Measurement of RF Emissions from a TM100 & TM110 Remote Control Transmitter

For	The Chamberlain Group 845 Larch Ave Elmhurst, IL 60126
P.O. Number	4900037120
Date Tested	May 3, 2016 through June 27, 2016
Test Personnel	Richard King
Test Specification	FCC "Code of Federal Regulations" Title 47 Part15, Subpart C Industry Canada RSS-GEN Industry Canada RSS-210

Test Report By: Richard E. King

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TABLE OF CONTENTS

TABLE OF CONTENTS

REVISION HISTORY

Revision	Date	Description
—	04 Aug 2016	Initial release

Measurement of RF Emissions from a Remote Control, Model No. TM100 & TM110 Transmitter

1. INTRODUCTION

1.1. Scope of Tests

This report presents the results of the RF emissions measurements performed on several Remote Control transmitters. Each transmitter has two Model Nos. TM100 & TM110, no serial numbers are assigned (hereinafter referred to as the Equipment Under Test (EUT)).). The EUTs were designed to transmit at a frequency which was between the 300 to 390MHz using an integral antenna. The EUTs were manufactured and submitted for testing by The Chamberlain Group located in Elmhurst, IL.

Each EUT was programmed to a different button on one of seven different EUT housings. The EUTs were identified by the button number supplied per paragraph 3.3.

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 C, Sections 15.231 for Intentional Radiators. Testing was performed in accordance with ANSI C63.4-2014.

The test series was also performed to determine if the EUT meets the conducted RF emission requirements of the Industry Canada Radio Standards Specification, RSS-Gen, Section 7.2.4 and the radiated RF emission requirements of the Industry Canada Radio Standards Specification, RSS-210, Annex 1 for transmitters. 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 25.3^{o}C and the relative humidity was 36%.

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"

- Industry Canada Radio Standards Specification, RSS-Gen, “General Requirements and Information for the Certification of Radiocommunication Equipment”, Issue 4, November 2014

- Industry Canada Radio Standards Specification, RSS-210, “Low-power License-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment”, Issue 8, May 2015

3. EUT SETUP AND OPERATION

3.1. General Description

The EUT is a The Chamberlain Group, Remote Control , Model No. TM100 & TM110. A block diagram of the EUT setup is shown as Figure 1.

3.1.1. Power Input

The EUT obtained 3V from a 3V Lithium battery.

3.1.2. Peripheral Equipment

No peripheral equipment was submitted with the EUT.

3.1.3. Signal Input/Output Leads

No interconnect cables were submitted with the EUT.

3.1.4. Grounding

The EUT was ungrounded during the tests.

3.2. Software

For all tests the EUT had Firmware Version FCC_TEST_20160607 loaded onto the device to provide correct load characteristics.

3.3. Operational Mode

For all tests the EUTs were placed on an 80cm high non-conductive stand when testing below 1GHz. Above 1GHz the EUTs were placed on a 150cm high non-conductive stand. The EUTs' transmit button was held down to transmit continuously.

The EUTs were energized and tested according to the following:

DUT (button)	Manufacturer	Frequency	Code Format	Duty Cycle (Theoretical)	Field Strength Correction Factor (dB)
1	Genie	315MHz	IntelliCode (Keeloq based)	24.1%	-10.25
2	Genie	390MHz	IntelliCode (Keeloq based)	24.1%	-10.25
3	Linear	318MHz	Mega-Code	17.0%	-15.39
4	Chamberlain	390MHz	Rolling Code (D Code)	31.0%	-10.17
5	Chamberlain	315MHz	Rolling Code (D Code)	31.0%	-10.17
6	Chamberlain	390MHz	Billion Code (A Code)	46.0%	-3.8
7	Stanley	310MHz	Secure Code (Keeloq based)	24.1%	-10.25
8	Chamberlain	310/315/390MHz	Rolling Code (E Code)	21.5%	-13.35
9	Wayne Dalton	372.5MHz	Rolling Code (Keeloq Based)	24.1%	-10.25
10	Linear/Moore-o-Matic	310MHz	8 Position DIP Switch	24.5%	-12.20
11	Chamberlain	315MHz	9 Position DIP Switch	35.0%	-9.13
12	Stanley	310MHz	10 Position DIP Switch	39.4%	-8.10
13	Genie	390MHz	12 Position DIP Switch	50.1%	-6.00
14	Chamberlain	390MHz	7 Position DIP Switch	30.2%	-10.40
15	Chamberlain	390MHz	8 Position DIP Switch	32.5%	-9.75

16	Linear	300MHz	Multicode	39.4%	-8.10
17	Chamberlain	390MHz	9 Position DIP Switch	35.0%	-9.13
18	Genie	390MHz	9 Position DIP Switch	50.1%	-6.00
19	Extreme	303MHz	OOK		-8.0

3.4. EUT Modifications

No modifications were required for compliance to the 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.

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 to 5000MHz radiated emissions data.

4.3. Calibration Traceability

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

4.4. Measurement Uncertainty

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

The measurement uncertainty for these tests is presented below:

Conducted Emissions Measurements		
Combined Standard Uncertainty	1.06	-1.06
Expanded Uncertainty (95% confidence)	2.12	-2.12

Radiated Emissions Measurements		
Combined Standard Uncertainty	2.09	-2.09
Expanded Uncertainty (95% confidence)	4.19	-4.19

5. TEST PROCEDURES

5.1. Powerline Conducted Emissions

5.1.1. Requirements

Since the EUT was powered by internal batteries and has no connections to AC power, no conducted emissions tests are required.

5.2. Periodic Operation Measurements

5.2.1. Requirements

A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released. Also, a transmitter activated automatically shall cease transmission within 5 seconds after activation.

5.2.2. Procedures

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

5.2.3. Results

The plot of the periodic timing is shown on data pages 18 through 38. The data shows that the EUTs cease operation within the allotted time.

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

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

d) 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.

e) 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).

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

5.3.2. Results

Plots of the duty cycle factors used for each transmitter are shown on data pages 39 through 83.

The duty cycle factors were computed per the following:

<u>Rolling Code “E Code” or ‘F Code”</u>

Pay Load 00- 20log(15.5/100**)= -16.19dB**
Pay Load 01- 20*LOG(21.5ms/100ms) = -13.35 dB

Pay Load 10- 20*LOG(21.5ms/100ms) = -13.35 dB
*Payload 11- 20*LOG(25.9mS/100mS)=-11.73 dB

Rolling Code "D Code"
Rolling Code D consists of the following: First Sync (0.5msec), 20 trinary bits (2msec each), Blank Time (59.5msec), Second Sync (1.5msec), 20 Trinary bits (2msec each) and blank time (58.5msec).

The trinary bits change and roll over time via a proprietary coding scheme. Since the bits will change on a key press, a best and worst case situation is looked at. The best and worst case is then averaged.

Worst Case- 31msec ON time over 100msec
Best Case- 11 msec ON time over 100msec
Average- 21 msec over 100msec

20 log (31/100) = **-10.17dB**. (ROLLING CODE MODULATION FACTOR)

Billion Code A
Billion Code A consists of a sync pulse (1msec), 10 trinary numbers (4msec each), blank time (39msec each), synch pulse (3msec), 10 trinary numbers (4msec each) & blank time (37 msec). Looking at a worst case coding scheme, the worst case ON time over 100msec is 64mSec.

20 log (64/100)= **-3.8dB**. (BILLION CODE MODULATION FACTOR)

Keeloq (Genie Intellicode, Wayne Dalton & Stanley Secure Code)

See HCS 201 document for detailed timings.
Keeloq Packet Over 100msec

Preamble	Header	Encrypted	Fixed	Blank	Total	Partial Preamble	Total	
4.6	2	19.2	20.4	50	96.2	4	100.2	Total Time
0.5	0	0.666667	0.666667	0		0.5		Duty Worst
0.5	0	0.333333	0.333333	0		0.5		Duty Best
2.3	0	12.8	13.6	0	0	2	30.7	ON TIME WORST
2.3	0	6.4	6.8	0	0	2	17.5	ON TIME BEST
							24.1	AVG ON TIME
							-12.35966	**dB MOD FACTOR**

20*LOG(30.7mS/100mS) = -10.25 dB

Linear Megacode
MOD FACTOR: 20log(17/100)= **-15.39dB**

Stanley & MultiCode 10 Position DIP
There are 10, 2msec bits with maximum of 1.5msec ON time per bit and 18msec blank time. So the maximum ON time over a complete message would be 15msec ON/38msec
MOD FACTOR: 20log(15/38)= **-8.1dB**

9 Position DIP C-Code
There are 10 trits made up of 4msec time blocks with a 1msec sync pulse and 39msec blank time. The last trit is always fixed to be 1msec ON/4msec OFF time. Therefore, 1 frame equals (on time/off time) ¼ + (3/4)*9 +1/4+0/39 = 29msec ON/83 msec off
MOD FACTOR: 20log(29/83)= -9.13dB (worst case assuming all – DIP positions)

Stanley & MultiCode 10 Position DIP
There are 10, 2msec bits with maximum of 1.5msec ON time per bit and 18msec blank time. So the maximum ON time over a complete message would be 15msec ON/38msec
MOD FACTOR: 20log(15/38)= -8.1dB (worst case assuming all – DIP positions)

Genie 12 Position DIP
This code is a pseudo FSK signal implemented with 50% duty cycle OOK.
MOD FACTOR: 20log(50/100)= -6.02dB

7 Position DIP C-Code
Same as above except there are 3 fixed 1msec ON/4msec OFF trits. (on time/off time)
¼ + (3/4)*7 +(1/4)*3+0/39 = 25msec ON/83 msec off
MOD FACTOR: 20log(25/83)= -10.4dB (worst case assuming all – DIP positions)

8 Position DIP C-Code
Same as above except there are 2 fixed 1msec ON/4msec OFF trits. (on time/off time)
¼ + (3/4)*8 +(1/4)*2+0/39 = 27msec ON/83 msec off
MOD FACTOR: 20log(27/83)= -9.75dB (worst case assuming all – DIP positions)

Genie 9 Position DIP
This code is a pseudo FSK signal implemented with 50% duty cycle OOK.
MOD FACTOR: 20log(50/100)= -6.02dB

Extreme
Modulation is OOK with each bit a triplet of 0, bit, 1. Off is 1, on is 0. Thus a 0 is 2/3 duty cycle per bit and a 1 is 1/3 duty cycle per bit.
Each code transmission is 36 bits: 1 start bit, 24 data bits, 4 stop bits (0101), 7 bit dead period.

Avg duty cycle = 20*log[(1/3+24/2+6/3)/36] = -8 dB.

5.4. Radiated Measurements

5.4.1.Requirements

The EUT 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(b) 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	3,750 to 12,500*	375 to 1,250*

* - Linear Interpolation

For 300MHz, the limit at the fundamental is 5416.7uV/m @ 3m and the limit on the harmonics is 541.7uV/m @ 3m.

For 303MHz, the limit at the fundamental is 5541.7uV/m @ 3m and the limit on the harmonics is 554.2uV/m @ 3m.

For 310MHz, the limit at the fundamental is 5833.3uV/m @ 3m and the limit on the harmonics is 583.3uV/m @ 3m.

For 315MHz, the limit at the fundamental is 6041.7uV/m @ 3m and the limit on the harmonics is 604.2uV/m @ 3m.

For 318MHz, the limit at the fundamental is 6166.7uV/m @ 3m and the limit on the harmonics is 616.7uV/m @ 3m.

For 372.5MHz, the limit at the fundamental is 8437.5uV/m @ 3m and the limit on the harmonics is 843.8uV/m @ 3m.

For 390MHz, the limit at the fundamental is 9166.7uV/m @ 3m and the limit on the harmonics is 916.7uV/m @ 3m.

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

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.

A preliminary radiated emissions test was 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 5.0GHz was investigated using a peak detector function. The data was then processed by the computer to calculate equivalent field intensity. * Replace with the proper frequency range.

The final open field emission tests were then manually performed over the frequency range of 30MHz to 4000MHz. 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 EUT 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 EUT 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 each EUT transmitting at its designated frequency, are presented on data pages 84 through 162. The plots are presented for a reference only, and are not used to determine compliance.

The final radiated levels, with each EUT transmitting at its designated frequency, are presented on data pages 163 through 184. 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 Figure 2 and 3.

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 EUT 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.

5.5.3. Results

The plot of the emissions near the fundamental frequency for each of the EUT frequencies are presented on data pages 185 through 205. As can be seen from this data page, each transmitter met the occupied bandwidth requirements. See below for 99% bandwidth measurements:

DUT (button)	Manufacturer	Frequency	Code Format	99% BW
1	Genie	315MHz	IntelliCode (Keeloq based)	300.6kHz
2	Genie	390MHz	IntelliCode (Keeloq based)	324.6kHz
3	Linear	318MHz	Mega-Code	276.5kHz
4	Chamberlain	390MHz	Rolling Code (D Code)	300.6kHz
5	Chamberlain	315MHz	Rolling Code (D Code)	268.5kHz
6	Chamberlain	390MHz	Billion Code (A Code)	264.5kHz
7	Stanley	310MHz	Secure Code (Keeloq based)	296.6kHz
8	Chamberlain	310MHz	Rolling Code (E Code)	304.6kHz
8	Chamberlain	315MHz	Rolling Code (E Code)	308.6kHz
8	Chamberlain	390MHz	Rolling Code (E Code)	332.66kHz
9	Wayne Dalton	372.5MHz	Rolling Code (Keeloq Based)	248.5kHz
10	Linear/Moore-o-Matic	310MHz	8 Position DIP Switch	280.6kHz
11	Chamberlain	315MHz	9 Position DIP Switch	300.6kHz
12	Stanley	310MHz	10 Position DIP Switch	284.6kHz
13	Genie	390MHz	12 Position DIP Switch	316.6kHz
14	Chamberlain	390MHz	7 Position DIP Switch	276.5kHz
15	Chamberlain	390MHz	8 Position DIP Switch	288.6kHz
16	Linear	300MHz	Multicode	292.6kHz
17	Chamberlain	390MHz	9 Position DIP Switch	288.6kHz
18	Genie	390MHz	9 Position DIP Switch	278.6kHz
19	Extreme	303MHz	OOK	284.5kHz

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 The Chamberlain Group personnel.

6.2. Disposition of the EUT

The EUT and all associated equipment were returned to The Chamberlain Group upon completion of the tests.

7. CONCLUSIONS

It was determined that The Chamberlain Group Remote Control transmitters, Model Nos. TM100 & TM110, did fully meet the conducted and radiated emission requirements of the FCC "Code of Federal Regulations" Title 47, Part 15, Subpart C, Section 15.205 et seq. for Intentional Radiators, when tested per ANSI C63.4-2014.

It was also determined that The Chamberlain Group Remote Control , Model No. TM100 & TM110, transmitter, did fully meet the conducted and radiated RF emission requirements of the Industry Canada Radio Standards Specification, RSS-Gen Section 7.2.4 and RSS-210 Annex 1, for transmitters, when tested per ANSI C63.4-2014.

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 as operated by The Chamberlain Group personnel. 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 NVLAP, 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
APW11	PREAMPLIFIER	PMI	PE2-35-120-5R0-10-12-SFF	PL11685/1241	1GHZ-20GHZ	4/18/2016	4/18/2017
CDX8	COMPUTER	ELITE	WORKSTATION			N/A	
MPW0	POWER METER	KEYSIGHT	8990B	MY51000388		2/5/2016	2/5/2017
NHG1	STANDARD GAIN HORN ANTENNA	NARDA	638	---	18-26.5GHZ	NOTE 1	
NTA2	BILOG ANTENNA	TESEQ	6112D	28040	25-1000MHz	10/27/2015	10/27/2016
NTA3	BILOG ANTENNA	TESEQ	6112D	32853	25-1000MHz	3/23/2016	3/23/2017
NWQ1	DOUBLE RIDGED WAVEGUIDE ANTENNA	ETS-LINDGREN	3117	66655	1GHZ-18GHZ	4/4/2016	4/4/2018
NWQ2	DOUBLE RIDGED WAVEGUIDE ANTENNA	ETS LINDGREN	3117	66659	1GHZ-18GHZ	3/2/2016	3/2/2018
RAKG	RF SECTION	HEWLETT PACKARD	85462A	3549A00284	0.009-6500MHZ	2/22/2016	2/22/2017
RAKH	RF FILTER SECTION	HEWLETT PACKARD	85460A	3448A00324	---	2/22/2016	2/22/2017
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.	ROHDE & SCHWARZ	ESIB40	100250	20 HZ TO 40GHZ	2/16/2016	2/16/2017
T1P0	10dB ATTENUATOR (40GHz)	WEINSCHEL	89-10-12	254	DC-40GHz	3/3/2016	3/3/2018
T2D5	20DB, 25W ATTENUATOR	WEINSCHEL	46-20-43	AY9244	DC-18GHZ	7/7/2016	7/7/2018
T2DE	20DB, 25W ATTENUATOR	WEINSCHEL	46-20-34	BN1032	DC-18GHZ	10/19/2015	10/19/2016
T2Q1	20DB/20W ATTENUATOR	AEROFLEX/WEINSCHEL	89-20-21	335	DC-40GHZ	8/20/2015	8/20/2017
WKA1	SOFTWARE, UNIVERSAL RCV EMI	ELITE	UNIV_RCV_EMI	1	---	I/O	
WQC0	HF_8546A						
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.

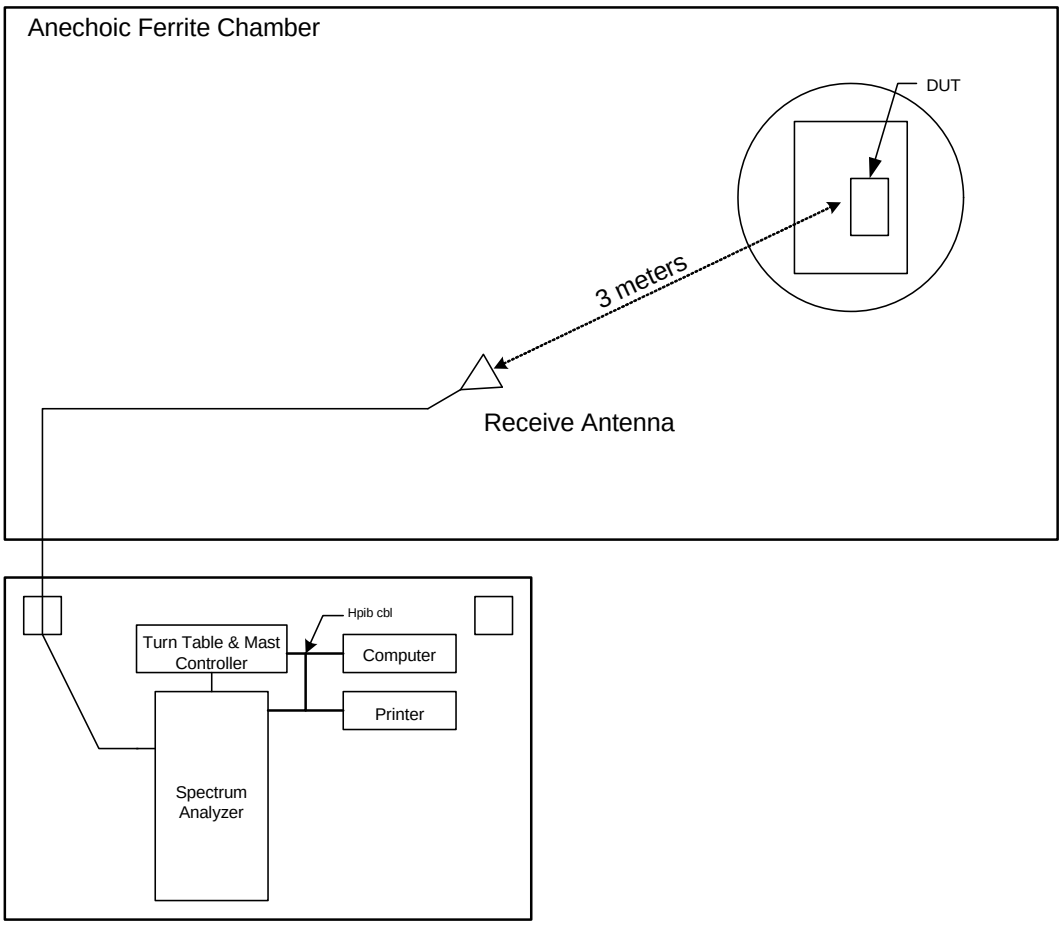
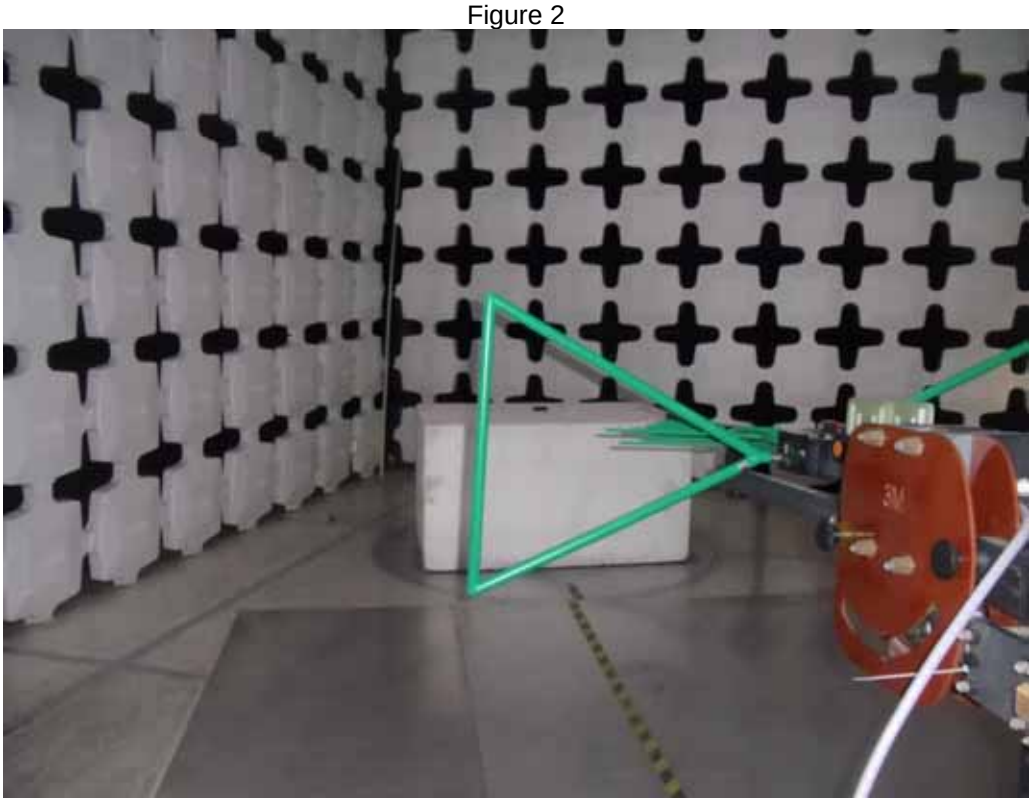
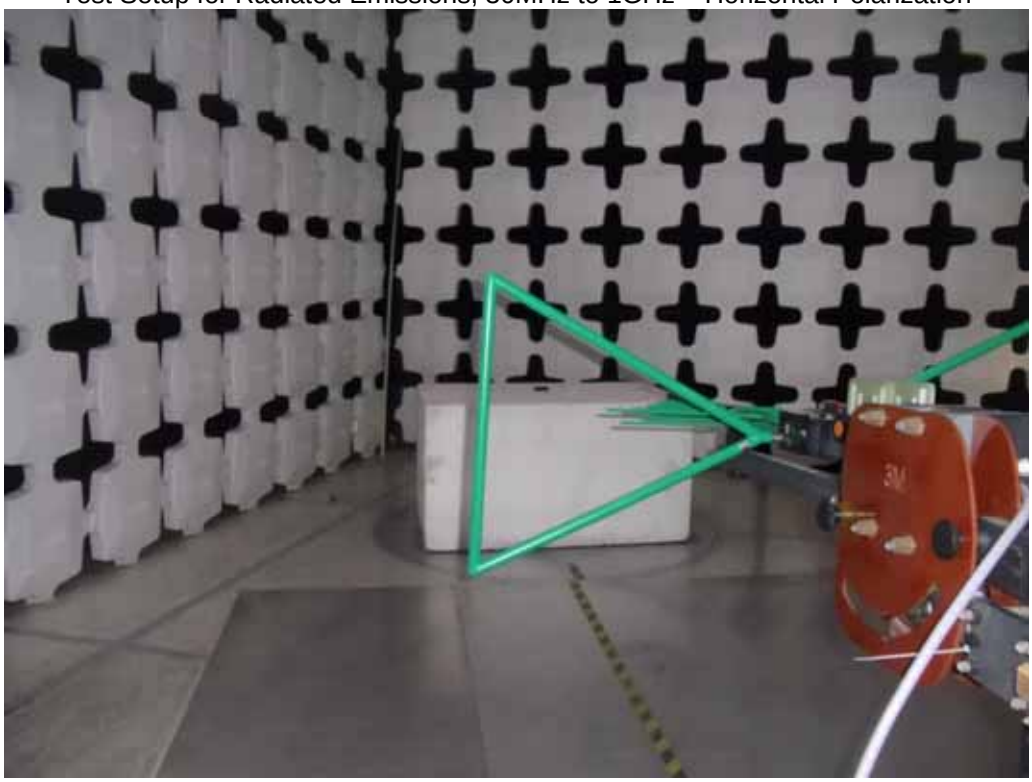


FIGURE 1 BLOCKDIAGRAM OF TEST SETUP

Figure 2



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

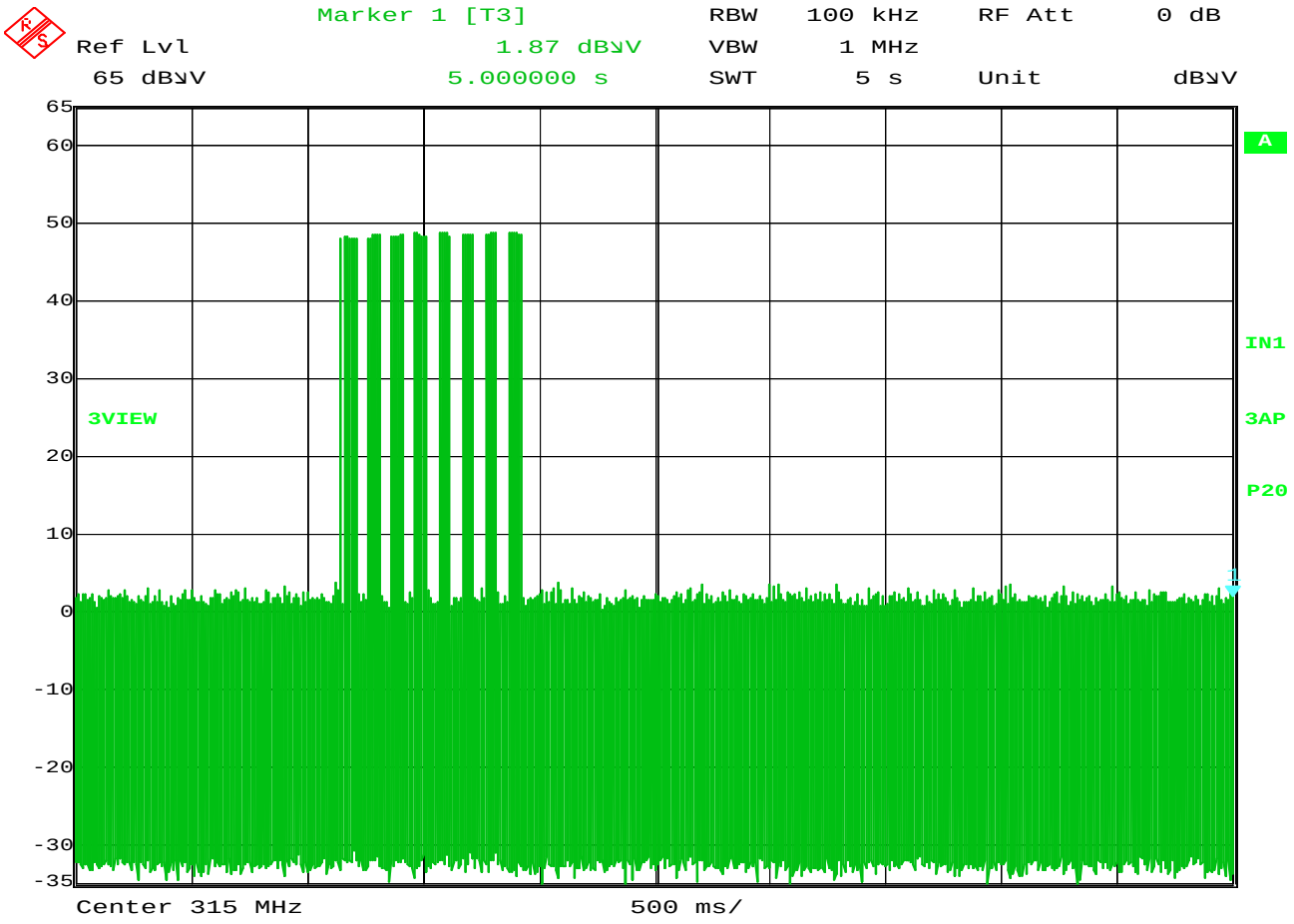


Test Setup for Radiated Emissions, 30MHz to 1GHz – Vertical Polarization

Figure 3

Test Setup for Radiated Emissions, Above 1GHz – Horizontal Polarization

Test Setup for Radiated Emissions, Above 1GHz – Vertical Polarization



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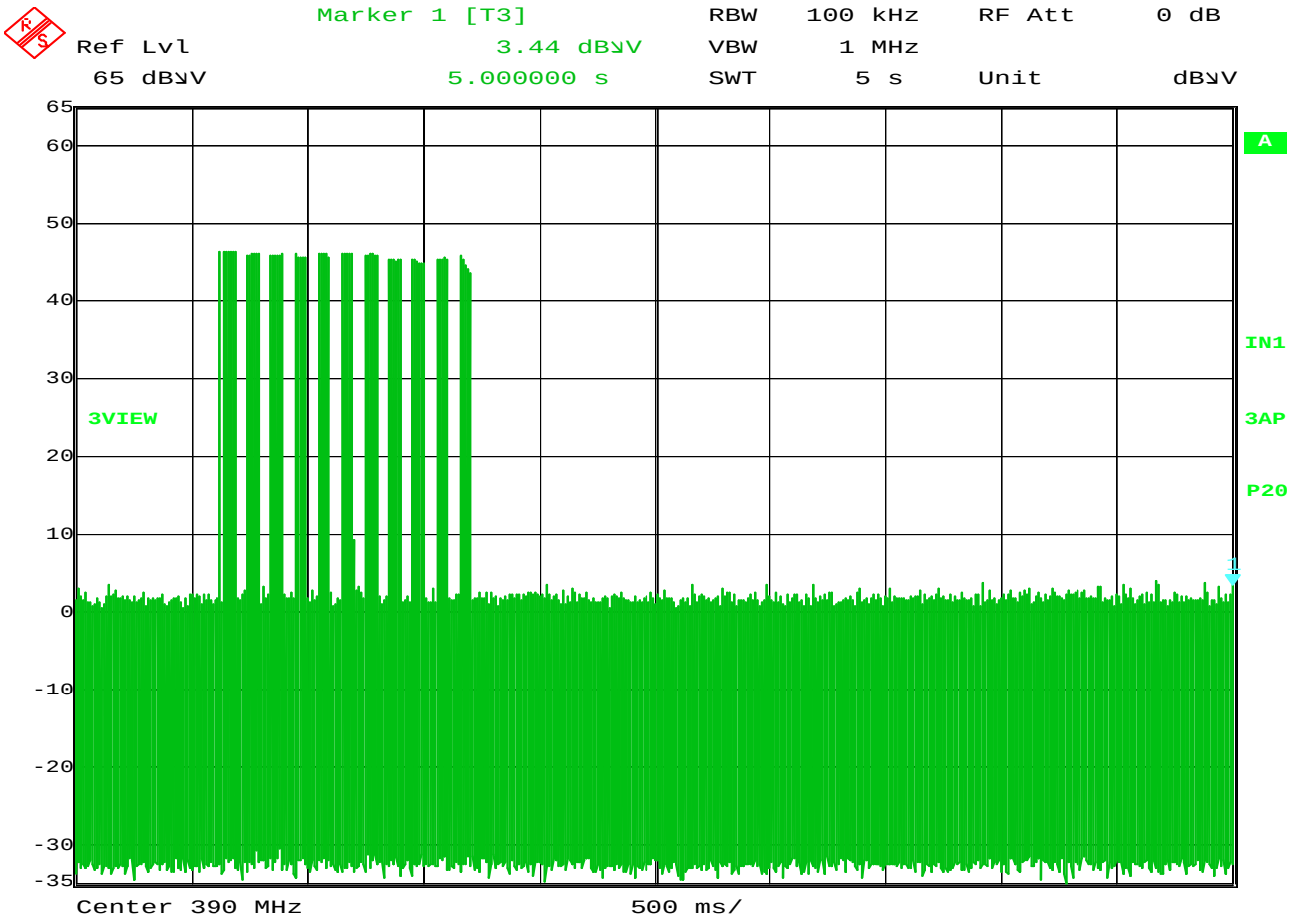
FCC 15C 15.231 / Periodic Operation

MANUFACTURER	:	The Chamberlain Group
MODEL NUMBER	:	TM100 & TM110
TEST MODE	:	TX @ 315MHz
	:	PEAK DETECTOR
NOTES:	:	Button 1

NOTES



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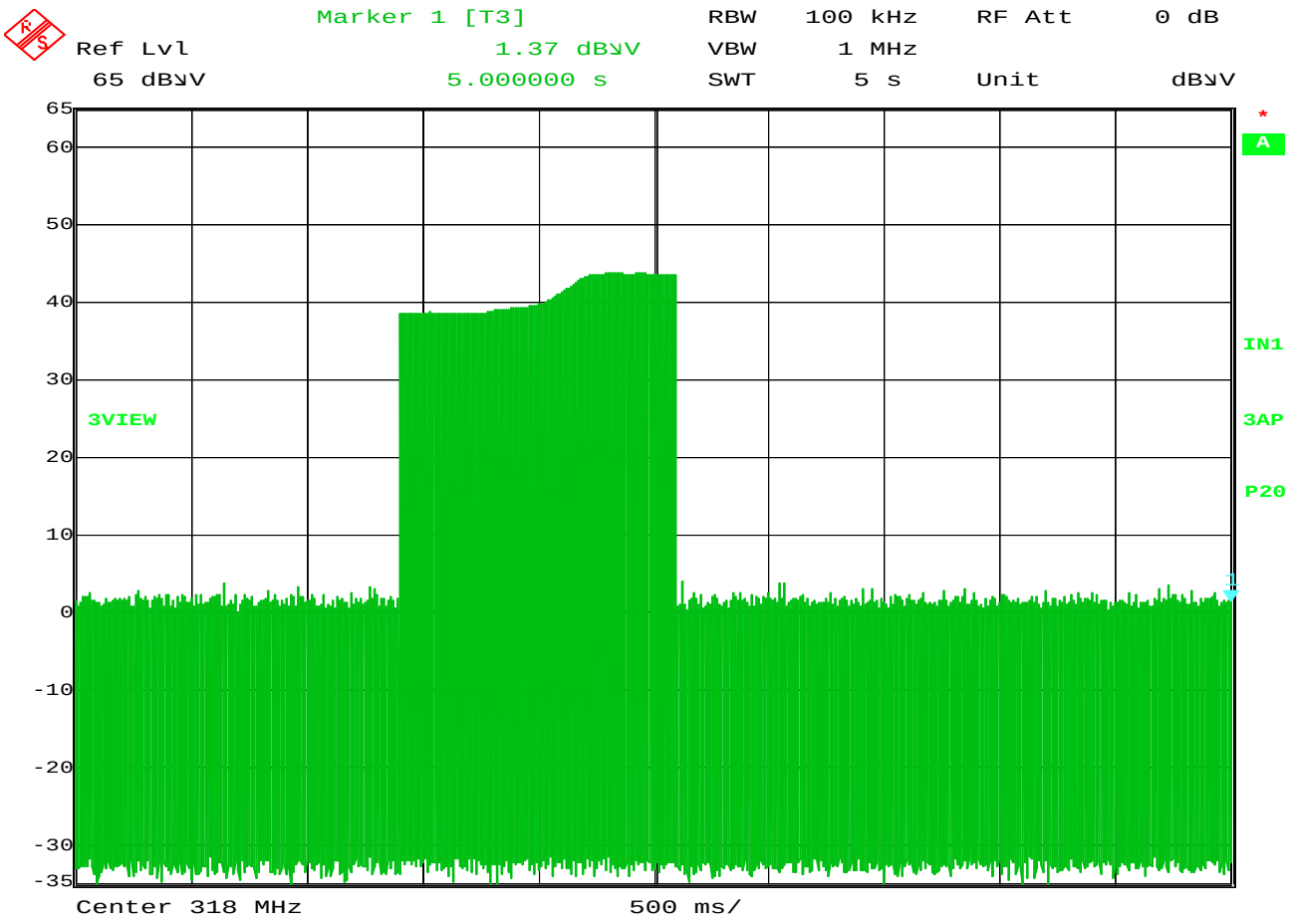
FCC 15C 15.231 / Periodic Operation

MANUFACTURER	:	The Chamberlain Group
MODEL NUMBER	:	TM100 & TM110
TEST MODE	:	TX @ 390MHz
	:	PEAK DETECTOR
NOTES:	:	Button 2

NOTES

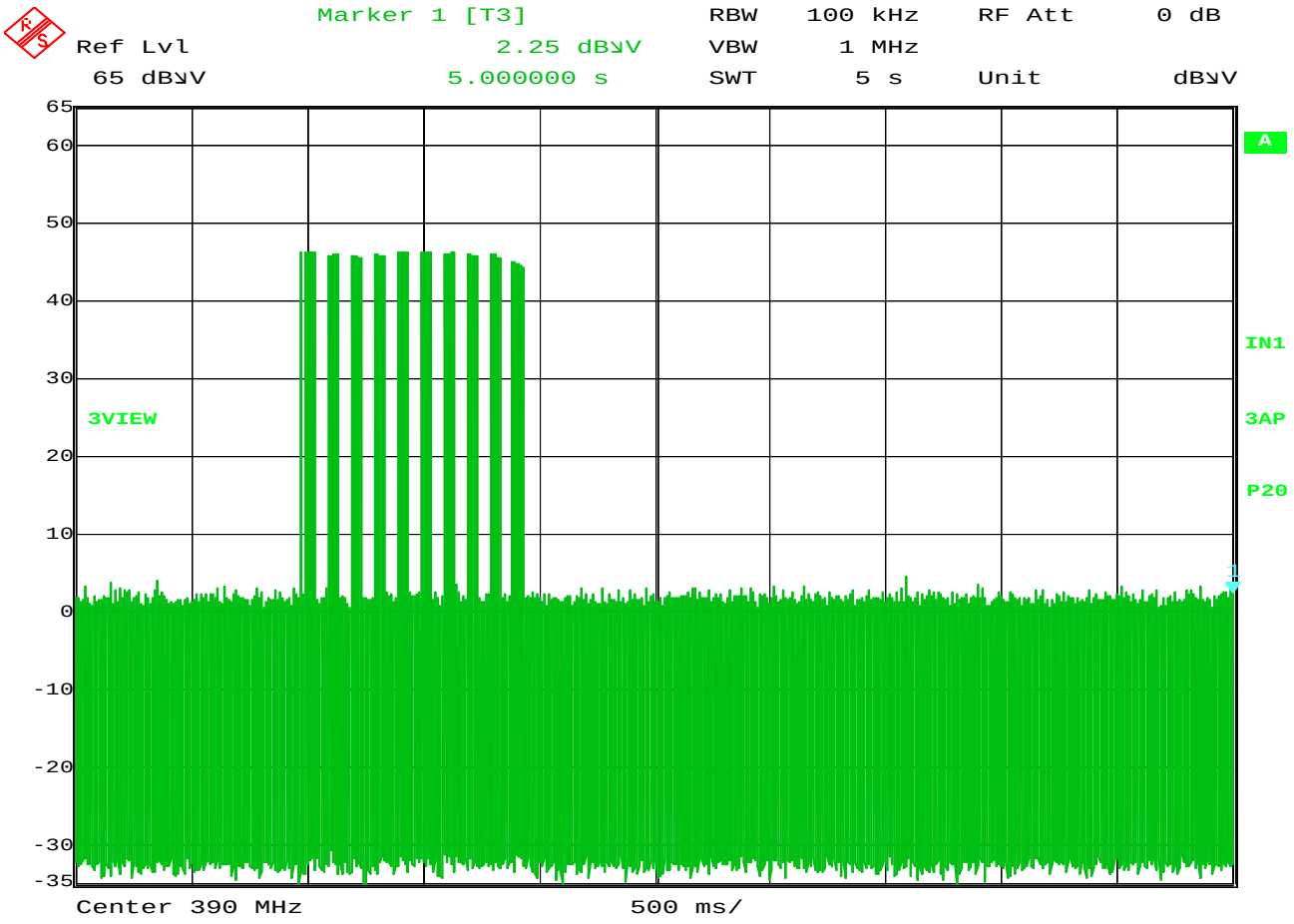


Date: 21.JUN.2016 16:12:06

FCC 15C 15.231 / Periodic Operation

MANUFACTURER : The Chamberlain Group
MODEL NUMBER : TM100 & TM110
TEST MODE : TX @ 318MHz
: PEAK DETECTOR
NOTES: : Button 3

NOTES

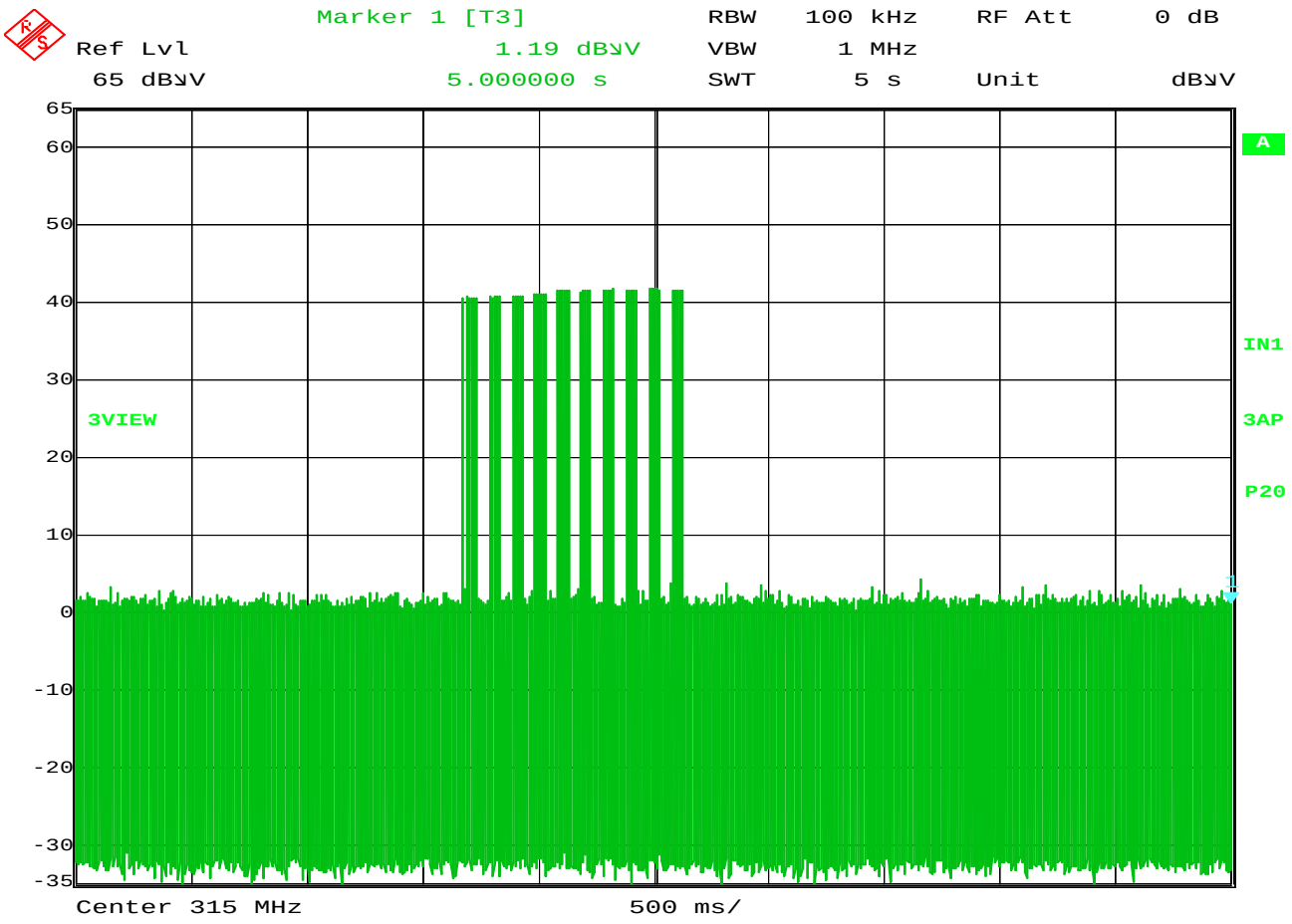


Date: 21.JUN.2016 16:14:22

FCC 15C 15.231 / Periodic Operation

MANUFACTURER	:	The Chamberlain Group
MODEL NUMBER	:	TM100 & TM110
TEST MODE	:	TX @ 390MHz
	:	PEAK DETECTOR
NOTES:	:	Button 4

NOTES

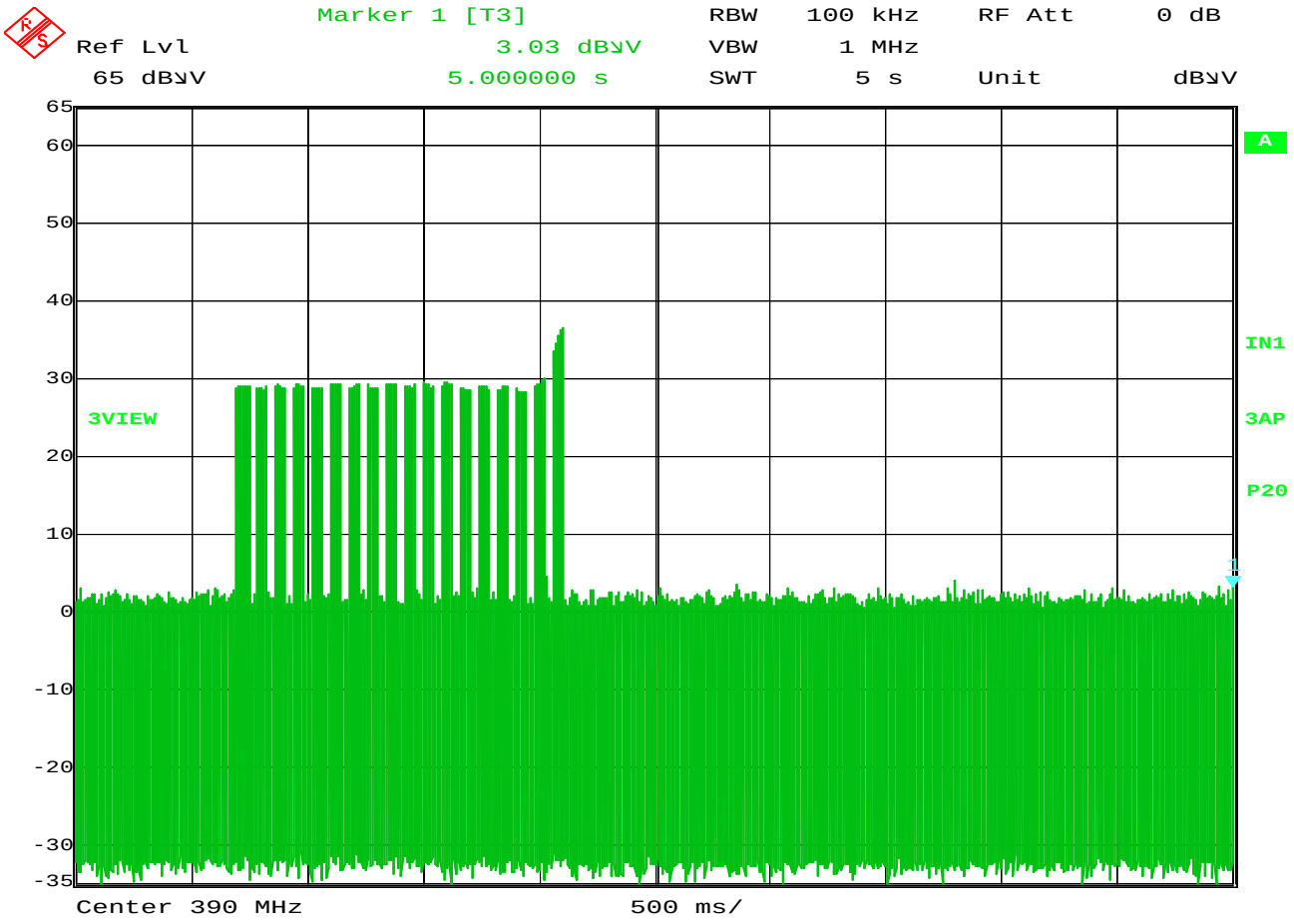


Date: 21.JUN.2016 16:18:00

FCC 15C 15.231 / Periodic Operation

MANUFACTURER	:	The Chamberlain Group
MODEL NUMBER	:	TM100 & TM110
TEST MODE	:	TX @ 315MHz
	:	PEAK DETECTOR
NOTES:	:	Button 5

NOTES

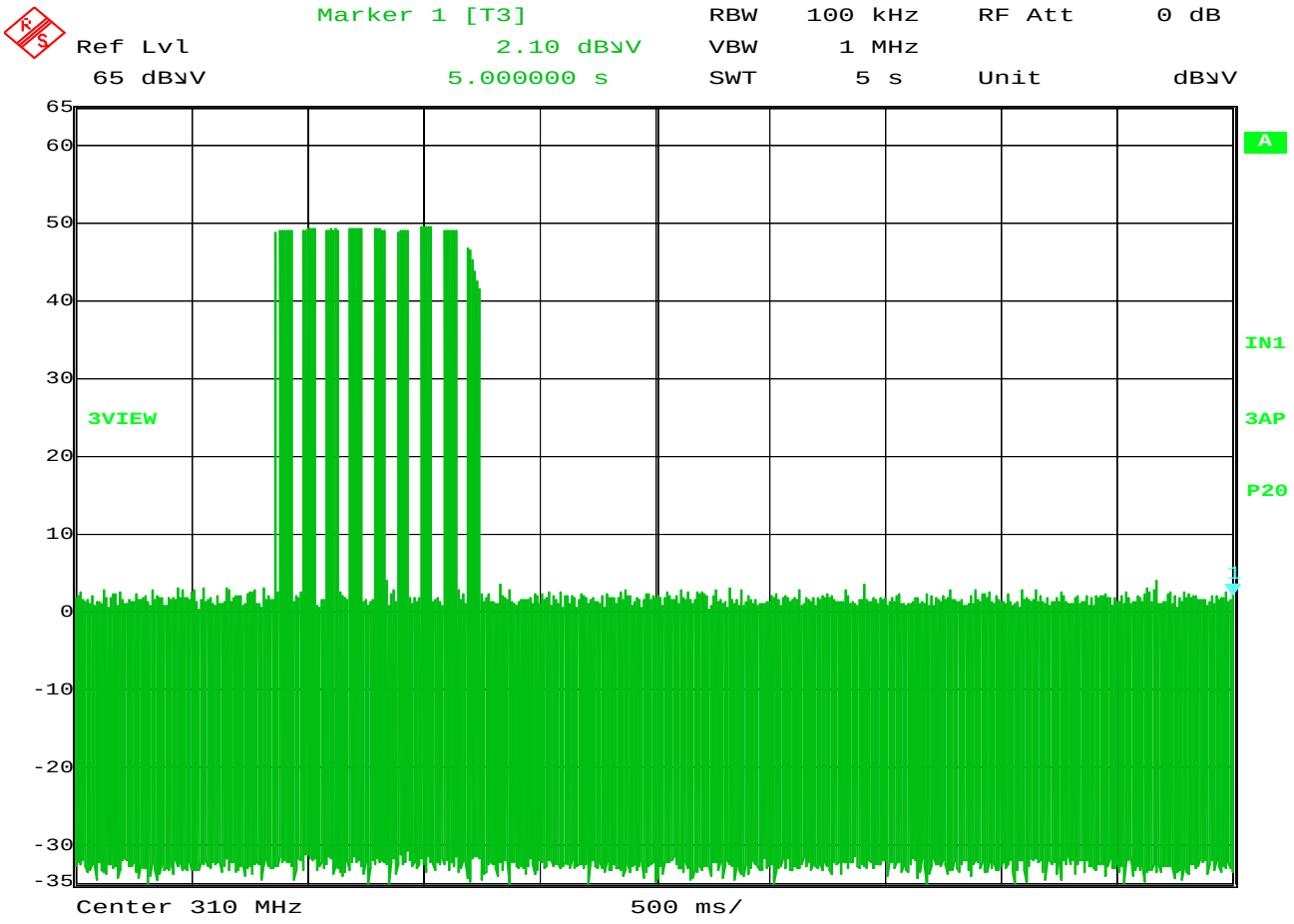


Date: 21.JUN.2016 16:19:57

FCC 15C 15.231 / Periodic Operation

MANUFACTURER : The Chamberlain Group
MODEL NUMBER : TM100 & TM110
TEST MODE : TX @ 390MHz
: PEAK DETECTOR
NOTES: : Button 6

NOTES

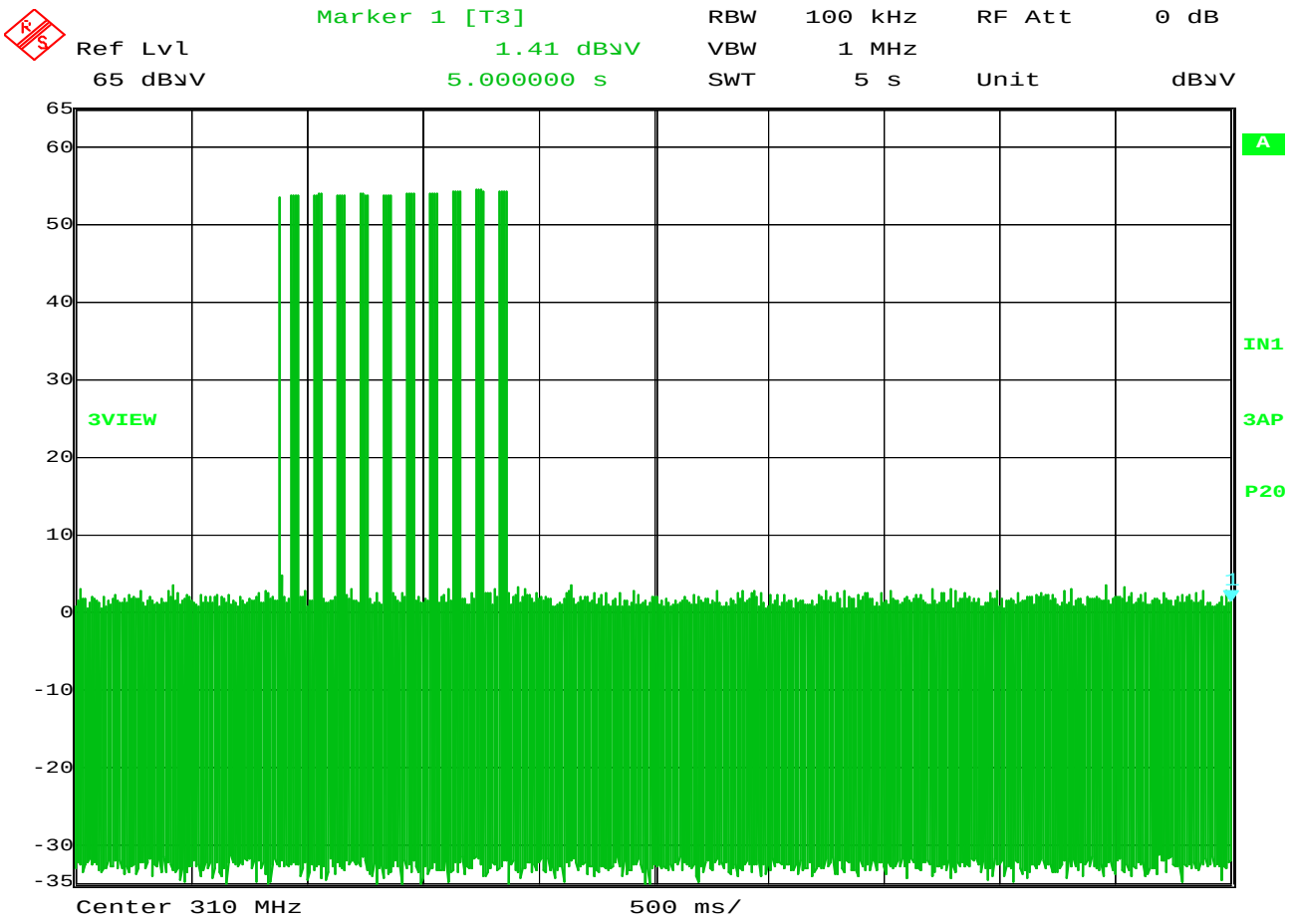


Date: 21.JUN.2016 16:22:41

FCC 15C 15.231 / Periodic Operation

MANUFACTURER	:	The Chamberlain Group
MODEL NUMBER	:	TM100 & TM110
TEST MODE	:	TX @ 310MHz
	:	PEAK DETECTOR
NOTES:	:	Button 7

NOTES

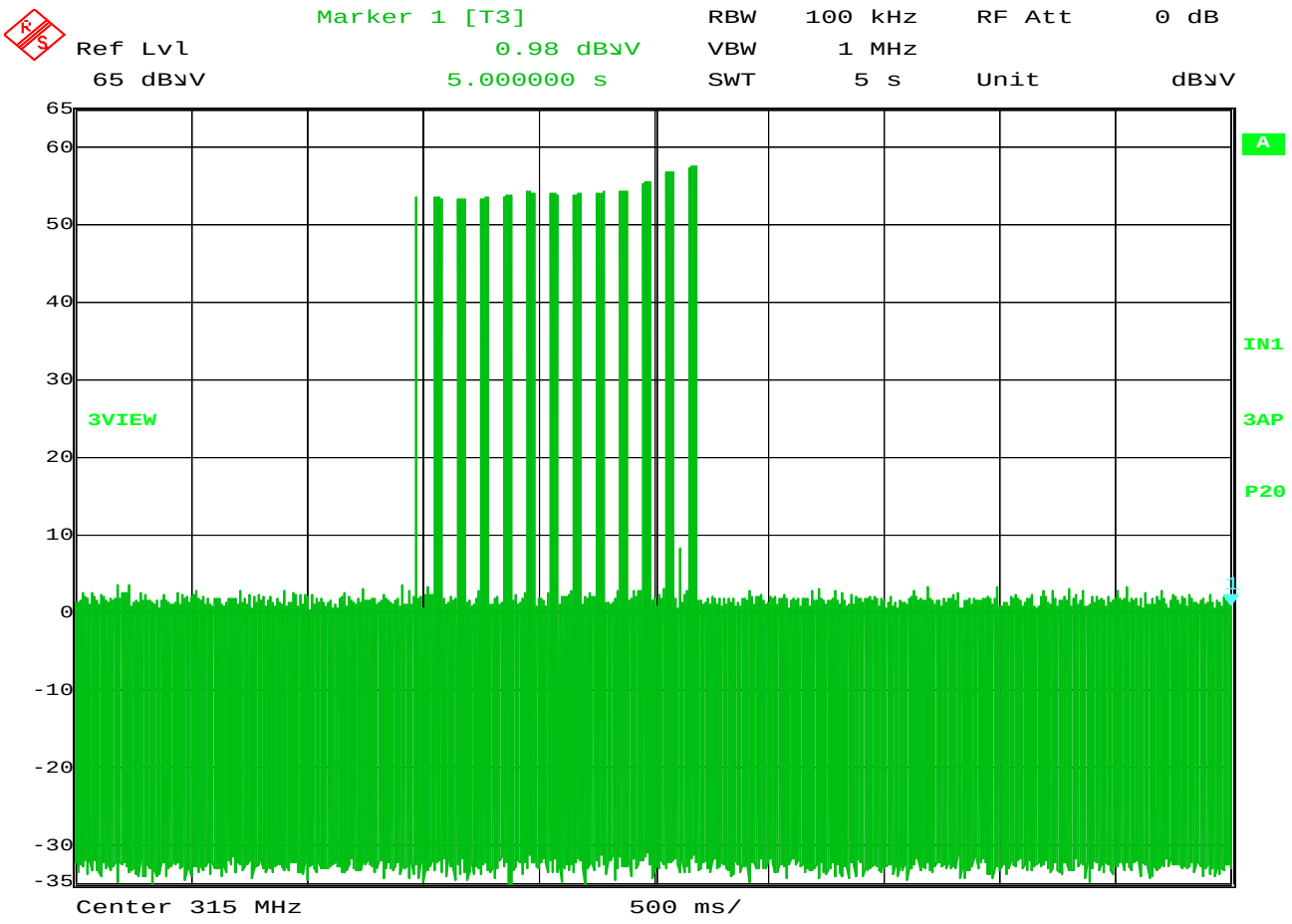


Date: 21.JUN.2016 16:24:04

FCC 15C 15.231 / Periodic Operation

MANUFACTURER	:	The Chamberlain Group
MODEL NUMBER	:	TM100 & TM110
TEST MODE	:	TX @ 310MHz
	:	PEAK DETECTOR
NOTES:	:	Button 8

NOTES

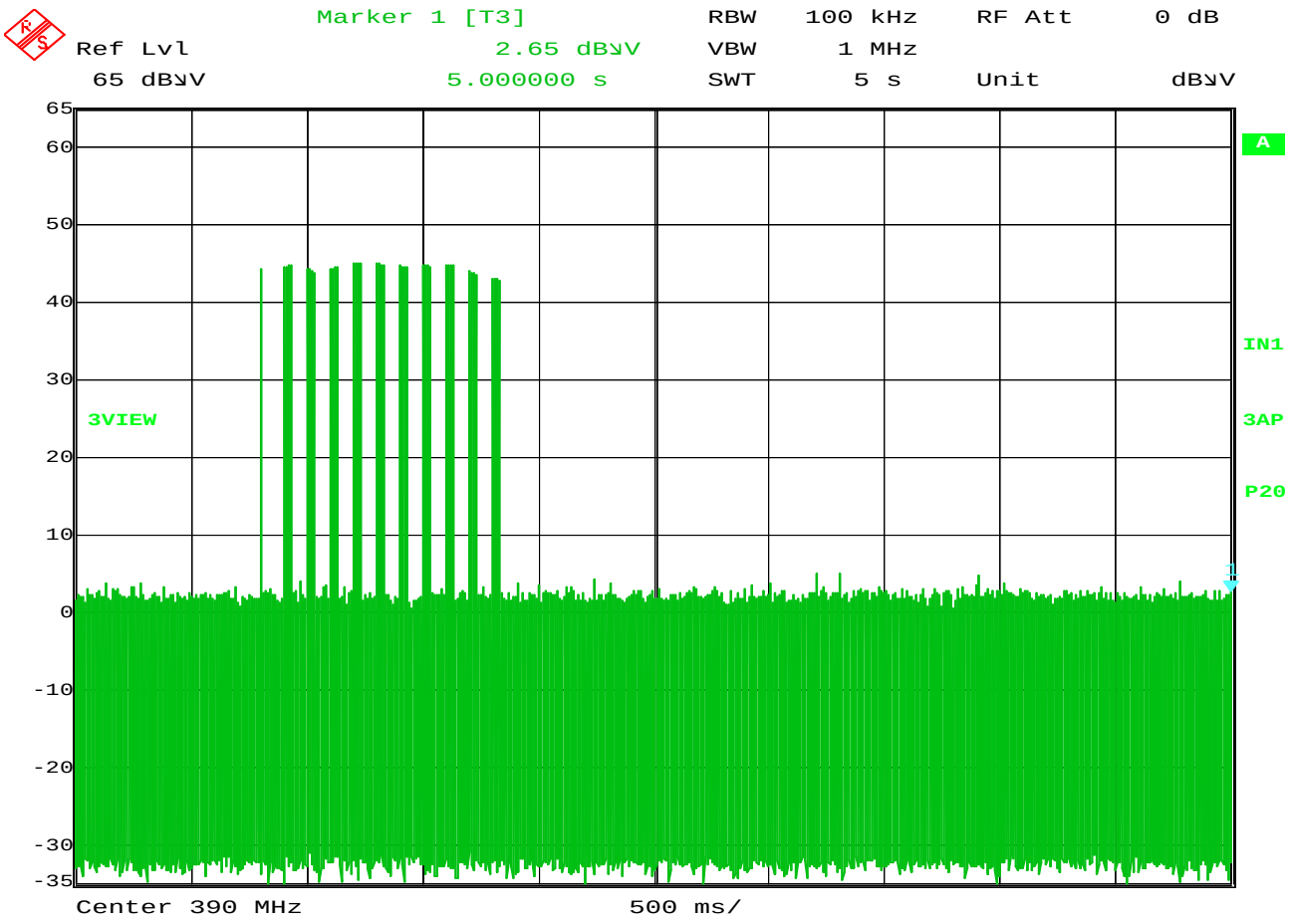


Date: 21.JUN.2016 16:25:27

FCC 15C 15.231 / Periodic Operation

MANUFACTURER	:	The Chamberlain Group
MODEL NUMBER	:	TM100 & TM110
TEST MODE	:	TX @ 315MHz
	:	PEAK DETECTOR
NOTES:	:	Button 8

NOTES

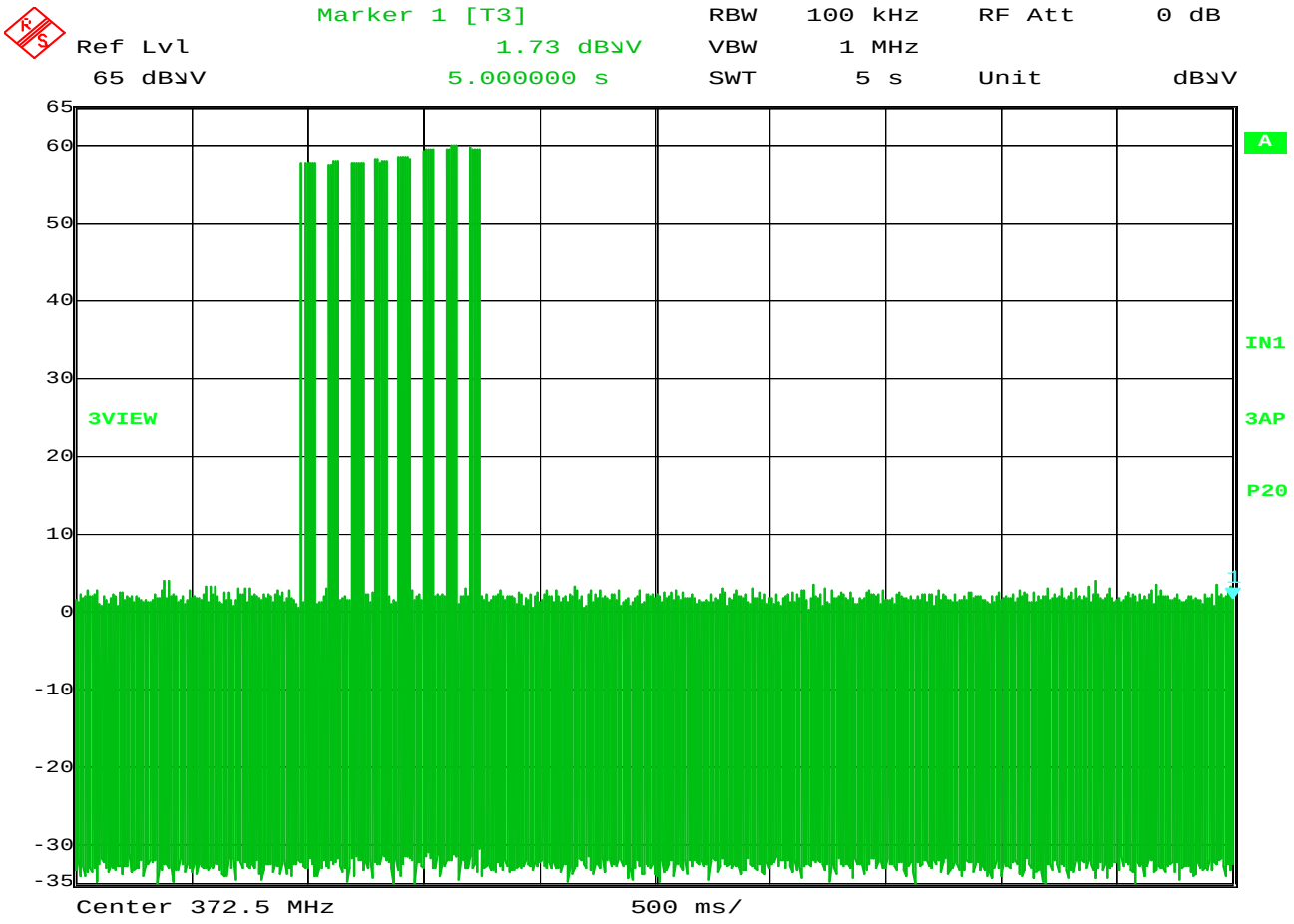


Date: 21.JUN.2016 16:30:25

FCC 15C 15.231 / Periodic Operation

MANUFACTURER	:	The Chamberlain Group
MODEL NUMBER	:	TM100 & TM110
TEST MODE	:	TX @ 390MHz
	:	PEAK DETECTOR
NOTES:	:	Button 8

NOTES

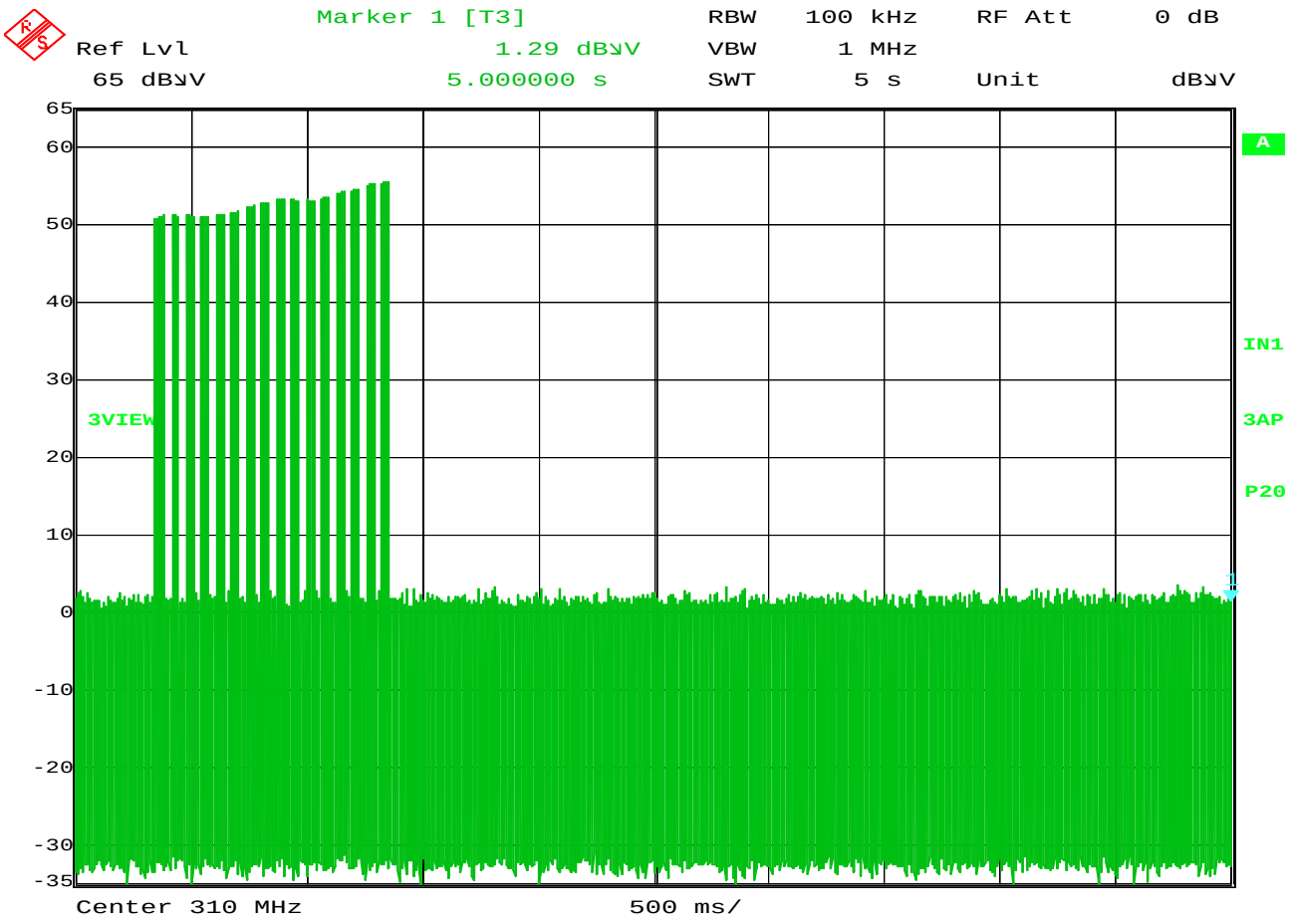


Date: 21.JUN.2016 16:31:49

FCC 15C 15.231 / Periodic Operation

MANUFACTURER	:	The Chamberlain Group
MODEL NUMBER	:	TM100 & TM110
TEST MODE	:	TX @ 372.5MHz
	:	PEAK DETECTOR
NOTES:	:	Button 9

NOTES

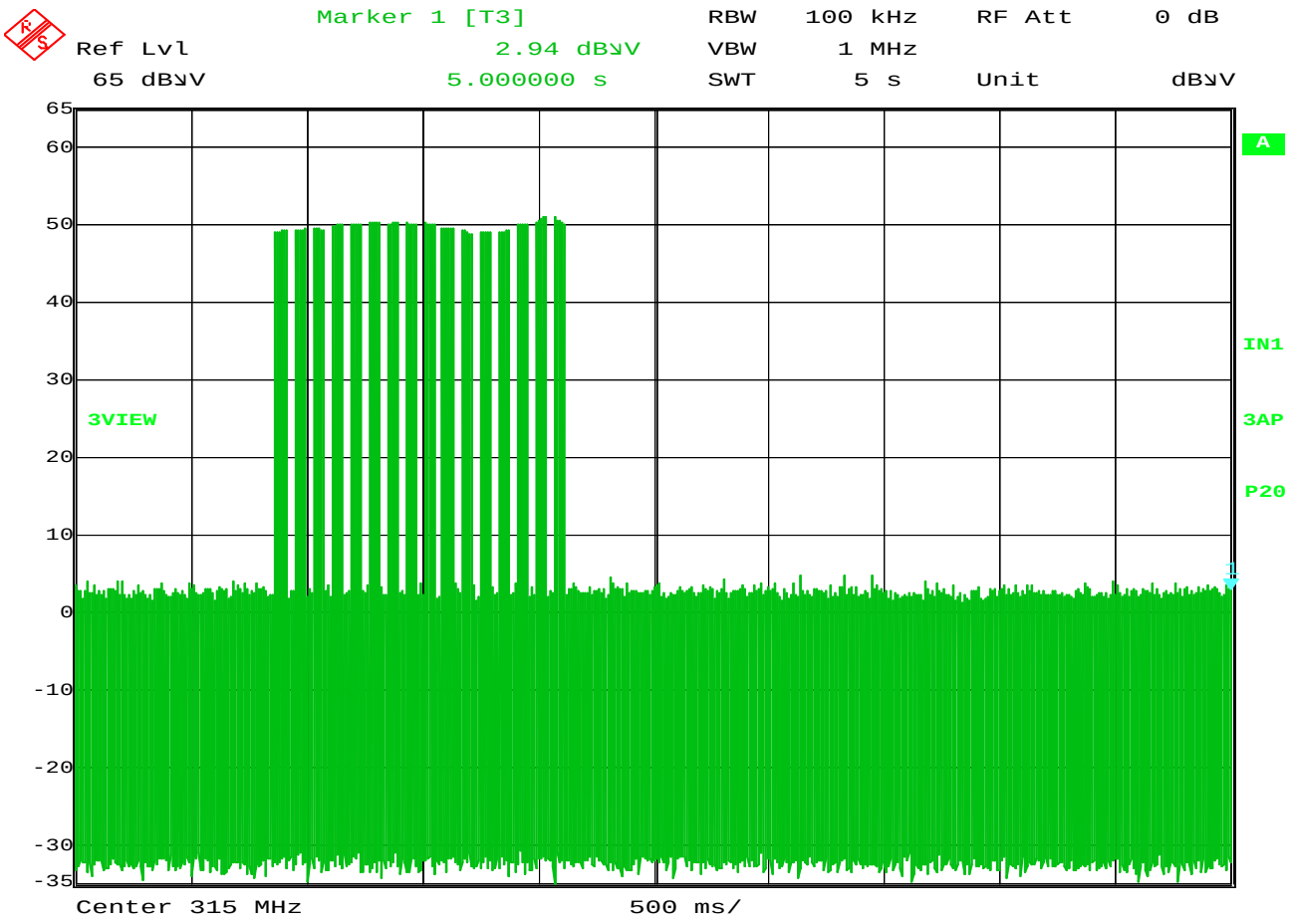


Date: 21.JUN.2016 16:33:47

FCC 15C 15.231 / Periodic Operation

MANUFACTURER	:	The Chamberlain Group
MODEL NUMBER	:	TM100 & TM110
TEST MODE	:	TX @ 310MHz
	:	PEAK DETECTOR
NOTES:	:	Button 10

NOTES

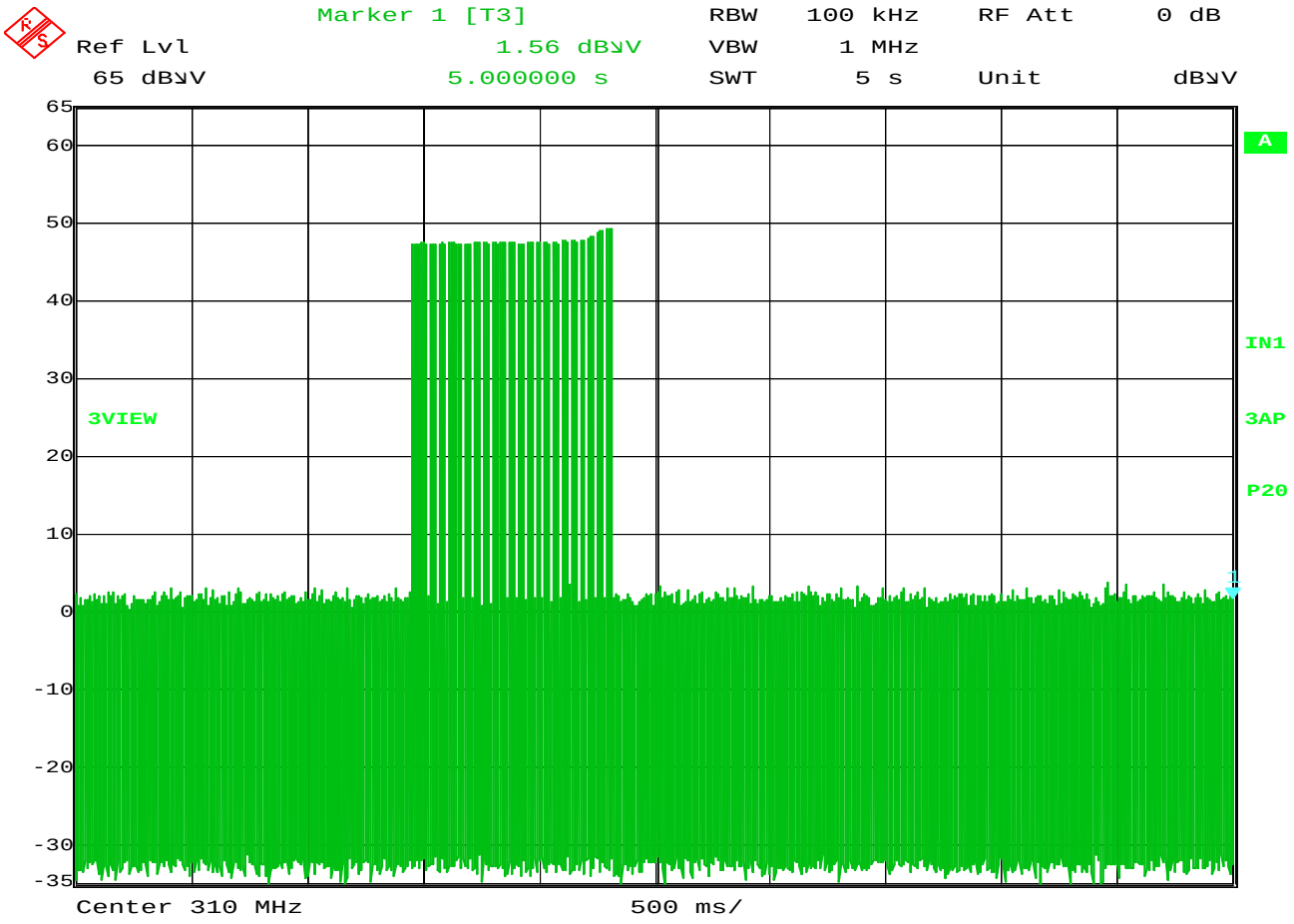


Date: 21.JUN.2016 16:36:23

FCC 15C 15.231 / Periodic Operation

MANUFACTURER	:	The Chamberlain Group
MODEL NUMBER	:	TM100 & TM110
TEST MODE	:	TX @ 315MHz
	:	PEAK DETECTOR
NOTES:	:	Button 11

NOTES

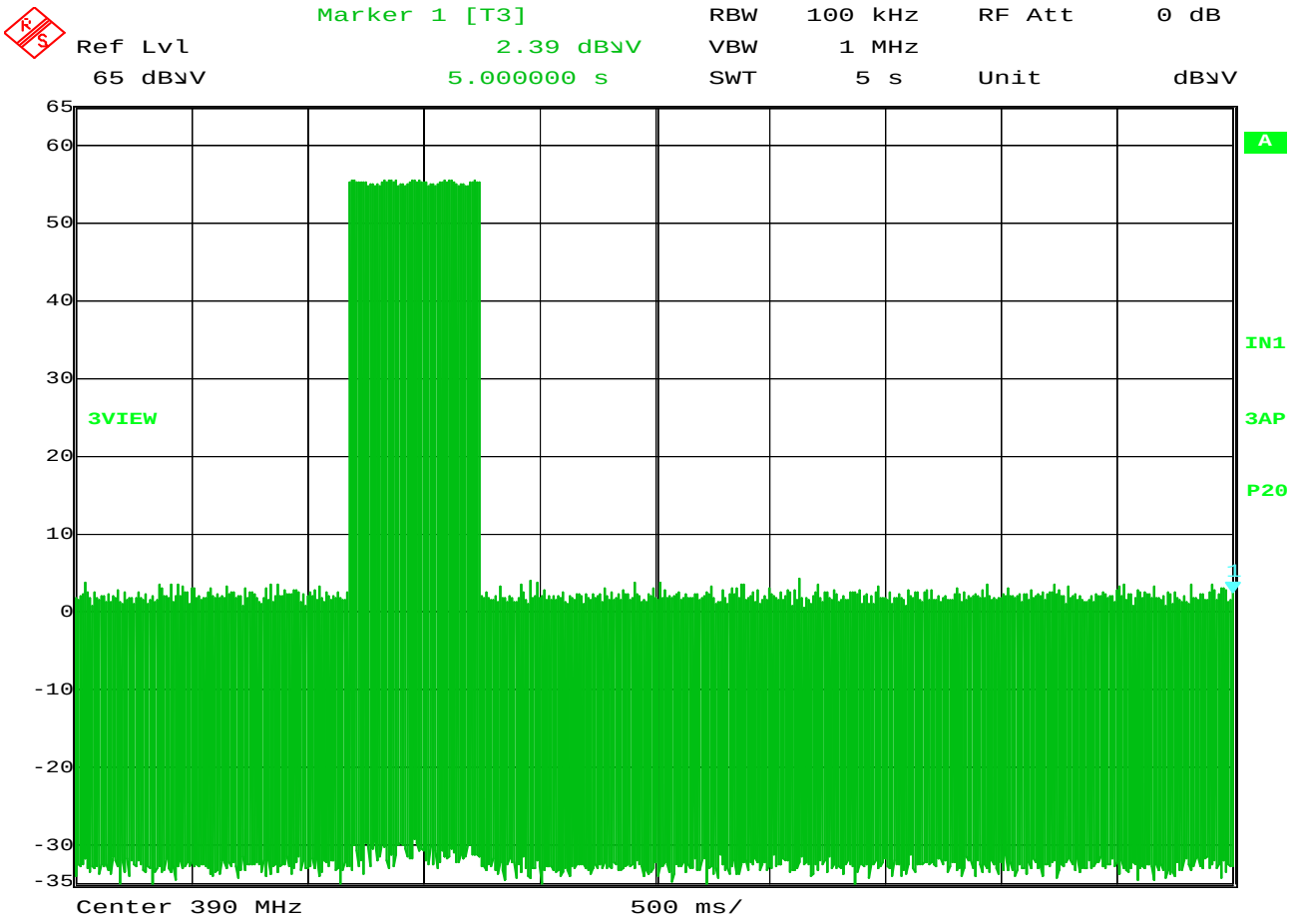


Date: 21.JUN.2016 16:37:58

FCC 15C 15.231 / Periodic Operation

MANUFACTURER : The Chamberlain Group
MODEL NUMBER : TM100 & TM110
TEST MODE : TX @ 310MHz
: PEAK DETECTOR
NOTES: : Button 12

NOTES

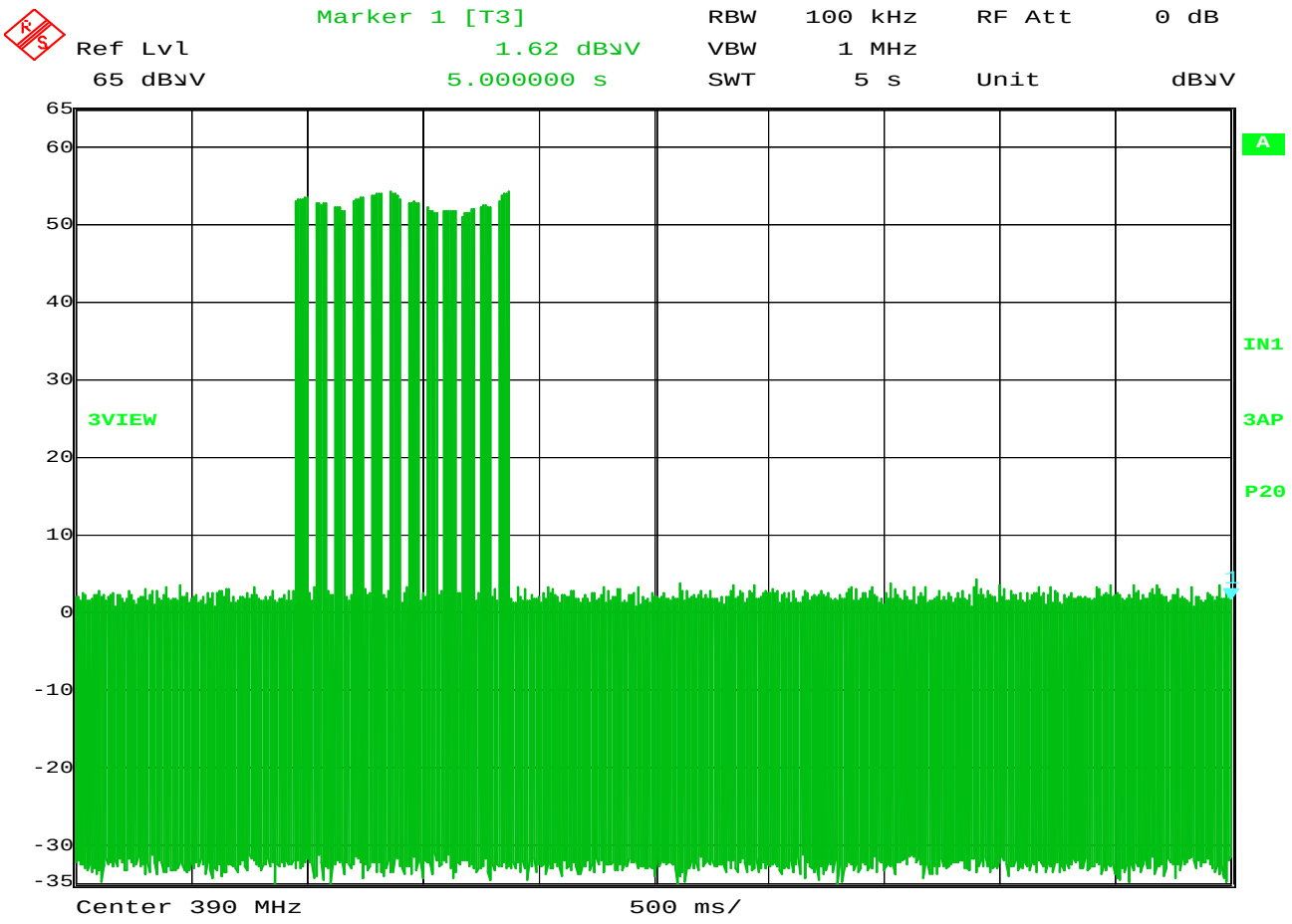


Date: 21.JUN.2016 16:39:37

FCC 15C 15.231 / Periodic Operation

MANUFACTURER	:	The Chamberlain Group
MODEL NUMBER	:	TM100 & TM110
TEST MODE	:	TX @ 390MHz
	:	PEAK DETECTOR
NOTES:	:	Button 13

NOTES

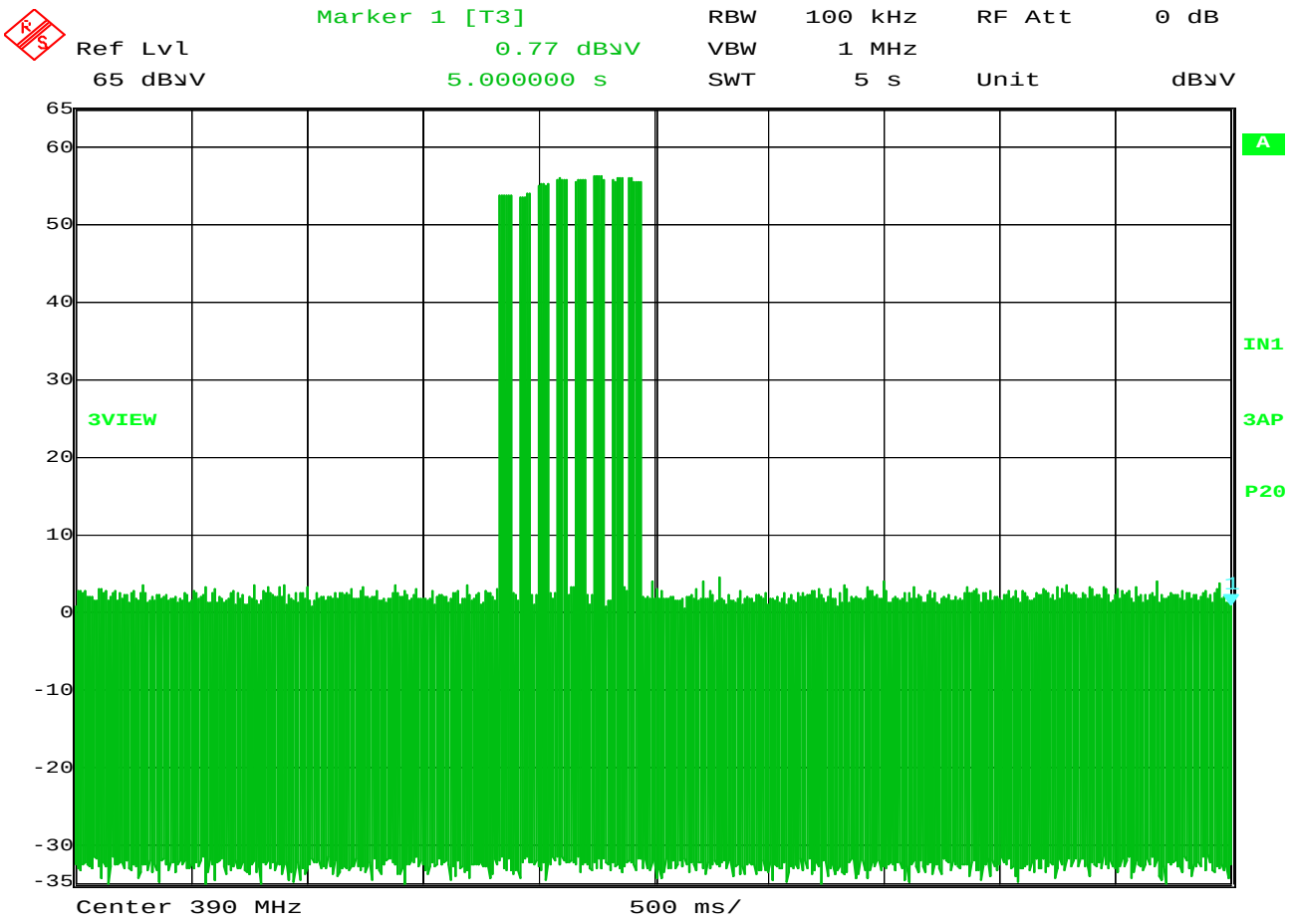


Date: 21.JUN.2016 16:40:36

FCC 15C 15.231 / Periodic Operation

MANUFACTURER	:	The Chamberlain Group
MODEL NUMBER	:	TM100 & TM110
TEST MODE	:	TX @ 390MHz
	:	PEAK DETECTOR
NOTES:	:	Button 14

