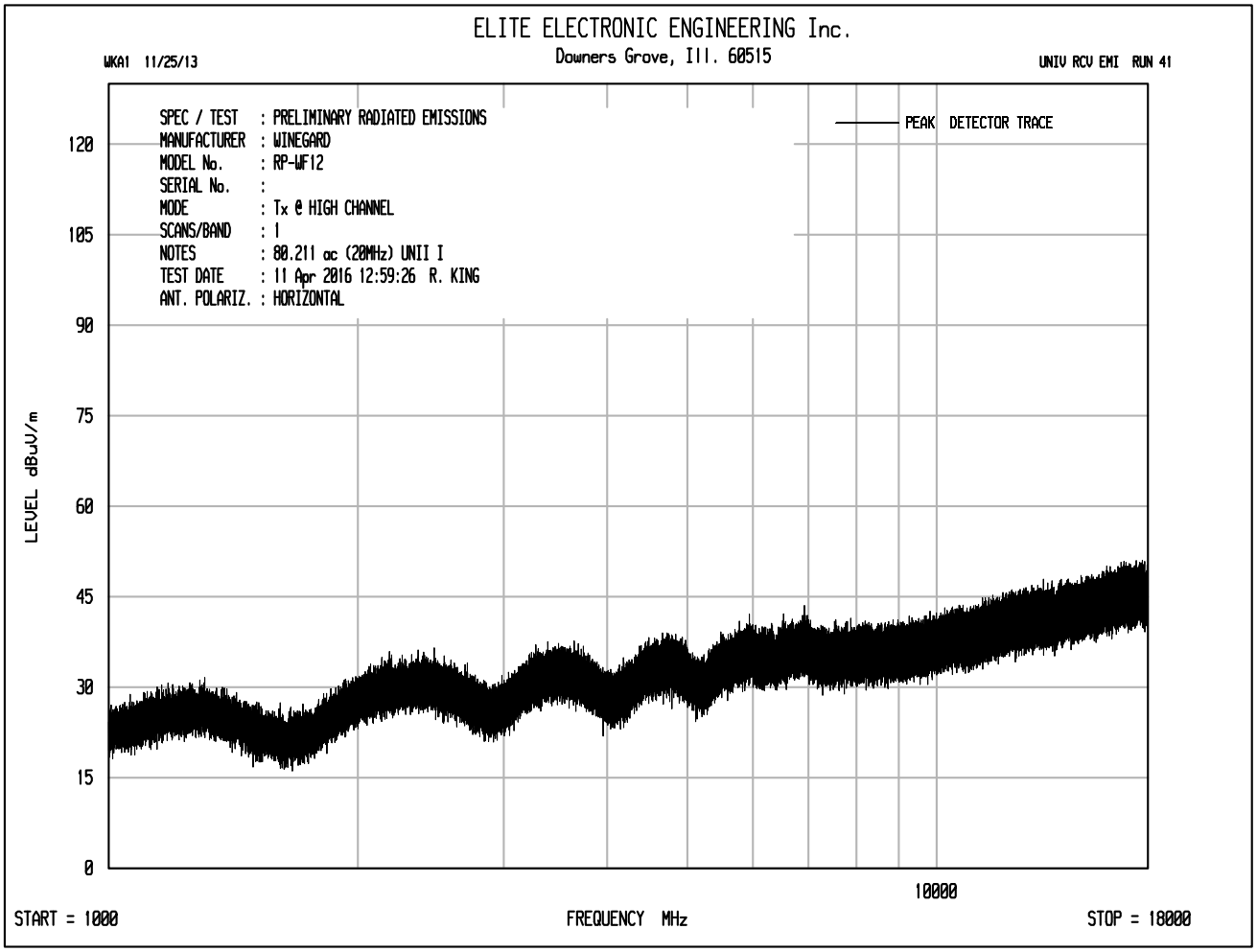

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 33
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ MID CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII 1
TEST DATE : 13 Apr 2016 10:32:04 R. KING
ANT. POLARIZ. : VERTICAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 26500.000001
FREQUENCY MHz
STOP = 40000

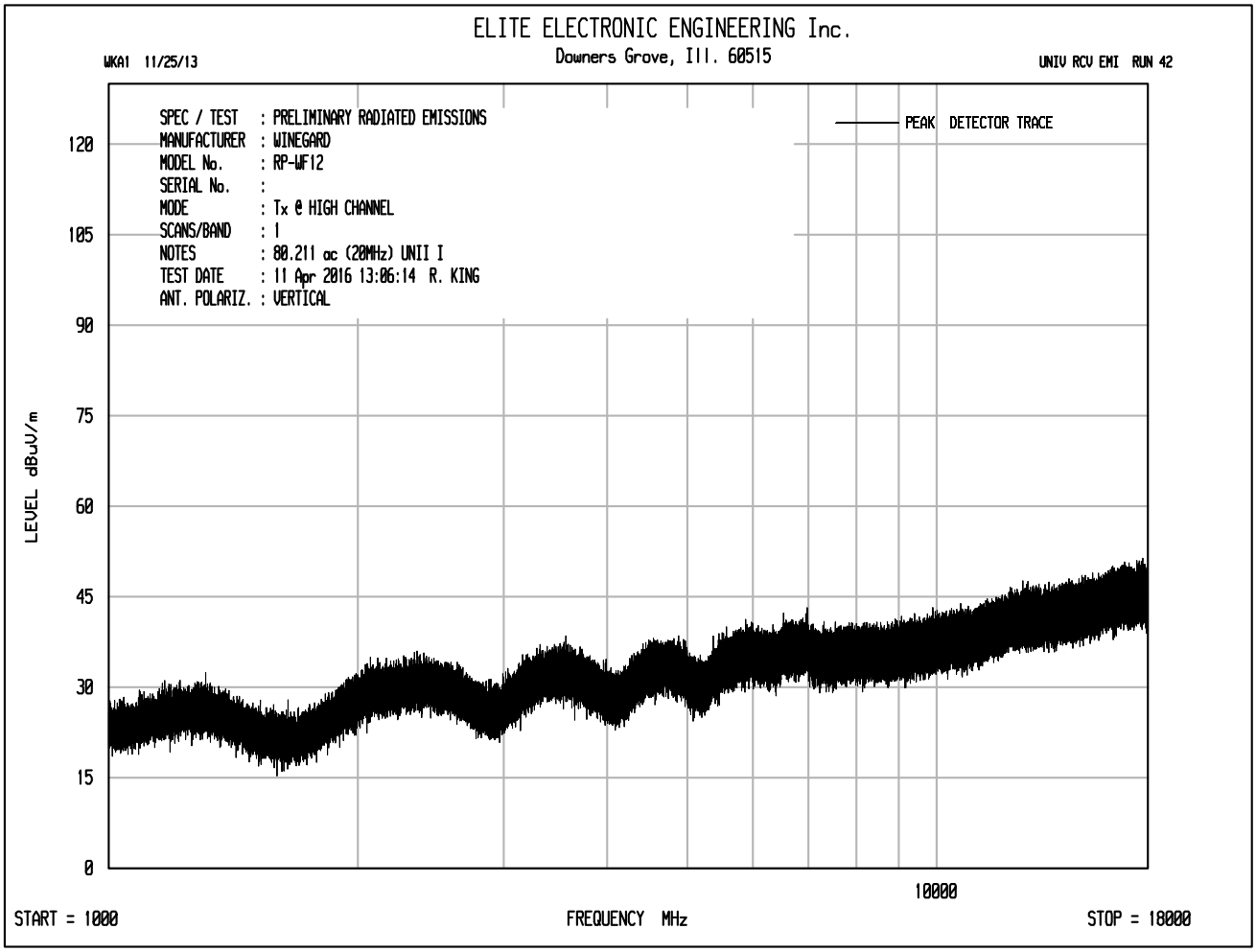

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 5
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ 5240
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII I
TEST DATE : 13 Apr 2016 15:46:19 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000

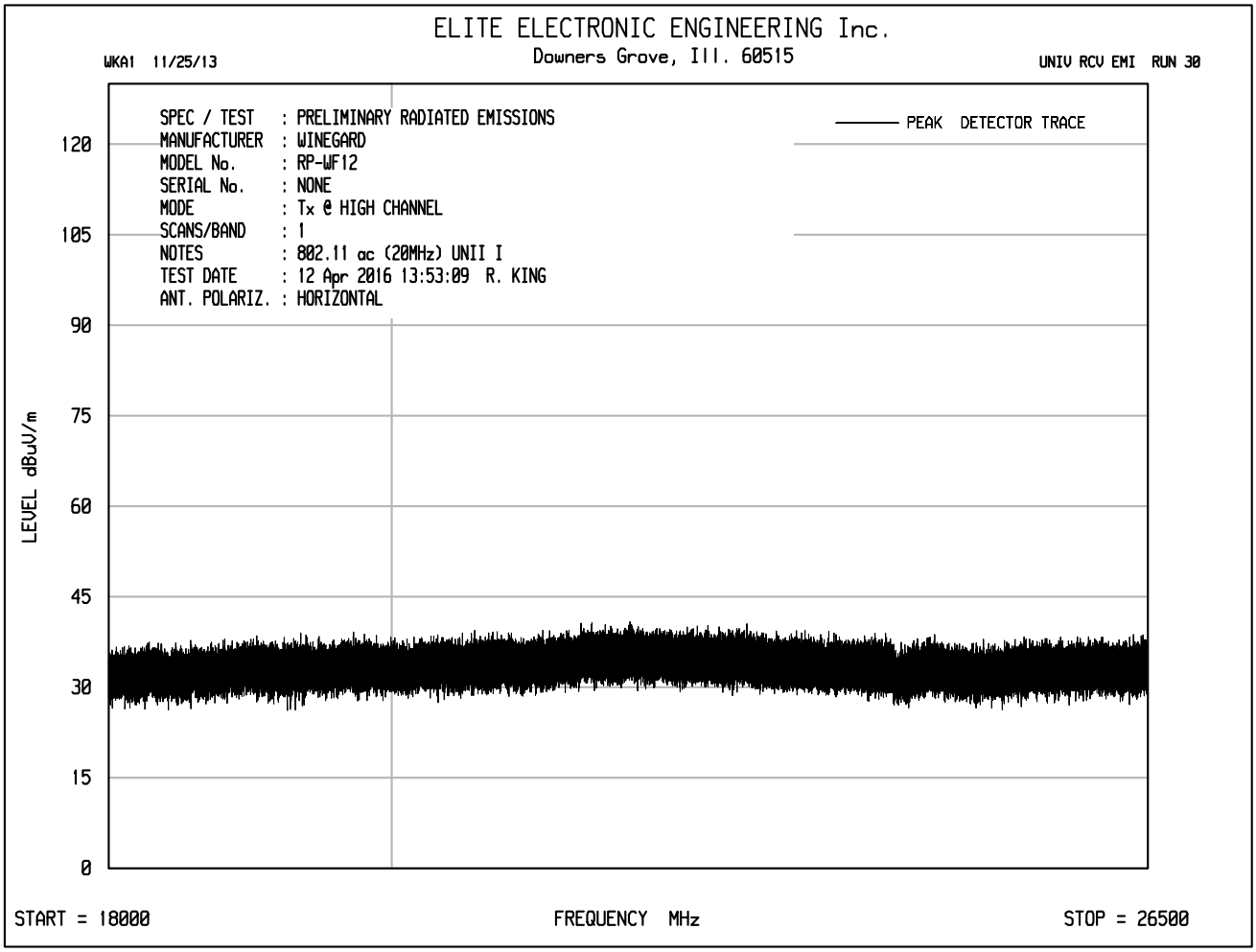

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 6
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ 5240
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII I
TEST DATE : 13 Apr 2016 15:47:53 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000

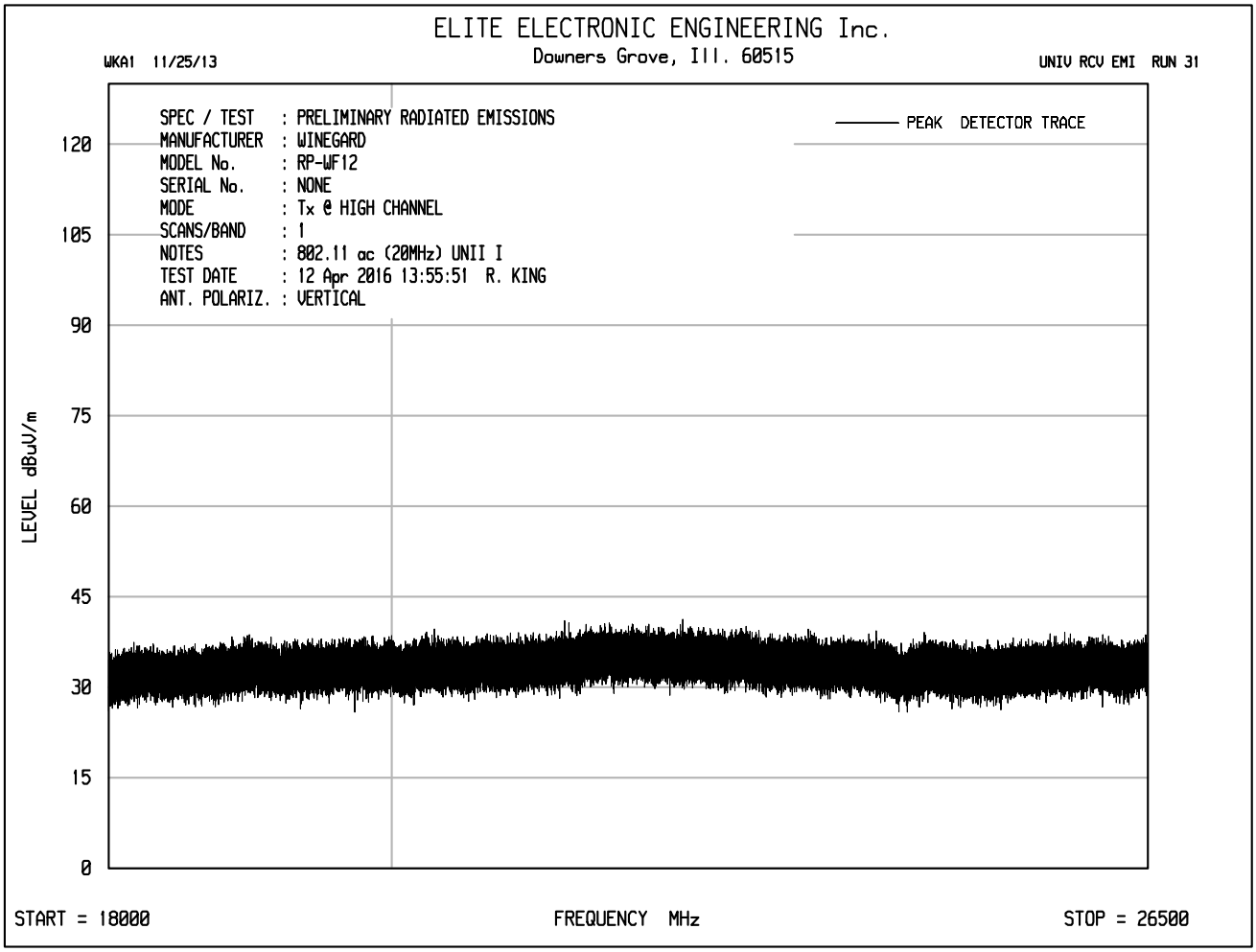

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 29
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ HIGH CHANNEL
SCANS/BAND : 1
NOTES : 802.11 n (20MHz) UNII I
TEST DATE : 12 Apr 2016 08:38:25 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 6000

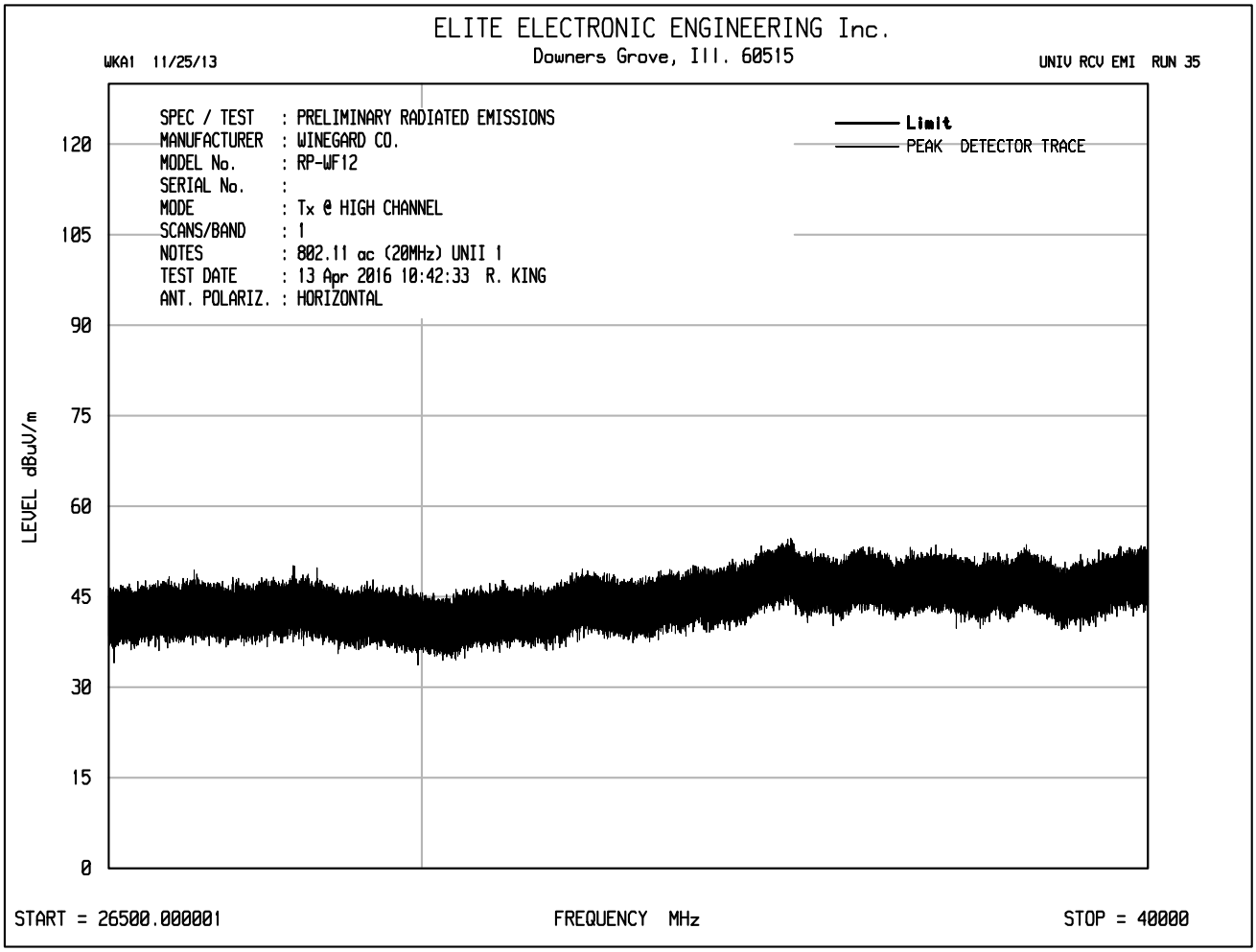

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 28
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ HIGH CHANNEL
SCANS/BAND : 1
NOTES : 802.11 n (20MHz) UNII I
TEST DATE : 12 Apr 2016 08:36:20 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 6000

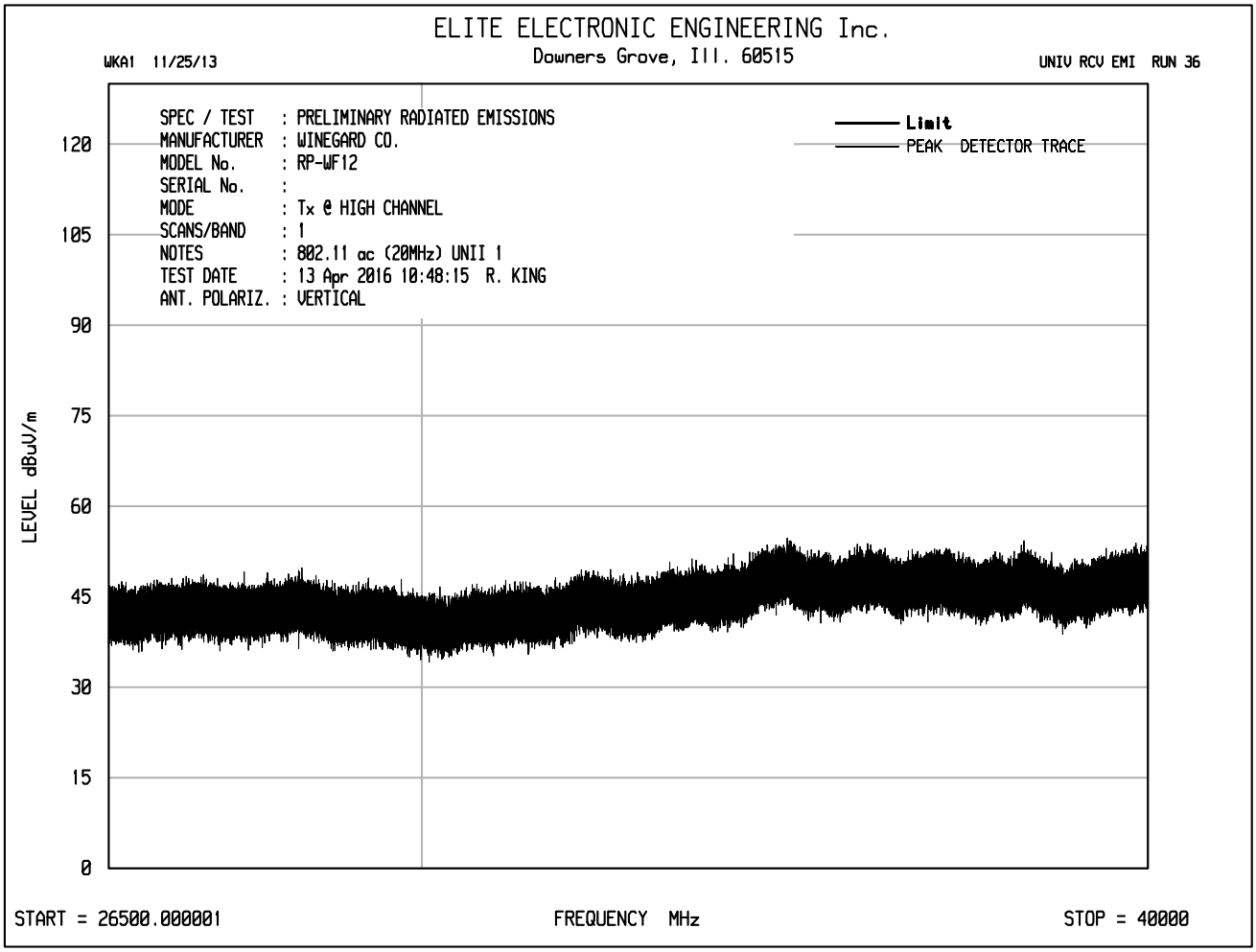

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 41
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ HIGH CHANNEL
SCANS/BAND : 1
NOTES : 80.211 ac (20MHz) UNII I
TEST DATE : 11 Apr 2016 12:59:26 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
10000
START = 1000
FREQUENCY MHz
STOP = 18000

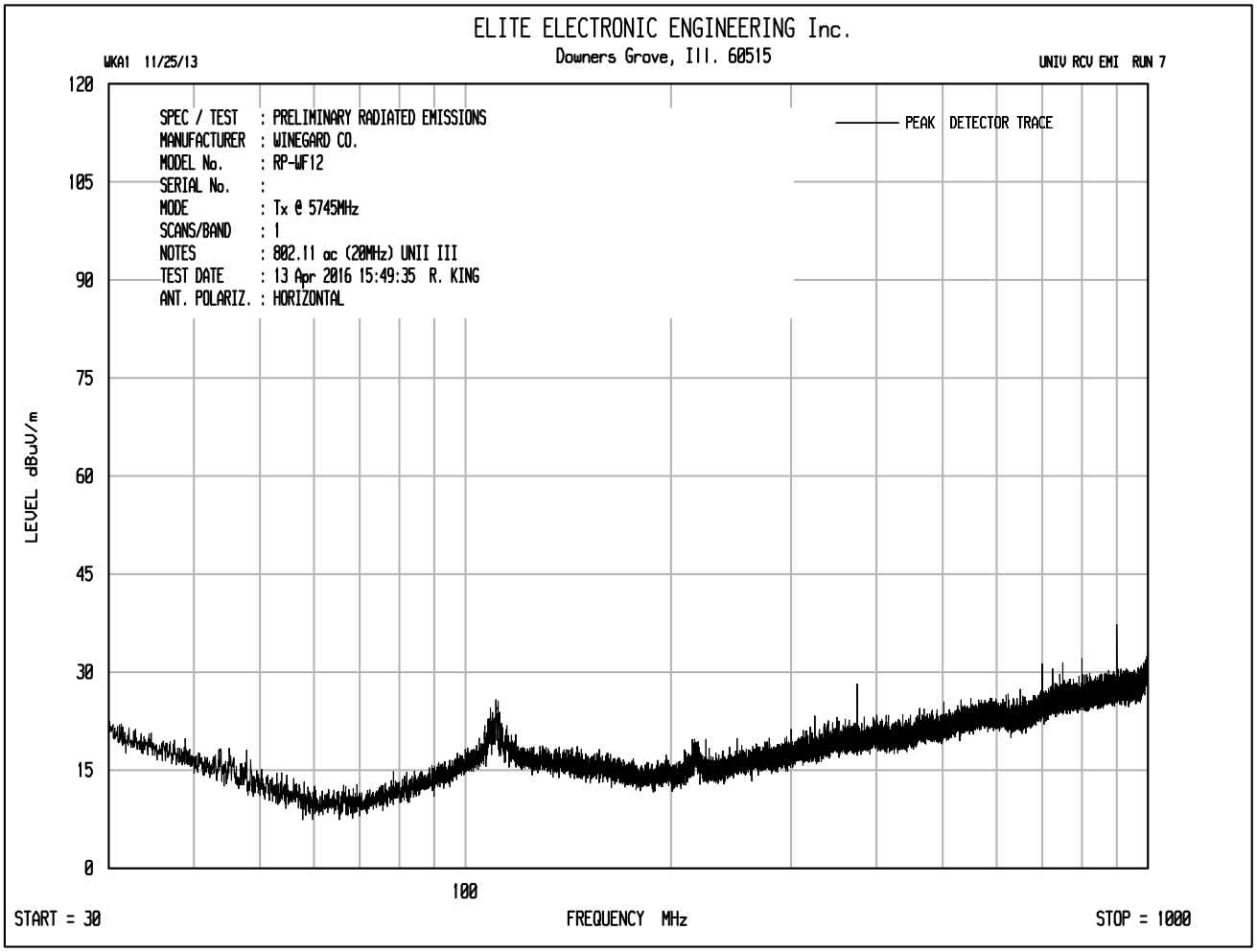

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 42
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ HIGH CHANNEL
SCANS/BAND : 1
NOTES : 80.211 ac (20MHz) UNII I
TEST DATE : 11 Apr 2016 13:06:14 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
10000
START = 1000
FREQUENCY MHz
STOP = 18000

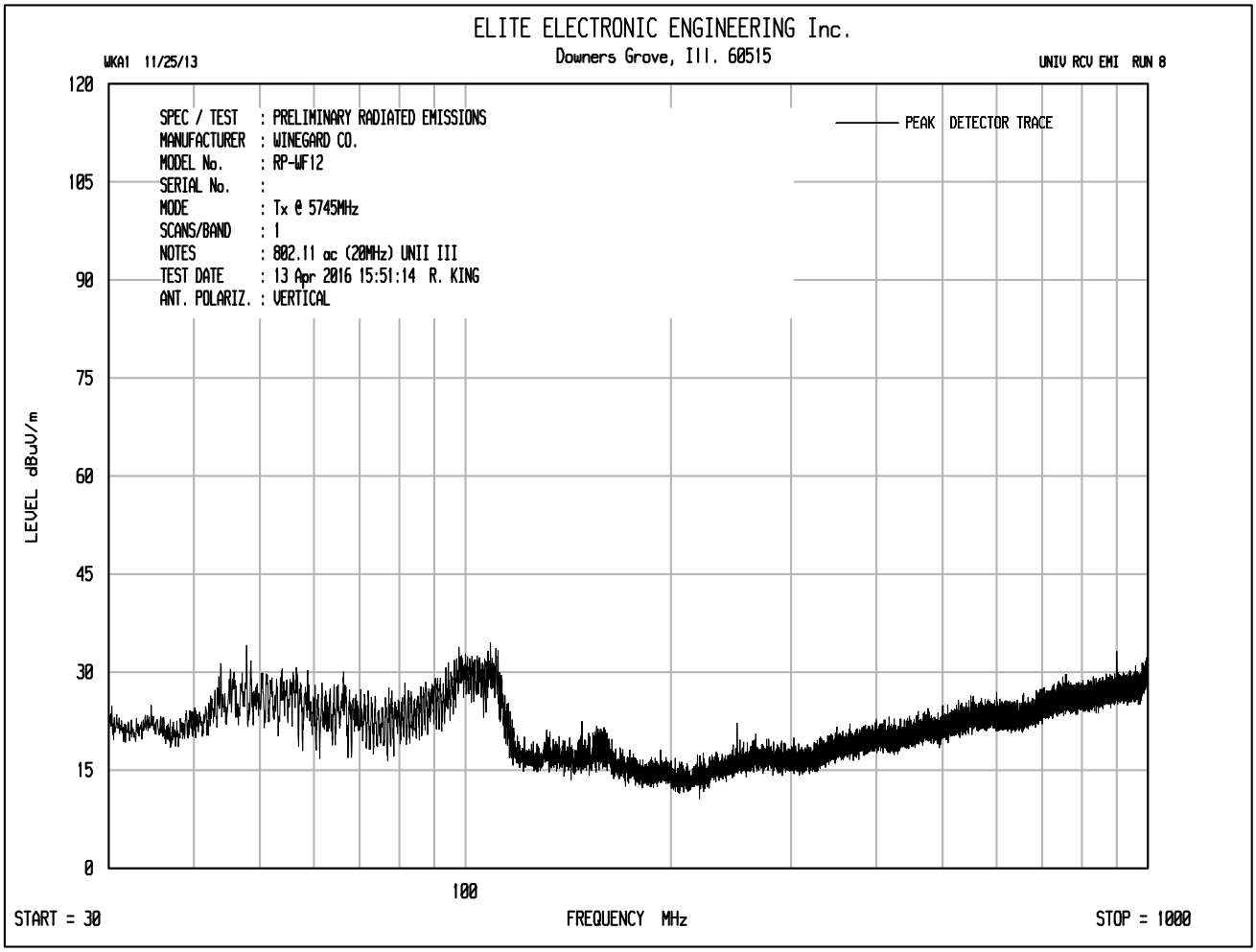

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 30
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. : NONE
MODE : Tx @ HIGH CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII I
TEST DATE : 12 Apr 2016 13:53:09 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 18000
FREQUENCY MHz
STOP = 26500

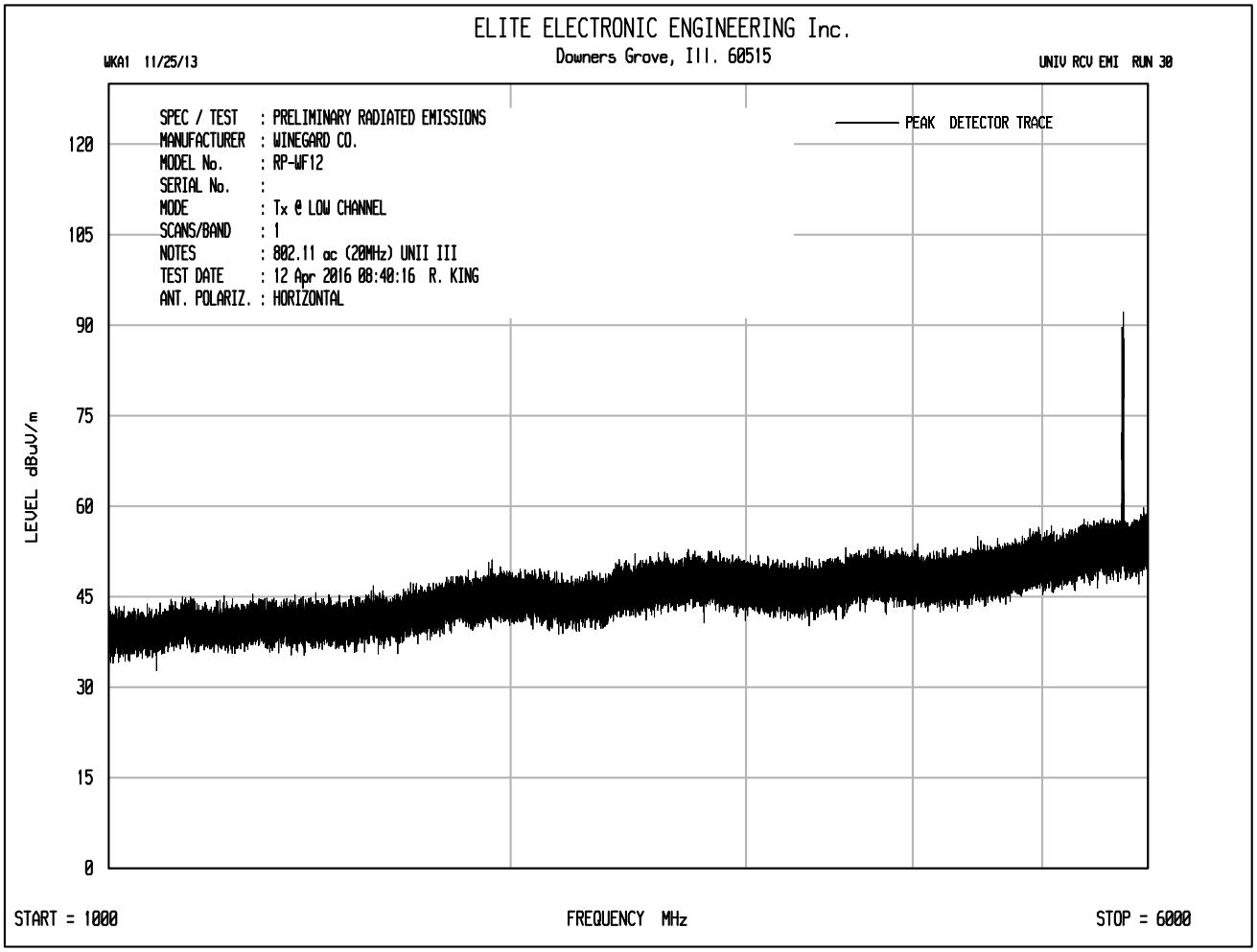

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 31
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. : NONE
MODE : Tx @ HIGH CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII I
TEST DATE : 12 Apr 2016 13:55:51 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 18000
FREQUENCY MHz
STOP = 26500

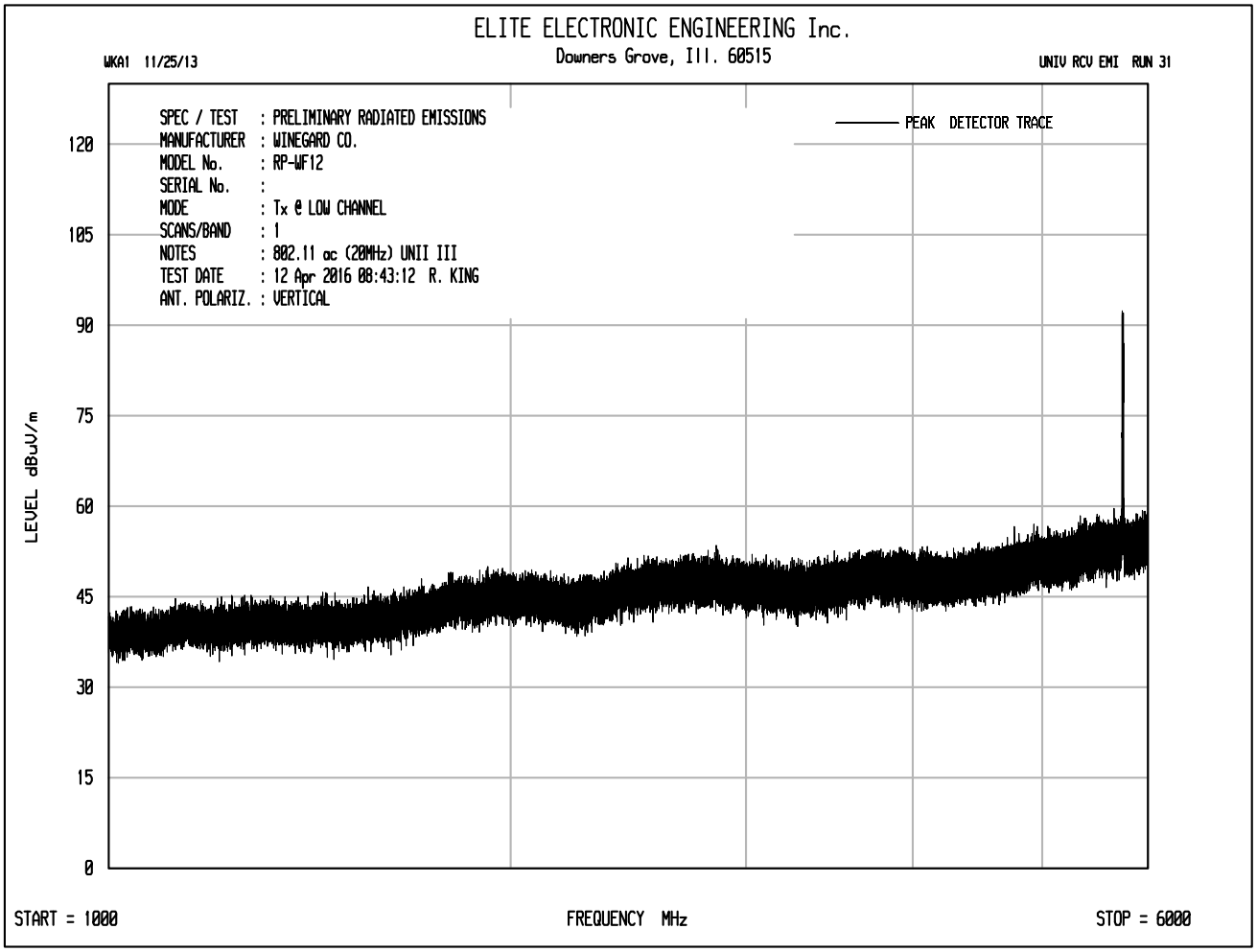

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 35
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ HIGH CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII 1
TEST DATE : 13 Apr 2016 10:42:33 R. KING
ANT. POLARIZ. : HORIZONTAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 26500.000001
FREQUENCY MHz
STOP = 40000

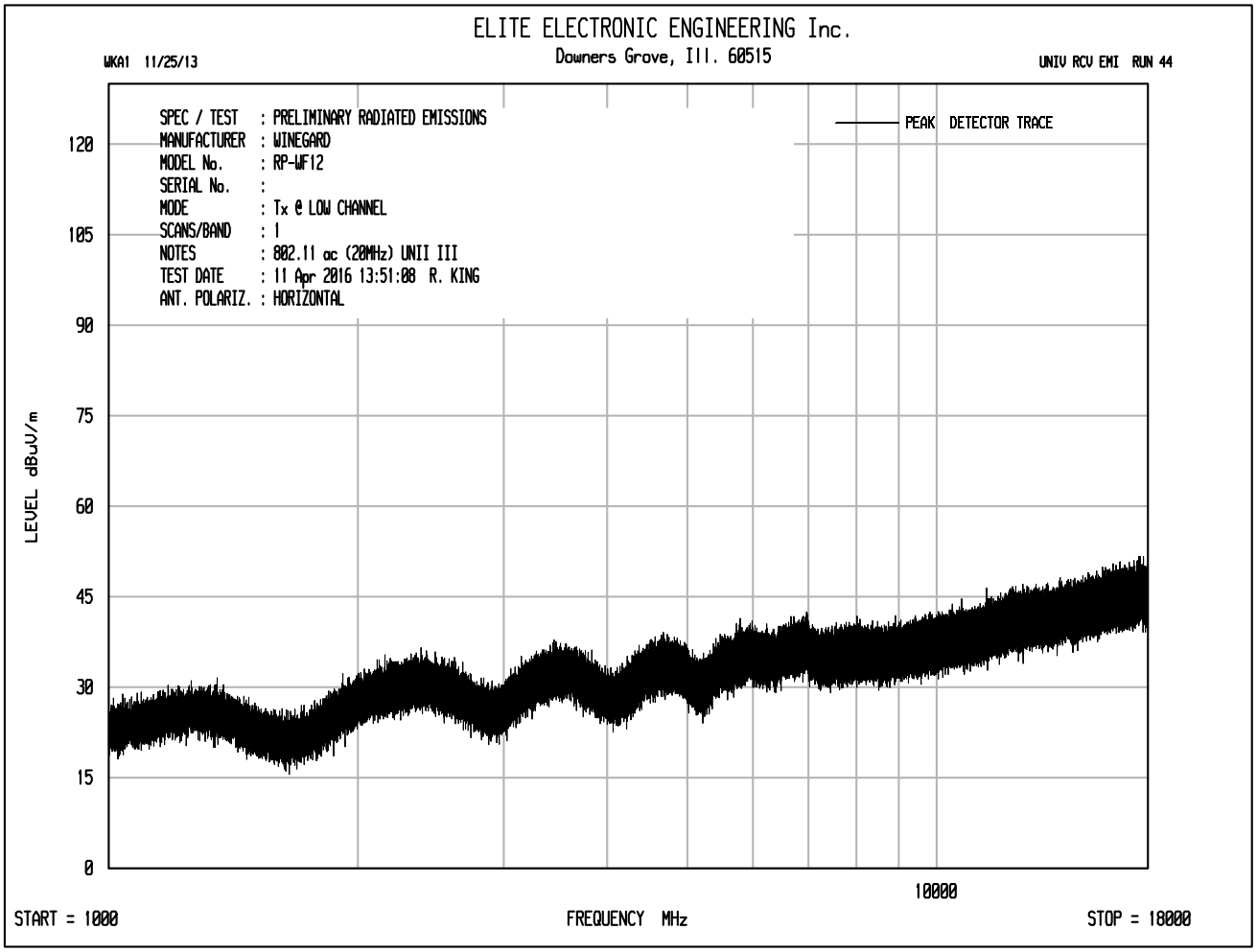

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 36
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ HIGH CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII 1
TEST DATE : 13 Apr 2016 10:48:15 R. KING
ANT. POLARIZ. : VERTICAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 26500.000001
FREQUENCY MHz
STOP = 40000

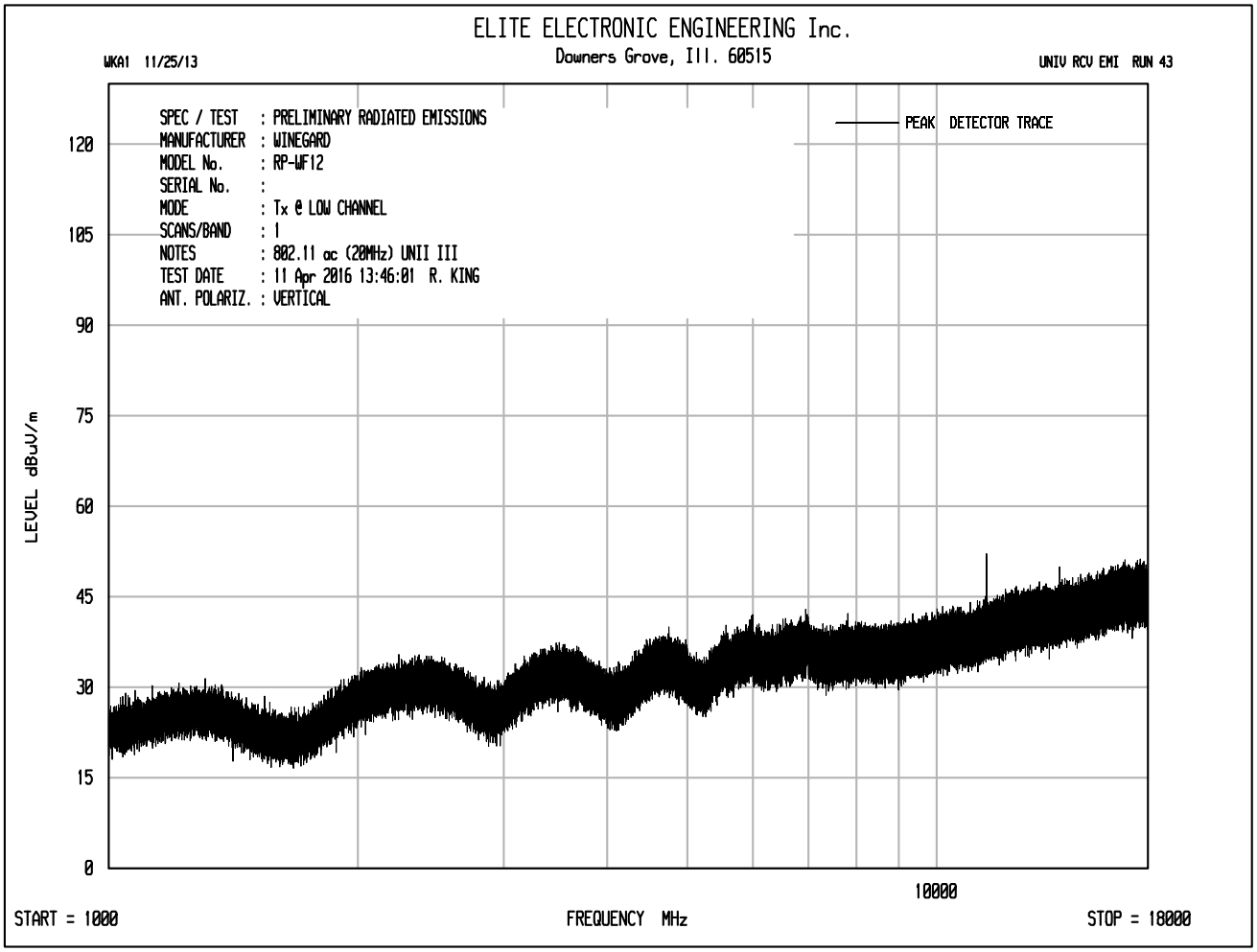

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 7
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ 5745MHz
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII III
TEST DATE : 13 Apr 2016 15:49:35 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000

