Measurement of RF Interference from a Model VER4065(c) Remote Station TS Transmitter

For : Versus Technology, Inc.
2600 Miller Creek Road
Traverse City, MI 49684

P.O. No. : RLW-01391
Date Tested : April 23, 2010 through May 21, 2010
Test Personnel : Richard King
Specification : FCC "Code of Federal Regulations" Title 47 Part 15, Subpart C
: Industry Canada RSS-210
: Industry Canada RSS-GEN

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REVISION HISTORY

Revision	Date	Description
—	June 7, 2010	Initial release

Measurement of RF Emissions from a Remote Station TS VER4065(c) Transmitter

1 INTRODUCTION

1.1 Scope of Tests

This document represents the results of the series of radio interference measurements performed on a model Remote Station TS, Part No. VER4065(c) (hereinafter referred to as the test item). No serial number was assigned to the test item. The test item was designed to transmit at approximately 433.92 MHz using an internal antenna. The test item was manufactured and submitted for testing by Versus Technology, Inc. located in Traverse City, MI.

1.2 Purpose

The test series was performed to determine if the test item meets the conducted and radiated RF emission requirements of the FCC "Code of Federal Regulations" Title 47, Part 15, Subpart C, Sections 15.207 and 15.231 for Intentional Radiators and Industry Canada RSS-GEN Table 2 and RSS-210 Table 5. Testing was performed in accordance with ANSI C63.4-2003.

1.3 Deviations, Additions and Exclusions

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

1.4 EMC Laboratory Identification

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

1.5 Laboratory Conditions

The temperature at the time of the test was 22.5°C and the relative humidity was 41%.

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 2009
- ANSI C63.4-2003, "American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz"
- Industry Canada RSS-210, Issue 7, June 2007, “Spectrum Management and Telecommunications Radio Standards Specification, Low-power License-exempt radio communication devices (All Frequency Bands): Category I Equipment”
- Industry Canada RSS-GEN, Issue 2, June 2007, “Spectrum Management and Telecommunications Radio Standards Specification, General Requirements and Information for the Certification of radio communication equipment”

3 TEST ITEM SETUP AND OPERATION

3.1 General Description

The test item is a Remote Station TS, Part No. VER4065(c). A block diagram of the test item setup is shown as Figure 1.

Three test samples were provided to Elite for testing:

1. Set to transmit CW signal continously; used for the radiated emission measurements.
2. Set to transmit pulsed modulated signal once every 120 seconds; used for the duty cycle and the occupied bandwidth measurements.
3. Set to transmit pulsed modulated signal once every 12 seconds; used for the silent period between transmission measurements.

3.1.1 Power Input

The test item was powered with 6VDC from four 1.5VDC batteries.

3.1.2 Peripheral Equipment

The test item does not require peripheral equipment.

3.1.3 Interconnect Cables

The test item does not have interconnect cables.

3.1.4 Grounding

Since the test item was powered with 6 VDC through four 1.5VDC batteries, it was ungrounded during the tests.

3.2 Operational Mode

The test item can operated in periodic and manual modes. The power level is the same for both modes.

For the periodic mode, the test item will transmit a single packet of information approximately once every 120 seconds but for special applications can transmit more frequently but will never transmit faster than one packet every 12 seconds.

For the manual mode, the test item can be manually operated with a push button.

3.3 Test Item Modifications

No modifications were required for compliance to the FCC 15C 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 C63.4-2003 for site attenuation.

4.2 Test Instrumentation

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

4.3 Calibration Traceability

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

4.4 Measurement Uncertainty

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

The measurement uncertainty for these tests is presented below:

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

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

5 TEST PROCEDURES

5.1 Powerline Conducted Emissions

5.1.1 Requirements

Since the test item was powered by internal batteries, no conducted emissions tests are required.

5.2 Periodic Operation Measurements

5.2.1 Requirements

The following condition shall be met to comply with the provisions for periodic operation:

(1) A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released.

(2) A transmitter activated automatically shall cease transmission within 5 seconds after activation.

(3) Periodic transmissions at regular predetermined intervals are not permitted. However, polling or supervision transmissions, including data, to determine system integrity of transmitters used in security or safety applications are allowed if the total duration of transmissions does not exceed more than two seconds per hour for each transmitter. There is no limit on the number of individual transmissions, provided the total transmission time does not exceed two seconds per hour.

(4) Intentional radiators which are employed for radio control purposes during emergencies involving fire, security, and safety of life, when activated to signal an alarm, may operate during the pendency of the alarm condition

(5) Transmission of set-up information for security systems may exceed the transmission duration limits in paragraphs (1) and (2) of this section, provided such transmissions are under the control of a professional installer and do not exceed ten seconds after a manually operated switch is released or a transmitter is activated automatically. Such set-up information may include data.

In addition, Intentional radiators may operate at a periodic rate exceeding that specified above if the devices are provided with a means for automatically limiting operation so that the duration of each transmission shall not be greater than one second and the silent period between transmissions shall be at least 30 times the duration of the transmission but in no case less than 10 seconds. Different radiated emission limits apply in this case.

5.2.2 Procedures

The spectrum analyzer was setup to display the time domain trace. The test item was set to transmit normally. The spectrum analyzer was used to record the amount of time that the test item remained active following activation.

5.2.3 Results

The test item has both a manual and a periodic transmission mode. With the transmitter operated in the manual mode, the test item ceases operation within 5 seconds after the switch is released. A plot of the

transmitter timing after the switch is released is shown on data page 14.

With the transmitter operated in the periodic operation mode, the test item has means for automatically limiting operation so that the duration of each transmission is no greater than one second and the silent period between transmissions is at least 30 times the duration of the transmission but in no case less than 10 seconds. The longest transmission possible is 63 mS which is less then the 1 second transmission limit. Since 63mS times 30 is 1.9 second, the silent period between transmissions must be at least 10 seconds. The plot on Page 15 shows that the silent period is at least ten seconds between transmissions for the transmitter operated at its fastest transmission rate.

5.3 Duty Cycle Factor Measurements

5.3.1 Procedures

The duty cycle factor is used to convert peak detected readings to average readings. This factor is computed from the time domain trace of the pulse modulation signal.

The duty cycle factor was calculated from information supplied by the manufacturer. Since this test item utilizes a rolling code modulation, the duty is calculated based on the worst case. The following procedure was used to measure a representative sample:

a) With the transmitter set up to transmit for maximum pulse density, the time domain trace is displayed on the spectrum analyzer.

b) Next the number of pulses in the word period is measured and a plot of this measurement is recorded.

c) The pulse width is measured and a plot of this measurement was recorded.

d) The worst case or shortest OFF between pulses is measured and a plot of this measurement is recorded.

e) The preamble OFF time is measured and a plot of this measurement is recorded.

f) Finally the length of the word period is measured and a third plot is recorded. If the word period exceeds 100 msec, the word period is limited to 100 msec.

g) The pulse width and number of pulses for the word period are used to compute the on-time. The duty cycle is then computed as the (on-time/ word period).

h) The duty cycle factor is computed from the duty cycle.

5.3.2 Results

Representative plots of the duty cycle are shown on pages 16 through 19. Since the transmitter uses a rolling code, the duty cycle correction factor used was calculated based on the maximum case. The following maximum case information was supplied by Versus Technology:

An encoded transmission consists of defined train of Forty-Six 225uSec pulses.
The encoding of the logical 1's and 0's is determined by the space (off time) between the pulses.
The off time of approximately 1.04mSec determines the logical "0"(zero).
The off time of approximately 1.61mSec determines the logical "1"(one).
The pulse train consists of

1. Four Preamble pulses separated by approximately 1.04mSec off time
2. An 'off' time of approximately 6.2mSec.
3. Forty-Two pulses separated by 'off' time of either 1.04mSec or 1.61mS.

If all forty-two encoding pulses are separated by 1.04mS, then the maximum value of the emission is calculated as follows:

Pulse on time:

1. Total on time 46 x 0.225mS 10.35 mS

Pulse word period:

1. Preamble on time 4 x .225mS 0.90 mS
2. Preamble off time 3 x 1.04mS 3.12 mS
3. Preamble space time 6.20mS 6.20 mS
4. Encoded pulses 42 x 0.225mS 9.45 mS
5. Encoded off time 41 x 1.04mS 42.64 mS

TOTAL pulse word period 62.31 mS

Duty cycle factor (maximum time on) is:

1. Numeric factor: (10.35mS / 62.31mS) = 0.16
2. dB factor: 20 * LOG(0.16) = -15.6dB

With the test item transmitting at 433.9MHz, the maximum case duty cycle correction factor was calculated to be -15.6dB.

5.4 Radiated Measurements

5.4.1 Requirements

The test item must comply with the requirements of FCC "Code of Federal Regulations Title 47", Part 15, Subpart C, Section 15.205 et seq.