NOTES

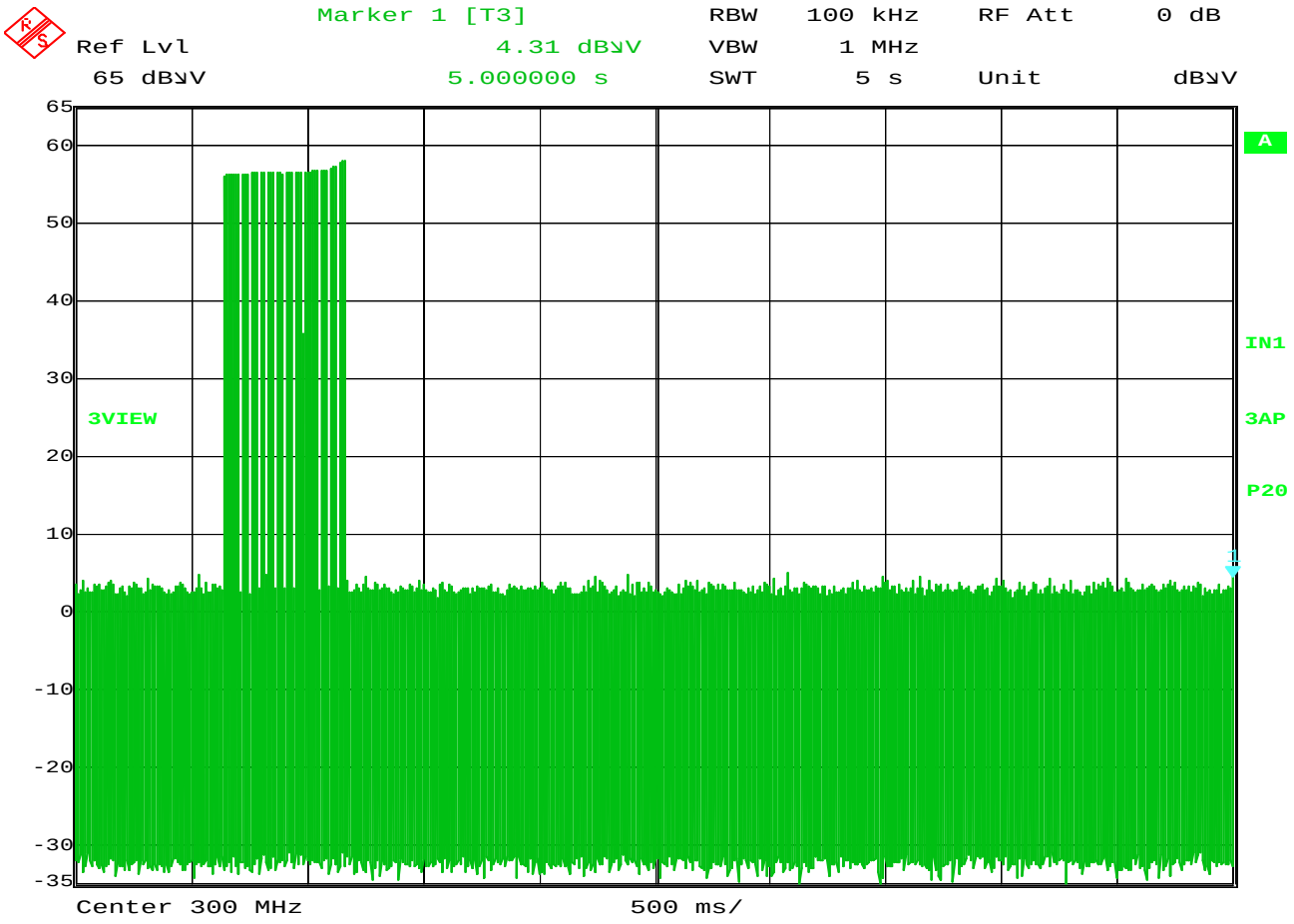


Date: 21.JUN.2016 16:41:29

FCC 15C 15.231 / Periodic Operation

MANUFACTURER : The Chamberlain Group
MODEL NUMBER : TM100 & TM110
TEST MODE : TX @ 390MHz
: PEAK DETECTOR
NOTES: : Button 15

NOTES

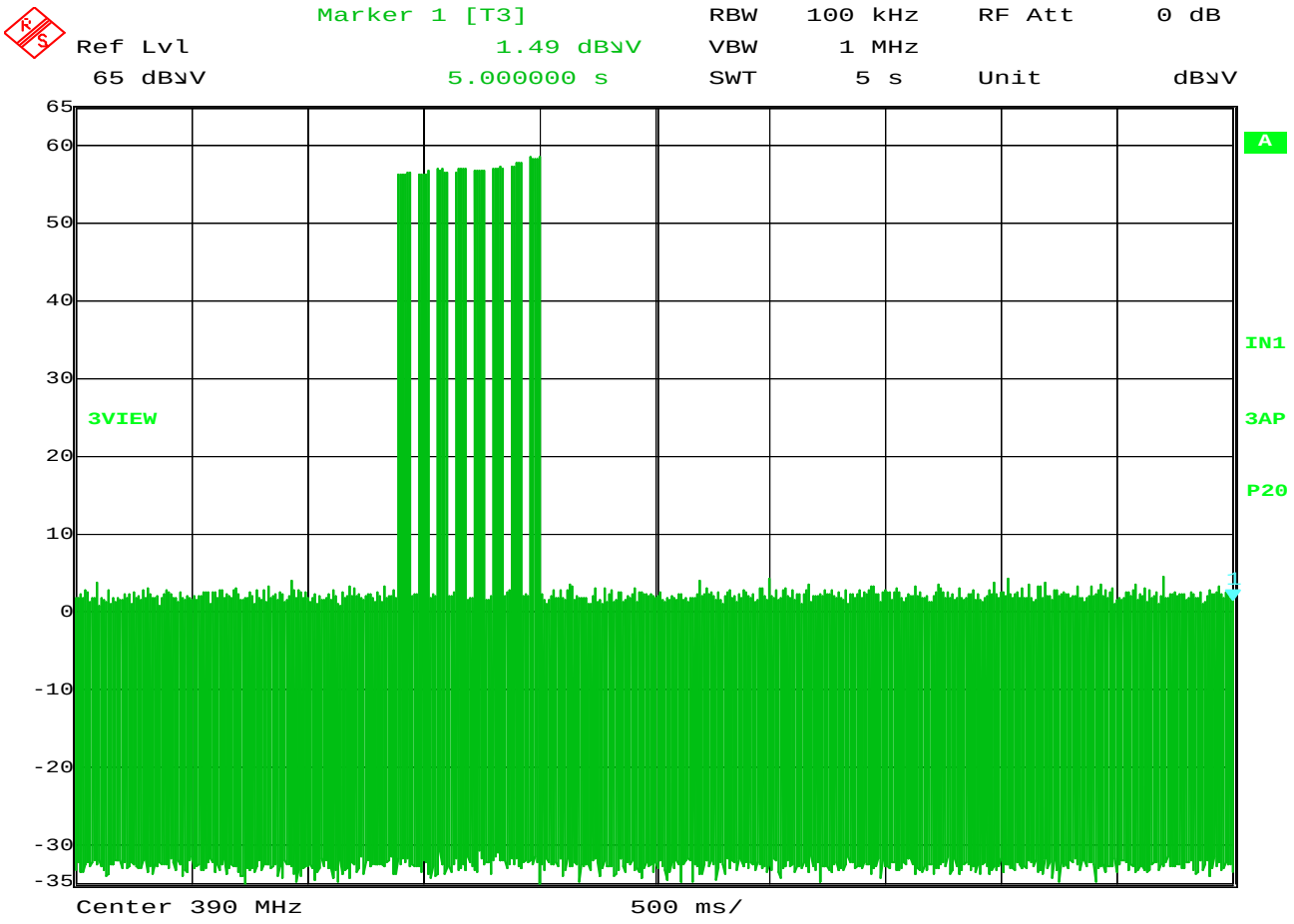


Date: 21.JUN.2016 16:43:42

FCC 15C 15.231 / Periodic Operation

MANUFACTURER	:	The Chamberlain Group
MODEL NUMBER	:	TM100 & TM110
TEST MODE	:	TX @ 300MHz
	:	PEAK DETECTOR
NOTES:	:	Button 16

NOTES

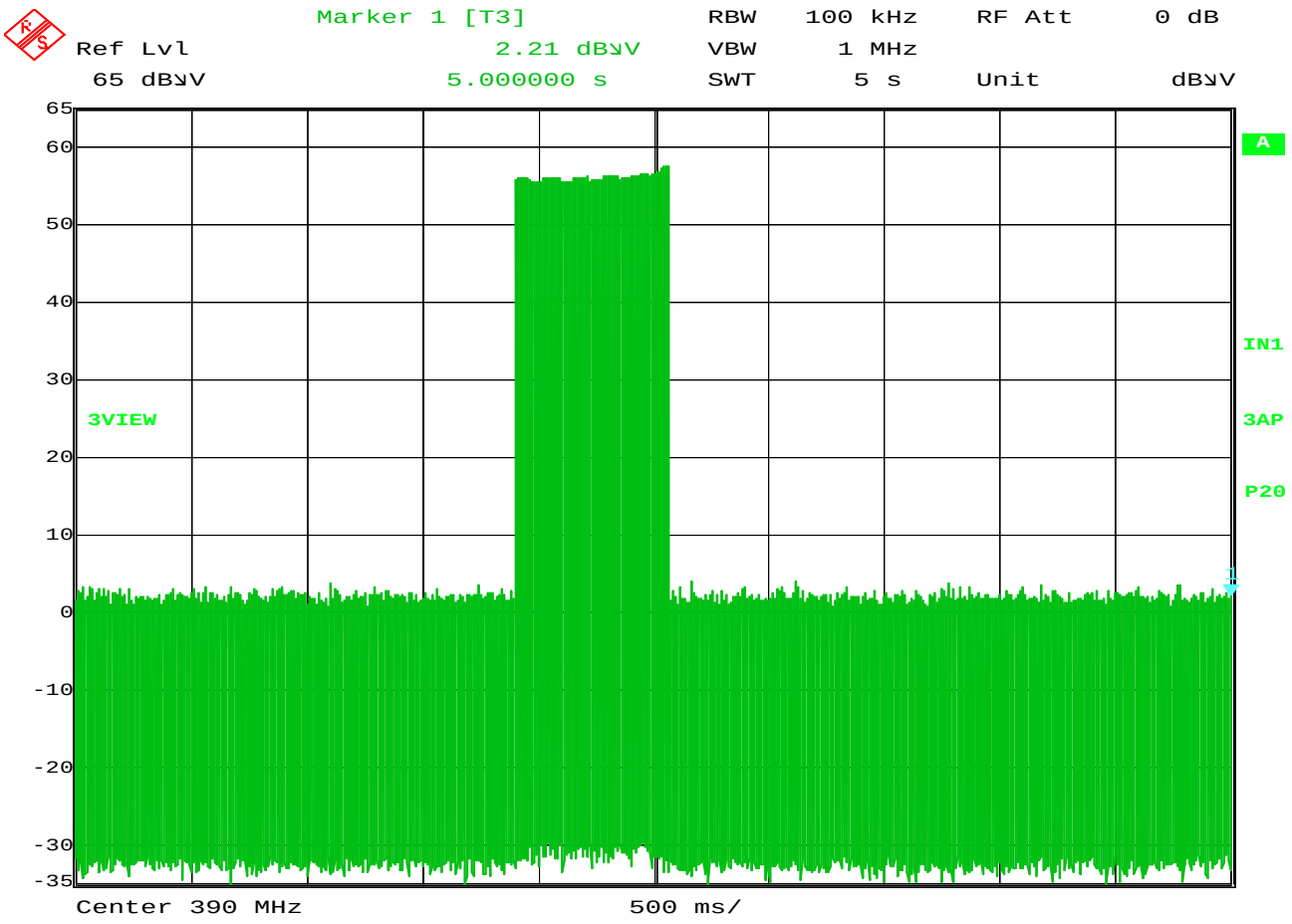


Date: 21.JUN.2016 16:44:50

FCC 15C 15.231 / Periodic Operation

MANUFACTURER	:	The Chamberlain Group
MODEL NUMBER	:	TM100 & TM110
TEST MODE	:	TX @ 390MHz
	:	PEAK DETECTOR
NOTES:	:	Button 17

NOTES

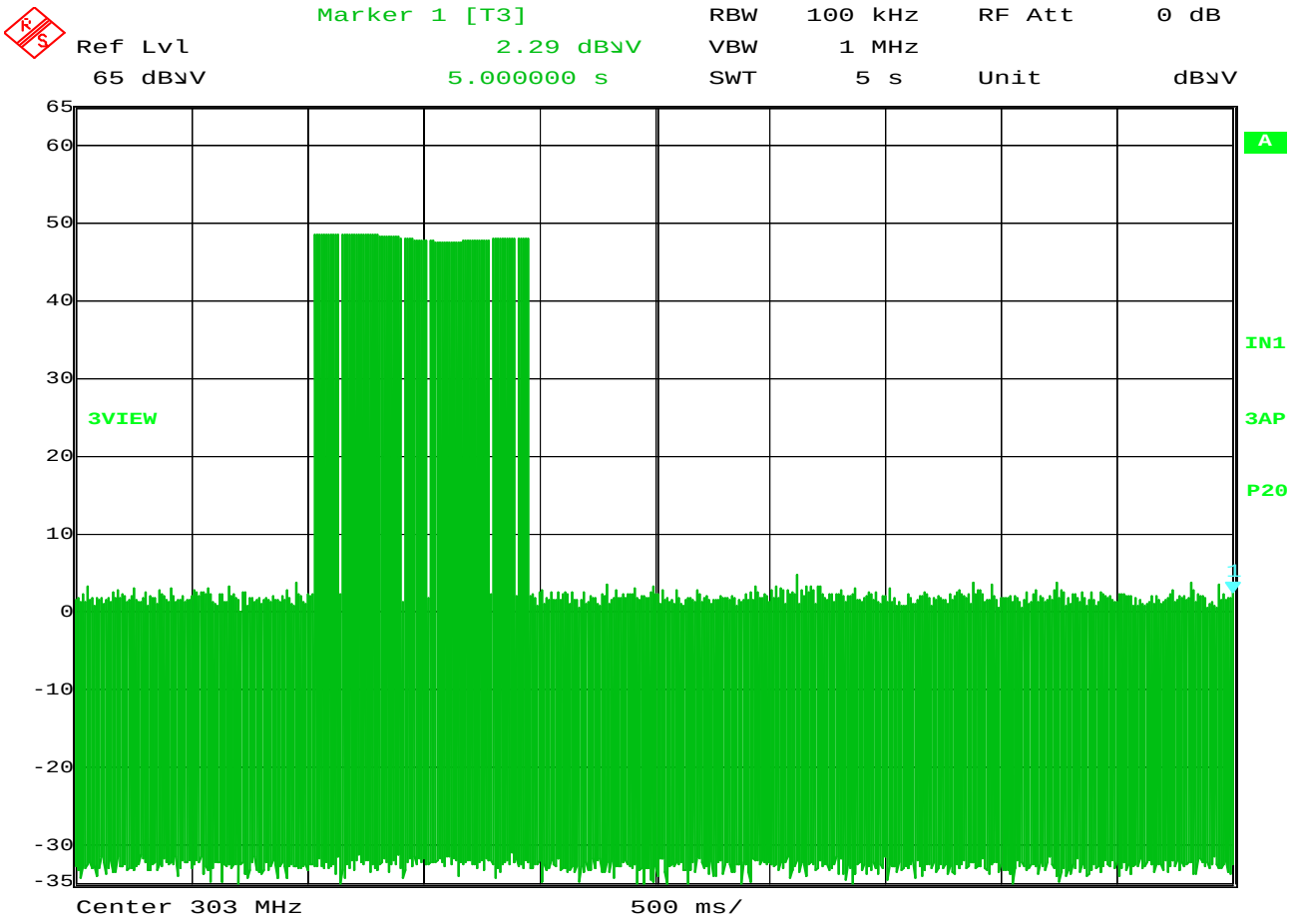


Date: 21.JUN.2016 16:46:10

FCC 15C 15.231 / Periodic Operation

MANUFACTURER	:	The Chamberlain Group
MODEL NUMBER	:	TM100 & TM110
TEST MODE	:	TX @ 390MHz
	:	PEAK DETECTOR
NOTES:	:	Button 18

NOTES

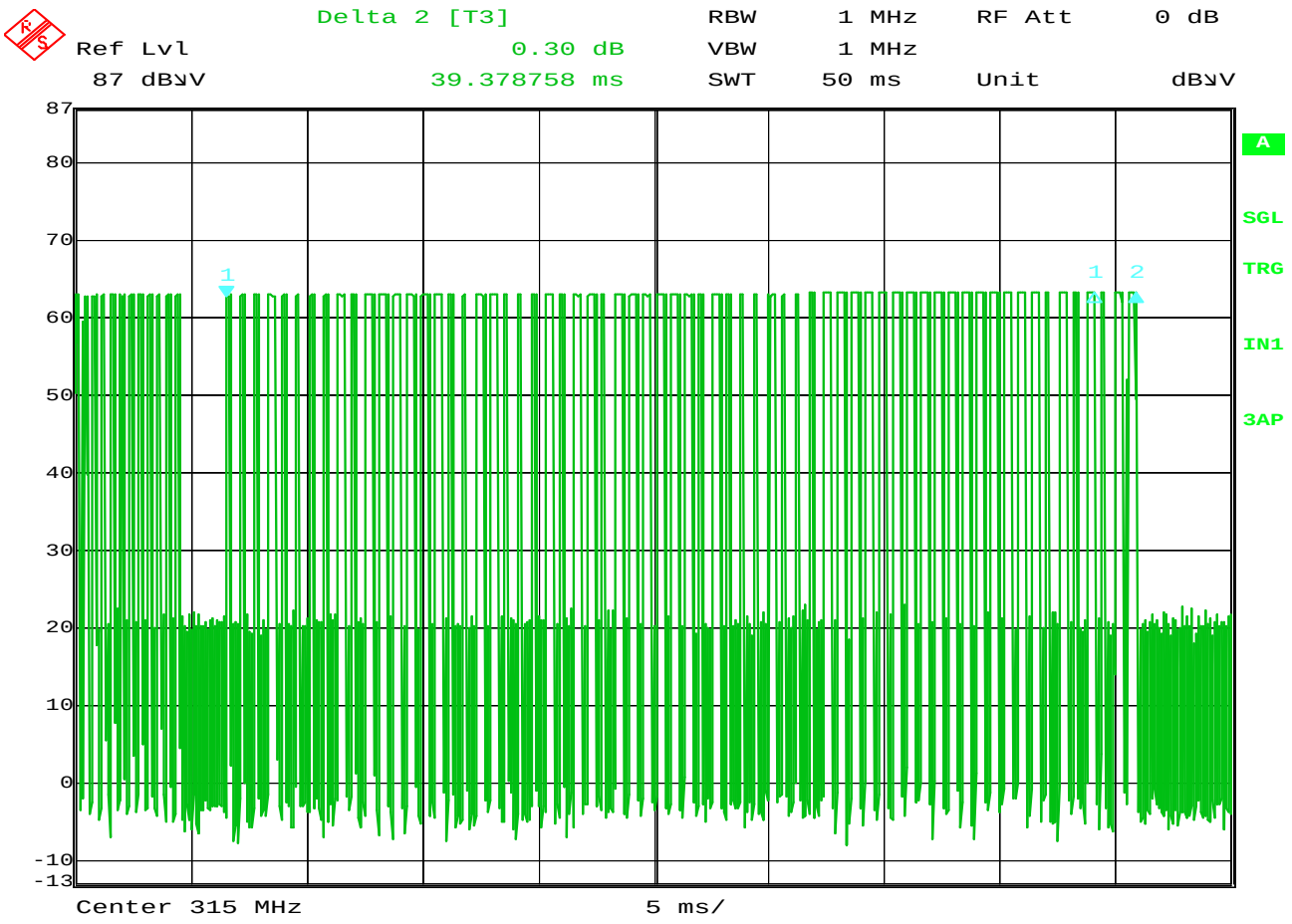


Date: 21.JUN.2016 16:47:12

FCC 15C 15.231 / Periodic Operation

MANUFACTURER	:	The Chamberlain Group
MODEL NUMBER	:	TM100 & TM110
TEST MODE	:	TX @ 303MHz
	:	PEAK DETECTOR
NOTES:	:	Button 19

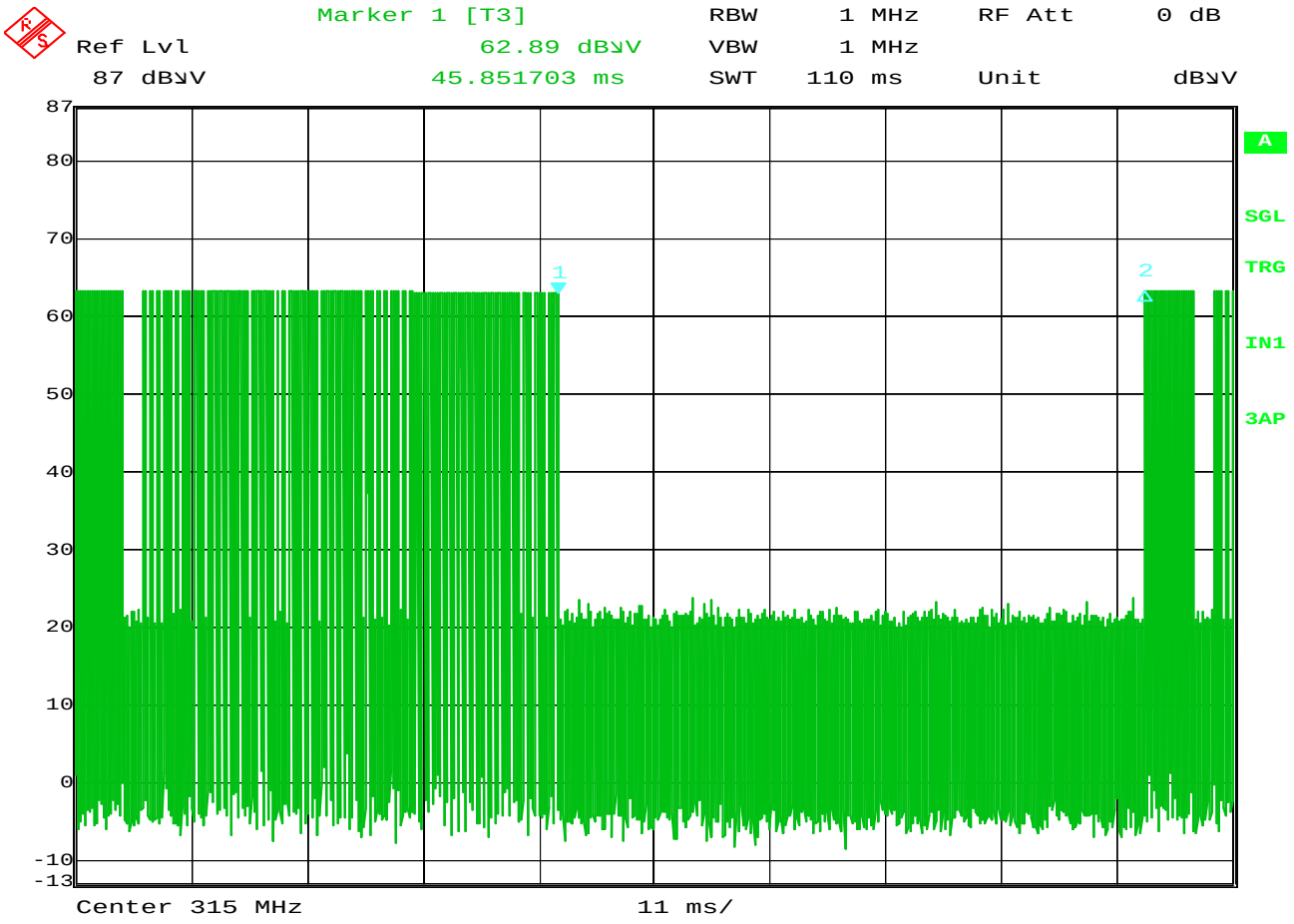
NOTES



FCC 15C 15.35 / Duty Cycle

MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 310, 315, 372.5 and 390MHz
	: Peak detector
NOTES	: Duty Cycle
NOTES	: Genie Intellicode, Stanley Secure Code and Wayne Dalton Rolling Code
NOTES	: Encrypted + Fixed portion = 39.3 mS
NOTES	: Button 1, Button 2, Button 7 and Button 9

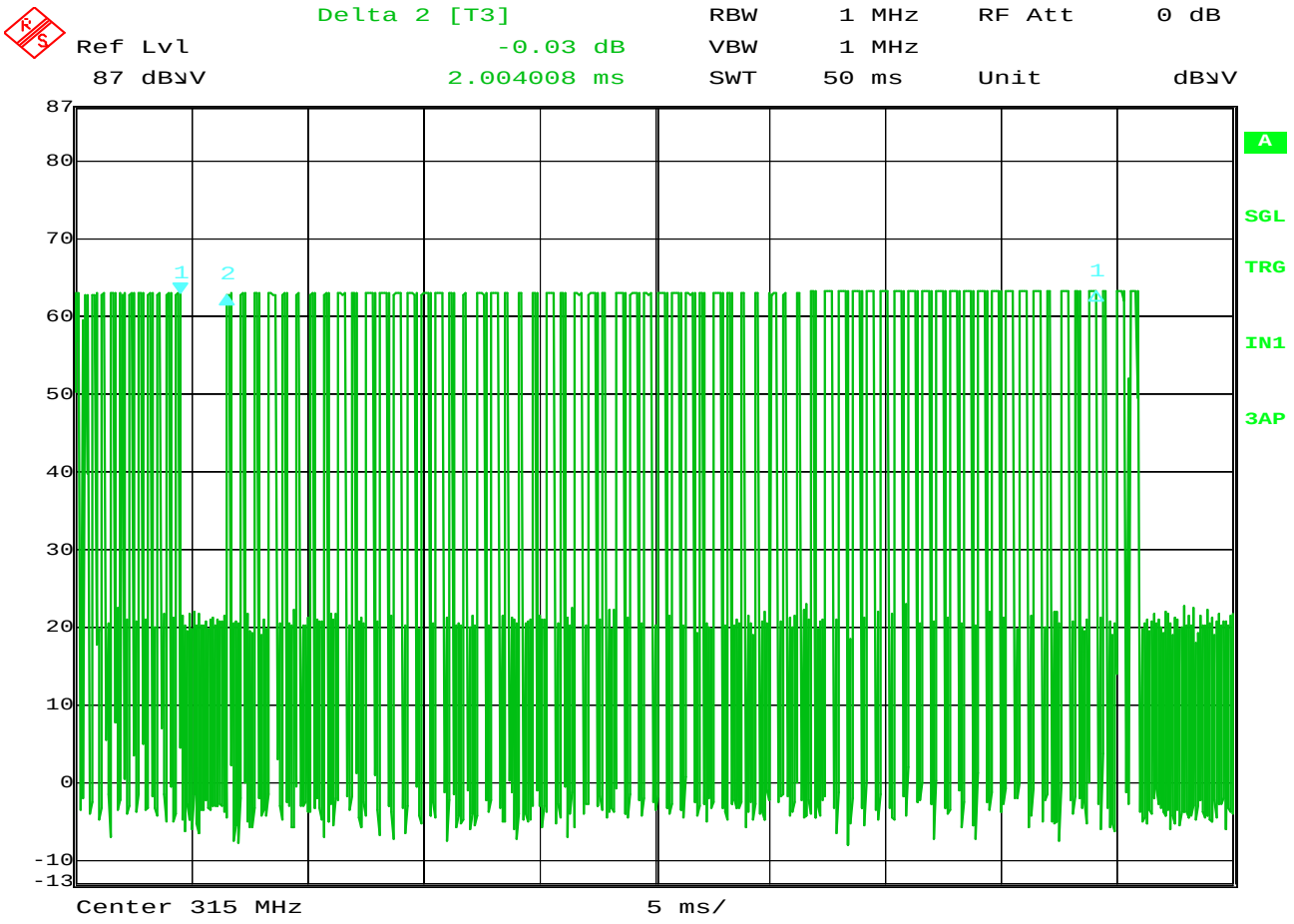
NOTES



FCC 15C 15.35 / Duty Cycle

MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 310, 315, 372.5 and 390MHz
	: Peak detector
NOTES	: Duty Cycle
NOTES	: Genie Intellicode, Stanley Secure Code and Wayne Dalton Rolling Code
NOTES	: Guard Time T_G = 45.8 mS
NOTES	: Button 1, Button 2, Button 7 and Button 9

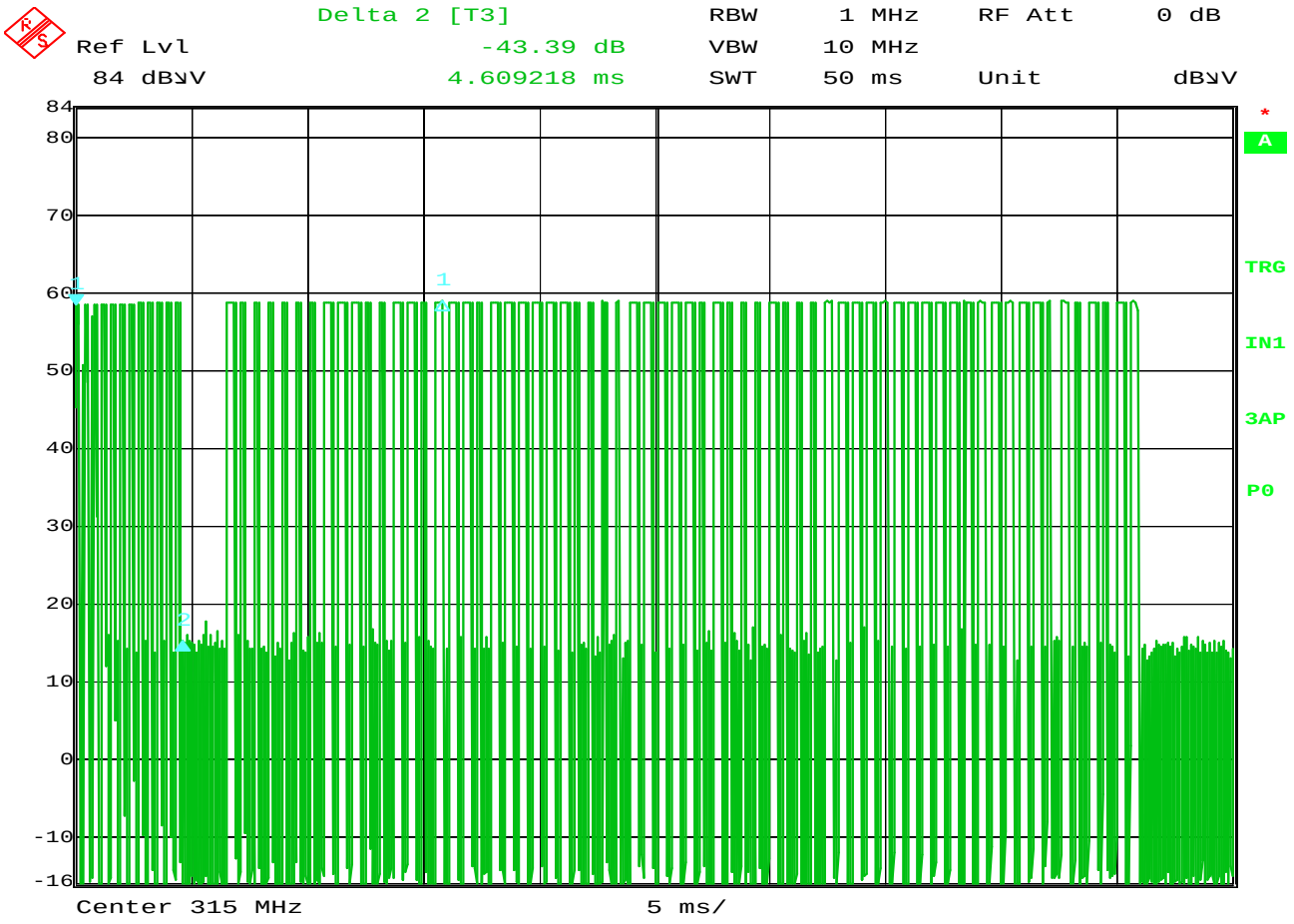
NOTES



FCC 15C 15.35 / Duty Cycle

MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 310, 315, 372.5 and 390MHz
	: Peak detector
NOTES	: Duty Cycle
NOTES	: Genie Intellicode, Stanley Secure Code and Wayne Dalton Rolling Code
NOTES	: Header T_H = 2 mS
NOTES	: Button 1, Button 2, Button 7 and Button 9

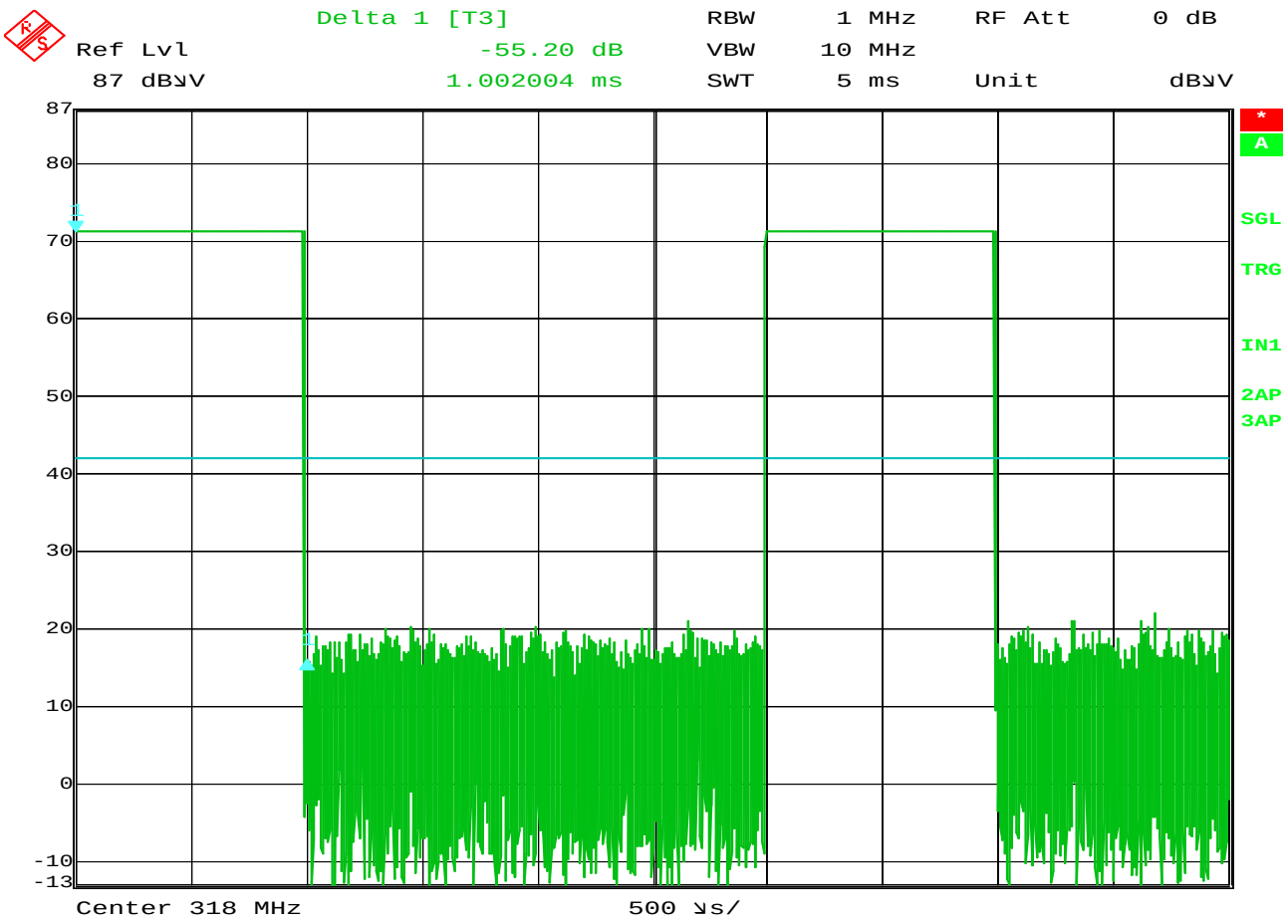
NOTES



FCC 15C 15.35 / Duty Cycle

MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 310, 315, 372.5 and 390MHz
	: Peak detector
NOTES	: Duty Cycle
NOTES	: Genie Intellicode, Stanley Secure Code and Wayne Dalton Rolling Code
NOTES	: Pre-Amble = 4.6 mS
NOTES	: 20*log(30.7mS/100mS) = -10.25 dB
NOTES	: Button 1, Button 2, Button 7 and Button 9

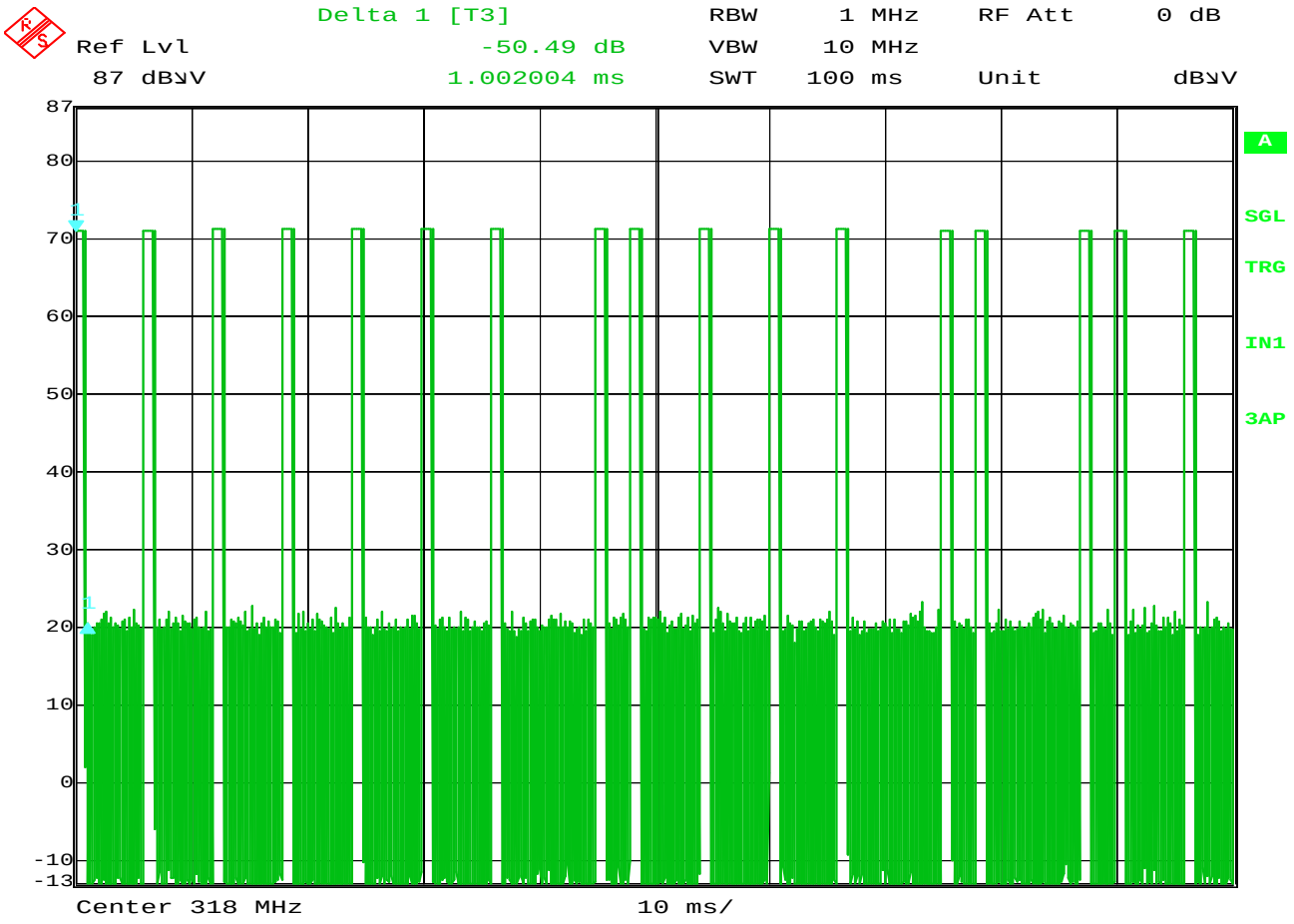
NOTES



FCC 15C 15.35 / Duty Cycle

MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 318MHz
	: Peak detector
NOTES	: Duty Cycle
NOTES	: Linear Mega Code
NOTES	: ON pulse = 1 mS
NOTES	: Button 3

NOTES

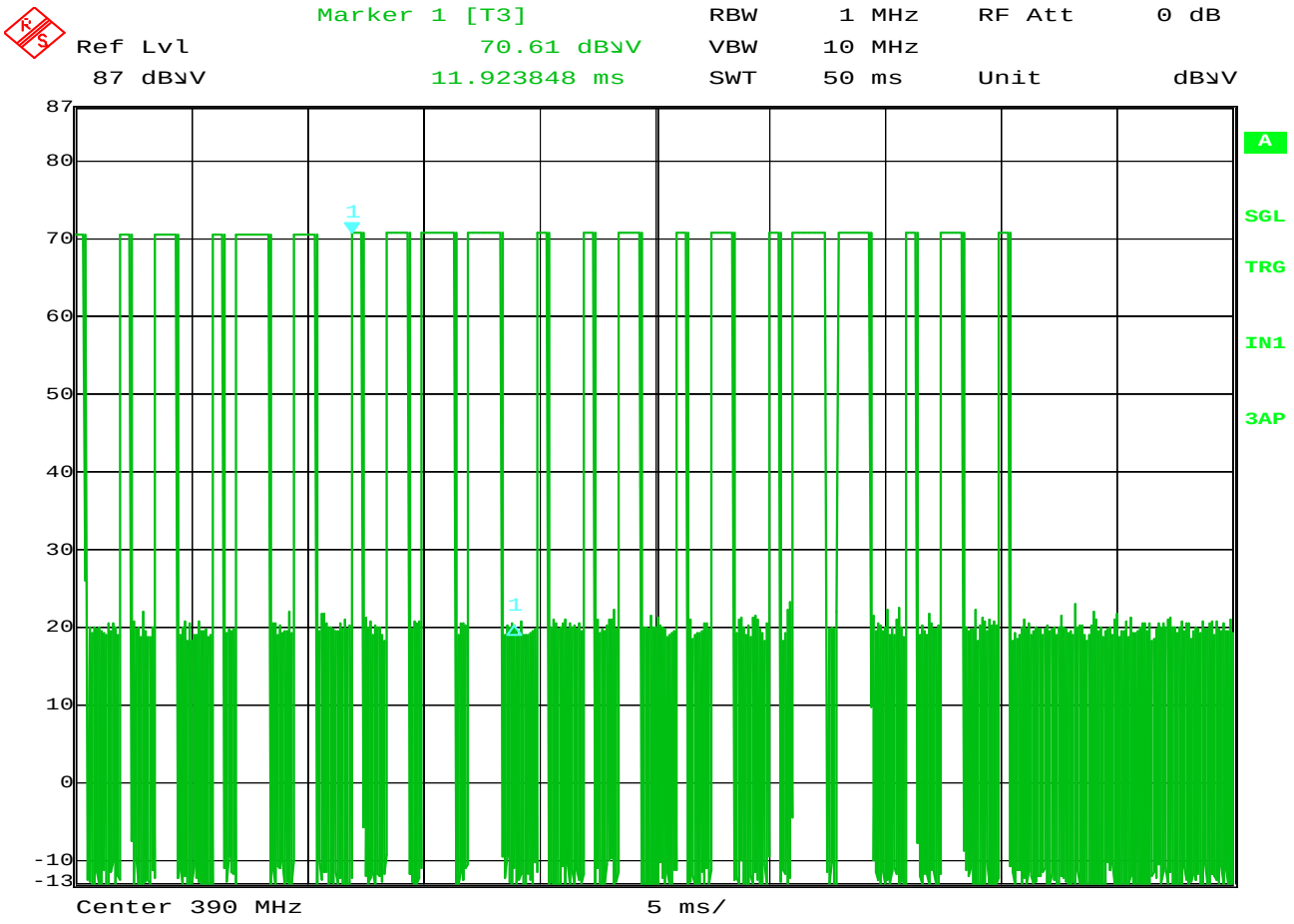


Date: 2.MAY.2016 10:46:52

FCC 15C 15.35 / Duty Cycle

MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 318MHz
	: Peak detector
NOTES	: Duty Cycle
NOTES	: Mega Code
NOTES	: Number of Pulses = 17
NOTES	: 20*LOG(17mS/100mS) = -15.39 dB
NOTES	: Button 3

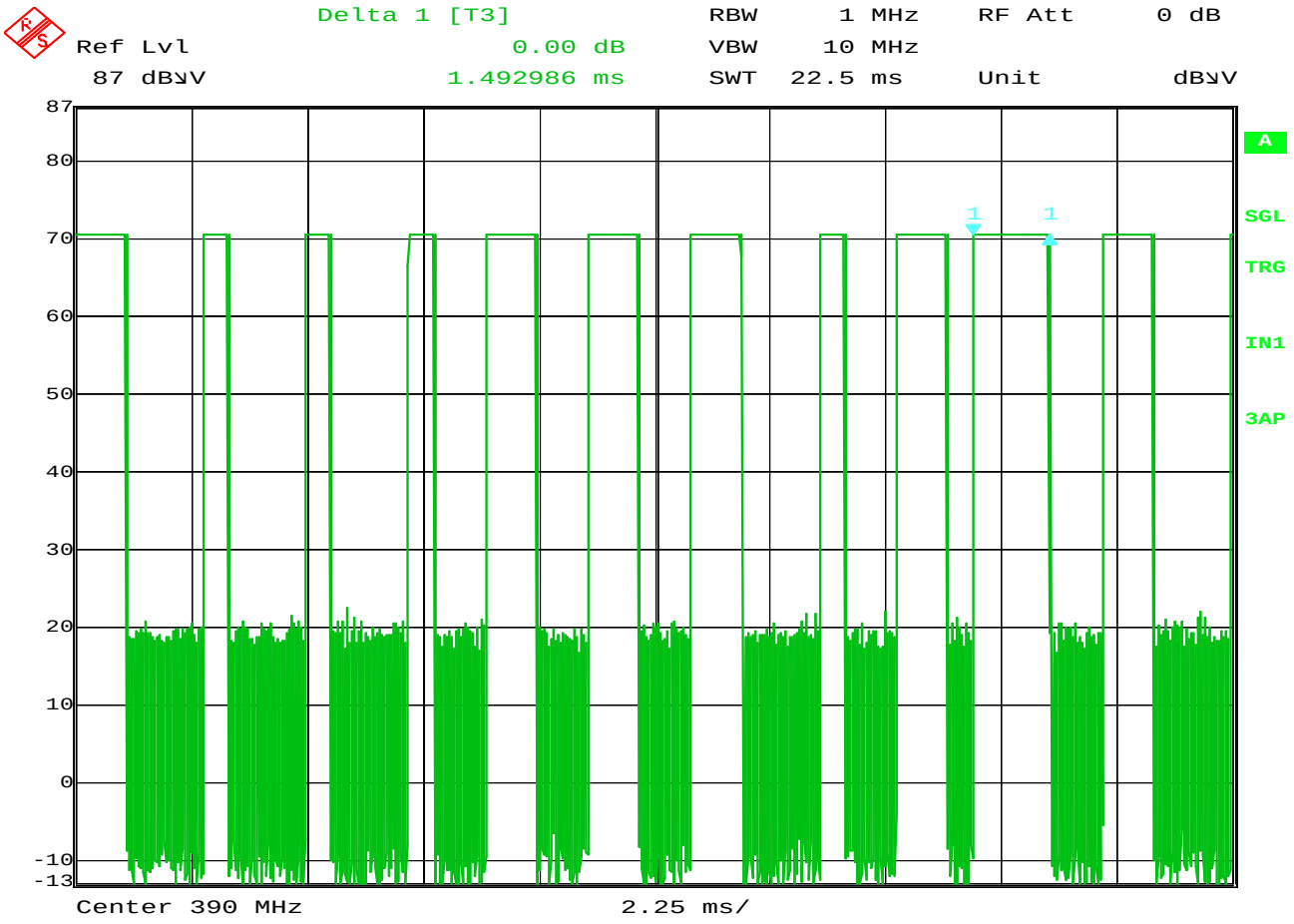
NOTES



FCC 15C 15.35 / Duty Cycle

MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 315 and 390MHz
	: Peak detector
NOTES	: Duty Cycle
NOTES	: Chamberlain Rolling Code D
NOTES	: Number of Pulses = 21
NOTES	: Pulse Width (1.49 mS) * 21 pulses = 31.29 mS
NOTES	: Button 4 and Button 5
NOTES	: Plots representative of Rolling Code D which is used for multiple frequencies.

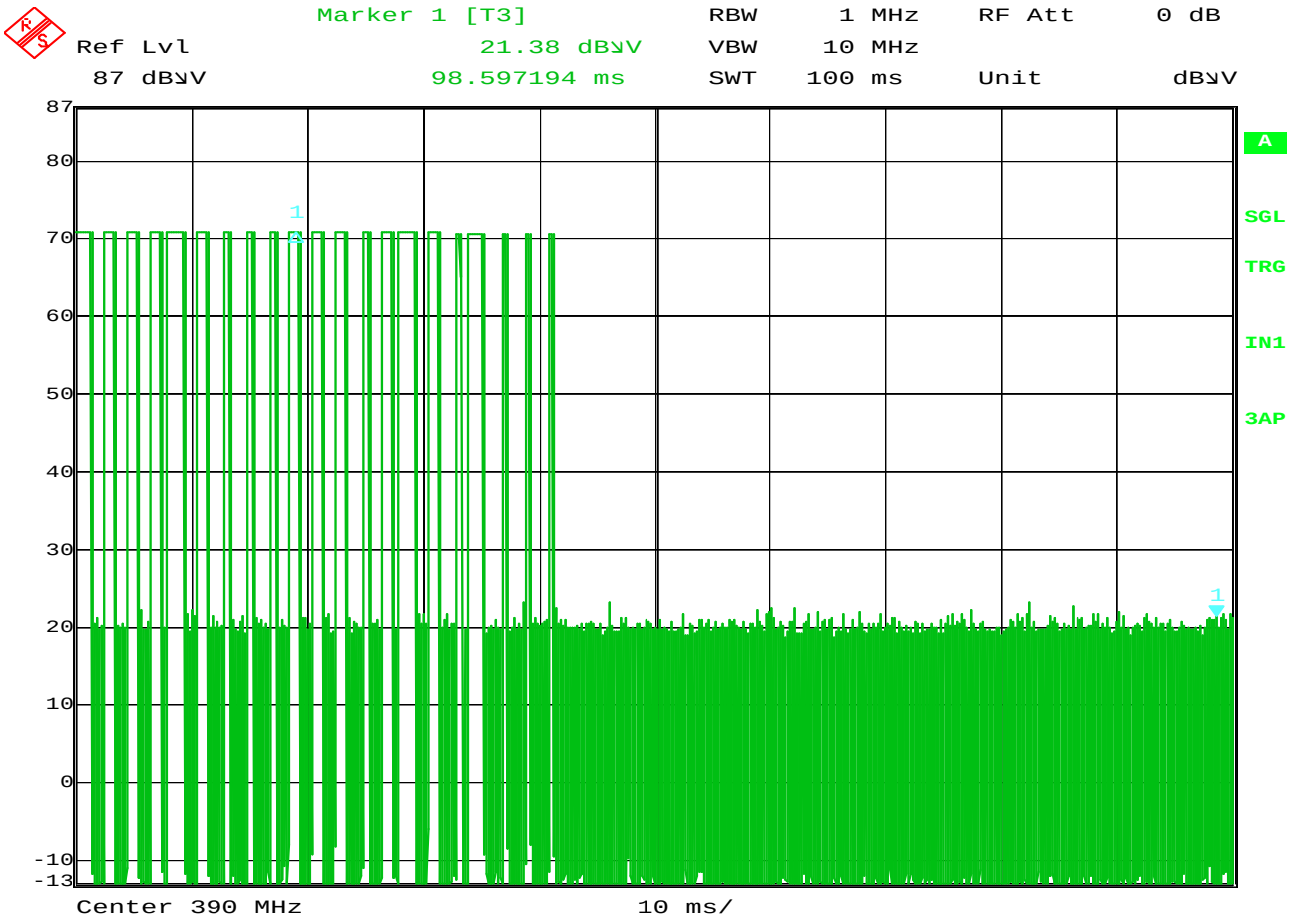
NOTES



FCC 15C 15.35 / Duty Cycle

MANUFACTURER : The Chamberlain Group
MODEL NUMBER : TM100 & TM110
TEST MODE : Tx @ 315 and 390MHz
: Peak detector
NOTES : Duty Cycle
NOTES : Chamberlain D
NOTES : Pulse Width (Widest worst case) = 1.49 mS
NOTES : Button 4 and Button 5
NOTES : Plots representative of Rolling Code D which is used for multiple frequencies.

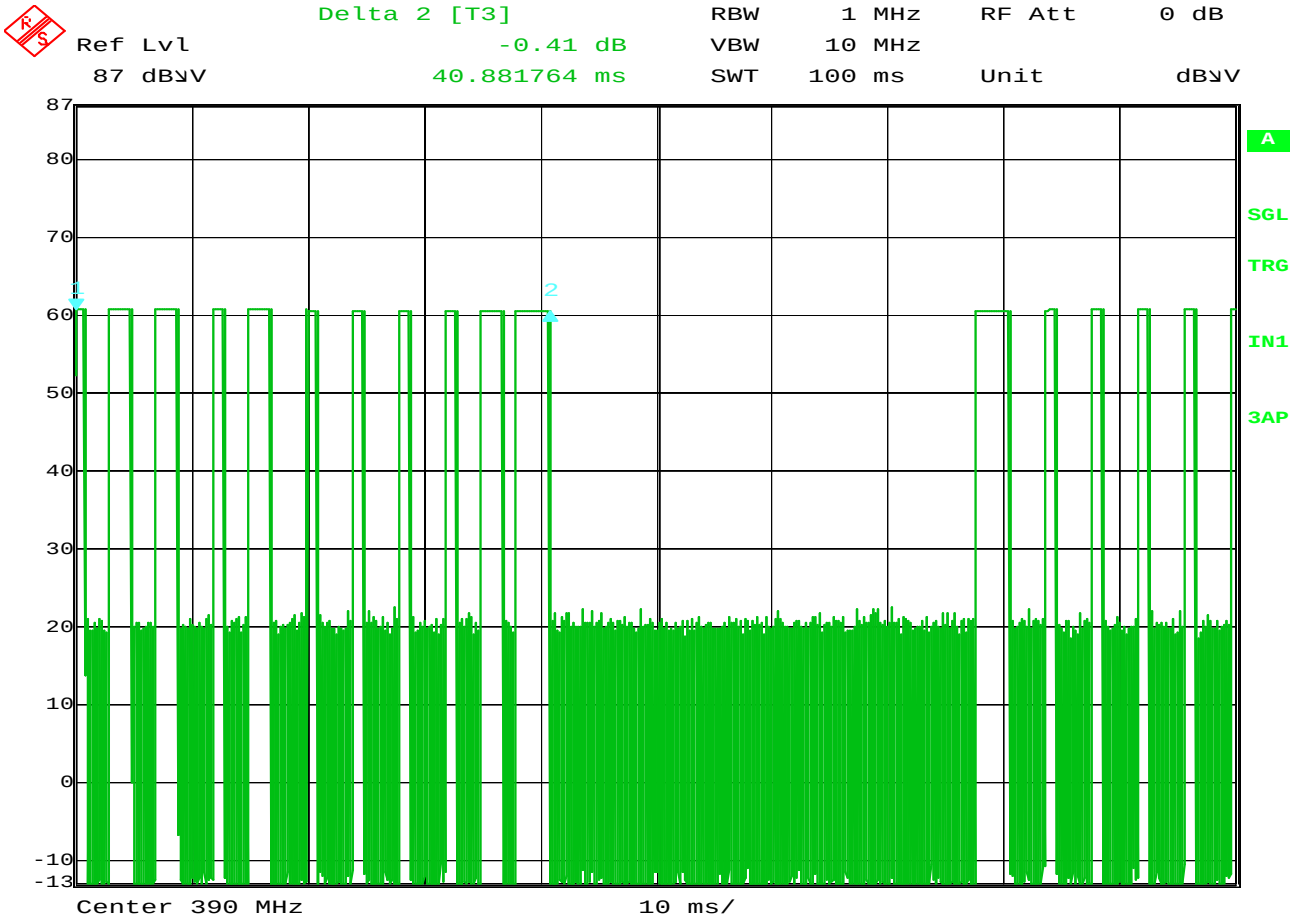
NOTES



FCC 15C 15.35 / Duty Cycle

MANUFACTURER : The Chamberlain Group
MODEL NUMBER : TM100 & TM110
TEST MODE : Tx @ 315 and 390MHz
: Peak detector
NOTES : Duty Cycle
NOTES : Chamberlain Rolling D
NOTES : Pulse train over 100mS
NOTES : Duty Cycle = 20*((21*1.49mS)/100mS) = -10.09dB
NOTES : Button 4 and Button 5
NOTES : Plots representative of Rolling Code D which is used for multiple frequencies.

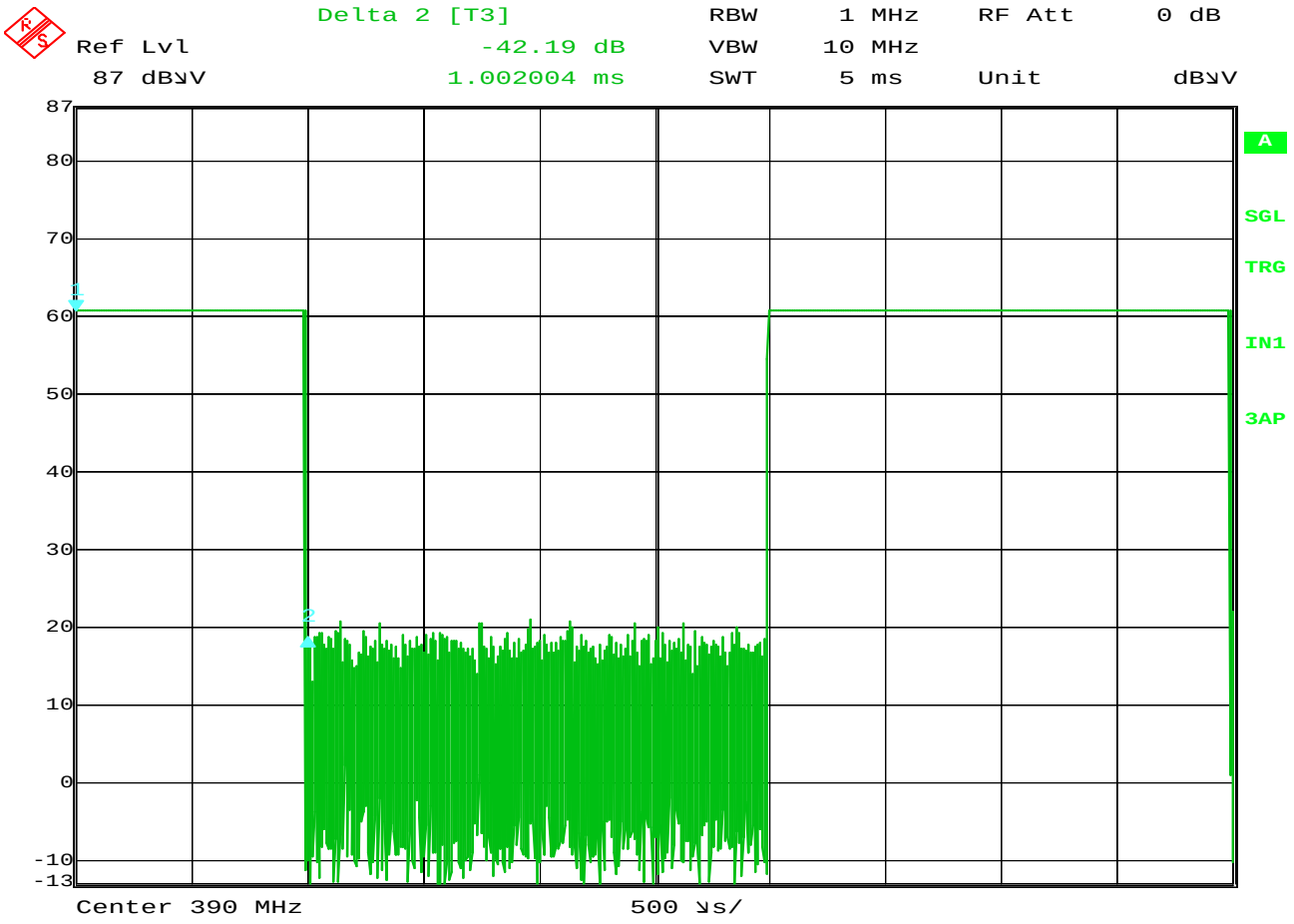
NOTES



FCC 15C 15.35 / Duty Cycle

MANUFACTURER : The Chamberlain Group
MODEL NUMBER : TM100 & TM110
TEST MODE : Tx @ 390MHz
: Peak detector
NOTES : Duty Cycle
NOTES : Chamberlain Billion Code A
NOTES : Sync Pulse (1mS) + 10 Trinary pulses worst case (4mS each) + Sync Pulse (3mS) +
NOTES : 5 Trinary pulses worst case (4mS) = 64mS ON Time in 100 mS
NOTES : 20*log(64mS/100mS)= -3.87dB
NOTES : Button 6

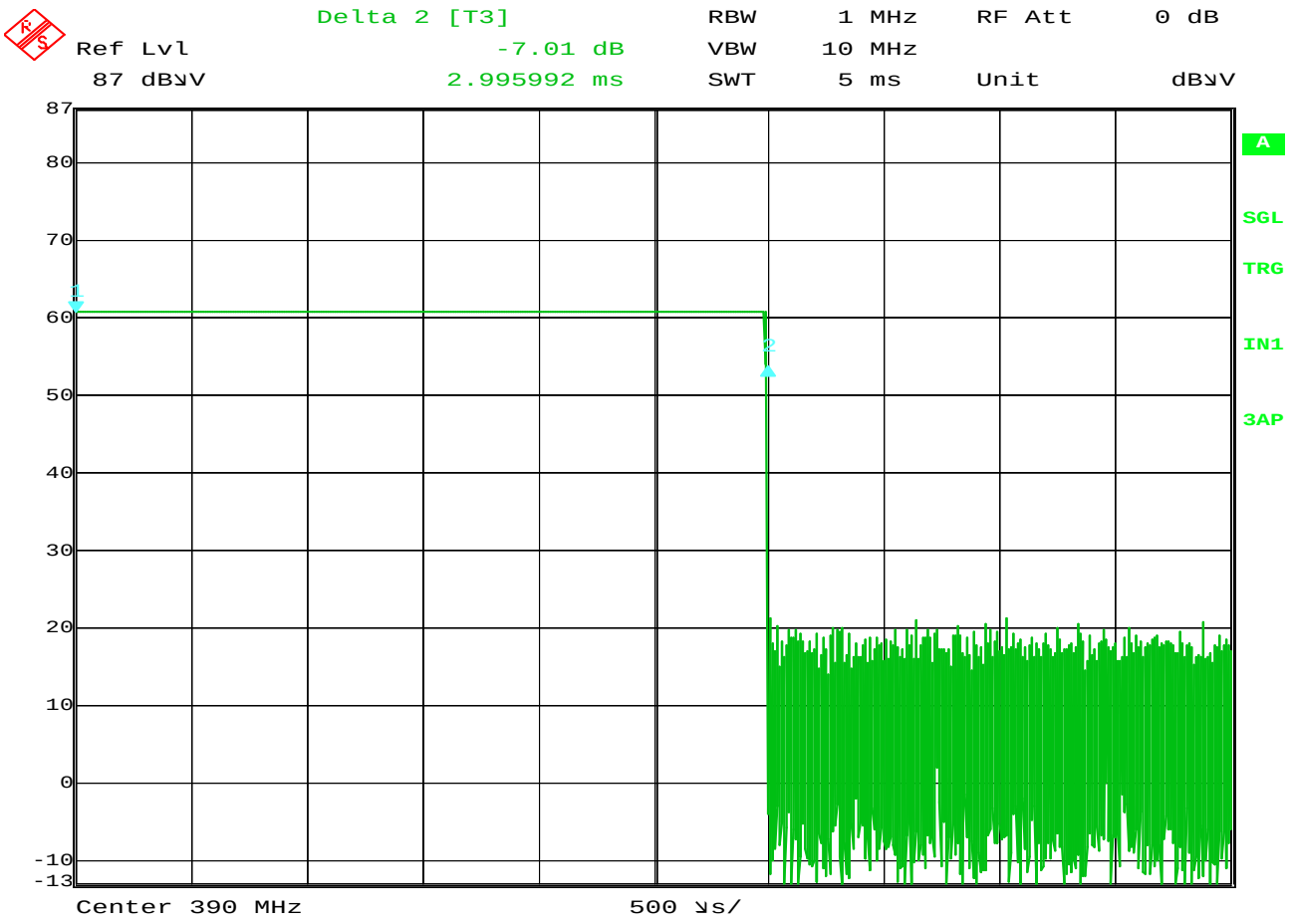
NOTES



FCC 15C 15.35 / Duty Cycle

MANUFACTURER : The Chamberlain Group
MODEL NUMBER : TM100 & TM110
TEST MODE : Tx @ 390MHz
: Peak detector
NOTES : Duty Cycle
NOTES : Chamberlain Billion Code A
NOTES : Sync Pulse (1mS) + 10 Trinary pulses worst case (4mS each) + Sync Pulse (3mS) +
NOTES : 5 Trinary pulses worst case (4mS) = 64mS ON Time in 100 mS
NOTES : 20*log(64mS/100mS)= -3.87dB
NOTES : Button 6

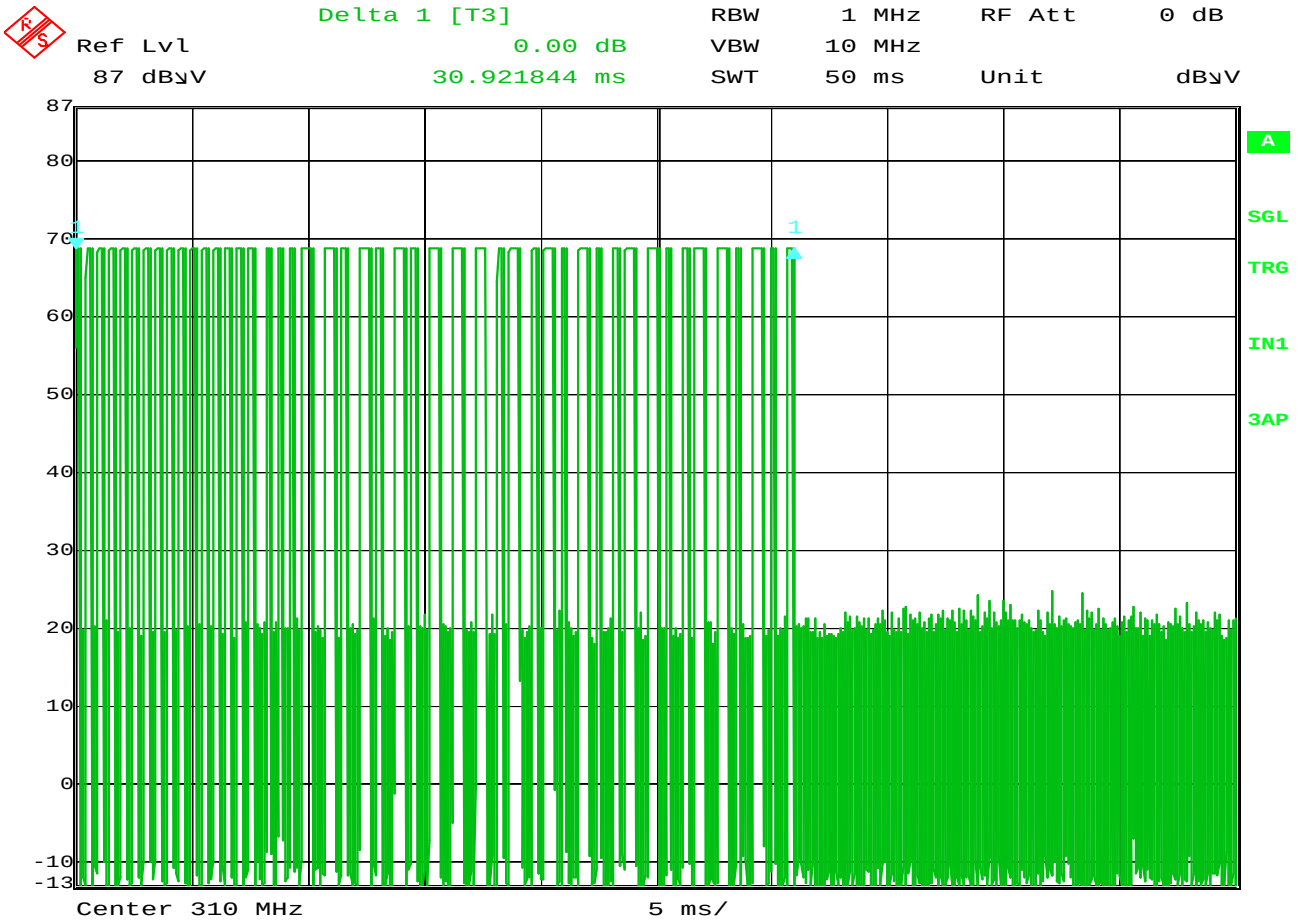
NOTES



FCC 15C 15.35 / Duty Cycle

MANUFACTURER : The Chamberlain Group
MODEL NUMBER : TM100 & TM110
TEST MODE : Tx @ 390MHz
: Peak detector
NOTES : Duty Cycle
NOTES : Chamberlain Billion Code A
NOTES : Sync Pulse (1mS) + 10 Trinary pulses worst case (4mS each) + Sync Pulse (3mS) +
NOTES : 5 Trinary pulses worst case (4mS) = 64mS ON Time in 100 mS
NOTES : 20*log(64mS/100mS)= -3.87dB
NOTES : Button 6

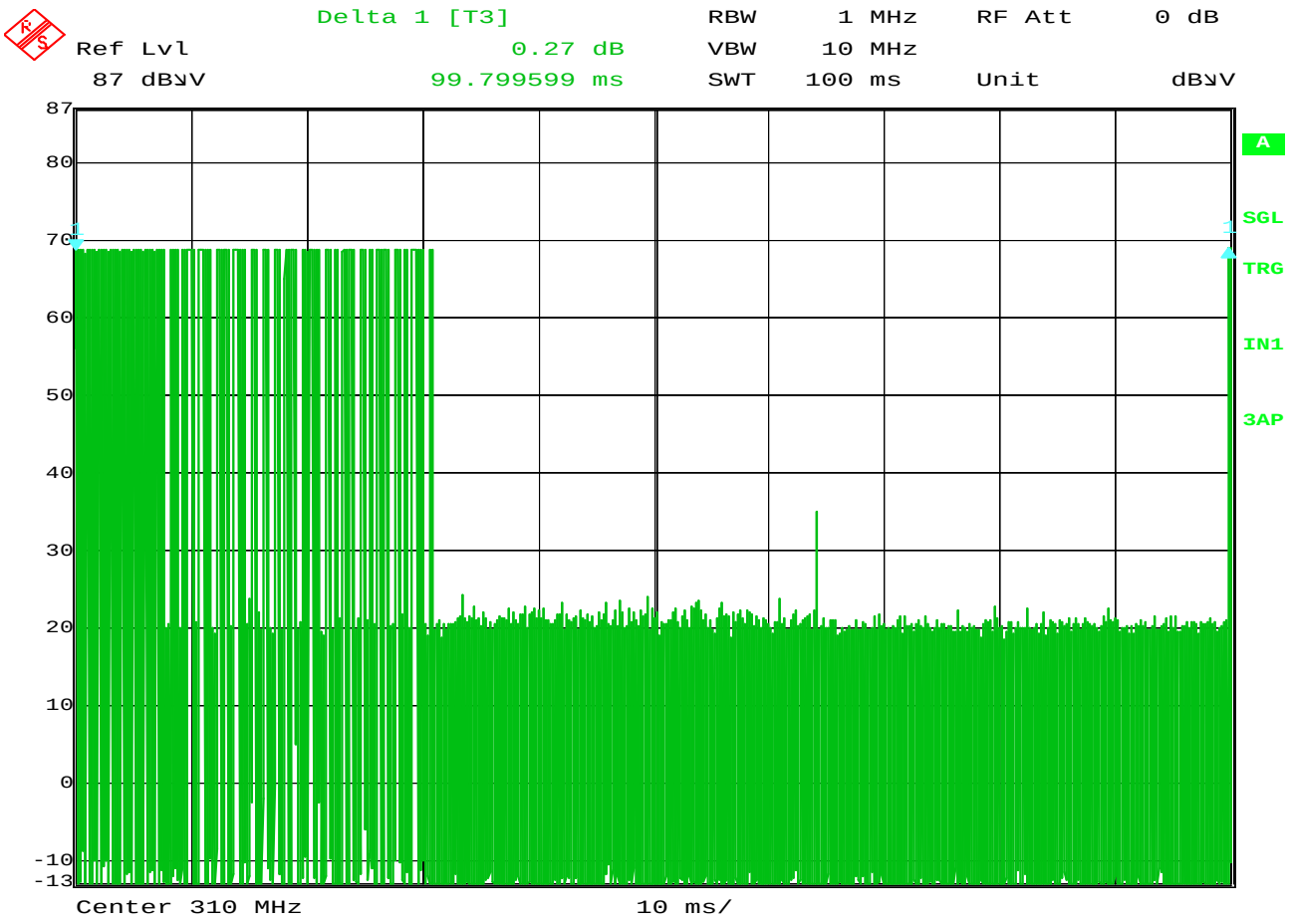
NOTES



FCC 15C 15.35 / Duty Cycle

MANUFACTURER : The Chamberlain Group
MODEL NUMBER : TM100 & TM110
TEST MODE : Tx @ 310, 315 and 390MHz
: Peak detector
NOTES : Duty Cycle
NOTES : Chamberlain Rolling E Code
NOTES : Pulses in 100mS = 51
NOTES : Pulse width worst case = 509uS
NOTES : Duty Cycle (worst case Payload 11) = 20*Log((51*509uS)/100mS) = -11.73dB
NOTES : Button 8

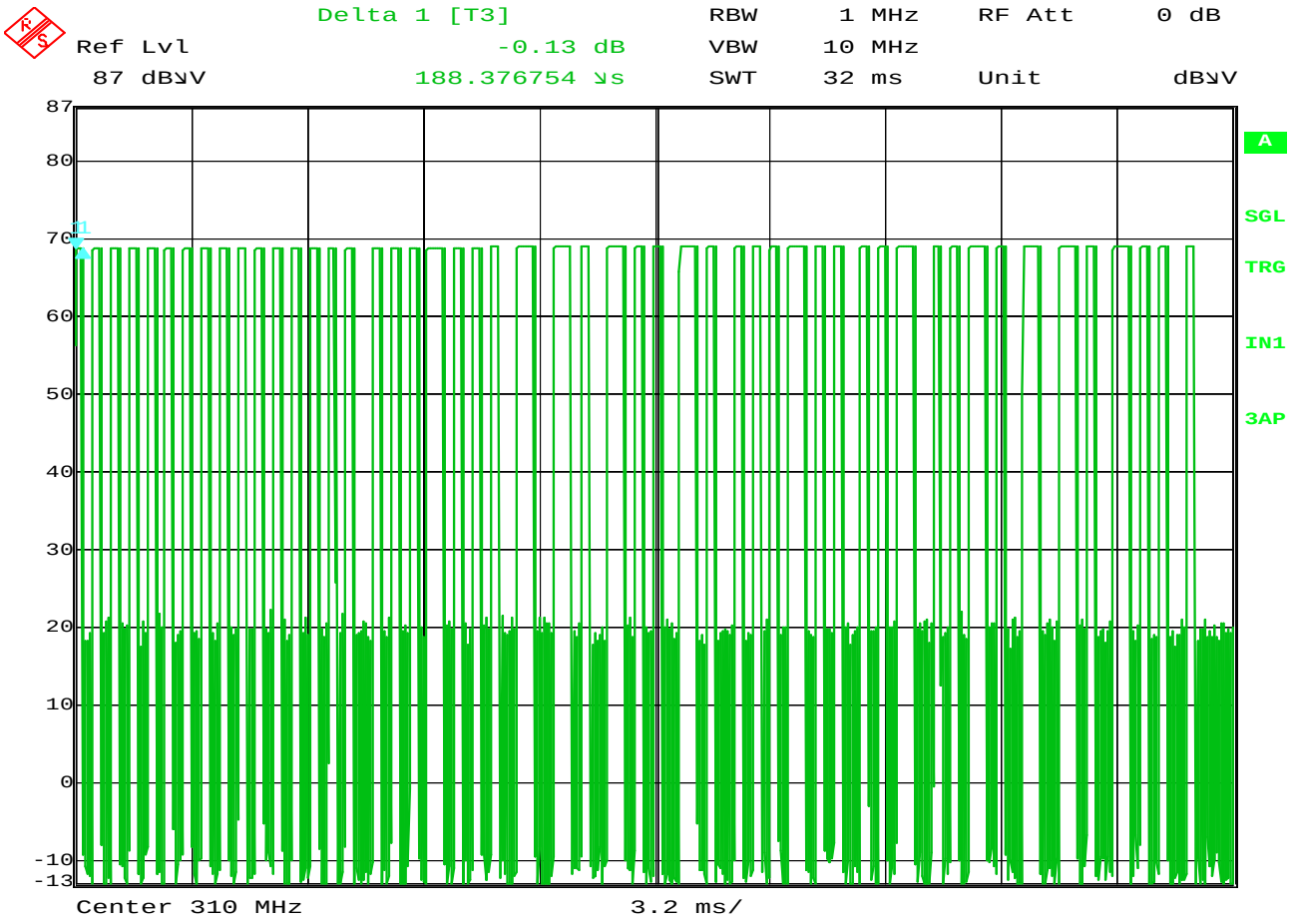
NOTES



FCC 15C 15.35 / Duty Cycle

MANUFACTURER : The Chamberlain Group
MODEL NUMBER : TM100 & TM110
TEST MODE : Tx @ 310, 315 and 390MHz
: Peak detector
NOTES : Chamberlain Rolling E Code
NOTES : Pulses in 100mS = 51
NOTES : Pulse width worst case = 509uS
NOTES : Duty Cycle (worst case Payload 11) = 20*Log((51*509uS)/100mS) = -11.73dB
NOTES : Button 8

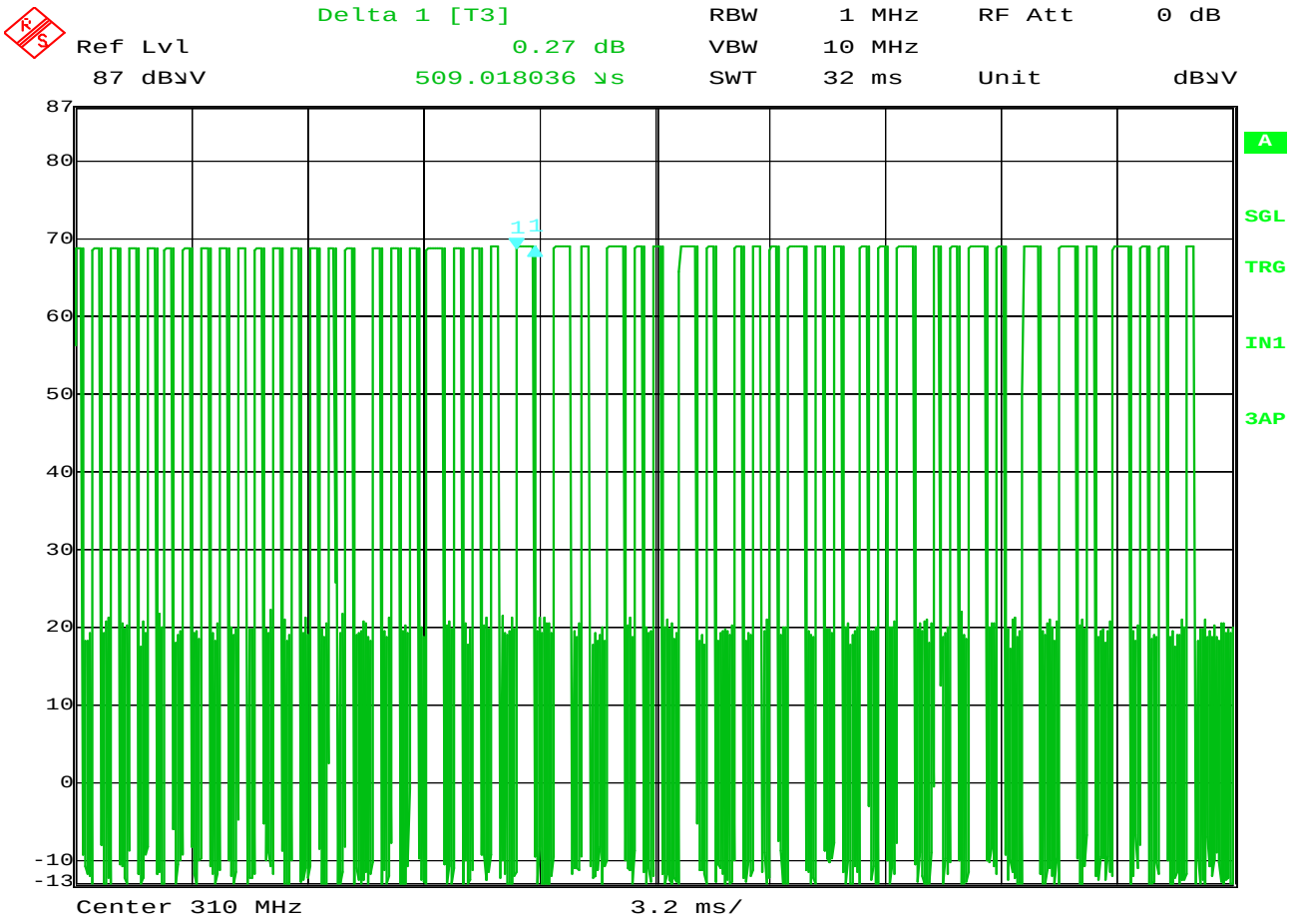
NOTES



FCC 15C 15.35 / Duty Cycle

MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 310, 315 and 390MHz
	: Peak detector
NOTES	: Chamberlain Rolling E Code
NOTES	: Pulses in 100mS = 51
NOTES	: Pulse width worst case = 509uS
NOTES	: Duty Cycle (worst case Payload 11) = 20*Log((51*509uS)/100mS) = -11.73dB
NOTES	: Button 8

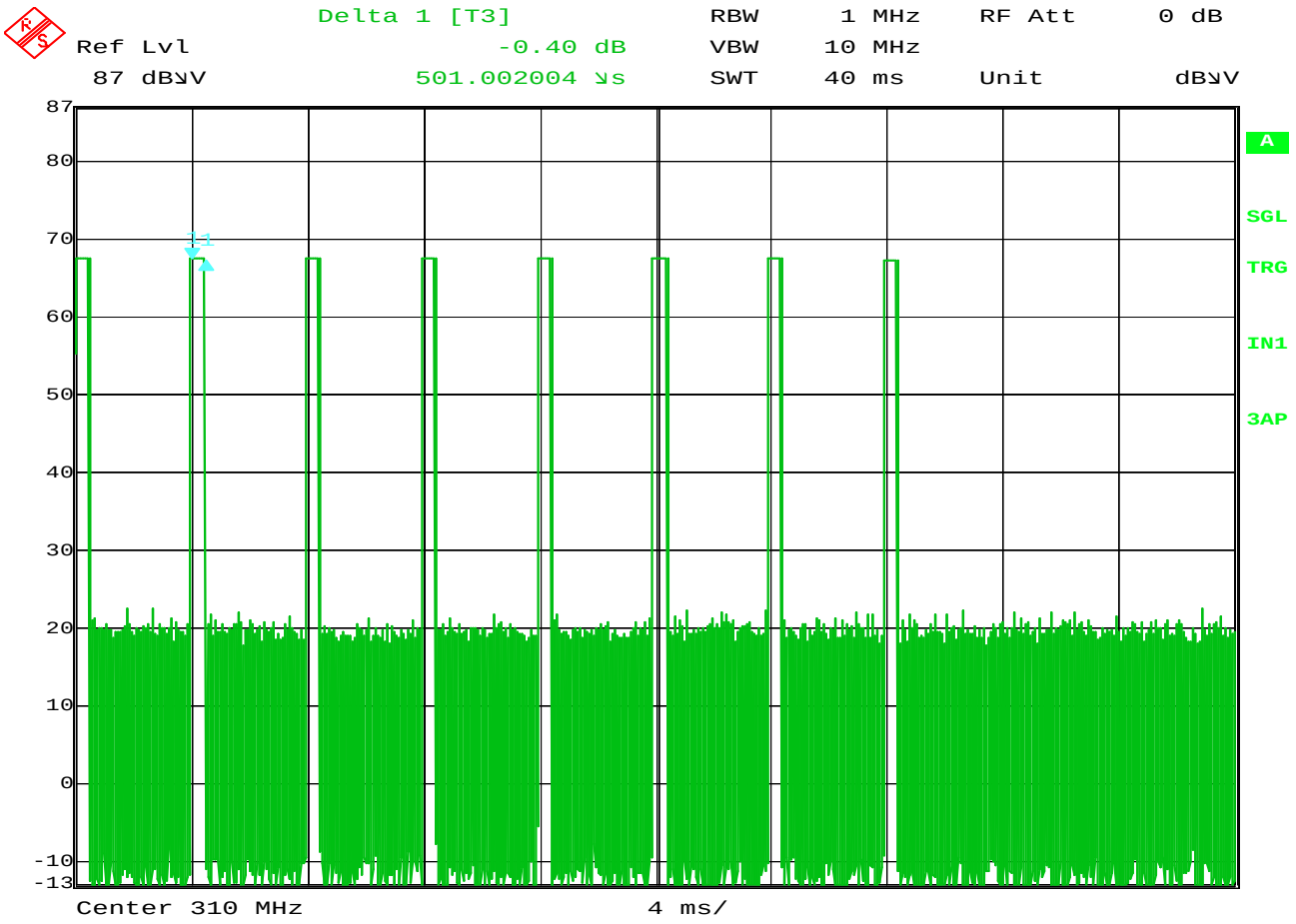
NOTES



FCC 15C 15.35 / Duty Cycle

MANUFACTURER : The Chamberlain Group
MODEL NUMBER : TM100 & TM110
TEST MODE : Tx @ 310, 315 and 390MHz
: Peak detector
NOTES : Chamberlain Rolling E Code
NOTES : Pulses in 100mS = 51
NOTES : Pulse width worst case = 509uS
NOTES : Duty Cycle (worst case Payload 11) = 20*Log((51*509uS)/100mS) = -11.73dB
NOTES : Button 8

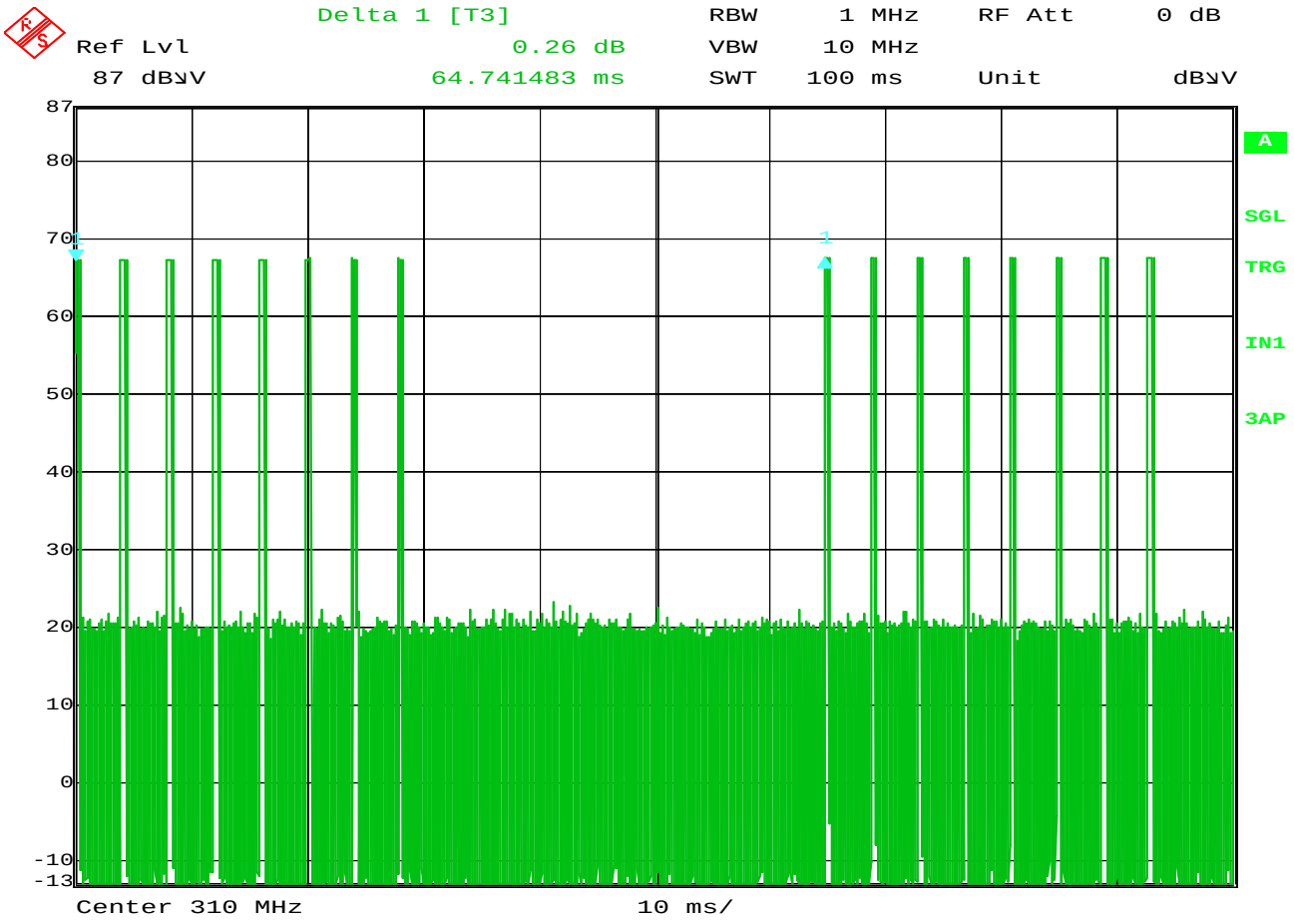
NOTES



FCC 15C 15.35 / Duty Cycle

MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 310MHz
	: Peak detector
NOTES	: Linear Moore-O-Matic
NOTES	: ON Pulse Width = 500uS (Worst Case is a 2mS on time)
NOTES	: OFF pulse width = 3.5mS
NOTES	: DC = 20* LOG(16/65) = 12.2dB
NOTES	: Button 10