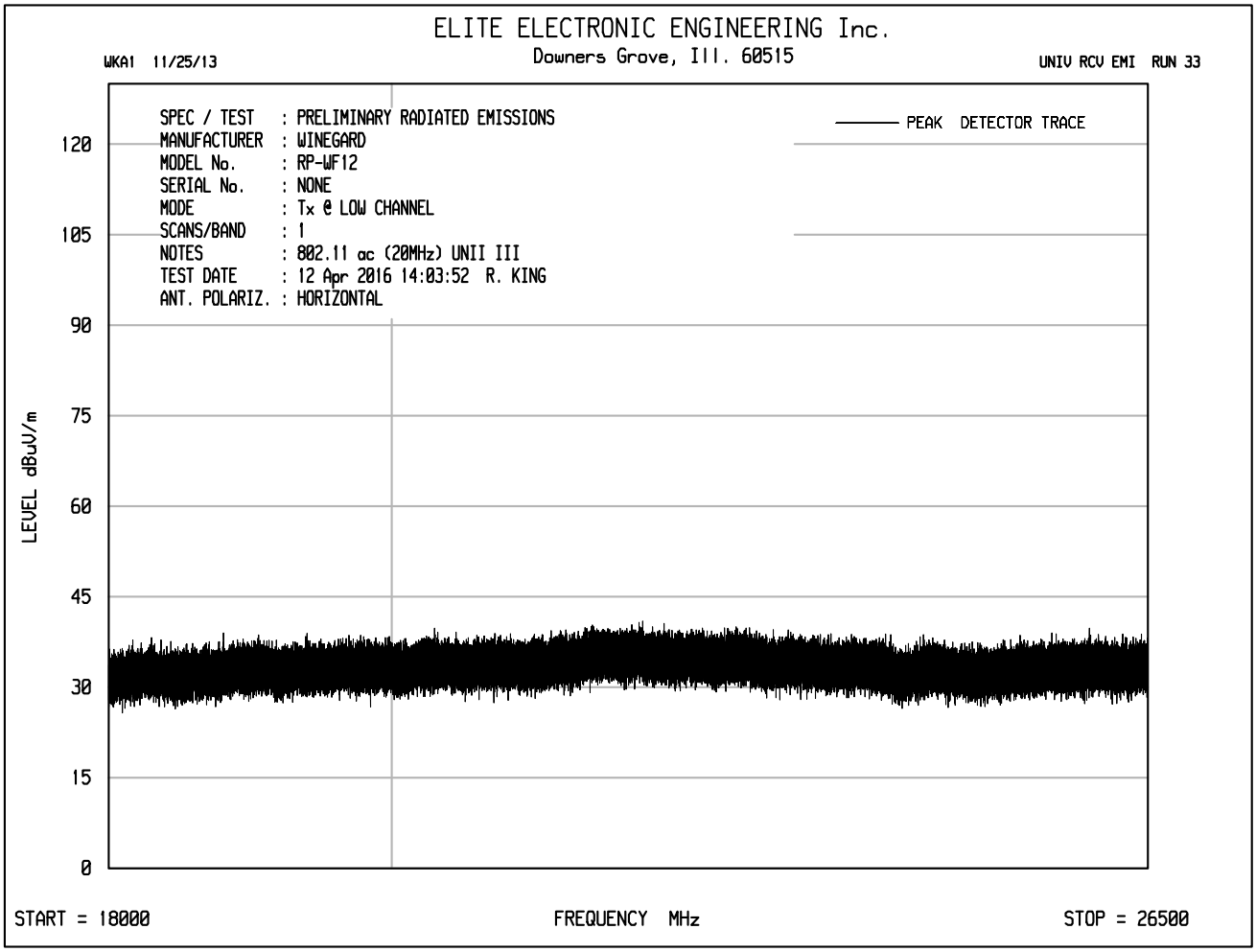

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 8
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ 5745MHz
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII III
TEST DATE : 13 Apr 2016 15:51:14 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000

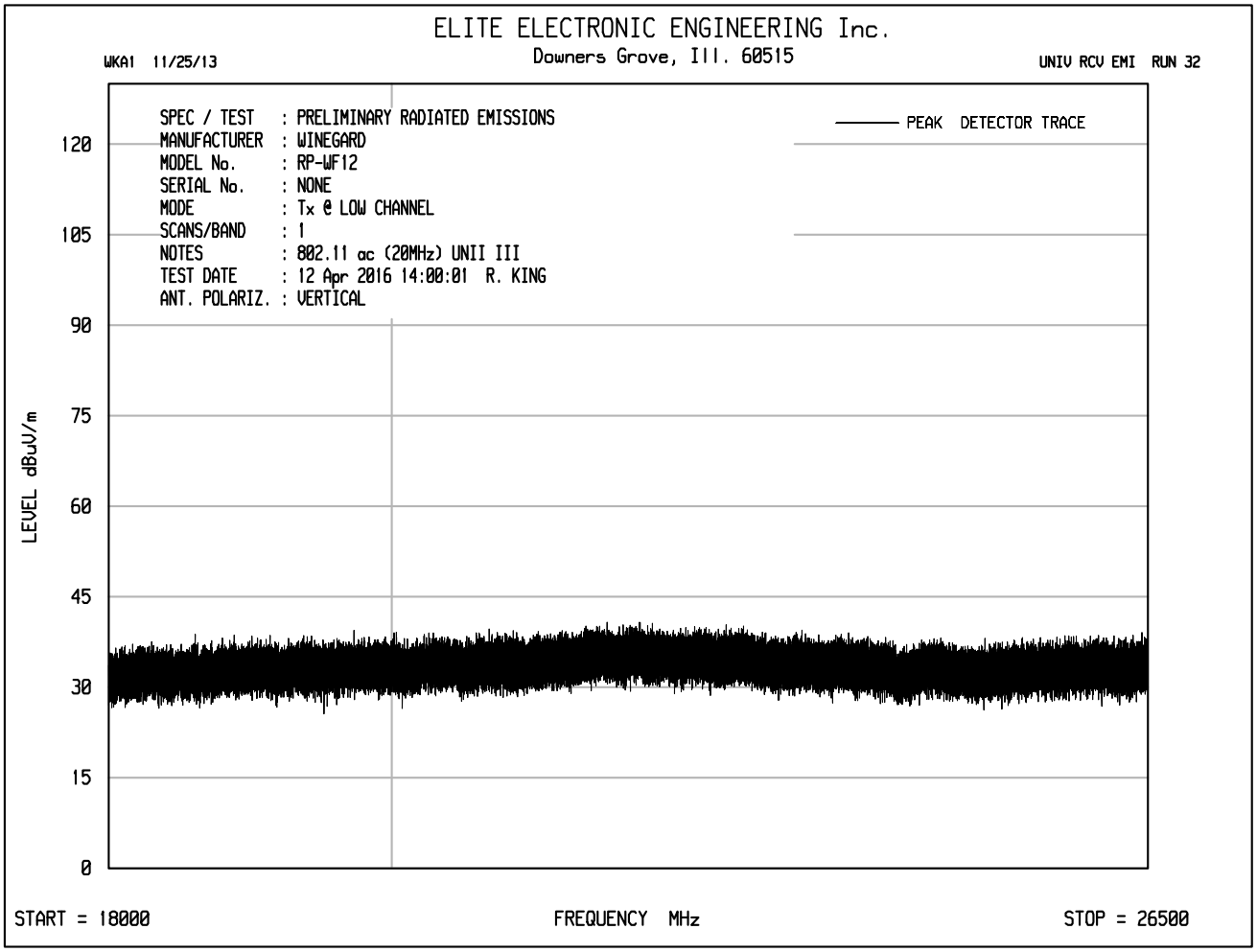

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 30
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ LOW CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII III
TEST DATE : 12 Apr 2016 08:40:16 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 6000

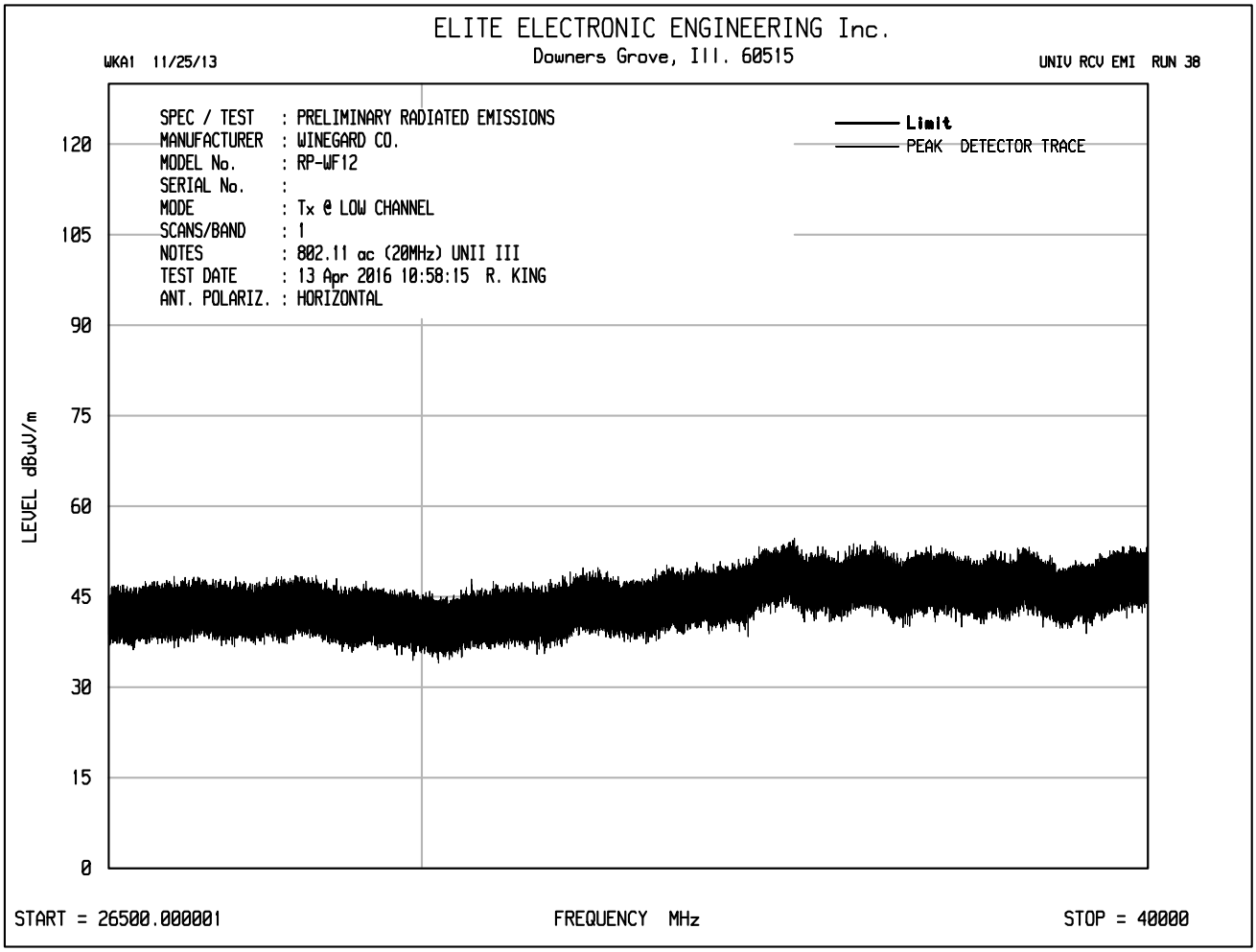

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 31
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ LOW CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII III
TEST DATE : 12 Apr 2016 08:43:12 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 6000

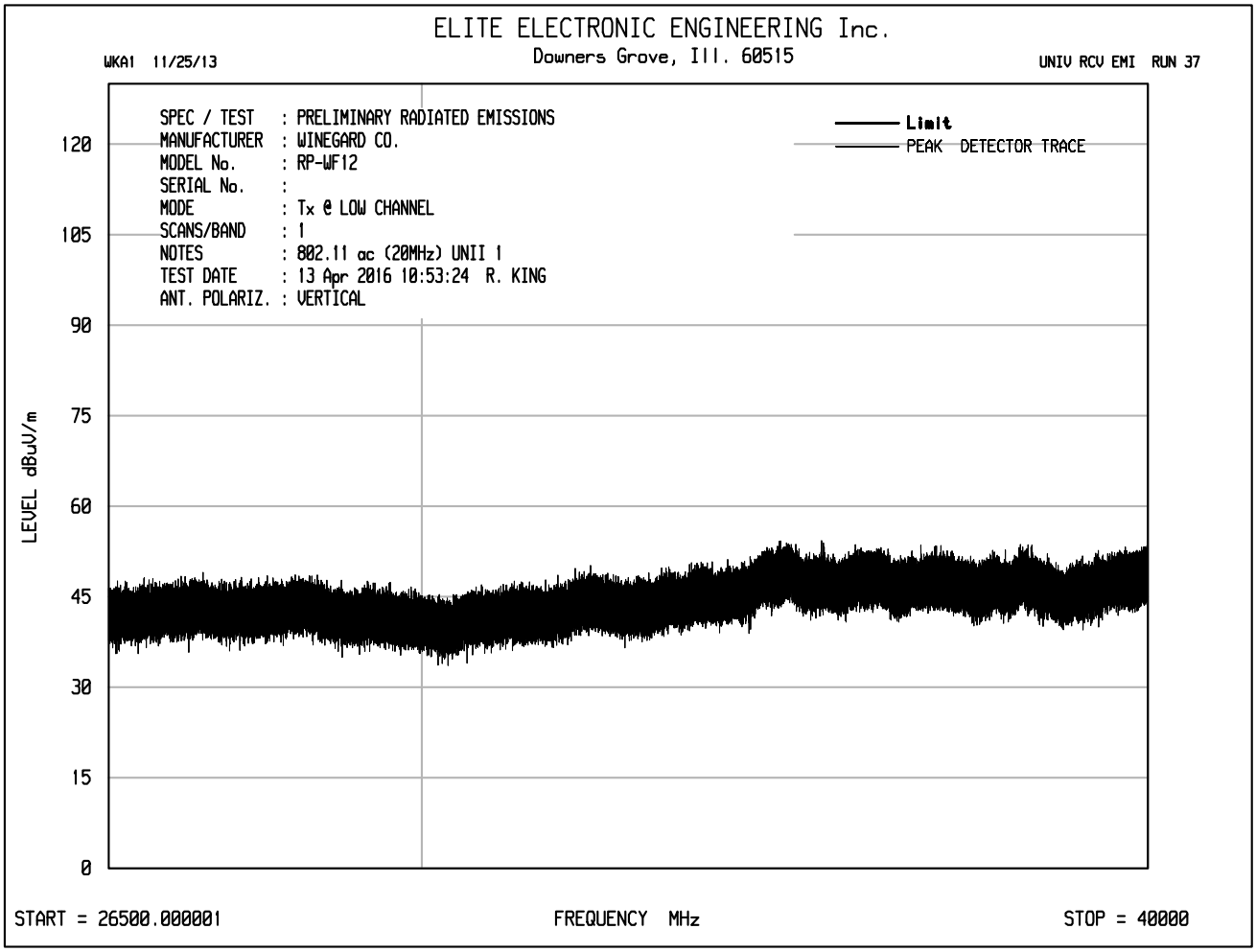

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 44
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ LOW CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII III
TEST DATE : 11 Apr 2016 13:51:08 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
10000
START = 1000
FREQUENCY MHz
STOP = 18000

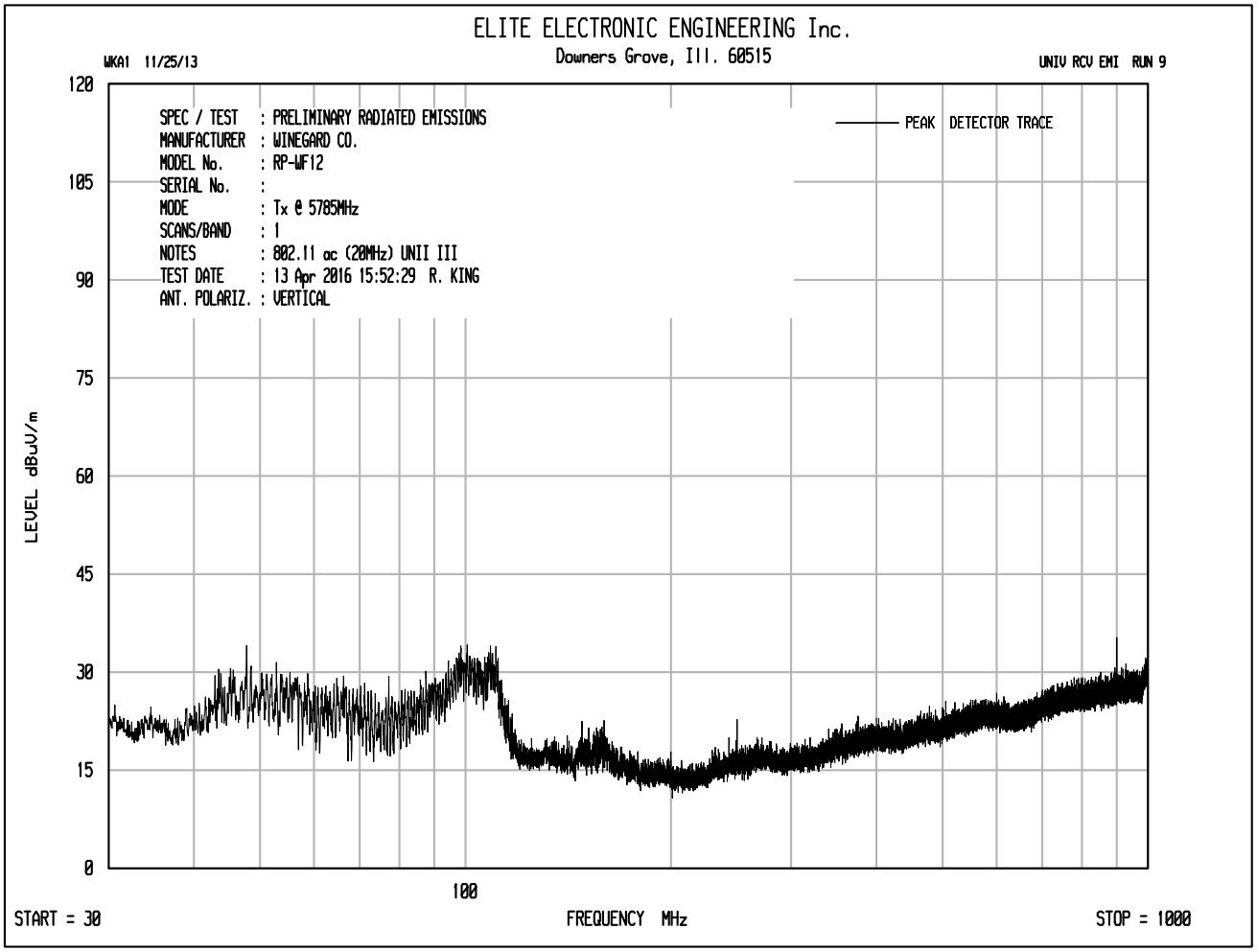

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 43
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ LOW CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII III
TEST DATE : 11 Apr 2016 13:46:01 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
10000
START = 1000
FREQUENCY MHz
STOP = 18000

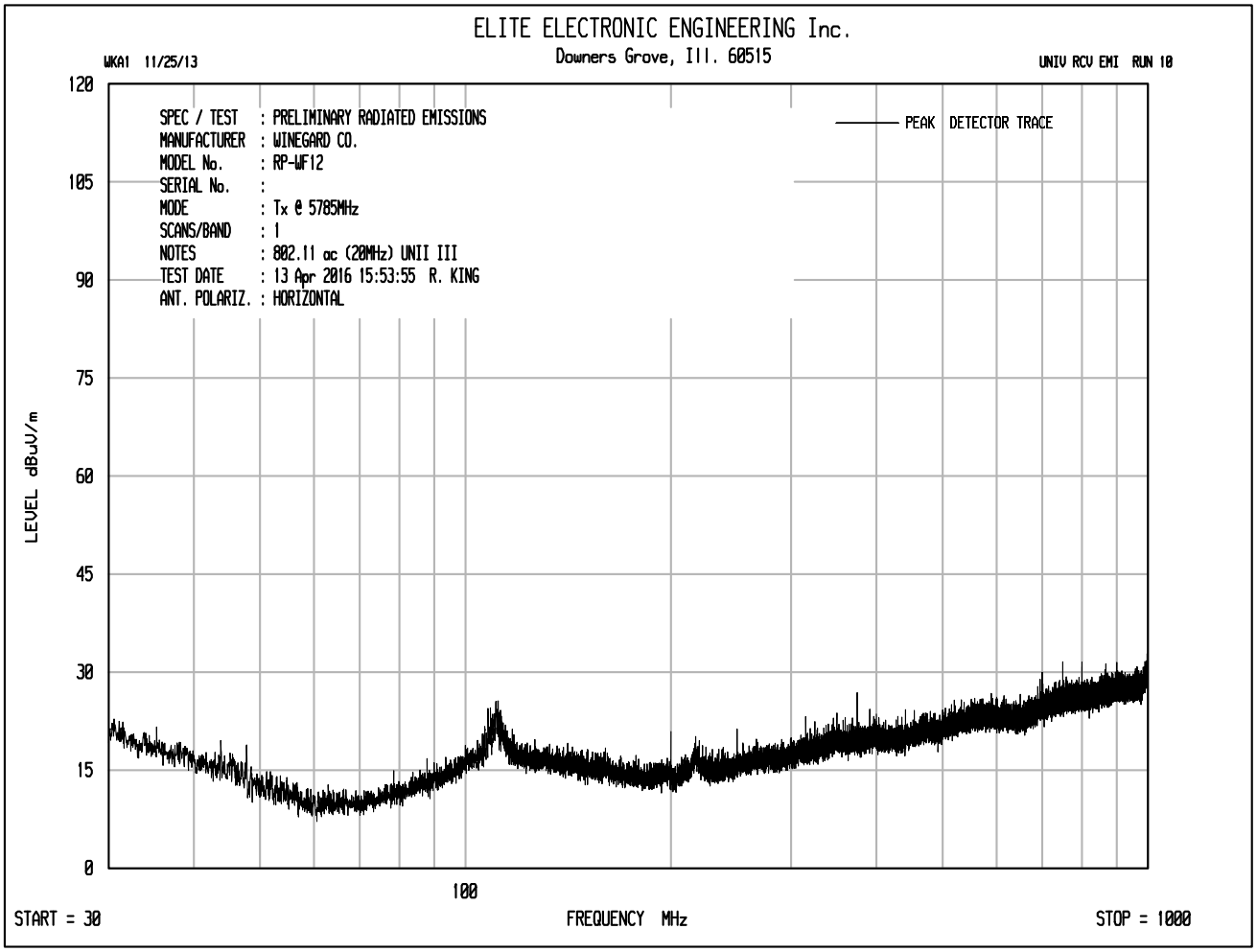

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 33
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. : NONE
MODE : Tx @ LOW CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII III
TEST DATE : 12 Apr 2016 14:03:52 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 18000
FREQUENCY MHz
STOP = 26500

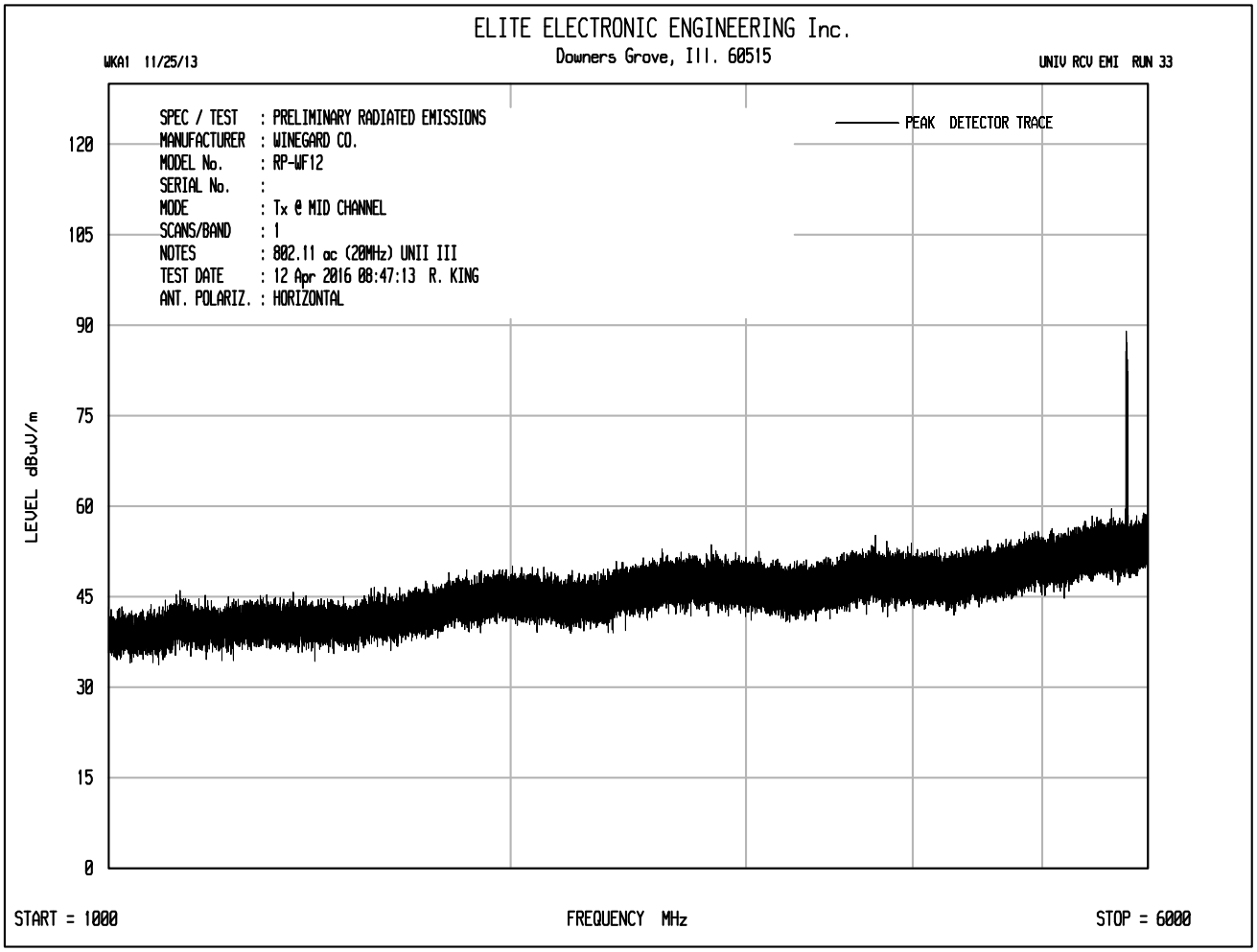

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 32
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. : NONE
MODE : Tx @ LOW CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII III
TEST DATE : 12 Apr 2016 14:00:01 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 18000
FREQUENCY MHz
STOP = 26500

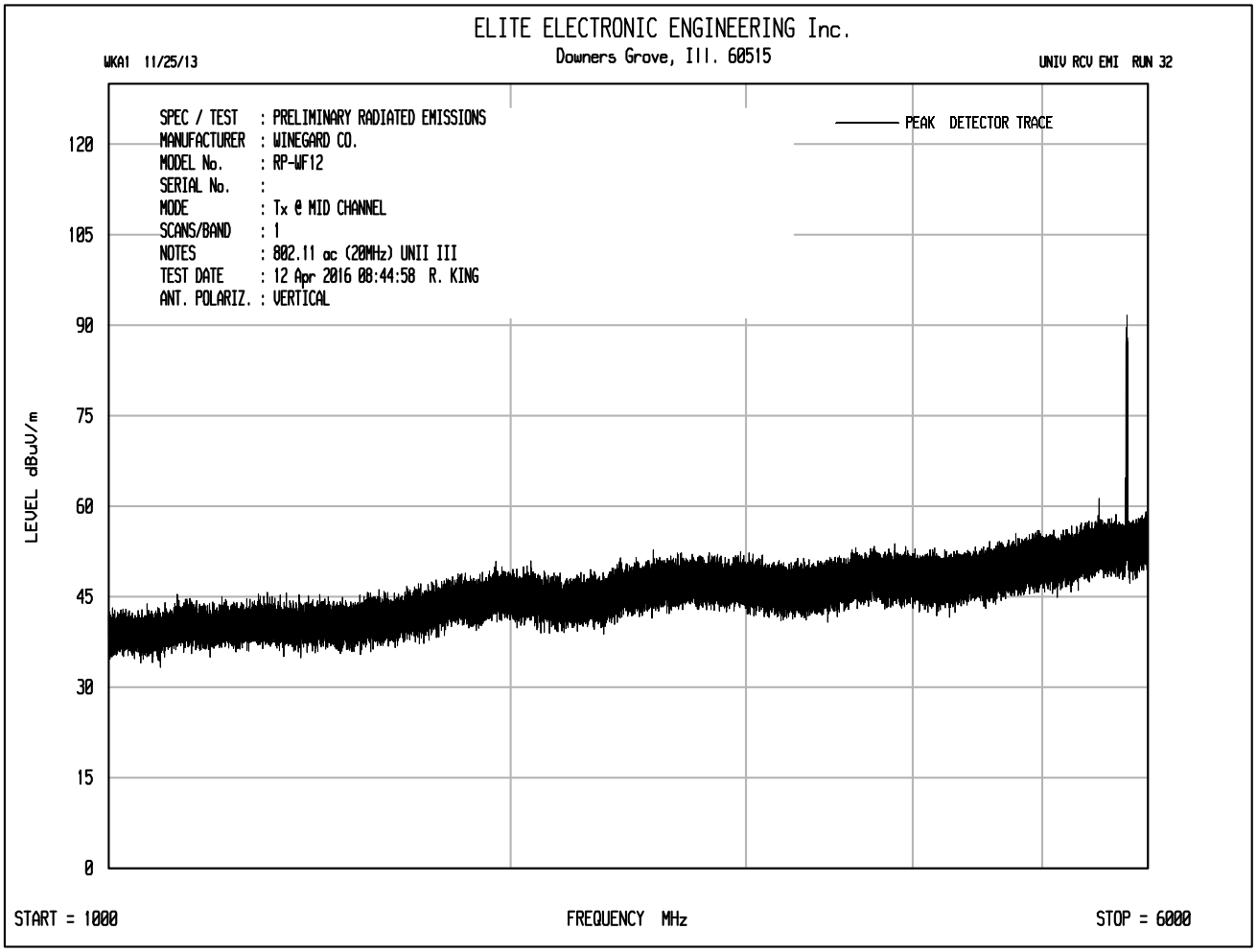

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 38
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ LOW CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII III
TEST DATE : 13 Apr 2016 10:58:15 R. KING
ANT. POLARIZ. : HORIZONTAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 26500.000001
FREQUENCY MHz
STOP = 40000

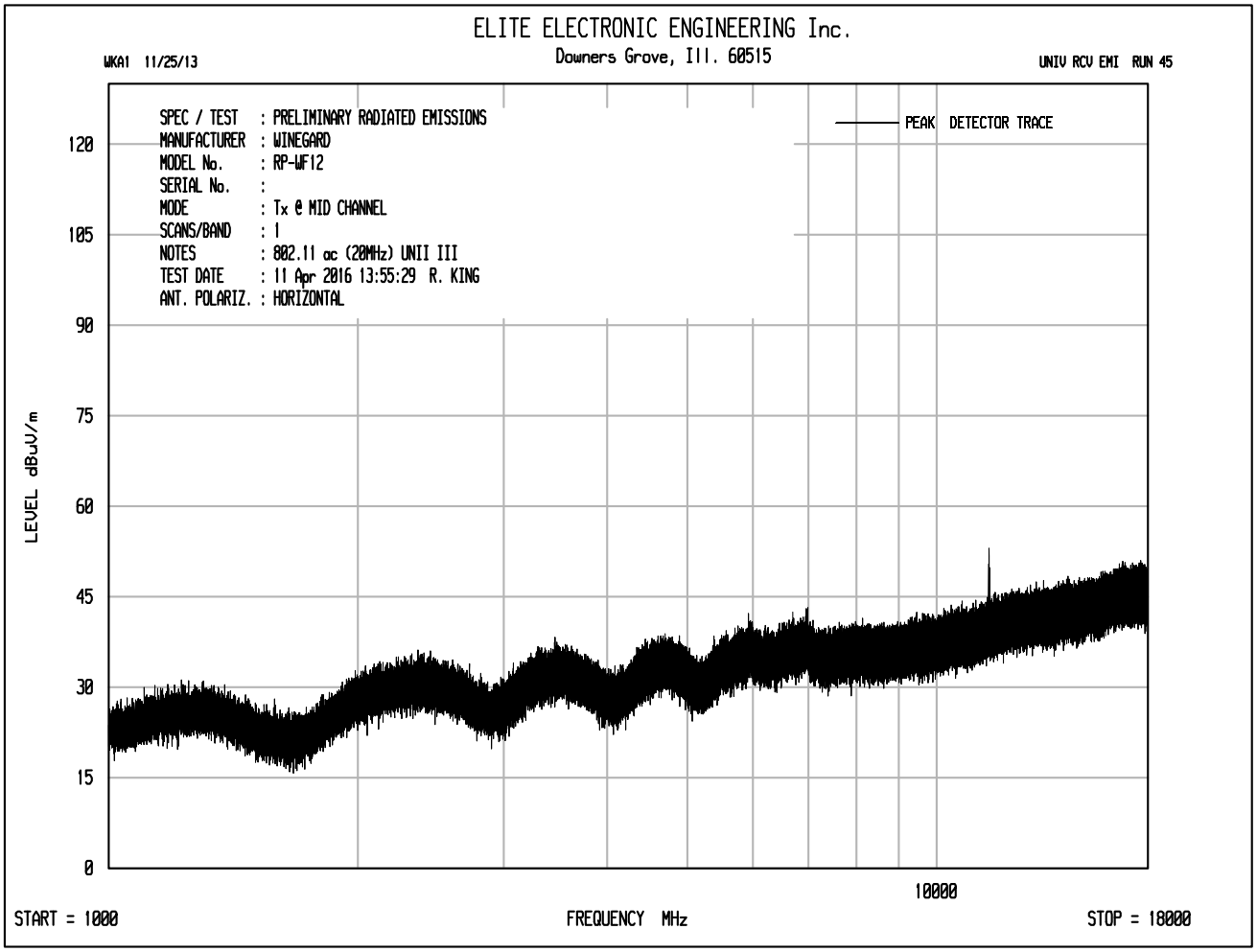

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 37
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ LOW CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII 1
TEST DATE : 13 Apr 2016 10:53:24 R. KING
ANT. POLARIZ. : VERTICAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 26500.000001
FREQUENCY MHz
STOP = 40000

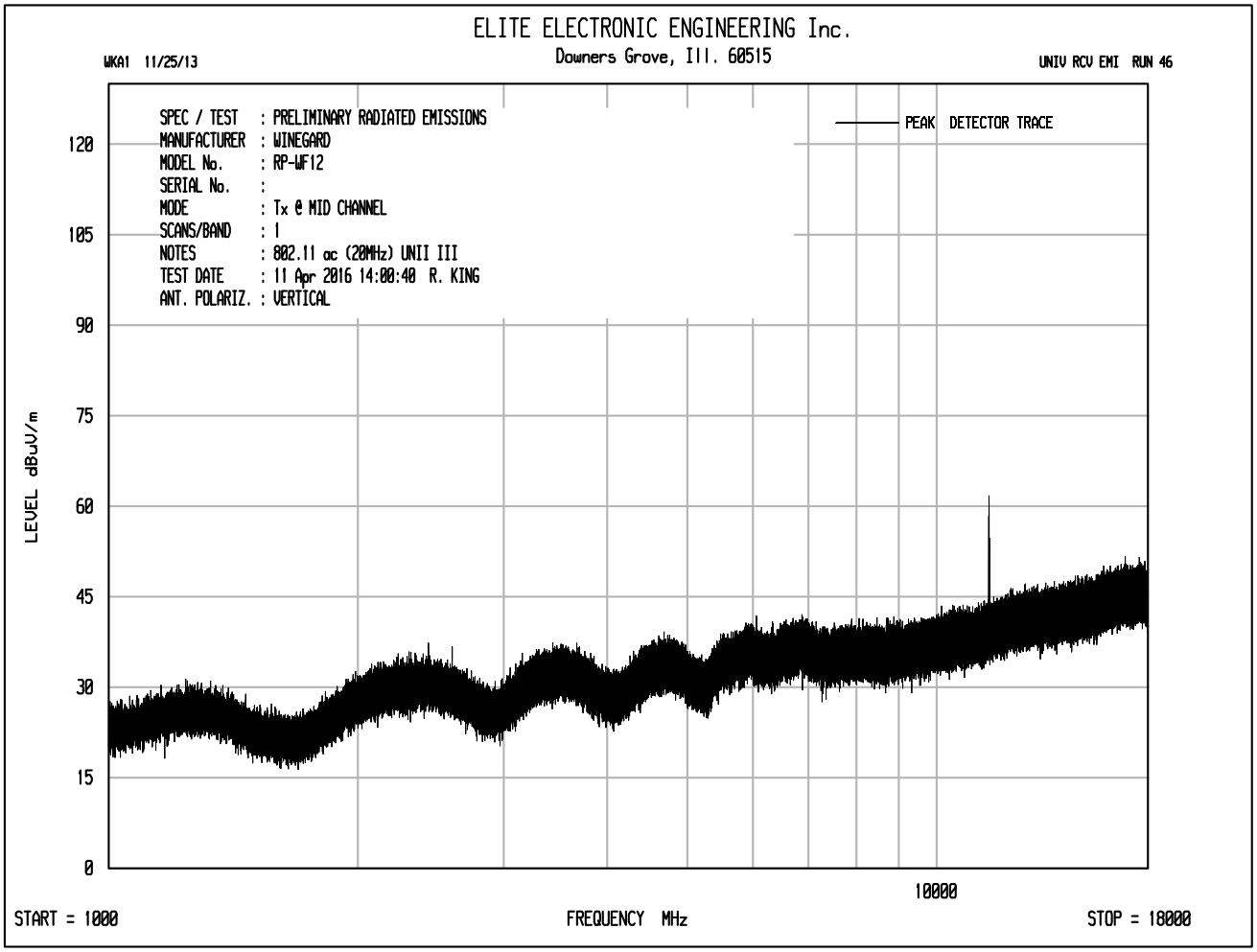

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 9
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ 5785MHz
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII III
TEST DATE : 13 Apr 2016 15:52:29 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000

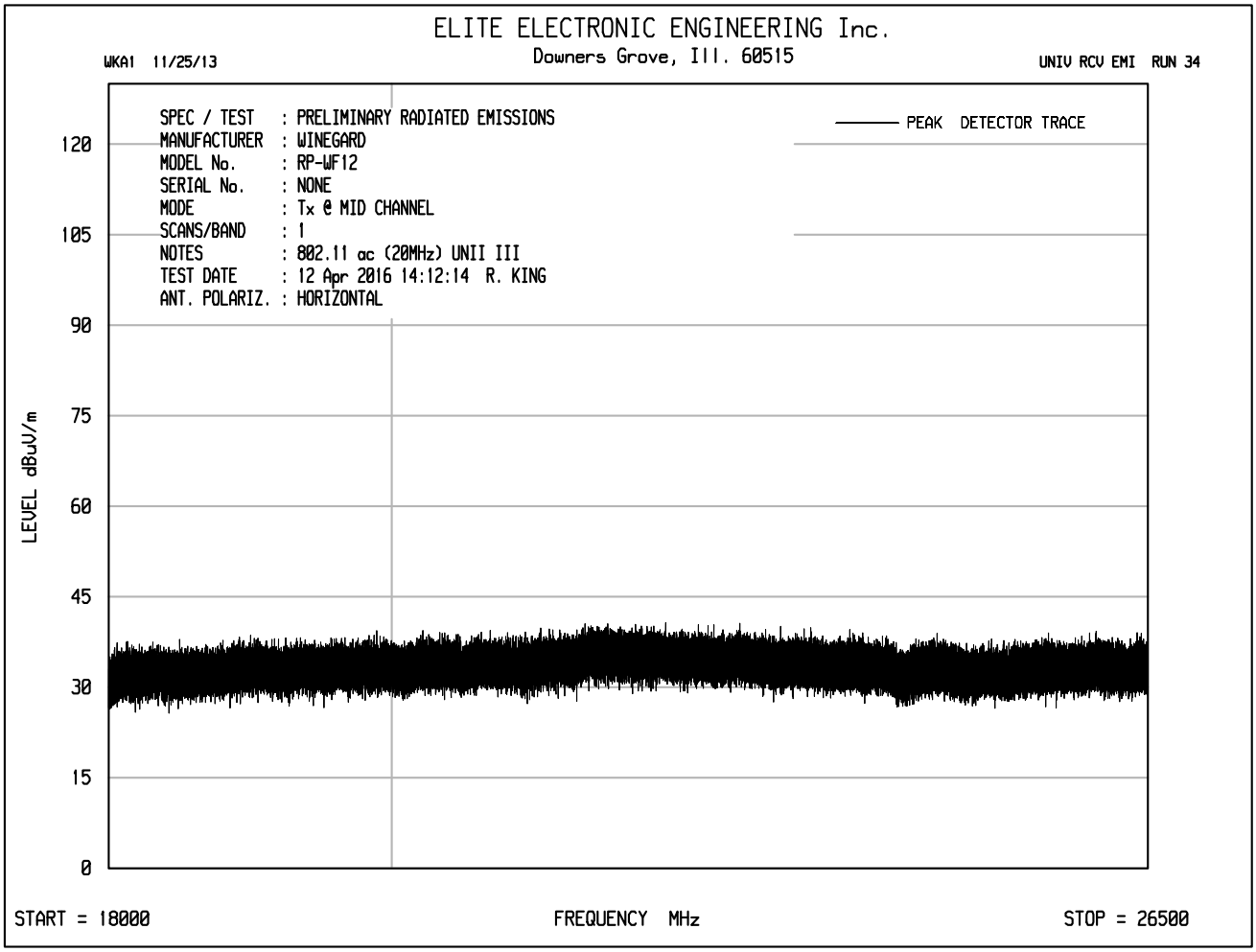

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ 5785MHz
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII III
TEST DATE : 13 Apr 2016 15:53:55 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000

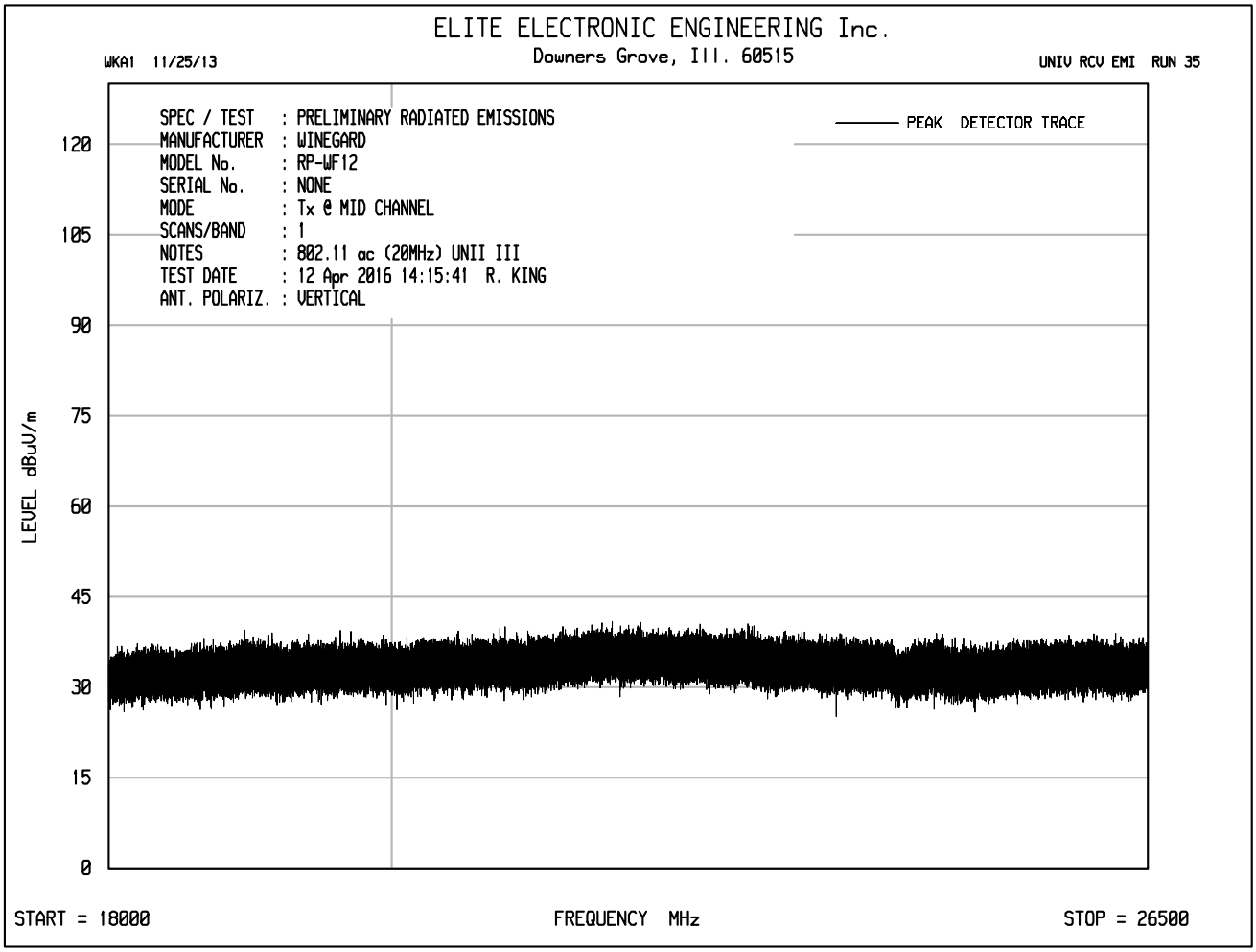

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 33
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ MID CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII III
TEST DATE : 12 Apr 2016 08:47:13 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 6000