Paragraph 15.231(e) has the following radiated emission limits:

Fundamental Frequency MHz	Field Intensity uV/m @ 3 meters	Field Strength Harmonics and Spurious @ 3 meters
260 to 470	1,500 to 5000*	150 to 500*

* - Linear Interpolation

For 433.92 MHz, the limit at the fundamental is 4399.2uV/m @ 3m. The limit for the harmonics is 439.9uV/m @ 3m or the general limit shown in 15.209 whichever limit permits a higher field strength.

In addition, emissions appearing in the Restricted Bands of Operation listed in paragraph 15.205(a) shall not exceed the general requirements shown in paragraph 15.209.

5.4.2 Procedures

Radiated measurements were performed in a 32ft. x 20ft. x 14ft. high shielded enclosure. The shielded enclosure prevents emissions from other sources, such as radio and TV stations from interfering with the measurements. All powerlines and signal lines entering the enclosure pass through filters on the enclosure wall. The powerline filters prevent extraneous signals from entering the enclosure on these leads.

A preliminary radiated emissions test was performed to determine the emission characteristics of the test item. For the preliminary test, a broadband measuring antenna was positioned at a 3 meter distance from the test item. The entire frequency range from 30MHz to 5.0GHz was investigated using a peak detector function. The data was then processed by the computer to calculate equivalent field intensity.

The final open field emission tests were then manually performed over the frequency range of 30MHz to 5000MHz. Between 30MHz and 1000MHz, a tuned dipole antenna was used as the pick-up device. A broadband double ridged waveguide antenna was used as the pick-up device for all frequencies above 1GHz. All significant broadband and narrowband signals were measured and recorded. The peak detected levels were converted to average levels using a duty cycle factor which was computed from the pulse train.

To ensure that maximum or worst case, emission levels were measured, the following steps were taken:

1) The test item was rotated so that all of its sides were exposed to the receiving antenna.
2) Since the measuring antenna is linearly polarized, both horizontal and vertical field components were measured.
3) The measuring antenna was raised and lowered from 1 to 4 meters for each antenna polarization to maximize the readings.
4) For hand-held or body-worn devices, the test item was rotated through three orthogonal axes to determine which orientation produces the highest emission relative to the limit.

5.4.3 Results

The preliminary plots, with the test item transmitting at 433.92 MHz, are presented on data pages 20 and 23. The plots are presented for a reference only, and are not used to determine compliance.

The final open area radiated levels, with the test item transmitting at 433.92 MHz, are presented on data page 24. As can be seen from the data, all emissions measured from the test item were within the specification limits. The effective radiated power was calculated to be -31.6dBm. Photographs of the test setup for radiated emission levels are shown on Figure 2.

5.5 Occupied Bandwidth Measurements

5.5.1 Requirement

In accordance with paragraph 15.231(c), all emissions within 20dB of the peak amplitude level of the center frequency are required to be within a band less than 0.25% of the center frequency wide.

5.5.2 Procedures

The test item was placed on an 80cm high non-conductive stand. The unit was set to transmit continuously. With an antenna positioned nearby, occupied bandwidth emissions were displayed on the spectrum analyzer. The resolution bandwidth was set to 50 kHz and span was set to 2 MHz. The frequency spectrum near the fundamental was plotted. The 99% bandwidth was measured to be 645kHz.

5.5.3 Results

The plot of the emissions near the fundamental frequency is presented on data page 25. As can be seen from this data page, the transmitter met the occupied bandwidth requirements.

6 OTHER TEST CONDITIONS

6.1 Test Personnel and Witnesses

All tests were performed by qualified personnel from Elite Electronic Engineering Incorporated. The test series was witnessed by Versus Technology, Inc. personnel.

6.2 Disposition of the Test Item

The test item and all associated equipment were returned to Versus Technology, Inc. upon completion of the tests.

7 CONCLUSIONS

It was determined that the Versus Technology, Inc. Remote Station TS, Part No. VER4065(c), Serial No. none, did fully meet the radiated emission requirements of the FCC "Code of Federal Regulations" Title 47, Part 15, Subpart C, Section 15.205 et seq. for Intentional Radiators and Industry Canada RSS-GEN and RSS-210, when tested per ANSI C63.4-2003.

8 CERTIFICATION

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

The data presented in this test report pertains to the test item at the test date as operated by Versus Technology, Inc. personnel. Any electrical or mechanical modification made to the test item subsequent to the specified test date will serve to invalidate the data and void this certification.

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

9 EQUIPMENT LIST

Table 9-1 Equipment List

Eq ID	Equipment Description	Manufacturer	Model No.	Serial No.	Frequency Range	Cal Date	Due Date
CDS2	COMPUTER	GATEWAY	MFATXPNT NMZ 500L	0028483108	1.8GHZ	N/A	
HRE1	LASER JET 5P	HEWLETT PACKARD	C3150A	USHB061052	---	N/A	
NDQ1	TUNED DIPOLE ANTENNA	EMCO	3121C-DB4	313	400-1000MHZ	4/12/2010	4/12/2011
NTA1	BILOG ANTENNA	CHASE EMC LTD.	BILOG CBL6112	2054	0.03-2GHZ	9/10/2009	9/10/2010
NWH0	RIDGED WAVE GUIDE	TENSOR	4105	2081	1-12.4GHZ	8/11/2009	8/11/2010
PHA0	MAGNETIC FIELD PROBE	ELECTRO-METRICS	EM-6882	134	22-230MHZ	NOTE 1	
RAKG	RF SECTION	HEWLETT PACKARD	85462A	3549A00284	0.009-6500MHZ	2/16/2010	2/16/2011
RAKH	RF FILTER SECTION	HEWLETT PACKARD	85460A	3448A00324	---	2/16/2010	2/16/2011
RBB0	EMI TEST RECEIVER 20HZ TO 40 GHZ.	ROHDE & SCHWARZ	ESIB40	100250	20 HZ TO 40GHZ	3/16/2010	3/16/2011