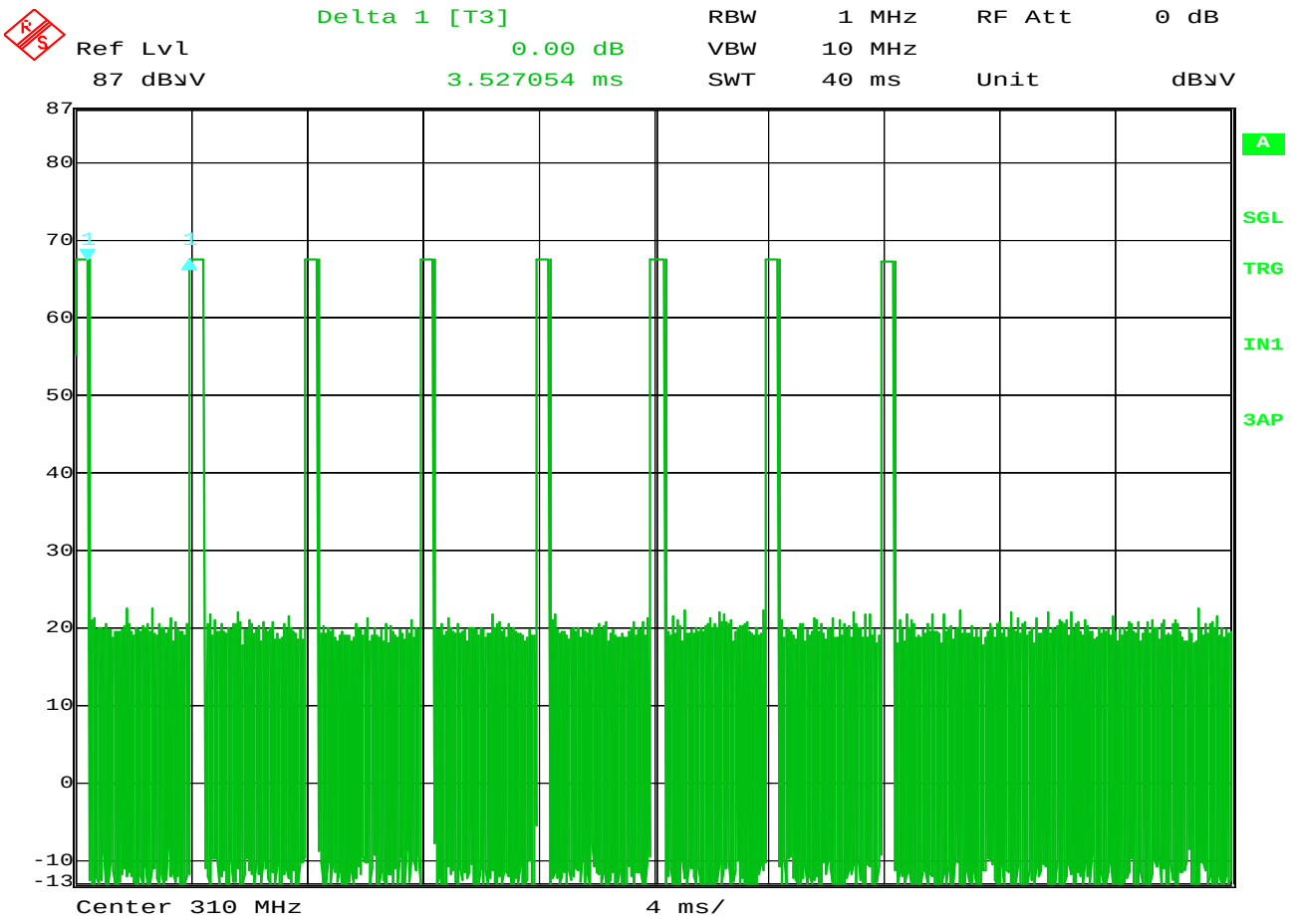
NOTES



FCC 15C 15.35 / Duty Cycle

MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 310MHz
	: Peak detector
NOTES	: Linear Moore-O-Matic
NOTES	: ON Pulse Width = 500uS (Worst Case is a 2mS on time)
NOTES	: OFF pulse width = 3.5mS
NOTES	: DC = 20* LOG(16/65) = 12.2dB
NOTES	: Button 10

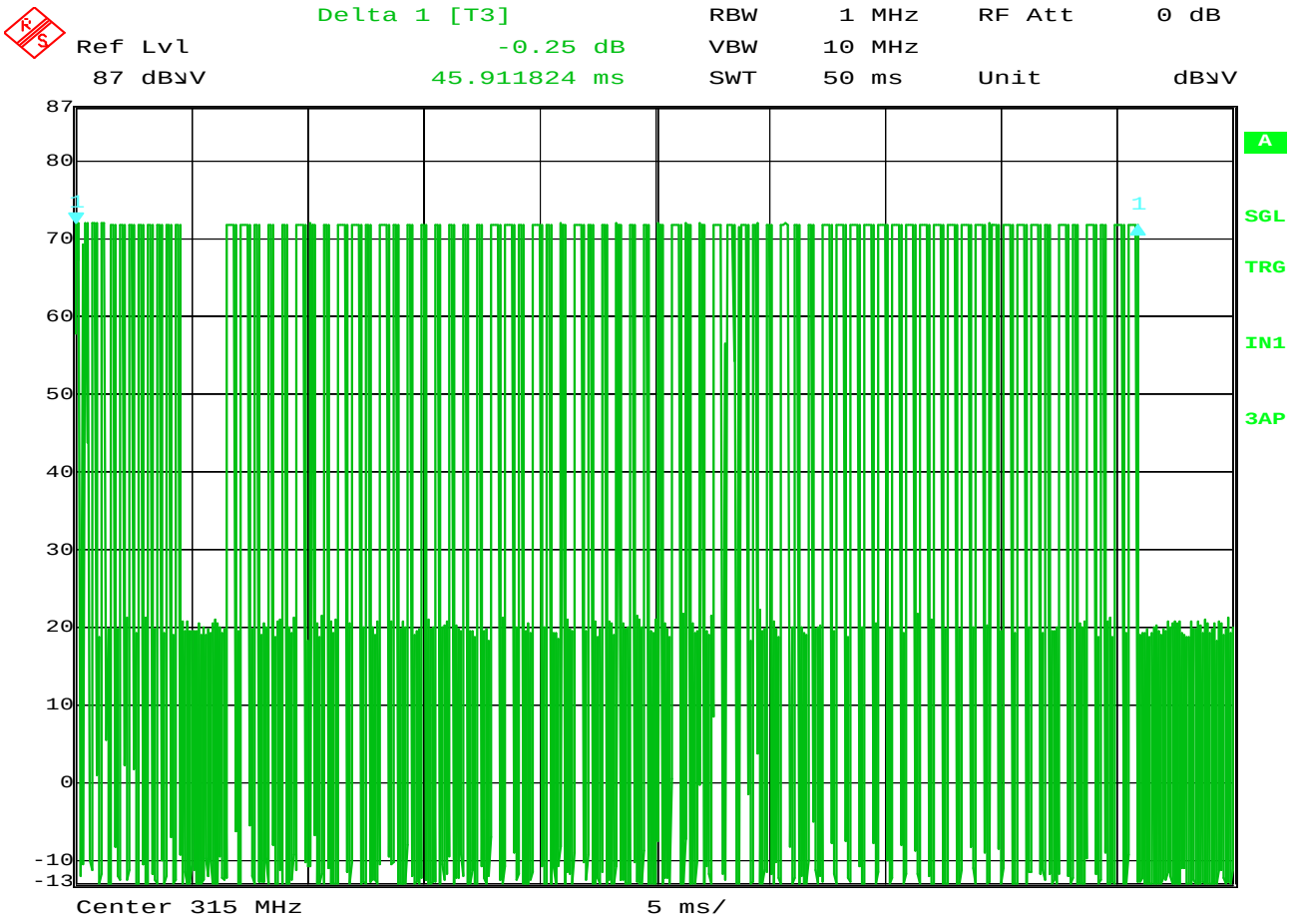
NOTES



FCC 15C 15.35 / Duty Cycle

MANUFACTURER : The Chamberlain Group
MODEL NUMBER : TM100 & TM110
TEST MODE : Tx @ 310MHz
: Peak detector
NOTES : Duty Cycle
NOTES : Linear Moore-O-Matic
NOTES : ON Pulse Width = 500uS (Worst Case is a 2mS on time)
NOTES : OFF pulse width = 3.5mS
NOTES : DC = 20* LOG(16/65) = 12.2dB
NOTES : Button 10

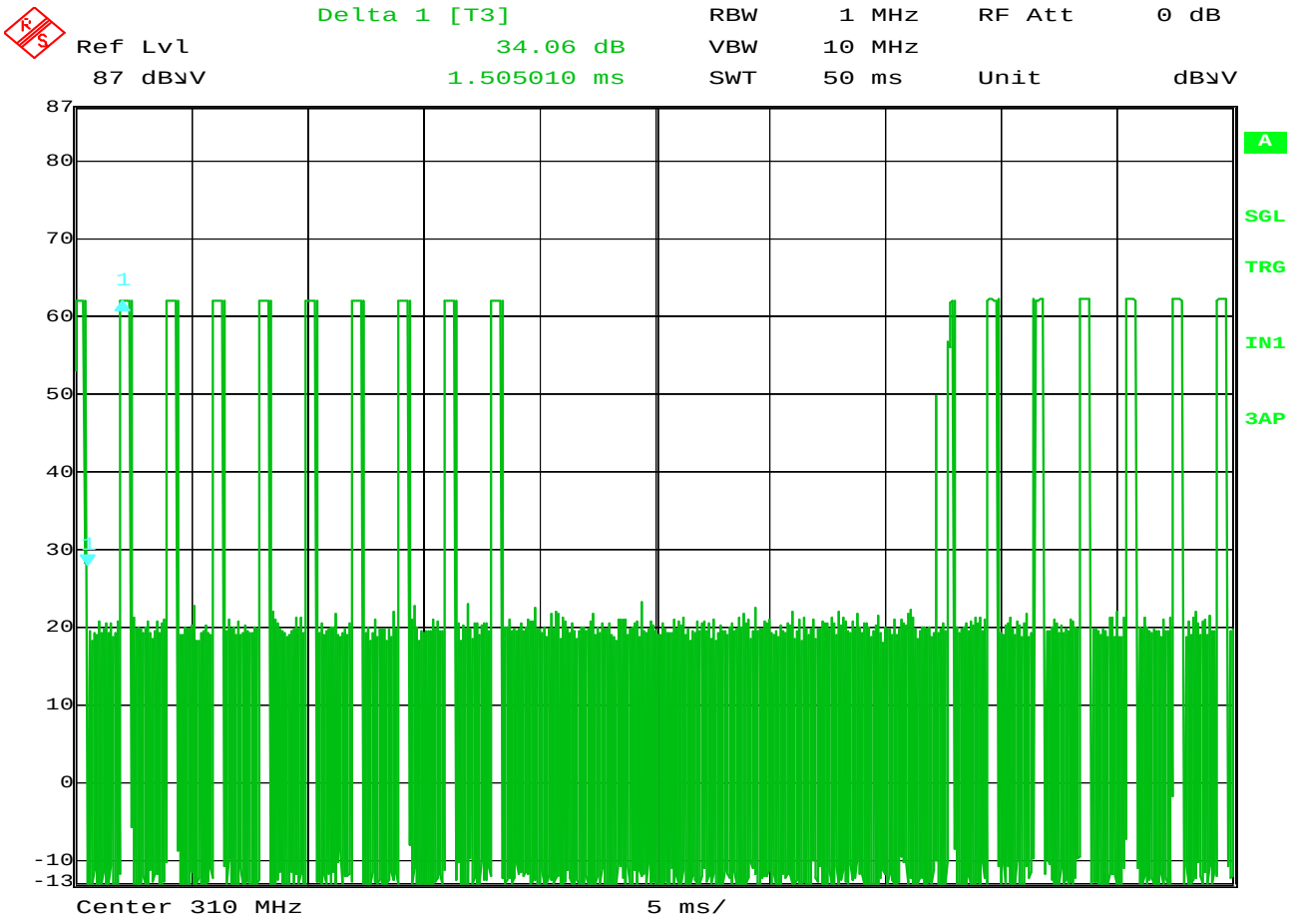
NOTES



FCC 15C 15.35 / Duty Cycle

MANUFACTURER : The Chamberlain Group
MODEL NUMBER : TM100 & TM110
TEST MODE : Tx @ 315MHz
: Peak detector
NOTES : Duty Cycle
NOTES : 9 Position DIP Switch
NOTES : 20*Log(29/83) = -9.13dB
NOTES : Button 11

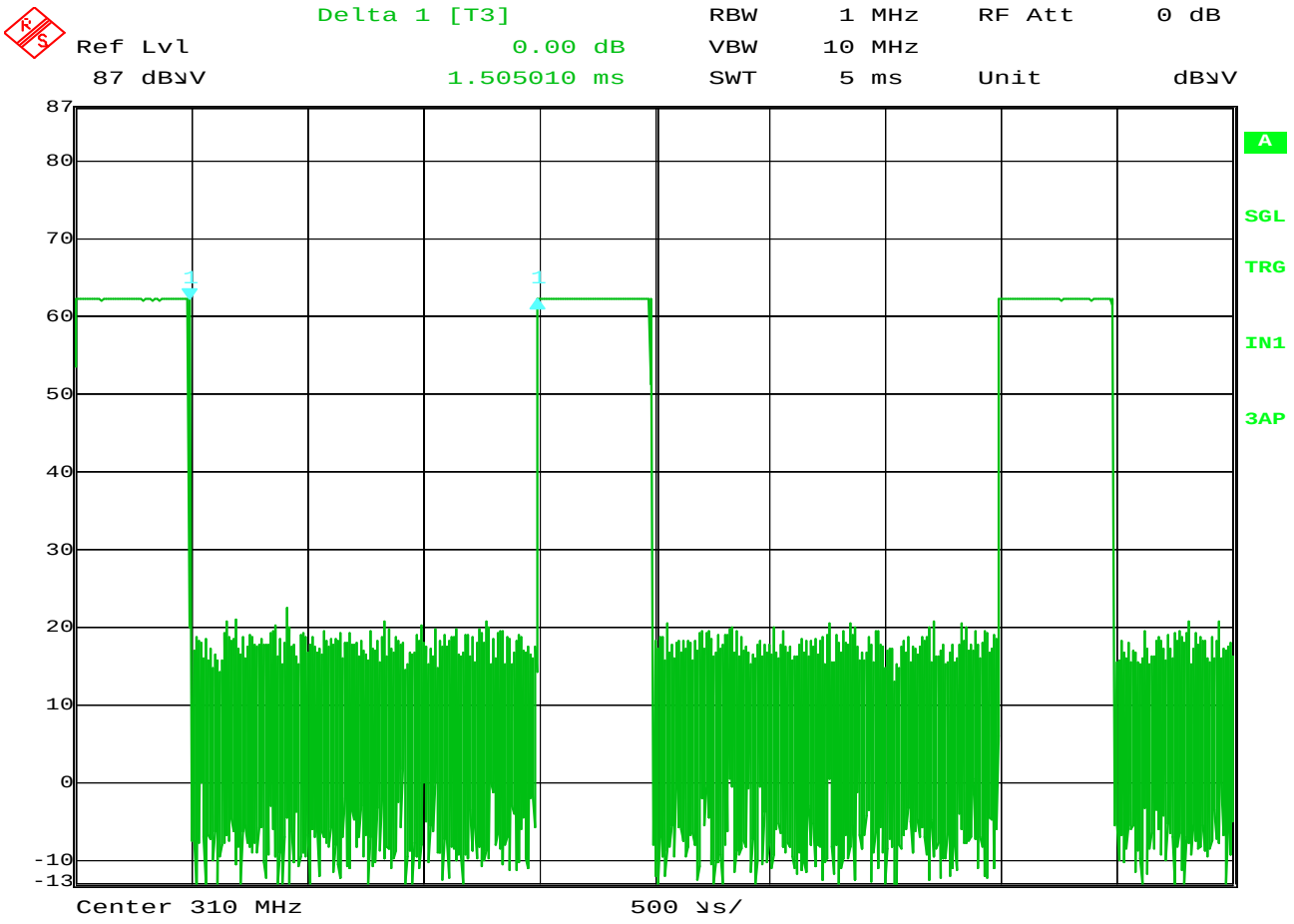
NOTES



FCC 15C 15.35 / Duty Cycle

MANUFACTURER : The Chamberlain Group
MODEL NUMBER : TM100 & TM110
TEST MODE : Tx @ 310MHz
: Peak detector
NOTES : Duty Cycle
NOTES : Stanley 10 Position DIP Switch
NOTES : DC = 20log(15/38)= -8.1dB
NOTES : Number of Pulses = 10
NOTES : Button 12

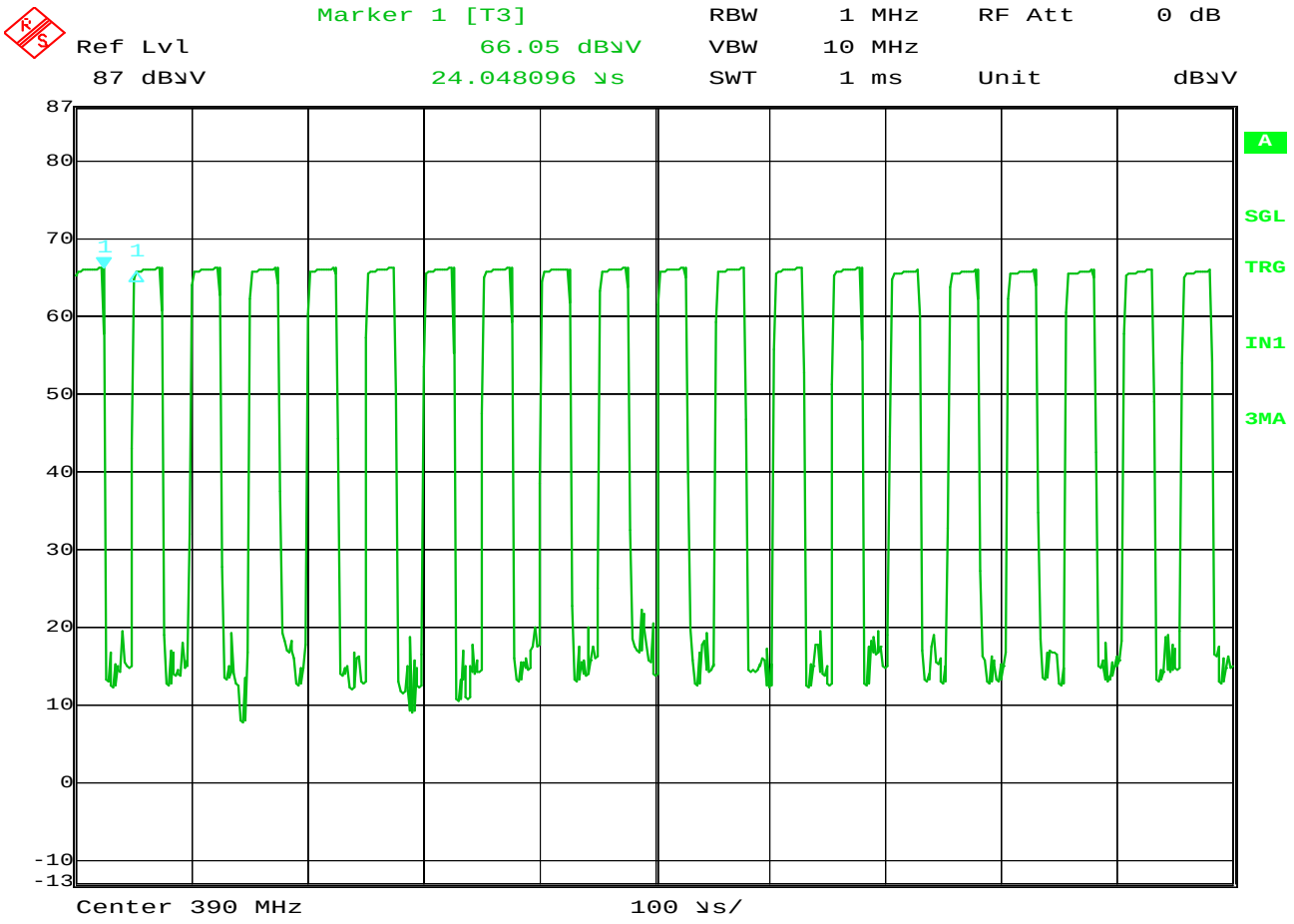
NOTES



FCC 15C 15.35 / Duty Cycle

MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 310MHz
	: Peak detector
NOTES	: Duty Cycle
NOTES	: Stanley 10 Position DIP Switch
NOTES	: DC = 20log(15/38)= -8.1dB
NOTES	: OFF Pulse Width = 1.5mS
NOTES	: Button 12

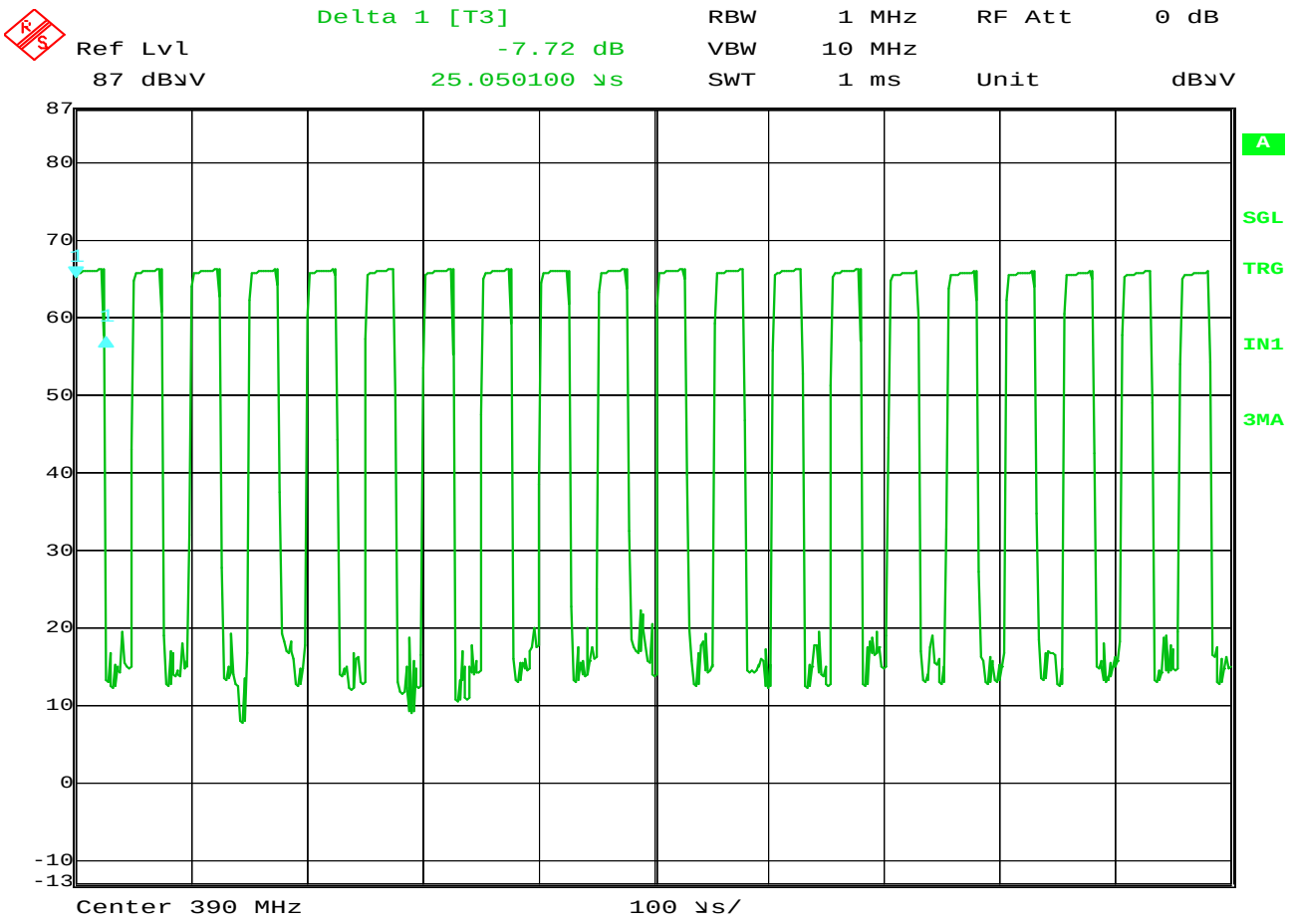
NOTES



FCC 15C 15.35 / Duty Cycle

MANUFACTURER : The Chamberlain Group
MODEL NUMBER : TM100 & TM110
TEST MODE : Tx @ 390MHz
: Peak detector
NOTES : Duty Cycle
NOTES : Genie 12 Position DIP Switch
NOTES : DC = 20log(50/100)= -6.0dB
NOTES : OFF Pulse = 24uS
NOTES : Button 13

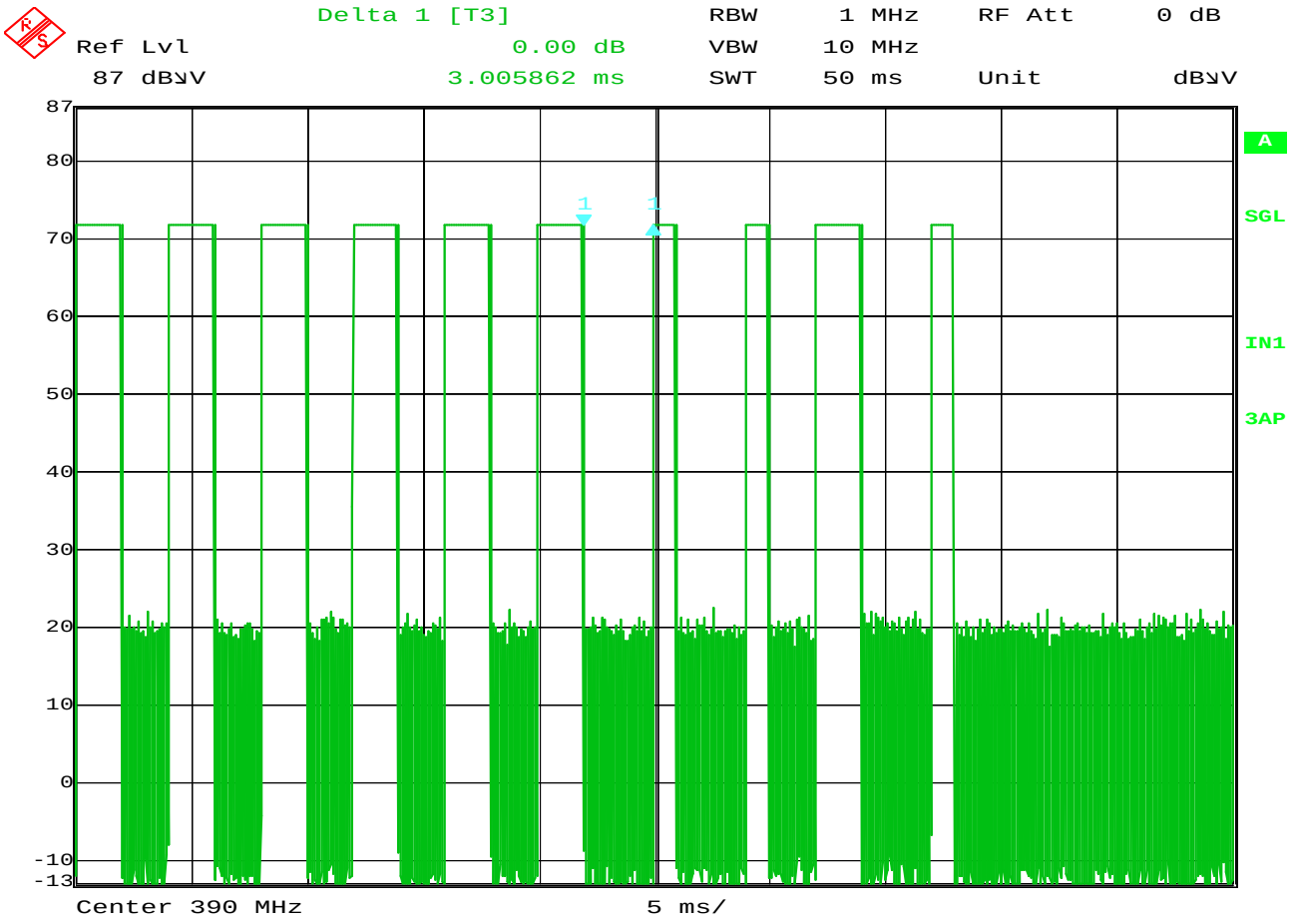
NOTES



FCC 15C 15.35 / Duty Cycle

MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 310MHz
	: Peak detector
NOTES	: Duty Cycle
NOTES	: Genie 12 Position DIP Switch
NOTES	: DC = 20log(50/100)= -6.0dB
NOTES	: ON Pulse = 25uS
NOTES	: Button 13

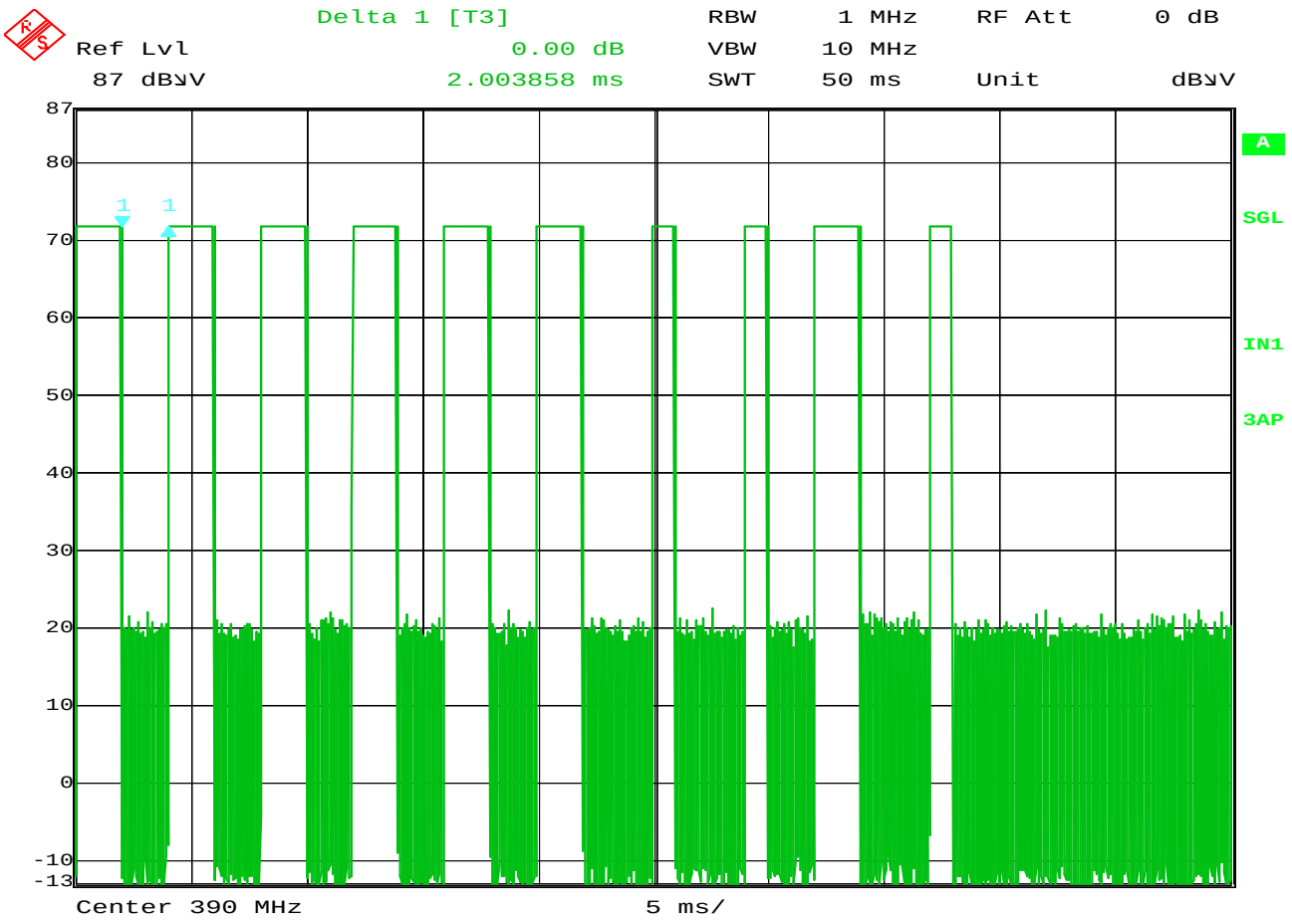
NOTES



FCC 15C 15.35 / Duty Cycle

MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 390MHz
	: Peak detector
NOTES	: Duty Cycle
NOTES	: Chamberlain 7 Position DIP Switch
NOTES	: DC = 20log(25/83)= -10.4dB
NOTES	: OFF Pulse = 3mS
NOTES	: Button 14

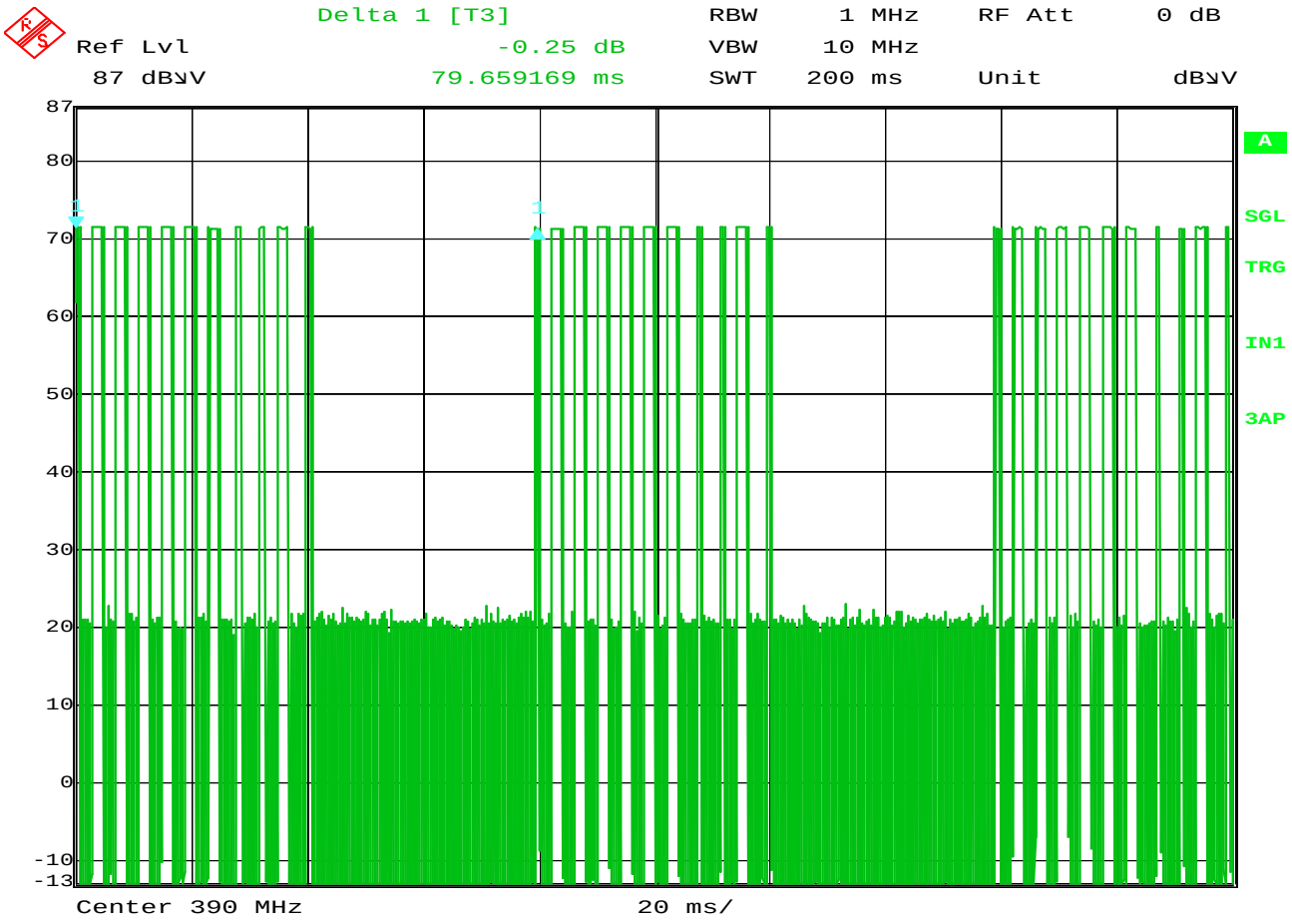
NOTES



FCC 15C 15.35 / Duty Cycle

MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 390MHz
	: Peak detector
NOTES	: Duty Cycle
NOTES	: Chamberlain 7 Position DIP Switch
NOTES	: DC = 20log(25/83)= -10.4dB
NOTES	: OFF Pulse = 2mS
NOTES	: Button 14

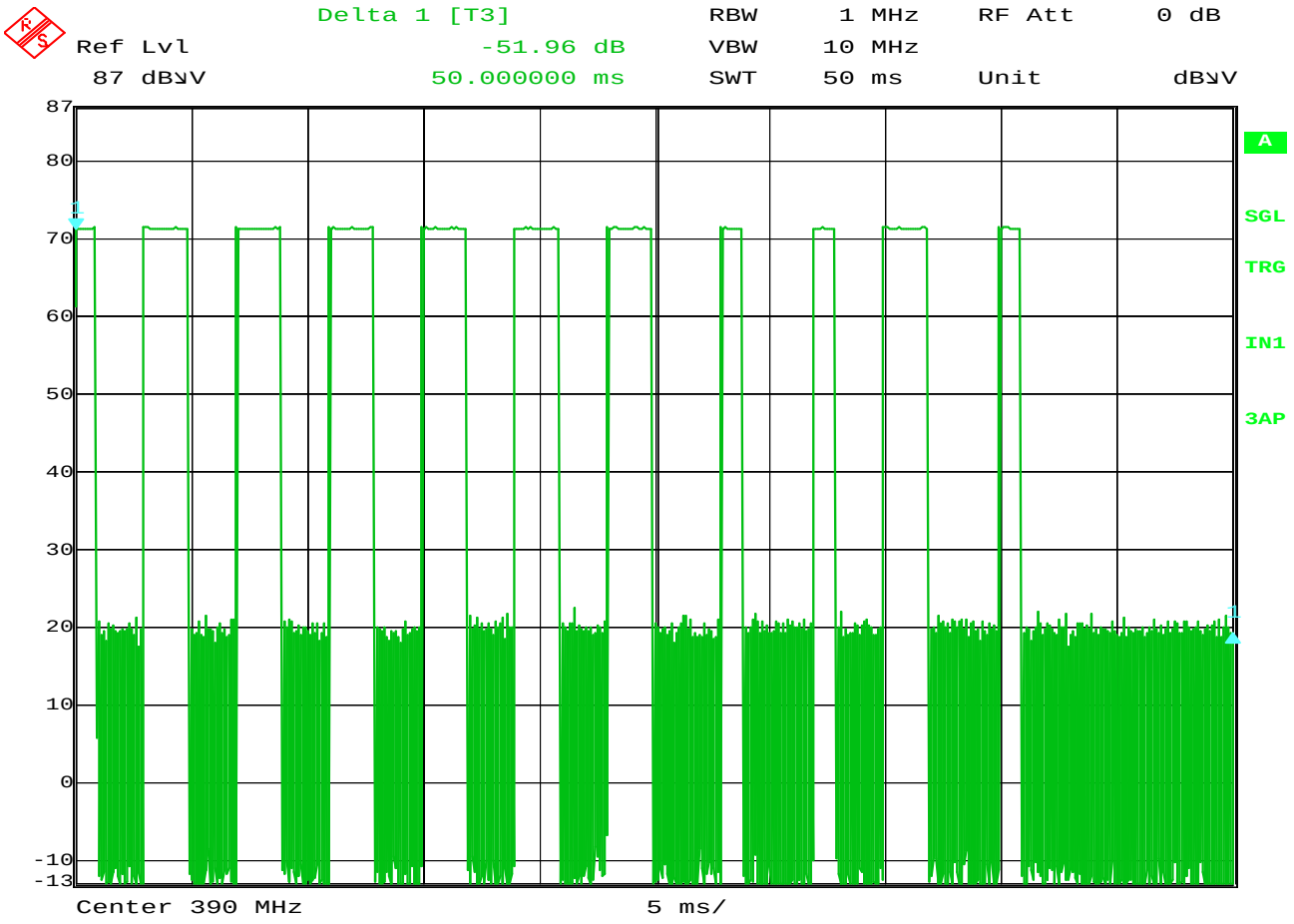
NOTES



FCC 15C 15.35 / Duty Cycle

MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 390MHz
	: Peak detector
NOTES	: Duty Cycle
NOTES	: Chamberlain 7 Position DIP Switch
NOTES	: DC = 20log(25/83)= -10.4dB
NOTES	: pulse train over 1 word
NOTES	: Button 14

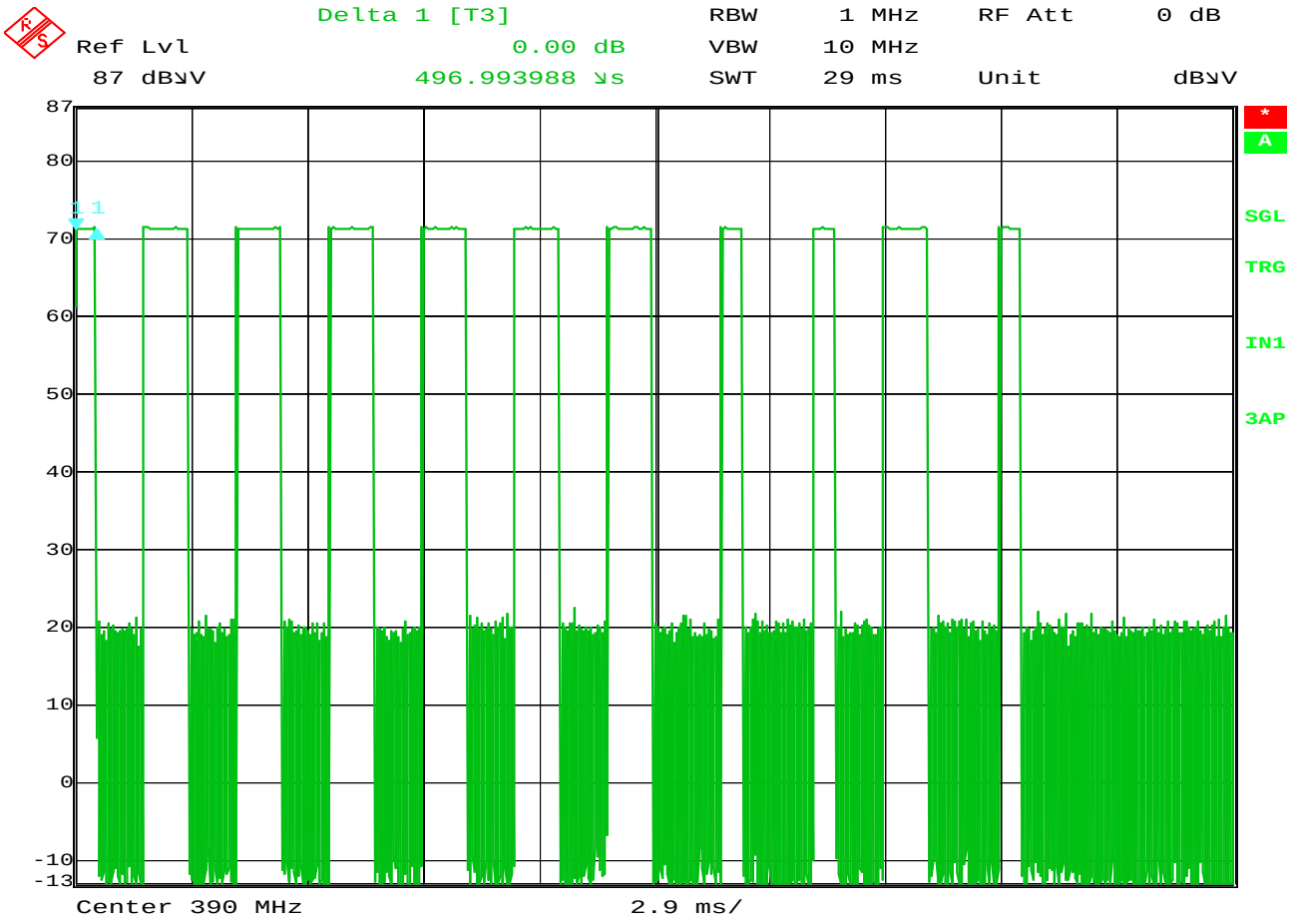
NOTES



FCC 15C 15.35 / Duty Cycle

MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 390MHz
	: Peak detector
NOTES	: Duty Cycle
NOTES	: Chamberlain 7 Position DIP Switch
NOTES	: DC = 20log(25/83)= -10.4dB
NOTES	: Pulse Train shows sync pulse and 10 trits
NOTES	: Button 14

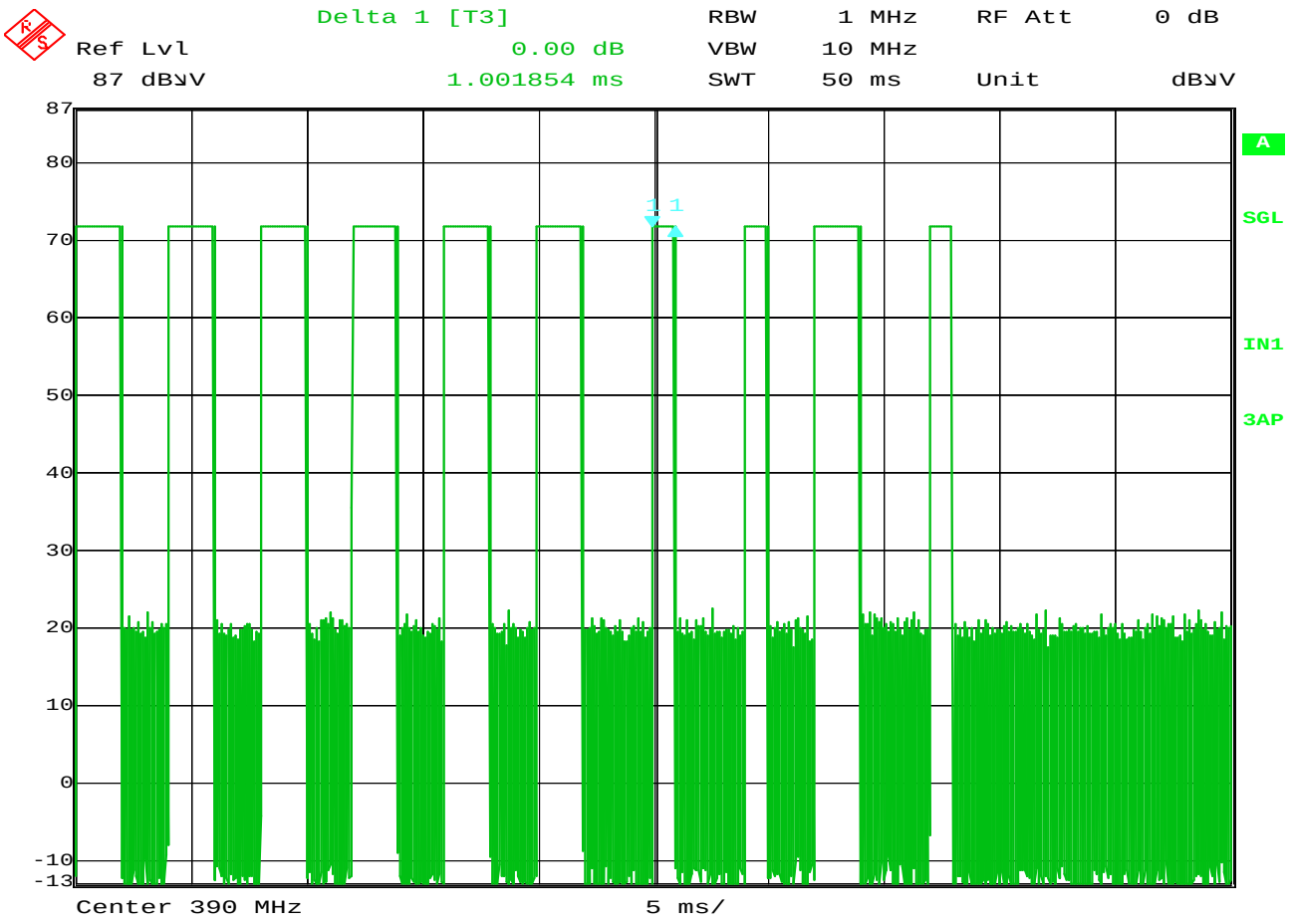
NOTES



FCC 15C 15.35 / Duty Cycle

MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 390MHz
	: Peak detector
NOTES	: Duty Cycle
NOTES	: Chamberlain 7 Position DIP Switch
NOTES	: DC = 20log(25/83)= -10.4dB
NOTES	: Sync pulse = 496.9uS
NOTES	: Button 14

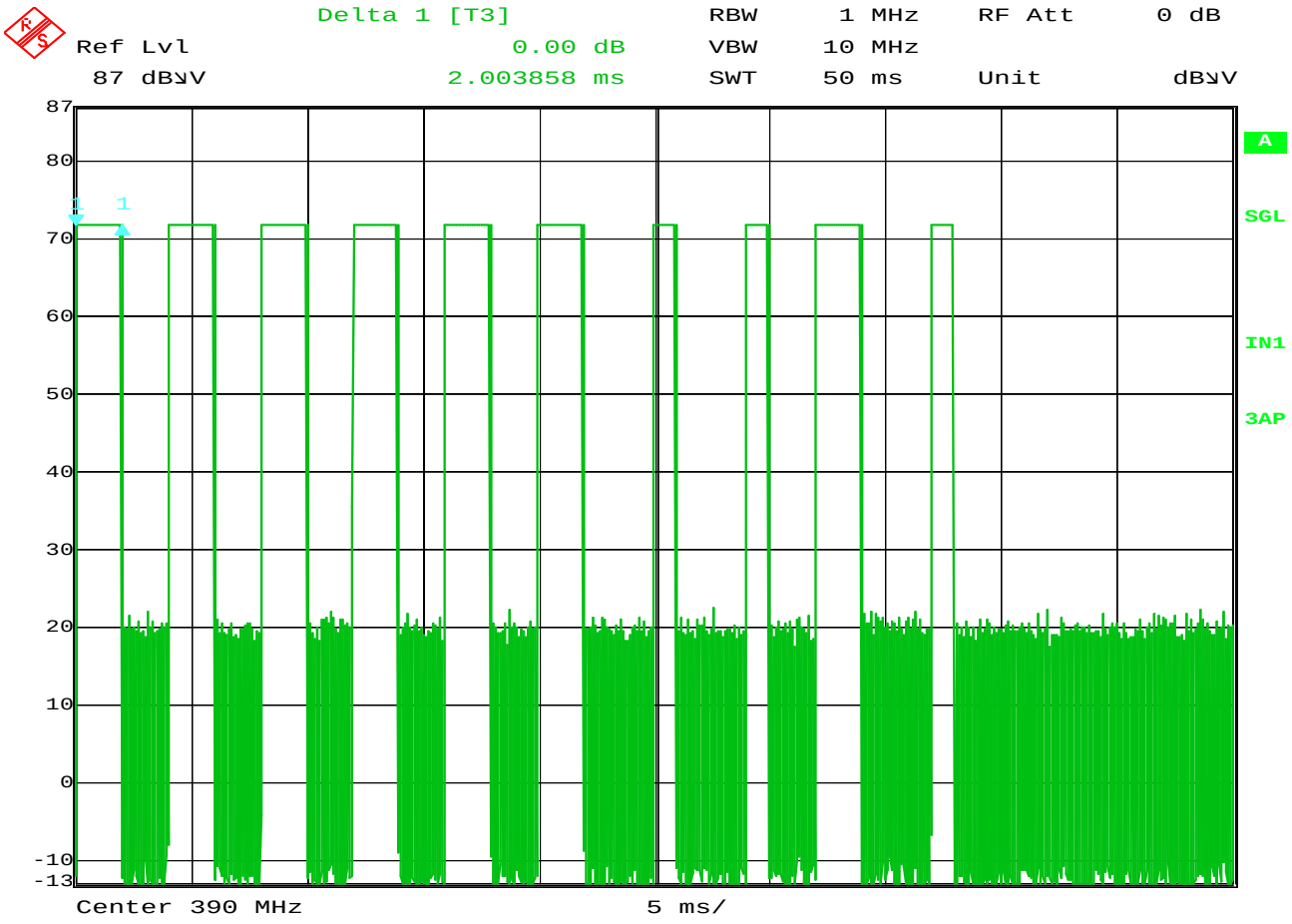
NOTES



FCC 15C 15.35 / Duty Cycle

MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 390MHz
	: Peak detector
NOTES	: Duty Cycle
NOTES	: Chamberlain 7 Position DIP Switch
NOTES	: DC = 20log(25/83)= -10.4dB
NOTES	: ON Pulse = 1mS
NOTES	: Button 14

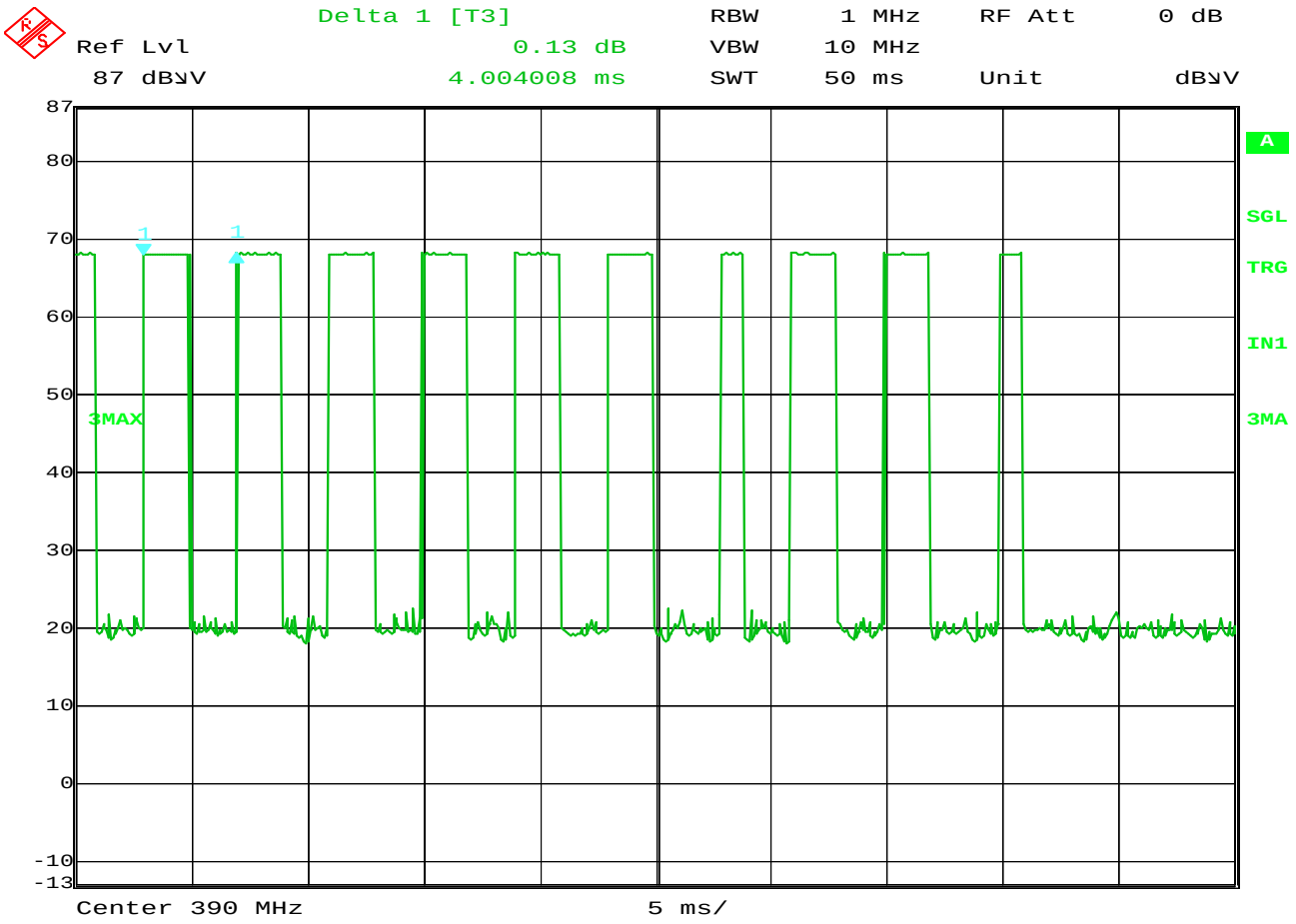
NOTES



FCC 15C 15.35 / Duty Cycle

MANUFACTURER : The Chamberlain Group
MODEL NUMBER : TM100 & TM110
TEST MODE : Tx @ 390MHz
: Peak detector
NOTES : Duty Cycle
NOTES : Chamberlain 7 Position DIP Switch
NOTES : DC = 20log(25/83)= -10.4dB
NOTES : ON Pulse = 2mS
NOTES : Button 14

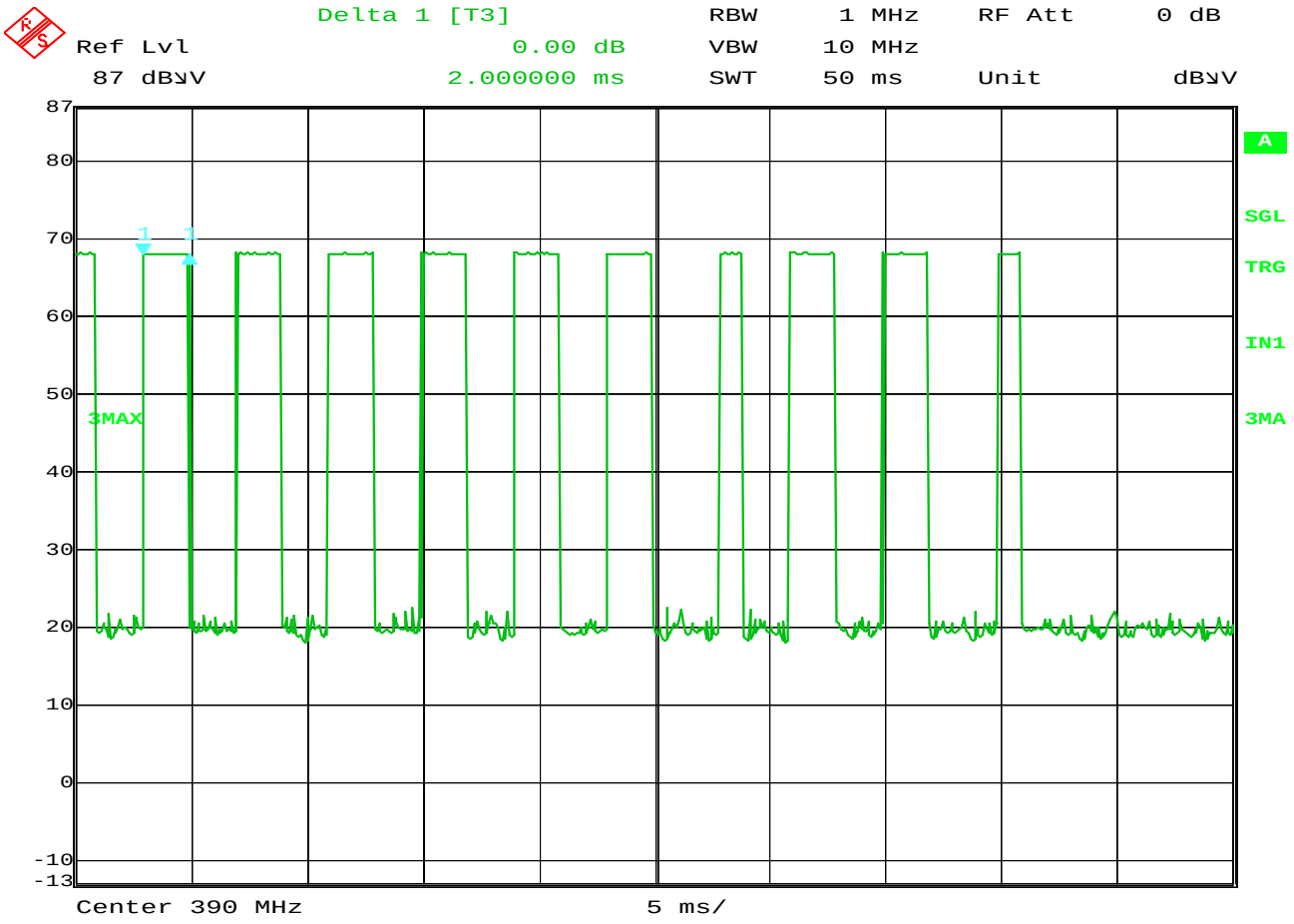
NOTES



FCC 15C 15.35 / Duty Cycle

MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 390MHz
	: Peak detector
NOTES	: Duty Cycle
NOTES	: Chamberlain 8 Position DIP Switch
NOTES	: DC = 20log(27/83)= -9.75dB
NOTES	: ON + OFF pulse = 4mS
NOTES	: Button 15

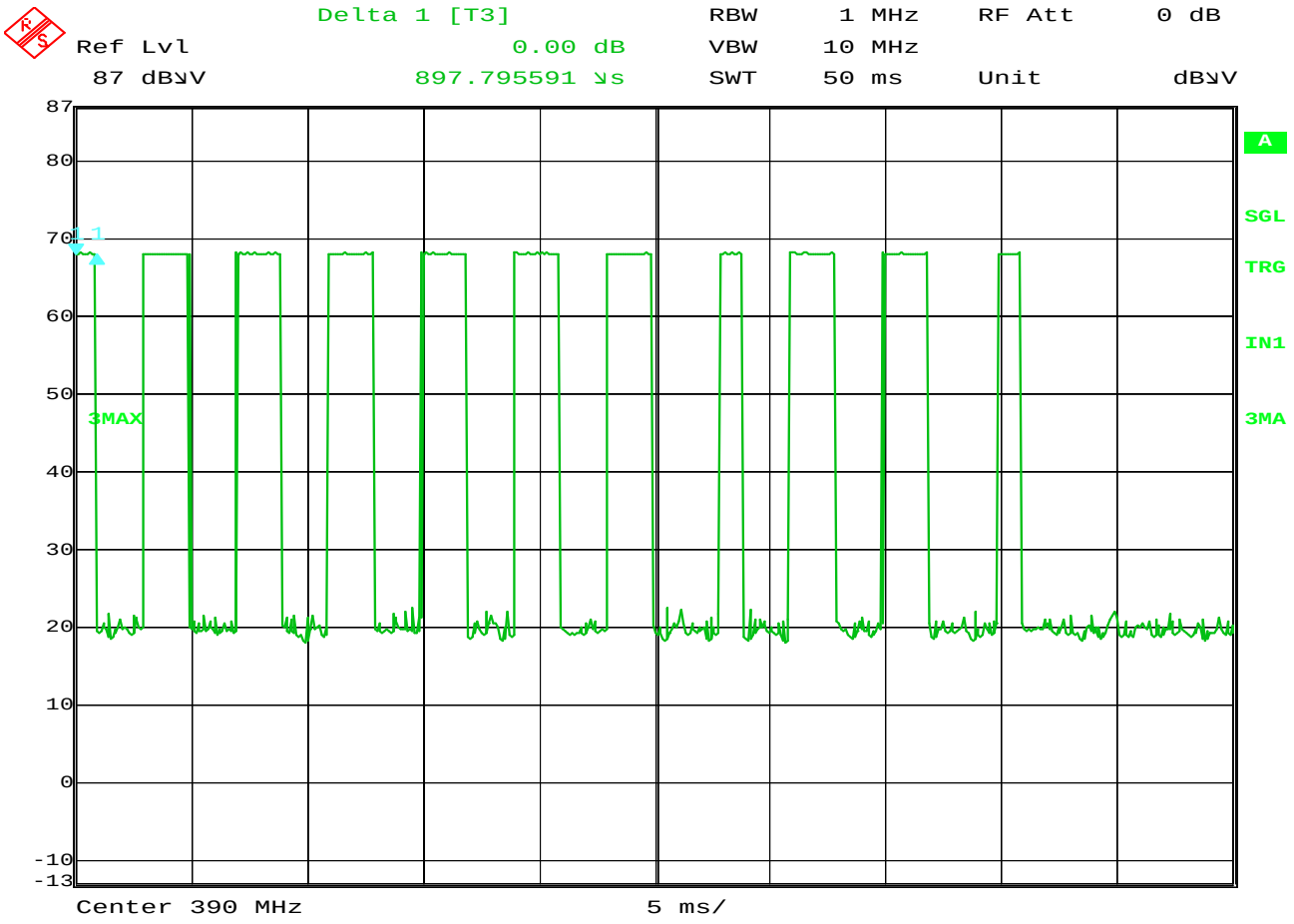
NOTES



FCC 15C 15.35 / Duty Cycle

MANUFACTURER : The Chamberlain Group
MODEL NUMBER : TM100 & TM110
TEST MODE : Tx @ 390MHz
: Peak detector
NOTES : Duty Cycle
NOTES : Chamberlain 8 Position DIP Switch
NOTES : DC = 20log(27/83)= -9.75dB
NOTES : ON pulse = 2mS
NOTES : Button 15

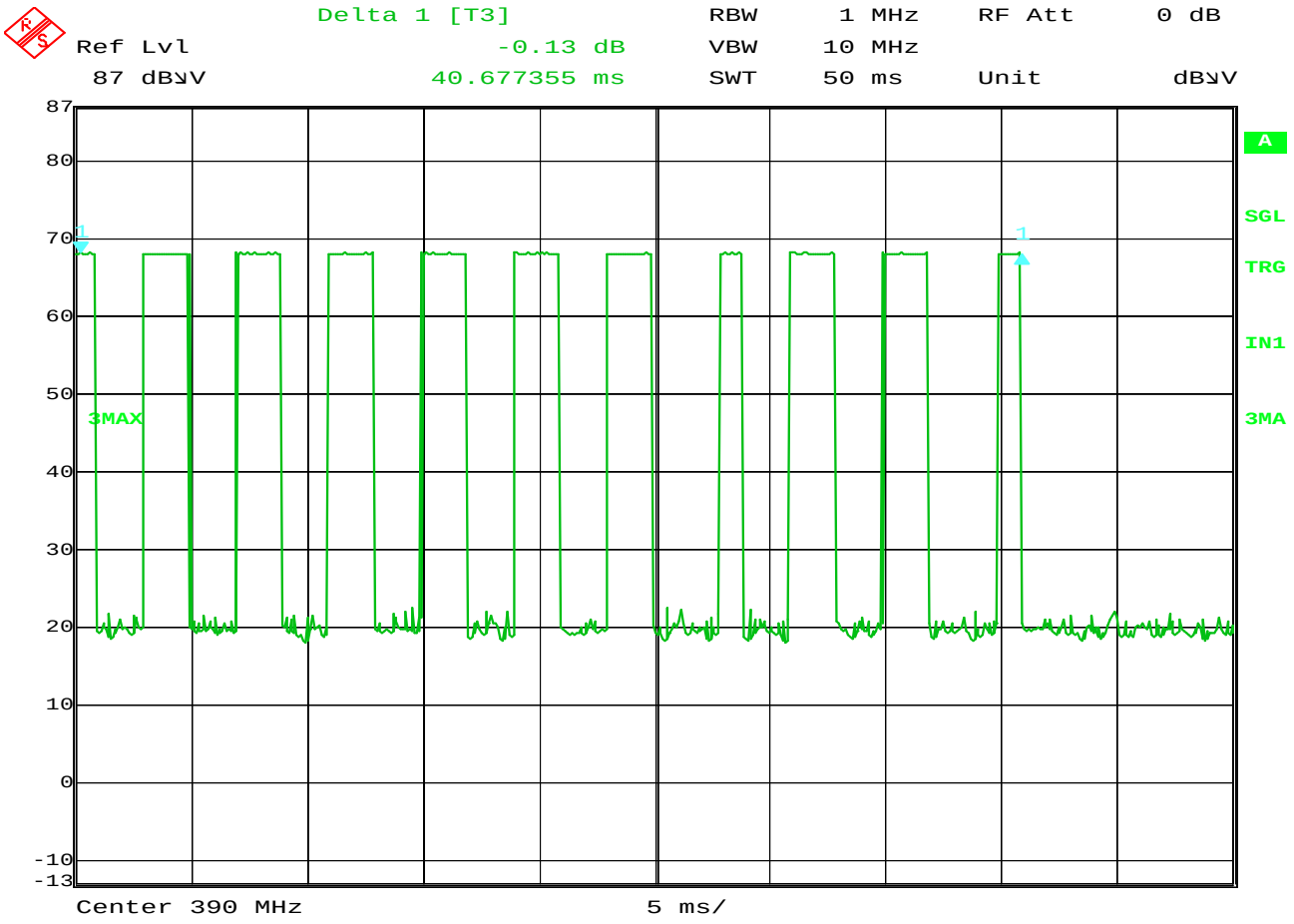
NOTES



FCC 15C 15.35 / Duty Cycle

MANUFACTURER : The Chamberlain Group
MODEL NUMBER : TM100 & TM110
TEST MODE : Tx @ 390MHz
: Peak detector
NOTES : Duty Cycle
NOTES : Chamberlain 8 Position DIP Switch
NOTES : DC = 20log(27/83)= -9.75dB
NOTES : Sync pulse = 897.8uS
NOTES : Button 15

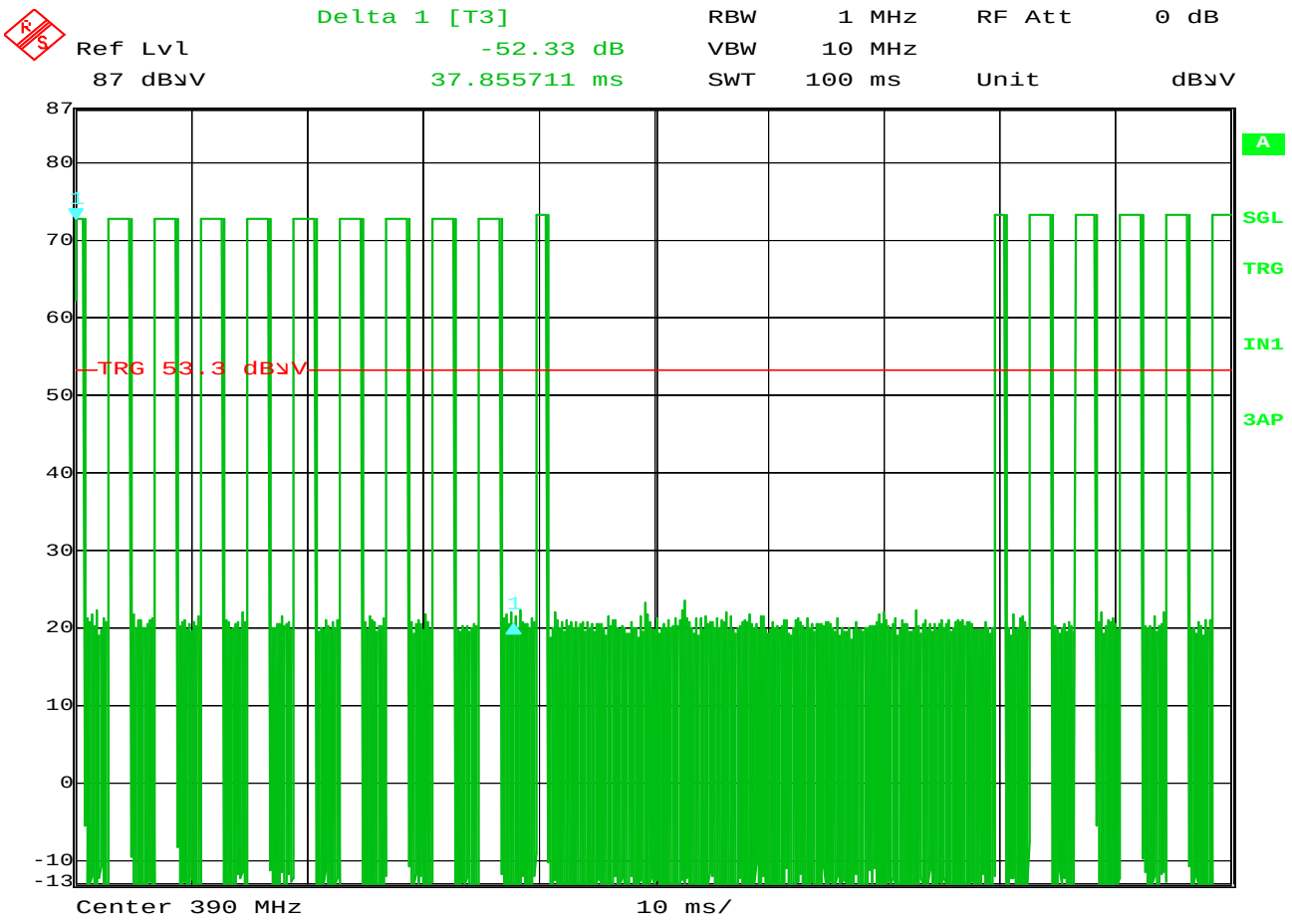
NOTES



FCC 15C 15.35 / Duty Cycle

MANUFACTURER : The Chamberlain Group
MODEL NUMBER : TM100 & TM110
TEST MODE : Tx @ 390MHz
: Peak detector
NOTES : Duty Cycle
NOTES : Chamberlain 8 Position DIP Switch
NOTES : DC = 20log(27/83)= -9.75dB
NOTES : pulse train = 40.6mS
NOTES : Button 15

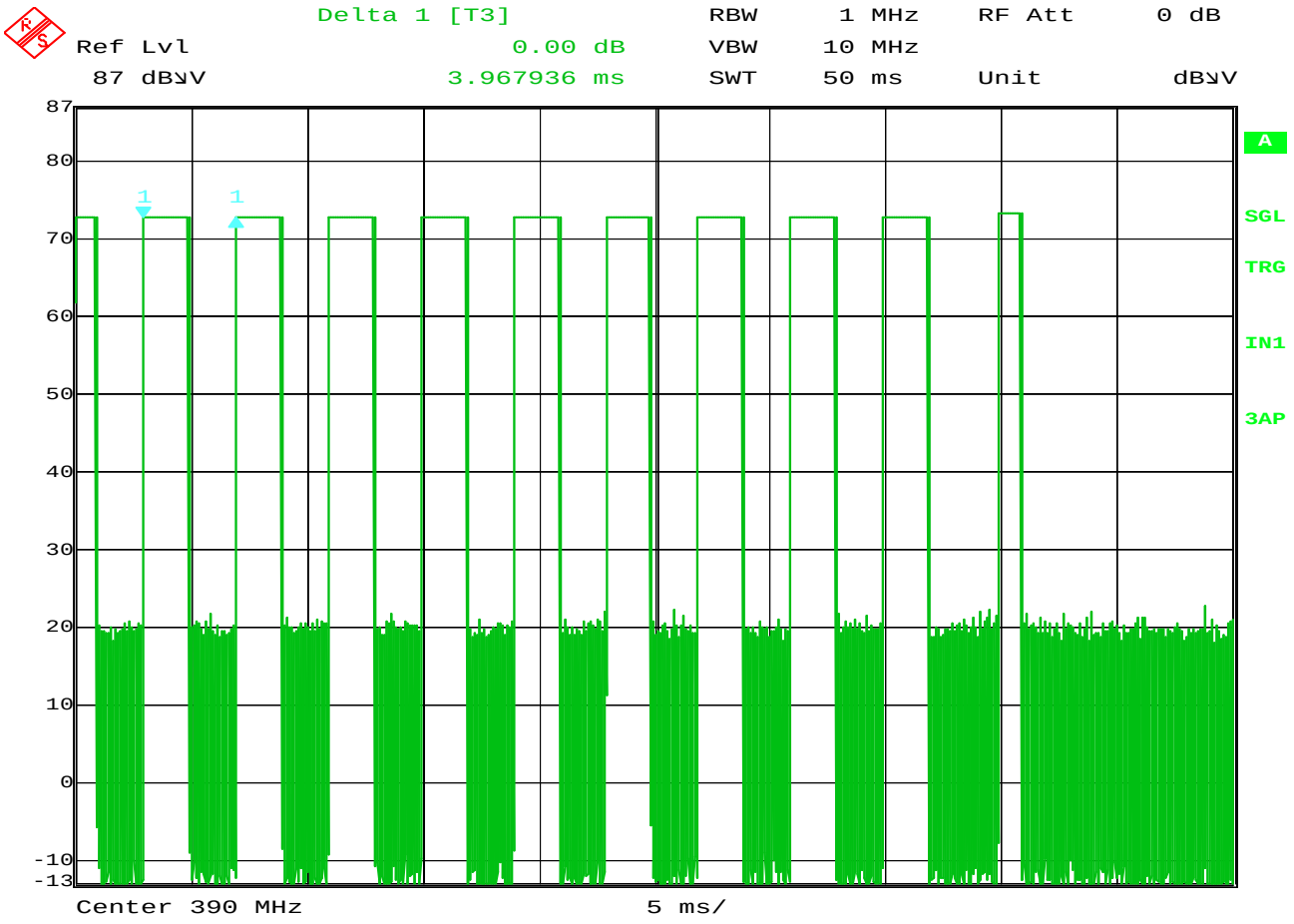
NOTES



FCC 15C 15.35 / Duty Cycle

MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 390MHz
	: Peak detector
NOTES	: Duty Cycle
NOTES	: Chamberlain 9 Position DIP Switch
NOTES	: DC = 20log(29/83)= -9.13dB
NOTES	: Number of bits
NOTES	: Button 17

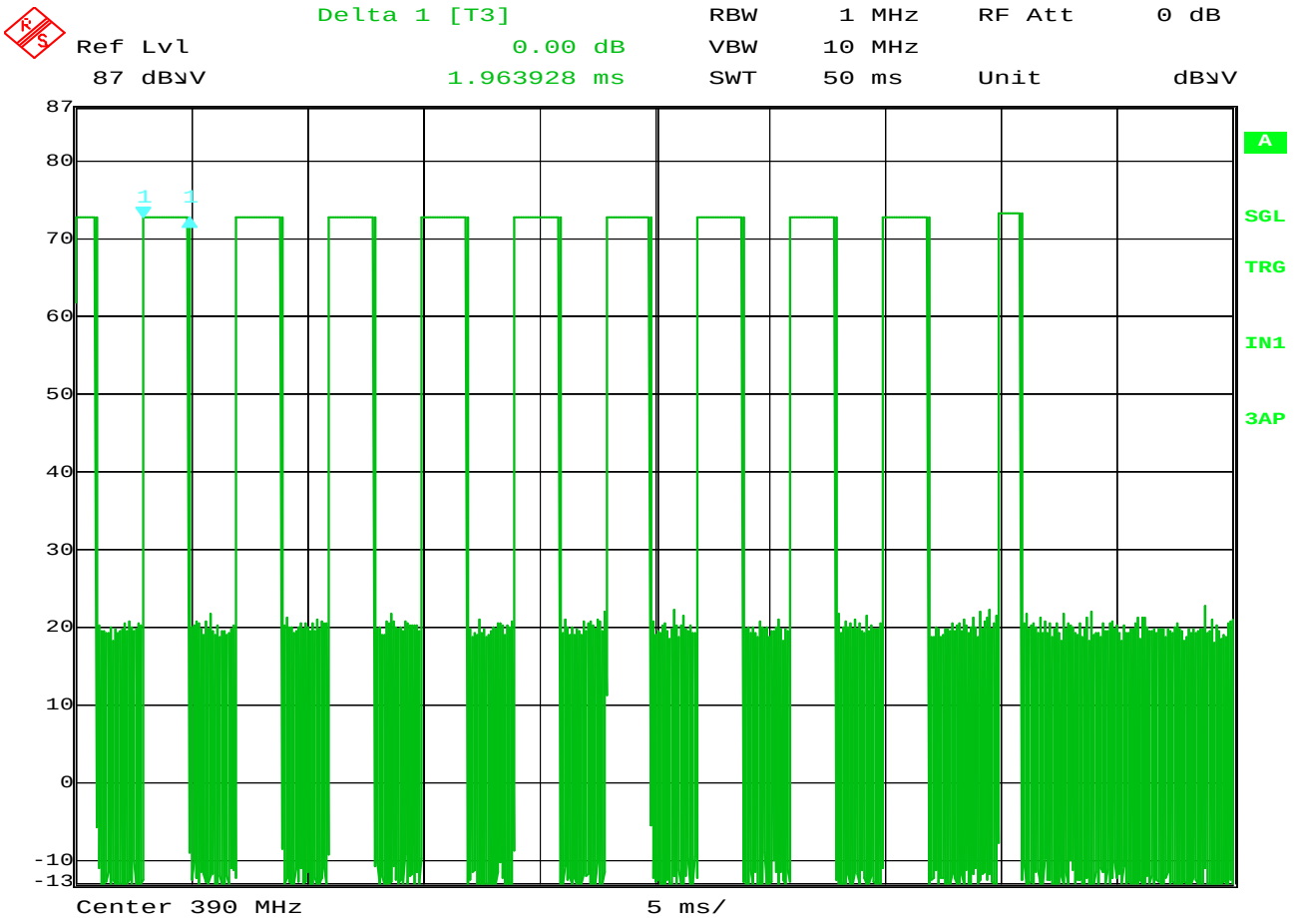
NOTES



FCC 15C 15.35 / Duty Cycle

MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 390MHz
	: Peak detector
NOTES	: Duty Cycle
NOTES	: Chamberlain 9 Position DIP Switch
NOTES	: DC = 20log(29/83)= -9.13dB
NOTES	: ON + OFF bit = 3.96mS
NOTES	: Button 17

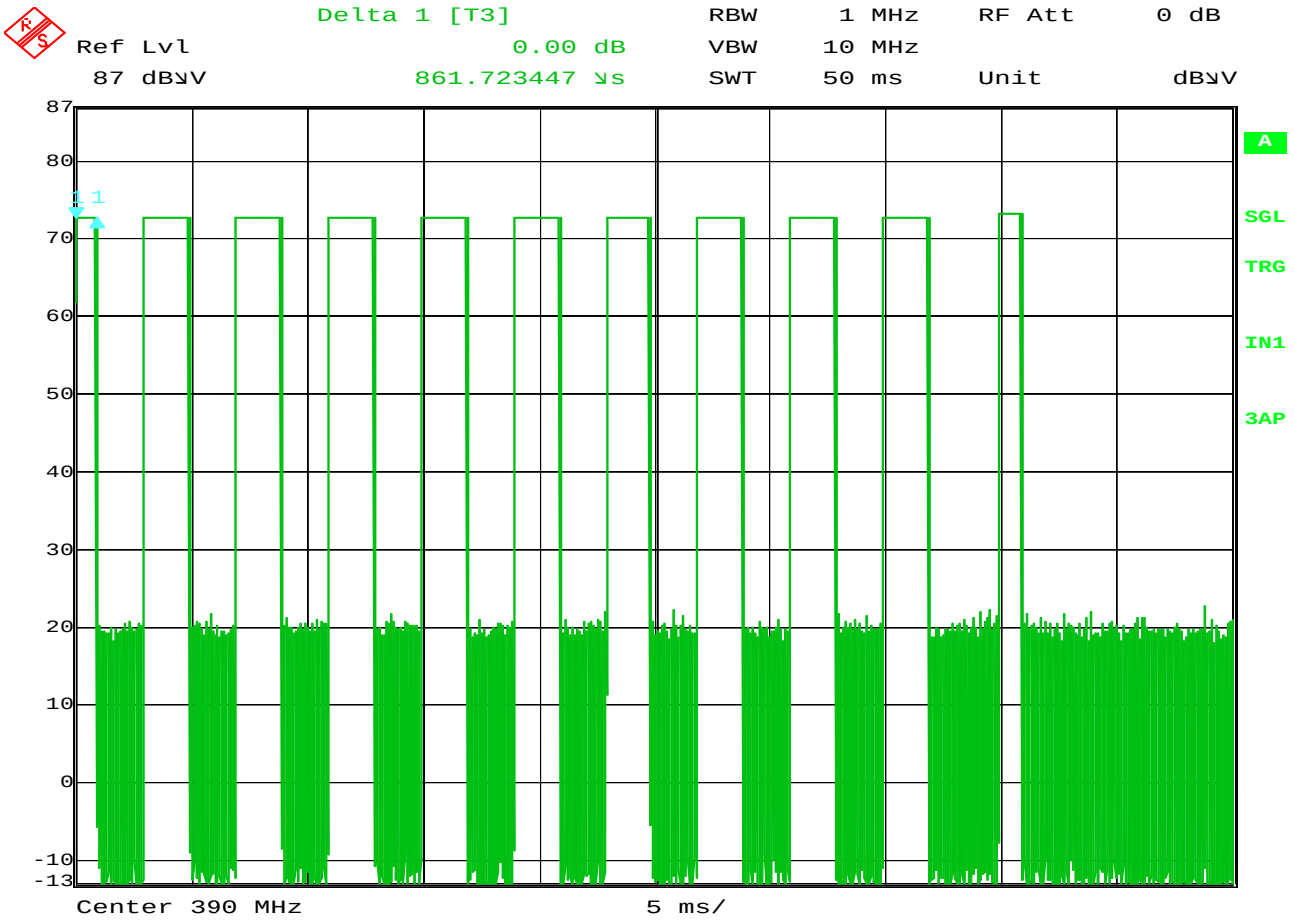
NOTES



FCC 15C 15.35 / Duty Cycle

MANUFACTURER : The Chamberlain Group
MODEL NUMBER : TM100 & TM110
TEST MODE : Tx @ 390MHz
: Peak detector
NOTES : Duty Cycle
NOTES : Chamberlain 9 Position DIP Switch
NOTES : DC = 20log(29/83)= -9.13dB
NOTES : ON Pulse = 1.9mS
NOTES : Button 17

NOTES

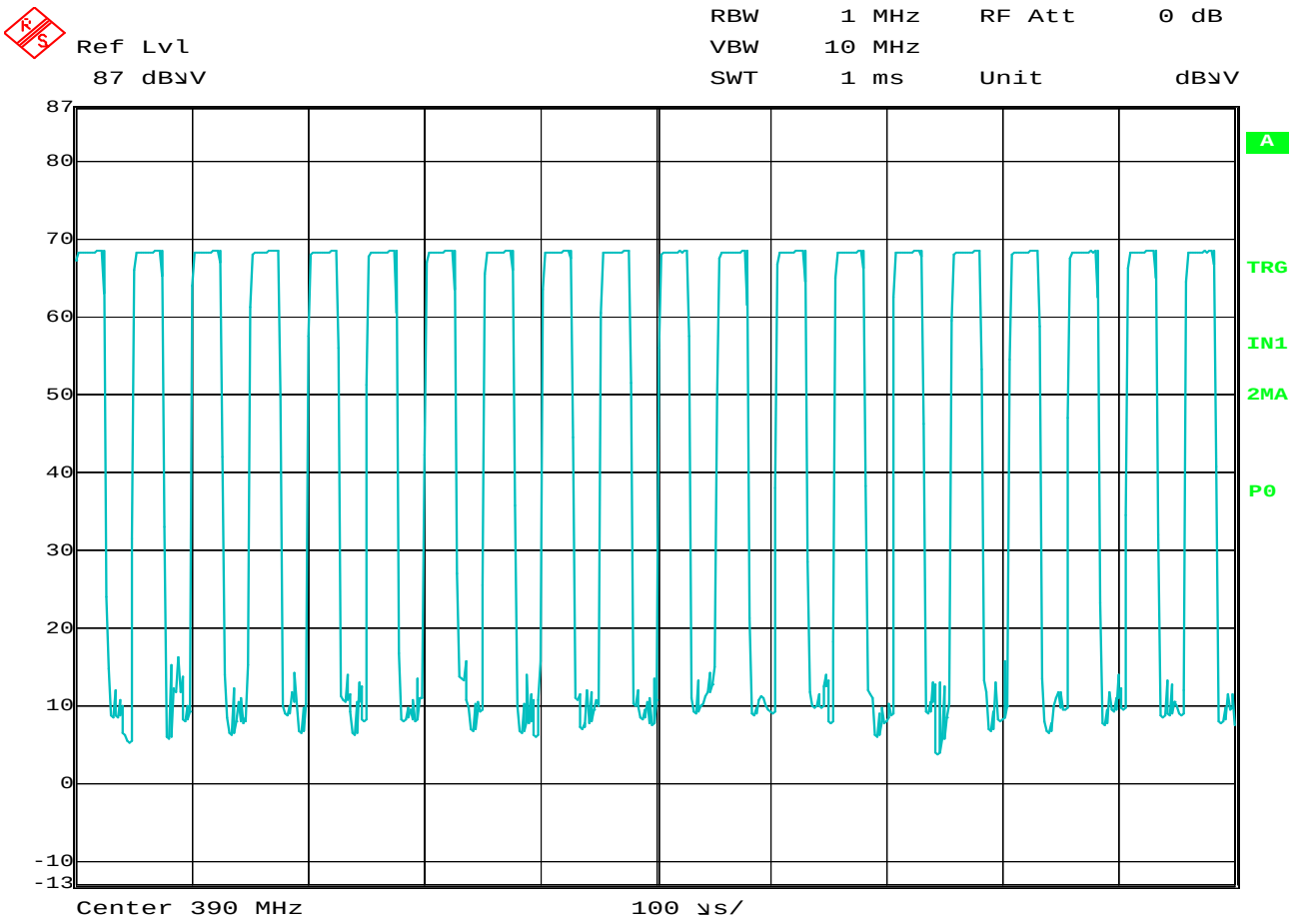


Date: 2.MAY.2016 15:10:41

FCC 15C 15.35 / Duty Cycle

MANUFACTURER : The Chamberlain Group
MODEL NUMBER : TM100 & TM110
TEST MODE : Tx @ 390MHz
: Peak detector
NOTES : Duty Cycle
NOTES : Chamberlain 9 Position DIP Switch
NOTES : DC = 20log(29/83)= -9.13dB
NOTES : Sync bit = 861.7uS
NOTES : Button 17