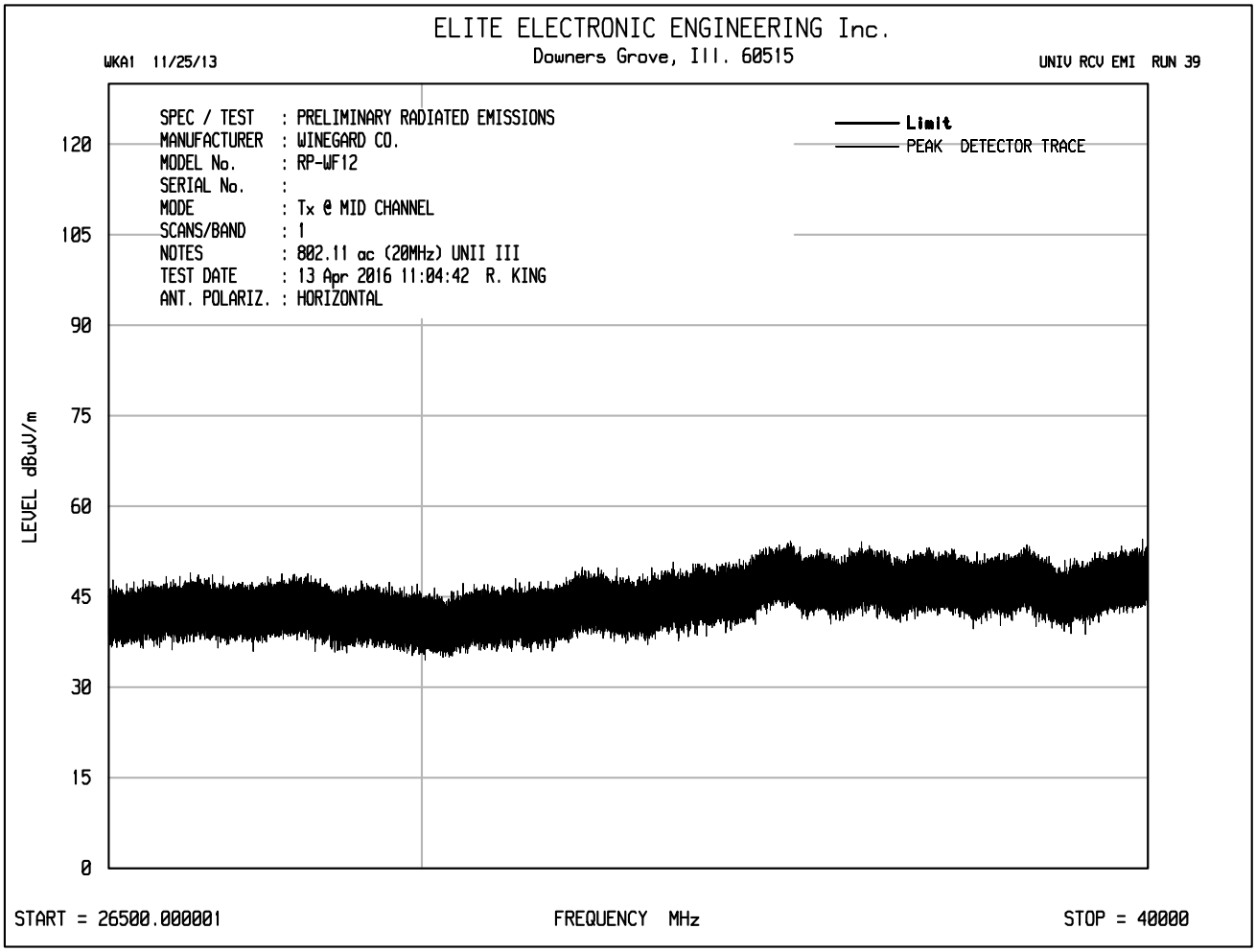

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 32
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ MID CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII III
TEST DATE : 12 Apr 2016 08:44:58 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 6000

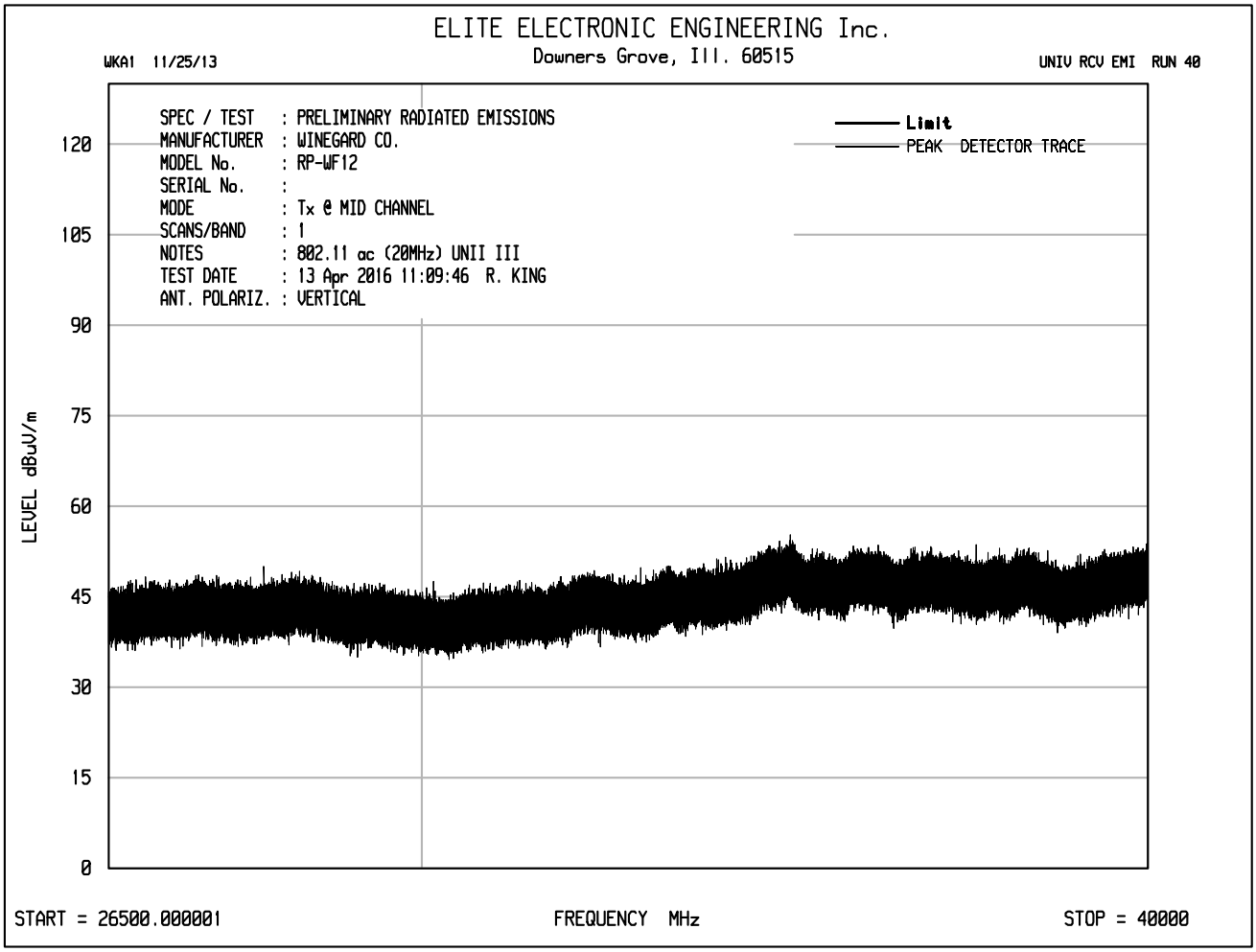

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 45
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ MID CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII III
TEST DATE : 11 Apr 2016 13:55:29 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
10000
START = 1000
FREQUENCY MHz
STOP = 18000

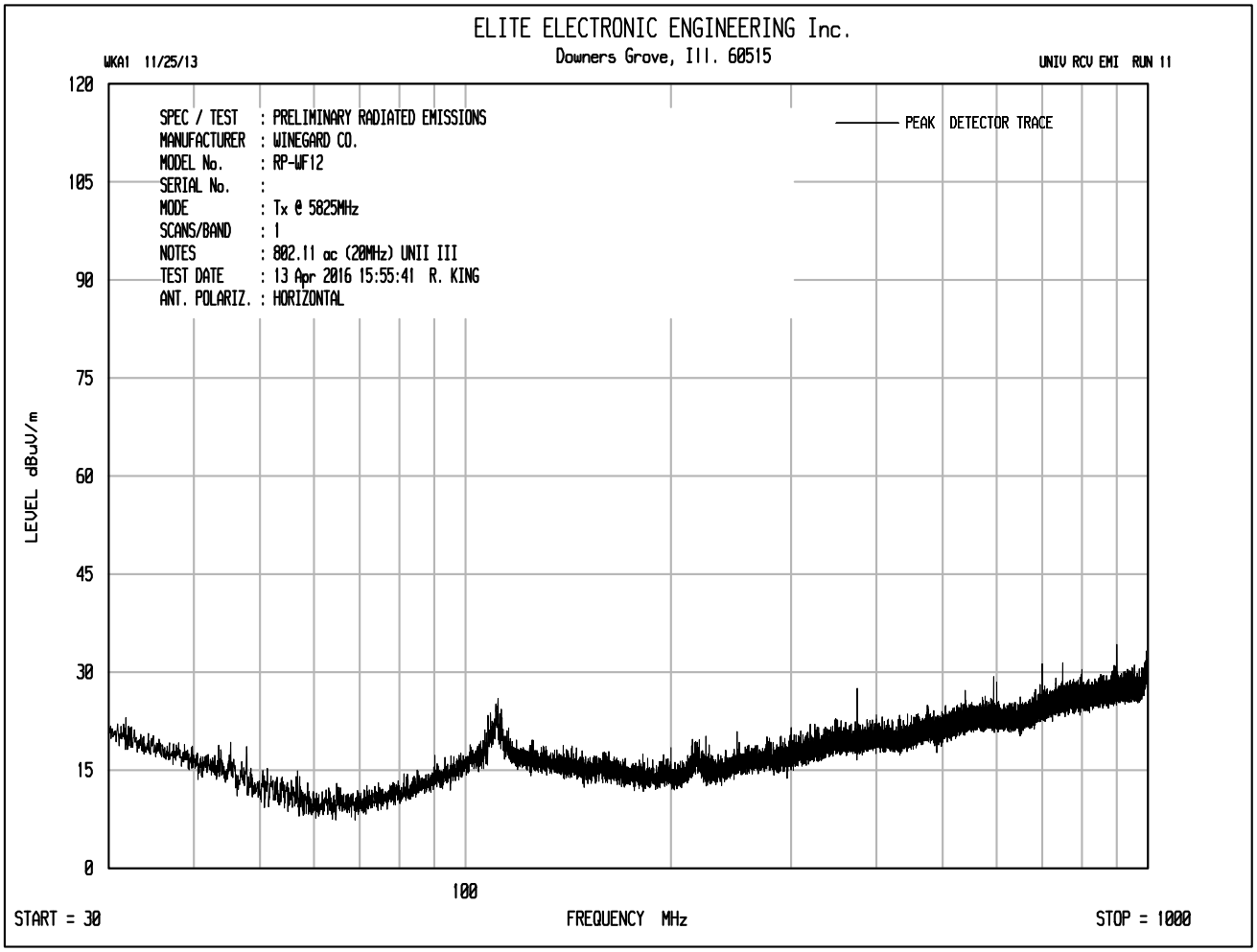

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 46
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ MID CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII III
TEST DATE : 11 Apr 2016 14:00:40 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
10000
START = 1000
FREQUENCY MHz
STOP = 18000

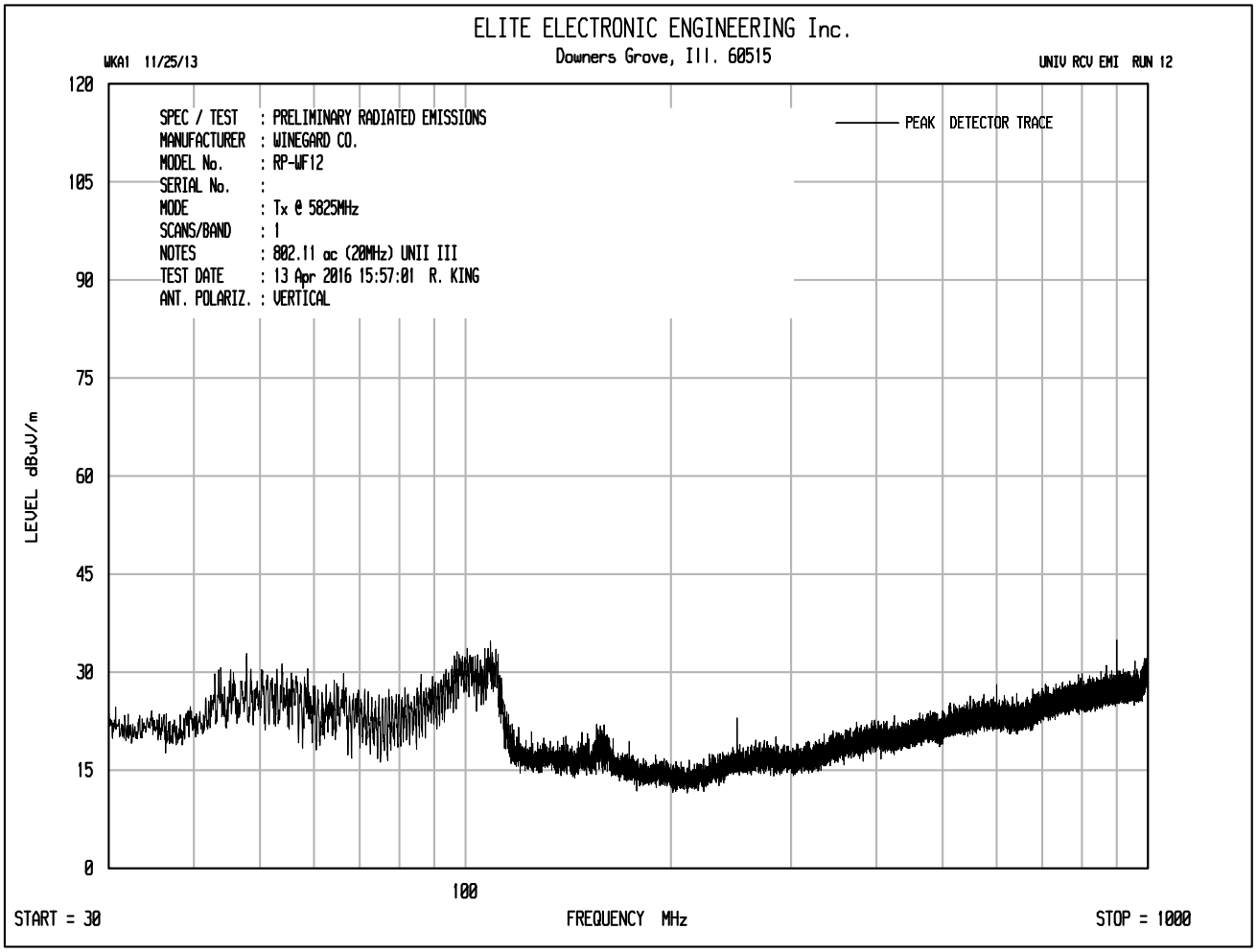

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 34
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. : NONE
MODE : Tx @ MID CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII III
TEST DATE : 12 Apr 2016 14:12:14 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 18000
FREQUENCY MHz
STOP = 26500

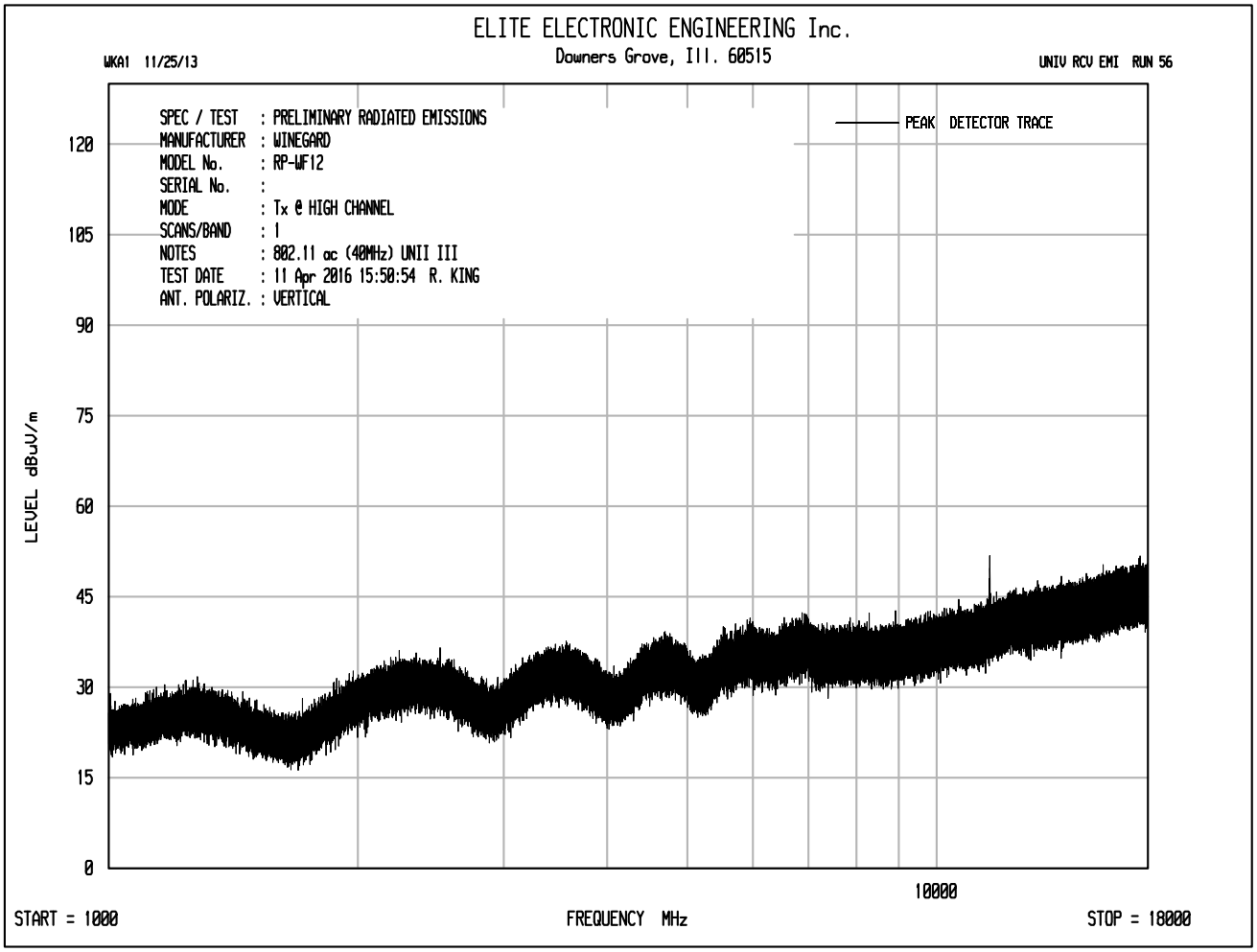

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 35
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. : NONE
MODE : Tx @ MID CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII III
TEST DATE : 12 Apr 2016 14:15:41 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 18000
FREQUENCY MHz
STOP = 26500

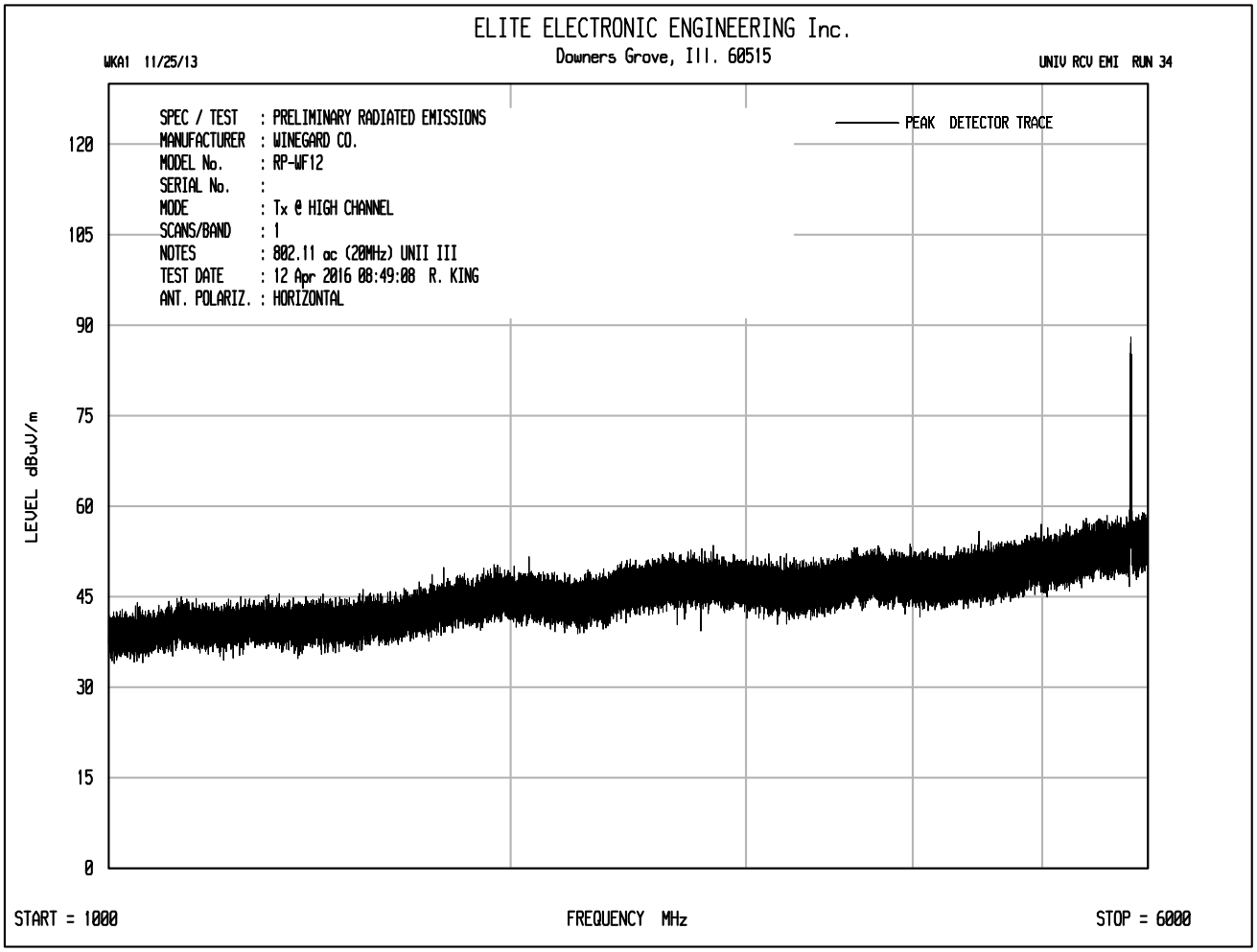

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 39
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ MID CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII III
TEST DATE : 13 Apr 2016 11:04:42 R. KING
ANT. POLARIZ. : HORIZONTAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 26500.000001
FREQUENCY MHz
STOP = 40000

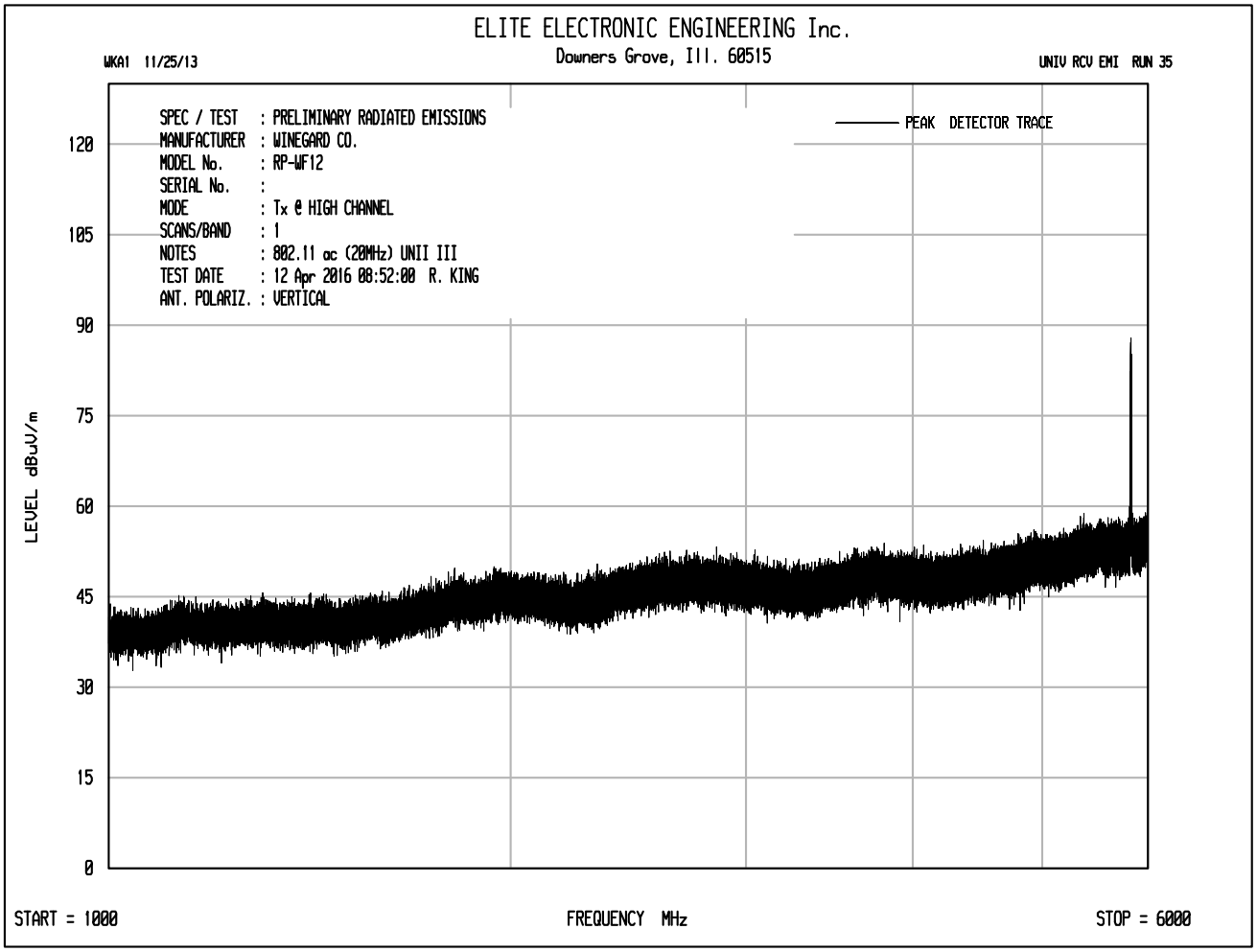

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 40
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ MID CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII III
TEST DATE : 13 Apr 2016 11:09:46 R. KING
ANT. POLARIZ. : VERTICAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 26500.000001
FREQUENCY MHz
STOP = 40000

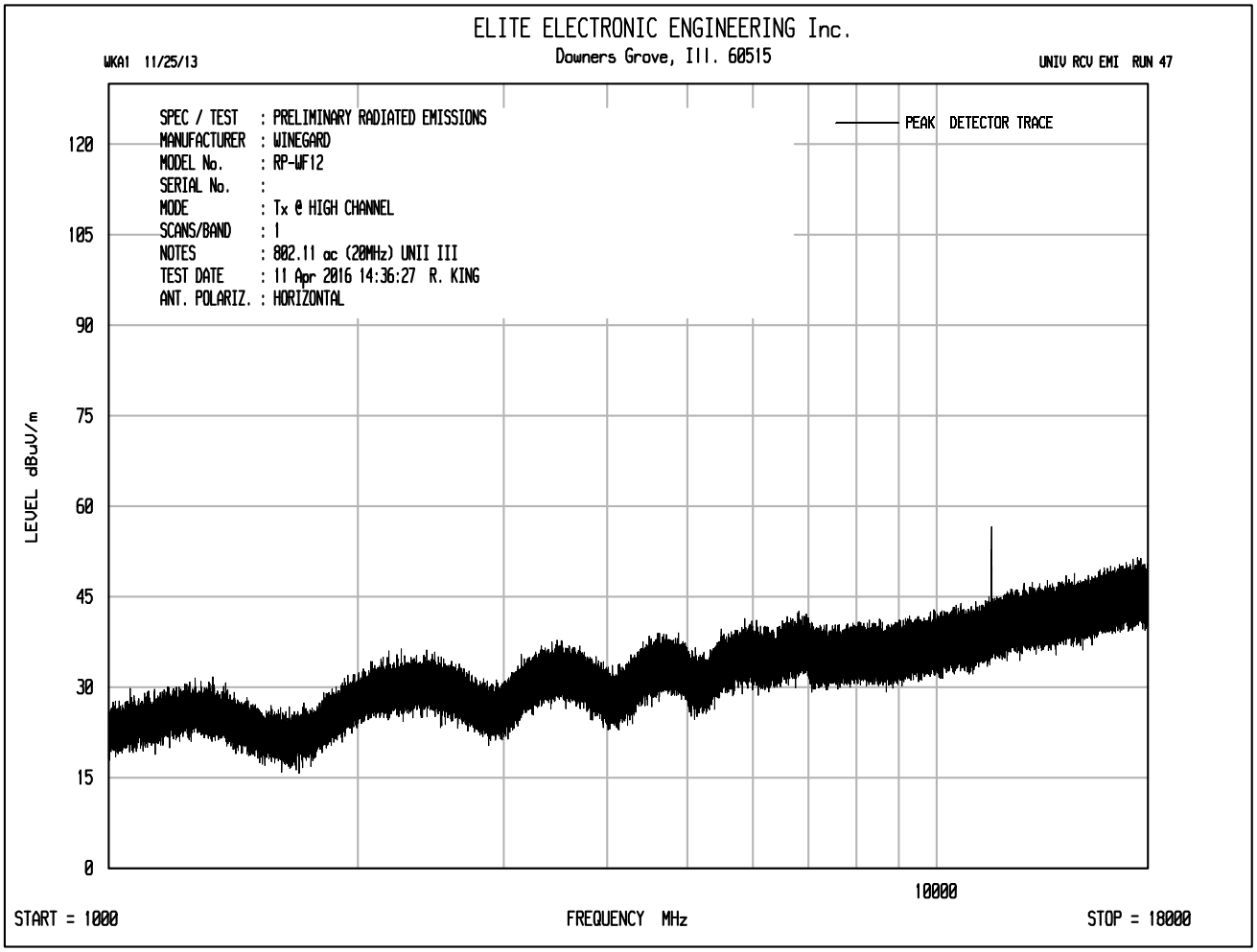

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 11
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ 5825MHz
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII III
TEST DATE : 13 Apr 2016 15:55:41 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000

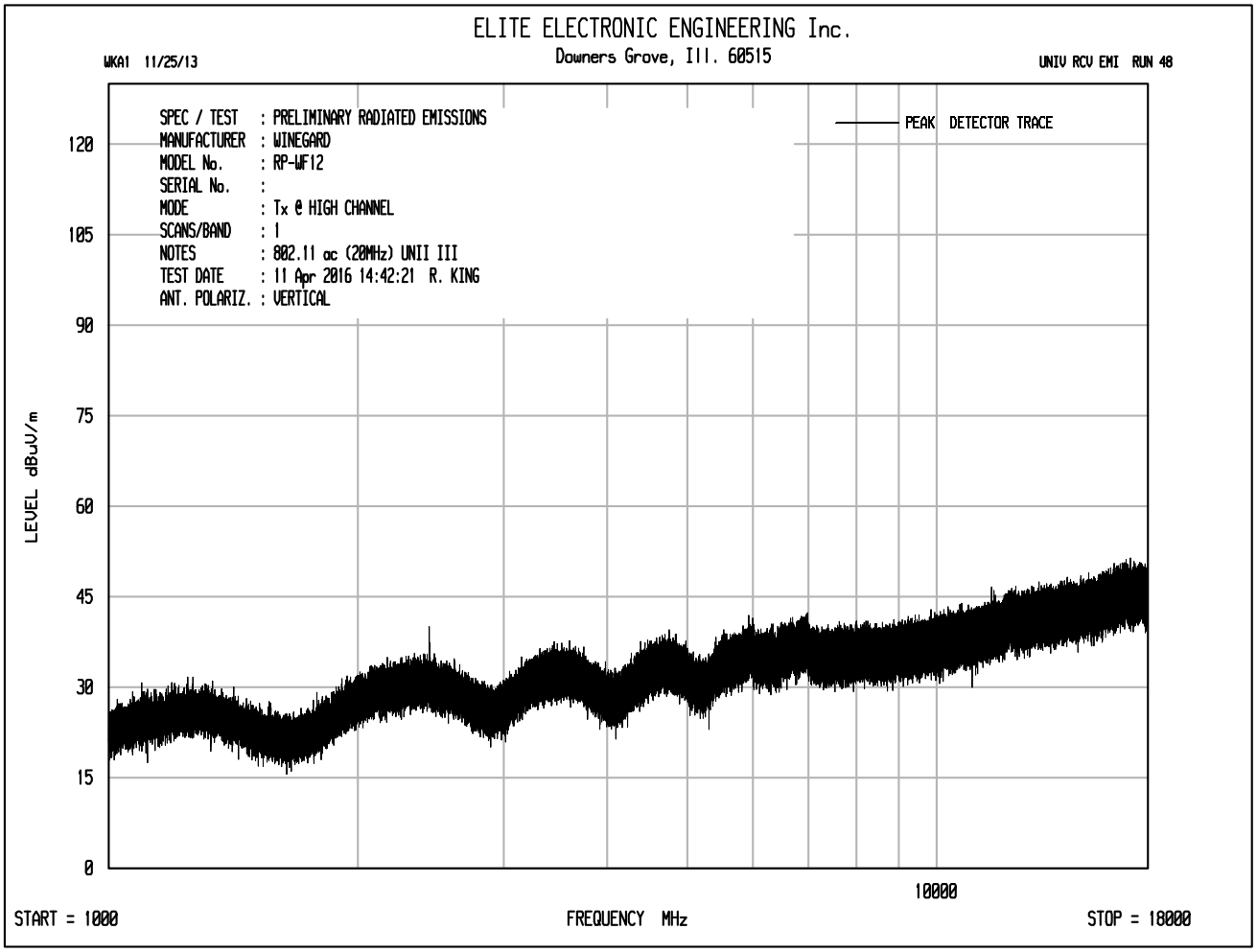

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 12
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ 5825MHz
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII III
TEST DATE : 13 Apr 2016 15:57:01 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000

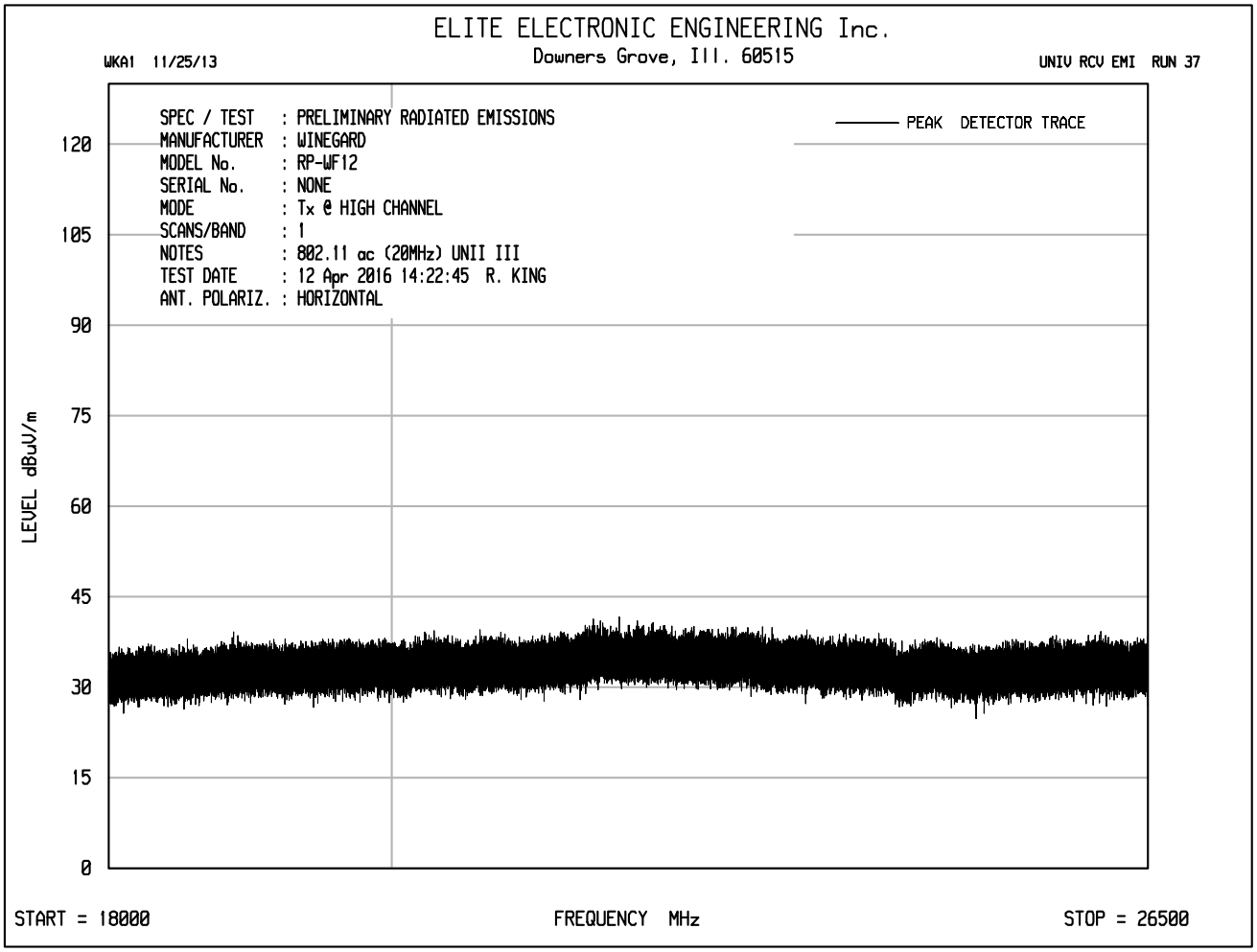

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 56
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ HIGH CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (40MHz) UNII III
TEST DATE : 11 Apr 2016 15:50:54 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
10000
START = 1000
FREQUENCY MHz
STOP = 18000

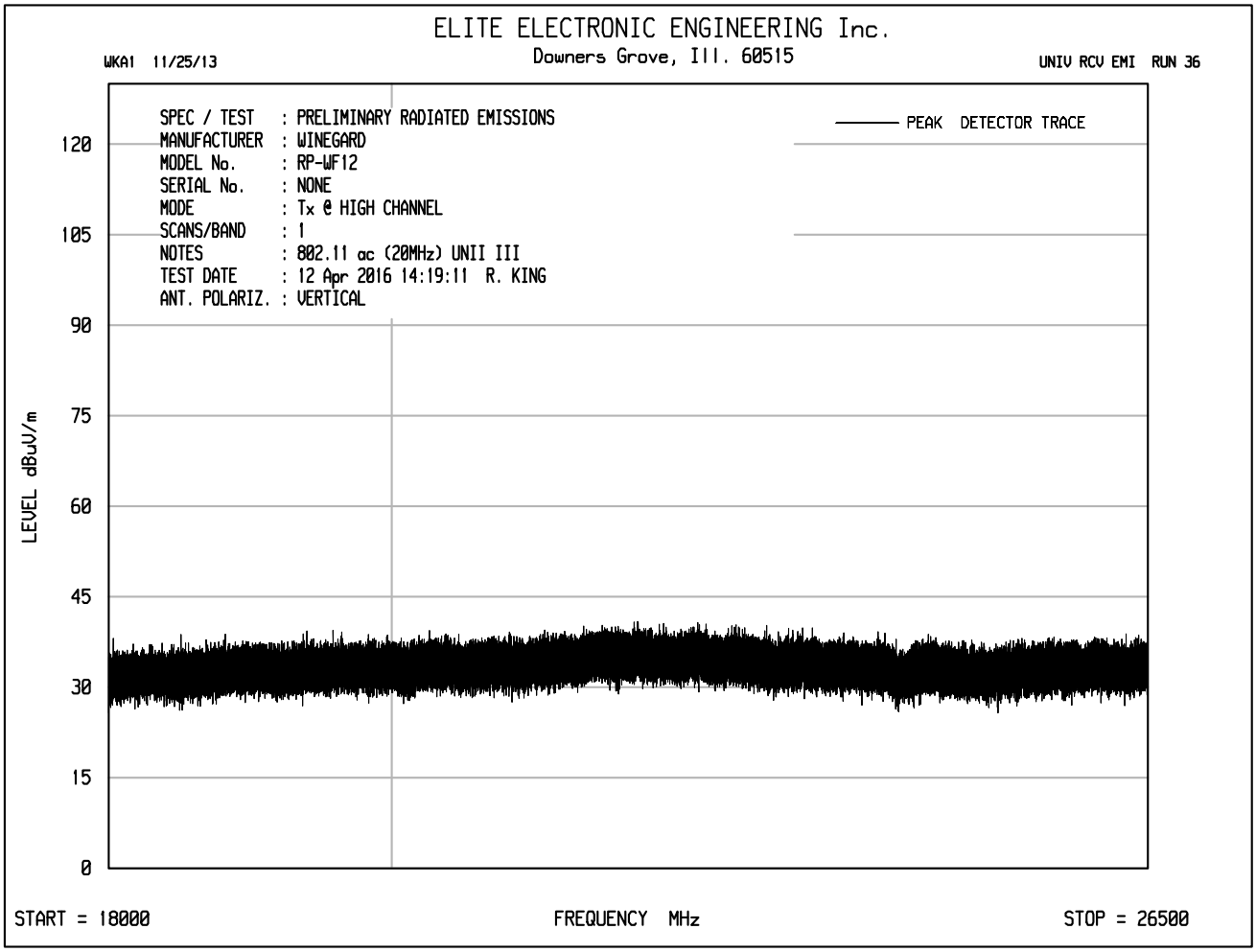

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 34
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ HIGH CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII III
TEST DATE : 12 Apr 2016 08:49:08 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 6000

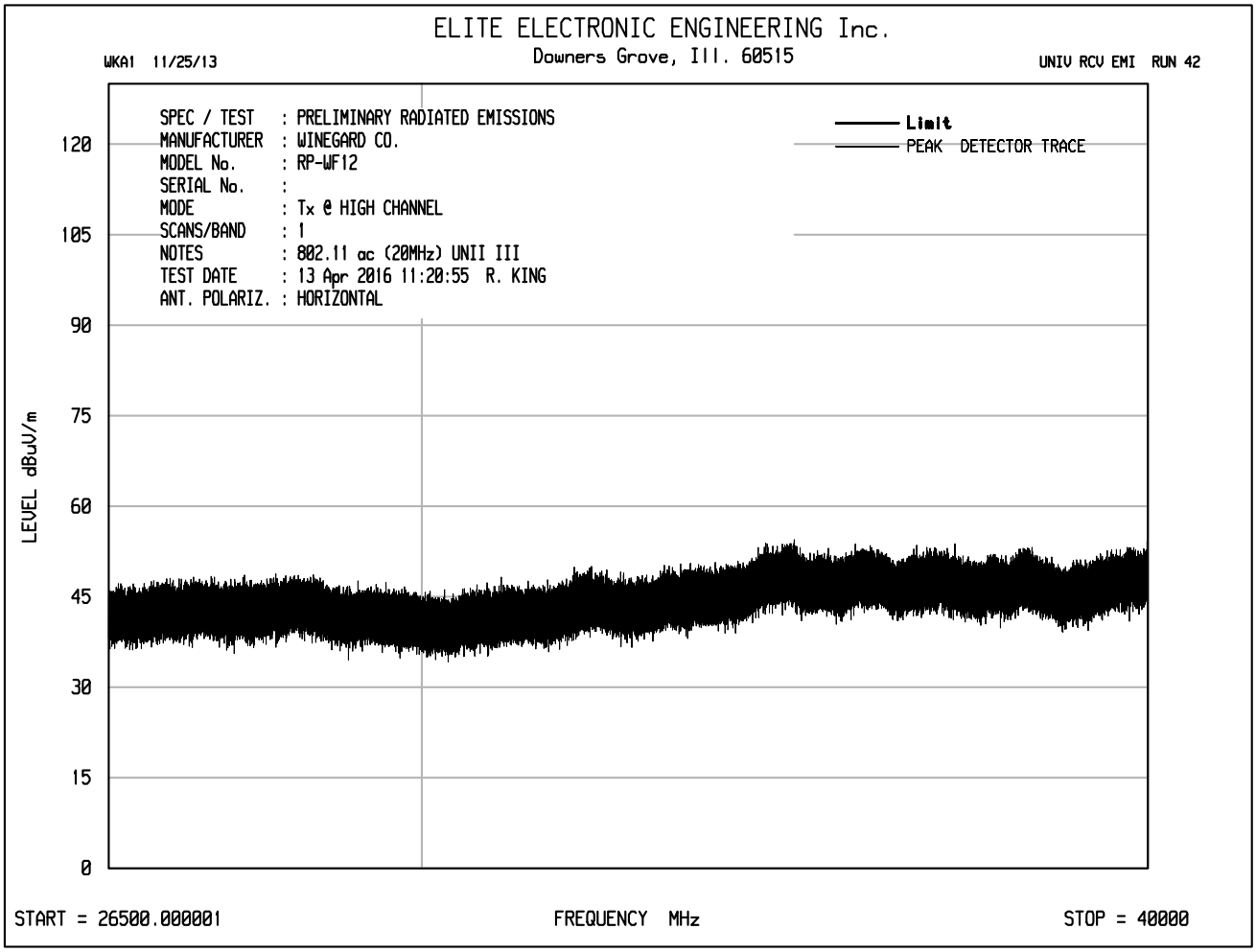

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 35
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ HIGH CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII III
TEST DATE : 12 Apr 2016 08:52:00 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 6000