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

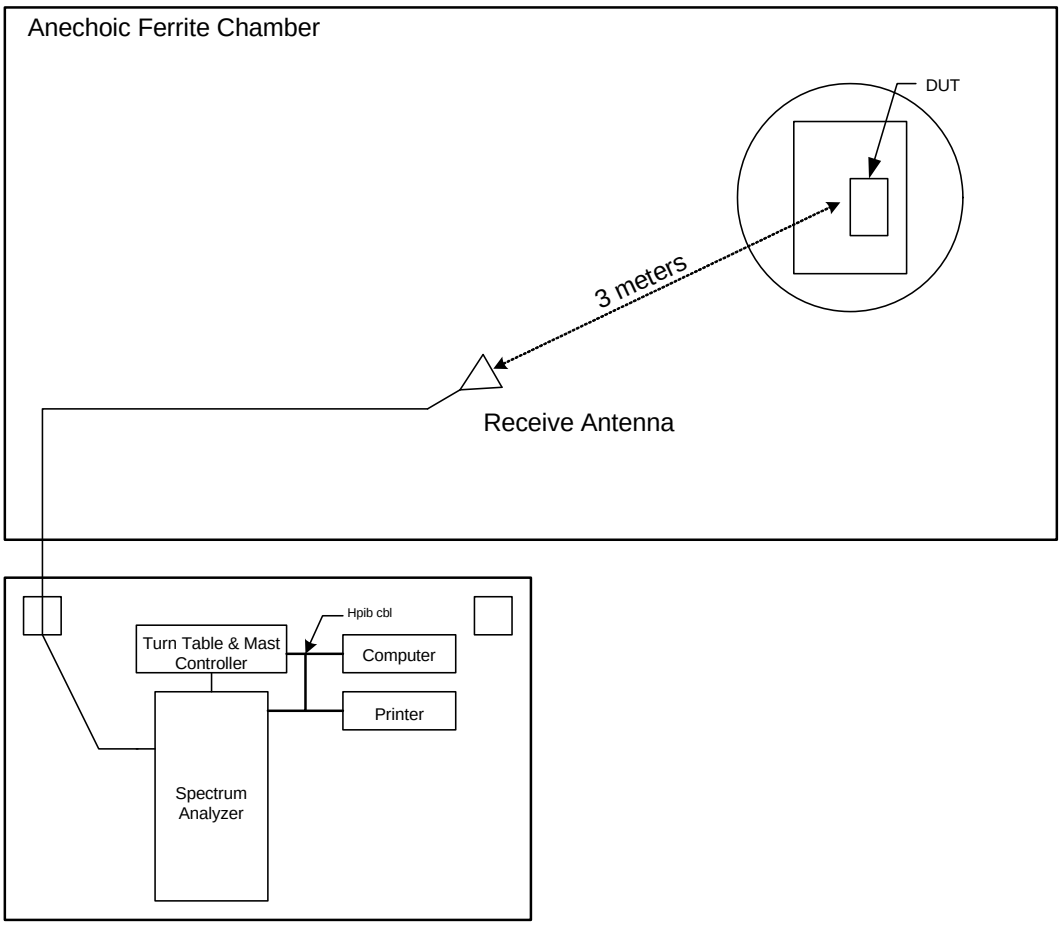
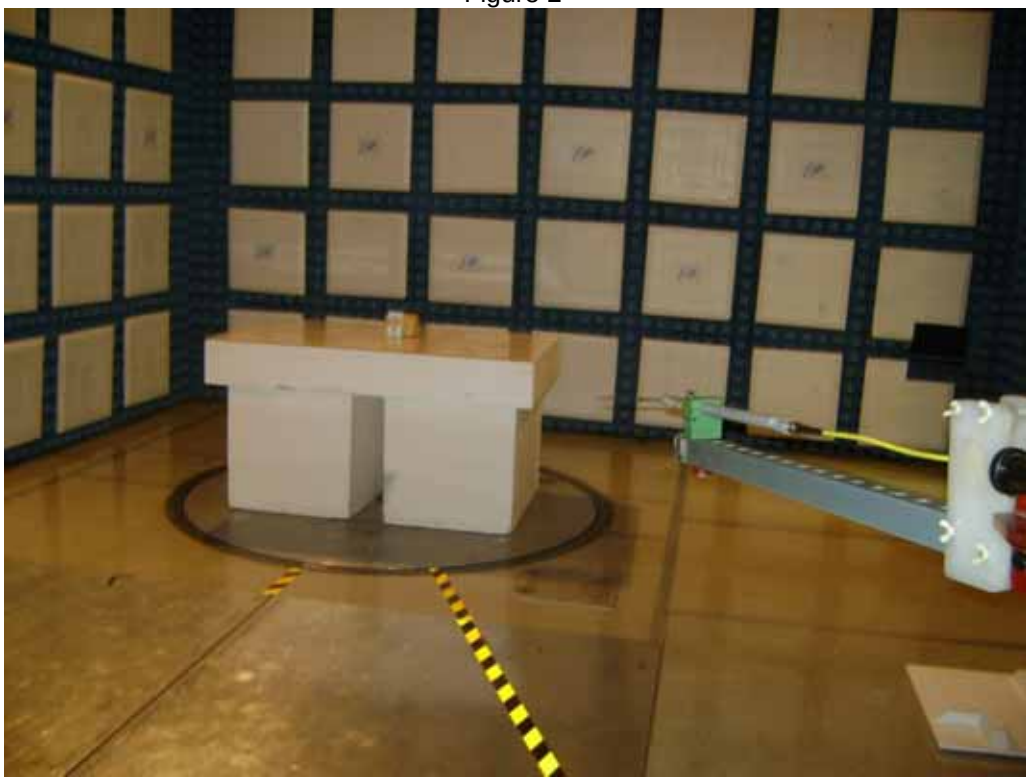