NOTES

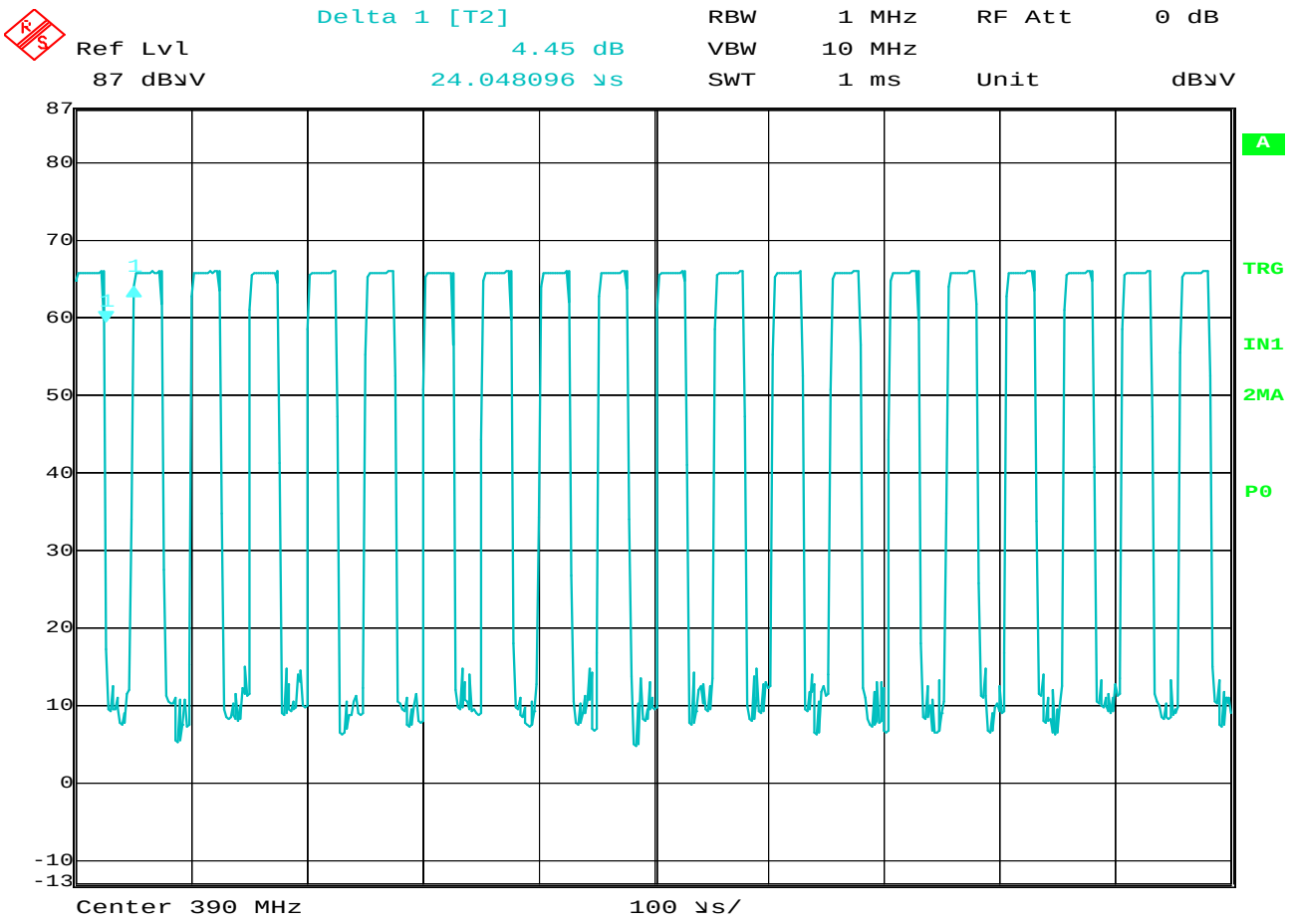


Date: 23.JUN.2016 16:16:52

FCC 15C 15.231 / Duty Cycle

MANUFACTURER	:	The Chamberlain Group
MODEL NUMBER	:	TM100 & TM110
TEST MODE	:	TX @ 390MHz
	:	PEAK DETECTOR
NOTES:	:	Button 18

NOTES

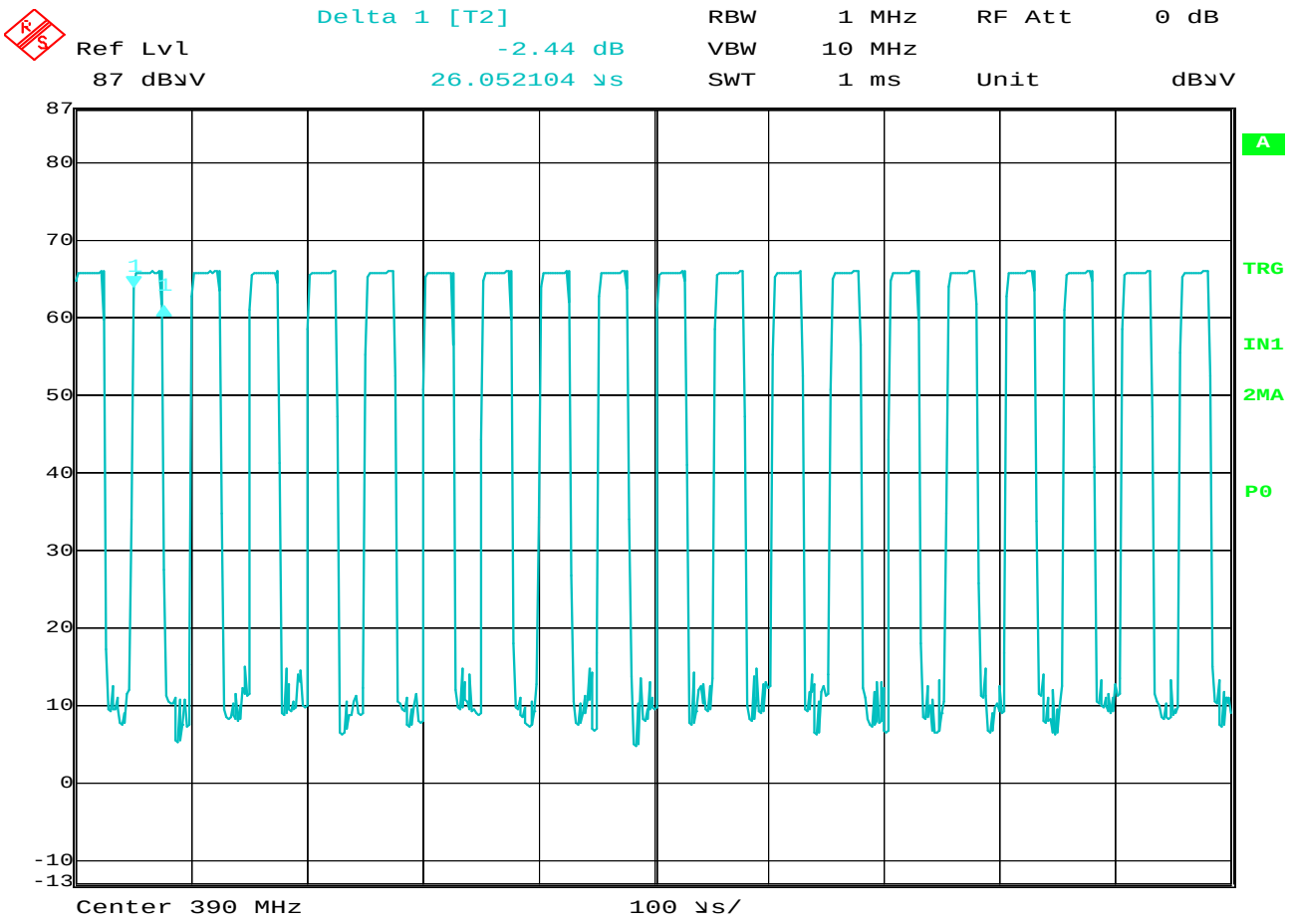


Date: 23.JUN.2016 16:45:42

FCC 15C 15.231 / Off Time

MANUFACTURER : The Chamberlain Group
MODEL NUMBER : TM100 & TM110
TEST MODE : TX @ 390MHz
: PEAK DETECTOR
NOTES: : Button 18

NOTES

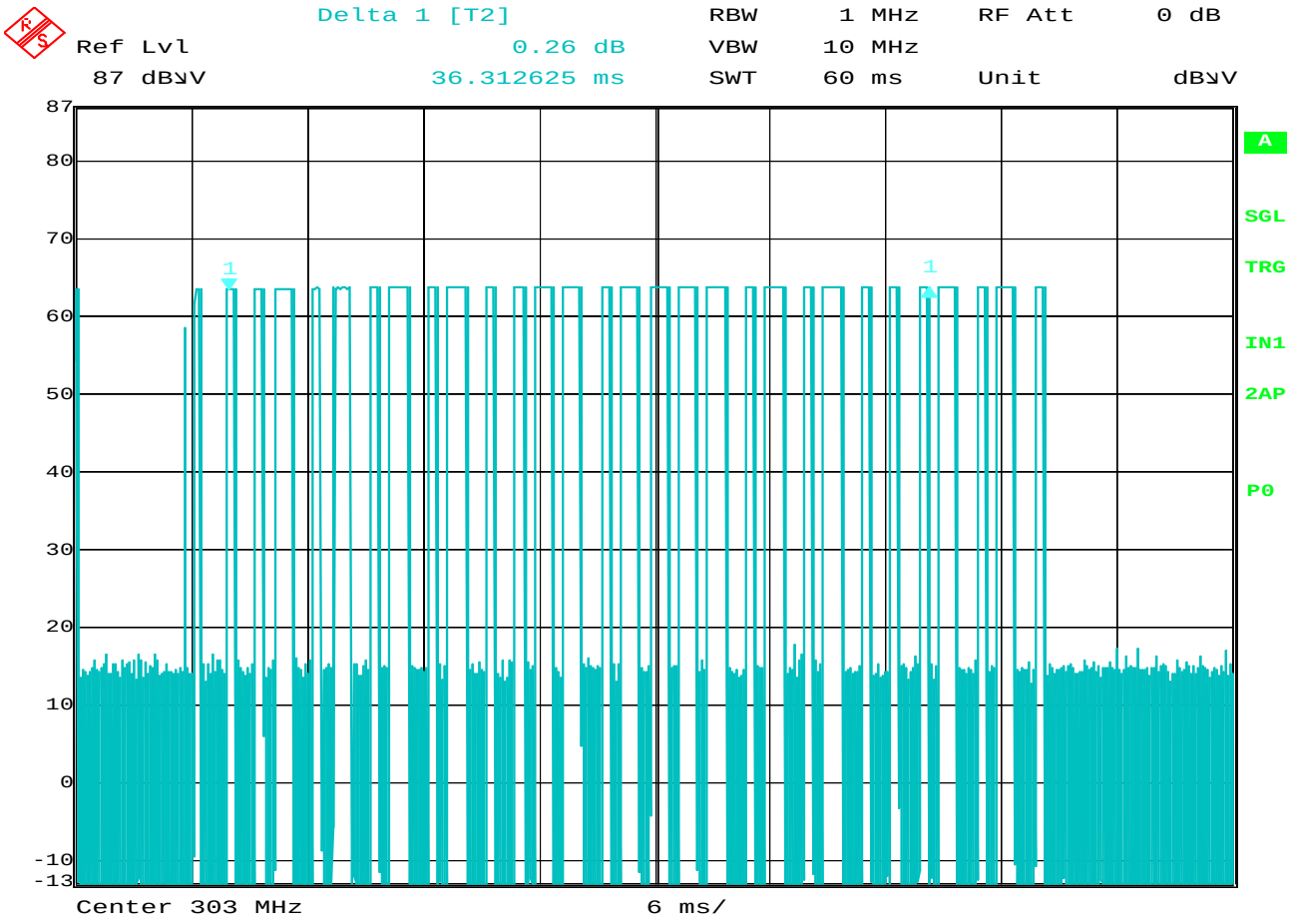


Date: 23.JUN.2016 16:48:19

FCC 15C 15.231 / Pulse Width

MANUFACTURER : The Chamberlain Group
MODEL NUMBER : TM100 & TM110
TEST MODE : TX @ 390MHz
: PEAK DETECTOR
NOTES: : Button 18

NOTES

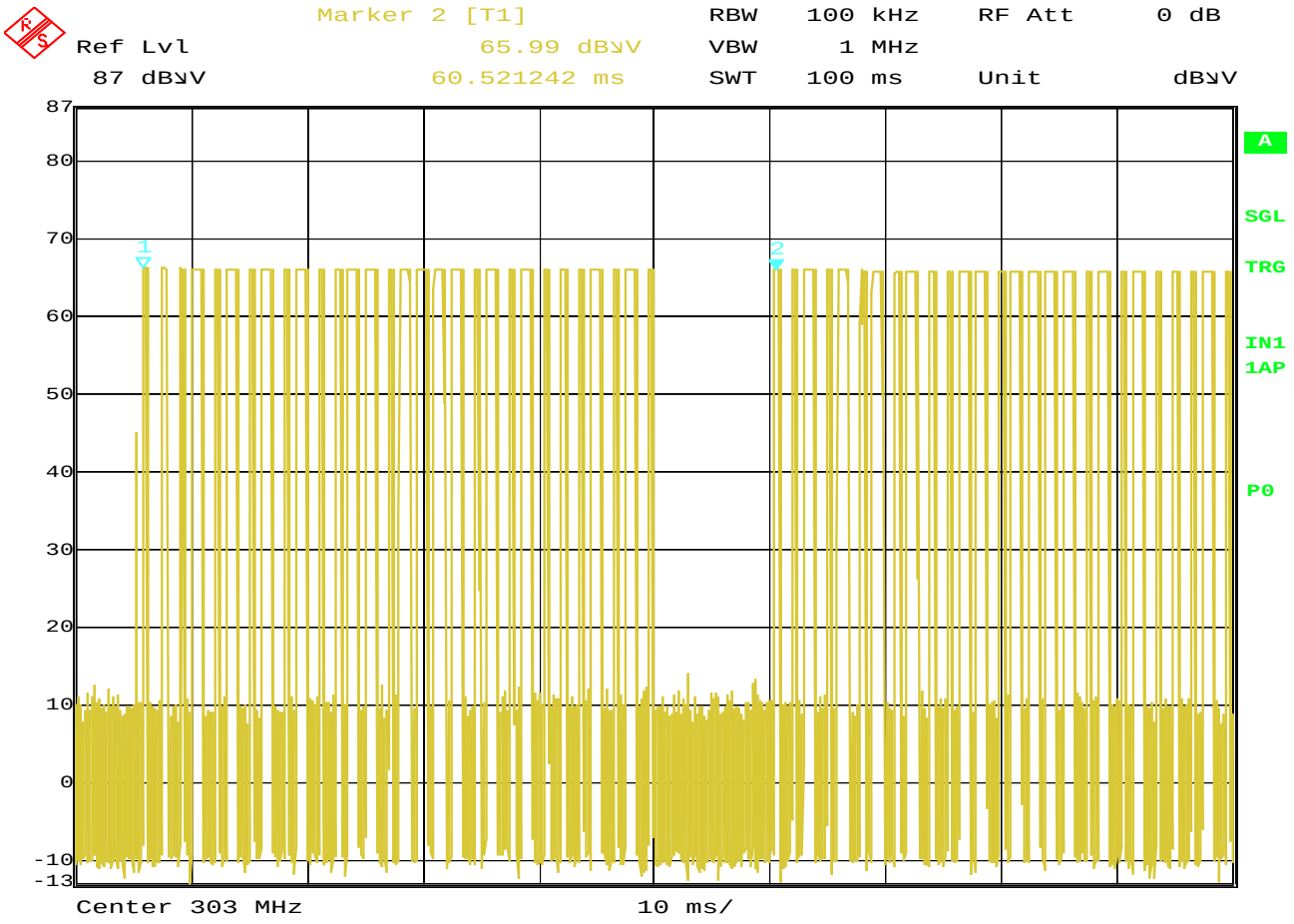


Date: 23.JUN.2016 17:29:20

FCC 15C 15.231 / Pulse Width

MANUFACTURER	:	The Chamberlain Group
MODEL NUMBER	:	TM100 & TM110
TEST MODE	:	TX @ 303MHz
	:	PEAK DETECTOR
NOTES:	:	Button 19

NOTES

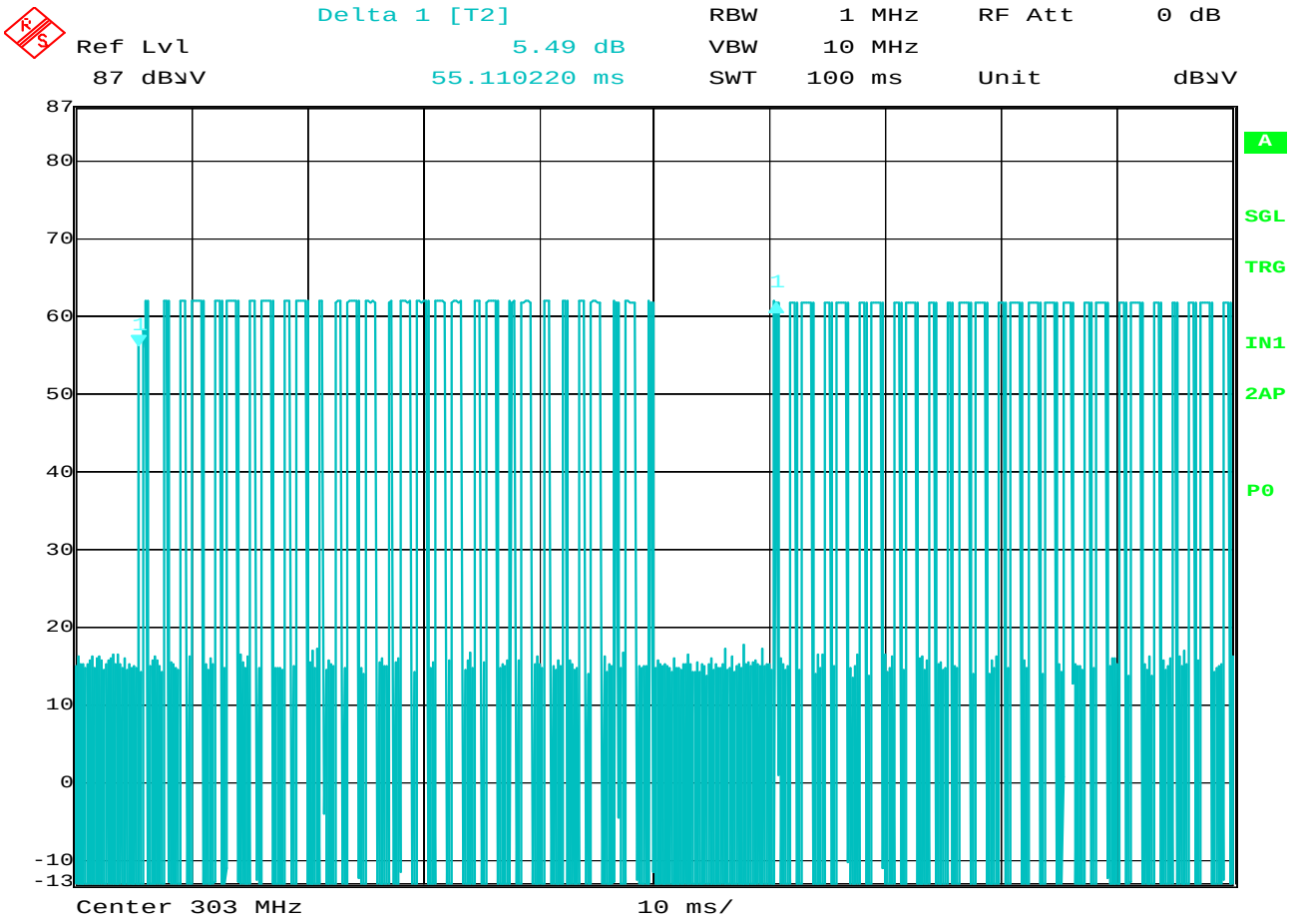


Date: 21.JUN.2016 17:54:08

FCC 15C 15.231 / Duty Cycle

MANUFACTURER	:	The Chamberlain Group
MODEL NUMBER	:	TM100 & TM110
TEST MODE	:	TX @ 303MHz
	:	PEAK DETECTOR
NOTES:	:	Button 19

NOTES

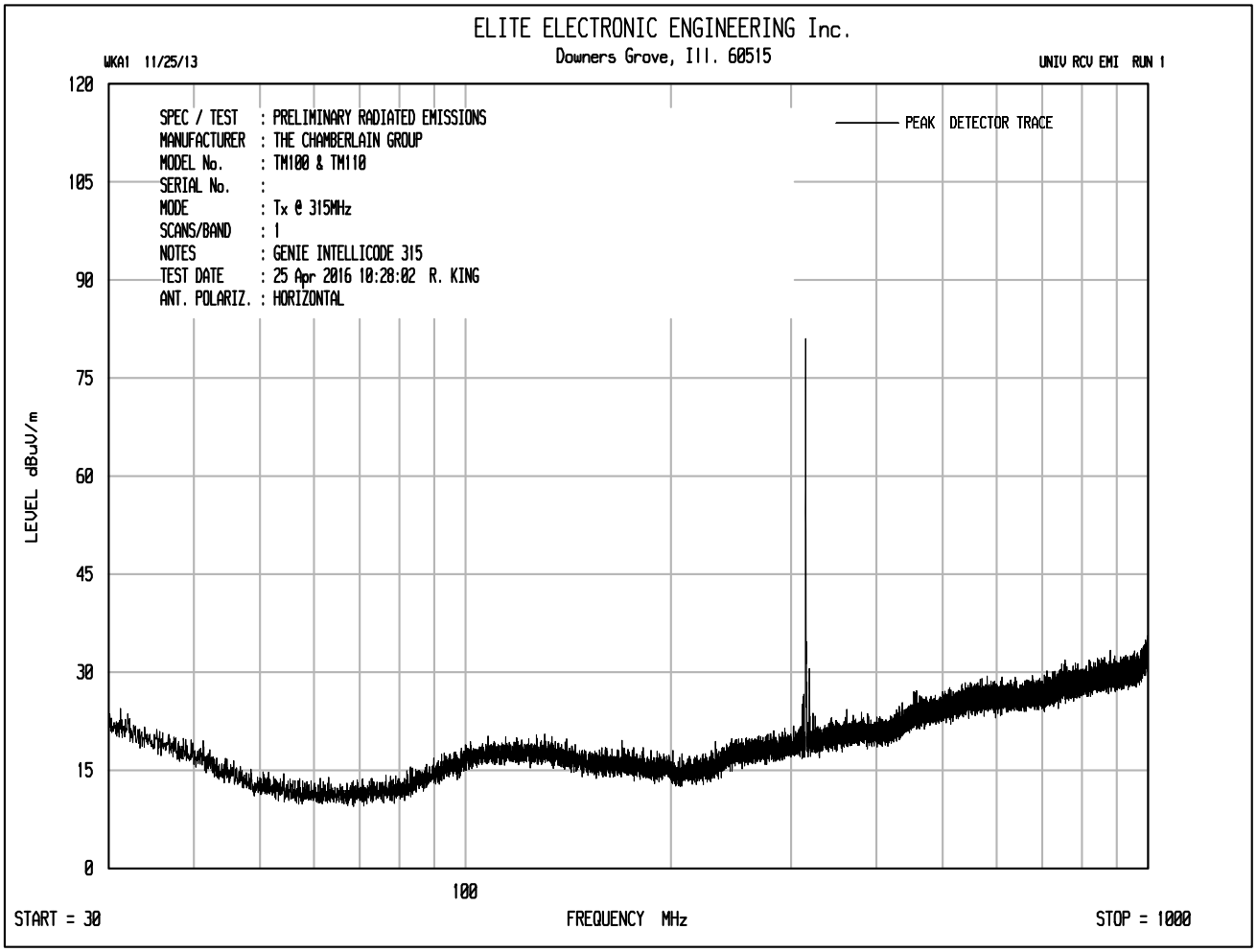


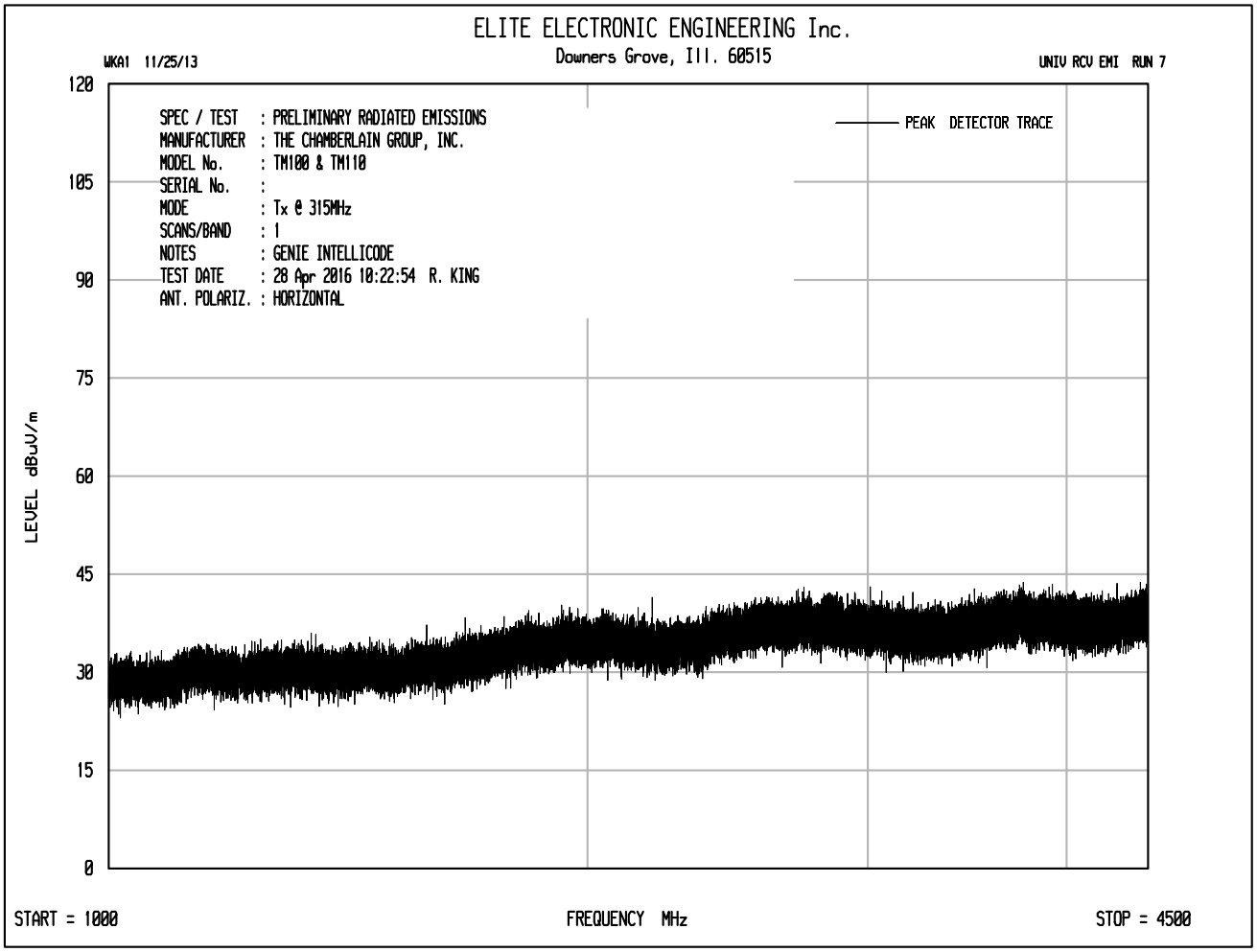
Date: 23.JUN.2016 16:52:34

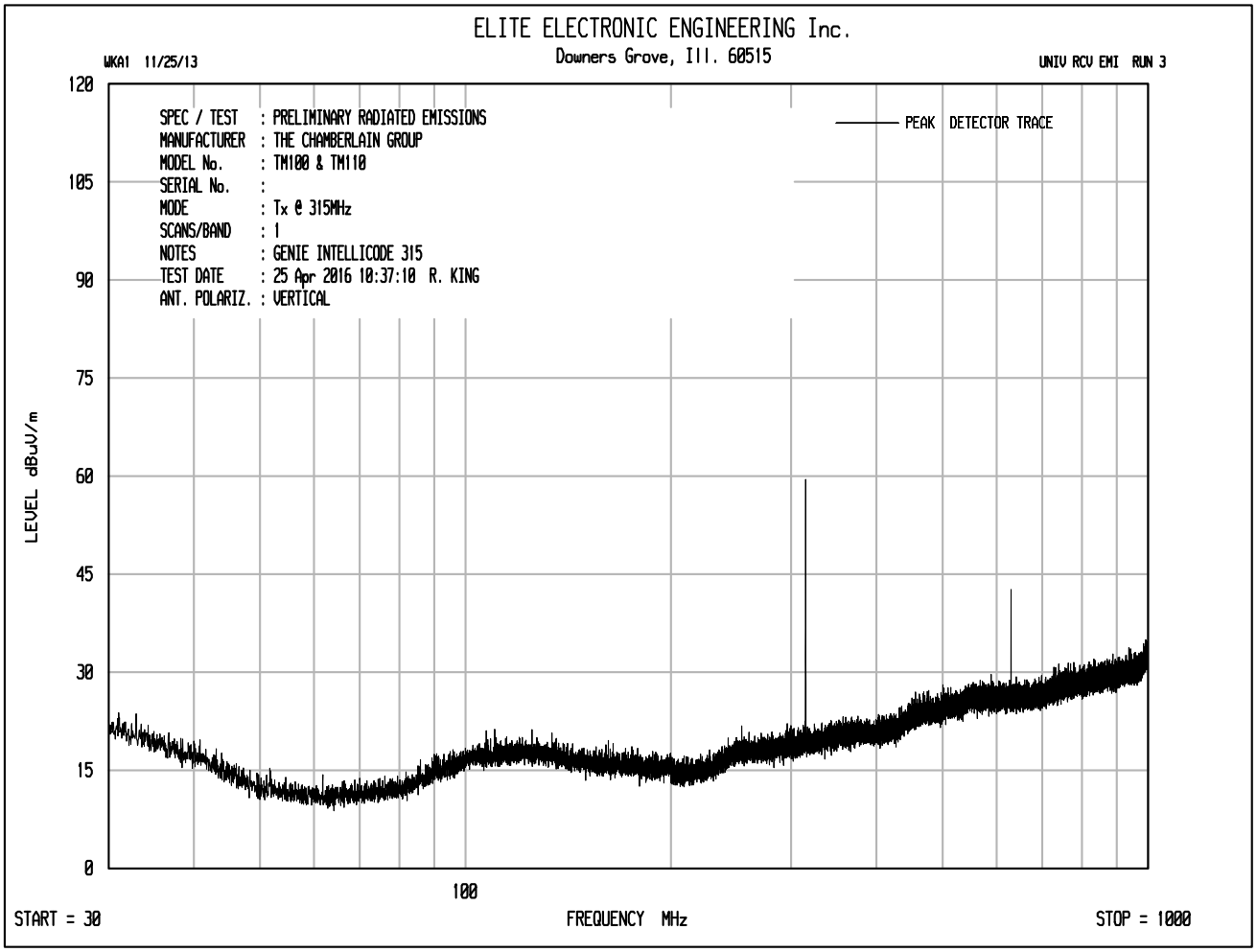
FCC 15C 15.231 / Pulse Width

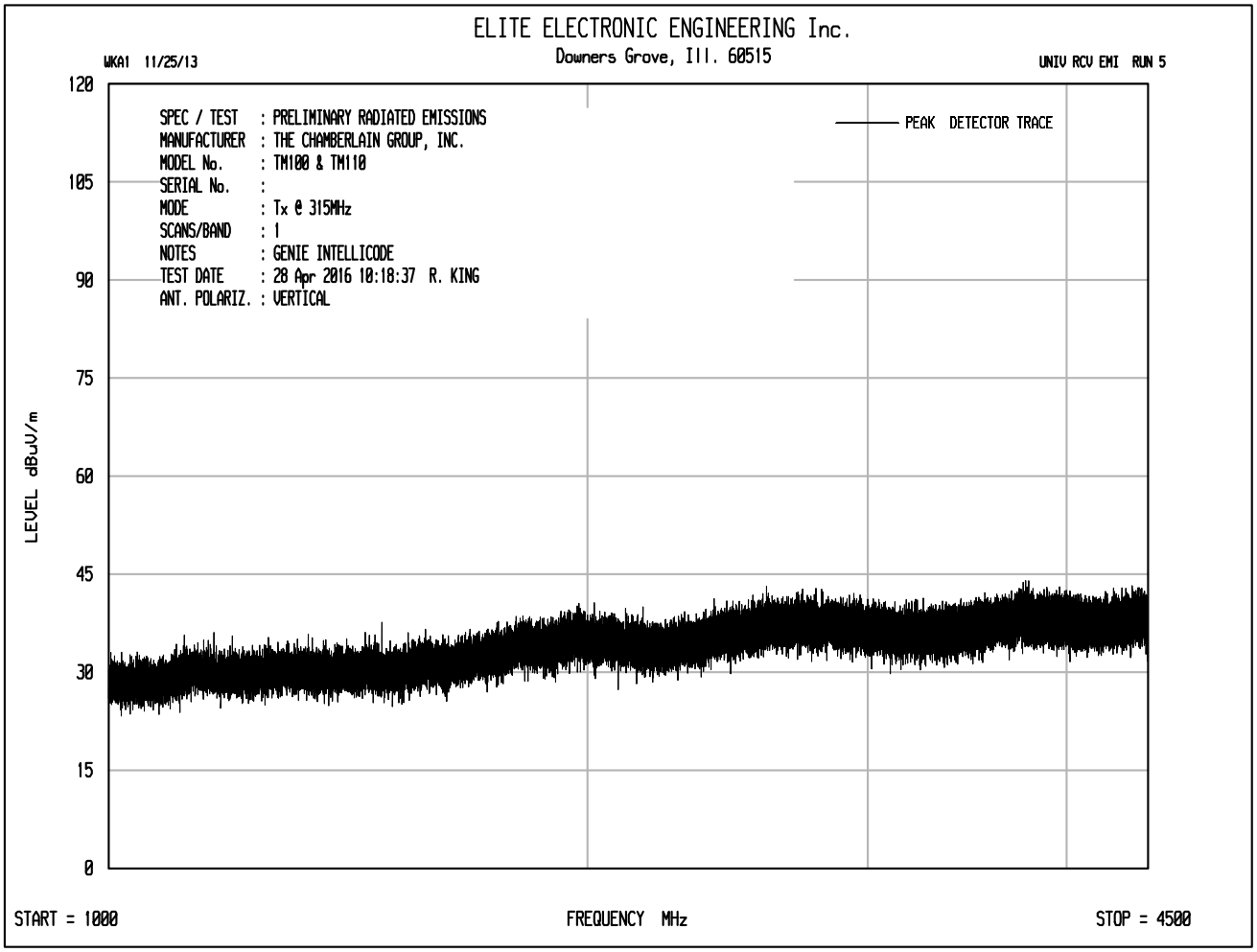
MANUFACTURER	:	The Chamberlain Group
MODEL NUMBER	:	TM100 & TM110
TEST MODE	:	TX @ 303MHz
	:	PEAK DETECTOR
NOTES:	:	Button 19

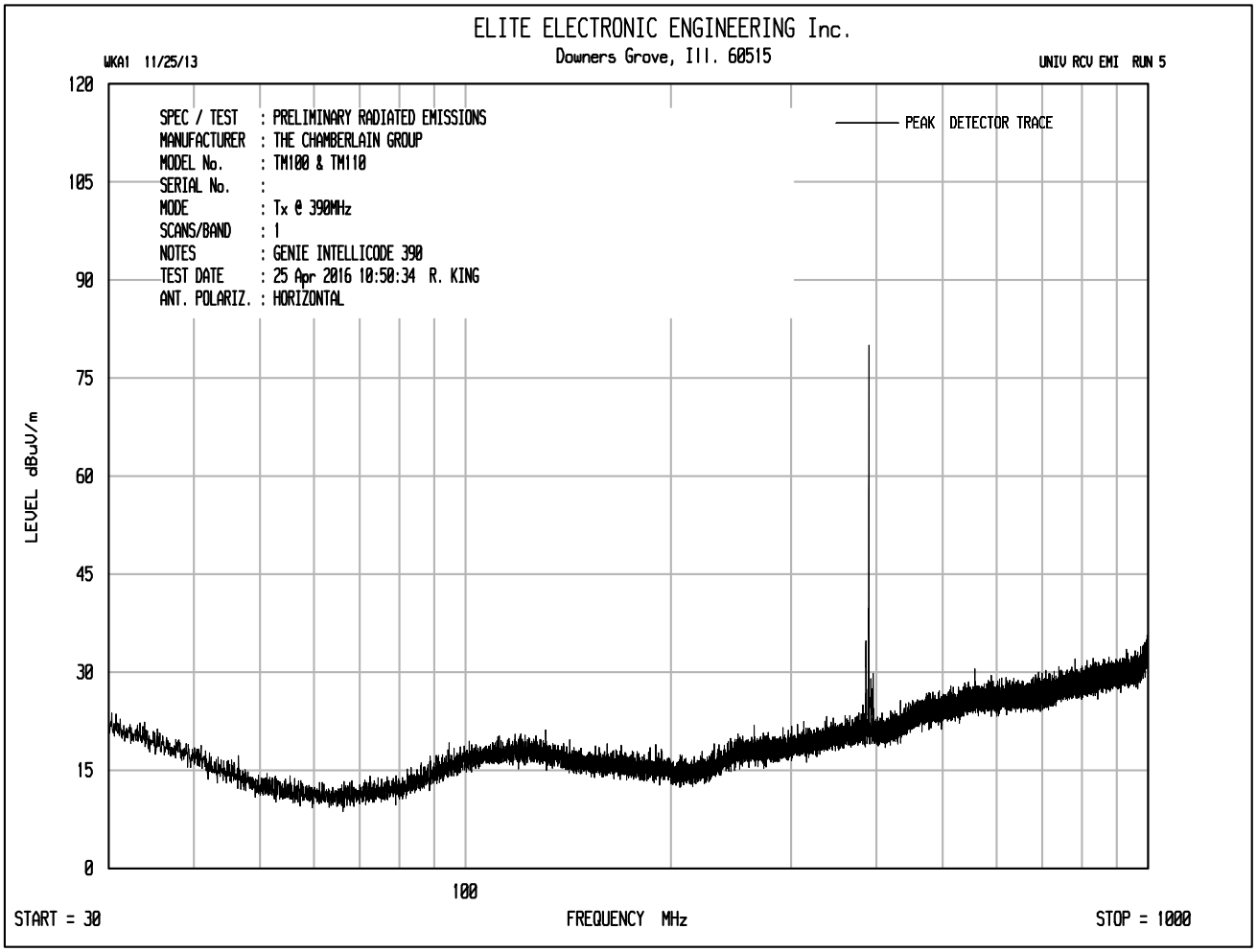
NOTES

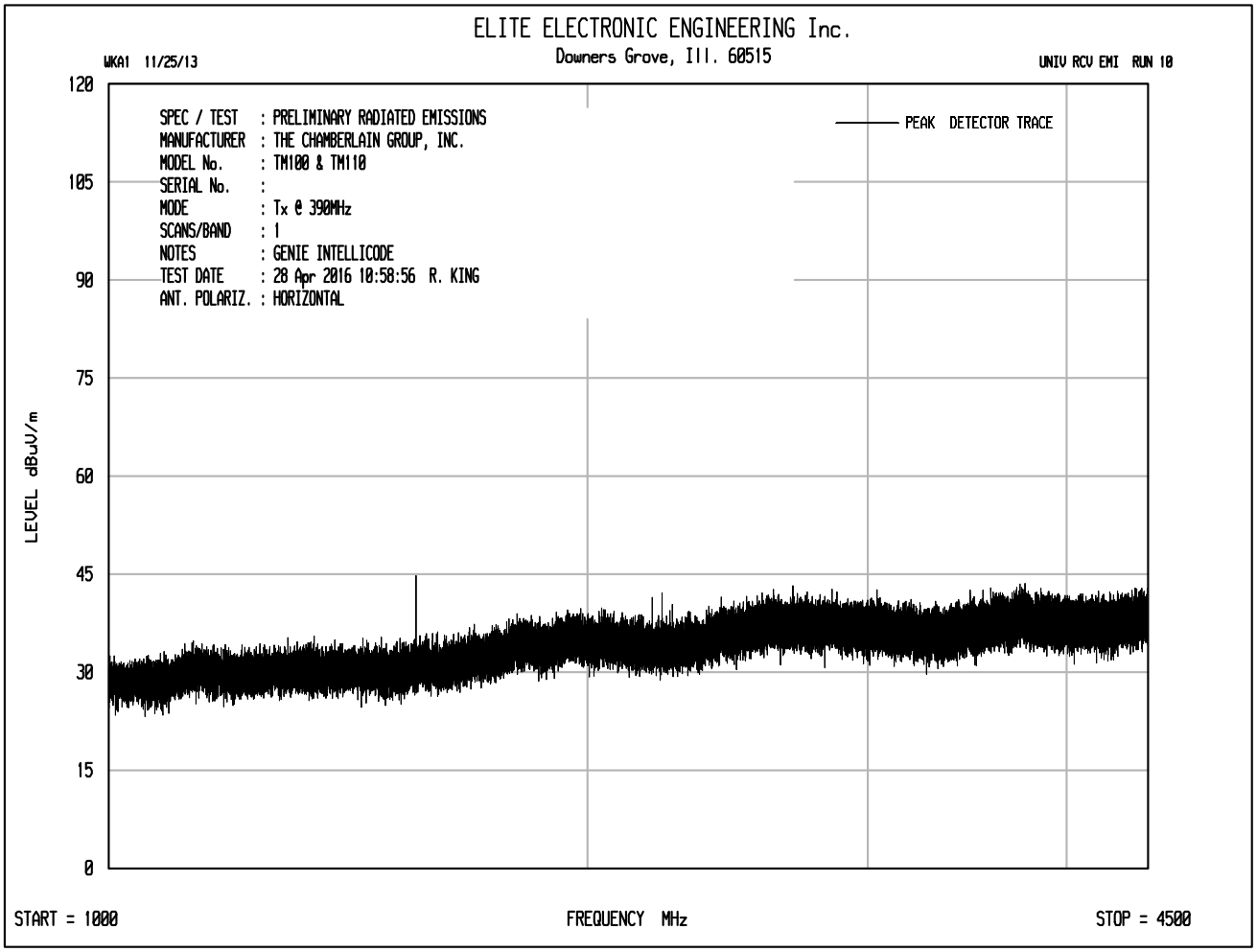

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 1
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 315MHz
SCANS/BAND : 1
NOTES : GENIE INTELLICODE 315
TEST DATE : 25 Apr 2016 10:28:02 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

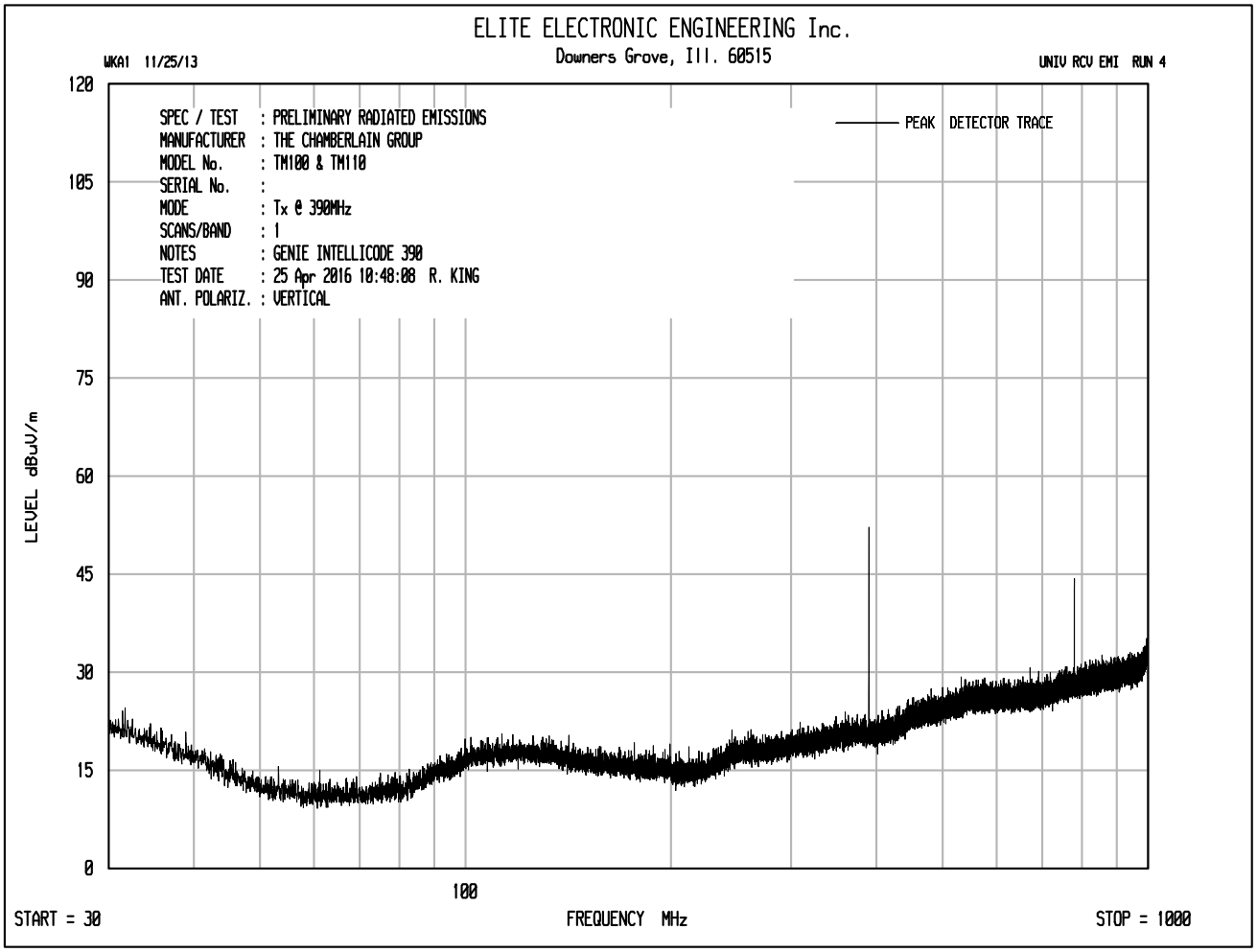

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 7
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP, INC.
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 315MHz
SCANS/BAND : 1
NOTES : GENIE INTELLICODE
TEST DATE : 28 Apr 2016 10:22:54 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 = 4500

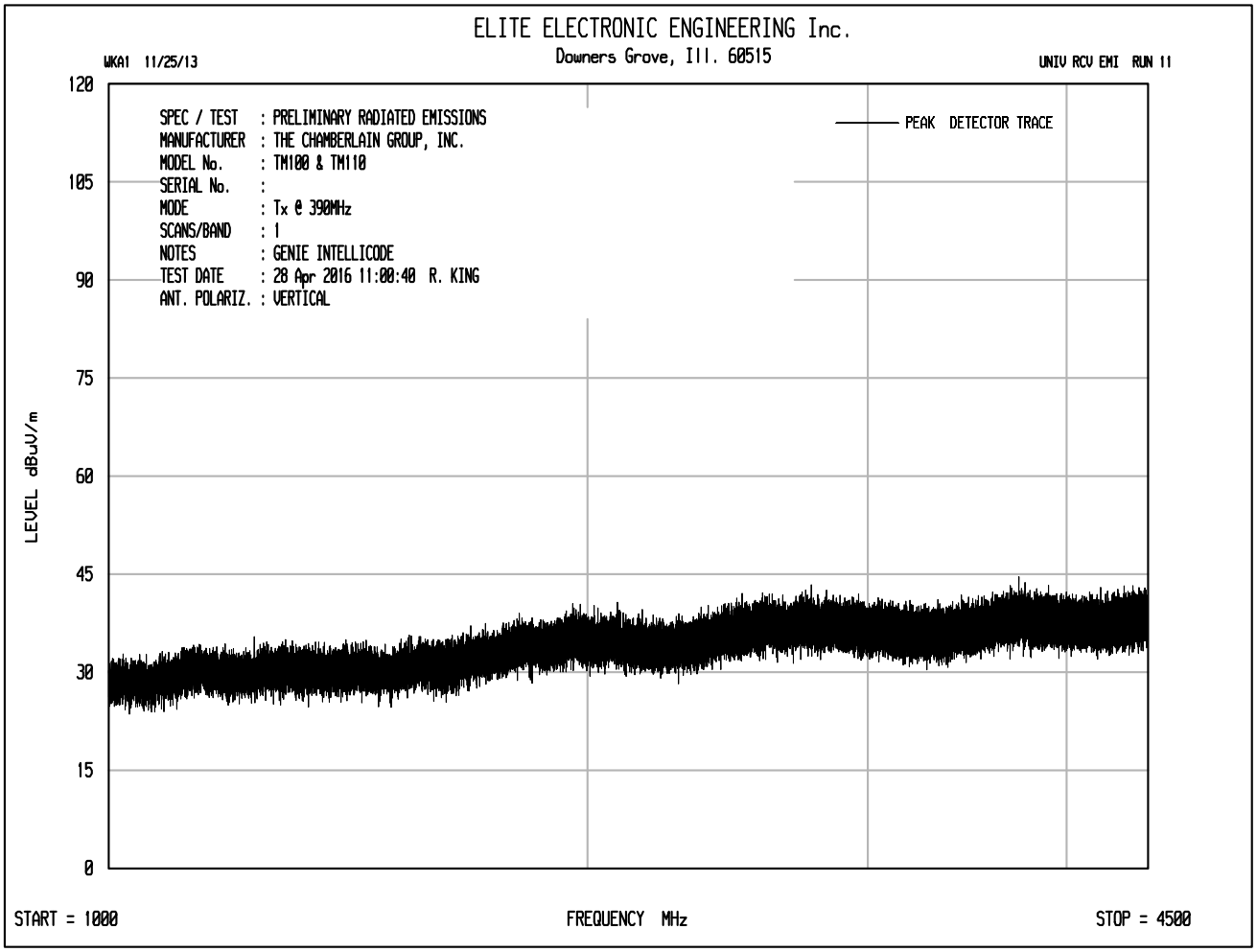

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 3
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 315MHz
SCANS/BAND : 1
NOTES : GENIE INTELLICODE 315
TEST DATE : 25 Apr 2016 10:37:10 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

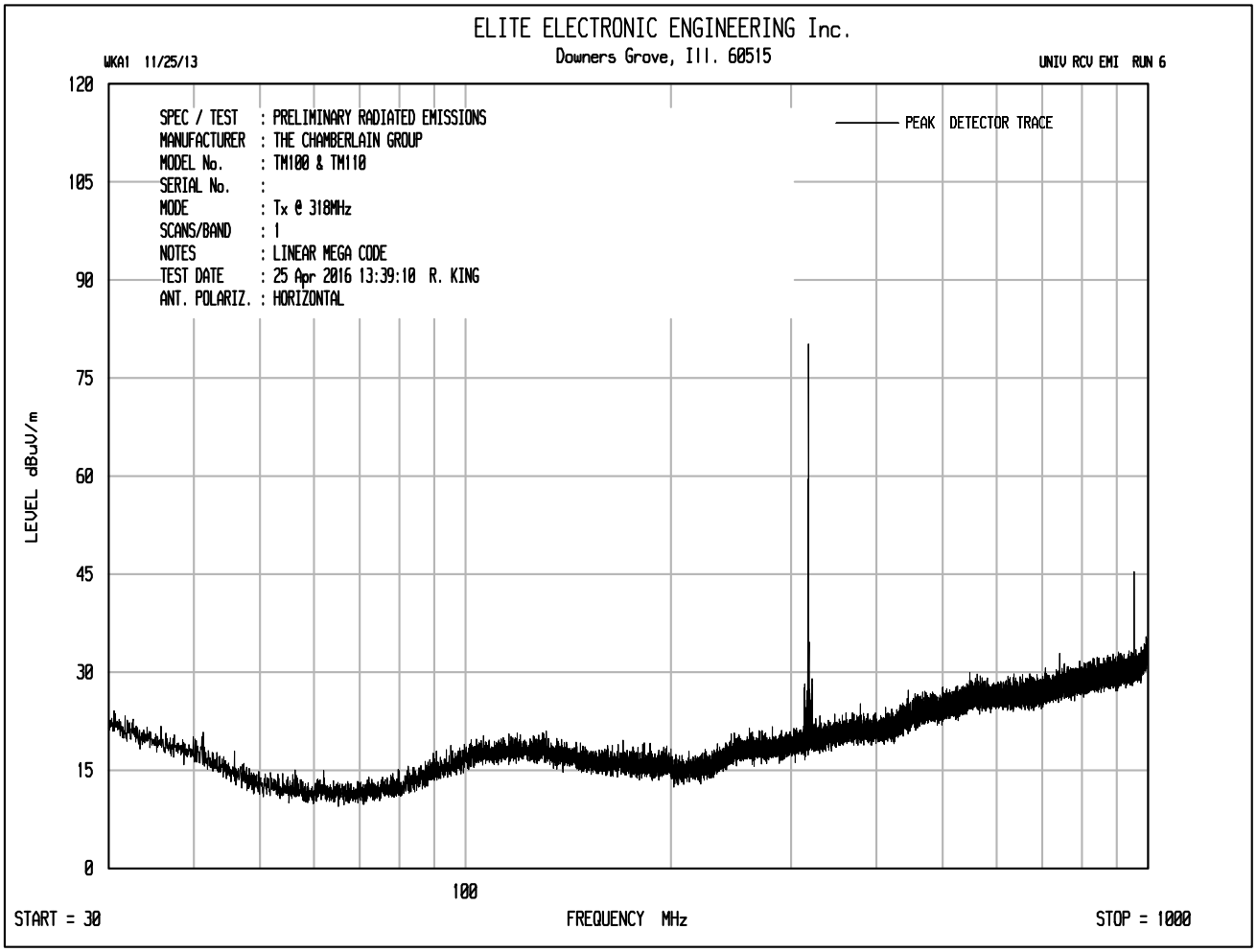

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 5
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP, INC.
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 315MHz
SCANS/BAND : 1
NOTES : GENIE INTELLICODE
TEST DATE : 28 Apr 2016 10:18:37 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 = 4500

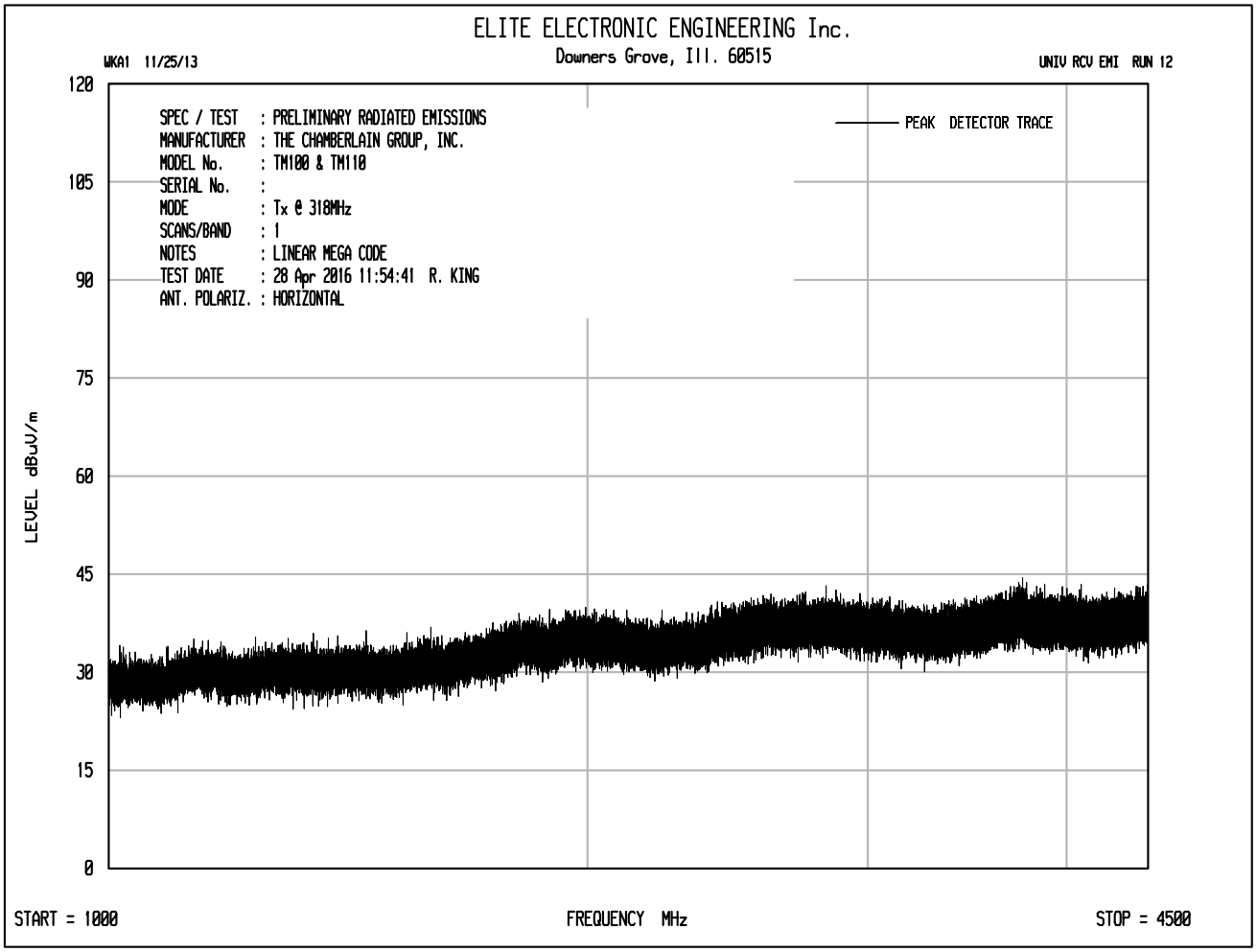

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 5
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 390MHz
SCANS/BAND : 1
NOTES : GENIE INTELLICODE 390
TEST DATE : 25 Apr 2016 10:50:34 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

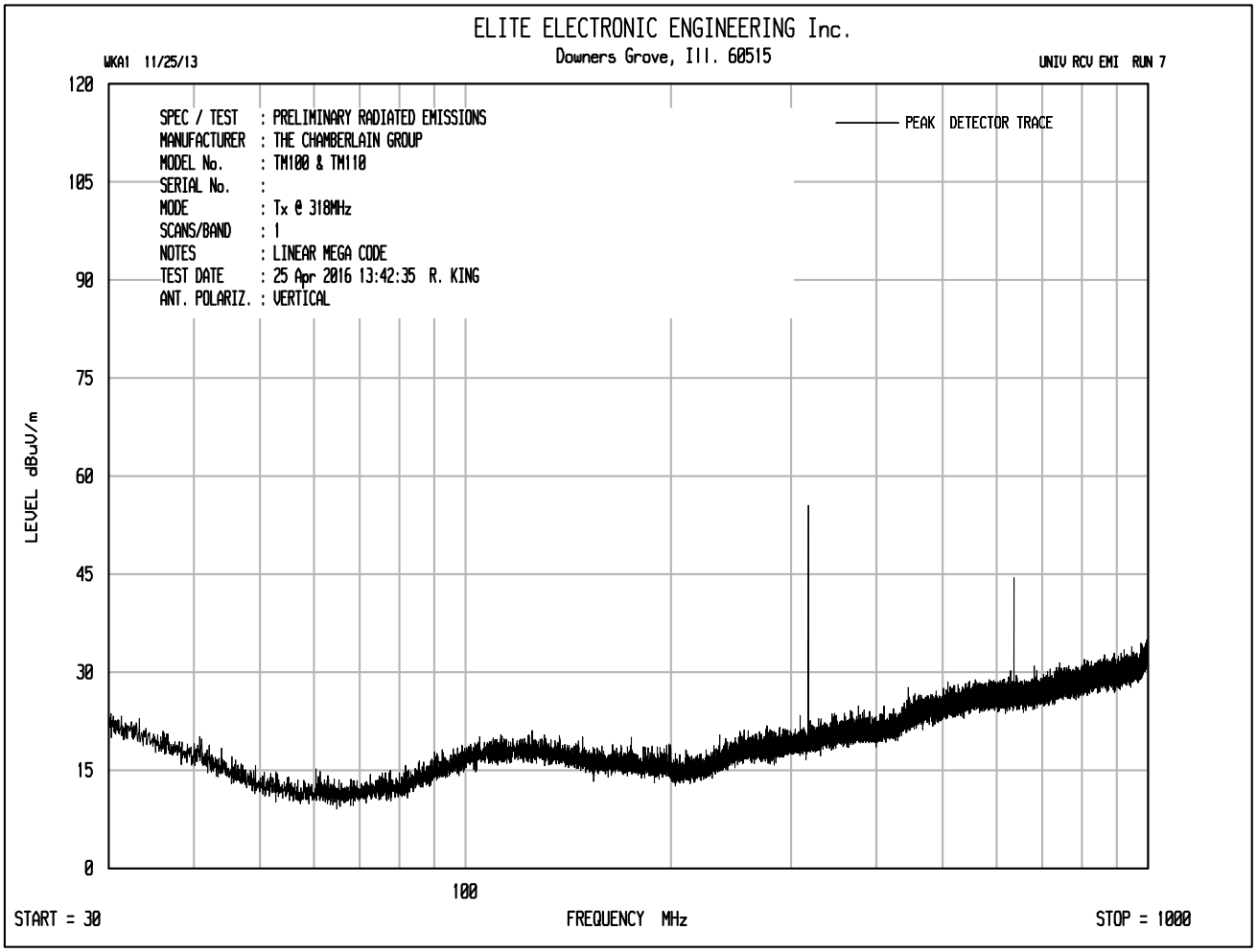

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP, INC.
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 390MHz
SCANS/BAND : 1
NOTES : GENIE INTELLICODE
TEST DATE : 28 Apr 2016 10:58:56 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 = 4500

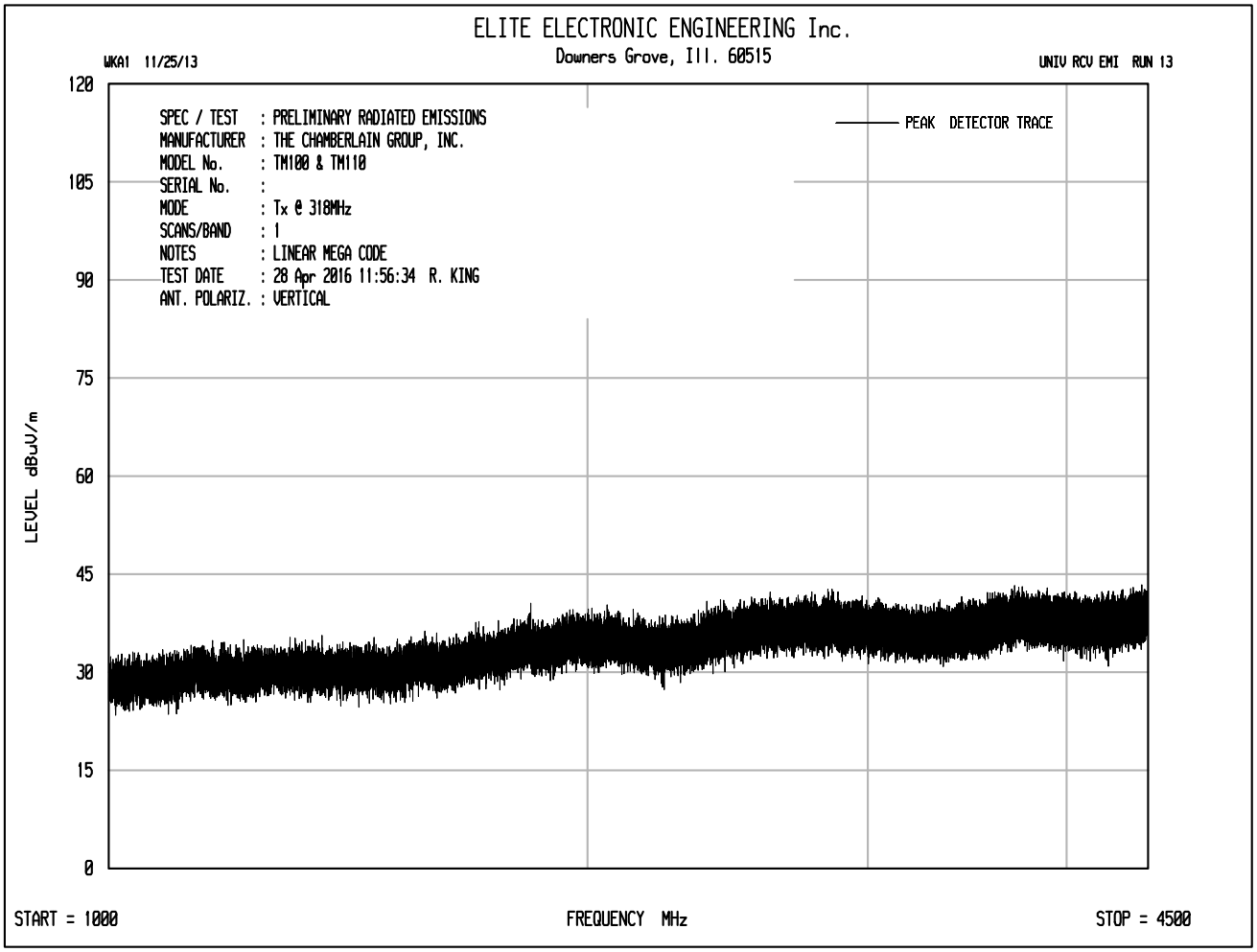

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 4
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 390MHz
SCANS/BAND : 1
NOTES : GENIE INTELLICODE 390
TEST DATE : 25 Apr 2016 10:48:08 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

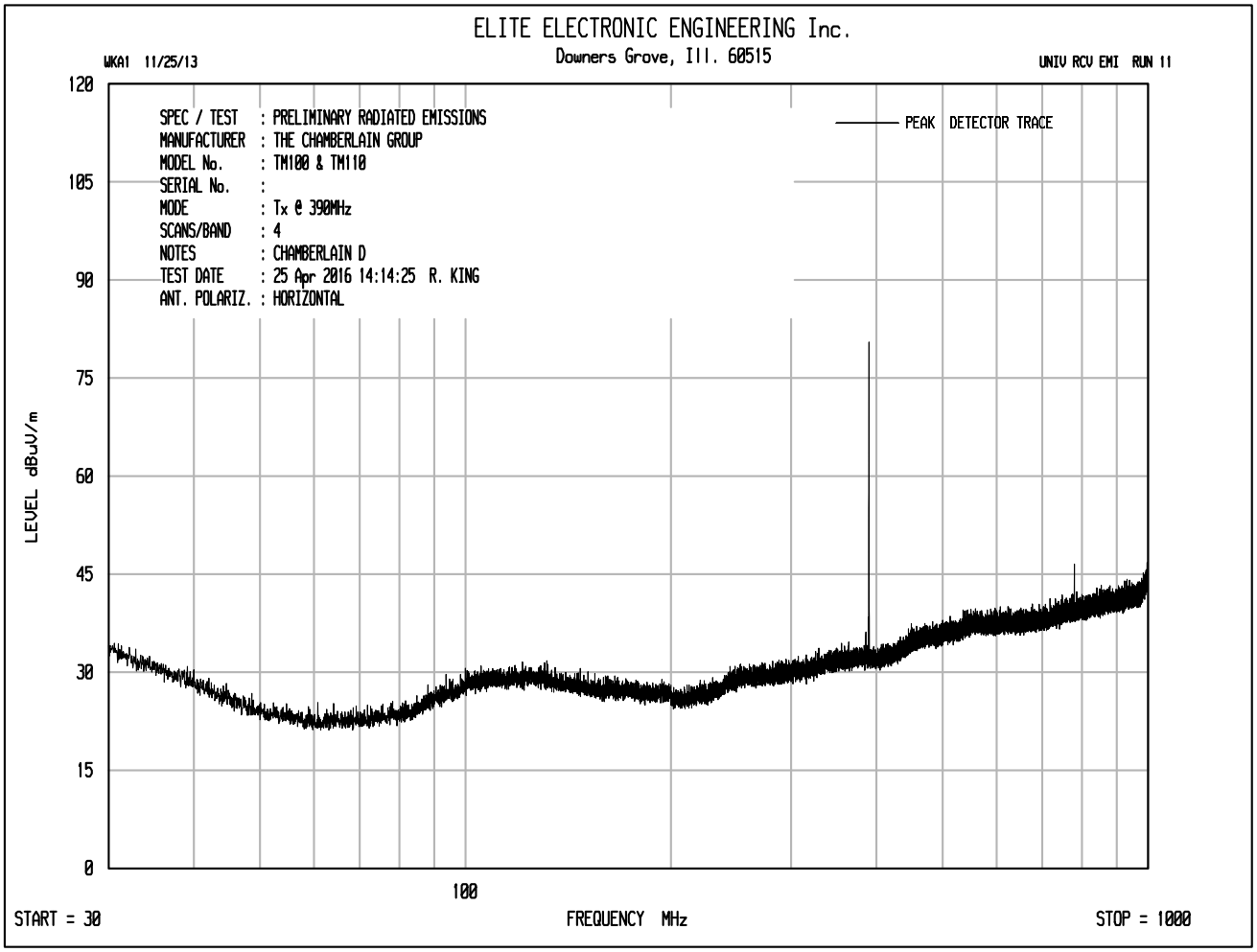

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 11
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP, INC.
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 390MHz
SCANS/BAND : 1
NOTES : GENIE INTELLICODE
TEST DATE : 28 Apr 2016 11:00:40 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 = 4500

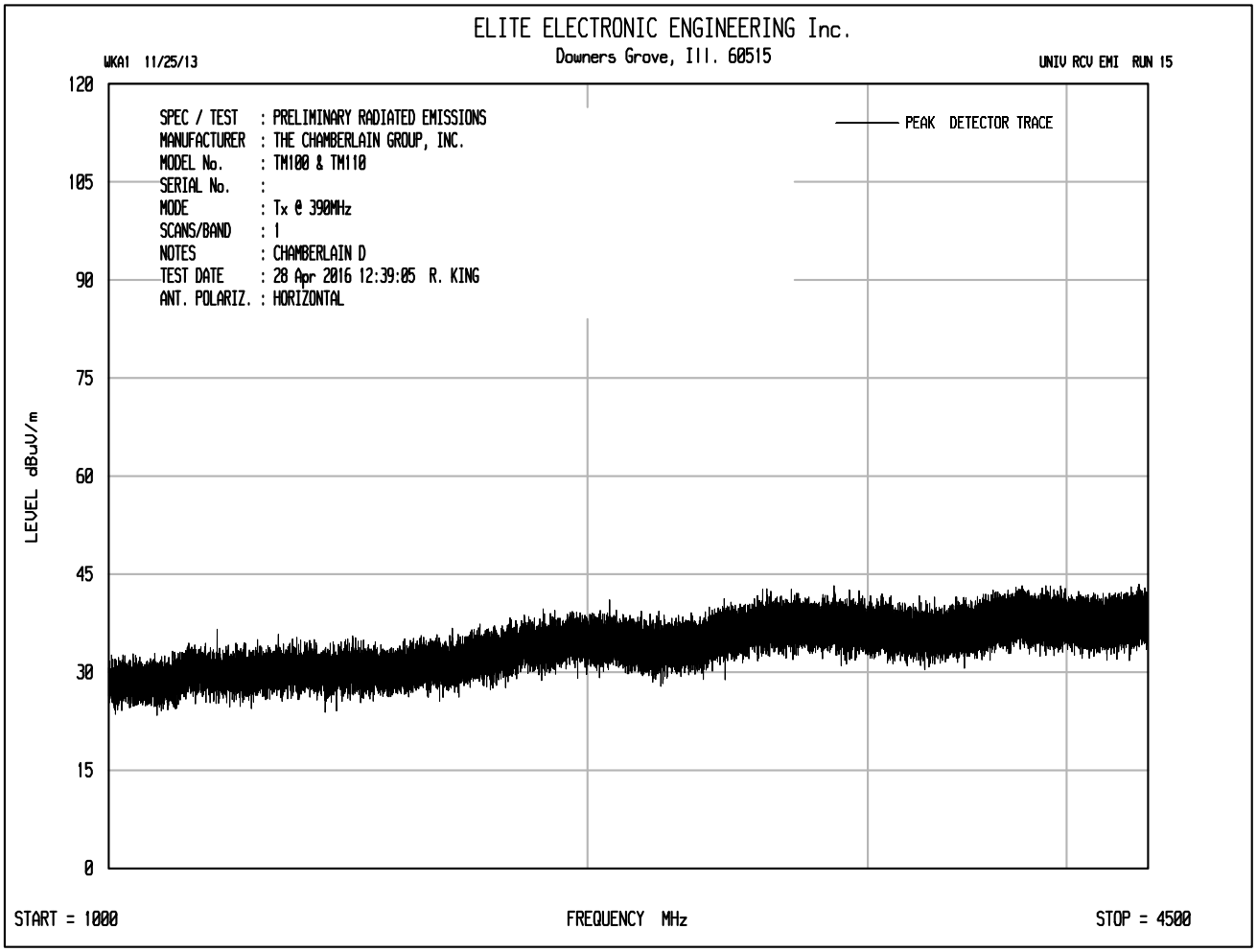

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 6
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 318MHz
SCANS/BAND : 1
NOTES : LINEAR MEGA CODE
TEST DATE : 25 Apr 2016 13:39:10 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

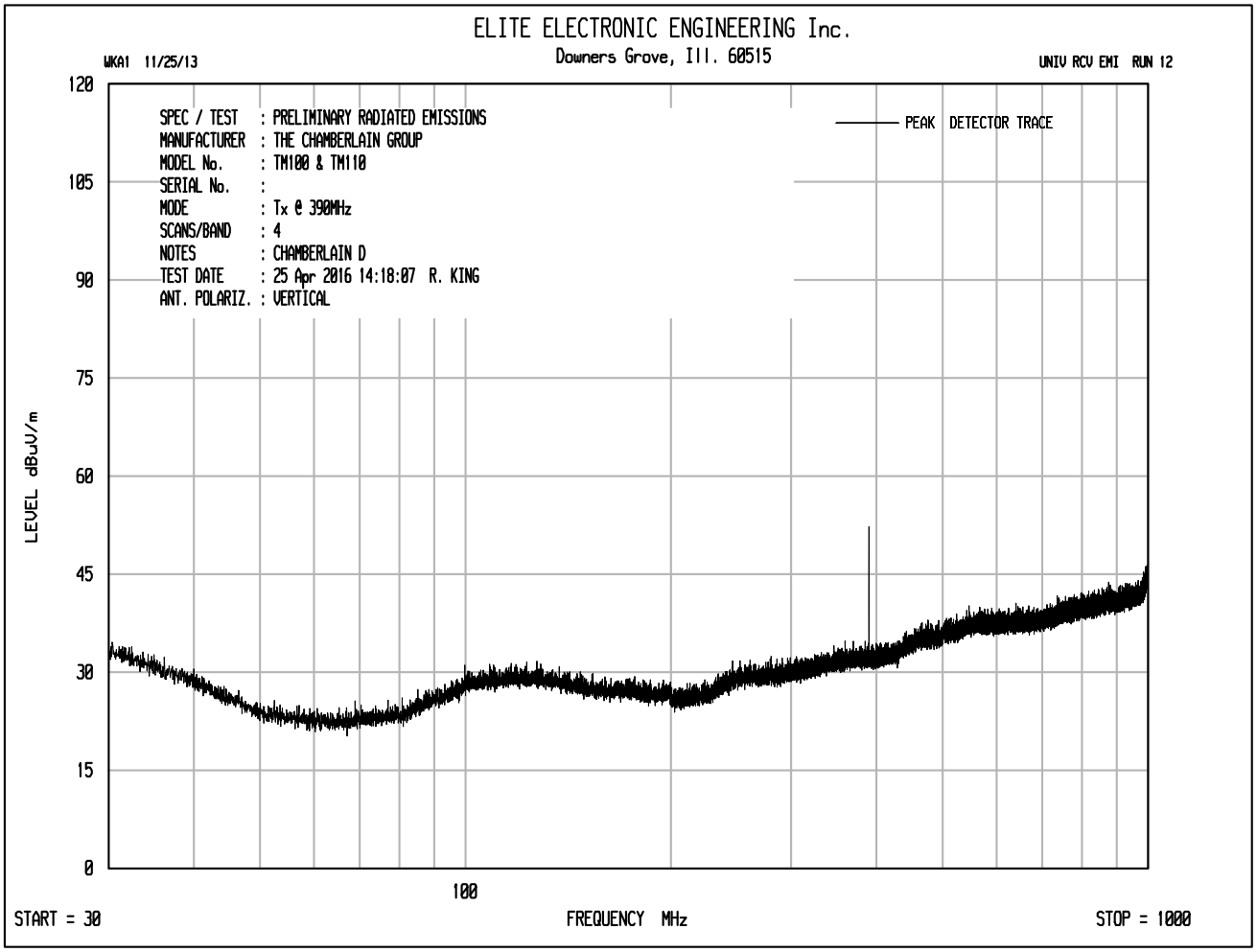

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 12
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP, INC.
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 318MHz
SCANS/BAND : 1
NOTES : LINEAR MEGA CODE
TEST DATE : 28 Apr 2016 11:54:41 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 = 4500

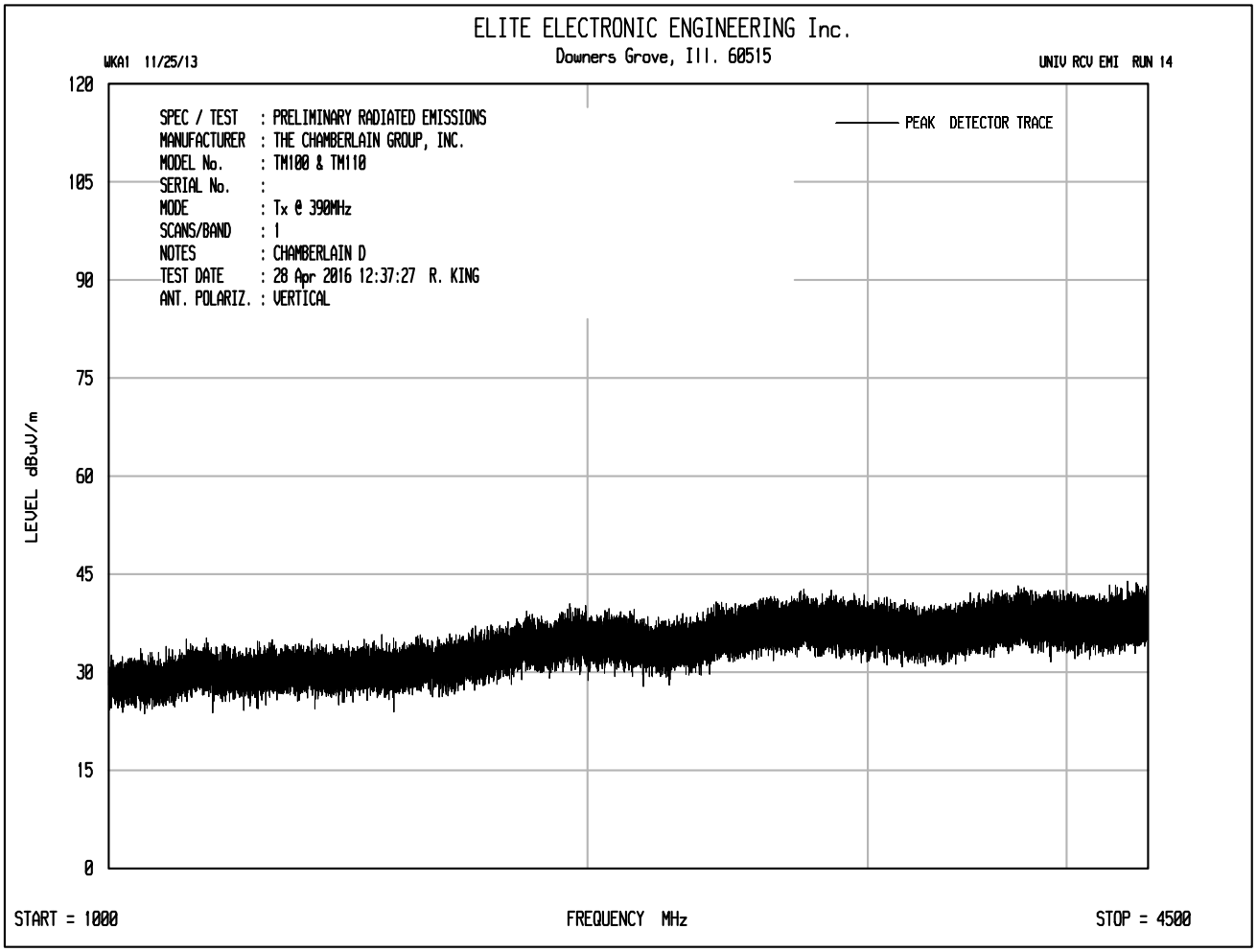

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 7
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 318MHz
SCANS/BAND : 1
NOTES : LINEAR MEGA CODE
TEST DATE : 25 Apr 2016 13:42:35 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

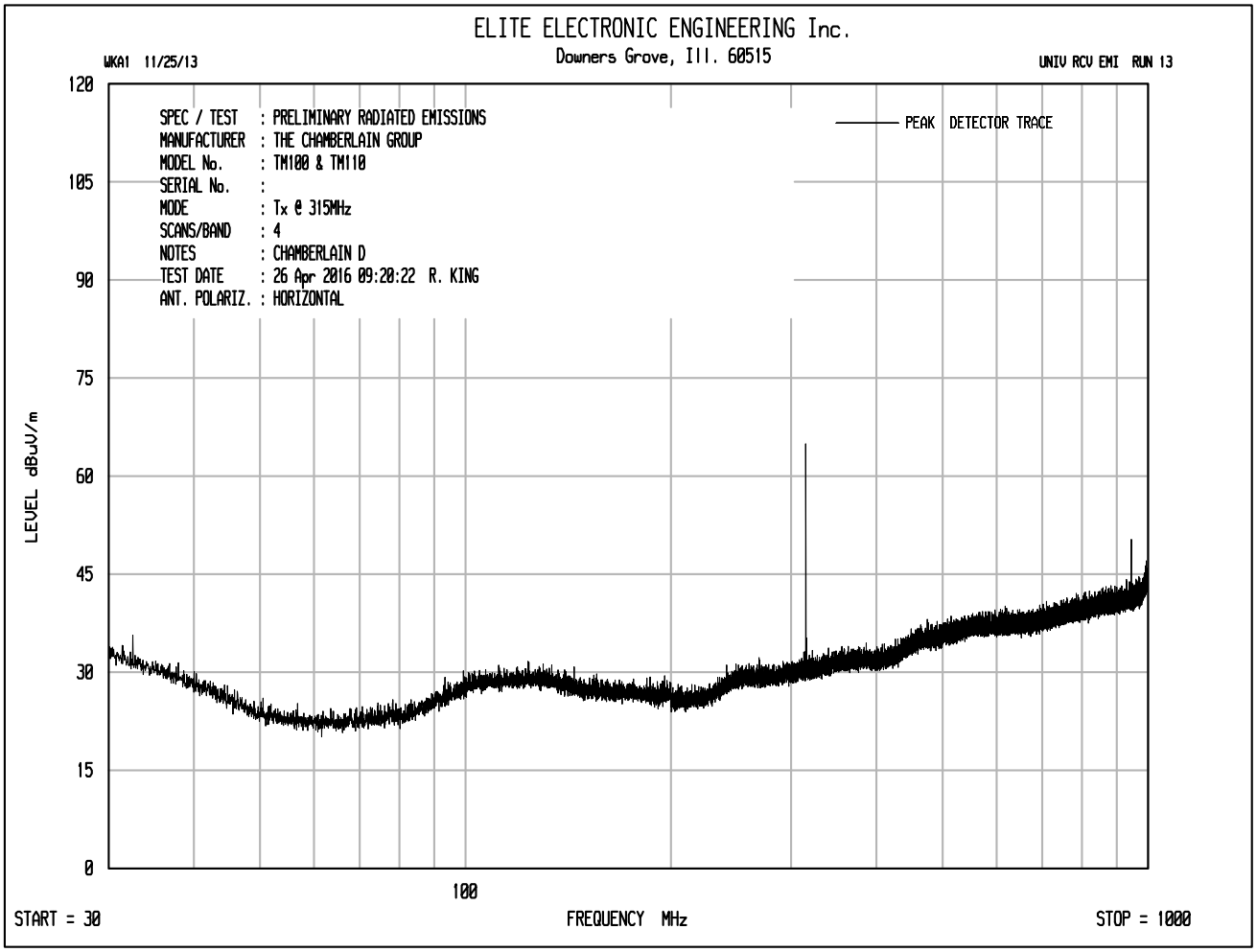

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 13
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP, INC.
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 318MHz
SCANS/BAND : 1
NOTES : LINEAR MEGA CODE
TEST DATE : 28 Apr 2016 11:56:34 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 4500

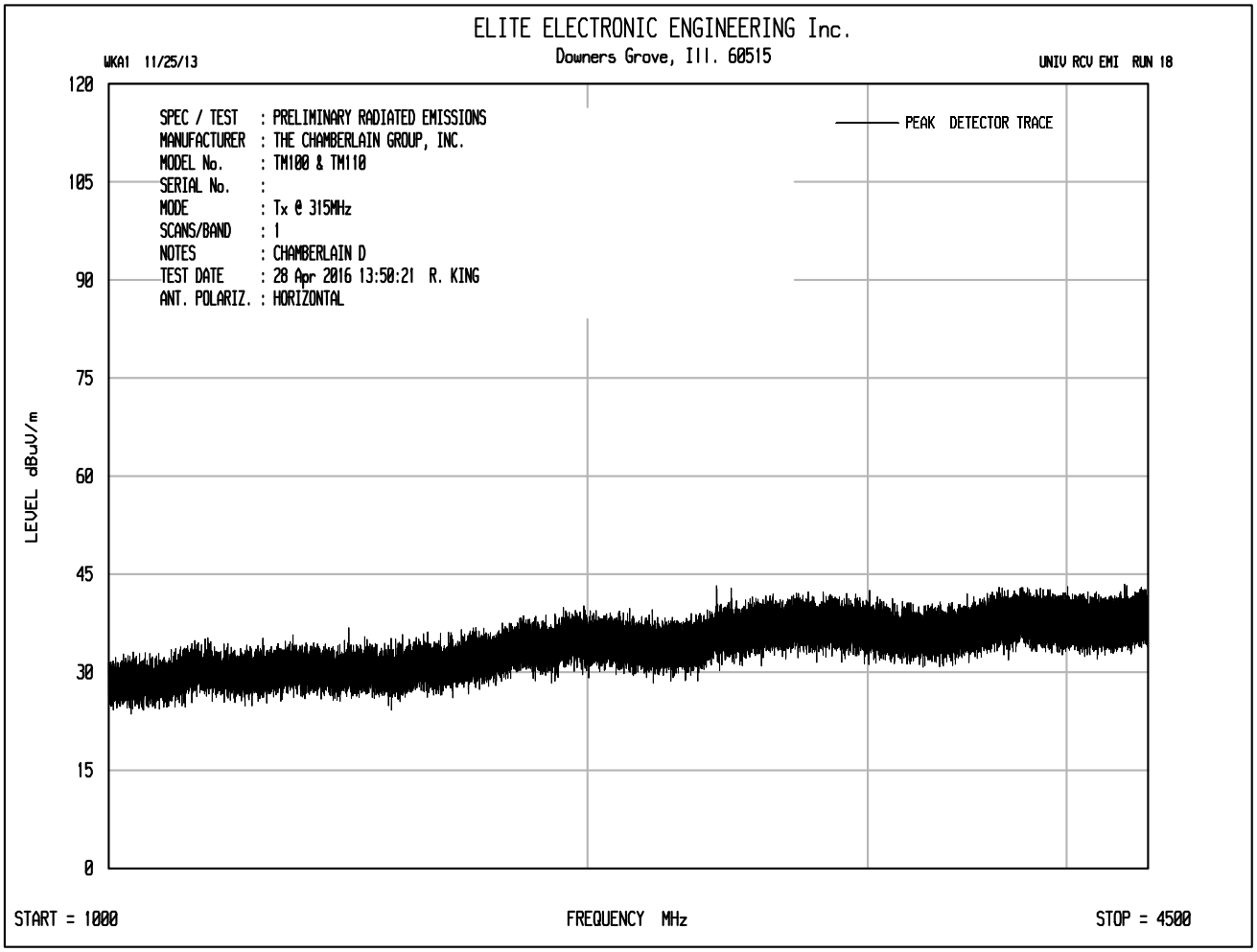

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 11
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 390MHz
SCANS/BAND : 4
NOTES : CHAMBERLAIN D
TEST DATE : 25 Apr 2016 14:14:25 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

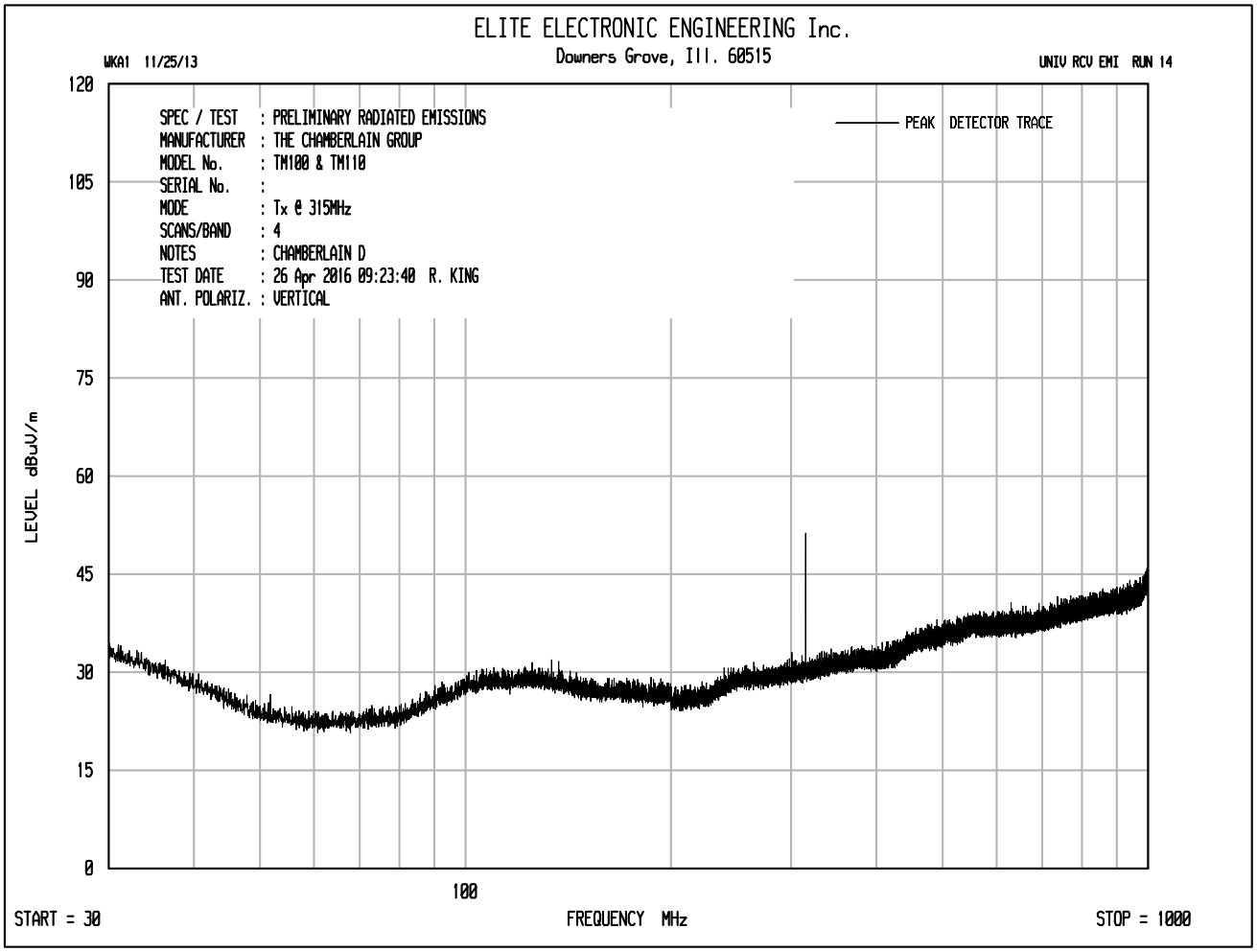

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 15
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP, INC.
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 390MHz
SCANS/BAND : 1
NOTES : CHAMBERLAIN D
TEST DATE : 28 Apr 2016 12:39:05 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 = 4500