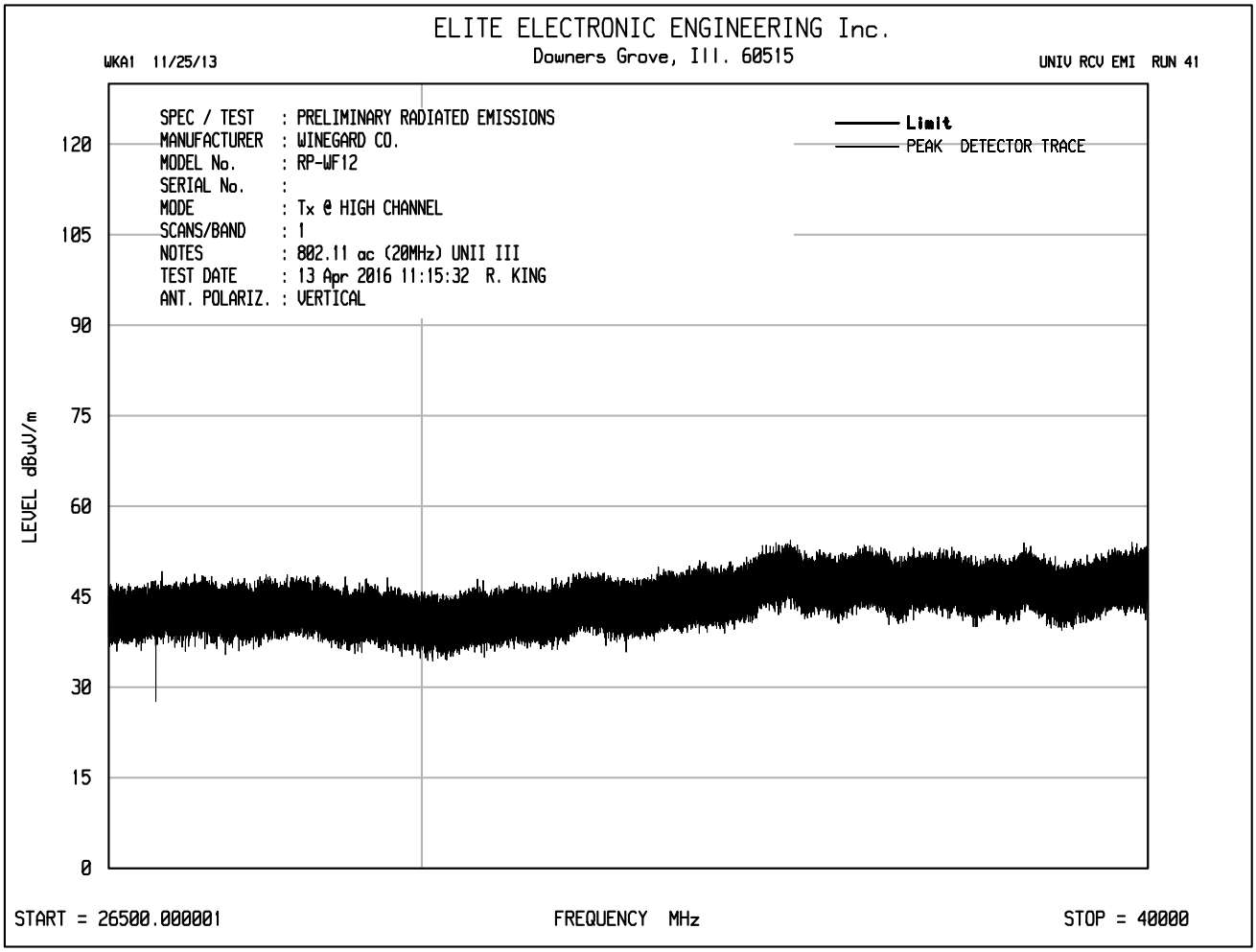

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 47
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ HIGH CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII III
TEST DATE : 11 Apr 2016 14:36:27 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
10000
START = 1000
FREQUENCY MHz
STOP = 18000

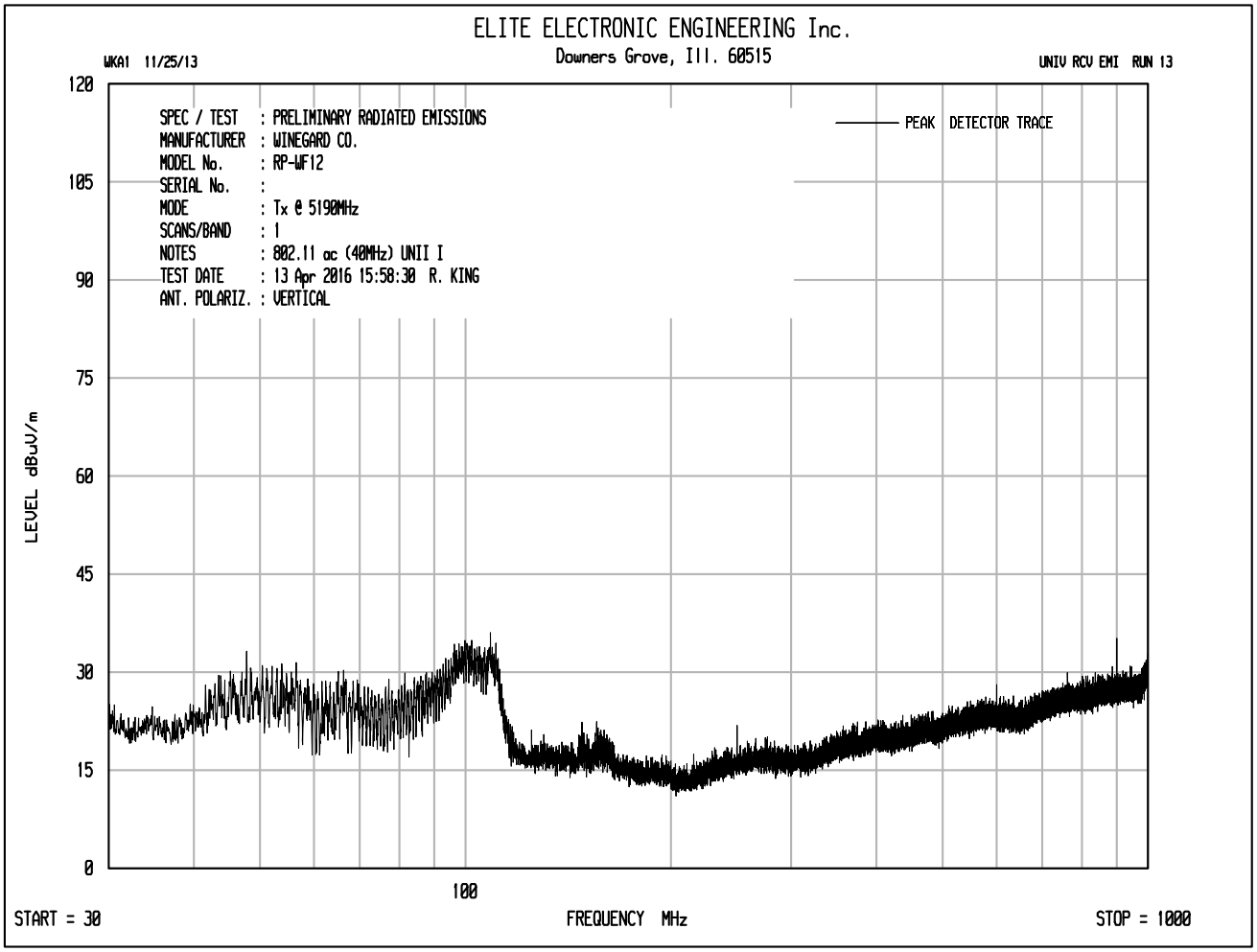

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 48
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ HIGH CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII III
TEST DATE : 11 Apr 2016 14:42:21 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
10000
START = 1000
FREQUENCY MHz
STOP = 18000

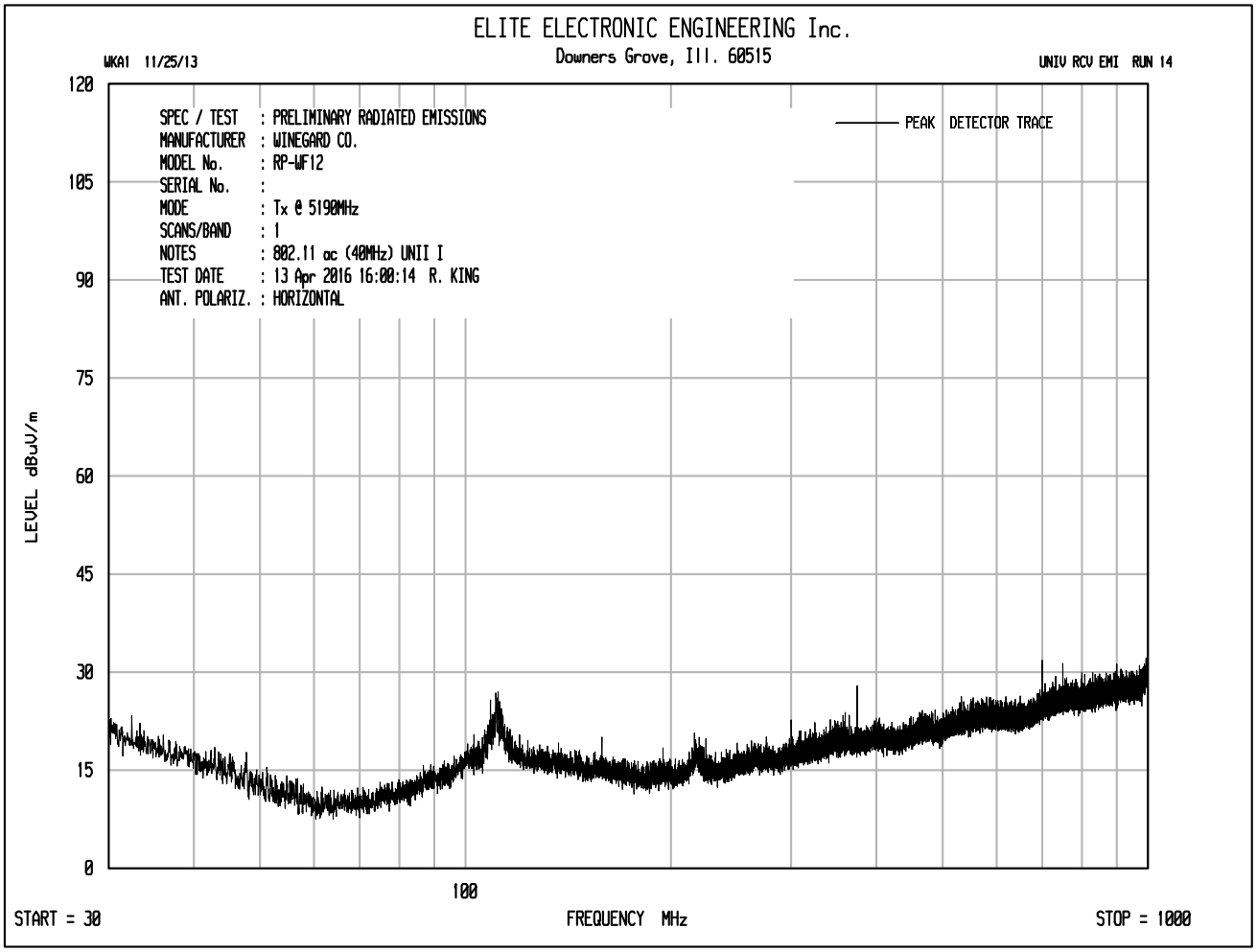

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 37
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. : NONE
MODE : Tx @ HIGH CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII III
TEST DATE : 12 Apr 2016 14:22:45 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 18000
FREQUENCY MHz
STOP = 26500

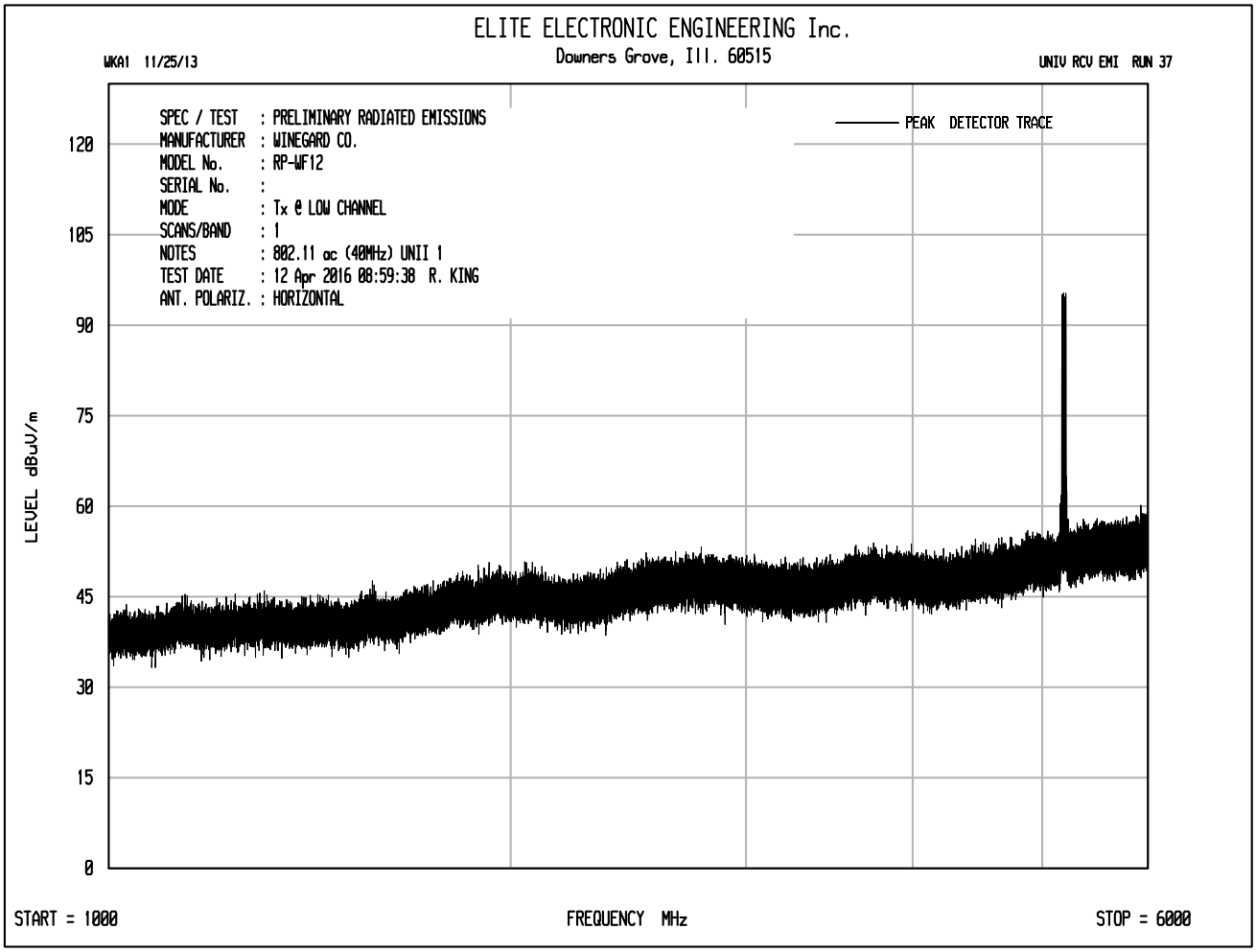

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 36
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. : NONE
MODE : Tx @ HIGH CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII III
TEST DATE : 12 Apr 2016 14:19:11 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 18000
FREQUENCY MHz
STOP = 26500

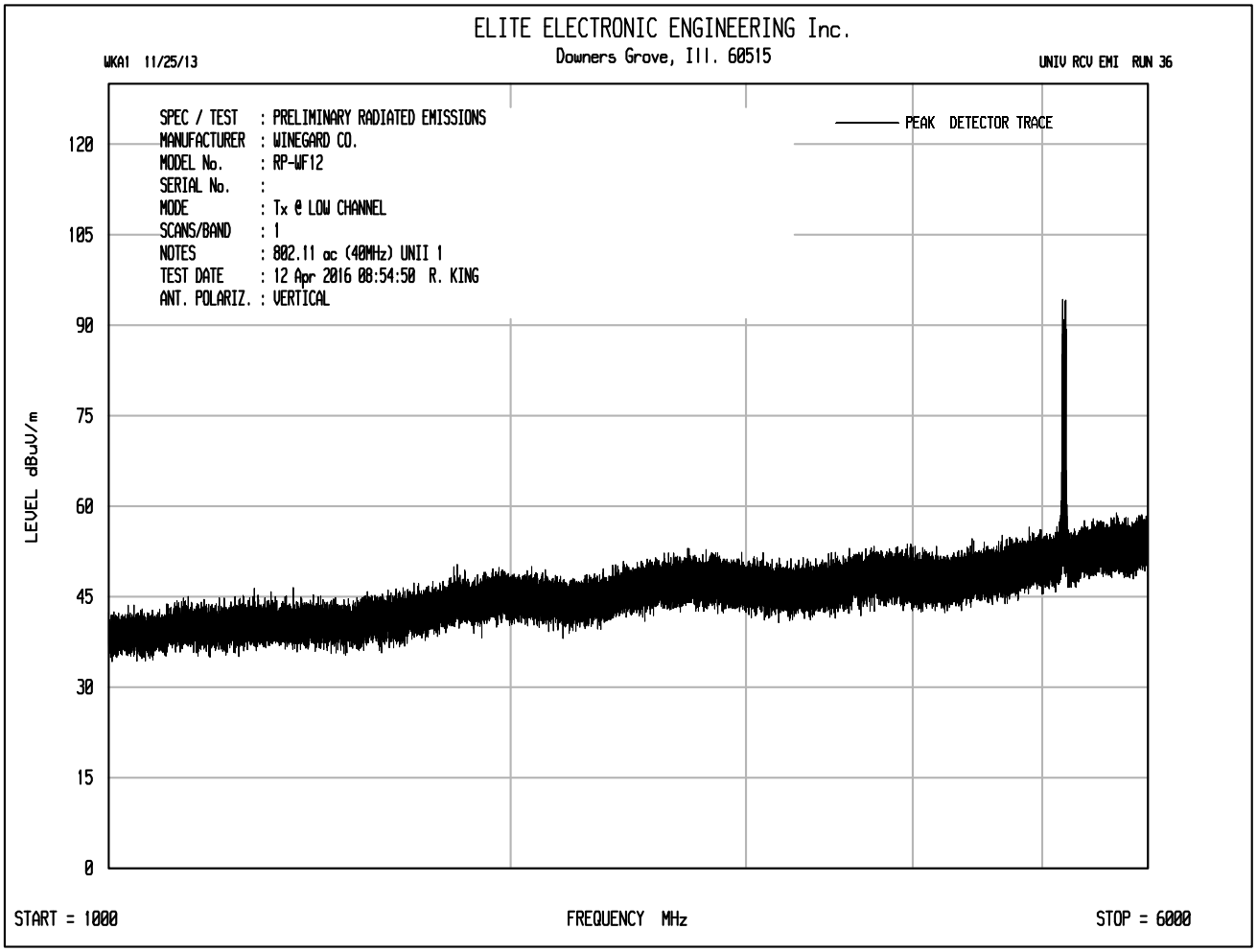

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 42
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ HIGH CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII III
TEST DATE : 13 Apr 2016 11:20:55 R. KING
ANT. POLARIZ. : HORIZONTAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 26500.000001
FREQUENCY MHz
STOP = 40000

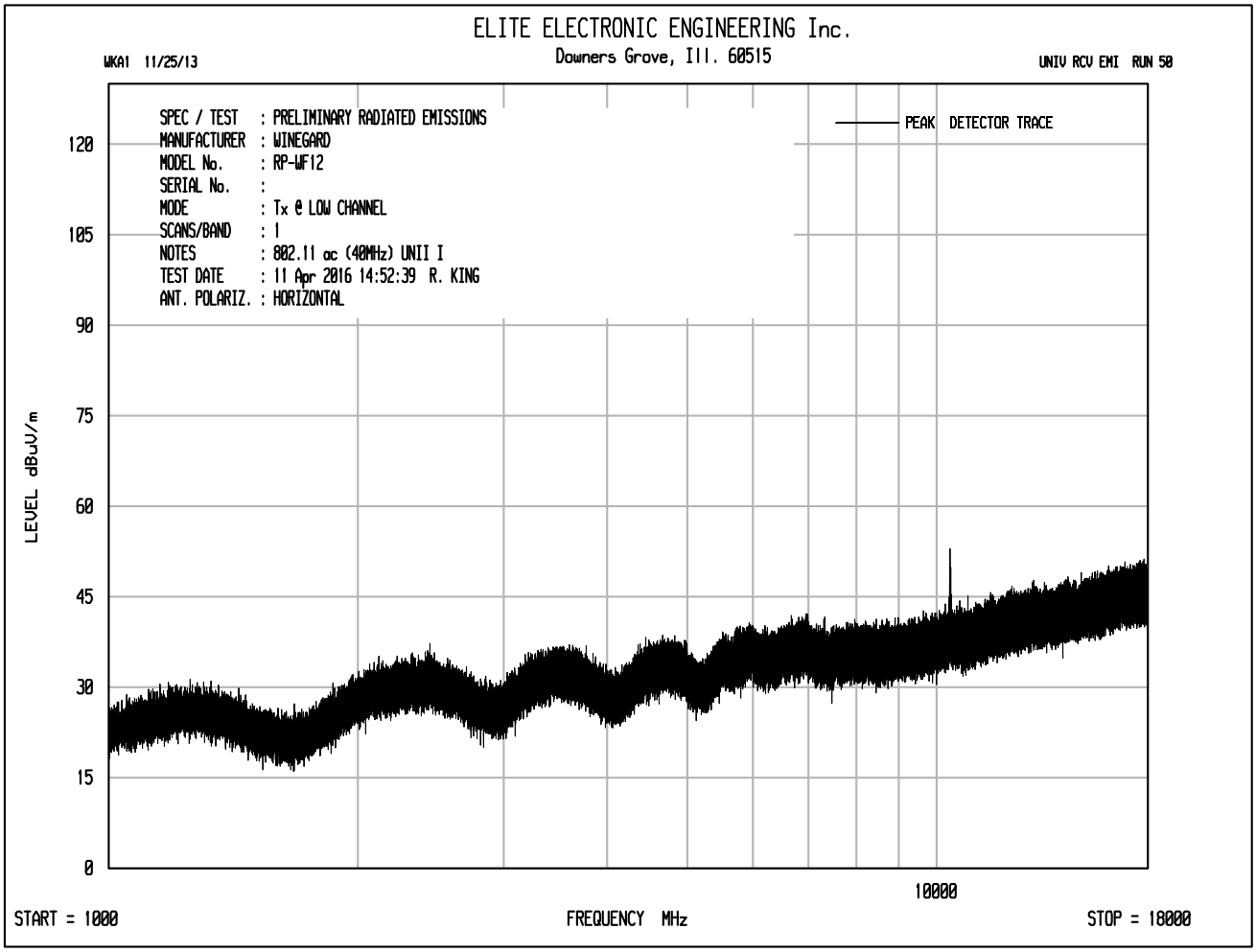

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 41
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ HIGH CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (20MHz) UNII III
TEST DATE : 13 Apr 2016 11:15:32 R. KING
ANT. POLARIZ. : VERTICAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 26500.000001
FREQUENCY MHz
STOP = 40000

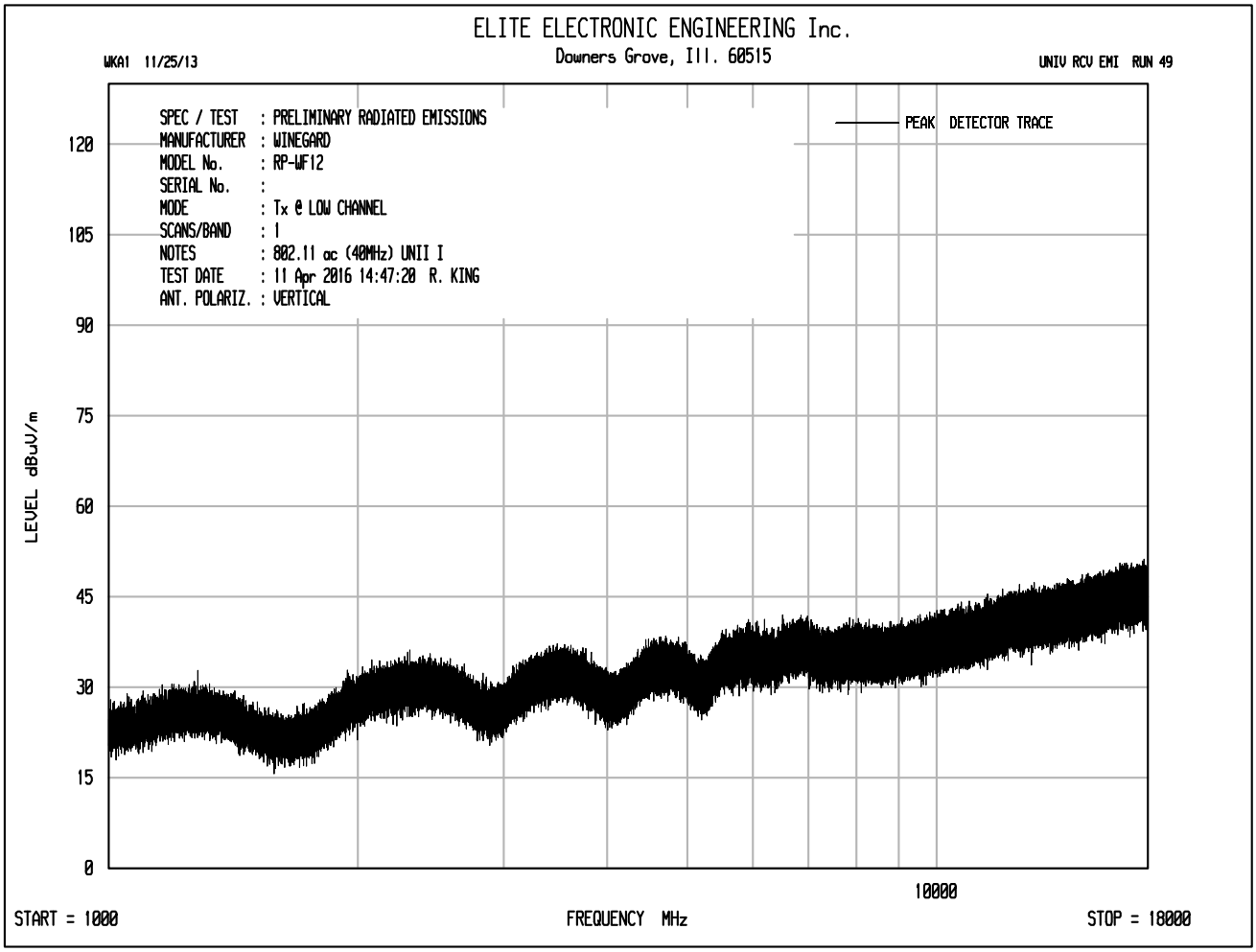

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 13
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ 5190MHz
SCANS/BAND : 1
NOTES : 802.11 ac (40MHz) UNII I
TEST DATE : 13 Apr 2016 15:58:30 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000

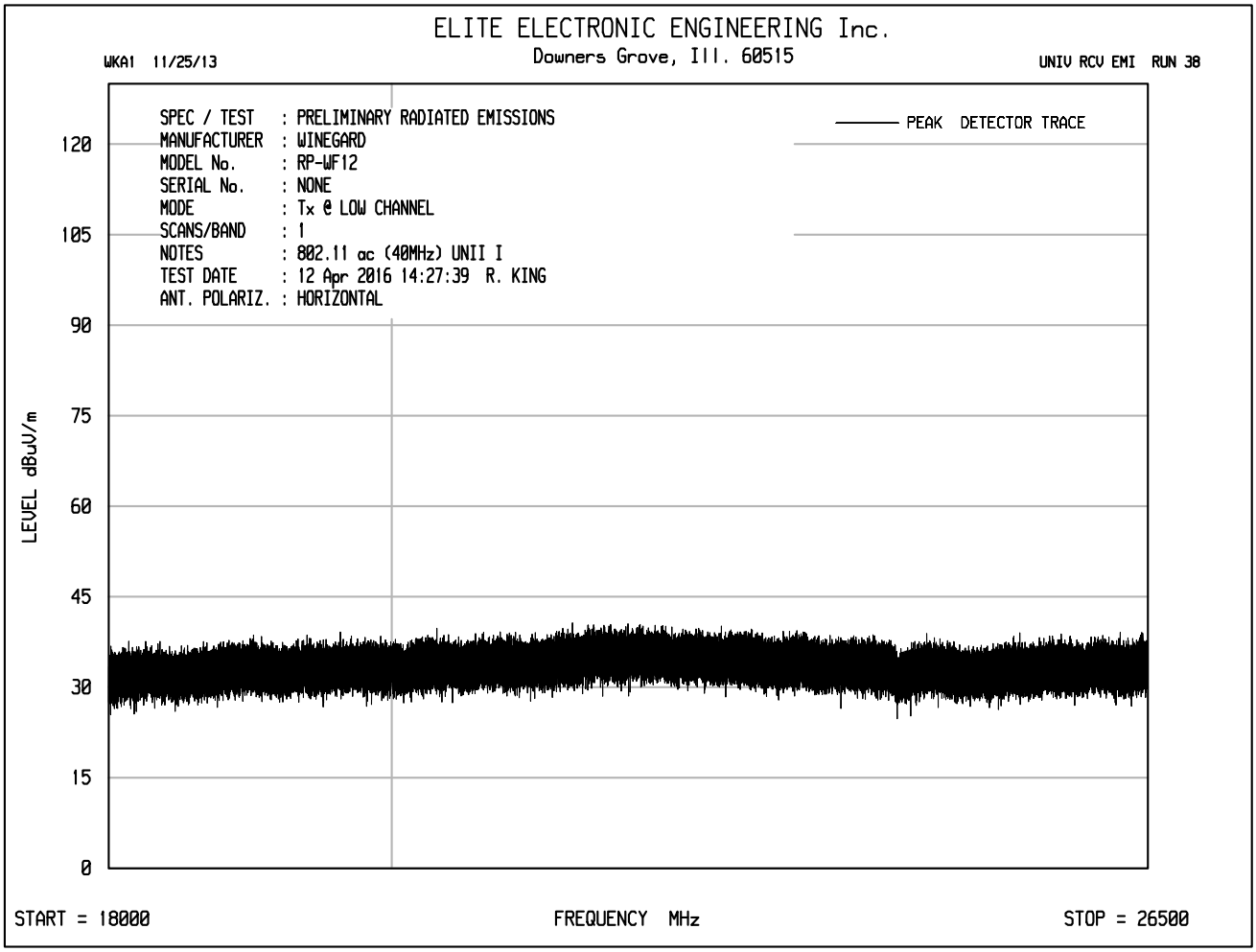

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 14
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ 5190MHz
SCANS/BAND : 1
NOTES : 802.11 ac (40MHz) UNII I
TEST DATE : 13 Apr 2016 16:00:14 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000

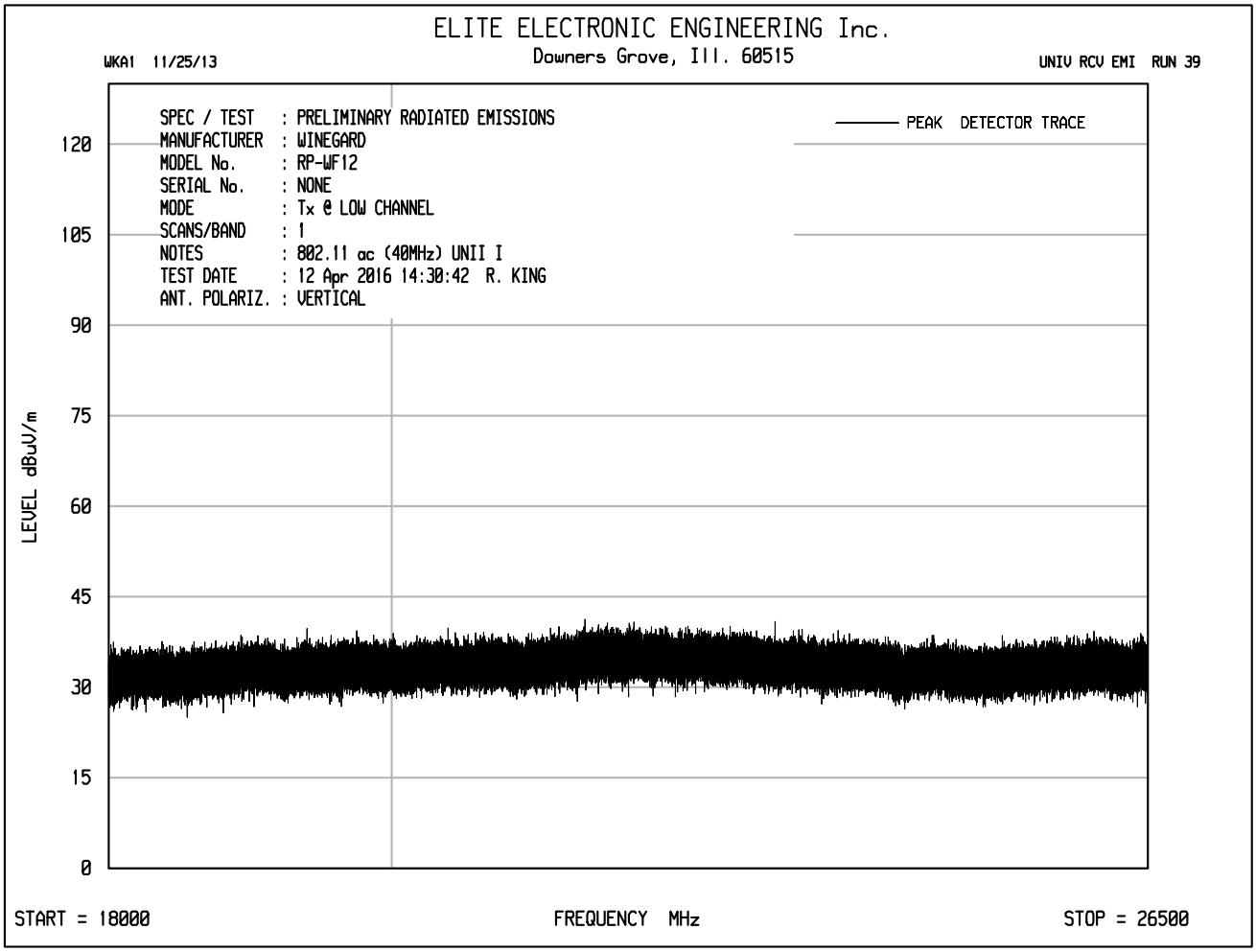

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 37
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ LOW CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (40MHz) UNII 1
TEST DATE : 12 Apr 2016 08:59:38 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 6000

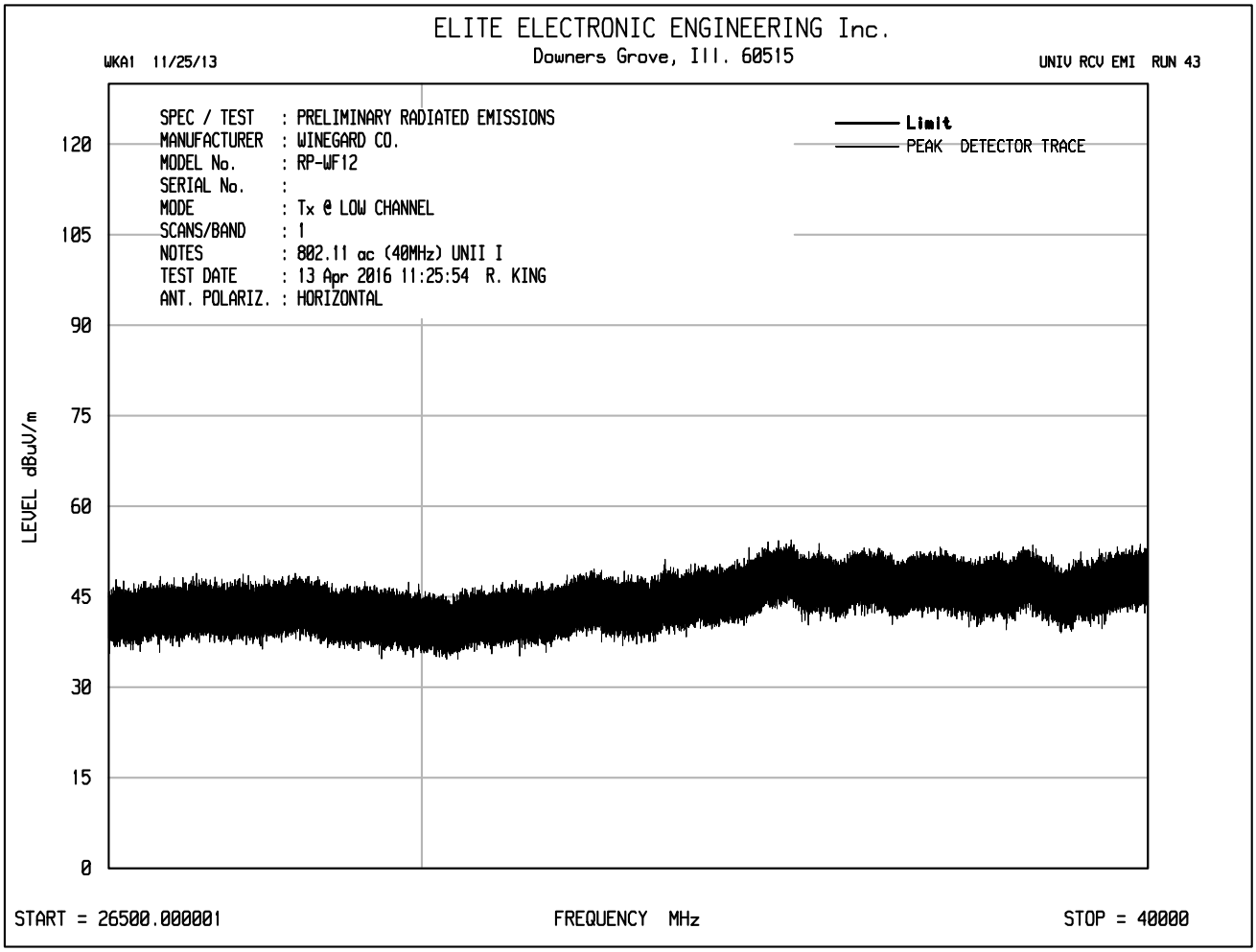

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 36
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ LOW CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (40MHz) UNII 1
TEST DATE : 12 Apr 2016 08:54:50 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 6000

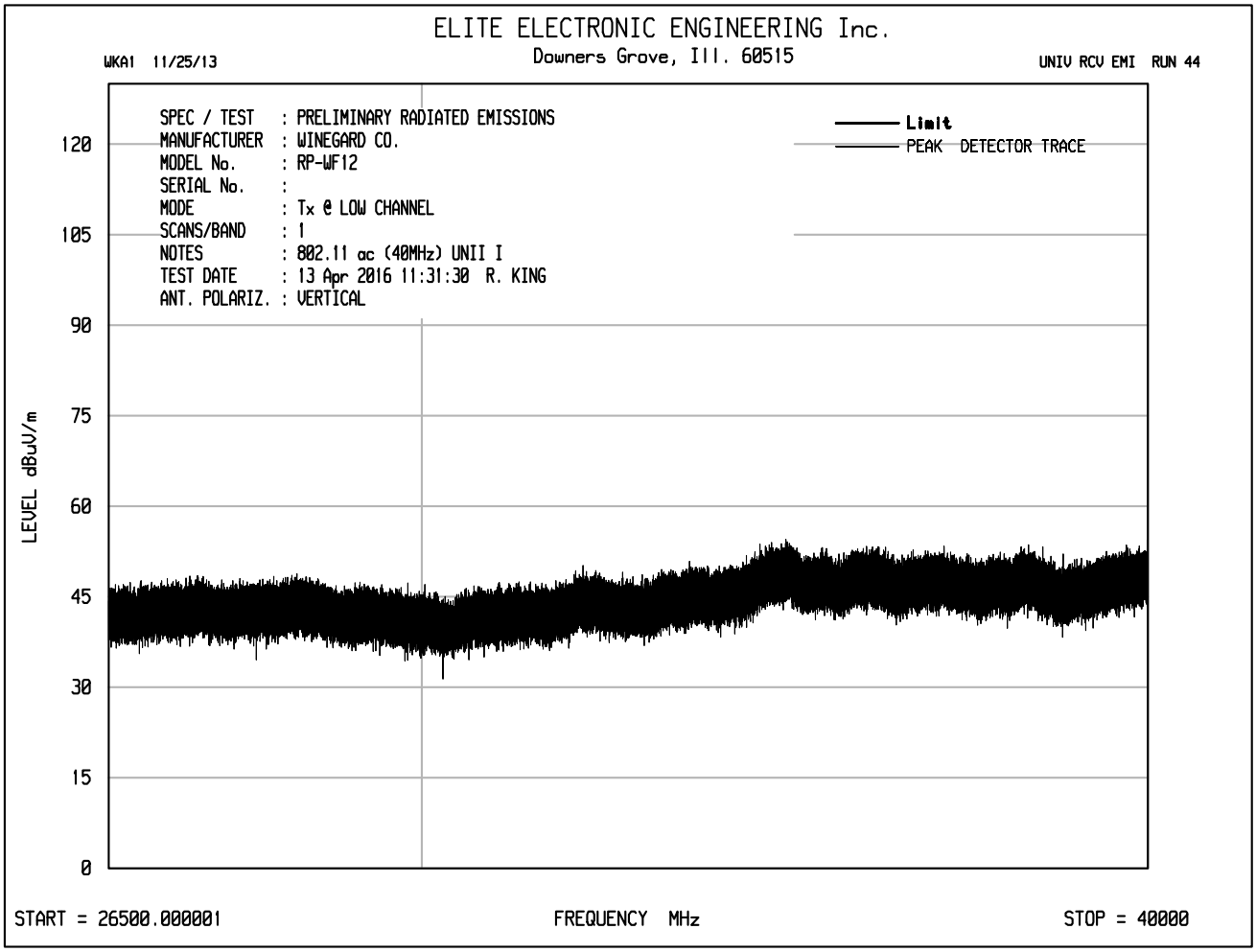

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 50
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ LOW CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (40MHz) UNII I
TEST DATE : 11 Apr 2016 14:52:39 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
10000
START = 1000
FREQUENCY MHz
STOP = 18000

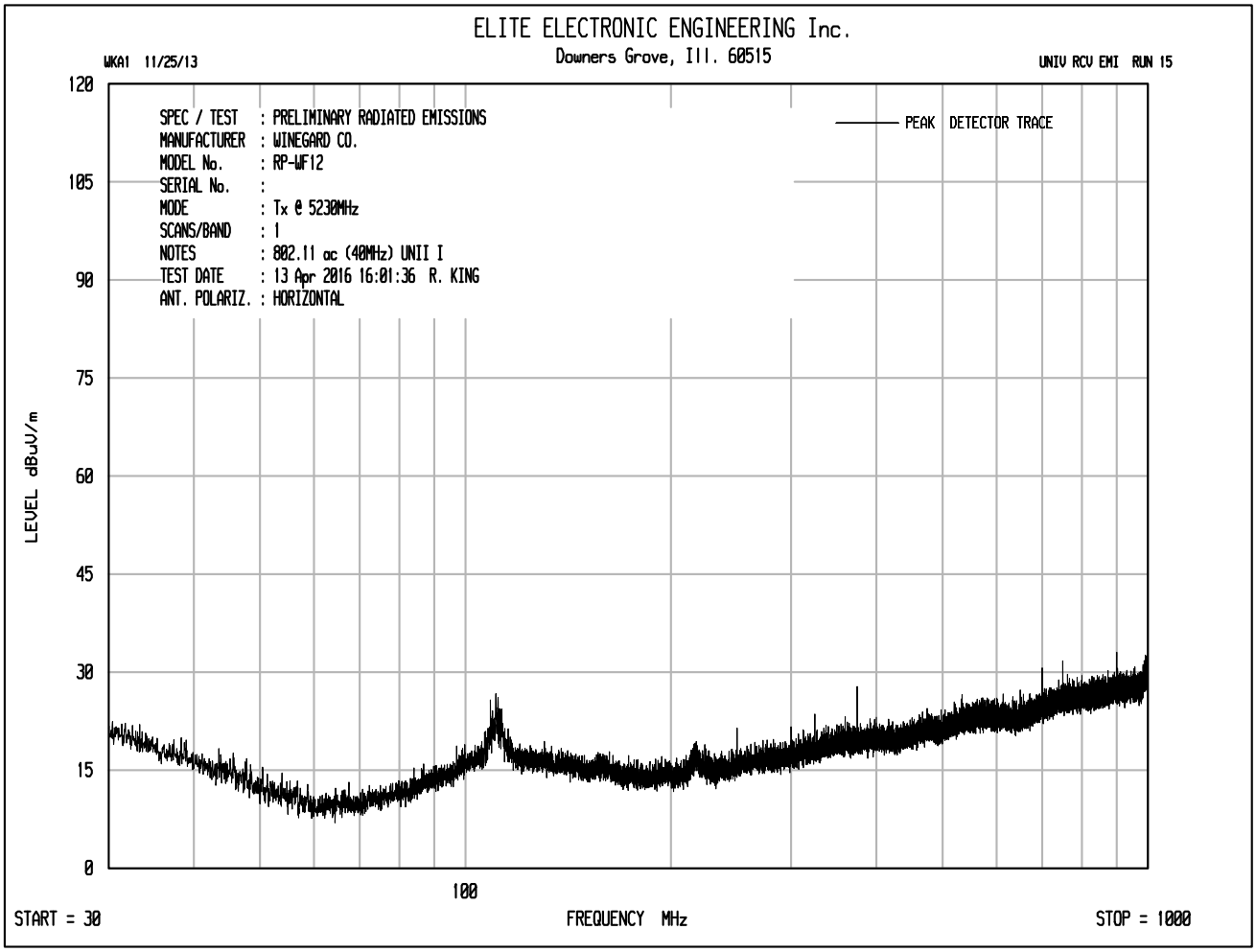

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 49
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ LOW CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (40MHz) UNII I
TEST DATE : 11 Apr 2016 14:47:20 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
10000
START = 1000
FREQUENCY MHz
STOP = 18000