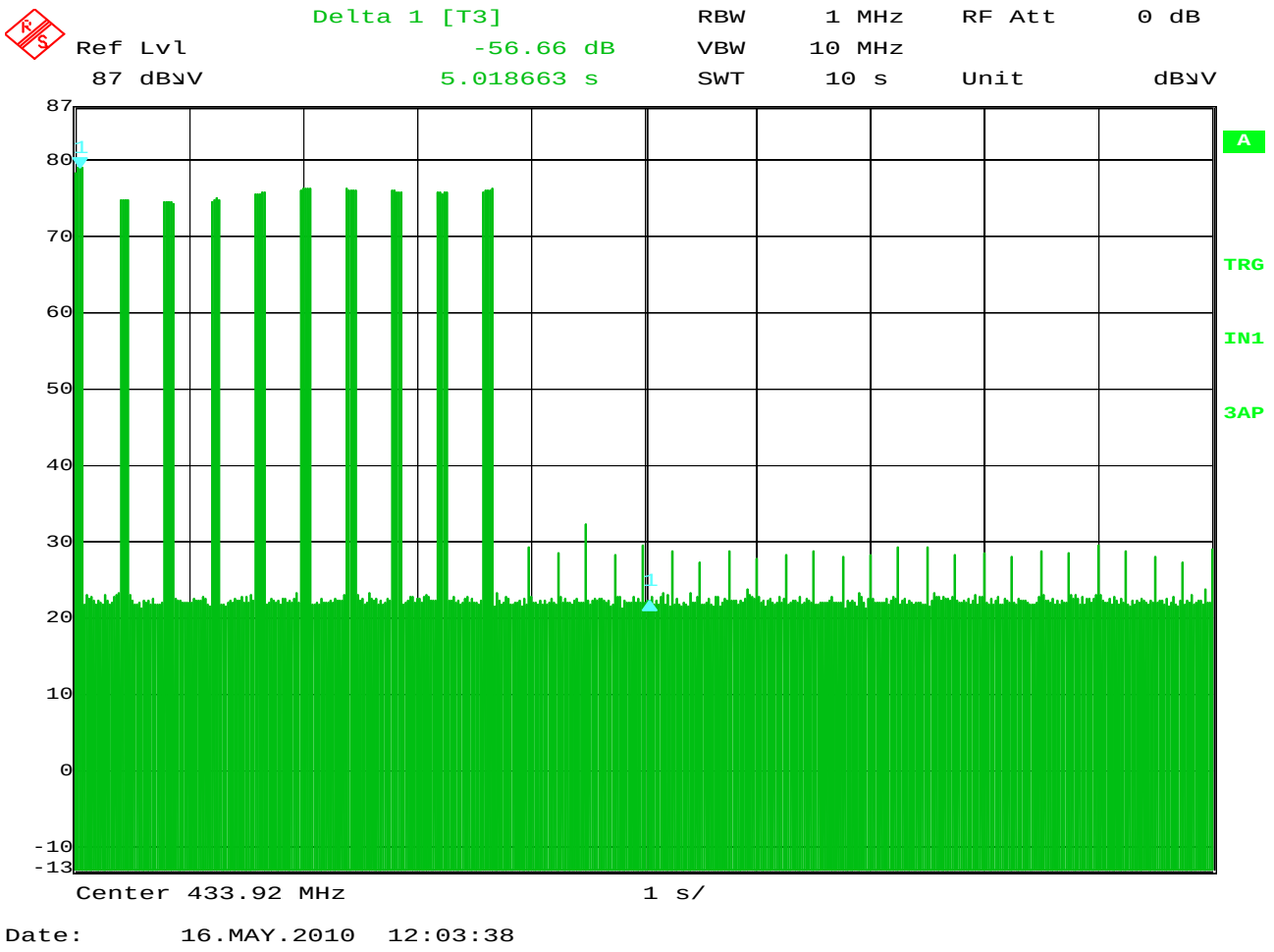
FIGURE 1 BLOCKDIAGRAM OF TEST SETUP

Figure 2



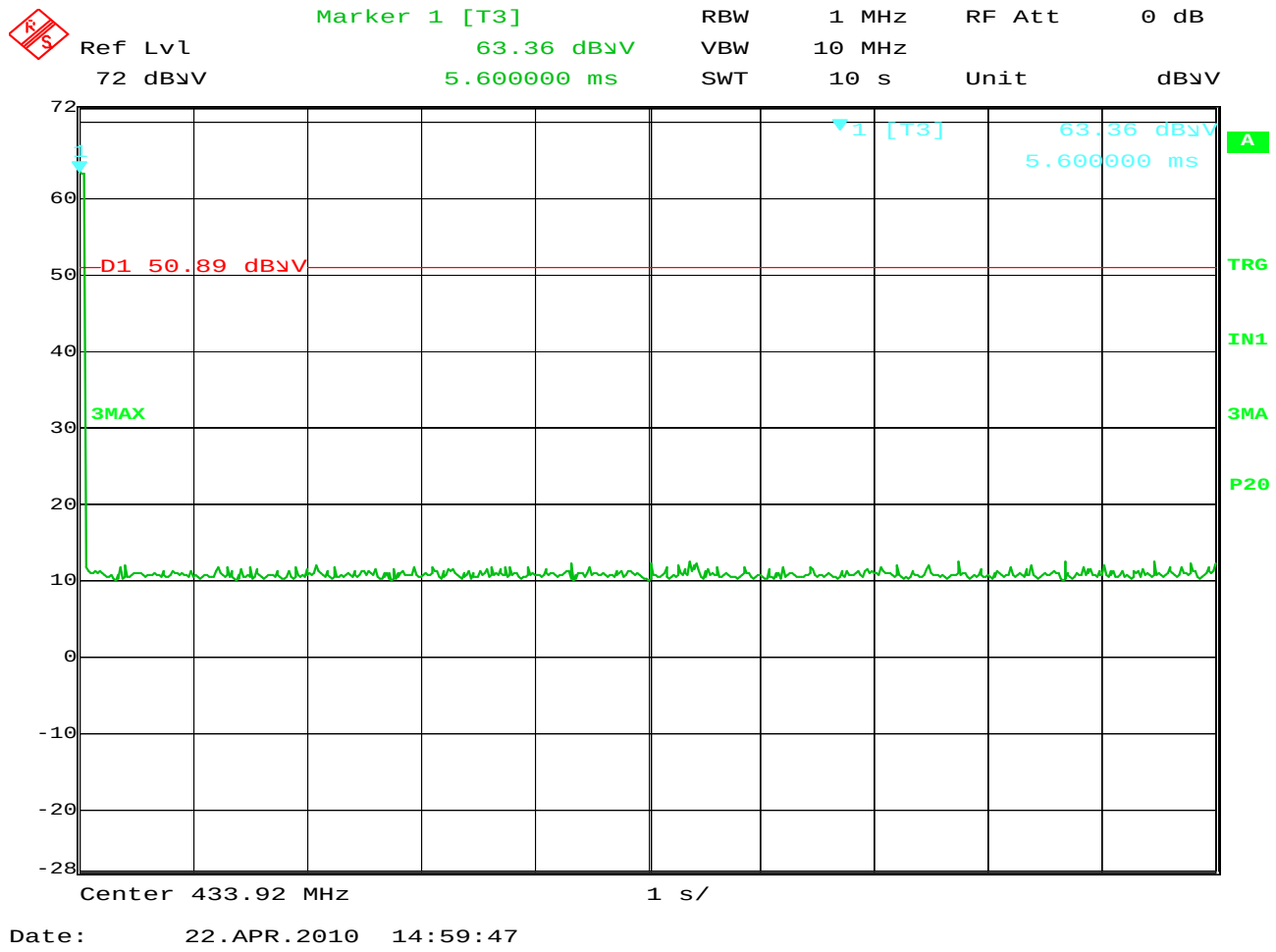
Test Setup for Radiated Emissions – Horizontal Polarity

Test Setup for Radiated Emissions – Vertical Polarity



FCC/IC Periodic Operation

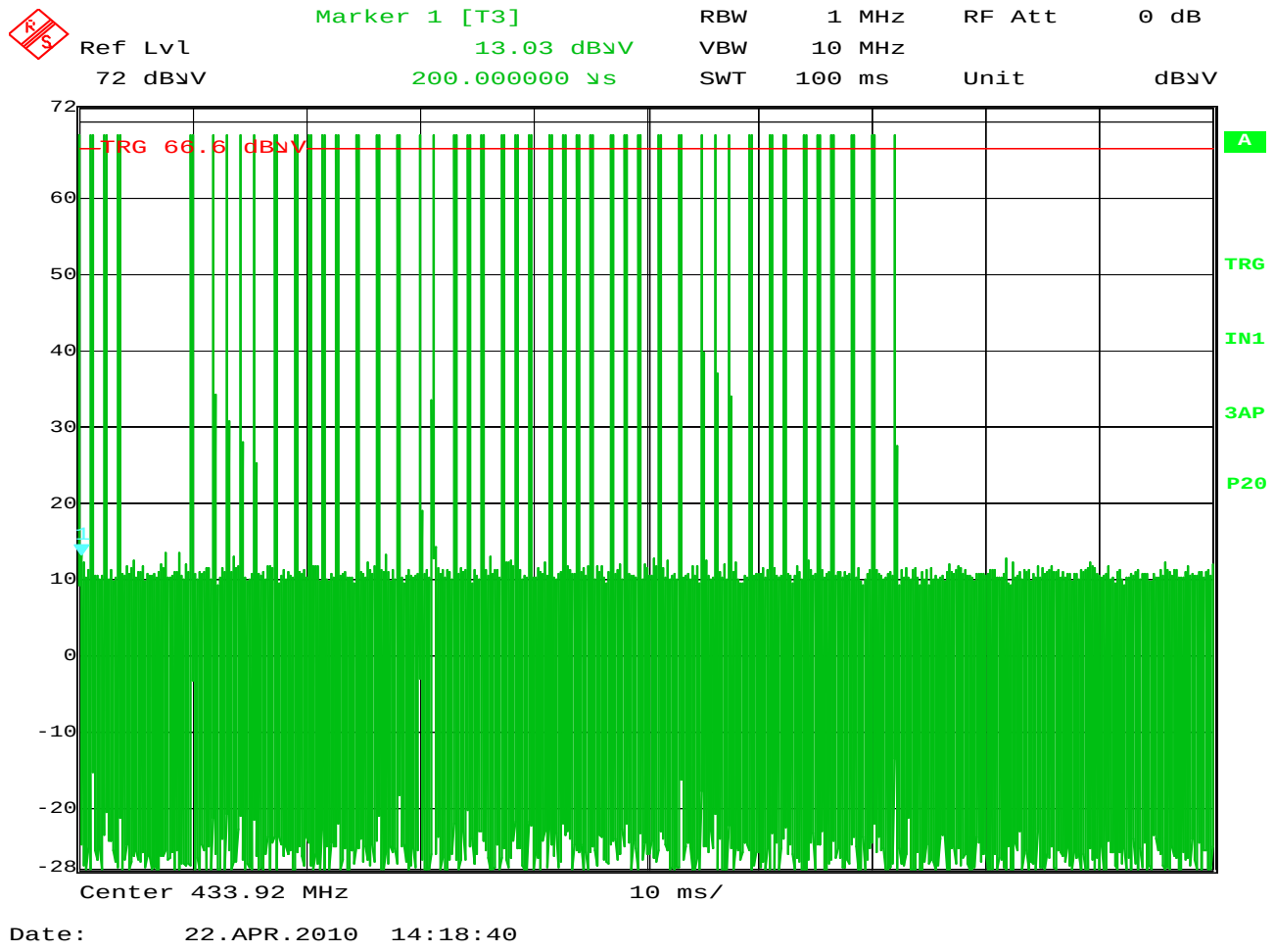
MANUFACTURER	: Versus Technology, Inc.
MODEL NUMBER	: VER4065(c)
SERIAL NUMBER	: NONE
TEST MODE	: Tx @ 433.92MHz
TEST PARAMETERS	: Manual switch operation
EQUIPMENT USED	: RBB0, PHA0



FCC/IC Periodic Operation

MANUFACTURER : Versus Technology, Inc.
MODEL NUMBER : VER4065(c)
SERIAL NUMBER : NONE
TEST MODE : Tx @ 433.92MHz
EQUIPMENT USED : RBB0, PHA0