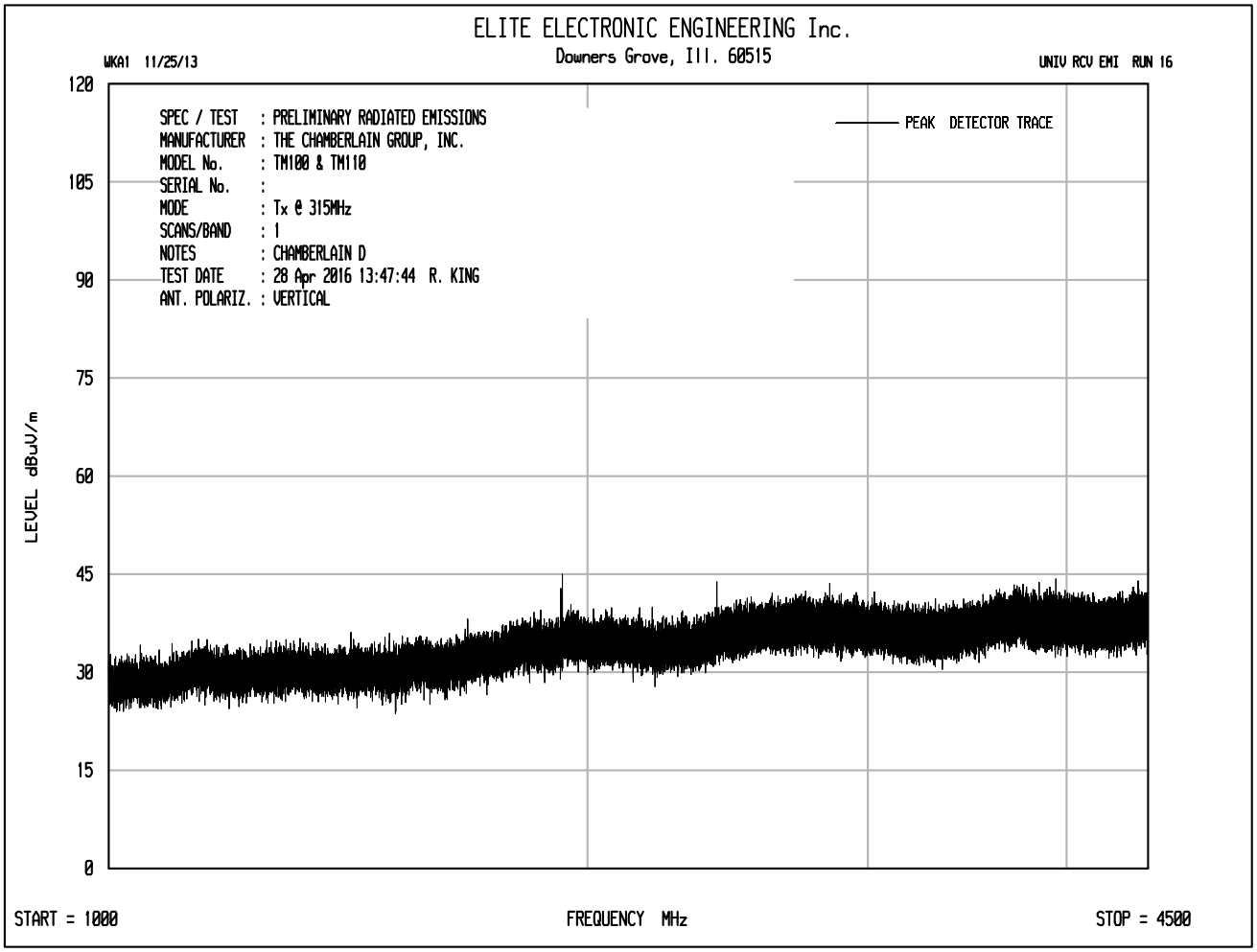

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 12
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 390MHz
SCANS/BAND : 4
NOTES : CHAMBERLAIN D
TEST DATE : 25 Apr 2016 14:18:07 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

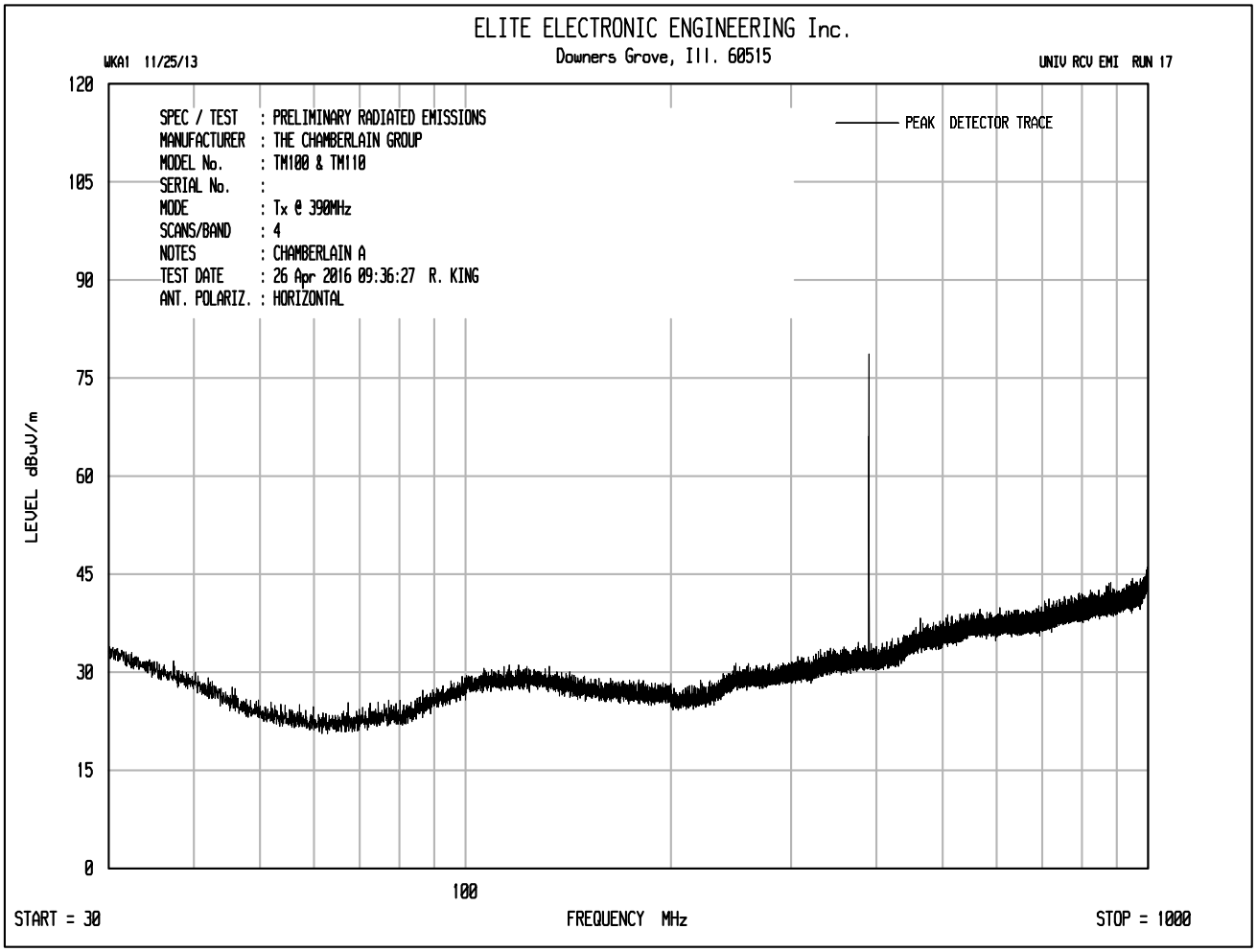

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 14
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP, INC.
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 390MHz
SCANS/BAND : 1
NOTES : CHAMBERLAIN D
TEST DATE : 28 Apr 2016 12:37:27 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 = 4500

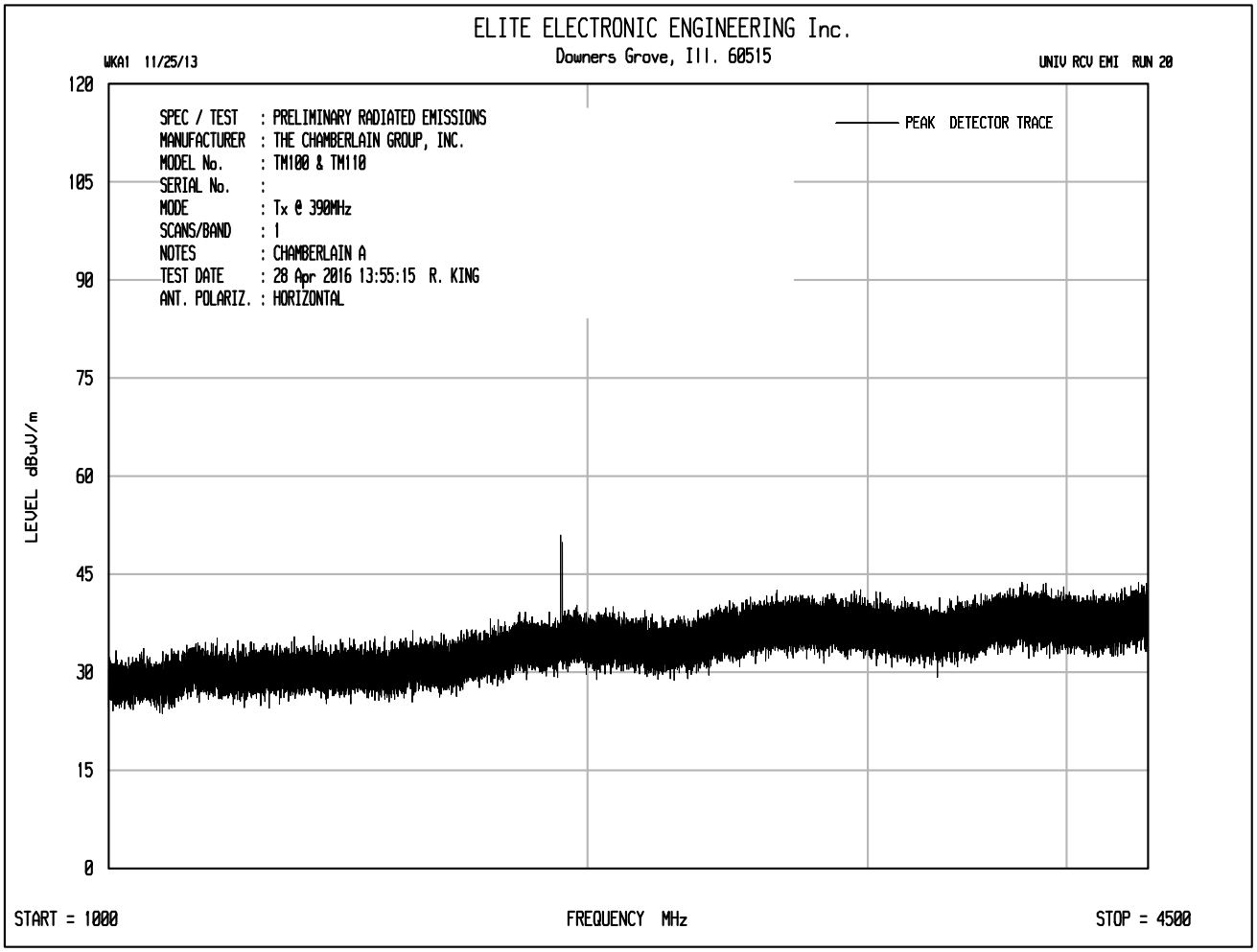

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 13
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 315MHz
SCANS/BAND : 4
NOTES : CHAMBERLAIN D
TEST DATE : 26 Apr 2016 09:20:22 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

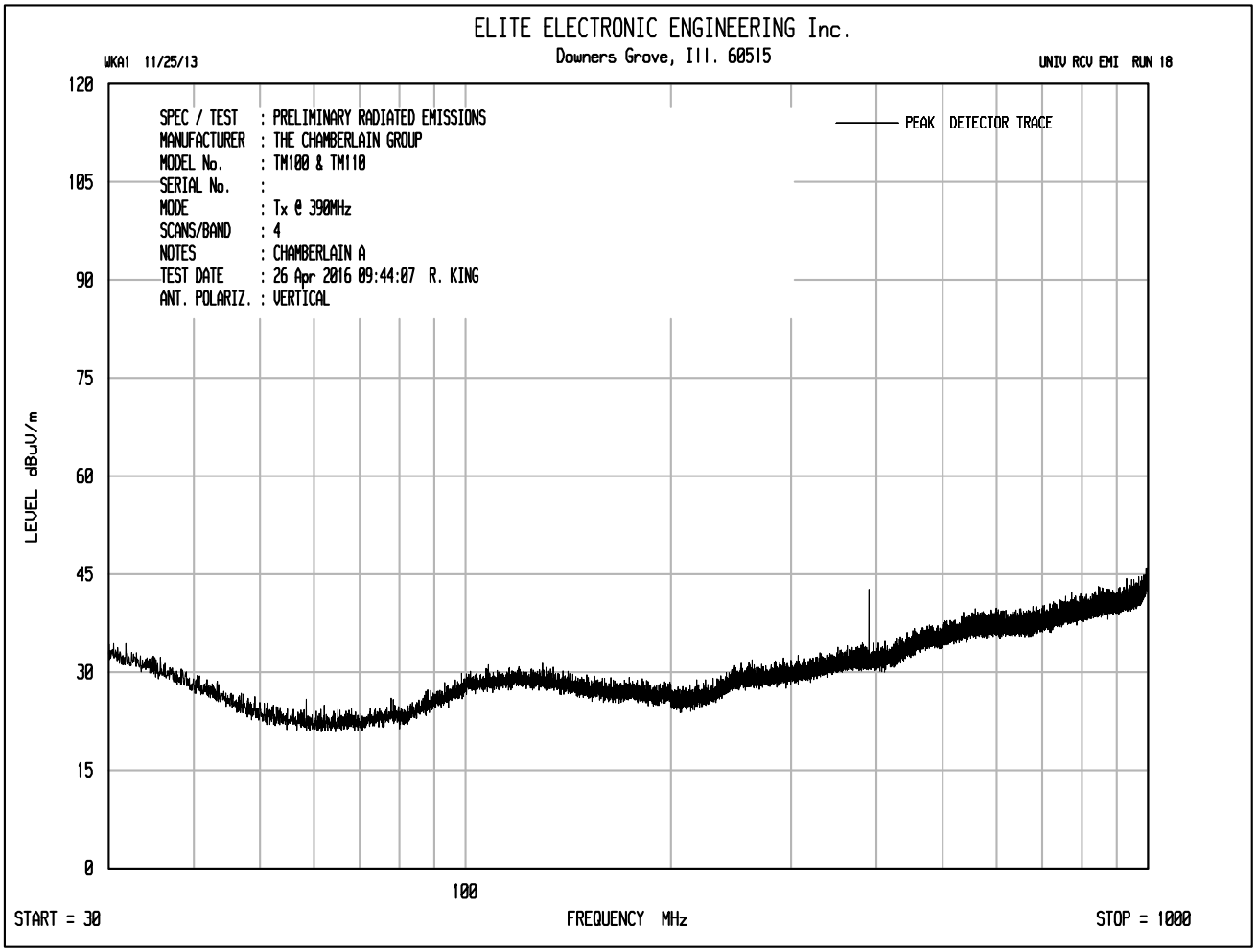

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 18
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP, INC.
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 315MHz
SCANS/BAND : 1
NOTES : CHAMBERLAIN D
TEST DATE : 28 Apr 2016 13:50:21 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 = 4500

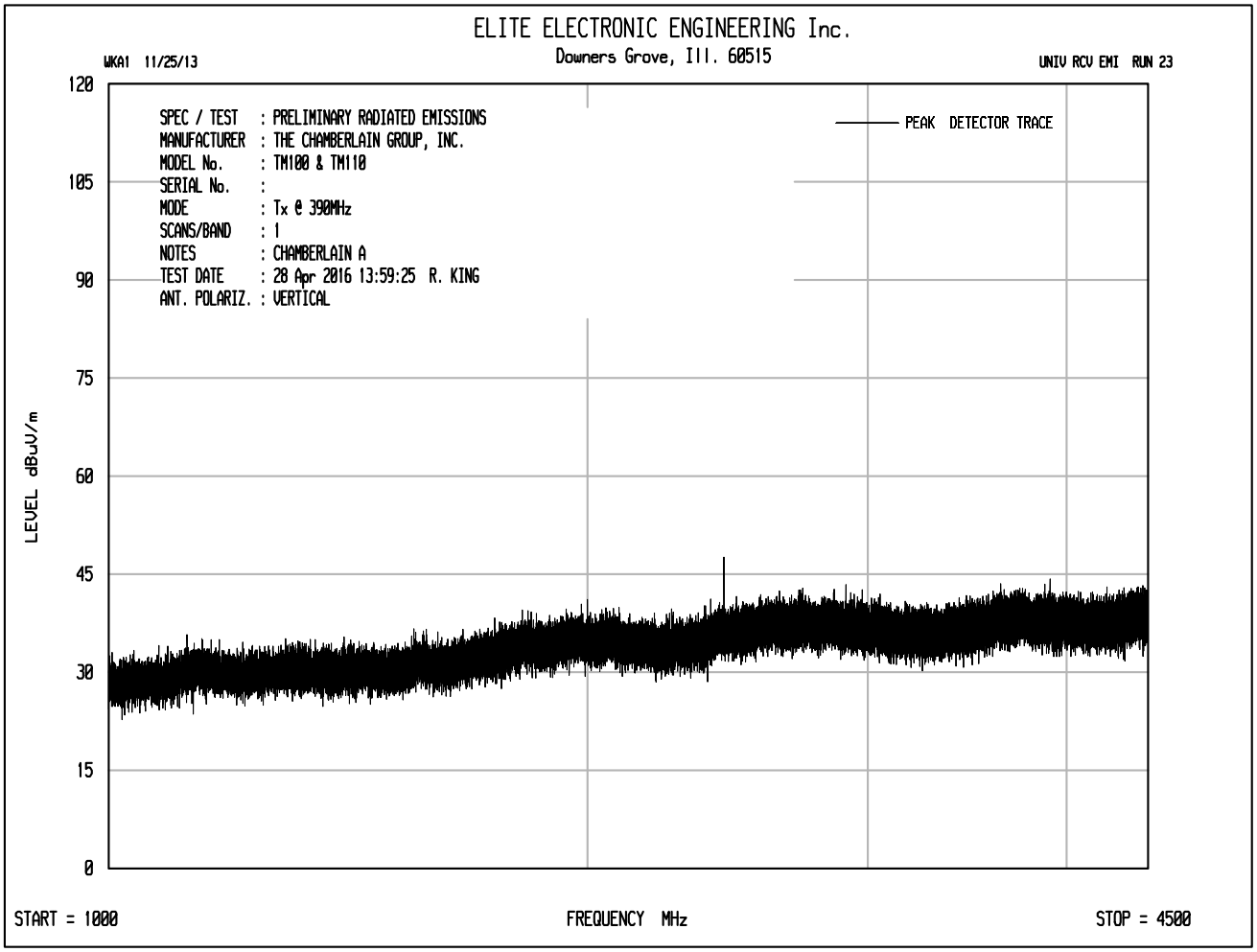

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 14
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 315MHz
SCANS/BAND : 4
NOTES : CHAMBERLAIN D
TEST DATE : 26 Apr 2016 09:23:40 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

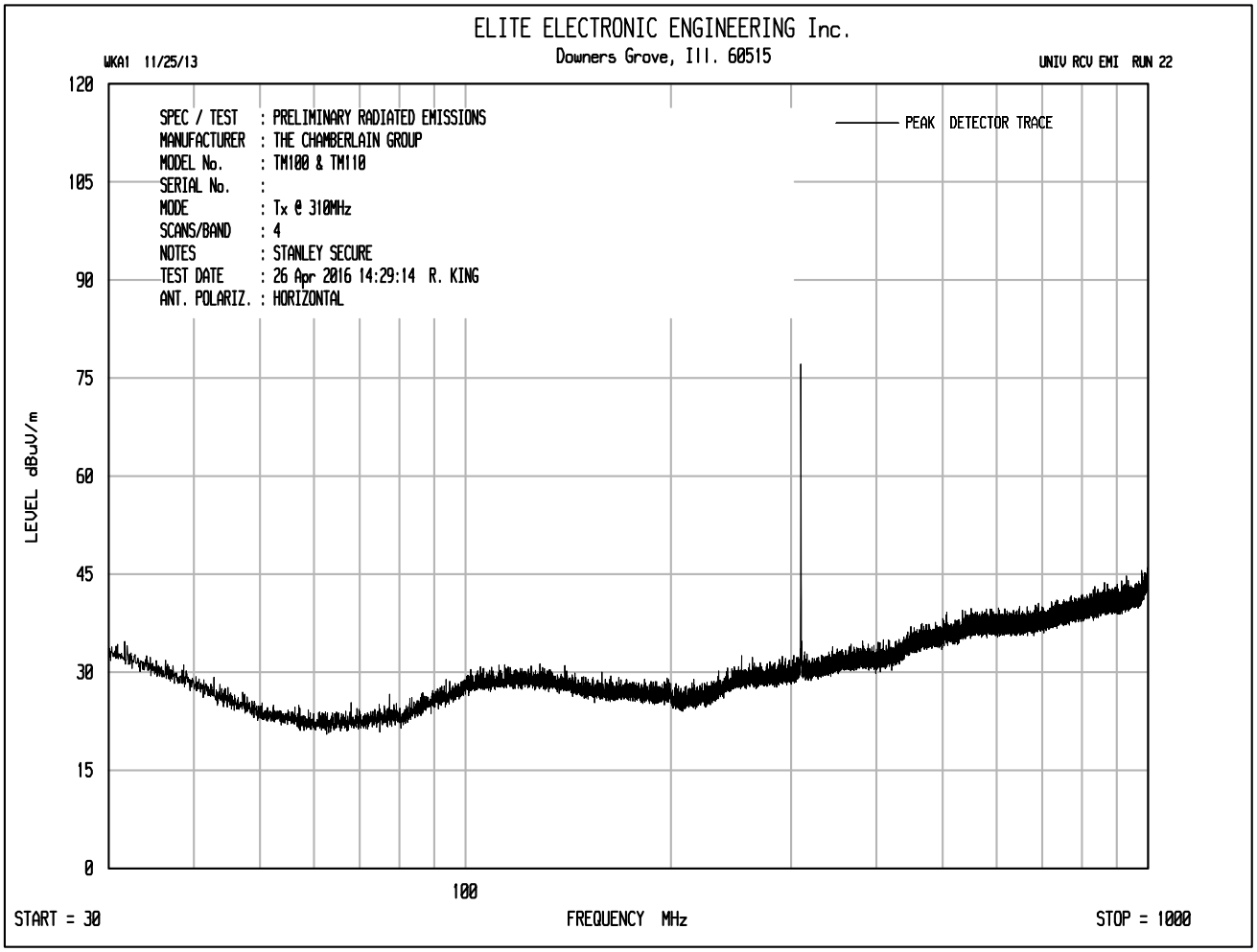

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 16
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP, INC.
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 315MHz
SCANS/BAND : 1
NOTES : CHAMBERLAIN D
TEST DATE : 28 Apr 2016 13:47:44 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 = 4500

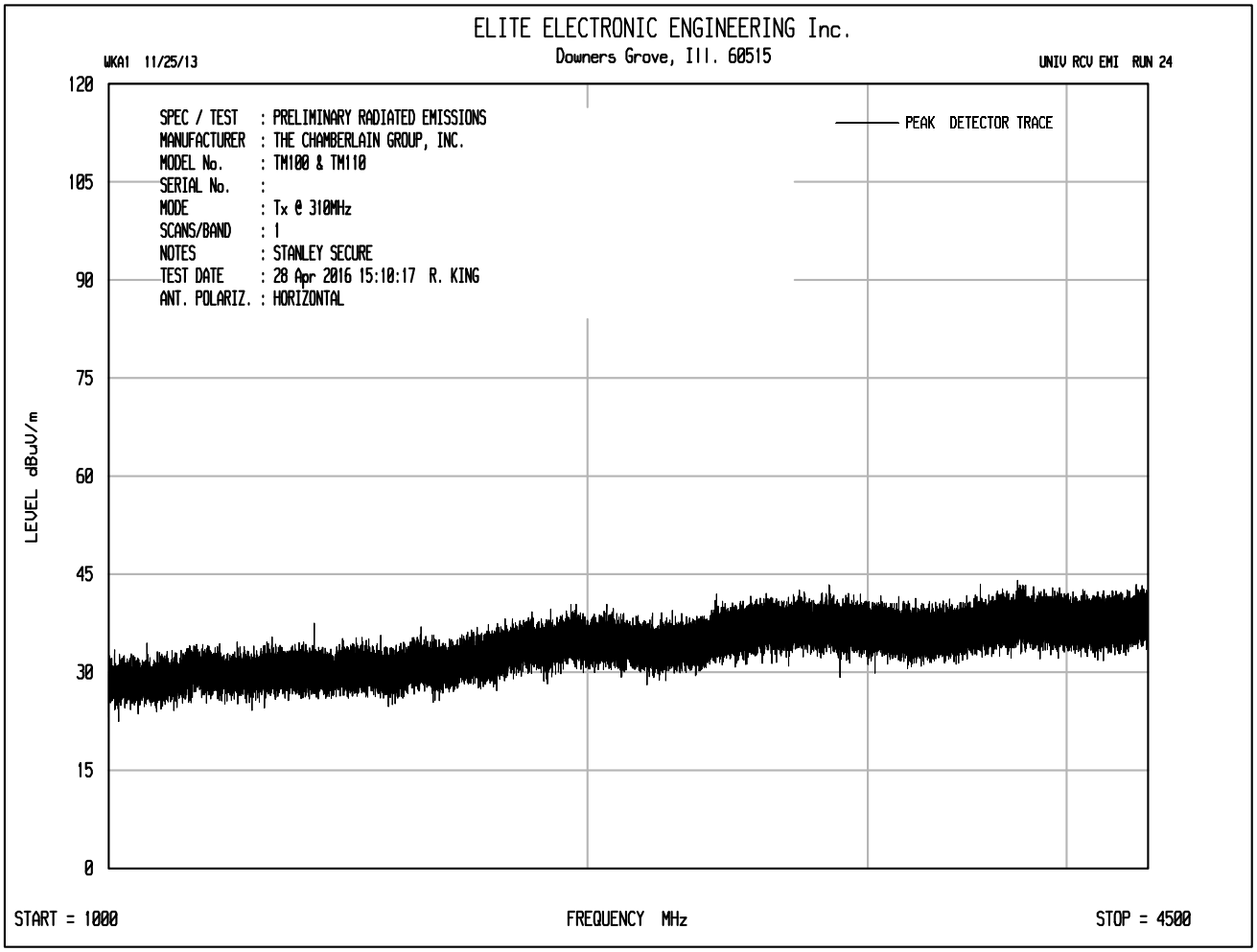

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 17
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 390MHz
SCANS/BAND : 4
NOTES : CHAMBERLAIN A
TEST DATE : 26 Apr 2016 09:36:27 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

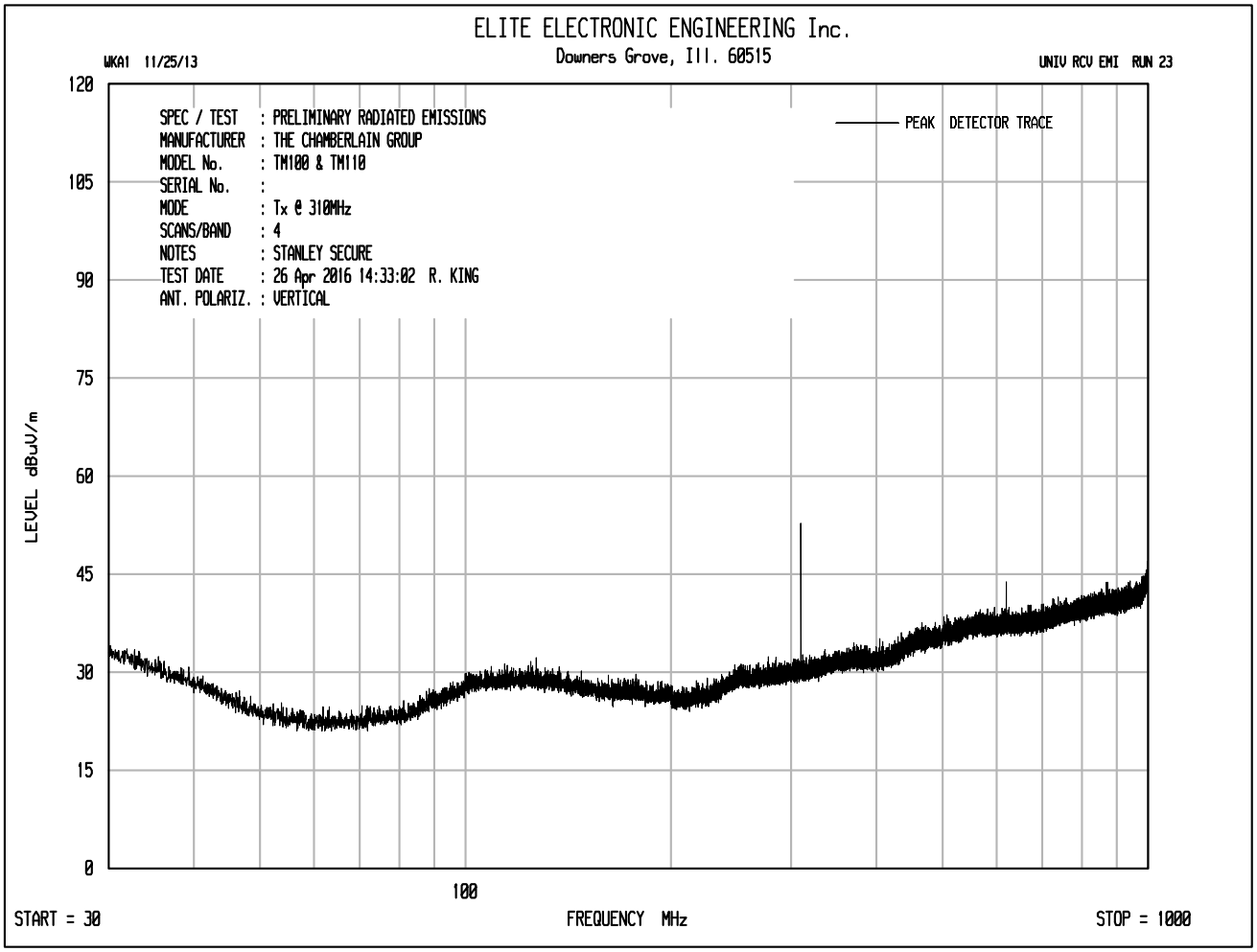

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 20
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP, INC.
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 390MHz
SCANS/BAND : 1
NOTES : CHAMBERLAIN A
TEST DATE : 28 Apr 2016 13:55:15 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 = 4500

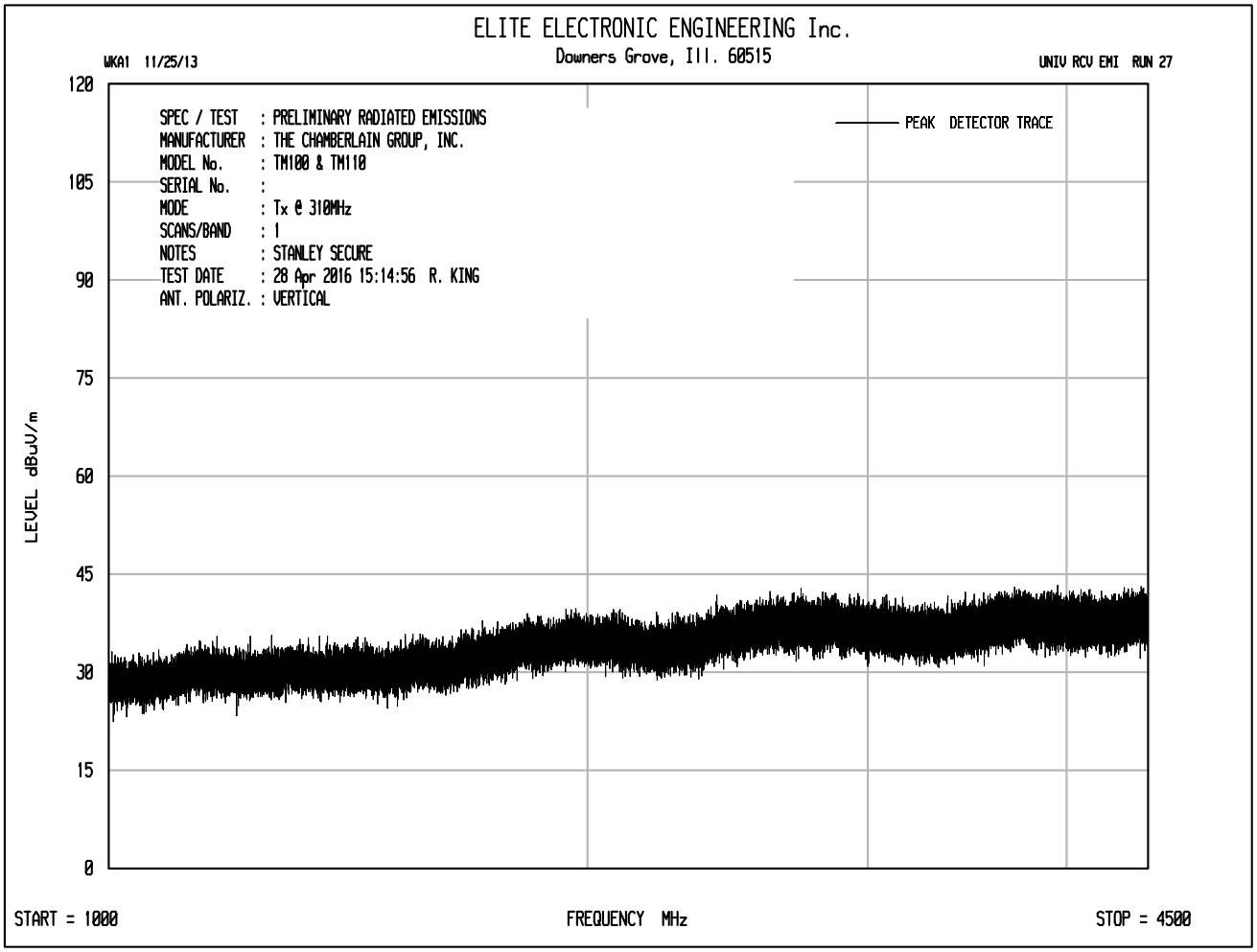

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 18
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 390MHz
SCANS/BAND : 4
NOTES : CHAMBERLAIN A
TEST DATE : 26 Apr 2016 09:44:07 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

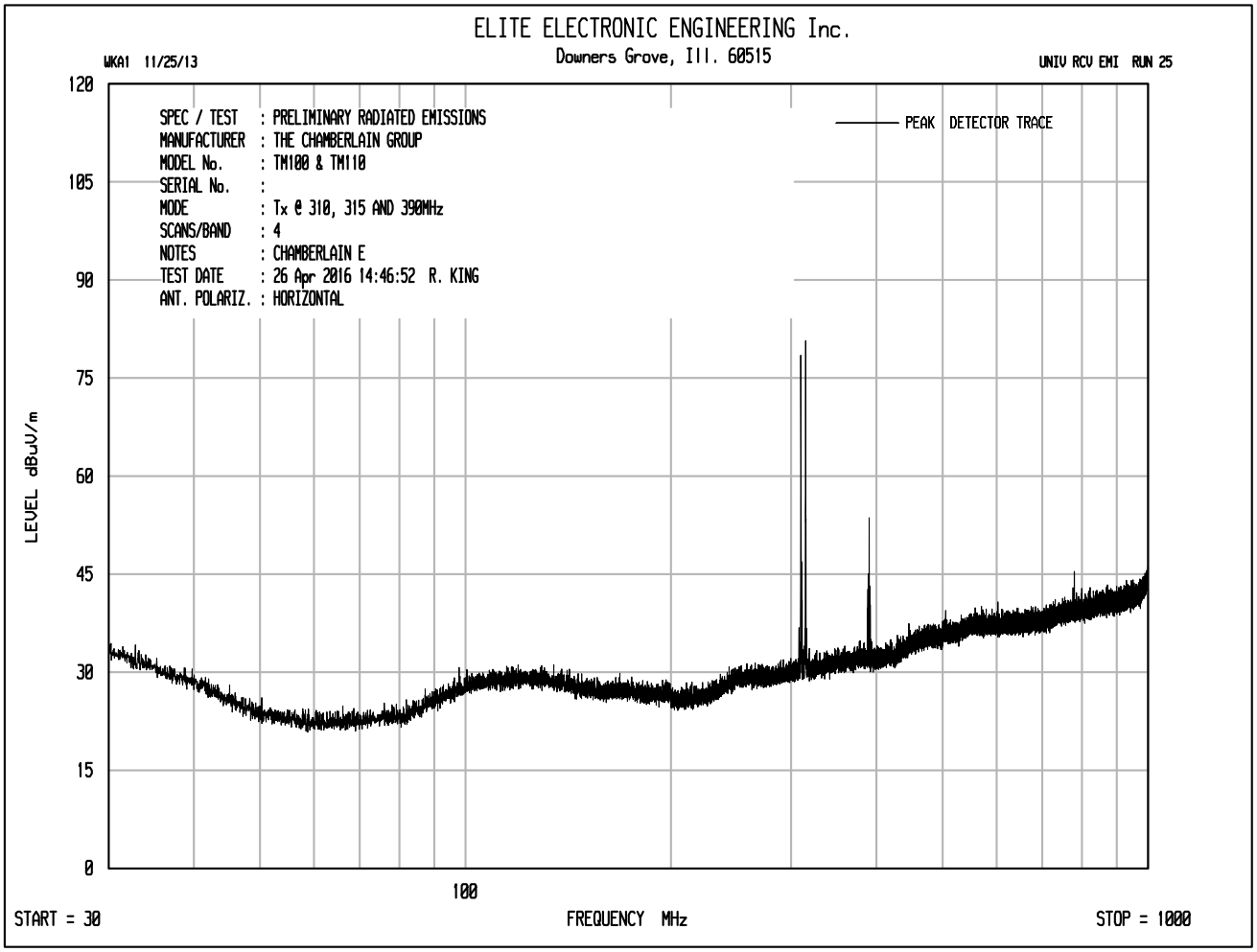

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 23
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP, INC.
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 390MHz
SCANS/BAND : 1
NOTES : CHAMBERLAIN A
TEST DATE : 28 Apr 2016 13:59:25 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 = 4500

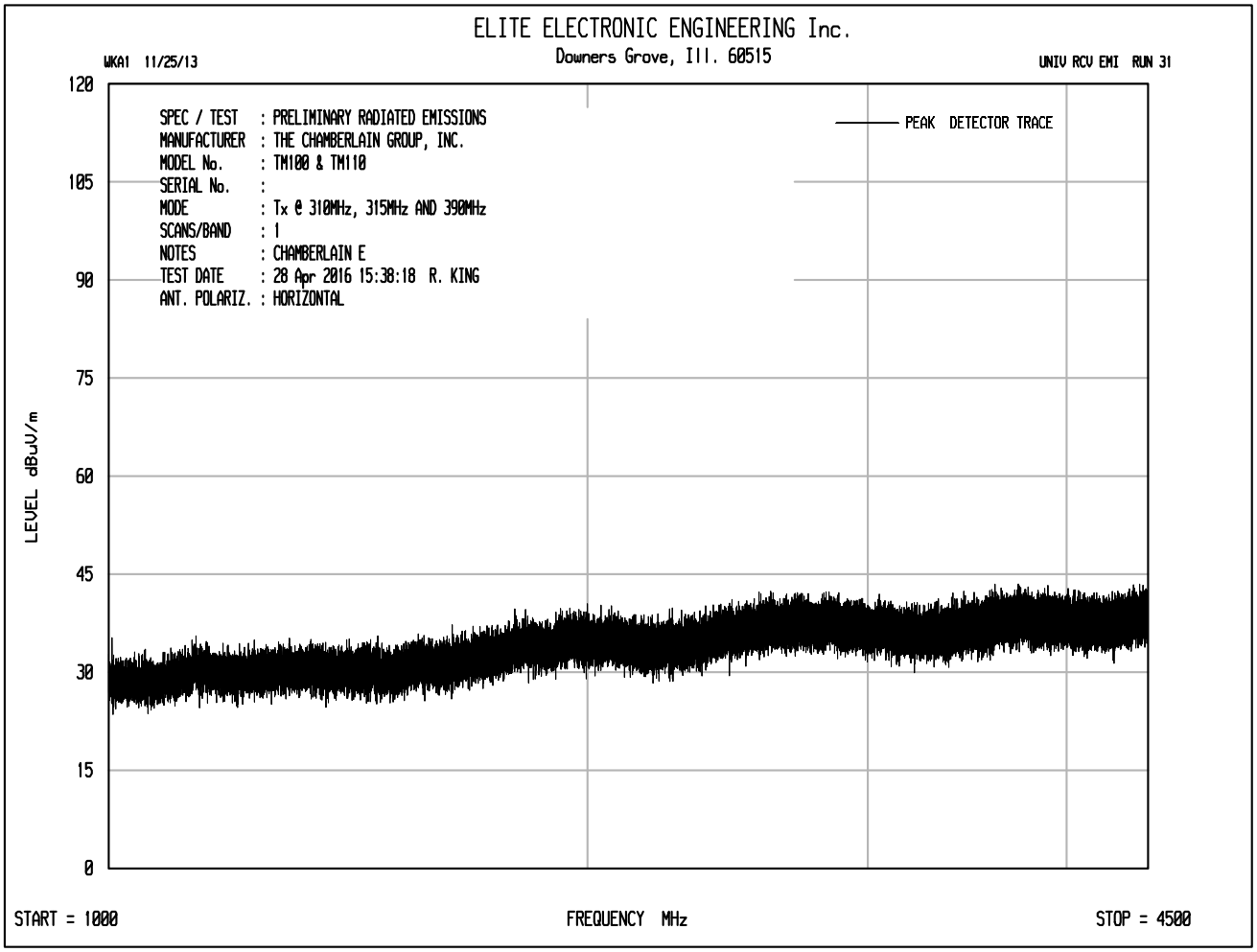

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 22
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 310MHz
SCANS/BAND : 4
NOTES : STANLEY SECURE
TEST DATE : 26 Apr 2016 14:29:14 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

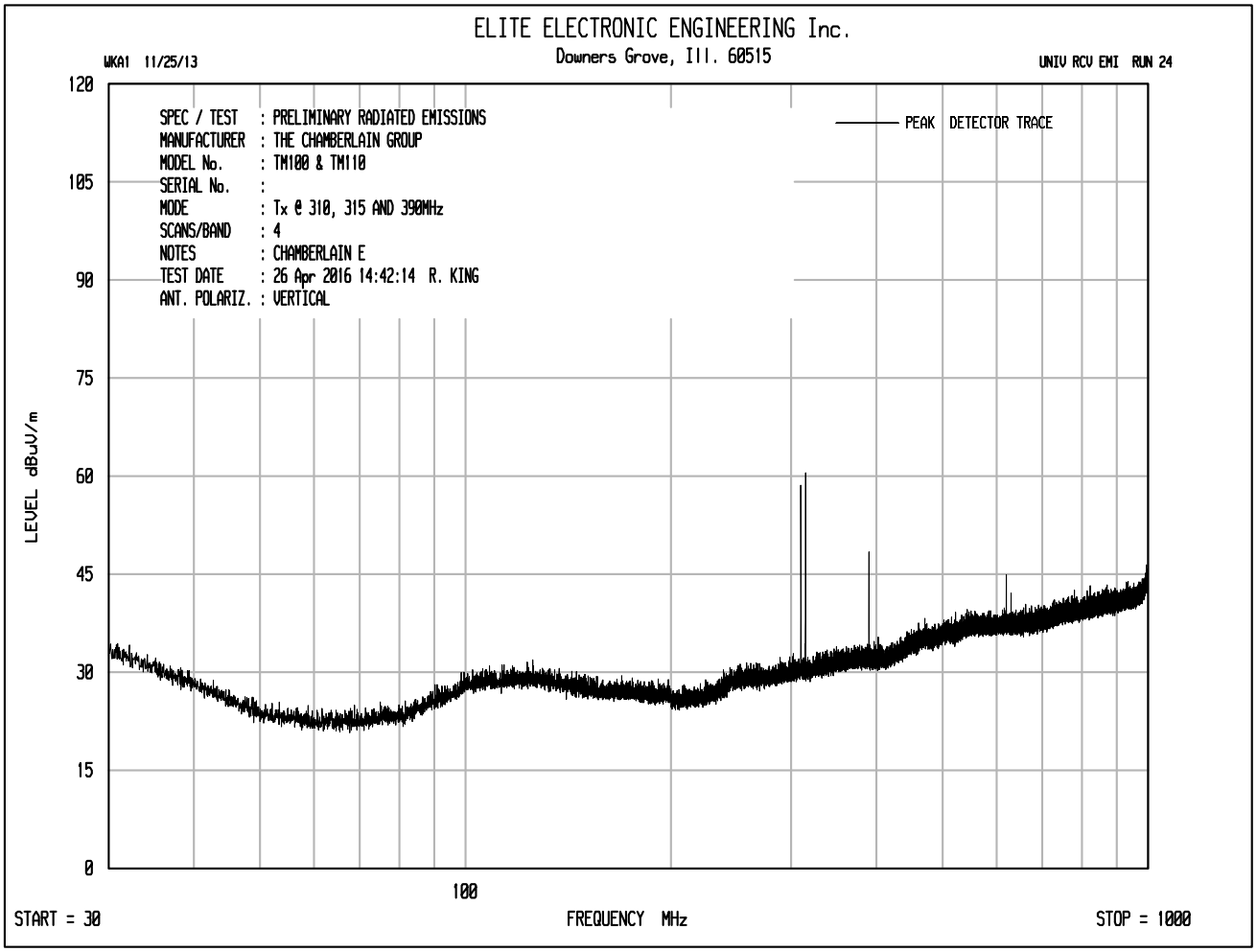

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 24
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP, INC.
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 310MHz
SCANS/BAND : 1
NOTES : STANLEY SECURE
TEST DATE : 28 Apr 2016 15:10:17 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 4500

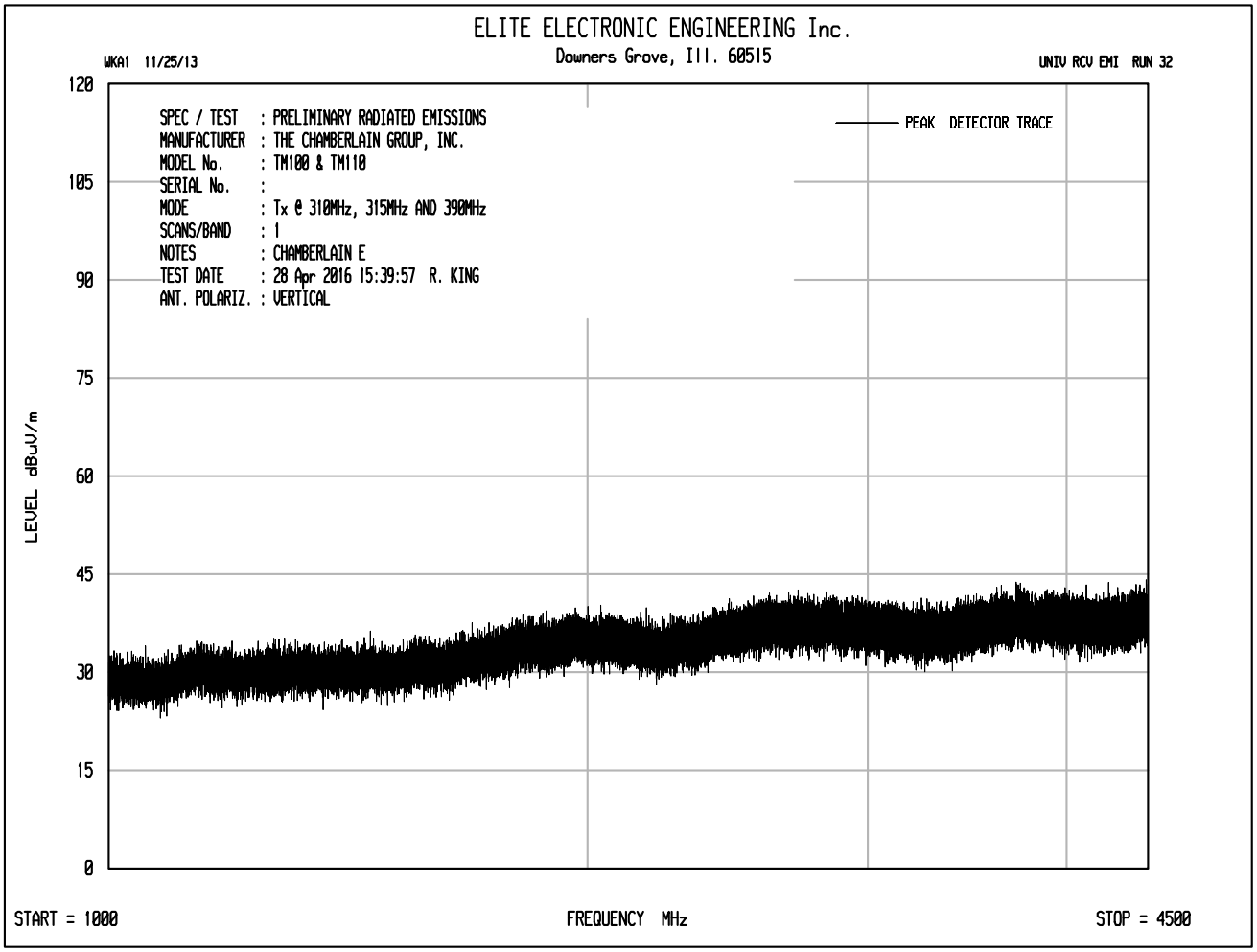

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 23
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 310MHz
SCANS/BAND : 4
NOTES : STANLEY SECURE
TEST DATE : 26 Apr 2016 14:33:02 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

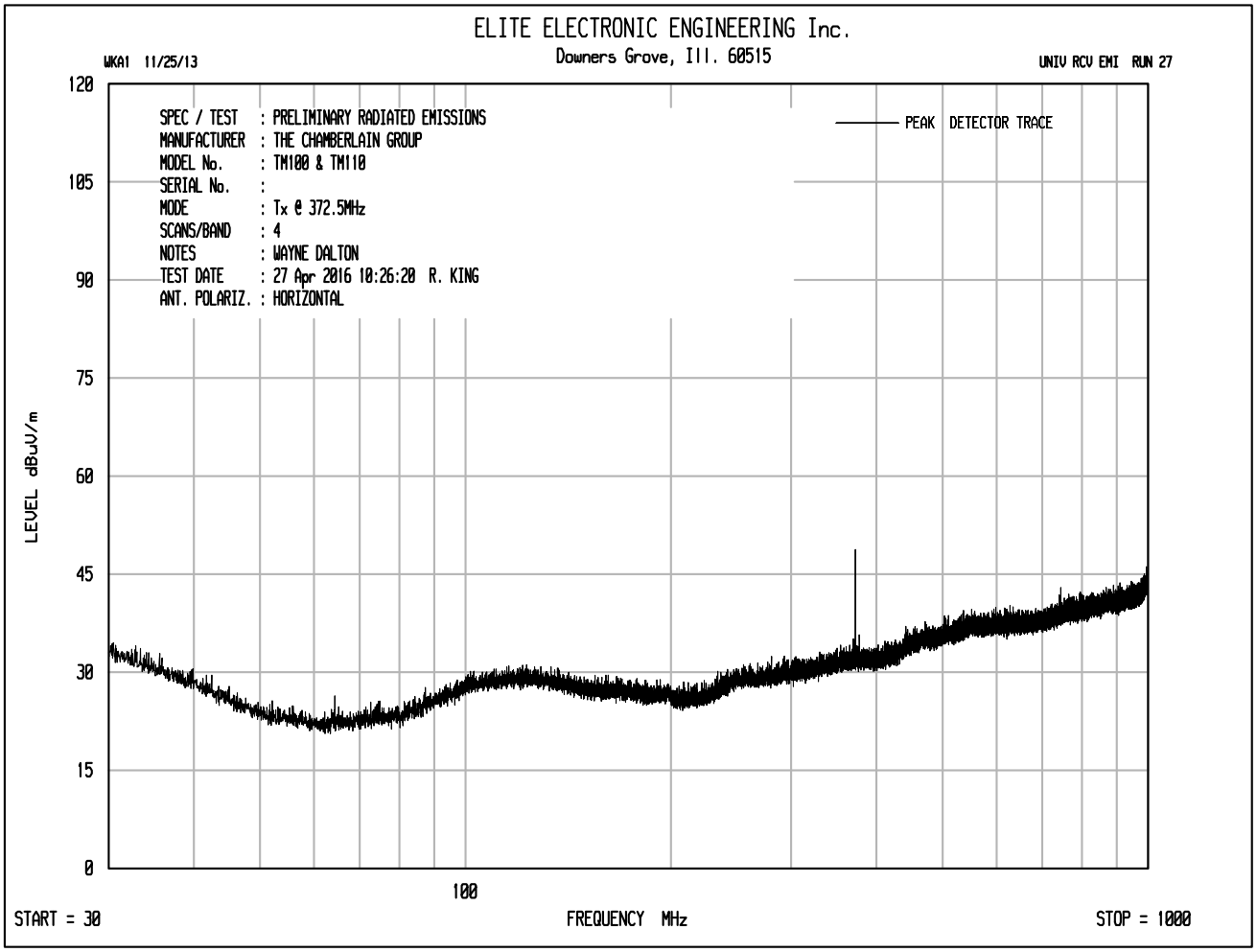

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 27
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP, INC.
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 310MHz
SCANS/BAND : 1
NOTES : STANLEY SECURE
TEST DATE : 28 Apr 2016 15:14:56 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 = 4500

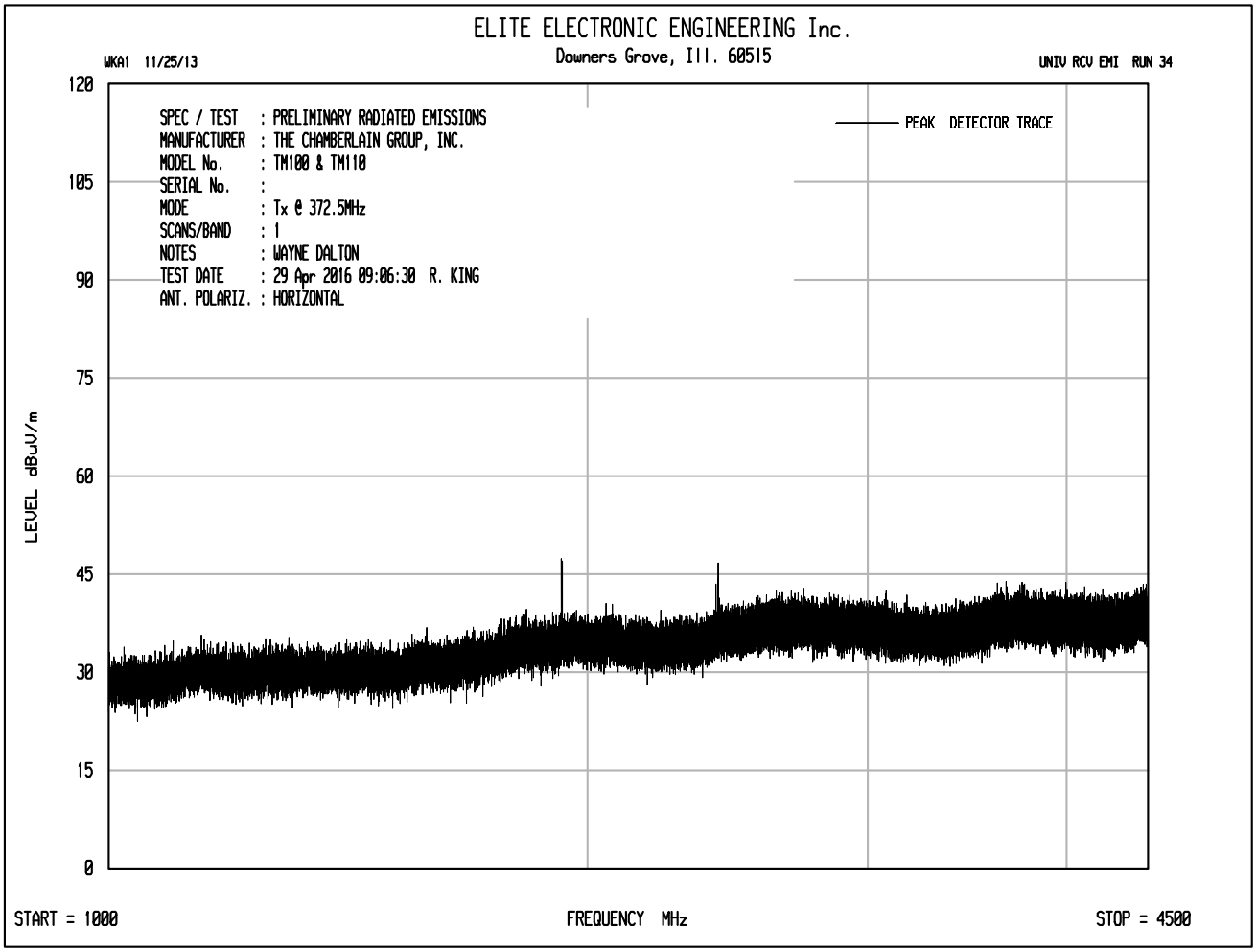

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 25
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 310, 315 AND 390MHz
SCANS/BAND : 4
NOTES : CHAMBERLAIN E
TEST DATE : 26 Apr 2016 14:46:52 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

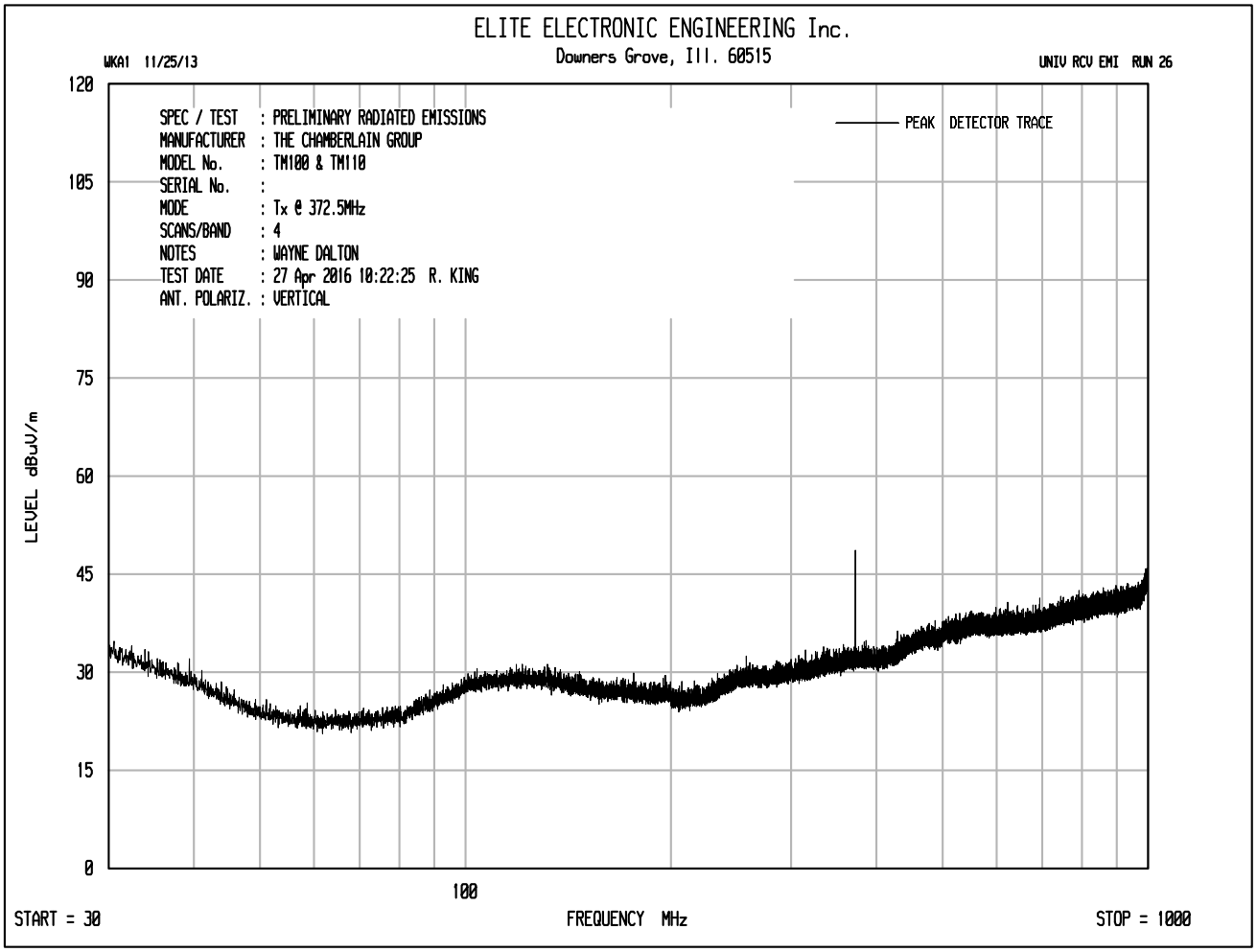

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 31
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP, INC.
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 310MHz, 315MHz AND 390MHz
SCANS/BAND : 1
NOTES : CHAMBERLAIN E
TEST DATE : 28 Apr 2016 15:38:18 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 = 4500

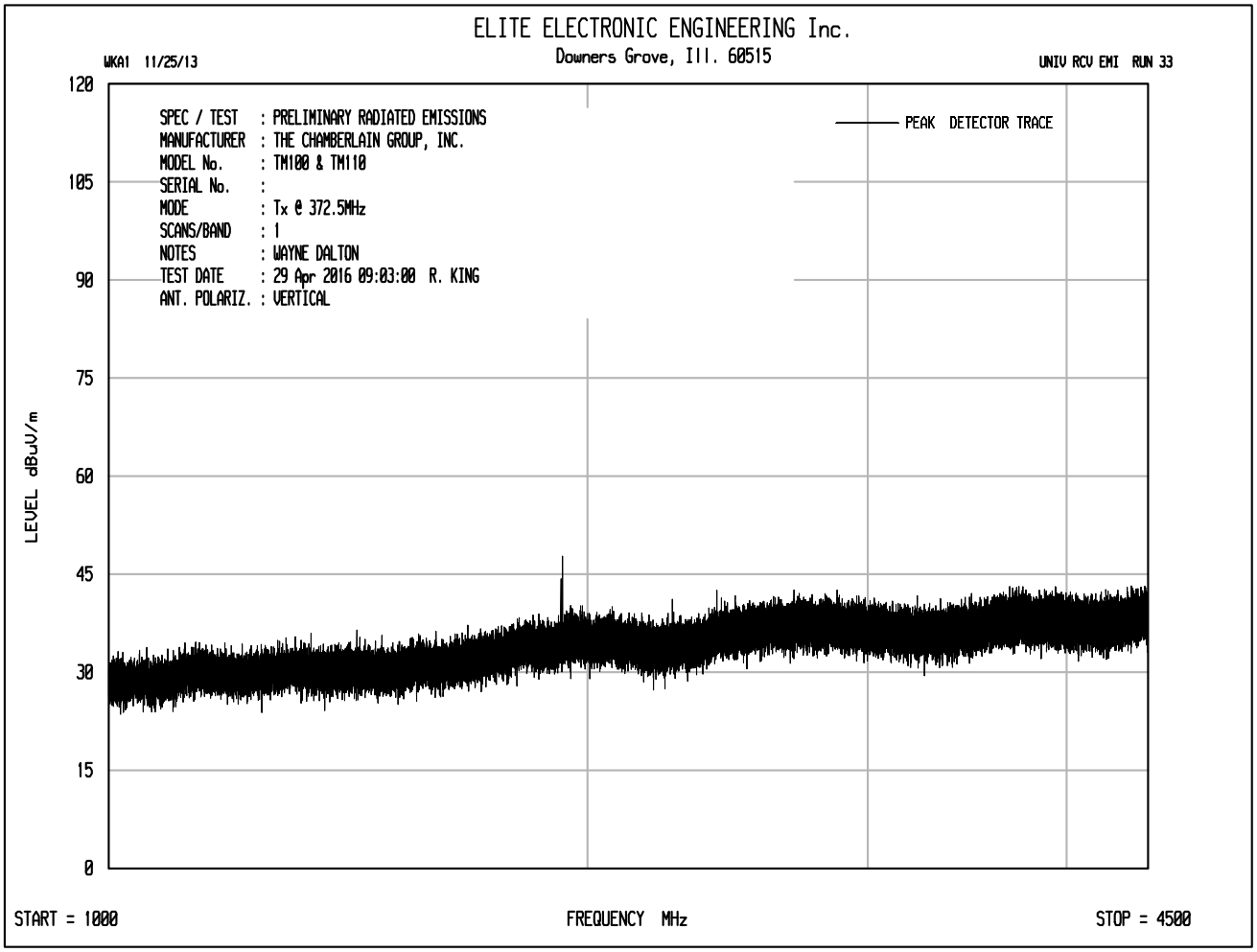

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 24
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 310, 315 AND 390MHz
SCANS/BAND : 4
NOTES : CHAMBERLAIN E
TEST DATE : 26 Apr 2016 14:42:14 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

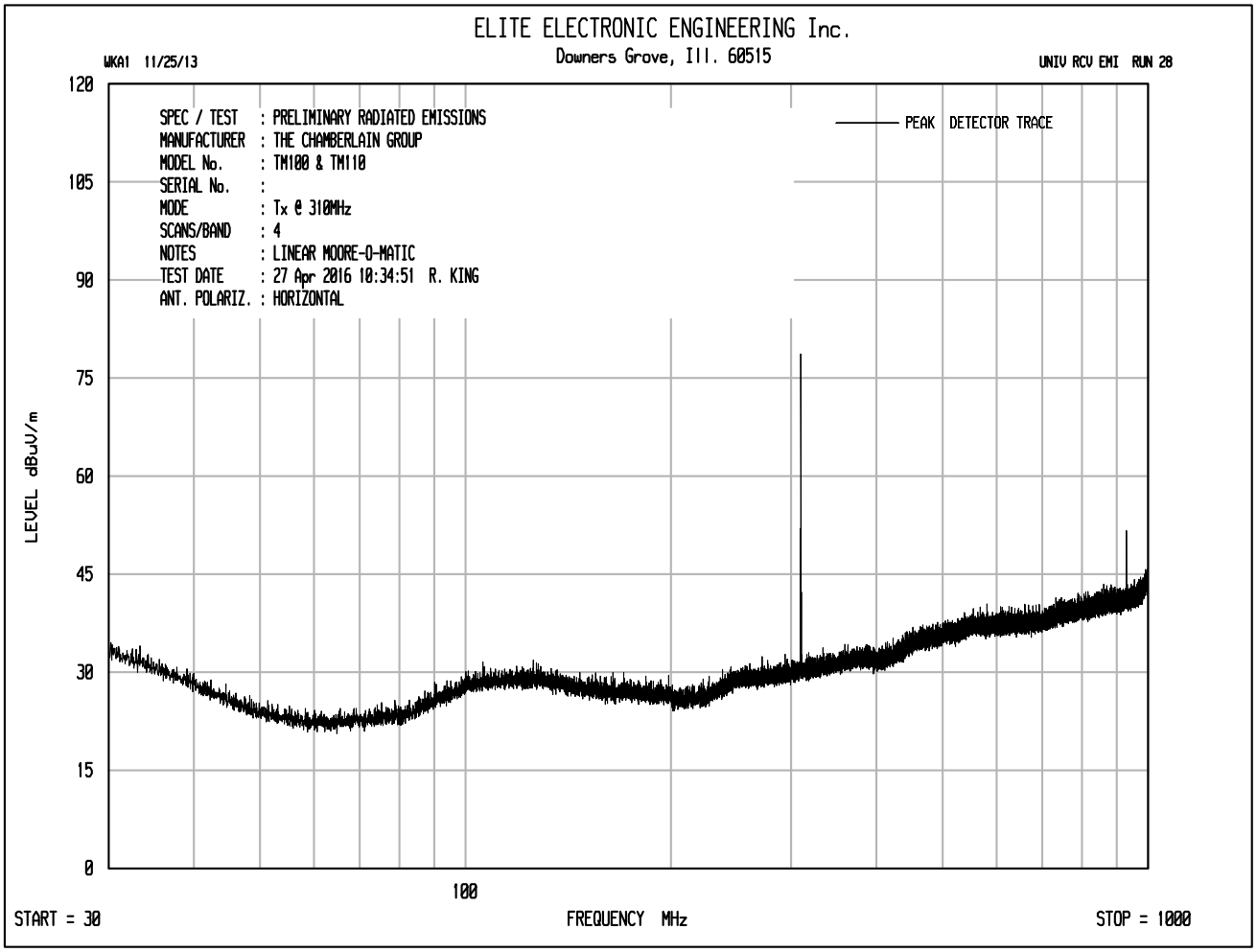

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 32
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP, INC.
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 310MHz, 315MHz AND 390MHz
SCANS/BAND : 1
NOTES : CHAMBERLAIN E
TEST DATE : 28 Apr 2016 15:39:57 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 = 4500

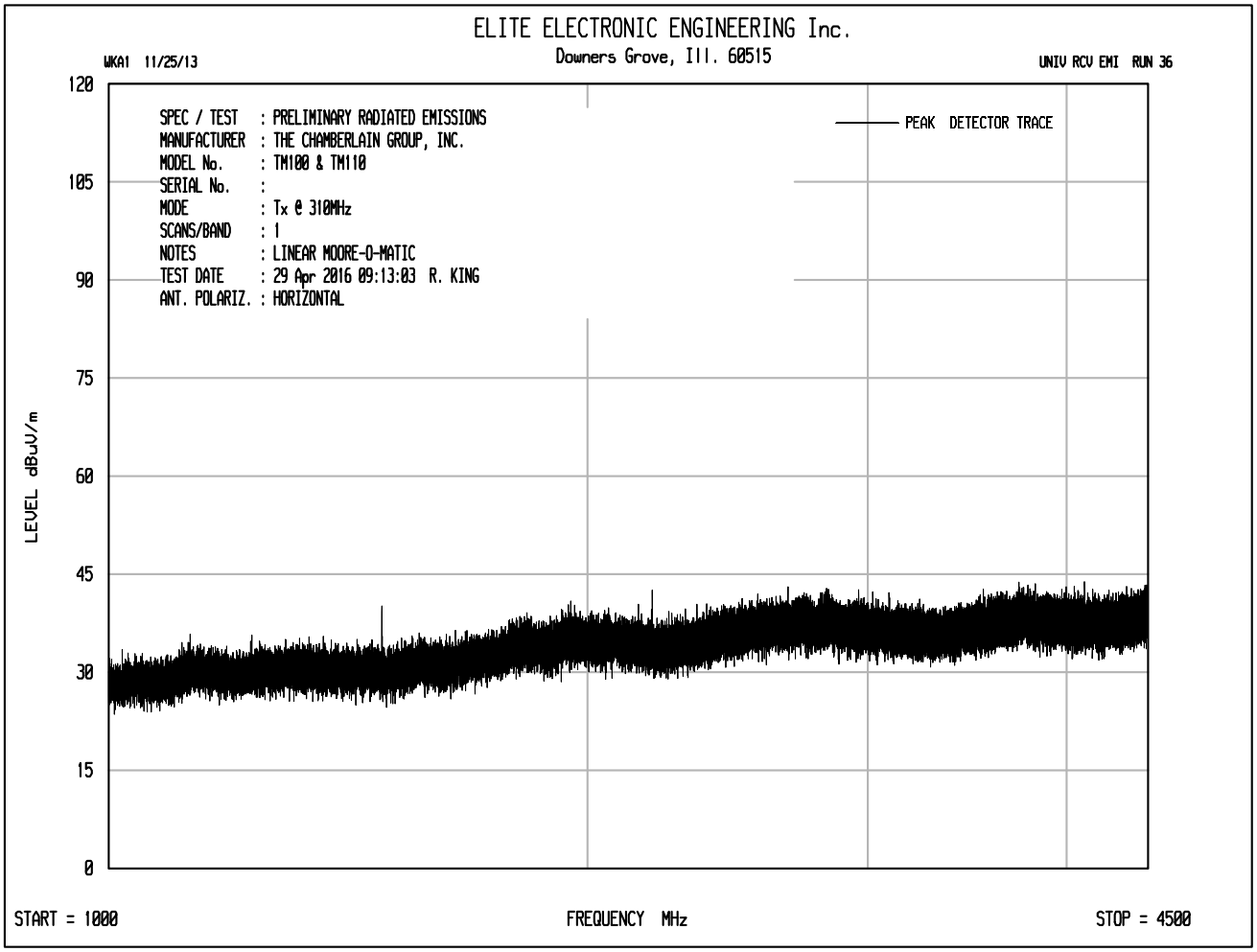

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 27
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 372.5MHz
SCANS/BAND : 4
NOTES : WAYNE DALTON
TEST DATE : 27 Apr 2016 10:26:20 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

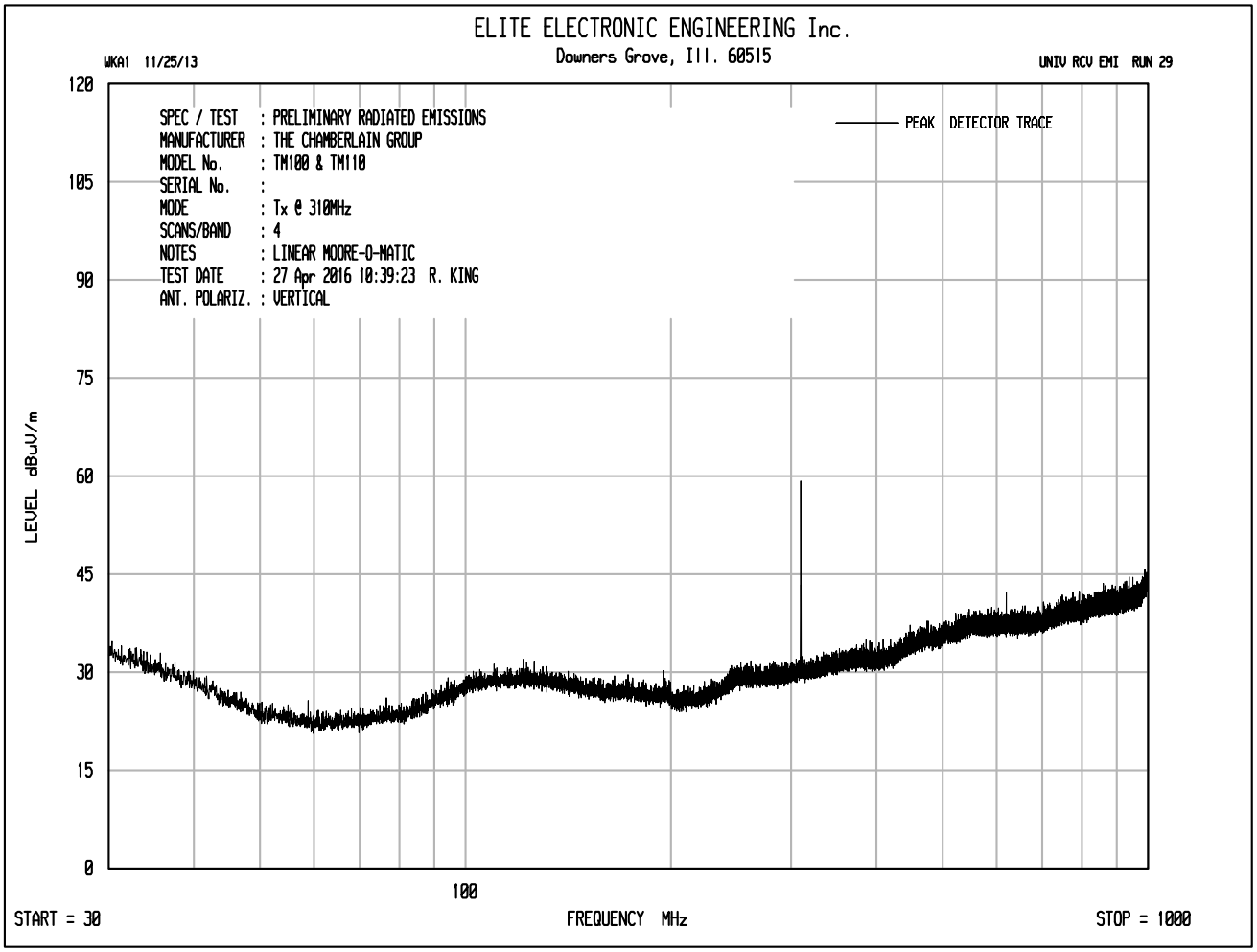

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 34
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP, INC.
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 372.5MHz
SCANS/BAND : 1
NOTES : WAYNE DALTON
TEST DATE : 29 Apr 2016 09:06:30 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 = 4500

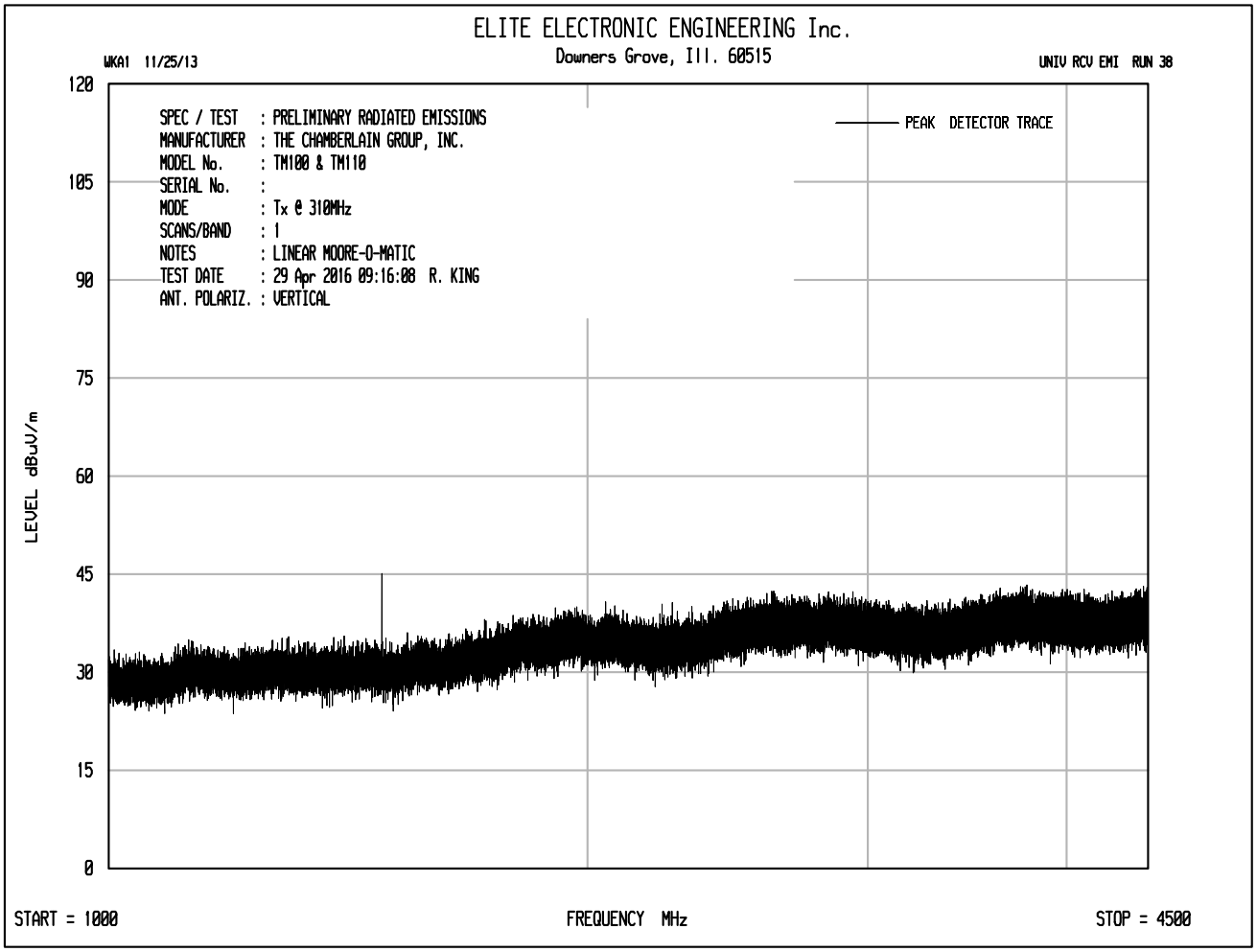

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 26
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 372.5MHz
SCANS/BAND : 4
NOTES : WAYNE DALTON
TEST DATE : 27 Apr 2016 10:22:25 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

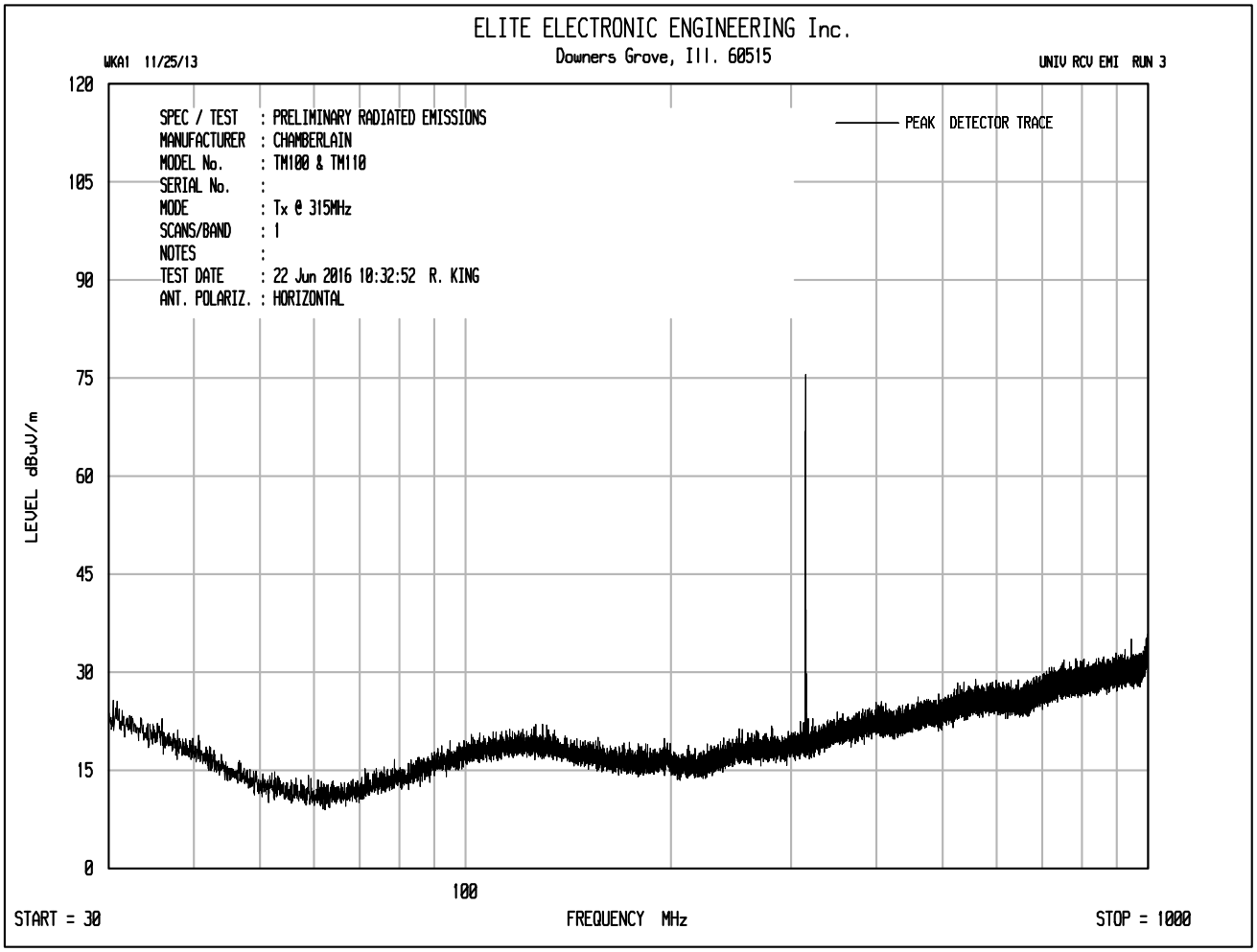

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 33
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP, INC.
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 372.5MHz
SCANS/BAND : 1
NOTES : WAYNE DALTON
TEST DATE : 29 Apr 2016 09:03:00 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 = 4500

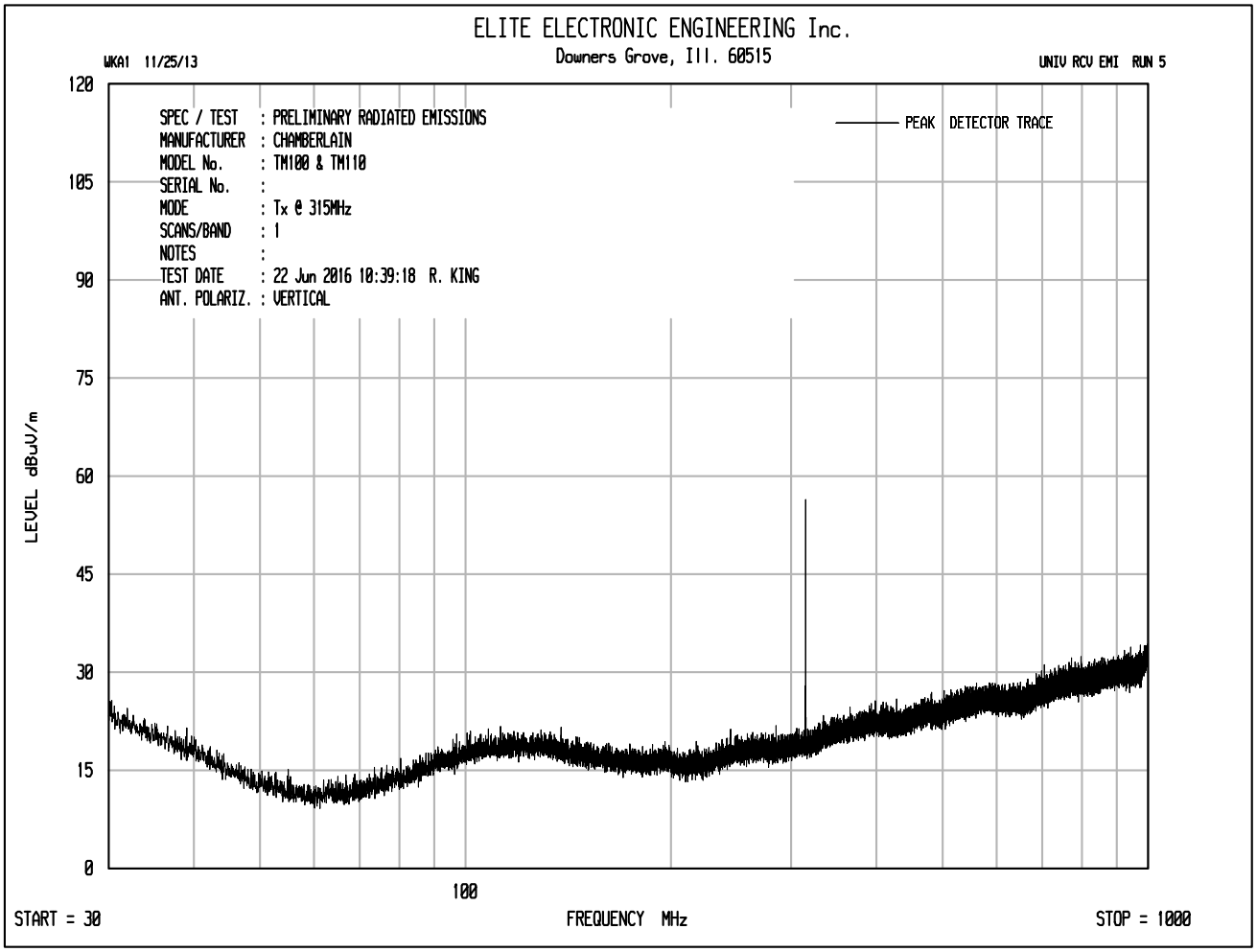

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 28
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 310MHz
SCANS/BAND : 4
NOTES : LINEAR MOORE-O-MATIC
TEST DATE : 27 Apr 2016 10:34:51 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

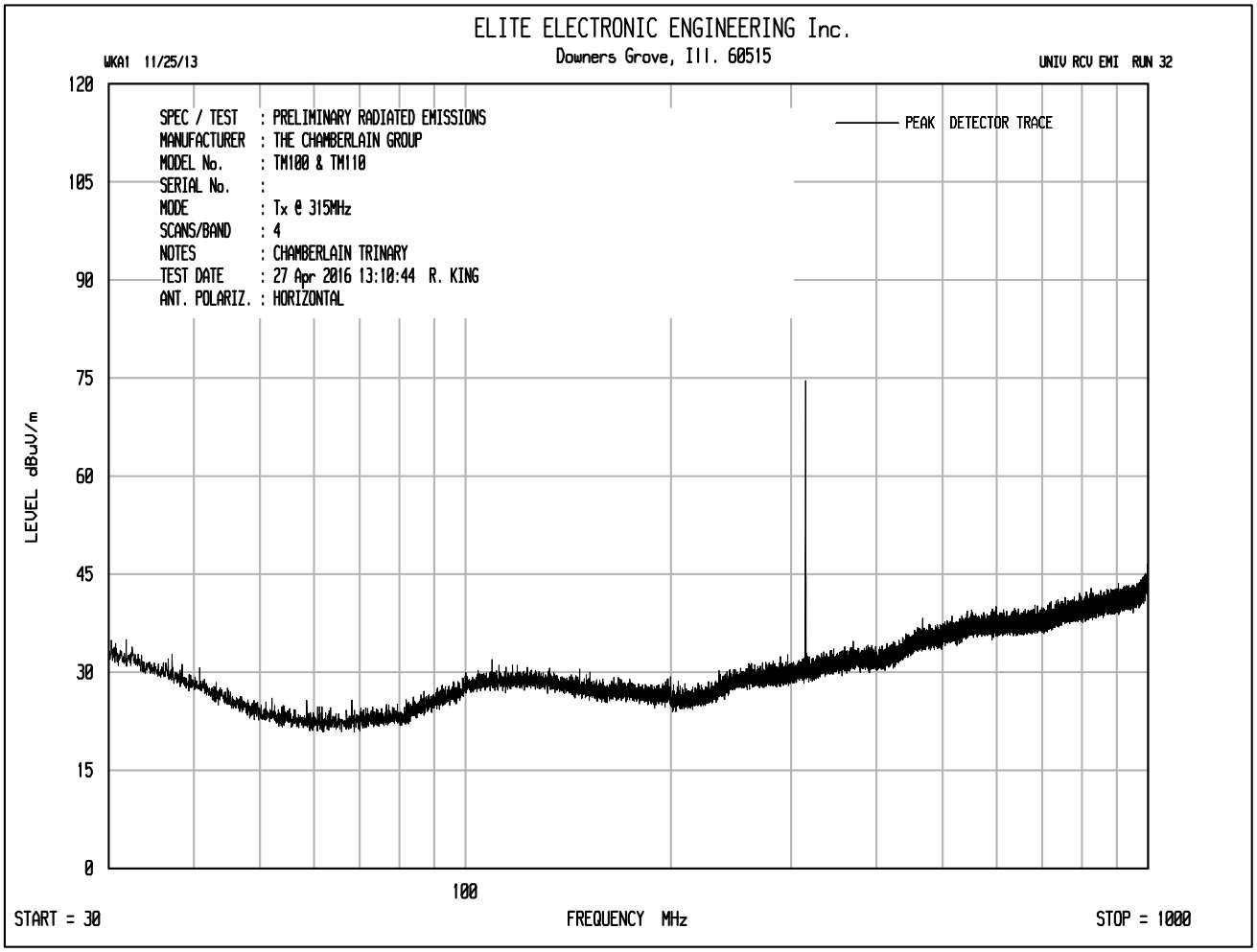

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 36
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP, INC.
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 310MHz
SCANS/BAND : 1
NOTES : LINEAR MOORE-O-MATIC
TEST DATE : 29 Apr 2016 09:13:03 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 = 4500