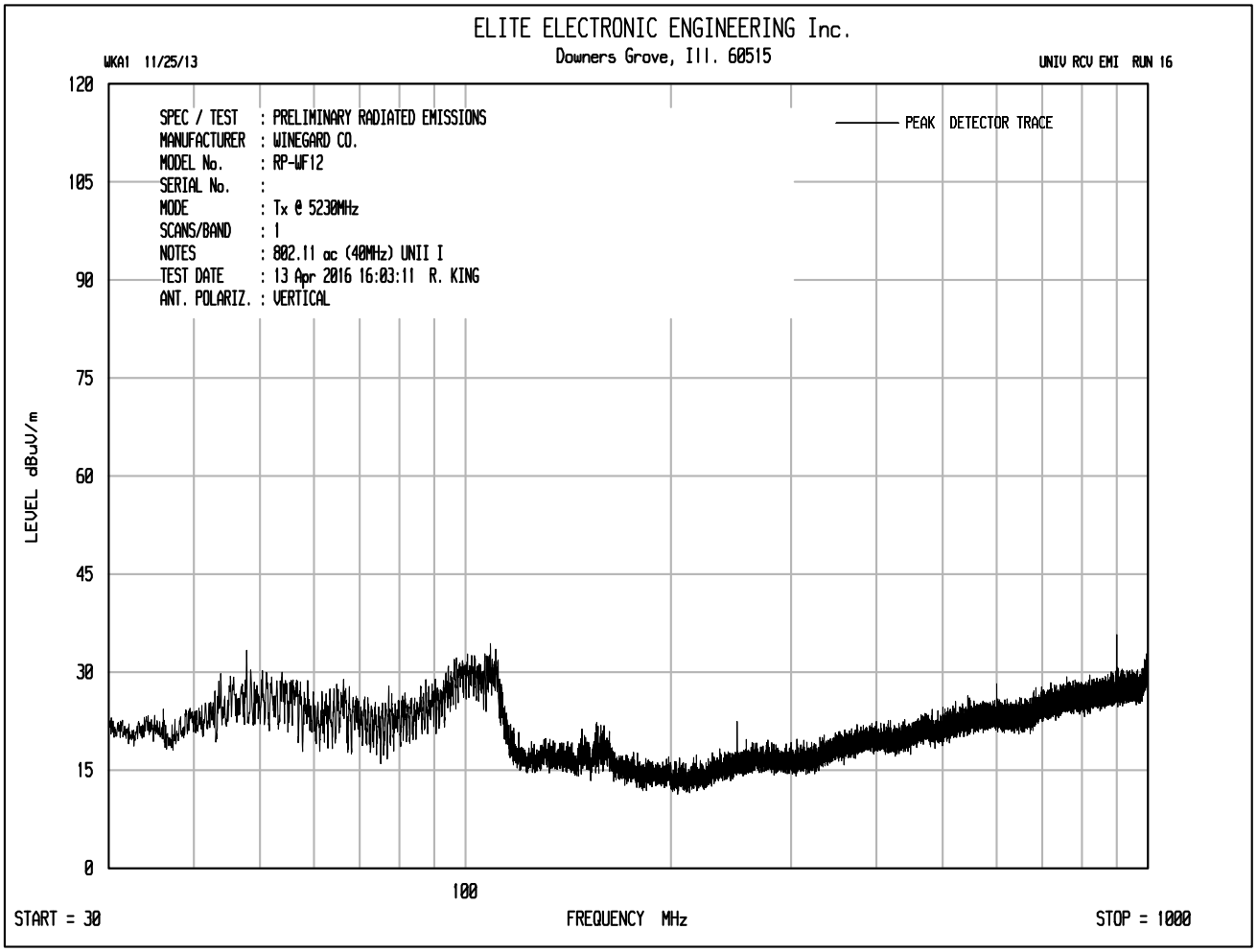

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 38
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. : NONE
MODE : Tx @ LOW CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (40MHz) UNII I
TEST DATE : 12 Apr 2016 14:27:39 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 18000
FREQUENCY MHz
STOP = 26500

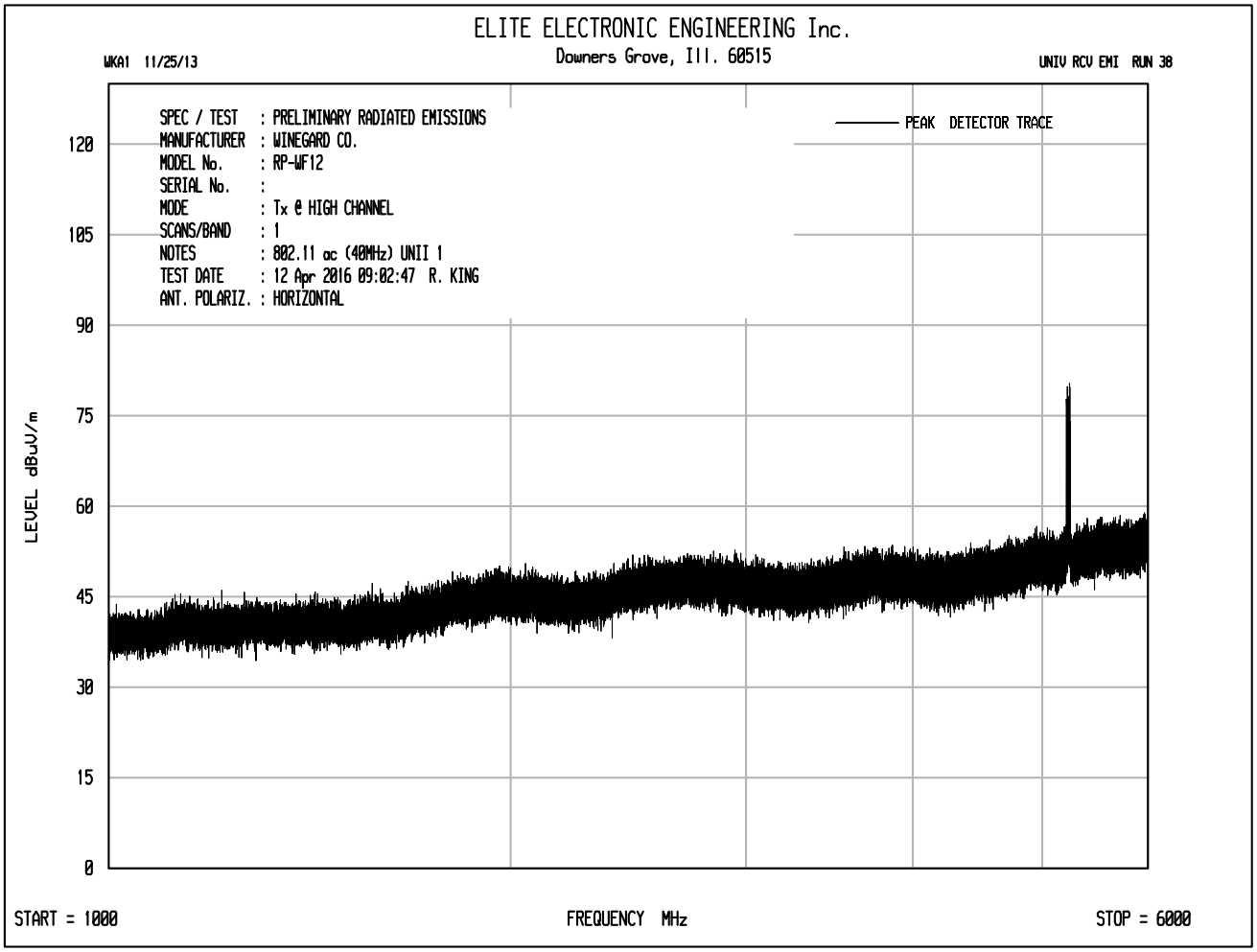

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 39
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. : NONE
MODE : Tx @ LOW CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (40MHz) UNII I
TEST DATE : 12 Apr 2016 14:30:42 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 18000
FREQUENCY MHz
STOP = 26500

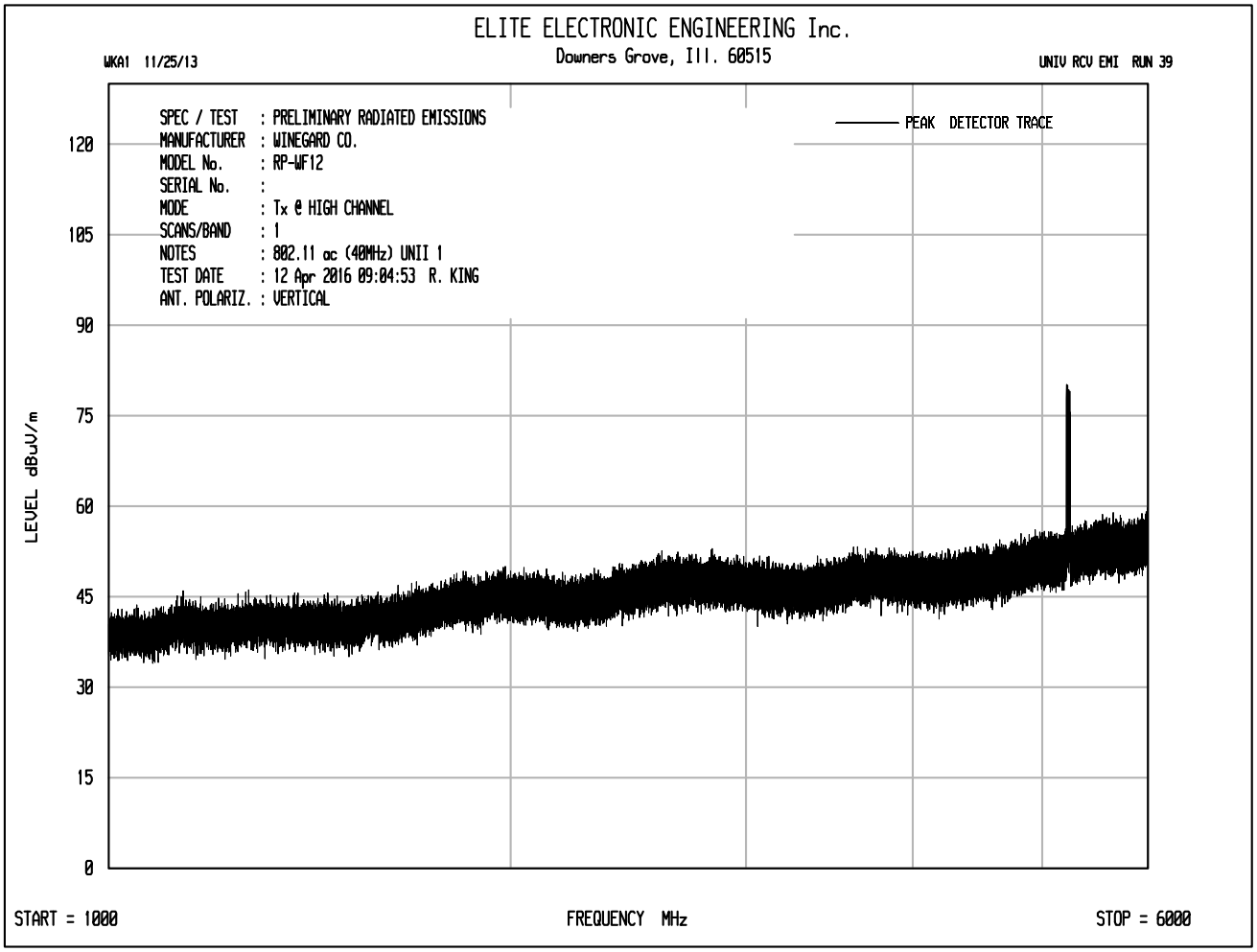

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 43
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ LOW CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (40MHz) UNII I
TEST DATE : 13 Apr 2016 11:25:54 R. KING
ANT. POLARIZ. : HORIZONTAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 26500.000001
FREQUENCY MHz
STOP = 40000

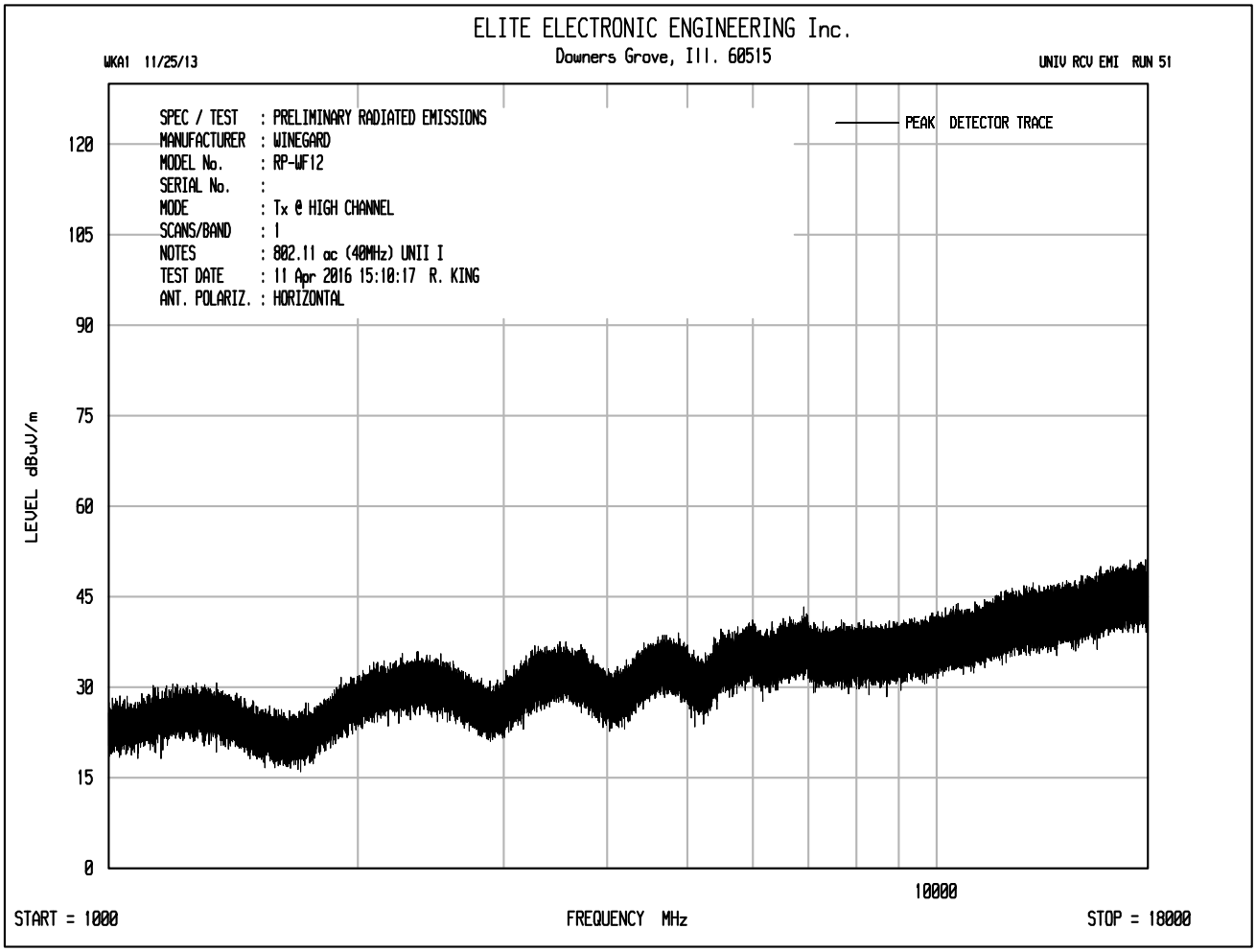

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 44
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ LOW CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (40MHz) UNII I
TEST DATE : 13 Apr 2016 11:31:30 R. KING
ANT. POLARIZ. : VERTICAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 26500.000001
FREQUENCY MHz
STOP = 40000

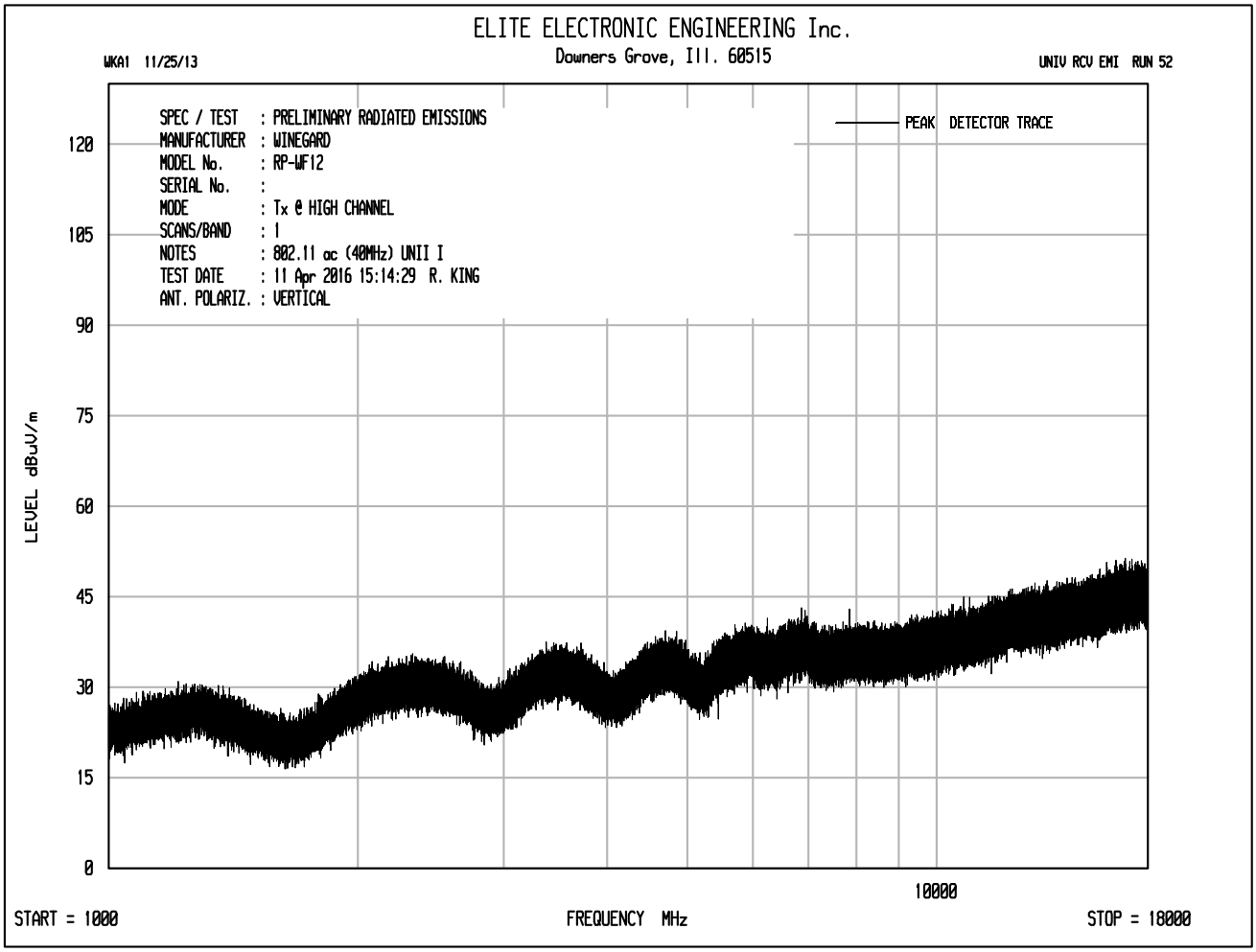

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 15
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ 5230MHz
SCANS/BAND : 1
NOTES : 802.11 ac (40MHz) UNII I
TEST DATE : 13 Apr 2016 16:01:36 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000

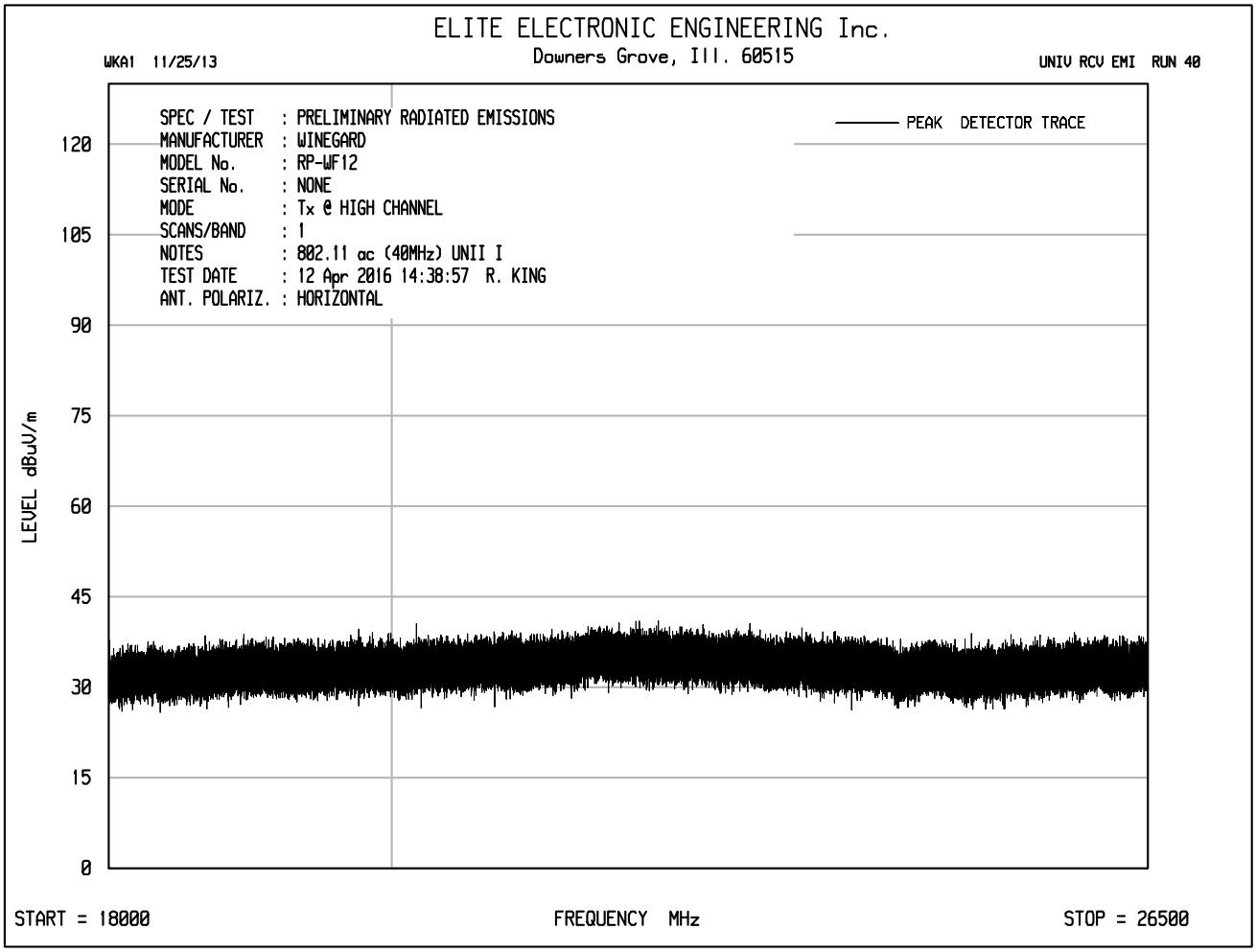

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 16
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ 5230MHz
SCANS/BAND : 1
NOTES : 802.11 ac (40MHz) UNII I
TEST DATE : 13 Apr 2016 16:03:11 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000

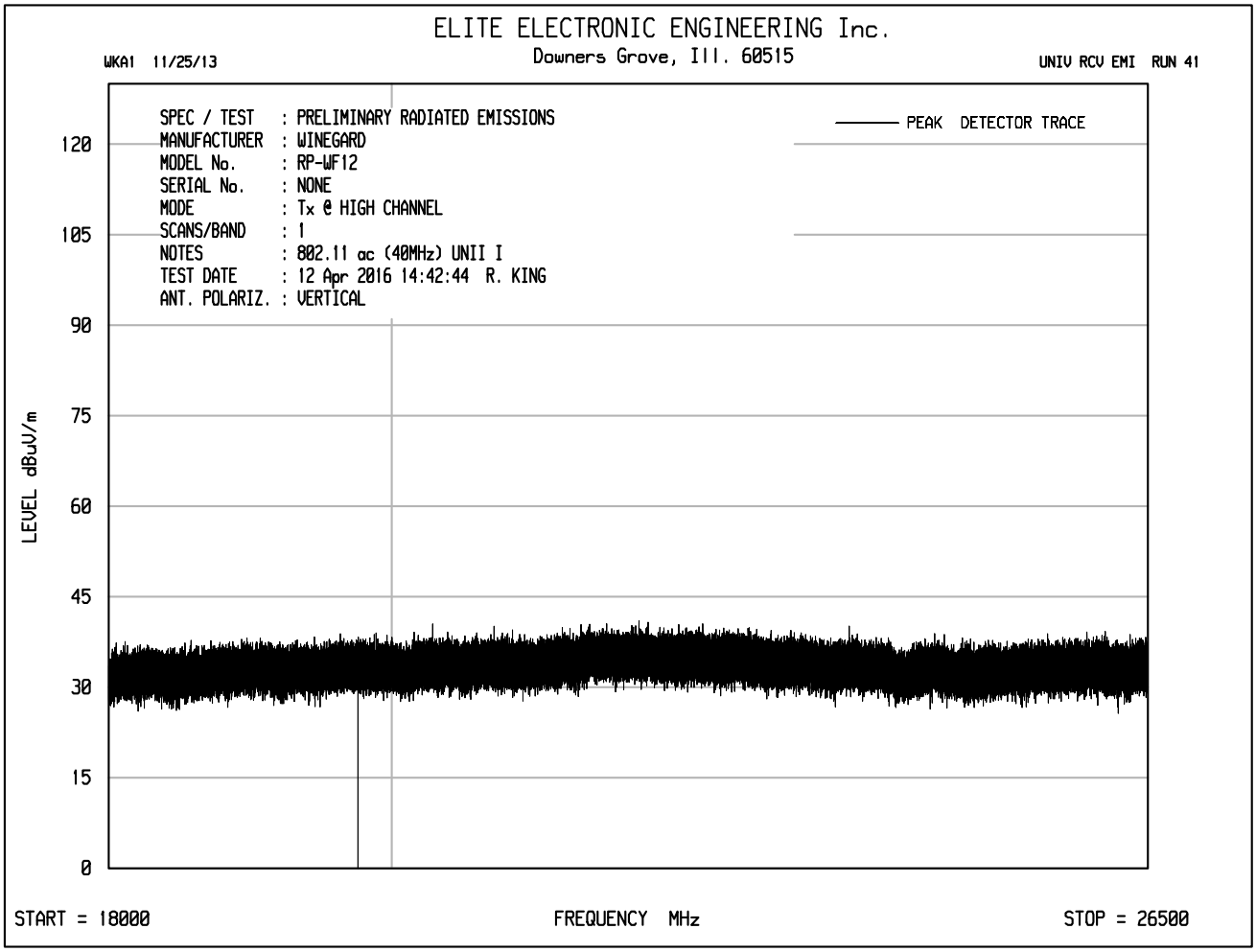

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 38
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ HIGH CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (40MHz) UNII 1
TEST DATE : 12 Apr 2016 09:02:47 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 6000

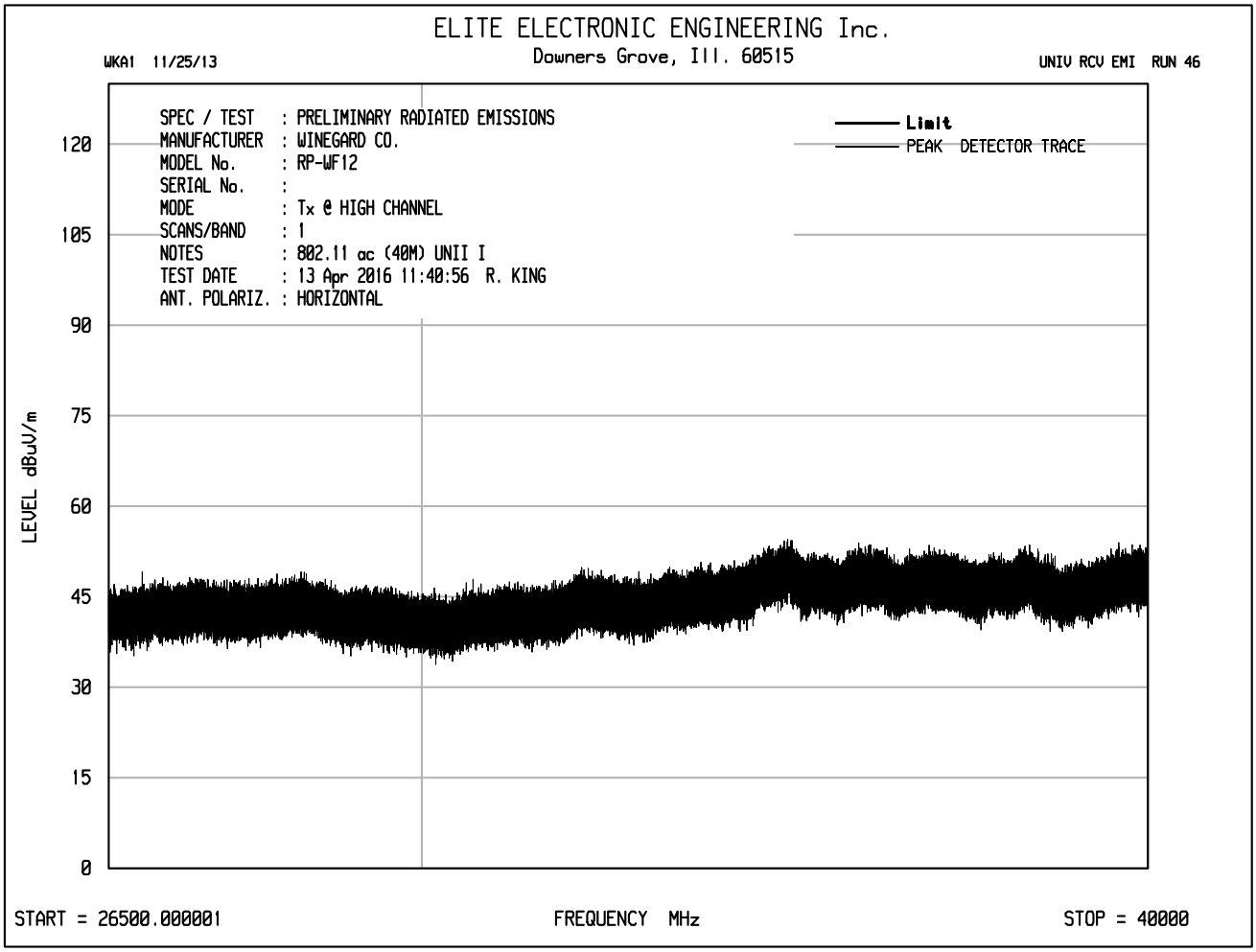

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 39
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ HIGH CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (40MHz) UNII 1
TEST DATE : 12 Apr 2016 09:04:53 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 6000

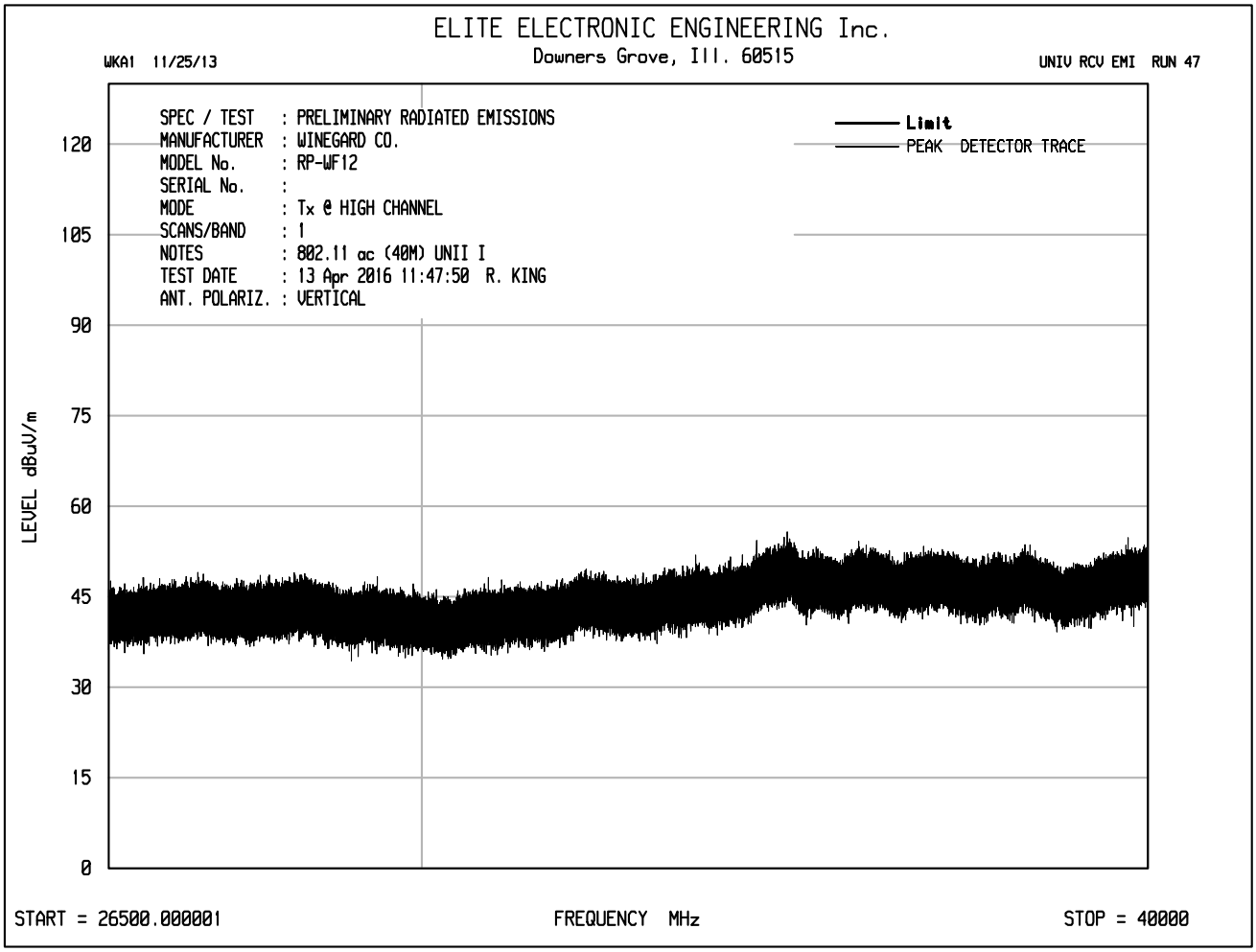

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 51
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ HIGH CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (40MHz) UNII I
TEST DATE : 11 Apr 2016 15:10:17 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
10000
START = 1000
FREQUENCY MHz
STOP = 18000

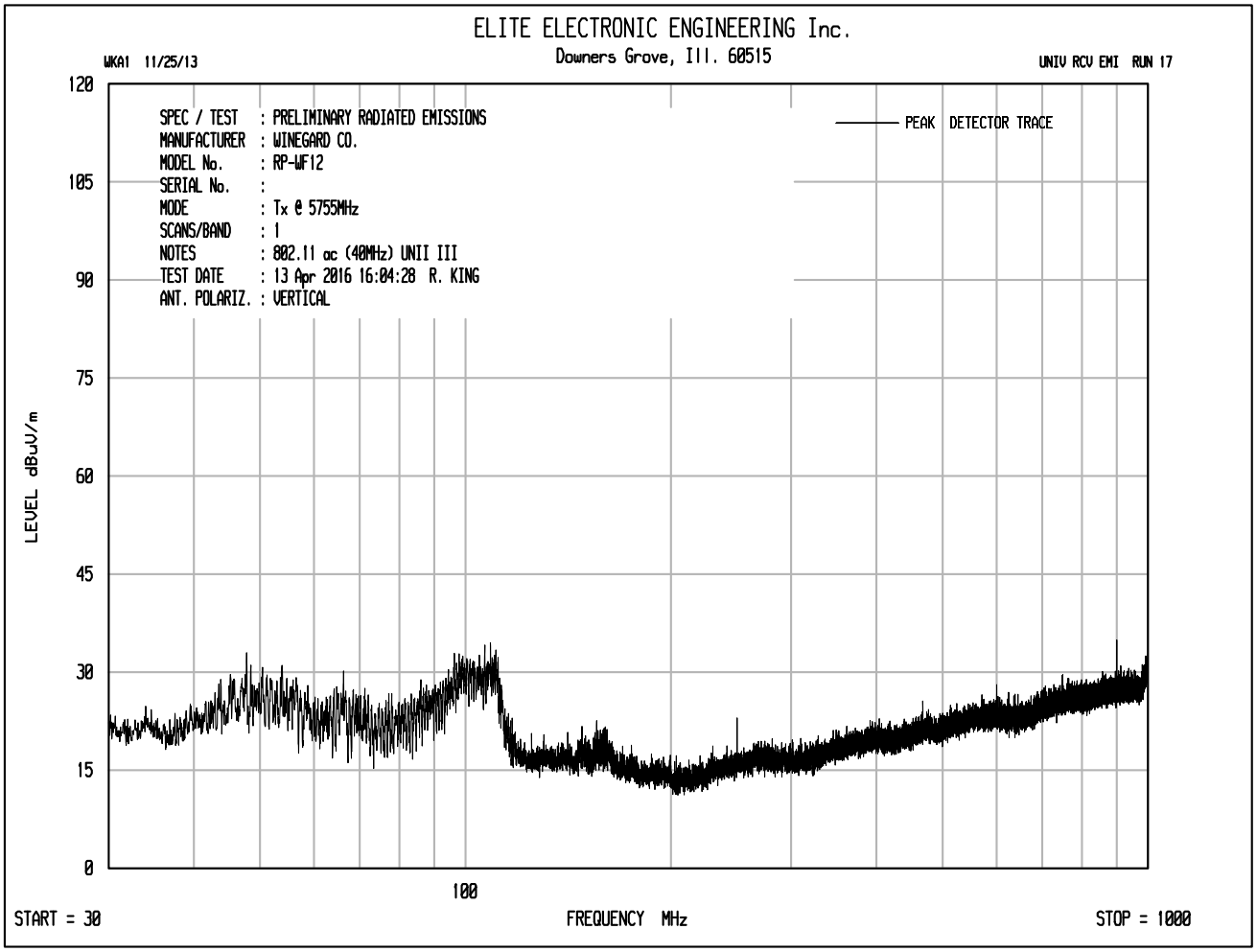

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 52
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ HIGH CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (40MHz) UNII I
TEST DATE : 11 Apr 2016 15:14:29 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
10000
START = 1000
FREQUENCY MHz
STOP = 18000

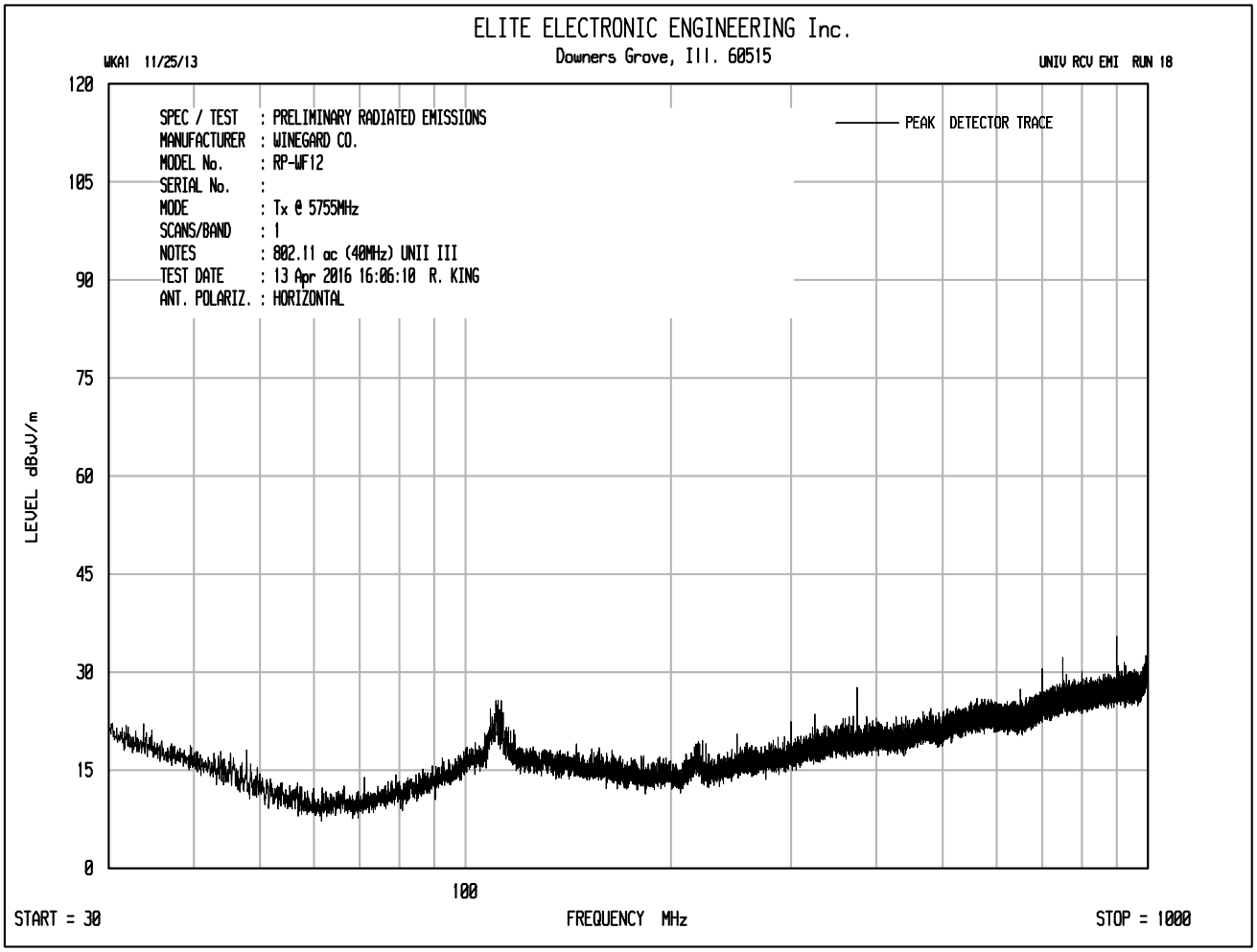

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 40
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. : NONE
MODE : Tx @ HIGH CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (40MHz) UNII I
TEST DATE : 12 Apr 2016 14:38:57 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 18000
FREQUENCY MHz
STOP = 26500

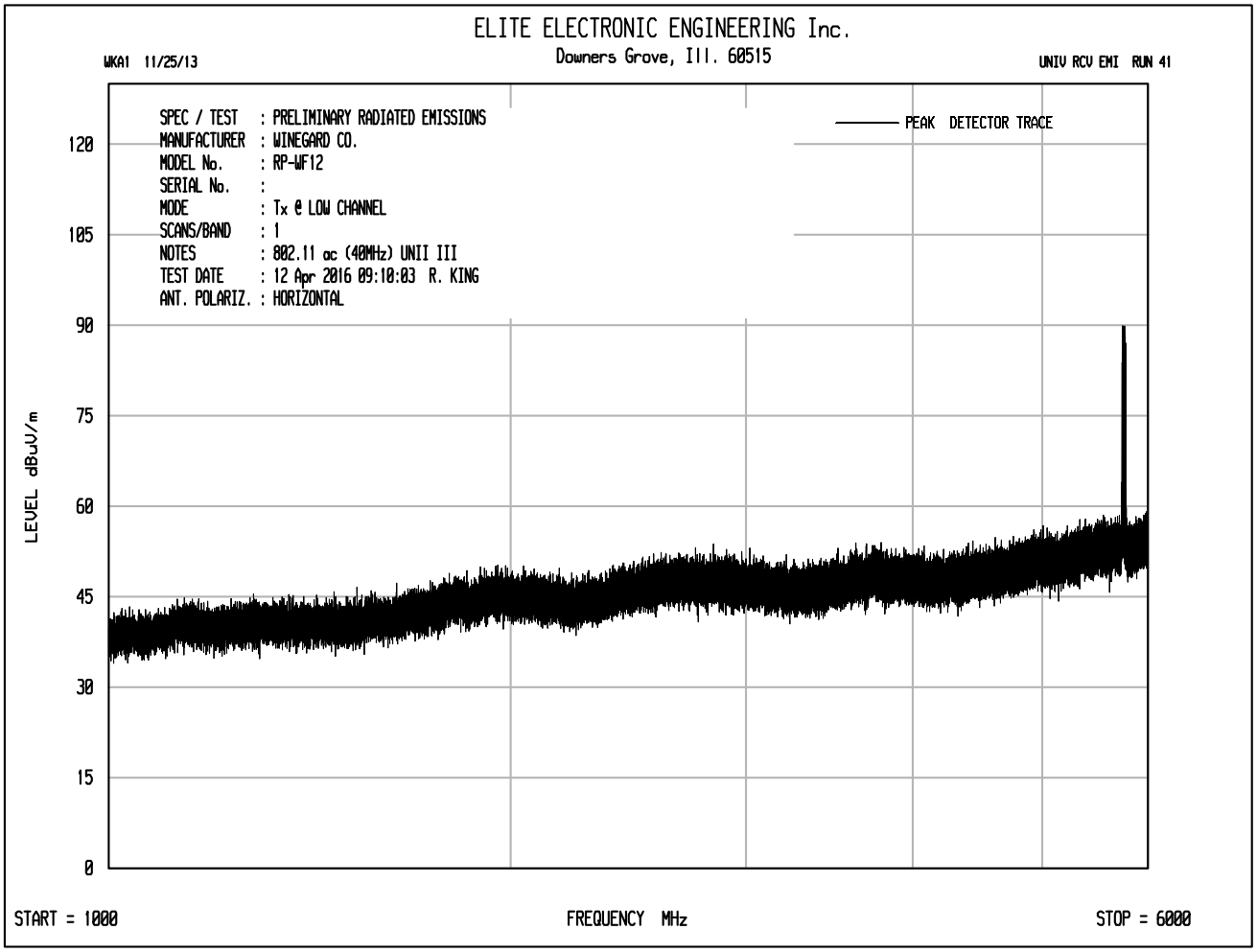

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 41
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. : NONE
MODE : Tx @ HIGH CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (40MHz) UNII I
TEST DATE : 12 Apr 2016 14:42:44 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 18000
FREQUENCY MHz
STOP = 26500