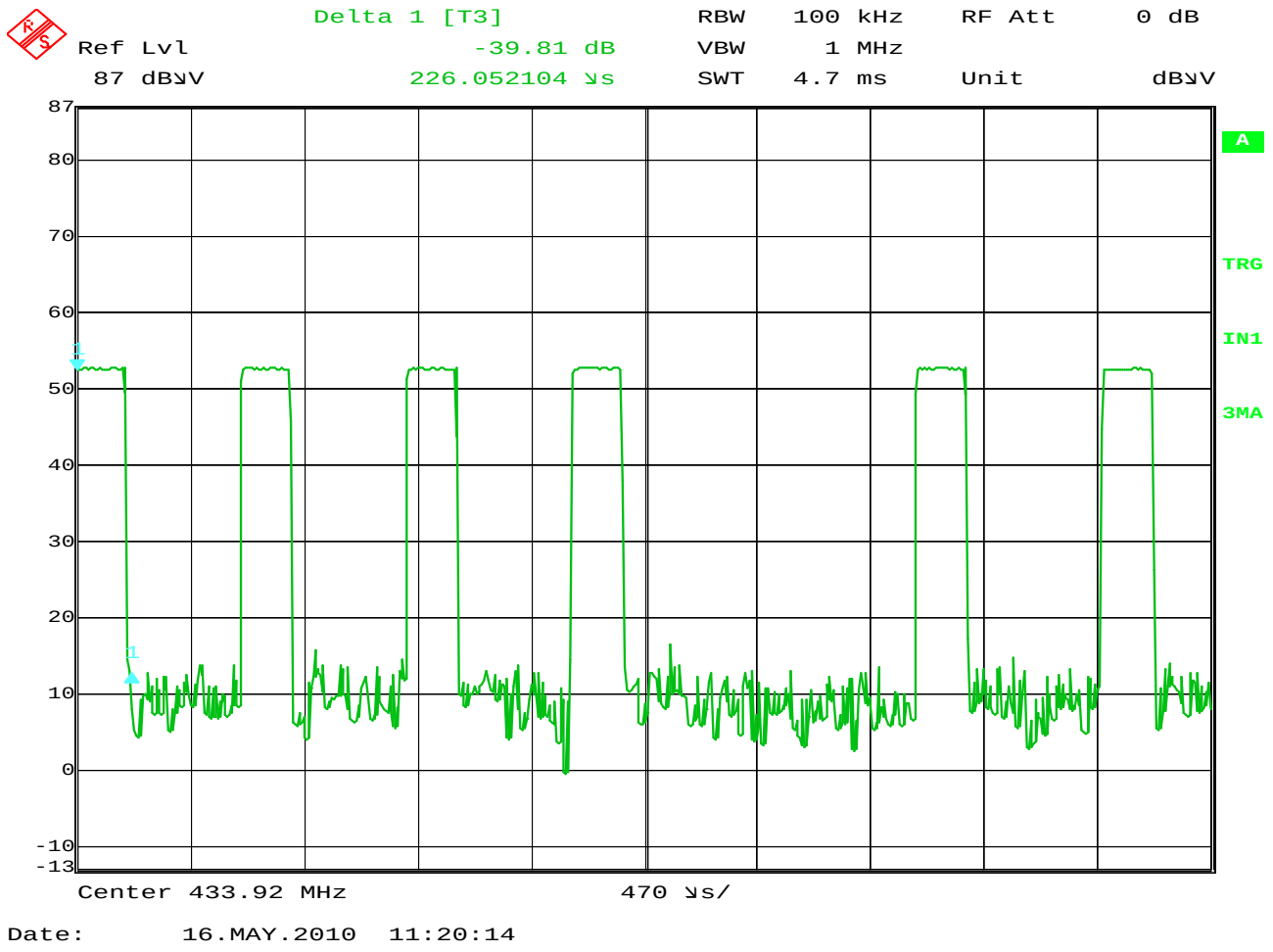
NOTES



FCC/IC Duty Cycle

MANUFACTURER : Versus Technology, Inc.
MODEL NUMBER : VER4065(c)
SERIAL NUMBER : NONE
TEST MODE :Tx @ 433.92MHz
TEST PARAMETERS : Number of pulses equals 46
EQUIPMENT USED : RBB0, PHA0

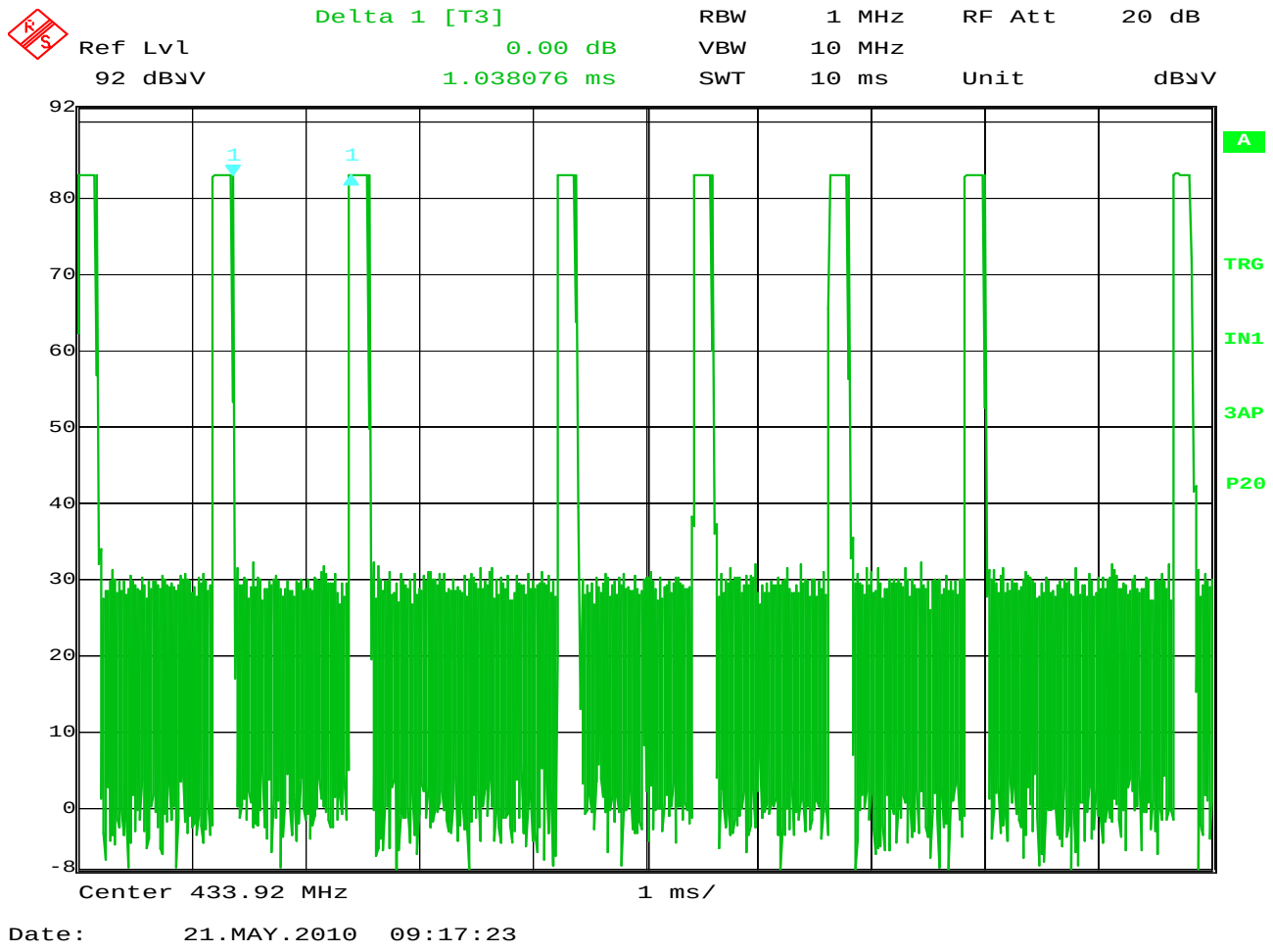
NOTES



FCC/IC Duty Cycle

MANUFACTURER : Versus Technology, Inc.
MODEL NUMBER : VER4065(c)
SERIAL NUMBER : NONE
TEST MODE :Tx @ 433.92MHz
TEST PARAMETERS : Pulse width equals 226uS
EQUIPMENT USED : RBB0, PHA0