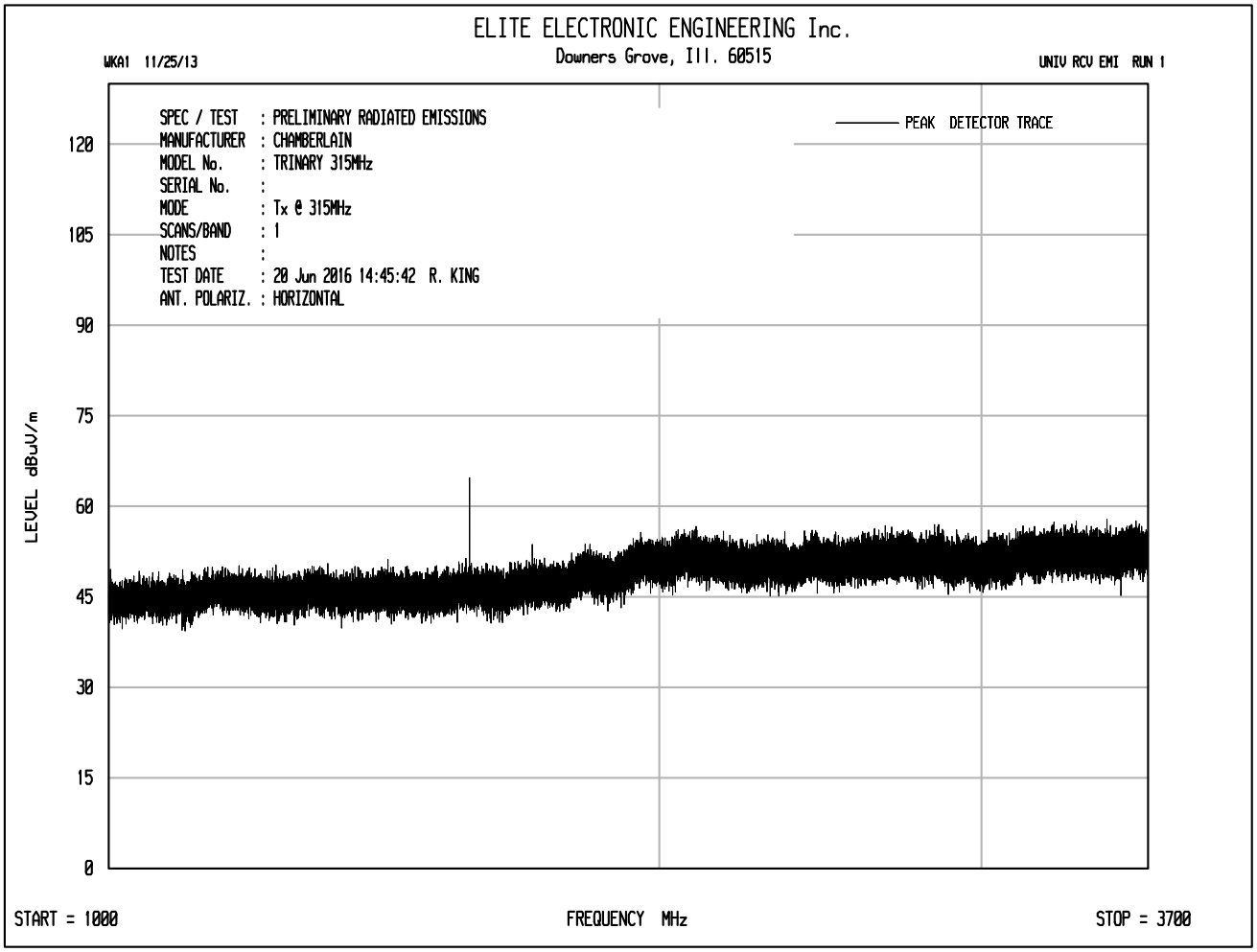

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 29
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 310MHz
SCANS/BAND : 4
NOTES : LINEAR MOORE-O-MATIC
TEST DATE : 27 Apr 2016 10:39:23 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

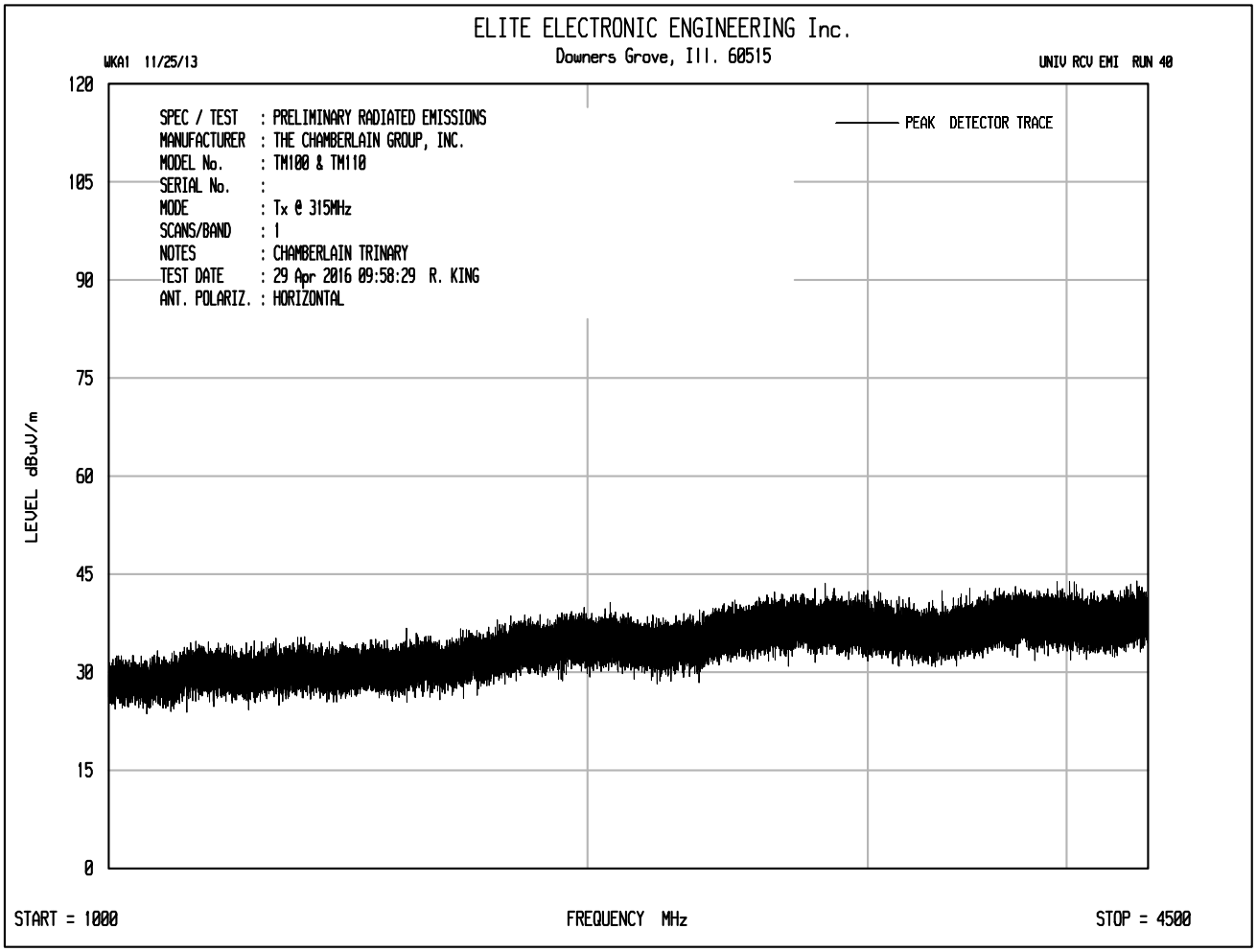

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 38
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP, INC.
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 310MHz
SCANS/BAND : 1
NOTES : LINEAR MOORE-O-MATIC
TEST DATE : 29 Apr 2016 09:16:08 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 = 4500

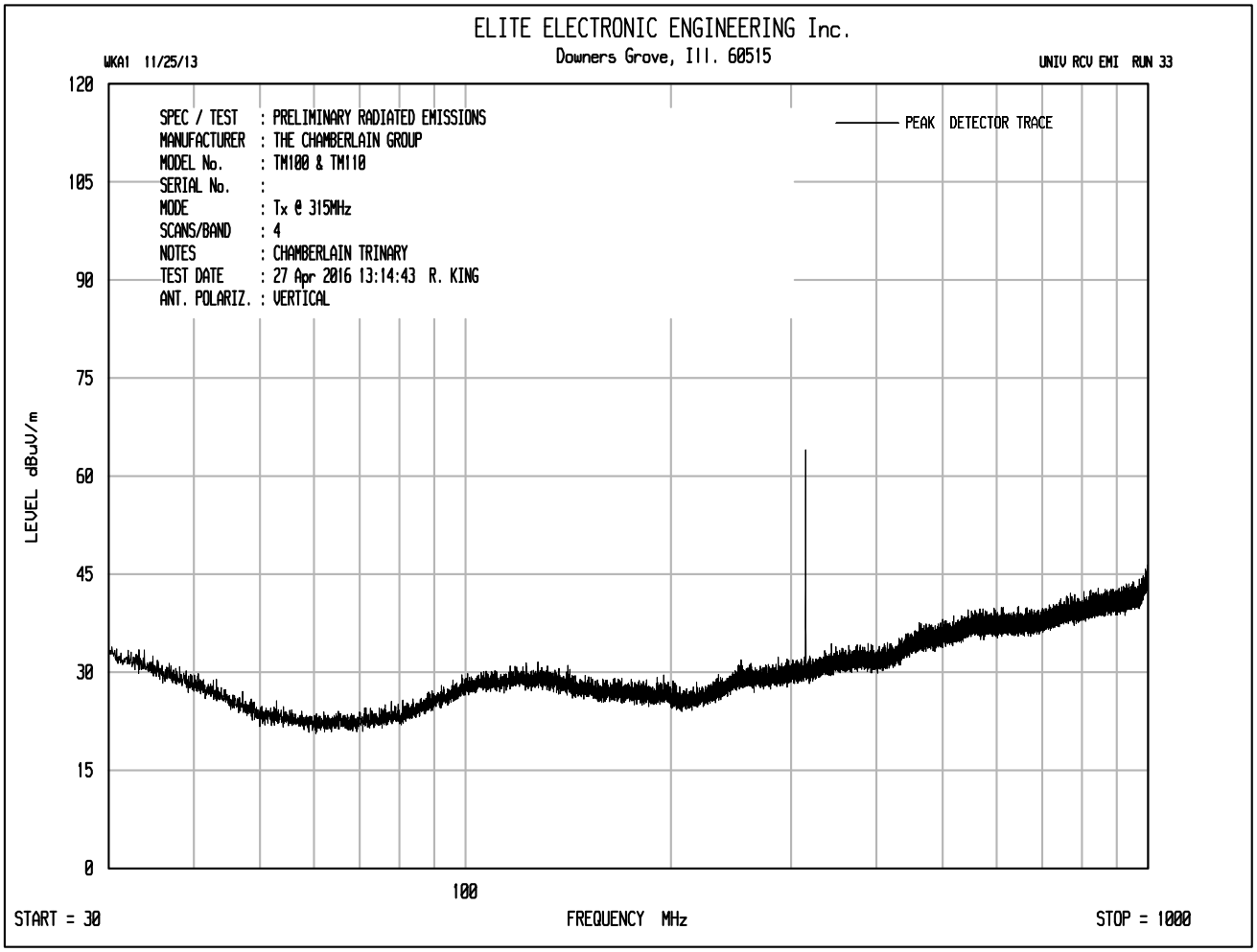

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 3
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 315MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 22 Jun 2016 10:32:52 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000

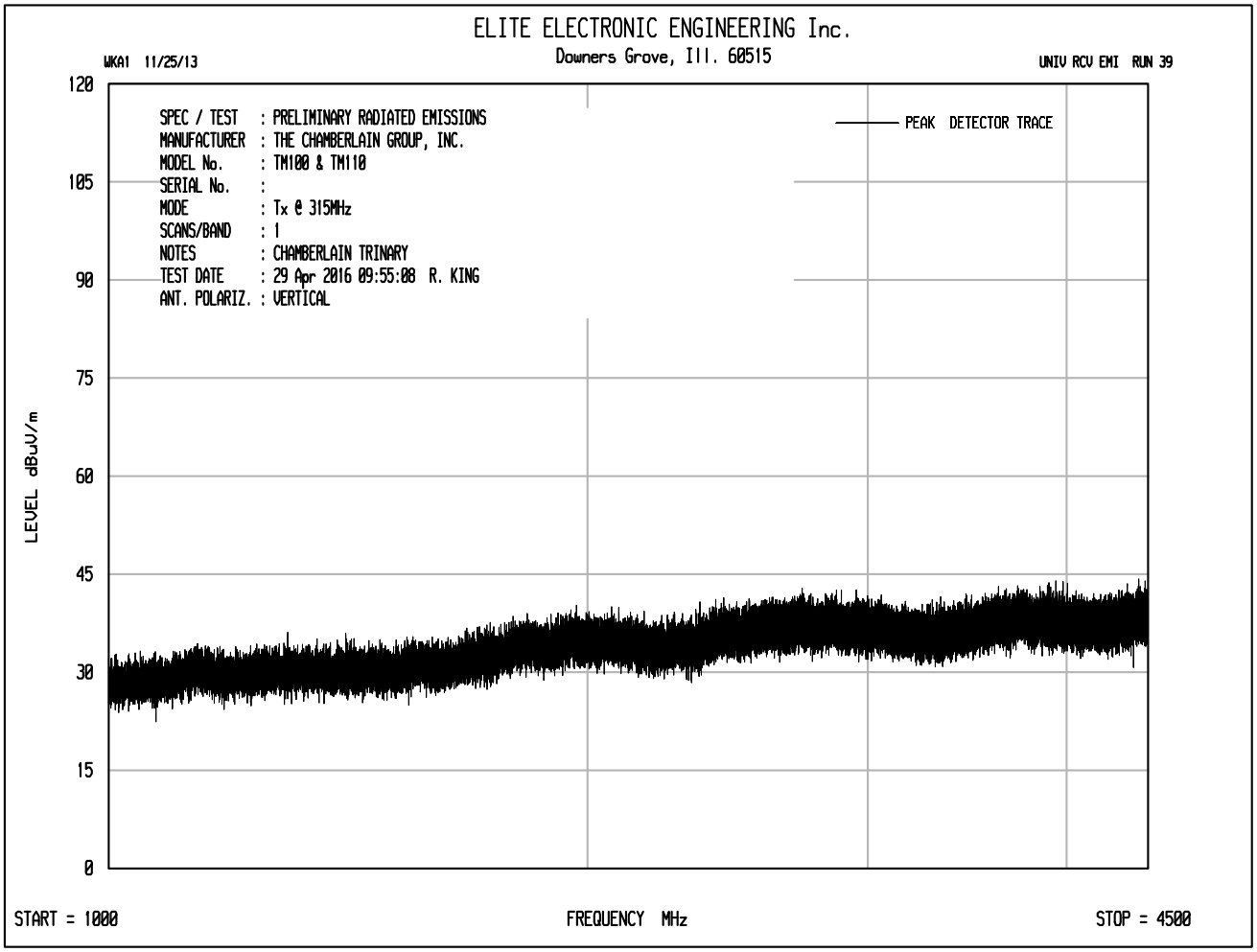

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 5
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 315MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 22 Jun 2016 10:39:18 R. KING
ANT. POLARIZ. : VERTICAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000

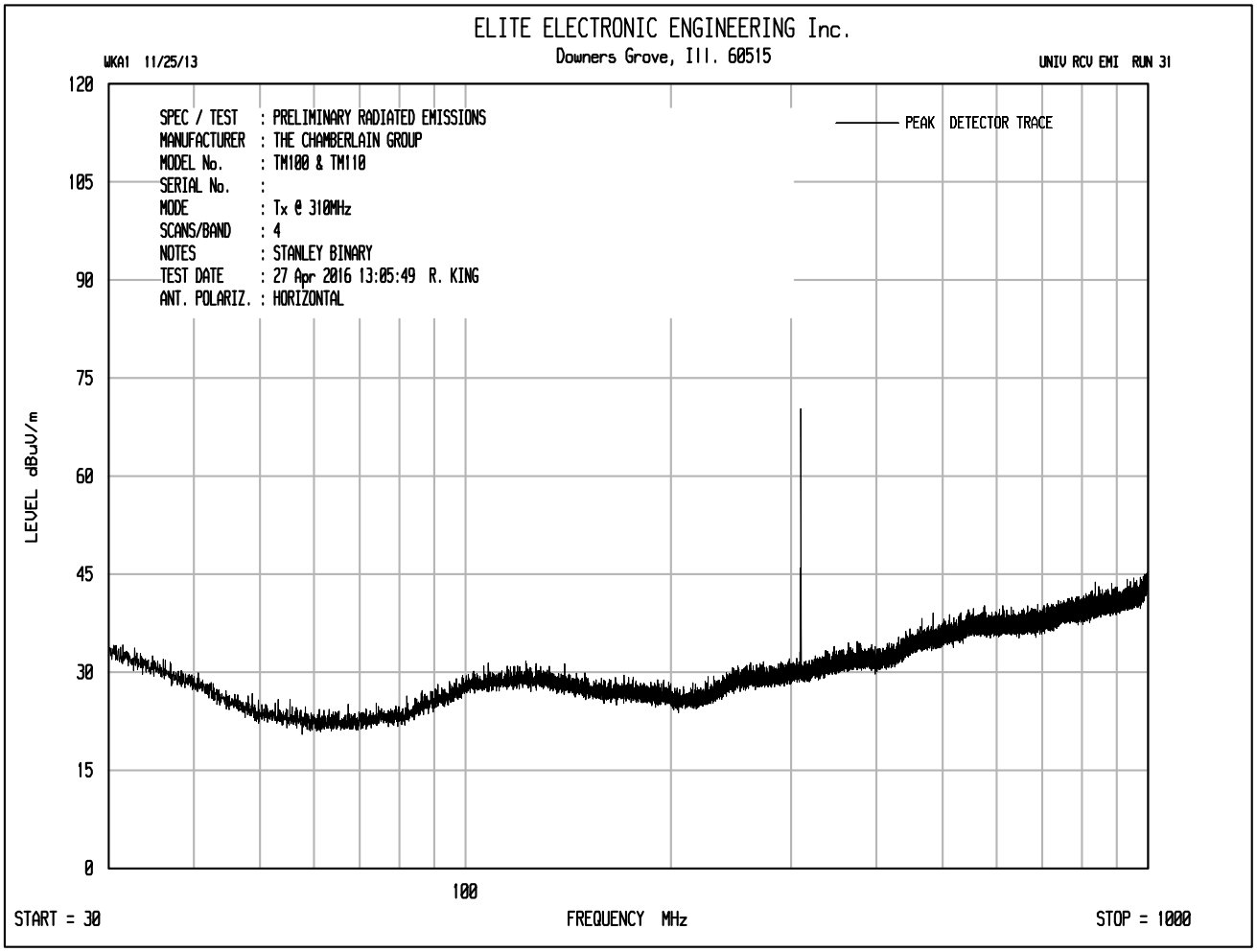

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 32
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 315MHz
SCANS/BAND : 4
NOTES : CHAMBERLAIN TRINARY
TEST DATE : 27 Apr 2016 13:10:44 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

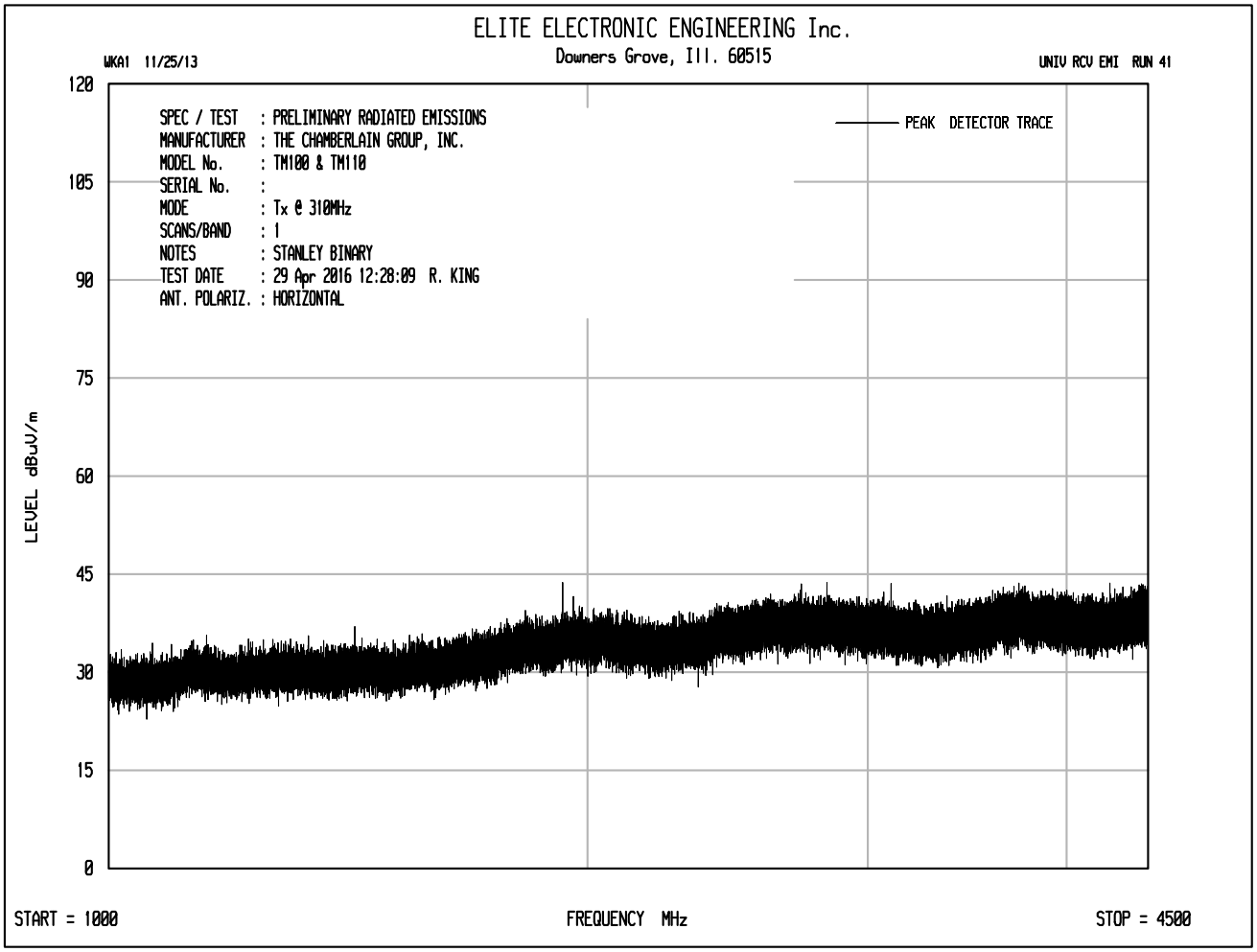

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 1
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : TRINARY 315MHz
SERIAL No. :
MODE : Tx @ 315MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 20 Jun 2016 14:45:42 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 3700

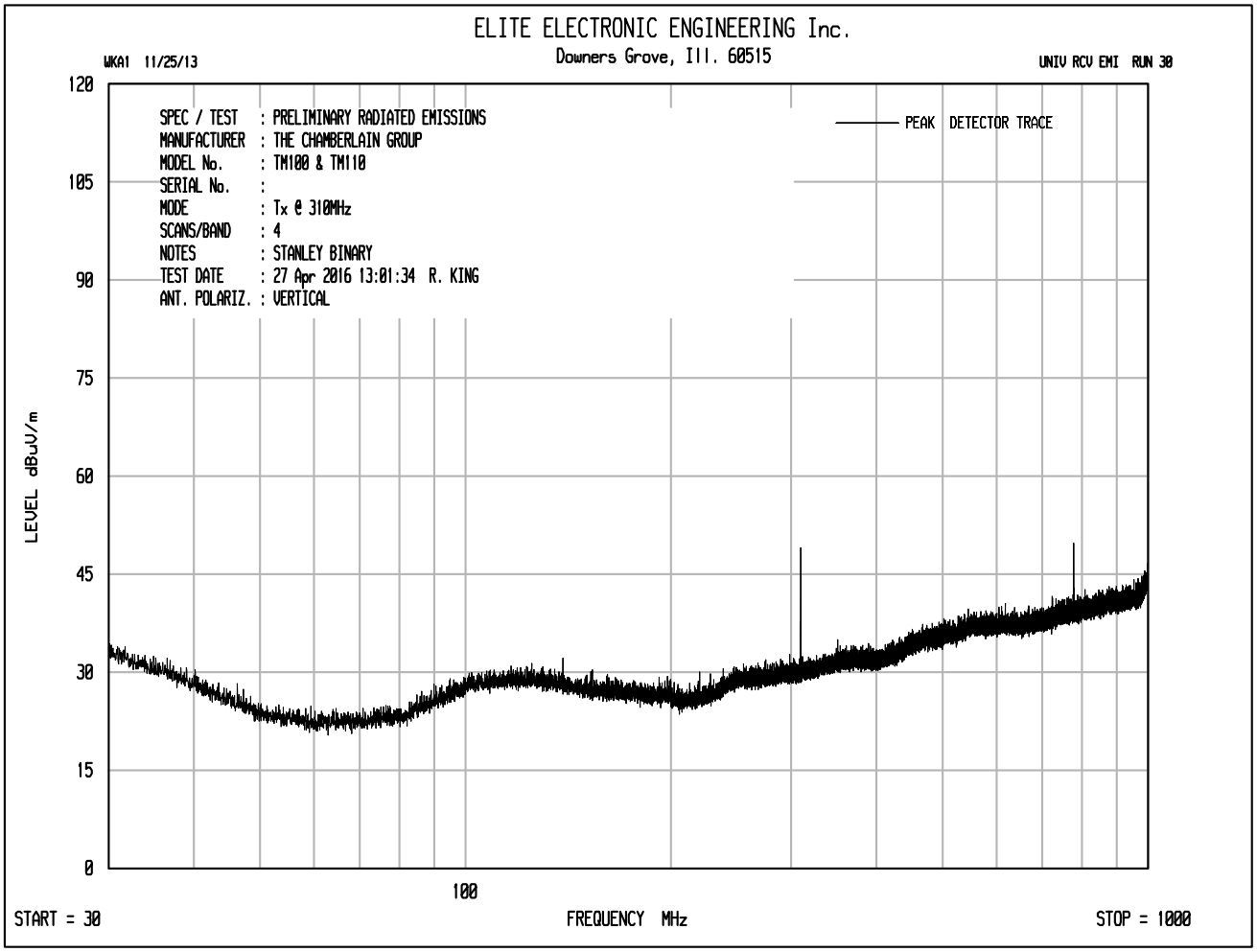

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 40
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP, INC.
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 315MHz
SCANS/BAND : 1
NOTES : CHAMBERLAIN TRINARY
TEST DATE : 29 Apr 2016 09:58:29 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 4500

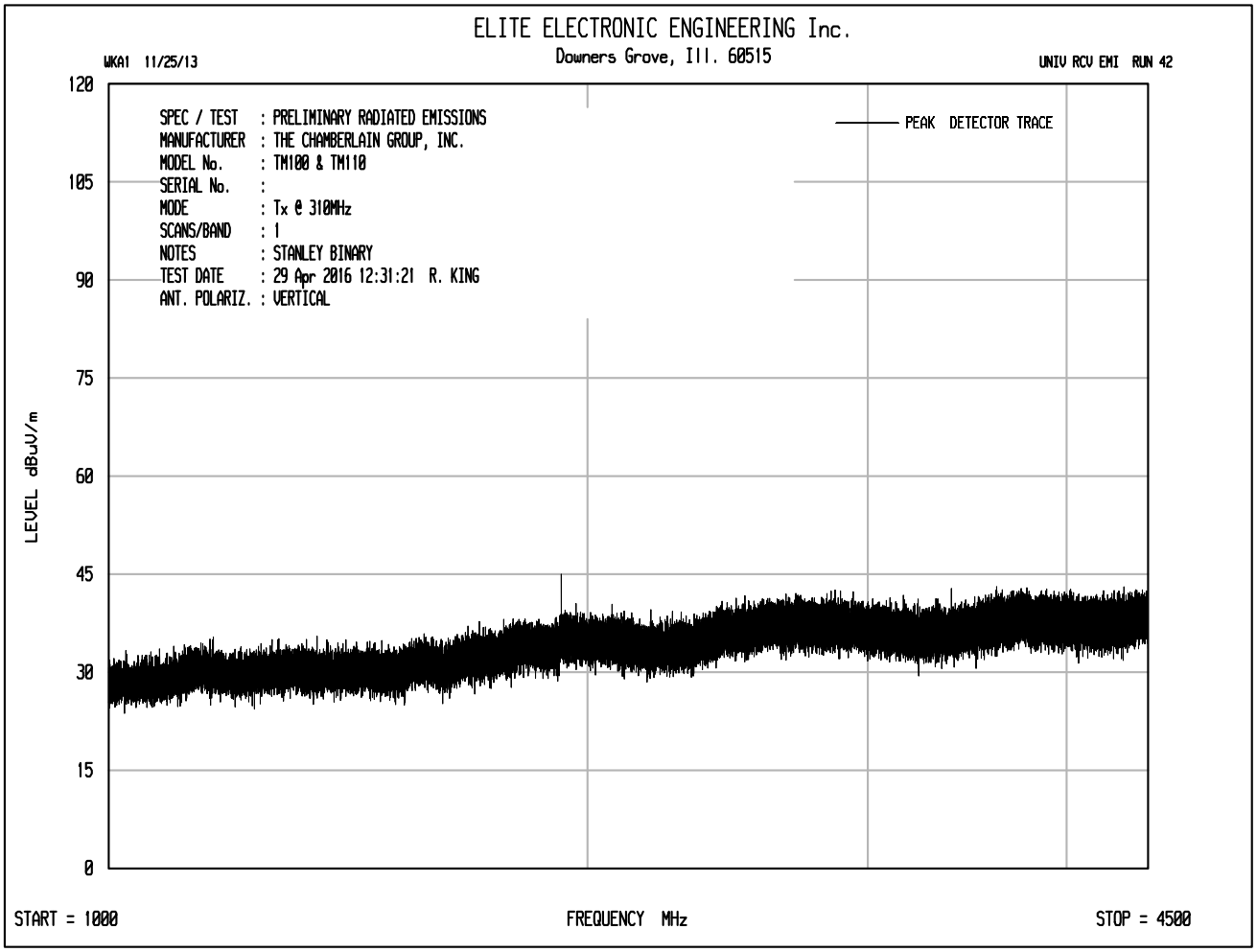

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 33
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 315MHz
SCANS/BAND : 4
NOTES : CHAMBERLAIN TRINARY
TEST DATE : 27 Apr 2016 13:14:43 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

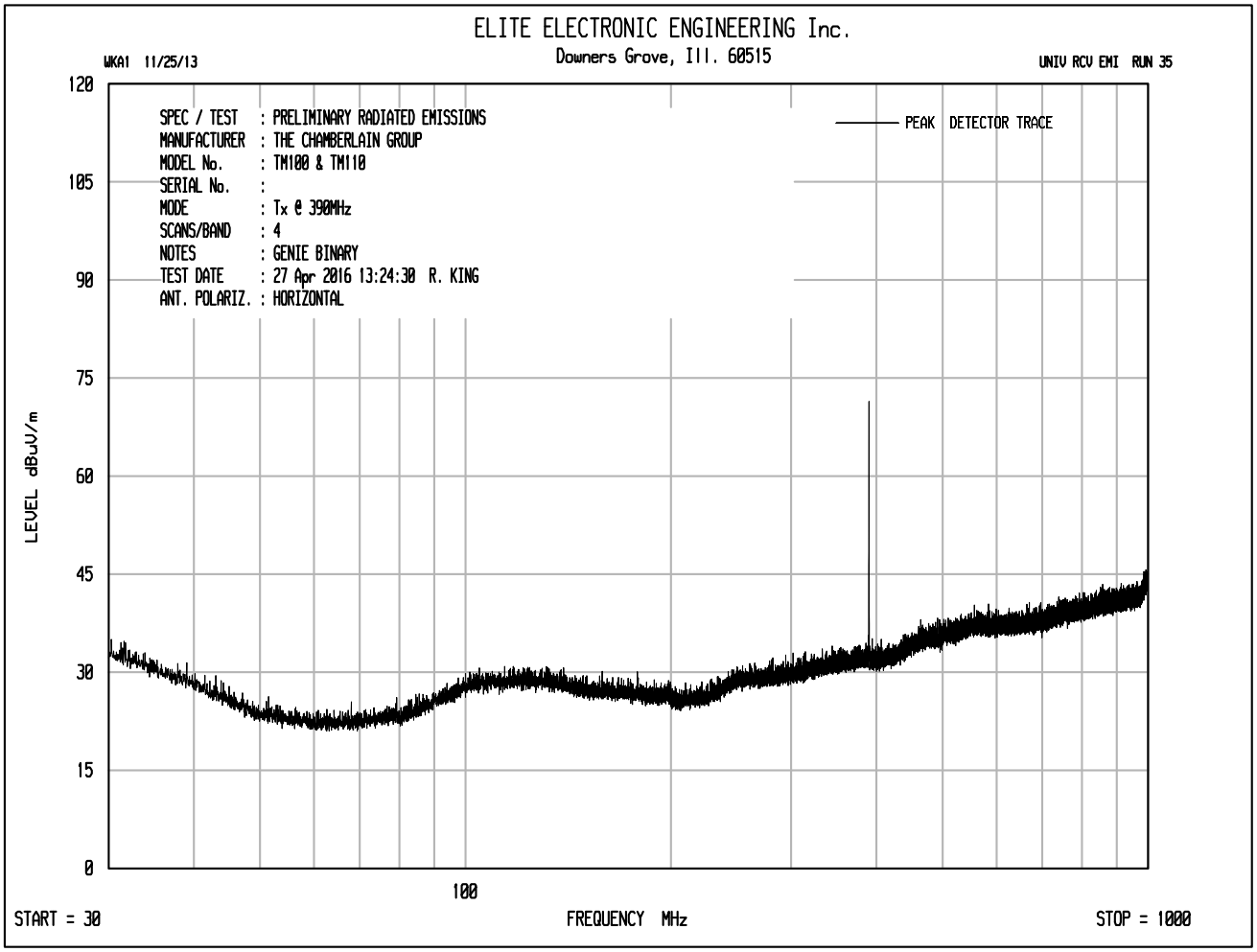

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 39
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP, INC.
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 315MHz
SCANS/BAND : 1
NOTES : CHAMBERLAIN TRINARY
TEST DATE : 29 Apr 2016 09:55:08 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 = 4500

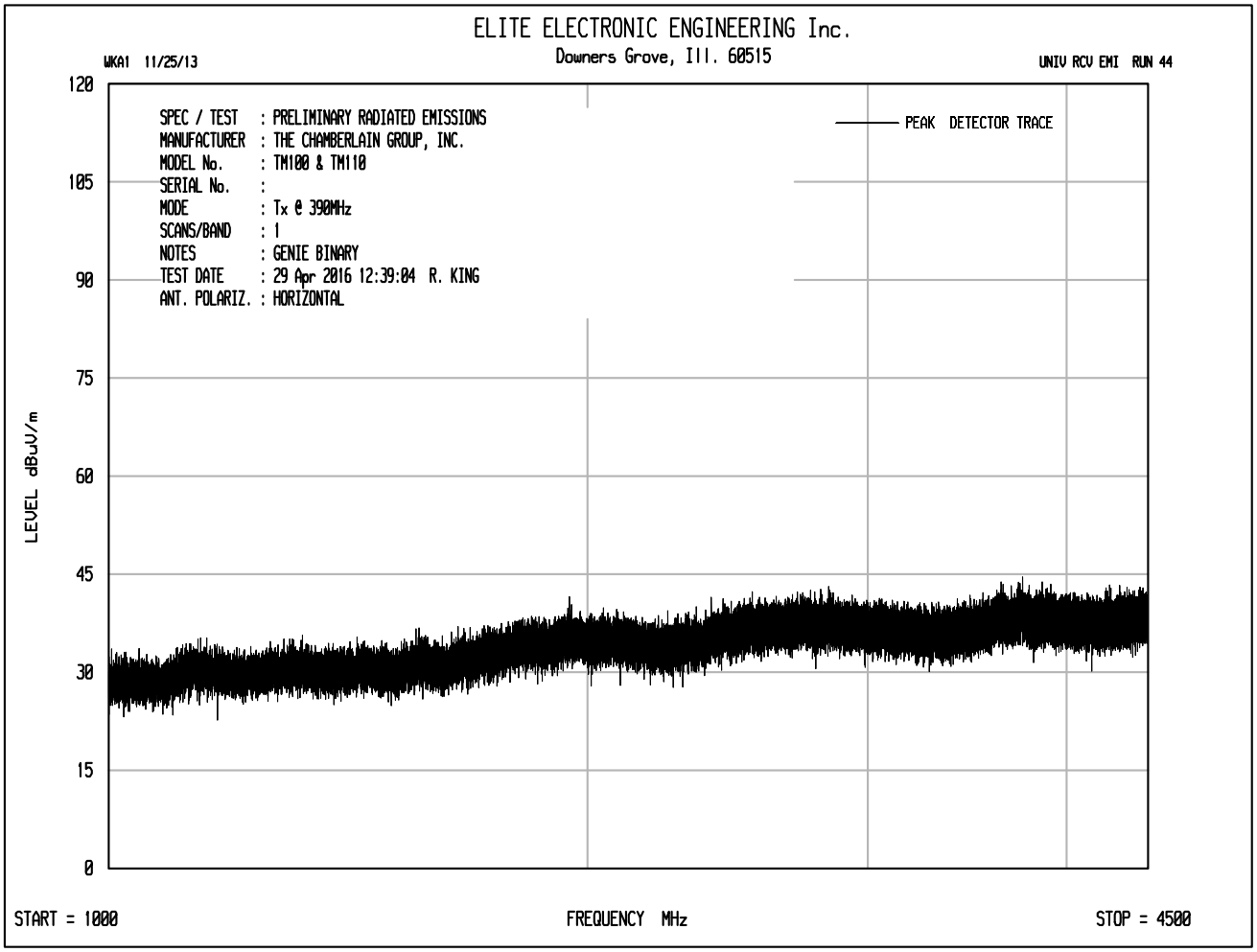

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 31
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 310MHz
SCANS/BAND : 4
NOTES : STANLEY BINARY
TEST DATE : 27 Apr 2016 13:05:49 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

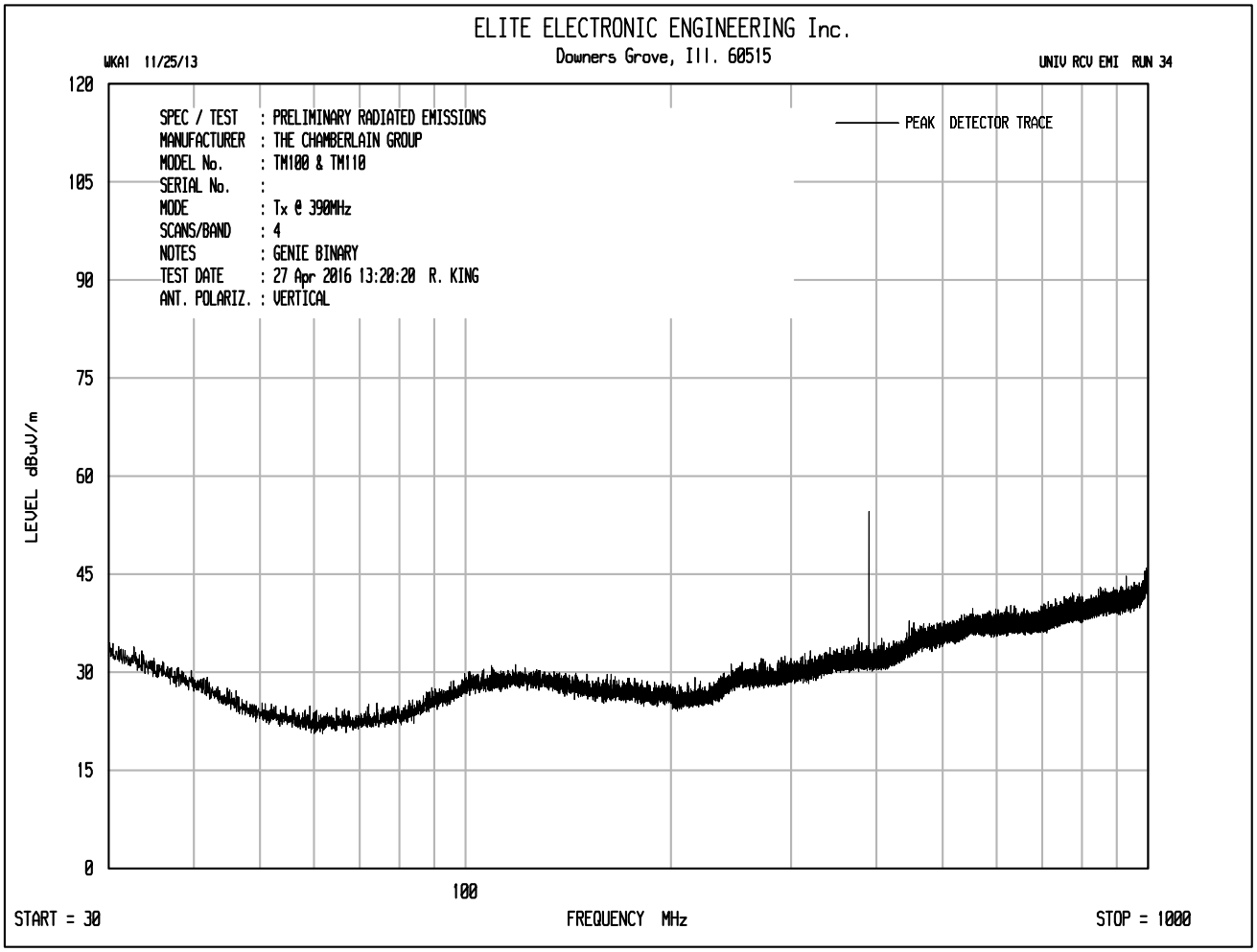

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 41
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP, INC.
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 310MHz
SCANS/BAND : 1
NOTES : STANLEY BINARY
TEST DATE : 29 Apr 2016 12:28:09 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 = 4500

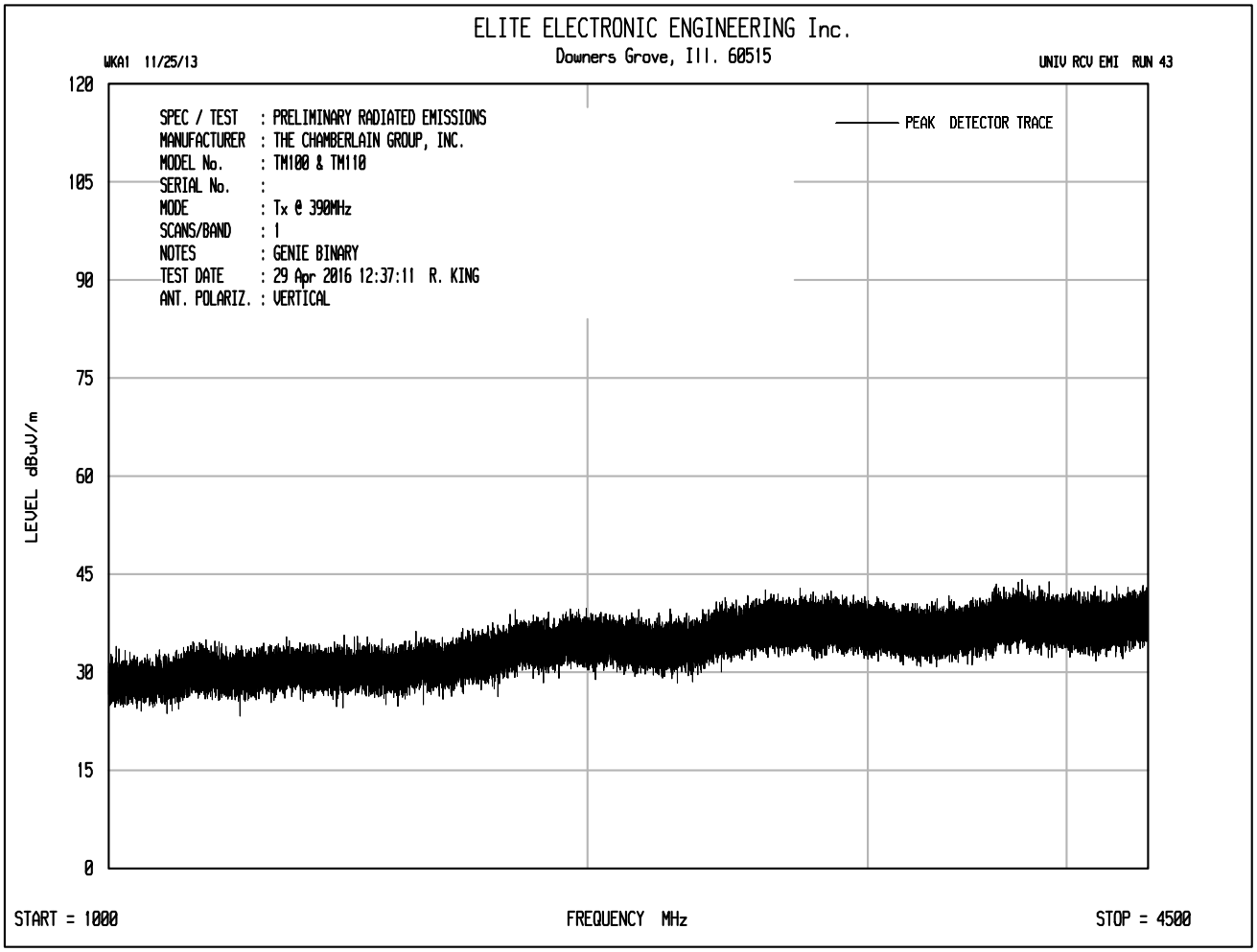

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 30
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 310MHz
SCANS/BAND : 4
NOTES : STANLEY BINARY
TEST DATE : 27 Apr 2016 13:01:34 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

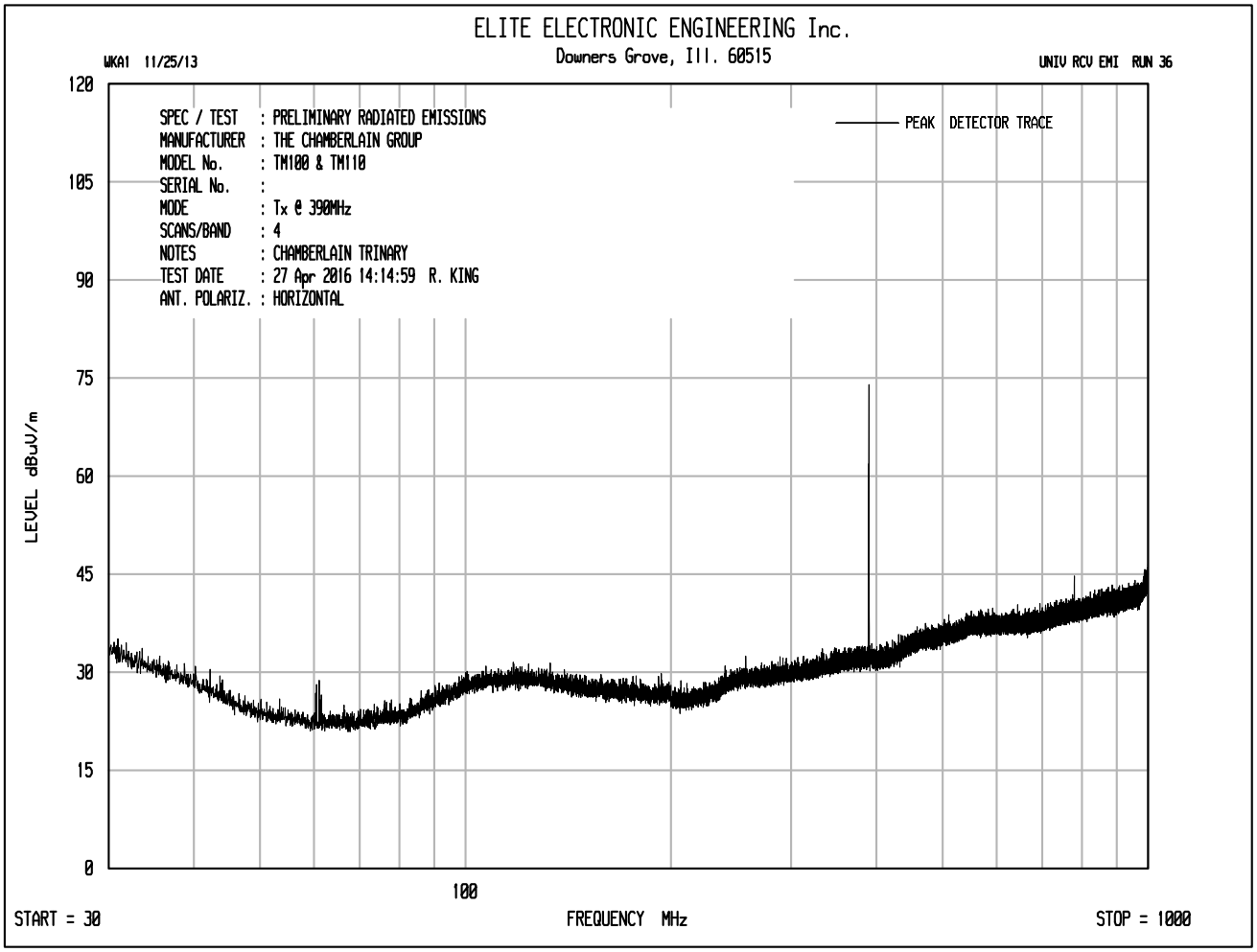

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 42
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP, INC.
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 310MHz
SCANS/BAND : 1
NOTES : STANLEY BINARY
TEST DATE : 29 Apr 2016 12:31:21 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 = 4500

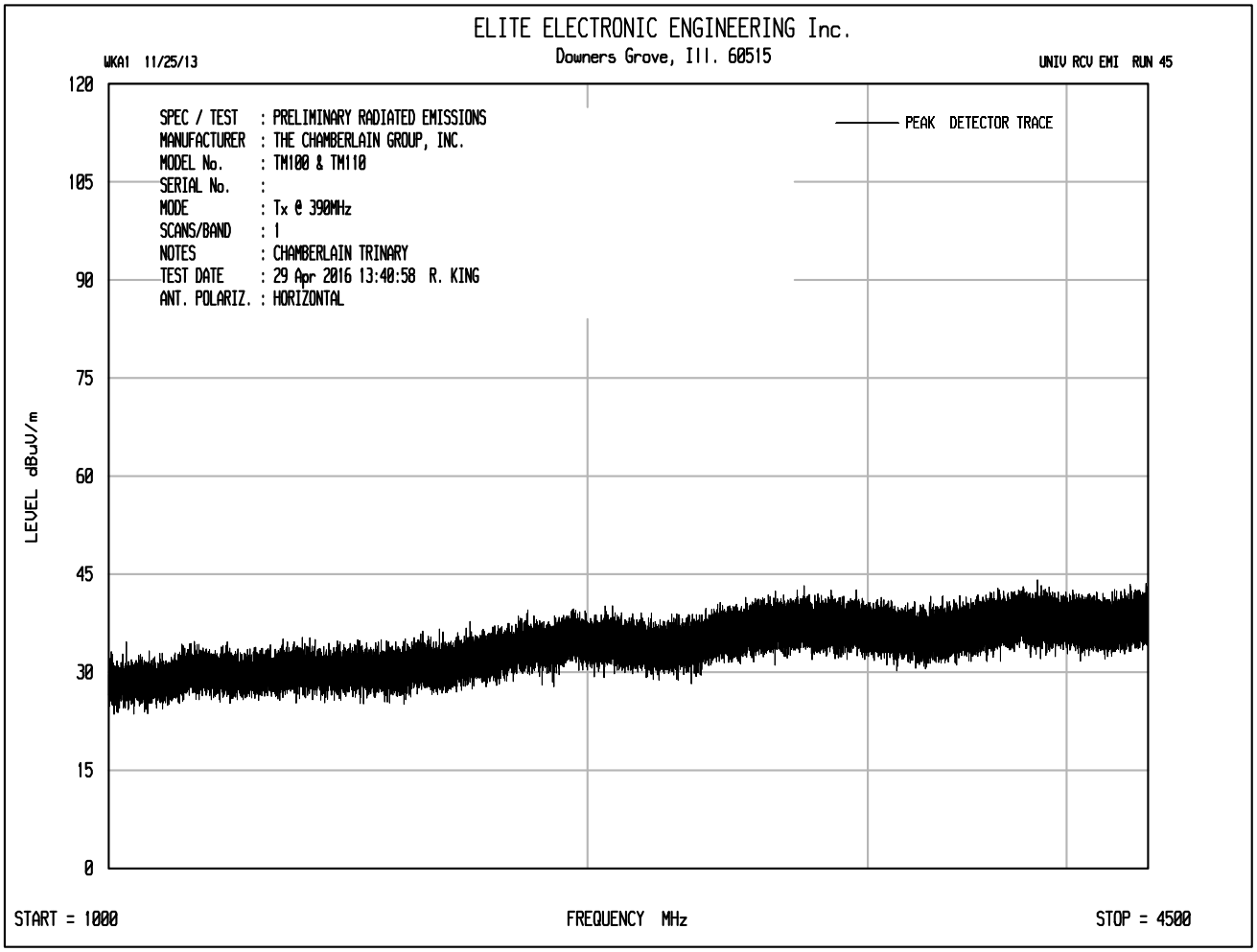

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 35
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 390MHz
SCANS/BAND : 4
NOTES : GENIE BINARY
TEST DATE : 27 Apr 2016 13:24:30 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

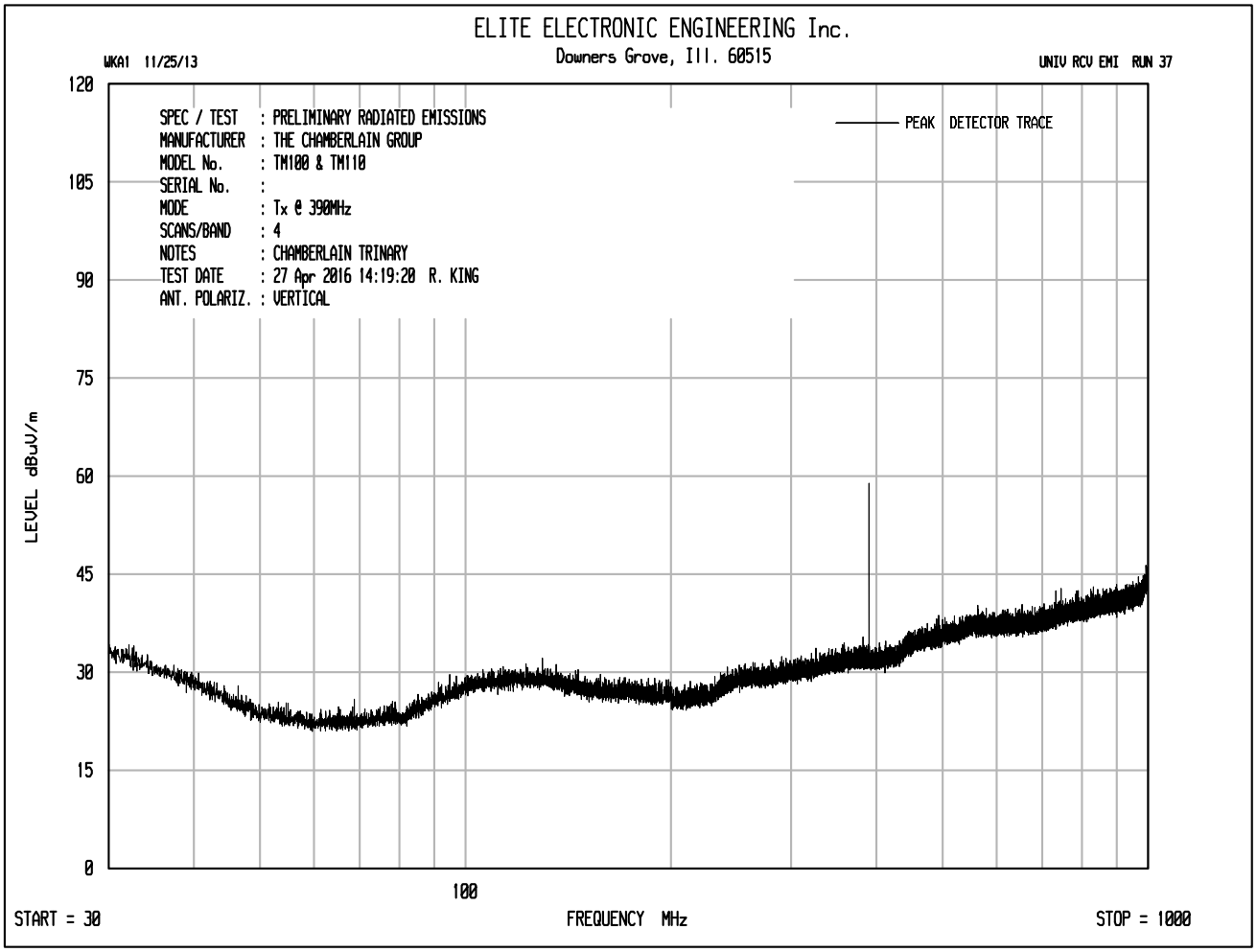

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 44
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP, INC.
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 390MHz
SCANS/BAND : 1
NOTES : GENIE BINARY
TEST DATE : 29 Apr 2016 12:39:04 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 = 4500

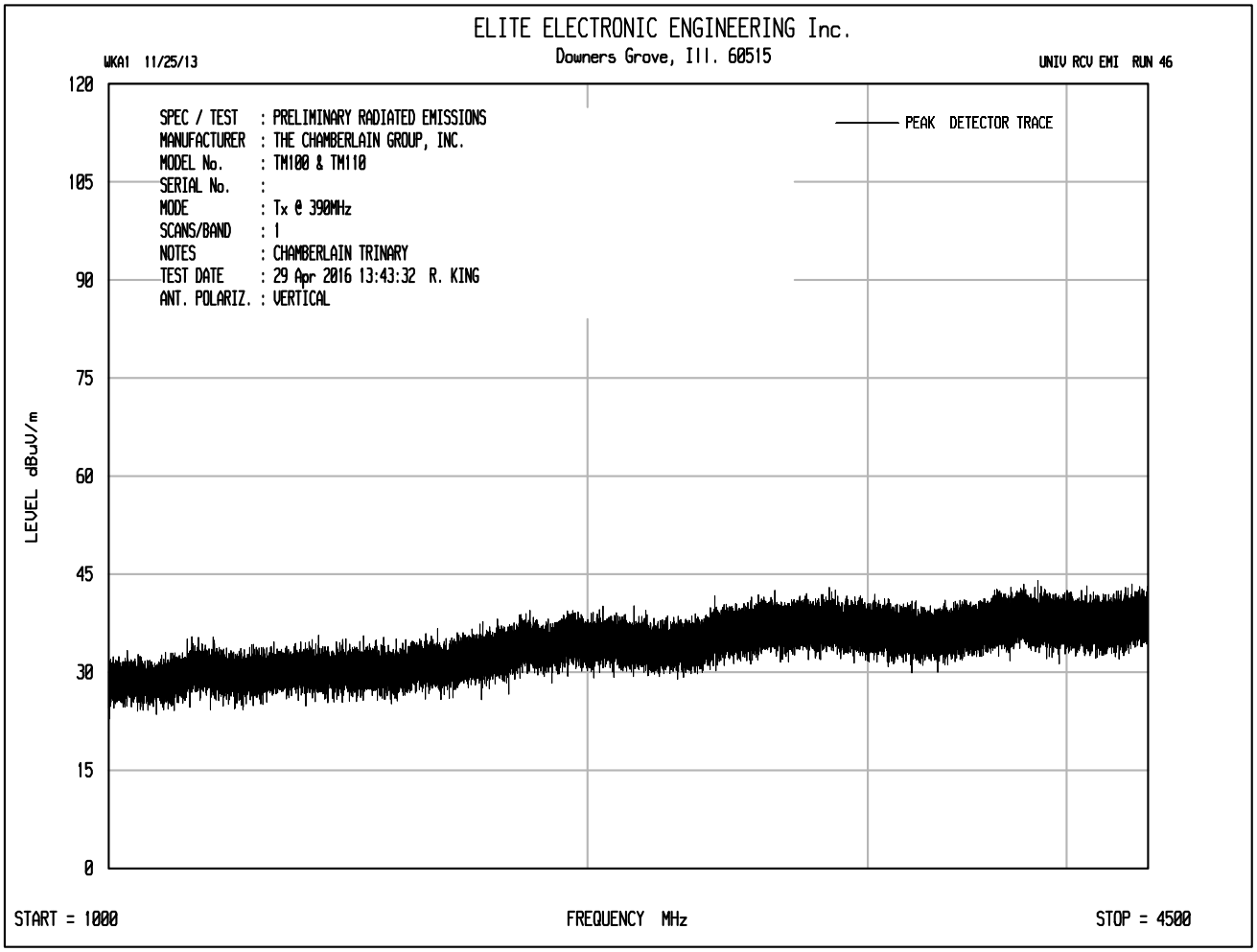

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 34
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 390MHz
SCANS/BAND : 4
NOTES : GENIE BINARY
TEST DATE : 27 Apr 2016 13:20:20 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

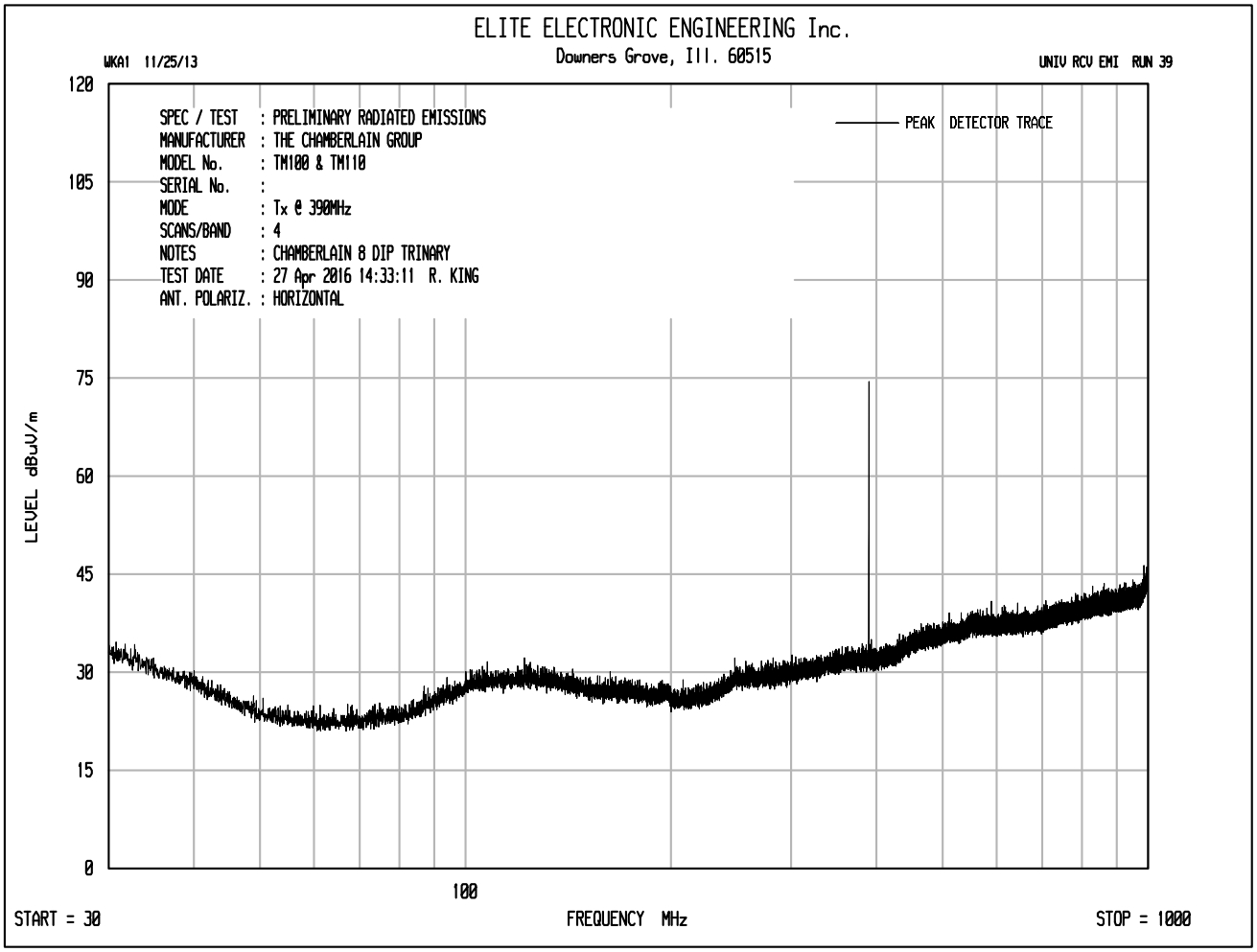

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 43
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP, INC.
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 390MHz
SCANS/BAND : 1
NOTES : GENIE BINARY
TEST DATE : 29 Apr 2016 12:37:11 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 = 4500

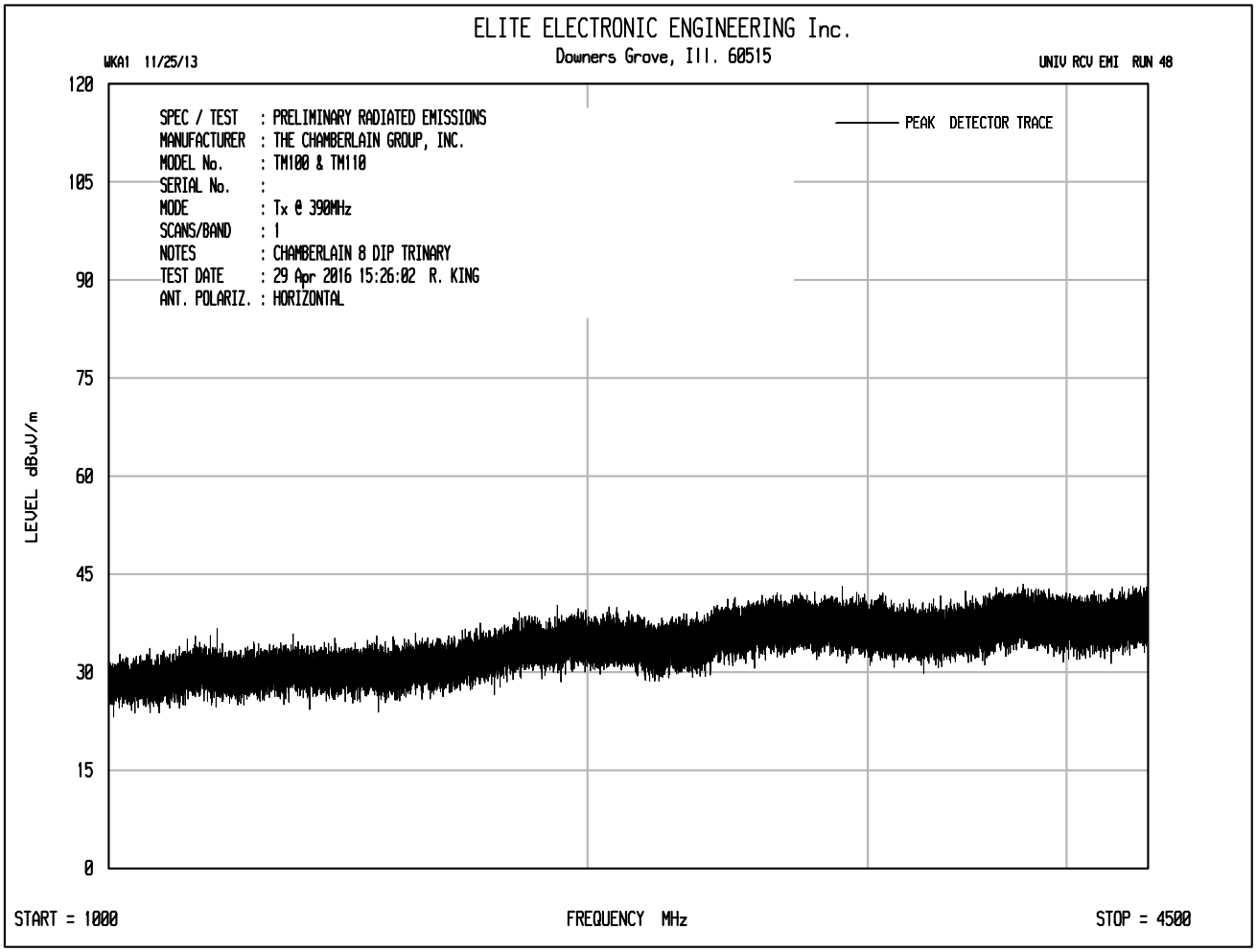

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 36
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 390MHz
SCANS/BAND : 4
NOTES : CHAMBERLAIN TRINARY
TEST DATE : 27 Apr 2016 14:14:59 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

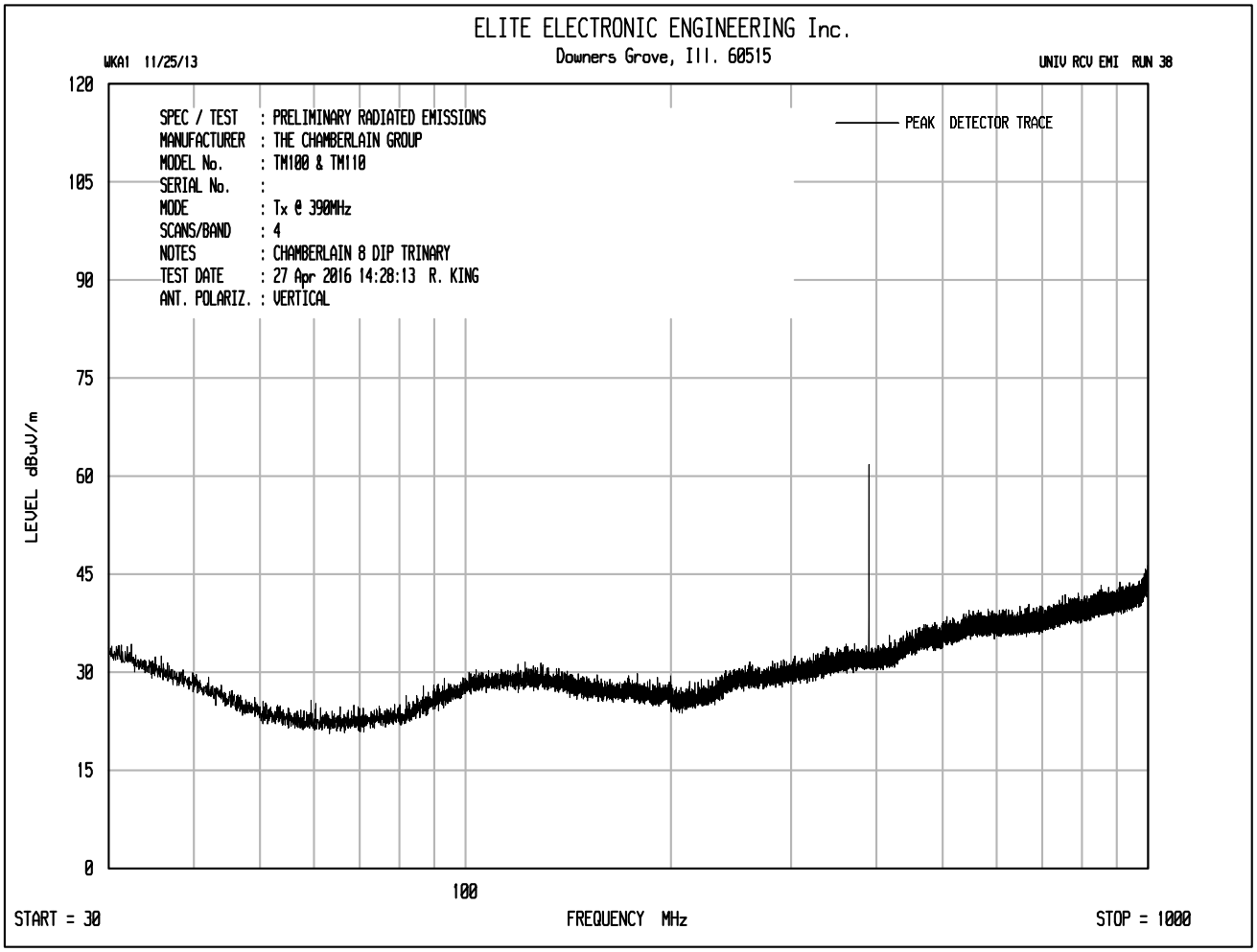

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 45
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP, INC.
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 390MHz
SCANS/BAND : 1
NOTES : CHAMBERLAIN TRINARY
TEST DATE : 29 Apr 2016 13:40:58 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 = 4500

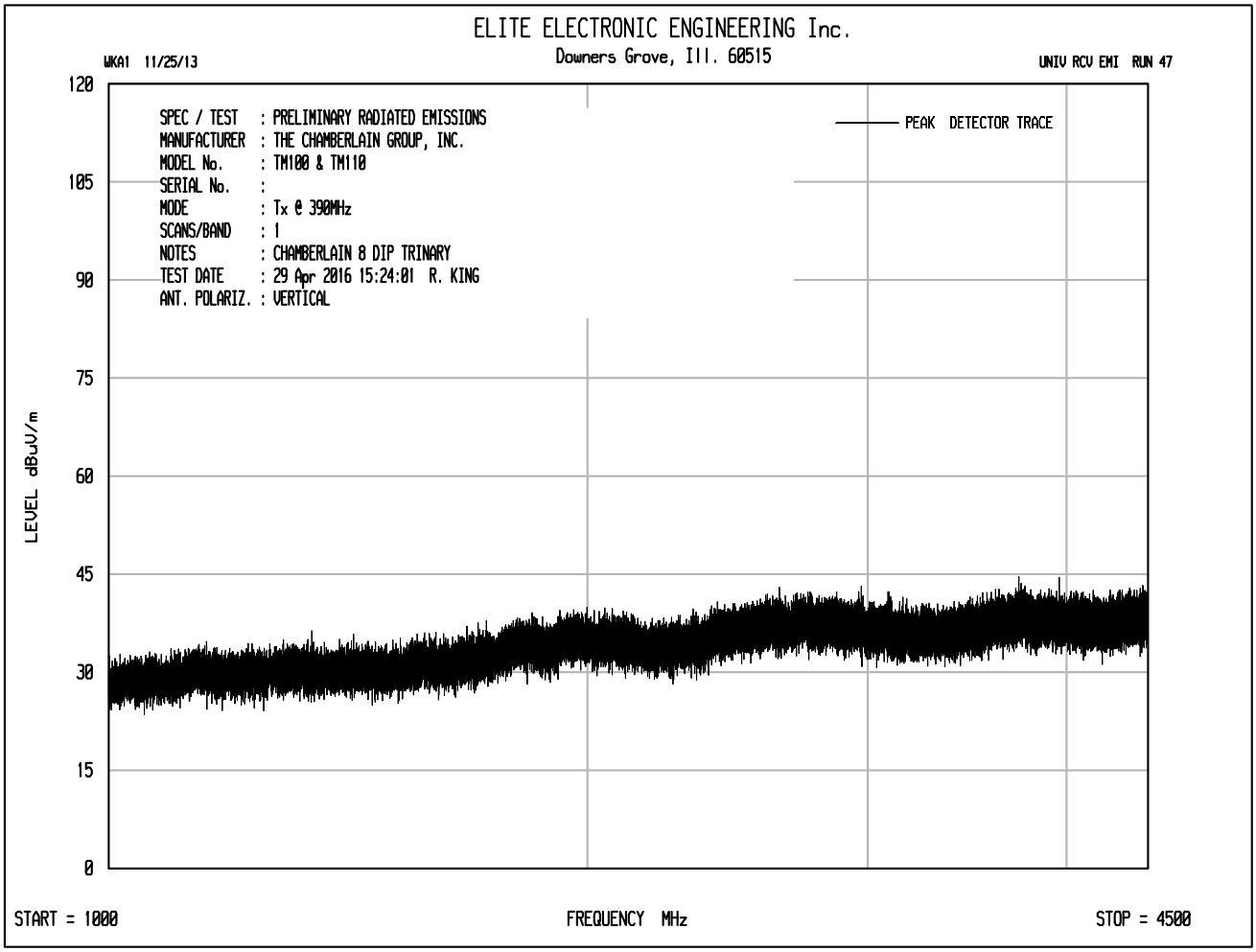

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 37
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 390MHz
SCANS/BAND : 4
NOTES : CHAMBERLAIN TRINARY
TEST DATE : 27 Apr 2016 14:19:20 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

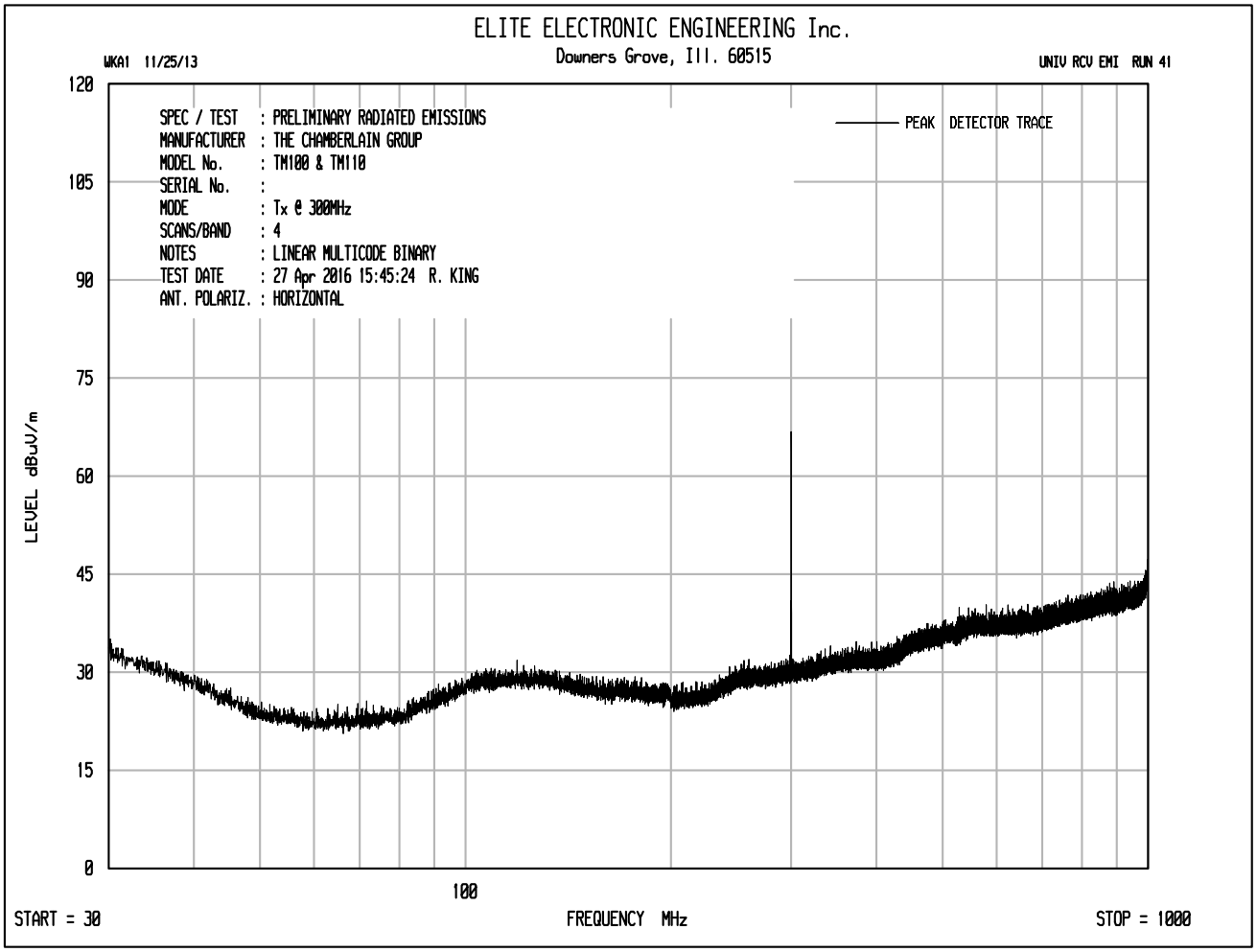

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 46
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP, INC.
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 390MHz
SCANS/BAND : 1
NOTES : CHAMBERLAIN TRINARY
TEST DATE : 29 Apr 2016 13:43:32 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 = 4500

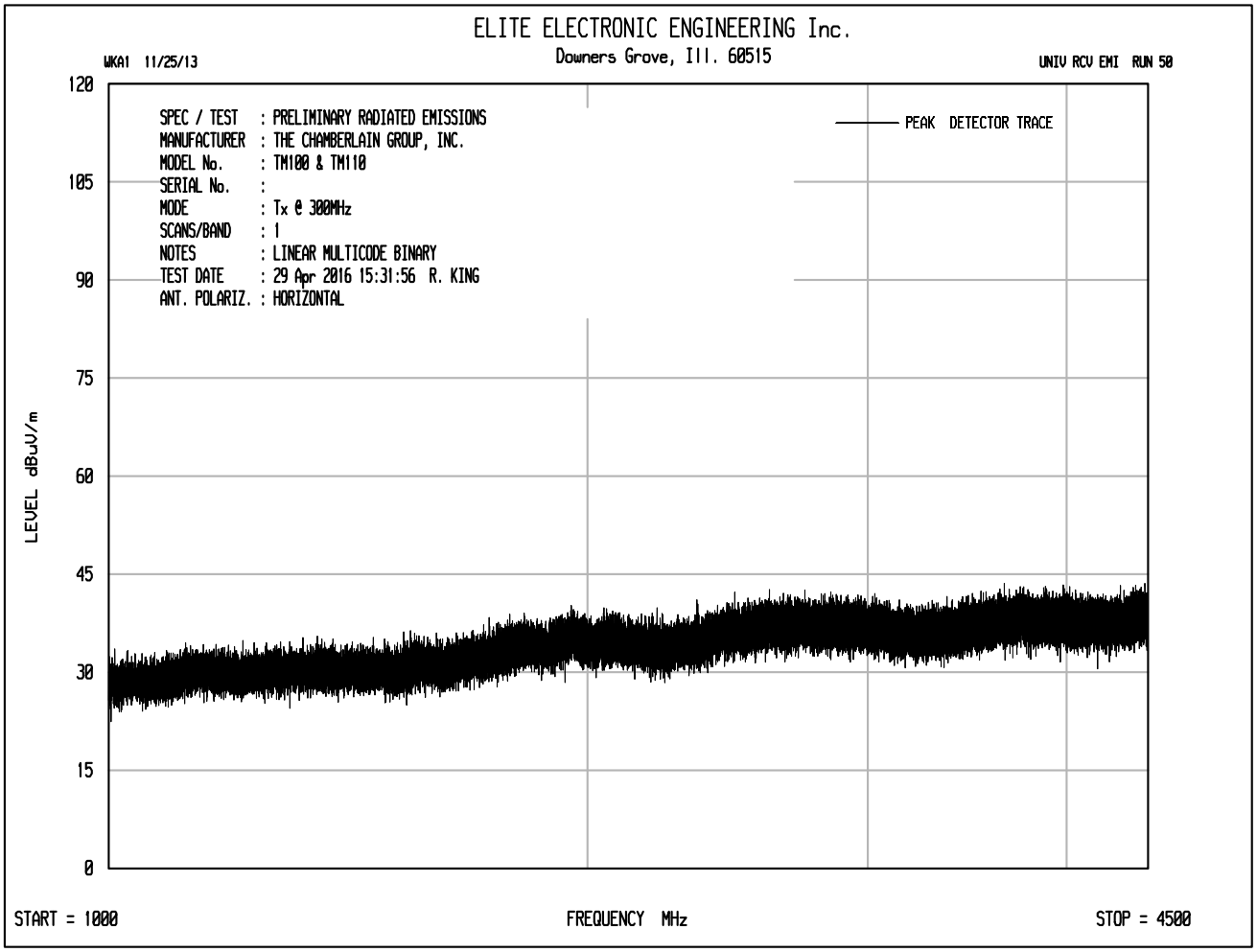

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 39
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 390MHz
SCANS/BAND : 4
NOTES : CHAMBERLAIN 8 DIP TRINARY
TEST DATE : 27 Apr 2016 14:33:11 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

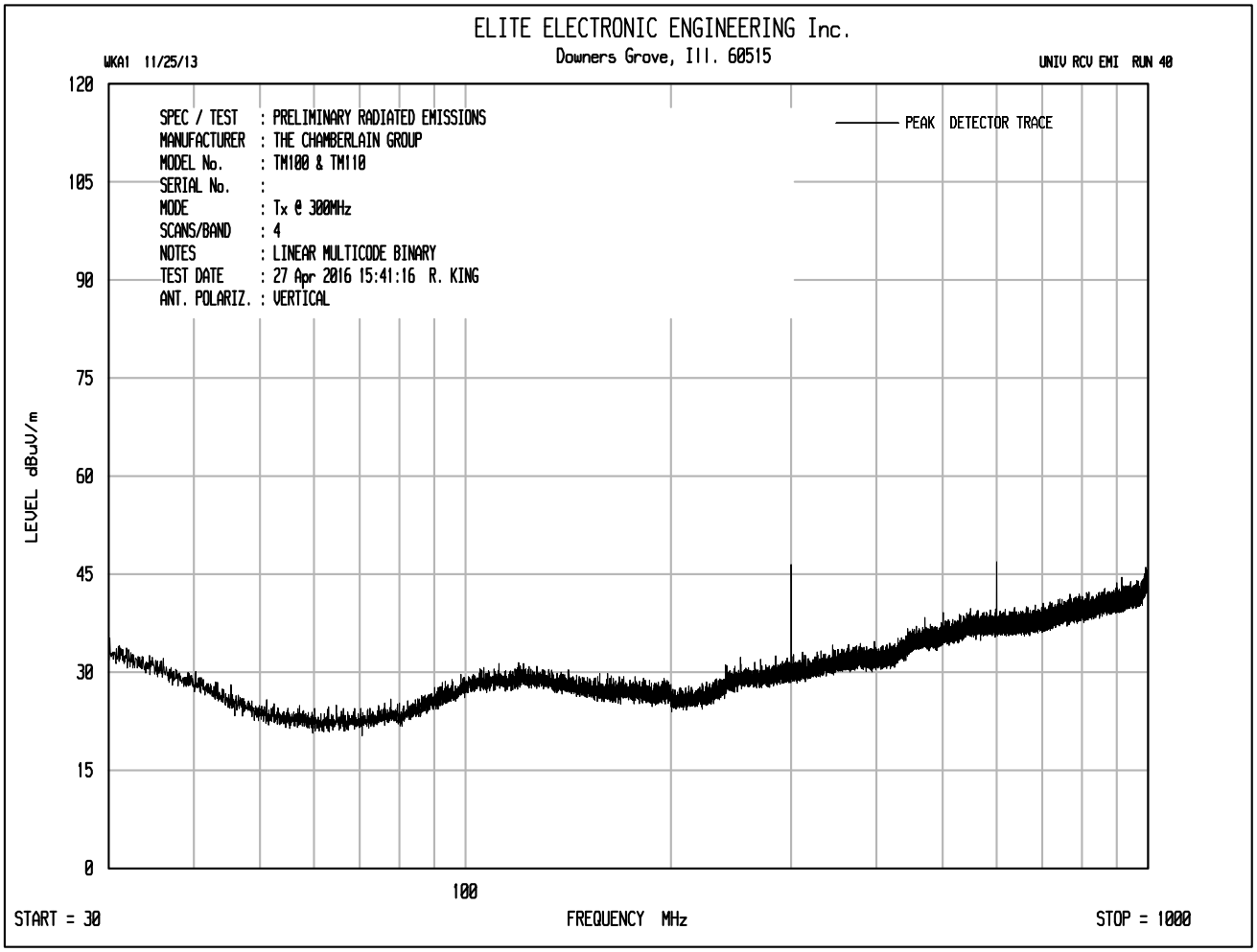

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 48
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP, INC.
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 390MHz
SCANS/BAND : 1
NOTES : CHAMBERLAIN 8 DIP TRINARY
TEST DATE : 29 Apr 2016 15:26:02 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 = 4500

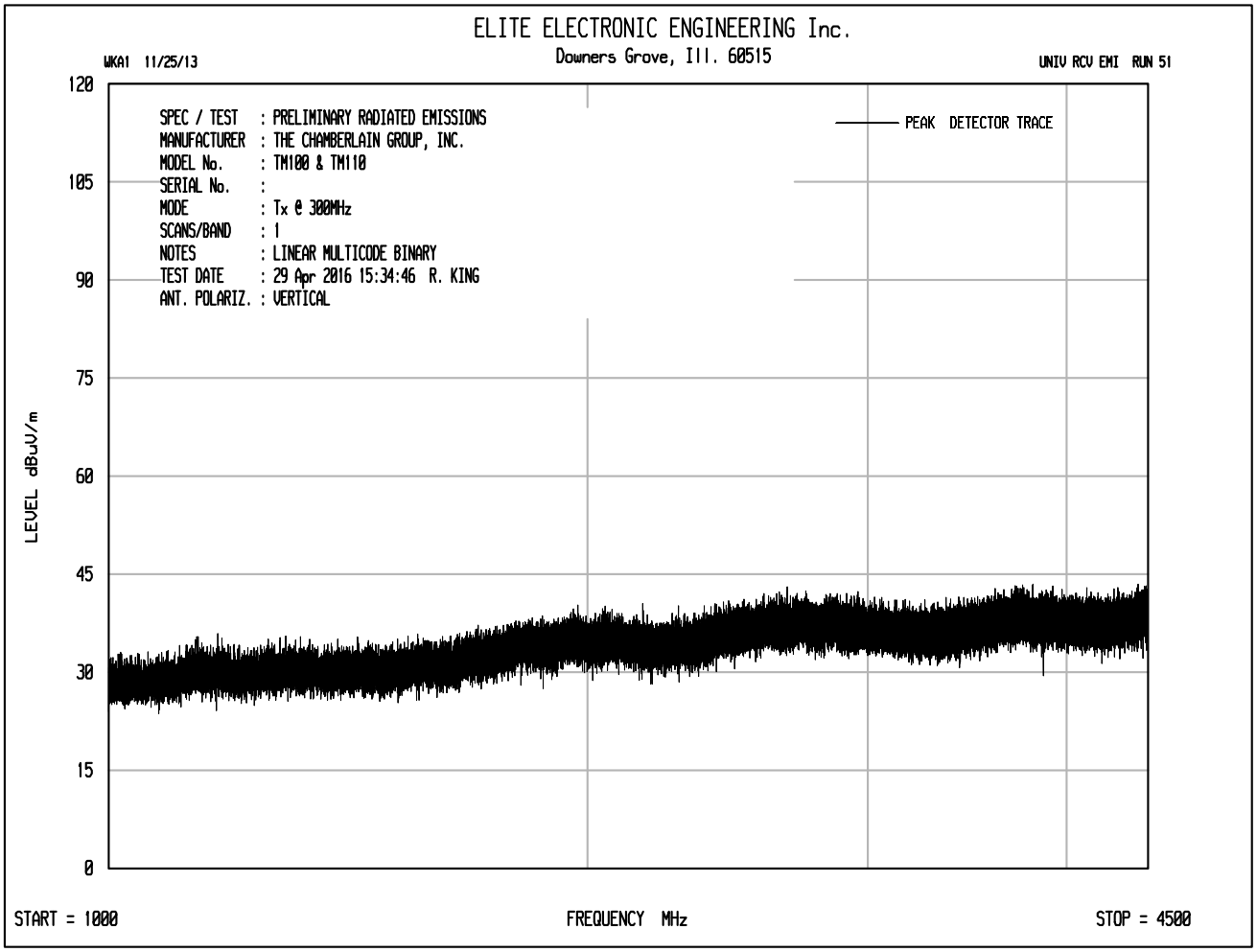

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 38
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 390MHz
SCANS/BAND : 4
NOTES : CHAMBERLAIN 8 DIP TRINARY
TEST DATE : 27 Apr 2016 14:28:13 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