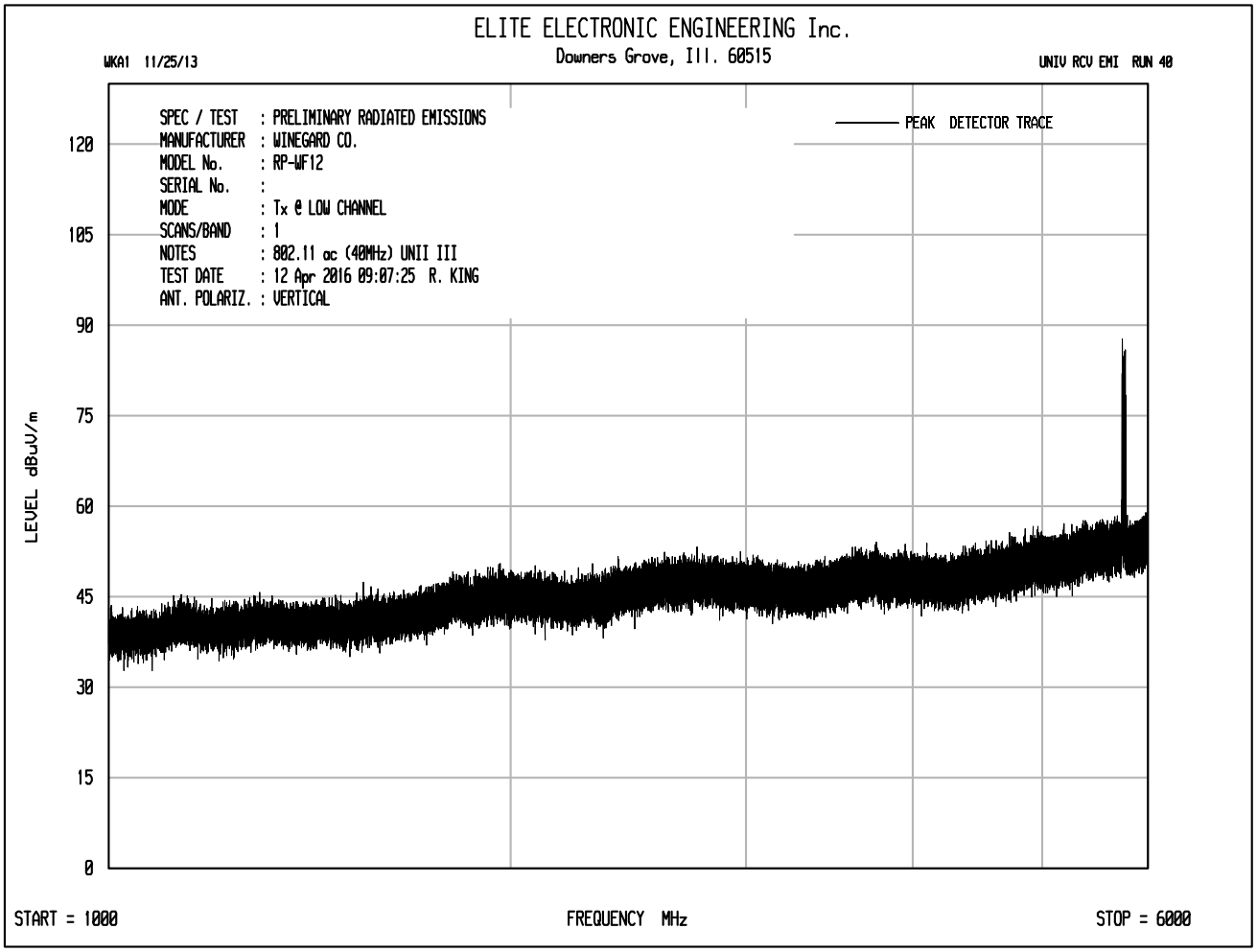

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 46
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ HIGH CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (40M) UNII I
TEST DATE : 13 Apr 2016 11:40:56 R. KING
ANT. POLARIZ. : HORIZONTAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 26500.000001
FREQUENCY MHz
STOP = 40000

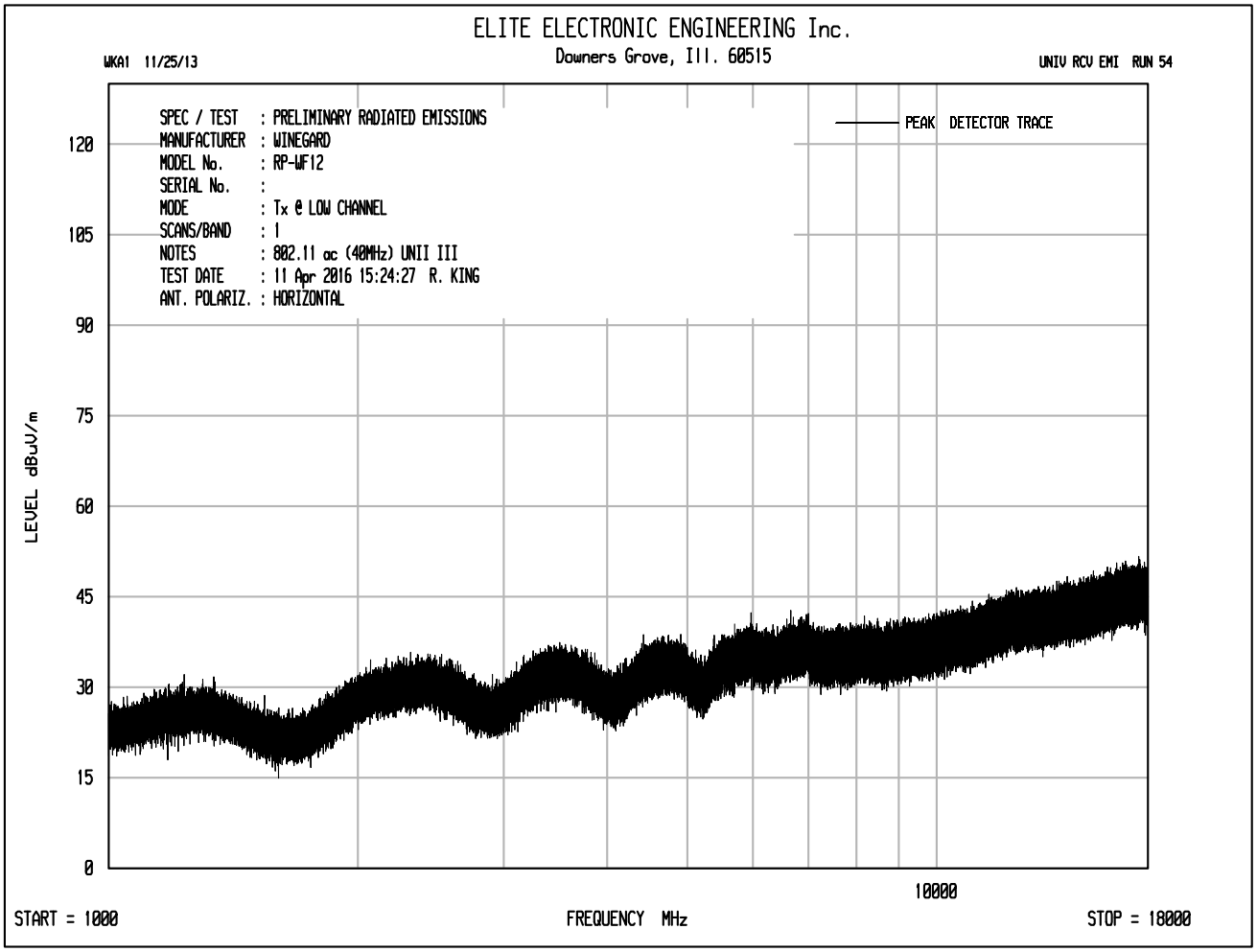

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 47
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ HIGH CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (40M) UNII I
TEST DATE : 13 Apr 2016 11:47:50 R. KING
ANT. POLARIZ. : VERTICAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 26500.000001
FREQUENCY MHz
STOP = 40000

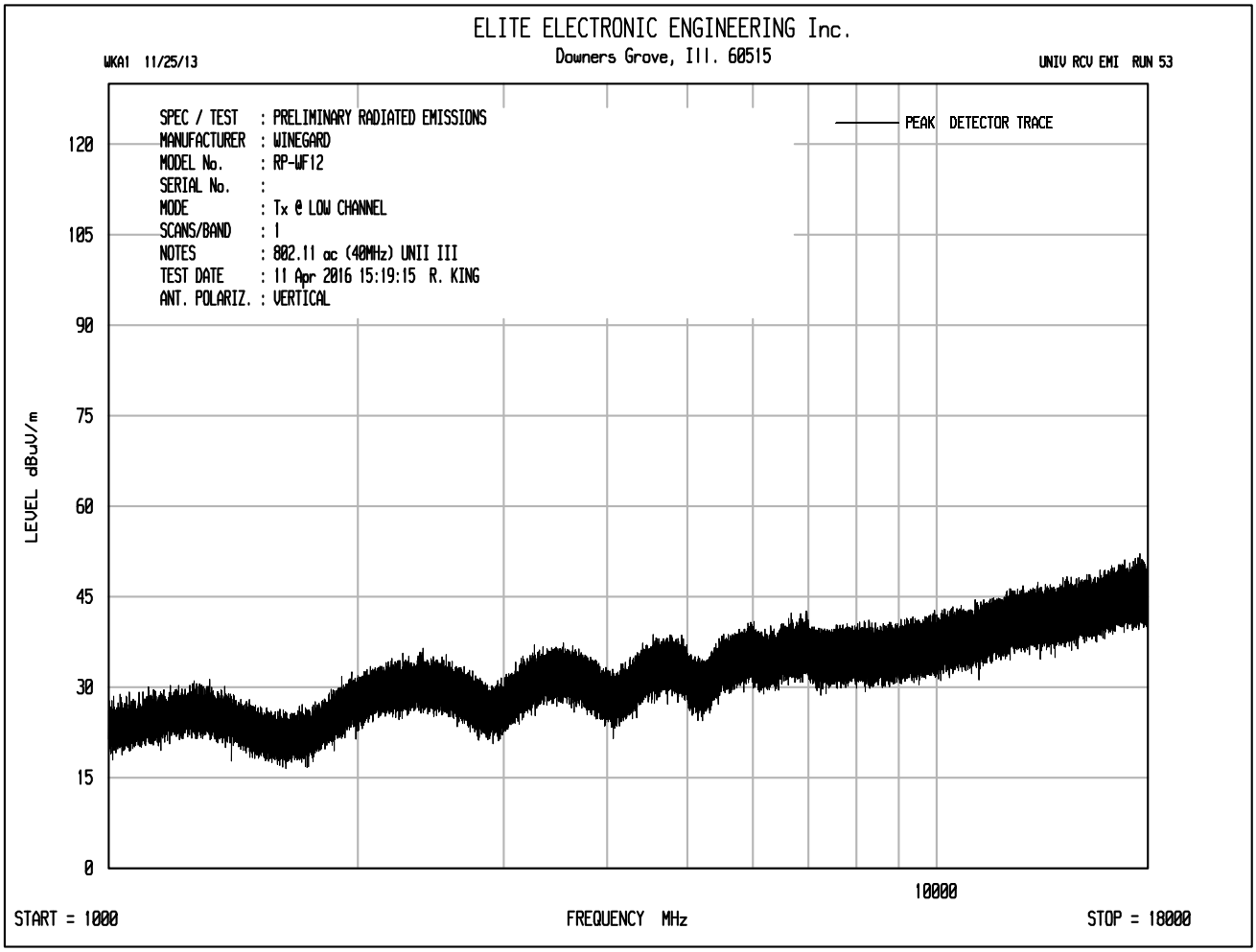

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 17
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ 5755MHz
SCANS/BAND : 1
NOTES : 802.11 ac (40MHz) UNII III
TEST DATE : 13 Apr 2016 16:04:28 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000

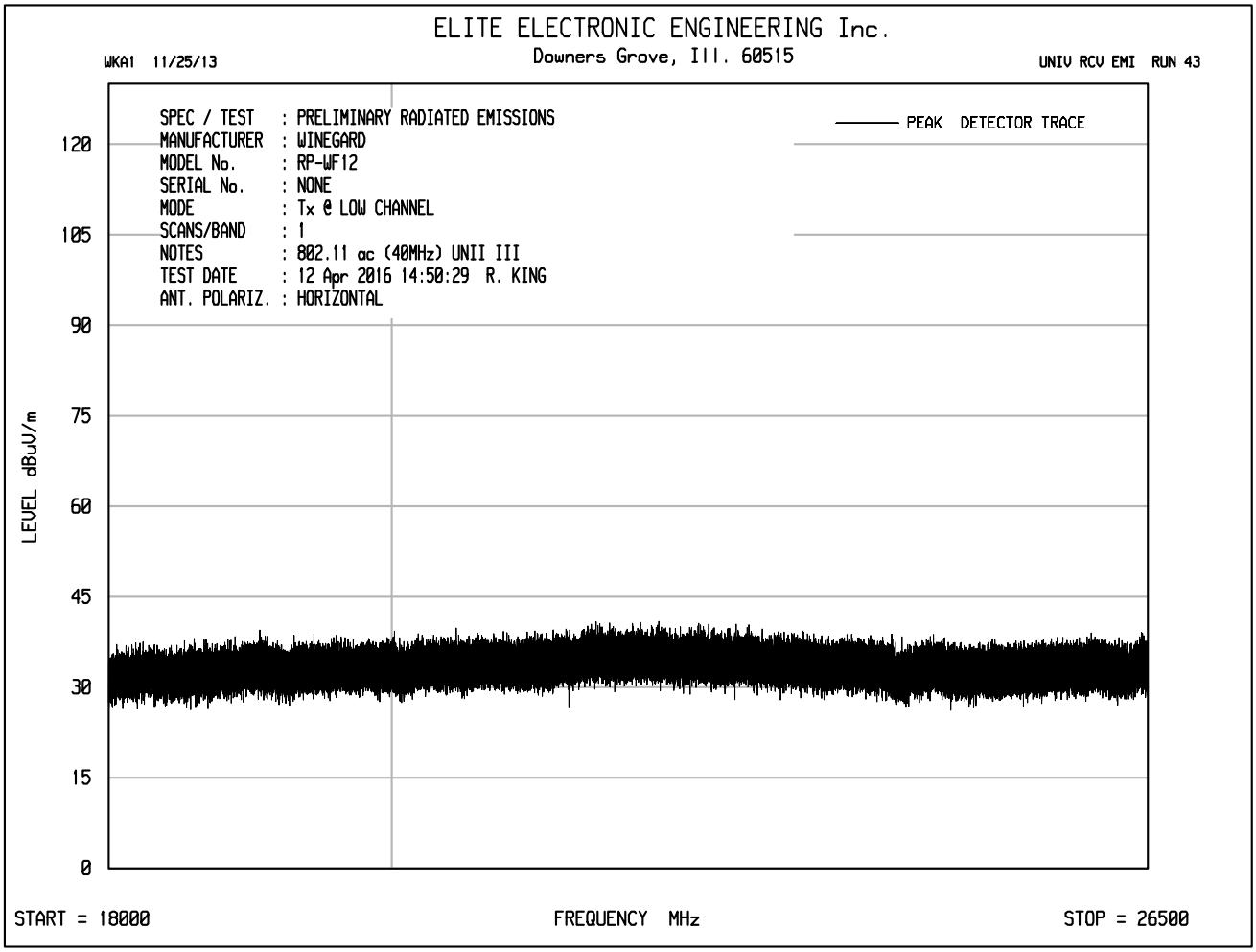

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 18
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ 5755MHz
SCANS/BAND : 1
NOTES : 802.11 ac (40MHz) UNII III
TEST DATE : 13 Apr 2016 16:06:10 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000

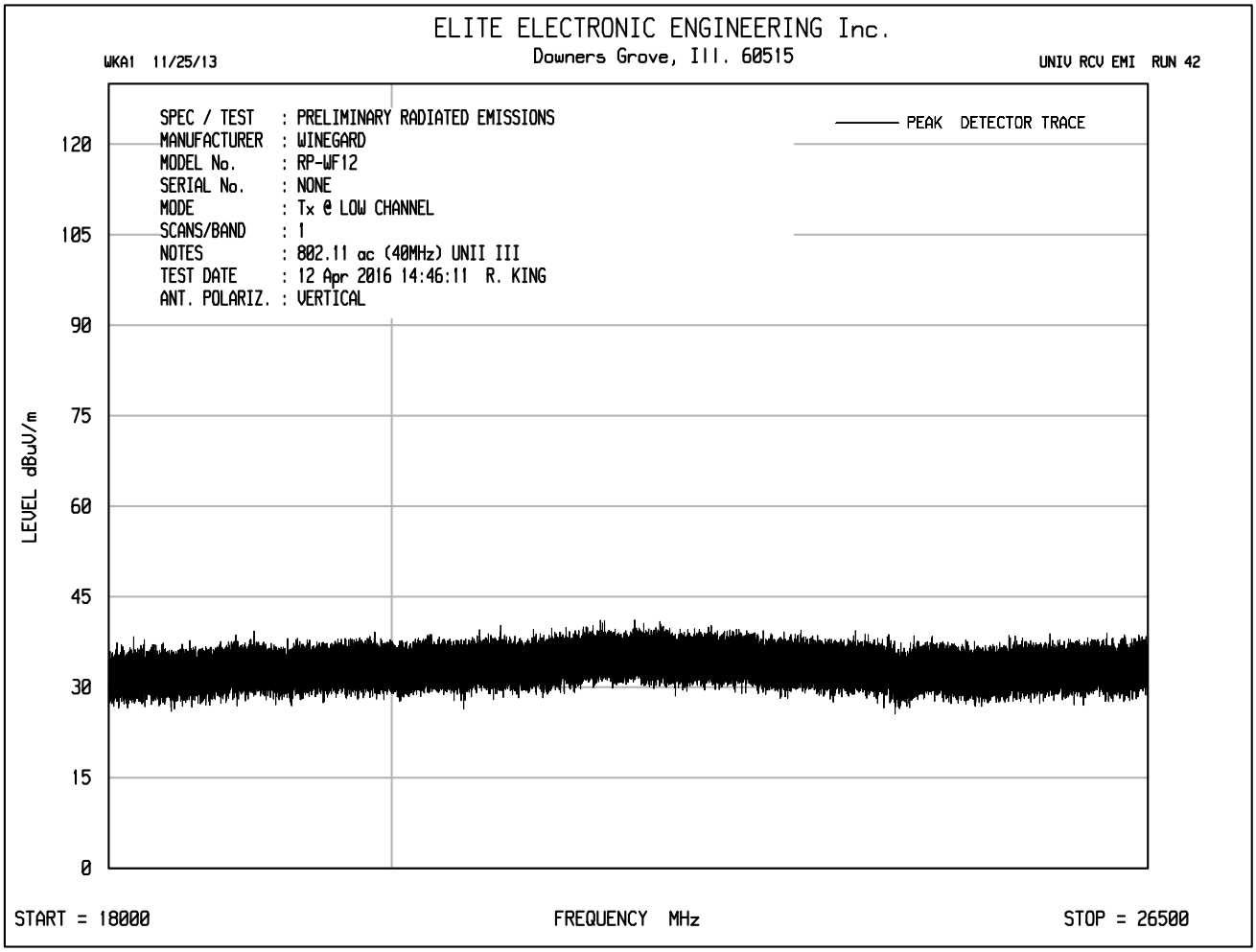

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 41
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ LOW CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (40MHz) UNII III
TEST DATE : 12 Apr 2016 09:10:03 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 6000

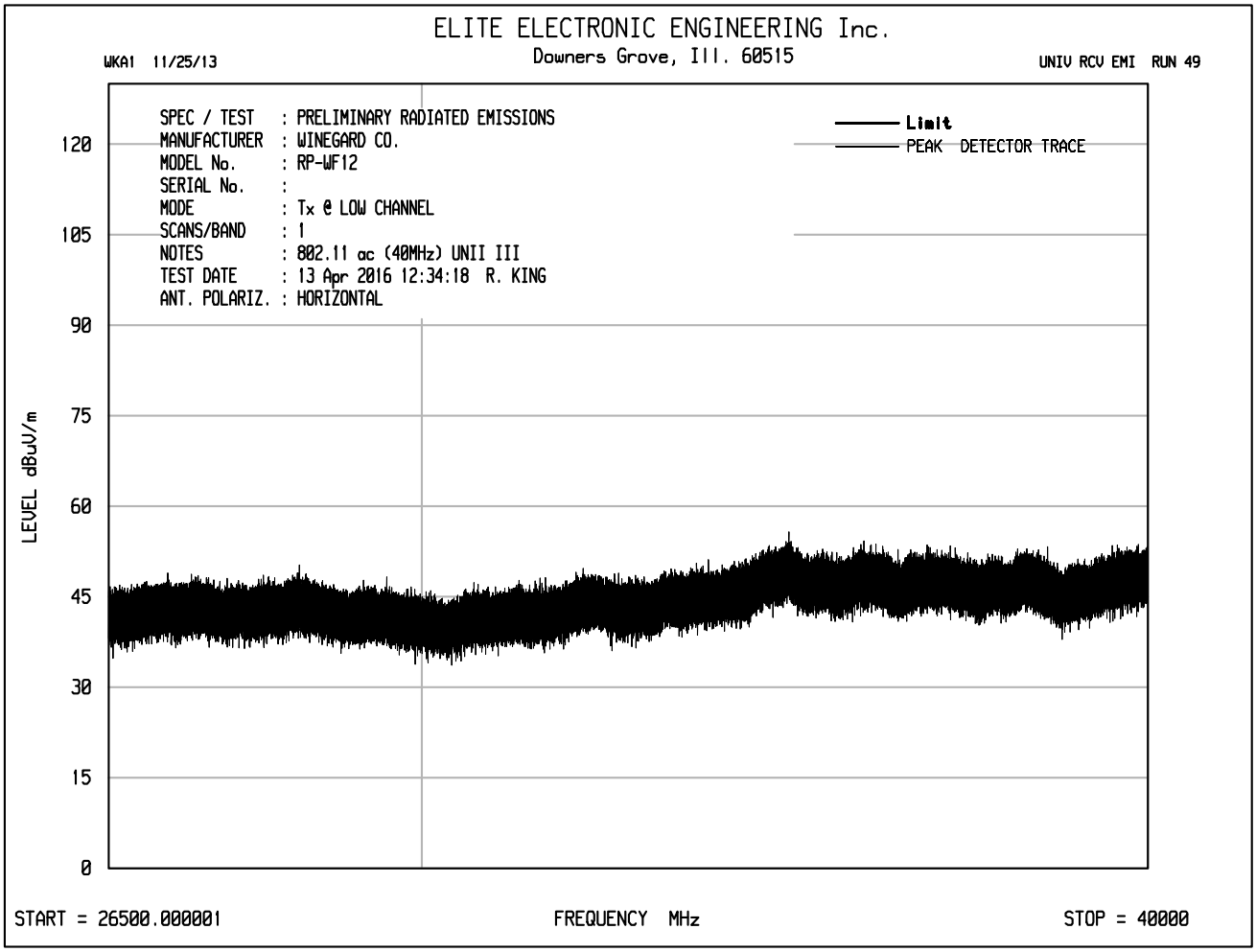

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 40
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ LOW CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (40MHz) UNII III
TEST DATE : 12 Apr 2016 09:07:25 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 6000

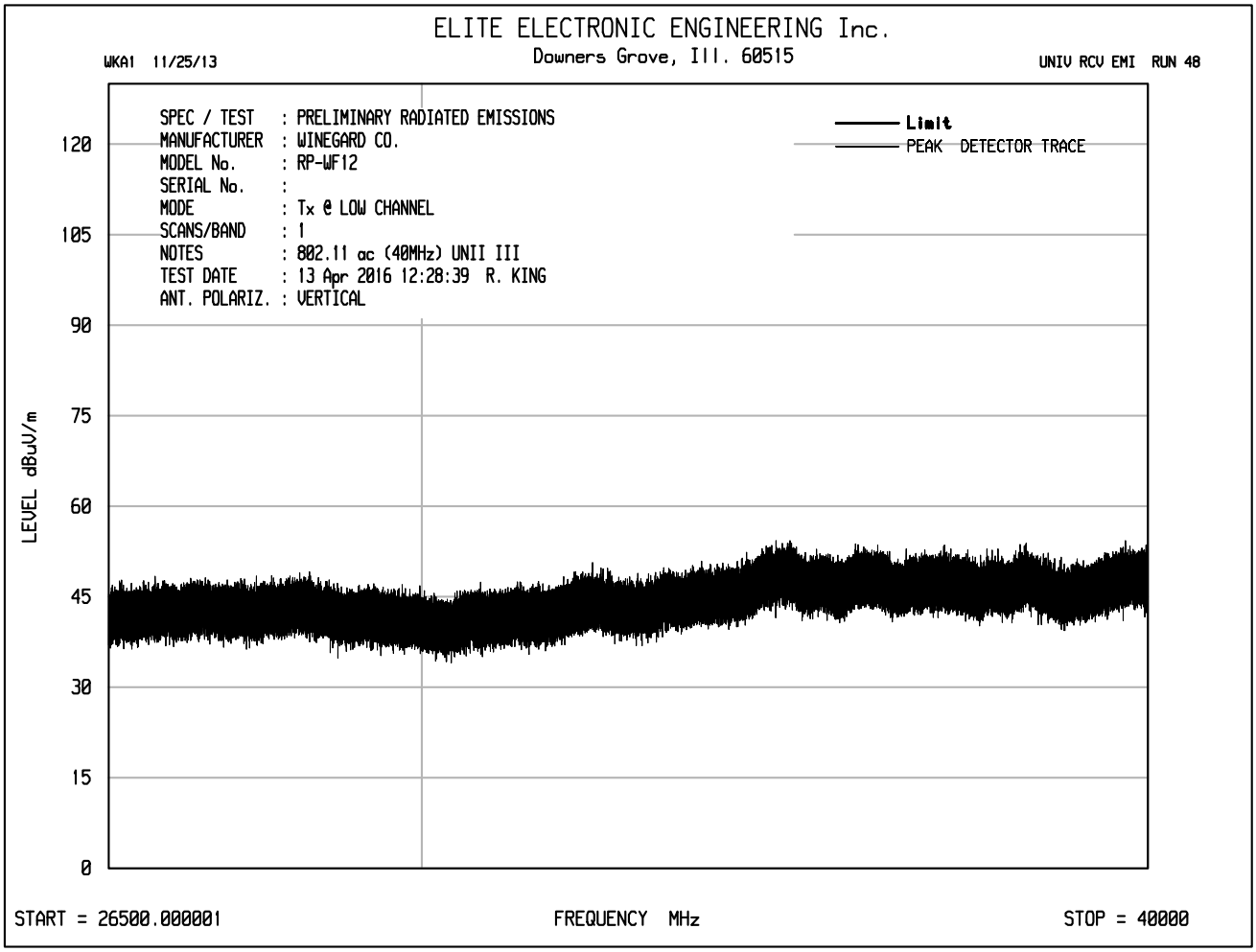

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 54
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ LOW CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (40MHz) UNII III
TEST DATE : 11 Apr 2016 15:24:27 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
10000
START = 1000
FREQUENCY MHz
STOP = 18000

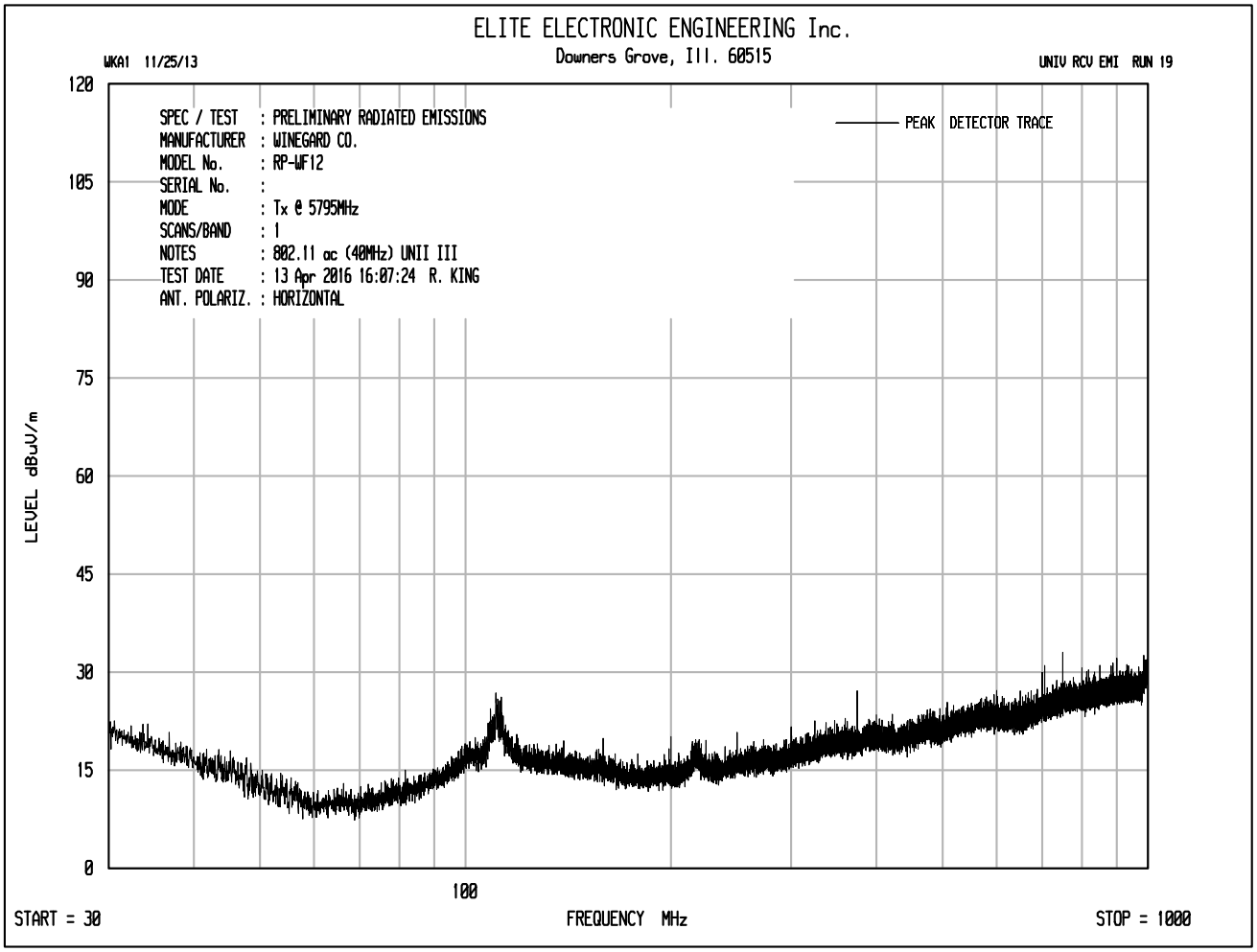

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 53
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ LOW CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (40MHz) UNII III
TEST DATE : 11 Apr 2016 15:19:15 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
10000
START = 1000
FREQUENCY MHz
STOP = 18000

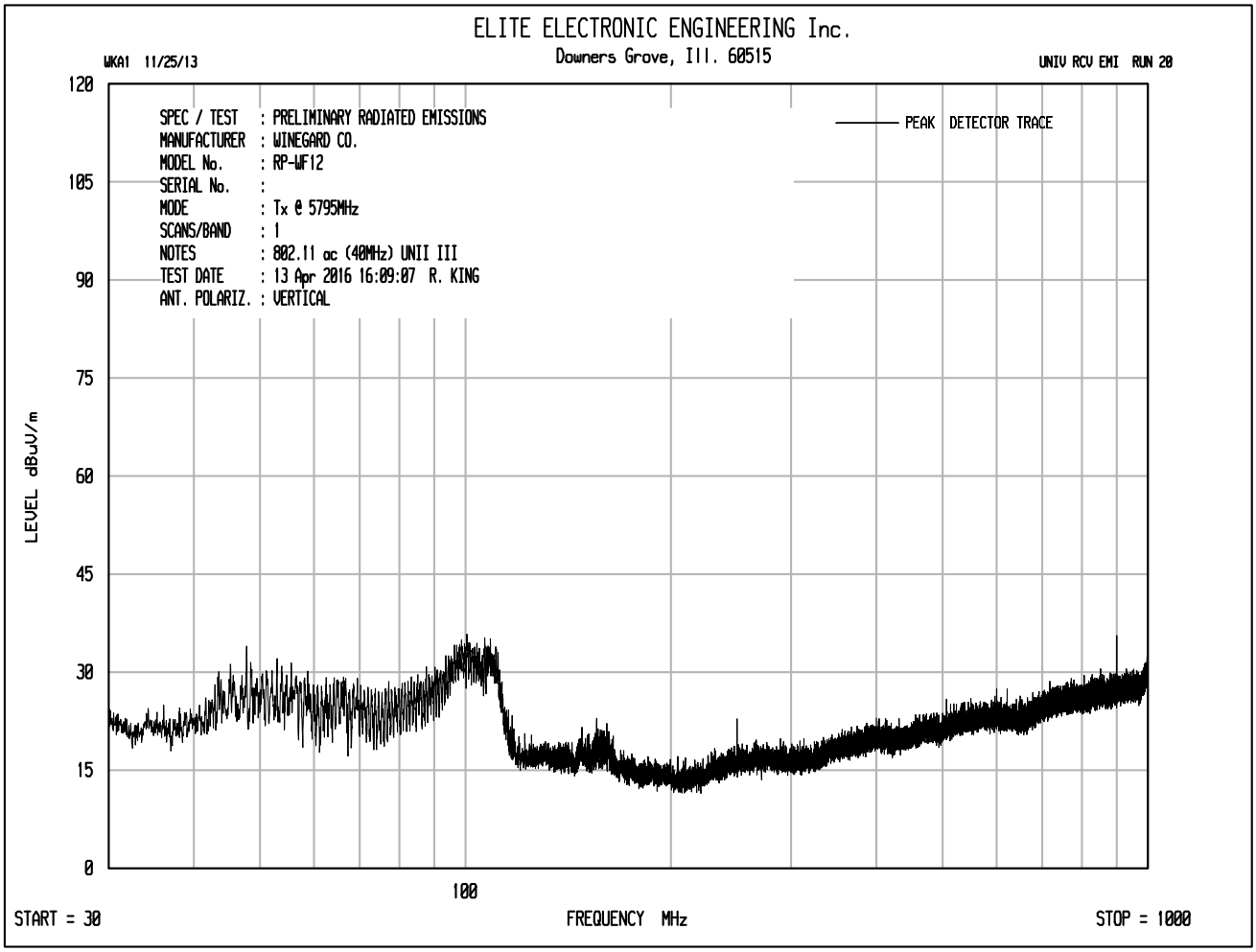

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 43
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. : NONE
MODE : Tx @ LOW CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (40MHz) UNII III
TEST DATE : 12 Apr 2016 14:50:29 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 18000
FREQUENCY MHz
STOP = 26500

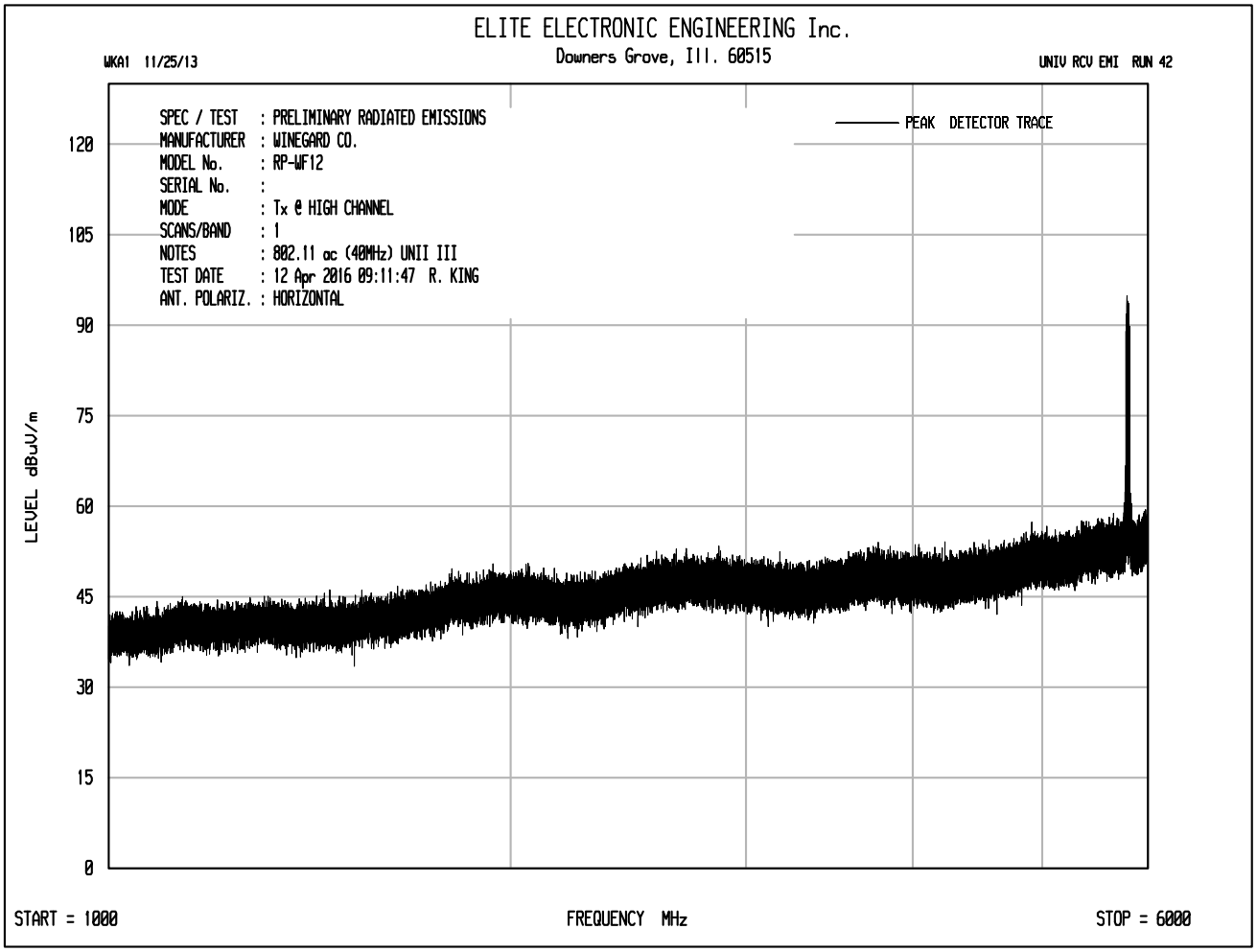

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 42
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. : NONE
MODE : Tx @ LOW CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (40MHz) UNII III
TEST DATE : 12 Apr 2016 14:46:11 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 18000
FREQUENCY MHz
STOP = 26500

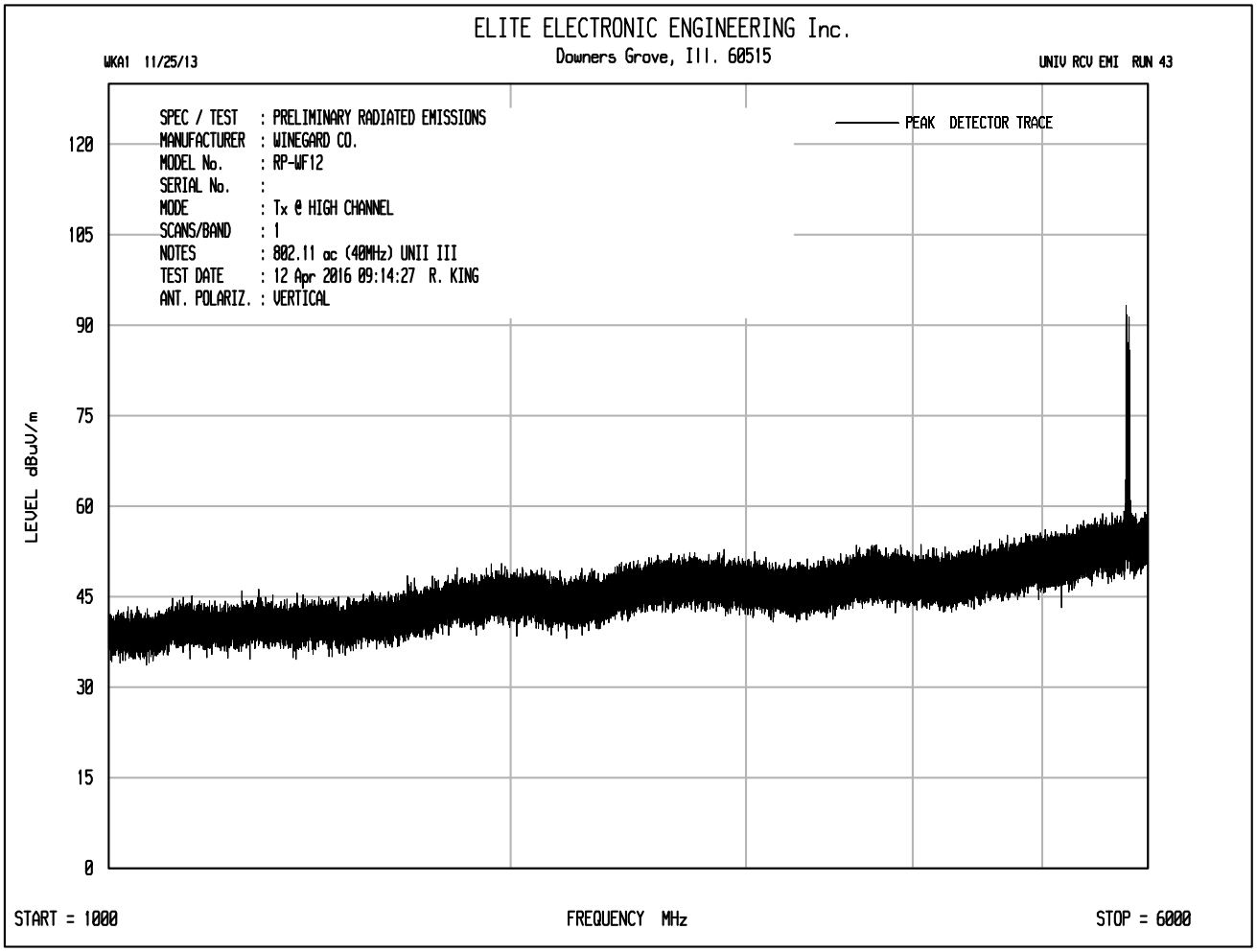

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 49
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ LOW CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (40MHz) UNII III
TEST DATE : 13 Apr 2016 12:34:18 R. KING
ANT. POLARIZ. : HORIZONTAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 26500.000001
FREQUENCY MHz
STOP = 40000

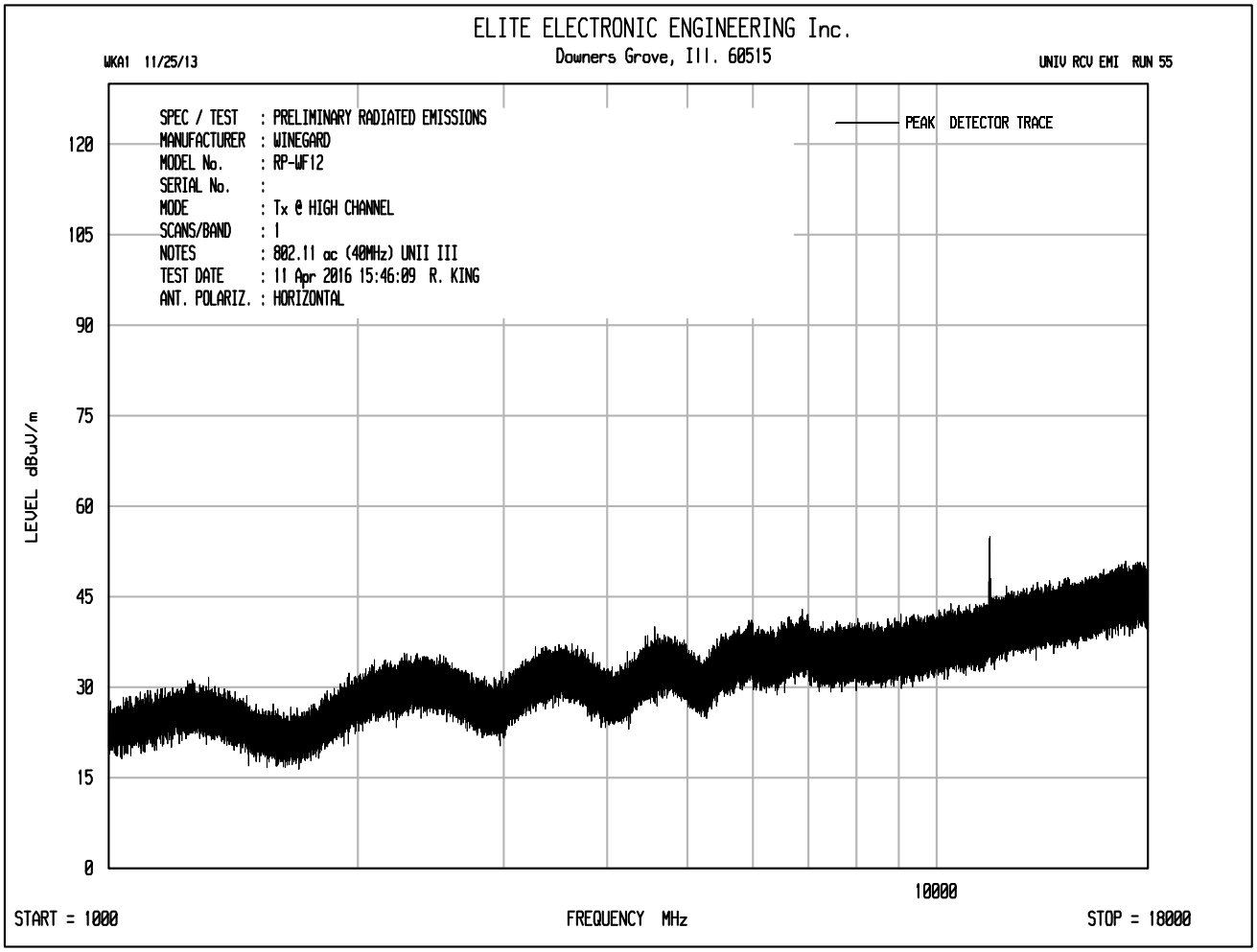

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 48
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ LOW CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (40MHz) UNII III
TEST DATE : 13 Apr 2016 12:28:39 R. KING
ANT. POLARIZ. : VERTICAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 26500.000001
FREQUENCY MHz
STOP = 40000