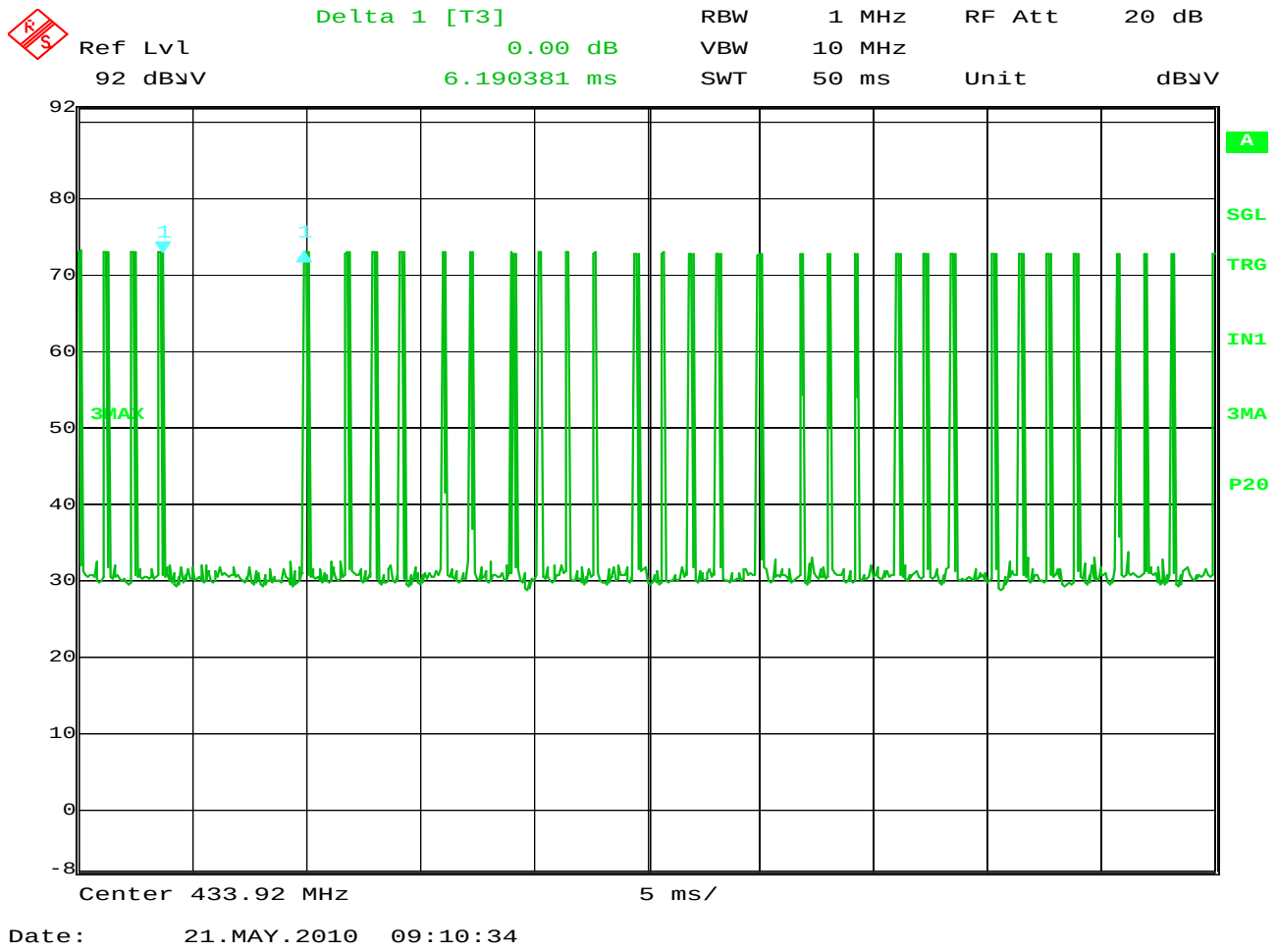
NOTES



FCC/IC Duty Cycle

MANUFACTURER : Versus Technology, Inc.
MODEL NUMBER : VER4065(c)
SERIAL NUMBER : NONE
TEST MODE : Tx @ 433.92MHz
TEST PARAMETERS : OFF time worst case 1.04mS
EQUIPMENT USED : RBB0, PHA0