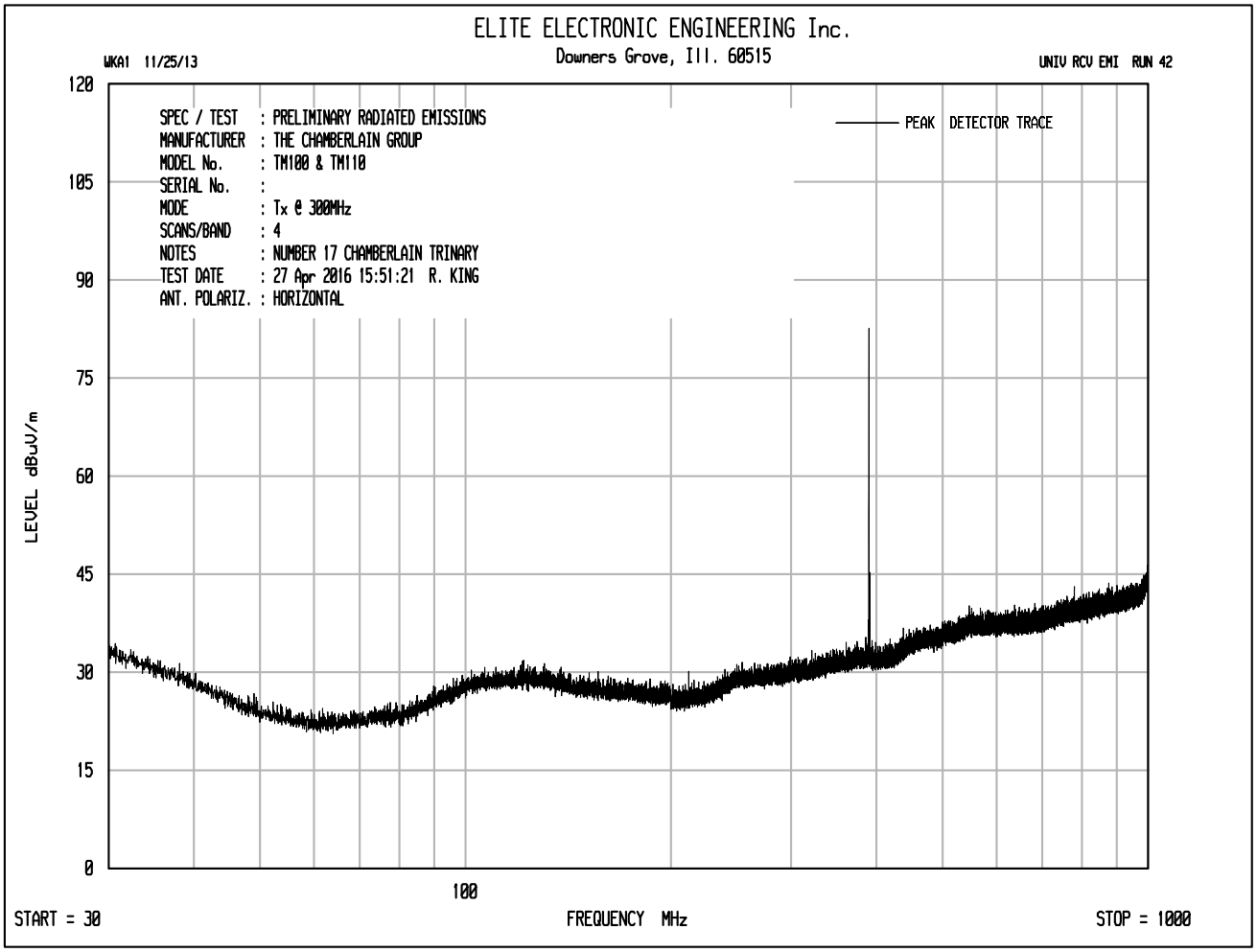

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 47
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP, INC.
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 390MHz
SCANS/BAND : 1
NOTES : CHAMBERLAIN 8 DIP TRINARY
TEST DATE : 29 Apr 2016 15:24:01 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 = 4500

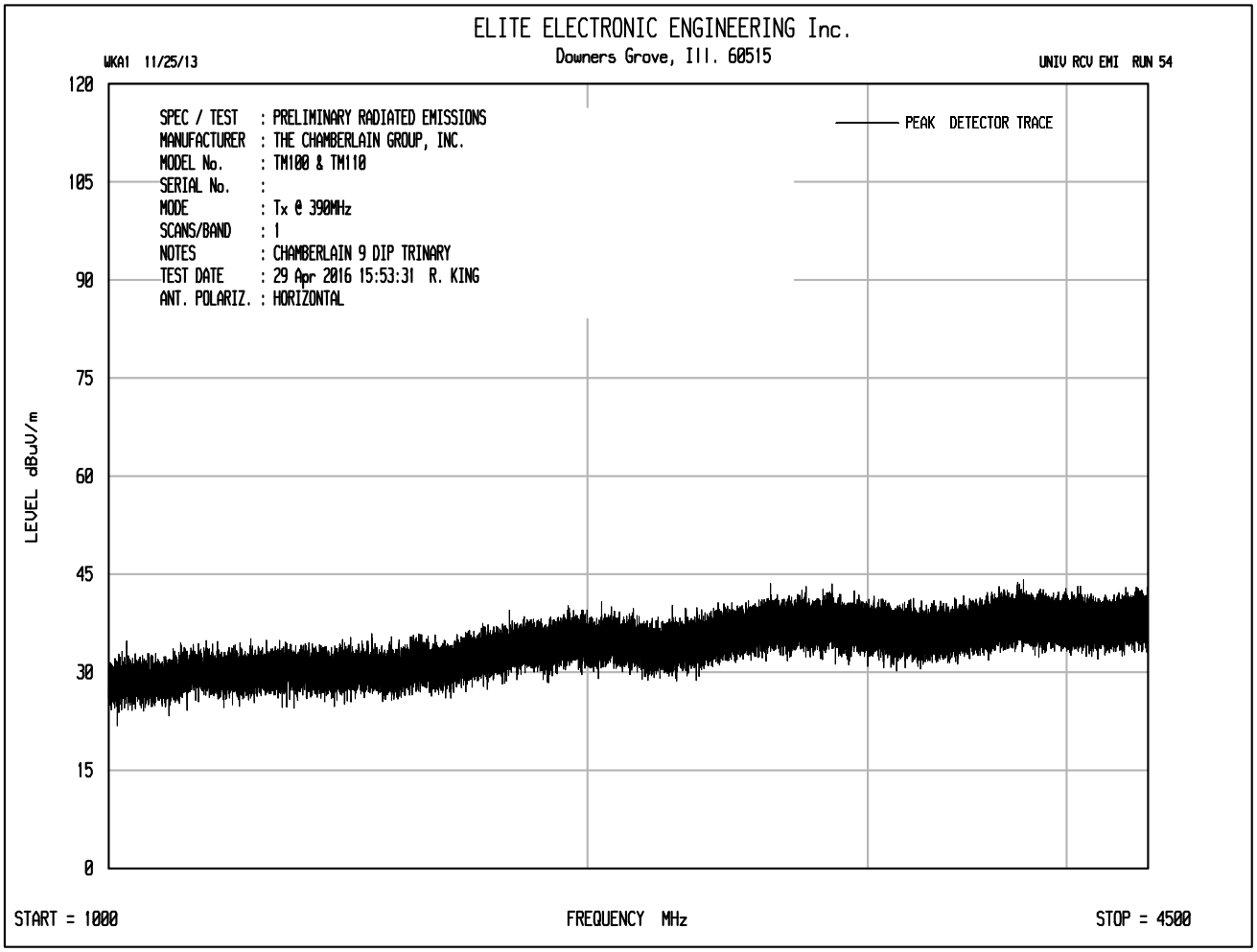

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 41
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 300MHz
SCANS/BAND : 4
NOTES : LINEAR MULTICODE BINARY
TEST DATE : 27 Apr 2016 15:45:24 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

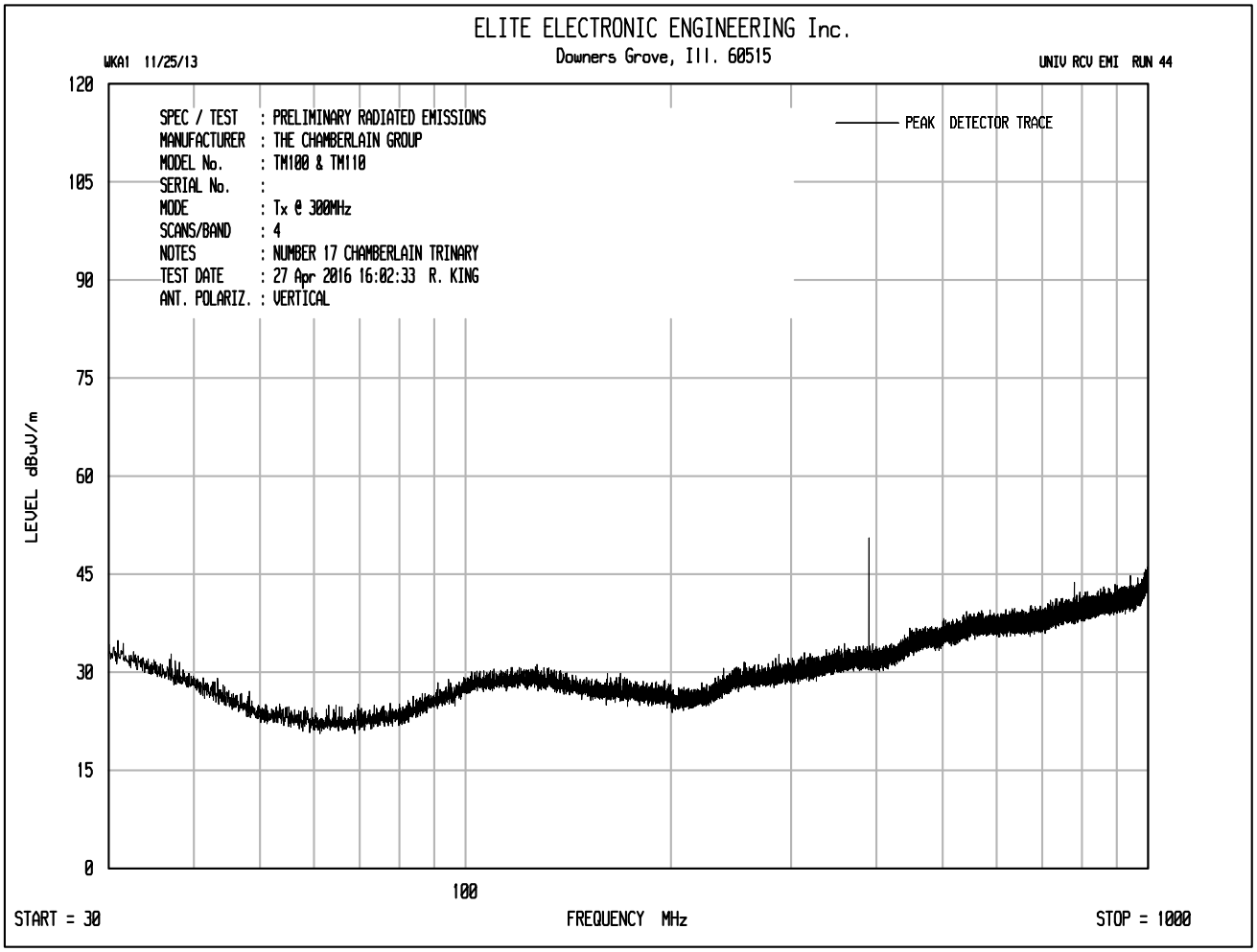

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 50
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP, INC.
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 300MHz
SCANS/BAND : 1
NOTES : LINEAR MULTICODE BINARY
TEST DATE : 29 Apr 2016 15:31:56 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 = 4500

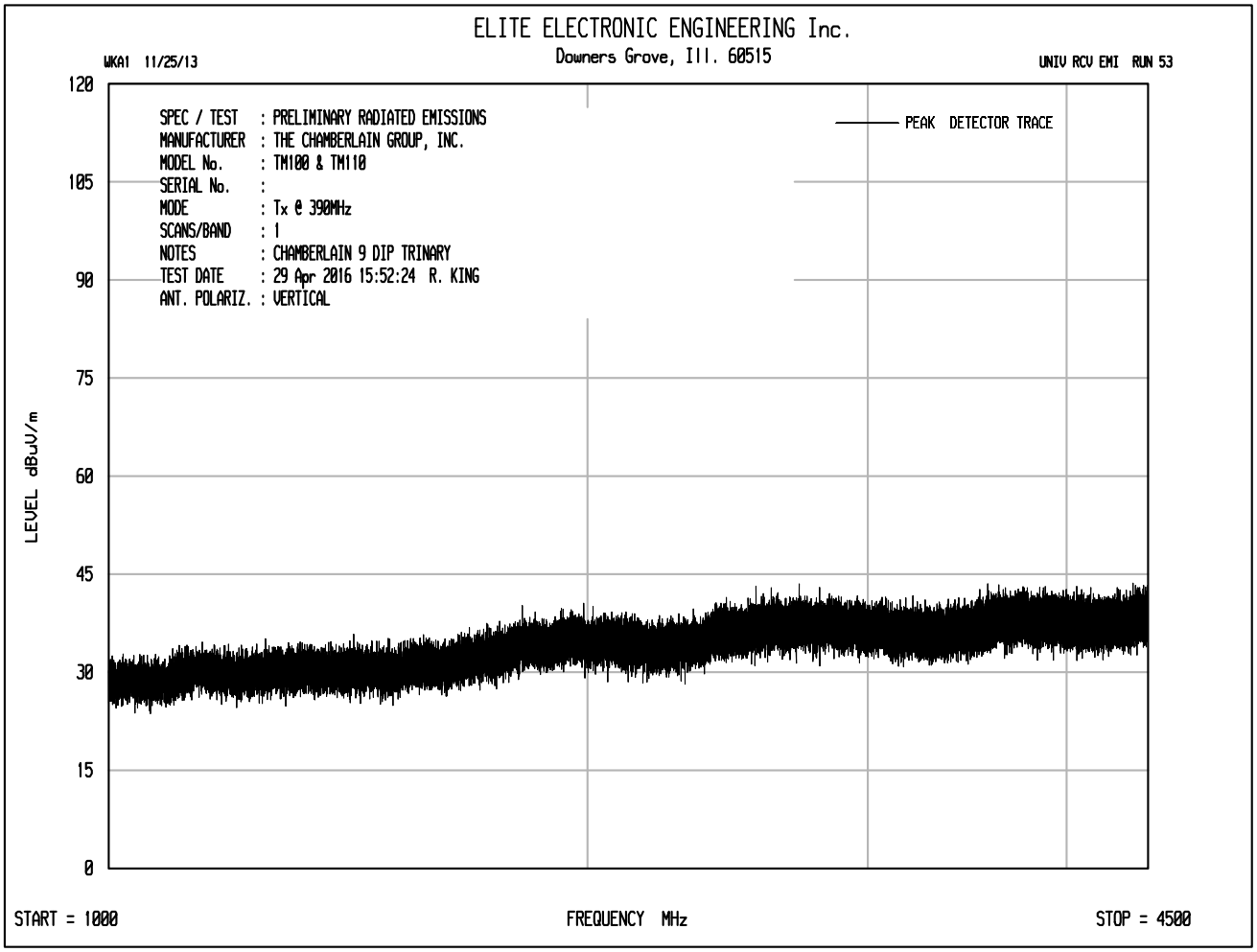

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 40
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 300MHz
SCANS/BAND : 4
NOTES : LINEAR MULTICODE BINARY
TEST DATE : 27 Apr 2016 15:41:16 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

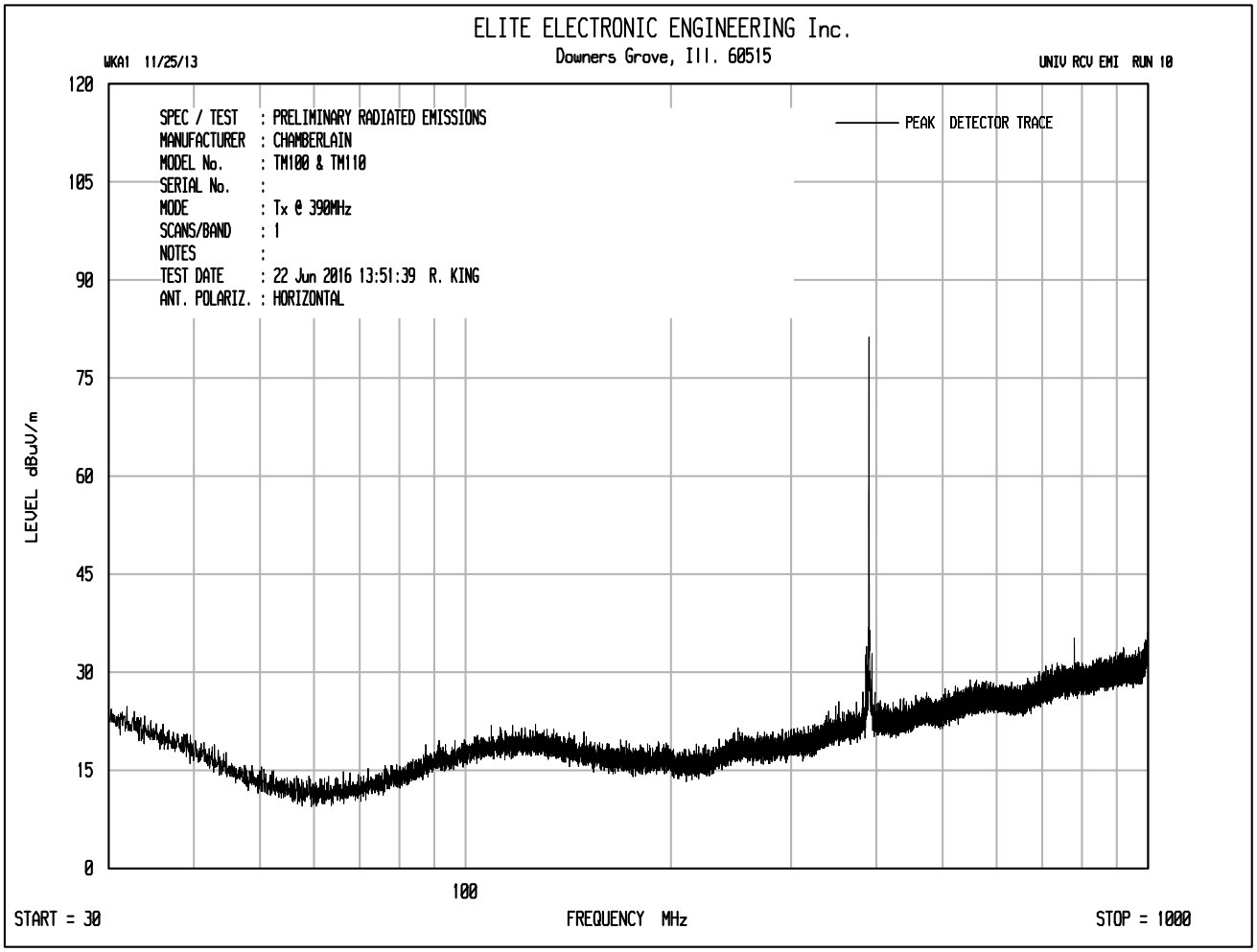

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 51
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP, INC.
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 300MHz
SCANS/BAND : 1
NOTES : LINEAR MULTICODE BINARY
TEST DATE : 29 Apr 2016 15:34:46 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 = 4500

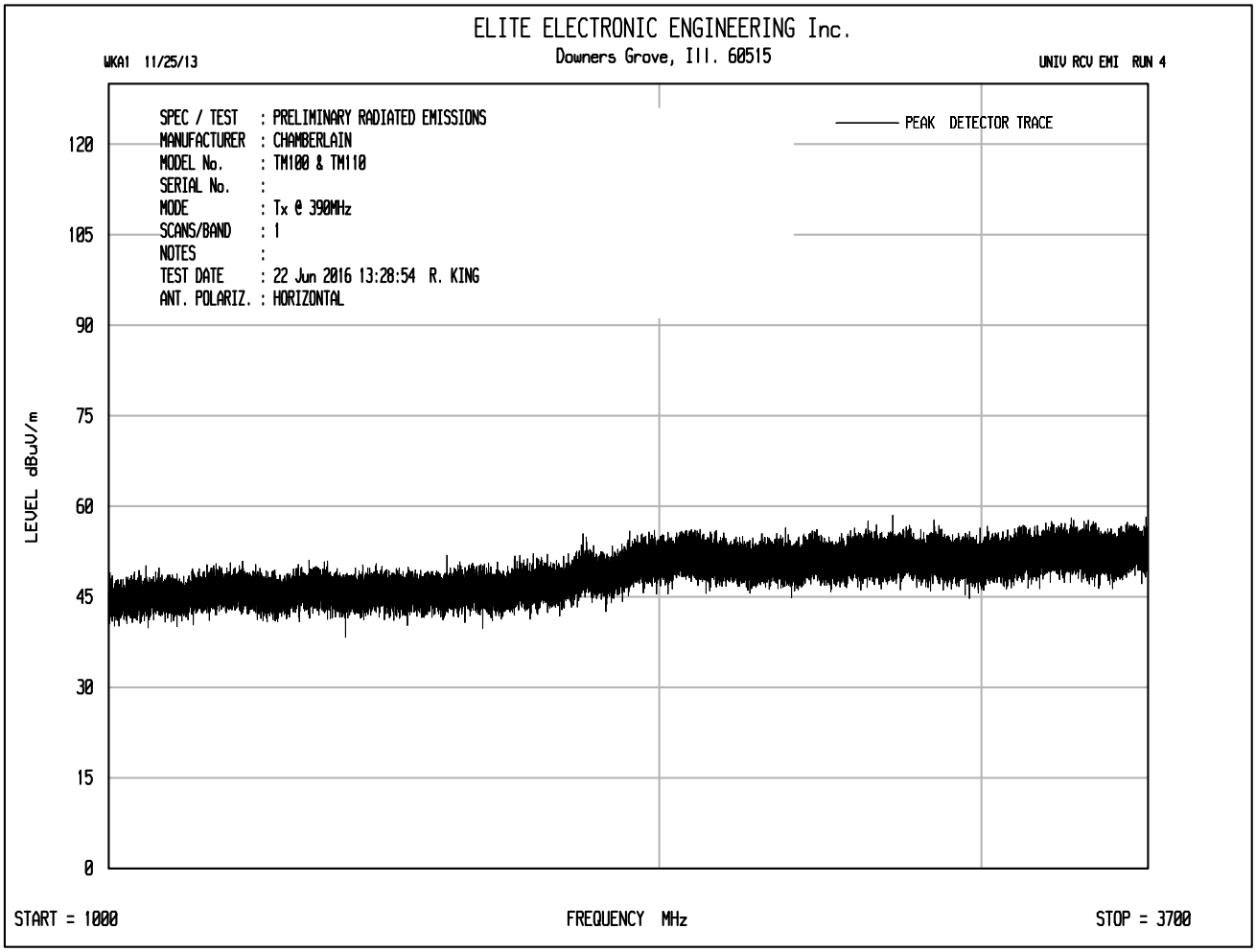

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 42
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 300MHz
SCANS/BAND : 4
NOTES : NUMBER 17 CHAMBERLAIN TRINARY
TEST DATE : 27 Apr 2016 15:51:21 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

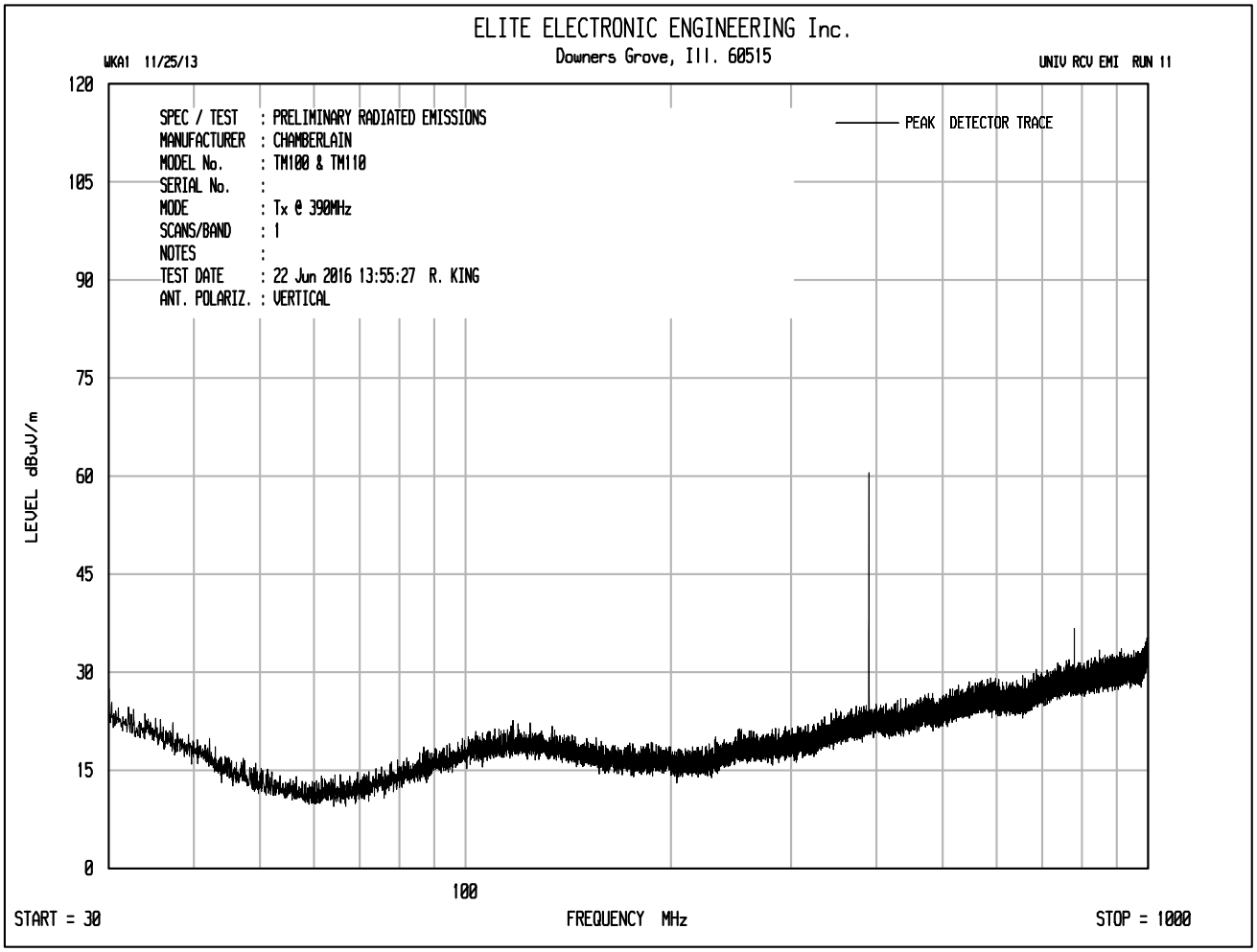

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 54
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP, INC.
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 390MHz
SCANS/BAND : 1
NOTES : CHAMBERLAIN 9 DIP TRINARY
TEST DATE : 29 Apr 2016 15:53:31 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 = 4500

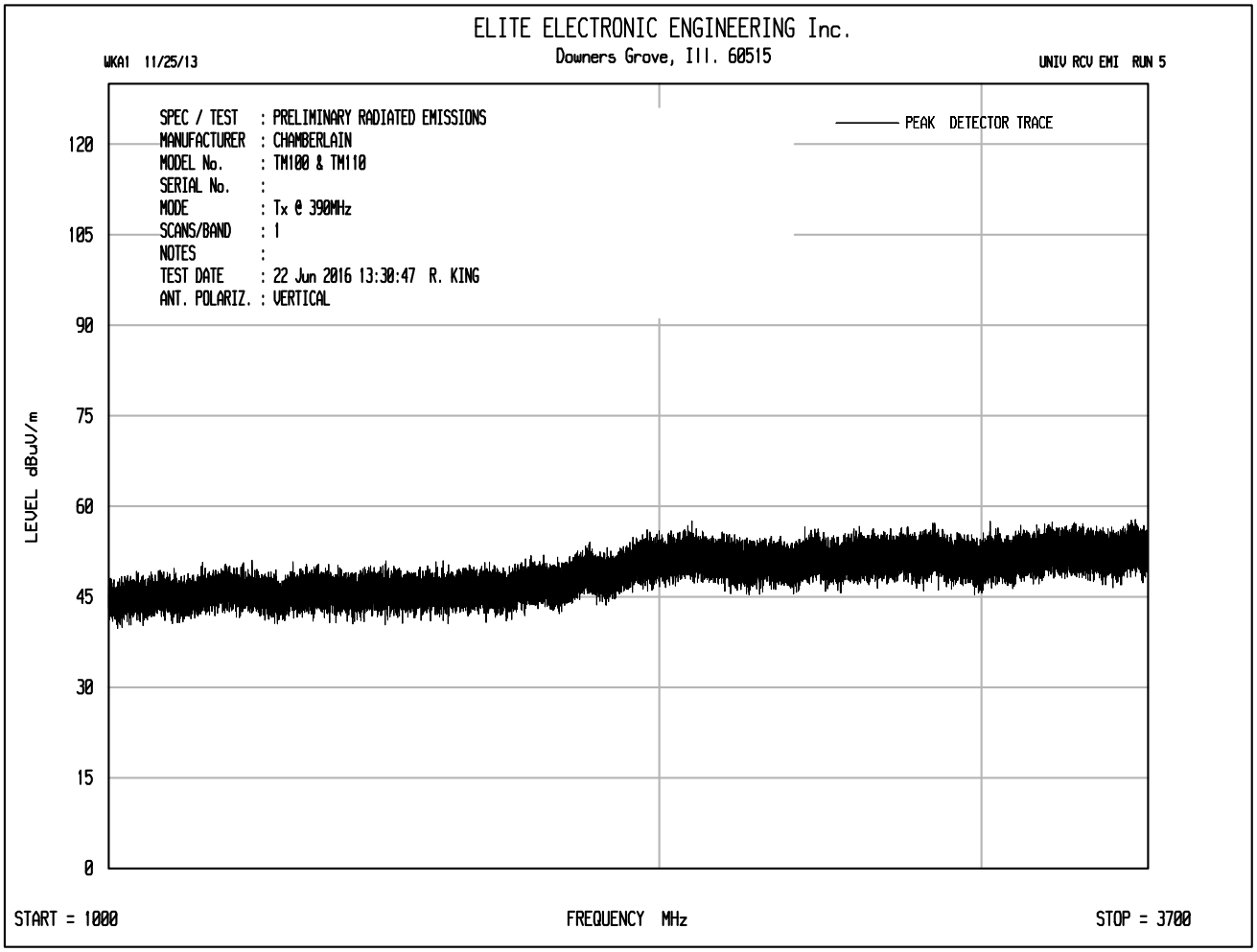

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 44
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 300MHz
SCANS/BAND : 4
NOTES : NUMBER 17 CHAMBERLAIN TRINARY
TEST DATE : 27 Apr 2016 16:02:33 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

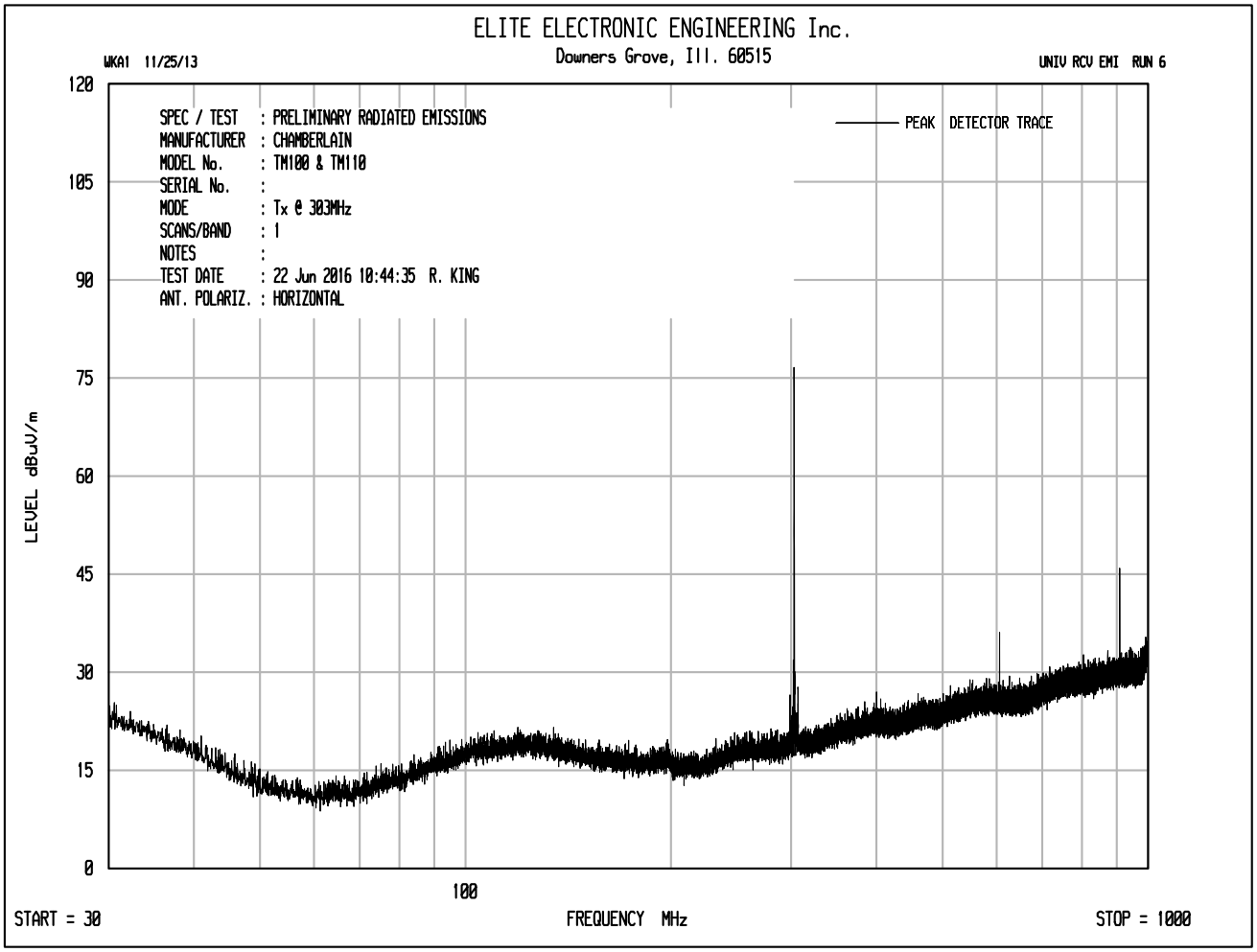

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 53
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : THE CHAMBERLAIN GROUP, INC.
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 390MHz
SCANS/BAND : 1
NOTES : CHAMBERLAIN 9 DIP TRINARY
TEST DATE : 29 Apr 2016 15:52:24 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 = 4500

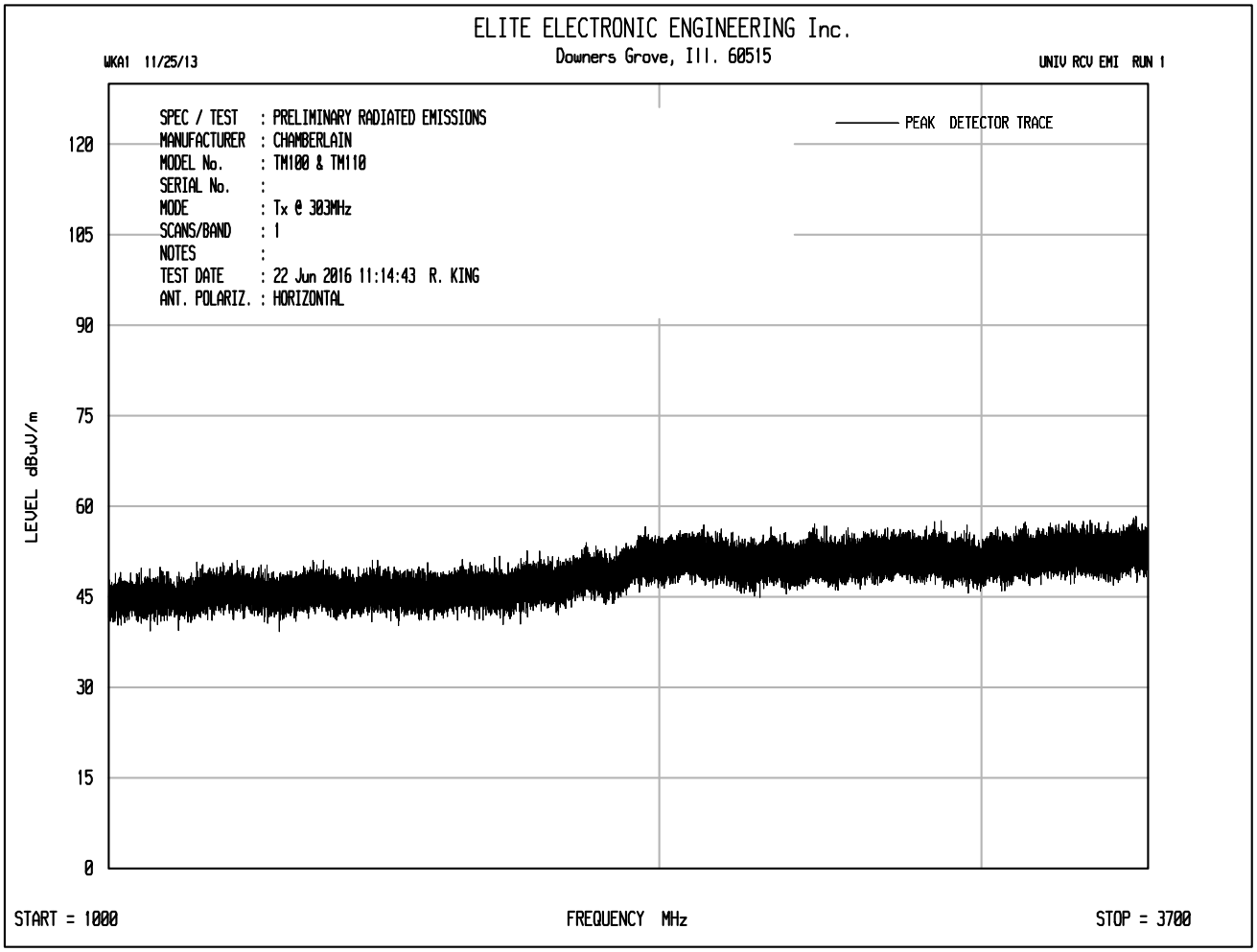

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 10
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 390MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 22 Jun 2016 13:51:39 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
100
START = 30
FREQUENCY MHz
STOP = 1000

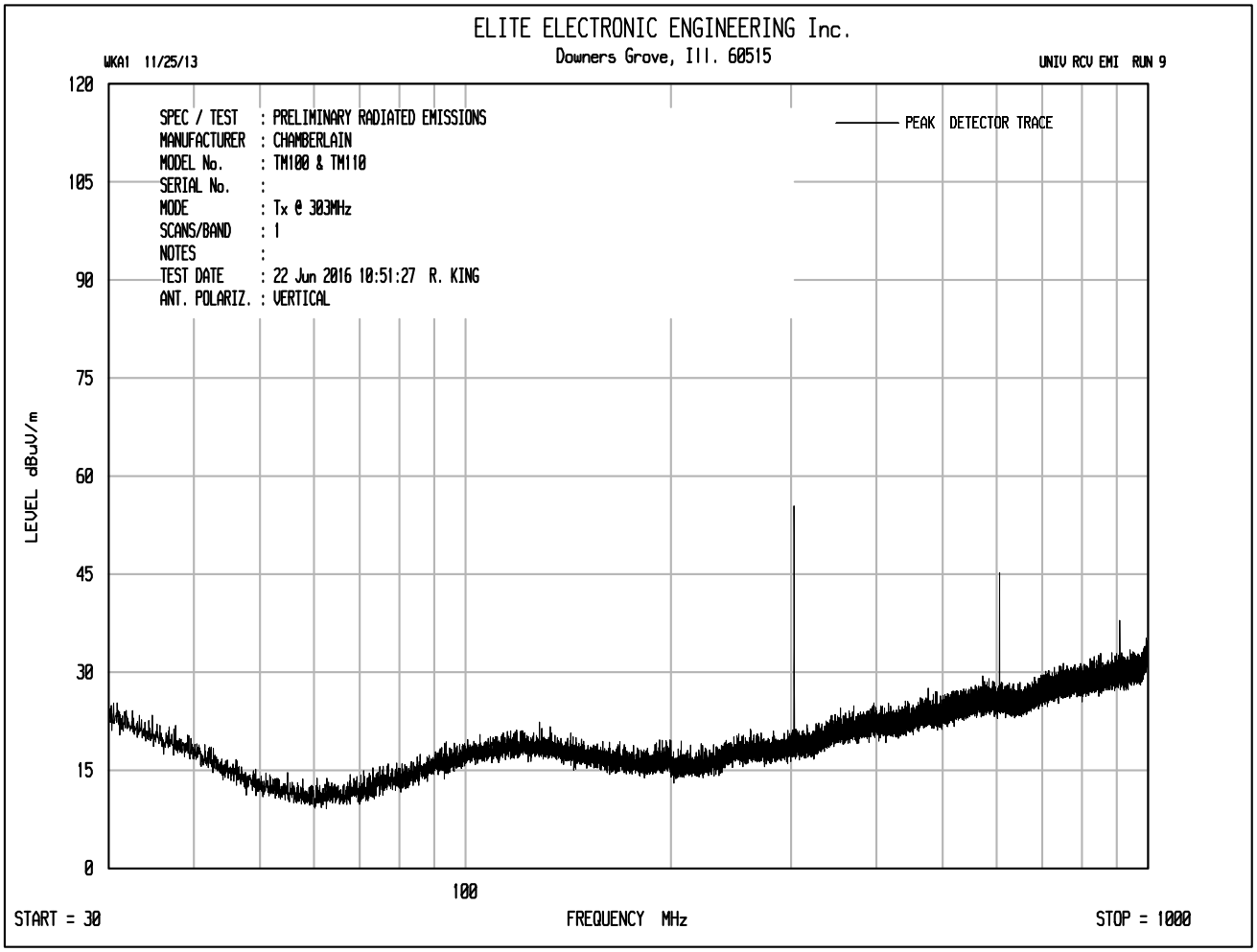

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 4
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 390MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 22 Jun 2016 13:28:54 R. KING
ANT. POLARIZ. : HORIZONTAL
PEAK DETECTOR TRACE
LEVEL dBuV/m
120
105
90
75
60
45
30
15
0
START = 1000
FREQUENCY MHz
STOP = 3700

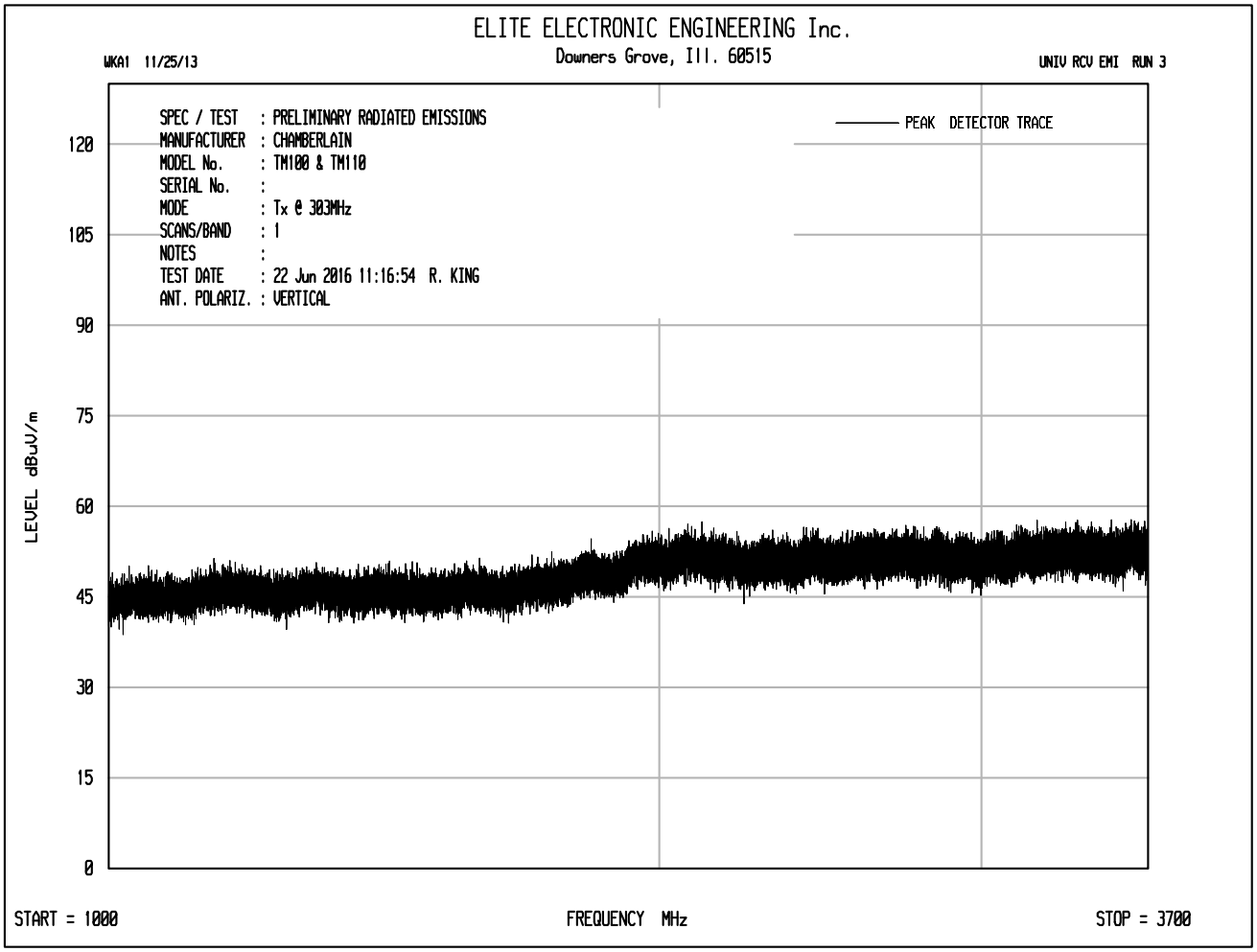

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 11
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 390MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 22 Jun 2016 13:55:27 R. KING
ANT. POLARIZ. : 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 5
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 390MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 22 Jun 2016 13:30:47 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 = 3700


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 6
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 303MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 22 Jun 2016 10:44:35 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 1
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 303MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 22 Jun 2016 11:14:43 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 = 3700


ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515
WKA1 11/25/13
UNIV RCV EMI RUN 9
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 303MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 22 Jun 2016 10:51:27 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 3
SPEC / TEST : PRELIMINARY RADIATED EMISSIONS
MANUFACTURER : CHAMBERLAIN
MODEL No. : TM100 & TM110
SERIAL No. :
MODE : Tx @ 303MHz
SCANS/BAND : 1
NOTES :
TEST DATE : 22 Jun 2016 11:16:54 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 = 3700

RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

MANUFACTURER	:	The Chamberlain Group
MODEL NO.	:	TM100 & TM110
TEST MODE	:	Tx @ 315MHz
NOTES	:	Genie Intellicode
NOTES	:	Button 1
TEST DATE	:	June 23, 2016

Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
315.000	H	61.3		1.2	13.3	0.0	-10.3	65.6	1894.5	6041.7	-10.1
315.000	V	55.8		1.2	13.3	0.0	-10.3	60.1	1011.6	6041.7	-15.5
630.000	H	26.5		1.7	19.1	0.0	-10.3	37.1	71.3	604.2	-18.6
630.000	V	22.3		1.7	19.1	0.0	-10.3	32.9	44.0	604.2	-22.8
945.000	H	12.4		2.1	20.8	0.0	-10.3	25.1	17.9	604.2	-30.6
945.000	V	13.1		2.1	20.8	0.0	-10.3	25.8	19.4	604.2	-29.8
1260.000	H	19.2		2.5	28.4	0.0	-10.3	39.8	97.2	604.2	-15.9
1260.000	V	22.6		2.5	28.4	0.0	-10.3	43.2	143.8	604.2	-12.5
1575.000	H	18.7		2.7	29.2	0.0	-10.3	40.3	103.6	500.0	-13.7
1575.000	V	15.5	*	2.7	29.2	0.0	-10.3	37.2	72.3	500.0	-16.8
1890.000	H	15.0	*	3.0	31.6	0.0	-10.3	39.4	92.8	604.2	-16.3
1890.000	V	15.1	*	3.0	31.6	0.0	-10.3	39.5	94.3	604.2	-16.1
2205.000	H	14.6	*	3.3	32.5	0.0	-10.3	40.1	100.8	500.0	-13.9
2205.000	V	14.0	*	3.3	32.5	0.0	-10.3	39.5	94.7	500.0	-14.4
2520.000	H	17.6		3.5	32.6	0.0	-10.3	43.5	150.4	604.2	-12.1
2520.000	V	16.2		3.5	32.6	0.0	-10.3	42.1	127.5	604.2	-13.5
2835.000	H	15.3	*	3.8	33.1	0.0	-10.3	41.9	123.8	500.0	-12.1
2835.000	V	15.4	*	3.8	33.1	0.0	-10.3	42.0	125.8	500.0	-12.0
3150.000	H	16.7		4.0	33.3	0.0	-10.3	43.8	154.8	604.2	-11.8
3150.000	V	16.1	*	4.0	33.3	0.0	-10.3	43.1	143.5	604.2	-12.5

Checked BY Richard E. King :

Richard E. King

RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

MANUFACTURER	:	The Chamberlain Group
MODEL NO.	:	TM100 & TM110
TEST MODE	:	Tx @ 390MHz
NOTES	:	Genie Intellicode
NOTES	:	Button 2
TEST DATE	:	June 23, 2016

Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
390.000	H	58.1		1.3	15.6	0.0	-10.3	64.8	1741.4	9166.7	-14.4
390.000	V	63.1		1.3	15.6	0.0	-10.3	69.8	3096.7	9166.7	-9.4
780.000	H	23.9		1.9	19.6	0.0	-10.3	35.1	56.8	916.7	-24.2
780.000	V	25.3		1.9	19.6	0.0	-10.3	36.5	66.8	916.7	-22.8
1170.000	H	22.8		2.4	28.3	0.0	-10.3	43.3	145.5	500.0	-10.7
1170.000	V	20.4		2.4	28.3	0.0	-10.3	40.8	109.6	500.0	-13.2
1560.000	H	20.8		2.7	29.0	0.0	-10.3	42.3	130.1	500.0	-11.7
1560.000	V	16.9		2.7	29.0	0.0	-10.3	38.4	83.0	500.0	-15.6
1950.000	H	14.4	*	3.0	32.1	0.0	-10.3	39.3	92.0	916.7	-20.0
1950.000	V	15.8	*	3.0	32.1	0.0	-10.3	40.6	107.6	916.7	-18.6
2340.000	H	20.8		3.4	32.5	0.0	-10.3	46.4	210.0	500.0	-7.5
2340.000	V	17.2		3.4	32.5	0.0	-10.3	42.9	139.9	500.0	-11.1
2730.000	H	15.0	*	3.7	32.9	0.0	-10.3	41.4	117.0	500.0	-12.6
2730.000	V	15.7	*	3.7	32.9	0.0	-10.3	42.0	126.5	500.0	-11.9
3120.000	H	15.0	*	4.0	33.3	0.0	-10.3	42.0	126.2	916.7	-17.2
3120.000	V	14.2	*	4.0	33.3	0.0	-10.3	41.2	115.0	916.7	-18.0
3510.000	H	15.4	*	4.2	33.4	0.0	-10.3	42.8	137.4	916.7	-16.5
3510.000	V	14.6	*	4.2	33.4	0.0	-10.3	41.9	125.0	916.7	-17.3
3900.000	H	16.2	*	4.4	34.0	0.0	-10.3	44.4	166.3	500.0	-9.6
3900.000	V	16.2	*	4.4	34.0	0.0	-10.3	44.4	166.3	500.0	-9.6

Checked BY Richard E. King :

Richard E. King

RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

MANUFACTURER	:	The Chamberlain Group
MODEL NO.	:	TM100 & TM110
TEST MODE	:	Tx @ 318MHz
NOTES	:	Linear Mega-Code
NOTES	:	Button 3
TEST DATE	:	June 23, 2016

Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
318.000	H	60.7		1.2	13.4	0.0	-15.4	59.9	992.6	6166.7	-15.9
318.000	V	44.9		1.2	13.4	0.0	-15.4	44.1	159.7	6166.7	-31.7
636.000	H	21.9	*	1.7	19.1	0.0	-15.4	27.3	23.2	616.7	-28.5
636.000	V	19.5	*	1.7	19.1	0.0	-15.4	24.9	17.6	616.7	-30.9
954.000	H	21.3		2.1	20.8	0.0	-15.4	28.8	27.7	616.7	-27.0
954.000	V	19.3		2.1	20.8	0.0	-15.4	26.8	21.9	616.7	-29.0
1272.000	H	15.9		2.5	28.4	0.0	-15.4	31.4	37.0	616.7	-24.4
1272.000	V	14.6		2.5	28.4	0.0	-15.4	30.1	31.8	616.7	-25.7
1590.000	H	15.0		2.8	29.3	0.0	-15.4	31.7	38.3	500.0	-22.3
1590.000	V	14.1		2.8	29.3	0.0	-15.4	30.7	34.4	500.0	-23.2
1908.000	H	14.4		3.0	31.8	0.0	-15.4	33.7	48.5	616.7	-22.1
1908.000	V	14.6		3.0	31.8	0.0	-15.4	34.0	50.0	616.7	-21.8
2226.000	H	15.2		3.3	32.5	0.0	-15.4	35.5	59.8	500.0	-18.5
2226.000	V	14.9		3.3	32.5	0.0	-15.4	35.3	57.9	500.0	-18.7
2544.000	H	15.0		3.6	32.7	0.0	-15.4	35.8	61.9	616.7	-20.0
2544.000	V	14.9		3.6	32.7	0.0	-15.4	35.7	60.9	616.7	-20.1
2862.000	H	14.9		3.8	33.1	0.0	-15.4	36.4	66.0	500.0	-17.6
2862.000	V	14.5		3.8	33.1	0.0	-15.4	36.0	63.0	500.0	-18.0
3180.000	H	13.8		4.0	33.3	0.0	-15.4	35.8	61.3	616.7	-20.0
3180.000	V	15.0		4.0	33.3	0.0	-15.4	36.9	70.2	616.7	-18.9

Checked BY Richard E. King :

Richard E. King

RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

MANUFACTURER	:	The Chamberlain Group
MODEL NO.	:	TM100 & TM110
TEST MODE	:	Tx @ 390MHz
NOTES	:	Chamberlain Rolling Code D
NOTES	:	Button 4
TEST DATE	:	June 23, 2016

Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
390.000	H	62.3		1.3	15.6	0.0	-10.2	69.1	2840.5	9166.7	-10.2
390.000	V	46.4		1.3	15.6	0.0	-10.2	53.2	454.9	9166.7	-26.1
780.000	H	25.6		1.9	19.6	0.0	-10.2	36.9	70.0	916.7	-22.3
780.000	V	22.8		1.9	19.6	0.0	-10.2	34.1	50.8	916.7	-25.1
1170.000	H	20.4		2.4	28.3	0.0	-10.2	40.9	111.2	500.0	-13.1
1170.000	V	17.3		2.4	28.3	0.0	-10.2	37.8	77.5	500.0	-16.2
1560.000	H	20.0		2.7	29.0	0.0	-10.2	41.6	120.2	500.0	-12.4
1560.000	V	17.1		2.7	29.0	0.0	-10.2	38.7	86.2	500.0	-15.3
1950.000	H	15.4	*	3.0	32.1	0.0	-10.2	40.3	103.6	916.7	-18.9
1950.000	V	14.8	*	3.0	32.1	0.0	-10.2	39.8	97.3	916.7	-19.5
2340.000	H	18.4		3.4	32.5	0.0	-10.2	44.2	161.3	500.0	-9.8
2340.000	V	14.7	*	3.4	32.5	0.0	-10.2	40.5	105.5	500.0	-13.5
2730.000	H	15.4	*	3.7	32.9	0.0	-10.2	41.9	124.1	500.0	-12.1
2730.000	V	16.2	*	3.7	32.9	0.0	-10.2	42.7	135.9	500.0	-11.3
3120.000	H	17.3	*	4.0	33.3	0.0	-10.2	44.4	166.4	916.7	-14.8
3120.000	V	15.2	*	4.0	33.3	0.0	-10.2	42.3	130.6	916.7	-16.9
3510.000	H	14.7	*	4.2	33.4	0.0	-10.2	42.2	128.4	916.7	-17.1
3510.000	V	15.2	*	4.2	33.4	0.0	-10.2	42.7	136.2	916.7	-16.6
3900.000	H	15.5	*	4.4	34.0	0.0	-10.2	43.8	154.1	500.0	-10.2
3900.000	V	15.1	*	4.4	34.0	0.0	-10.2	43.4	147.2	500.0	-10.6

Checked BY Richard E. King :

Richard E. King

RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

MANUFACTURER	:	The Chamberlain Group
MODEL NO.	:	TM100 & TM110
TEST MODE	:	Tx @ 315MHz
NOTES	:	Chamberlain Rolling Code D
NOTES	:	Button 5
TEST DATE	:	June 23, 2016

Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
315.000	H	59.5		1.2	13.3	0.0	-10.2	63.8	1550.6	6041.7	-11.8
315.000	V	42.1		1.2	13.3	0.0	-10.2	46.4	209.9	6041.7	-29.2
630.000	H	10.5		1.7	19.1	0.0	-10.2	21.1	11.4	604.2	-34.5
630.000	V	20.2		1.7	19.1	0.0	-10.2	30.9	35.1	604.2	-24.7
945.000	H	21.5		2.1	20.8	0.0	-10.2	34.2	51.4	604.2	-21.4
945.000	V	13.3		2.1	20.8	0.0	-10.2	26.1	20.2	604.2	-29.5
1260.000	H	16.9		2.5	28.4	0.0	-10.2	37.6	75.7	604.2	-18.0
1260.000	V	19.1		2.5	28.4	0.0	-10.2	39.7	96.9	604.2	-15.9
1575.000	H	16.1		2.7	29.2	0.0	-10.2	37.8	77.7	500.0	-16.2
1575.000	V	13.5	*	2.7	29.2	0.0	-10.2	35.2	57.8	500.0	-18.7
1890.000	H	15.4		3.0	31.6	0.0	-10.2	39.9	98.4	604.2	-15.8
1890.000	V	15.0	*	3.0	31.6	0.0	-10.2	39.5	94.0	604.2	-16.2
2205.000	H	14.4	*	3.3	32.5	0.0	-10.2	40.0	99.7	500.0	-14.0
2205.000	V	14.4	*	3.3	32.5	0.0	-10.2	40.0	99.7	500.0	-14.0
2520.000	H	15.8		3.5	32.6	0.0	-10.2	41.8	123.1	604.2	-13.8
2520.000	V	14.8	*	3.5	32.6	0.0	-10.2	40.8	109.1	604.2	-14.9
2835.000	H	14.6	*	3.8	33.1	0.0	-10.2	41.3	116.5	500.0	-12.7
2835.000	V	15.0	*	3.8	33.1	0.0	-10.2	41.7	121.5	500.0	-12.3
3150.000	H	15.3	*	4.0	33.3	0.0	-10.2	42.4	132.2	604.2	-13.2
3150.000	V	15.0	*	4.0	33.3	0.0	-10.2	42.2	128.2	604.2	-13.5

Checked BY Richard E. King :

Richard E. King

RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

MANUFACTURER	:	The Chamberlain Group
MODEL NO.	:	TM100 & TM110
TEST MODE	:	Tx @ 390MHz
NOTES	:	Chamberlain Billion A Code
NOTES	:	Button 6
TEST DATE	:	June 23, 2016

Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
390.000	H	58.1		1.3	15.6	0.0	-3.8	71.3	3659.3	9166.7	-8.0
390.000	V	41.2		1.3	15.6	0.0	-3.8	54.3	518.7	9166.7	-24.9
780.000	H	13.3		1.9	19.6	0.0	-3.8	31.0	35.3	916.7	-28.3
780.000	V	11.1		1.9	19.6	0.0	-3.8	28.8	27.4	916.7	-30.5
1170.000	H	17.0		2.4	28.3	0.0	-3.8	43.8	155.8	500.0	-10.1
1170.000	V	15.4		2.4	28.3	0.0	-3.8	42.3	130.0	500.0	-11.7
1560.000	H	17.4		2.7	29.0	0.0	-3.8	45.4	185.7	500.0	-8.6
1560.000	V	14.4	*	2.7	29.0	0.0	-3.8	42.4	131.2	500.0	-11.6
1950.000	H	15.4	*	3.0	32.1	0.0	-3.8	46.7	216.2	916.7	-12.5
1950.000	V	14.3	*	3.0	32.1	0.0	-3.8	45.6	189.6	916.7	-13.7
2340.000	H	17.6		3.4	32.5	0.0	-3.8	49.7	304.6	500.0	-4.3
2340.000	V	14.8	*	3.4	32.5	0.0	-3.8	46.9	220.9	500.0	-7.1
2730.000	H	15.7	*	3.7	32.9	0.0	-3.8	48.5	266.2	500.0	-5.5
2730.000	V	15.4	*	3.7	32.9	0.0	-3.8	48.2	258.3	500.0	-5.7
3120.000	H	15.3	*	4.0	33.3	0.0	-3.8	48.8	274.5	916.7	-10.5
3120.000	V	14.6	*	4.0	33.3	0.0	-3.8	48.1	255.0	916.7	-11.1
3510.000	H	15.0	*	4.2	33.4	0.0	-3.8	48.8	276.4	916.7	-10.4
3510.000	V	14.5	*	4.2	33.4	0.0	-3.8	48.3	261.2	916.7	-10.9
3900.000	H	15.5	*	4.4	34.0	0.0	-3.8	50.2	323.8	500.0	-3.8
3900.000	V	15.9	*	4.4	34.0	0.0	-3.8	50.6	339.1	500.0	-3.4

Checked BY Richard E. King :

Richard E. King

RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

MANUFACTURER	:	The Chamberlain Group
MODEL NO.	:	TM100 & TM110
TEST MODE	:	Tx @ 310MHz
NOTES	:	Stanley Secure Code
NOTES	:	Button 7
TEST DATE	:	June 23, 2016

Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
310.000	H	59.5		1.2	13.3	0.0	-10.3	63.8	1545.3	5833.3	-11.5
310.000	V	44.6		1.2	13.3	0.0	-10.3	48.9	277.7	5833.3	-26.4
620.000	H	14.4		1.7	19.1	0.0	-10.3	24.9	17.6	583.3	-30.4
620.000	V	24.5		1.7	19.1	0.0	-10.3	35.1	56.7	583.3	-20.2
930.000	H	15.2		2.1	20.1	0.0	-10.3	27.1	22.8	583.3	-28.2
930.000	V	10.0		2.1	20.1	0.0	-10.3	21.9	12.5	583.3	-33.4
1240.000	H	18.2		2.4	28.4	0.0	-10.3	38.8	86.9	500.0	-15.2
1240.000	V	18.6		2.4	28.4	0.0	-10.3	39.2	91.0	500.0	-14.8
1550.000	H	14.8	*	2.7	28.9	0.0	-10.3	36.2	64.4	500.0	-17.8
1550.000	V	14.5	*	2.7	28.9	0.0	-10.3	35.9	62.7	500.0	-18.0
1860.000	H	14.8	*	3.0	31.4	0.0	-10.3	38.9	88.1	583.3	-16.4
1860.000	V	14.2	*	3.0	31.4	0.0	-10.3	38.3	82.1	583.3	-17.0
2170.000	H	14.8	*	3.2	32.5	0.0	-10.3	40.2	102.5	583.3	-15.1
2170.000	V	14.3	*	3.2	32.5	0.0	-10.3	39.7	96.9	583.3	-15.6
2480.000	H	15.1	*	3.5	32.6	0.0	-10.3	41.0	112.0	583.3	-14.3
2480.000	V	15.1	*	3.5	32.6	0.0	-10.3	41.0	112.0	583.3	-14.3
2790.000	H	14.6	*	3.7	33.0	0.0	-10.3	41.2	114.2	500.0	-12.8
2790.000	V	15.1	*	3.7	33.0	0.0	-10.3	41.7	120.9	500.0	-12.3
3100.000	H	15.4	*	4.0	33.3	0.0	-10.3	42.4	132.3	583.3	-12.9
3100.000	V	15.0	*	4.0	33.3	0.0	-10.3	42.0	126.4	583.3	-13.3

Checked BY Richard E. King :

Richard E. King

RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

MANUFACTURER	:	The Chamberlain Group
MODEL NO.	:	TM100 & TM110
TEST MODE	:	Tx @ 310MHz
NOTES	:	Chamberlain Rolling E
NOTES	:	Button 8
TEST DATE	:	June 23, 2016

Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
310.000	H	61.4		1.2	13.3	0.0	-11.7	64.2	1614.5	5833.3	-11.2
310.000	V	45.1		1.2	13.3	0.0	-11.7	47.9	247.8	5833.3	-27.4
620.000	H	15.5		1.7	19.1	0.0	-11.7	24.5	16.9	583.3	-30.8
620.000	V	26.2		1.7	19.1	0.0	-11.7	35.3	58.2	583.3	-20.0
930.000	H	17.3		2.1	20.1	0.0	-11.7	27.8	24.5	583.3	-27.5
930.000	V	10.6		2.1	20.1	0.0	-11.7	21.1	11.3	583.3	-34.2
1240.000	H	20.4		2.4	28.4	0.0	-11.7	39.5	94.0	500.0	-14.5
1240.000	V	18.8		2.4	28.4	0.0	-11.7	37.8	77.9	500.0	-16.1
1550.000	H	14.5	*	2.7	28.9	0.0	-11.7	34.5	52.9	500.0	-19.5
1550.000	V	14.4	*	2.7	28.9	0.0	-11.7	34.3	52.1	500.0	-19.6
1860.000	H	15.1	*	3.0	31.4	0.0	-11.7	37.8	77.6	583.3	-17.5
1860.000	V	15.4	*	3.0	31.4	0.0	-11.7	38.1	80.0	583.3	-17.3
2170.000	H	14.3	*	3.2	32.5	0.0	-11.7	38.2	81.7	583.3	-17.1
2170.000	V	14.6	*	3.2	32.5	0.0	-11.7	38.6	85.2	583.3	-16.7
2480.000	H	16.3		3.5	32.6	0.0	-11.7	40.7	108.3	583.3	-14.6
2480.000	V	15.1	*	3.5	32.6	0.0	-11.7	39.5	94.4	583.3	-15.8
2790.000	H	14.9	*	3.7	33.0	0.0	-11.7	39.9	99.1	500.0	-14.1
2790.000	V	14.9	*	3.7	33.0	0.0	-11.7	39.9	99.2	500.0	-14.0
3100.000	H	14.9	*	4.0	33.3	0.0	-11.7	40.4	105.1	583.3	-14.9
3100.000	V	14.6	*	4.0	33.3	0.0	-11.7	40.2	102.1	583.3	-15.1

Checked BY Richard E. King :

Richard E. King

RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

MANUFACTURER	:	The Chamberlain Group
MODEL NO.	:	TM100 & TM110
TEST MODE	:	Tx @ 315MHz
NOTES	:	Chamberlain Rolling E
NOTES	:	Button 8
TEST DATE	:	June 23, 2016

Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
315.000	H	62.1		1.2	13.4	0.0	-11.7	65.0	1782.5	6041.7	-10.6
315.000	V	45.7		1.2	13.4	0.0	-11.7	48.6	269.2	6041.7	-27.0
630.000	H	14.4		1.7	18.6	0.0	-11.7	22.9	14.0	604.2	-32.7
630.000	V	23.9		1.7	18.6	0.0	-11.7	32.5	42.0	604.2	-23.2
945.000	H	15.6		2.1	20.2	0.0	-11.7	26.1	20.3	604.2	-29.5
945.000	V	8.3		2.1	20.2	0.0	-11.7	18.8	8.7	604.2	-36.8
1260.000	H	19.6		2.5	28.4	0.0	-11.7	38.7	85.7	604.2	-17.0
1260.000	V	20.1		2.5	28.4	0.0	-11.7	39.2	91.2	604.2	-16.4
1575.000	H	16.6		2.7	29.2	0.0	-11.7	36.8	68.9	500.0	-17.2
1575.000	V	16.9		2.7	29.2	0.0	-11.7	37.0	71.0	500.0	-17.0
1890.000	H	14.5	*	3.0	31.6	0.0	-11.7	37.4	74.2	604.2	-18.2
1890.000	V	14.9	*	3.0	31.6	0.0	-11.7	37.8	77.5	604.2	-17.8
2205.000	H	14.2	*	3.3	32.5	0.0	-11.7	38.2	81.0	500.0	-15.8
2205.000	V	13.8	*	3.3	32.5	0.0	-11.7	37.8	77.4	500.0	-16.2
2520.000	H	17.0		3.5	32.6	0.0	-11.7	41.4	117.7	604.2	-14.2
2520.000	V	15.1	*	3.5	32.6	0.0	-11.7	39.6	95.2	604.2	-16.0
2835.000	H	15.1	*	3.8	33.1	0.0	-11.7	40.3	103.1	500.0	-13.7
2835.000	V	15.1	*	3.8	33.1	0.0	-11.7	40.3	103.1	500.0	-13.7
3150.000	H	15.4	*	4.0	33.3	0.0	-11.7	41.0	112.2	604.2	-14.6
3150.000	V	15.8	*	4.0	33.3	0.0	-11.7	41.4	117.4	604.2	-14.2

Checked BY Richard E. King :

Richard E. King

RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

MANUFACTURER	:	The Chamberlain Group
MODEL NO.	:	TM100 & TM110
TEST MODE	:	Tx @ 390MHz
NOTES	:	Chamberlain Rolling E
NOTES	:	Button 8
TEST DATE	:	June 23, 2016

Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
390.000	H	63.2		1.3	15.1	0.0	-11.7	67.9	2472.9	9166.7	-11.4
390.000	V	47.3		1.3	15.1	0.0	-11.7	52.0	399.7	9166.7	-27.2
780.000	H	13.7		1.9	20.0	0.0	-11.7	23.8	15.5	916.7	-35.4
780.000	V	20.4		1.9	20.0	0.0	-11.7	30.6	33.9	916.7	-28.6
1170.000	H	21.4		2.4	28.3	0.0	-11.7	40.3	103.5	500.0	-13.7
1170.000	V	20.5		2.4	28.3	0.0	-11.7	39.5	94.2	500.0	-14.5
1560.000	H	20.5		2.7	29.0	0.0	-11.7	40.6	106.9	500.0	-13.4
1560.000	V	15.9		2.7	29.0	0.0	-11.7	36.0	62.9	500.0	-18.0
1950.000	H	15.1	*	3.0	32.1	0.0	-11.7	38.5	84.1	916.7	-20.7
1950.000	V	15.5	*	3.0	32.1	0.0	-11.7	38.9	88.1	916.7	-20.3
2340.000	H	20.8		3.4	32.5	0.0	-11.7	45.0	178.3	500.0	-9.0
2340.000	V	16.6		3.4	32.5	0.0	-11.7	40.8	109.4	500.0	-13.2
2730.000	H	15.4	*	3.7	32.9	0.0	-11.7	40.3	103.7	500.0	-13.7
2730.000	V	14.8	*	3.7	32.9	0.0	-11.7	39.7	96.2	500.0	-14.3
3120.000	H	15.0	*	4.0	33.3	0.0	-11.7	40.6	106.8	916.7	-18.7
3120.000	V	14.6	*	4.0	33.3	0.0	-11.7	40.2	102.3	916.7	-19.0
3510.000	H	14.8	*	4.2	33.4	0.0	-11.7	40.7	107.8	916.7	-18.6
3510.000	V	14.5	*	4.2	33.4	0.0	-11.7	40.4	104.8	916.7	-18.8
3900.000	H	15.8	*	4.4	34.0	0.0	-11.7	42.5	134.0	500.0	-11.4
3900.000	V	15.4	*	4.4	34.0	0.0	-11.7	42.1	128.0	500.0	-11.8

Checked BY Richard E. King :

Richard E. King

RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

MANUFACTURER	:	The Chamberlain Group
MODEL NO.	:	TM100 & TM110
TEST MODE	:	Tx @ 372.5MHz
NOTES	:	Wayne Dalton Rolling Code
NOTES	:	Button 9
TEST DATE	:	June 23, 2016

Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
372.500	H	61.1		1.3	15.0	0.0	-10.3	67.2	2279.3	8437.5	-11.4
372.500	V	46.4		1.3	15.0	0.0	-10.3	52.4	419.1	8437.5	-26.1
745.000	H	10.8		1.9	19.4	0.0	-10.3	21.8	12.3	843.7	-36.7
745.000	V	13.5		1.9	19.4	0.0	-10.3	24.5	16.9	843.7	-34.0
1117.500	H	15.9		2.3	28.3	0.0	-10.3	36.3	65.0	500.0	-17.7
1117.500	V	16.3		2.3	28.3	0.0	-10.3	36.7	68.0	500.0	-17.3
1490.000	H	16.8		2.7	28.5	0.0	-10.3	37.8	77.3	500.0	-16.2
1490.000	V	14.6	*	2.7	28.5	0.0	-10.3	35.6	60.0	500.0	-18.4
1862.500	H	14.5	*	3.0	31.4	0.0	-10.3	38.7	85.9	843.7	-19.8
1862.500	V	14.2	*	3.0	31.4	0.0	-10.3	38.3	82.3	843.7	-20.2
2235.000	H	15.4	*	3.3	32.5	0.0	-10.3	40.9	111.6	500.0	-13.0
2235.000	V	13.9	*	3.3	32.5	0.0	-10.3	39.4	93.8	500.0	-14.5
2607.500	H	15.1	*	3.6	32.8	0.0	-10.3	41.3	115.5	843.7	-17.3
2607.500	V	15.8	*	3.6	32.8	0.0	-10.3	41.9	124.8	843.7	-16.6
2980.000	H	16.1	*	3.9	33.3	0.0	-10.3	43.0	140.7	843.7	-15.6
2980.000	V	15.0	*	3.9	33.3	0.0	-10.3	41.9	124.5	843.7	-16.6
3352.500	H	14.8	*	4.1	33.4	0.0	-10.3	42.0	125.8	500.0	-12.0
3352.500	V	14.9	*	4.1	33.4	0.0	-10.3	42.1	127.7	500.0	-11.9
3725.000	H	16.2	*	4.3	33.8	0.0	-10.3	44.0	159.4	500.0	-9.9
3725.000	V	15.7	*	4.3	33.8	0.0	-10.3	43.5	149.9	500.0	-10.5

Checked BY Richard E. King :

Richard E. King

RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

MANUFACTURER	:	The Chamberlain Group
MODEL NO.	:	TM100 & TM110
TEST MODE	:	Tx @ 310MHz
NOTES	:	Linear Moore-O-Matic 8 Position DIP Switch
NOTES	:	Button 10
TEST DATE	:	June 23, 2016

Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
310.000	H	61.0		1.2	13.3	0.0	-12.2	63.3	1455.5	5833.3	-12.1
310.000	V	41.4		1.2	13.3	0.0	-12.2	43.7	153.5	5833.3	-31.6
620.000	H	13.9		1.7	19.1	0.0	-12.2	22.5	13.3	583.3	-32.8
620.000	V	26.5		1.7	19.1	0.0	-12.2	35.1	57.0	583.3	-20.2
930.000	H	16.7		2.1	20.1	0.0	-12.2	26.6	21.5	583.3	-28.7
930.000	V	9.5		2.1	20.1	0.0	-12.2	19.5	9.4	583.3	-35.9
1240.000	H	16.3		2.4	28.4	0.0	-12.2	34.9	55.7	500.0	-19.1
1240.000	V	18.8		2.4	28.4	0.0	-12.2	37.4	73.8	500.0	-16.6
1550.000	H	16.2		2.7	28.9	0.0	-12.2	35.6	60.5	500.0	-18.3
1550.000	V	14.6	*	2.7	28.9	0.0	-12.2	34.0	50.2	500.0	-20.0
1860.000	H	14.8	*	3.0	31.4	0.0	-12.2	37.0	70.9	583.3	-18.3
1860.000	V	14.7	*	3.0	31.4	0.0	-12.2	36.9	69.6	583.3	-18.5
2170.000	H	14.4	*	3.2	32.5	0.0	-12.2	37.9	78.9	583.3	-17.4
2170.000	V	14.6	*	3.2	32.5	0.0	-12.2	38.1	79.9	583.3	-17.3
2480.000	H	16.3		3.5	32.6	0.0	-12.2	40.2	102.3	583.3	-15.1
2480.000	V	15.4	*	3.5	32.6	0.0	-12.2	39.3	92.3	583.3	-16.0
2790.000	H	15.2	*	3.7	33.0	0.0	-12.2	39.7	96.7	500.0	-14.3
2790.000	V	15.5	*	3.7	33.0	0.0	-12.2	40.1	100.8	500.0	-13.9
3100.000	H	15.5	*	4.0	33.3	0.0	-12.2	40.6	106.9	583.3	-14.7
3100.000	V	15.3	*	4.0	33.3	0.0	-12.2	40.4	104.2	583.3	-15.0

Checked BY Richard E. King :

Richard E. King

RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

MANUFACTURER	:	The Chamberlain Group
MODEL NO.	:	TM100 & TM110
TEST MODE	:	Tx @ 315MHz
NOTES	:	Chamberlain 9 Position DIP Switch
NOTES	:	Button 11
TEST DATE	:	June 23, 2016

Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
315.000	H	57.3		1.2	13.4	0.0	-9.1	62.8	1377.3	6041.7	-12.8
315.000	V	41.4		1.2	13.4	0.0	-9.1	46.9	220.3	6041.7	-28.8
630.000	H	13.1		1.7	18.6	0.0	-9.1	24.2	16.3	604.2	-31.4
630.000	V	19.7		1.7	18.6	0.0	-9.1	30.9	35.1	604.2	-24.7
945.000	H	9.9		2.1	20.2	0.0	-9.1	23.1	14.2	604.2	-32.6
945.000	V	5.4	*	2.1	20.2	0.0	-9.1	18.5	8.4	604.2	-37.1
1260.000	H	15.1		2.5	28.4	0.0	-9.1	36.8	69.3	604.2	-18.8
1260.000	V	17.7		2.5	28.4	0.0	-9.1	39.4	93.4	604.2	-16.2
1575.000	H	20.8		2.7	29.2	0.0	-9.1	43.6	150.6	500.0	-10.4
1575.000	V	16.1		2.7	29.2	0.0	-9.1	38.8	87.5	500.0	-15.1
1890.000	H	15.9	*	3.0	31.6	0.0	-9.1	41.4	117.8	604.2	-14.2
1890.000	V	14.9	*	3.0	31.6	0.0	-9.1	40.3	104.0	604.2	-15.3
2205.000	H	15.4	*	3.3	32.5	0.0	-9.1	42.0	126.0	500.0	-12.0
2205.000	V	15.0	*	3.3	32.5	0.0	-9.1	41.6	120.2	500.0	-12.4
2520.000	H	17.1		3.5	32.6	0.0	-9.1	44.1	160.8	604.2	-11.5
2520.000	V	15.5	*	3.5	32.6	0.0	-9.1	42.6	134.2	604.2	-13.1
2835.000	H	15.8	*	3.8	33.1	0.0	-9.1	43.5	150.0	500.0	-10.5
2835.000	V	15.5	*	3.8	33.1	0.0	-9.1	43.2	145.3	500.0	-10.7
3150.000	H	15.5	*	4.0	33.3	0.0	-9.1	43.7	153.2	604.2	-11.9
3150.000	V	14.6	*	4.0	33.3	0.0	-9.1	42.8	137.5	604.2	-12.9

Checked BY Richard E. King :

Richard E. King

RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

MANUFACTURER	:	The Chamberlain Group
MODEL NO.	:	TM100 & TM110
TEST MODE	:	Tx @ 310MHz
NOTES	:	Stanley 10 Position DIP Switch
NOTES	:	Button 12
TEST DATE	:	June 23, 2016

Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
310.000	H	58.0		1.2	13.3	0.0	-8.1	64.4	1655.9	5833.3	-10.9
310.000	V	43.0		1.2	13.3	0.0	-8.1	49.4	295.5	5833.3	-25.9
620.000	H	11.8		1.7	19.1	0.0	-8.1	24.5	16.8	583.3	-30.8
620.000	V	20.6		1.7	19.1	0.0	-8.1	33.2	45.9	583.3	-22.1
930.000	H	13.0		2.1	20.1	0.0	-8.1	27.0	22.5	583.3	-28.3
930.000	V	6.8		2.1	20.1	0.0	-8.1	20.9	11.1	583.3	-34.4
1240.000	H	14.4	*	2.4	28.4	0.0	-8.1	37.1	71.4	500.0	-16.9
1240.000	V	16.3		2.4	28.4	0.0	-8.1	39.0	89.3	500.0	-15.0
1550.000	H	15.3		2.7	28.9	0.0	-8.1	38.9	87.6	500.0	-15.1
1550.000	V	14.5	*	2.7	28.9	0.0	-8.1	38.1	80.3	500.0	-15.9
1860.000	H	14.5	*	3.0	31.4	0.0	-8.1	40.8	109.7	583.3	-14.5
1860.000	V	14.5	*	3.0	31.4	0.0	-8.1	40.8	109.7	583.3	-14.5
2170.000	H	14.0	*	3.2	32.5	0.0	-8.1	41.6	120.7	583.3	-13.7
2170.000	V	14.9	*	3.2	32.5	0.0	-8.1	42.5	133.2	583.3	-12.8
2480.000	H	15.5	*	3.5	32.6	0.0	-8.1	43.5	150.2	583.3	-11.8
2480.000	V	15.4	*	3.5	32.6	0.0	-8.1	43.4	148.0	583.3	-11.9
2790.000	H	15.1	*	3.7	33.0	0.0	-8.1	43.8	154.9	500.0	-10.2
2790.000	V	14.9	*	3.7	33.0	0.0	-8.1	43.6	150.5	500.0	-10.4
3100.000	H	14.8	*	4.0	33.3	0.0	-8.1	43.9	157.3	583.3	-11.4
3100.000	V	14.6	*	4.0	33.3	0.0	-8.1	43.8	155.1	583.3	-11.5

Checked BY Richard E. King :

Richard E. King

RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

MANUFACTURER	:	The Chamberlain Group
MODEL NO.	:	TM100 & TM110
TEST MODE	:	Tx @ 390MHz
NOTES	:	Genie 12 Position DIP Switch
NOTES	:	Button 13
TEST DATE	:	June 23, 2016

Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
390.000	H	59.8		1.3	15.1	0.0	-6.0	70.2	3252.4	9166.7	-9.0
390.000	V	43.0		1.3	15.1	0.0	-6.0	53.4	467.4	9166.7	-25.9
780.000	H	15.7		1.9	20.0	0.0	-6.0	31.6	37.9	916.7	-27.7
780.000	V	12.3		1.9	20.0	0.0	-6.0	28.2	25.8	916.7	-31.0
1170.000	H	18.4		2.4	28.3	0.0	-6.0	43.0	142.1	500.0	-10.9
1170.000	V	16.1		2.4	28.3	0.0	-6.0	40.7	108.9	500.0	-13.2
1560.000	H	17.6		2.7	29.0	0.0	-6.0	43.3	146.5	500.0	-10.7
1560.000	V	14.6	*	2.7	29.0	0.0	-6.0	40.4	104.8	500.0	-13.6
1950.000	H	14.1	*	3.0	32.1	0.0	-6.0	43.2	144.3	916.7	-16.1
1950.000	V	14.6	*	3.0	32.1	0.0	-6.0	43.7	153.6	916.7	-15.5
2340.000	H	16.9		3.4	32.5	0.0	-6.0	46.8	218.1	500.0	-7.2
2340.000	V	14.8	*	3.4	32.5	0.0	-6.0	44.7	171.5	500.0	-9.3
2730.000	H	15.5	*	3.7	32.9	0.0	-6.0	46.2	203.5	500.0	-7.8
2730.000	V	15.4	*	3.7	32.9	0.0	-6.0	46.0	200.5	500.0	-7.9
3120.000	H	14.6	*	4.0	33.3	0.0	-6.0	45.9	197.9	916.7	-13.3
3120.000	V	14.5	*	4.0	33.3	0.0	-6.0	45.8	195.2	916.7	-13.4
3510.000	H	14.8	*	4.2	33.4	0.0	-6.0	46.4	208.5	916.7	-12.9
3510.000	V	14.4	*	4.2	33.4	0.0	-6.0	46.0	199.8	916.7	-13.2
3900.000	H	15.0		4.4	34.0	0.0	-6.0	47.5	236.5	500.0	-6.5
3900.000	V	15.9		4.4	34.0	0.0	-6.0	48.4	263.2	500.0	-5.6

Checked BY Richard E. King :

Richard E. King

RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

MANUFACTURER	:	The Chamberlain Group
MODEL NO.	:	TM100 & TM110
TEST MODE	:	Tx @ 390MHz
NOTES	:	Chamberlain 7 Position DIP Switch
NOTES	:	Button 14
TEST DATE	:	June 23, 2016

Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
390.000	H	62.2		1.3	15.1	0.0	-10.4	68.2	2571.6	9166.7	-11.0
390.000	V	42.8		1.3	15.1	0.0	-10.4	48.8	275.9	9166.7	-30.4
780.000	H	20.8		1.9	20.0	0.0	-10.4	32.3	41.4	916.7	-26.9
780.000	V	17.1		1.9	20.0	0.0	-10.4	28.6	26.9	916.7	-30.7
1170.000	H	19.2		2.4	28.3	0.0	-10.4	39.4	93.8	500.0	-14.5
1170.000	V	20.3		2.4	28.3	0.0	-10.4	40.5	106.5	500.0	-13.4
1560.000	H	20.4		2.7	29.0	0.0	-10.4	41.8	122.4	500.0	-12.2
1560.000	V	16.2		2.7	29.0	0.0	-10.4	37.6	75.9	500.0	-16.4
1950.000	H	15.3	*	3.0	32.1	0.0	-10.4	40.0	99.7	916.7	-19.3
1950.000	V	15.2	*	3.0	32.1	0.0	-10.4	39.8	98.2	916.7	-19.4
2340.000	H	19.2		3.4	32.5	0.0	-10.4	44.7	171.9	500.0	-9.3
2340.000	V	14.7	*	3.4	32.5	0.0	-10.4	40.2	102.0	500.0	-13.8
2730.000	H	15.7	*	3.7	32.9	0.0	-10.4	41.9	124.8	500.0	-12.1
2730.000	V	16.5	*	3.7	32.9	0.0	-10.4	42.8	137.3	500.0	-11.2
3120.000	H	14.9	*	4.0	33.3	0.0	-10.4	41.8	122.8	916.7	-17.5
3120.000	V	14.8	*	4.0	33.3	0.0	-10.4	41.7	121.1	916.7	-17.6
3510.000	H	15.3	*	4.2	33.4	0.0	-10.4	42.5	133.5	916.7	-16.7
3510.000	V	14.8	*	4.2	33.4	0.0	-10.4	42.0	126.3	916.7	-17.2
3900.000	H	17.2	*	4.4	34.0	0.0	-10.4	45.2	182.9	500.0	-8.7
3900.000	V	17.3	*	4.4	34.0	0.0	-10.4	45.4	185.7	500.0	-8.6

Checked BY Richard E. King :

Richard E. King

RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

MANUFACTURER	:	The Chamberlain Group
MODEL NO.	:	TM100 & TM110
TEST MODE	:	Tx @ 390MHz
NOTES	:	Chamberlain 8 Position DIP Switch
NOTES	:	Button 15
TEST DATE	:	June 23, 2016

Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
390.000	H	61.5		1.3	15.1	0.0	-9.8	68.2	2568.7	9166.7	-11.1
390.000	V	48.4		1.3	15.1	0.0	-9.8	55.1	569.1	9166.7	-24.1
780.000	H	18.6		1.9	20.0	0.0	-9.8	30.8	34.6	916.7	-28.5
780.000	V	16.8		1.9	20.0	0.0	-9.8	28.9	27.9	916.7	-30.3
1170.000	H	18.8		2.4	28.3	0.0	-9.8	39.7	96.8	500.0	-14.3
1170.000	V	15.8		2.4	28.3	0.0	-9.8	36.7	68.5	500.0	-17.3
1560.000	H	20.0		2.7	29.0	0.0	-9.8	42.0	125.6	500.0	-12.0
1560.000	V	15.7	*	2.7	29.0	0.0	-9.8	37.7	76.5	500.0	-16.3
1950.000	H	14.4	*	3.0	32.1	0.0	-9.8	39.7	96.8	916.7	-19.5
1950.000	V	14.5	*	3.0	32.1	0.0	-9.8	39.9	98.4	916.7	-19.4
2340.000	H	18.5		3.4	32.5	0.0	-9.8	44.7	171.7	500.0	-9.3
2340.000	V	15.1	*	3.4	32.5	0.0	-9.8	41.3	115.8	500.0	-12.7
2730.000	H	15.5	*	3.7	32.9	0.0	-9.8	42.4	131.7	500.0	-11.6
2730.000	V	15.8	*	3.7	32.9	0.0	-9.8	42.7	136.2	500.0	-11.3
3120.000	H	14.8	*	4.0	33.3	0.0	-9.8	42.4	131.1	916.7	-16.9
3120.000	V	14.7	*	4.0	33.3	0.0	-9.8	42.2	129.0	916.7	-17.0
3510.000	H	15.7	*	4.2	33.4	0.0	-9.8	43.5	150.2	916.7	-15.7
3510.000	V	15.4	*	4.2	33.4	0.0	-9.8	43.3	145.4	916.7	-16.0
3900.000	H	17.6		4.4	34.0	0.0	-9.8	46.3	206.4	500.0	-7.7
3900.000	V	17.2		4.4	34.0	0.0	-9.8	45.9	197.1	500.0	-8.1

Checked BY Richard E. King :

Richard E. King

RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

MANUFACTURER	:	The Chamberlain Group
MODEL NO.	:	TM100 & TM110
TEST MODE	:	Tx @ 300MHz
NOTES	:	Linear Multicode
NOTES	:	Button 16
TEST DATE	:	June 23, 2016

Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
300.000	H	57.3		1.2	13.0	0.0	-8.1	63.4	1480.8	5416.7	-11.3
300.000	V	41.5		1.2	13.0	0.0	-8.1	47.6	239.3	5416.7	-27.1
600.000	H	12.5		1.7	18.6	0.0	-8.1	24.6	17.1	541.7	-30.0
600.000	V	19.2		1.7	18.6	0.0	-8.1	31.3	36.8	541.7	-23.3
900.000	H	23.6		2.0	20.8	0.0	-8.1	38.3	82.7	541.7	-16.3
900.000	V	12.7		2.0	20.8	0.0	-8.1	27.5	23.6	541.7	-27.2
1200.000	H	16.9		2.4	28.3	0.0	-8.1	39.5	94.6	500.0	-14.5
1200.000	V	16.5		2.4	28.3	0.0	-8.1	39.1	90.3	500.0	-14.9
1500.000	H	14.5	*	2.7	28.5	0.0	-8.1	37.6	75.9	500.0	-16.4
1500.000	V	13.4	*	2.7	28.5	0.0	-8.1	36.5	66.6	500.0	-17.5
1800.000	H	15.2	*	2.9	31.0	0.0	-8.1	41.0	112.7	541.7	-13.6
1800.000	V	15.4	*	2.9	31.0	0.0	-8.1	41.2	114.5	541.7	-13.5
2100.000	H	15.7	*	3.2	32.4	0.0	-8.1	43.2	144.0	541.7	-11.5
2100.000	V	15.4	*	3.2	32.4	0.0	-8.1	42.9	139.4	541.7	-11.8
2400.000	H	15.4	*	3.4	32.6	0.0	-8.1	43.3	145.8	541.7	-11.4
2400.000	V	15.1	*	3.4	32.6	0.0	-8.1	43.0	141.2	541.7	-11.7
2700.000	H	15.7	*	3.7	32.9	0.0	-8.1	44.1	160.8	500.0	-9.9
2700.000	V	15.4	*	3.7	32.9	0.0	-8.1	43.8	155.7	500.0	-10.1
3000.000	H	15.8	*	3.9	33.3	0.0	-8.1	44.9	175.5	541.7	-9.8
3000.000	V	15.2	*	3.9	33.3	0.0	-8.1	44.3	164.5	541.7	-10.3

Checked BY Richard E. King :

Richard E. King

RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

MANUFACTURER	:	The Chamberlain Group
MODEL NO.	:	TM100 & TM110
TEST MODE	:	Tx @ 390MHz
NOTES	:	Chamberlain 9 Position DIP Switch
NOTES	:	Button 17
TEST DATE	:	June 23, 2016

Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
390.000	H	62.0		1.3	15.1	0.0	-9.1	69.3	2928.9	9166.7	-9.9
390.000	V	45.1		1.3	15.1	0.0	-9.1	52.4	418.5	9166.7	-26.8
780.000	H	19.8		1.9	20.0	0.0	-9.1	32.5	42.3	916.7	-26.7
780.000	V	16.6		1.9	20.0	0.0	-9.1	29.3	29.2	916.7	-29.9
1170.000	H	19.8		2.4	28.3	0.0	-9.1	41.4	117.1	500.0	-12.6
1170.000	V	19.2		2.4	28.3	0.0	-9.1	40.7	108.8	500.0	-13.2
1560.000	H	21.9		2.7	29.0	0.0	-9.1	44.5	168.2	500.0	-9.5
1560.000	V	16.4		2.7	29.0	0.0	-9.1	39.0	89.0	500.0	-15.0
1950.000	H	16.1	*	3.0	32.1	0.0	-9.1	42.0	126.4	916.7	-17.2
1950.000	V	15.7	*	3.0	32.1	0.0	-9.1	41.6	120.5	916.7	-17.6
2340.000	H	19.3		3.4	32.5	0.0	-9.1	46.1	202.2	500.0	-7.9
2340.000	V	15.5		3.4	32.5	0.0	-9.1	42.3	130.4	500.0	-11.7
2730.000	H	15.7	*	3.7	32.9	0.0	-9.1	43.2	143.9	500.0	-10.8
2730.000	V	15.4	*	3.7	32.9	0.0	-9.1	42.9	139.4	500.0	-11.1
3120.000	H	14.8	*	4.0	33.3	0.0	-9.1	43.0	140.8	916.7	-16.3
3120.000	V	15.0	*	4.0	33.3	0.0	-9.1	43.1	143.2	916.7	-16.1
3510.000	H	15.1	*	4.2	33.4	0.0	-9.1	43.6	151.2	916.7	-15.7
3510.000	V	15.8	*	4.2	33.4	0.0	-9.1	44.3	163.9	916.7	-15.0
3900.000	H	16.1	*	4.4	34.0	0.0	-9.1	45.4	186.5	500.0	-8.6
3900.000	V	16.8	*	4.4	34.0	0.0	-9.1	46.1	202.0	500.0	-7.9