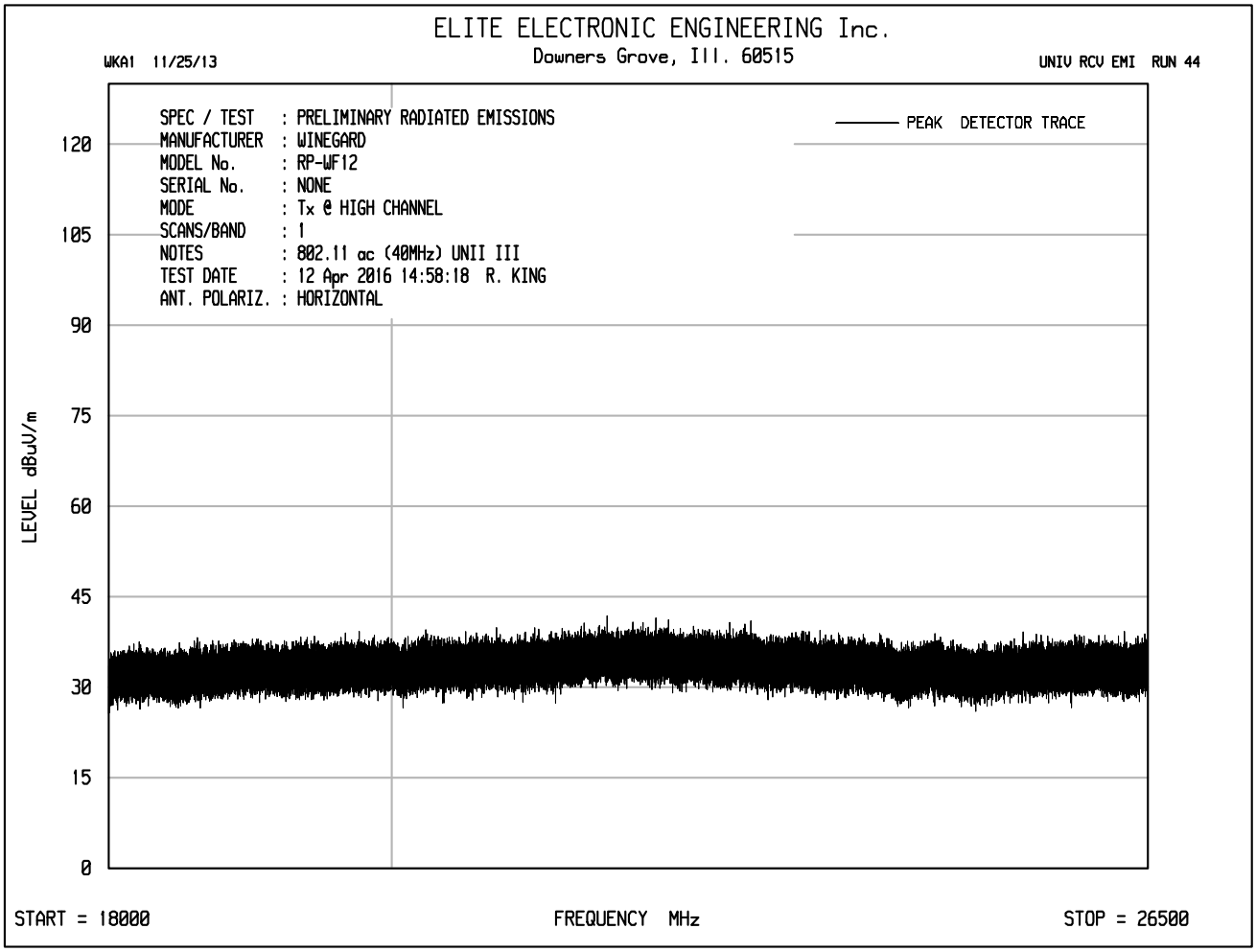

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 19
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ 5795MHz
SCANS/BAND : 1
NOTES : 802.11 ac (40MHz) UNII III
TEST DATE : 13 Apr 2016 16:07:24 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000

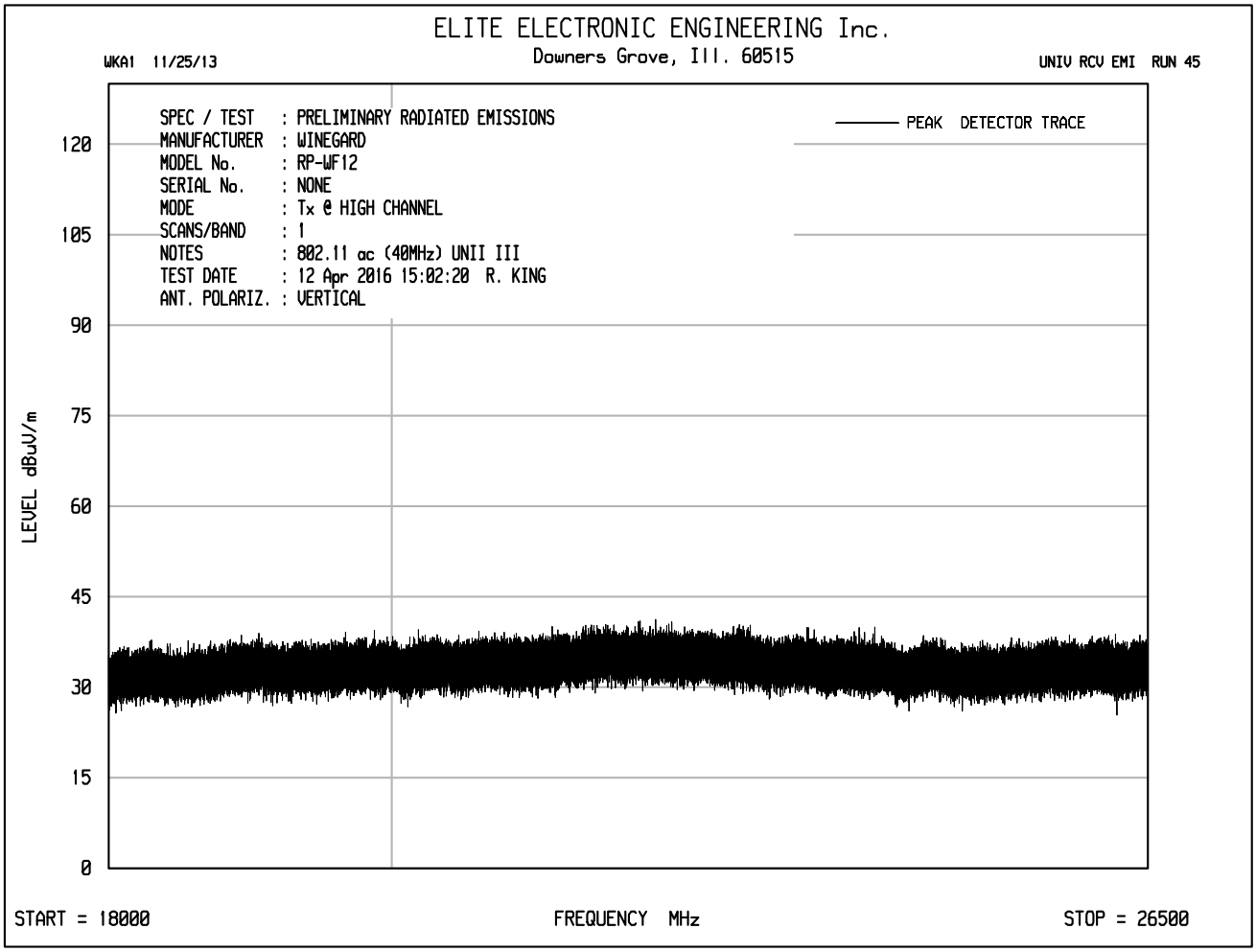

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 20
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ 5795MHz
SCANS/BAND : 1
NOTES : 802.11 ac (40MHz) UNII III
TEST DATE : 13 Apr 2016 16:09:07 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000

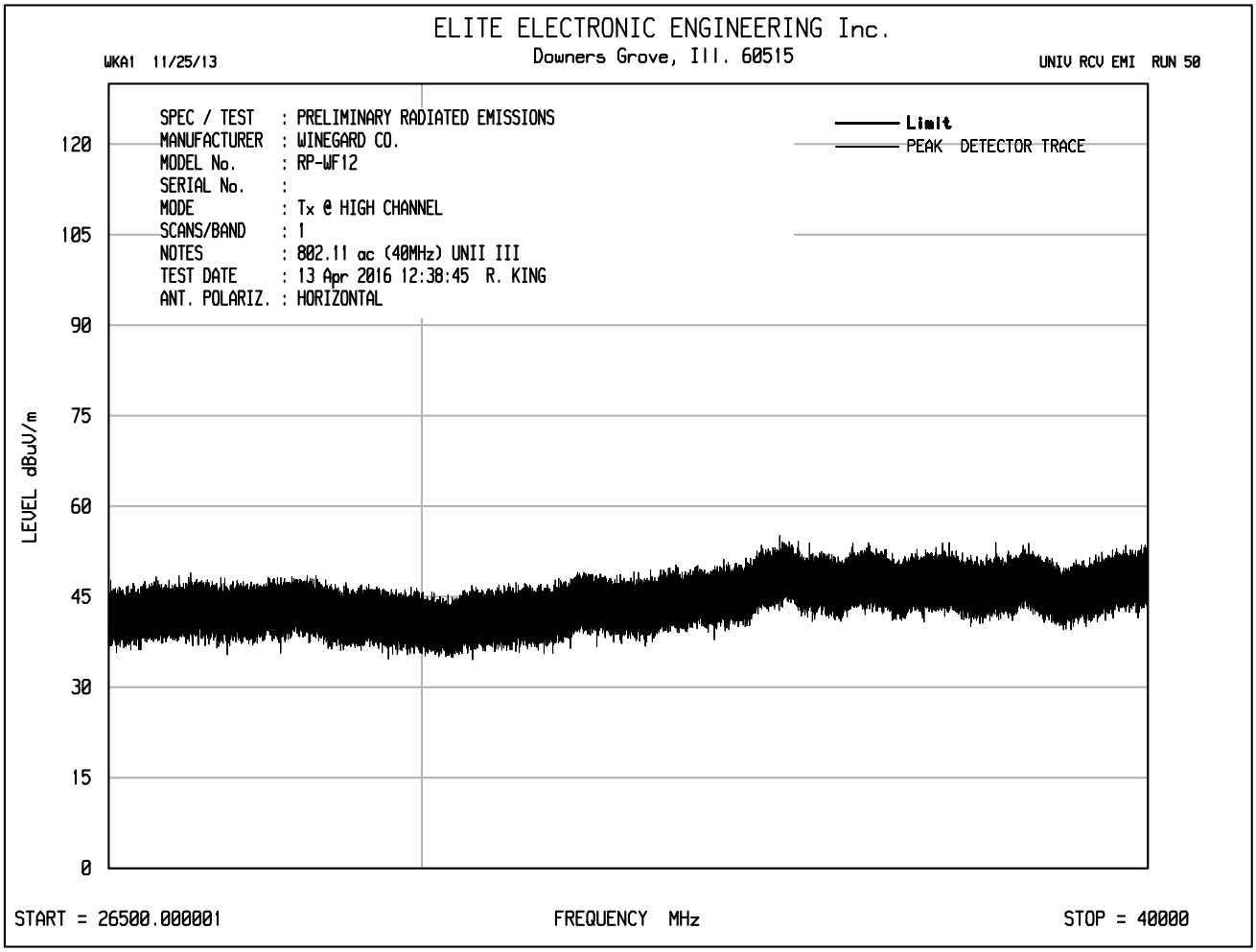

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 42
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ HIGH CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (40MHz) UNII III
TEST DATE : 12 Apr 2016 09:11:47 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 6000

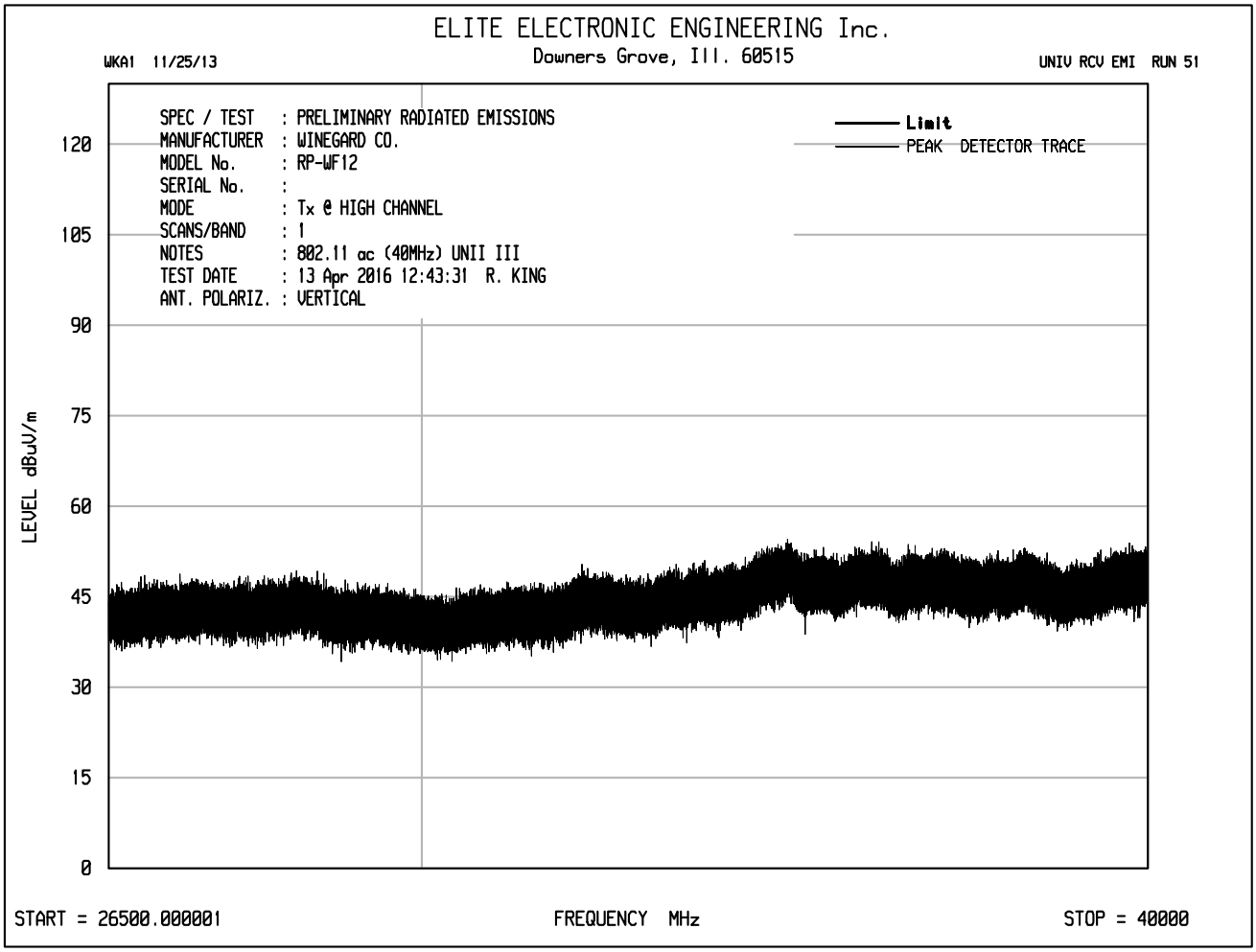

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 43
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ HIGH CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (40MHz) UNII III
TEST DATE : 12 Apr 2016 09:14:27 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 6000

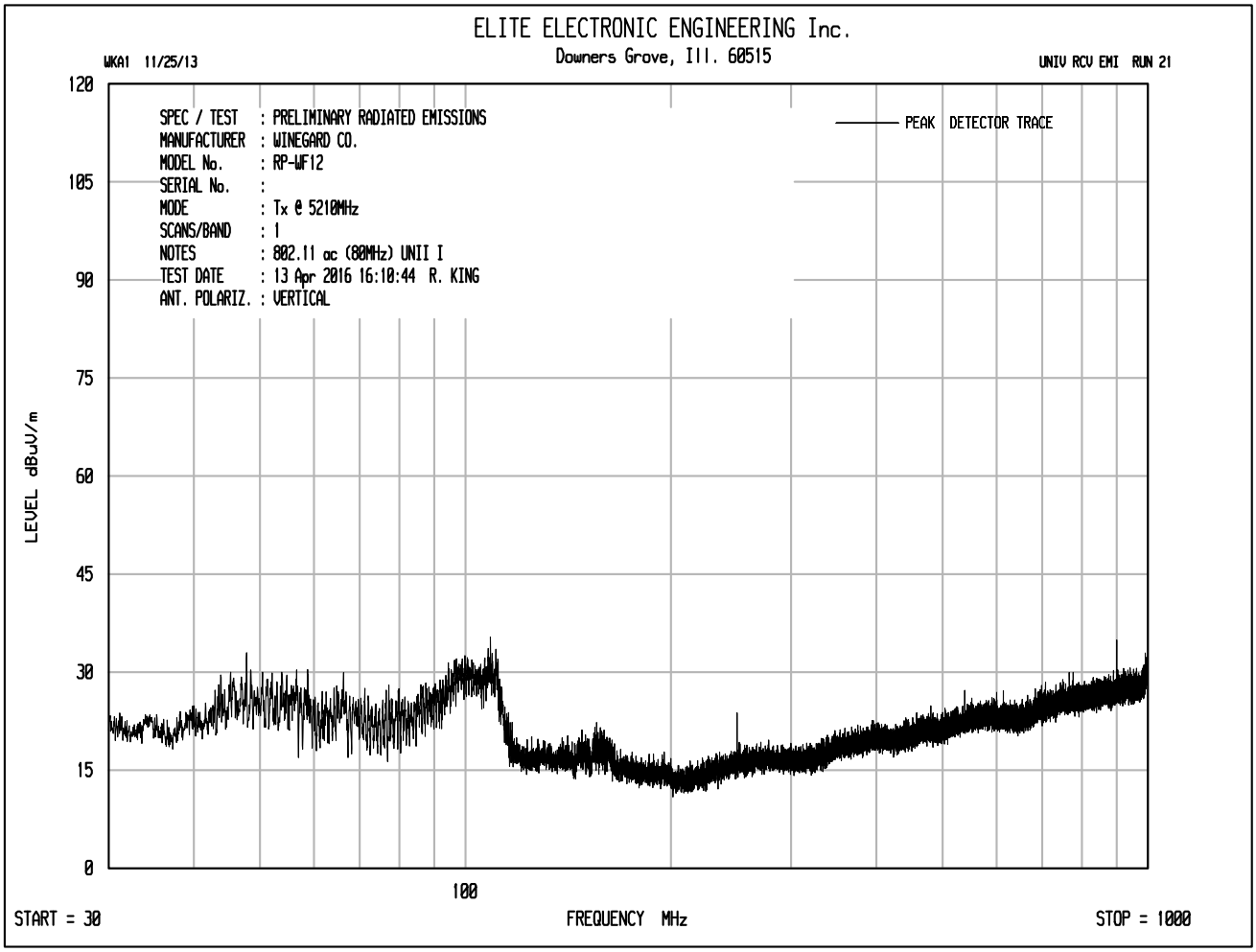

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 55
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ HIGH CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (40MHz) UNII III
TEST DATE : 11 Apr 2016 15:46:09 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
10000
START = 1000
FREQUENCY MHz
STOP = 18000

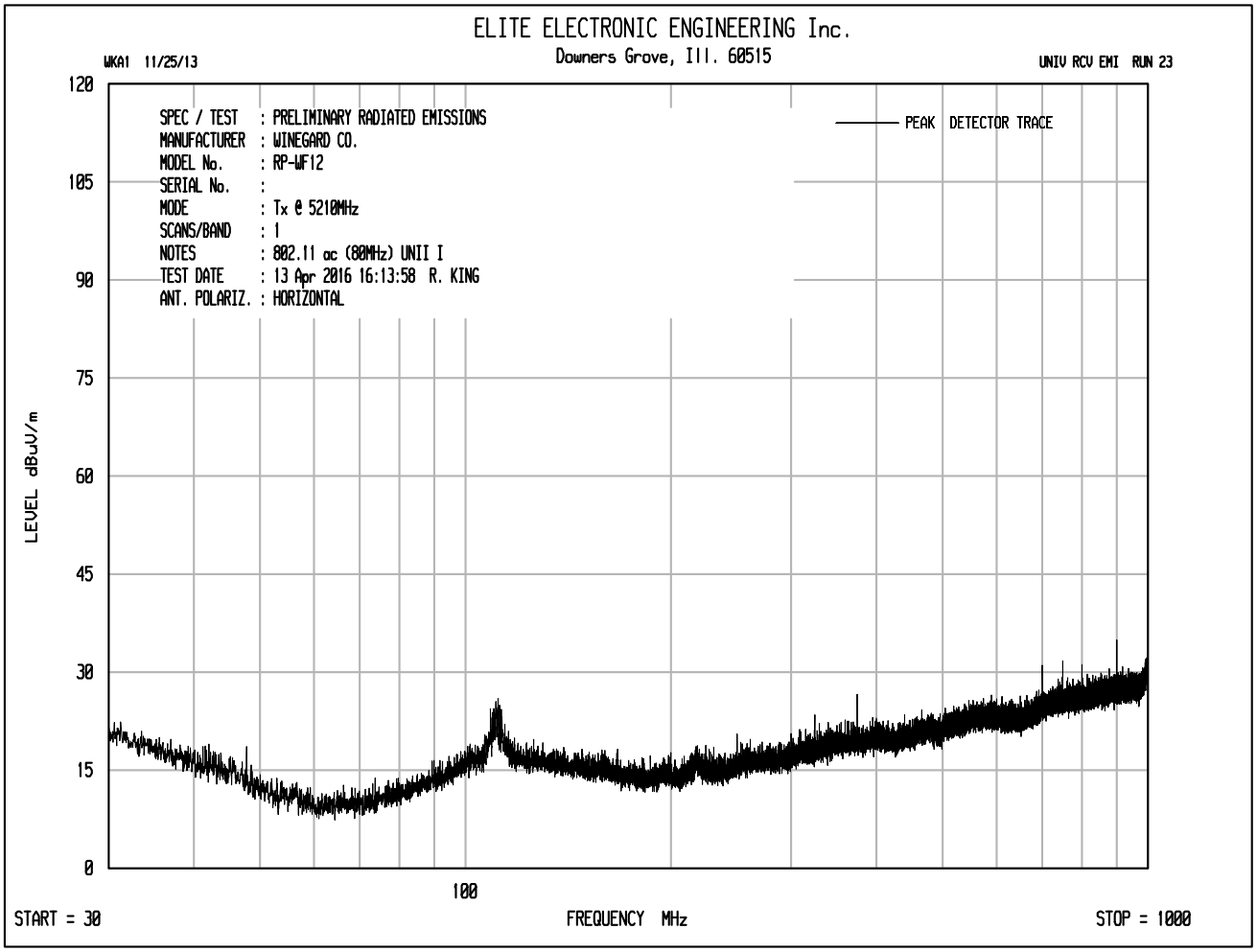

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 44
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. : NONE
MODE : Tx @ HIGH CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (40MHz) UNII III
TEST DATE : 12 Apr 2016 14:58:18 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 18000
FREQUENCY MHz
STOP = 26500

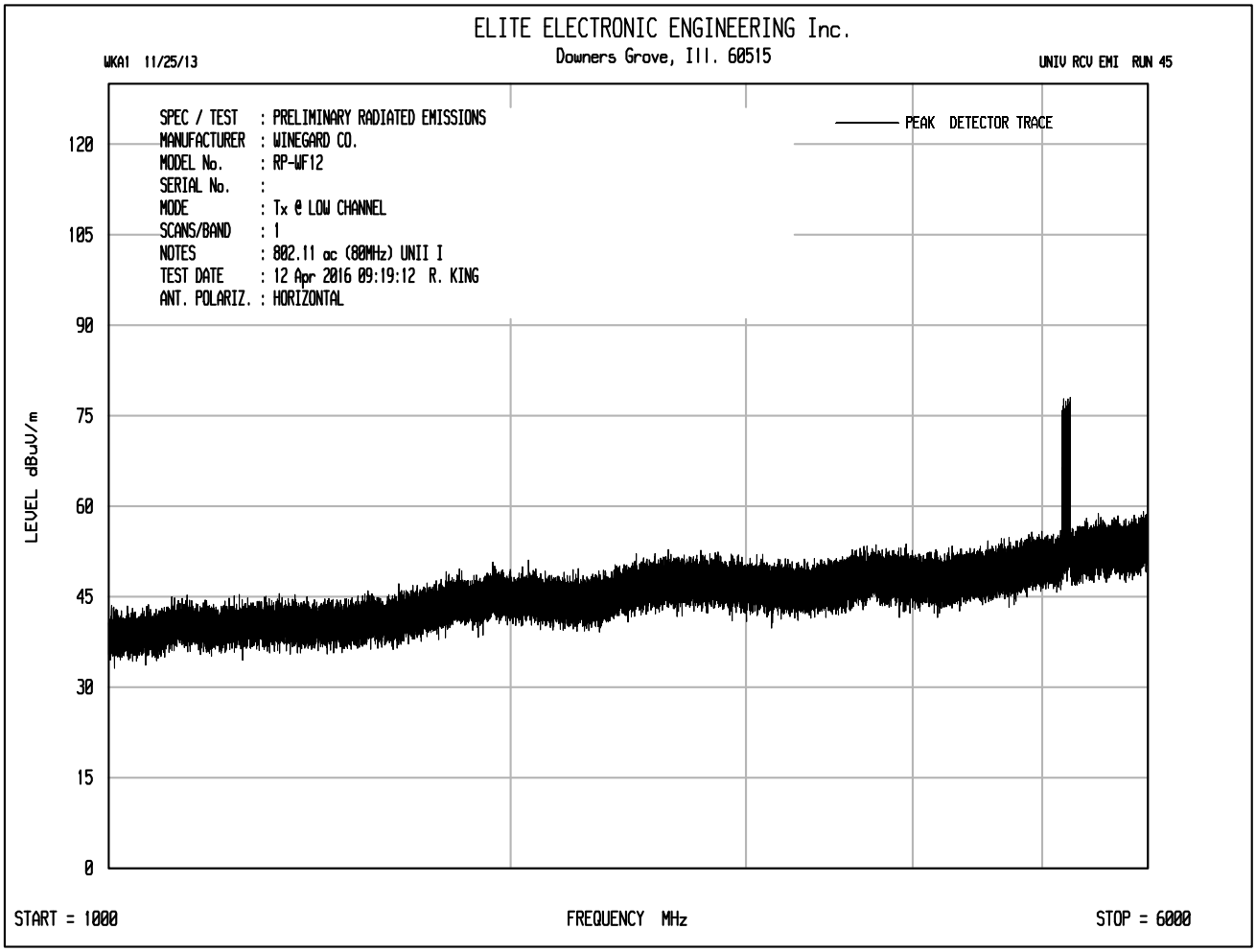

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 45
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. : NONE
MODE : Tx @ HIGH CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (40MHz) UNII III
TEST DATE : 12 Apr 2016 15:02:20 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 18000
FREQUENCY MHz
STOP = 26500

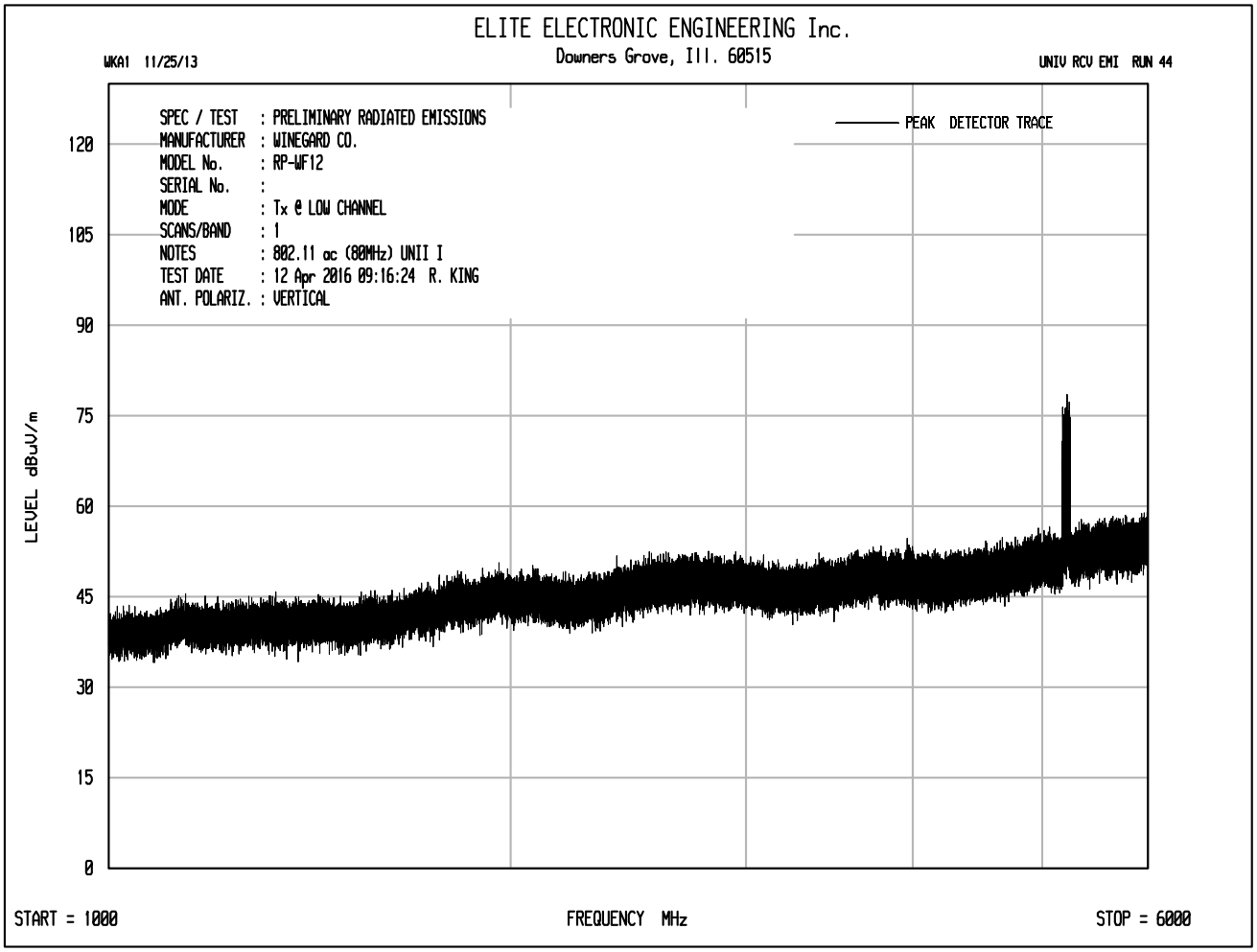

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 50
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ HIGH CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (40MHz) UNII III
TEST DATE : 13 Apr 2016 12:38:45 R. KING
ANT. POLARIZ. : HORIZONTAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 26500.000001
FREQUENCY MHz
STOP = 40000

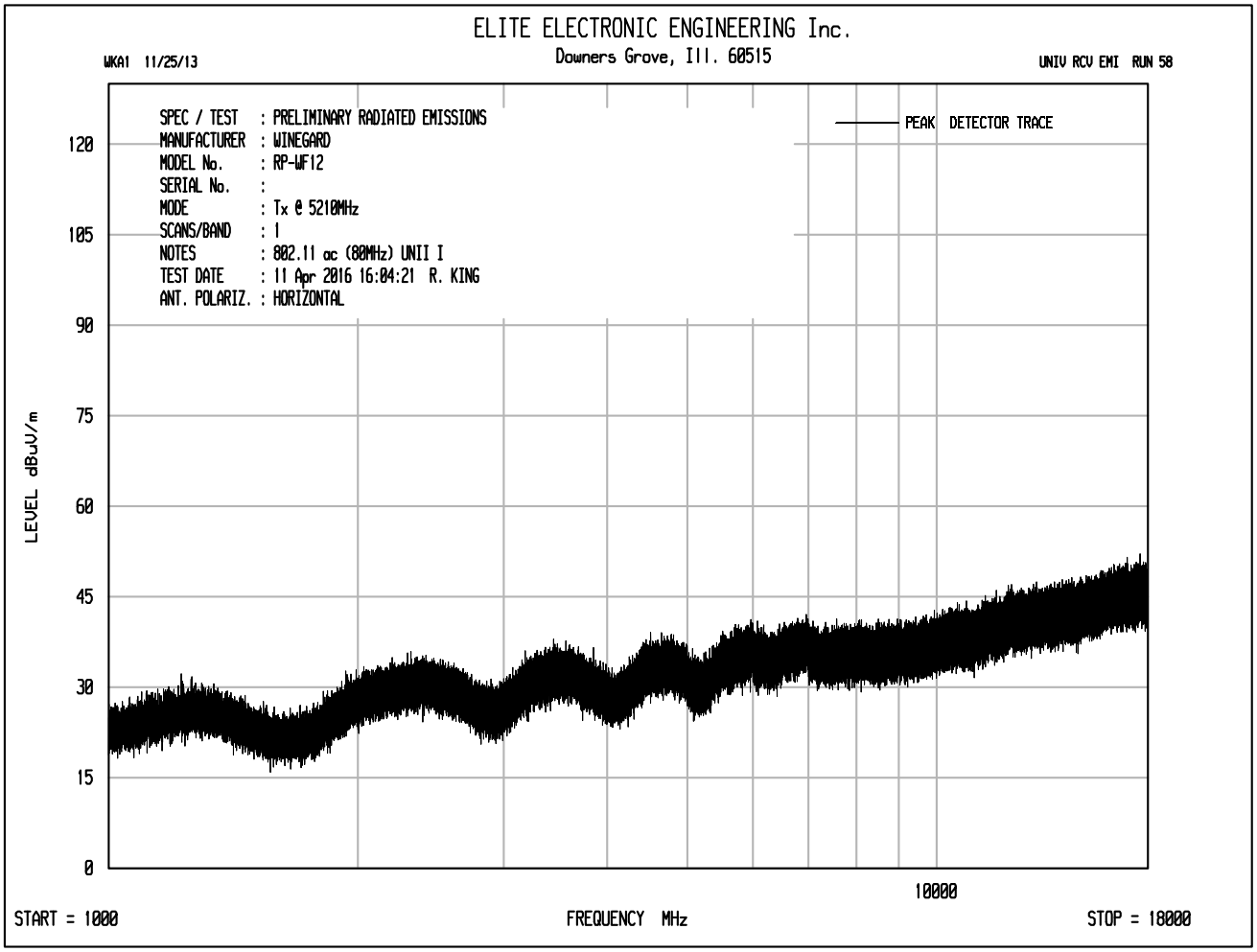

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 51
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ HIGH CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (40MHz) UNII III
TEST DATE : 13 Apr 2016 12:43:31 R. KING
ANT. POLARIZ. : VERTICAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 26500.000001
FREQUENCY MHz
STOP = 40000

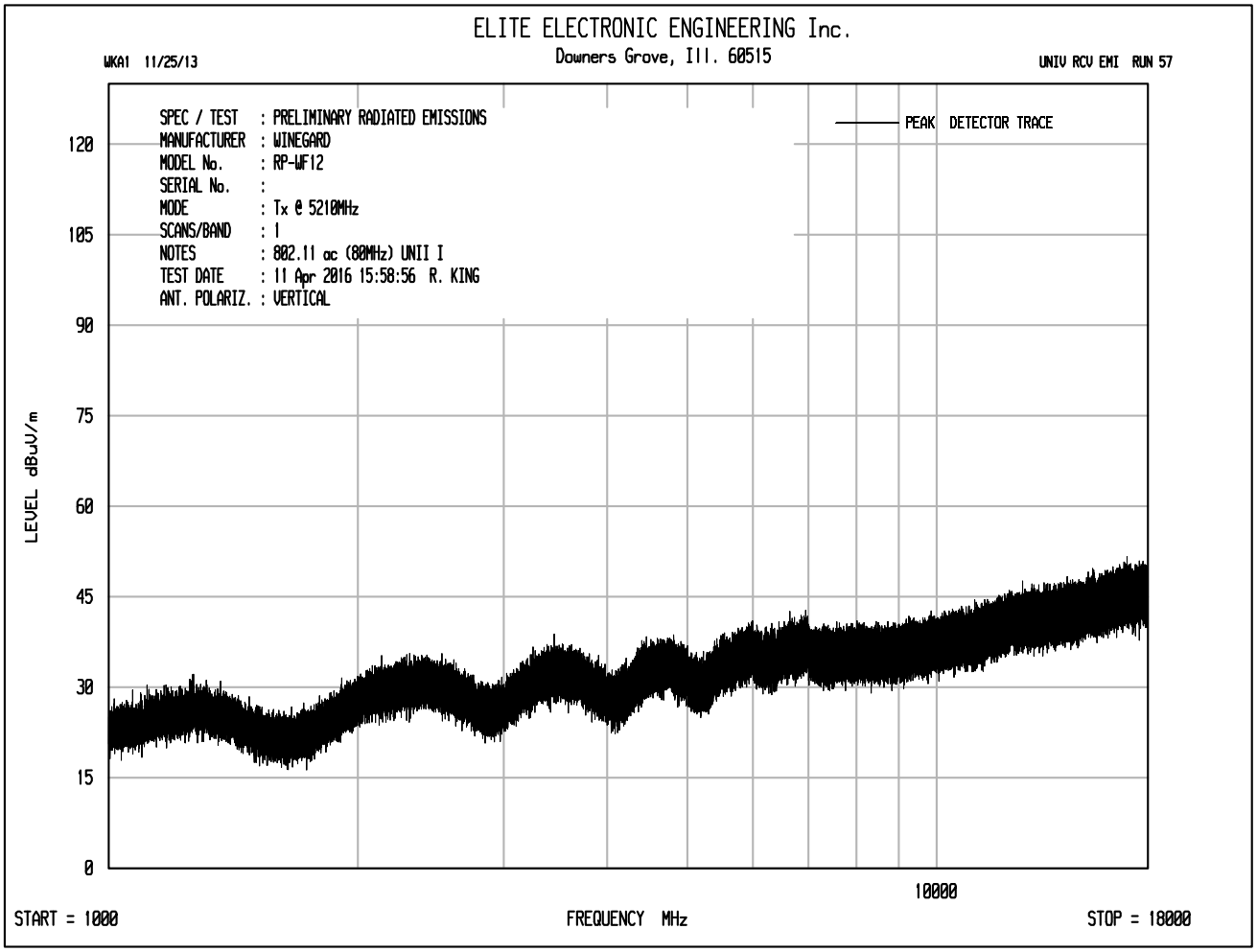

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 21
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ 5210MHz
SCANS/BAND : 1
NOTES : 802.11 ac (80MHz) UNII I
TEST DATE : 13 Apr 2016 16:10:44 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000

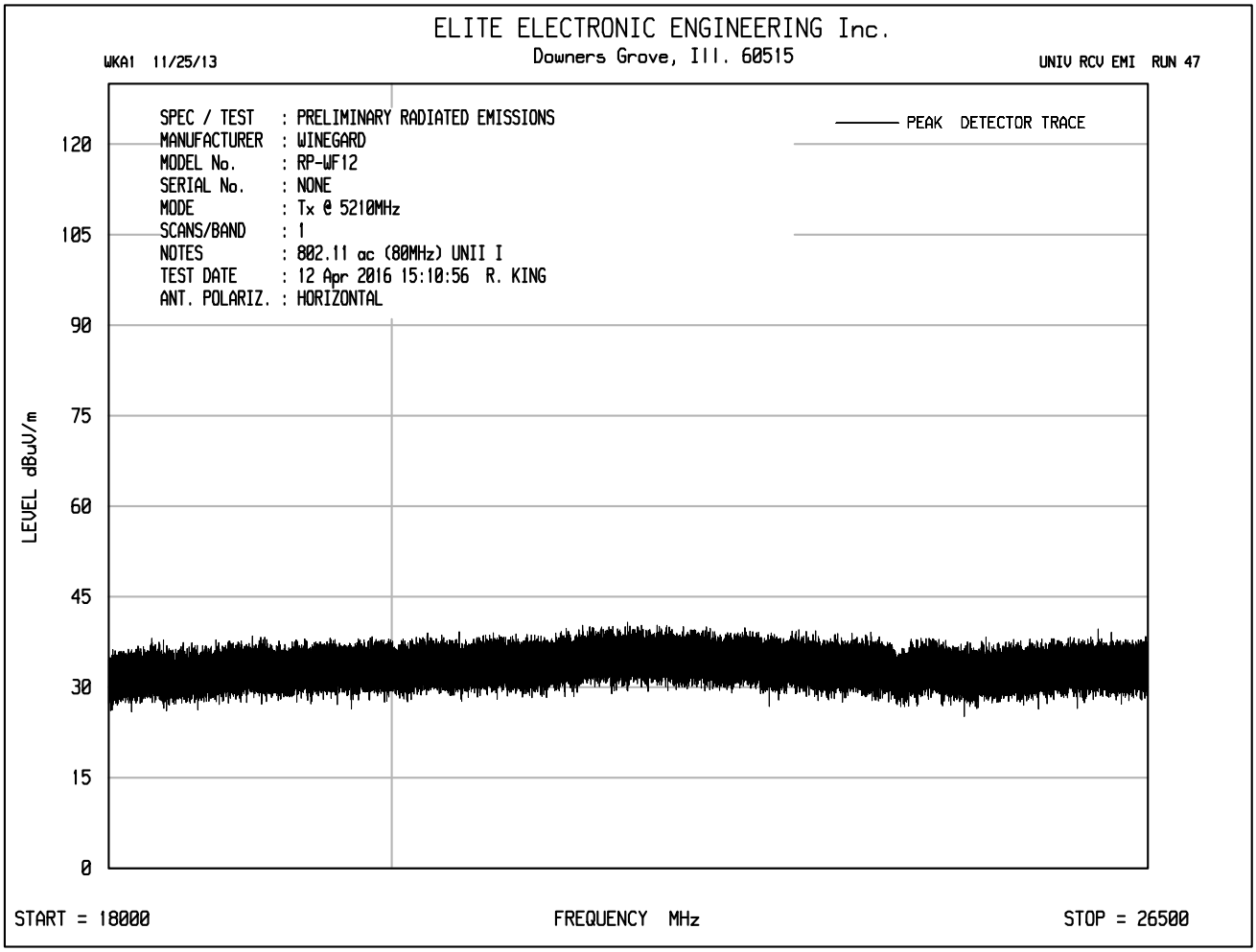

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 23
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ 5210MHz
SCANS/BAND : 1
NOTES : 802.11 ac (80MHz) UNII I
TEST DATE : 13 Apr 2016 16:13:58 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000

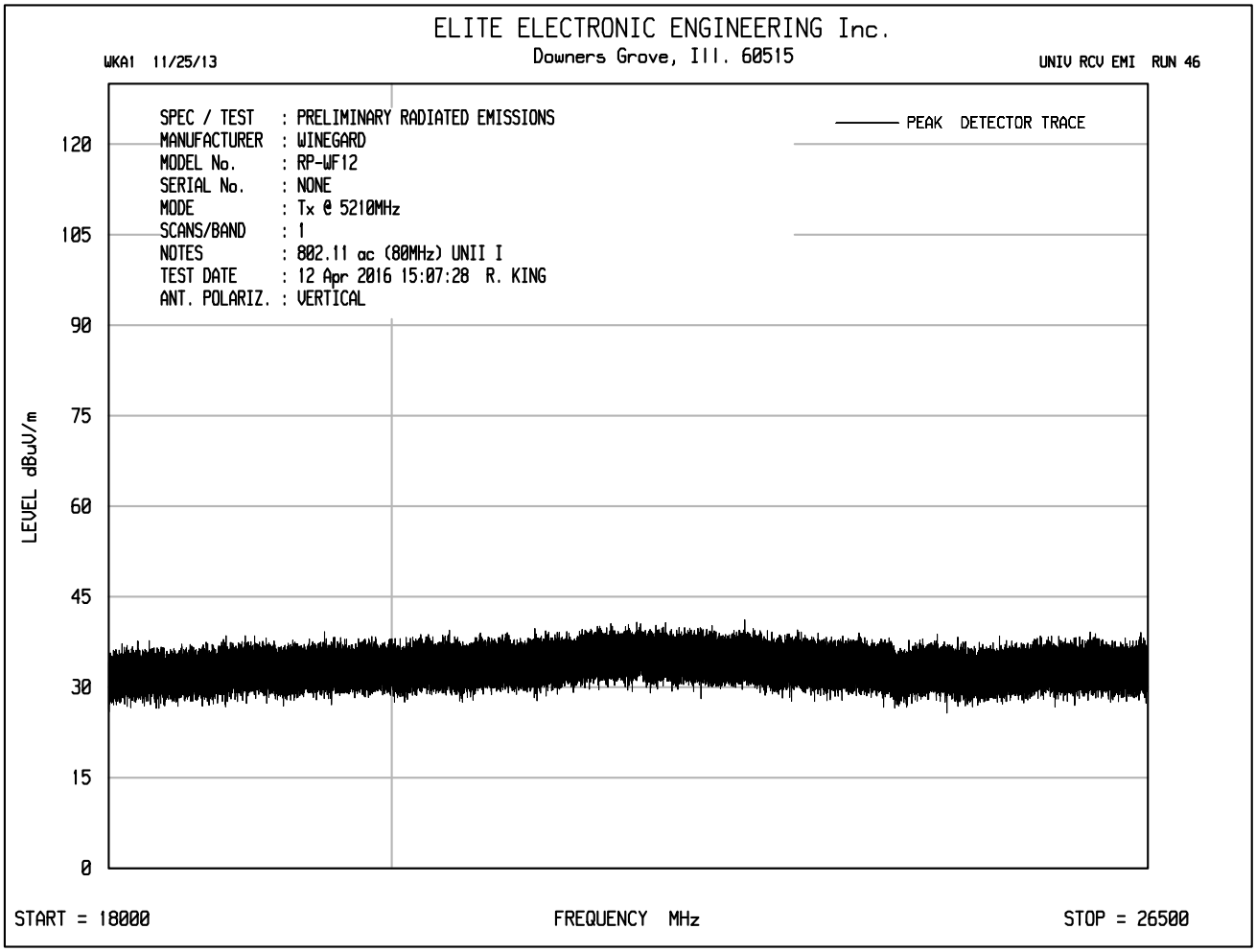

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 45
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ LOW CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (80MHz) UNII I
TEST DATE : 12 Apr 2016 09:19:12 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 6000