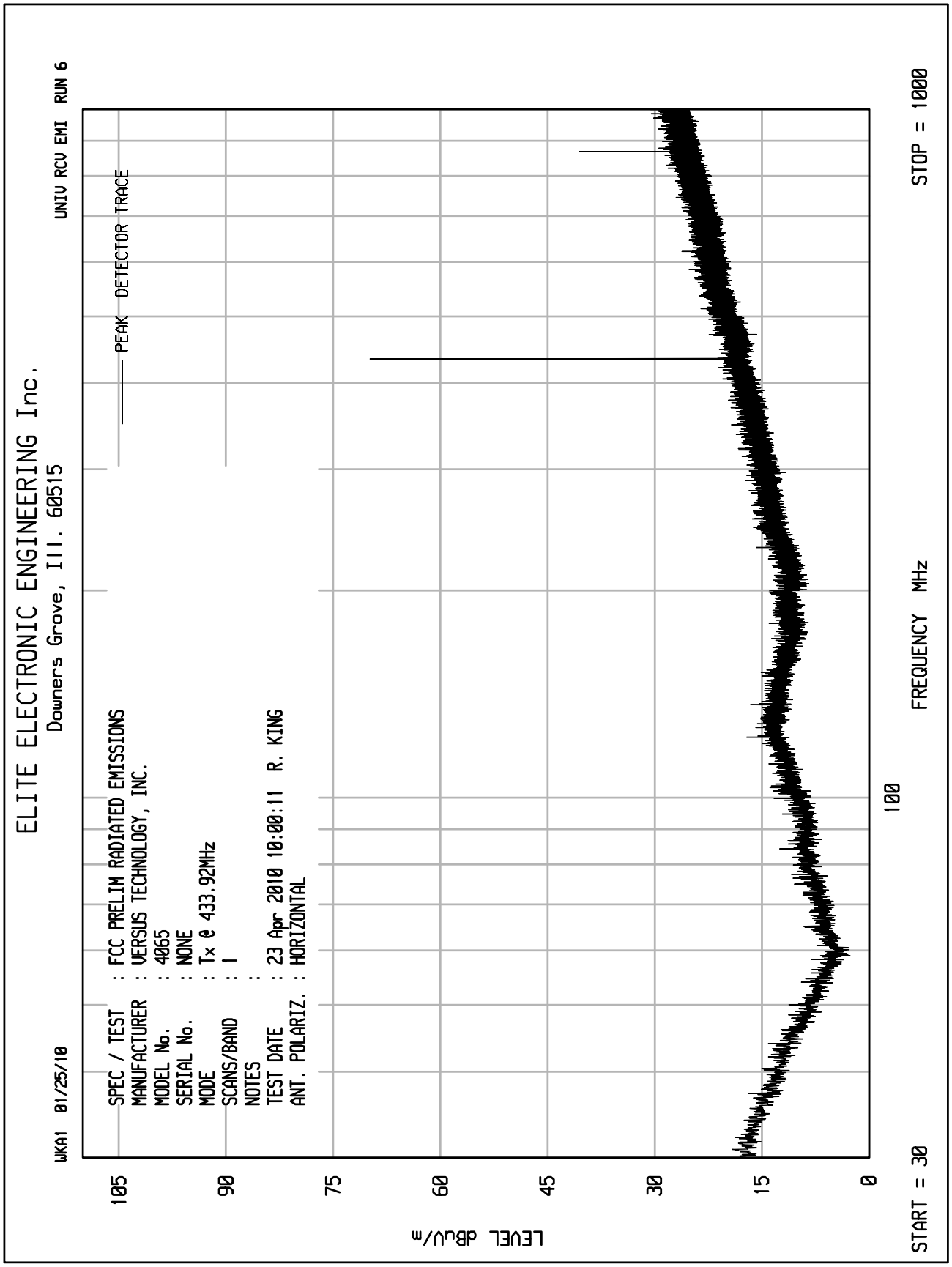
NOTES

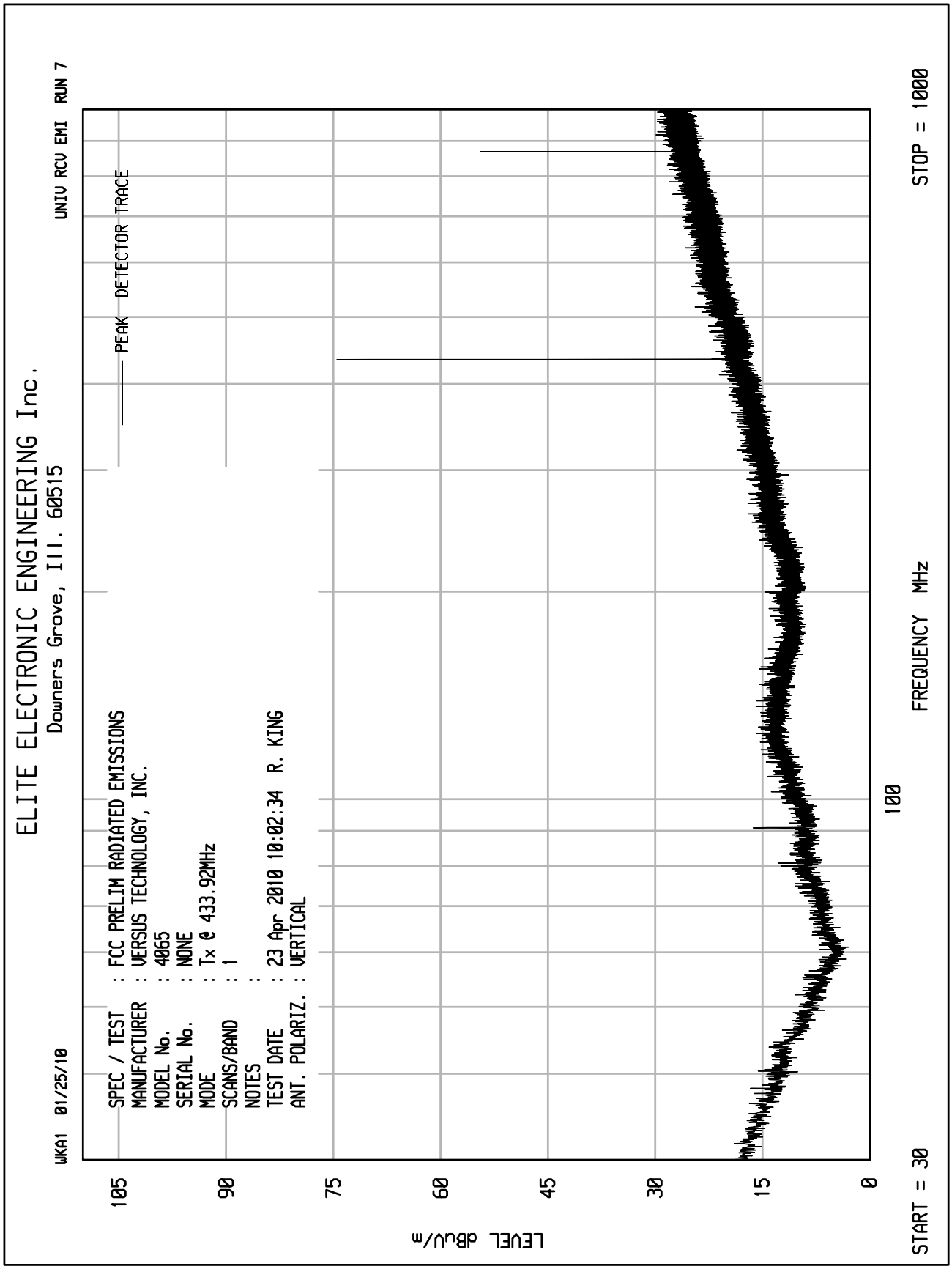


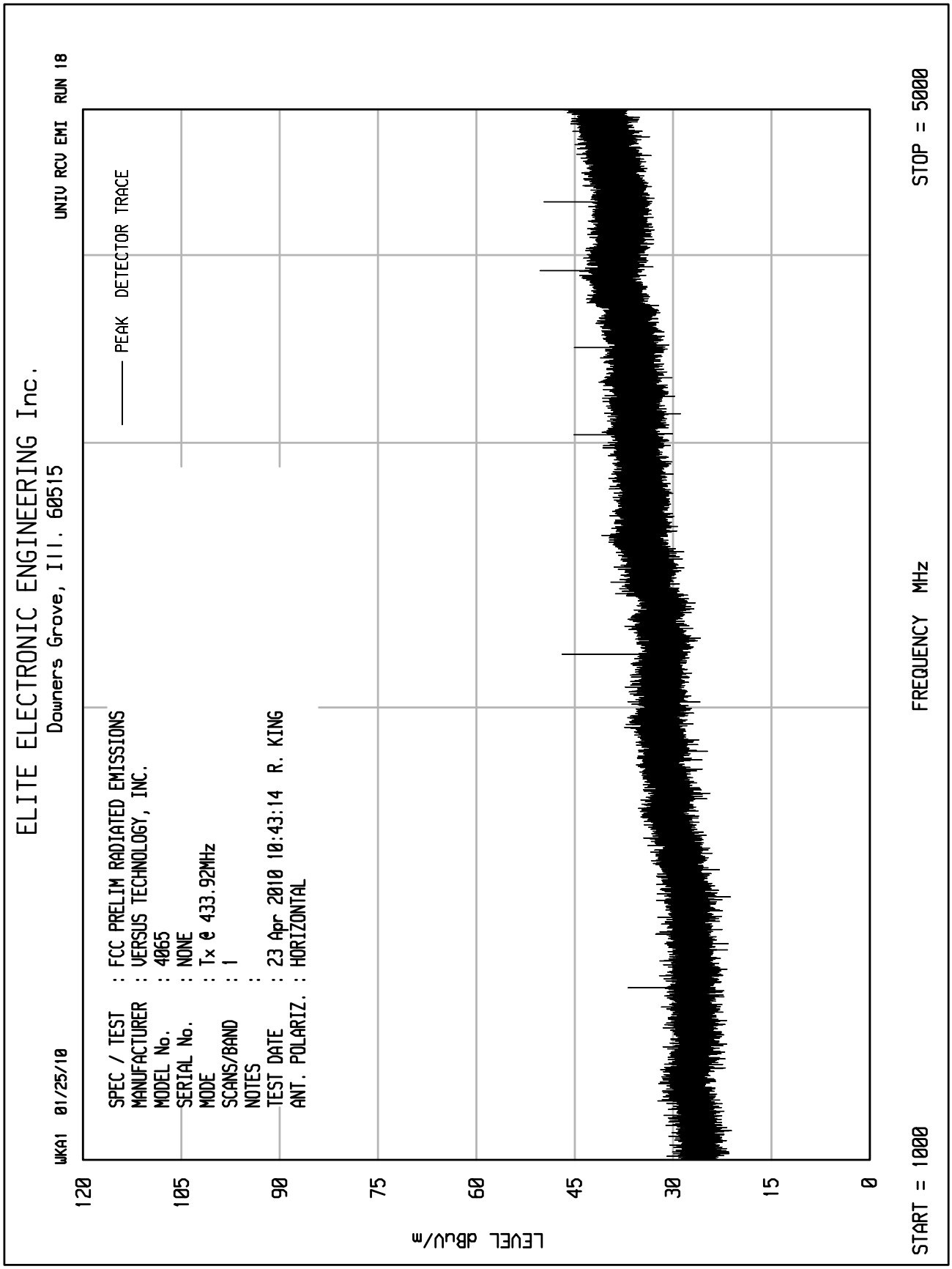
FCC/IC Duty Cycle

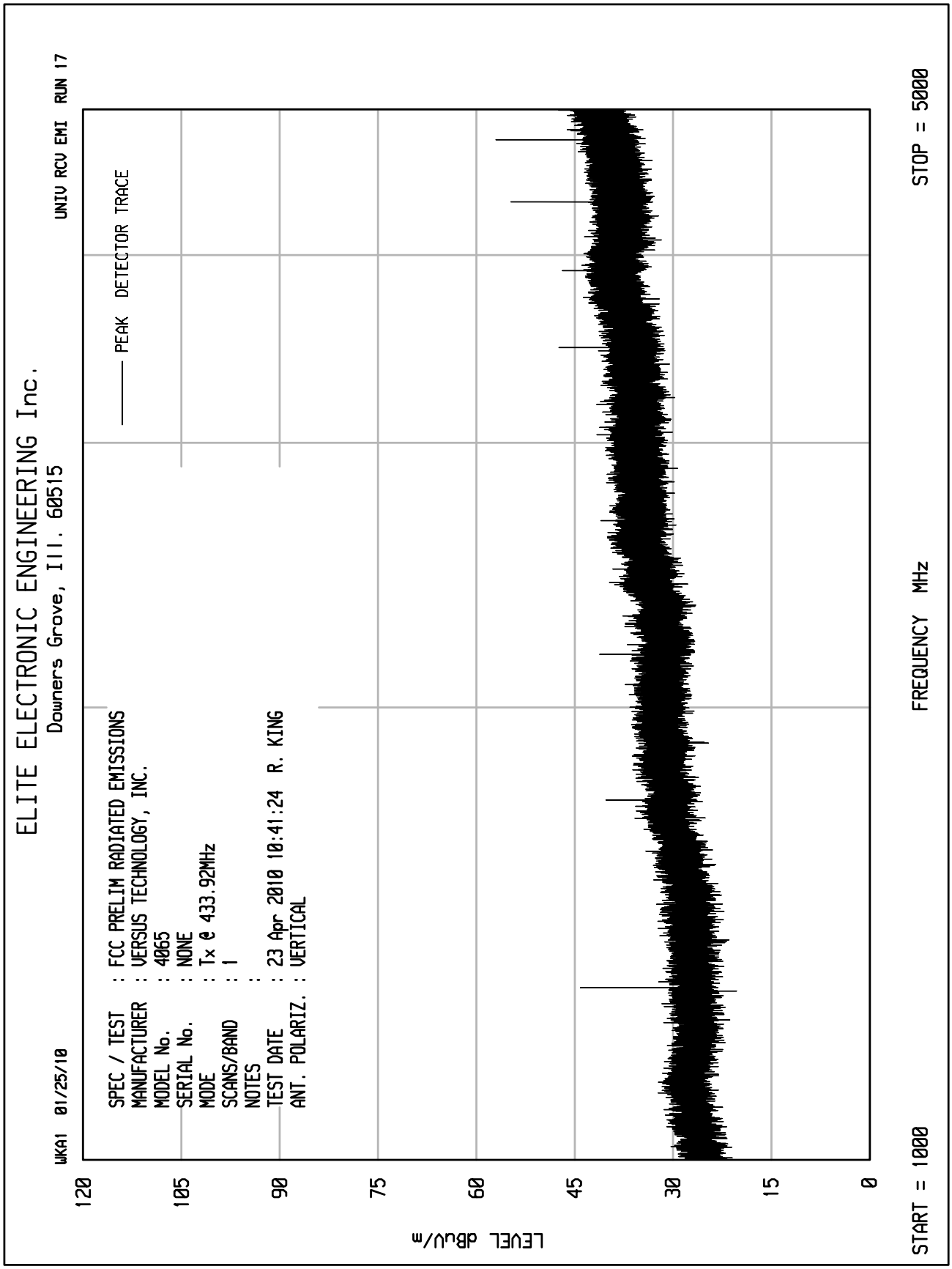
MANUFACTURER	: Versus Technology, Inc.
MODEL NUMBER	: VER4065(c)
SERIAL NUMBER	: NONE
TEST MODE	: Tx @ 433.92MHz
TEST PARAMETERS	: preamble space off time
EQUIPMENT USED	: RBB0, PHA0