Checked BY Richard E. King :

Richard E. King

RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

MANUFACTURER	:	The Chamberlain Group
MODEL NO.	:	TM100 & TM110
TEST MODE	:	Tx @ 390MHz
NOTES	:	Genie 9 Position DIP Switch
NOTES	:	Button 18
TEST DATE	:	June 23, 2016

Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
390.000	H	59.4		1.3	15.1	0.0	-6.0	69.9	3113.2	9166.7	-9.4
390.000	V	43.1		1.3	15.1	0.0	-6.0	53.5	475.6	9166.7	-25.7
780.000	H	12.8		1.9	20.0	0.0	-6.0	28.7	27.1	916.7	-30.6
780.000	V	11.0		1.9	20.0	0.0	-6.0	26.9	22.0	916.7	-32.4
1170.000	H	16.9		2.4	28.3	0.0	-6.0	41.6	119.8	500.0	-12.4
1170.000	V	16.1		2.4	28.3	0.0	-6.0	40.7	109.0	500.0	-13.2
1560.000	H	18.5		2.7	29.0	0.0	-6.0	44.3	163.8	500.0	-9.7
1560.000	V	15.2	*	2.7	29.0	0.0	-6.0	41.0	112.3	500.0	-13.0
1950.000	H	14.7	*	3.0	32.1	0.0	-6.0	43.8	154.1	916.7	-15.5
1950.000	V	15.0	*	3.0	32.1	0.0	-6.0	44.0	159.4	916.7	-15.2
2340.000	H	17.6		3.4	32.5	0.0	-6.0	47.5	237.2	500.0	-6.5
2340.000	V	15.1	*	3.4	32.5	0.0	-6.0	45.0	178.3	500.0	-9.0
2730.000	H	15.5	*	3.7	32.9	0.0	-6.0	46.1	202.8	500.0	-7.8
2730.000	V	15.4	*	3.7	32.9	0.0	-6.0	46.0	199.8	500.0	-8.0
3120.000	H	15.1	*	4.0	33.3	0.0	-6.0	46.4	208.7	916.7	-12.9
3120.000	V	14.0	*	4.0	33.3	0.0	-6.0	45.2	182.8	916.7	-14.0
3510.000	H	15.5	*	4.2	33.4	0.0	-6.0	47.1	227.3	916.7	-12.1
3510.000	V	14.8	*	4.2	33.4	0.0	-6.0	46.4	209.7	916.7	-12.8
3900.000	H	15.8	*	4.4	34.0	0.0	-6.0	48.3	259.0	500.0	-5.7
3900.000	V	14.7	*	4.4	34.0	0.0	-6.0	47.1	227.4	500.0	-6.8

Checked BY Richard E. King :

Richard E. King

RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

MANUFACTURER	:	The Chamberlain Group
MODEL NO.	:	TM100 & TM110
TEST MODE	:	Tx @ 390MHz
NOTES	:	Genie 9 Position DIP Switch
NOTES	:	Button 18
TEST DATE	:	June 23, 2016

Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
390.000	H	59.4		1.3	15.1	0.0	-6.0	69.9	3113.2	9166.7	-9.4
390.000	V	43.1		1.3	15.1	0.0	-6.0	53.5	475.6	9166.7	-25.7
780.000	H	12.8		1.9	20.0	0.0	-6.0	28.7	27.1	916.7	-30.6
780.000	V	11.0		1.9	20.0	0.0	-6.0	26.9	22.0	916.7	-32.4
1170.000	H	16.9		2.4	28.3	0.0	-6.0	41.6	119.8	500.0	-12.4
1170.000	V	16.1		2.4	28.3	0.0	-6.0	40.7	109.0	500.0	-13.2
1560.000	H	18.5		2.7	29.0	0.0	-6.0	44.3	163.8	500.0	-9.7
1560.000	V	15.2	*	2.7	29.0	0.0	-6.0	41.0	112.3	500.0	-13.0
1950.000	H	14.7	*	3.0	32.1	0.0	-6.0	43.8	154.1	916.7	-15.5
1950.000	V	15.0	*	3.0	32.1	0.0	-6.0	44.0	159.4	916.7	-15.2
2340.000	H	17.6		3.4	32.5	0.0	-6.0	47.5	237.2	500.0	-6.5
2340.000	V	15.1	*	3.4	32.5	0.0	-6.0	45.0	178.3	500.0	-9.0
2730.000	H	15.5	*	3.7	32.9	0.0	-6.0	46.1	202.8	500.0	-7.8
2730.000	V	15.4	*	3.7	32.9	0.0	-6.0	46.0	199.8	500.0	-8.0
3120.000	H	15.1	*	4.0	33.3	0.0	-6.0	46.4	208.7	916.7	-12.9
3120.000	V	14.0	*	4.0	33.3	0.0	-6.0	45.2	182.8	916.7	-14.0
3510.000	H	15.5	*	4.2	33.4	0.0	-6.0	47.1	227.3	916.7	-12.1
3510.000	V	14.8	*	4.2	33.4	0.0	-6.0	46.4	209.7	916.7	-12.8
3900.000	H	15.8	*	4.4	34.0	0.0	-6.0	48.3	259.0	500.0	-5.7
3900.000	V	14.7	*	4.4	34.0	0.0	-6.0	47.1	227.4	500.0	-6.8

Checked BY Richard E. King :

Richard E. King

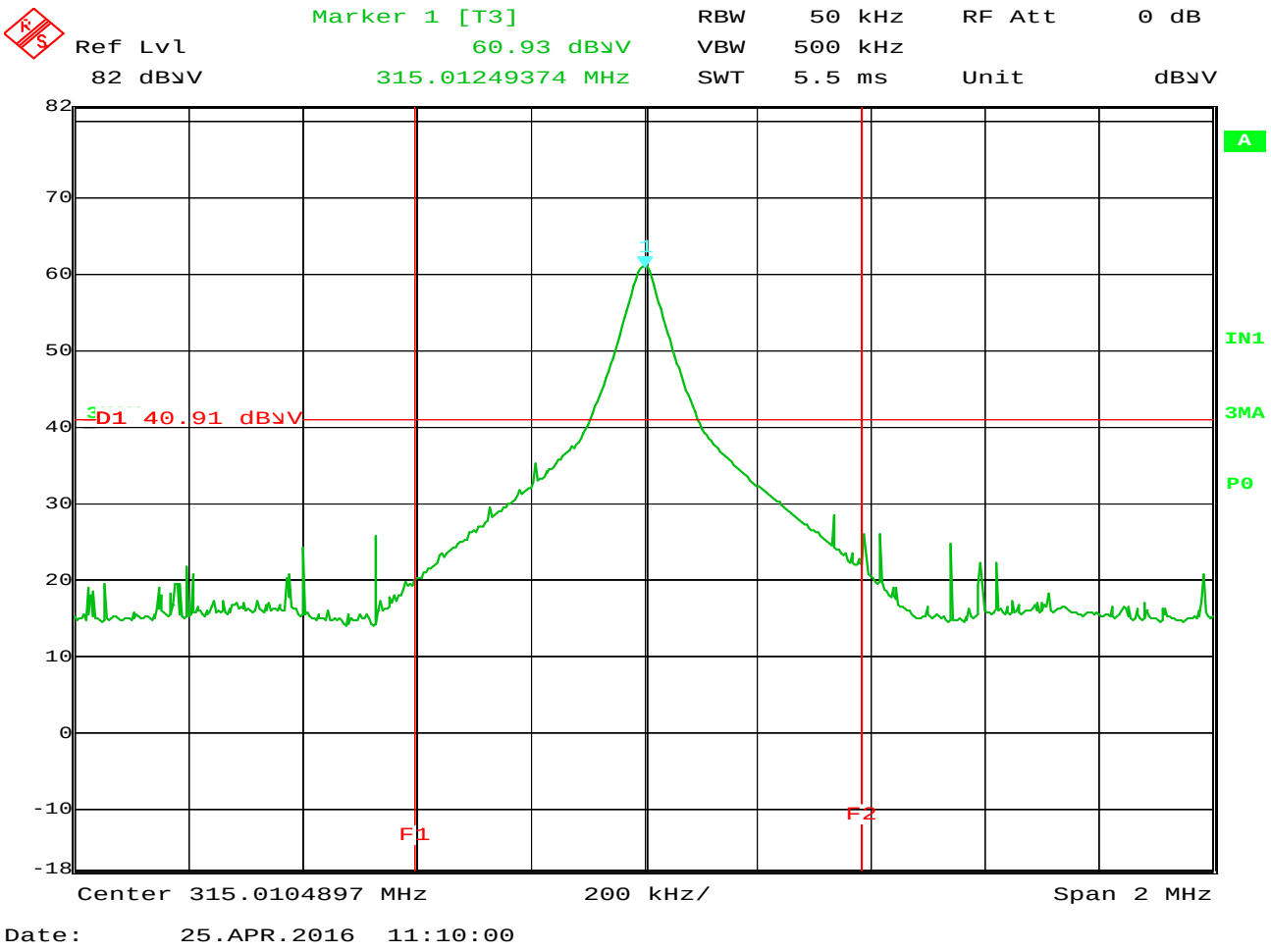
RADIATED EMISSION MEASUREMENTS in a 3 m ANECHOIC ROOM

MANUFACTURER	:	The Chamberlain Group
MODEL NO.	:	TM100 & TM110
TEST MODE	:	Tx @ 303MHz
NOTES	:	Extreme OOK
NOTES	:	Button 19
TEST DATE	:	June 23, 2016

Freq. (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Duty Cycle (dB)	Total (dBuV/m)	Total (uV/m)	Limit (uV/m)	Margin (dB)
303.000	H	59.6		1.2	19.3	0.0	-8.0	72.1	4021.8	5541.7	-2.8
303.000	V	43.4		1.2	19.3	0.0	-8.0	55.8	616.5	5541.7	-19.1
606.000	H	18.1		1.7	24.7	0.0	-8.0	36.5	67.0	554.2	-18.4
606.000	V	24.5		1.7	24.7	0.0	-8.0	42.9	140.0	554.2	-12.0
909.000	H	24.0		2.0	26.6	0.0	-8.0	44.7	170.9	554.2	-10.2
909.000	V	15.3		2.0	26.6	0.0	-8.0	35.9	62.7	554.2	-18.9
1212.000	H	19.6		2.4	28.7	0.0	-8.0	42.6	135.4	500.0	-11.3
1212.000	V	18.8		2.4	28.7	0.0	-8.0	41.8	123.5	500.0	-12.1
1515.000	H	14.0	*	2.7	27.8	0.0	-8.0	36.6	67.3	500.0	-17.4
1515.000	V	13.8	*	2.7	27.8	0.0	-8.0	36.3	65.2	500.0	-17.7
1818.000	H	14.6	*	2.9	30.4	0.0	-8.0	40.0	99.9	554.2	-14.9
1818.000	V	15.0	*	2.9	30.4	0.0	-8.0	40.4	104.3	554.2	-14.5
2121.000	H	14.5	*	3.2	32.2	0.0	-8.0	41.9	123.8	554.2	-13.0
2121.000	V	15.1	*	3.2	32.2	0.0	-8.0	42.5	133.0	554.2	-12.4
2424.000	H	15.8		3.5	32.5	0.0	-8.0	43.7	153.4	554.2	-11.2
2424.000	V	15.1	*	3.5	32.5	0.0	-8.0	43.0	142.0	554.2	-11.8
2727.000	H	14.8	*	3.7	33.0	0.0	-8.0	43.4	148.2	500.0	-10.6
2727.000	V	15.5	*	3.7	33.0	0.0	-8.0	44.2	162.1	500.0	-9.8
3030.000	H	14.9	*	3.9	33.1	0.0	-8.0	43.9	157.1	554.2	-11.0
3030.000	V	15.1	*	3.9	33.1	0.0	-8.0	44.2	161.6	554.2	-10.7

Checked BY Richard E. King :

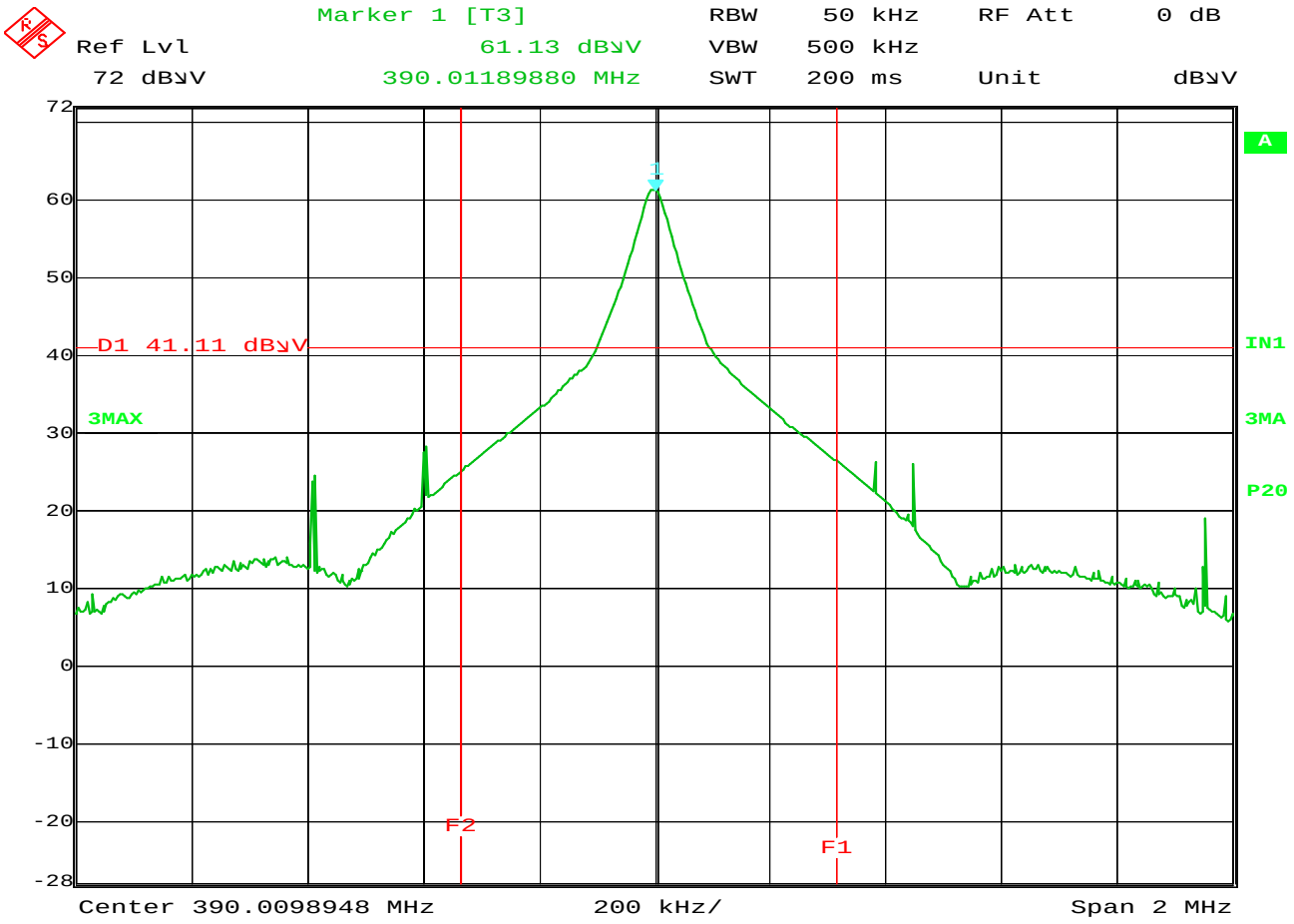
Richard E. King



FCC 15C 15.231 / Occupied Bandwidth

MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 315MHz
	: Peak detector
NOTES	: Occupied Bandwidth
NOTES	: Genie Intellicode
NOTES	: Button 1

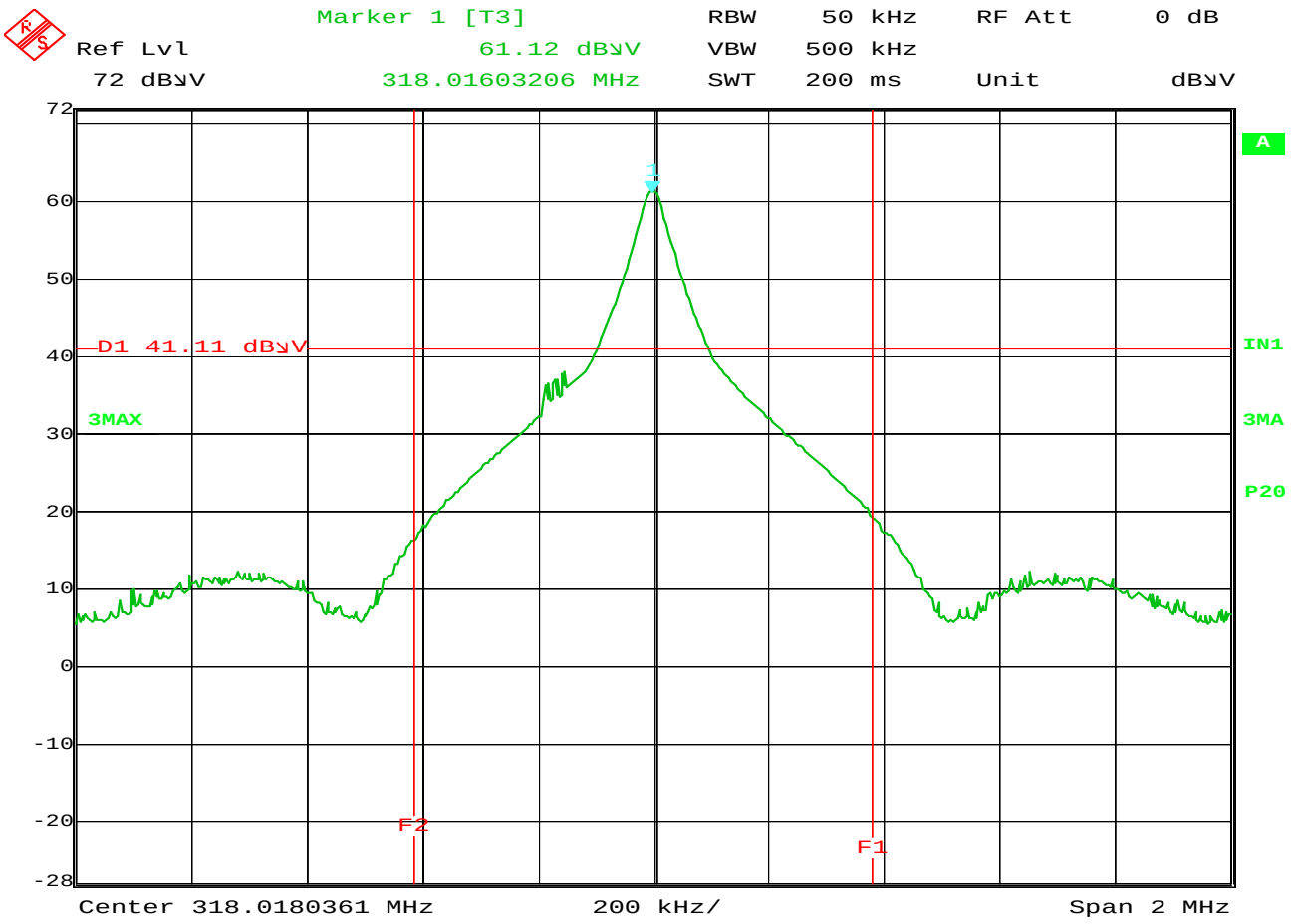
NOTES



FCC 15C 15.231 / Occupied Bandwidth

MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 390MHz
	: Peak detector
NOTES	: Occupied Bandwidth
NOTES	: Genie Intellicode
NOTES	: Button 2

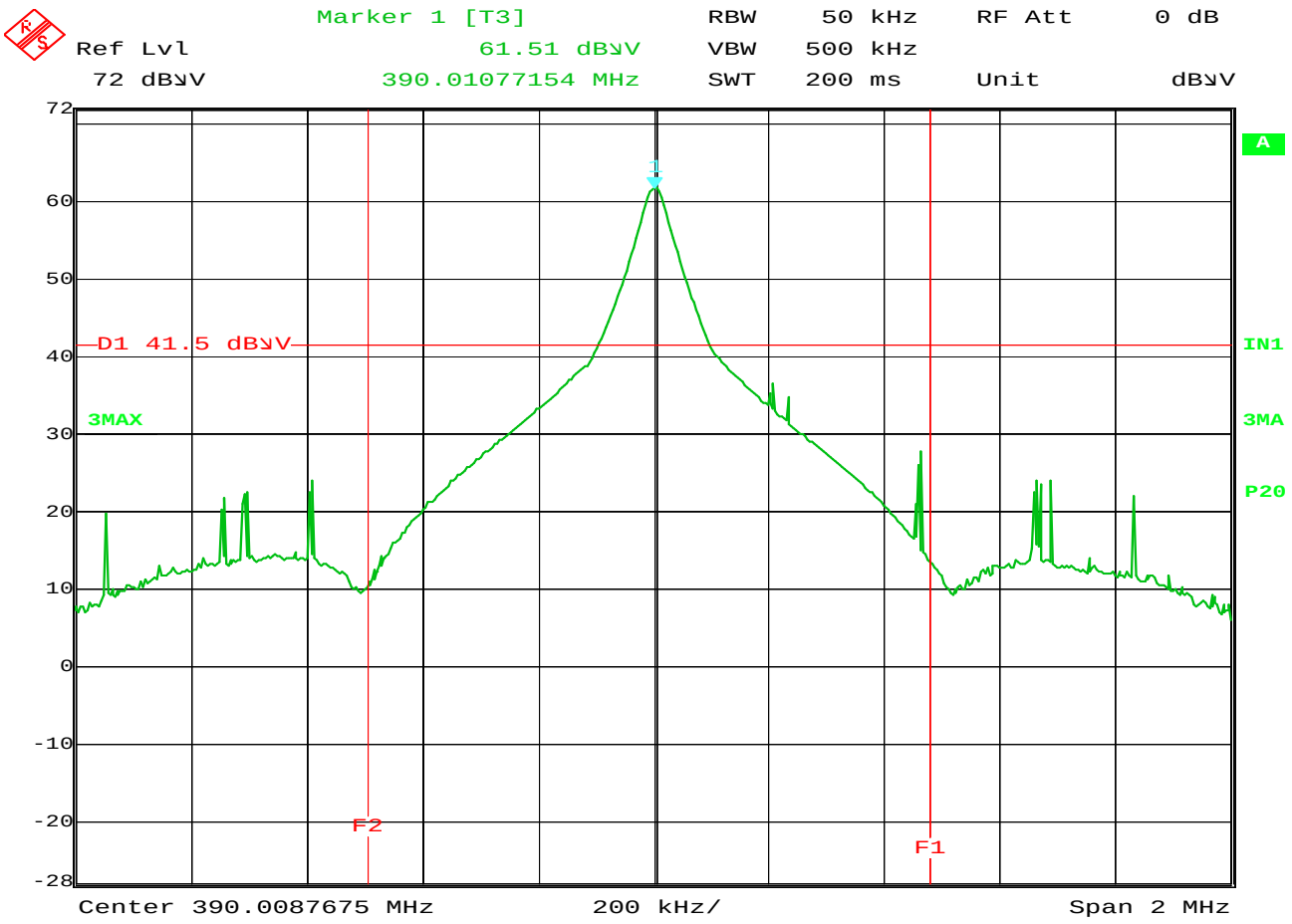
NOTES



FCC 15C 15.231 / Occupied Bandwidth

MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 318MHz
	: Peak detector
NOTES	: Occupied Bandwidth
NOTES	: Linear Mega-Code
NOTES	: Button 3

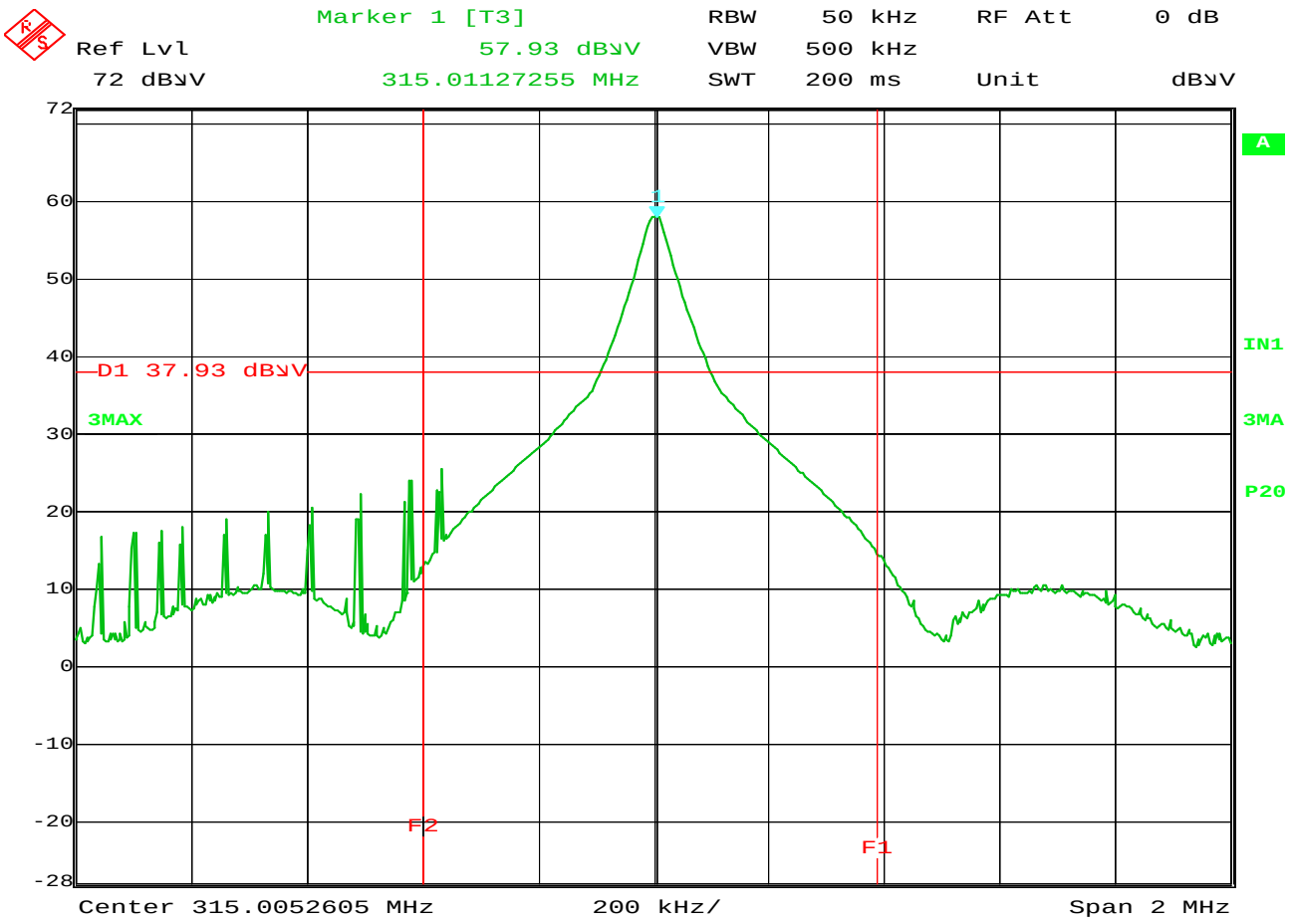
NOTES



FCC 15C 15.231 / Occupied Bandwidth

MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 390MHz
	: Peak detector
NOTES	: Occupied Bandwidth
NOTES	: Chamberlain Rolling Code D
NOTES	: Button 4

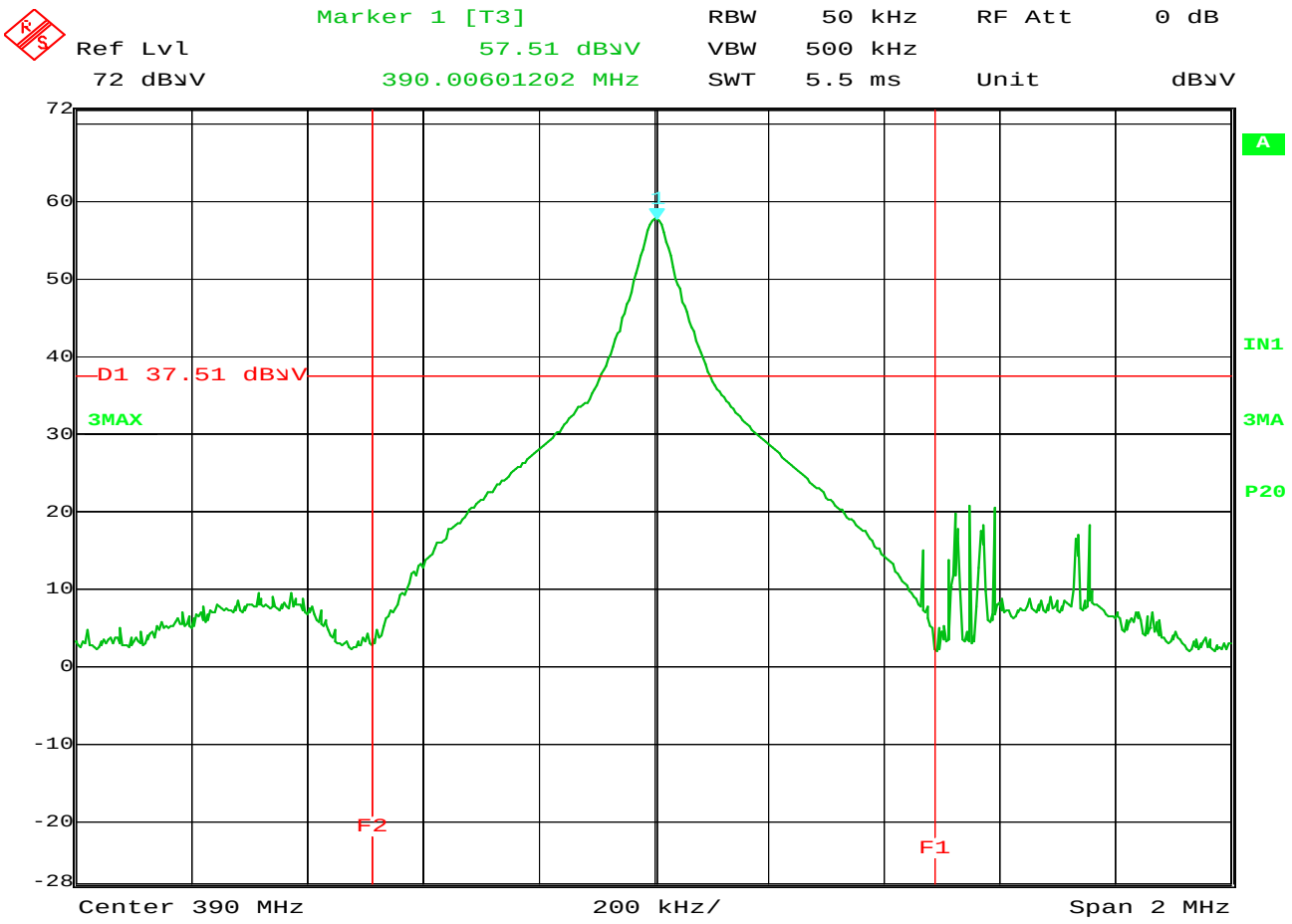
NOTES



FCC 15C 15.231 / Occupied Bandwidth

MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 315MHz
	: Peak detector
NOTES	: Occupied Bandwidth
NOTES	: Chamberlain Rolling Code D
NOTES	: Button 5

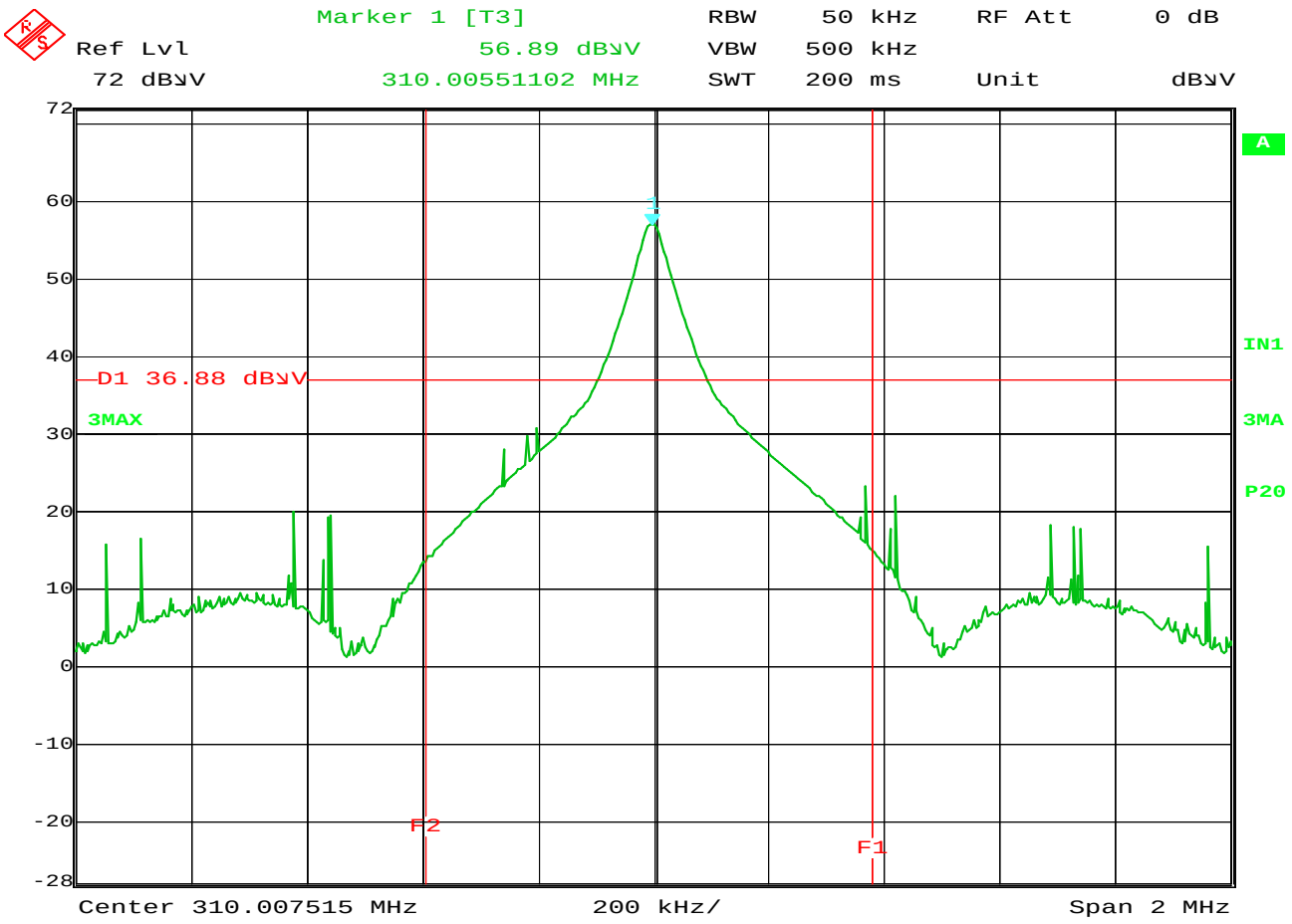
NOTES



FCC 15C 15.231 / Occupied Bandwidth

MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 390MHz
	: Peak detector
NOTES	: Occupied Bandwidth
NOTES	: Chamberlain Billion Code A
NOTES	: Button 6

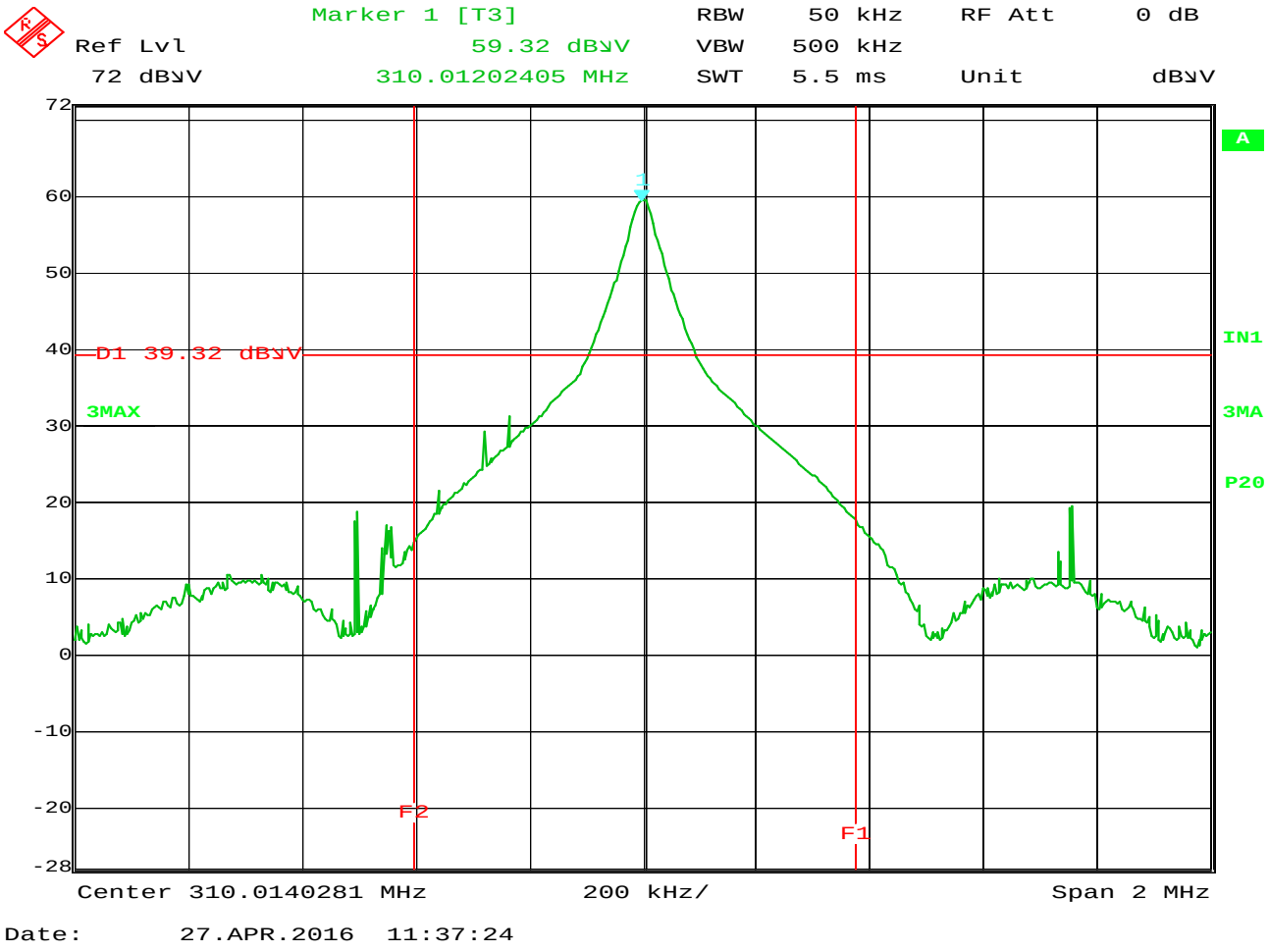
NOTES



FCC 15C 15.231 / Occupied Bandwidth

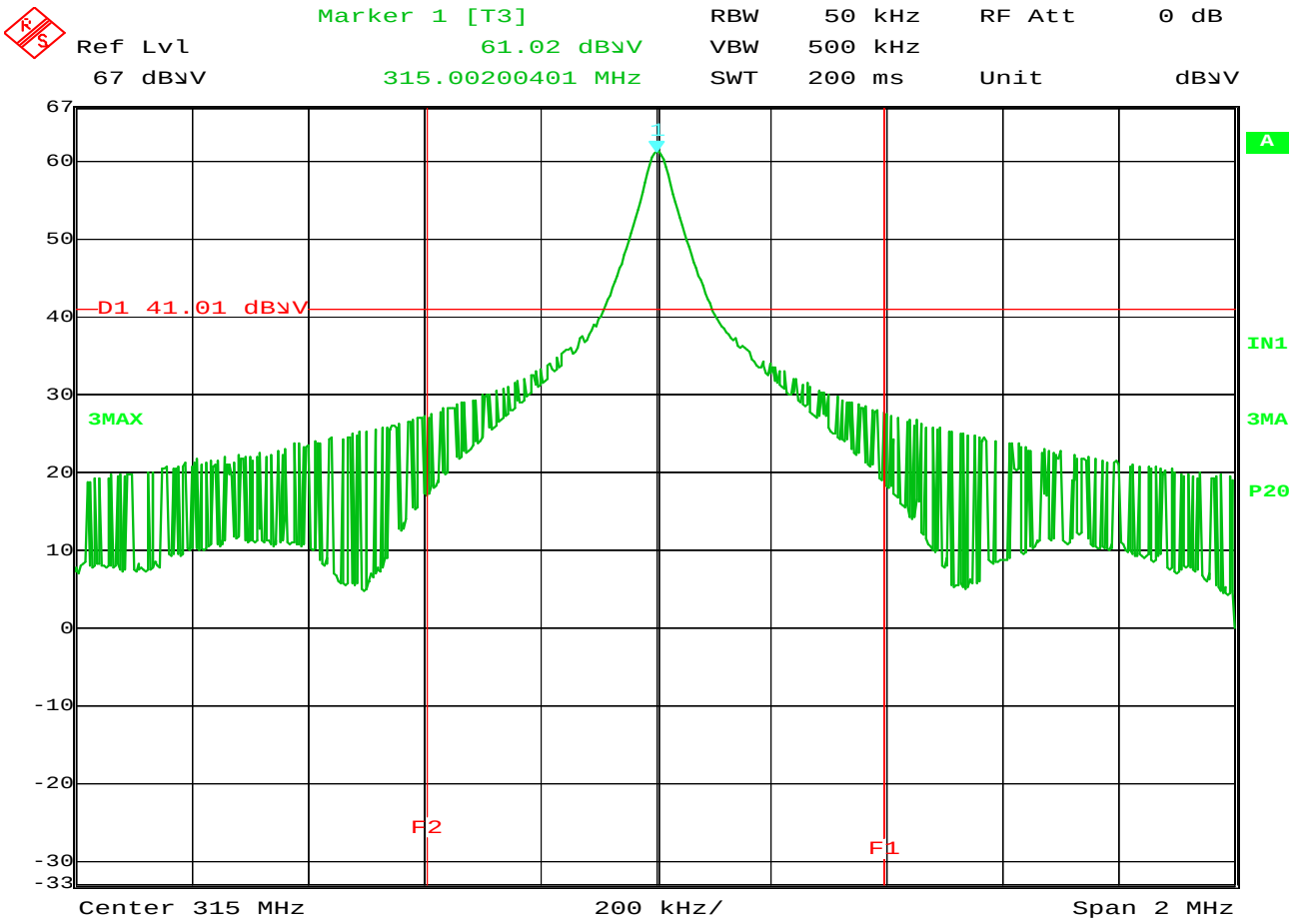
MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 310MHz
	: Peak detector
NOTES	: Occupied Bandwidth
NOTES	: Stanley Secure Code
NOTES	: Button 7

NOTES



FCC 15C 15.231 / Occupied Bandwidth

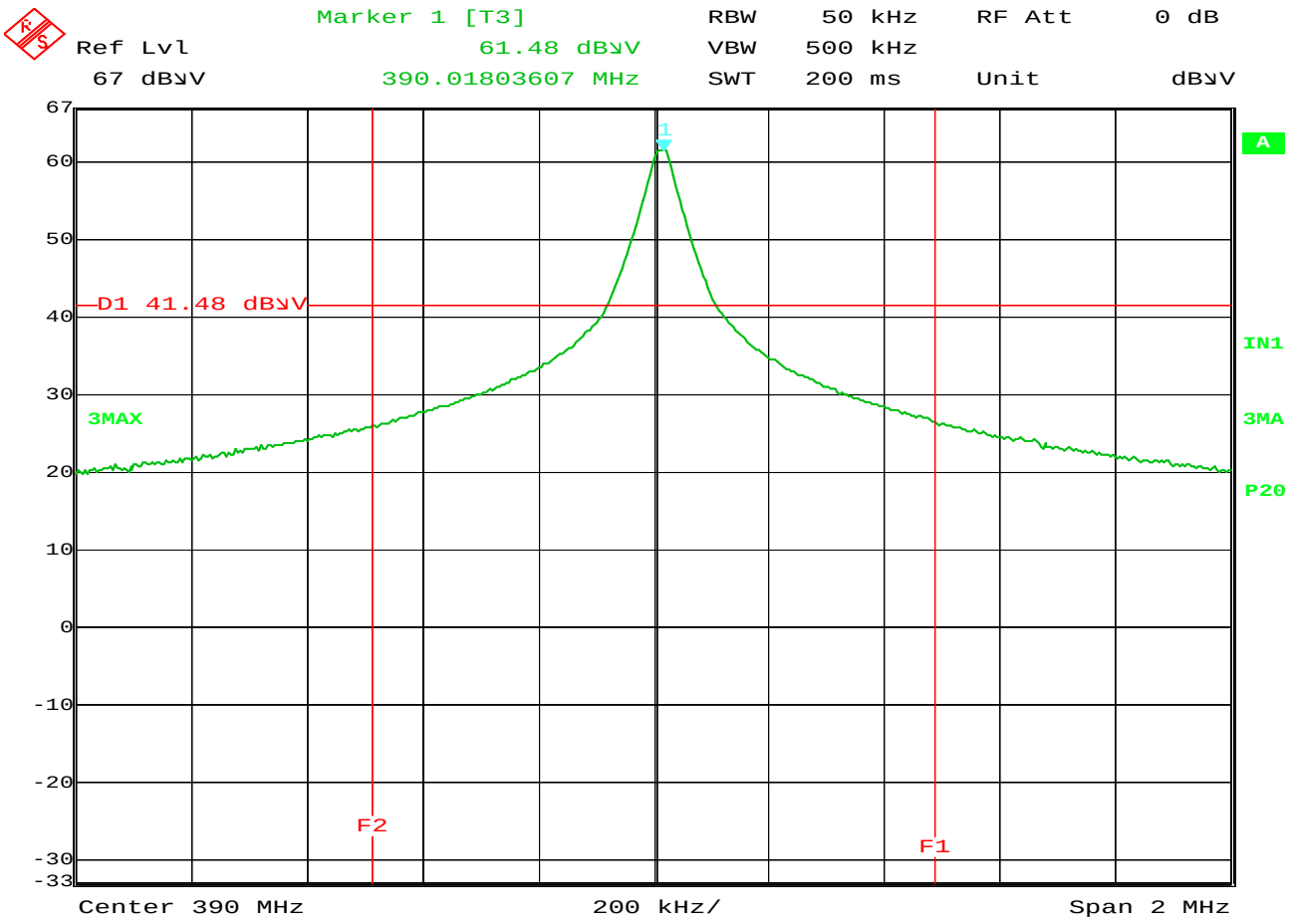
MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 310MHz
	: Peak detector
NOTES	: Occupied Bandwidth
NOTES	: Chamberlain Rolling Code E
NOTES	: Button 8



FCC 15C 15.231 / Occupied Bandwidth

MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 315MHz
	: Peak detector
NOTES	: Occupied Bandwidth
NOTES	: Chamberlain Rolling Code E
NOTES	: Button 8

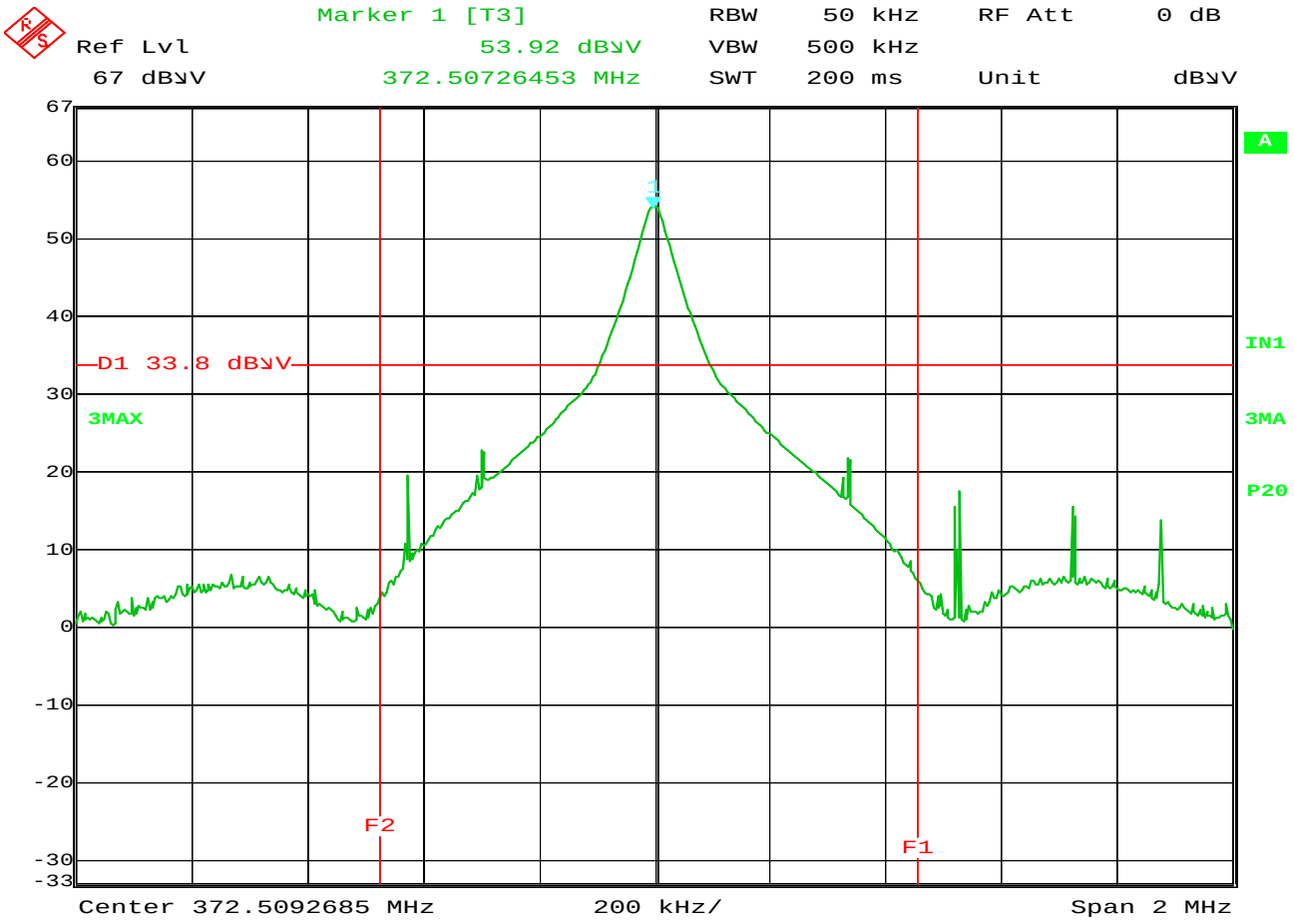
NOTES



FCC 15C 15.231 / Occupied Bandwidth

MANUFACTURER : The Chamberlain Group
MODEL NUMBER : TM100 & TM110
TEST MODE : Tx @ 390MHz
: Peak detector
NOTES : Occupied Bandwidth
NOTES : Chamberlain Rolling Code E
NOTES : Button 8

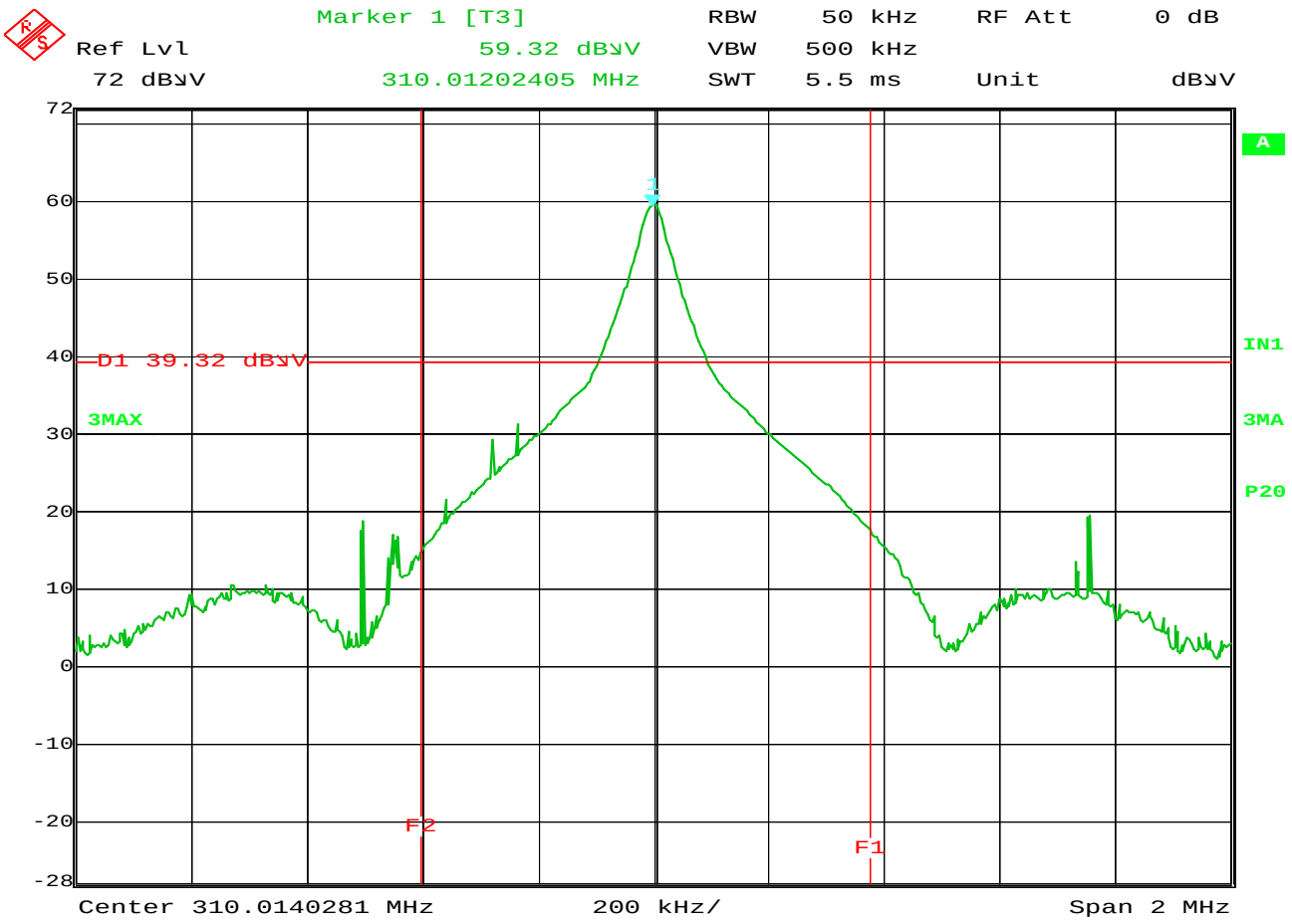
NOTES



FCC 15C 15.231 / Occupied Bandwidth

MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 372.5MHz
	: Peak detector
NOTES	: Occupied Bandwidth
NOTES	: Wayne Dalton Rolling Code
NOTES	: Button 9

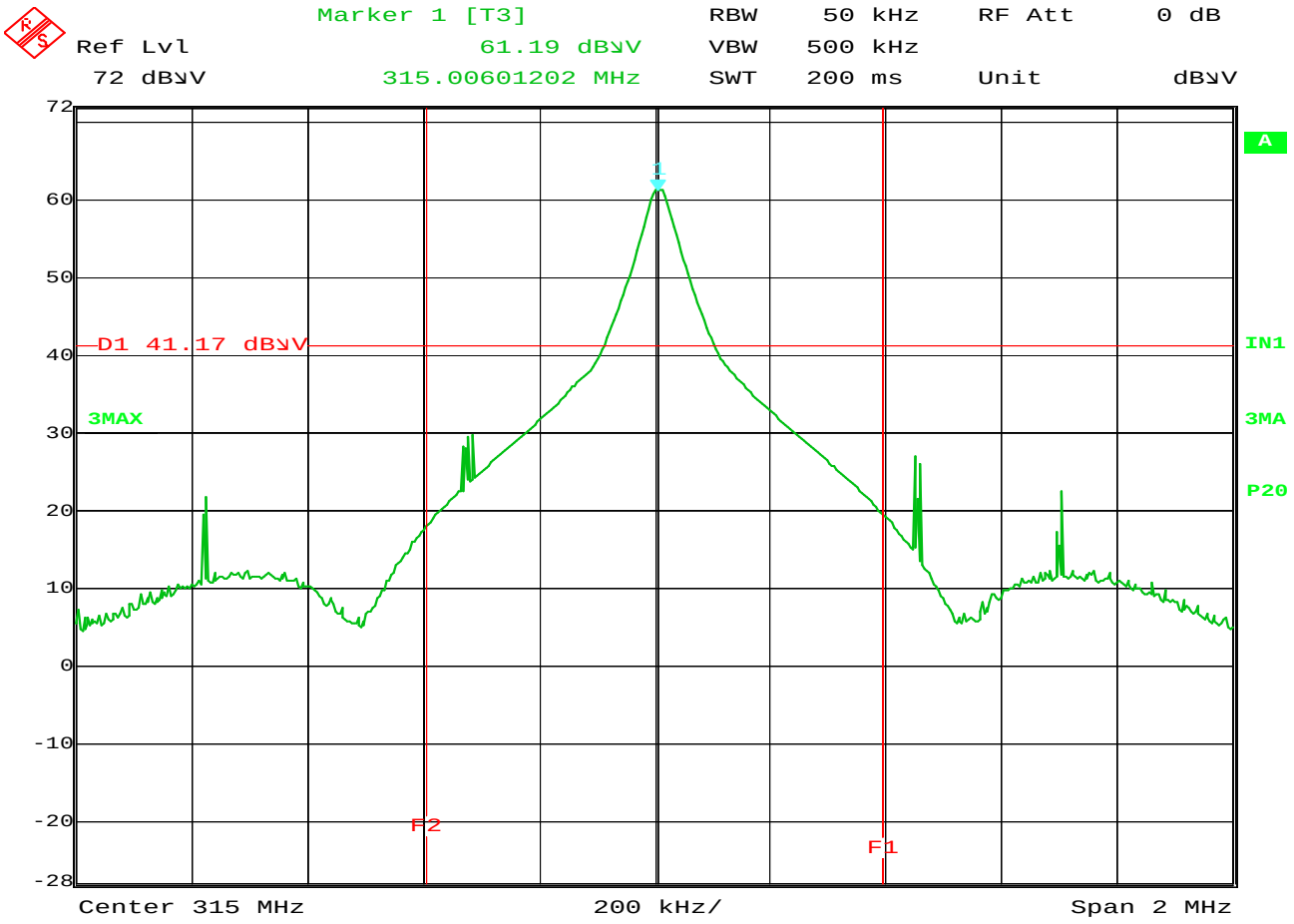
NOTES



FCC 15C 15.231 / Occupied Bandwidth

MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 310MHz
	: Peak detector
NOTES	: Occupied Bandwidth
NOTES	: Linear Moore-O-Matic 8 Position DIP Switch
NOTES	: Button 10

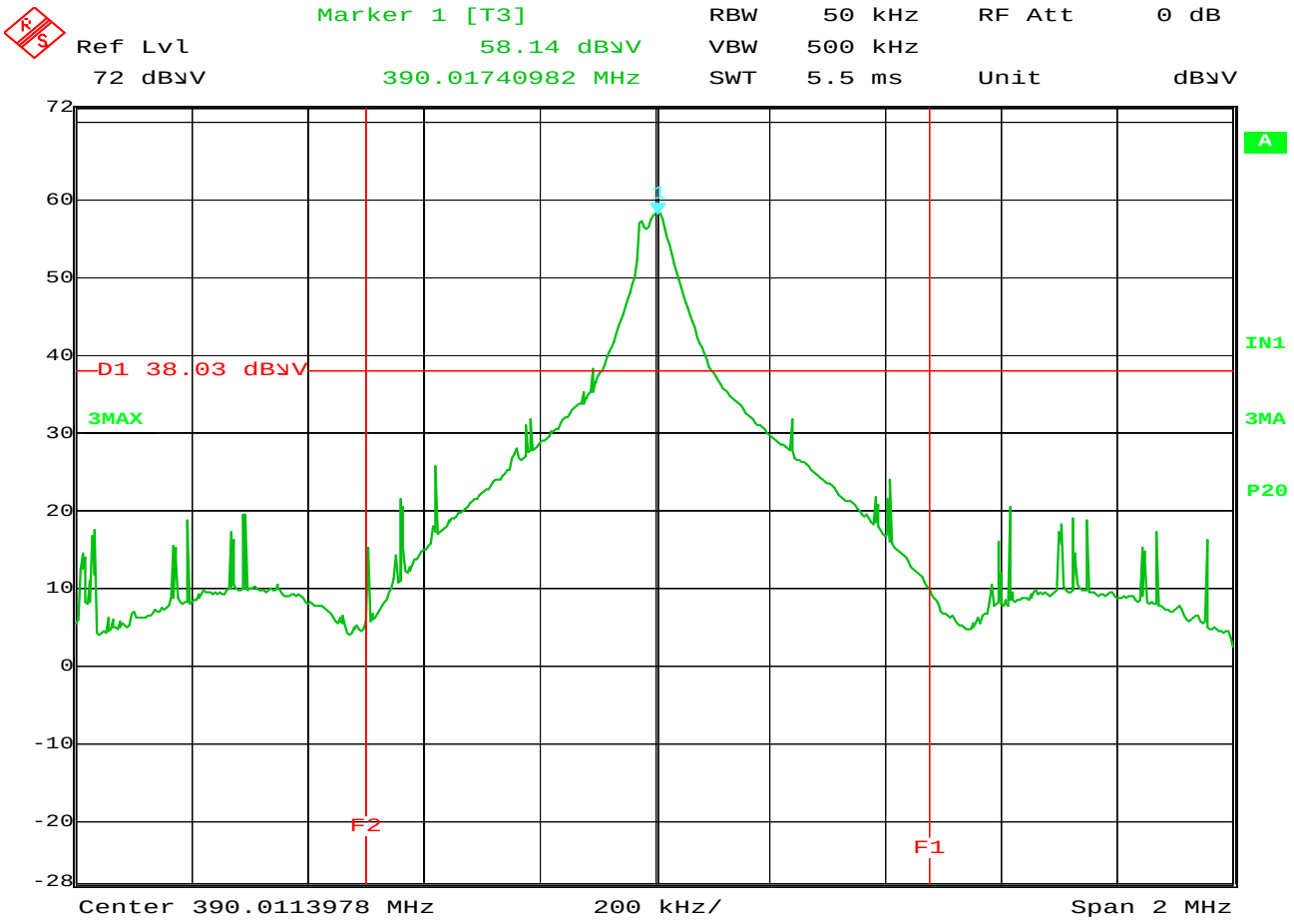
NOTES



FCC 15C 15.231 / Occupied Bandwidth

MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 315MHz
	: Peak detector
NOTES	: Occupied Bandwidth
NOTES	: Chamberlain 9 Position DIP Switch
NOTES	: Button 11

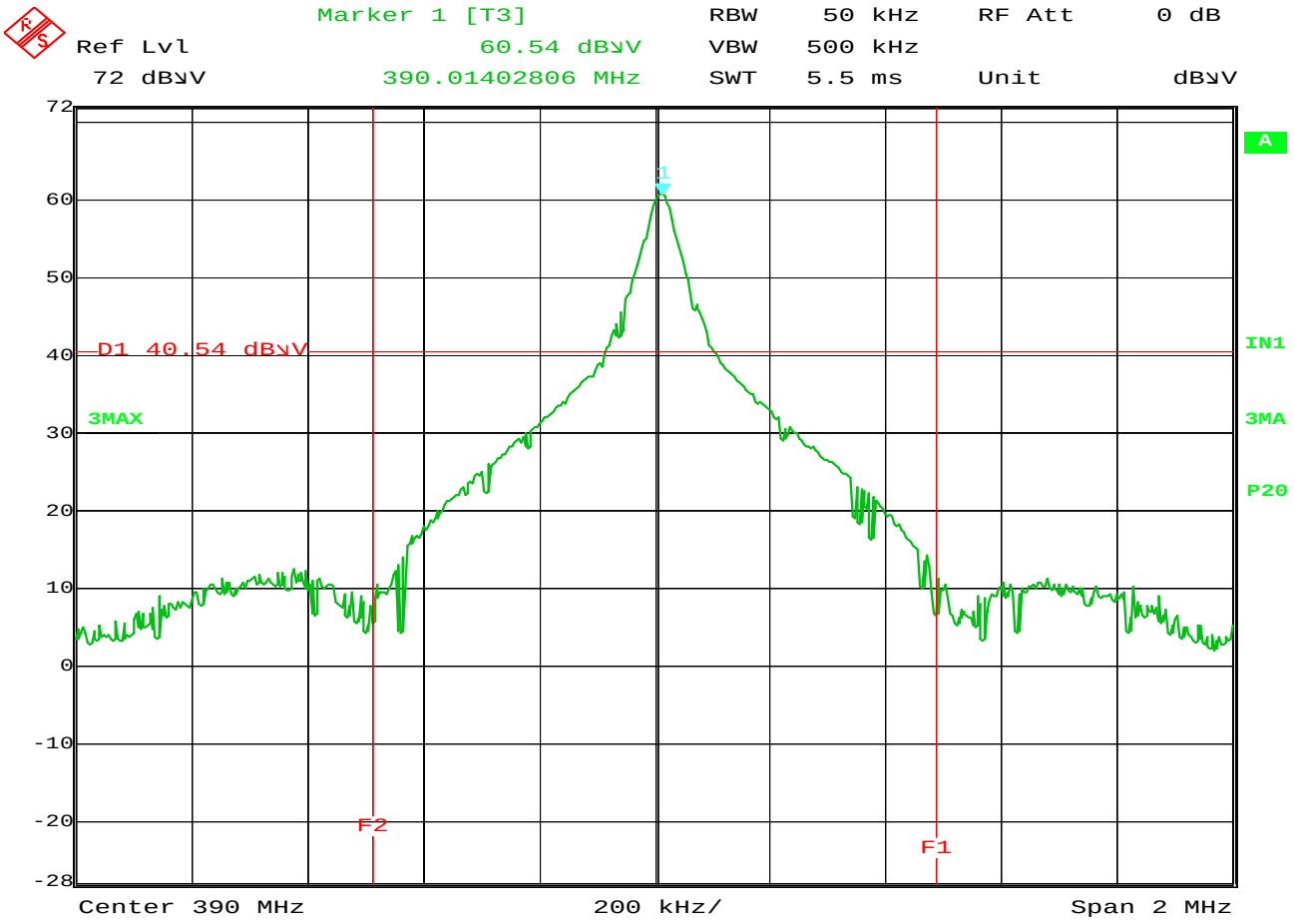
NOTES



FCC 15C 15.231 / Occupied Bandwidth

MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 390MHz
	: Peak detector
NOTES	: Occupied Bandwidth
NOTES	: Stanley 10 Position DIP Switch
NOTES	: Button 12

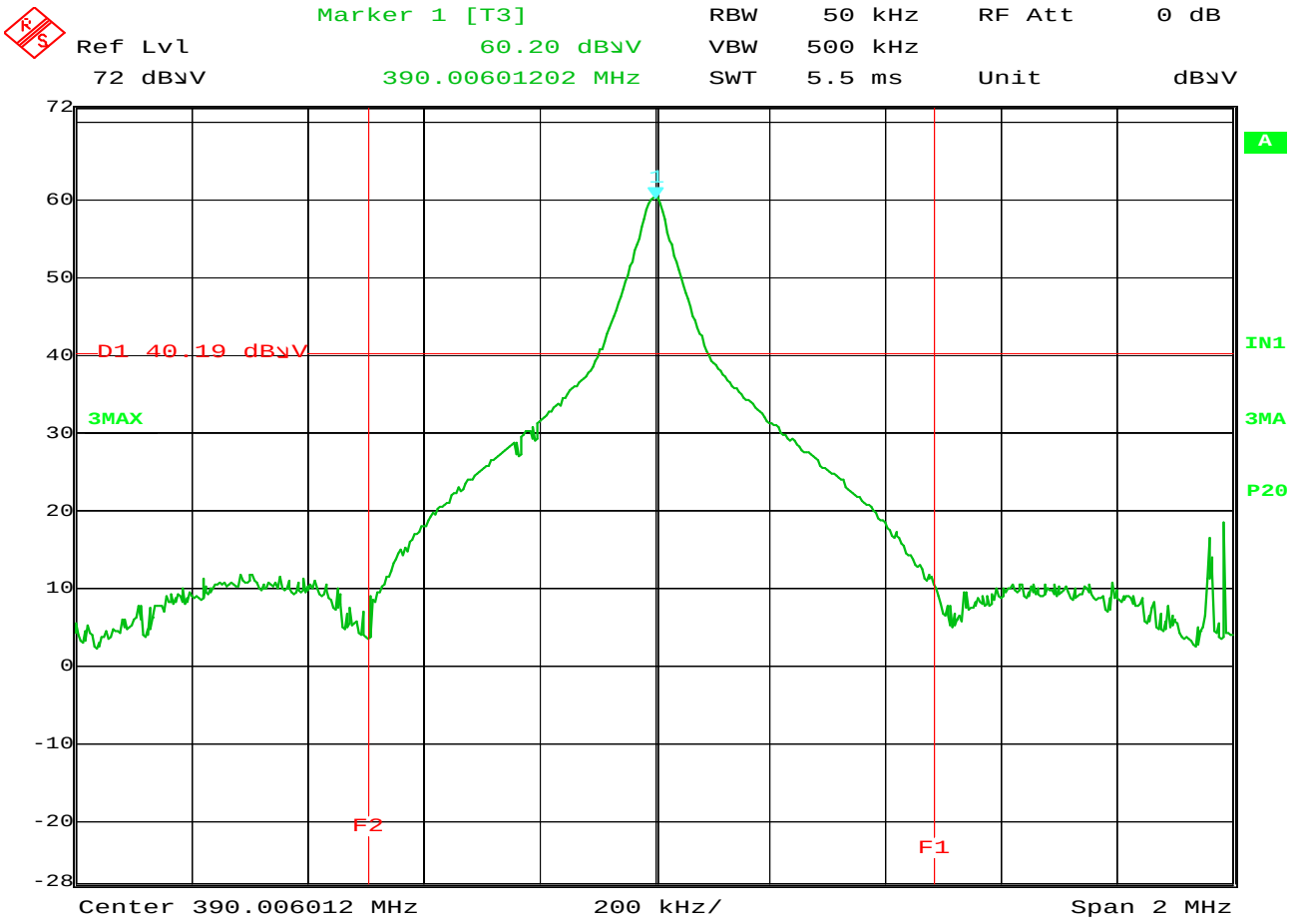
NOTES



FCC 15C 15.231 / Occupied Bandwidth

MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 390MHz
	: Peak detector
NOTES	: Occupied Bandwidth
NOTES	: Genie12 Position DIP Switch
NOTES	: Button 13

NOTES

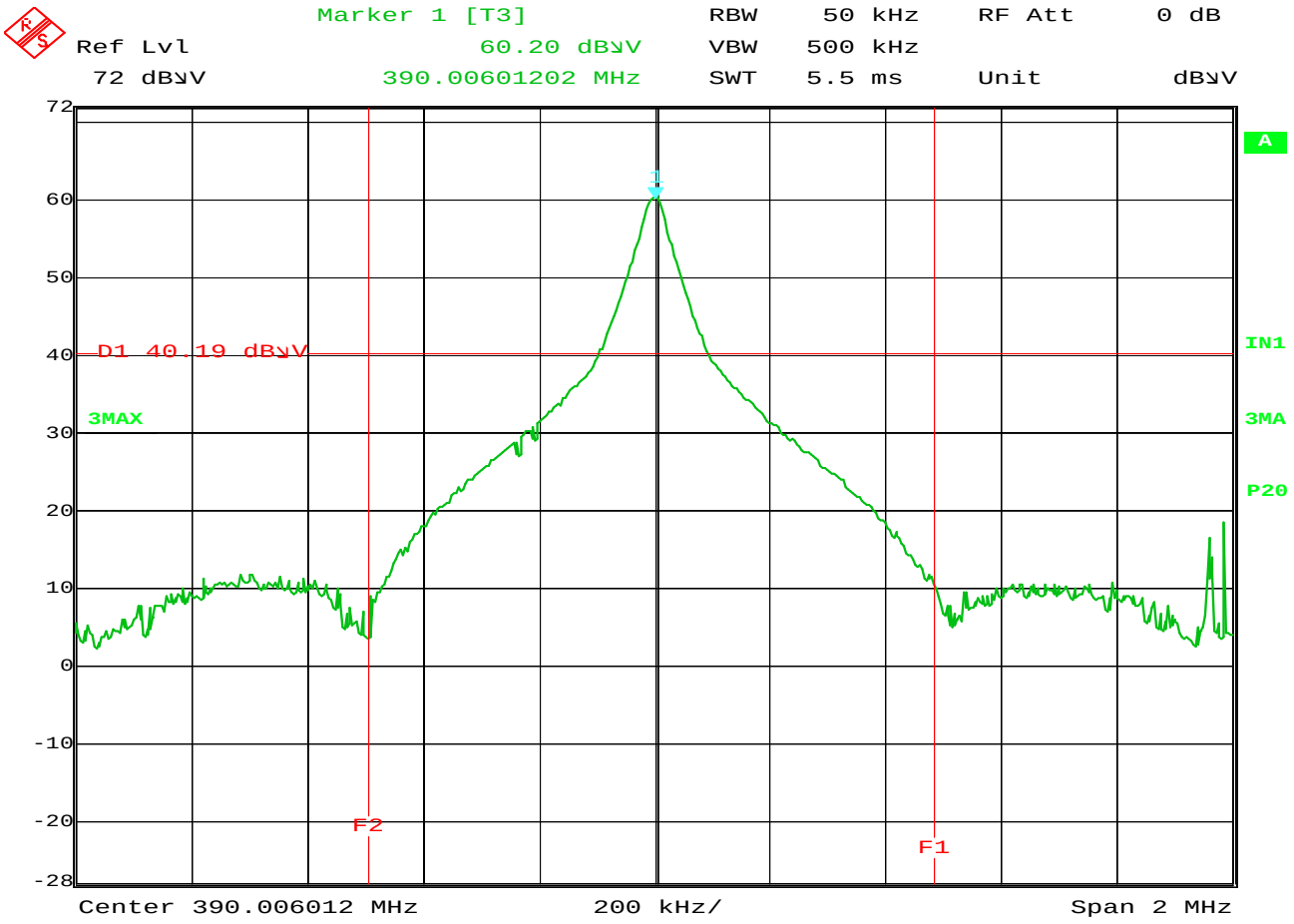


Date: 27.APR.2016 15:27:51

FCC 15C 15.231 / Occupied Bandwidth

MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 390MHz
	: Peak detector
NOTES	: Occupied Bandwidth
NOTES	: Chamberlain 7 Position DIP Switch
NOTES	: Button 14

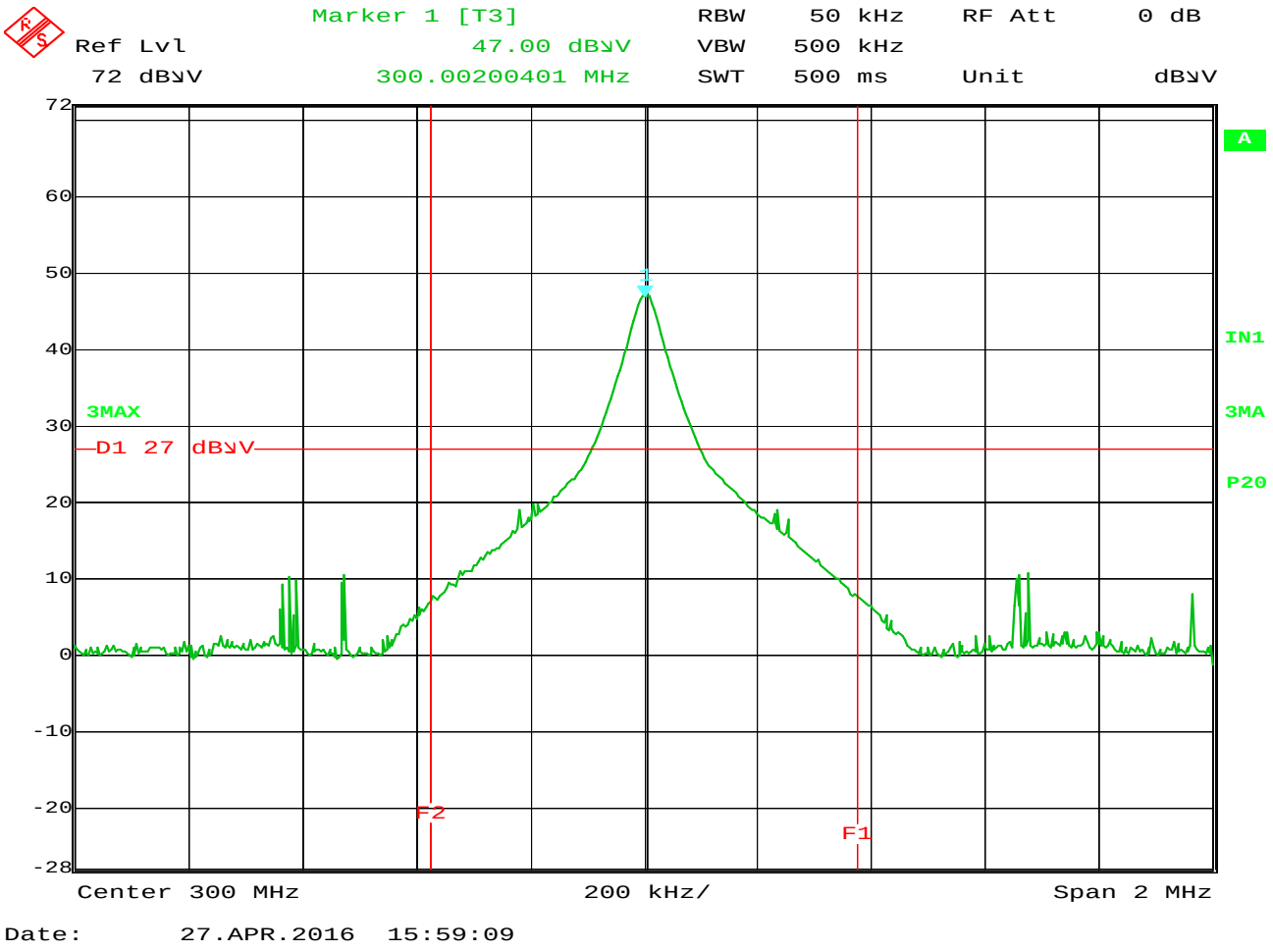
NOTES



FCC 15C 15.231 / Occupied Bandwidth

MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 390MHz
	: Peak detector
NOTES	: Occupied Bandwidth
NOTES	: Chamberlain 8 Position DIP Switch
NOTES	: Button 15

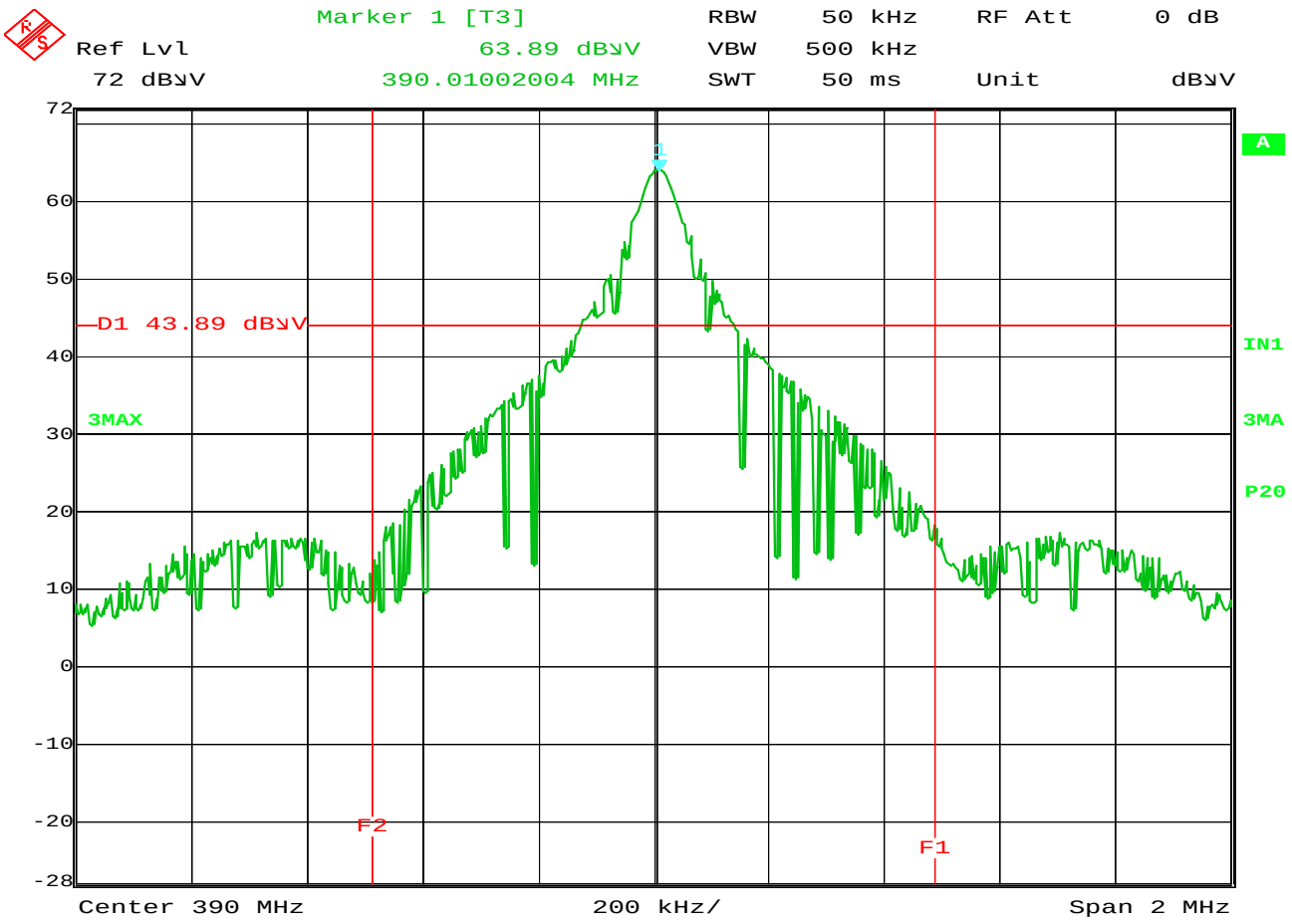
NOTES



FCC 15C 15.231 / Occupied Bandwidth

MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 300MHz
	: Peak detector
NOTES	: Occupied Bandwidth
NOTES	: Linear Multicode
NOTES	: Button 16

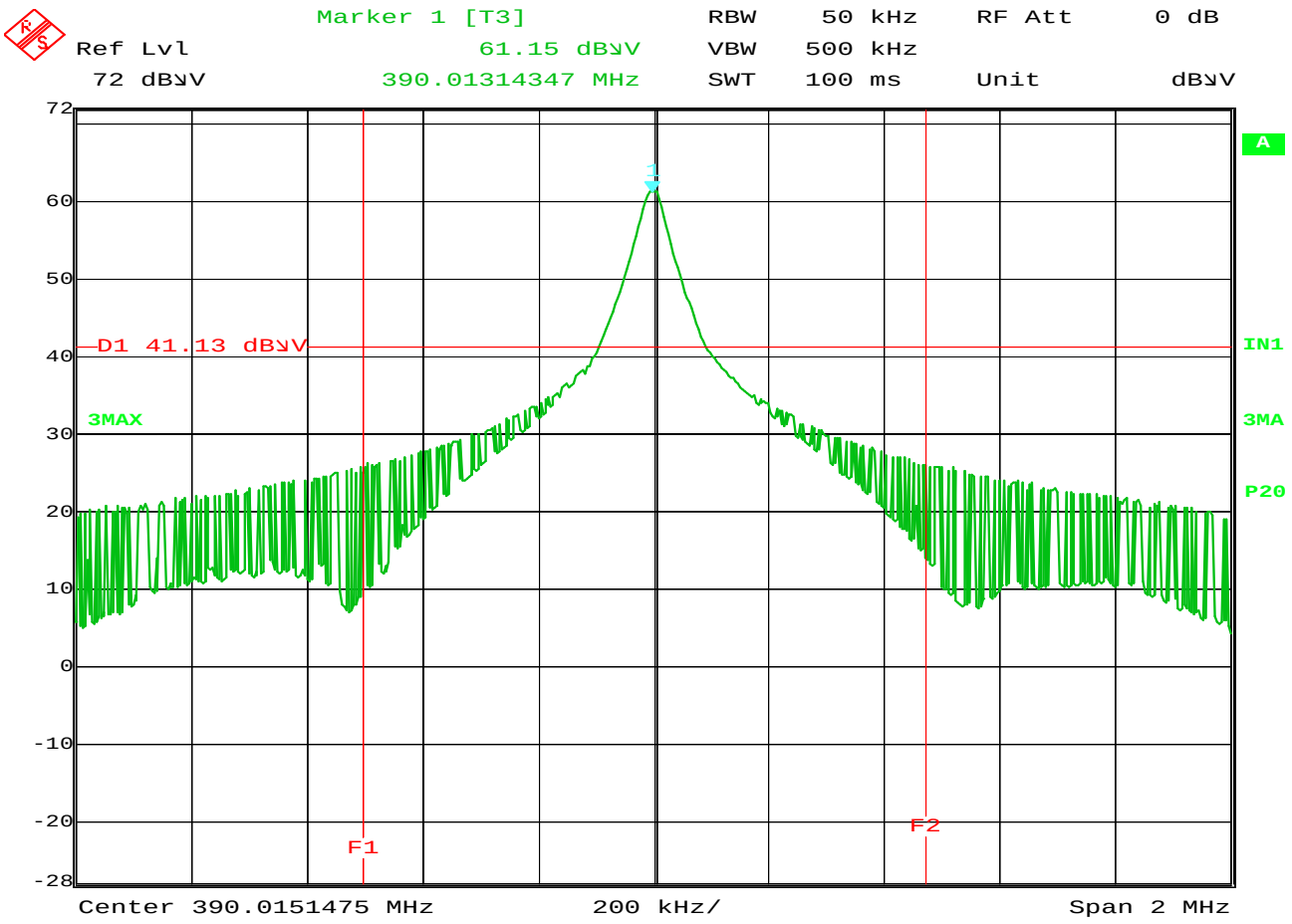
NOTES



FCC 15C 15.231 / Occupied Bandwidth

MANUFACTURER : The Chamberlain Group
MODEL NUMBER : TM100 & TM110
TEST MODE : Tx @ 390MHz
: Peak detector
NOTES : Duty Cycle
NOTES : Chamberlain 9 Position DIP Switch
NOTES : Button 17

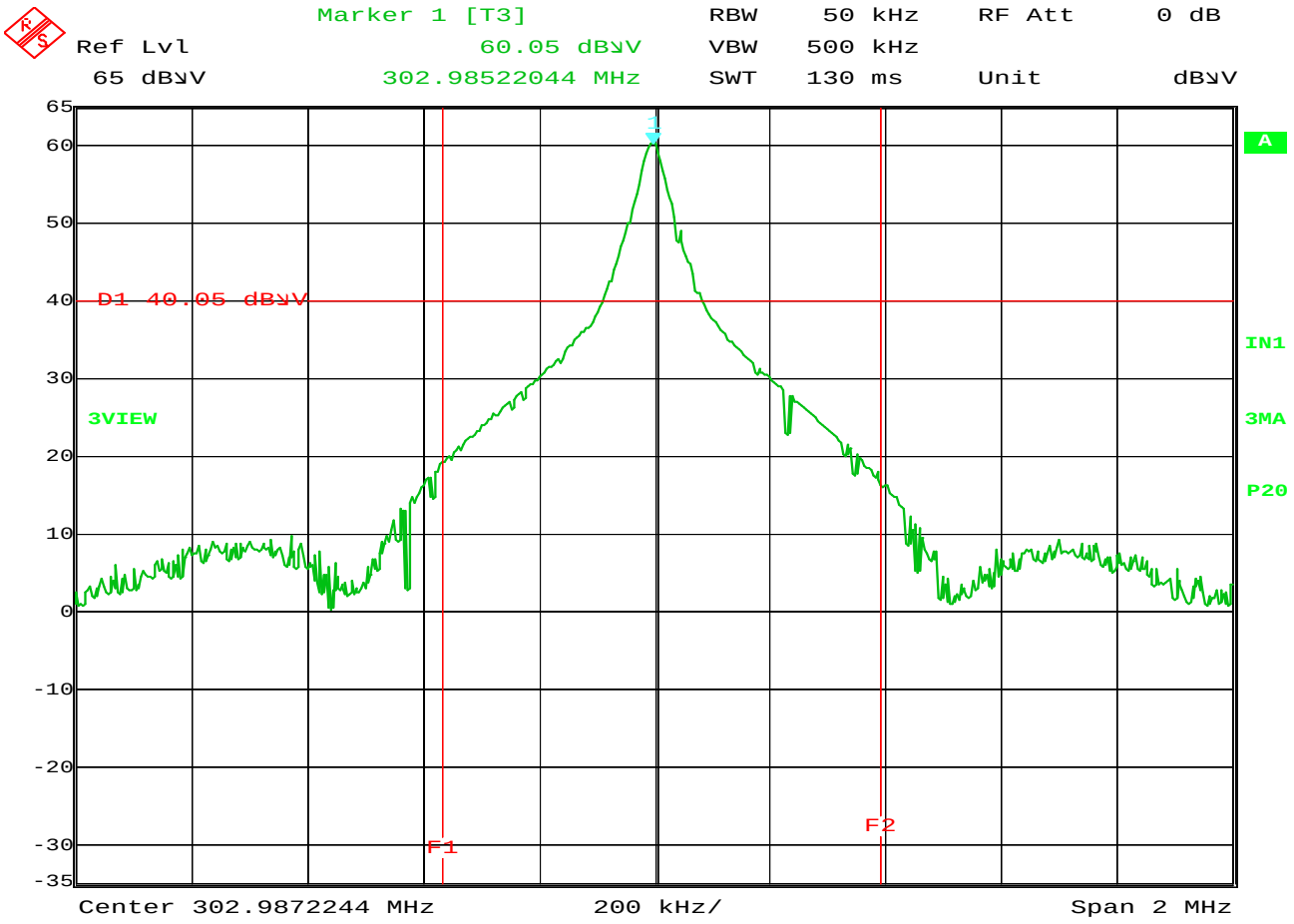
NOTES



FCC 15C 15.231 / Occupied Bandwidth

MANUFACTURER	: The Chamberlain Group
MODEL NUMBER	: TM100 & TM110
TEST MODE	: Tx @ 390MHz
	: Peak detector
NOTES	: Occupied Bandwidth
NOTES	: Genie 9 Position DIP Switch
NOTES	: Button 18

NOTES



FCC 15C 15.231 / Occupied Bandwidth

MANUFACTURER	:	The Chamberlain Group
MODEL NUMBER	:	TM100 & TM110
TEST MODE	:	TX @ 303MHz
	:	PEAK DETECTOR
NOTES	:	Extreme OOK
NOTES	:	Button 19

NOTES