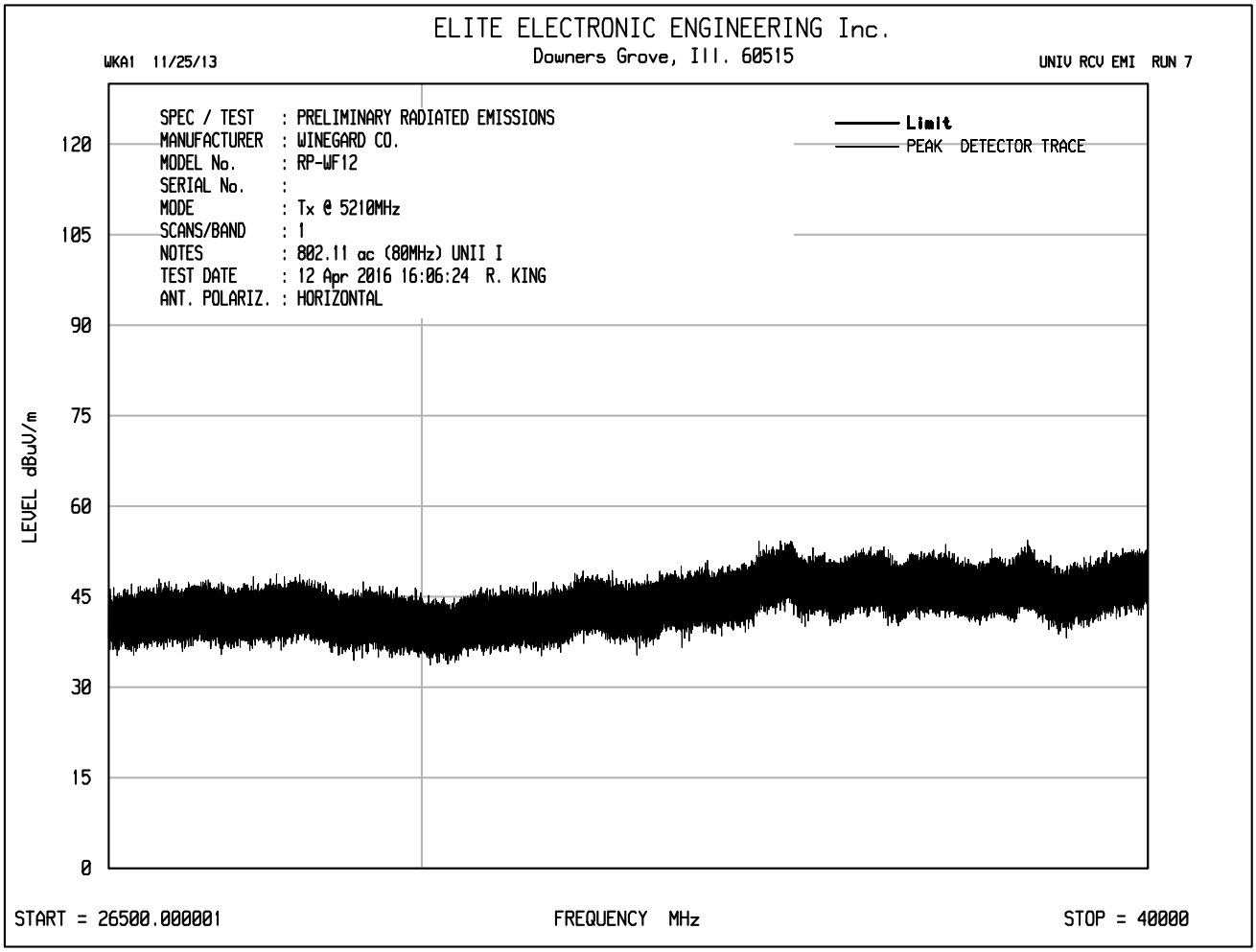

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 44
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ LOW CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (80MHz) UNII I
TEST DATE : 12 Apr 2016 09:16:24 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 6000

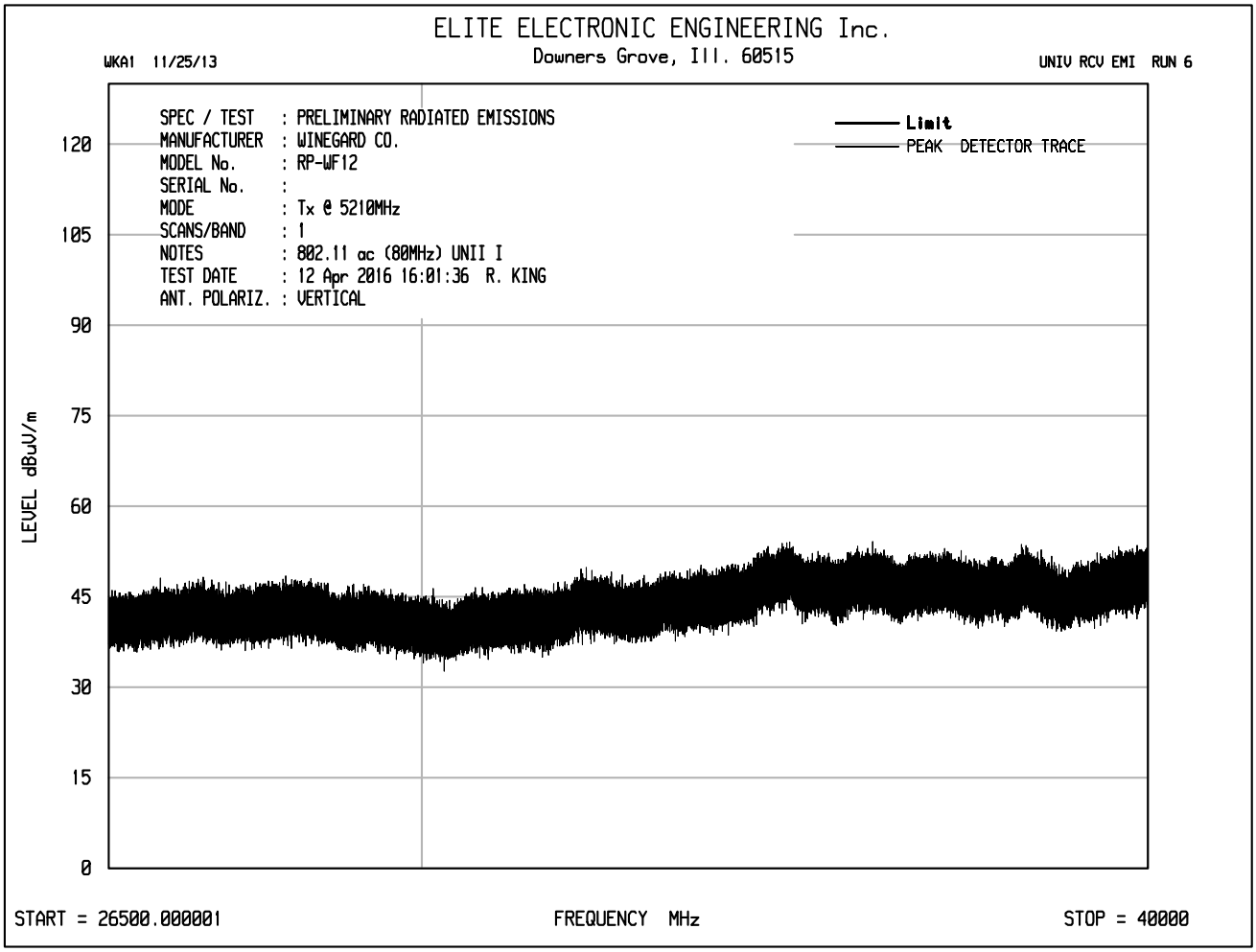

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 58
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ 5210MHz
SCANS/BAND : 1
NOTES : 802.11 ac (80MHz) UNII I
TEST DATE : 11 Apr 2016 16:04:21 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
10000
START = 1000
FREQUENCY MHz
STOP = 18000

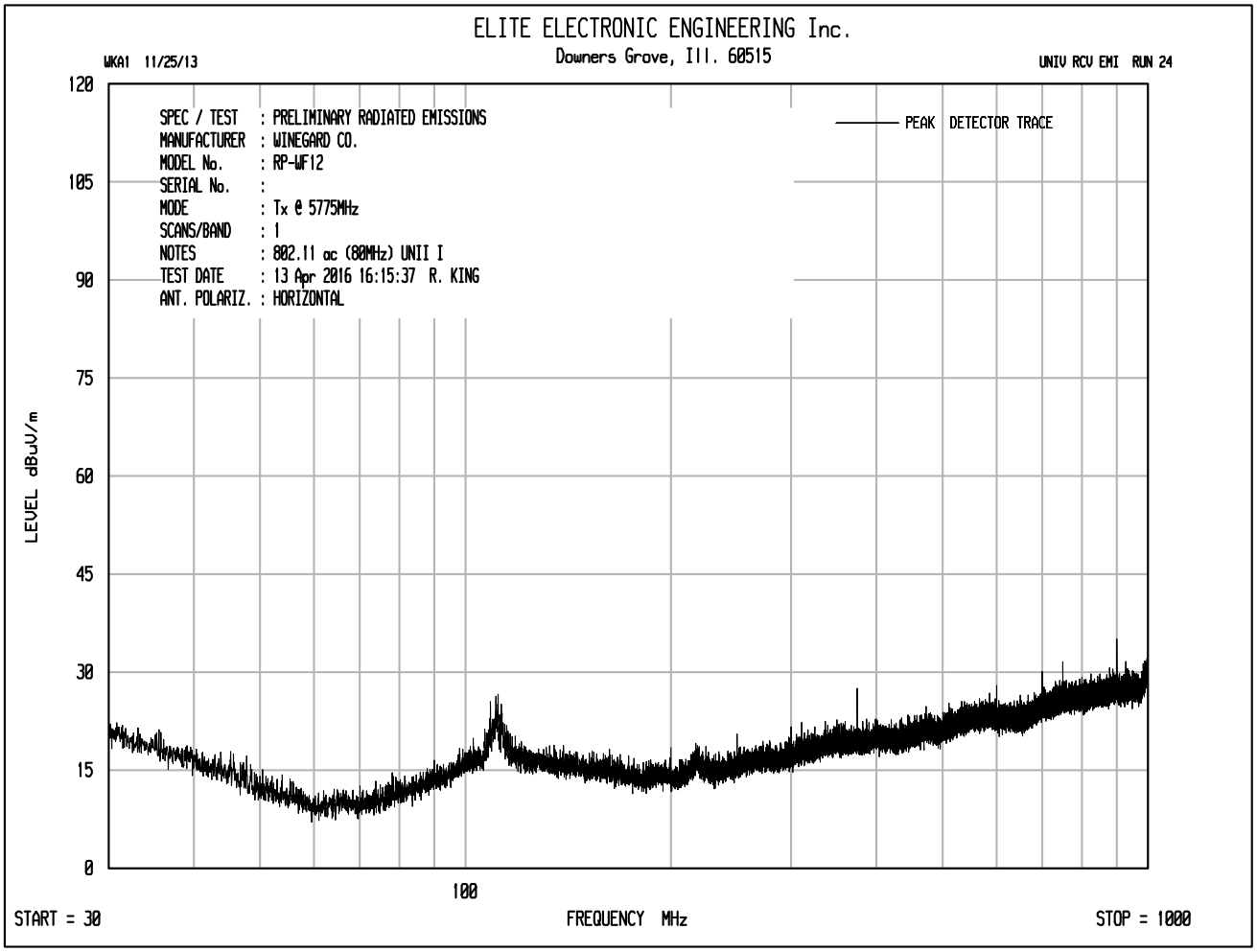

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 57
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ 5210MHz
SCANS/BAND : 1
NOTES : 802.11 ac (80MHz) UNII I
TEST DATE : 11 Apr 2016 15:58:56 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
10000
START = 1000
FREQUENCY MHz
STOP = 18000

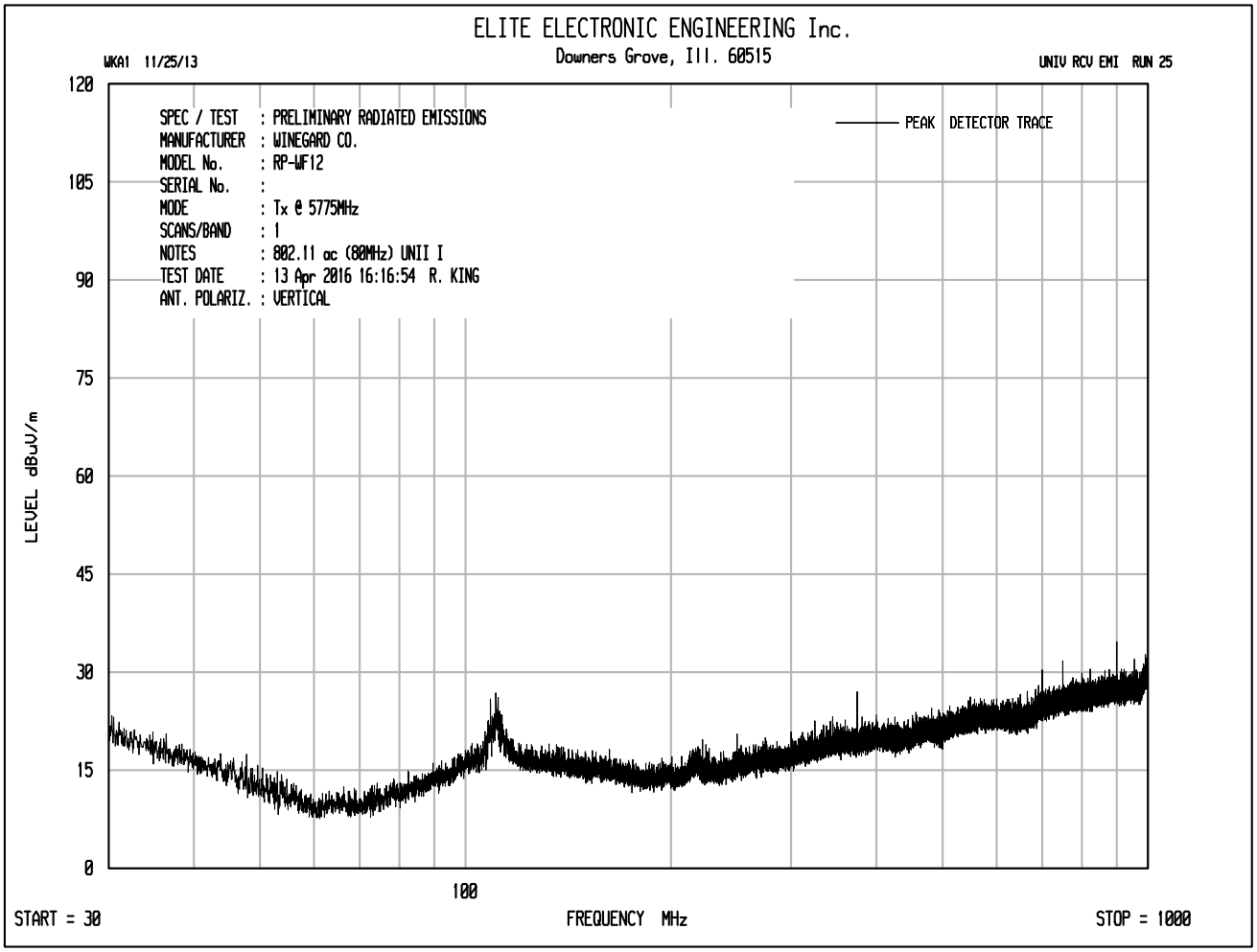

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 47
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. : NONE
MODE : Tx @ 5210MHz
SCANS/BAND : 1
NOTES : 802.11 ac (80MHz) UNII I
TEST DATE : 12 Apr 2016 15:10:56 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 18000
FREQUENCY MHz
STOP = 26500

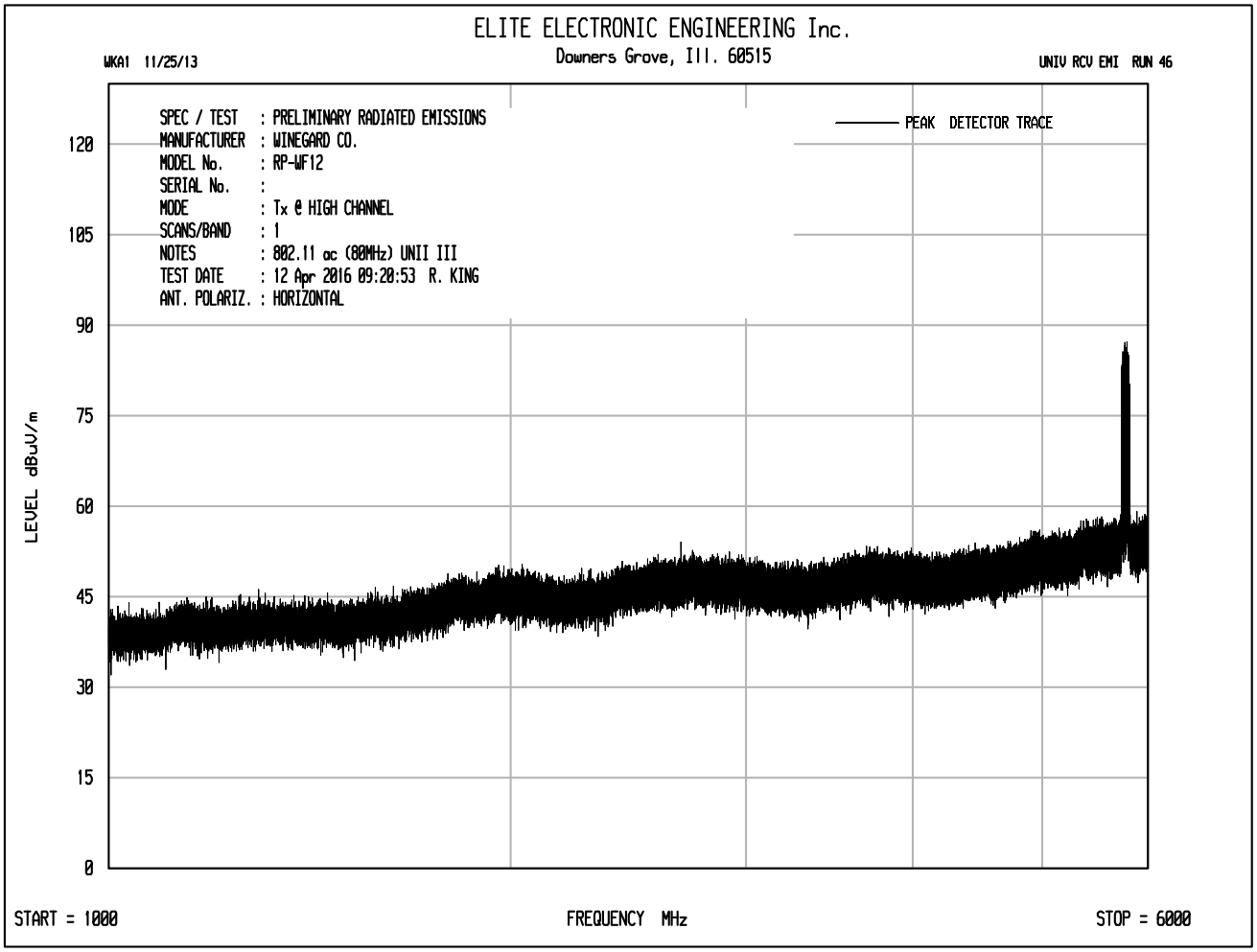

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 46
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. : NONE
MODE : Tx @ 5210MHz
SCANS/BAND : 1
NOTES : 802.11 ac (80MHz) UNII I
TEST DATE : 12 Apr 2016 15:07:28 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 18000
FREQUENCY MHz
STOP = 26500

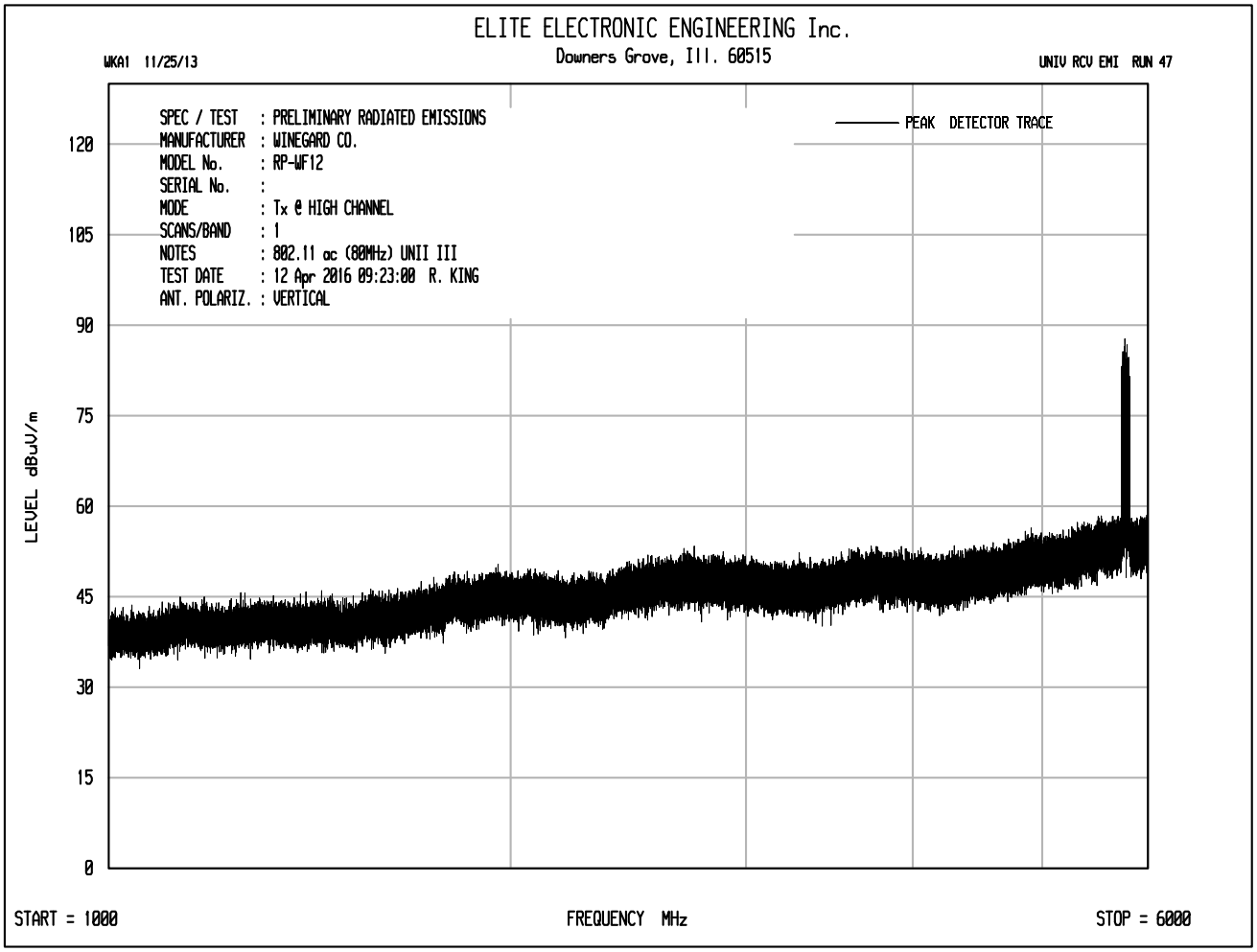

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 7
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ 5210MHz
SCANS/BAND : 1
NOTES : 802.11 ac (80MHz) UNII I
TEST DATE : 12 Apr 2016 16:06:24 R. KING
ANT. POLARIZ. : HORIZONTAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 26500.000001
FREQUENCY MHz
STOP = 40000

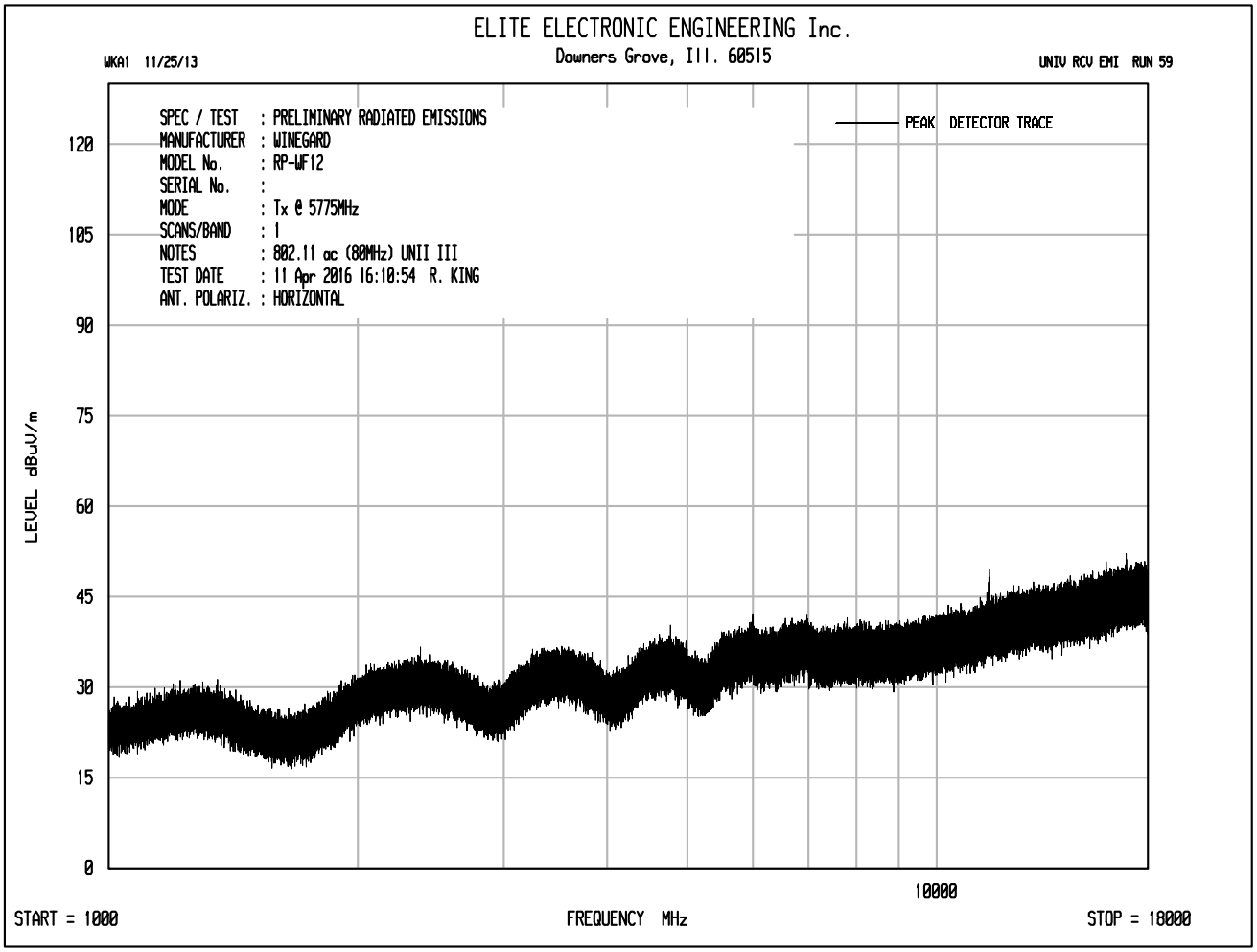

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 6
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ 5210MHz
SCANS/BAND : 1
NOTES : 802.11 ac (80MHz) UNII I
TEST DATE : 12 Apr 2016 16:01:36 R. KING
ANT. POLARIZ. : VERTICAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 26500.000001
FREQUENCY MHz
STOP = 40000

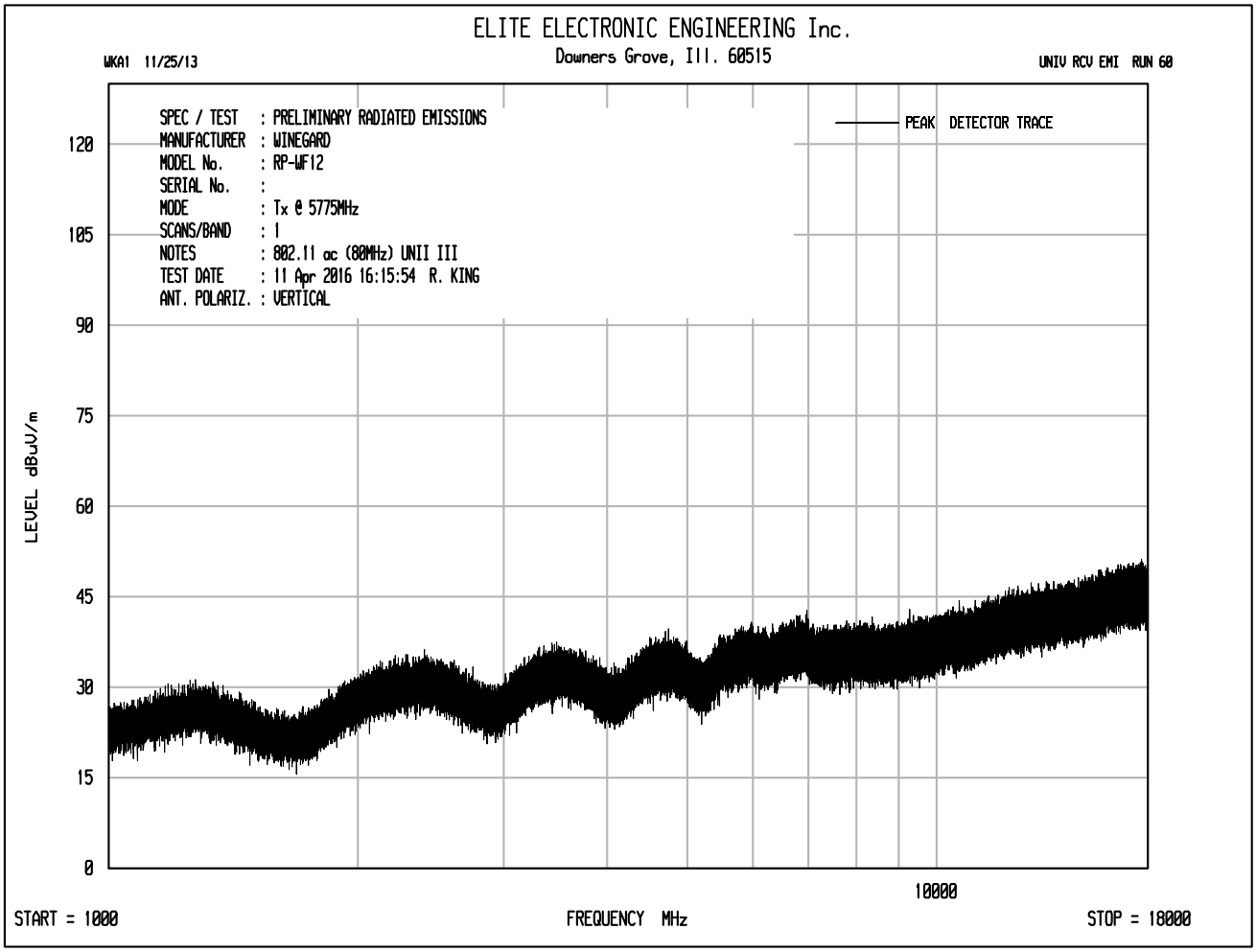

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 24
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ 5775MHz
SCANS/BAND : 1
NOTES : 802.11 ac (80MHz) UNII I
TEST DATE : 13 Apr 2016 16:15:37 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000

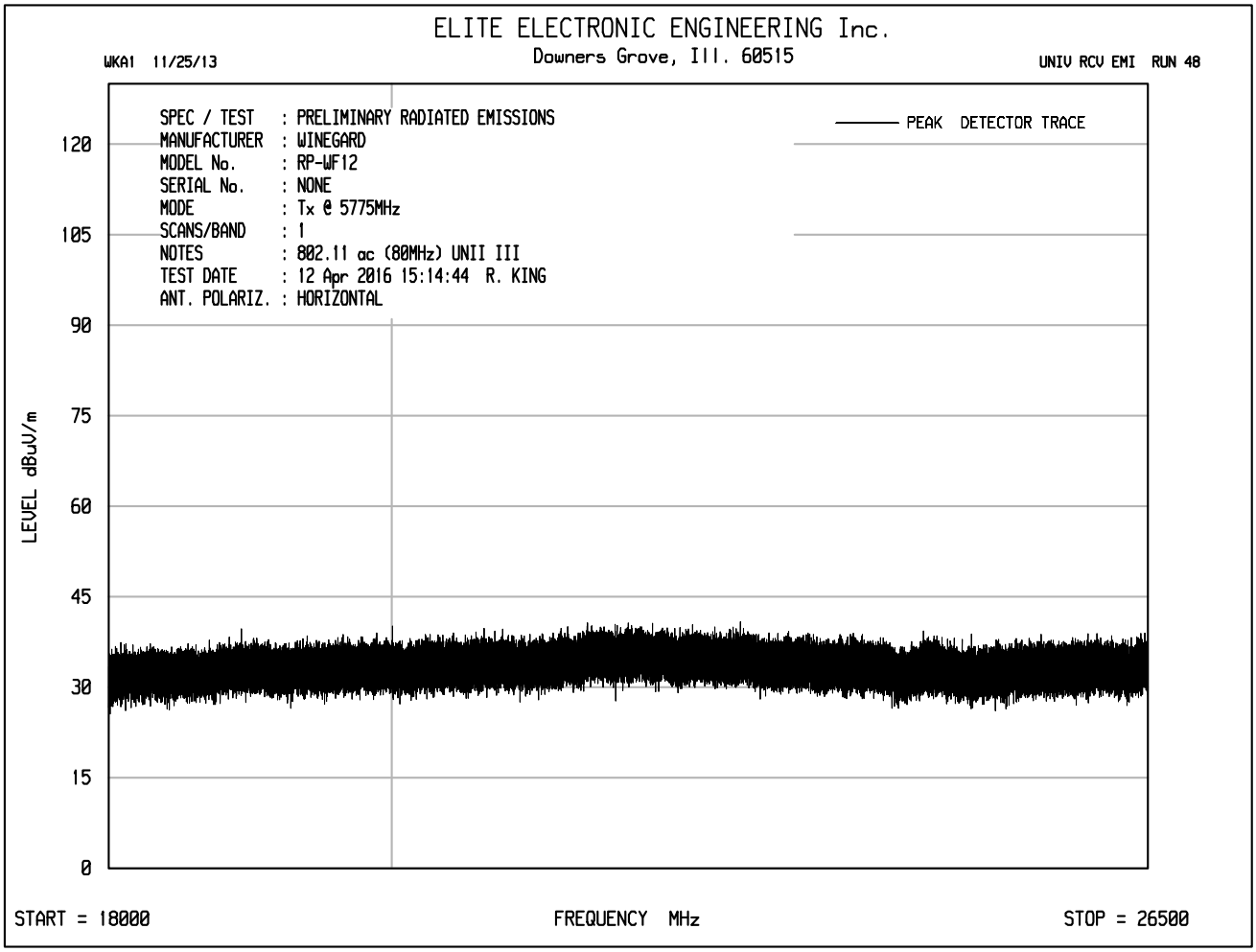

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 25
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ 5775MHz
SCANS/BAND : 1
NOTES : 802.11 ac (80MHz) UNII I
TEST DATE : 13 Apr 2016 16:16:54 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000

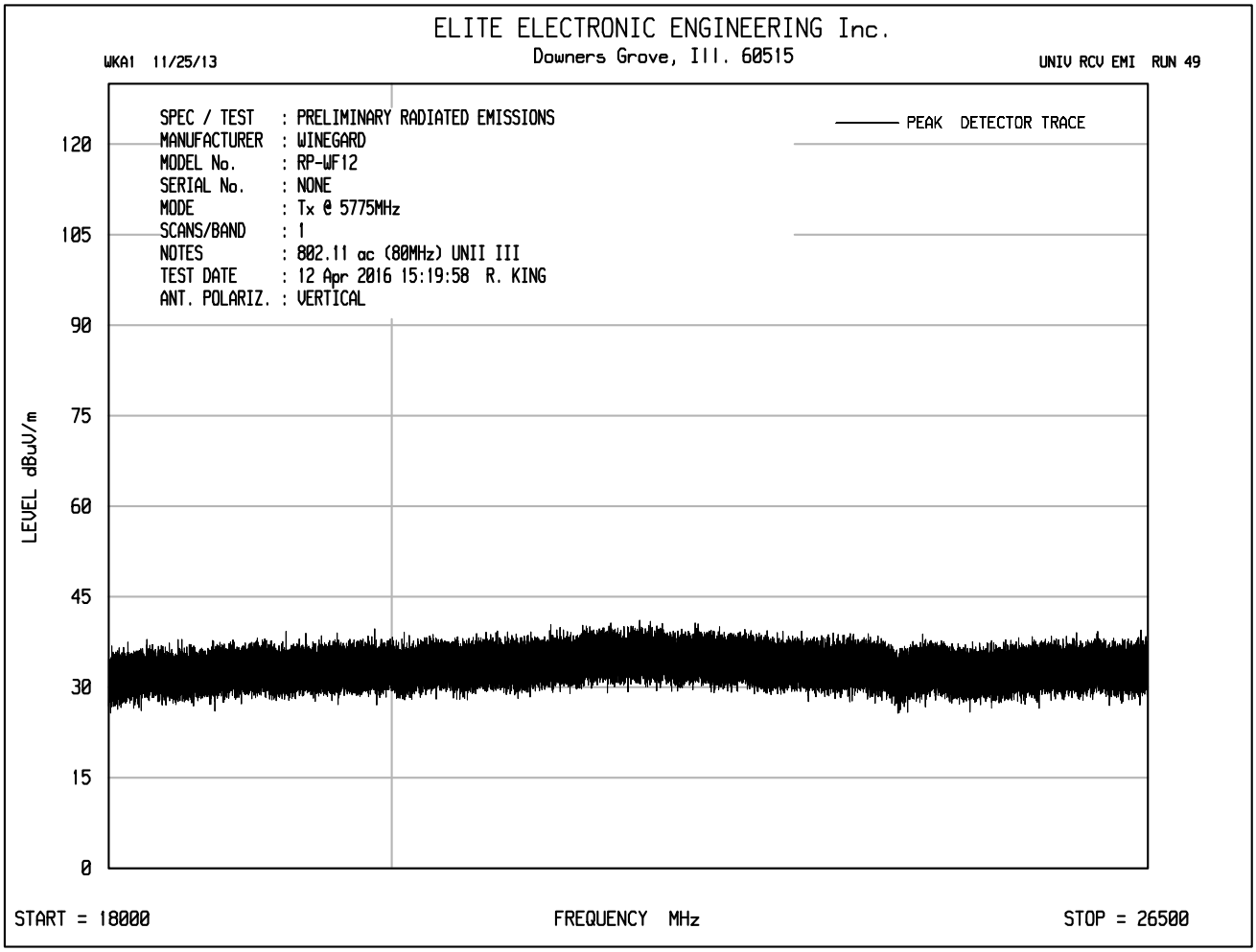

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 46
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ HIGH CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (80MHz) UNII III
TEST DATE : 12 Apr 2016 09:20:53 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 6000

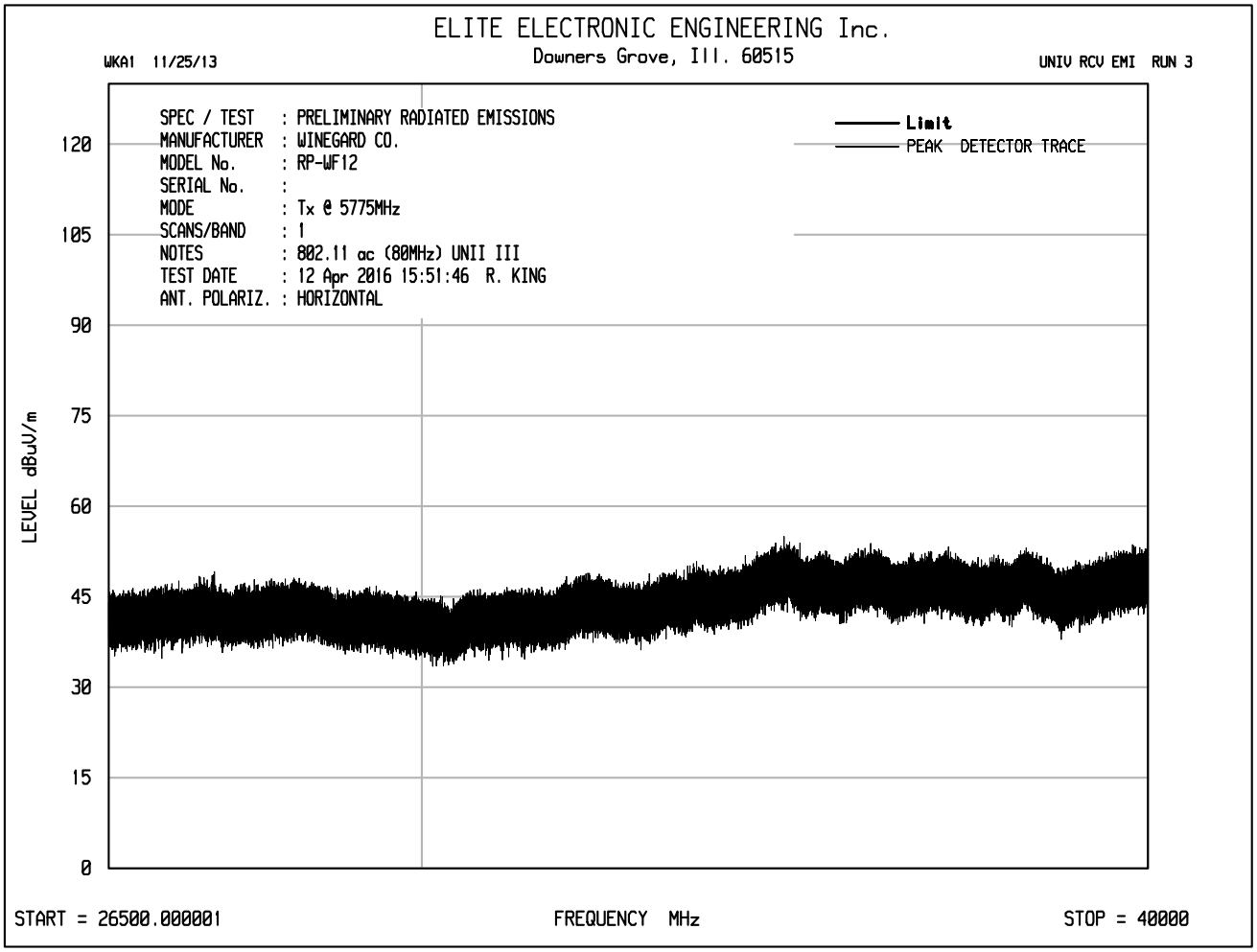

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 47
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ HIGH CHANNEL
SCANS/BAND : 1
NOTES : 802.11 ac (80MHz) UNII III
TEST DATE : 12 Apr 2016 09:23:00 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 6000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 59
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ 5775MHz
SCANS/BAND : 1
NOTES : 802.11 ac (80MHz) UNII III
TEST DATE : 11 Apr 2016 16:10:54 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
10000
START = 1000
FREQUENCY MHz
STOP = 18000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 60
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ 5775MHz
SCANS/BAND : 1
NOTES : 802.11 ac (80MHz) UNII III
TEST DATE : 11 Apr 2016 16:15:54 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
10000
START = 1000
FREQUENCY MHz
STOP = 18000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 48
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. : NONE
MODE : Tx @ 5775MHz
SCANS/BAND : 1
NOTES : 802.11 ac (80MHz) UNII III
TEST DATE : 12 Apr 2016 15:14:44 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 18000
FREQUENCY MHz
STOP = 26500


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 49
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD
MODEL No. : RP-WF12
SERIAL No. : NONE
MODE : Tx @ 5775MHz
SCANS/BAND : 1
NOTES : 802.11 ac (80MHz) UNII III
TEST DATE : 12 Apr 2016 15:19:58 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 18000
FREQUENCY MHz
STOP = 26500


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 3
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : WINEGARD CO.
MODEL No. : RP-WF12
SERIAL No. :
MODE : Tx @ 5775MHz
SCANS/BAND : 1
NOTES : 802.11 ac (80MHz) UNII III
TEST DATE : 12 Apr 2016 15:51:46 R. KING
ANT. POLARIZ. : HORIZONTAL
Limit
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 26500.000001
FREQUENCY MHz
STOP = 40000