NOTES


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 6
WKA1 01/25/10
SPEC / TEST : FCC PRELIM RADIATED EMISSIONS
MANUFACTURER : VERSUS TECHNOLOGY, INC.
MODEL No. : 4065
SERIAL No. : NONE
MODE : Tx @ 433.92MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 23 Apr 2010 10:00:11 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
105
90
75
60
45
30
15
0
START = 30
100
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 7
WKA1 01/25/10
SPEC / TEST : FCC PRELIM RADIATED EMISSIONS
MANUFACTURER : VERSUS TECHNOLOGY, INC.
MODEL No. : 4065
SERIAL No. : NONE
MODE : Tx @ 433.92MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 23 Apr 2010 10:02:34 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
105
90
75
60
45
30
15
0
START = 30
100
FREQUENCY MHz
STOP = 1000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 18
WKA1 01/25/10
SPEC / TEST : FCC PRELIM RADIATED EMISSIONS
MANUFACTURER : VERSUS TECHNOLOGY, INC.
MODEL No. : 4065
SERIAL No. : NONE
MODE : Tx @ 433.92MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 23 Apr 2010 10:43:14 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 = 5000


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
UNIV RCV EMI RUN 17
WKA1 01/25/10
SPEC / TEST : FCC PRELIM RADIATED EMISSIONS
MANUFACTURER : VERSUS TECHNOLOGY, INC.
MODEL No. : 4065
SERIAL No. : NONE
MODE : Tx @ 433.92MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 23 Apr 2010 10:41:24 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 = 5000

Data Page

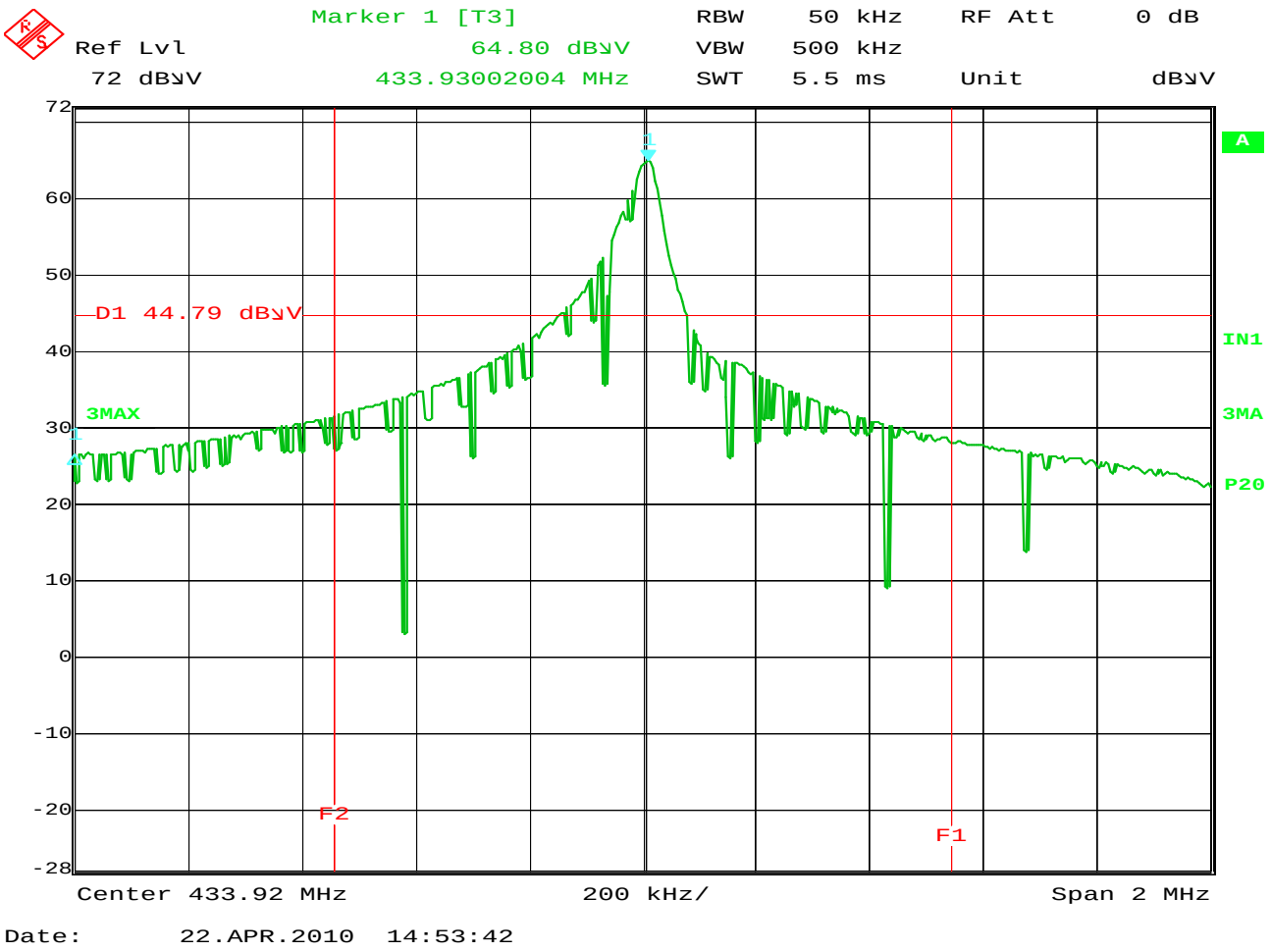
MANUFACTURER : **Versus Technology, Inc.**
TEST ITEM : **Remote Station TS**
MODEL NO. : **VER4065(c)**
SERIAL NO. : **none**
SPECIFICATION : **FCC- 15C Transmitter Open Field Data**
DATE : **April 23, 2010**
NOTES : **Test Distance is 3 Meters**

Freq (MHz)	Ant Pol	Meter Reading (dBuV)	CBL Fac (dB)	Ant Fac (dB)	Duty Cycle Factor* (dB)	Total dBuV/m at 3 M	Total uV/m at 3M	Limit uV/m at 3M	Margin (dB)
433.9	H	63.0	1.7	21.3	-15.6	70.4	3312.5	4398.3	-2.5
433.9	V	55.3	1.7	21.3	-15.6	62.7	1369.8	4398.3	-10.1
867.8	H	19.1	2.3	22.4	-15.6	28.3	26.0	440.0	-24.6
867.8	V	26.3	2.3	22.4	-15.6	35.5	59.2	440.0	-17.4
1301.7	H	19.8	2.9	25.7	-15.6	32.8	43.6	500.0	-21.2
1301.7	V	17.1	2.9	25.7	-15.6	30.0	31.7	500.0	-24.0
1735.6	H	16.5	3.4	27.1	-15.6	31.4	37.2	500.0	-22.6
1735.6	V	15.0	3.4	27.1	-15.6	29.9	31.2	500.0	-24.1
2169.5	H	28.8	3.7	28.6	-15.6	45.5	188.6	500.0	-8.5
2169.5	V	25.4	3.7	28.6	-15.6	42.1	127.5	500.0	-11.9
2603.4	H	19.1	3.9	29.8	-15.6	37.1	71.8	500.0	-16.9
2603.4	V	17.9	3.9	29.8	-15.6	35.9	62.6	500.0	-18.0
3037.3	H	18.3	4.1	31.3	-15.6	38.0	79.8	500.0	-15.9
3037.3	V	19.4	4.1	31.3	-15.6	39.2	91.2	500.0	-14.8
3471.2	H	16.2	4.6	32.7	-15.6	37.9	78.1	500.0	-16.1
3471.2	V	19.2	4.6	32.7	-15.6	40.8	109.7	500.0	-13.2
3905.1	H	18.4	5.0	33.8	-15.6	41.5	119.2	500.0	-12.5
3905.1	V	18.4	5.0	33.8	-15.6	41.5	119.0	500.0	-12.5
4339.0	H	22.7	5.3	33.6	-15.6	46.0	200.6	500.0	-7.9
4339.0	V	22.6	5.3	33.6	-15.6	45.9	197.6	500.0	-8.1

*since duty cycle correction factor is greater than -20 dB, the test item will meet peak emission limit

Checked BY : Richard E. King

Richard E. King



FCC/IC OCCUPIED BANDWIDTH

MANUFACTURER : Versus Technology, Inc.
MODEL NUMBER : VER4065(c)
SERIAL NUMBER : NONE
TEST MODE : Tx @ 433.92MHz

NOTES